

NI43-101 Technical Report Wild Dog Property, East New Britain Province, Papua New Guinea.

Prepared for

Fosterville South Exploration Ltd

Vancouver, British Columbia, Canada



Figure 1 - Wild Dog former gold mine. South Oxide Pit in June 2023

by:

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Heathcote, Victoria, Australia

Effective Date: 8 August 2023

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CERTIFICATE OF QUALIFIED PERSON

CERTIFICATE

I, Neil Trevor Motton, MAusIMM, CP Geo., FSEG, do hereby certify that:

1. I am the Chief Operating Officer of Fosterville South Exploration Ltd. registered at:

Fosterville South Exploration Ltd.
Suite 704, 595 Howe Street
Vancouver, BC Canada V6C 2T5

This Certificate is made in relation to a technical report entitled “NI43-101 Report for Fosterville South Exploration Ltd on the Wild Dog Property, East New Britain Province, Papua New Guinea” and dated 8 August 2023.

1. I graduated with a Bachelor of Applied Science majoring in Geology from Ballarat University College, Ballarat, Victoria, Australia in 1985 and later gained an Honours Degree in 1989 from the same institution.
2. I am a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM), and I am an accredited Chartered Professional in the field of Geology. I am also a Fellow of the Society of Economic Geologists (FSEG).
3. I have worked as a geologist for a total of 37 years since graduation in the gold, base metals, industrial minerals and environmental management, project development, mine geology and engineering services, consulting, and public company management. Commodity experience includes copper, gold, silver molybdenum, lead, zinc, nickel, chromium, silica, and industrial quarry productions. I have operated through the Philippines and Australia and have experience in Peru, Ecuador, Jamaica, and Argentina. Of relevance to this project is my experience of more than 30 years in taking part in and managing exploration of copper and gold projects.
4. I have read National Instrument 43-101 and Form 43-101 F1, and the Technical Report has been prepared in compliance with that instrument and form.
5. I have read the definition of Qualified Person set out in National Instrument 43-101 (NI43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a Qualified Person for the purposes of NI 43-101.
6. For the purposes of the Technical Report entitled: “NI43-101 Report for Fosterville South Exploration Ltd on the Wild Dog Property, East New Britain Province, Papua New Guinea” dated 8 August 2023, I contributed to writing this report and made the proposals for work contained therein. I am responsible for sections 1-21 of the report.
7. I visited the property on 25th June 2023. During the site visit I reviewed the geological maps, drill logs, drill core and all other pertinent technical data. I also visited the key prospect sites.
8. At the effective date of the technical report, to the best of the author's knowledge, information, and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

9. I am not independent (as that term is defined in section 1.5 of NI 43-101) of Fosterville South Exploration Ltd. as I am Chief Operating Officer and a director. I am independent of Wild Dog Resources Inc.
10. I had no prior involvement with Wild Dog Resources Inc. and the Wild Dog Property.

Dated: 8 August 2023

A handwritten signature in black ink, appearing to read 'N. T. Motton', written in a cursive style.

Signature of Qualified Person

Neil Trevor Motton

1 Summary

1.1 Introduction

Neil (Rex) Motton (the “Author”), AusIMM (CP), COO and director of Fosterville South Exploration Ltd. (the “Company”), has prepared this technical report (the “Report”) on behalf of the Company for the Wild Dog Property (the “Property”) in Papua New Guinea.

The Report will be used in connection with the Company’s “Reviewable Transaction” submission with the TSX Venture Exchange pursuant to Policy 5.3.

The Author visited the Property on 25th June 2023. Field and site observations were complimented by a review of available data and literature comprising of a data room supplied by Wild Dog Resources Inc., National Instrument 43-101 technical reports filed by New Guinea Gold Corporation on SEDAR and publicly available peer reviewed scientific papers.

1.2 Proposed Acquisition of Wild Dog Resources Inc.

The Company entered into an amalgamation agreement (the “Amalgamation Agreement”) with 15103452 Canada Inc., a wholly owned subsidiary of the Company, and Wild Dog Resources Inc. (“WDR”) whereby the Company will acquire all the issued and outstanding shares of WDR by means of a three-cornered amalgamation (the “Acquisition”). Under the terms of the Amalgamation Agreement, in consideration of WDR:

- The shareholders of WDR (the “WDR Shareholders”) immediately prior to the closing of the Acquisition (the “Closing”) will receive an aggregate of approximately 16,161,441 common shares of the Company (the “Common Shares”), and each WDR Shareholder will receive one (1) Common Share for every 7.028 WDR Shares held (the “Exchange Ratio”) (rounded down to the nearest whole number of Common Shares), subject to adjustment. The Exchange Ratio assumes 113,583,200 WDR Shares are outstanding immediately prior to Closing.
- The Common Shares issued to the WDR Shareholders will be subject to voluntary restrictions on resale, of which 33.3% of the Common Shares will not be subject to restrictions on resale, 33.3% of the Common Shares will be subject to restrictions on resale for a period of three (3) months following Closing and 33.4% of the Common Shares will be subject to restrictions on resale for a period of six (6) months following Closing.
- The warrant holders of WDR immediately prior to Closing (the “WDR Warrant holders”) will receive an aggregate of approximately 526,892 Common Share purchase warrants (the “Warrants”), and each WDR Warrant holder will receive Warrants exercisable to acquire such number of Common Shares as is equal to the number of WDR Shares issuable under each such WDR Share purchase warrant (a “WDR Warrant”) previously held by such WDR Warrant holder multiplied by the Exchange Ratio (rounded down to the nearest whole number of Common Shares) at an exercise price per Common Share equal to the exercise price of such WDR Warrant per WDR Share divided by the Exchange Ratio until the expiry time of such WDR Warrant.

- The optionees of WDR immediately prior to Closing (the “WDR Optionees”) will be granted an aggregate of approximately 1,553,679 stock options of the Company (the “Options”), and each WDR Optionee will be granted Options exercisable to acquire such number of Common Shares as is equal to the number of WDR Shares issuable under each such stock option of WDR (a “WDR Option”) previously held by such WDR Optionee multiplied by the Exchange Ratio (rounded down to the nearest whole number of Common Shares) at an exercise price per Common Share equal to the exercise price of such WDR Option per WDR Share divided by the Exchange Ratio until the expiry time of such WDR Option.

Immediately prior to Closing, WDR will have a working capital of C\$1,000,000, excluding payments due prior to Closing under the agreements relating to the WDR Properties, payments made to satisfy all accrued fees and termination benefits under the executive compensation agreements and payments of corporate and legal costs in the ordinary course of business.

The Acquisition is subject to the approval of the WDR Shareholders, TSX Venture Exchange acceptance and the satisfaction of other customary conditions.

1.3 Property Description and Location

The Property is located 50 kilometres south south-west of Rabaul in the Baining Mountains of the Gazelle Peninsula, East New Britain Province, Papua New Guinea.

The Property consists of two (2) exploration license applications (“ELAs”): ELA 2516 and ELA 2761. ELA 2516 was lodged by Munga River Limited (“MRL”) on December 19, 2016 over 349 sub blocks for a term of two years locates in Sinivit, East New Britain Province, Papua New Guinea. ELA 2761 was originally lodged by Wild Dog Resources (PNG) Ltd. (“WDRL”) on June 27, 2022 over 68 sub blocks for a term of two years and is located in Rieit in East New Britain Province, Papua New Guinea.

1.4 Accessibility, Climate, Infrastructure and Physiography

The Property is situated on the north-east slopes of the Baining Mountains at the eastern end of the island of New Britain. Within the tenements, the terrain is steep with deeply incised drainage. Locally relief ranges from 500m and the highest peak is at 1,440m above sea level.

The Property is located 50 kilometres south south-west of Rabaul in the Baining Mountains of the Gazelle Peninsula, East New Britain Province, PNG. Access to the Property from the ports of Kokopo and Rabaul is via 12 kilometres of all weather road to Rieit

1.5 Brief History

In July 1983, Esso Papua New Guinea Inc. discovered the “Wild Dog” (now Sinivit) gold deposit. In September 1984, the project was joint ventured by City Resources (PNG) Ltd (City). In 1990, Highlands Gold Limited purchased the property for \$8 million AUD. In 1993, Gold Mines of Niugini Holdings (GMNH) acquired the property. In 1995, Macmin acquired an option to earn 90% equity interest in the Sinivit property. New Guinea Gold (NGG) acquired the rights to the Sinivit property through its acquisition of Macmin PNG Ltd from Macmin Silver Ltd on 13th June 2002.

1.6 Geology and Mineralization

The mineralisation at the Property is considered to be an epithermal style vein system with both low and high sulphidation alteration and mineralogy styles. Low sulphidation gold telluride mineralisation was deposited within fractured silicified host rocks as vein type, but some mineralization characteristics occur that are more typical of a high sulphidation system.

The Property consists of the Nengmutka vein system, which is hosted by the Nengmutka Volcanics, a flat-lying, epiclastic sequence of volcanic sandstone and conglomerate. The Nengmutka Volcanics are thought to represent a caldera margin deposit. There are indications from mapping and sampling (e.g. circular breccia targets with advanced argillic alteration) within the larger Wild Dog Property that the area may be prospective for buried diatreme-related gold-copper mineralisation (e.g. Wafi, PNG).

The Wild Dog structure has been traced at surface over a strike length of about 3 km, of which a central 900m makes up the strike length of the Sinivit historical resource area (Sinivit Gold Deposit). This vein system is hosted within the regional scale Nengmutka vein system which has a strike length of at least 10 km. It is estimated that some seventy per cent of the Nengmutka vein system within a 3 km radius of the Sinivit historical resource is non-outcropping, being capped by hydrothermal clays and younger volcanic ash. The parallel Gunsap Mountain structure lies approximately 1 km west of the Wild Dog structure and is predominantly clay covered although outcropping veins are present at its southern mapped extent.

The mineralisation at Sinivit occurs in multi-phase steeply dipping hydrothermal quartz tension veins which cross cut the more moderately dipping northwest trending silicified zones. Mineralisation is best developed near local cross structures. Later mineralisation fills open fractures and cavities in the quartz veins as dark sulphide stringers comprising copper sulphides (chalcopyrite with minor bornite, chalcocite and tennantite) with local occurrences of a wide variety of Cu-Bi-Pb-Ag sulphide, telluride and selenide minerals. Gold generally occurs as Au-Ag telluride minerals, and native 'mustard' gold occurs as a weathering product of these tellurides.

Intense tropical weathering and leaching has developed a surface profile depleted in copper and silver minerals. The former Sinivit operation mined oxide material in three pits (northern, central and southern) along the Wild Dog structure. Further oxide resources have been delineated along strike at the Kavursuki Vein.

1.7 Exploration and Drilling

To date, no drilling or exploration by the Company has occurred on the Property.

1.8 Sample Preparation, Analysis and Security

This Item is not applicable. Samples collected onsite were used as reference material and not assayed.

1.9 Data Verification

This Item is not applicable.

1.10 Mineral Resource Estimate

There are no current resource estimates for the Property.

1.11 Interpretation and Conclusions

The Wild Dog Property occurs within a major NNE trending structure of at least 26 km in length which transect apparent volcanic caldera structures and intrusions. The precious metal prospects are associated with epithermal low sulphidation and high sulphidation type veining that contain gold-silver-telluride (Au-Ag-Te) mineralisation. Porphyry copper-gold type mineralization also occurs associated with these intrusion centres that usually underly or associated with these epithermal systems. The whole of the recognised belt is held within the tenements owned and/or optioned by Wild Dog.

Within the central part of the Wild Dog Property, a significant structural corridor called the “Wild Dog – Gunsap Corridor” occurs. The corridor is at least 15 km long and up to 4 km wide and hosts at least two porphyry copper-gold prospects and a number of epithermal gold deposits and prospects.

Previous exploration over the property including mapping, geophysical and geochemical surveys have identified various targets within the overall mineralised system. Exploration drilling at other locations within the Wild Dog vein zone, such as Kavursuki Vein (immediately north of Wild Dog) has identified further mineral occurrences.

1.12 Recommendations

It is recommended that the Company undertake a two-phase exploration program at the Wild Dog property, subject to the grant of the EL 2516. Phase one of the exploration program will involve stream sediment geochemistry, auger drilling and trenching, as well as surveying and revising the previous mineral resource estimates present in the mined area, which will be completed within 12 months at an estimated cost of \$432,500. The second phase will involve drilling at the Wild Dog and Kavursuki prospects, which will be completed subsequent to the initial phase one exploration program at an estimated cost of \$1,029,000.

2 Introduction

2.1 The Issuer and Terms of Reference

The Author, on behalf of the Company, prepared this Technical Report for the Wild Dog Property, located in New Britain Island, Papua New Guinea.

The Report is being prepared in respect of the proposed Acquisition of WDR, being the option holder of the Property, by the Company pursuant to the Amalgamation Agreement between the Company, 15103452 Canada Inc. and WDR. The Acquisition constitutes a “Reviewable Transaction” under Policy 5.3 and, accordingly, the TSX Venture Exchange requires the submission of a technical report on the Property.

The Company is an issuer listed on the TSX Venture Exchange. The Company’s head office is located at Suite 488, 1090 West Georgia Street, Vancouver, BC V6E 3V7 and the registered office of the Company is located at Suite 704, 595 Howe Street, Vancouver, BC V6C 2T5.

2.2 Qualified Person and Site Visit

The Report is written by Neil (Rex) Motton. The Author visited the Property on 25th June 2023. Field and site observations were complimented by a comprehensive review of available literature.

2.3 Sources of Information

This report is based on technical data provided by WDR to FSX including the previous NI43-101 report dated October 2011 (Taylor, I, 2011) entitled “Mineral Resource Estimate of the Sinivit Gold Project, New Britain PNG, October 2011”. WDR provided open access to all the records necessary, in the opinion of FSX, to enable a proper assessment of the resource and exploration potential. WDR has warranted to FSX that full disclosure has been made of all material information and that, to the best of the WDR’s knowledge and understanding, such information is complete, accurate and true. Readers of this report must appreciate that there is an inherent risk of error in the acquisition, processing, and interpretation of geological and geophysical data, and FSX takes no responsibility for such errors.

Additional relevant material was acquired independently by FSX from a variety of sources including material from the Papua New Guinea’s Mineral Resources Authority (“MRA”). The list of references at the end of this report lists the sources consulted. This material was used to expand on the information provided by WDR and, where appropriate, confirm or provide alternative assumptions to those made by WDR.

Taylor, I, 2011, **Mineral Resource Estimate of the Sinivit Gold Project, New Britain Province, PNG**. *Sinivit Independent Technical Report from Mining Associates Report MA1169-1*.

3 Reliance on other experts

The Author has relied on a legal opinion prepared by O’Brien’s Lawyers dated July 13, 2023, providing, among other things, a title opinion on the ELAs that comprise the Property. The Author has not relied on any other report, opinion or statement of another expert who is not a qualified person, or on information provided by the Company concerning legal, political, environmental or tax matters relevant to the technical report.

4 Property Description and Location

4.1 Location

The Property is located 50 kilometres south south-west of Rabaul in the Baining Mountains of the Gazelle Peninsula, East New Britain Province, Papua New Guinea (see Figure 2).

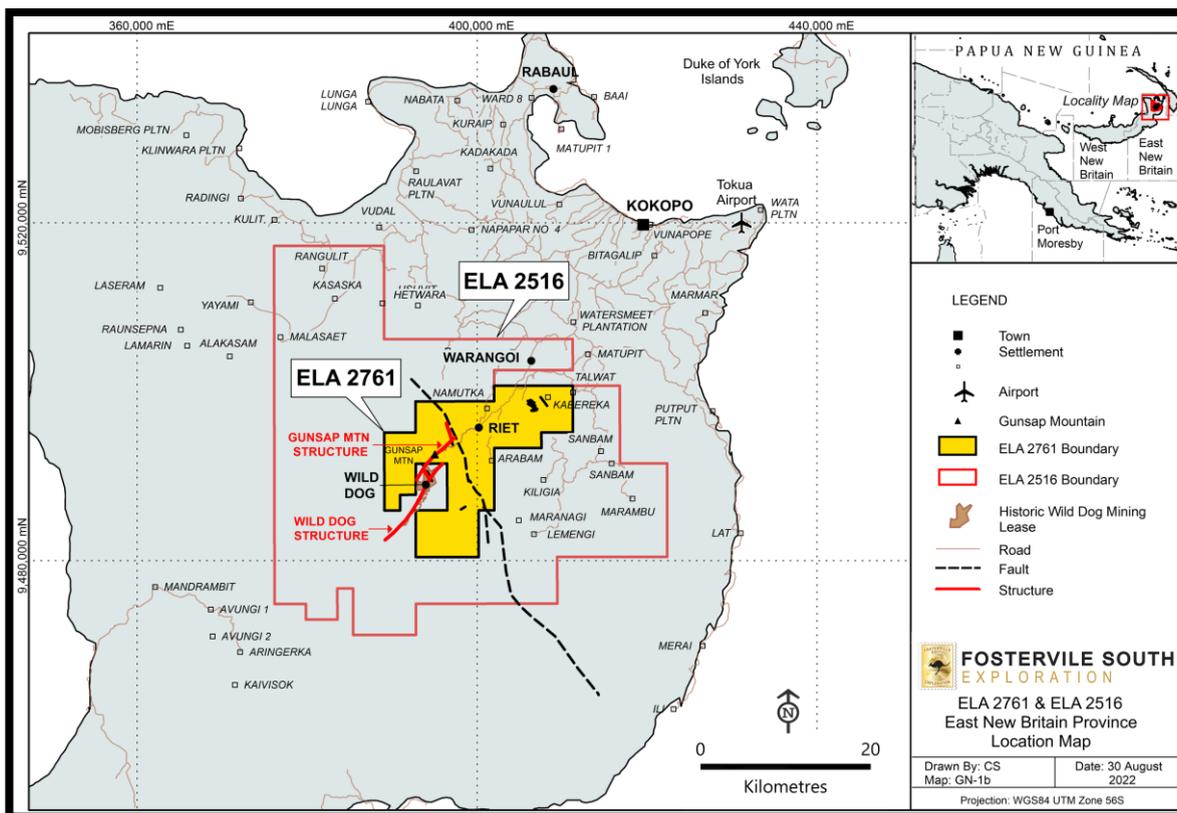


Figure 2 – Location maps and tenure of the Wild Dog Property

4.2 Tenure

The Property consists of one (1) exploration license applications (“ELA”), being ELA 2516, and one (1) exploration license (“EL”), being EL 2761. ELA 2516 was lodged by Munga River Limited (“MRL”) on December 19, 2016, over 349 sub blocks (1195 sq km) for a term of two years and is located in Sinivit, East New Britain Province, Papua New Guinea. ELA 2761 was originally lodged by Wild Dog Resources (PNG) Ltd. (“WDR”) on June 27, 2022, over 68 sub blocks (232.8 sq km) for a term of two years and is in Riet in East New Britain Province, Papua New Guinea. EL 2761 was granted on June 27, 2023, and is up for renewal on June 27, 2025 (See Figure 2).

WDR’s interest in ELA 2516 is subject to the following underlying agreements:

- (A) *Option agreement dated December 19, 2019, as amended on December 19, 2019 (the “Munga River Option Agreement”), between WDR and MRL.*

Pursuant to the Munga River Option Agreement, WDR may acquire up to a 100% interest in ELA 2516 as follows:

- (i) an initial 80% interest in ELA 2516 (the “First Munga River Option”), once ELA 2516 is converted into an EL and renewed after its first two (2) year term; and

- (ii) up to an additional 20% interest (for an aggregate 100% interest) in ELA 2516 (the “Second Munga River Option”), by the later of (a) 6 years following the listing of WDR or its nominee (the “Listing”) and (b) 18 months following the initial grant of EL 2516.

In order to maintain and exercise the First Munga River Option, WDR is required to pay and issue to MRL:

- (i) C\$10,000 in cash within 15 business days following the execution of the Munga River Option Agreement (which amount has been paid);
- (ii) C\$2,500 in cash per month commencing the first month following the execution of the Munga River Option Agreement until the 72-month anniversary of the later of (a) the Listing and (b) the 18-month anniversary of the grant of ELA 2516;
- (iii) C\$3,500 in cash per month commencing on the date of grant of ELA 2516 until the listing of WDR (which payments will cease on Closing);
- (iv) C\$25,000 in cash within 20 business days following the grant of ELA 2516;
- (v) C\$275,000 in cash within 10 business days following the Listing;
- (vi) C\$550,000 in shares within 10 business days following the Listing at a price equal to the lesser of (a) the price of the last financing of WDR or its nominee prior to the Listing and (b) the Listing price;
- (vii) C\$250,000 in cash within 20 business days following the later of (a) the 36-month anniversary of the Listing and (b) the renewal of ELA 2516 (C\$20,000 of which has been paid); and
- (viii) C\$250,000 in shares within 30 business days following the later of (a) the 36-month anniversary of the Listing and (b) the renewal of ELA 2516.

In order to maintain and exercise the Second Munga River Option, WDR is required to pay and issue to MRL:

- (i) C\$700,000 in cash within 30 business days following the 48-month anniversary of the Listing;
- (ii) C\$300,000 in shares within 30 business days following the 48-month anniversary of the Listing;
- (iii) C\$1,400,000 in cash within 40 business days following the 72-month anniversary of the Listing; and
- (iv) C\$600,000 in shares within 30 business days following the 72-month anniversary of the Listing.

Unless otherwise described, the shares described above will be issued at the volume weighted average price (“VWAP”) for the 20 trading days immediately prior to the date of each such share issuance.

Upon WDR’s exercise of the First Munga River Option, WDR will grant to Munga River (or pro rata to the shareholders of MRL) a 2% net smelter return royalty in respect of ELA 2516 (the “Munga River Royalty”). WDR will have the right to acquire one-half (1/2) of the Munga River Royalty, being a 1% net smelter return, at any time prior to the commencement of commercial production with the payment and issuance by WDR of:

- (i) C\$625,000 in cash to MRL; and
- (ii) C\$625,000 in shares to MRL or its nominee at a price per share equal to the 30-day VWAP immediately prior to the date of commercial production,

within 30 business days following the commencement of commercial production.

Pursuant to or in connection with the Munga River Option Agreement, WDR will also pay and issue C\$150,000 in shares to Koiti Mel following the Listing at a price equal to the lesser of (a) the price of the most recent financing of WDR or its nominee prior to the Listing and (b) the Listing price.

(B) Agreement dated December 19, 2019 (the "Aphrodite Agreement") among WDR, EEPL and the trustee of the Aphrodite Trust ("Aphrodite").

WDR entered into the Aphrodite Agreement whereby Aphrodite agreed to withdraw all legal claims relating to its 10% interest in the Historic Tenements.

Pursuant to the Aphrodite Agreement, WDR is required to pay to Aphrodite:

- (i) C\$5,000 in cash within 15 business days following the execution of the Aphrodite Agreement (which amount has been paid);
- (ii) C\$10,000 in cash within 30 business days following the grant of ELA 2516;
- (iii) C\$112,500 in cash within 10 business days following the Listing;
- (iv) C\$122,500 in cash within 10 business days following the 12-month anniversary of the Listing; and
- (v) C\$10,000 in cash within 30 business days following the grant of the EL pursuant to ELA 2516.

(C) Agreement dated May 30, 2022 (the "NGGL Agreement") between WDR and NGGL (in liquidation).

