Boda-Kaiser Copper-Gold Project, New South Wales, Australia

Technical Report for NI 43-101

PREPARED FOR:

Alkane Resources Ltd
(ASX: ALK) and
Mandalay Resources
Corporation
(TSX: MND)

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EFFECTIVE DATE:
6 June 2025, Version 2.0

REFERENCE:
ALKITA02 0778000

DOCUMENT INFORMATION

Report Prepared For

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Document details

Document title	Boda-Kaiser Copper-Gold Project, NSW Australia
Document subtitle	Alkane Resources Ltd, Technical Report for NI 43-101
Project number	0778000
Effective Date	6 June 2025
Version	2.0
Authors	Andrew Waltho
Client name	Alkane Resources Ltd (ASX:ALK)

Document history

			ERM Approval to Issue		
Version	**Revision**	**Author**	**Name**	**Date**	**Comments**
0	1	Andrew Waltho			Initial draft, NI 43-101 reporting template
	2	Andrew Waltho			Revised draft after peer review
	3	Hayley Orr			Formatted
1	0	Andrew Waltho		6 Jun 2025	Peer reviewed report
1	1	Andrew Waltho, Triv Naidoo		10 Jun 2025	Updates requested by client
2	0	Andrew Waltho	Graham Jeffress	13 Jun 2025	Incorporates TSX feedback

ASSIGNMENT INFORMATION

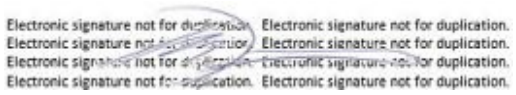
Assignment	NI 43-101 Technical Report Preparation Assistance
Project Name	Boda-Kaiser Project, New South Wales
Project Location	Australia
Project Coordinates	32°24'44.2"S, 149°01'04.9"E
Commodity	Copper-Gold
Team	Corporate, Geoscience, Mining, Processing
Work Type	Technical Report for NI 43-101
Start Date	3 April 2025
Contract End Date	5 July 2025

SIGNATURE PAGE

Boda-Kaiser Copper-Gold Project, New South Wales, Australia

Technical Report for NI 43-101

ALKITV02, 07778000



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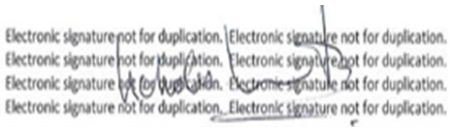

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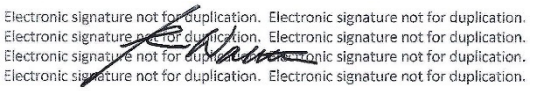

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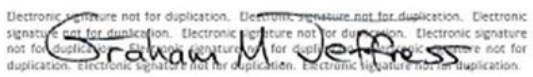

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ACRONYMS AND UNITS OF MEASUREMENT

Acronym/Unit	Description
°	degrees
°C	degrees Celsius
µm	micron(s)
3D	three-dimensional
A$	Australian dollar
Ag	silver
AIG	Australian Institute of Geoscientists
Ajax	Ajax Joinery Pty Ltd
Alkane	Alkane Resources Ltd
AMETS	Australian Mining and Exploration Title Services Pty Ltd
ASL	above sea level
ASX	Australian Securities Exchange
Au	gold
AuEq	gold equivalent
AusIMM	Australasian Institute of Mining and Metallurgy
BSAL	Biophysical Strategic Agricultural Land
CIL	carbon-in-leach
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
cm	centimetres
CRM	certified reference material
Cu	copper
DHEM	downhole electromagnetic(s)
ERM	ERM Australia Consultants Pty Ltd
ESG	environmental, social and governance
g	grams
g/cm^3	grams per cubic centimetre
g/t	grams per tonne
GL	gigalitres
GPS	global positioning system
ha	hectares
HPGR	high pressure grind rolls
ICP-AES	inductively coupled plasma-atomic emission spectrometry
ICP-MS	inductively coupled plasma-mass spectrometry
IP	induced polarisation
JORC	Joint Ore Reserves Committee of the AusIMM, AIG am MCA
kg	kilograms
kg/L	kilograms per litre
km	kilometres
km^2	square kilometres
kV	kilovolts
kWh/t	kilowatt-hours per tonne
lb	pound(s)
LOM	life of mine
m	metres
Mandalay	Mandalay Resources Corporation
mm	millimetres
Mo	molybdenum

Acronym/Unit	Description
Moz	million ounces
MRE	Mineral Resource estimate
MSO	mineable shape optimiser
Mt	million tonnes
Mtpa	million tonnes per annum
MW	megawatts
Newcrest	Newcrest Mining Ltd
NI 43-101	National Instrument 43-101
NMPP	Northern Molong Porphyry Project
NPV	net present value
NSR	net smelter return
NSW	New South Wales
OK	ordinary kriging
OREAS	Ore Research and Exploration Pty Ltd
oz	ounce(s)
PEA	preliminary economic assessment
ppm	parts per million
QAQC	quality assurance and quality control
QP	Qualified Person
RAB	rotary air blast
RC	reverse circulation
ROM	run-of-mine
RQD	rock quality designation
S	sulfur
SD	standard deviation(s)
SPIRT	Strategic Partnerships with Industry for Research and Training
SSD	State Significant Development
t	tonne(s)
TSX	Toronto Stock Exchange

1 SUMMARY

1.1 Introduction

In May 2025, Alkane Resources Ltd ("Alkane," or "the Issuer" or "the Company") and Mandalay Resources Corporation (Mandalay) commissioned ERM Australia Consultants Pty Ltd ("ERM"), to complete a Technical Report ("the Report") compliant with National Instrument 43-101 (NI 43-101), Companion Policy 43-101CP, and Form 43-101F1 standards and guidelines on the Boda-Kaiser Copper-Gold Project in New South Wales (NSW), Australia ("the Project").

On 28 April 2025, Alkane announced it had executed a definitive arrangement ("the Agreement") whereby Alkane will acquire all the issued and outstanding common shares of Mandalay pursuant to a court-approved plan of arrangement ("the Transaction"). Following completion of the Transaction, the combined company will continue operating as "Alkane Resources," remain listed on the Australian Securities Exchange (ASX), and is seeking a dual listing on the Toronto Stock Exchange (TSX). The Transaction will require approval by 66.66% of the votes cast by the shareholders of Mandalay at a special meeting of Mandalay shareholders. The issuance of the Alkane ordinary shares pursuant to the Transaction is also subject to approval by a simple majority of votes cast by the shareholders of Alkane at a special meeting of Alkane shareholders.

Scientific and technical information provided in this Report may be included in the Mandalay management information circular ("Circular") and Alkane disclosure documents on the ASX.

Qualified Persons ("QP" or "QP author") Tony Donaghy and Nick MacNulty conducted a site visit to the Project field localities and the Alkane exploration offices and core facility in Orange on 16 April 2025. In addition, Tony Donaghy visited the Peak Hill Alkane exploration offices and core facility on 15 April 2025.

The Project is considered an "Advanced Property" as defined in Section 1.1 of NI 43-101. This Report reports a Mineral Resource estimate (MRE) for the Project and the results of a Preliminary Economic Assessment (PEA) completed in July 2024.

1.2 Property Description and Location

The Project forms part of Alkane's Northern Molong Porphyry Project (NMPP) in the Orana region of NSW, Australia. It is located approximately 30 km southeast of Dubbo and 20 km northeast of Wellington in central western NSW.

The Project is situated within tenements EL4022, EL6209 and EL8887 and covers an area of approximately 5,220 ha.

1.3 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Access to the area is gained via the Mitchell Highway linking Dubbo and Orange, then taking the Goolma Road from Wellington. Both are sealed roads in excellent condition. Site access within the Project is relatively easy via various unsealed shire roads and farm property tracks.

The Project falls in the warm temperate climate zone. Summers are warm to hot (mean daily maximum in January of 33.6°C), and winters cool to cold (mean daily minimum July of 3.1°C), bringing some occurrences of early morning frost but generally no snowfall. Mean average annual precipitation of 594.3 mm rainfall is relatively uniformly distributed throughout the year, with only a slight increase in average monthly precipitation in the summer months relative to the winter months.

The regional centres of Dubbo, Orange and Parkes provide significant support to existing mining operations in the region.

The Project area comprises undulating cleared farming country with gentle relief between 420 m (lowest) and 510 m (highest) above sea level (ASL). Generally, the relief is between 460 m and 490 m ASL. Minor topographic rises to 500–510 m ASL are occasionally capped with sparse stands of mature eucalypt trees but still grazed by livestock and clear of undergrowth. The major land uses are sheep and cattle grazing and cropping. There are four windfarm turbine sites within the immediate vicinity of Boda and Kaiser on the local topographic rises.

1.4 Project History

Early exploration in the Boda-Kaiser area targeted probable orogenic quartz vein gold deposits, with limited production from the Dick's Reward mine (1987 to 1990) and historical copper oxide mining (1874 to 1881).

Historical exploration began in 1970 by Woodsreef, involving a regional aeromagnetic and radiometric survey, stream sediment sampling and reconnaissance mapping, followed by a base metal soil survey revealing a copper anomaly at Boda 2-3.

Exploration resumed in 1985 with Cluff and later a joint venture with Homestake, focusing on geochemical studies.

Significant exploration occurred from 1991 to 2004 by CRA Exploration Pty Ltd (CRAE) (now Rio Tinto), which included high resolution surveys and extensive sampling. Over 20 magnetic and radiometric anomalies were identified. Each was systematically examined through a combination of ground magnetics, stream, soil and surface rock chip sampling, rotary air blast (RAB) and shallow reverse circulation (RC) drilling, and induced polarisation (IP) surveys. This work highlighted Boda for further drill testing from a program of shallow RC drillholes that outlined a 600 m x 200 m zone of low-grade gold-copper mineralisation associated with potassic and phyllic alteration.

In 1997, regional aircore drilling highlighted gold-copper anomalies across multiple prospects, including Kaiser, Boda, Comobella and Driell Creek. Dipole-dipole IP was trialled at Kaiser, Boda and Comobella prospects, with shallow RC and aircore drilling testing the resultant IP anomalies. Many of the holes intersected porphyry-related alteration and narrow zones of low-grade gold-copper mineralisation.

In 2001, Newcrest Mining Ltd ("Newcrest") entered into an option agreement with Ri Tinto and Ajax Joinery Pty Ltd ("Ajax"), becoming the operator of the licences for two years. Newcrest targeted Kaiser with four deep diamond core drillholes totalling 2,748 m. The drilling targeted magnetic anomalies within the Kaiser magnetic complex, intersecting several intrusions associated with gold-copper mineralisation and hydrothermal breccias.

Kaiser was the site of ongoing interest, leading to a drill program testing a 100 m strike length of an apparent structure defining a small deposit to 90 m depth.

1.5 Geology and Mineralisation

The Boda-Kaiser Project is located in the central west of NSW at the northern end of the Molong Volcanic Belt of the Macquarie Arc in the eastern Lachlan Orogen of eastern Australia.

The volcanosedimentary sequence of the northern Molong Volcanic Belt comprises extensive areas of Cheeseman Creek Formation of the Ordovician Cabonne Group, comprising intermediate lava flows, intrusive and volcaniclastic rocks and limestone. The entire Ordovician succession is intruded by monzonitic to dioritic intrusive rocks, and trachyandesite sills.

Unconformably overlying the Ordovician rocks are Silurian rocks of the Mumbil Group. The Mumbil Group's basal unit is the fossiliferous, massive to detrital Narragal Limestone that is overlain by siltstones, shales and tuffs of the Barnaby Hills Shale. The uppermost unit of the Mumbil Group is the Gleneski Formation, which is comprised of felsic volcanic and volcaniclastic rocks.

The Nindethana Fault is a major crustal-scale structure located along the eastern margin of the project area. It is a north-south trending east directed thrust fault which displaces the Silurian-Devonian succession to the east of the project area and forms the contact between the Ordovician and Silurian succession to the north. To the east of this structure, the sequence of Ordovician-Devonian rocks is intruded by the Carboniferous Wuuluman Granite.

In the far northwestern extents of the project area, the entire sequence is unconformably overlain by, or is in fault contact with, Permian and Triassic siliciclastic units of the Gunnedah Basin.

Exploration has identified seven discrete intrusive complexes—Kaiser, Boda, Boda South, Driell Creek, Murga, Windora and Tompkins—outboard of the major 35 km^2 Comobella Intrusive Complex and within a northwest trending transverse corridor. These intrusives are interpreted to be part of the Type 4 intrusive suite. Intermediate intrusives, lavas and breccias, extensive alteration and widespread, low-grade, gold-copper mineralisation define the corridor, and two gold-copper deposits have been defined at Boda and Kaiser.

1.5.1 Boda

The Boda deposit is located within a northwest trending structural corridor on the northwestern margin of a significant magnetic complex with dimensions of approximately 2.0 km x 0.7 km. The mineralisation is hosted within a package of submarine basaltic to andesitic lavas. The volcanic sequence is intruded by monzogabbroic and monzodiorite volcanic feeder dykes and later monzodiorite-monzonite units and related magmatic-hydrothermal breccias.

The deposit is crosscut by numerous post-mineralisation dykes and sills of varying composition. Intrusive to magmatic-hydrothermal breccias are the focus for the calc-potassic alteration and gold-copper mineralisation at Boda. The mineralisation is related to a series of northwest trending monzodiorite intrusions manifesting as a series of vertically extensive intrusive breccias forming a stock central to Boda and Boda 2-3. These intrusive breccias transition to hydrothermal breccias to which the highest gold-copper grades are related. The majority of brecciation is in the form of a "crackle breccia" that can either have a hydrothermal matrix usually comprising of calcite ± actinolite ± pyrite ± magnetite ± chalcopyrite or an igneous matrix dominantly of monzodiorite.

Copper mineralisation is observed throughout the prospect, primarily as chalcopyrite with subordinate bornite, chalcocite and rare covellite. Within the magmatic-hydrothermal breccias, chalcopyrite and, to a lesser extent, bornite occur predominantly as a cementing mineral between the calc-potassic altered clasts. Outside of the breccias, copper mineralisation is observed within calcite ± quartz ± epidote dominant veins and as disseminations and patches, often intergrown with epidote.

Gold is observed within the mineralised breccias, often without magnification and it is associated with chalcopyrite and bornite in hydrothermal cement.

Boda is overprinted in the northeast by phyllic alteration comprising sericite-quartz-calcite ± albite with up to 10% pyrite by volume. The pyrite occurs as disseminated spots, aggregates and short veinlets. The phyllic alteration is copper-poor. However, gold grades over hundreds of metres can average from 0.2 g/t to 0.6 g/t Au with occasional thin intervals of >10 g/t Au.

Three significant west dipping reverse faults (Solar, Moonlight and Reids) bound and dislocate the mineralisation at Boda and Boda 2-3. The Solar Fault bounds the western margin of mineralisation at Boda and Boda 2-3. Moonlight Fault dislocates the calc-potassic gold-copper mineralisation at Boda and Boda 2-3. The Reids Fault is the easternmost fault and bounds the shallow level gold-pyrite mineralisation from calc-potassic gold-copper mineralisation to the west at Boda 2-3. All three thrusts have an inferred movement of over 400 m along the moderately west dipping structures.

There is negligible post-mineral cover on the Boda deposit. Weathering and oxidation of the mineralised bedrock extends on average approximately 15 m from the surface.

1.5.2 Kaiser

The Kaiser deposit is located within a northwest trending structural corridor on a significant magnetic high with dimensions of approximately 800 m x 700 m, named the Kaiser Intrusive Complex. The mineralisation is hosted within a package of submarine basaltic to andesitic lavas. The volcanic sequence is intruded by monzodiorite-monzonite units and related magmatic-hydrothermal breccias. The deposit is crosscut by several post-mineralisation dykes and sills of varying composition.

Intrusive to magmatic-hydrothermal breccias are the focus for the calc-potassic alteration and gold-copper mineralisation at Kaiser. The mineralisation is related to a series of northwest trending monzodiorite-monzonite intrusions manifesting as a series of vertically extensive intrusive breccias forming a stock central to the Kaiser Intrusive Complex. These intrusive magmatic breccias transition to hydrothermal breccias to which the highest gold-copper grades are related.

The majority of brecciation is in the form of a "crackle breccia" that can either have a hydrothermal matrix, usually comprising calcite ± actinolite ± pyrite ± magnetite ± chalcopyrite or an igneous matrix.

Copper mineralisation is observed throughout the deposit, primarily as chalcopyrite with lesser bornite and subordinate chalcocite and covellite. Within the intrusive hydrothermal breccias, chalcopyrite and, to a lesser extent, bornite occur predominantly as a cement mineral between the calc-potassic altered clasts. Outside of the breccias, copper mineralisation is observed within calcite ± quartz ± epidote dominant veins and as disseminations and patches, often intergrown with epidote.

Gold is observed within the sulfide cemented breccias, often without magnification and is associated with pyrite, chalcopyrite and/or bornite in hydrothermal cement.

Kaiser includes a zone of potassic alteration comprising wholly of biotite alteration with quartz-calcite veining, with up to 10% pyrite by volume along its northeast flank. The pyrite occurs as disseminated spots, aggregates and as breccia cement. The alteration is generally copper-poor. However, gold grades over several tens of metres can average from 0.2 g/t to 0.4 g/t Au, with occasional thin intervals of >10 g/t Au associated with pyrite cemented breccias.

Two significant reverse faults bound and dislocate the central zone of calc-potassic mineralisation at Kaiser. The Kaiser Fault dips east and thrusts the deeper Kaiser Main zone over the Kaiser West zone of mineralisation. The Solar Fault dips west and thrusts the Kaiser Main zone over the Kaiser East zone.

There is negligible post-mineral cover on the Kaiser deposit. Weathering and oxidation of the mineralised bedrock extends, on average, approximately 15 m from the surface. The Kaiser Fault zone is associated with minor supergene copper forming as native copper. The native copper zones can extend hundreds of metres down the Kaiser Fault and permeate up to 50 m away from the structure.

1.6 Exploration

Alkane participated in the Strategic Partnerships with Industry for Research and Training ("SPIRT") project (1998–2001) to study the Macquarie Arc's mineralisation. The program, involving academia and the Geological Survey of NSW, aimed to:

- gather data on Ordovician volcanic rocks in central western NSW
- use petrological and geochemical methods to analyse volcanic rock variations

- determine regional volcanic facies architecture
- document alteration and fluid flow related to hydrothermal systems
- develop a new tectonic interpretation and metallogenic framework for exploration.

Results of the SPIRT project enhanced understanding of volcanic distributions, composition, and mineralisation controls, providing Alkane with targeting options for the Macquarie Arc.

In January 2004, Rio Tinto offered Alkane exploration licences at Bodangora and Cudal for a cash payment and rights. In 2012, Rio Tinto indicated it would sell residual rights from the 2004 agreement, prompting Alkane to exercise its pre-emptive right for a cash payment, resulting in Rio Tinto retaining no rights. In 2013, Alkane acquired a small exploration licence at Kaiser from Ajax through staged payments, achieving 100% ownership in 2014, with a 2% net smelter return (NSR) royalty to Ajax.

1.6.1 Exploration History

2004

Alkane focused on shallow, high-grade gold at Bodangora, completing 25 RC drillholes. Results were inconclusive, leading to relinquishment of this area in 2009. A detailed aeromagnetic and radiometric survey improved data resolution, identifying magnetic complexes linked to porphyry alteration.

2004 to 2009

Exploration concentrated on the Tomingley gold deposits. Joint venture efforts with a major mining company faced challenges due to Rio Tinto's project rights, resulting in the relinquishment of a quarter of the tenement.

2010

Early NMPP exploration targeted the Comobella Intrusive Complex with mapping and sampling, yielding anomalous copper-gold assays.

2011 to 2013

A total of 11 RC drillholes completed by Alkane tested IP and geochemical anomalies, revealing significant pyrite mineralisation and anomalous gold and copper. The Comobella Intrusive Complex confirmed its potential with drillhole COMRC009 intersecting 46 m at 0.9 g/t Au and 0.25% Cu. Further exploration did not replicate this success.

2013 to 2015

Alkane acquired additional tenements and conducted geological reviews. Results of these reviews are not available.

2016

Alkane completed high-definition ground magnetic surveys that targeted intrusive complexes, revealing northwest trends. Two drilling programs (16 RC and two diamond holes) yielded inconclusive results, except for some pyrite mineralisation.

2017 to 2018

Access to EL4022 was denied during the Bodangora Wind Farm construction, causing a hiatus in exploration.

2019

Alkane purchased EL8887 and planned drilling based on promising KSRC018 intercepts. Drilling at Boda returned significant results, including 502 m at 0.48 g/t Au and 0.20% Cu.

2020

Alkane completed five deep diamond drillholes that confirmed extensive mineralisation. Immediately following this drill success, a major 30,000 m drilling program of deep RC and diamond core drilling commenced. The program was designed to test the extent of high-grade gold-copper breccia mineralisation and the overall mineral resource potential at Boda, as well as other regional targets such as Boda 2-3 and Kaiser.

2021

Alkane focused on Kaiser, drilling hole KSDD027, which intersected significant alteration and mineralisation. High resolution drone magnetics and structural interpretations guided further exploration.

2022

A maiden Inferred MRE for Boda was based on 71,431 m of drilling. The MRE is included as a historical estimate in this Report, given that it has been superseded.

2023 to 2024

A maiden Inferred MRE for Kaiser was based on 42,000 m of drilling in 2023. The MRE is included as a historical estimate in this Report, given that it has been superseded. A 90,000 m drilling program commenced to define the Boda-Kaiser system, with significant results from recent drilling at Driell Creek and other prospects indicating porphyry-style alteration and mineralisation.

1.7 Drilling

Drilling was conducted using high-capacity RC drill rigs and high-powered diamond core drilling rigs for the purpose of retrieving large sized sample and for drilling to significant depths.

The Boda deposit has been evaluated using all of Alkane's RC and diamond drilling holes within the prospect area. No previous companies' exploration drilling in the region (shallow RC, aircore and RAB holes) was used in the resource assessment.

Drilling at the Boda deposit and Boda 2-3 prospect has been conducted as an extended campaign since the maiden Boda MRE was announced on 30 May 2022. The current MRE at Boda and Boda 2-3 and reported in Section 14 of this Report is comprised of a total of 186 drillholes including 42,455 m of RC and 103,002 m of diamond core for a total of 145,457 m.

The initial exploration drilling was conducted on east–west traverses at Boda and Boda 2-3, with subsequent resource definition drilling at Boda conducted on more optimal (perpendicular) southwest-striking traverses for that part of the deposit. Resource drill sections at Boda are spaced 50 m apart, with drillholes at nominal 50 m intervals along these sections. Drilling at Boda 2-3 is more irregularly spaced along east–west traverses approximately perpendicular to the mineralisation approaching a nominal 100 m spaced drilling grid. The drilling directions are not considered to have any significant biasing effects.

The Kaiser deposit has been evaluated using all of Alkane's RC and diamond drilling holes within the deposit area. Previous companies' exploration drilling was also included in the estimation where Alkane was confident of the collar locations and modern assaying methods. This comprised of only four drillholes completed by Newcrest.

Drilling at the Kaiser deposit was conducted as an extended campaign since the maiden Kaiser MRE was announced on 18 December 2023. The current MRE reported in Section 14 of this Report is comprised of a total of 217 drillholes for a total of 94,779 m comprising of 41,487 m of diamond core and 53,292 m of RC drilling. This includes a historical assay component (for the period 2001 to 2002) captured by Newcrest from four drillholes comprising of 2,684 m of diamond core.

1.8 Mineral Processing and Metallurgical Testing

The Boda-Kaiser Copper-Gold Project had metallurgical testwork completed in 1988, 2022 and 2023. The most recent testwork program conducted in 2023 is the most substantial testwork program and has formed the basis for a preliminary engineering design (GR Engineering Services North Molong Porphyry Project Scoping Study completed in April 2024).

The 2023 program entailed the generation of 21 variability samples and two master composites from 11 Boda drillholes and 10 Kaiser drillholes. Half-HQ core was utilised.

The scope of the testwork was:

- Assessment of ore hardness and comminution characteristics.
- Ore mineralogy and geochemical relationships.
- Flowsheet determination in respect to:
  - Amenability to gold/copper recovery by froth flotation
  - Amenability to gravity gold recovery and cyanidisation.
- Tailings characterisation.

The metallurgical testwork has been conducted rigorously for a scoping study. A flowsheet has been tested with a wide range of variability and on the basis of two master composites. The processing flowsheet interpretation and subsequent costing is representative of the testwork conducted.

1.9 Mineral Resource Estimates

The MREs for Boda and Kaiser were completed using RC and diamond drillhole data and have an effective date of 6 June 2025. The MREs are classified in accordance with the CIM Definition Standards (“CIM Standards”) for Mineral Resources and Mineral Reserves (May 2014). Note that the Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

Statistical assessment of the data was completed of the data was completed to understand how the estimate should be accomplished. A 1 m composite length was selected following statistical analysis. A top cut analysis was carried out by a visual inspection of the data using histograms, log-transformed probability plots, mean and variance plots and sensitivity analysis for individual domains to identify population outliers. The spatial location of the outliers was also taken into consideration for the application of the top cuts. The sensitivity analysis involved analysing varying cut values, to estimate the contribution of each sample to the overall metal content. Top cutting was deemed necessary for some of the domains.

Geological modelling was undertaken using Datamine software.

Variograms were modelled using 1 m composites for gold and copper to support the use of geostatistical interpolation methods. The variogram modelling process was undertaken using Datamine Supervisor software.

Kriging neighbourhood analysis was carried out on several test areas within the domains to determine the optimal parent block size and number of informing samples for estimation. A parent block size of 25 m(E) x 25 m(N) x 10 m(RL) was identified as appropriate for Boda and Kaiser, with sub-celling to 5 m(E) x 5 m(N) x 5 m(RL) to maintain appropriate resolution at the

surface boundaries. Based on the analysis of multiple domains, a minimum of 10 and a maximum of 22 (Boda) and 20 (Kaiser) samples were selected for the estimation.

Gold and copper were estimated into the Boda and Kaiser block models using ordinary kriging (OK). No other chemical constituents were estimated. Density measurements were averaged for each domain and assigned to the block model individually.

Validation of the modelling parameters and processes of estimation included visual inspections in section, plan and in 3D; and comparisons of previous iterations vs the final OK model were made.

The MREs are classified in the Indicated and Inferred resource categories using the CIM Standards (May 2014) based upon confidence and risk with respect to data quality, drillhole spacing, geological and grade continuity, mineralisation volumes, as well as metal distribution.

In order to meet the criteria for reasonable prospects for eventual economic extraction ("RPEEE"), a notional pit shell design was used to determine potential open cut Mineral Resources, with a cut-off grade of 0.3 g/t AuEq adopted within the shell.

In addition, the QP author also completed a mineable shape optimiser (MSO) study to constrain underground Mineral Resources beneath the pit shell for Boda and Kaiser. A level spacing of 30 m and a minimum stope strike length of 25 m was used. The MSO shapes were based on a 0.4 g/t AuEq cut-off grade, which was deemed appropriate for bulk underground mining methods.

Gold equivalents have been calculated using the formula:

- AuEq (g/t) = Au (g/t) + Cu%/100*31.1035*copper price($/t)/gold price($/oz).

The prices used were based on a 12-month average of US$1,950/oz gold and US$8,600/t copper, and an exchange rate of A$:US$ 0.67.

The Boda and Kaiser MREs are summarised below in Table 1-1 and Table 1-2 respectively, with an effective date of 6 June 2025. No dilution or recovery factors have been applied to the MREs.

Table 1-1 MRE for the Boda deposit (effective date of 6 June 2025)

Mineral Resource category	AuEq cut-off (g/t)	Tonnage (Mt)	Au (g/t)	Cu (%)	AuEq (g/t)	Au (Moz)	Cu (Mt)	AuEq (Moz)
Open pit Mineral Resources (>0.3 g/t AuEq)								
Indicated	0.3	191	0.36	0.17	0.59	2.22	0.32	3.63
Subtotal	**0.3**	**191**	**0.36**	**0.17**	**0.59**	**2.22**	**0.32**	**3.63**
Inferred	0.3	42	0.29	0.16	0.51	0.38	0.07	0.69
Underground Mineral Resources (>0.4 g/t AuEq)								
Indicated	0.4	142	0.33	0.19	0.60	1.53	0.28	2.56
Subtotal	**0.4**	**142**	**0.33**	**0.19**	**0.60**	**1.53**	**0.28**	**2.56**
Inferred	0.4	198	0.33	0.17	0.56	2.07	0.34	3.57

Notes:

- Tonnage and grade have been rounded to reflect the relative accuracy of the MRE.
- Open pit Mineral Resources are constrained within an optimised pit shell. Underground Mineral Resources lie below the open pit shell within MSO shapes.
- AuEq(g/t) = Au(g/t) + Cu%/100*31.1035*copper price (US$8,600/t)/gold price (US$1,950/oz).
- The Mineral Resource is classified in accordance with the guidelines of the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014).
- The QP and Alkane are not aware of any current environmental, permitting, legal, title, taxation, socioeconomic, marketing or political factors that might materially affect these MREs.
- The Mineral Resource is effective as of 6 June 2025.

Table 1-2 MRE for the Kaiser deposit (effective date of 6 June 2025)

Mineral Resource category	AuEq cut-off (g/t)	Tonnage (Mt)	Au (g/t)	Cu (%)	AuEq (g/t)	Au (Moz)	Cu (Mt)	AuEq (Moz)
Open pit Mineral Resources (>0.3 g/t AuEq)								
Indicated	0.3	179	0.27	0.20	0.54	1.56	0.35	3.12
Subtotal	**0.3**	**179**	**0.27**	**0.20**	**0.54**	**1.56**	**0.35**	**3.12**
Inferred	0.3	10	0.29	0.14	0.48	0.10	0.01	0.16
Underground Mineral Resources (>0.4 g/t AuEq)								
Indicated	0.4	17	0.29	0.20	0.56	0.16	0.03	0.30
Subtotal	**0.4**	**17**	**0.29**	**0.20**	**0.56**	**0.16**	**0.03**	**0.30**
Inferred	0.4	2	0.26	0.18	0.51	0.14	0.00	0.03

Notes:

- Tonnage and grade have been rounded to reflect the relative accuracy of the MRE.
- Open pit Mineral Resources are constrained within an optimised pit shell. Underground Mineral Resources lie below the open pit shell within MSO shapes.
- AuEq(g/t) = Au(g/t) + Cu%/100*31.1035*copper price (US$8,600/t)/gold price (US$1,950/oz).
- The Mineral Resource is classified in accordance with the guidelines of the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014).
- The Mineral Resource is effective as of 6 June 2025.

1.10 Mining Methods

The Boda-Kaiser Project is conceptually able to support a potentially economic bulk-tonnage mining and processing operation. Alkane has recently conducted a Preliminary Economic Assessment ("PEA") or Scoping Study level evaluation of three potential development scenarios, each based on varying production rates to assess the Project's economic viability:

- Scenario 1: The mining and processing of 20 Mtpa.
  - This is the most ambitious scenario, potentially delivering the highest value due to substantial economies of scale.
- Scenario 2: The mining and processing of 10 Mtpa.
  - This mid-sized option is potentially feasible; it presents significant economic potential and can serve as:
    - a phased development pathway towards a larger operation, or
    - a standalone project, particularly in an environment with rising gold and copper prices.
- Scenario 3: The mining and processing of 5 Mtpa.
  - At current metal prices, this smaller-scale scenario falls short of meeting Alkane's investment return thresholds and is not viable.

The mining approach considered in the conceptual study incorporates phased open cut operations at both Boda and Kaiser deposits, complemented by underground extraction at Boda.

The underground mining strategy contemplated in the conceptual study was longhole open stoping, which aligns with Alkane's operational experience at Tomingley Gold Operations. Recognising the critical role of high throughput in optimising project economics, further advanced mining studies will be carried out to explore alternative bulk mining methods, such as sublevel caving, to enhance efficiency and scalability.

1.11 Recovery Methods

The preliminary metallurgical study carried out on Kaiser indicates that a flowsheet of conventional crushing, grinding and flotation circuits can produce a saleable concentrate. Additional processing of tailings via cyanide leaching can increase recovery of gold and copper to produce gold doré and a copper precipitate. Testing in respect to the copper precipitate has not yet occurred.

1.12 Project Infrastructure

The Project is a scoping study aimed at assessing potential outcomes related to mining and economic development. Currently, no infrastructure construction has started.

1.13 Environmental Studies, Permitting and Social or Community Impact

Baseline environmental studies for the Boda-Kaiser Project commenced data collection in 2024 to inform an environmental impact statement. The studies are assessing the three proposed processing scenarios and include meteorological conditions, flora and fauna, surface and ground water, soils and land use capability, visual amenity, transport, noise, air quality and Aboriginal and European heritage. Typically, at least two years of baseline data is collected prior to impact assessment (Alkane, 2024a).

1.14 Capital and Operating Costs

Preliminary cost estimates are based on the conceptual studies comprising the scoping study (PEA) completed by Alkane in July 2024. These vary depending on the scenario considered.

1.15 Economic Analysis

The Boda-Kaiser Project is conceptually able to support a potentially economic bulk-tonnage mining and processing operation. Alkane has recently conducted a conceptual, PEA or scoping study level evaluation of three potential development scenarios, each based on varying production rates to assess the Project's economic viability:

- Scenario 1: The mining and processing of 20 Mtpa.
  - This is the most ambitious scenario, potentially delivering the highest value due to substantial economies of scale.
- Scenario 2: The mining and processing of 10 Mtpa.
  - This mid-sized option is potentially feasible; it presents significant economic potential and can serve as:
    - a phased development pathway towards a larger operation, or
    - a standalone project, particularly in an environment with rising gold and copper prices.
- Scenario 3: The mining and processing of 5 Mtpa.
  - At current metal prices, this smaller-scale scenario falls short of meeting Alkane's investment return thresholds and is not viable.

1.16 Conclusions and Recommendations

The Boda-Kaiser project site was visited by two of the QP Authors who concluded:

- A reasonably high level of confidence can be placed in the location of data points, despite all drill sites having been rehabilitated.
- Sample collection, preparation, description and analysis processes employed throughout the project are considered to have been completed in a manner consistent with

contemporary standards. Appropriate measures to ensure sample security were also in place.

- Geological and analytical data quality assurance measures identified no material issues.
- Processes and procedures around processing of drill core and chips, core logging procedures and data capture into a dedicated database, sampling and QAQC and sample handling and transport security of samples are consistent, systematic and carried out in accordance with industry best practice.
- The drillhole database and associated underlying technical data are considered to be accurate and adequate for the purpose of preparing a Mineral Resource estimate for the Project.
- Reasonable prospects for eventual economic extraction for the Mineral Resource reported for the Project are considered to have been justified.
- The QP Author concluded that the Boda-Kaiser Project is conceptually able to support a potentially economic bulk-tonnage mining and processing operation.
- Metallurgical testwork has been conducted in a rigorous manner. A flowsheet has been tested with a wide range of variability and on the basis of two master composites. The processing flowsheet interpretation and subsequent costing is considered to be representative of the testwork conducted.