WDR entered into the NGGL Agreement whereby NGGL agreed to withdraw all legal claims relating to the Historic Tenements.

Pursuant to the NGGL Agreement, WDR is required to pay and issue:

- (i) C\$50,000 in cash to NGGL's liquidator (the "NGGL Liquidator") (which amount has been paid);
- (ii) C\$75,000 in cash to the NGGL Liquidator within 10 business days following the notification of the lifting of a certain court injunction (which amount has been paid);
- (iii) C\$325,000 in cash to the NGGL Liquidator within 20 business days following the grant of the EL pursuant to ELA 2516;
- (iv) an aggregate of C\$400,000 in shares to the NGGL Liquidator (or such other parties as the NGGL Liquidator may designate) on the Listing date at the Listing price; and
- (v) K10,000 in cash to Warner Shand, in respect of legal costs, within 10 business days following the notification of the lifting of a certain court injunction or upon WDR receiving notification that the NGGL Liquidator has lodged the formal notice of termination of all legal claims by NGGL and has consented to the lifting of such injunction (which amount has been paid).

4.3 Mining Law

Mining Laws

The Independent State of Papua New Guinea owns all precious minerals within the bounds of the country. Despite the clear and long-standing expression of this right of ownership by the State devolving to it on Independence in 1975 having been expressed in the legislation, the Parliament of the Independent State passed a clarifying Constitutional Law entitled *Constitutional Amendment No. 44* (Papua New Guinea's Ownership of Hydrocarbons and Minerals and the Consolidation and Commercialisation of Papua New Guinea's Business) Law 2016.

Constitutional Amendment No. 44 introduced a provision in the following terms:

212B. Papua New Guinea's Ownership of Hydrocarbons and Minerals.

- (1) *Hydrocarbons and minerals in their natural state are, and always have been, the property of Papua New Guinea.*
- (2) *An Organic Law may make further provision in respect of Papua New Guinea's interests in hydrocarbons and minerals, including the development of, disposal of, and dealing with the consolidation and commercialisation of those interests.*

At present there is no specific Organic Law dealing with all the matters set out in s 212B(2), however some of the issues are touched upon in the provisions of the Organic Law on Provincial and Local Level Government dealing with development levies.

After the passage of this clarifying law the Supreme Court was asked by persons asserting they have customary rights to consider in *Re Justice Foundation for Porgera Ltd* [2022] SC2257 whether the provisions were ineffective. Those proceedings were dismissed on procedural grounds without substantive determination of the effect or validity of Constitutional Amendment 44 and in doing so left the Constitutional provisions and the provisions of the Mining Act standing effective. In principle, the issue could be resubmitted to the Court again potentially by the same or other litigants.

The boundaries of the Country are defined by the geographical coordinates expressed in *Maritime Zones Act 2005*.

Mining Regulatory Regime

The Parliament has passed legislation, principally to be found in the *Mining Act* providing for how members of the public and corporations alike may explore for, develop, extract, and sell minerals in the country.

This legislation empowers the executive arm of government to administer the *Mining Act* which is done through a statutory authority known as the Mineral Resources Authority (the **MRA**) established pursuant to the *Mineral Resources Authority Act 2018* (the **MRA Act**). In addition to the MRA, the Mining Act also establishes the MAC. The principal purpose of the MAC is to consider applications for tenements and make recommendations to the Minister on how he should exercise his powers.

Pursuant to the Mining Act the Minister grants tenements having considered the advice of the MAC and exercises certain other appointment powers under the Mining Act. The MRA through its officeholders such

as the Registrar of Tenements, Warden and Managing Director exercises many powers covering mining operational matters.

Separately, the MRA administers the *Mining (Safety) Act* and the Conservation and Environment Protection Authority administers compliance with environmental laws and water utilisation laws. Various other authorities touch on technical matters including without limitation such things as safety of lifting devices, electrical safety, power generation and storage and transportation of explosives. Together, the Minister, the MAC, the MRA (and its officeholders), Conservation and Environment Protection Authority (**CEPA**) and the other authorities exercise Executive power enabled by the *Constitution* and granted pursuant to the various pieces of legislation over the mining industry.

Section 155(3) of the *Constitution* provides a basis for the review of all Executive actions by a Court. The review mechanism is provided for in the *National Court Act* and the *National Court Rules*. The right of review is qualified in many ways and subject to a significant number of procedural restrictions.

Mining Tenements

The Mining Act defines and provides for the circumstances when various tenements can be granted by the Minister. These comprise tenements of the following classes:

(i) **Exploration Licences**

The maximum term of an exploration licence is 2 years, the licence may be renewed but 50% of the area must be surrendered on a renewal unless certain conditions are met providing a basis to not surrender 50% on a renewal. Exploration Licences carry exploration responsibilities and obligations consistent with the work program filed with the application and the rights.

(ii) **Special Mining Leases**

Special Mining Leases (**SML**) are leases for large mining operations for terms up to 40 years extendable in periods of 20 years which also require the tenement holder to enter a mining development contract with the State. The SML provisions are not applicable to any of the mining tenements held by the Company.

(iii) **Mining Leases**

Mining Leases (**ML**) are leases for mining operations for terms up to 20 years extendable in periods of 10 years. There are no obligations on a ML holder to enter a mining development contract with the State.

(iv) **Alluvial Mining Leases**

Alluvial Mining Leases (**AML**) are reserved only to the citizens and landholders in Papua New Guinea using non mechanised means of mining. These tenements are not applicable to any of the company property. An ML can be applied for alluvial purposes for large scale alluvial mining using merchandised or semi merchandised methods.

(v) **Leases for Mining Purposes**

Leases for mining purposes (**LMP**) are helper tenements where it is necessary outside the area of the actual mining tenement to stage operations relating to the mining activity. Such tenements could be used for off-site energy production facilities, processing facilities, camps etc.

LMPs are normally granted for a term co-extensive with the mining tenement they exist to support.

(vi) **Mining Easements**

Like LMP, Mining Easements (**ME**) are helper tenements of a special type used to support infrastructure to traverse other land. For example, a mining easement would typically be used to support a power line, pipeline or road from the mining tenement to another area.

4.4 Royalties

Other than the royalties set forth under section 4.3 of the Report, the Property is not subject to any other royalties.

4.5 Environmental Liabilities

The Sinivit mine site, which was formerly operated by New Guinea Gold (“NGG”), is located within ELA 2516 and has significant environmental liabilities with the potential for significant ongoing pollution. Most significantly, cyanide waste discharging from Sinivit is still unresolved despite previous failed attempts to clean up the site.

It is understood that the PNG Mineral Resources Authority (“MRA”) had notified the New Guinea Gold to return and rectify safety and environmental issues related to the Wild Dog Property, but this has not eventuated. The PNG Government has also not provided the resources necessary to rehabilitate the site when NGG failed to do so. The Sinivit Mine Landowners Association has previously called on the East New Britain provincial government to fund an independent audit into the operations and clean-up of the abandoned Sinivit gold mine.

Currently, there are 29 abandoned vats formerly used to extract gold at the mine site which have been damaged by heavy rain and flooding. Material from these vats, along with other chemicals used in mineral processing discharge into nearby ephemeral creeks. Water flow volumes of these nearby creeks are insufficient to allow for natural dilution, particularly of cyanide, and there is potential for downstream release of this material into nearby Warangoi and Nengmutka rivers.

Estimates on the cost to clean-up of the cyanide waste in the river system would be between K6 million to K8 million (CAD 2.2 to CAD 3.2 million).

The Company will not be required to assume these liabilities upon grant of the EL for ELA 2516. However, the PNG government may require the Company to assume such liabilities in order to be granted a mining license or to obtain environmental permits to carry out mining activities at the Sinivit mine site.

4.6 Risk Factors

The Property is located in a region of high seismic activity and volcanic activity according to Geoscience Australia’s Seismic Hazard Map (Figure 6). Peak ground acceleration (PGA) is equal to the maximum ground acceleration that occurred during earthquake shaking at a location. PGA is equal to

the amplitude of the largest absolute acceleration recorded on an accelerogram at a site during a particular earthquake (Wikipedia). Earthquake shaking generally occurs in all three directions. The high seismic risk, steep topography and high rainfall of the Sinivit area creates higher risk for landslips and this must be accounted for in infrastructure and mine planning.

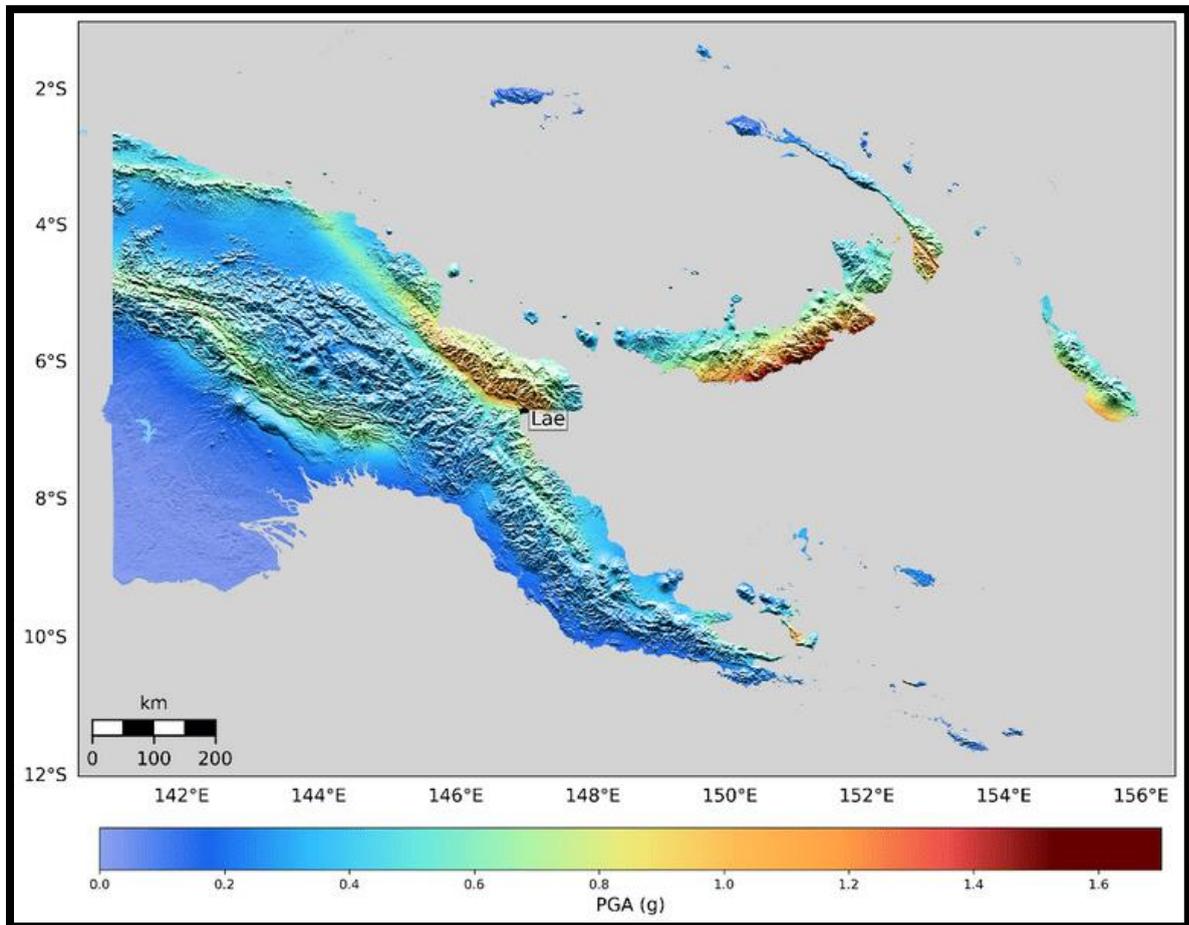


Figure 3 – Seismic Hazard Map of Papua New Guinea

Source: [\[National Seismic Hazard Assessment of Papua New Guinea \(NSHA-PNG\) | Community Safety | Geoscience Australia \(ga.gov.au\)\]](#)

The Rabaul volcano located some 50 km north of Sinivit had a major eruption in 1994 and continues to be active. Air-fall tephra is considered to be one of the main hazards from a future eruption at Rabaul however Sinivit is considered to lie beyond the Rabaul air-fall hazard zone.

5 Accessibility, Climate, Local Resources, Infrastructure & Physiography

5.1 Topography, Elevation and Vegetation

The Property is situated on the north-east slopes of the Baining Mountains at the eastern end of the island of New Britain. Within the tenements, the terrain is steep with deeply incised drainage. Locally relief ranges from 500m and the highest peak is at 1,440m above sea level ("asl"). The Southern Oxide zone outcrops at an elevation of approximately 950m asl.

Local topography is very steep and ranges from approximately 850m asl up to 1,200m asl with limited flat areas generally occurring at the tops of ridges.

The Property is in dense lower-montane forest. This type of vegetation occurs extensively throughout the Baining mountains of the Gazelle peninsula. The lower-montane forest in the Mt Sinivit area ranges from around 800m asl to just over 1,200m asl.



Figure 4 - View from Southern Oxide pit toward the Central Oxide Pit showing rugged terrain of surrounding hills (June 2023).



Figure 5 - Typical surrounding forest (June 2023).

5.2 Access

The Property is located 50 kilometres south south-west of Rabaul in the Baining Mountains of the Gazelle Peninsula, East New Britain Province, PNG. Access to the Property from the ports of Kokopo and Rabaul is via 12 kilometres of all weather road to Rieit (Figure 6).

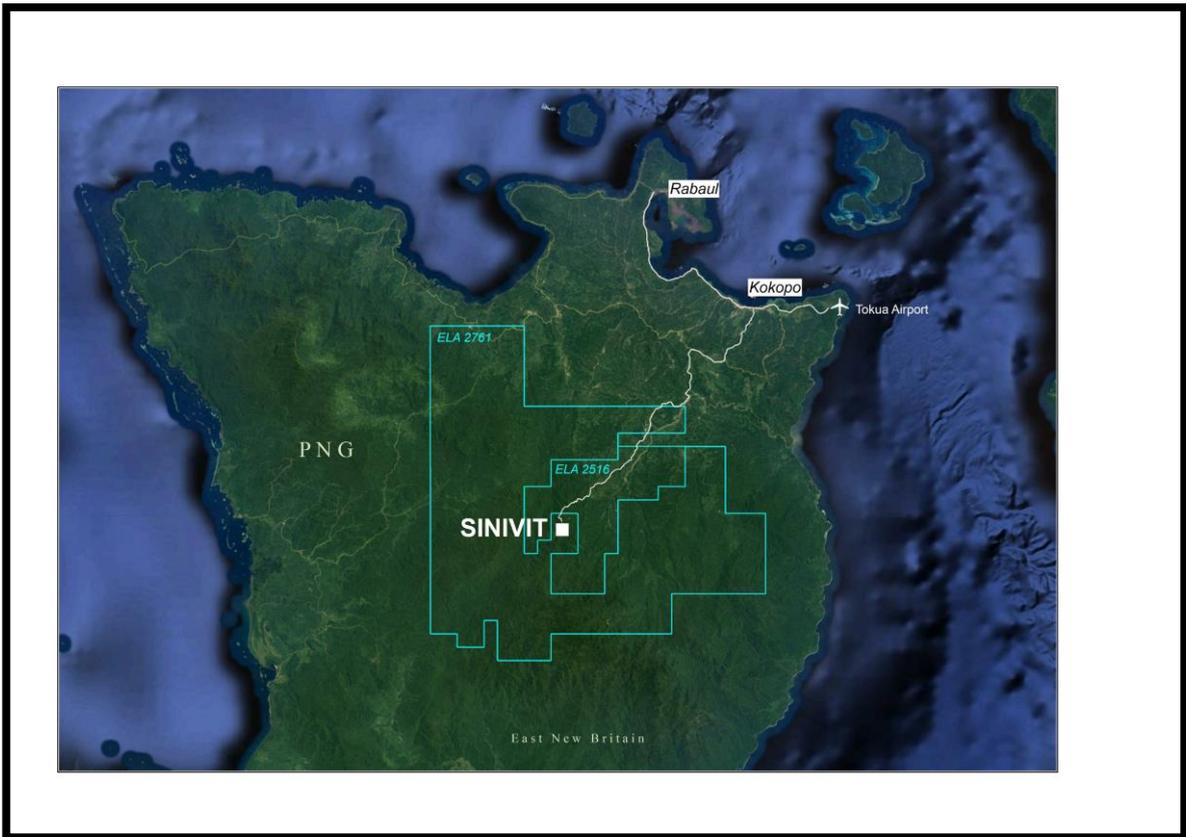


Figure 6 – Location and Access to the Wild Dog Property

An unsealed road links through to a former exploration camp from Rieit, which is in dire need of rehabilitation for some 10km. Parts of the Sinivit property area are accessible by four-wheel drive vehicle tracks. The remaining area is accessible by walking tracks (Figure 7).



Figure 7 – The overgrown and heavily rutted former mine access road (June 2023).

5.3 Population and Transport

The nearest substantial population centre is the port of Kokopo (about 50 kilometres distance), which has a population of about 50,000 people. Scheduled flights of about 1.5 hours duration are available from Tokua airport about 8 kilometres east of Kokopo for transportation to the capital of PNG at Port Moresby.

The Port of Rabaul has a major wharf facility and is capable of handling overseas incoming and outgoing freight. Rabaul ranks in the top three ports in PNG in terms of export tonnage. It has Customs clearance and container handling facilities and is serviced directly by ships from South East Asia, America, Europe and Australia. Additional port facilities are located at Kokopo and Kabakaul. Local coastal shipping generally uses these.

5.4 Climate

There is no specific operating season, operations can be undertaken all year round with careful planning.

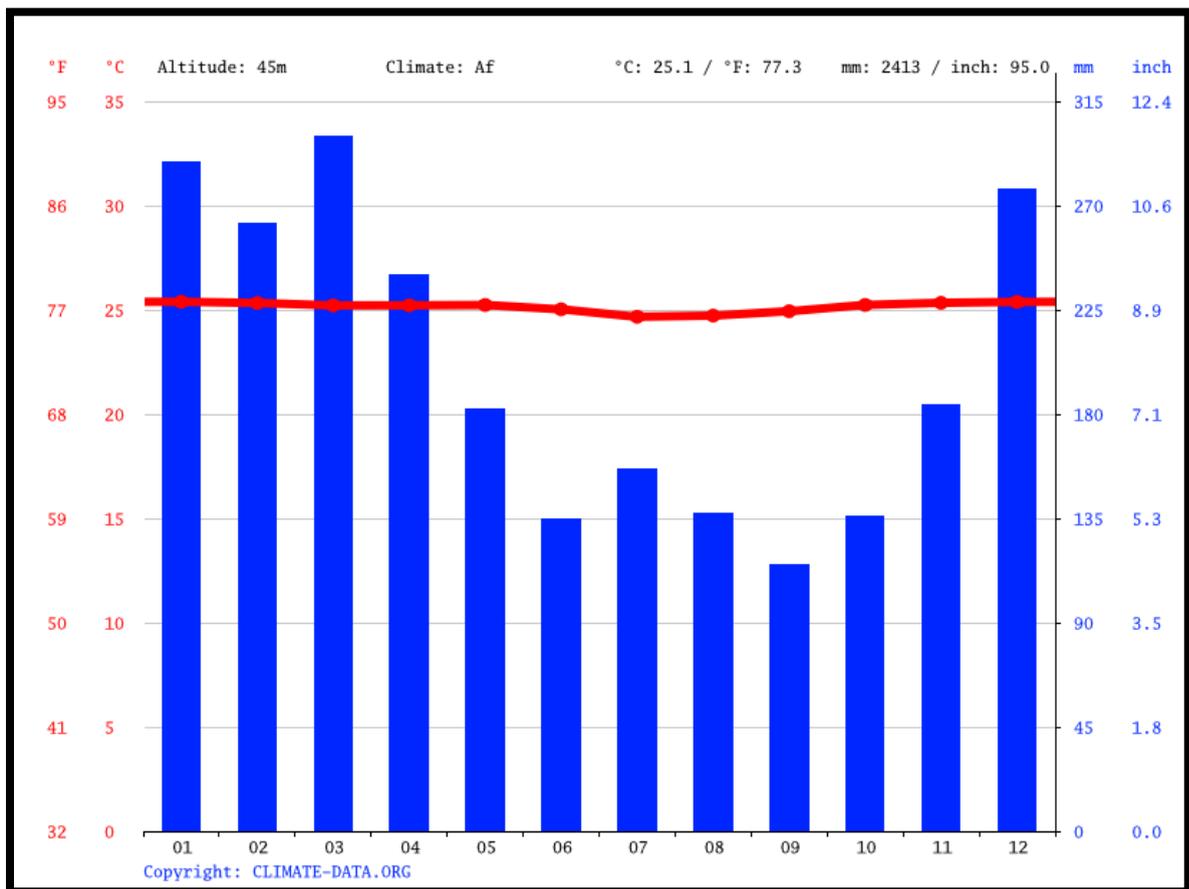


Figure 8 – Rainfall and temperature averages for Rabaul, PNG

Source: [Rabaul climate: Average Temperature, weather by month, Rabaul water temperature \(climate-data.org\)](https://climate-data.org)

The climate of the region is classified as wet tropical. Mainly seasonal movement of two major tropical air masses, the north-west monsoon and the southeast trades, control it. The former dominates from December to April and the latter from May to October. The Project area is subject to orographic influences. Rainfall is frequent and intense falls in excess of 100mm over 2-4 hours may occur several times a year. Rainfall is seasonal with the average monthly rainfall slightly less between May and October (260 mm) than between November and April (370 mm) delineating a 'wet' and 'wetter' season.

5.5 Infrastructure

Apart from the access roads, there is nothing present from the former mining operations that would be considered infrastructure.

6 History

6.1 Prior Ownership

In July 1983, Esso Papua New Guinea Inc. ("Esso") discovered the 'Wild Dog' gold deposit after a 14 month program comprising detailed sampling and mapping in a 90 square kilometre area between the Nengmutka and Rapmarina rivers. In September 1984, the project was then joint ventured by City Resources (PNG) Ltd ("City").

In 1990, Highlands Gold Limited ("Highlands") purchased the property for \$8 million from the Joint Venture. Between 1989 and 1992, Highlands undertook further sampling, trenching, and drilling programs.

In 1993, Goldmines of New Niugini Holdings Limited acquired the property from Highlands, with the aim of commencing small-scale gold production from the known resources.

In 1995, Macmin, an investor in GMNH, acquired an option to earn 90% equity interest in the Sinivit property. Subsequently, New Guinea Gold ("NGG") acquired the rights to the Sinivit property through its acquisition of Macmin PNG Ltd from Macmin Silver Ltd on 13th June 2002. In May 2004, NGG completed a further positive feasibility study aiming to undertake small-scale gold production using VAT leach ore processing methodology. Following the completion of a feasibility study, NGG mined oxide ore from the deposit between 2008 and 2014, when the site was abandoned.

6.2 Previous Exploration

In 1942, Fisher and Noakes from the Australian Bureau of Mineral Resources reported gold in trace amounts from the main streams draining the Baining Mountains.

In 1965, CRA Exploration Pty Ltd undertook stream sediment sampling to explore the Gazelle Peninsula for 'porphyry copper' deposits similar to the Bougainville copper deposit. This was followed by U.S. Metals Refining Corporation's exploration of Prospecting Authority ("PA")¹³. PAs were an early form on title now superseded by ELs. In 1967, Asarco examined PA33, which included the Arabam copper occurrence.

In the early 1970s BHP Company Ltd undertook a four year exploration program of PA172, which included geological traverses of most streams in the Gazelle Peninsula, as well as a stream silt sampling program for most of East New Britain Province at a density of 3-4 samples per square kilometre.

In July 1983, Esso Papua New Guinea Inc. ('Esso') discovered the 'Wild Dog' gold deposit after a 14 month program comprising detailed sampling and mapping in a 90 square kilometre area between the Nengmutka and Rapmarina rivers. In September 1984, the project was joint ventured by City Resources (PNG) Ltd ('City').

Esso geologists followed a trail of quartz float to siliceous outcrops in Evarem and Vullelga creeks. Limited surface sampling gave values up to 45m at 4.02 g/t Au.

In early 1984, five diamond drillholes totalling 636 m were completed. These were poorly sited, drilled downdip and demonstrated a westerly dip to the vein system. Another 5 holes were drilled on nearby prospects. Since then, the property has been under intermittent, though often intensive investigations. The Esso / City joint venture undertook further drilling correcting the earlier directional errors. A bulldozer trenching program commenced in May 1985, followed by a 16 hole diamond drilling program. These programs outlined 750 m of auriferous veining. By 1987, 71 diamond core drillholes totalling 12,790 m and 40 reverse circulation ('RC') percussion drillholes totalling 1,834 m on the 'Wild Dog' (now Sinivit) project had been completed.

Highlands completed 20 diamond core drillholes totalling 1,957 m aimed at the oxide section of the mineralisation and a further 30 diamond core drillholes totalling 3,028 m, with 12 holes drilled in the oxide mineralisation known as the Kavursuki deposit. GMNH completed 22 reverse circulation percussion drillholes totalling 767 m.

In 1996, Macmin drilled one RC pre-collar, diamond tail drillhole totalling 292.2 m to test a geological target concept. In 1997 Macmin completed 234 m of trenching and 13 RC percussion drillholes totalling 387 m. This work was all completed prior to the acquisition of the Sinivit property by NGG.

NGG continued to drill the property to build resources for a proposed mining program. Between 2007 and 2010 a campaign of 725 grade control holes were drilled for an average depth of 28m. During the same period, NGG drilled 50 diamond holes for an average depth of 101m.

This is summarized in Table 1.

Year	DDH Holes	Diamond Meters	Percussion Holes	Percussion Metres	Company
1984	11	1431.4	0	0.0	Esso
1985	10	793.3	0	0.0	City/Esso
1986	7	874.4	40	1834.0	City/Esso
1987	50	10835.6	0	0.0	City/Esso
1990	45	4255.7	0	0.0	Highlands
1993	0	0.0	18	608.0	GMNH
1994	0	0.0	4	162.0	GMNH
1996	1	292.2	0	0.0	Macmin
1997	13	393.0	0	0.0	Macmin
2006	1	80.8	0	0.0	NGG

2007	12	1610.6	267	7215.0	NGG
2008	19	2350.0	184	5161.0	NGG
2009	7	501.9	150	4300.0	NGG
2010	12	596.7	124	3572.0	NGG
2011	20	951.3	41	984.0	NGG
2012	2	72.5	0	0.0	NGG
TOTAL	210	25039.4	828	23836.0	

Table 1 – Drilling history of the Wild Dog Property. [Source: Compiled historic database]

6.3 Historical Resource Estimates

There are no JORC or CIM compliant historical resource estimates although several resource estimates have been made for the Sinivit property. Because these are historical do not comply with current conventions and standards, they are noted for the purposes of historic record, with the quantum of the estimates is not quoted.

In November 1987, City undertook an estimate using a cross sectional polygonal methodology of the Southern Oxide zone. In March and June 1988 City undertook further estimates for this zone using more conventional categories. In March 1988 and June 1988, City also undertook a resource estimate for the Northern Sulphide zone using a long sectional, polygonal method.

In July 1990, Highlands undertook a further resource estimate for the Southern Oxide zone and estimated the resource within a ‘small’ (to 28 m below surface) and ‘large’ (to 55 m below surface) pit.

In August 1991, an independent consultant to Highlands, R. Curtis & Associates (‘Curtis’), undertook an ‘in-ground’ resource estimate for the Southern Oxide zone and the Northern Sulphide zone. In May 1994, Curtis undertook updated resource estimates for the Southern Oxide zone and undertook a resource estimate for the Northern Oxide zone.

In December 1994, Curtis undertook a resource estimate for the Kavursuki deposit using a cross sectional polygonal method. This deposit is located 900 m north north-east of the main Sinivit mineralisation.

In July 1995, GMNH undertook a resource estimate for the Central Oxide zone of the Sinivit mineralisation. In 1995, Macmin in consultation with Minserve, an Independent Mining Engineering consultancy, undertook resource and reserve estimates for the Southern, Central and Northern Oxide zones of the Sinivit mineralisation. This work was completed prior to the acquisition of the project by NGG.

Macmin completed a positive feasibility study in 1995. Ausenco Pty Ltd, an independent engineering company, undertook the study.

In January 2006, NGG submitted a NI43-101 technical report including mineral resource estimates by Project Geoscience Pty. Ltd (Stagg, 2006).

In 2011, Mining Associates reported on Sinivit and Kavursuki deposits with the following table of mineral resource estimates (the “2011 Historical Resource Estimate”).

Inferred Resources (above 1.5g/t)			
Vein	Tonnes	Gold (g/t)	Gold (oz)
Sinivit	1,084,000	4.0	139,200
Kavursuki	613,000	2.3	44,500
Indicated Resources (above 1.5g/t)			
Vein	Tonnes	Gold (g/t)	Gold (oz)
Sinivit	354, 000	3.92	44,300
Kavursuki	-	-	-

Table 2 – Sinivit and Kavursuki mineral resource estimates (Taylor, 2011)

Notes to accompany resource statement:

1. The resource is based on holes drilled to August 31 2011;
2. The resource is depleted with mining to June 30th 2011;
3. East-west section interpretations at a 0.5g/t halo, from which three dimensional wireframes were constructed for each domain;
4. Assay results were composited to 2 metre downhole intervals;
5. Capped gold grade estimates were made, grade capping was varied for gold domains, between 97.5 and 99th percentile dependent on vein, Copper was estimated with uncapped data;
6. Base of Oxidation has been projected 10m below topography with local adjustments where drill data existed;
7. Block Model extents cover interpreted mineralisation with a block size of 20mN x 5mE x 8mRL for estimation with sub-blocking for volume to of 5mN x 1.25mE x 2mRL;
8. Grade interpolated into a constrained block model by domain using ordinary kriged estimation in one pass with anisotropy applied. Estimates were validated against informing samples and nearest neighbour estimates;
9. Historical Density records were not sighted, historical resources have used 2.5 and 2.6, and current resource uses 2.6 for fresh material and 2.5 for oxidised material. Average Kavursuki Ore measures 2.64;
10. Resources have been classified in compliance with the National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101), as Indicated and Inferred. Categories are allocated by block by domain, based on sample spacing and type, number of informing samples, geological continuity and Krige estimate confidence.
11. Resources are reported above a cut-off of 1.5g/t Au;

Resources remaining within the current pit design total 135,000t at 4.44 g/t gold for 19,200 ounces. No mining dilution or loss has been applied. This comes with a penalty of 0.35% copper. These in-situ resources remaining have not been modified with mining or metallurgical factors.

Table 3 – Resource estimate notes for Sinivit & Kavursuki (Taylor, 2011)

The 2011 Historical Resource Estimate is contained in an internal technical report prepared for New Guinea Gold Corp. The parameters and assumptions of the 2011 Historical Resource Estimate are set forth in Table 3 above. The 2011 Historical Resource Estimate uses “inferred resources” and “indicated resources”, which are categories set out in NI 43-101. The author considers the 2011 Historical Resource Estimate relevant and reliable as it evidences a key target for future exploration on the Property. The Company will be required to carry out a detailed data verification program as well as limited confirmation drilling in order to verify the 2011 Historical Resource Estimate as a current resource estimate. The author has not done sufficient work to classify the historical resource estimate as a current resource. The Company is not treating this historical estimate as a current mineral resource.

In 2013, an independent technical report by Mining Associates (author Ian Taylor) compiled a mineral resource estimate for the Kavursuki deposit which was prepared in compliance with CIM guidelines and under the guidance of NI43-101 disclosure standards for reporting Mineral Projects (the “2013 Technical Report”).

“The mineral resources for the oxide mineralisation are listed below quoted above a 1.5 g/t Au cut-off and are classified as Indicated category based on the quality control measures, number of informing samples, average distance and the kriging variances. No Inferred or Measured resources are defined at Kavursuki.” (Taylor, 2013).

Indicated Resources (above 1.5 g/t)			
Vein	Tonnes	Gold (g/t)	Gold (oz)
Kavursuki	283,000	3.7	33,000
Reported tonnage and grade figures have been rounded off from raw estimates to the appropriate number of significant figures to reflect the order of accuracy of the estimate. Minor variations may occur during the addition of rounded numbers			

Table 4 – Mineral Resource Estimate for Kavursuki (Taylor, 2013)

“Mineralisation outside the two defined high-grade shoots is continuous along strike. This continuous lower grade mineralisation does not meet the criteria for reasonable prospects of eventual economic extraction and thus is not classified as resources.” (Taylor, 2013). Extensive notes accompanied the resource estimate.

Notes to accompany resource statement:

1. The Kavrusuki Project is 90% owned by NNG Corporation with 10% owned by Gold Mines of Niugini Holdings.
2. The mineral resource estimate is based on mineralised intercepts in a total of 46 drill holes for 2,843 m, comprised of 12 holes 1,260 m in 1990, 12 holes 597 m in 2010, 20 holes 951 m in 2011 and 2 holes 35 m in 2012. The last 36 holes have been drilled NNG. The holes drilled by NNG are collared using HQ triple tube drill tools. Some holes are reduced to NQ size at depth in order to continue the hole. Generally the NQ metres are not triple tube.
3. samples were composite to one metre, providing 854 one metre composites to inform the resource.
4. Core samples are dried, crushed and pulverised to 85% passing through a 75 micron mesh. The pulps are assayed for gold and copper using a 50 g split and analysed by Fire Assay (FA), and AAS finish. Rejects and pulps are stored at ALS Minerals in Townsville, Australia for future reference.
5. Downhole surveys were conducted with an Eastman style single shot camera on 25 of the 46 holes. Generally holes have two readings per hole depending on final drill depth.
6. MA conducted a review of the data and sample collection from drilling programmes on the project in May 2011 and recommendations were made to improve QA/QC procedures.
7. NNG drill core was available for review on site.
8. MA has reviewed the company procedures and protocols for NNG and have visited site on 5 occasions throughout 2010, once in May 2011 and once in April 2013.
9. The geological resource is constrained by domains consisting of 3D models and the lease boundary. Drill hole data was displayed in section and elevation slices showing assays and geology. Intercepts were selected and coded for each vein domain based primarily on a grade greater than 0.2 g/t Au with a higher grade core identified above 0.6 g/t. The entire quoted resource is contained within the 0.6 g/t grade shell.
10. Vein domains are based on at least 2 drill hole intercepts and width control from surface mapping/trenching samples (trench grades were not used to inform gold estimates).
11. Drill intercepts within each lode are flagged in a database table and composited down hole to provide informing composites.
12. Informing samples were composited to 1 m lengths. Search parameters were set along strike and down dip. A moving ellipsoid of 200 m was used to select the informing samples. A minimum of 3 composites and maximum of 18 composites could be selected.
13. A grade cap of 12 g/t Au and 18 g/t Au was applied to informing composites in the higher grade domains to remove outliers. Low grade gold domains (>0.2 g/t <0.6 g/t) did not require grade capping.
14. A total of 79 bulk density samples were collected from Kavrusuki. The average bulk density is 2.63 t/m³. Bulk density of the halo mineralisation and mineralised vein is assigned 2.5 t/m³.
15. The estimation block size was 5 m (x) by 20 m (y) by 8 m (z). A sub-block size of 1.25 m (x), 5 m (y) and 2 m (z) was used to increase the resolution of the model at the edges of domains.
16. Grade was interpolated by domain using ordinary kriging estimation with parameters based on directional variography. Low grade and higher grade domains were combined providing one variogram for low grade veins and one for higher grade veins. Estimates were validated against informing samples and with nearest neighbour and inverse distance squared interpolation.
17. Volume of each vein domain was defined by wireframes in 3D space that were used to flag resource blocks.
18. Results are stored in a block model that was screened for topography by block.
19. Resources have been classified as indicated for the domained areas based on the number of informing samples, average distance and the kriging variance for each block.
20. Variable cut-off grades for Au are reported.
21. Reported tonnage and grade figures have been rounded off to the appropriate number of significant figures to reflect the order of accuracy of the estimate. Minor variations may occur during the addition of rounded numbers.
22. There has been no depletion applied to the resource, no previous mining has occurred at Kavrusuki either by NNG or artisanal miners.

Table 5 - Resource estimate notes for Siniviti & Kavrusuki (Taylor, 2013)

The 2013 Historical Resource Estimate is contained in a technical report prepared and filed under the SEDAR profile for New Guinea Gold Corp. The parameters and assumptions of the 2013 Historical Resource Estimate are set forth in Table 5 above. The 2013 Historical Resource Estimate uses “indicated resources”, which is a category set out in NI 43-101. The author considers the 2013 Historical Resource

Estimate relevant and reliable as it evidences a key target for future exploration on the Property. The Company will be required to carry out a detailed data verification program as well as limited confirmation drilling in order to verify the 2013 Historical Resource Estimate as a current resource estimate. The author has not done sufficient work to classify the historical resource estimate as a current resource. The Company is not treating this historical estimate as a current mineral resource.

6.4 Past Production

The Wild Dog mine has produced approximately 23,550 ozs Au to the end of June 2011. It was expected that mining of oxide mineralisation would be complete by 2011 however gold production was originally planned for 2,500 ozs to 3,000 ozs Au per month but has not been achieved on a consistent basis due to issues with the VAT leach processing method which has been shown to have significant shortcomings in difficult terrain and high rainfall areas. Disruptions to mining occurred in late 2011 and during 2012, due community concerns, poor recoveries, contractors leaving and delays in government permits, so that production became sporadic. No mining was carried out in 2013.

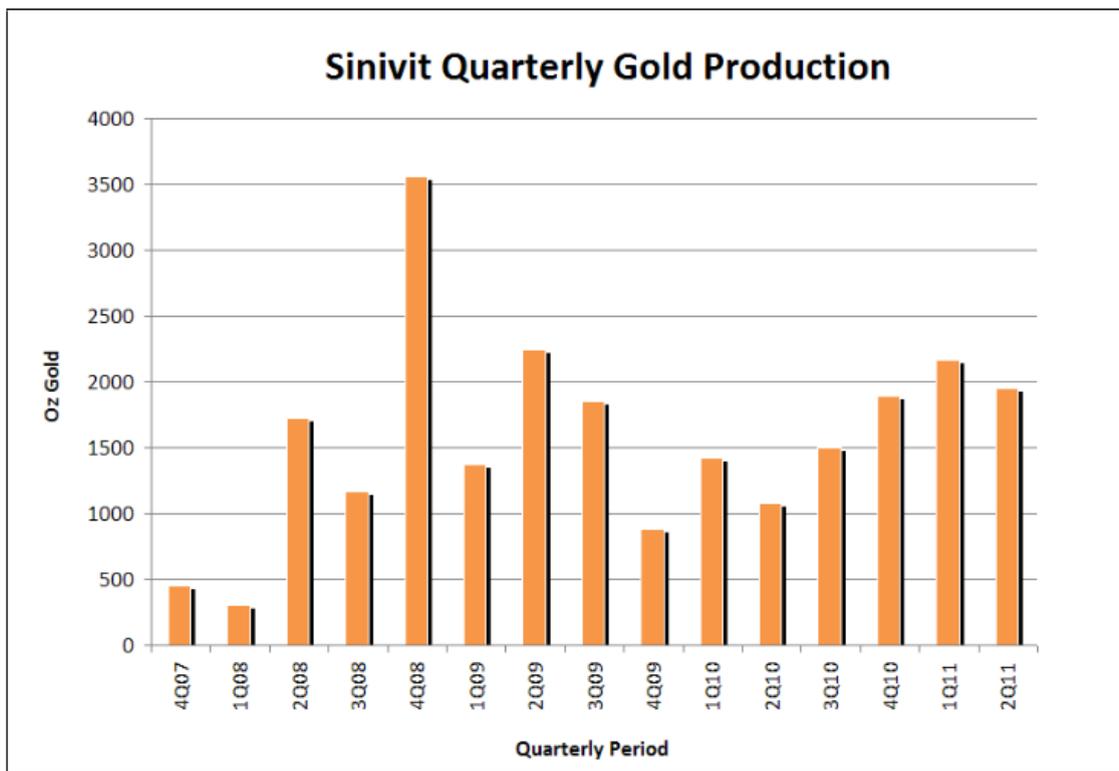


Figure 9 – Past Gold Production by Quarters to June 2011 [Source: NGG 2011 & Taylor 2011]

It is not known to what extent the original resource at Sinivit was depleted. A new survey of the landscape is required. No pit rehabilitation has been undertaken since then and there would only be minor collapse and erosion since then.

7 Geological Setting and Mineralisation

7.1 Regional Geology

7.1.1 Tectonic Setting-Magmatic Arcs

Southeast Asia is a collage of ophiolitic, island and oceanic arc terranes that formed from intra-oceanic and oceanic-continental subduction (Figure 10) due to movement of the Australian-Indian Plate (northward), the Pacific Plate (westward) and the Eurasia Plate (Garwin et al, 2005).

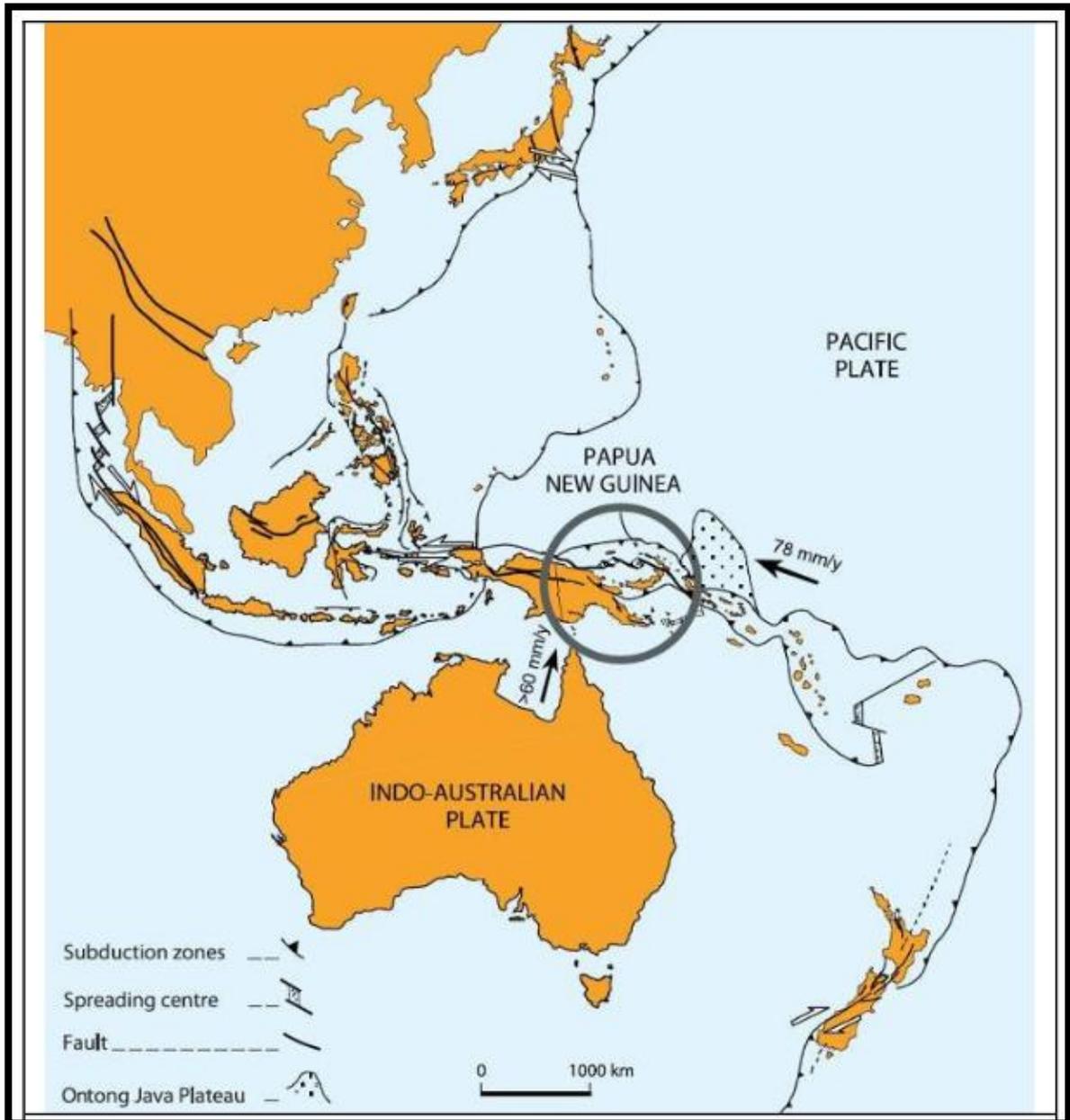


Figure 10 – Regional Tectonic Setting Map (Williamson and Hancock, 2005)

The calc-alkaline Melanesian arc includes New Britain, Manus, New Ireland, and Bougainville Islands (Figure 11).