The QP authors recommend that the following recommendations be actioned to support ongoing exploration and evaluation of the Kaiser and Boda deposits:

- Infill drilling to convert Inferred Mineral Resources to higher classification categories
- Continued refinement of the geological model and current understanding of mineralisation styles and their distribution within the deposits
- Establishment of a mining geology team to initiate a smooth transfer of knowledge from the exploration team to a mine development and production-focused team
- Initiate the development of systems and procedures for production data management and quality assurance, production control sampling, systematic geological data capture, monitoring ore loss and dilution, production reporting and reconciliation. The objective of this work would be to have fit for purpose systems in place when production commences.

2 INTRODUCTION

2.1 Issuer and Purpose of the Report

In May 2025, Alkane ("the Issuer") commissioned ERM to complete a report compliant with NI 43-101, Form 43-101F1 and Companion Policy 43-101CP standards and guidelines on the Boda-Kaiser Copper-Gold Project in NSW, Australia ("the Project").

On 28 April 2025, Alkane announced it had executed an Agreement whereby Alkane will acquire all the issued and outstanding common shares of Mandalay pursuant to a court-approved plan of arrangement ("the Transaction"). Following completion of the Transaction, the combined company will continue operating as "Alkane Resources," remain listed on the ASX, and is seeking a dual listing on the TSX. The Transaction will require approval by 66.66% of the votes cast by the shareholders of Mandalay at a special meeting of Mandalay shareholders. The issuance of the Alkane ordinary shares pursuant to the Transaction is also subject to approval by a simple majority of votes cast by the shareholders of Alkane at a special meeting of Alkane shareholders.

Scientific and technical information provided in this Report may be included in the Mandalay Circular and Alkane disclosure documents on the ASX.

Alkane is a publicly listed mining company headquartered in Perth, Western Australia, with its exploration team based in Orange, NSW. The Company was incorporated in 1969 and is listed on the ASX under the symbol "ALK"). Alkane is focused on discovery and definition of porphyry copper-gold deposits in Australia and maintains a multi-stage portfolio of exploration and mining projects.

Mandalay is a Canadian-based resource company with producing assets in Australia (Costerfield gold-antimony mine) and Sweden (Björkdal gold mine). Mandalay is listed on the TSX under the symbol "MND" and is focused on growing its production and reducing costs to generate significant positive cashflow. Mandalay is committed to operating safely and in an environmentally responsible manner, while developing a high level of community and employee engagement.

ERM is a privately owned and fully independent environmental, sustainability and mining consulting company, which has been operating for over 50 years. ERM's headquarters are in London, United Kingdom.

2.2 Terms of Reference

ERM was commissioned by the Company in May 2025 to complete a report for the Boda-Kaiser Copper-Gold Project in NSW in accordance with NI 43-101.

This Technical Report is based on information known to ERM and the QP authors as of 6 June 2025, the effective date of this Technical Report.

The geology and mineralisation for the Project area is discussed, as well as the current Mineral Resources, the metallurgical activity involved in developing a conceptual processing flowsheet, the conceptual work contemplating possible underground mining scenarios for Boda-Kaiser, environmental, social and governance (ESG) considerations, and other material information associated with the Project.

A significant amount of historical data pertains to past work completed on Boda-Kaiser and other nearby projects and an effort was made to summarise this to contain the length and readability of the Report.

Mineral Resources reported herein are completed in accordance with the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014; the 2014 CIM Definition Standards) and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (November 2019; the 2019 CIM Best Practice Guidelines).

The Issuer reviewed draft copies of this Technical Report for factual errors or omissions. Any changes made because of these reviews did not include alterations to the scientific and technical information including any interpretations and conclusions made. Therefore, the statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false or misleading as of the effective date of this Technical Report.

The Project is considered an "Advanced Property" as defined in Section 1.1 of NI 43-101.

2.3 Sources of Information

The preparation of the Report has been completed by the QP authors largely based on information provided by the Issuer (Alkane) in the form of a comprehensive digital data room, as well as publicly available information obtained by the QP authors, and information obtained by the QP authors during the site visit to the Project.

A full listing of the principal sources of information is included in Section 27 of this Report.

The QP authors have endeavoured, by making all reasonable enquiries, to confirm the authenticity, accuracy and completeness of the technical data upon which this Technical Report is based. Unless otherwise stated, information and data contained in this Technical Report, or used in its preparation, has been provided by Alkane in the form of documentation and digital data.

The Report has been based on information available up to and including 6 June 2025.

2.4 Qualified Person Section Responsibility

This Report was prepared by or under the supervision of the QPs identified in Table 2-1, which lists the sections for which the QPs are responsible (or co-responsible).

Table 2-1 QPs—Report Responsibilities

QP	Report section responsibility
Andrew Waltho Consulting Director Mining Transaction and Corporate Advisory BAppSc (Hons1) FAIG RPGeo (MinExpl, Mining), FAusIMM, FGS, Professional Member SME, GAICD	Sections 1–3, 13, 18–27,
Tony Donaghy Geoscience Director BSc (Hons), AssocDip (CivEng), P.Geo.	Sections 4–10, 12
Aaron Meakin ERM Partner, Principal Consultant, Resource Geology MAppFin, GradDipAppFin, BSc (Geol)(Hons), MAusIMM, CP(Geo)	Sections 11–12, 14
Nick MacNulty Principal Underground Mining Engineer BSc Engineering (Mining) Dip Financial Management, Mineral Evaluation Cert, Mine Manager's Certificate of Competency (South African), MSAIMM, FAusIMM	Sections 12, 15–18, 21

The Report authors are independent QPs with the relevant experience, education, and professional standing to enable them to complete the portions of the Report for which they are responsible.

The QP authors have conducted an internal check to confirm that there are no conflicts of interest in relation to their engagement in this Project or with Alkane and that there is no circumstance that could interfere with the QP authors' judgement regarding the preparation of this Report.

2.5 Qualified Person Site Visit and Personal Inspections

Tony Donaghy and Nick MacNulty conducted a site visit to the Boda-Kaiser Project field localities and the Alkane exploration offices and core facility in Orange on 16 April 2025 (Table 2-2). In addition, Tony Donaghy visited the Peak Hill Alkane exploration offices and core facility on 15 April 2025. Both site visits were escorted by David Meates, the Alkane Exploration Manager.

Table 2-2 Personal Inspection of Property

QP	Company	Expertise	Date(s) of visit	Details of inspection
Tony Donaghy	ERM	Geology and Mineral Resources	15–16 April 2025	Boda and Kaiser site visits. Peak Hill and Orange exploration offices and core and sample handling facilities inspections. Drill core inspections of representative drillholes.
Nick MacNulty	ERM	Mining and infrastructure	16 April 2025	Visited Alkane exploration offices and core facility in Orange. Inspected Boda-Kaiser field localities.

During the site visit to the Boda-Kaiser Project location, it was noted that all drill locations had been rehabilitated and all drill collars buried in compliance with rehabilitation requirements, leaving no surface expression to field check drillhole locations.

At the Orange and Peak Hill core facilities, Alkane staff led the ERM visitors through the full processes and procedures for handling, logging, photography, density measurements, sampling of drill materials, quality assurance and quality control (QAQC), and database management. The walk-through encompassed all core activities from initial drill material reception at the facility from the drill through to transport of samples to the ALS Chemex laboratory for assay testing, and subsequent long-term storage management of drill core and chips, as well as returned laboratory assay pulps.

In addition, representative drillhole intervals through both Boda and Kaiser were laid out for inspection, complete with assay data extracted from the Geobank database.

3 RELIANCE ON OTHER EXPERTS

The QPs have based their review of the Project on information made available by Alkane, along with technical reports prepared by consultants, government agencies and previous tenements holders, and other relevant published and unpublished data.

The QPs have not reviewed the legal status of Alkane's tenure agreements pertaining to the Project and have relied on information provided by Alkane with regard to the legal title to the mineral concessions discussed in Section 4 of this Report.

The QP authors of this Report are also not qualified to provide comments on any legal, political, and tax matters associated with the Project and discussed in the Report and have relied on Alkane for this information. The property description discussed in Section 4 of this Report is not intended to represent a legal, or any other opinion as to title.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Location of Property

The Boda-Kaiser Project forms part of Alkane's NMPP in the Orana region of NSW, Australia (Figure 4-1). The NMPP is located approximately 40 km east-southeast of the city of Dubbo, which is 400 km northwest of Sydney, the capital city of NSW. Access to the Project area from Sydney is west on the Great Western Highway to Bathurst, turning northwest onto the Mitchell Highway to Geurie, then turning east-northeast onto the sealed Comobella Road. The coordinates for the approximate centre of the Project are 32°21'07" S and 148°59'05" E (686,229 mE, 6,419,470 mN, GDA2020 Z55S).

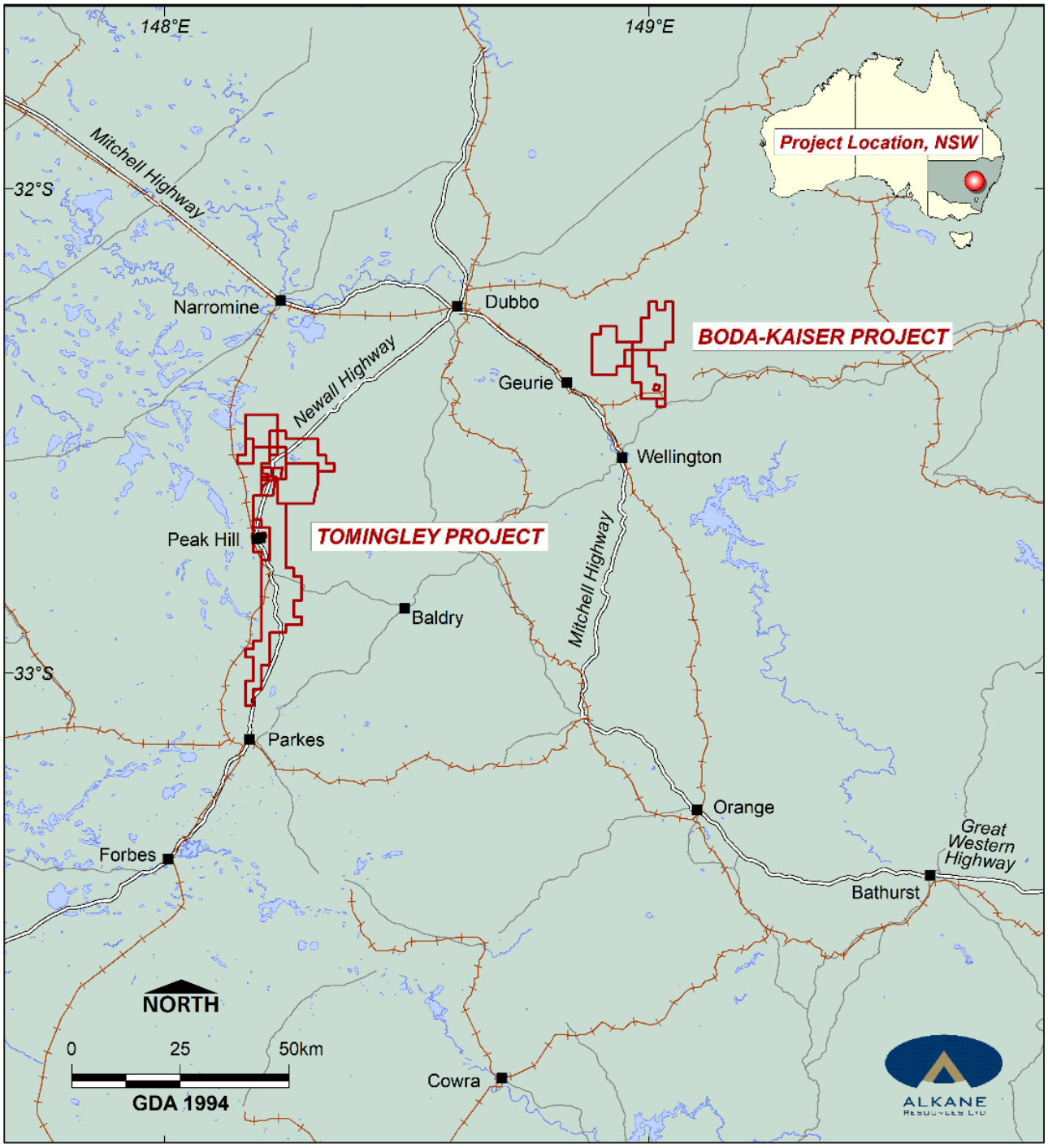

Figure 4-1 Location of the Boda-Kaiser Project in NSW

Note: Alkane's Tomingley Project is also depicted.

4.2 Tenure

The NMPP comprises five explorations licences—EL4022, EL6209, EL8261, EL8338 and EL8887—wholly owned by a 100% subsidiary company of Alkane (Mitchell Creek Mining Pty Ltd) for a total area of approximately 17,984 ha (Figure 4-2, Table 4-1).

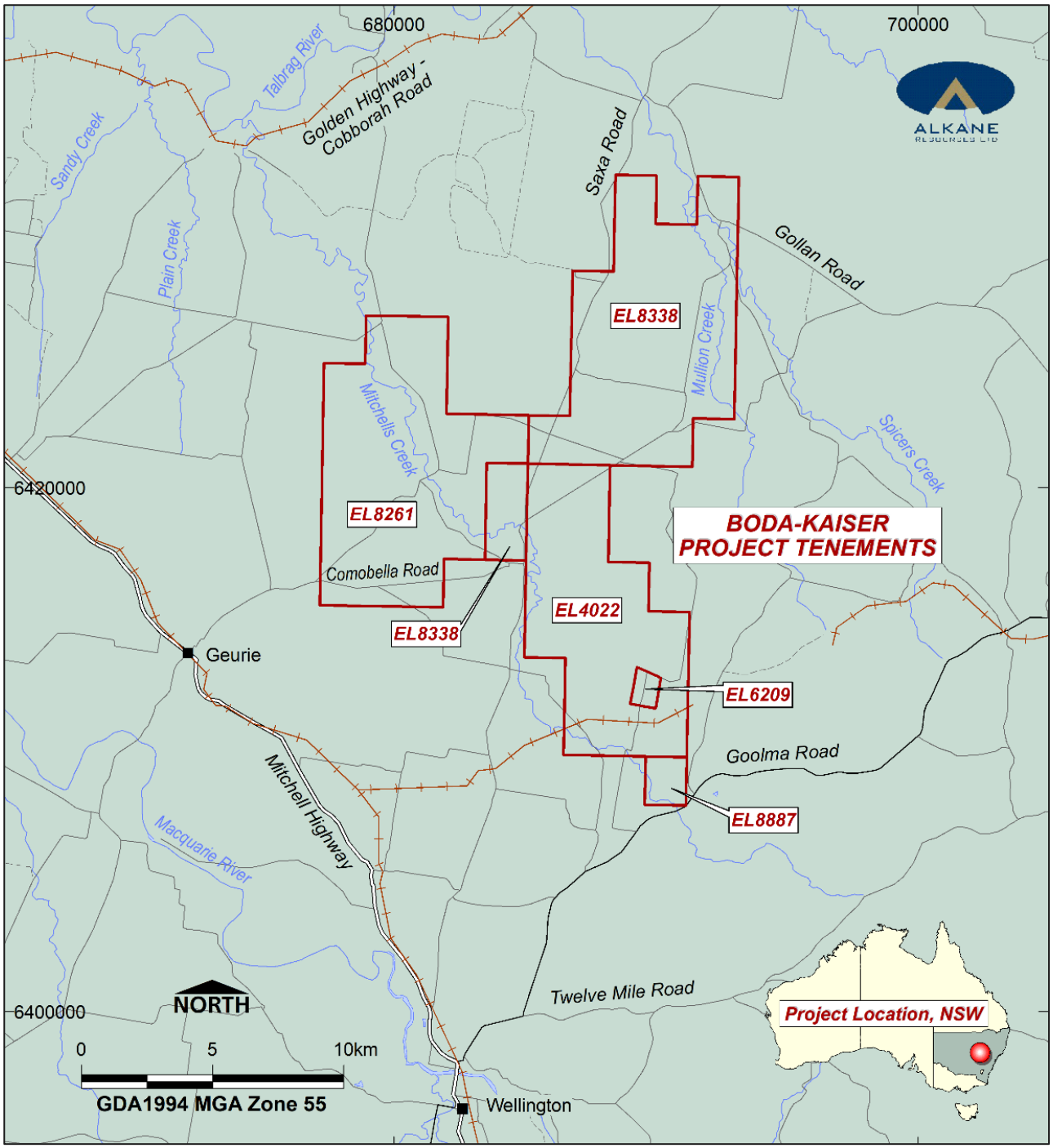

Figure 4-2 Tenement map of the Boda-Kaiser Project in NSW

The Boda-Kaiser Project is situated within tenements EL4022, EL6209 and EL8887 and covers an area of approximately 5,220 ha.

Table 4-1 NMPP Tenement Schedule

Tenement type	Tenement no.	Status	Area (ha)	Grant date	Expiry date	Remaining expenditure commitment	Holder
EL	4022	Granted	4,803.00	14/08/1991	14/08/2026	$0	Mitchell Creek Mining Pty Ltd
EL	6209(1)	Granted	127.50	11/03/2004	11/03/2029	$0	Mitchell Creek Mining Pty Ltd
EL	8261	Granted	6,090.00	30/04/2014	30/04/2029	$13,000	Mitchell Creek Mining Pty Ltd
EL	8338	Granted	6,674.00	27/01/2015	27/01/2030	$326,000	Mitchell Creek Mining Pty Ltd
EL	8887	Granted	289.00	20/12/2019	6/02/2026	$0	Mitchell Creek Mining Pty Ltd
Total			**17,983.50**			**$339,000**	

Source: AMETS

Notes: (1) Royalty payable to Ajax Joinery Pty Ltd.

Tenement information on the NMPP tenements was provided by Alkane's independent tenement management firm, Australian Mining and Exploration Title Services Pty Ltd (AMETS), and was current as of 8 April 2025. ERM checked the tenements by obtaining information from the NSW online MinView web map application (NSW Resources government database) on 8 May 2025. ERM makes no other assessment or assertion as to the legal title of the tenements and is not qualified to do so.

Alkane management warrants that all tenements are in good standing.

The following information has been summarised from NSW Resources (2025). Exploration licences must be applied for in mineral groups as prescribed under Schedule 2 of the Mining Regulation 2016:

- Group 1 (Metallic minerals)
- Group 2 (Non-metallic minerals)
- Group 3 (Semi-precious stones)
- Group 4 (Marine aggregate)
- Group 5 (Clay minerals)
- Group 6 (Corundum diamond, ruby and sapphire)
- Group 7 (Opal)
- Group 8 (Geothermal energy)
- Group 9 (Coal)
- Group 9A (Oil shale)
- Group 10 (Mineral sands)
- Group 11 (Uranium) – applications are currently prohibited.

An exploration licence grants the title holder the exclusive rights to explore for a specific mineral or mineral group(s) within a designated area. They are typically granted and renewed for periods of two to six years. An exploration licence does not permit mining, nor does it guarantee that a mining lease will be granted.

In NSW, exploration licence units for minerals (excluding coal) are defined by a graticule system, which divides the state into blocks and then into units. Each unit encompasses one minute of latitude by one minute of longitude, representing an area of approximately 3 km^2.

Before the holder of an exploration licence can access land for exploration, they are required to enter into a land access arrangement with the relevant landholder. While landholders in NSW own the surface land of their properties, most subsurface minerals belong to the state of NSW.

Under the *Mining Act 1992*, the term landholder includes:

- the owner of the land
- the Native Title holder of the land
- the holder of a lease, licence, continued tenure or permissive occupancy issued under the *Crown Land Management Act 2016*
- in the case of reserved land, the controller of that land
- a person whose interest in the land is identified in any register or record kept by the Registrar General, including lessees or other persons with exclusive rights to the land, or mortgagees in possession of the land

A mining lease gives the title holder the exclusive right to extract a specific resource over a selected area. To be granted a mining lease, a development consent must be granted by the relevant consent authority, and an environmental protection licence must have been issued by the NSW Environmental Protection Agency under the *Protection of the Environment Operations Act 1997*.

4.3 Ownership, Royalties and Agreements

On 23 December 2013, Alkane entered into a sale and purchase agreement with Ajax for EL6209. As part of this agreement and upon completion of the purchase, Alkane granted Ajax a 2% NSR royalty on production of all minerals from EL6209. On 23 November 2015, Alkane completed the purchase of EL6209.

4.4 Surface Rights

No Native Title agreements have been entered into by Alkane with respect to the NMPP, as the Right to Negotiate discussions are not completed.

Alkane has land access and lease agreements that partly or wholly cover the three tenements of the Boda-Kaiser Project (EL4022, EL6209 and EL8887). The Boda-Kaiser resource area is fully covered by agreements. The Company has also purchased the property that sits above the resource area. Alkane has executed a land access agreement with the operating Bodangora Wind Farm, adjacent to and partly on the Project, for access to EL4022 and EL6209.

4.5 Environmental Liabilities

The QP author is not aware of any additional environmental liabilities pertaining to the NMPP, other than those attached to the granted tenure documents.

4.6 Permits

Alkane holds all required permits and authorisations to undertake exploration activities on the Boda-Kaiser Project. Further agreements are required for access over the majority of the other two tenements (EL8261 and EL8338) that form part of the larger NMPP.

4.7 Community Consultation

The Boda-Kaiser Project is located in the Bodangora district that has a long history of gold mining dating back to the 1850s. The Project lies within the Dubbo Regional Council local government area, with neighbours to the Project being farming families and the village of Bodangora (population approximately 100). Alkane continues to consult with potentially affected stakeholders and the broader community (Alkane, 2024a).

4.8 Other Significant Factors and Risks

As part of the Bodangora Wind Farm, an estimated four wind turbines will potentially need to be relocated for the Project's development. Also, the NSW government has a rail easement for an uncompleted rail line that crosses the Project area. Relocation discussions on both issues will occur in later feasibility stages, as the Project layout is selected. As part of the future development of the Project, more land must be purchased for the location of non-process infrastructure (Alkane, 2024a).

The QP authors are not aware of any other significant factors and risks that may affect access, title or the right or ability to perform work on the Project.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Access

The Boda-Kaiser Project is located approximately 30 km southeast of Dubbo and 20 km northeast of Wellington in central western NSW (Figure 4-1). Access to the area is gained via the Mitchell Highway linking Dubbo and Orange, then taking the Goolma Road from Wellington. Both are sealed roads in excellent condition. Site access within the Project is relatively easy via various unsealed shire roads and farm property tracks.

Wind turbines are located within the Project area, comprising part of the 33-turbine Bodangora Wind Farm owned by Iberdrola Australia Ltd. All-weather gravel access tracks have been established in the wind farm project to access the turbine sites and associated infrastructure, and these can be utilised by Alkane on request to aid access to locations within the project.

5.2 Climate

The Project falls in the warm temperate climate zone. Under Köppen climate classification, the Project has a humid subtropical climate (Cfa) that borders the semi-arid climate (BSk). Summers are warm to hot (mean daily maximum in January of 33.6°C), and winters cool to cold (mean daily minimum July of 3.1°C), bringing some occurrences of early morning frost but generally no snowfall. Mean average annual precipitation of 594.3 mm rainfall is relatively uniformly distributed throughout the year, with only a slight increase in average monthly precipitation in the summer months relative to the winter months.

5.3 Local Resources and Infrastructure

The regional centres of Dubbo, Orange and Parkes provide significant support to existing mining operations in the region. The central west NSW regional centres provide full services for all consumables supplies, transport logistics, health services, skilled workforce and contractor services and supports a significant regional population of approximately 180,000 people. All Project areas have ready access to major road, rail and air transport hubs with connection to Sydney and other eastern Australian state capital cities.

The Project area is fully serviced for electricity, serving as a renewable energy hub with significant solar and wind generation projects in the immediate vicinity of the Project area. Major irrigation water supply is available at Wellington, however, the Project area also has groundwater reservoirs that currently service the local farming communities. Similarly, mains gas is also available at Wellington.

5.4 Physiography

The Project area comprises undulating cleared farming country with gentle relief between 420 m ASL (lowest) and 510 m ASL (highest). Generally, the relief is between 460 m ASL and 490 m ASL. Minor topographic rises to 500–510 m ASL are occasionally capped with sparse stands of mature eucalypt trees but are still grazed by livestock and clear of undergrowth. The major land uses are sheep and cattle grazing and cropping. There are four windfarm turbine sites within the immediate vicinity of Boda and Kaiser on the local topographic rises.

6 HISTORY

6.1 Project and Exploration History

The early project history at Boda-Kaiser has been comprehensively reviewed and summarised by Meates (2004), Duerden (2014a, 2014b) and Meates et al. (2023). The following is a summary of those reports. The QP author has reviewed the historical information from these reports and takes full responsibility for the summary information disclosed in this section. For prospect locations mentioned, refer to Figure 7-2.

Much of the early exploration in the Boda-Kaiser Project area focused on probable orogenic quartz vein gold deposits typified by the 200 m deep Mitchells Creek mine (Bodangora) which produced approximately 200,000 ounces from 1869 to 1880 and 1890 to 1917. Quartz vein-hosted deposits at the nearby Dick's Reward mine were briefly mined in 1987 to 1990 but production was limited to less than 1,000 ounces of gold. Shallow historical mining of a copper oxide deposit at Kaiser was reported to have operated from 1874 to 1881, recovering about 800 ounces of gold and an unrecorded amount of copper from site tank leaching.

The first systematic modern exploration was conducted by Woodsreef from 1970. This involved a regional aeromagnetic and radiometric survey, stream sediment sampling and reconnaissance mapping, followed by a base metal soil survey that delineated a +1,000 ppm Cu anomaly over the Boda 2-3 prospect. Granitic dykes associated with the nearby Carboniferous Wuuluman Granite were assumed to be the source of potassic alteration and copper mineralisation, and no drilling was conducted.

It was not until 1985 that modern exploration continued with Cluff and later in joint venture with Homestake. Cluff completed a geochemical study involving over 240 soil and rock samples primarily over the Mitchells Creek and Kaiser mines. Two distinct styles of mineralisation were recognised: a narrow gold vein type at Bodangora with restricted K metasomatism, and a disseminated copper type at Kaiser with pervasive K metasomatism supported by observations of secondary biotite.

The most significant exploration conducted over the Boda district was by CRAE (subsequently Rio Tinto) from 1991 to 2004 that targeted giant copper deposits. Rio Tinto became further invested in the region following the acquisition of Northparkes copper-gold porphyry mine in 2000 as part of its purchase of the company North Ltd.

Reconnaissance work by Rio Tinto included a high resolution airborne magnetic and radiometric survey. Over 20 magnetic and radiometric anomalies were identified. Each was systematically examined through a combination of ground magnetics, stream, soil and surface rock chip sampling, RAB and shallow RC drilling, and IP surveys. This work highlighted Boda for further drill testing from a program of shallow RC holes that outlined a 600 m x 200 m zone of low-grade gold-copper mineralisation associated with potassic and phyllic alteration.

Regional aircore drilling on a 500 m spaced grid was conducted in 1997. The program highlighted gold-copper anomalism at Kaiser, Boda, Comobella and Driell Creek. Dipole-dipole IP was trialled at Kaiser, Boda and Comobella prospects, with shallow RC and aircore drilling testing the resultant IP anomalies. Many of the holes intersected porphyry-related alteration and narrow zones of low-grade gold-copper mineralisation. In total, Rio Tinto completed 362 RAB, 675 aircore and 36 RC holes for a total of 15,975 m of shallow drilling over the life of the project.

In 2001, Newcrest entered into an option agreement with Rio Tinto and Ajax, becoming the operator of the licences for two years. Following Newcrest's success with the discovery of Cadia East and Ridgeway in 1994 and 1996 respectively, it saw potential in the northern Molong Volcanic Belt, particularly where there was a paucity of deep drilling. Newcrest targeted Kaiser with four deep diamond core drillholes totalling 2,748 m. The drilling targeted magnetic anomalies within the Kaiser magmatic complex, intersecting several intrusions associated with

gold-copper mineralisation and hydrothermal breccias. Broad intervals of gold-copper mineralisation were intersected with minor molybdenum, with intercepts of 76 m grading 0.46 g/t Au and 0.28% Cu from 431 m (NKD002) and 466 m grading 0.18 g/t Au and 0.14% Cu from 264 m (NKD004).

Kaiser was the site of ongoing interest, leading to a drill program testing a 100 m strike length of an apparent structure defining a small deposit to 90 m depth grading approximately 0.9 g/t Au and 0.9% Cu (non-JORC) reported by Ajax.

6.2 Historical Mineral Resource Estimates

6.2.1 Boda

A historical Inferred MRE ("historical estimate") was first completed for the Boda deposit and reported in accordance with the JORC Code (2012 Edition) in 2022. The 2022 Boda historical estimate was reported above a cut-off grade of 0.3 g/t AuEq (open pit Mineral Resources) and 0.4 g/t AuEq (underground Mineral Resources) and had effective date of 30 May 2022 (Table 6-1).

Table 6-1 Historical estimate for the Boda deposit (effective date of 30 May 2022)

Mineral Resource category	AuEq cut-off (g/t)	Tonnage (Mt)	Au (g/t)	Cu (%)	Ag (g/t)	AuEq (g/t)	Au (Moz)	Cu (Mt)	Ag (Moz)	AuEq (Moz)
Open pit Mineral Resources (>0.3 g/t AuEq)										
Inferred	0.3	624	0.26	0.14	0.47	0.51	5.21	0.90	9.49	10.1
Underground Mineral Resources (>0.4 g/t AuEq)										
Inferred	0.4	353	0.33	0.18	0.55	0.63	3.72	0.62	6.24	7.12

Notes:

- tonnage and grade have been rounded to reflect the relative accuracy of the historical estimate
- AuEq(g/t) = Au(g/t) + Cu%/100*31.1035*copper price (US$9,750/t)/gold price (US$1,770/oz)
- the historical estimate is classified in accordance with the JORC Code (2012 Edition)
- the historical estimate has effective date of 30 May 2022

This historical estimate is considered relevant and reliable by the QP author, however, it has been superseded by the current MRE disclosed in Section 14 of this Report. The QP author has not done sufficient work to classify the historical estimate as current Mineral Resources and Alkane is not treating this historical estimate as current. The historical estimate has been superseded by the current MRE disclosed in Section 14 of this Report. The purpose of stating this historical estimate is for comparative reasons and to fully disclose past historical work on the Project.

Source of historical estimate: Alkane ASX and Media Release dated 30 May 2022.

6.2.2 Kaiser

A historical Inferred MRE ("historical estimate") was first completed for the Kaiser deposit in accordance with the JORC Code (2012 Edition) in 2023. The 2023 Kaiser historical estimate was reported above a cut-off grade of 0.3 g/t AuEq (open pit Mineral Resources) and 0.4 g/t AuEq (underground Mineral Resources) and had effective date of 27 February 2023 (Table 6-2).

This historical estimate is considered relevant and reliable by the QP author, however, it has been superseded by the current MRE disclosed in Section 14 of this Report. The QP author has not done sufficient work to classify the historical estimate as current Mineral Resources and Alkane is not treating this historical estimate as current. The historical estimate has been superseded by the current MRE disclosed in Section 14 of this Report. The purpose of stating this historical estimate is for comparative reasons and to fully disclose past historical work on the Project.

Source of historical estimate: Alkane ASX and Media Release dated 27 February 2023.

Table 6-2 Historical estimate for the Kaiser deposit (effective date of 27 February 2023)

Mineral Resource category	AuEq cut-off (g/t)	Tonnage (Mt)	Au (g/t)	Cu (%)	Ag (g/t)	AuEq (g/t)	Au (Moz)	Cu (Mt)	Ag (Moz)	AuEq (Moz)
Open pit Mineral Resources (>0.3 g/t AuEq)										
Inferred	0.3	270	0.24	0.18	0.46	0.54	2,05	0.48	3.97	4.72
Underground Mineral Resources (>0.4 g/t AuEq)										
Inferred	0.4	164	0.28	0.22	0.55	0.67	1.48	0.36	2.94	3.58

Notes:

- tonnage and grade have been rounded to reflect the relative accuracy of the historical estimate
- AuEq calculation: AuEq(g/t) = Au(g/t) + Cu%/100*31.1035*copper price (US$9,750/t)/gold price (US$1,770/oz)
- the historical estimate is classified in accordance with the JORC Code (2012 Edition)
- the historical estimate has an effective date of 27 February 2023

7 GEOLOGICAL SETTING AND MINERALISATION

The geological setting of the NMPP and Boda-Kaiser has been comprehensively reviewed and summarised by Cooke et al. (2007), Glen et al. (2007), Duerden (2014a, 2014b), Meates et al. (2023), Carras (2023), Dean and Ryan (2023), Standard (2024), and Standard and Dean (2024).

The following is a summary of the geology and mineralisation of the Project. The QP author has reviewed the historical information from these past reports and takes full responsibility for the information disclosed in this section. In the following, Ma refers to millions of years before the present.

7.1 Regional Geology

The NMPP is located in the central west of NSW at the northern end of the Molong Volcanic Belt of the Macquarie Arc in the eastern Lachlan Orogen of eastern Australia. Rocks constituting the Macquarie Arc now occur in four structural belts in the eastern sub-province of the Lachlan Orogen (Figure 7-1). They are the western Junee–Narromine Volcanic Belt, the central Molong Volcanic Belt, the eastern Rockley–Gulgong Volcanic Belt, and the Kiandra Volcanic Belt in the Snowy Mountains farther south. The last may be a southern, strike-slip extension of the Junee–Narromine Volcanic Belt.

Structural and geochemical reconstructions suggest that these belts formed by the accretion and subsequent fragmentation of a single arc, the intraoceanic Macquarie Arc that developed along part of the boundary between the Australian and proto-Pacific plates from the earliest Ordovician to earliest Silurian.

Palaeontological and geochronological data, especially from the Junee–Narromine Volcanic Belt and the Molong Volcanic Belt, show that the arc evolved episodically during a time interval of approximately 50 million years.

High level intrusive porphyries of monzodioritic–dioritic through to monzonite–granodiorite compositions were emplaced into volcanic and volcaniclastic successions in the Macquarie Arc from at least 481 Ma in the Early Ordovician, until around 437 Ma in the earliest Silurian. Using a temporal framework based on geochronological and palaeontological data these porphyries are classified into four types (Figure 7-1).

In summary, evolution of the Macquarie Arc involved Phase 1 Early Ordovician high-K calc-alkaline and shoshonitic magmatism (c. 490–475 Ma), separated from Phase 2 Middle Ordovician high-K calc-alkaline and shoshonitic activity (c. 466–450 Ma) by a magmatic hiatus of approximately 9 million years. Group 1 and Group 2 porphyry intrusions are related to magmatic Phase 1 and Phase 2, respectively.

The final stages of Phase 2 magmatism may have overlapped with the start of Phase 3 magmatism, the latter producing Group 3 shoshonitic intrusions as well as calc-alkaline compositions termed the Copper Hill Suite. The main episode of Phase 3 magmatism (c. 450–445 Ma) coincided with a hiatus in magmatism established in the western part of the arc that lasted approximately 5 million years, and which was accompanied by uplift, erosion and establishment of a widespread carbonate platform.

Phase 4 magmatism, closely associated with much of the major porphyry copper-gold mineralisation in the Macquarie Arc, is dominantly shoshonitic and occurred apparently diachronous between c. 458 Ma and c. 437 Ma. Between c. 443 Ma and c. 437 Ma, Phase 4 magmatism was manifested by the syn-accretionary emplacement of Group 4 porphyry copper-gold deposits.