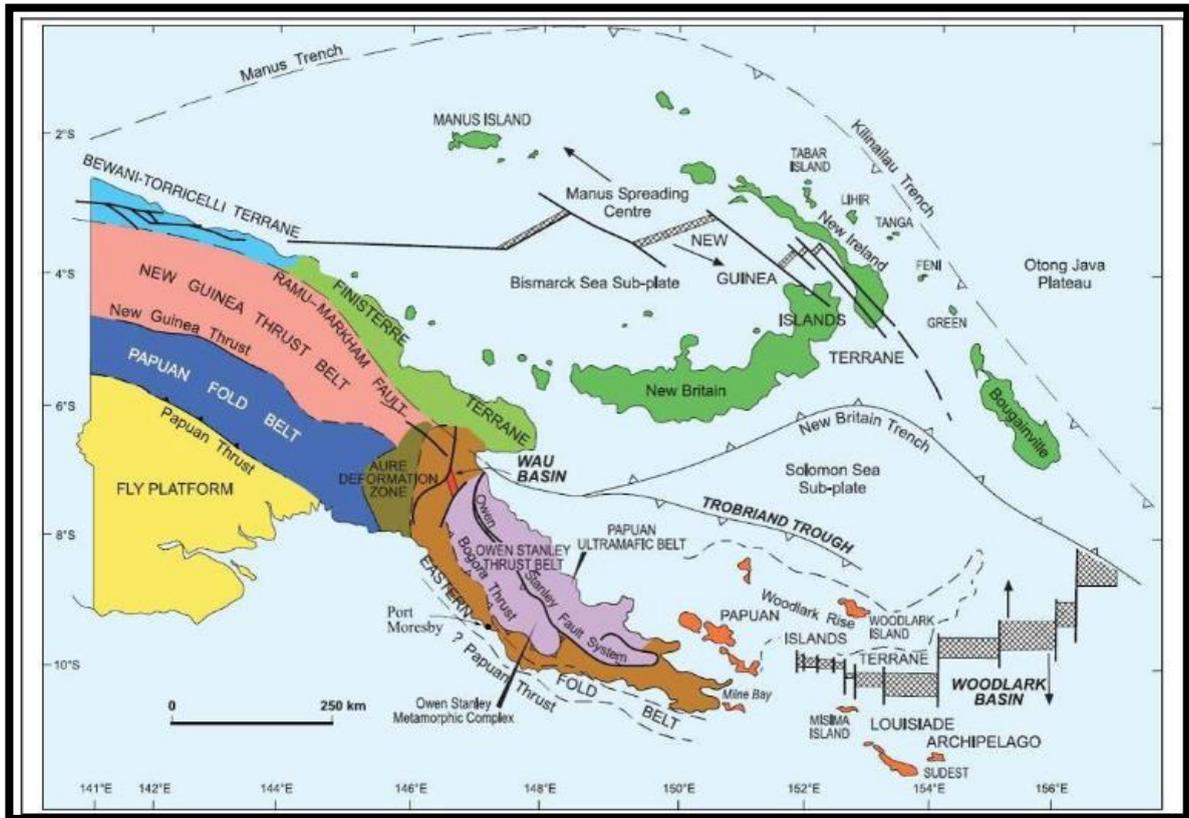


Figure 11 - The Melanesian Arc Map from Eocene to Mid Miocene (Williamson & Hancock, 2005)

The Melanesian arc represents the northerly continuation of the Solomon arc, which began development in the Eocene to early Oligocene in response to southwest-directed subduction of the Pacific plate. The collision of the Ontong Java plateau in the early Miocene (22 - 20 Ma) jammed the Melanesian trench with a general hiatus in arc magmatism from the mid- to late Miocene until northeast-directed subduction was established beneath the New Britain trench in the earliest Pliocene (~6 Ma). Magmatism continues through to the present.

The geologic basement to the Melanesian arc is not exposed but is inferred to be pre-Eocene oceanic crust. The oldest rocks exposed include Eocene calc-alkaline pillow lavas, volcanoclastic rocks, minor limestone, and rare gabbroic intrusions. The northwest-trending faults that extend across eastern New Britain, New Hanover, and southern New Ireland Islands are inferred to link to offshore transform faults that separate northeast-oriented spreading ridges in the Bismarck Sea.

7.1.2 Geological Framework of PNG

The general geology of PNG is described in Rogerson & McKee (1990) and Williamson & Hancock (2005). The geological framework of Papua New Guinea (Figure 18) comprises a series of geological terranes (discrete geological regions) that are commonly separated by geological elements (structures, etc.). The components that define the tectonic setting of Papua New Guinea include:

- The Australian Craton, which underlies the Fly Platform and much of Papua New Guinea as a rigid continental block extending to the south.
- The New Guinea Orogen, represented by the mountainous spine of Papua New Guinea, formed as a collision zone and can be divided into the Western (Highlands and Ramu–Sepik regions) and Eastern (Papuan Peninsula and Islands) Orogens. It is a composite terrane of metamorphosed sediments that have undergone fold thrust belt deformation, island arc magmatic extrusive and intrusive rocks, and obducted oceanic crust.
- The Melanesian Arc comprises a series of now dismembered island arcs which lie to the north of the New Guinea Orogen, within the segmented oceanic Pacific Plate margin.
- The Pacific and Caroline Plates, which have been subducted into the Manus and Kilinailau Trenches respectively, are locally obducted onto the Orogen.

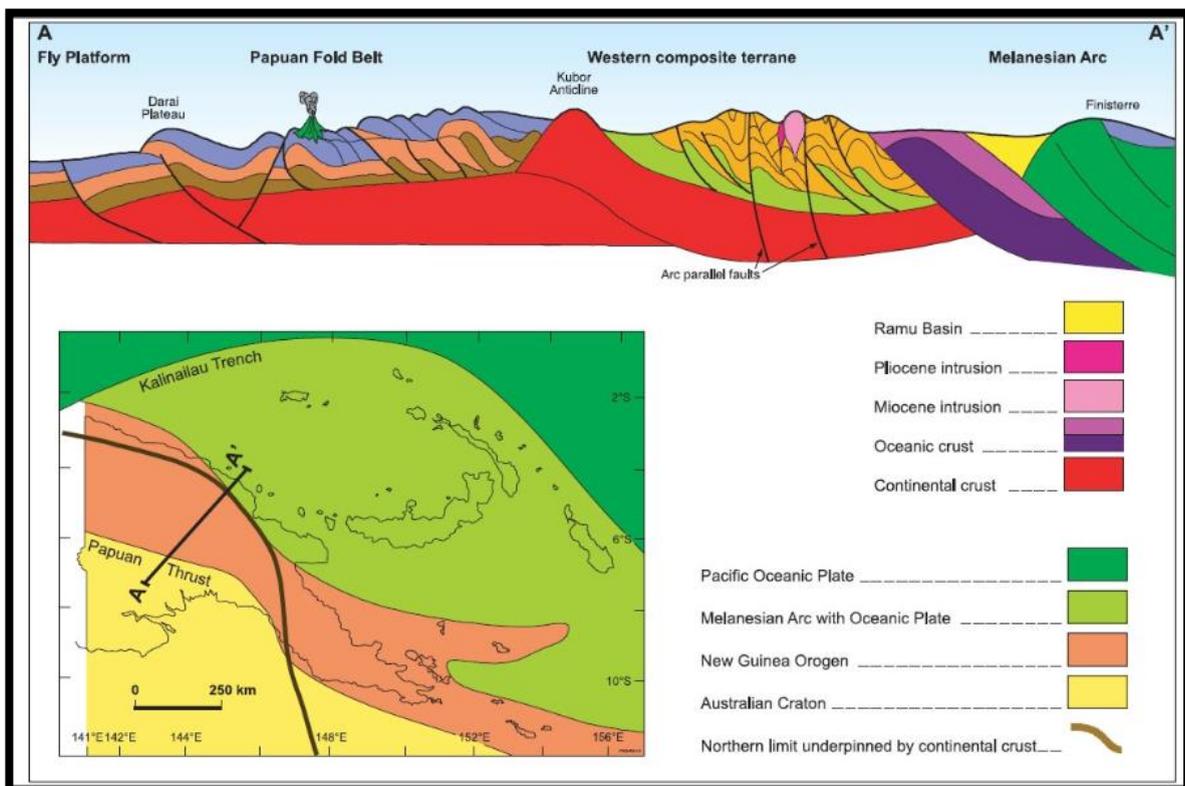


Figure 12 – Geological Framework of PNG (Williamson and Hancock, 2005)

The geological elements (Figure 11) of the Melanesian Arc (and oceanic plate) at Figure 12 are:

- The Kilinailau Trench. Developed as a Paleogene, south-dipping intra-plate subduction zone limiting the oceanic Pacific Plate to the northeast from its dismembered margin in which the Melanesian Arc (New Britain, Manus, New Ireland, Bougainville and Solomon Islands) formed by island arc magmatism. The trench was the locus of Pacific Plate subduction below the Australian Craton from the Paleocene, but became jammed by a thick segment of oceanic plate termed the Ontong Java Plateau, and ceased to be active by the Mid-Miocene.
- The Melanesian Arc. Originally formed as a linear island arc archipelago in the hanging wall of the south-dipping Kilinailau subduction zone, it has been substantially modified since the Pliocene by

continued oblique collision of the westward-moving Pacific Plate as well as the opening of the Manus Basin, resulting in a repositioning of many of the individual island elements.

- On the northern side of the Papuan Islands, the Solomon Sea Sub-plate, a remnant sliver of Cretaceous oceanic crust, is constrained between the north-dipping Pliocene New Britain Trench subduction zone on the north side, and the more poorly defined south-dipping inactive Trobriand Trough to the south. The Solomon Sea Sub-Plate is being actively consumed along the New Britain Trench and is regarded as an important influence on Pliocene island arc magmatism within the islands. The Bismarck Sea Sub-plate lies to the north of the trench. The Bismarck Sea Sub-plate. This contains the New Britain Island Arc formed in the hanging wall to the New Britain Trench, and also the Manus Basin back arc style-spreading centres. These spreading centres are separated by a series of northwest-trending transform faults, one of which continues onshore on the northeastern tip of New Britain at the Gazelle Peninsula. New Britain Island Arc comprises a thick basal sequence of Late Eocene basaltic to andesitic lava, breccia and associated sediments that are overlain by Oligocene island arc volcanic rocks and 30–22Ma co-magmatic intrusions. The hiatus in volcanism in the Miocene is represented by extensive, locally thick shelf limestone with karst topography, which is in turn overlain by Pliocene volcanoclastic sedimentary rocks.
- The New Guinea Islands Terrane comprises the islands northeast of the mainland, but not including the Papuan Islands.
 - o The islands of the Melanesian Arc were mainly built up by subduction-related island arc magmatism beginning in the Eocene. At that time, the islands formed an archipelago that stretched southeast as the islands of New Britain, Manus, New Hanover, New Ireland and Bougainville, and thence on to the Solomon Islands, Vanuatu and Fiji.
 - o While recent data places the Finisterre Terrane (formerly regarded as allochthonous and accreted from the north) as a landward portion of the Eocene Melanesian Arc, the relationship of this arc to the Adelbert region to the west remains uncertain.
 - o A cessation of subduction and associated magmatism in the Miocene led to deposition of thick limestone caps on many islands. Renewed subduction-related magmatism in the Pliocene resulted in the development of overprinting island arcs. The Manam–Karkar–Umboi–Talasea–East New Britain island arc stretches from the north coast of New Britain to the northern margin of the New Guinea mainland and is noted for the recently active volcanism on Manam and Karkar Islands.
 - o The Tabar–Lihir–Tanga–Feni Island arc lies to the northeast of New Ireland as a linear Pliocene to Quaternary volcanic arc and is noted for the presence of shoshonitic magmatism and associated gold mineralisation. This arc is inferred to have been also derived from magmatism associated with subduction of the Solomon Sea Sub-Plate into the New Britain Trench, under New Britain and New Ireland.

7.1.3 Regional Geology – Gazelle Peninsula

The regional geology has been described by Lindley (for example, Lindley 1988 & 2006).

Basement in the New Guinea islands is formed by Upper Eocene intermediate and basic pillow lavas, breccias and volcanoclastics with numerous lenses of coralline limestone, outcropping extensively throughout New Britain (Baining volcanics), Manus (Tinniwi volcanics), Bougainville (Atamo volcanics) and the Bewani Mountains (Bliri volcanics), in the Northern Sepik. These rocks are regarded as typical of an embryonic island arc, and are overlain by Upper Oligocene volcanoclastic formations and intruded by Upper Oligocene–Lower Miocene dioritic plutons. During the Lower to Middle Miocene thick carbonate sequences

(Yalam Limestone; Figure 19) accumulated on a platform that extended across much of the region and beyond. The eastern, fault-bounded half of the Gazelle Peninsula was emergent at this time, and shoshonitic andesitic to rhyolitic ash flow sheets covering a 600 km² area (the Nengmutka volcanics) were erupted from a caldera complex (Figure 28). The Nengmutka Volcanics host the Nengmutka vein system from which sericitic alteration has been dated at 22 – 23 Ma. This suggests an earliest Miocene date for the commencement of ash flow tuff volcanism.

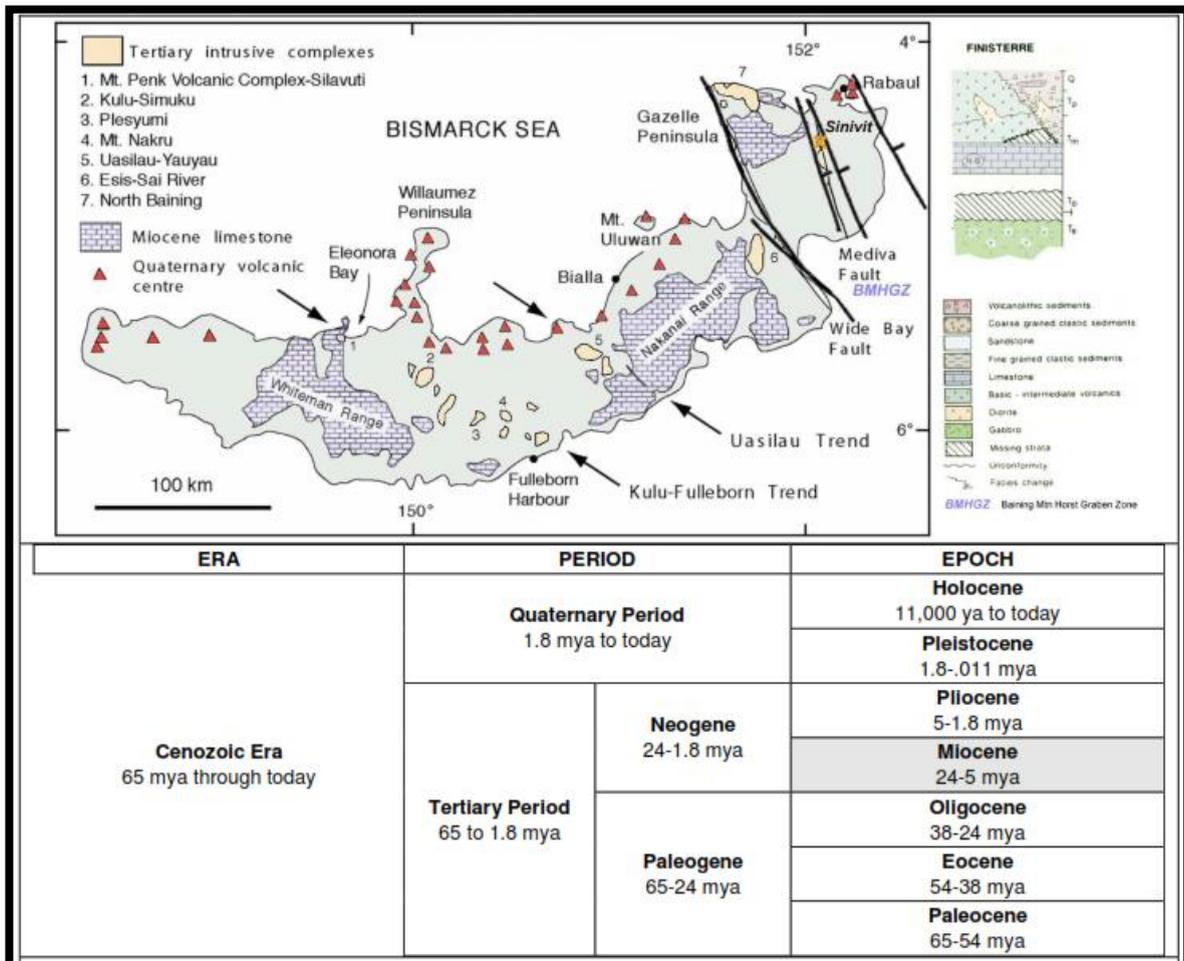


Figure 13 – Simplified geology and Structure of New Britain (Lindley, 2006B)

The Arabam Diorite is typically a coarse-grained diorite to quartz diorite (tonalite) composed of white plagioclase, primary hornblende, and biotite (15%), and variable interstitial quartz (up to 20%). Magnetite (common), apatite (minor) and primary sphene are accessories. Minor orthoclase can be present and, with varying quartz contents, accounts for the compositional variations (quartz diorite, biotite granodiorite, hornblende diorite). Aplite and pegmatite veins and dykes are present throughout the Arabam Diorite and the adjacent country rock. The Arabam Diorite has been dated at 14 Ma. The intrusive is of Middle Miocene age and is considered to be partly coeval with the Nengmutka Volcanics; it represents the youngest intrusive event in New Britain.

Widespread deposition of fluvial and marine volcanoclastics occurred throughout the New Guinea islands during the Pliocene-Holocene. Raised Pleistocene-Holocene coral reefs fringe many of the islands of the region.

The Gazelle Peninsula is dissected by the Baining Mountain Horst and Graben Zone (BMHGZ), a wide zone of north-northwesterly trending horst and graben structures, indicative of an extensional tectonic regime since the Lower Miocene. Some of these structures (Wide Bay Fault – WBF, and Mediva Fault) are deep-seated and continue through the crust. Between the WBF and the BMHGZ lies a block with an average depth to mantle of 18 km; to the east of the BMHGZ the average depth to mantle is greater than 30 km. At prospect (1:500 to 1:2500) and semi-regional (1:5000 to 1: 20000) scales on Manus Island, New Ireland and New Britain, the structure is dominated by high angle normal faults. Low-angle reverse faulting has not been observed. In the Central Gazelle Peninsula, well-developed north-northeasterly extensional joint sets of Upper Oligocene-Lower Miocene age, are traceable for a distance of some 26 km through the Nengmutka River region. These tensional gashes have been filled during multiple episodes of quartz veining, forming vein structures up to 40-50 m wide.

The Mediva Fault passes north-northwesterly across the Central Gazelle Peninsula, East New Britain. Detailed mapping has shown that almost all tonalite stocks of the Arabam Diorite abut against the fault, clearly indicating fault-controlled emplacement of the Middle Miocene intrusive. Reactivation of the fault after emplacement of the stocks has resulted in fault truncation and their eventual unroofing. Recent movements continue along the Mediva Fault, with Late Pleistocene beds (14C dated at 50000 year) tilted through 60° and the displacement of the recently erupted (1400 year) Rabaul Ignimbrite. Weak porphyry copper mineralisation is known from some stocks of the Arabam Diorite. The fault is an element of the BMHGZ, a deep-seated structure with sub-crustal extent. The long-lived currently active structure pre-dates the Middle Pliocene commencement of the opening of the Bismarck Sea.

7.2 Property (Local) Geology

The local geology has been described by Lindley (1988, 1990 & 2006).

The Mt Sinivit project area is hosted by the Nengmutka Volcanics, a flat lying sequence of volcanoclastic sandstone and breccia with ash flow tuff, minor red mudstone and andesite lava (Figure 20). Thickness of the formation is difficult to calculate (due to the rugged topography), but it is estimated as at least 520 m. Drilling at the Wild Dog Property has intersected the Nengmutka Volcanics over a 300 m vertical interval. The Nengmutka Volcanics are described in detail by Lindley (1988).

The volcanic sandstones are typically fine to medium grained, well sorted, and occasionally contain thin interbedded pebbly lenses. The pebbles are typically rhyodacitic in composition. The volcanic conglomerates are typically matrix supported and coarse to very coarse. Clasts are generally subangular to sub-rounded and typically also of rhyodacitic composition.

The sedimentary units do not outcrop in the immediate former mining area but form a distinctive marker horizon which has been intersected in almost all drill holes at 820 m RL. The environments of deposition for the Nengmutka Volcanics are best explained in terms of a caldera-related fluvial system, possibly situated in the mid- to distal reaches of a small alluvial fan complex with sediments being derived from the caldera walls. Black pyritic mudstones are indicative of a relatively shallow lake deposit located in a humid environment, whereas the red mudstones represent overbank flood plain or interchannel deposits. Fluvial sedimentation was occasionally interrupted by brief periods of volcanism resulting in massive poorly welded ash-flow tuff units of dacitic to rhyodacitic composition. The rhythmically bedded fine sandstone-black pyritic mudstone sequences in the Nengmutka River are interpreted as lake sediments deposited in a humid environment, possibly as a moat filling in the ring-fracture zone of the Nengmutka Caldera.

The entire sequence is intruded by post mineralisation basic intrusives, considered to be equivalent in age to the Middle Miocene Arabam Diorite. Unconsolidated volcanic ash derived from Recent eruptions of the Rabaul Caldera (about 1400 years ago) blanket the area.

A porphyry body intrusive into the Nengmutka Volcanics is present in the Magiabe Valley. It is an equigranular quartz diorite (Arabam Diorite), locally porphyritic and unaltered. Several small (300 m x 200 m) bodies of intrusive have been mapped comprising micro-monzodiorite and monzonite, typically with potassic alteration. An intensely phyllic altered pebble breccia body of circular shape (250 m diameter) has also been mapped and there is extensive occurrence of dykes. Weak porphyry copper mineralisation is known from some stocks of the Arabam Diorite. Diatremes and breccia bodies related to the Nengmutka Volcanics may potentially host significant mineralisation.

Epoch	Arc	Event	MINERALISING EVENT	Approximate Stratigraphy (Gazelle Peninsula)	
Holocene 11,000 ya to today	Solomon Sea Plate commences (northward) subduction into the New Britain Trench.	Pliocene to present volcanics			
Pleistocene 1.8-0.11 mya					
Pliocene 5-1.8 mya					
Miocene 24-5 mya	Pacific Plate (westward) subduction into the Melanesian Trench	Arc Magmatism ceases by Mid to late Miocene.		Yalam Limestone Low – Mid (?)	Arabam Diorite 14 Ma
		Collision of Ontong Java Plateau (22 – 23 Ma) jams Kilinailau (Melanesian) Trench.	Nengmutka Alteration (22-23Ma)	Nengmutka Volcanics	
Oligocene 38-24 mya		Nengmutka Caldera – Eruptions start upper Oligocene.			
Eocene 54-38 mya		Beginning of Arc. Baining Volcanics upper Eocene.		Baining Volcanics	

Table 6 – Summary of arc magmatism and basic stratigraphy of Gazelle Peninsula, New Britain (Taylor 2011B).

The timing of arc events, mineralisation, and the emplacement of the key rock types above, are graphically summarised in **Error! Reference source not found.**

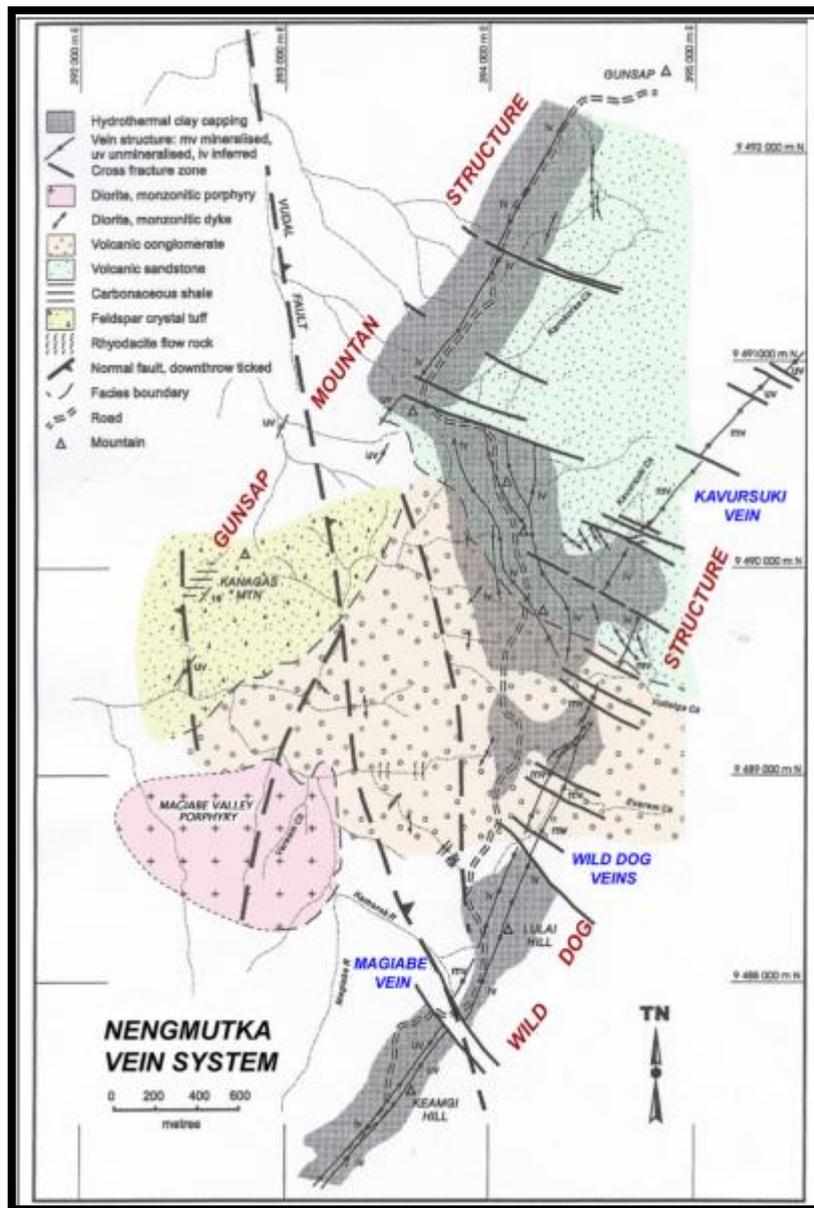


Figure 14 – Geology and alteration of the Nengmutka Vein System map (Lindley, 2011)

Mineralisation is hosted by the Nengmutka vein system (Figure 14). Mining of oxide material has occurred in three pits (northern, central, and southern) on the Wild Dog Vein and further gold mineralization is present at the Kavursuki Vein system.