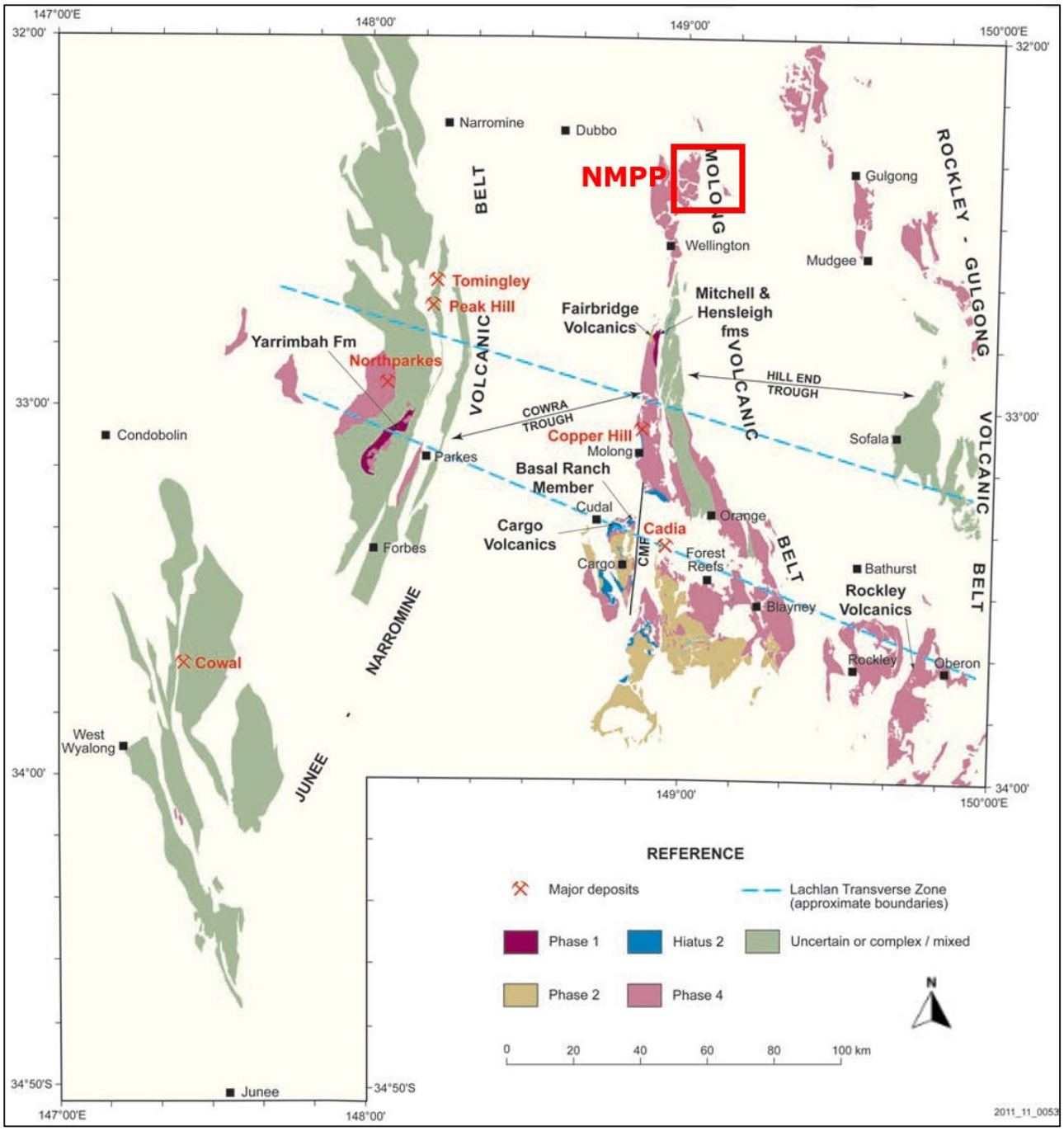

Figure 7-1 Macquarie Arc Belts of central western NSW (highlighting the NMPP area and major porphyry projects in NSW)

Source: Glen et al. (2012)

The volcanosedimentary sequence of the northern Molong Volcanic Belt comprises extensive areas of Cheeseman Creek Formation of the Ordovician Cabonne Group, comprising intermediate lava flows, intrusive and volcaniclastic rocks and limestone. The Formation is dated as Late Ordovician and is inferred to have been deposited in a submarine volcanic arc environment, given the abundance of quenched and hyaloclastite fragments in volcaniclastic units, and the presence of calcareous debris through the formation. The entire Ordovician succession is intruded by monzonitic to dioritic intrusive rocks, and trachyandesite sills.

Unconformably overlying the Ordovician rocks are Silurian rocks of the Mumbil Group. The Mumbil Group's basal unit is the fossiliferous, massive to detrital Narragal Limestone that is overlain by siltstones, shales and tuffs of the Barnaby Hills Shale. The uppermost unit of the Mumbil Group is the Gleneski Formation, which is comprised of felsic volcanic and volcaniclastic rocks (Morgan et al., 1999). The Silurian succession to the east of the Project area is overlain

by the latitic to andesitic volcaniclastics and limestones of the Cuga Burga Volcanics which form part of the Devonian Gregra Group.

The Nindethana Fault is a major crustal-scale structure located along the eastern margin of the Project area. It is a north-south trending east directed thrust fault which displaces the Silurian-Devonian succession to the east of the Project area and forms the contact between the Ordovician and Silurian succession to the north. To the east of this structure, the sequence of Ordovician-Devonian rocks is intruded by the Carboniferous Wuuluman Granite. This unit is compositionally defined as a megacrystic quartz monzodiorite.

In the far northwestern extents of the Project area, the entire sequence is unconformably overlain by, or is in fault contact with, Permian and Triassic siliciclastic units of the Gunnedah Basin.

Exploration has identified seven discrete intrusive complexes—Kaiser, Boda, Boda South, Driell Creek, Murga, Windora and Tompkins—outboard of the major 35 km^2 Comobella Intrusive Complex (CIC) and within a northwest trending transverse corridor (Figure 7-2). These intrusives are interpreted to be part of the Type 4 intrusive suite. Intermediate intrusives, lavas and breccias, extensive alteration and widespread, low-grade gold-copper mineralisation define the corridor, and two gold-copper deposits have been defined at Boda and Kaiser (Figure 7-3 to Figure 7-5).

7.2 Boda

The Boda deposit is located within a northwest trending structural corridor on the northwestern margin of a significant magnetic complex with dimensions of approximately 2.0 km x 0.7 km. The mineralisation is hosted within a package of submarine basaltic to andesitic lavas. The volcanic sequence is intruded by monzogabbroic and monzodiorite volcanic feeder dykes and later monzodiorite-monzonite units and related magmatic-hydrothermal breccias.

The deposit is crosscut by numerous post-mineralisation dykes and sills of varying composition. Intrusive- to magmatic-hydrothermal breccias are the focus for the calc-potassic alteration and gold-copper mineralisation at Boda. The mineralisation is related to a series of northwest trending monzodiorite intrusions manifesting as a series of vertically extensive intrusive breccias forming a stock central to Boda and Boda 2-3. These intrusive breccias transition to hydrothermal breccias to which the highest gold-copper grades are related. The majority of brecciation is in the form of a "crackle breccia" that can either have a hydrothermal matrix usually comprising of calcite ± actinolite ± pyrite ± magnetite ± chalcopyrite or an igneous matrix dominantly of monzodiorite.

The magmatic-hydrothermal brecciation event was likely to have occurred syn- and post-emplacement of monzodiorites and pre-emplacement of the weakly altered and mineralised monzonites. The intrusive breccia is a likely "causative" to the primary Boda mineralisation and is observed as monzodioritic in composition.

The Boda volcanic package has undergone intense and extensive calc-potassic to potassic alteration, often replacing both phenocrysts and the groundmass. This alteration is apparent over a strike length of approximately 3.5 km from Kaiser, southeast to Boda, then rotating and continuing south to Boda 2-3, with more significant mineralising centres occurring at each deposit. The calc-potassic alteration comprises fine-grained biotite-actinolite-epidote-magnetite with lesser internal zones of potassic alteration comprising only hydrothermal biotite.

Veining within the calc-potassic zone is dominated by calcite-quartz vein assemblages that are typically sulfide-poor. Fine-grained calcite occurs as veinlets, usually along brittle fractures and as a widespread disseminated phase within the calc-potassic altered rocks.

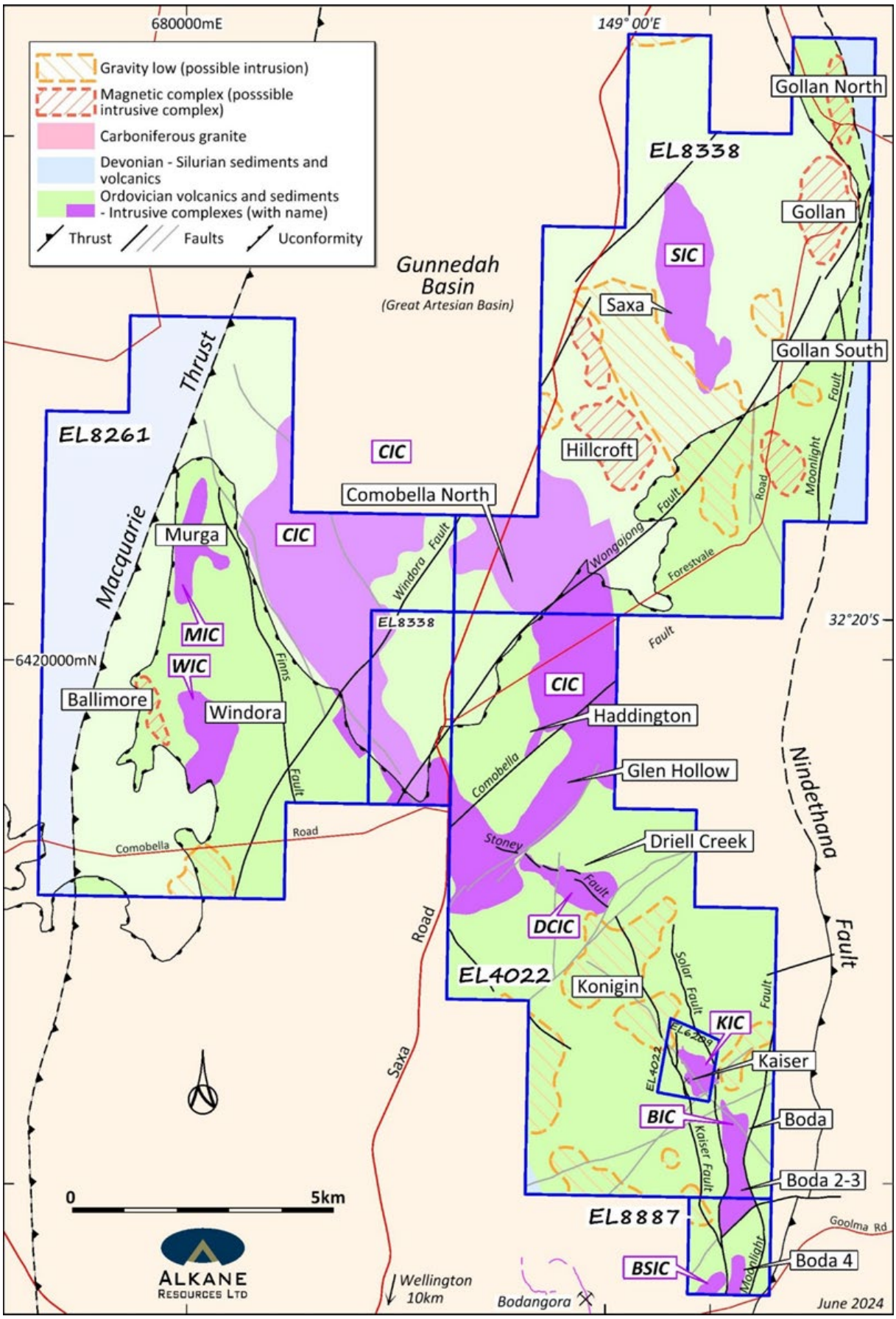

Figure 7-2 Regional geology of the Boda and Kaiser deposits (highlighting Alkane exploration areas and targets as referred in the text)

Source: Alkane

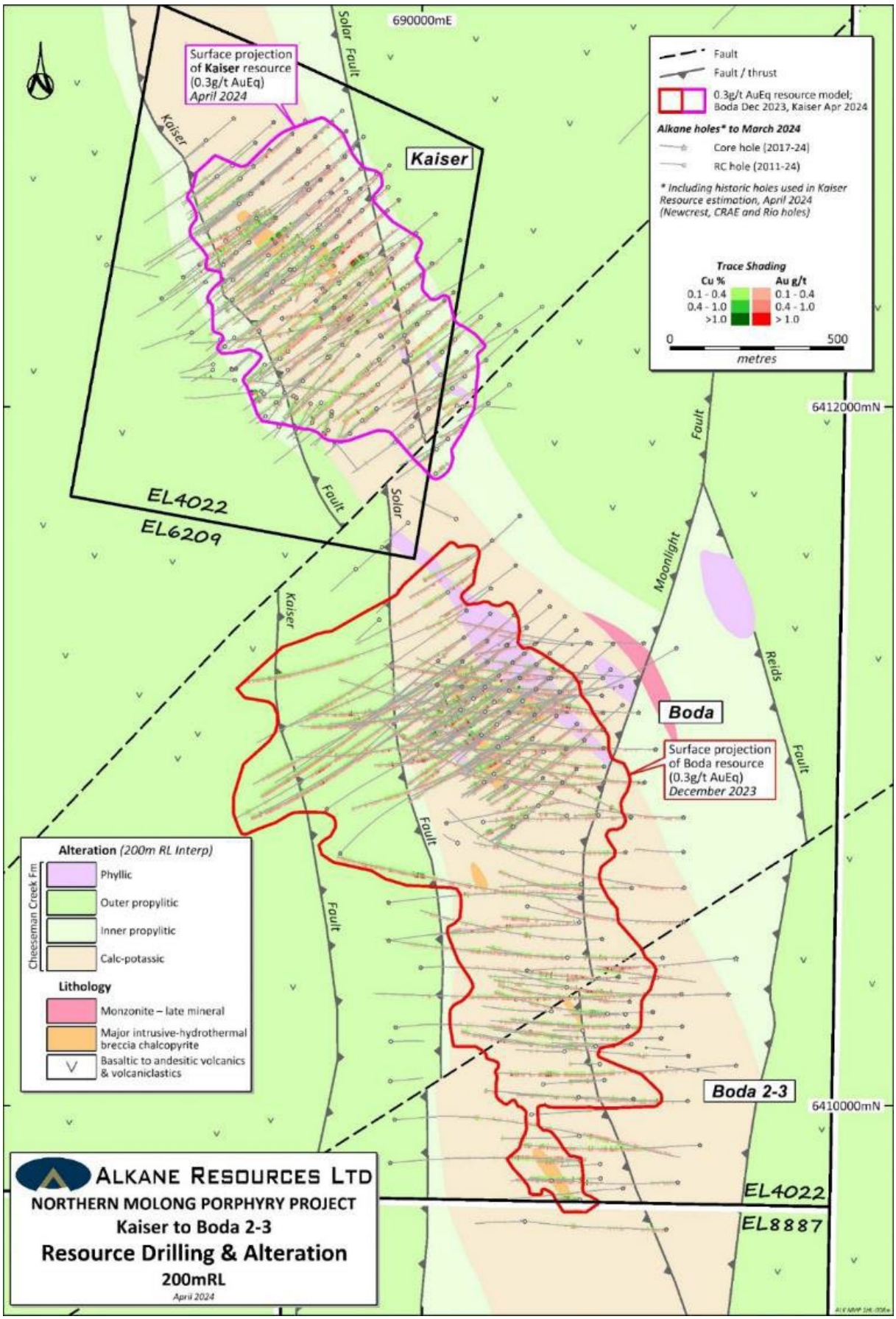

Figure 7-3 Local geology of the Boda and Kaiser deposits

Refer to Alkane 2024 Mineral Resource and Reserve Statement Annual-Resources-and-Reserves-Statement-FY24.pdf. Source: Alkane

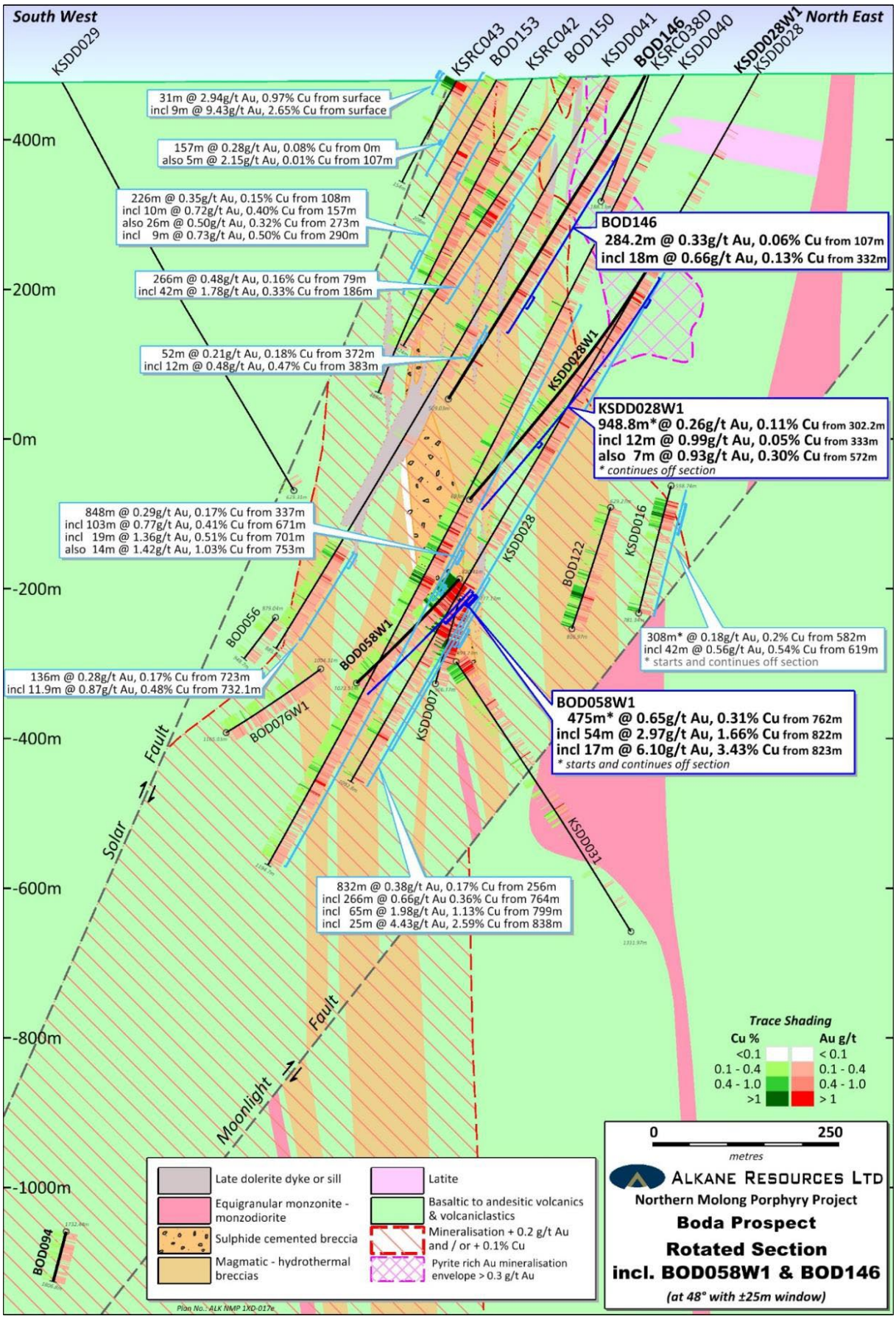

Figure 7-4 Typical section through the Boda deposit

Source: Alkane ASX announcement, 3 October 2023

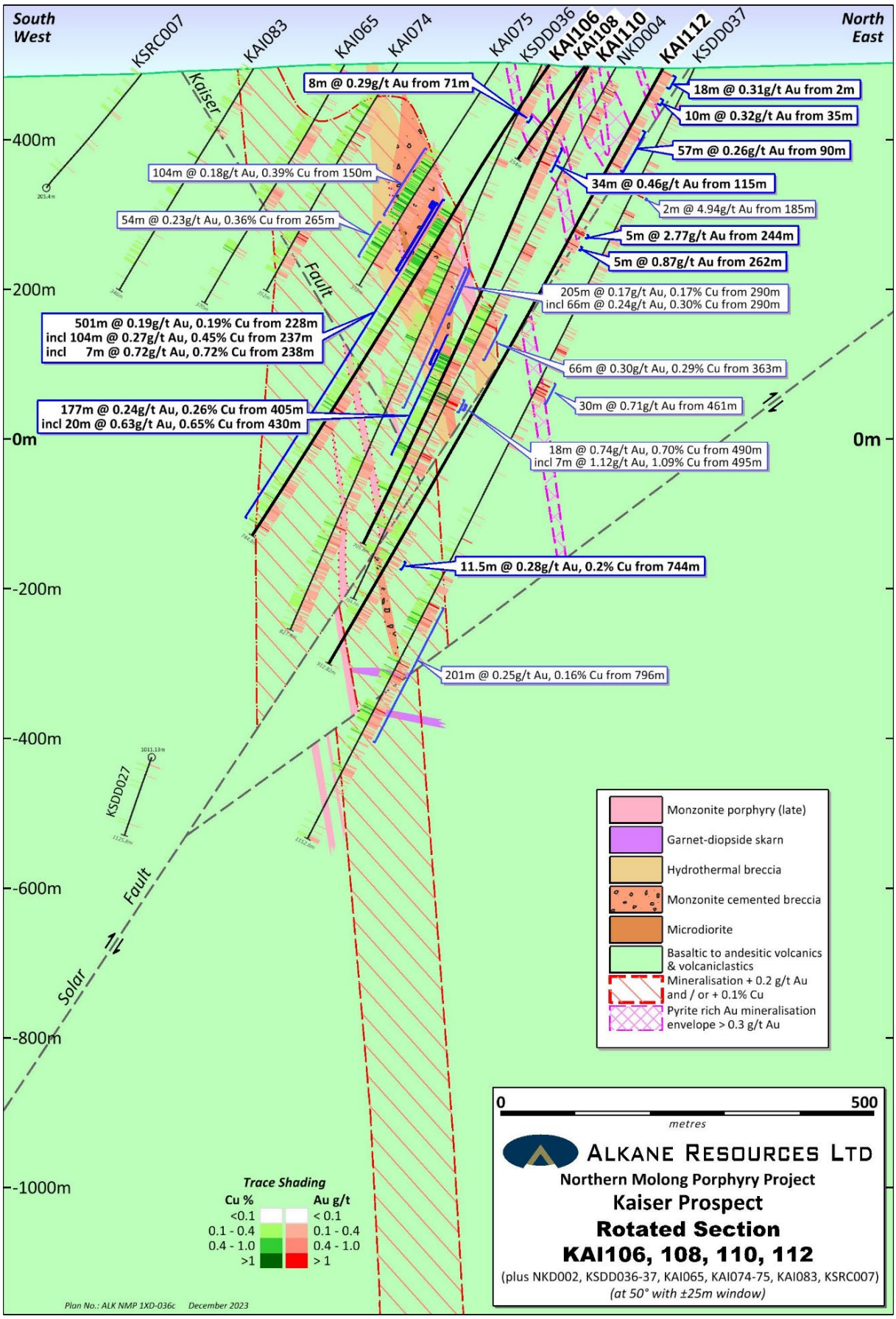

Figure 7-5 Typical section through the Kaiser deposit

Source: Alkane ASX announcement, 20 December 2024

Copper mineralisation is observed throughout the prospect, primarily as chalcopyrite with subordinate bornite, chalcocite and rare covellite. Within the magmatic-hydrothermal breccias, chalcopyrite and, to a lesser extent, bornite occur predominantly as a cementing mineral between the calc-potassic altered clasts. Outside of the breccias, copper mineralisation is observed within calcite ± quartz ± epidote dominant veins and as disseminations and patches, often intergrown with epidote.

Gold is observed within the mineralised breccias, often without magnification and it is associated with chalcopyrite and bornite in hydrothermal cement.

Calc-potassic alteration grades into propylitic alteration away from the breccia complex and has a typical assemblage of actinolite-hematite-epidote-pyrite (± trace chalcopyrite) proximal to the calc-potassic alteration zone. Moving further away from the mineralised centre, the typical assemblage becomes more chlorite-calcite-albite-pyrite-dominant.

Boda is overprinted in the northeast by phyllic alteration comprising sericite-quartz-calcite ± albite with up to 10% pyrite by volume. The pyrite occurs as disseminated spots, aggregates and short veinlets. The phyllic alteration is copper-poor. However, gold grades over hundreds of metres can average from 0.2 g/t to 0.6 g/t Au with occasional thin intervals of >10 g/t Au.

Three significant west dipping reverse faults (Solar, Moonlight and Reids) bound and dislocate the mineralisation at Boda and Boda 2-3. The Solar Fault bounds the western margin of mineralisation at Boda and Boda 2-3. Moonlight Fault dislocates the calc-potassic gold-copper mineralisation at Boda and Boda 2-3. The Reids Fault is the easternmost fault and bounds the shallow level gold-pyrite mineralisation from calc-potassic gold-copper mineralisation to the west at Boda 2-3. All three thrusts have an inferred movement of over 400 m along the moderately west dipping structures.

There is negligible post-mineral cover on the Boda deposit. Weathering and oxidation of the mineralised bedrock extends on average approximately 15 m from the surface.

7.3 Kaiser

The Kaiser deposit is located within a northwest trending structural corridor on a significant magnetic high with dimensions of approximately 800 m x 700 m, named the Kaiser Intrusive Complex. The mineralisation is hosted within a package of submarine basaltic to andesitic lavas. The volcanic sequence is intruded by monzodiorite-monzonite units and related magmatic-hydrothermal breccias. The deposit is crosscut by several post-mineralisation dykes and sills of varying composition.

Intrusive to magmatic-hydrothermal breccias are the focus for the calc-potassic alteration and gold-copper mineralisation at Kaiser. The mineralisation is related to a series of northwest trending monzodiorite-monzonite intrusions manifesting as a series of vertically extensive intrusive breccias forming a stock central to the Kaiser Intrusive Complex. These intrusive magmatic breccias transition to hydrothermal breccias to which the highest gold-copper grades are related.

The majority of brecciation is in the form of a ‘crackle breccia’ that can either have a hydrothermal matrix, usually comprising calcite ± actinolite ± pyrite ± magnetite ± chalcopyrite or an igneous matrix. The intrusive breccias are likely ‘causative’ to the main mineralisation event at Kaiser.

The volcanic package at Kaiser has undergone intense and extensive calc-potassic to potassic alteration, often replacing both phenocrysts and the groundmass. The calc-potassic alteration comprises fine-grained biotite-actinolite-epidote-magnetite with lesser internal zones of potassic alteration comprising only hydrothermal biotite. Veining within the calc-potassic zone is dominated by calcite-quartz vein assemblages, typically sulfide-poor.

Copper mineralisation is observed throughout the deposit, primarily as chalcopyrite with lesser bornite and subordinate chalcocite and covellite. Within the intrusive hydrothermal breccias, chalcopyrite and, to a lesser extent, bornite occur predominantly as a cement mineral between the calc-potassic altered clasts. Outside of the breccias, copper mineralisation is observed within calcite ± quartz ± epidote dominant veins and as disseminations and patches, often intergrown with epidote.

Gold is observed within the sulfide cemented breccias, often without magnification and is associated with pyrite, chalcopyrite and/or bornite in hydrothermal cement.

Calc-potassic alteration grades into propylitic alteration away from the breccia complex and has a typical assemblage of actinolite-hematite-epidote-pyrite (± chalcopyrite). More distal from the mineralised centre, the assemblage typically becomes more chlorite-calcite-albite-pyrite dominant.

Kaiser includes a zone of potassic alteration comprising wholly of biotite alteration with quartz-calcite veining, with up to 10% pyrite by volume along its northeast flank. The pyrite occurs as disseminated spots, aggregates and as breccia cement. The alteration is generally copper-poor. However, gold grades over several tens of metres can average from 0.2 g/t to 0.4 g/t Au, with occasional thin intervals of >10 g/t Au associated with pyrite cemented breccias.

Two significant reverse faults bound and dislocate the central zone of calc-potassic mineralisation at Kaiser. The Kaiser Fault dips east and thrusts the deeper Kaiser Main zone over the Kaiser West zone of mineralisation. The Solar Fault dips west and thrusts the Kaiser Main zone over the Kaiser East zone.

There is negligible post-mineral cover on the Kaiser deposit. Weathering and oxidation of the mineralised bedrock extends, on average, approximately 15 m from the surface. The Kaiser Fault zone is associated with minor supergene copper forming as native copper. The native copper zones can extend hundreds of metres down the Kaiser Fault and permeate up to 50 m away from the structure.

8 DEPOSIT TYPES

The deposit models applied to the NMPP have been extensively reviewed by Cooke et al. (2007), Glen et al. (2007), Glen et al. (2012) and Meates et al. (2023). For reference to deposit locations, refer to Figure 7-1.

The Macquarie Arc hosts porphyry copper-gold, epithermal and structurally controlled gold-copper deposits. It is the world's second major alkalic porphyry province, largely because of the gold-rich porphyry deposits associated with alkalic intrusions in the Cadia district in the Molong Volcanic Belt. The combined resources from Cadia make it the sixth largest gold-rich porphyry system on Earth, with Ridgeway and Cadia East among the world's highest grade porphyry gold resources. Mines include those of the Cadia Valley, those in the Northparkes area and the Cowal mine. Significant resources also occur at Copper Hill, at Tomingley and at the high sulphidation epithermal deposit at Peak Hill Mine.

The metallogeny of the Macquarie Arc is dominated by alkalic and calc-alkalic porphyry gold-copper, skarn, high sulphidation gold-(copper), and carbonate base metal epithermal gold deposits. The array of deposit types is consistent with subduction-related metallogenic belts in Cenozoic island arcs (e.g. Papua New Guinea, Indonesia, Philippines). The richest mineralisation is linked to oxidised, small volume, evolved shoshonitic magmatic systems in which gold, chalcophile metals, chlorine and importantly, water, are strongly concentrated relative to precursor mafic and intermediate magmas. The most obvious marker for such potentially mineralised magmas is their association with large volumes of broadly comagmatic shoshonitic lavas.

Calc-alkalic porphyry deposits are characterised by classic porphyry-related alteration assemblages, namely potassic, propylitic, phyllic, argillic and advanced argillic. The high level phyllic and advanced argillic assemblages are particularly well developed in calc-alkalic systems, producing broad zones of clay alteration with high sulfide contents.

In contrast, subtle, complicated Na–K–Ca metasomatic zones typify alkalic porphyry systems. These deposits have poorly developed phyllic alteration assemblages (typically restricted to late-stage faults) and typically lack advanced argillic alteration assemblages. The volumes of fluid in alkalic systems appear to have been smaller than in their calc-alkalic counterparts, resulting in the smaller alteration footprint that typifies the alkalic systems.

A schematic model of alkalic porphyry gold-copper deposits (such as Boda-Kaiser are interpreted to represent) and related epithermal deposits in NSW, related to monzonite intrusive complexes is given in Figure 8-1. Depth estimates in the schematic are generalised. The following text relates to the figure.

(1) Skarns form where monzonites have intruded carbonate wall-rocks. The alkalic deposits are centred in and around monzonite porphyries and are associated with potassic and propylitic alteration assemblages (2). Deep and shallow sodic assemblages may also be present. The porphyries are cut by late-stage faults with phyllic alteration haloes. These phyllic faults contain carbonate—base metal mineralisation and may be feeders to epithermal gold mineralisation (3). If acidic gases (SO_2, HCl) exsolved from the crystallising porphyry ascended along near-vertical structures, they may have produced advanced argillic and silicic alteration zones analogous to those associated with Peak Hill-style high sulphidation epithermal mineralisation (4). Although no shallow level alkalic epithermal gold deposits have yet been found in NSW, it is speculated that an Emperor-style deposit may exist (5), if an appropriate erosional window can be identified. Surficial outflow of acidic gas condensates may have produced a litho-cap on top of the system (6).

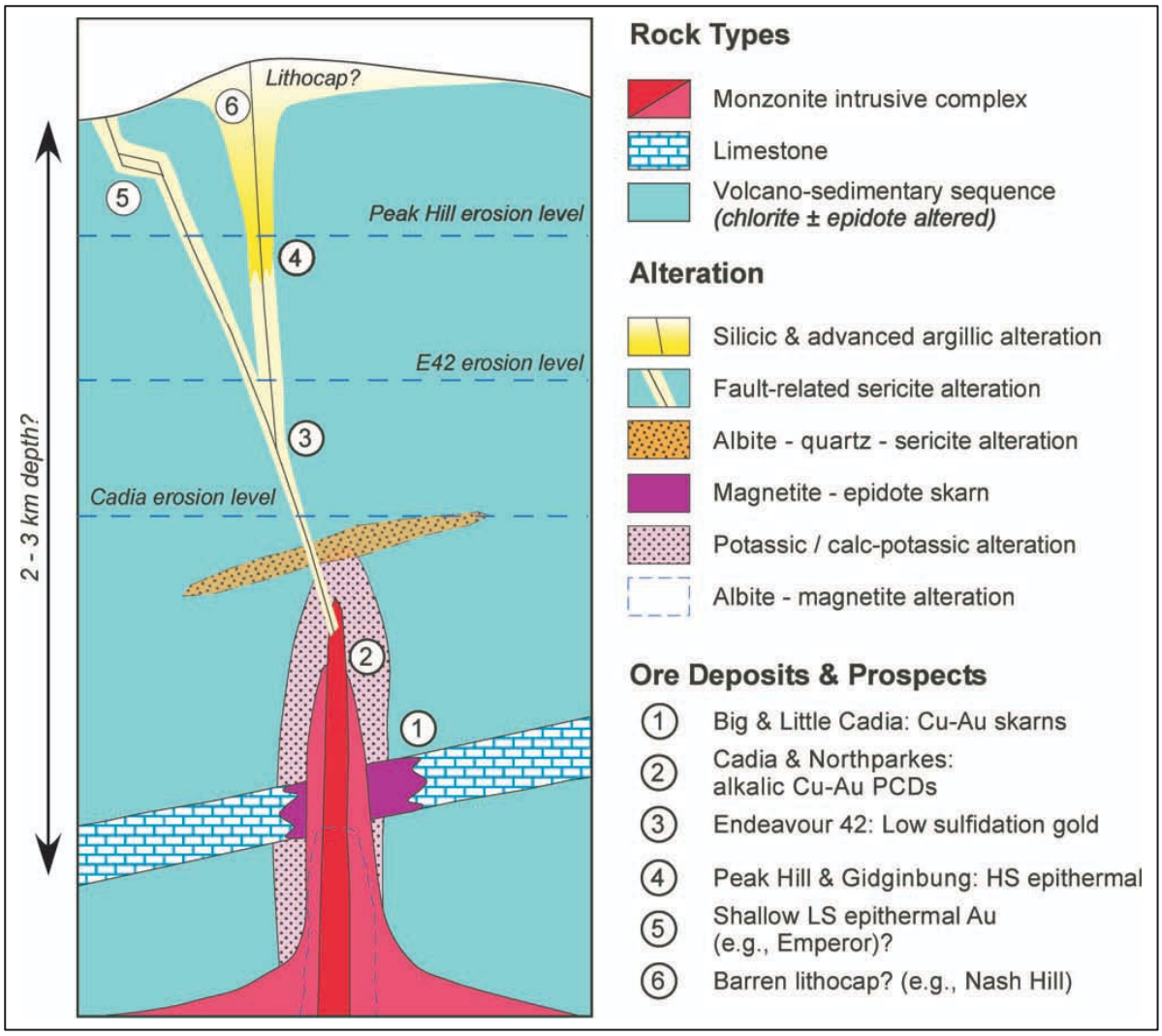

Figure 8-1 Schematic model of alkalic porphyry gold-copper deposits and related epithermal deposits in NSW

Refer to text for explanations. Source: Cooke et al. (2007)

9 EXPLORATION

The following is a summary of exploration work completed by Alkane. For prospect locations mentioned in the text, refer to Figure 7-2.

9.1 Project Generation

Alkane was one of six companies to participate in the SPIRT project from 1998 focused on understanding the development of the Macquarie Arc and its mineralisation history. The three-year research program involved researchers from academia and the Geological Survey of NSW, with industry input. The aim of the project was to:

- assemble information on the distribution of Ordovician volcanic rocks in central western NSW
- use petrological and geochemical methods, including melt inclusion techniques, to document regional and temporal variation of volcanic rock magmatic affinity
- determine the regional volcanic facies architecture in each belt
- document regional alteration and fluid flow pathways associated with mineralisation-related hydrothermal systems
- develop a new tectonic interpretation for this part of the Lachlan Fold Belt and to generate a new metallogenic framework to focus exploration into the most prospective areas.

Study results (Glen et al., 2007; Glen et al., 2012) provided a comprehensive understanding of the distribution, compositional variation, volcanic/intrusive facies architecture, regional alteration and tectonic significance of the belts of Ordovician volcanics and intrusives in central western NSW. This led to a much better understanding of the controls on porphyry copper-gold mineralisation and the framework for understanding the genesis of these deposits.

The study provided Alkane with targeting options and early target priorities within the Macquarie Arc to focus project acquisition.

9.2 Project Acquisition

In January 2004 as a result of prior project acquisition agreements in the region, Rio Tinto offered Alkane exploration licences at Bodangora (EL4022) and Cudal (near Orange) in exchange for a small cash payment and other rights. In 2012, Rio Tinto advised Alkane that it was preparing to sell any residual rights pursuant to the 2004 agreement. Alkane exercised its pre-emptive right for a small cash payment. Rio Tinto has no retained rights in the tenements.

In 2013, Alkane acquired a small exploration licence at Kaiser (EL6209) held by a private company, Ajax, covering the historical workings at Kaiser. The tenement was acquired for staged cash payments and expenditure commitment. In 2014, Alkane achieved 100% ownership of this exploration licence, with a residual 2% NSR royalty payable to Ajax.

9.3 Project Exploration

9.3.1 Exploration History

2004

Alkane initially focused exploration on searching for shallow, high-grade gold at the Bodangora deposits (including the Mitchells Creek mine). Alkane completed 25 RC drillholes at Bodangora, testing beneath and the strike extensions of known workings. Results were inconclusive but effectively sterilised this area resulting in relinquishment of this part of the licence in 2009.

Alkane conducted a Project-wide detailed aeromagnetic and radiometric survey. This improved the resolution of the previous Rio Tinto survey flown a decade earlier. Interpretation of the data supported the work previously completed by Rio Tinto, identifying in more detail, numerous

magnetic complexes likely associated with porphyry alteration and improving the delineation of key structures.

2004 to 2009

From 2001 to 2009 (and on to 2014), Alkane's exploration effort focused on resource definition of the Tomingley orogenic gold deposits near Peak Hill in the Central West. During this period, the company sought a joint venture with a major mining company to progress exploration of the NMPP. However, difficulties in securing a partner were encountered due to project rights and provisions held by Rio Tinto at that time. Consequently, Alkane was forced to relinquish a quarter of the tenement because of a lack of exploration.

2010

Early exploration at the NMPP by Alkane focused on the CIC and included outcrop mapping and rock chip sampling, and an offset pole-dipole IP survey over 8 km^2. Alkane's exploration results returned anomalous copper-gold assays from rock chips collected from the margins of the monzonites.

2013 to 2015

Alkane acquired more tenements (EL6209 and EL8261) as well as purchased Rio Tinto's rights on EL4022. During this period, Alkane conducted desktop targeting, geological interpretation and data review.

2016

To improve the targeting of the margins of magnetic intrusive complexes, Alkane completed high-definition ground magnetic surveys over the Kaiser, Boda and Driell Creek magnetic complexes. Interpretation of the merged detailed magnetic data highlighted northwest orientated lineaments as host to the Boda, Kaiser and Driell Creek intrusive complexes. This trend extended another 10 km towards the Murga magnetic anomaly, an interpreted buried skarn at Finns Crossing.

Alkane completed two drill programs, comprising 16 deep RC drillholes and two diamond core drillholes (totalling 5,428 m for RC and diamond drilling combined). The programs were designed to target the flanks of the Boda, Kaiser and Driell Creek magnetic complexes. Results were not conclusive in identifying clear porphyry-style alteration, except for KSRC013 and KSRC018 which intersected pyrite dominant mineralisation at Kaiser and Boda respectively. KSRC013 targeted the western flank of the Kaiser magnetic complex and intersected 111m grading 0.61 g/t Au and 0.08% Cu from 42 m, including 4 m grading 9.69 g/t Au and 0.06% Cu from 110 m. KSRC018 targeted a historical chargeability high (Rio Tinto IP survey) positioned northwest of the Boda magnetic complex. KSRC018 intersected a significant volume of pyrite mineralisation with a mixture of phyllic and potassic alteration and returned an intercept of 311 m grading 0.28 g/t Au and 0.08% Cu from 19 m.

2017 to 2018

Alkane was denied access to the tenement EL4022 during the construction phase of the Bodangora Wind Farm. This resulted in a two-year hiatus in exploration on the tenement. Alkane used this time for project data review and targeting.

2019

Alkane purchased EL8887 from Impact Minerals Ltd in 2019, comprising a single exploration licence unit over the southernmost extension of the Boda magnetic complex and the Boda South magnetic complex.

The review of the Project during the 2017–2018 exploration hiatus highlighted the importance of the KSRC018 intercept that appeared to show increasing copper and gold grades towards the bottom of hole; the last 47 m of the hole (from 283 m) grading 0.38 g/t Au and 0.12% Cu. A drillhole was planned to test for improvement in grade 200 m vertically below KSRC018.

2020

Five deep diamond drillholes, for a total of 6,000 m, were executed to test depth and strike extensions around KSDD003. Drillhole KSDD005, targeted 200 m beneath KSDD003 and drilled completely through the alteration system, confirmed the mineralisation as vertically extensive.

Drilling, geology and geochemistry suggested there was a strong northwest control to mineralisation at Boda. Calc-potassic alteration was also mapped as broadly continuous for over 3 km from Boda 2-3 to Boda to Kaiser, indicating the presence of a significant-scale porphyry system.

2021

Following the discovery of substantial mineralisation surrounding high-grade breccias at Boda below depths not tested by historical drilling, Alkane's attention moved to testing the Kaiser prospect with one deep diamond drillhole.

Alkane trialled downhole electromagnetics (DHEM) on KSDD028 that intersected a significant high-grade chalcopyrite-cemented breccia. The technique resulted in a low-moderate response in quite resistive rock. Unfortunately, DHEM did not appear viable or cost-effective for detection of this style of mineralisation more than 20 m away from the hole.

The recognition of the northwest trending structural zone hosting the prospects, together with the identification of significant steep west dipping post-mineral faults in the drill core indicated a complex structural setting. Alkane flew high resolution drone magnetics over areas surrounding previous high resolution ground magnetics at Boda and Kaiser, including the Boda 2-3 and Driell Creek prospects. Southern Geoscience Consultants reprocessed the historical aeromagnetic and ground magnetic data, and merged inversions with the newly acquired drone magnetic data. SGC's structural interpretation of the magnetics suggested the early northwest lineament is interrupted by a series of north trending and likely west dipping thrust faults that are further dislocated by northeast trending strike-slip faulting.

2022

The maiden Inferred Mineral Resource estimate for the Boda deposit was confined to a surface area of 1,000 m strike length and 500 m width and approximately 1,000 m deep. The Mineral Resource estimate included the data obtained from a total of 71,431 m of drilling.

2023 to 2024

The maiden Inferred Mineral Resource estimation for the Kaiser deposit was confined to a surface area of 1,100 m strike length and 700 m width and approximately 600 m deep, was drilled on a nominal 100 m x 100 m grid with both RC and core drilling. The resource estimation included 42,000 m of drilling by Alkane and 7,500 m of historical drilling by Rio Tinto and Newcrest.

An airborne gravity survey was flown over the entire NMPP in late 2023. Subsequent 3D inversion modelling and interpretation of the data confirmed a 35 km^2 intrusive complex, termed the Comobella Intrusive Complex (CIC). Peripheral to the major CIC are several small intrusive complexes.

Further details on the drilling programs completed by Alkane are provided in Section 10 of this Report.

10 DRILLING

Drilling by previous project owners has been discussed in Section 6 (History).

Drilling by Alkane on the Project was conducted using high-capacity RC drilling rigs and high-powered diamond core drill rigs for the purpose of retrieving large sized samples and for drilling to significant depths.

The Boda deposit has been evaluated using all of Alkane's RC and diamond drilling holes within the prospect area. No previous companies' exploration drilling in the region (shallow RC, aircore and RAB holes) was used in the assessment.

Drilling at the Boda deposit and Boda 2-3 prospect has been conducted as an extended campaign since the maiden Boda MRE was completed. The current resource estimation at Boda and Boda 2-3 uses a total of 186 drillholes comprising of 42,455 m of RC and 103,002 m of diamond core for a total of 145,457 m. Drilling statistics are summarised in Table 10-1. Representative drill sections for Boda and Kaiser are shown in Figure 7-4 and Figure 7-5, respectively.

Table 10-1 Boda drillhole statistics

Boda and Boda 2-3 drilling statistics						
Statistic	**RC (pre-collars)**	**RC**	**PQ3 diamond (pre-collars)**	**HQ3 diamond**	**NQ3 diamond**	**Total**
No. of holes	78	79	22	100	7	**186 (minus pre-collars)**
Metres	19,111	23,344	721	95,504	6,777	**145,457**

The initial exploration drilling was conducted on east–west traverses at Boda and Boda 2-3, with subsequent resource definition drilling at Boda conducted on more optimal (perpendicular) southwest-striking traverses for that part of the deposit. Resource drill sections at Boda are spaced 50 m apart with drillholes at nominal 50 m intervals along these sections. Drilling at Boda 2-3 is more irregularly spaced along east–west traverses approximately perpendicular to the mineralisation approaching a nominal 100 m spaced drilling grid. The drilling directions are not considered to have any significant biasing effects.

The Kaiser deposit has been evaluated using all of Alkane's RC and diamond drillholes within the deposit area. Previous companies' exploration drilling was also included in the estimation where Alkane was confident of the collar locations and modern assaying methods. This comprised only four drillholes completed by Newcrest.

Drilling at the Kaiser deposit was conducted as an extended campaign since the maiden Kaiser MRE was completed. The current resource estimation uses a total of 217 drillholes for a total of 94,779 m comprising 41,487 m of diamond core and 53,292 m of RC drilling. This includes a historical assay component (for the period 2001–2002) captured by Newcrest from four drillholes comprising of 2,684 m of diamond core. Drilling statistics are summarised in Table 10-2.

Table 10-2 Kaiser drillhole statistics

Company	**Alkane**			**Newcrest**	**Total**
Hole type	RC (pre-collars)	RC	Diamond (PQ3/HQ3)	NQ3	
No. of holes	80	127	86	4	
Metres	21,739	31,553	38,803	2,684	
Total no. of holes (not including pre-collars)	**213**			**4**	**217**
Total metres	**92,095**			**2,684**	**94,779**

The majority of drilling used in the estimation was conducted on nominal southwest-orientated sections that were spaced 50 m apart with drillholes at nominal 50 m intervals along these sections. The drilling directions are not considered to have any significant biasing effects. A drillhole location plan for Boda and Kaiser is provided in Figure 7-3.

All drill collars are located using cadastral survey. Diamond drillholes are surveyed downhole using the Reflex north seeking gyro tool at 30 m intervals downhole while drilling, then resurveyed at 6 m intervals up-hole on hole completion. Similarly, RC holes are surveyed downhole using the ChampGyro tool at 30 m intervals downhole while drilling. True thicknesses of the mineralisation are approximately half of the downhole length.

Diamond core recovery was identified by drillers and calculated by geologists when logging. Generally, ≥99% was recovered with any loss usually in portions of the oxide zone. Triple tube coring was used at all times to maximise core recovery with larger diameter (PQ3) core or RC pre-collars used in the oxide zones.

RC sample quality is assessed by the sampler by visual approximation of sample recovery and if the sample is dry, damp or wet. There is no known relationship between sample recovery and grade.

10.1 Drilling, Sampling or Recovery Factors

The QP author is not aware of any drilling, sampling or recovery factors that could materially impact the accuracy and reliability of the drillhole results used in the MREs for the Project.

10.2 Alkane Drilling Results

2004

Alkane completed 25 RC drillholes at Bodangora, testing beneath and the strike extensions of known workings. Results were inconclusive but effectively sterilised this area resulting in relinquishment of this part of the licence in 2009.

2011 to 2013

Coincident IP and surface geochemical anomalies were drill tested by 11 RC drillholes for a total of 2,431 m at Comobella, Boda 2-3 and Driell Creek prospects. The IP chargeability highs tested at Boda 2-3 and Driell Creek prospects intersected significant pyrite mineralisation associated with phyllic alteration, with anomalous gold and copper, as well as pathfinder metals of arsenic, lead, antimony and zinc, interpreted to be suggestive of a shallow level of a porphyry copper system.

The drilling at Comobella was more successful, confirming the potential for the Comobella prospect to host significant mineralisation with drillhole COMRC009 intersecting 46 m grading 0.9 g/t Au and 0.25% Cu from 60 m, including 9 m grading 2.7 g/t Au and 0.7% Cu from 94 m. The Comobella prospect became a focus for exploration for the next two years but, unfortunately, further exploration did not replicate this initial success.

2016

Alkane completed two drill programs, comprising 16 deep RC drillholes and two diamond core drillholes (totalling 5,428 m for RC and diamond drilling combined). The programs were designed to target the flanks of the Boda, Kaiser and Driell Creek magnetic complexes. Results were not conclusive in identifying clear porphyry-style alteration, except for KSRC013 and KSRC018 which intersected pyrite dominant mineralisation at Kaiser and Boda respectively. KSRC013 targeted the western flank of the Kaiser magnetic complex and intersected 111m grading 0.61 g/t Au and 0.08% Cu from 42 m, including 4 m grading 9.69 g/t Au and 0.06% Cu from 110 m. KSRC018 targeted a historical chargeability high (Rio Tinto IP survey) positioned northwest of the Boda

magnetic complex. KSRC018 intersected a significant volume of pyrite mineralisation with a mixture of phyllic and potassic alteration and returned an intercept of 311 m grading 0.28 g/t Au and 0.08% Cu from 19 m.

2019

The review of the Project during the 2017–2018 exploration hiatus highlighted the importance of the KSRC018 intercept that appeared to show increasing copper and gold grades towards the bottom of hole; the last 47 m of the hole (from 283 m) grading 0.38 g/t Au and 0.12% Cu. A drillhole was planned to test for improvement in grade 200 m vertically below KSRC018.

Drilling commenced at Boda in July 2019 with one 771 m diamond core drillhole, KSDD003. KSDD003 intersected 502 m grading 0.48 g/t Au and 0.20% Cu from 211 m to bottom of hole, including 108 m grading 1.06 g/t Au and 0.41% Cu from 408 m. The hole intersected a thick outer shell of disseminated pyrite mineralisation that transitioned downhole to chalcopyrite dominant mineralisation. The zonation from pyrite shell to a chalcopyrite dominant core is interpreted as characteristic of porphyry copper systems in general. Core logging and supporting litho-geochemistry displayed a zoned pattern of outer propylitic and phyllic alteration from the top of hole vectoring towards a copper rich calc-potassic (biotite + albite + actinolite + chalcopyrite ± magnetite ± bornite) core.

2020

Five deep diamond drillholes, for a total of 6,000 m, were executed to test depth and strike extensions around KSDD003. Drillhole KSDD005, targeted 200 m beneath KSDD003 and drilled completely through the alteration system, confirmed the mineralisation as vertically extensive. KSDD005 intersected 689 m grading 0.46 g/t Au and 0.19% Cu from 402 m.

Drilling at 100 m intervals along strike to the south and north intersected the main high-grade chalcopyrite-cemented breccia at Boda. Drillhole KSDD007 returned an intercept of 1,167 m grading 0.55 g/t Au and 0.25% Cu from 75 m, including a sulfide cemented breccia with a high-grade intercept of 96.8 m grading 3.97 g/t Au and 1.52% Cu from 768 m.

Immediately following this drill success, a major 30,000 m drilling program of deep RC and diamond core drilling commenced. The program was designed to test the extent of high-grade gold-copper breccia mineralisation and the overall mineral resource potential at Boda, as well as other regional targets such as Boda 2-3 and Kaiser.

KSDD022 was drilled on an IP resistivity low on the eastern flank of Boda 2-3. KSDD022 intersected strong pyrite mineralisation and returned 292 m grading 0.66 g/t Au from 867 m.

Drilling, geology and geochemistry suggested there was a strong northwest control to mineralisation at Boda. Calc-potassic alteration was also mapped as broadly continuous for over 3 km from Boda 2-3 to Boda to Kaiser, indicating the presence of a significant-scale porphyry system. Diamond drillhole KSDD028 was designed to confirm the interpreted northwest strike of the Boda system and intersect the main high-grade sulfide cemented breccia perpendicular to its interpreted strike. This hole confirmed the northwest trend to mineralisation, returning an intercept of 832 m grading 0.38 g/t Au and 0.17% Cu from 256 m, including 65 m grading 1.98 g/t Au and 1.13% Cu from 799 m associated with a sulfide cemented breccia. All subsequent drilling at Boda was planned perpendicular to this northwest trend. In contrast, the Boda 2-3 prospect appears from the magnetic and IP surveys to be predominantly north–south trending.

2021

Following the discovery of substantial mineralisation surrounding high-grade breccias at Boda below depths not tested by historical drilling, Alkane's attention moved to testing the Kaiser prospect with one deep diamond drillhole. The drillhole was planned to optimally transect the entire northwest trending mineralisation at Kaiser. The 1,125 m deep drillhole, KSDD027,

intersected a broad area of extensive alteration with two main parallel zones of calc-potassic alteration and associated gold-copper mineralisation. One zone was centred beneath the Kaiser workings and the second centred 200 m to the northeast. KSDD027 intersected grades and widths similar to Boda with an intercept of 360 m grading 0.38 g/t Au and 0.15% Cu from surface and 442 m grading 0.17 g/t Au and 0.11% Cu from 422 m. The drillhole also intersected high-grade hydrothermal breccias similar to those at Boda, including 6 m grading 1.71 g/t Au and 0.24% Cu from 332 m.

A 40,000 m drilling program commenced to drill out Boda on a nominal 100 m x 50 m grid for the purpose of estimating a maiden Inferred Mineral Resource.

2022

The maiden Inferred Mineral Resource estimation for the Boda deposit was confined to a surface area of 1,000 m strike length and 500 m width and approximately 1,000 m deep. The resource estimation included the results from a total of 71,431 m of drilling.

2023 to 2024

The maiden Inferred Mineral Resource estimation for the Kaiser deposit was confined to a surface area of 1,100 m strike length and 700 m width and approximately 600 m deep, was drilled on a nominal 100 m x 100 m grid with both RC and core drilling. The resource estimation included 42,000 m of drilling by Alkane and 7,500 m of historical drilling by Rio Tinto and Newcrest.

A 90,000 m drilling program commenced to define the overall Boda-Kaiser system with extensions being tested south of Boda at Boda 2-3 and northwest of Boda towards Kaiser. A total of 45,000 m was drilled at Kaiser and the remainder at and around Boda. The drilling program set out:

- To infill the maiden Kaiser Inferred Resource estimate to increase confidence to an Indicated resource classification on a nominal 50 m x 50 m grid to a 600 m vertical depth over a surface area of approximately 1,000 m x 600 m.
- To infill the maiden Boda Inferred Resource estimate to increase confidence to an Indicated resource classification on a nominal 50 m x 50 m grid at Boda to a 1,000 m vertical depth over a surface area of approximately 1,750 m x 500 m.
- Complete a nominal 100 m x 100 m grid at Boda 2-3.

Regional exploration drilling of nine RC drillholes and one diamond core drillhole for a total of 3,393 m were recently completed testing various targets within the Driell Creek prospect, located northwest of Boda-Kaiser. All drilling identified porphyry-style alteration and mineralisation—significant results included:

- DRC004: 130 m grading 0.25 g/t Au, 0.11% Cu from 174 m to end of hole.
- DRC010: 47.7 m grading 0.12 g/t Au, 0.15% Cu from 279.3 m
  - including 7 m grading 0.34 g/t Au, 0.26% Cu from 320 m.
- DRC002: 9 m grading 0.61 g/t Au from 255 m (gold only zone).
- DRC007: 30 m grading 0.13 g/t Au, 0.10% Cu from 78 m
  - and 6 m grading 0.26 g/t Au, 0.15% Cu from 96 m.

Drilling occurred at:

- The Konigin prospect:
  - One shallow RC drillhole (KON001) and deeper 835 m diamond core drillhole (KON002) testing beneath KON001.
- The Murga prospect:
  - Five RC holes for a total of 1,250 m drilling.

Results indicated the geology is favourable for porphyry-type environments, however, individual drill results showed weak mineralisation. Further drilling at these targets is now considered a lower priority than Driell Creek.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

Sampling was conducted on all types of drilling from the surface to the bottom of the hole. Sampling via the different drilling techniques used is described as follows.

11.1 Sample Preparation

11.1.1 Pre-Sample Preparation

All drilling was geologically logged on a laptop into a digital logging sheet as part of the Geobank database management system. The Geobank logging platform utilises a drill logging template customised with dropdown field options for lithology, weathering, alteration (type, character and intensity), veining (type, character and intensity), magnetic susceptibility and mineralisation (type, character and volume percentage). Any intervals for the above criteria that do not readily fit into the customised template are flagged and peer reviewed by the senior exploration management team. If required, the templates are then changed to incorporate the new interval codes and capture the information into the database.

A detailed geotechnical log was also undertaken collecting parameters such as core recovery, rock quality designation (RQD), fracture count and fracture type and orientation. Measurements were also taken of magnetic susceptibility (1 m space downhole), and bulk density measurements (20 m space downhole) were collected for each hole. All core was photographed prior to sampling.

Alkane use pre-printed sequentially numbered calico bags for all samples, with different numbering series for each of diamond and RC drill sampling.

11.1.2 RC Drilling

Samples from the RC drilling were collected at 1 m intervals via a cyclone and placed into large plastic bags. Spear samples were collected from each 1 m sample and composited to 3 m for initial assay analysis, unless the geologist on site determined visually strong mineralisation, then 1 m samples were collected via a splitter below the cyclone and sent for analysis.

All composites subsequently assayed as ≥0.1 g/t Au or ≥0.1% Cu, together with their upper and lower bounding composite samples, were resubmitted as the original 1 m samples collected into a calico bag via a splitter below the cyclone when drilling.

11.1.3 Diamond Core Drilling

Triple tube coring was used at all times to maximise core recovery with larger diameter (PQ3) core or RC pre-collars used in the oxide zones.

Half core samples of PQ3 and HQ3 size were collected from all geologically logged and potentially mineralised zones. The core was cut in half using a Corewise automatic core cutting saw and sampled in a range of 0.3–1.3 m intervals as determined by the geologist based on lithological contacts, alteration zones and mineralisation zones. The remaining half core is stored at the Orange exploration facility. For NQ3 drilling, the entire core interval was sampled.

11.1.4 Sample Handling, Security

The sample calico bags were collected in large transport bags (approximately 150–200 calico sample bags per transport bag), the bags sealed and either transported by road freight company Parkes Couriers (from the Peak Hill Alkane exploration base) or by Alkane personnel directly (from the Orange Alkane exploration base) to be submitted to ALS Chemex assay laboratories in Orange.

11.2 Analyses

Samples were oven-dried before being crushed with 70% less than 2 mm (ALS code CRU-31), split by riffle splitter (ALS code SPL-21), and 1000 gram pulverised such that 85% less than 75 µm (ALS code PUL-32). Crushers and pulverisers were washed, with QAQC tests undertaken (ALS codes CRU-QC, PUL-QC).

Bulk rejects for all samples were discarded. A pulp packet (±100 g) for each sample processed and analysed was returned to Alkane and is stored at the Alkane exploration core facility in Orange for future reference.

For all samples used in the resource estimate, gold was determined using a 50 g charge fused at approximately 1,100°C with alkaline fluxes, including lead oxide. The resultant prill was dissolved in aqua regia, and gold was determined by flame atomic absorption spectroscopy (AAS).

For other geochemical elements, most samples are digested by near-total mixed acid digest for each element determined by inductively coupled plasma-atomic emission spectrometry (ICP-AES) or inductively coupled plasma-mass spectrometry (ICP-MS). For selected drillholes that are nearby (less than 100 m spaced drilling) previous drilling with near-total mixed acid digest assay results or that are re-split RC samples, these samples were digested by aqua regia with an ICP-AES for silver, arsenic, copper, molybdenum and sulfur only.

Approximately 1% of all laboratory-returned pulps stored in Orange are sent to SGS in West Wylong for umpire assays to cross-reference the ALS Chemex analyses utilising the same sample laboratory preparations and analytical techniques.

11.3 Quality Assurance and Quality Control

11.3.1 Laboratory Accreditations

ALS Chemex is accredited in accordance with International Standard ISO/IEC 17025:2017 and is independent of Alkane (“the Issuer”).

11.3.2 Quality Assurance Methodology

Commercially prepared certified reference materials (CRMs) and blanks were inserted in the sample stream at approximately 1 in 40 samples to monitor analytical accuracy of the primary laboratory and carry over contamination. CRMs were not identifiable to the laboratory.

All CRMs were sourced from Ore Research and Exploration Pty Ltd (OREAS). CRMs were deemed to be within tolerance if they were within three standard deviations (SD) and 10% of the expected mean. When a CRM fell outside this tolerance, the batch was generally resubmitted.

Field duplicate samples (RC) were inserted at 1 in 40 samples (alternate to CRMs) to monitor sampling precision. For 3 m composite samples, the composite was double speared, then the sample riffle split into two calico bags. Field duplicate samples were collected by riffle splitting the RC sample. No field duplicates were submitted for core samples.

Umpire analysis of pulps was used as a further check on the accuracy of the primary laboratory. SGS laboratory in Townsville, Queensland was used for umpire analysis.

11.3.3 Interpretation of Quality Control Results

Shewhart graphs were used to monitor CRM and blank performance, while scatterplots were used to monitor field duplicate and check assay results.

Boda

A list of the CRMs and blanks used to support the dataset used for the Boda MRE is provided in Table 11-1. Review of the CRM and blank results indicated no material issues with analytical bias or carryover contamination. RC field duplicate results gave confidence in sampling precision, while umpire laboratory results gave additional confidence in the accuracy of the primary laboratory.

Table 11-1 CRM and blank list—Boda

CRM ID	Description of material	Times used	Expected Au value	95% Confidence		1SD	Expected Cu value	95% Confidence		1SD
				Low	High			Low	High	
OREAS 151a	Porphyry Cu-Au-Mo-S from the Waisoi district, Viti Levu, Fiji	106	43 ppb	42	44	2.0	0.166 wt.%	0.162	0.169	0.005
OREAS 151b	Porphyry Cu-Au from the Waisoi district, Viti Levu, Fiji	284	65 ppb	63	67	6	0.182 wt.%	0.180	0.184	0.005
OREAS 153a	Porphyry Cu-Au-Mo-S from the Waisoi district, Viti Levu, Fiji	28	331 ppb	306	315	12	0.712 wt.%	0.701	0.723	0.025
OREAS 153b	Porphyry Cu-Au-Mo-S from the Waisoi district, Viti Levu, Fiji	144	313 ppb	310	317	9	0.678 wt.%	0.672	0.684	0.015
							0.670 wt.%*	0.664	0.676	0.013
OREAS 224	Archean greenstone-hosted Au ore and barren Cambrian greenstone	4	2.15 ppm	2.14	2.17	0.053	-	-	-	-
OREAS 226	Archean greenstone-hosted Au ore and barren Cambrian greenstone	4	5.45 ppm	5.41	5.49	0.126	138 (ppm)*	137	140	5
OREAS 232	Blend of high-grade Au ore and barren metasediments	1	0.902 ppm	0.895	0.909	0.023	22.6 ppm*	22.0	23.1	1.28
OREAS 233	Blend of Au ore and barren greenstone	3	1.05 ppm	1.05	1.06	0.029	162 ppm	157	167	6
							162 ppm*	158	166	7
OREAS 24c	Barren alkali olivine basalt	57	<1 ppb	-	-	-	48.6 ppm	47.3	49.9	1.45
OREAS 24d	Barren olivine tholeiitic basalt	817	<1 ppb	-	-	-	43.2 ppm	41.6	44.8	2.29
OREAS 501d	Blend of porphyry Cu-Au ore, barren granodiorite and Cu-Mo concentrate	337	0.232 ppm	0.228	0.235	0.011	0.272 wt.%	0.268	0.276	0.009
							0.270 wt.%*	0.268	0.272	0.006
OREAS 502c	Blend of porphyry Cu-Au ore, barren granodiorite, and a minor quantity of Cu-Mo concentrate	130	0.488 ppm	0.483	0.492	0.015	0.783 wt.%	0.775	0.790	0.022
							0.779 wt.%*	0.774	0.785	0.017
OREAS 503d	Blend of porphyry Cu-Au ore, barren granodiorite, and a minor quantity of Cu-Mo	85	0.666 ppm	0.661	0.672	0.015	0.524 wt.%	0.521	0.527	0.010
							0.522 wt.%*	0.518	0.526	0.011

CRM ID	Description of material	Times used	Expected Au value	95% Confidence		1SD	Expected Cu value	95% Confidence		1SD
				Low	High			Low	High	
OREAS 504	Porphyry Au-Cu-Mo-S from Au-Cu ore and waste rock sample with minor quantity of Mo concentrate	5	1.48 ppm	1.46	1.50	0.043	11371 ppm	11229	11514	320
							11233 ppm*	11229	11514	190
OREAS 504c	Blend of porphyry Cu-Au ore, barren granodiorite, and minor quantity of Cu-Au concentrate	414	1.48 ppm	1.47	1.50	0.045	1.11 wt.%	1.10	1.12	0.030
							1.10 wt.%*	1.28	1.34	0.075
OREAS 505	Blend of porphyry Cu-Au ore, barren granodiorite, and minor quantity of Cu-Au concentrate	795	0.555 ppm	0.550	0.560	0.014	0.321 wt.%	0.319	0.324	0.008
							0.323 wt.%*	0.319	0.327	0.010
OREAS 506	Blend of porphyry Cu-Au ore, barren granodiorite, and a minor quantity of Cu-Mo	129	0.364 ppm	0.360	0.367	0.010	0.444 wt.%	0.440	0.447	0.010
							0.441 wt.%*	0.437	0.446	0.012
OREAS 507	Blend of porphyry Cu-Au ore, barren granodiorite, and a minor quantity of Cu-Mo	106	0.176 ppm	0.174	0.178	0.006	0.622 wt.%	0.618	0.627	0.013
							0.622 wt.%*	0.617	0.627	0.014
OREAS 508	Blend of porphyry Cu-Au ore, barren granodiorite, and a minor quantity of Cu-Mo	92	0.470 ppm	0.464	0.477	0.016	0.548 wt.%	0.532	0.563	0.013
							0.549 wt.%*	0.536	0.562	0.014
OREAS 603b	Blend of Ag-Cu-Au ore, argillic rhyodacite barren rock and small quantities of Cu-Au concentrate	191	5.21 ppm	5.12	5.29	0.209	0.973 wt.%	0.963	0.983	0.023
							0.985 wt.%*	0.979	0.990	0.015
OREAS 610	Blend of Ag-Cu-Au ore and argillic rhyodacite barren rock	47	9.83 ppm	9.73	9.93	0.254	0.971 wt.%	0.962	0.981	0.023
							0.972 wt.%*	0.960	0.983	0.027
OREAS 18c	Blend of barren alkali olivine basalt and Au ore	6	3.52 ppm	3.47	3.57	0.110	-	-	-	-
OREAS 50Pb	Porphyry Cu-Au from ore and waste rock	8	0.841 ppm	0.825	0.857	0.032	0.744 wt.%	0.733	0.755	0.021
OREAS 53P	Porphyry Cu-Au from Northparkes, NSW, Australia	20	380 ppb	371	389	19	0.413 wt.%	0.404	0.422	0.016
OREAS 53Pb	Blend of Cu-Au porphyry ore and waste rock	1	0.623 ppm	0.612	0.634	0.021	0.546 wt.%	0.540	0.553	0.014
OREAS 62d	High-grade ore from Cracow, Queensland, Australia	8	10.36 ppm	10.36	10.64	0.330	-	-	-	-
BLANK_BLT	Barren Basalt	1020	0.01 ppm	-	-	0.02	31.7 ppm	-	-	29.16

Example CRM plots are shown in Figure 11-1 and Figure 11-2, respectively.