7.3 Mineralization

7.3.1 Regional Mineralization



Figure 15 – Photo of mineralized and altered cross fault in the Southern Oxide Pit at Wild Dog mine site (June 2023).

7.3.2 Wild Dog Vein Type Mineralization

Lindley (1990) describes the mineralisation as follows. Four hydrothermal vein types and two hydrothermal episodes, an early high sulphidation stage and a late low sulphidation stage, are present.



Figure 16 - Polished slab of veining mineralization from Wild Dog veins (mm increments) with bornite (WDR, 2023).

The hydrothermal vein types (Figure 16, Figure 17 & Figure 18) have been characterised as Types I-IV.

- Early, barren, Type I veins consist of milky quartz and are associated with silicification of the host volcanics.
- Type I veins can contain weakly anomalous gold mineralisation. In the southern extent of the Western vein gold contents range from 0.20 to 0.95 g/t Au. Similar values occur in the Type I veining underlying the clay cap at Keamgi Hill. Further to the south in the Muruk vein the analyses range from 0.19 to 0.79 g/t Au.
- Types II, III and IV veins are auriferous and represent a second period of hydrothermal veining. They cut earlier veins, silicification and locally altered hanging wall alteration zones. Veins are zoned from Type II veins with clear crystalline quartz, Type III with microcrystalline dark grey, sulphidic quartz to Type IV the innermost vein material consisting of crustiform – banded – chalcedonic silica.
- Type II-IV veins contain an association of minerals below the oxide zone, in decreasing order of abundance: chalcopyrite, pyrite, bornite, tetrahedrite, chalcocite, and telluride and gold minerals. Telluride minerals include native tellurium, rickardite, hessite, calaverite and several gold-silver and bismuth tellurides. Gold generally occurs as calaverite, petzite and/or sylvanite. Micron sized gold can occur as apparently exsolved particles surrounding large composite grains of telluride. No

minerals such as luzonite or enargite typical of high sulphidation systems have been recorded at Nengmutka. There is no apparent zoning of the mineralisation along 3 kilometres of strike of the vein. The similarity of these mineral assemblages implies they are contemporaneous and related by a common fluid flow path.



Figure 17 – Banded chalcidonic silica (Type IV) clast with 'ginguro' banding within massive silica vein (Type I) (FSX: June 2023).

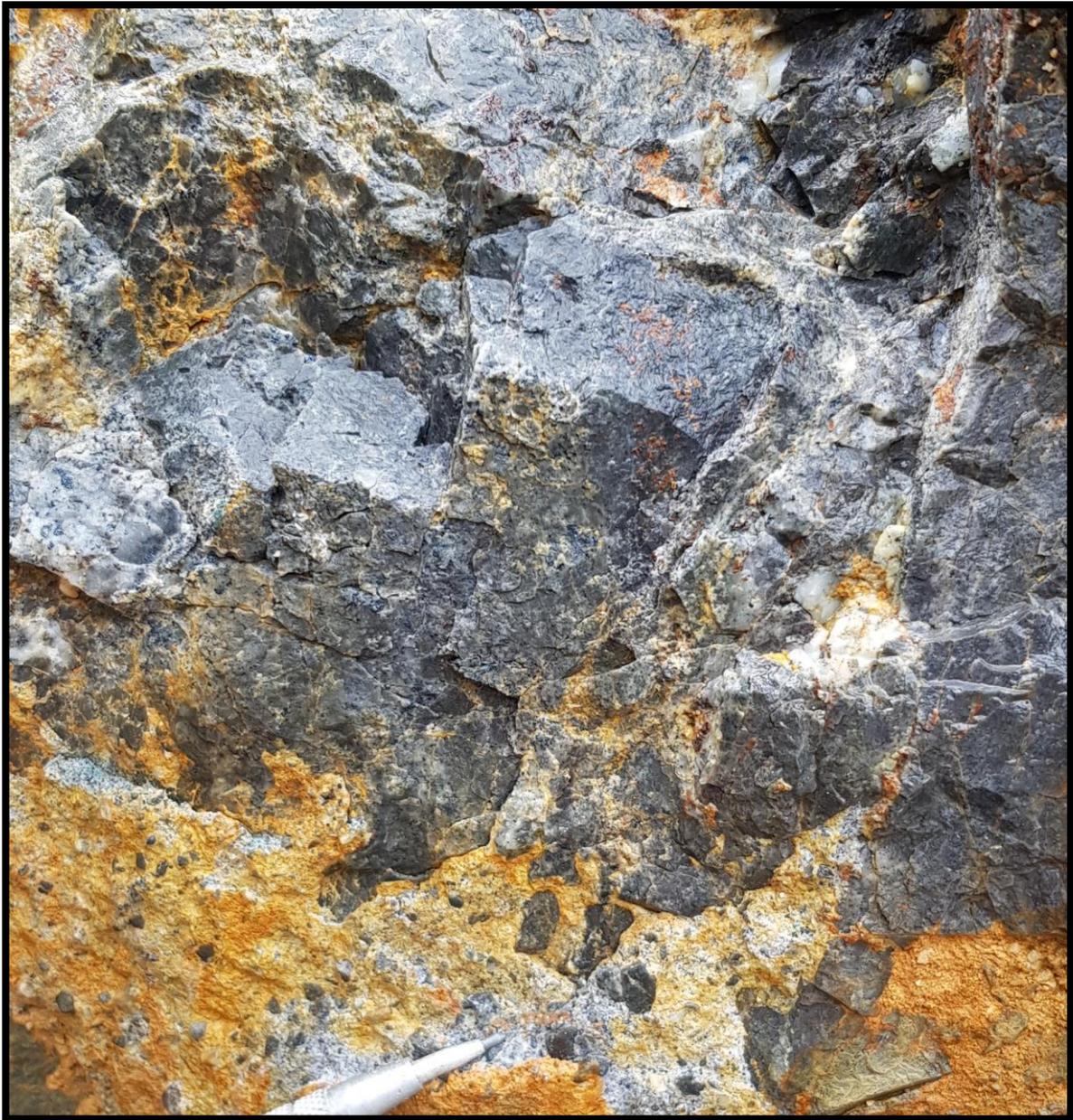


Figure 18 - Bornite rich quartz vein at Wild Dog prospect (FSX: June 2023).

Alteration

X-Ray determinations ('XRD') have been undertaken on over 120 clay separates collected from Sinivit, 67 collected from Lulai Hill and 148 collected from Keamgi Hill.

At Sinivit, typical clay species encountered in the clay cap overlying vein mineralisation are sericite, illite and interlayered illite-smectite. The distribution of clays above the gold-copper mineralisation is relatively simple. High temperature sericite (with cryptocrystalline silica and hematite) occurs at low elevations and

cooler temperature illite-smectites are restricted to higher elevations. Illite is transitional. In cross section, the zone of illite-smectite is funnel shaped.

Beneath the broad hydrothermal clay cap, the steeply dipping quartz filled and silicified Wild Dog structure is accompanied by illite or sericite with up to 5% adularia. The crosscutting Type II-IV veins are associated with illitic clay alteration. The host rocks to these silicified zones are characterised by chlorite-plagioclase altered rocks (Figure 19 & Figure 20).



Figure 19 – Gold mineralisation in lower bench pit face (Taylor, 2011)

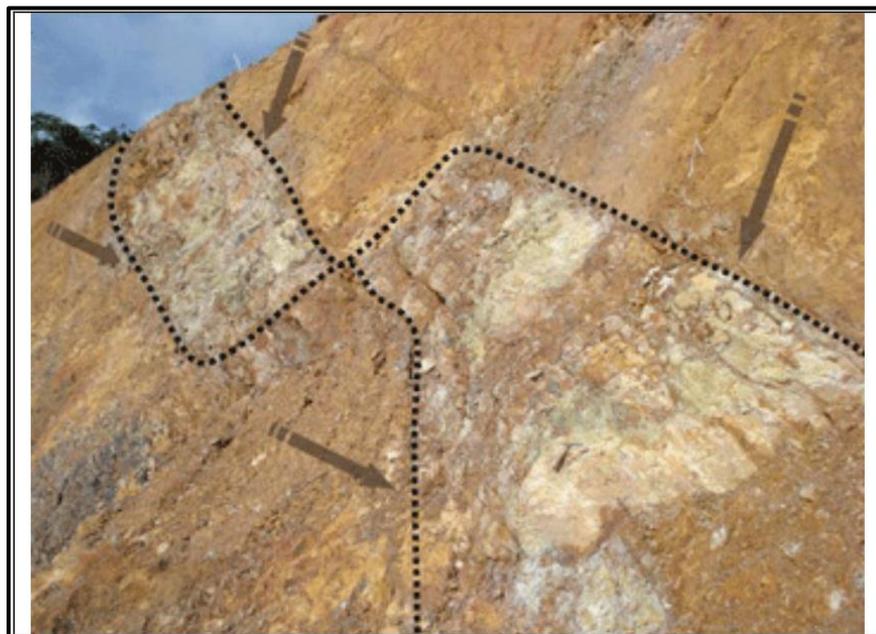


Figure 20 – Gold mineralisation in upper bench pit face, with faulted offsets (Taylor, 2011)

Weathering

Intense tropical weathering and leaching to approximately 30 m depth has allowed a surface profile depleted in copper and silver minerals to be developed. At the base of weathering supergene enrichment results in concentrated copper oxide minerals, notably malachite.

Volcanic Ash Cover

The project area is covered by 2 to 3 metres of fine grained, red-brown volcanic ash dated at 1,400 years b.p. and equivalent in age to the Rabaul Pyroclastics.

Host Rocks

A flat-lying, epiclastic sequence of volcanic sandstone and conglomerate is host to the Nengmutka vein mineralisation. Hydrothermal illite alteration associated with this mineralisation has an age of 22 – 23 Ma.

Controls

Two contrasting structural regimes are recognised. One existed at the time of mineralisation, with a subsequent period of extensional tectonism that has persisted to the present day.

The structural pattern at the time of mineralisation (Early Miocene) is reflected by the vein-filled and silicified structures known as the Nengmutka Vein System. The district was dominated by two north, north-east trending sub-parallel structures, which are variously hydrothermal clay covered or contain outcropping veining and silicification.

The Wild Dog structure is the predominant structure in terms of its persistence with a strike of 10 kilometres. The Gunsap Mountain structure lies approximately 1 kilometre west of the Wild Dog structure and is predominantly clay covered although outcropping veins are present at its southern mapped extent. A fault 'jog' trending 330o-340o connects the partially exhumed northern end of the Wild Dog structure with the southern end of the Gunsap Mountain structure. This structure has a strike length of 1,500 m and is masked by a 600 m wide zone of quartz veined hydrothermal clay. This is wider than any zone of clay alteration developed above veining on the Wild Dog and Gunsap Mountain structures.

Dyke orientations at the well exposed southeast end of the jog structure follow the trend of the structure and indicate the existence of the structure prior to the timing of the mineralising event as shown by the studies of dykes existing in the main mineralised areas.

Since the Early Miocene, to the present day, the Gazelle Peninsula had a long history of extensional tectonism. Vertical movements along high angle structures such as the Vudal fault and the Mediva fault dominate the present-day topography of both the Nengmutka district and the Baining Mountains.

Extensive south-east oriented post-mineralisation cross fracturing of the Nengmutka fault system may be Riedel shears related to the north-north-west trending horst and graben extensional tectonism

Dimensions

The Nengmutka vein system is a 10 km by 400 m wide complex structural zone containing erratic gold-copper-tellurium mineralisation. Economic mineralisation has been identified over a one-kilometre strike of the Wild Dog Vein, with other significant mineralisation developed along strike to the NE over a further 900m length at the Kavursuki Vein.

Continuity

The Nengmutka vein system is cut by a series of WNW trending cross-fracture zones that post-date veining and mineralisation. Significant offsets are evident in the Central Vein, Wild Dog, Vullelga Creek and in the Kavursuki Prospect. Movement within these zones has often resulted in an intense shattering of brittle silica leaving only zones of coarse, leached silica chips set in a sandy matrix (Figure 15). In other areas, exposures display as large angular blocks of massive silicification, and veining separated by wide (up to 0.5 m) cavities. Trench grades and drilling results are usually highly erratic within cross-fracture zones (Lindley, 2006).

Discussion

The Nengmutka vein mineralisation at Sinivit exhibits a substantial strike length with well defined clay alteration. The multiple vein types and associated alteration is interpreted as reflecting a range from high sulphidation stage to a late low sulphidation stage epithermal style mineralisation. The size of the system reflects the potential size of the mineralising event and porphyry system which is yet to be identified.

The size of the Nengmutka vein mineralisation dictates that outlining new areas of mineralisation will require considerable drilling. Much of the Nengmutka vein system is un-exposed, covered by clay caps which mask mineralisation related geochemical signature. Likewise, the size of the system indicates a regional level exploration is required to locate the genetically related porphyry system.

Whilst the quartz-sulphide veins discovered and mined to date at the Wild Dog Property have been relatively small scale, this style of mineralisation does have potential to form large bulk low-grade deposits. These sulphidation systems are often underlain by significant Porphyry Cu-Au systems and these systems form another larger scale target.

8 Deposit Types

The Property mineralisation displays characteristics of both high and low sulphidation gold systems (Figure 21). It has a high sulphidation alteration event character and a low sulphidation quartz-sulphide gold-copper mineralising event character. The pertinent details of each are summarised below.

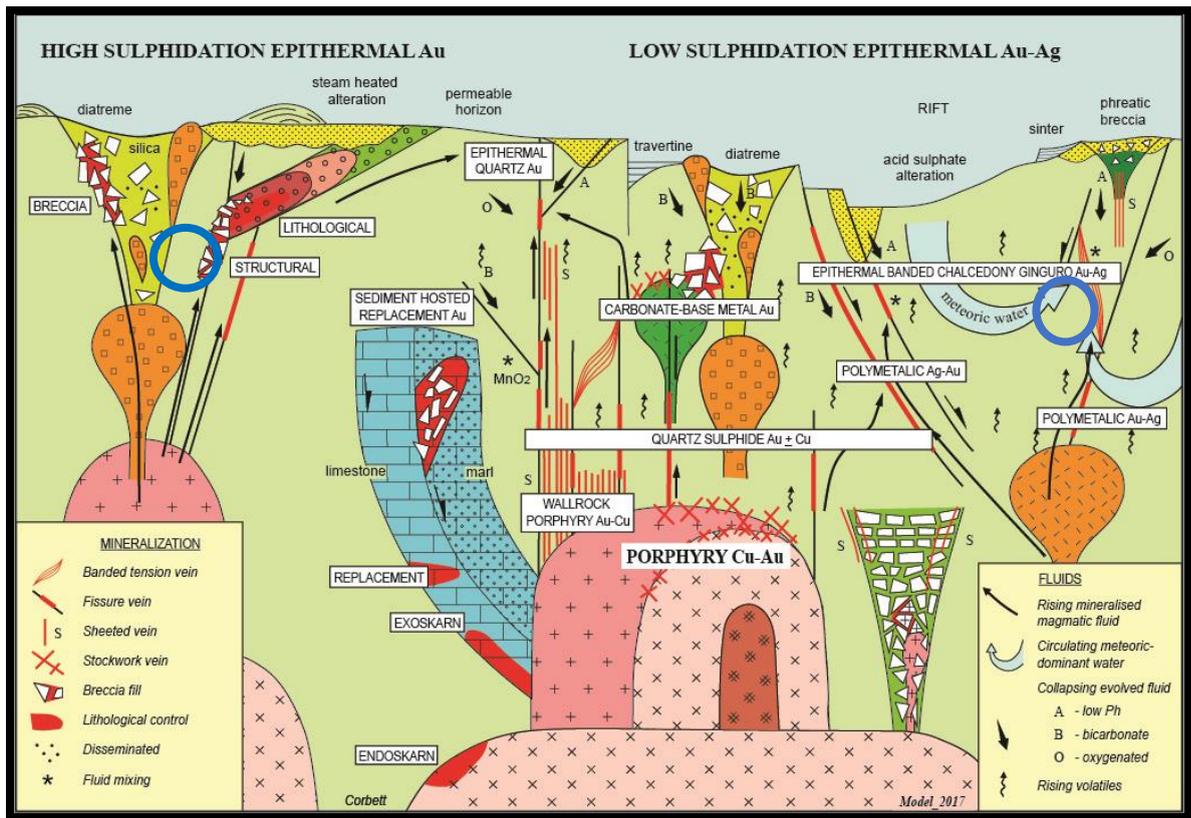


Figure 21 – Characteristics of High Sulphidation & Low Sulphidation mineral systems – Sinivit systems denoted in blue.

Source: [Model_2017.jpg \(1025x704\)](http://Model_2017.jpg) (corbettgeology.com)

8.1 General

Geothermal systems encountered in magmatic arcs associated with subducting oceanic crust are actively forming porphyry-related systems. These systems form porphyry and skarn copper-gold (+ molybdenum), high sulfidation gold-copper, and mesothermal to epithermal precious and base metal deposits.

Porphyry intrusions and related mineralization are emplaced during arc-building magmatism, i.e., when there is a collision between continental and oceanic plates, in which the heavier basaltic oceanic plate is subducted along the Benioff zone, below the lighter continental plate. The subduction zone, marked by an oceanic trench or trough at the plate contact, is commonly concave in the direction of dip and movement, and dips under the magmatic arc. During subduction, continental rocks and offshore sediments may become metamorphosed and deformed and develop into a mountainous accretionary prism. Partial melting of subducted continental and oceanic material at depth will give rise to magmatic arcs which constitute volcanic and volcanoclastic rocks at surface and pass downward to intrusion phases. Porphyry intrusions are emplaced at depths of 1 to 2 km, while differentiated felsic and volatile-rich intrusions may rise to higher crustal levels, and large batholithic bodies occur at greatest depths. Under ideal conditions fluids may evolve from the porphyry environment to form low and high sulfidation gold-copper mineralization outside the porphyry environment.

8.2 High Sulphidation Gold – Copper Model

High sulphidation gold-copper systems (also termed acid sulfate, quartz-alunite-enargite gold, and silica-alunite-kaolinite + pyrophyllite gold) are formed where acidic fluids dominated by reactive magmatic-derived gases, migrate vertically and laterally along structures and permeable country rock (i.e. porous lithologies, secondary fracture permeability), and undergo rock reaction and fluid mixing.

These systems have the following unique characteristics:

- Zoned Alteration.
- Copper-gold-arsenic mineralisation.
- An association with calc-alkaline volcanism.

A two stage model explains the overprinting alteration and mineralisation features encountered in many high sulphidation systems. This model is characterised by early volatile-rich and later liquid dominated alteration/mineralisation events.

Magmatic fluids which exsolve from a melt emplaced at shallow crustal levels (<1 kb pressure) are thought to partition into a low-density vapour (containing H₂O, CO₂, SO₂, H₂S, HCl, etc.) and a hypersaline liquid. The vapour phase is inferred to be more mobile than the saline liquid due to relatively low viscosity and density, and quickly ascends to shallow levels. The low density phase is interpreted to contain relatively low metal concentrations, whereas the dense hypersaline liquid may be enriched in gold, copper and other chalcophile elements.

8.2.1 Volatile-rich (alteration) event

At shallow levels, alteration zonation in high sulphidation systems is formed in response to the progressive neutralisation and cooling of hot acidic magmatic-derived fluids mainly by wall rock reaction. Alteration assemblages can be divided into three main alteration zones: central quartz alunite, marginal phyllic or argillic, and peripheral propylitic zones.

The quartz-alunite zone usually comprises a characteristic core of silica group minerals, mainly quartz, which typically display a vuggy texture, indicative of intense acid leaching. The quartz is virtually the only residual mineral following the leaching of other rock components, and so this alteration is commonly termed residual quartz (silica). The central residual (vuggy) quartz zone grades out to a silicified zone which contains alunite group minerals.

The central silica-alunite zone is typically surrounded by marginal argillic/advanced argillic alteration assemblages of kaolin group (pyrophyllite, dickite, kaolinite) minerals. These grade outwards into illite group (sericite, illite, illite-smectite, smectite) minerals, as the fluid becomes progressively more neutralised. The mineral assemblages formed in each zone are dependent upon the temperature and pH of the upwelling acid fluid, the composition of the host rock, and the physio-chemical conditions of waters residing in the host rock. The illite group minerals grade outward to peripheral sub-propylitic chlorite-carbonate alteration assemblages.

Liquid-rich (mineralising) event

The dense, hypersaline and metal-rich liquid remains at depth until pressure drops are promoted by tectonic fracturing of the carapace, and/or crystallization of the melt, to facilitate expulsion to shallower crustal levels. The cooling and dilution of these metal-bearing fluids, in response to wall rock reaction and mixing with ground water and/or circulating meteoric water, results in mineralisation which overprints the zoned alteration formed by the earlier vapour phase.

The dense, liquid-rich phase utilises the same plumbing system as the earlier volatile-rich phase and focuses mineralised fluids into the residual or vuggy quartz at the core of the zoned alteration. Competent residual quartz and quartz-alunite rocks brecciate well and so commonly host mineralisation. Continuing deformation of dilational structures which channel the liquid-phase fluids may enhance breccia formation and mineralisation. The metal grades of ores are commonly proportional to the degree of brecciation and introduction of sulphide matrix. The enclosing incompetent clay alteration generally displays more plastic deformation, does not fracture, and so is commonly not mineralised. In some systems the clay alteration has a damming effect and so the interface between the competent and incompetent rocks may represent a locus for higher metal grades.

High sulphidation systems exhibit zonations in metals and sulphide minerals, both vertically from deep levels proximal to intrusion source rocks, grading to higher crustal levels, and laterally from silicic core zones, to marginal argillic-propylitic alteration zones. The Cu:Ag ratios decrease from deeper porphyry to higher epithermal levels. At intermediate depths high sulphidation systems display arsenic-rich compositions, and at very shallow near surface levels, enrichments in tellurium, antimony and locally mercury are common. The central quartz-alunite alteration zones are copper-arsenic-rich, whereas the adjacent quartz-pyrophyllite/dickite/kaolinite alteration commonly contains lead-zinc mineralisation. High sulphidation systems in the southwest Pacific are commonly silver-poor. Gold typically displays very high fineness (> 900), and as free native gold or Au-tellurides at shallower level gold deposits.

8.3 Low Sulphidation – Quartz Gold Copper

Intrusions emplaced in magmatic arcs provide heat sources to drive deep circulating hydrothermal systems which are composed of varying proportions of magmatic and meteoric fluids. Magmatic volatiles which evolve from the cooling magma, become entrained at the base of the circulating fluids. Rock reaction and fluid mixing reduce gases such as SO₂ to H₂S, and HCl to dissolved salts, mainly NaCl. Low sulphidation state sulphides are deposited from these reduced, near neutral fluids.

Quartz sulphide gold copper vein/breccia systems occur at shallower levels peripheral to porphyry copper-gold intrusions. These deposits may form high grade veins (Victoria veins, Lepanto, Philippines & Vera Nancy Veins, Charters Towers, Australia) or bulk low grade gold deposits, in settings generally categorized by pronounced structural control (e.g., Kidston, Ravenswood, eastern Australia), or proximal intrusion source rocks (e.g., Ladolam, Lihir Island, Papua New Guinea).

Low Sulphidation epithermal gold deposits are among the richest gold deposits in the world, with some bonanza-grade ore shoots containing more than 1000 g/t gold-equivalent or a kilogram of gold for every tonne of rock mined. The tonnage of ore in epithermal veins is typically smaller than other types of low-grade gold deposits (Tilley, 2021).

Gold mineralisation within Low Sulphidation epithermal veins can occur over vertical intervals of a few hundred metres, vein thicknesses of one to two metres and lengths of up to several hundred metres. In

association with these types of epithermal veins are large alteration haloes where minerals within the country rock have been converted into clay minerals by the circulating hydrothermal fluids (Tilley, 2021).

Epithermal deposits are typically high grade, small tonnage and relatively shallow deposits (Vera Nancy, 3.1Mt at 14 g/t Au). They are best mined by underground narrow vein methods. Rarely, closely spaced veins or vein swarms can occur, allowing open cut mining methods to become economically feasible.

In favourable conditions this style of mineralisation may form large bulk low-grade deposits, for instance: Lihir, Papua New Guinea (42 M oz contained Au); in eastern Australia, Kidston (4 M oz Au), Mt Leyshon (>1 M oz Au), Ravenswood-Charters Towers (1-2 M oz Au) and Lake Cowal (2.4 M oz Au). Other deposits (include Zhao-Ye, China (approx. 16 M oz Au) and Kori Kollo, Bolivia (5 M oz, Au).

Analysis of mineral zonations and reconstruction of original fluid plumbing systems may point towards the porphyry source rocks for these systems.

Quartz sulphide gold copper deposits form in structural settings which tap magmatic source rocks and ore is typically hosted within pre-existing fracture systems which have been dilated during mineralisation to form veins, and also as the matrix to breccias. Higher grade ore shoots are common in flexures, jogs and vein intersections.

The quartz-sulphide gold + copper vein/breccia systems have a common paragenetic sequence of deposition summarised as:

1. Early breccias commonly form as precursors to the hydrothermal system in response to the heating of ground waters by the emplacement of a porphyry intrusion.
2. Quartz veins typically form medium to coarse grained granular to coxcomb textures associated with pyrite and early K-feldspar and later sericite.
3. Early Fe-sulphide and magnetite/hematite. Pyrite occurs in most instances, and the other iron minerals are zoned in relation to the source intrusion, from early and proximal, to late and distal settings as: magnetite/hematite, through pyrrhotite, to arsenopyrite or arsenian pyrite.
4. Chalcopyrite post-dates the Fe-sulphide/oxide minerals (above) and decreases in abundance and significance away from the source intrusion. The copper minerals are typically accompanied by Bi-Ag-Pb-Te mineralisation depending upon the metal content of the source magma.

Gold mineralisation in quartz-sulphide systems typically occurs in association with sulphide deposition. Refractory gold generally forms distal to the source intrusion, possibly in environments of rapid cooling, probably as submicroscopic inclusions or within the lattice of pyrite or As-rich pyrite. Non-refractory gold occurs as inclusions in coarser grained pyrite or chalcopyrite formed under deeper conditions of slower cooling in environments more proximal to the source intrusion, commonly with Bi-Ag tellurides. Non-refractory gold in the porphyry-related quartz vein systems typically has a fineness range of 850-950.

8.4 Hybrid High-Low Sulphidation deposits

There is a continuum from high (i.e. oxidized - sulfur as SO₂) to low (i.e. reduced - sulfur as H₂S) sulphidation systems, and this is dependent on the degree of access of these upwelling volcanic (magmatic) gases to neutralisation and cooling through reaction with the wall rock and/or circulating surficial waters.

All high sulphidation systems exhibit zoned alteration, which indicates that this process of cooling and neutralisation occurs within subsidiary structures or permeable lithologies. In this environment the magmatic derived fluids can be modified away from the major fluid feeder structures. However, in certain cases, the upwelling hot acidic, magmatic-derived high sulphidation fluids become cooled and neutralised while remaining within the major feeder structures. This results in a transition from high to low sulphidation type fluids, and the formation of a hybrid style of gold deposit such as Sinivit.

This may result from: extensive mixing of the magmatic hydrothermal fluid with circulating meteoric water to form a more reduced and/or neutralised liquid, or changes in the chemistry of the volatiles and liquids, which exsolve from the magmatic source during the late stage of melt crystallization.

8.5 Sinivit – A Hybrid High-Low Sulphidation System

Sinivit is one of several alteration systems hosted within the Warangoi structural corridor, which cuts an inferred Nengmutka caldera. The caldera is localised within the Baining Mountain graben structures (Figure 22).

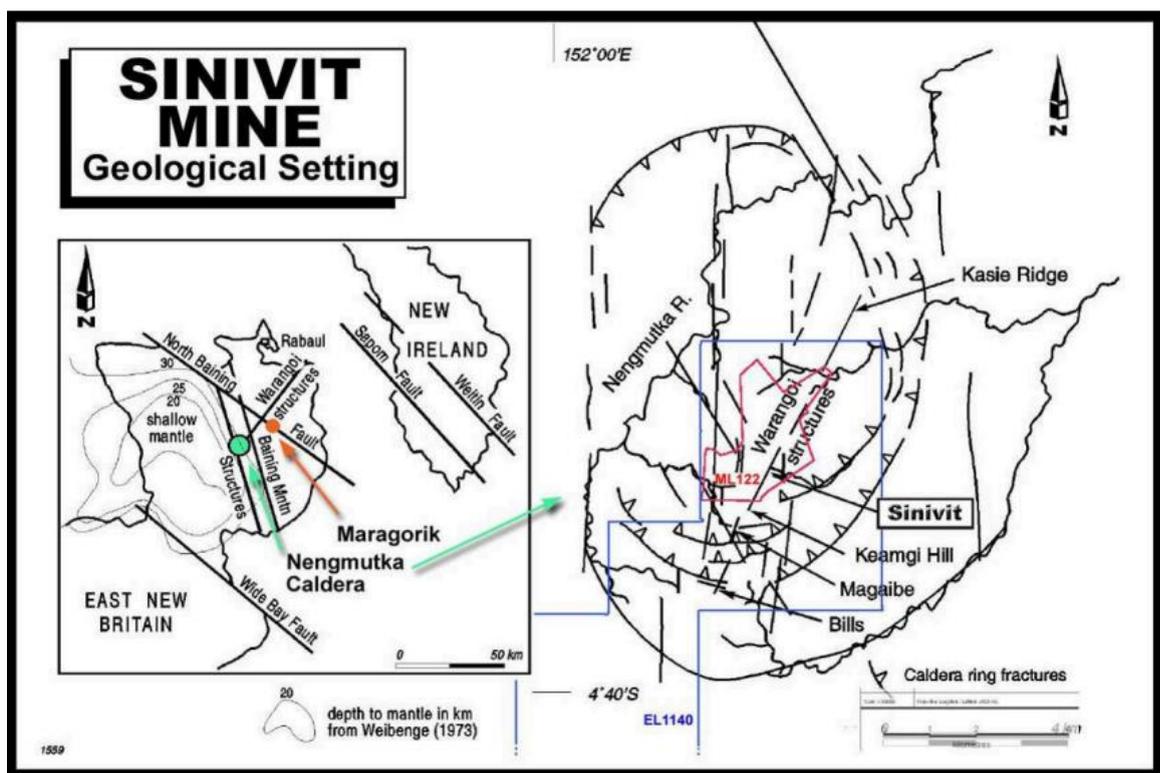


Figure 22 – Location of Sinivit within Nengmutka Caldera (Source: Corbett & Scott, 1997)

At the prospect scale, three north northeast trending and west dipping silicified zones occur within the Warangoi structural corridor as a prominent ridge. Northwest trending cross structures apparent on

outcrop scale, are exploited by the drainage pattern, and locally offset the silicified zones, as slickensided faults, and localize gold mineralisation.

Two main hydrothermal events are recognised (Figure 23):

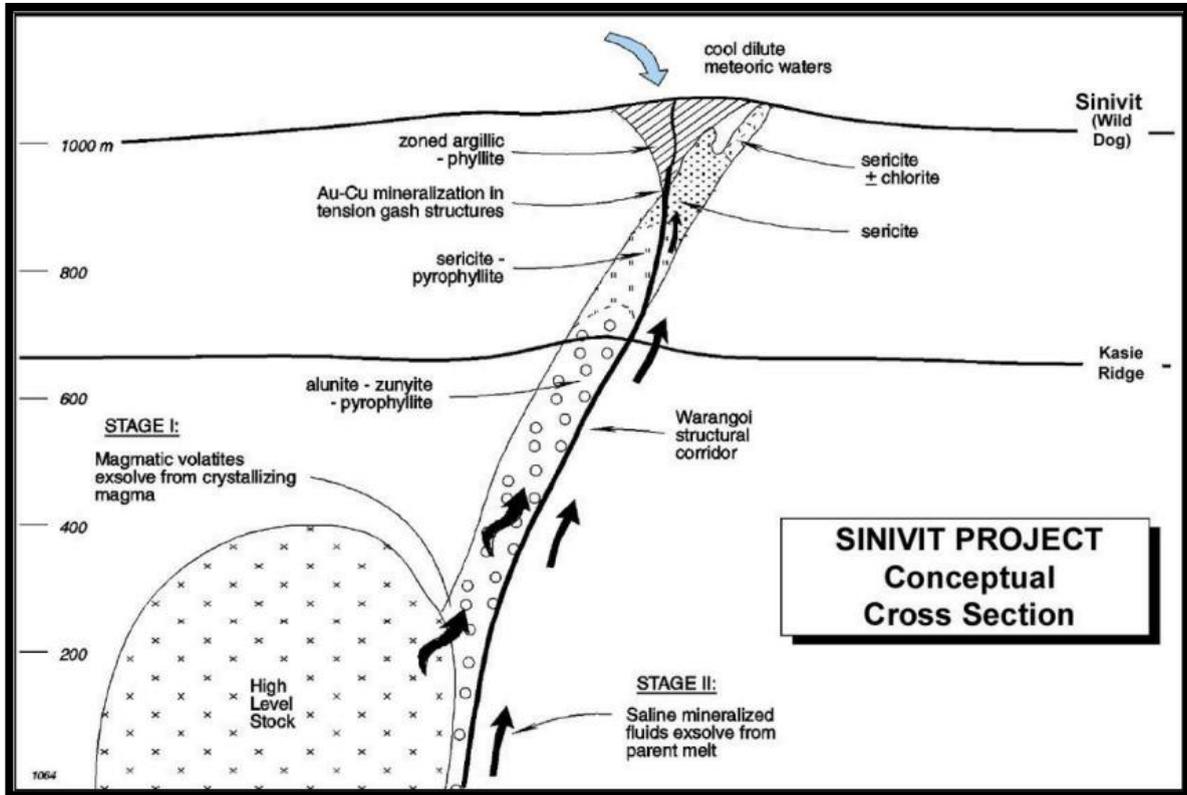


Figure 23 – Conceptual Cross section of Sinivit Deposit, distal from Kasie Ridge (Corbett & Scott, 1997)

Alteration

Replacement silicification of regionally propylitic (epidote-pyrite-chlorite) volcanics produced a dense, grey, fine-grained chert-like alteration. These steeply dipping silicified zones are unmineralized, pinch and swell up to true widths of 50-70 m, and are aligned north northeast parallel to the Warangoi structural corridor and assumed to be structurally controlled. Alteration mineralogy in the silicified zones and the immediate wall rock is vertically zoned from deeper to shallower levels as: sericite + pyrophyllite, through sericite, to local sericite + chlorite. Trace molybdenite mineralisation is associated with the silicification.

Similar structurally controlled silicification occurs locally along the Warangoi structure at Keamgi Hill, 2 km SSW of Sinivit, and Kasie Ridge, 4 km to the north northeast (Figure 28). At Kasie Ridge, 300 m lower in elevation than Sinivit, sub-parallel north-northeast trending silicified ridges are zoned outwards as zones of: central quartz-alunite + zunyite + pyrophyllite + diaspore, through pyrophyllite sericite + kaolinite/dickite and sericite + illitic/kaolin clay, to peripheral chlorite-illitic clay, and regional propylitic alteration. This zonation is comparable to high sulphidation systems encountered elsewhere in the southwest Pacific.

Mineralisation

At Sinivit polyphase steeply dipping quartz tension veins crosscut the more moderately dipping northwest trending silicified zones, commonly as hanging wall splits, and are best developed near the cross structures. Later mineralisation fills open fractures and cavities in the quartz veins as dark sulphide stringers comprising copper minerals (chalcopyrite and minor bornite, chalcocite and tennantite), with local occurrences of a wide variety of Cu-Bi-Pb-Ag sulphide, telluride and selenide minerals. Gold is generally restricted to Au-Ag telluride minerals, and native 'mustard' gold occurs as an alteration (weathering) product of these tellurides. Zonations in illite and smectite clays and fluid inclusion data for the late quartz veins are interpreted to indicate that copper-gold mineralisation took place in response to the mixing of cool (<200°C) and dilute (<2.0 wt. % NaCl) meteoric waters, with upwelling hot (>280°C) and saline (>15 wt. % NaCl) fluids.

It is interpreted that the prospects in the Sinivit region formed as composite high and low-sulphidation systems. Initial silicification was caused by hot acidic fluids which exsolved from a crystallising high level intrusion into the Warangoi structural corridor. These acidic fluids progressively became neutralised at shallower levels as indicated by the zonation from alunite-zunyite-pyrophyllite at Kasie Ridge, through pyrophyllite and sericite, to near surface sericite-chlorite at Sinivit and Keamgi Hill. This is comparable to the initial stage of vapour-rich leaching in high sulphidation systems.

Later gold mineralisation is related to fracturing of the silicified zones and inferred contemporaneous release of magmatic-derived, mineralised fluids from depth (e.g. the parent melt). These fluids mixed with cool dilute meteoric waters within tension veins and resulted in the Cu-Bi-Pb-Te-Au mineral deposition, typical of low sulphidation quartz-sulphide lodes.

9 Exploration

The Company has not conducted any exploration work on the Wild Dog Property.

Previous exploration over the property including stream sediment sampling, mapping, geophysical and geochemical surveys have identified various mineralised systems.

Ground exploration away from the Wild Dog Vein is largely restricted to geochemical surveys that have focused on stream sediment anomalies followed up by soil and rock sampling, with the exception of the Magiabe intrusion which has also undergone an IP geophysical survey.

9.1 Stream Sediment Data

Stream sediment sampling and assaying has occurred throughout most of the tenements, by various companies under other exploration licences. This information was sourced from the Terra Search database. Sampling has been largely in the form pan-concentrates but has also included Bulk Cyanide Leach (BCL), non-magnetic and magnetic pan concentrates.

EL #	Company	Pan concentrate samples	Max Au ppb	Max Cu ppm	Sample % >50ppb Au	Notes
468	ESSO	131	72400	125	27%	
508	Highland Pacific	115	19230	NA	31%	Au & Pt assays only

509	ESSO	29	26000	NA	10%	No base metal assays
715	CRL	40	8480	NA	48%	No base metal assays
780	CRL	139	430	45	12%	Au ppm assays
1121	Pima	31	102	NA	6%	No base metal assays
EL #	Company	Magnetic Pan Concentrates	Max Au ppb	Max Cu ppm	Sample % >50ppb Au	
468	ESSO	117	3650	229	6%	
509	ESSO	5	16	130	0%	
EL #	Company	Non-Magnetic Pan Concentrates	Max Au ppb	Max Cu ppm	Sample % >50ppb Au	
468	ESSO	116	3430	162	9%	
509	ESSO	5	20	55	0%	
641	CRL	16	180	160	25%	
EL #	Company	BCL samples	Max Au ppb	Max Cu ppm	Sample % >1ppb Au	
780	CRL	65	3.65	0.423	9%	
508	Highland Pacific	46	153	NA	57%	
509	ESSO	26	7.9	NA	4%	
765	Highland Pacific	15	10	NA	60%	

Table 7 – Summary of past stream sediment sampling throughout the project area (Source: Terra Search, 2014)

The various sediment sampling methods are not directly comparable but can still be used to generate targets. The most common set of data is from the Pan Concentrate group with 465 samples. The samples were generally not sieve sized or this was not reported.

As a result of this work there are a number of areas that constitute prospects for various types of gold and base metal mineralization. Generally, the areas of base metal mineralization are in support of at least part or all of the gold mineralized area.

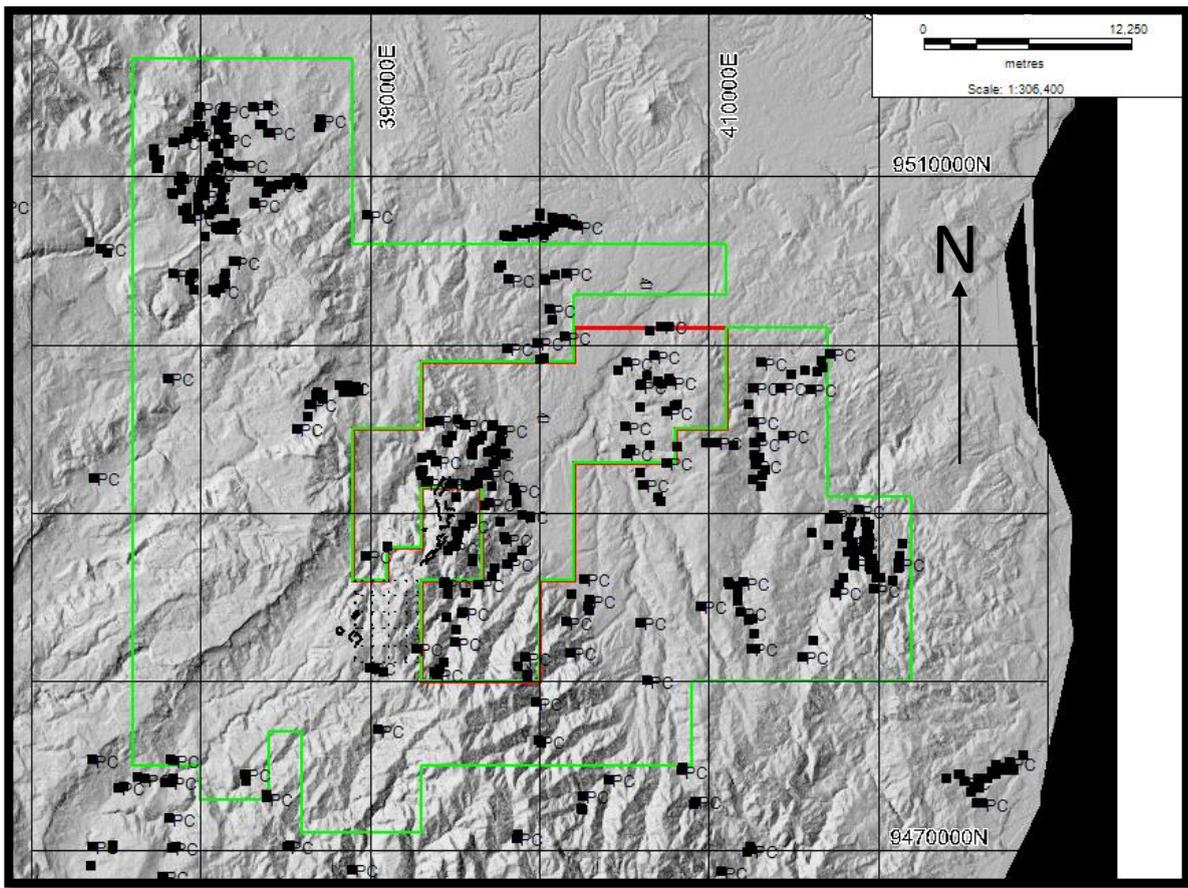


Figure 24 – Pan Concentrate Sediment Sampling locations (MGA94 Z56S) (Source: Terra Search, 2014)

Source: [Data Services - Terra Search](#)

A plan of the various pan concentrate locations is presented as well as the gold results for these locations (Figure 24, Figure 25). The prospects generated from the analysis of this data is presented in Figure 26 and in Table 8.

Historic reports of platinoids being found in stream sediments were investigated by Highland Pacific who assayed for ppb level platinum of pan concentrate samples. One sample #59218 assayed 130 ppb Pt at 394944E 9487972N which is worthy of investigation and confirmation.