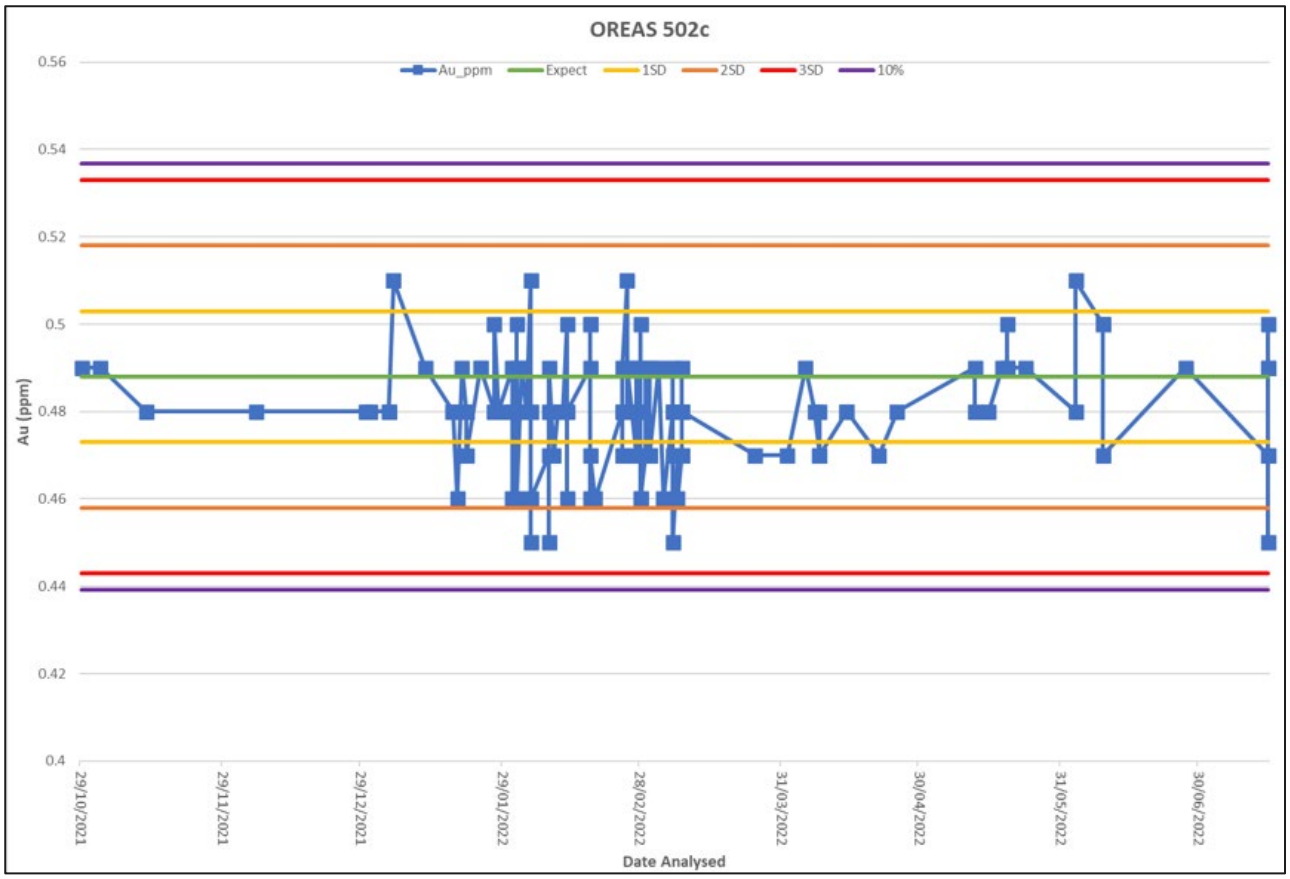

Figure 11-1 Gold Shewhart plot CRM 502c—Boda

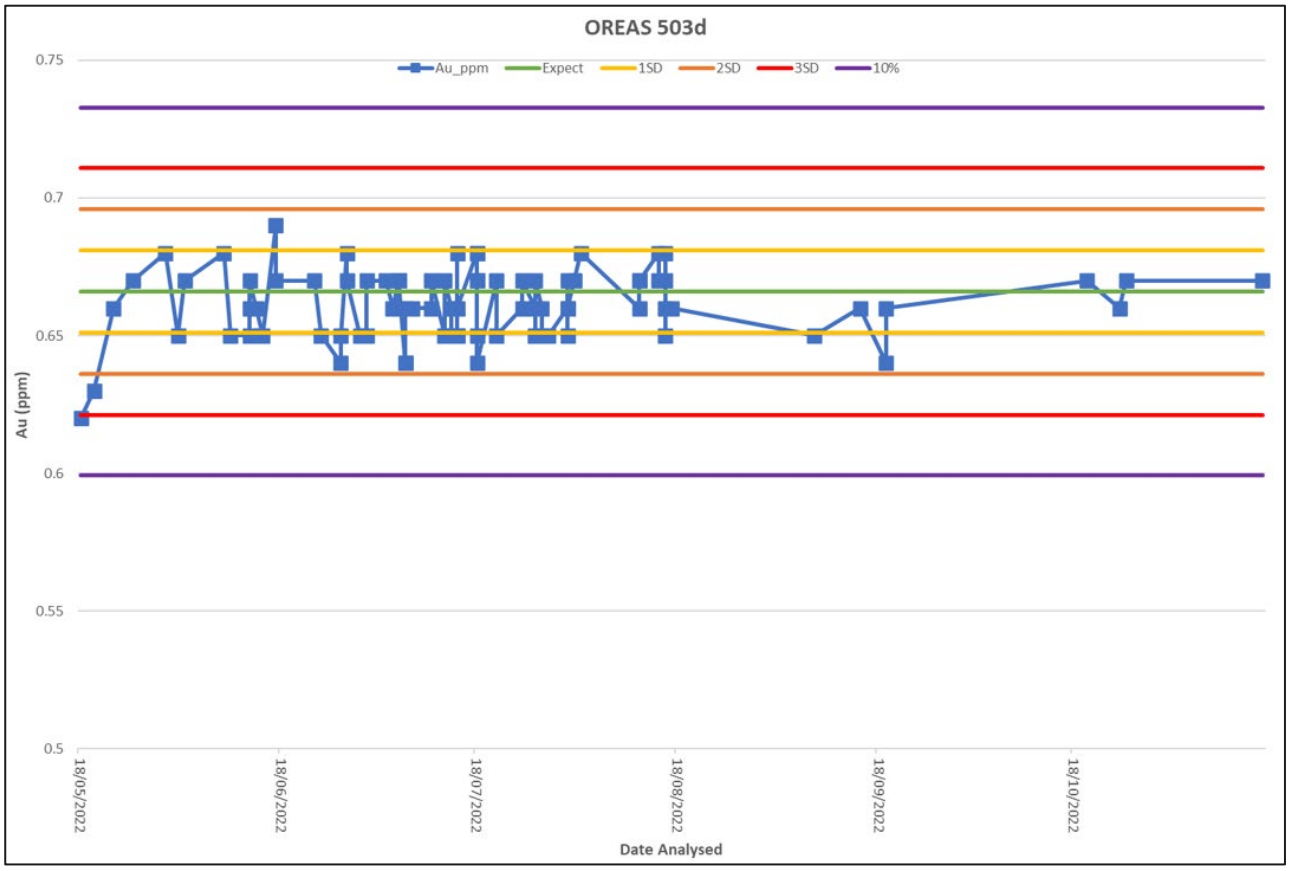

Figure 11-2 Gold Shewhart plot CRM OREAS 503d—Boda

Kaiser

A list of the CRMs and blanks used to support the dataset used for the Kaiser MRE is provided in Table 11-2. Review of the CRM and blank results indicated no material issues with analytical bias or carryover contamination. RC field duplicate results gave confidence in sampling precision, while umpire laboratory results gave additional confidence in the accuracy of the primary laboratory.

Table 11-2 CRM and blank list—Kaiser

CRM ID	Description of material	Times used	Expected Au value	95% Confidence		1SD	Expected Cu value	95% Confidence		1SD
				Low	High			Low	High	
OREAS 151a	Porphyry Cu-Au-Mo-S from the Waisoi district, Viti Levu, Fiji	33	43 ppb	42	44	2.0	0.166 wt.%	0.162	0.169	0.005
OREAS 151b	Porphyry Cu-Au from the Waisoi district, Viti Levu, Fiji	33	65 ppb	63	67	6	0.182 wt.%	0.180	0.184	0.005
OREAS 153a	Porphyry Cu-Au-Mo-S from the Waisoi district, Viti Levu, Fiji	21	311 ppb	306	315	12	0.712 wt.%	0.701	0.723	0.025
OREAS 153b	Porphyry Cu-Au-Mo-S from the Waisoi district, Viti Levu, Fiji	18	313 ppb	310	317	9	0.684 wt.%	0.672	0.684	0.015
OREAS 226	Archean greenstone-hosted Au ore and barren Cambrian greenstone	5	5.45 ppm	5.41	5.49	0.126	138 (ppm)*	137	140	5
OREAS 230	Au-bearing ore and barren Cambrian greenstone	3	0.337 ppm	0.331	0.342	0.013	172	166	177	5
OREAS 24c	Barren alkali olivine basalt	10	<1 ppb	-	-	-	48.6 ppm	47.3	49.9	1.45
OREAS 24d	Barren olivine tholeiitic basalt	491	<1 ppb	-	-	-	43.2 ppm	41.6	44.8	2.29
OREAS 501d	Blend of porphyry Cu-Au ore, barren granodiorite and a minor quantity of Cu-Mo concentrate	383	0.273 ppm	0.228	0.235	0.011	0.272 wt.%	0.268	0.276	0.009
							0.270 wt.%*	0.268	0.272	0.006
OREAS 502c	Blend of porphyry Cu-Au ore, barren granodiorite, and a minor quantity of Cu-Mo concentrate	57	0.488 ppm	0.483	0.492	0.015	0.783 wt.%	0.775	0.790	0.022
							0.779 wt.%*	0.774	0.785	0.017
OREAS 503d	Blend of porphyry Cu-Au ore, barren granodiorite, and a minor quantity of Cu-Mo concentrate	104	0.666 ppm	0.661	0.672	0.015	0.524 wt.%	0.521	0.527	0.010
							0.522 wt.%*	0.518	0.526	0.011

CRM ID	Description of material	Times used	Expected Au value	95% Confidence		1SD	Expected Cu value	95% Confidence		1SD
				Low	High			Low	High	
OREAS 504	Porphyry Au-Cu-Mo-S from Au-Cu ore and waste rock sample with minor quantity of Mo concentrate	10	1.48 ppm	1.46	1.50	0.043	11371 ppm	11229	11514	320
							11233 ppm*	11229	11514	190
OREAS 504c	Blend of porphyry Cu-Au ore, barren granodiorite, and minor quantity of Cu-Au concentrate	33	1.48 ppm	1.47	1.50	0.045	1.11 wt.%	1.10	1.12	0.030
							1.10 wt.%*	1.28	1.34	0.075
OREAS 505	Blend of porphyry Cu-Au ore, barren granodiorite, and minor quantity of Cu-Au concentrate	211	0.555 ppm	0.550	0.560	0.014	0.321 wt.%	0.319	0.324	0.008
							0.323 wt.%*	0.319	0.327	0.010
OREAS 506	Blend of porphyry Cu-Au ore, barren granodiorite, and minor quantity of Cu-Au concentrate	233	0.364 ppm	0.360	0.367	0.010	0.444 wt.%	0.440	0.447	0.010
							0.441 wt.%*	0.437	0.446	0.012
OREAS 507	Blend of porphyry Cu-Au ore, barren granodiorite, and minor quantity of Cu-Au concentrate	233	0.176 ppm	0.174	0.178	0.006	0.622 wt.%	0.618	0.627	0.013
							0.622 wt.%*	0.617	0.627	0.014
OREAS 508	Blend of porphyry Cu-Au ore, barren granodiorite, and minor quantity of Cu-Au concentrate	246	0.470 ppm	0.464	0.477	0.016	0.548 wt.%	0.532	0.563	0.013
							0.549 wt.%*	0.536	0.562	0.014
OREAS 603b	Blend of Ag-Cu-Au ore, argillic rhyodacite barren rock and small quantities of Cu-Au concentrate	30	5.21 ppm	5.12	5.29	0.209	0.973 wt.%	0.963	0.983	0.023
							0.985 wt.%*	0.979	0.990	0.015
OREAS 24p	Alkali olivine basalt from Quarternary Newer Volcanics Province, Victoria, Australia	17	<2 ppb	IND	IND	IND	52 ppm	44	60	7
OREAS 50Pb	Porphyry Cu-Au from ore and waste rock	15	0.841 ppm	0.825	0.857	0.032	0.744 wt.%	0.733	0.755	0.021
OREAS 53P	Porphyry Cu-Au from Northparkes, NSW, Australia	11	380 ppb	371	389	19	0.413 wt.%	0.404	0.422	0.016

CRM ID	Description of material	Times used	Expected Au value	95% Confidence Low	95% Confidence High	1SD	Expected Cu value	95% Confidence Low	95% Confidence High	1SD
OREAS 53Pb	Porphyry Cu-Au from Northparkes, NSW, Australia	18	0.623 ppm	0.612	0.634	0.021	0.546 wt.%	0.540	0.553	0.014
OREAS 62d	High-grade ore from Cracow, Queensland, Australia	19	10.36 ppm	10.36	10.64	0.330	-	-	-	-
BLANK_BLT	Barren basalt	717	0.01 ppm	-	-	0.02	31.7 ppm	-	-	29.16

Example blank and CRM plots are shown in Figure 11-3 and Figure 11-4, respectively.

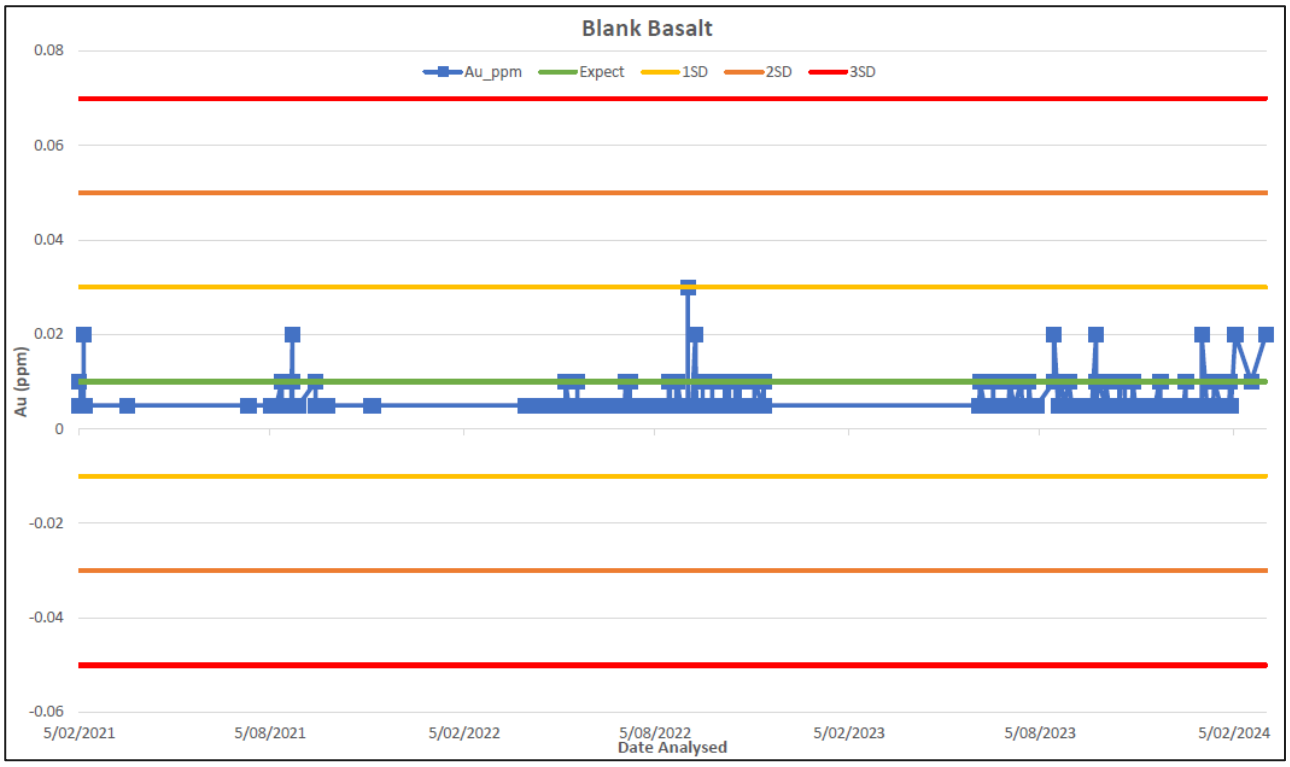

Figure 11-3 Gold Shewhart plot blank basalt—Kaiser

11.4 Summary Opinion of the Qualified Person

A reasonably high level of confidence can be placed in the location of data points. The QP author considers modern drilling data point locations as accurate and reliable.

Sample collection, sample preparation, sample logging and analytical techniques are considered acceptable techniques using current industry standards.

The QA-QC results suggest there are no issues of significance associated with the sampling and sample analyses. Based on an assessment of the data, the QP author is of the opinion the sample preparation, security and analytical procedures are adequate for the purposes of generating MREs for the Project, with assaying posing minimal risk to the overall confidence level of the MRE.

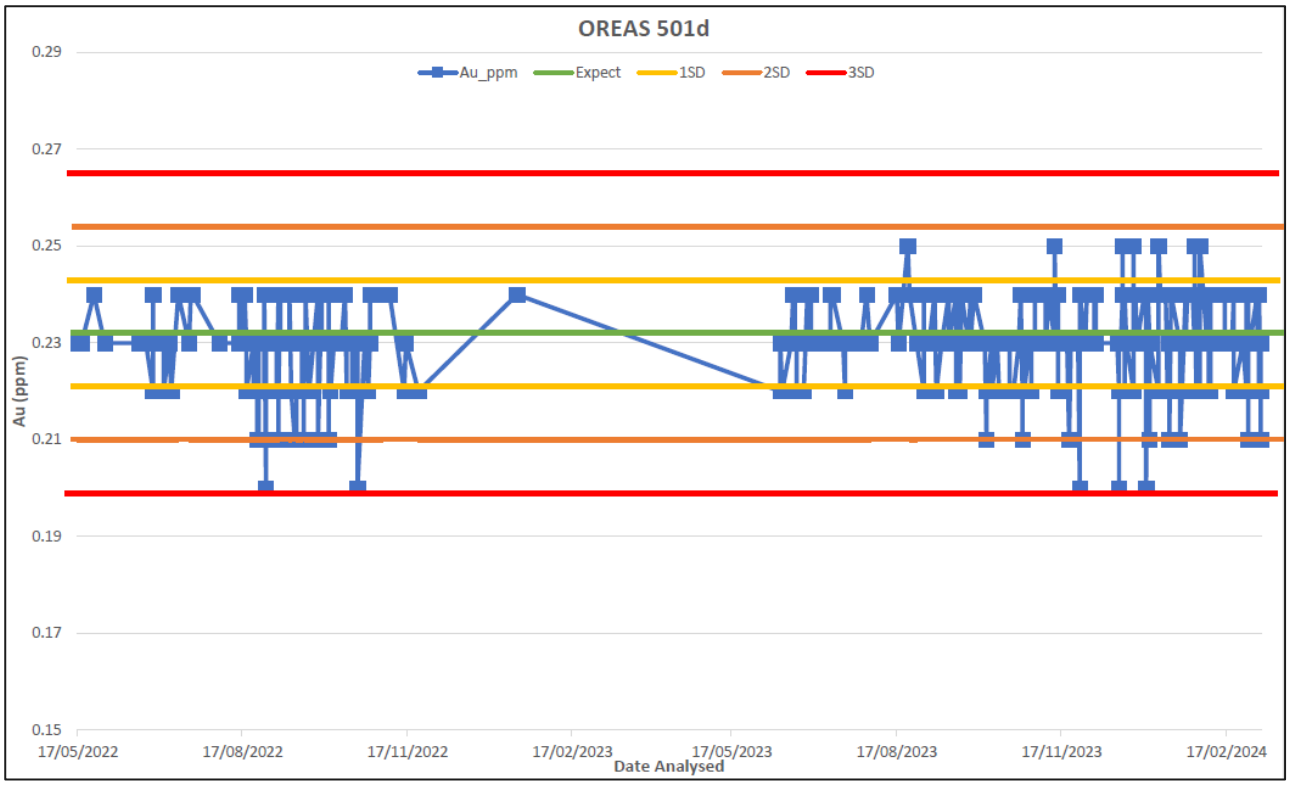

Figure 11-4 Gold Shewhart plot CRM OREAS 501d—Kaiser

12 DATA VERIFICATION

12.1 Site Visit

QP authors Tony Donaghy and Nick MacNulty conducted a site visit to the Boda-Kaiser Project field localities and the Alkane exploration offices and core facility in Orange on 16 April 2025. In addition, Tony Donaghy visited the Peak Hill Alkane exploration offices and core facility on 15 April 2025. Both site visits were escorted by David Meates, the Alkane Exploration Manager.

During the site visit to the Boda-Kaiser Project location, it was noted that all drill locations had been rehabilitated and all drill collars buried in compliance with rehabilitation requirements, leaving no surface expression to field check drillhole locations. Only one drilled hole collar remained and was visited (BOD107) and its position noted by global positioning system (GPS). The surveyed position of the hole in the Alkane database is 690301E, 6410570N (GDA94, Zone 55). GPS pickup of the collar in the same coordinate system gave a position of 690296E, 6410581N with a GPS positional error of ±11.1 m on the GPS position coordinates.

It was also noted that four wind turbines of the Bodangora Wind Farm were located within the area to be impacted by any potential mining activity of the Boda-Kaiser deposits and that they would be required to be relocated at Alkane's expense should a decision to mine be reached.

Aside from these observations, there was nothing of any further note at the sites (no surface outcrop, no project infrastructure) other than that the sites are readily accessible, have gentle topographic relief and are presently used for farming activities in and around the wind farm operation. Figure 12-1 show the topography, farming activities and three of the wind turbines, part of the Bodangora Wind Farm.

Figure 12-1 View to the northwest over portion of the Project area

Nothing was noted in the nature of the site that would represent a challenge to potential mining or processing operations.

At the Orange and Peak Hill core facilities, Alkane staff led the ERM visitors through the full processes and procedures for handling, logging, photography, density measurements, sampling of drill materials, QAQC and database management. The walk-through encompassed all core activities from initial drill material reception at the facility from the drill through to transport of samples to the ALS Chemex laboratory for assay, and subsequent long-term storage management of drill core and chips, as well as returned laboratory assay pulps.

In addition, representative drillhole intervals through both Boda and Kaiser were laid out for inspection, complete with assay data extracted from the Geobank database. Drillhole intervals inspected include:

- Kaiser:
  - KAI161—250.06 m to 438.76 m downhole interval
  - KAI164—455.47 m to 533.87 m downhole interval.
- Boda:
  - BOD059—821.41 m to 1110.90 m downhole interval.

In all intervals inspected, the lithologies, alteration and mineralisation matched descriptions and controls on mineralisation as described in logging. In addition, the species, content and distribution of sulfide mineralogy matched the distribution and values for copper and gold assay intervals for the respective hole intervals observed.

In the opinion of the QP authors, all processes and procedures around processing of drill core and chips, core logging procedures and data capture into a dedicated database, sampling and QAQC and sample handling and transport security of samples are consistent, systematic and carried out in accordance with industry best practice.

12.2 Opinion of Qualified Person

The QP authors are of the opinion that the drillhole database and all underlying technical data is accurate and adequate for the purposes of generating MREs for the Project.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

The Boda-Kaiser Copper-Gold Project had metallurgical testwork conducted in 1988, 2022 and 2023. The most recent testwork program carried out in 2023 is the most substantial testwork program and has formed the basis for a preliminary engineering design (GR Engineering Services North Molong Prophyry Project Scoping Study completed in April 2024).

Two documents form the basis for the review of this Project:

- Boda-Kaiser Metallurgical Development Program; Scott Dalley Francks (2024)
- GRES North Molong Porphyry Scoping Study, GRES (2024).

13.1 Metallurgical Testing—2023 Program

The 2023 program entailed the generation of 21 variability samples and two master composites from 11 Boda drillholes and 10 Kaiser drillholes. Half-HQ core was utilised. The breakdown of the composites is:

- Boda Master Composite (BMC23)
- Kaiser Master Composite (KMC23)
- 9 x High S:Cu Boda samples (avg 0.5 g/t Au, 0.2% Cu, 0.86% S)
- 7 x Low S:Cu Kaiser samples (avg 0.35 g/t Au, 0.25% Cu, 0.18% S)
- 2 x Low S:Cu Boda samples (avg 0.42 g/t Au, 0.28% Cu, 0.17% S)
- 3 x High S:Cu Kaiser samples (avg 0.21 g/t Au, 0.25% Cu, 0.59% S).

The scope of the testwork was:

- Assessment of ore hardness and comminution characteristics.
- Ore mineralogy and geochemical relationships.
- Flowsheet determination in respect to:
  - amenability to gold/copper recovery by froth flotation
  - amenability to gravity gold recovery and cyanidisation.
- Tailings characterisation.

13.1.1 Mineralogy

Both deposits have similar mineralogy with chalcopyrite with lesser bornite-chalcocite being the main copper mineralisation. The main sulfide gangue is pyrite. Chalcopyrite appears relatively fine at 46 µm in comparison to gangue (90 µm). Gold appears mostly fine, with greater gravity gold present at higher gold grades.

13.1.2 Comminution

All 21 samples had some comminution testing. A summary is provided in Table 13-1. Most samples have exhibited as relatively hard with average abrasiveness.

13.1.3 Gravity and Whole-of-Ore Comminution

Whole-of-ore leaches were observed to extract ~75% gold at a P80 of 106 µm from the master composites with an associated 20–25% copper leached.

Gravity testing indicated that a gold recovery of 64% for the Boda and 25% of the Kaiser master composites were reporting to a gravity concentrate. Some gravity recoverable gold (GRG) testing may be warranted. Previous programs (2022) indicated that gold recovery to a gravity concentrate was estimated at 0–3%.

Table 13-1 Comminution results (2023)

Ore parameters	Units	Samples tested	Boda average	Kaiser average	Design value	Design parameter	Range
Abrasion Index	g	12	0.13	0.1	0.12	Average	0.04–0.16
Crushing Work Index	kWh/t				18.5	Estimated (SMC)	
Rod Mill Work Index	kWh/t	12	24.8	25.6	26.9	85th percentile	22.0–28.6
Ball Mill Work Index	kWh/t	31	20.2	19.8	21.4	85th percentile	17.9–22.9
Dwi		21	11.1	12.8	14.3	85th percentile	8.8–15.4
Axb		21	26.3	22.6	20.4	15th percentile	19.0–31.4
Ta		21	0.24	0.2	0.18	85th percentile	0.17–0.29
SCE	kWh/t	21	12.8	13.7	14.6	85th percentile	8.3–10.8
Ore SG	kg/L	21	2.84	2.85	2.85	Average	2.78–2.95

Source: Scott Dalley Francks (2024)

13.1.4 Flotation Testwork

A substantial volume of small-scale flotation testing (130 tests) was conducted to assess the flotation flowsheet and parameters, with the bulk of this being conducted on the Boda master composite.

A rougher-regrind-cleaner-recleaner circuit was determined as the optimal flowsheet with a primary grind of 106 µm and a regrind (on the rougher concentrate) of 30 µm. Kaiser was observed to require a finer primary grind than Boda for the same performance.

These culminated in locked cycle testing (10 kg x 5–6 cycles).

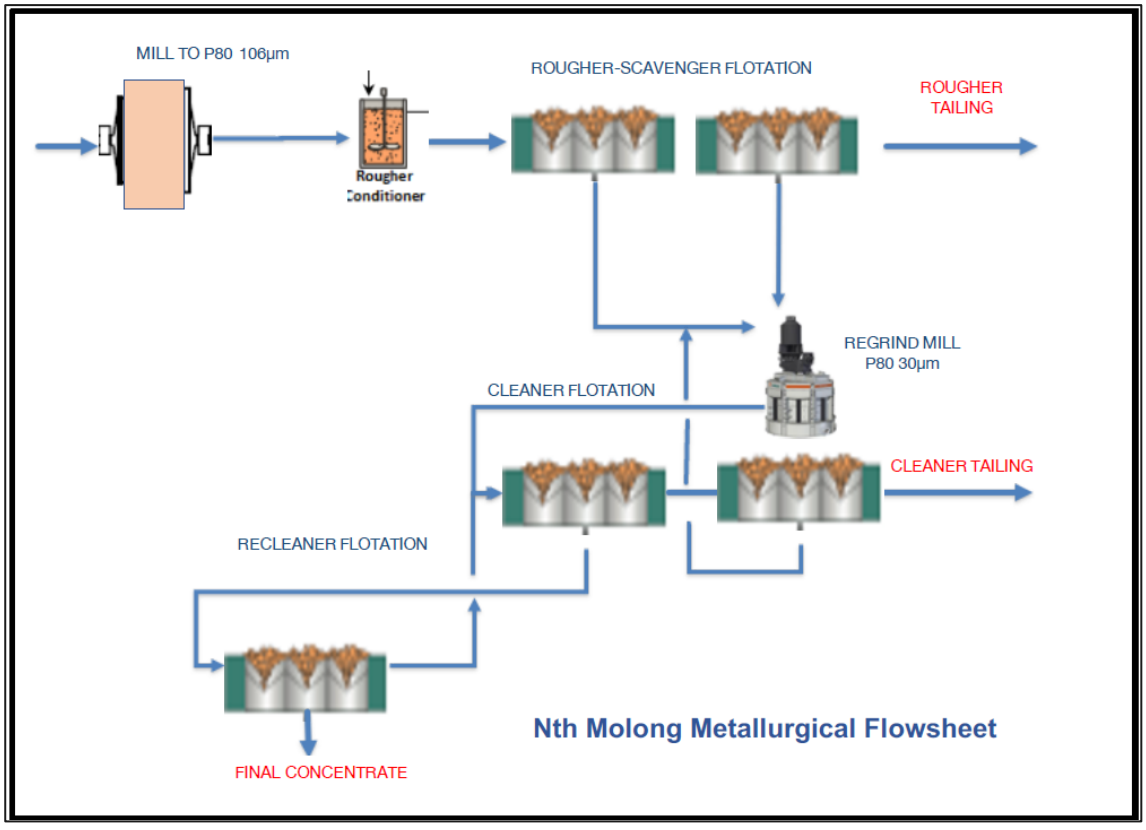

Figure 13-1 Locked cycle testing, Boda and Kaiser (2023)

Source: Scott Dalley Francks (2024)

A summary of the results for both the Boda and Kaiser master composite are shown in Table 13-2 and Table 13-3, respectively.

Table 13-2 Average locked cycle results—Boda

Stream	Mass (%)	Grade			Recovery		
		Cu (%)	Au (g/t)	S (%)	Cu (%)	Au (%)	S (%)
Final Con	0.72	24.5	43.7	24.4	84.5	75.4	33.1
Rougher Con	4.82	3.77	6.99	12.6	87.3	81.6	91.1
Cleaner Tail	4.1	0.14	0.63	10.6	2.78	6.27	58
Rougher Tail	95.2	0.03	0.07	0.05	12.7	18.4	8.88
Feed	100	0.21	0.41	0.68	100	100	100
Combined Tail	99.3	0.033	0.103	0.46	15.5	24.6	66.9

Source: Scott Dalley Francks (2024)

Table 13-3 Average locked cycle results—Kaiser

Stream	Mass (%)	Grade			Recovery		
		Cu (%)	Au (g/t)	S (%)	Cu (%)	Au (%)	S (%)
Final Con	0.75	26.9	26.8	23.8	78.7	66.5	53.2
Rougher Con	4.21	5.02	5.03	7.3	82.7	72.2	87.4
Cleaner Tail	3.47	0.29	0.47	3.73	4.01	5.68	34.2
Rougher Tail	95.8	0.05	0.09	0.05	17.3	27.8	12.6
Feed	100	0.25	0.3	0.36	100	100	100
Combined Tail	99.3	0.055	0.1	0.17	21.3	33.5	46.8

Source: Scott Dalley Francks (2024)

The 21 variability samples showed similar results.

Analysis of cleaner flotation tailings indicated that the bulk of the remaining copper-bearing minerals were fine-grained, and when not liberated strongly associated with silicates. Some further optimisation may be possible with additional cleaning stages/technologies (i.e. Jameson cells).

Only fluorine was measured above penalty limits (>150 ppm) in the analysis of concentrates generated.

13.1.5 Flotation Tailings Leach

Cyanide leaching was conducted on both samples of the cleaner flotation tailings and the rougher flotation tailings.

For the cleaner flotation tailings:

- ~5–7% of the gold in the feed reports to this stream and a 70–80% leach recovery was observed (~4% overall)
- 3–4% of the copper in the feed reports to this stream and 40–55% extraction was observed (~1.7% total).

Leaching of the rougher flotation tailings:

- 10–25% of the gold in the feed reports to this stream and a 60% gold recovery was observed.

13.2 Process Flowsheet—Scoping Study

GR Engineering Services was engaged to conduct a scoping study with a capital cost estimate and operating cost estimate (for a 20 Mtpa processing facility). Based on the historical testwork to date, the flowsheet in Figure 13-2 was used as the basis for sizing and costing estimates.

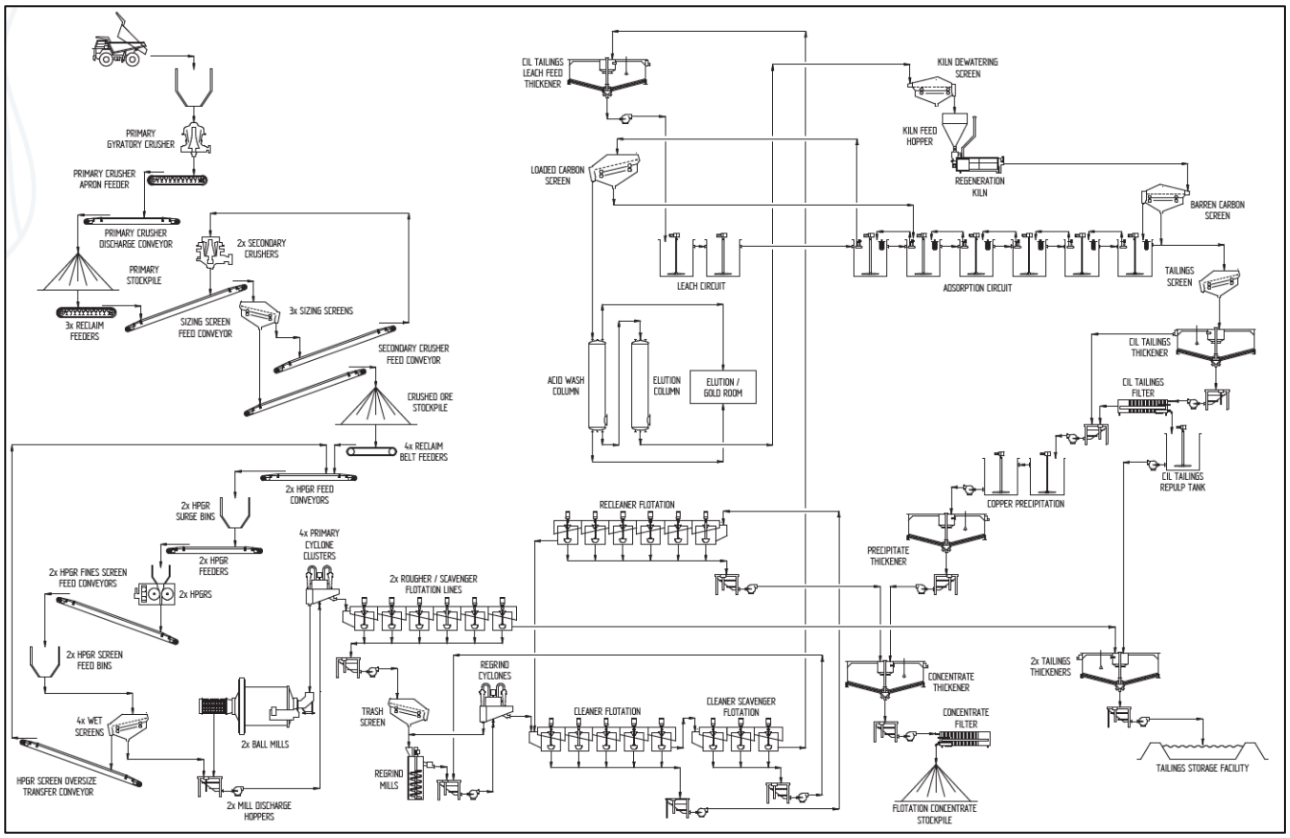

Figure 13-2 Process flowsheet

Source: Alkane Resources Limited, 2024a

Run-of-mine (ROM) material is fed into a two-stage crushing circuit with one primary gyratory and two secondary cone crusher to final product size of 45 mm onto a crushed ore stockpile. This is reclaimed to two high pressure grind rolls (HPGRs) in a closed circuit with four screens. The ground material reports to two 24 MW ball mills in closed circuit to a grind size of 106 µm.