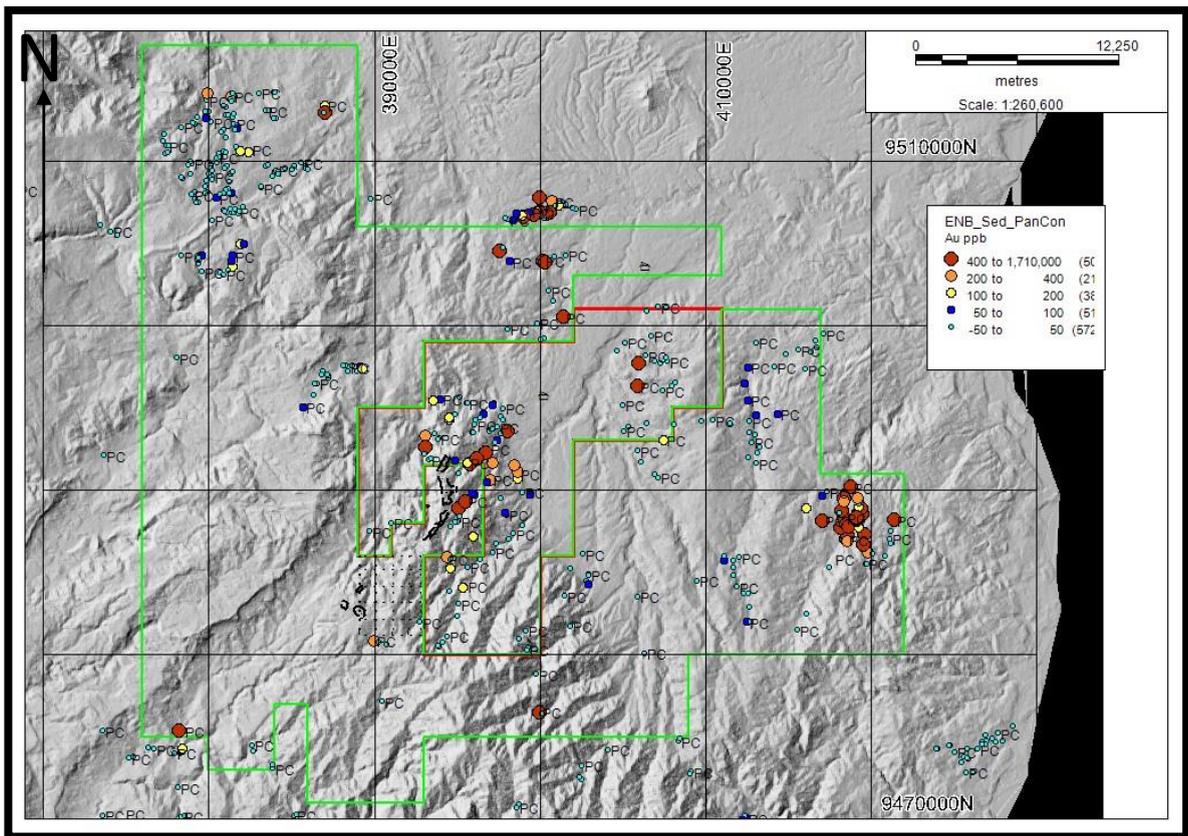


Figure 25 - Pan Concentrate Sediment Sampling Gold Results (MGA94 Z56S) [Source: Terra Search, 2014]

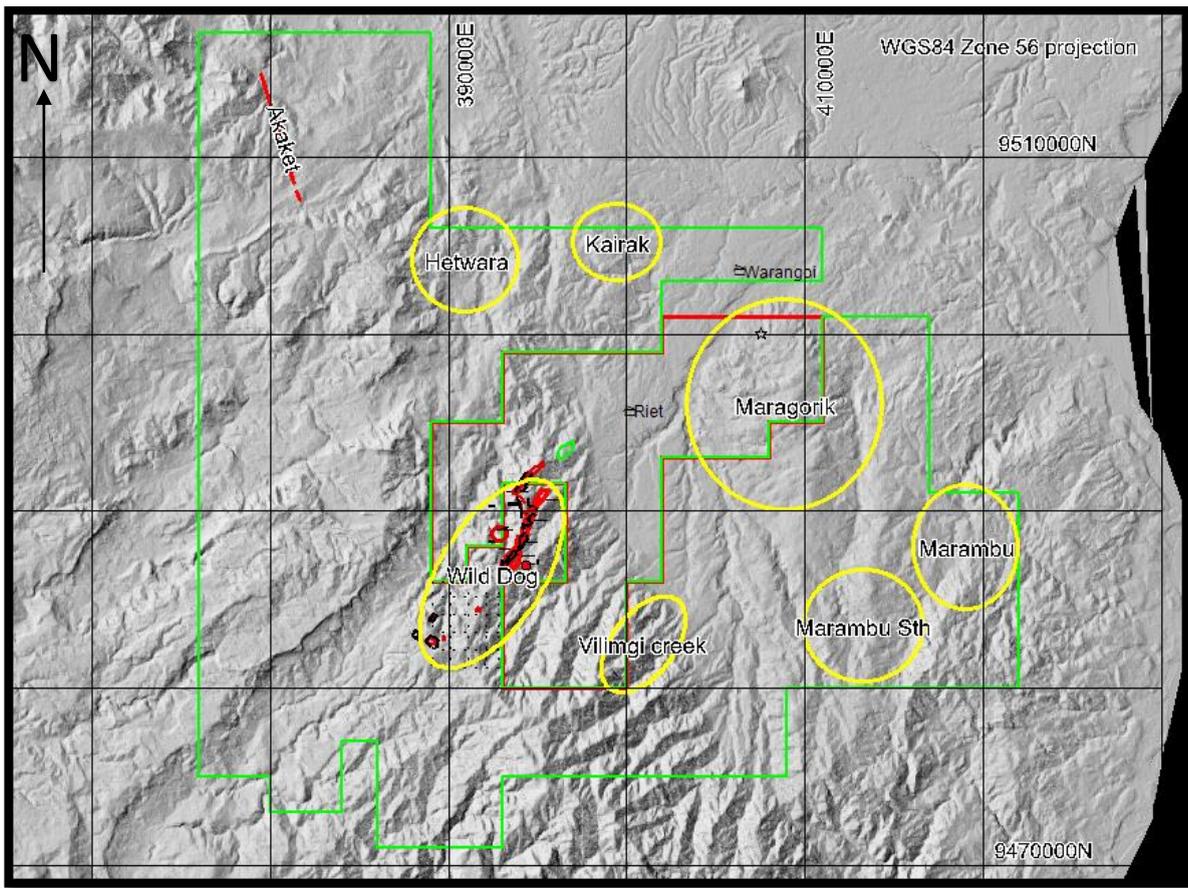


Figure 26 – Named Prospects map Based on Stream Sediment data [Terra Search 2014].

Prospect	Anomalous Metals	MGAE	MGAN	Area km2
Hetwara	Au, Zn	390956	9504185	7
Maragorik	Au, Cu, Pb, Mo	408891	9495996	25
Marambu Sth	Au,Cu,Pb, Zn,Mo,Ag	413294	9483532	10
Vilingi creek	Au, Cu, Pb	400930	9482486	17
Marambu	Au,Cu,Pb,Zn,Mo,Ag	419066	9487947	8
Kairak	Au	399488	9505165	4
Akaket	Au, Zn, Pb, Zn, As	380749	9508690	7.4
Wild Dog	Au,Cu,Te	392423	9486471	55
Wild Dog East	Pt	394944	9487972	

Table 8 – Prospects established from Stream Sediment Anomalism [Source: Terra Search 2014]

9.2 Soil geochemistry

Ridge and spur soil sampling has been undertaken by various companies in the vicinity of the former Wild Dog mine site, with 3344 samples previously collected. Most samples were assayed for Au, Cu, Pb & Zn only. The exact depths of sampling are not recorded. The sieve sizes are not generally recorded, except for the samples taken north of Kavursuki which used a -200# sieve sizing. These -200# samples were assayed for gold and a full ICP suite of elements. The northern projection of the Kavursuki vein zone appears to be defined by anomalous arsenic assays, although these samples are not orthogonal to the vein zone strike.

In general, the assay results of these soil traverses were fairly subdued, and it is considered that the cause of this is the widespread 2- to 3-meter-thick Recent volcanic ash mentioned in the Geology section above and detailed in section 7.3.2. Even the traverses across the mine area yielded poor Au, Cu, Pb, Zn & Mo assay results.

Unfortunately, the extent of the Recent volcanic ash is not shown on any maps and the drill logs also do not record the lithologies intersected. Regional mapping only shows the basement lithologies and this suggests that the volcanic ash distribution is more prevalent on the ridges and that the ridge and spur sampling technique is possibly inappropriate. It would be expected that the volcanic ash would be eroded within the gullies and creeks yielding windows of basement outcrop.

In addition, the extensive hydrothermal clay alteration shown in Figure 14, may cause a masking effect to the soil sampling that was carried out. The more volatile elements such as mercury and arsenic may be a better means of establishing gold mineralization at depth below the clay alteration.

Some biochemical sampling was done at the Regess prospect, south of Wild Dog former mine and Evarait Hill, immediately north of the former Wild Dog mine. In both cases there does appear to be sufficient contrast in the copper assays to suggest that this may be a useful technique for finding at least copper mineralization (Table 9 & Table 10; Sourced from Wild Dog Resources NL, no report supplied). Evarait Hill and Gorocho Hill are nearby each other and are part of the same area as the Gorocho linking structure that occurs between the Wild Dog vein zone and the Gunsap vein zone.

Regess	Au ppb	Ag ppm	As ppm	Cu ppm	Mo ppm
Maximum	0.5	0.3	2	12	<1
Minimum	<0.1	<0.2	<1	3	<1
Count	100				

Table 9 – Regess Biochemical Sampling Assay Statistics (Source: Wild Dog Resources NL data)

Evarait Hill	Au ppb	Ag ppm	As ppm	Cu ppm	Mo ppm	Species	Sample
Maximum	1.1	0.2	2	22	1	Astronidium	Bark
Minimum	<0.1	<0.2	<1	3	<1		
Count	82						

Table 10 – Evarait Hill Biochemical Sampling Assay Statistics (Source: Wild Dog Resources NL data)

At Gorocho Hill, the soil sampling indicates elevated copper values associated with the mapped clay alteration. There is good correlation for copper spatially between these soil samples and the biochemical

bark sampling from the Evarait Hill sampling. Samples were not assayed for the volatile elements of Hg, As and Sb. The previous drilling undertaken of a few holes here is in the same azimuth as the Wild Dog prospect and would have drilled parallel to the inferred zones of mineralization that strike northwest.

Soil traverses at Maragorik prospect used mercury assays at the ppb level, which showed a range of responses indicating mineralization. Only a few samples were assayed for gold with a peak anomalous assay of 383 ppb Au. The anomalous mercury samples were not assayed for gold. It is presumed that the mercury assays were used in an effort to find mineralization below the Recent volcanic ash cover sequence, such that the mercury was vaporizing up through the volcanic pile.

North along the Gunsap fault zone, anomalous arsenic values occur in -200# soil assays, indicating a mineralized structure of 4500m in length. The arsenic is more mobile than the gold and would likely be a good pathfinder in this geological setting. Sieving to the finest fraction would remove the coarser grained volcanic ash contaminants and seemingly gives a better contrast and higher response levels.

Approximately 2.5km south-southwest of Wild Dog former mine, in the Regess area, soil sampling indicates at two or more vein sets occur that strike west-northwest. This northwest orientation of faulting and veining is present in the old pits at Wild Dog and these veins are altered and mineralized (Figure 15). Previous drilling did not target these structures as part of their resources drilling campaign and these structures could be a source of further resources.

There is no sampling for 2.5km between Regess and the Wild Dog mine site area, which remains a highly prospective target area.

A table of soil samples with greater than 99ppb Au highlights various areas that require follow up exploration work (Table 11) . Most of these have background base metal assays and this reflects the masking by the volcanic ash in these areas. Deeper sampling through the shallow cover sequence is required.

SAMPLE ID	MGA94 E	MGA94 N	Au PPB	Cu PPM	Pb PPM	Zn PPM	As PPM	Mo PPM	Hg PPB	SOURCE
149810	408785	9499677	383.00				27.00		9.20	Terra Search 2014
59323	391199	9482690	483.00							Regess Soil AMG66 (EL1140)
59341	390355	9482384	124.00							Regess Soil AMG66 (EL1140)
MMS0159	392557	9489273	120.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS0229	392730	9487575	195.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS0557	393578	9489326	280.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS0738	394282	9490113	240.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS0787	392828	9487049	290.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS0908	393498	9486369	116.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS0927	393771	9485545	228.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS0928	393726	9485561	274.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS0954	393075	9486206	625.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS0998	391892	9484488	160.00	50.00	25.00	135.00		2.00		Lindley, 1997 Macmin Soil map
MMS1091	390550	9484323	450.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS1513	389907	9485995	270.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
MMS1514	389877	9486023	180.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map

MMS1551	390770	9484468	400.00	50.00	25.00	25.00		12.00		Lindley, 1997 Macmin Soil map
MMS1559	393336	9486645	100.00	50.00	25.00	25.00		2.00		Lindley, 1997 Macmin Soil map
WDS259	392926	9486895	119.00	64.00			79.00			2003 soil sample (Terra Search, 2014)
WDS404	393001	9486820	106.00	38.00			99.00			2003 soil sample (Terra Search, 2014)

Table 11 – Targets for Gold in Soil assays of greater than 99 ppb Au (Source: Macmin and Terra Search)

9.3 Rock sampling and Trenches

Reconnaissance rock sampling and trench sampling were conducted at various locations within the project area. Of the 651 rock samples taken 89 were greater than 100 ppb Au with a maximum of 242 g/t Au. Of the 3157 trench samples collected 881 were greater than 100 ppb Au with a maximum of 127 g/t Au (Table 12). Of the 3344 soil samples only taken 20 were greater than 100 ppb Au with a maximum of 0.625 g/t Au. The soil samples show a significant lower level of response compared to rock and trench samples.

Trenching was used widely at Kavursuki prospect with positive results, including 28 meters at 4.48 g/t Au (Figure 27).

Trenching at Palang Hill was previously undertaken with eight trenches constructed over a distance of 250m in an east-west strike orientation. The trenches were generally north south oriented. The westernmost trenches yielded positive results, with up to 29.4m at 2.08 ppm Au, including 3.75m at 9.13 ppm Au. This prospect is within the overall Maragorik prospect area.

Further east by 1250m at prospect LK-1, also within Maragorik prospect area, a single trench yielded 23m at 2.08 ppm Au. Other trenches at various orientations occur but have not encountered further mineralization.

Sample Type	Count	Maximum Au ppm	Count of >50 ppb Au	Count >0.1 ppm Au	Count >1 ppm Au
Trench	3157	127	1147	881	178
Soil	3344	0.625	51	20	0
Rock	651	242	136	89	18

Table 12 – Summary of geochemical sampling from all exploration sources (Terra Search, 2014)

Prospect	Max Au ppm	Count	Au ppb Average	Au ppb Std Dev	Count x Avg Au	Ranking
Maragorik Prospect	3.54	71	183.2	586.7	13004	1
Rubang	7.00	3	2370.0	3273.9	7110	2
Karupki	4.80	2	2200.0	2600.0	4400	3
Munju Creek	2.34	25	137.2	456.1	3430	4
Magiabe Ck	2.50	8	334.6	819.3	2677	5
Nengass Creek	0.50	23	94.3	132.0	2170	6
Kasemberia	0.80	3	266.7	498.9	800	7
Mengmut	0.35	6	75.0	123.1	450	8
Rivio River	0.39	4	102.5	166.6	410	9

Warangoi Prospect, Nasini Ck	0.40	1	400.0	0.0	400	10
Wollowit	0.40	1	400.0	0.0	400	11
Morgi Creek	0.15	9	30.0	46.0	270	12
Egarr Creek	0.15	2	80.0	70.0	160	13

Table 13 – Gold Statistics & Ranking of the Prospect Rock Assays (Source: Terra Search, 2014)

Prospect	Maximum of Au ppm	Count of Au ppb	Au ppb average	Standard Deviation of Au ppb
Kavarsuki Prospect	127.00	854	1201.76	6390.81
Wild Dog	10.57	121	387.89	1213.54
Maragorik Prospect, Palang Hill	9.13	162	406.04	1044.25
Magiabe Vein	6.60	131	123.63	590.63
Maragorik Prospect, LK1 Zone	3.97	454	88.89	412.05
Kaunarep Hill	1.65	14	281.79	396.25
Lulai Hill	0.86	373	41.26	87.77

Table 14 – Gold Statistics & Ranking of the Prospect Trenching Assays (FSX analysis)

Trench	MGAE	MGAN	Length	Au ppm
PLA-1	405054	9497523	12.61	0.79
PLA-2	405069	9497530	16.40	0.75
PLA-3	405073	9497548	29.44	2.08

Table 15 – Palang Hill Trenching results (Terra Search, 2014)

9.4 Geophysics

IP Surveys were conducted covering portions of the Wild Dog structure, the Gorocho Hill linking structure and the Magiabe intrusion area. Positive chargeability anomalies are present at Magiabe, Gorocho Hill, Kavarsuki and Mengmut prospects (Figure 27, Figure 28 & Figure 29).

Regional airborne magnetics were also assessed for structure and potential intrusion complexes (Figure 30). These targets require comparison with other geological and geochemical information.

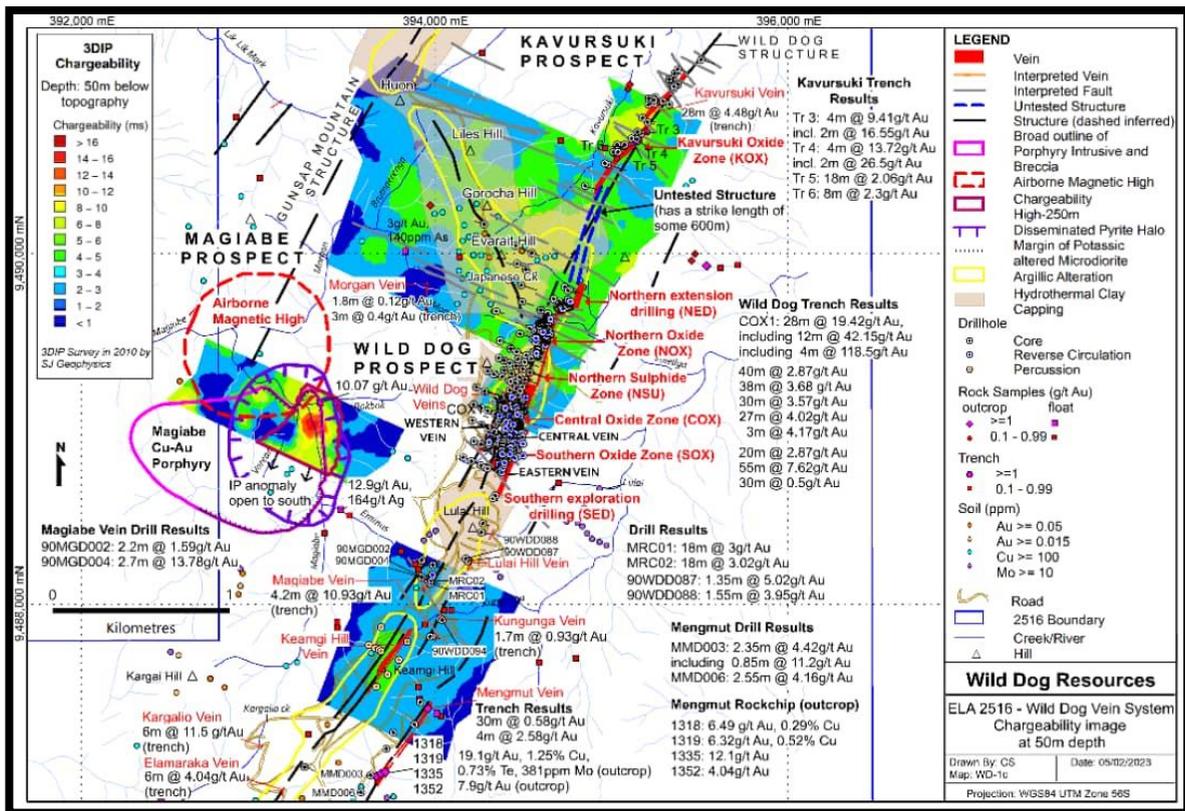


Figure 27 – Compilation map of exploration carried out by New Guinea Gold Corporation (Source: Wild Dog Resources Ltd)

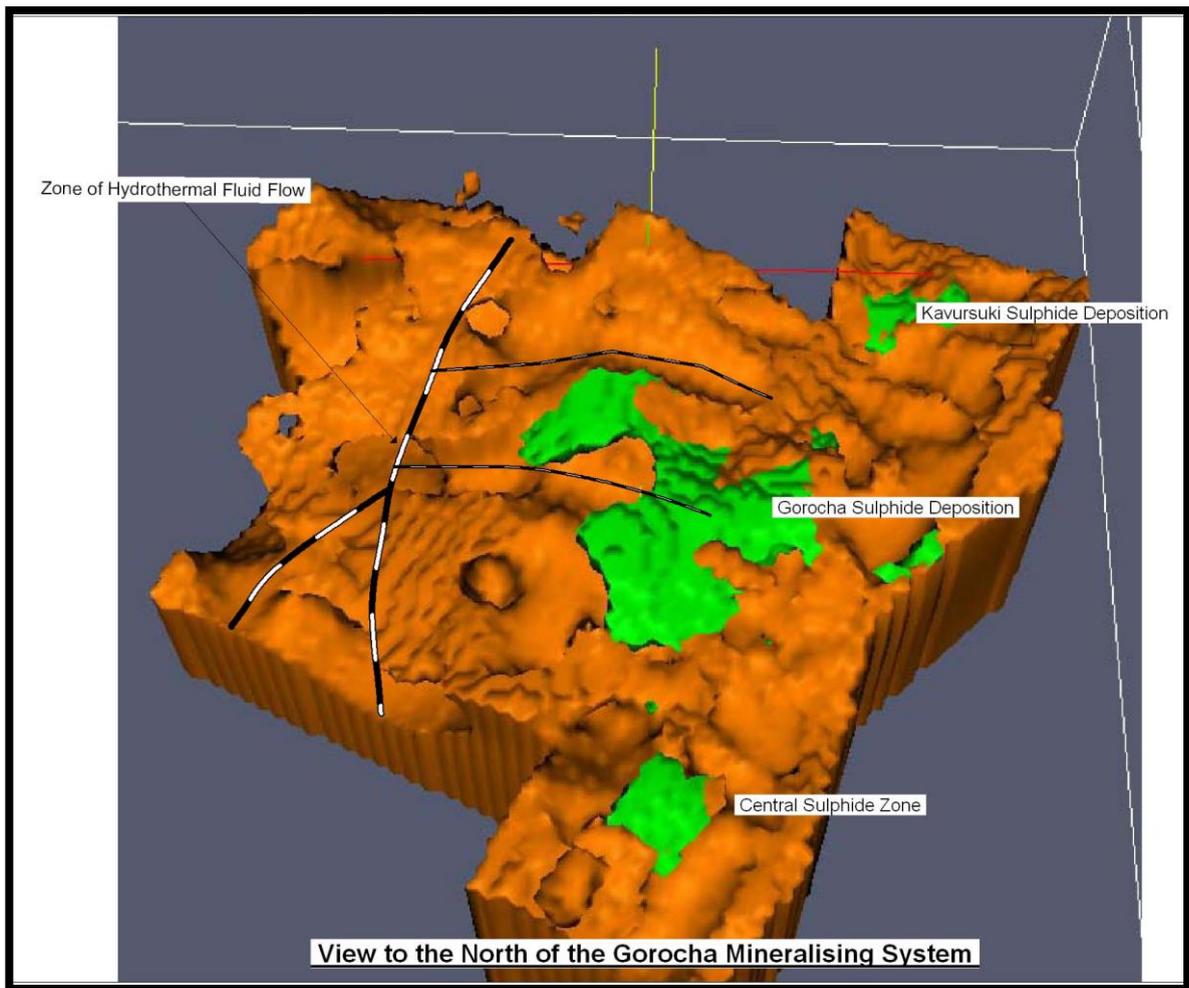


Figure 28 - Wild Dog Vein System Chargeability isometric view (NGGC, 2010, EL1140)