The ground material reports to two lines of rougher flotation with the concentrate reporting to two HiG mills to be reground to a P80 of 27 µm. The ground material reports to the cleaner circuit and then the concentrate subsequently to the re-cleaner circuit. The final copper concentrate reports to the concentrate thickener.

The cleaner circuit tailings reports to a hybrid carbon-in-leach (CIL) circuit comprising two leach tanks followed by six CIL tanks. The loaded carbon reports to elution circuit.

The CIL tailings is thickened and then filtered with the solution reporting to a precipitation circuit via the addition of peroxide and sodium hydrosulphide. The precipitate is thickened via a 1 m thickener.

The CIL tailings is combined with the rougher tailings, thickened and the cyanide present removed via the cyanide detoxification circuit.

14 MINERAL RESOURCE ESTIMATES

14.1 Introduction

Since the discovery of Boda in late-2019, a significant campaign of RC and diamond core drilling has been completed. Maiden Inferred Mineral Resources were reported within an extensive alteration zone 3.5 km long and up to 1.0 km width on 30 May 2022 for Boda and 27 February 2023 for Kaiser.

During 2024, further RC and diamond core drilling led to Indicated Mineral Resources being reported within the broader Inferred Resource gold-copper envelope. These MREs were reported on 14 December 2023 for Boda and 29 April 2024 for Kaiser.

The current Boda MRE comprises Boda and Boda 2-3. Boda has a strike length of 750 m while Boda 2-3 has a strike length of 1,000 m. The width of Boda and Boda 2-3 is 500 m. The average depth is approximately 1,000 m.

The current Kaiser MRE has a strike length of 1,100 m and width of 650 m. The average depth is approximately 500 m.

A 3D block model was constructed using Datamine software for both Boda and Kaiser. RC and diamond samples were used for gold and copper grade interpolation by OK methods. The block model was validated using visual validation and comparison with previous models.

The current MREs have been reported in accordance with the CIM Definition Standards (May 2014). The MRE was completed based on data provided by David Meates MAIG, Alkane Exploration Manager, NSW. QP author Aaron Meakin, who is a full-time employee of ERM and a Chartered Professional Member of the Australasian Institute of Mining and Metallurgy (AusIMM) takes responsibility for the MREs disclosed in this Report. Mr Meakin has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration to qualify as a QP under NI 43-101.

Note that the Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. QPs are required to exercise judgement to determine whether mineralisation has reasonable prospects for eventual economic extraction (RPEEE) which considers long-term price and market outlooks for commodities in addition to mineralogy and geometallurgy, mining and processing options and costs, mineralisation recovery and smelting and refining charges. Determining RPEEE is not as rigorous as converting Mineral Resources to Mineral Reserves through application of rigorously determined modifying factors to that portion of a Mineral Resource for which a moderate to high level of relevant geological knowledge has been developed. A Mineral Reserve has yet to be estimated for the Boda Kaiser project.

An Indicated Mineral Resource has been estimated for the Project but the studies needed to determine the modifying factors used to convert this portion of the project's Mineral Resource to a Mineral Reserve have not yet been completed.

14.2 Database

The MRE for Boda and Boda 2-3 uses assay results from a total of 186 drillholes comprising of 42,455 m of RC and 103,002 m of diamond core for a total of 145,458 m.

The MRE for Kaiser uses assay results from a total of 217 drillholes comprising 53,292 m of RC and 41,487 m of diamond core drilling for a total of 94,779 m, including a historical assay component (for the period 2001 to 2002 captured by Newcrest from four drillholes comprising of 2,684 m of diamond core).

14.3 Preparation of Wireframes

14.3.1 Boda

The Boda deposit is located within a northwest trending structural corridor on the northwestern margin of a significant magnetic complex with dimensions of approximately 2.0 km x 0.7 km.

The mineralisation is related to a series of northwest trending monzodiorite intrusions that manifest as a series of vertically extensive intrusive breccias forming a stock central to Boda and Boda 2-3. These intrusive breccias transition to hydrothermal breccias to which the highest gold-copper grades are related. The majority of brecciation is in the form of a "crackle breccia" that can either have a hydrothermal matrix usually comprising of calcite ± actinolite ± pyrite ± magnetite ± chalcopyrite or an igneous matrix dominantly of monzodiorite.

There is negligible post-mineralisation cover on the Boda deposit. Weathering and oxidation of the mineralised bedrock extends on average approximately 15 m from surface.

The monzonites, dolerites, faults, surface, and base of oxidation were modelled in 3D and formed the basis of wireframing the mineralisation to constrain the MRE. Mineralisation wireframes were constructed using a nominal 0.2 g/t AuEq lower cut-off grade. High-grade breccia domains were constructed using a 1.2 g/t AuEq lower cut-off grade.

Mineralisation domain wireframes were split into discrete zones by faulting. Four late-mineral monzonite wireframes, and 45 dolerite wireframes were interpreted and used as constraints for the resource modelling. Three significant fault surfaces were used to guide wireframing. Two surfaces were also used to separate material types—topography and base of oxidation surfaces.

The wireframes and lode codes are summarised in Table 14-1. Mineralised domains are shown in Figure 14-1.

Table 14-1 Boda wireframe summary

Domains	Lode codes
Volcanic hosted low-grade Au-Cu mineralisation—Boda - Solar Fault footwall	101–105
Volcanic-hosted high-grade Au-Cu mineralised sulfide-cemented hydrothermal breccia—Boda - Solar Fault footwall	201–203
Volcanic hosted low-grade Au-Cu mineralisation—Boda2-3 - Solar Fault footwall	301–317 and 319–323
Volcanic hosted low-grade Au-Cu mineralisation—Boda2-3 - Moonlight Fault footwall	401–412
Volcanic hosted low-grade Au-Cu mineralisation—Boda2-3 - Reids Fault footwall	601–605
Volcanic hosted low-grade Au-pyrite mineralisation—Boda - Solar Fault footwall	701–703
Volcanic hosted low-grade Au-pyrite mineralisation—Boda2-3 - Moonlight Fault footwall	704–705
Volcanic hosted low-grade Au-pyrite mineralisation—Boda2-3 - Reids Fault footwall	706–707
Volcanic hosted low-grade Au-Cu mineralisation—Boda - Moonlight Fault footwall	801–804
Late-mineral monzonite dykes	901–904
Late dykes of various composition	999

All Boda wireframes were built by Alkane geologists and reviewed and verified by the QP author.

14.3.2 Kaiser

The Kaiser deposit is located within a northwest-southeast trending structural corridor on a significant magnetic high with approximately 800 m x 700 m dimensions named the Kaiser Intrusive Complex. The mineralisation is hosted within a package of submarine basaltic to andesitic lavas. The volcanic sequence is intruded by monzodiorite-monzonite units and related magmatic-hydrothermal breccias. The deposit is crosscut by several post-mineralisation dykes and sills of varying composition.

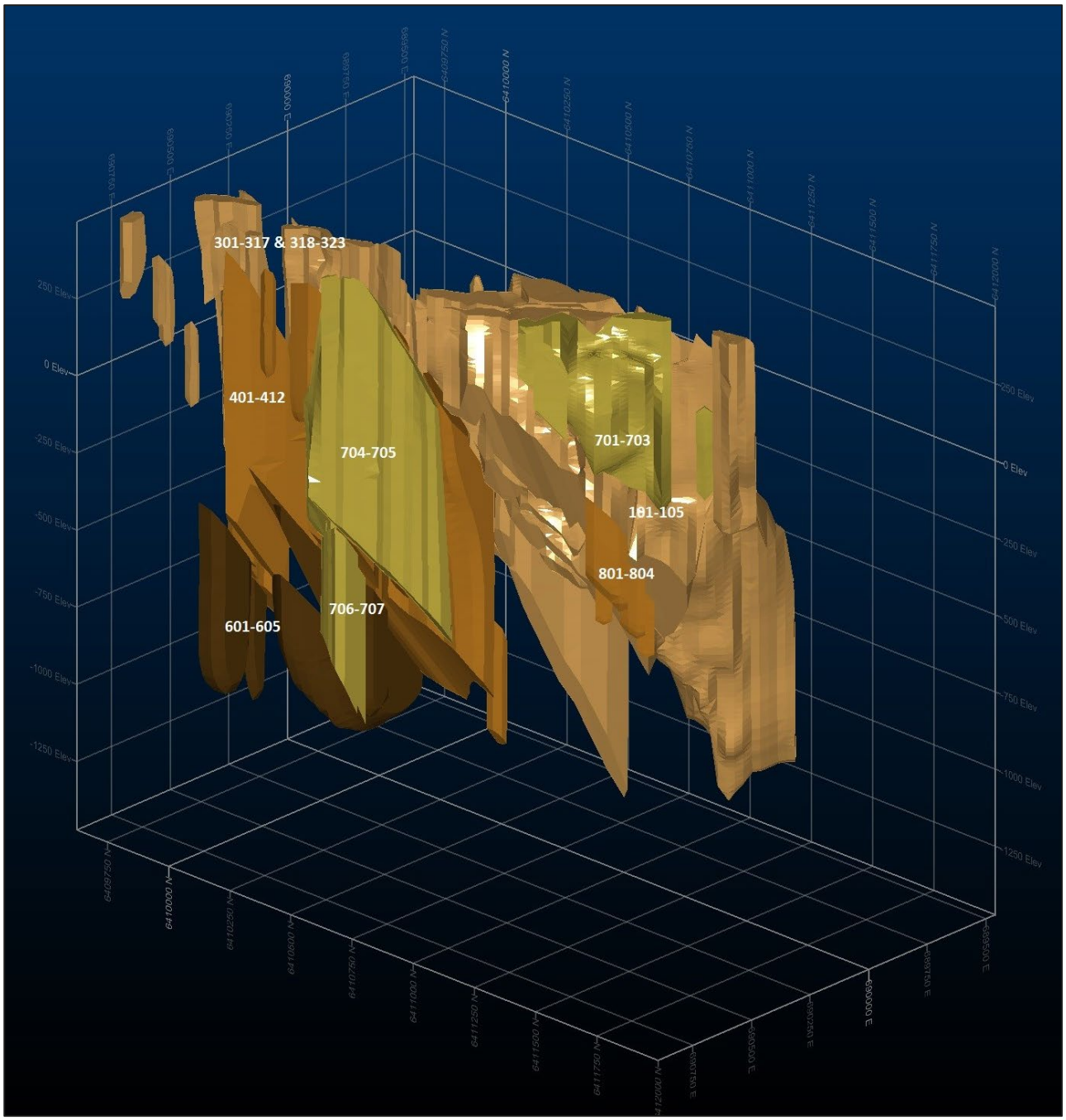

Figure 14-1 Boda modelled mineralised domains—looking to the southwest

Source: Alkane

Intrusive- to magmatic-hydrothermal breccias are the focus of Kaiser's calc-potassic alteration and gold-copper mineralisation. The mineralisation is related to a series of northwest trending monzodiorite-monzonite intrusions manifesting as a series of vertically extensive intrusive breccias forming a stock central to the Kaiser Intrusive Complex. These intrusive magmatic breccias transition to hydrothermal breccias to which the highest gold-copper grades are related. The majority of brecciation is in the form of a "crackle breccia" that can either have a hydrothermal matrix, usually comprising of calcite ± actinolite ± pyrite ± magnetite ± chalcopyrite or an igneous matrix.

There is negligible post-mineralisation cover on the Kaiser deposit. Weathering and oxidation of the mineralised bedrock extends on average approximately 15 m from the surface. The Kaiser Fault zone is associated with minor supergene copper forming as native copper. The native

copper zones can extend hundreds of metres down the Kaiser Fault and can permeate up to 50 m away from the structure.

Two significant reverse faults bound and dislocate the central zone of calc-potassic mineralisation at Kaiser. The Kaiser Fault dips east and thrusts the deeper Kaiser Main zone over the Kaiser West zone of mineralisation. The Solar Fault dips west and thrusts the Kaiser Main zone over the Kaiser East zone.

The faults, surface, and base of oxidation were modelled in 3D and formed the basis of wireframing the mineralisation to constrain the MRE. Mineralisation wireframes were constructed using a nominal 0.2 g/t AuEq lower cut-off grade.

Mineralisation wireframes were constrained by two fault wireframes for the resource modelling. Two surfaces were also used to separate material types—topography and base of oxidation surfaces.

All Kaiser wireframes were built by Alkane geologists and reviewed and verified by the QP author.

The wireframes and lode codes are summarised in Table 14-2. Mineralised domains are shown in Figure 14-2.

Table 14-2 Kaiser wireframe summary

Domains	Lode codes
Volcanic hosted Au-pyrite mineralisation - Solar Fault footwall	101–102
Volcanic-hosted Au-Cu mineralisation - Solar Fault footwall	201–211
Volcanic hosted Au-Cu mineralisation - Kaiser Zone	301–319
Volcanic-hosted Au-Cu mineralisation - Kaiser Fault footwall	401–417
Volcanic hosted Au-pyrite mineralisation - Kaiser Zone	601–609

A drillhole location plan with the interpreted geological features and surface expression of the resource outline (0.3 g/t AuEq cut-off) is presented in Figure 7-3.

14.4 Topography

A site digital terrain model was derived from an airborne drone LiDAR (light detection and ranging) survey and checked using accurate (±0.1 m) surveyed hole collar positions by licenced surveyors.

14.5 Statistical Analysis

14.5.1 Boda

Sample data was composited into 1 m downhole lengths using a best fit methodology.

Exploratory data analysis of the capped and declustered composited gold and copper variables within each domain was undertaken by Cube Consulting with separate variograms for each metal and for each domain being produced using Datamine/Snowden Supervisor software.

A review of grade outliers was undertaken by Cube Consulting to ensure that extreme grades are treated appropriately during grade interpolation. Although extreme grade outliers within the grade populations of variables are real, they are potentially not representative of the volume they inform during estimation. If these values are not cut, they have the potential to result in significant grade overestimation on a local basis.

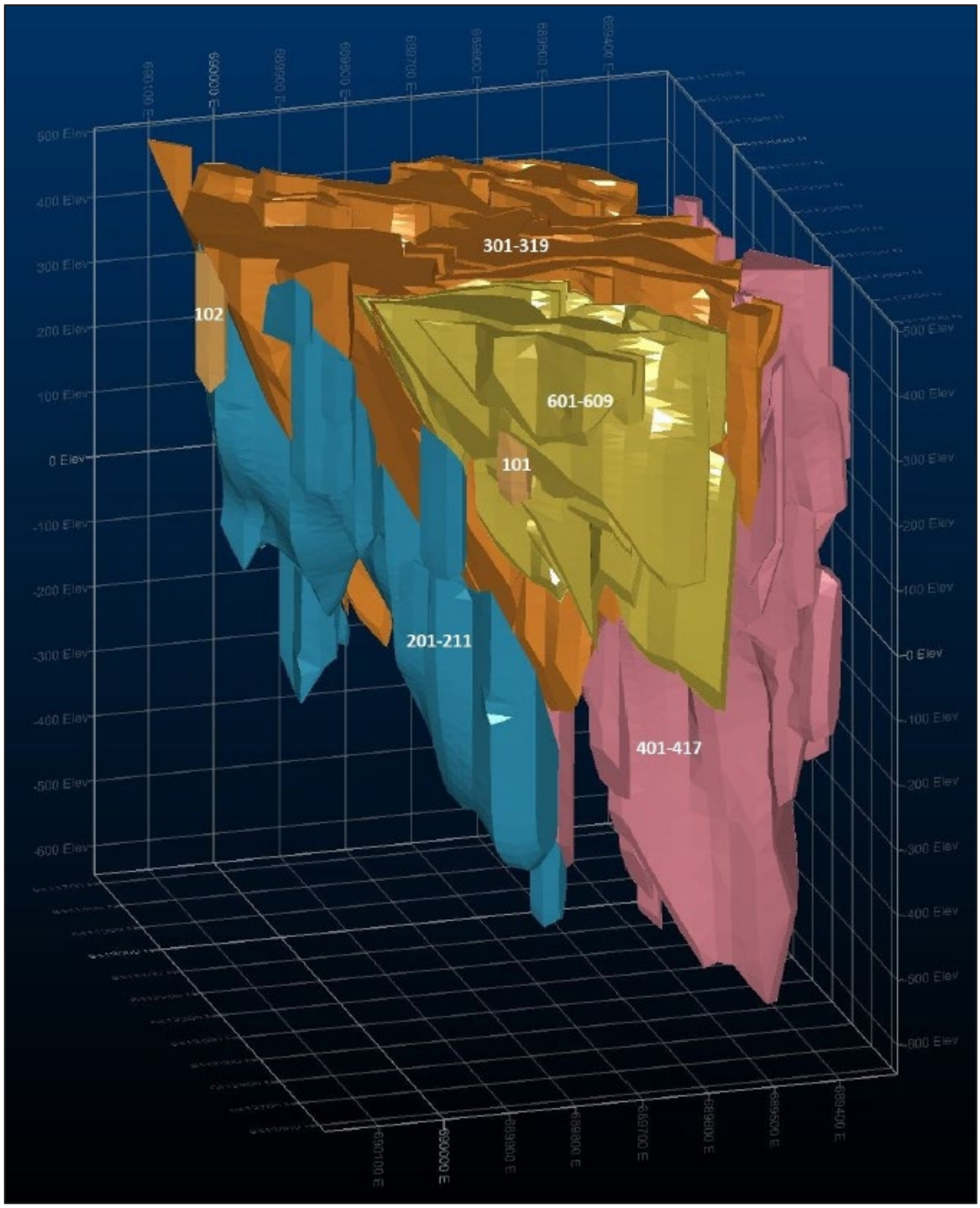

Figure 14-2 Kaiser modelled mineralised domains—looking to the south-southwest

Source: Alkane

A top cut analysis was carried out by a visual inspection of the data using histograms, log-transformed probability plots, mean and variance plots and sensitivity analysis for individual domains to identify population outliers. The spatial location of the outliers was also taken into consideration for the application of the top cuts. The sensitivity analysis involved analysing varying cut values, to estimate the contribution of each sample to the overall metal content. Top cutting was deemed necessary for some of the domains. The selected gold top cuts varied from 1 g/t to 20 g/t (depending on domain statistics), while copper top cuts varied from 200 ppm to 70,000 ppm.

14.5.2 Kaiser

Sample data was composited into 1 m downhole lengths using a best fit methodology.

Exploratory data analysis of the capped and declustered composited gold and copper variables within each domain was undertaken by Cube Consulting with separate variograms for each metal and for each domain being produced using Datamine/Snowden Supervisor software.

A top cut analysis was carried out by a visual inspection of the data using histograms, log-transformed probability plots, mean and variance plots and sensitivity analysis for individual domains to identify population outliers. The spatial location of the outliers was also taken into consideration for the application of the top cuts. The sensitivity analysis involved analysing varying cut values, to estimate the contribution of each sample to the overall metal content. Top cutting was deemed necessary for most of the domains. The selected gold top cuts varied from 0.5 g/t to 10 g/t (depending on domain statistics), while copper top cuts varied from 4,000 ppm to 30,000 ppm.

14.6 Variables

Gold and copper are the economic variables which were estimated into the Boda and Kaiser block models. No other chemical constituents were estimated.

14.7 Geostatistical Analysis

Variograms were modelled for gold and copper to support the use of geostatistical interpolation methods.

The variogram modelling process was undertaken using Datamine Supervisor software and consisted of the following steps:

- Calculate and model the omni-directional or downhole variogram to characterise the Nugget Effect.
- Systematically calculate orientated variograms in three dimensions to identify the plane of greatest continuity.
- Calculate a fan of variograms within the plane of greatest continuity to identify the direction of maximum continuity within the plane. Model variograms in the direction of maximum continuity and the orthogonal directions.

Variography was undertaken on the 1 m top cut composites. The Normal Score transformed variogram was back-transformed to provide the final variogram model to be used for grade interpolation.

Variograms were modelled for the domains with the most samples for the dominant mineralisation styles within each domain group. Variogram modelling for the more sparsely sampled domains was deemed difficult and not considered appropriate for use, as the number of composite samples was limited. For those domains where no variogram model was produced, appropriate substitutions were recommended based on statistical similarity. Poorly informed domains such as those defined by a single drillhole were assigned the average grade of the composites within the domain.

For Boda, key observations for the variograms were as follows:

- Low-to-moderate nuggets ranging from 30% to 47% of the total variance for gold and 15% to 28% for copper
- Gold and copper have effective ranges of approximately 40–60 m.

For Kaiser, key observations for the variograms were as follows:

- generally high nuggets for gold, ranging from 30% to 56% of the total variance

- low nuggets for copper, ranging between 12% and 31% of the total variance
- gold and copper have effective ranges of approximately 40–60 m.

Cube Consulting carried out kriging neighbourhood analysis on several test areas within the domains to determine the optimal parent block size and number of informing samples for estimation. Test estimates were run in Datamine Supervisor software. Kriging efficiency, slope of regression and number and sum of negative weights were calculated and reviewed. Block sizes should reflect the sample spacing and orientation and a parent block size of 25 m(E) x 25 m(N) x 10 m(RL) was identified as appropriate for Boda and Kaiser.

Using the 25 m(E) x 25 m(N) x 10 m(RL) parent block, a second test was run to look at the impact of changing the number of informing samples. Based on the analysis of multiple domains a minimum of 10 and a maximum of 22 (Boda) and 20 (Kaiser) samples were selected for the estimation.

14.8 Block Modelling

14.8.1 Boda

Block modelling was undertaken using Datamine software. The block model used a parent cell size of 25 m (E) x 25 m (N) x 10 m (RL) with sub-celling to 5 m (E) x 5 (m) N x 5 m (RL) to maintain appropriate resolution at the surface boundaries. The block model parameters and attributes shown in Table 14-3.

Table 14-3 Block model summary

Parameter	X	Y	Z
Parent block size	25 m	25 m	10 m
Sub-block	5 m	5 m	5 m
Rotation	48, 0, 0 (Datamine 3, 1, 2 axis rotation convention)		
Primary attributes			
ZONE	Domain Code		
SURFACE	Set to 1 to area above base of oxidation		
MINEQP	Set to 1 within open pit and 2 outside open pit		
Au_ppm	Estimated gold grade		
Cu_ppm	Estimated copper grade		
Aueq_ppm	Gold equivalent grade		
CATEGORY	1 = Measured, 2 = Indicated, 3 = Inferred, 4 = Unclassified.		
DENSITY	Assigned (dry) bulk density.		

14.8.2 Kaiser

Block modelling was undertaken using Datamine software. The block model used a parent cell size of 25 m(E) x 25 m(N) x 10 m(RL) with sub-celling to 5 m(E) x 5 (m)N x 5 m(RL) to maintain appropriate resolution at the surface boundaries. The block model parameters and attributes shown in Table 14-4.

Table 14-4 Block model summary

Parameter	X	Y	Z
Parent block size	25 m	25 m	10 m
Sub-block	5 m	5 m	5 m
Rotation	48, 0, 0 (Datamine 3, 1, 2 axis rotation convention)		
Primary attributes			
ZONE	Domain Code		
MINE	Set to 1 within open pit and 2 outside open pit		
Au_ppm	Estimated gold grade		
Cu_ppm	Estimated copper grade		
Aueq_ppm	Gold equivalent grade		
CATEGORY	1 = Measured, 2 = Indicated, 3 = Inferred, 4 = Unclassified.		
DENSITY	Assigned (dry) bulk density.		

14.9 Grade Interpolation

14.9.1 Boda

The drillhole data was flagged by dolerite, monzonite, gold mineralised and gold-copper mineralised domain wireframes in priority order, to prevent double use the data in the intersecting zones. The low-grade mineralised zones of greater than 0.2 g/t AuEq and high-grade zones of greater than 1.2 g/t AuEq were wireframed and the samples within their respective zones were flagged to prevent any overestimation that could be caused by use of assays outside these boundaries.

Blocks were informed by a minimum of 10 and a maximum of 22 composited samples, with an initial search ellipse using a major axis of 70–130 m, with various semi and minor axis ratios depending on the metal and domain being estimated. To inform any remaining blocks, a second pass search radius was made at double the first pass and five times for a third pass. The model was rotated to best align the block dimensions with interpreted mineralisation.

Distance limiting of high grades via an aggressive top cut was used during the estimation process on domains that had evidence for higher grade samples having a greater spatial influence than warranted. This results in the higher grades being more locally representative and having less of an influence over distance.

Density was averaged for each domain and assigned individually. Grade estimation was completed using OK. All wireframing and estimation was completed with Datamine Studio RM.

The correlation between gold and copper was considered moderate for most domains and the variables were estimated separately.

14.9.2 Kaiser

The drillhole data was flagged by the domain wireframes in priority order, to prevent double use of the data in any intersecting and overprinting zones.

The mineralised zones of greater than 0.2 g/t AuEq were wireframed and constrained to the Kaiser Fault, Solar Fault and topography surfaces. The samples within their respective zones were flagged to prevent any overestimation that could be caused by use of assays outside these boundaries.

Blocks were informed by a minimum of 10 and a maximum of 20 composited (1 m) samples, with an initial search ellipse using various major (40–100 m), semi and minor axis ratios depending on the metal and domain being estimated. To inform any remaining blocks, a second

pass search radius was made at double the first pass and five times for a third pass. The model was rotated to best align the block dimensions with interpreted mineralisation.

Distance limiting of 25 m of high grades via an aggressive top cut was used during the estimation process on domains that had evidence for higher grade samples having a greater spatial influence than warranted. This resulted in higher grades being more locally representative and having less of an influence over distance.

Density was averaged for each domain and assigned individually. Grade estimation was completed using OK, with Nearest Neighbour adopted for poorly informed domains. All wireframing and estimation was completed with Datamine Studio RM.

The correlation between gold and copper was considered moderate for most domains and the variables were estimated separately.

14.9.3 Block Model Validation

Validation of the modelling parameters and processes of estimation included visual inspections in section, plan and in 3D; and comparisons of previous iterations vs the final OK model were made. Comparisons were also made with the maiden resource model.

14.10 Bulk Density Assignment

14.10.1 Boda

Specific gravity measurements were made approximately every 20 m in most diamond core drillholes with the samples selected for measurement being approximately 25 cm long. The core sample was weighted in air and then submerged in water enabling the specific gravity of the sample to be calculated. The average specific gravity value for each domain can be seen in Table 14-5.

Table 14-5 Boda density summary

Domain	Density (g/cm^3)
Oxide	2.00
101-105	2.85
201-203	2.94
301-317 and 319-323	2.84
401-412	2.85
500	2.86
601-605	2.86
701-707	2.83
801-804	2.86
901-904	2.72

14.10.2 Kaiser

Specific gravity measurements were made approximately every 20 m in most diamond core drillholes with the samples selected for measurement being approximately 25 cm long. The core sample was weighted in air and then submerged in water enabling the specific gravity of the sample to be calculated. The average specific gravity value for each domain can be seen in Table 14-6.

Table 14-6 Kaiser specific gravity summary

Domain	Density (g/cm^3)
Oxide	2.00
101-102	2.84
201-211	2.89
301-319	2.82
401-416	2.89
500	2.87
601-609	2.88

14.11 Open-Pit and Underground Optimisation

14.11.1 Boda

In order to meet the criteria for RPEEE, a notional pit shell design was used to determine potential open-cut Mineral Resources, with a cut-off grade of 0.3 g/t AuEq adopted within the shell.

The QP author also completed an MSO study to constrain the underground Mineral Resources beneath the pit shell. A level spacing of 30 m and a minimum stope strike length of 25 m was used. The MSO shapes were based on a 0.4 g/t AuEq cut-off grade, which was deemed appropriate for bulk underground mining methods.

Gold equivalents have been calculated using the formula:

- AuEq (g/t) = Au (g/t) + Cu%/100*31.1035*copper price($/t)/gold price($/oz).

The prices used were based on a 12-month average of US$1,950/oz gold and US$8,600/t copper, and an exchange rate of A$:US$0.67. Recoveries are estimated as 87% for copper and 81% for gold from metallurgical studies.

14.11.2 Kaiser

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Gold equivalents have been calculated using the formula:

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The prices used were based on a 12-month average of US$1,950/oz gold and US$8,600/t copper, and an exchange rate of A$:US$0.67. Recoveries are estimated as 87% for copper and 71% for gold from metallurgical studies.

14.12 Mineral Resource Classification

14.12.1 Boda

Mineral Resources were classified as Inferred Mineral Resources or Indicated Mineral Resources to appropriately represent confidence and risk with respect to data quality, drillhole spacing, geological and grade continuity, mineralisation volumes, as well as metal distribution. There is no material classified as Measured.

Indicated Mineral Resources were defined where a high level of geological confidence in geometry, continuity and grade, was demonstrated, and were identified as areas where:

- Drill spacing was averaging below 60 m, or where drilling was within 60 m of the block estimate
- Estimation quality is of high confidence in respect to low kriging variance
- Blocks are informed by a first pass search.

The remaining estimated blocks within the defined mineralisation domains were classified as Inferred Resources (this included most blocks in the less well-informed domains and all blocks in the poorly informed domains). The dimensions of the search ellipse were based on the recommended search neighbourhood parameters.

14.12.2 Kaiser

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- estimation quality is of high confidence in respect to low kriging variance
- blocks are informed by a first pass search.

The remaining estimated blocks within the defined mineralisation domains were classified as Inferred Resources (this included most blocks in the less well-informed domains and all blocks in the poorly informed domains). The dimensions of the search ellipse were based on the recommended search neighbourhood parameters.

The Mineral Resource classification applied for the Boda and Kaiser deposits is shown in Figure 14-3.

14.13 Mineral Resource Reporting

14.13.1 Mineral Resource Estimate

The Boda and Kaiser MREs are summarised in Table 14-7 and Table 14-8 respectively, with an effective date of 6 June 2025. No dilution or recovery factors have been applied to the MREs.

14.13.2 Factors that May Affect the Mineral Resource

The Mineral Resource may be affected by a change in cut-off grade which is be significantly affected by the variable costs and prevailing economic environment.

14.14 Risk and Uncertainties

The MRE could be affected by environmental liabilities and permits which may affect access, title or the right or the ability to perform work on the Project.

A change in the global economic and financial environment may also affect the mining cost and revenue assumptions and in turn affect the reported Mineral Resources, positively or negatively.

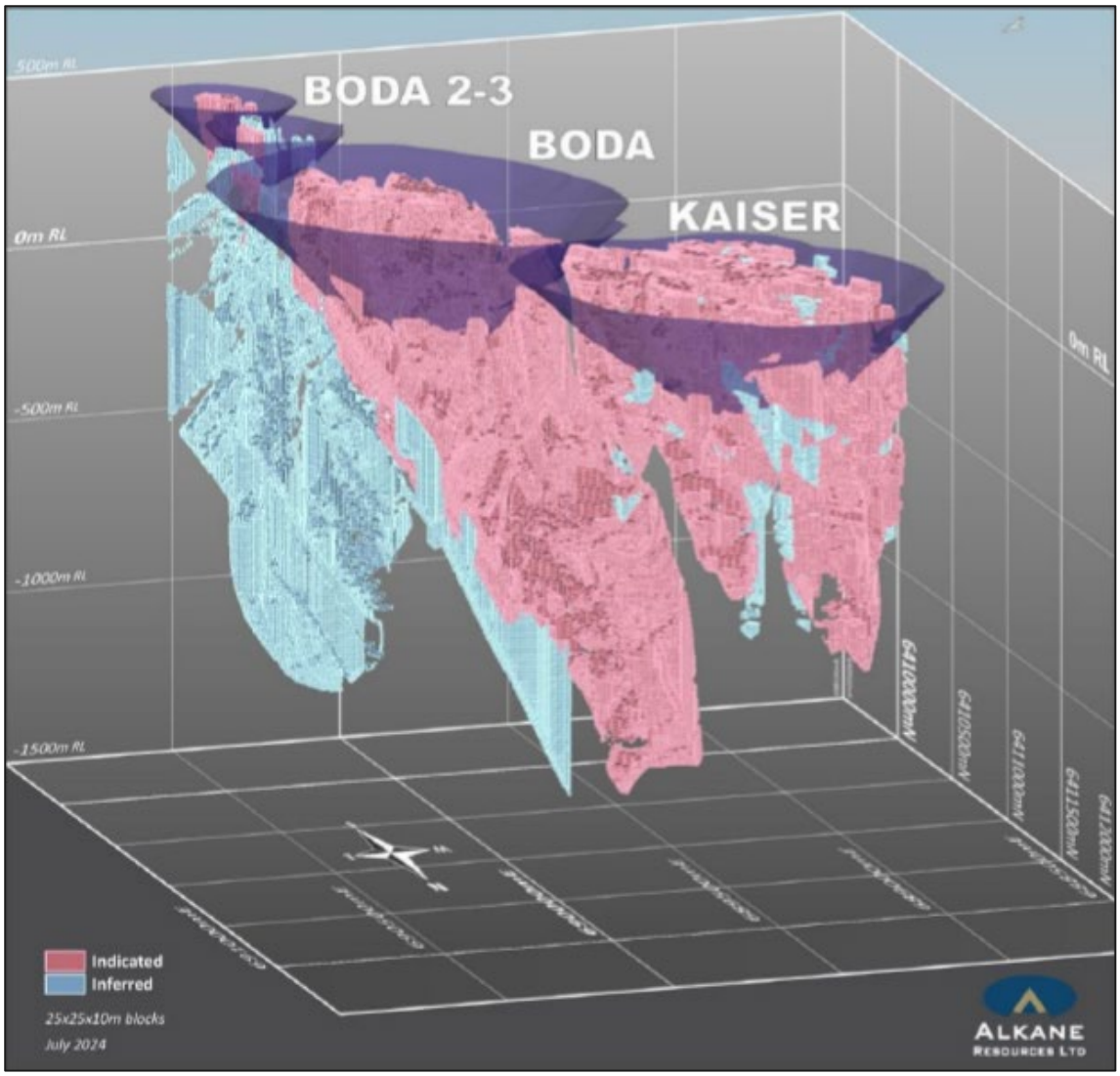


Figure 14-3 Mineral Resource classification—Boda and Kaiser deposits

Source: Alkane

14.15 Audits and Reviews

Internal audits were completed by the QP author which verified the technical inputs, methodology, parameters and results of the estimates.

Table 14-7 MRE for the Boda deposit (effective date of 6 June 2025)

Mineral Resource category	AuEq cut-off (g/t)	Tonnage (Mt)	Au (g/t)	Cu (%)	AuEq (g/t)	Au (Moz)	Cu (Mt)	AuEq (Moz)
Open pit Mineral Resources (>0.3 g/t AuEq)								
Indicated	0.3	191	0.36	0.17	0.59	2.22	0.32	3.63
Subtotal	**0.3**	**191**	**0.36**	**0.17**	**0.59**	**2.22**	**0.32**	**3.63**
Inferred	0.3	42	0.29	0.16	0.51	0.38	0.07	0.69
Underground Mineral Resources (>0.4 g/t AuEq)								
Indicated	0.4	142	0.33	0.19	0.60	1.53	0.28	2.56
Subtotal	0.4	142	0.33	0.19	0.60	1.53	0.28	2.56
Inferred	0.4	198	0.33	0.17	0.56	2.07	0.34	3.57

Notes:

- Tonnage and grade have been rounded to reflect the relative accuracy of the MRE.
- Open pit Mineral Resources are constrained within an optimised pit shell. Underground Mineral Resources below the open pit shell are constrainedwithin MSO shapes.
- AuEq(g/t) = Au(g/t) + Cu%/100*31.1035*copper price (US$8,600/t)/gold price (US$1,950/oz).
- The Mineral Resource is classified in accordance with the guidelines of the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014).
- The QP authors are not aware of any current environmental, permitting, legal, title, taxation, socioeconomic, marketing or political factors that might materially affect these MREs.
- The Mineral Resource is effective as of 6 June 2025.

Table 14-8 MRE for the Kaiser deposit (effective date of 6 June 2025)

Mineral Resource category	AuEq cut-off (g/t)	Tonnage (Mt)	Au (g/t)	Cu (%)	AuEq (g/t)	Au (Moz)	Cu (Mt)	AuEq (Moz)
Open pit Mineral Resources (>0.3 g/t AuEq)								
Indicated	0.3	179	0.27	0.20	0.54	1.56	0.35	3.12
Subtotal	**0.3**	**179**	**0.27**	**0.20**	**0.54**	**1.56**	**0.35**	**3.12**
Inferred	0.3	10	0.29	0.14	0.48	0.10	0.01	0.16
Underground Mineral Resources (>0.4 g/t AuEq)								
Indicated	0.4	17	0.29	0.20	0.56	0.16	0.03	0.30
Subtotal	**0.4**	**17**	**0.29**	**0.20**	**0.56**	**0.16**	**0.03**	**0.30**
Inferred	0.4	2	0.26	0.18	0.51	0.14	0.00	0.03

Notes:

- Tonnage and grade have been rounded to reflect the relative accuracy of the MRE.
- Open pit Mineral Resources are constrained within an optimised pit shell. Underground Mineral Resources below the open pit shell are constrained within MSO shapes.
- AuEq(g/t) = Au(g/t) + Cu%/100*31.1035*copper price (US$8,600/t)/gold price (US$1,950/oz).
- The Mineral Resource is classified in accordance with the guidelines of the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014).
- The QP authors are not aware of any current environmental, permitting, legal, title, taxation, socioeconomic, marketing or political factors that might materially affect these MREs.
- The Mineral Resource is effective as of 6 June 2025.

15 MINERAL RESERVE ESTIMATES

There are no Mineral Reserve estimates for the Boda-Kaiser Project.

16 MINING METHODS

Alkane completed a PEA (or Scoping Study) on the Boda-Kaiser Project in July 2024. This study has been reviewed and verified by the QP authors.

The conceptual mining study evaluated three production scenarios and included an underground mine. The production, from both deposits, was based on the open pit mining method with conventional truck and shovel equipment.

16.1.1 Boda-Kaiser Project Overview

The Boda-Kaiser Project represents a gold-copper porphyry system in central west NSW, conceptually able to support a potentially profitable bulk-tonnage mining and processing operation. Alkane has conducted a preliminary, conceptual-level evaluation of three potential development scenarios, each based on varying production rates to assess the Project's economic viability and maximise economies of scale:

- Scenario 1: The mining and processing of 20 Mtpa.
  - This is the most ambitious scenario, potentially delivering the highest value due to substantial economies of scale.
- Scenario 2: The mining and processing of 10 Mtpa.
  - This mid-sized option is potentially feasible; it presents strong economic potential and can serve as:
    - a phased development pathway towards a larger operation, or
    - a standalone project, particularly in an environment with rising gold and copper prices.
- Scenario 3: The mining and processing of 5 Mtpa.
  - At current metal prices, this smaller-scale scenario falls short of meeting Alkane's investment return thresholds and is not viable.

The underground mining strategy contemplated in the conceptual study was longhole open stoping, which aligns with Alkane's operational experience at Tomingley Gold Operations. Recognising the critical role of high throughput in optimising project economics, further studies will be carried out to explore alternative bulk mining methods, such as sublevel caving, to enhance efficiency and scalability.

16.2 Open Pit Mining

As conceptualised in the scoping study, open cut extraction would utilise standard industry practices, beginning with pattern drilling and controlled blasting operations to achieve optimal rock fragmentation. The broken ore would be loaded and transported to the ROM pad using standard mining equipment, where it will undergo primary crushing as the first stage in the mineral processing sequence. This proven methodology provides reliable ore feed to the comminution circuit while maintaining operational efficiency. Preliminary economic analysis indicates the 20 Mtpa operation could potentially deliver superior value through optimised scale efficiencies. The intermediate 10 Mtpa option demonstrates potentially viable economics, offering flexibility as an initial phase for expanded operations or as an independent venture should precious metal markets strengthen. Current market conditions suggest the 5 Mtpa alternative would struggle to achieve minimum return thresholds.

The ultimate development pathway selection will involve a comprehensive evaluation of multiple considerations, including:

- environmental monitoring outcomes
- commodity price forecasts
- infrastructure needs

- community engagement results
- exploration data
- potential joint venture opportunities
- alternative financing structures.

The mining approach considered in the conceptual study incorporates phased open cut operations at both Boda and Kaiser deposits, complemented by underground extraction at Boda. Cost projections incorporate scaled adjustments from Tomingley Gold Operations' actual operating expenses to reflect Boda-Kaiser's anticipated production levels.

16.3 Underground Mining

The preliminary underground mining study proposes longhole open stoping, building on Alkane's successful implementation of this method at their Tomingley operations. However, the assumed mining cost of A$80/t made the underground mining sub-economic.

The economic advantages of high-volume, low cost, production was recognised and subsequent studies will assess alternative bulk mining techniques, particularly block caving and sublevel caving, to potentially enhance operational efficiency.

16.4 Mine Design

As contemplated in the scoping study, the Boda-Kaiser Project incorporates a dual mining approach, combining optimised open pit operations with strategic underground extraction to maximise resource recovery. The conceptual mine design reflects Alkane's operational experience while adapting to the unique geological characteristics of this gold-copper porphyry system.

16.5 Open Pit Design Approach

The conceptual open pit designs were developed using Whittle optimisation shells with preliminary production scheduling. The operational model assumes direct ownership and operation of mining equipment, with potential supplementary dry-hire arrangements as needed.

A standardised equipment fleet has been specified for all conceptual scenarios, featuring:

- 600-tonne hydraulic excavators
- 200-tonne haul trucks.

The mining bench configuration utilises:

- 10 m bench heights
- 5 m flitch cuts.

Given the scale and homogeneous nature of the deposit, ore loss and dilution have been modelled at 0% for this preliminary assessment. Both the Boda and Kaiser pits feature minimal overburden, with less than 20 m of waste cover to remove before exposing ore-grade material suitable for direct ROM feed.

16.6 Underground Mine Design Extraction Strategy

Alkane conducted conceptual underground mining studies based on its operational experience at the Tomingley mine. The analysis incorporated the following key assumptions:

- Equipment and ownership model: Owner-operated, financed equipment.
- Access: Portal entry from either the Boda or Kaiser pit (scenario-dependent).
- Mining method: Paste-filled longhole open stoping.

- Performance estimates:
  - mining dilution: 15–18%
  - ore recovery: 82–92% (varies by mining sequence location).

Alternative underground methods, such as sublevel caving, were not evaluated in this scoping study but will be assessed in future studies.

The scenarios considered were designed to provide Alkane and potential investors with a clear understanding of potentially viable development pathways. As the Project advances, further analysis will consider:

- the integration of open cut and underground mining
- selection of optimal underground mining methods
- processing rates and associated capital requirements.

16.7 Mining Schedule

Alkane conducted the conceptual open cut mining and underground studies internally, drawing on the Company's experience in mining at Tomingley.

Alkane has conducted a preliminary evaluation of three conceptual development scenarios; each based on varying production rates to assess the Project's economic viability and maximise economies of scale:

16.7.1 Scenario 1: 20 Mtpa

The open pit operations (Figure 16-1, Figure 16-2) would follow a phased development approach:

- Initial mining would begin at the Kaiser deposit
- Boda open pit operations commence in Year 3
- Total open pit mining duration: 13 years
- Ore stockpiles would support four additional years of processing
- Final open pit depths: ~550 m.

Underground development would proceed concurrently:

- Year 2: Portal construction begins at Kaiser to access Boda's underground resources
- Year 3: Underground production ramps up to 1 Mtpa following a one-year development period
- mine life: 5 years
- maximum depth: Approximately 840 m below the surface.

16.7.2 Scenario 2: 10 Mtpa

The open pit operations would follow a phased development approach (Figure 16-3):

- Initial mining operations would begin at the Boda deposit
- Kaiser open pit operations commence in Year 3
- Total planned open pit mining duration: 20 years
- Strategic ore stockpiling would support six additional years of processing
- Final designed pit depths: approximately 450 m.

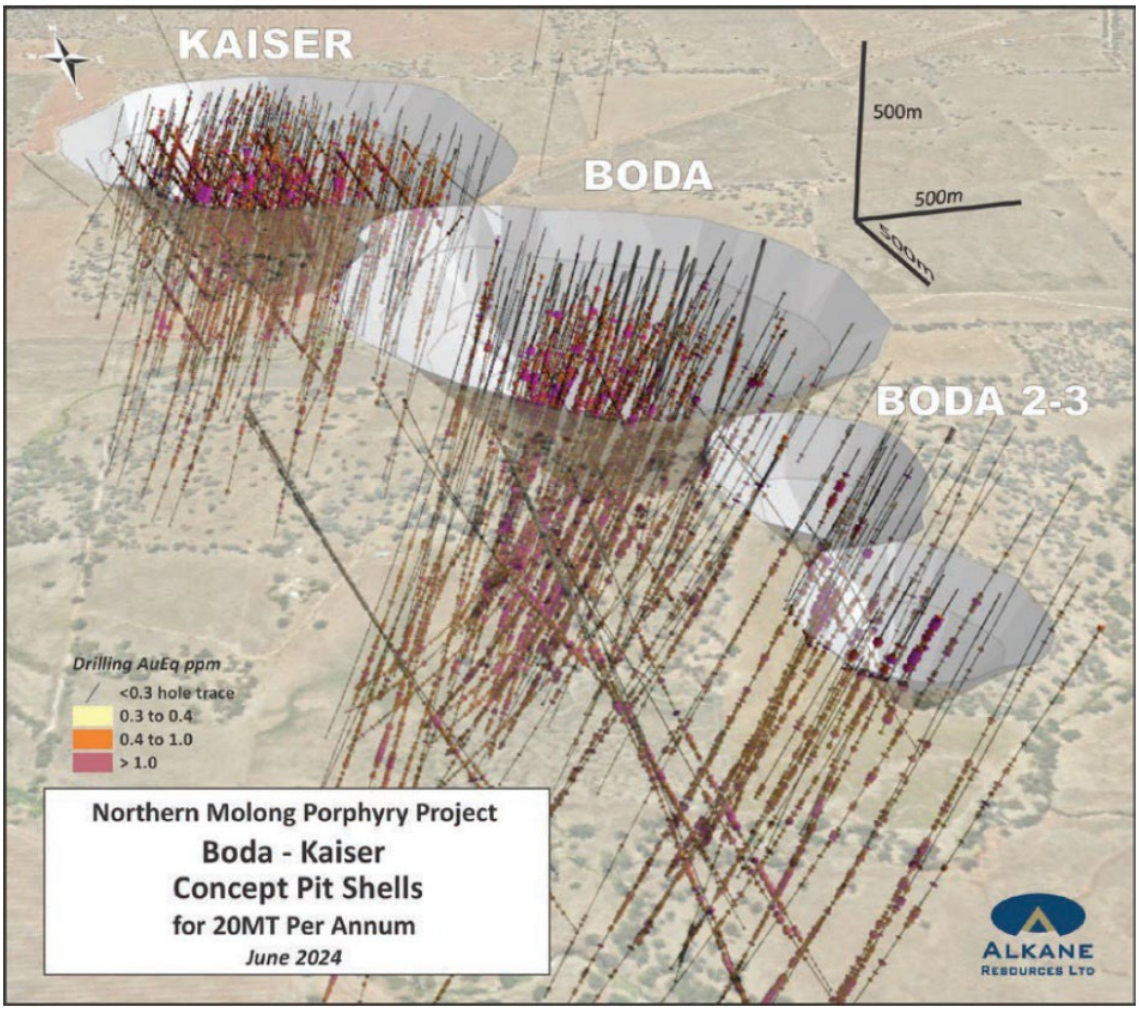


Figure 16-1 Conceptual pit outlines for 20 Mtpa

Source: Boda-Kaiser Scoping Study, ASX release, 10 July 2024

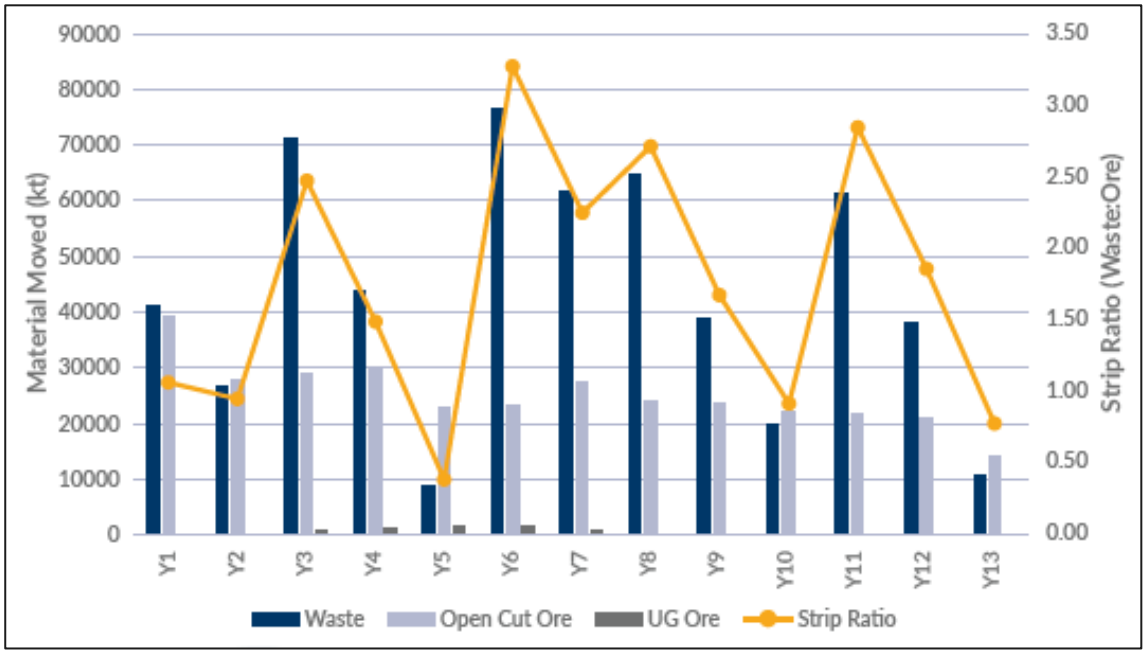


Figure 16-2 Conceptual annual mining schedule for 20 Mtpa

Source: Boda-Kaiser Scoping Study, ASX release, 10 July 2024

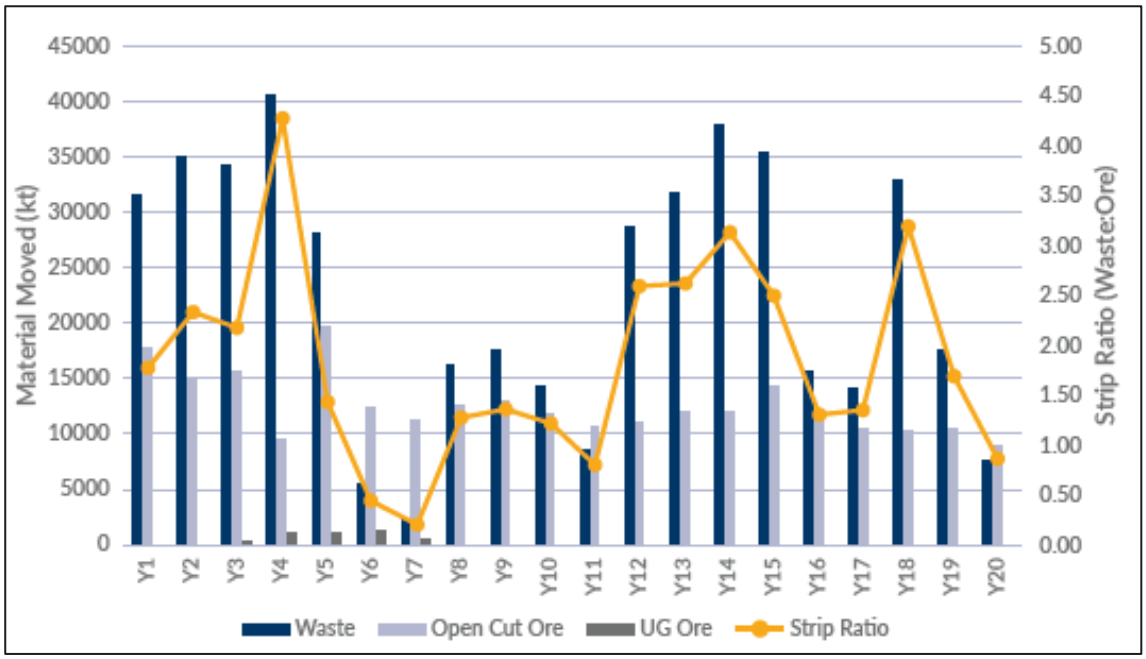


Figure 16-3 Conceptual annual mining schedule for 10 Mtpa

Source: Boda-Kaiser Scoping Study, ASX release, 10 July 2024

Concurrent underground development would include:

- Year 2: Initiation of portal construction at Boda to access underground resources
- Year 3: Underground production ramp-up to 1 Mtpa following 12-month development period
- projected underground mine life: 5 years
- maximum development depth: ~840 m below surface.

16.7.3 Scenario 3: 5 Mtpa

The open pit operations would be developed in multiple phases, with initial mining activities commencing at the Boda deposit. The Kaiser open pit is scheduled to begin operations in Year 3 as part of a conceptual 20-year mining campaign (Figure 16-4).

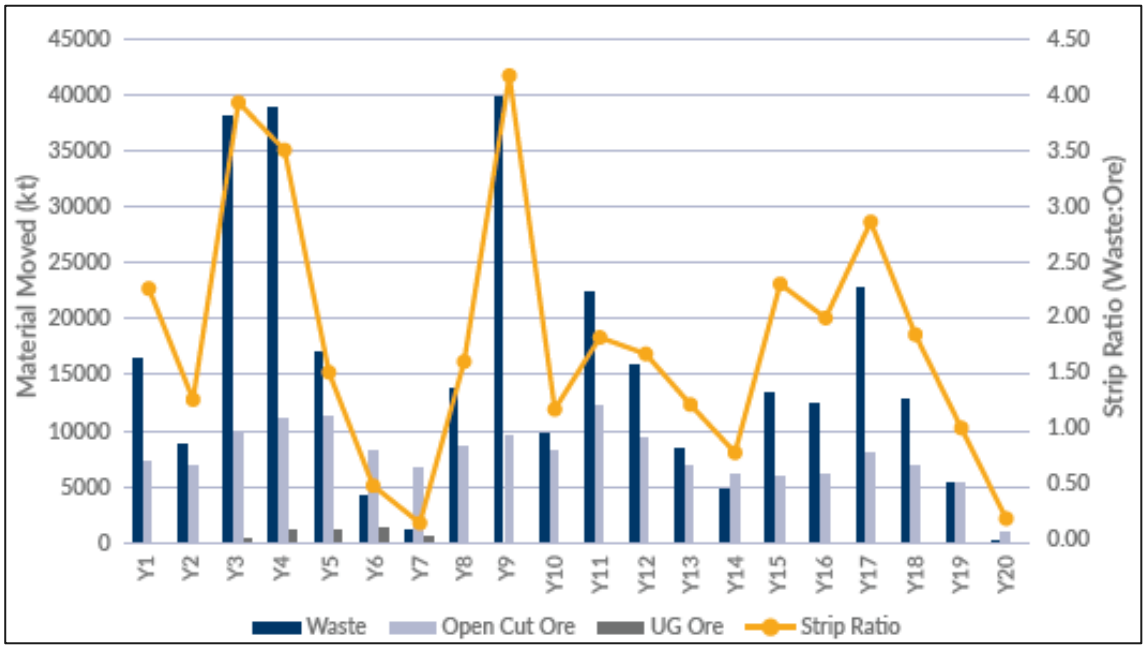


Figure 16-4 Conceptual annual mining schedule for 5 Mtpa scenario

Source: Boda-Kaiser Scoping Study, ASX release, 10 July 2024

Key features of the open pit development include:

- Stockpile management: Sufficient ore would be stockpiled to support an additional 10 years of processing beyond the active mining period.
- Final pit configuration: Upon completion, the open pits would reach a maximum depth of approximately 370 m.

Underground Mining Development

Complementing the surface operations, underground mining would be implemented through:

- portal development: Construction of the Boda underground access portal to begin in Year 2
- production ramp-up: Following a 12-month development period, underground operations would achieve a steady-state production rate of 1 Mtpa
- mine life and depth: The conceptual underground operation has an anticipated five-year lifespan, with development expected to extend to approximately 840 m below surface

This integrated surface and underground mining approach has been conceptualised to optimise resource extraction while maintaining operational flexibility throughout the Project lifecycle.

16.8 Mining Equipment

The conceptual open pit mining studies have been based on an owner-operated dry-hire model utilising 600-tonne excavators paired with 200-tonne haul trucks. Given the large, uniform nature of porphyry orebodies, the operation is particularly well-suited for implementing automated mining equipment. Such technological solutions could potentially reduce unit mining costs and will be assessed during future detailed studies.

17 RECOVERY METHODS

The preliminary metallurgical study carried out on Kaiser indicates that a flowsheet of conventional crushing, grinding and flotation circuits can produce a saleable concentrate. Additional processing of tailings via cyanide leaching can increase recovery of gold and copper to produce gold doré and a copper precipitate. Testing in respect to the copper precipitate has not yet occurred.

The overall recovery for Boda has been estimated at 87% of copper and 81% of gold in the plant feed to a saleable concentrate.

The overall recovery for Kaiser is estimated at 80% of copper and 71% of gold in the plant feed to saleable concentrate.

A design basis of 82% copper and 75% gold total has been utilised in the Scoping Study.

18 PROJECT INFRASTRUCTURE

The Project is currently at a Scoping Study level, aimed at assessing potential outcomes related to mining and economic development. Currently, no infrastructure construction has started.

18.1 Site Access and Roads

The Project area is connected to the nearby town of Wellington by mostly sealed road of 20 km. Alkane anticipates that some sections of the road will require upgrading or sealing. Alkane expects that the road and potentially rail, networks will be used for deliveries and concentrate transport. An allowance has been made in the capital estimate based on Alkane's experience upgrading roads in NSW.

18.2 Power

Installed plant and mine power requirements are estimated to be approximately 25 MW for the 5 Mtpa rate and 80 MW for the 20 Mtpa rate. Alkane intends to meet this power requirement from the NSW grid. A new 132 kV transmission line will likely be required to site. The connection point will be determined in later feasibility studies. An allowance has been made in the capital estimate, based on Alkane's experience with installation of powerlines in NSW.

The Boda-Kaiser Project is located in the Central West Renewable Energy Zone, which has several major solar and wind power projects under development; these are changing the power infrastructure landscape in the area. The already operating Bodangora Wind Farm is located immediately adjacent to the Project, with an estimated four turbines potentially needing to be relocated for the development. Relocation discussions will occur in later feasibility stages as the project layout is selected.

18.3 Water Supply

Water requirements for the site are estimated to be approximately 2 GL per year for the 5 Mtpa rate and 7 GL per year for the 20 Mtpa rate. The residue storage facility preliminary designs seek to maximise water recycling, and the annual rainfall highly influences off-site water requirements.

The required operational and construction water has several potential sources that are being evaluated. These include water access licences in the Macquarie-Cudgegong System, the Lachlan Fold Belt fractured rock aquifer, and potential piping from saline water sources to the east of the project area. An allowance has been made for bores and water pipelines in the capital estimate, based on Alkane's experience with the installation of water supply pipelines in NSW.

18.4 Site Buildings and Infrastructure

Project site buildings will be used by personnel working on operational, logistics and administrative tasks and the servicing and repair of plant and machinery. The buildings include:

- main administration building
- dispersed satellite crib and toilet facilities
- laboratory
- change-house and laundry
- processing plant control room building
- stores warehouse
- product store
- maintenance workshop.

The site will also require a bitumen or similar road network for reagent and stores delivery, as well as the efficient movement of maintenance vehicles.

Across the Project area, the NSW government has a rail easement for a rail line that was never completed. Partial construction of the Gulgong to Maryvale section of the Sandy Hollow line occurred in 1937 to 1951. Discussions for the potential relocation of this easement will occur in later feasibility stages as the Project layout is selected.

19 MARKET STUDIES AND CONTRACTS

Based on preliminary technical and economic studies, a long-term gold price of A$3,500/oz and copper price of A$15,000/t were used in the analysis (Table 19-1). These were selected by Alkane as suitable estimates based on current spot prices. Sensitivities to price and cost assumptions are shown in Figure 22-2 (Section 22 of this Report).

Table 19-1 Long-term price assumptions

Summary of Financial Outcomes (real terms, 2024 Australian dollars)

		5Mtpa	10Mtpa	20Mtpa
Economic Assumptions				
Copper	A$/t	15,000	15,000	15,000
	A$/lb	6.80	6.80	6.80
Gold	A$/oz	3,500	3,500	3,500

Payment terms for the concentrate have been estimated at 96.5% payable on copper in concentrate and 97.5% on gold in concentrate. The treatment costs are estimated at US$50 per dry metric tonne of concentrate, and refining charges are estimated at US$0.05 per pound of payable copper. No penalties for deleterious elements have been included.

Based on the PEA/scoping study, Alkane has been examining the viability of developing the Boda-Kaiser Project by constructing an open cut and underground mine(s) and processing facility to produce copper-gold concentrate for export and gold doré for domestic refining and sale.

As this is only at scoping study level, Alkane does not provide any specific details about existing sales contracts held for the Boda-Kaiser Project, and there is no indication of finalised or active sales agreements.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

20.1 Environmental Studies

Baseline environmental studies for the Boda-Kaiser Project commenced data collection in 2024 to inform an environmental impact statement. The studies are assessing the three proposed processing scenarios and include meteorological conditions, flora and fauna, surface and ground water, soils and land use capability, visual amenity, transport, noise, air quality and Aboriginal and European heritage. Typically, at least two years of baseline data is collected prior to impact assessment (Alkane, 2024a).

The potential impacts on agricultural land, some of which has been mapped as Biophysical Strategic Agricultural Land (BSAL) will also be assessed. Part 2.4 (Divisions 2–4) of *State Environmental Planning Policy (Resources and Energy) 2021* establishes the requirements for certificates to be applied for/addressed prior to the submission of an SSD application, in cases where BSAL would be affected (Alkane, 2024a).

20.2 Permitting

Upon Alkane making a development application for Boda-Kaiser, it will be assessed as an NSW State Significant Development (SSD). All SSD projects require development consent from either the Independent Planning Commission or the Minister (or their delegate) before they may proceed. Although SSD projects may require approvals under other legislation—in addition to development consent—they all go through an integrated assessment under the *Environmental Planning and Assessment Act 1979* before these approvals may be granted. At this stage, no development application has been lodged (Alkane, 2024a).

20.3 Community Engagement

Wellington is the closest town to the Boda-Kaiser Project. It could benefit from any development with Alkane potentially sourcing some skilled personnel for jobs and local industrial services.

Throughout the exploration phase, Alkane has consulted with immediately affected farmers in-person and with the wider district via community events and regular newsletters launched in May 2023. Alkane has participated in, and sponsored, community activities in the immediate Wellington area for several years (Alkane, 2024a).

21 CAPITAL AND OPERATING COSTS

Note that these preliminary cost estimates are based on the conceptual studies completed in the PEA (Scoping Study) completed by Alkane in July 2024, reviewed and verified by the QP authors.

21.1 Capital Estimate

Capital expenditure (capex) for the three scenarios is shown below. The initial capital cost establishes the open cut mines, infrastructure and processing facility. Additional capex is required to establish the underground mine, with the development start depending on the scenario. Sustaining capex has been estimated at a baseline 1% of the processing plant capital; underground and potential lifts of the residue storage facility walls are additional. The process facility has been conducted on a scoping basis with 20 Mtpa as the base case at (±30%), 10 Mtpa (±35%) and 5 Mtpa (±35–40%) (Table 21-1).

Table 21-1 Boda-Kaiser initial capital estimate (2024, A$ million)

	5 Mtpa	10 Mtpa	20 Mtpa
Processing facility			
Process plant	299	509	815
Site non-process infrastructure	27	31	31
Construction indirects	145	220	293
Spares and first fills	10	17	27
Growth margin	52	84	127
Subtotal	**533**	**861**	**1,293**
Non-processing costs			
Property, biodiversity and rehabilitation	80	95	105
Roads and power	33	33	33
Water pipeline and licences	26	32	45
Residue storage facility	90	110	133
Mining infrastructure	10	14	16
Owner's team costs	25	30	35
Subtotal	**264**	**314**	**367**
Contingency	60	87	123
TOTAL	**857**	**1,262**	**1,783**

Source: Boda-Kaiser Scoping Study, ASX release, 10 July 2024

21.2 Operating Cost Estimate

The preliminary estimated All-In Sustaining Cost (AISC) of the 20 Mtpa scenario of A$630 per gold ounce, after copper by-product credit, would place the Boda-Kaiser Project in the bottom quartile of costs for Australian gold producers, if realised.

Estimated operating costs for the three scenarios are summarised in Table 21-2.

Table 21-2 Boda-Kaiser operating costs (2024, A$)

Operating costs		5 Mtpa	10 Mtpa	20 Mtpa
Mining costs				
Open cut	A$/t total material	3.3	3.3	3.3
Open cut	A$/t ore mined	9.6	9.2	9
Underground	A$/t ore mined	80	80	80
Processing costs				
Power	A$/t milled	4.7	3.7	3.3
Maintenance	A$/t milled	2.2	1.8	1.4
Consumables	A$/t milled	4.5	4.3	4.1
Labour	A$/t milled	2.5	1.4	0.8
Other	A$/t milled	0.8	0.5	0.4
G&A (full site)	A$/t milled	1.9	1.1	0.6
Total processing	**A$/t milled**	**16.6**	**12.8**	**10.6**

Source: Boda-Kaiser Scoping Study, ASX release, 10 July 2024

22 ECONOMIC ANALYSIS

Note that this preliminary economic analysis is based on conceptual studies completed in the PEA (Scoping Study) completed by Alkane in July 2024 and reviewed and verified by the QP authors. The PEA is based only on Mineral Resources that are not Mineral Reserves and do not have demonstrated economic viability. Economic analysis of the project, however, is considered to provide a means of assessing potential project development concepts.

A summary of the financial modelling results is shown in Table 22-1.

Table 22-1 Summary of the financial analysis (A$/Real terms)

		Unit	5 Mtpa Base	10 Mtpa Base	20 Mtpa Base
Economic assumptions	Copper	A$/t	15,000	15,000	15,000
		A$/lb	6.80	6.80	6.80
	Gold	US$/oz	3,500	3,500	3,500
Operating parameters	Throughput		5,000	10,000	20,000
	Initial Project LOM	years	30	26	17
	Total ore processed	Mt	150	251	323
	Average copper grade	%	0.20	0.17	0.15
	Average gold grade	g/t	0.32	0.28	0.26
	Average copper recovery		83.7%	83.7%	83.5%
	Average gold recovery		76.4%	76.5%	76.3%
Production	Total CuEq produced	t	527,412	750,482	893,760
	Total copper	t	250,947	347,505	413,733
	Total AuEq produced	oz	2,260,659	3,216,809	3,830,948
	Total gold produced	oz	1,185,017	1,727,289	2,057,553
	Annual AuEq production LOM average	oz	75,355	123,723	225,350
	Copper production (years 1-5)	t	11,603	17,808	35,611
	Gold production (years 1-5)	oz	61,088	95,354	159,334
Capital	Pre-production	A$ M	856.8	1,262.8	1,782.5
	Post-production	A$ M	206.1	232.3	223.2
	Total	**A$ M**	**1,062.9**	**1,495.1**	**2,005.7**
Operating costs	AISC (gold equivalent)	A$/oz	2,073.9	1,984.3	1,901.8
	AISC (by-product credit basis)	A$/oz	891.0	783.4	630.4
	Total opex cost per tonne milled	A$/t milled	28.8	23.4	20.6
	Processing	A$/t milled	16.6	12.8	10.6
	Open pit mining cost	A$/t ore mined	9.6	9.2	9.0
	Underground mining cost	A$/t ore mined	80.0	80.0	80.0
Financials	Pre-tax NPV7%		473.2	1,034.7	1,808.5
	Pre-tax IRR		13.1%	16.9%	24.0%
	Pre-tax NPV/Start-up capital		0.6	0.8	1.0
	Capital payback period (pre-tax)	years	7	6	4
	Post-tax NPV7%		229	581	1,070
	Post-tax IRR		10.2%	13.0%	17.5%
	Capital payback period (post-tax)	years	8	7	5
	LOM average annual free cashflow	A $M	73.6	130.8	257.4
	LOM operating cashflow	A$ M	2,413.3	3,632.9	4,598.9
	First 10 years free cash (excl. year 0 capex)	A$ M	1,033.9	1,861.7	3,388.0

A long-term gold price of A$3,500/oz and copper price of A$15,000/t were used in the analysis. These were selected by Alkane as suitable estimates based upon current spot prices.

The payment terms for the concentrate have been projected at 96.5% for copper and 97.5% for gold. Treatment costs are anticipated to be US$50 per dry metric tonne of concentrate, while refining charges are estimated at US$0.05 per pound of payable copper. It is important to note that no penalties for deleterious elements have been factored into these estimates. The financial model begins at a nominal year zero and employs a real discount rate of 7%. Additionally, no discounting has been applied to the period between the date of this study and the anticipated construction date.

The financial model encompassing the proposed three production scenarios (5 Mtpa, 10 Mtpa, and 20 Mtpa) over their respective life of mine (LOM) period indicates a cumulative net (notional pre-tax) cashflow of A$1.9 billion, A$3.1 billion, and A$3.7 billion, respectively. This information is illustrated in Figure 22-1.

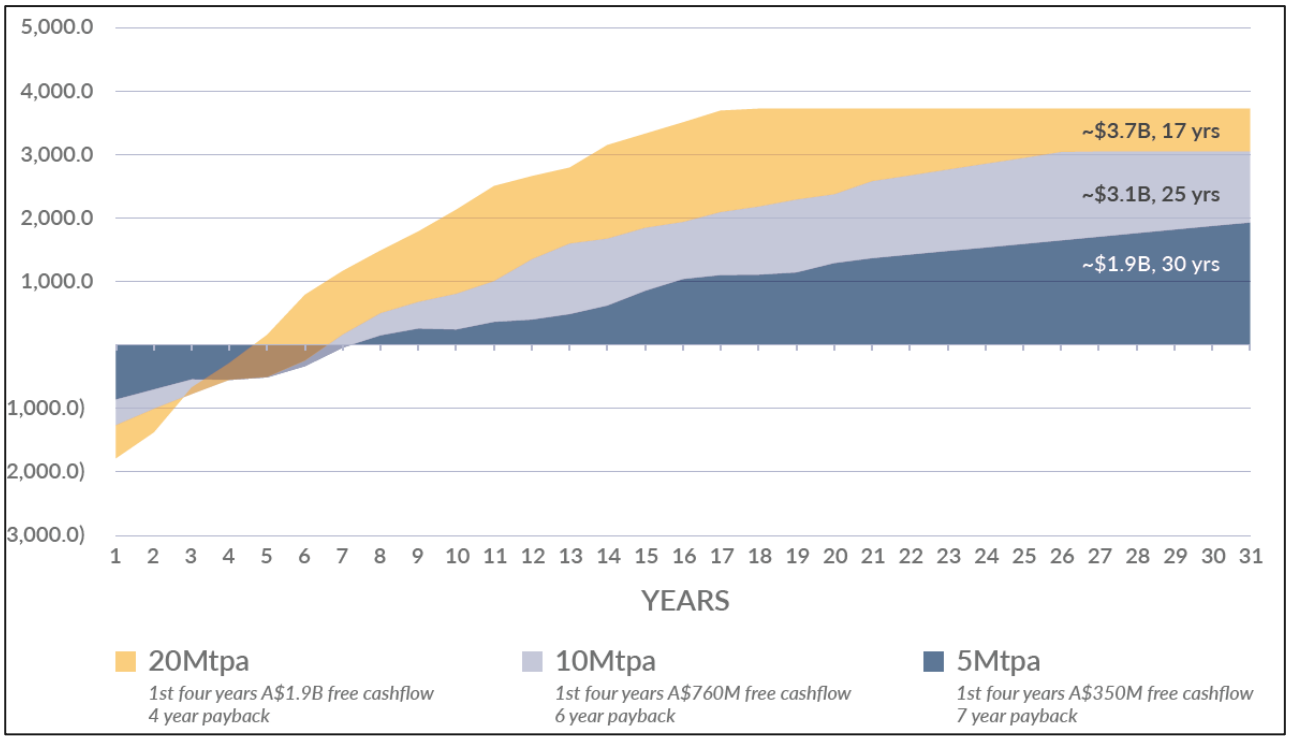


Figure 22-1 Cumulative cashflow before tax (A$ million)

22.1 Principal Assumptions

In calculating the costs and financial returns, the following principal assumptions were made:

- Metal prices of A$3,500/oz for gold and A$15,000/t for copper are projected to remain consistent throughout the life of the mine across all three scenarios.
- The exchange rate is kept constant at US$:A$ 0.67.
- The cashflow modelling uses a discount rate of 7% (real terms), and no discounting has been applied to the time between the date of this study and a future construction date.
- All metal prices and costs are maintained at a constant level throughout the LOM across the three scenarios.
- Recognising the advantages of high throughput for project economics, future studies will assess the feasibility of sublevel caving or comparable bulk-tonnage underground methodologies.
- The operating costs for both open pit and underground operations could not be assessed in detail and are currently presented as estimates at the scoping study level. Similarly,

processing costs have not undergone a detailed review and are also based on scoping study estimates. Additionally, other operating costs remain unexamined in detail and are classified as estimates at the scoping study level.

The potential financial impact of changes to some of the key assumptions or projections are shown in Figure 22-2.

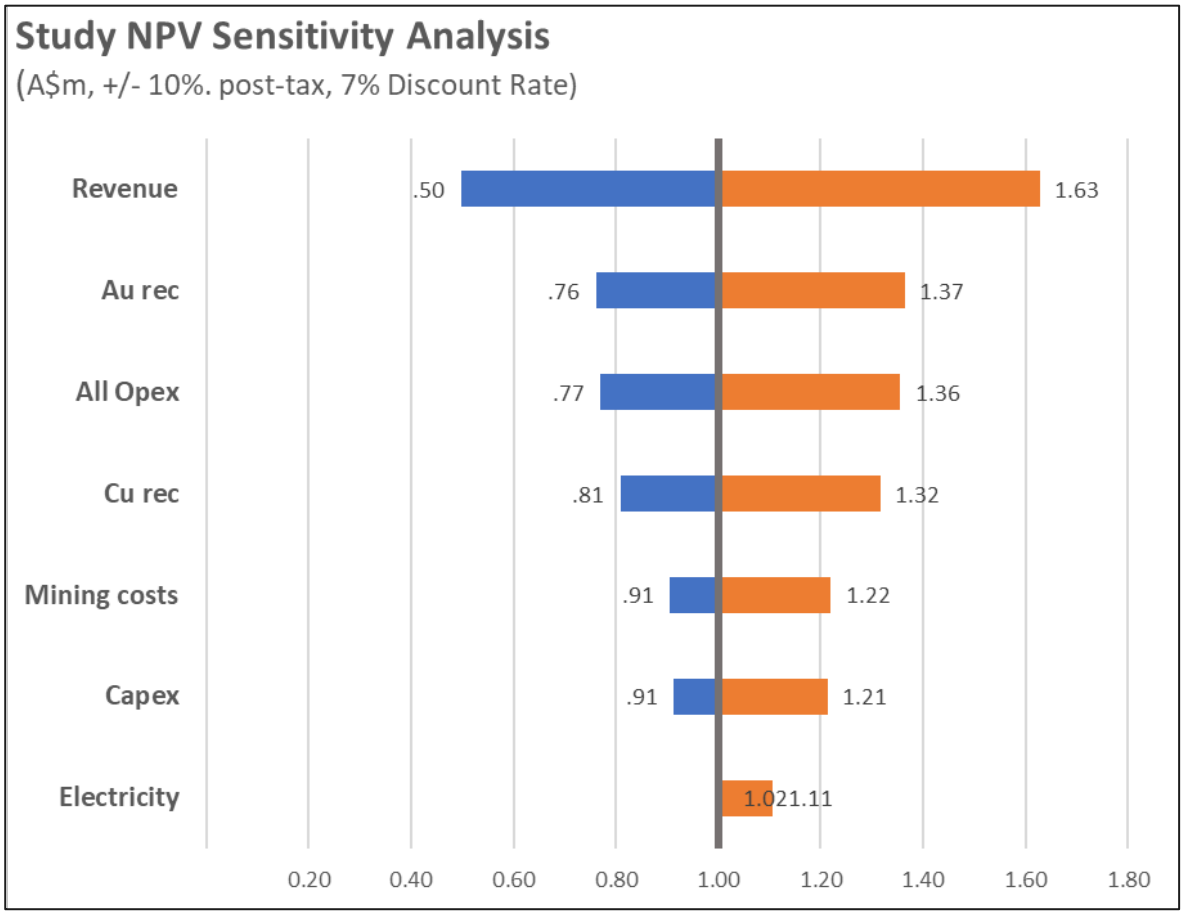


Figure 22-2 Scenario 3 sensitivity analysis—20 Mtpa

The greatest positive effect on the net present value (NPV) is change in the revenue (gold price), followed by gold recovery and operation costs.

23 ADJACENT PROPERTIES

The Boda-Kaiser Copper-Gold Project forms part of Alkane's NMPP in the Orana region of NSW, Australia (Figure 23-1).

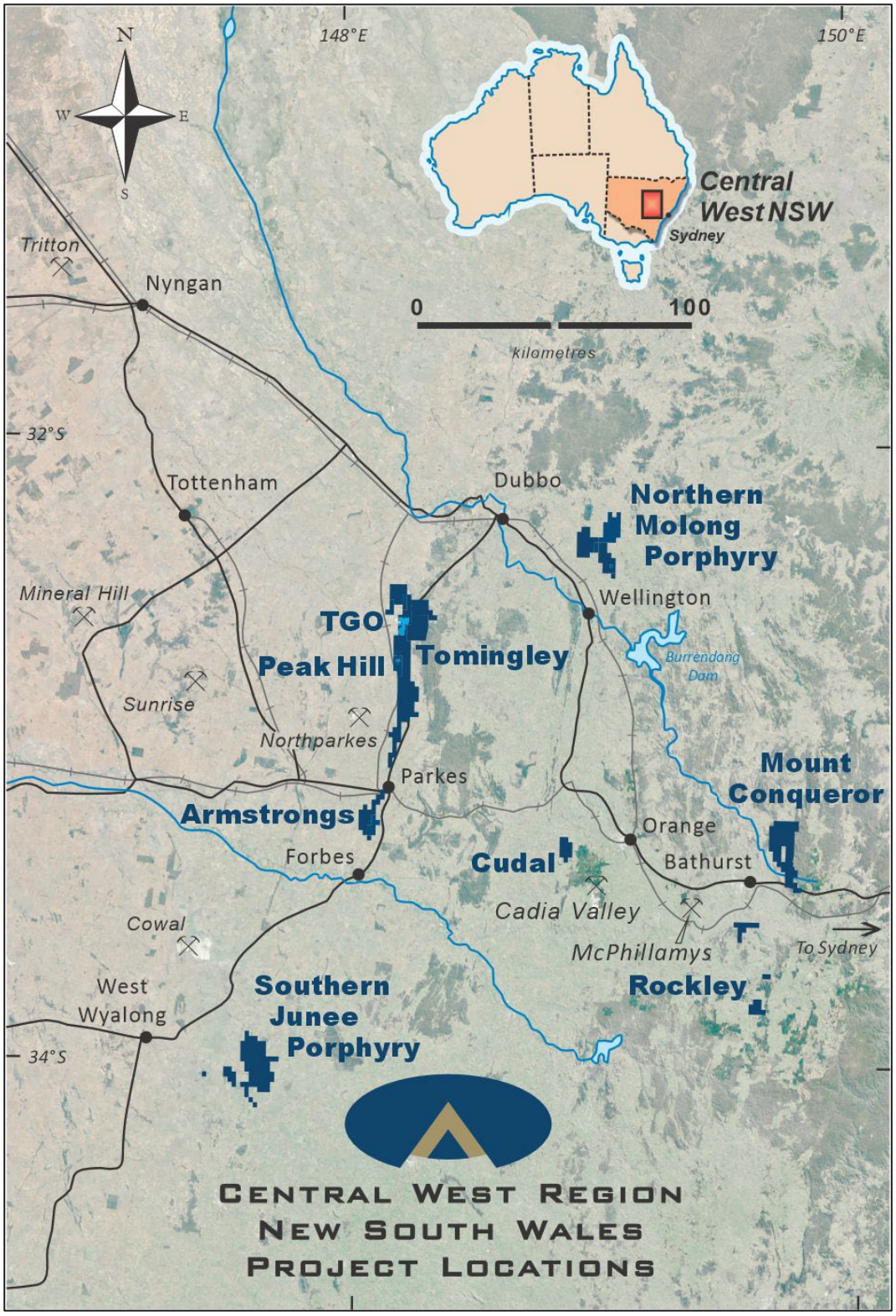


Figure 23-1 Adjacent properties

Source: Alkane

Alkane's Tomingley Project, comprising the Tomingley Gold Operations (Tomingley or TGO); the Roswell, San Antonio and McLeans deposits (Tomingley Gold Extension Project or TGEP); and the Peak Hill Gold Mine (PHGM), is adjacent to the Boda-Kaiser Project.

Alkane's Tomingley Gold Project covers an area of approximately 440 km^2, stretching 60 km north–south along the Newell Highway in central west NSW. The prospective belt extends from near the village of Tomingley in the north, through Peak Hill and almost to Parkes in the south.

Tomingley Gold Operations is a junior open cut and underground operation wholly owned by Alkane. Mining is based on the Wyoming One, Wyoming Three, Caloma One, Caloma Two and (since April 2024) Roswell deposits.

The original project was approved to end-2025, based on four gold deposits: Caloma One, Caloma Two, Wyoming One and Wyoming Three. Alkane began with open cut mining and the first gold pour occurred in early 2014, with underground mining commenced in 2019. These resources have together yielded more than 500,000 ounces of gold.

As part of the TGEP, Alkane is extending gold mining operations at Tomingley to include the San Antonio and Roswell resources immediately south of the existing mine. The project will involve open cut and underground mining.

The project involves development of an underground mine at Roswell (commenced April 2024) and one large open cut pit. The LOM plan shows production of at least another 750,000 ounces, and a potential annual production rate of 100,000 ounces in 2025. Underground mining of ore at Roswell commenced in April 2024. The development utilises the exploration drive extending from the Wyoming One underground operation.

The SAR open cut will combine the adjacent San Antonio and Roswell deposits, with up to three sub-pits.

Alkane's Peak Hill Gold Mine, 15 km south of Tomingley, operated from 1996 to 2005. While the site is substantially rehabilitated, it remains an active mining lease with an environment protection licence in place.

24 OTHER RELEVANT DATA AND INFORMATION

There is no additional information or explanation necessary to make the Report understandable and not misleading.

25 INTERPRETATION AND CONCLUSIONS

25.1 Interpretations

This Report discloses a current MRE for the Boda and Kaiser deposits, based upon RC and diamond drillhole samples.

Statistical assessment of the data was completed to understand how the estimate should be accomplished. A 1 m composite length was selected following statistical analysis. A top cut analysis was carried out by a visual inspection of the data using histograms, log-transformed probability plots, mean and variance plots and sensitivity analysis for individual domains to identify population outliers. The spatial location of the outliers was also taken into consideration for the application of the top cuts. The sensitivity analysis involved analysing varying cut values, to estimate the contribution of each sample to the overall metal content. Top cutting was deemed necessary for some of the domains.

Geological modelling was undertaken using Datamine software.

Variograms were modelled using 1 m composites for gold and copper to support the use of geostatistical interpolation methods. The variogram modelling process was undertaken using Datamine Supervisor software.

Kriging neighbourhood analysis was carried out on several test areas within the domains to determine the optimal parent block size and number of informing samples for estimation. A parent block size of 25 m(E) x 25 m(N) x 10 m(RL) was identified as appropriate for Boda and Kaiser, with sub-celling to 5 m(E) x 5 (m)N x 5 m(RL) to maintain appropriate resolution at the surface boundaries. Based on the analysis of multiple domains a minimum of 10 and a maximum of 22 (Boda) and 20 (Kaiser) samples were selected for the estimation.

Gold and copper were estimated into the Boda and Kaiser block models using OK. No other chemical constituents were estimated. Density measurements were averaged for each domain and assigned to the block model individually.

Validation of the modelling parameters and processes of estimation included visual inspections in section, plan and in 3D; and comparisons of previous iterations vs the final OK model were made.

The MRE is classified in the Indicated and Inferred resource categories using the CIM Definition Standards (May 2014) based upon confidence and risk with respect to data quality, drillhole spacing, geological and grade continuity, mineralisation volumes, as well as metal distribution.

A notional pit shell design was used to determine potential open cut Mineral Resources, with a cut-off grade of 0.3 g/t AuEq adopted within the shell. Mineral Resources below the shell adopted a 0.4 g/t AuEq cut-off for a potential bulk underground mining method, with the reported Mineral Resources constrained within MSO shapes. Gold equivalents have been calculated using the formula:

- AuEq (g/t) = Au (g/t) + Cu%/100*31.1035*copper price($/t)/gold price($/oz).

The prices used were based on a 12-month average of US$1,950/oz gold and US$8,600/t copper, and an exchange rate of A$:US$0.67.

The Project's Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability

25.1.1 Significant Risks and Opportunities

Mineral Resource Estimate

The MRE combines data which has been collected with margins of error. The Mineral Resource is not a calculation and is referred to as an estimate due to the margins of error inherent in the input data. The Mineral Resource classification categories appropriately convey the risks for the various volumes representing the mineralisation domains.

The MRE is classified according to levels of risk (Indicated and Inferred). The highest levels of risk are in the Inferred Mineral Resources, and the risks can be reduced by additional drilling and associated geological and metallurgical studies, after the inclusion of their results in any future MREs.

The interpretations and conclusions reached in this Report are based on current geological understanding and the data available to the QP author as of the effective date of this Report. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however, high these probabilities might be, they make no claim for absolute certainty. Any economic decisions which might be taken based on interpretations or conclusions contained in this report will therefore carry an element of risk.

The current Mineral Resource classification appropriately reflects the QP author's confidence in the data provided for the Boda and Kaiser deposits.

The QP author is of the opinion that despite the risks and uncertainties noted above, there are no foreseeable impacts from these risks and uncertainties to the potential economic viability or continued viability of the Project.

25.2 Conclusions

During the site visit to the Boda-Kaiser Project location, it was noted that all drill locations had been rehabilitated and all drill collars buried in compliance with rehabilitation requirements, leaving no surface expression to field check drillhole locations.

A reasonably high level of confidence can be placed in the location of data points. The QP author considers modern drilling data point locations as accurate and reliable.

Sample collection, sample preparation, sample logging and analytical techniques are considered acceptable techniques using current industry standards.

The QC results suggest there are no issues of significance associated with the sampling and sample analyses. Based on an assessment of the data, the QP author is of the opinion the sample preparation, security and analytical procedures are adequate for the purposes of generating MREs for the Project, with assaying posing minimal risk to the overall confidence level of the MRE.

In the opinion of the QP authors, all processes and procedures around processing of drill core and chips, core logging procedures and data capture into a dedicated database, sampling and QAQC and sample handling and transport security of samples are consistent, systematic and carried out in accordance with industry best practice.

The QP authors are of the opinion that the drillhole database and all underlying technical data is accurate and adequate for the purposes of generating MREs for the Project.

The QP author is of the opinion that there are reasonable prospects for eventual economic extraction for the Mineral Resources reported herein. The Mineral Resource is reported within an optimised open pit shell using appropriate commodity prices, mining and processing costs and mining recoveries. The MRE is also reported below the pit shell using a slightly higher cut-off grade which is deemed appropriate for a bulk underground mining method.

The Boda-Kaiser Project is conceptually able to support a potentially economic bulk-tonnage mining and processing operation, based on Alkane's recent (July 2024) conceptual, PEA or scoping study level evaluation of three potential development scenarios, each based on varying production rates to assess the Project's economic viability.

The metallurgical testwork has been conducted rigorously for a scoping study. A flowsheet has been tested with a wide range of variability and on the basis of two master composites. The processing flowsheet interpretation and subsequent costing is representative of the testwork conducted.

The preliminary metallurgical study carried out on Kaiser indicates that a flowsheet of conventional crushing, grinding and flotation circuits can produce a saleable concentrate. Additional processing of tailings via cyanide leaching can increase recovery of gold and copper to produce gold doré and a copper precipitate. Testing in respect to the copper precipitate has not yet occurred.

26 RECOMMENDATIONS

The QP authors recommend the following actions be completed to support the ongoing exploration and evaluation effort at the Boda and Kaiser deposits:

- In order to convert Inferred Mineral Resources to higher classification categories, further infill drilling is required.
- Although the controls to the mineralisation are relatively well understood, continued development of the geological model is recommended to support future Mineral Resource estimation and establishment of the mine geology function. Further understanding of the extent of mineralisation across the tenement package, different styles of mineralisation and their geological controls, is required.
- Establishment of the mine geology system should be considered well in advance of mining. Systems to ensure development of the geological model, high-quality sampling, rapid capture and storage of data, quality control assessment, robust ore block interpretation, minimisation of ore loss and dilution, production tracking and reporting and reconciliation should be established.

The QP authors with consultation from Alkane have recommended a single phase work program to support the ongoing development of the Boda and Kaiser deposits. Table 26-1 details the planned activities and estimated cost.

Table 26-1 Recommended Work Program and Estimated Cost

Task	Estimated cost (A$)
Diamond and RC drilling: Diamond and RC drilling at Driell Creek, Haddington, Comobella North and Boda South.	1,000,000
Specialised studies: Reprocessing Boda IP, Honours thesis on Kaiser-Boda dating, re-assaying for trace elements.	200,000
Contingency 10%	120,000
Total estimated cost	**1,320,000**

27 REFERENCES

Alkane Resources Limited, 2023a. Boda Resource Update Increases Gold and Copper Grades Resource Base Now 10.9 Moz AuEq (6.4 Moz Au and 1 Mt Cu). ASX release dated 14 December 2023.

Alkane Resources Limited, 2024a. Boda-Kaiser Scoping Study. ASX release dated 10 July 2024.

Alkane Resources Limited, 2024b. Revised Kaiser Resource Estimate Improves Confidence and Grade of Resource Base at Boda District. ASX release dated 29 April 2024.

Alkane Resources Limited, 2024c. Boda Indicated Resource Estimation. Internal Memorandum. 13 August 2024.

Alkane Resources Limited, 2024d. Kaiser Indicated Resource Estimation. Internal Memorandum. 13 August 2024.

Alkane Resources Limited, 2024e. Annual Resources and Reserves Statement FY24. ASX release dated 4 September 2024.

Carras, A. 2023. Bodangora Project (EL4022) Annual Exploration Report Part A for the period 14 August 2022 to 13 August 2023. NSW Department of Trade and Investment, Division of Resources and Energy.

Cooke, D. R., Wilson, A. J., House, M. J., Wolfe, R. C., Walshe, J. L., Lickfold, V., & Crawford, A. J. 2007. Alkalic porphyry Au–Cu and associated mineral deposits of the Ordovician to Early Silurian Macquarie Arc, New South Wales. Australian Journal of Earth Sciences, 54(2-3), 445-463.

Dean, R. and Ryan, W. 2023. Annual Report – Part A Northern Molong Porphyry Project Kaiser Exploration Licence 6209 Report for the period 12 March 2022 to 11 March 2023. NSW Department of Trade and Investment, Division of Resources and Energy.

Duerden, P. 2014(a). Annual Report Kaiser Project (EL6209) for the period ending 10 March 2014. NSW Department of Trade and Investment, Division of Resources and Energy.

Duerden, P. 2014(b). Alkane Resources Ltd Bodangora Project (EL4022) 23rd Annual Report for the period 14 August 2013 to 13 August 2014. NSW Department of Trade and Investment, Division of Resources and Energy.

Glen, R. A., Crawford, A. J., & Cooke, D. R. 2007. Tectonic setting of porphyry Cu–Au mineralisation in the Ordovician–Early Silurian Macquarie Arc, Eastern Lachlan Orogen, New South Wales. Australian Journal of Earth Sciences, 54(2-3), 465-479.

Glen, R. A., Quinn, C. D., & Cooke, D. R. 2012. The Macquarie arc, Lachlan orogen, New South Wales: Its evolution, tectonic setting and mineral deposits. Episodes, 35(1), 177-186.

GR Engineering Services, 2024, North Molong Porphyry Project, Scoping Study, Doc No 12948-5063216:P Rev B, Apr 2024

Meates, D. G. 2004. 13th ANNUAL EXPLORATION REPORT to 13/08/2004. Bodangora Project Exploration Licence 4022 New South Wales. NSW Department of Mineral Resources.

Meates, D., Dean, R., Chalmers, I. and Wilson, A. 2023. Boda: Discovery of a large alkalic gold-copper porphyry in the Macquarie Arc, NSW, Australia. Extended Abstracts NewGenGold 14-15th November 2023, Perth Western Australia (Contents-pages-all-years-low-res-002.pdf)

NSW Resources, 2025. NSW Resources, Department of Primary Industries and Regional Development (https://www.resources.nsw.gov.au/). Website accessed 8 May 2025.

Standard, C. 2024. Bodangora Project (EL4022) Annual Exploration Report Part A for the period 14 August 2023 to 13 August 2024. NSW Department of Trade and Investment, Division of Resources and Energy.

Standard, C. and Dean, R. 2024. Annual Report – Part A Northern Molong Porphyry Project Kaiser Exploration Licence 6209 Report for the period 12 March 2023 to 11 March 2024. NSW Department of Trade and Investment, Division of Resources and Energy.

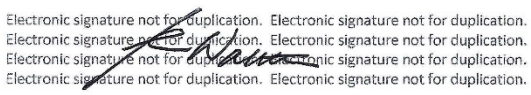
Scott Dalley Francks, 2024, North Molong Gold-Copper Project NSW Australia, Boda – Kaiser Metallurgical Development Program, 23-NMPP-01, April 2024

28 CERTIFICATES OF QUALIFIED PERSONS

I, **Andrew Ernest Waltho**, Geologist BAppSc (Hons), FAusIMM, FAIG, RPGeo, FGS, PMSME, GAICD certify that:

- I am a Professional Geologist, currently employed as Consulting Director, Corporate Transactions and Mining Advisory with ERM, with an office at Level 9/260 Queen Street, Brisbane, Queensland, Australia 4000.
- This certificate applies to the technical report titled, "Boda-Kaiser Cu-Au Project, NSW Australia—Technical Report for NI 43-101," (the "Technical Report") that has an effective date of 6 June 2025, (the "Effective Date").
- I am a graduate of the University of Technology, Sydney with an Honours Degree in Applied Geology (B.App.Sc Hons).
- I am a Professional Geologist and a Fellow of the Australian Institute of Mining and Metallurgy (FAUSIMM), Fellow of the Australian Institute of Geoscientists (FAIG), a Registered Professional Geoscientists (RPGeo), Fellow of the Geological Society, London (FGS), Professional Member of the Society for Metallurgy, Mining and Exploration (PMSME) and a Graduate Member of the Australian Institute of Company Directors (GAICD).
- I have practiced my profession for 43 years since graduation including 12 years as a consultant and have experience working with a number of gold and copper deposits in NSW, Australia, Mongolia, Republic of Guinea, United Kingdom, Canada and USA.
- I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for those sections of the technical report that I am responsible for preparing.
- I am responsible for all sections 1-3, 11, 13, 18—27 of this Technical Report.
- I have not completed a personal inspection of the Boda-Kaiser Project.
- I have no prior involvement with the Boda-Kaiser Project which is subject of this Technical Report.
- I am independent of Alkane Resources Limited (the "Issuer") as described in Section 1.5 of NI 43–101.
- I have read NI 43–101 and the sections of the technical report for which I am responsible have been prepared in compliance with that Instrument.
- As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Report Date: 6 June 2025



Andrew Waltho B.App.Sc (Hons), FAIG, RPGeo, FAusIMM, FGS, PMMSME, GAICD
FAUSIMM # 101595
FAIG # 2608
RPGeo #10027

I, **Aaron Meakin**, Geologist BSc (Hons), MAusIMM (CP Geo), certify that:

- I am a Professional Geologist, currently employed as Partner/Principal Consultant, Resource Geology, with ERM, with an office at Level 9/260 Queen Street, Brisbane, Queensland, Australia 4000.
- This certificate applies to the technical report titled, "Boda-Kaiser Cu-Au Project, NSW Australia—Technical Report for NI 43-101," (the "Technical Report") that has an effective date of 6 June 2025, (the "Effective Date").
- I am a graduate of the Flinders University of South Australia, with a Bachelor of Science Degree (Hons) in Geology.
- I am a Professional Geologist and am a member of the Australian Institute of Mining and Metallurgy (MAUSIMM), member number 113056 and a Chartered Professional.
- I have practiced my profession for 32 years since graduation including 17 years as a consultant and have experience working with a number of gold and copper deposits in NSW and around Australia.
- I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for those sections of the technical report that I am responsible for preparing.
- I am responsible for all sections 10, 11 and 14 of the Technical Report.
- I have not completed a personal inspection of the Boda-Kaiser Project.
- I have no prior involvement with the Boda-Kaiser Project which is subject of this Technical Report.
- I am independent of Alkane Resources Limited (the "Issuer") as described in Section 1.5 of NI 43–101.
- I have read NI 43–101 and the sections of the technical report for which I am responsible have been prepared in compliance with that Instrument.
- As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Report Date: 6 June 2025

Aaron Meakin, BSc (Hons)

MAUSIMM # 113056 (CP Geo)

I, **Anthony (Tony) Donaghy**, Geologist BSc, PGeo (Ontario) certify that:

- I am a Professional Geologist, currently employed as Geosciences Director, with ERM, with an office at Level 3, 1-5 Havelock St., West Perth WA 6005, Australia
- This certificate applies to the technical report titled, "Boda-Kaiser Copper -Gold Project, NSW, Australia—Technical Report for NI 43-101," (the "Technical Report") that has an effective date of 6 June 2025, (the "Effective Date").
- I am a graduate of the University of Tasmania with a Bachelor of Science (Honours) degree in Geology and Geophysics.
- I am a Professional Geoscientist and Member of the Association of Professional Geoscientists of Ontario (PGeo).
- I have practiced my profession for 40 years since graduation, including roles in both industry and as a consultant in Australia and overseas.
- I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for those sections of the technical report that I am responsible for preparing.
- I am responsible for sections 4-11 of this Technical Report.
- I have completed a personal inspection of the Boda Kaiswer Project from 15-16 April, 2025.
- I have no prior involvement with the Boda-Kaiser Project which is subject of this Technical Report.
- I am independent of Alkane Resources Limited (the "Issuer") as described in Section 1.5 of NI 43–101.
- I have read NI 43–101 and the sections of the technical report for which I am responsible have been prepared in compliance with that Instrument.
- As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Report Date: 6 June 2025

Anthony Donaghy BSc (Hons) PGeo (Ontario)

Association of Professional Geoscientists of Ontario #0971

I, **Nicholas (Nick) More Hugo Conway MacNulty**, Mining Engineer, BSc Engineering (Mining), FAusIMM, MSAIMM, certify that:

- I am a Professional Mining Engineer, currently employed as Principal Mining Engineer, Technical Mining Services with ERM, with an office at Level 3/3 Havelock Street, West Perth, Western Australia, Australia 6005.
- This certificate applies to the technical report titled, "Boda Kaiser Project, NSW Australia, — Technical Report for NI 43-101," (the "Technical Report") that has an effective date of 6 June 2025, (the "Effective Date").
- I am a graduate of the University of Witwatersrand, Johannesburg, South Africa with an Honours Degree in Engineering (Mining) (BSC Eng. (Mining)).
- I am a Professional Mining Engineer and a Fellow of the Australian Institute of Mining and Metallurgy (FAUSIMM), and a Member of the Southern African Institute of Mining and Metallurgy (MSAIMM).
- I have practiced my profession for 42 years since graduation including 20 years as a consultant and have experience working with a number of gold and copper deposits in South Africa, Western Australia, Zambia, Mali and Eritrea. NSW, Australia, Mongolia, Republic of Guinea, United Kingdom, Canada and USA.
- I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for those sections of the technical report that I am responsible for preparing.
- I am responsible for all Sections 15-18, 21 of this Technical Report.
- I have completed a personal inspection of the Boda Kaiswer Project from 15-16 April, 2025.
- I have no prior involvement with the Boda-Kaiser Project which is subject of this Technical Report.
- I am independent of Alkane Resources Limited (the "Issuer") as described in Section 1.5 of NI 43–101.
- I have read NI 43–101 and the sections of the technical report for which I am responsible have been prepared in compliance with that Instrument.
- As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Report Date: 6 June 2025

Nicholas More Hugo Conway MacNulty, Mining Engineer, BSc Engineering (Mining), FAusIMM, MSAIMM
FAUSIMM # 3127396
MSAIMM: 703133

ERM and Sustainable Mining Services

ERM is one of the world's leading providers of environmental, health, safety and social consulting services. Our team has specific experience working in the mining sector with major mining companies, as well as advising Pension Funds, Private Equity firms, International Development Finance Institutions and Equator Principles Finance Institutions on investment risks and opportunities.

ERM's Sustainable Mining Services Team is a leading group of geological and mining professionals that includes geologists, mining engineers, hydrologists, hydrogeologists, data, and resource estimation specialists with experience on all types and stages of mineral projects from around the world. We have a high level of technical expertise across mineral commodities gained from 35 years of experience within the global exploration and mining industry. Our team possess experience in all stages of the mining cycle from project generation to production and the challenge of finding, developing and mining orebodies.

ERM has multiple points of entry throughout the mining lifecycle and our global network of expertise, together with ERM, enables us to provide innovative solutions to improve operational performance and support efficient mine operations.

We offer an integrated and comprehensive set of services which cover the full lifecycle of mineral assets. Our services include corporate advisory, operational support, mining and feasibility studies, resource estimation, geometallurgical modelling, exploration, data and water management and technology expertise.

Our highly experienced teams provide insight and innovative solutions to produce optimal outcomes for our clients. Our team can take your project from a concept through discovery and resource definition to a profitable and sustainable operating mine, with a robust closure plan and positive stakeholder engagement.

ERM's capabilities align seamlessly with this mission and vision, from the new country entry risk assessment, global operational strategy, geoscience and advanced technological solutions, data capture and management, hydrogeology, nature and beyond, through all stages of exploration, acquisition, mine planning and development, operations and closure. ERM plays a pivotal role in addressing the strategic, operational and tactical challenges encountered by major, mid-tier and junior mining companies worldwide.

Our specialists are supported by a huge team of scientists, engineers, social, environmental, health, safety and sustainability consultants from our parent company ERM. ERM's Sustainable Mining Services Team offers substantial depth of expertise and breadth of service to the mining community.

Snapshot of Our Services

Exploration and Geoscience

- Mineral systems targeting and project generation
- Remote sensing, geophysics and geochemistry
- Mapping and drill program planning and supervision
- Exploration strategy and project management.

Resource Estimation and Mine Geology

- Resource audits and risk analysis
- Geological and geo-metallurgical modelling
- Geostatistical analysis and variography
- Mineral Resource estimation, validation, classification and reporting.

Data and Mapping

- Data management (capture, data validation, and quality assurance/quality control)
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Mining Engineering

- Mining and engineering studies (concept to feasibility)
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- Grade control and reconciliation
- Productivity improvement and project management.

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- Water management and groundwater supply
- Project approvals
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- Ground/Surface water modelling
- Formulating water stewardship strategies and advanced technical solutions.

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- Project reviews and independent reports
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- Geo-corporate advice
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Environmental, Social and Governance

- Efficiently bringing new mines to fruition in adherence to ESG best practices
- Advancing strategic and practical decarbonisation throughout the value chain, from mining equipment to processing and transportation
- Expert knowledge of the Licence to Operate issues, their prevention and solutions.

Planning and Approvals

- Environmental risk identification, management and compliance
- Climate change, biodiversity, natural resources
- Indigenous and historical heritage management
- Social strategy and policy development
- Community consultation programs
- Environmental and social impact assessments (ESIAs)
- Operational management and compliance.

Health and Safety

- Enhancing health and safety strategies and practical incident prevention through managing operational risks and controls
- Furnishing functional safety services, including certifications, machinery safety and compliance with safety regulations
- Risk assessment and management systems
- Hazard assessment/personal protective equipment (PPE) advice
- Health, safety and environmental systems, policies, standards, and procedures
- Risk management and incident investigation
- Hazard identification, inspections, risk assessments and prevention control
- Occupational health and safety systems and compliance auditing.

Rehabilitation and Mine Closure

- Progressive Rehabilitation and Closure Plans
- Strategic and conceptual planning for repurposing or transitioning site uses
- Rehabilitation appraisals, planning and progress monitoring
- Community development and economic transition
- Earthworks, cover, landform designs and modelling
- Waste characterisation
- Water management and reduction strategies
- Final void assessment
- Land use capability assessment
- Erosion and sediment management
- Estimated rehabilitation costs
- Probabilistic estimates of site closure costs/financial provisioning
- Closure risk assessments.

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