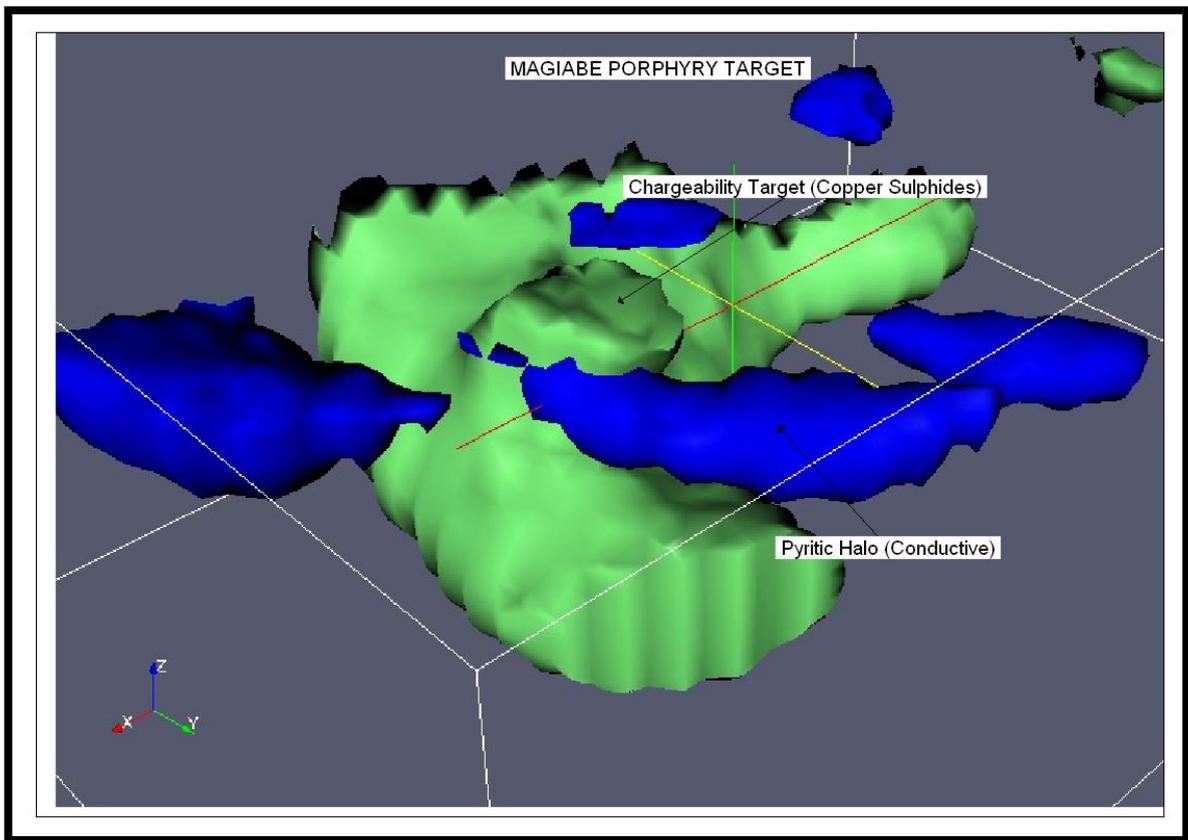


Figure 29 – Isometric view of the chargeability anomaly and interpretation for Magiabe prospect. (NGGC, 2010, EL1140)

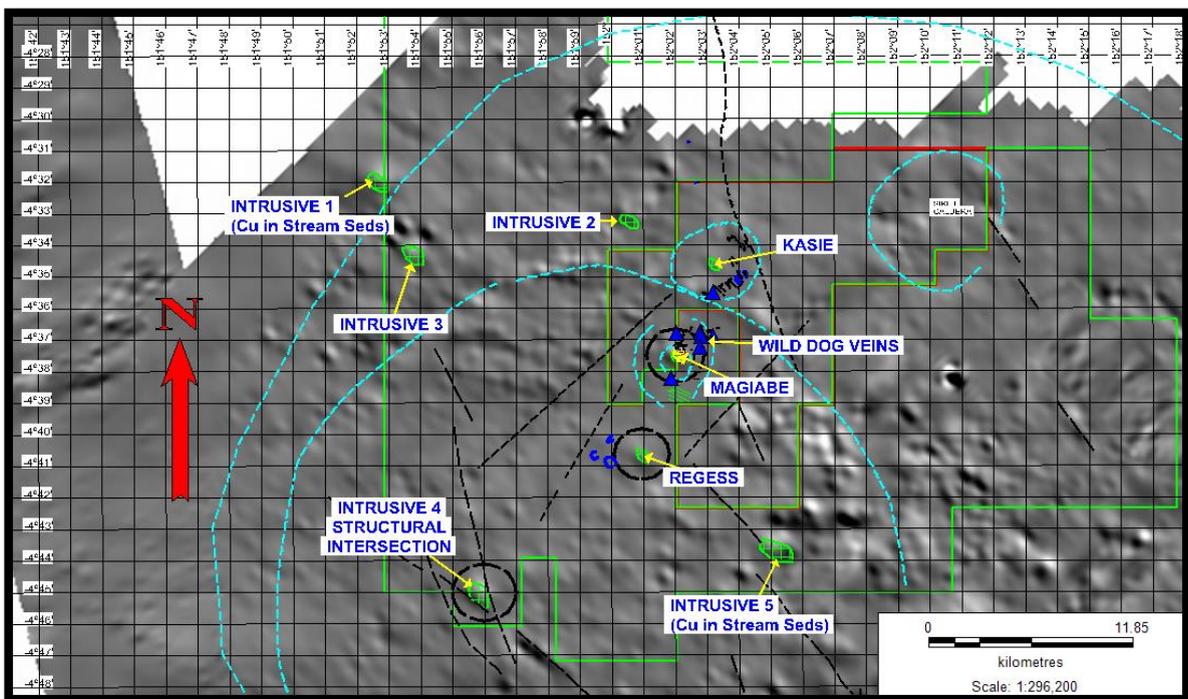


Figure 30 – Airborne magnetic survey (1VD) and interpretation. (Source: Wild Dog Resources Ltd)

10 Drilling

The Company has not conducted any drilling on the Wild Dog Property.

The Wild Dog mineralized fault structure has been identified and explored for 5km. Initial exploration drilling along this structure amounted to 299 holes for 28,310 meters including Kavursuki. Further infill drill and grade control drilling amounted to 732 drillholes for 19,890 meters. Detailed drilling at the Wild Dog prospect focused upon creating an oxidized resource that could be mined and treated easily. An oxide ore resources was identified and mined in 4 neighbouring linear pits (Southern, Central, Northern and Western) at Wild Dog.

Exploration drilling at other locations within the system such as Kavursuki Vein, immediately north of Wild Dog, also identified further mineral resources.

The drilling data is appended to this report. The author is satisfied that the historical information on the project is adequate for the purpose of this technical report, given the large amount of historical information that has been compiled over successive years.

11 Sample preparation, analyses, and security

The Company has not undertaken any sampling on the Property. The Author has not completed a review of historical sampling preparation, analysis and security carried out by previous operators.

11.1 Regional Sampling

No regional samples were collected during the site visit, although regional sampling was completed by previous explorers.

11.2 Sampling Method and Approach

No samples were collected for assay during the site visit.

12 Data Verification

The author has reviewed various geological and mining reports written about the project. There is a large number of data sets that have been fully compiled from all sources as much as possible. Some minor datasets may not have been integrated into the current data set, but if so, then these would be from surrounding areas or from minor prospects with only cursory surface sampling.

The author is satisfied that the historical information on the project is adequate for the purpose of this technical report.

The site visit confirmed that mining was carried out and that copper mineralization was readily visible in samples collected. The former core shed is in poor condition and was not visited (Figure 31).



Figure 31 – The former Wild Dog core shed is in poor condition (Source: Wild Dog Resources Ltd photo)

13 Mineral Processing and Metallurgical Testing

The Company has not carried out any mineral processing or metallurgical testing on the Property.

14 Mineral resource and mineral reserve estimates

There are no current mineral reserve or resource estimates available for the Wild Dog Property.

15 Adjacent properties

Based on a review of the MRA tenement portal, there are no current adjacent properties to the Wild Dog Property.

16 Other relevant data and information

No other relevant data or information is considered necessary.

17 Interpretation and conclusions

The Wild Dog Property consists of two Exploration Licence Applications (EL2516 & EL2761) totalling 1424 km², which are located on the island of New Britain and are approximately 50 kms southwest of Rabaul and Kokopo, PNG. It occurs in the highly prospective volcanic belt of eastern New Britain, where epithermal and porphyry type mineralization are known to occur.

The Wild Dog Property occurs within a major NNE trending structure of at least 26 km in length which transect apparent volcanic caldera structures and intrusions. During the Mio-Pliocene at least three volcanic centres, known as the Nengmutka, Keravat and Sikut calderas, were localised along this horst and graben zone. This structural corridor is host to a number of epithermal and porphyry hydrothermal-magmatic mineralized occurrences.

The Nengmutka Caldera, which hosts the Wild Dog deposit, is characterised by a suite of calc-alkaline andesite breccia and ash flow tuff known as the Nengmutka Volcanics (Lindley, 1988). This formation has been mapped over an area of 600 km². Tonalite of the Arabam Diorite intrudes the volcanic sequence and appears to be partly coeval with the caldera related volcanism.

The precious metal prospects are associated with epithermal low sulphidation and high sulphidation type veining that contain gold-silver-telluride (Au-Ag-Te) mineralisation. Gold and silver occur as native metals and as telluride minerals. Porphyry copper-gold type mineralization also occurs associated with these intrusion centres that usually underly or associated with these epithermal systems. The whole of the recognised belt is held within the tenements owned and/or optioned by Wild Dog.

Within the central part of the Wild Dog Property, a significant structural corridor called the “Wild Dog – Gunsap Corridor” occurs. The corridor is at least 15 km long and up to 4 km wide and hosts at least two porphyry copper-gold prospects and a number of epithermal gold deposits and prospects.

The original Wild Dog epithermal gold deposit occurs within the “Wild Dog – Gunsap Corridor” in the central part of the tenements. It was discovered in 1983, with exploration including extensive mapping, trenching, rock sampling & drilling between 1983 and 2005 by various explorers.

New Guinea Gold Limited (NGGL) operated a small open pit mining operation from 2007 and 2012 at the former Wild Dog mine. Gold production used heap and vat leach technology on oxidized ore but failed to meet expectations due to poor gold recovery and the mine closed prematurely. The oxide ore was mined in 4 pits – namely Southern, Central, Northern and Western. No significant exploration has occurred since the closure of the mine.

Gold and tellurium resources are still present at the Wild Dog mine but have not been quantified due to a lack of information about former mining. A new surface survey would be required to establish past mining limits.

Apart from the main mine workings and associated former resources, various exploration targets have been generated from geophysical and geochemical surveys.

Previous exploration over the property including mapping, geophysical and geochemical surveys have identified various targets within the overall mineralised system.

Exploration drilling at other locations within the Wild Dog vein zone, such as Kavursuki Vein (immediately north of Wild Dog) has identified further mineral occurrences. Whilst the quartz-sulphide veins mined to date at the Wild Dog Property have been relatively small scale, this style of mineralisation does have potential to form large bulk low-grade copper-gold deposits as well as high-grade 'bonanza' type gold deposits. Porphyry Cu-Au systems are usually present beneath or nearby the epithermal systems and these form another larger scale target.

The Author has identified the following risks that may have a negative impact on future exploration and development of the Wild Dog Property:

- There may be a risk of uncertainty with project stakeholders, including the local community. While the Company will continue to work closely with all stakeholders, there is a risk that opposition could delay the exploration and development of the Wild Dog Property. Continual dialogue with stakeholders will mitigate this risk.
- Although exploration success has occurred on the Wild Dog Property, the results of the exploration program on future key targets may be unsatisfactory to the Company.
- In order to develop the Wild Dog Property, the Company will require significant financing, of which there is no assurance.
- There is significant competition in the exploration and development of mineral properties and there is no assurance that the Company will successfully retain personnel with suitable experience to conduct its future program efficiently and effectively.

18 Recommendations

18.1 Wild Dog Proposed Exploration Program

The area is highly prospective for gold and base metal mineralization, as well as possibly platinoid mineralization, where platinoids were reported in stream sediment concentrates historically. The previous exploration has highlighted a number of prospects that require investigation and confirmation (Table 16).

Prospect	Metals	MGAE	MGAN	Area km2
Hetwara	Au, Zn	390956	9504185	7
Maragorik	Au, Cu, Pb, Mo	408891	9495996	25
Marambu Sth	Au, Cu, Pb, Zn, Mo, Ag	413294	9483532	10
Vilingi creek	Au, Cu, Pb	400930	9482486	17
Marambu	Au,Cu,Pb,Zn,Mo,Ag	419066	9487947	8
Kairak	Au	399488	9505165	4
Akaket	Au, Zn, Pb, Zn, As.	380749	9508690	7.4
Wild Dog	Au,Cu,Te	392423	9486471	55

Table 16 – Prospect areas within the Wild Dog Property (FSX, 2023)

18.2 Geochemistry

18.2.1 Stream sediment geochemistry

Previous exploration geochemistry has been generally effective with stream sediment sampling, which suggests that the streams have exposed basement through erosion of the unconsolidated volcanic ash. Infill and follow up sampling of stream sediments is required for the prospect areas listed in Table 16, with the exception of parts of the Wild Dog area which has already been defined. This would amount to 78 square km for the other areas and with four samples per square km amounting to 312 samples. Topographic maps or DTMs will be required to establish the drainage pattern and design the sediment sampling program. Samples will be collected as pan concentrations to keep in line with previous sampling as well as a bulk sample for sieving under laboratory conditions to -80# where practicable.

18.2.2 Soil Geochemistry

Ridge and spur soil sampling has been impeded by the widespread Recent volcanic ash that is 2 to 3 meters thick and masks the mineralization. Assays from these soil samples are largely unreliable due to the lack of mineralization present within the overburden.

Orientation soil survey techniques need to be investigated to establish the best method to discover the mineralization underlying volcanic ash and also to look at the effects of the hydrothermal clay zones on trace element mineralization.

Some indication of a successful technique was achieved north of Kavursuki with the -200# mesh sampling and low-level arsenic assaying. This technique needs to be applied in known mineralized areas to see how effective it is in discovering mineralization at depth.

Also, the biochemical sampling at Evarait Hill and the soil sampling here was also copper anomalous, but the soil technique is not evident. It suggests that a -80# soil sampling technique may be effective. A sieve sizing of the Recent volcanic ash may help to define an effective size fraction.

As the ash cover is only 2 to 3 meters thick it is considered possible to use a handheld motorized auger to penetrate to basement for sampling. This technique will be investigated and if appropriate applied to all known prospects. A program of deep auger drilling is proposed for the key prospects with 1929 holes for 9645 meters advance.

Prospect	Auger holes	Depth	Meters
Gorocho Hill	103	5	515
Magiabe	101	5	505
Palang Hill	868	5	4340
Regess	225	5	1125
Kavursuki North	456	5	2280
Mosquito	176	5	880
	1929		9645

Table 17 – Proposed deep auger sampling at Sinivit prospects (FSX, 2023)

Alternatively base of slope sampling along the creeks and gullies may be a way of getting meaningful and reliable soil and rock samples for assay. Access along the creeks may also be easier than traverses through the jungle.

18.2.3 Rock Geochemistry

Rock sampling of float and outcrop material along the creeks has also been effective in discovering and defining prospects. Where the overburden has not been too excessive trench sampling has also been very effective in defining prospects width and grade. Limitations of access or excessive overburden may have been the issue with carrying out more trenching along strike.

Specific prospects and geochemical targets for defining their extent and tenor or grade.

18.2.4 Geophysics

There is sufficient geophysics already completed to yield enough information for current prospect targeting. The main prospects that have been discovered through IP geophysics are the Magiabe porphyry, the Gorocho Hill, Kavursuki and the Mengmut area.

18.2.5 Proposed Drilling

A proposed drilling program has been designed for the Wild Dog and Kavursuki prospects that is aimed at finding extensions to known mineralization. The program consists of 18 holes to a maximum of depth of 300m and a total meterage of 3430 meters.

HoleID	Local_E	Local_N	RL	Depth	Dip	Local_Azi	PNG94_E	PNG94_N
WDP001	49850	11000	957	300	-60	90	394710	9490022
WDP002	49900	11200	884	200	-60	90	394839	9490183
WDP003	49900	11000	966	150	-50	90	394755	9490001
WDP004	49897	10430	943	150	-55	90	394511	9489486
WDP005	49840	10430	960	250	-60	90	394460	9489510
WDP006	49785	10430	934	320	-60	90	394409	9489533
WDP007	49872	10560	908	170	-60	90	394544	9489614
WDP008	49858	10670	926	220	-60	90	394577	9489720
WDP009	49932	10670	881	100	-60	90	394645	9489689
WDP010	49940	10775	925	170	-60	90	394696	9489780
WDP011	49883	10775	948	220	-60	90	394645	9489804
WDP012	49988	10790	906	110	-60	90	394746	9489774
WDP013	49799	11500	775	250	-60	90	394875	9490497
WDP014	49835	11750	747	220	-60	90	395013	9490708
WDP015	49910	12000	755	220	-60	90	395187	9490903
WDP016	49972	12250	701	170	-60	90	395348	9491104
WDP017	50103	12400	705	100	-60	90	395530	9491184
WDP018	50102	12250	745	110	-60	90	395466	9491049

Table 18 – Proposed extensional drilling at Wild Dog and Kavursuki prospects.

Further drilling will be proposed when sufficient information is gathered from the various prospects already listed.

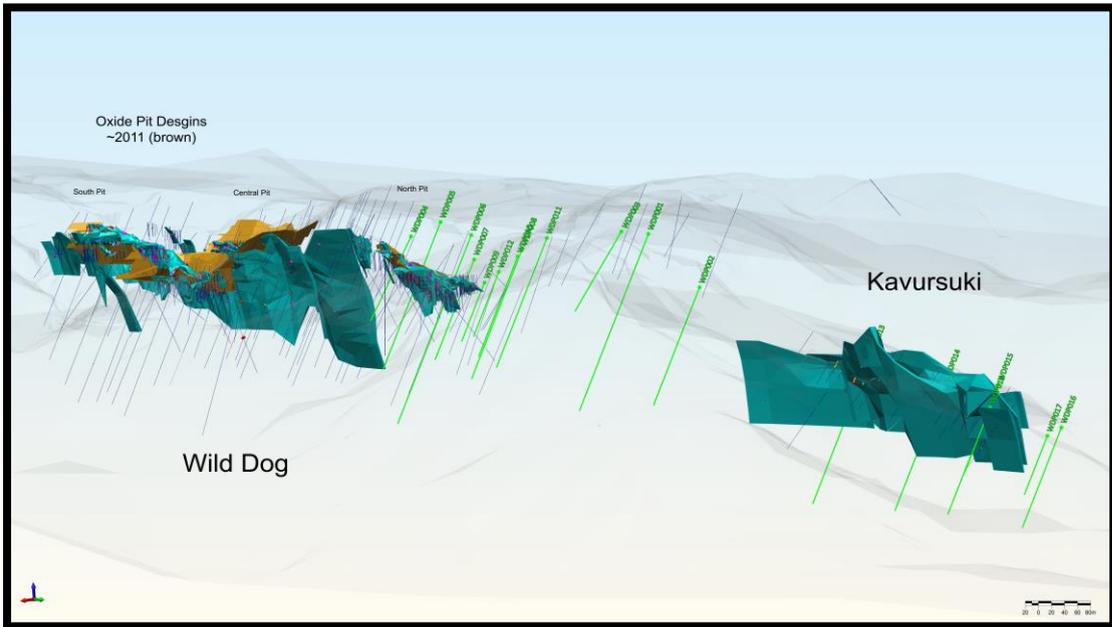


Figure 32 – Isometric view of proposed drilling at Wild Dog and Kavursuki prospects looking westward. (FSX, 2023)

18.2.6 Wild Dog Resource Review

The former wild Dog gold mine requires a new detailed mine survey in order to revamp the original resource estimates to take into account the previous mined areas.

18.2.7 Wild Dog Budgets

The Author recommends that the Company undertake a two-phase exploration program on Wild Dog, subject to the grant of the EL on ELA 2516. Phase one of the exploration program will involve stream sediment geochemistry, auger drilling and trenching, which will be completed within 12 months. Upon receipt of the assays from the phase one program, the Company will be able to determine whether drilling can commence or whether additional sampling is required to refine target selection.

Subject to satisfactory results of the phase one program, the second phase will involve drilling at the Wild Dog and Kavursuki prospects, which will be completed subsequent to the initial phase one exploration program.

Phase One Exploration Program:

Item	Section	Subtotal Cost
SED1	Stream sediment geochemistry 312 samples at \$100 each collection	\$31,200
SED2	Stream sediment sample assay costs	\$15,600
AUG1	Auger drilling costs 1929 holes at \$100 each	\$192,900
AUG2	Auger assays 1929 samples at \$30 each	\$57,870
TRE1	Trenching 1000 meters at \$50/m	\$50,000

TRE2	Trenching 1000 assays at \$30 each	\$15,000
SURV1	Mine surveying	\$20,000
MRE1	Mineral Resource Estimate	\$20,000
	TOTAL	\$432,570

Table 19 – Phase One Exploration Program Budget

Phase Two Exploration Program:

Item	Section	Subtotal Cost
DRI1	Drilling 18 holes for 3430 meters at \$300/m including assays	\$1,029,000
	TOTAL	\$1,029,000

Table 20 – Phase Two Exploration Program Budget

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20 Abbreviations and Definitions

Symbol etc	GLOSSARY OF ABBREVIATIONS AND DEFINITIONS
\$USD	United States Dollars
€	Euro currency
<	Less than.
>	Greater than.
°C	Degrees Celsius
AAS	Atomic Absorption Spectroscopy.
Ag	Symbol for the element silver
ArcGIS	A Geographic Information System (GIS) software
Assay	chemical test performed on a sample of ores or minerals to determine the amount of valuable metals contained.
Au	Symbol for the element gold.
AusIMM	Australasian Institute of Mining and Metallurgy.
Bi	Symbol for the element bismuth.
Breccia	Breccia is a rock composed of broken fragments of minerals or rock cemented together by a fine-grained matrix that can be similar to or different from the composition of the fragments.
Bulk Mining	Large scale, mechanized mining without regard to separately mining discrete zones of mineralisation.
Ca	circa annum, approximate year.
CIM	Canadian Institute of Mining, Metallurgy, and Petroleum.
Cm	Centimetres

Contact	A geological term used to describe the line or plane along which two different rock formations meet.
Corp.	Corporation
CP(Geo)	<p>A Chartered professional is a person who has gained a specific level of skill or competence in a particular field of work, which has been recognised by the award of a formal credential by a relevant professional organization. In this case awarded by the CPPC, a committee of the AusIMM for achievements in the field of Geology.</p> <p>The Chartered Professional Program eligibility criteria are specified in Chartered Professional Regulation 10 (Chartered Professional admission). In summary, applicants must:</p> <ul style="list-style-type: none"> • Hold current financial membership of The AusIMM at the grade of Member, Fellow, or Honorary Fellow. • Hold an appropriate tertiary degree or equivalent relevant to the discipline in which accreditation is sought. • Have at least five years of relevant work experience within the mining industry in at least one Area of Practice in the discipline being applied for. • Demonstrate key competencies, detailed by a written response to Competency Statements providing clear evidence the applicant has worked competently in the area of practice and in the discipline applied for a period of at least 5 years since qualification. • Have three (3) sponsors who are familiar with and can substantiate the applicant's qualifications and experience. • Demonstrate a minimum satisfactory level of relevant Professional Development during the three years prior to the application for CP. This must be demonstrated by a completed AusIMM online PD logbook, providing evidence that in the last three years, the applicant has completed 150 hours of Professional Development.
CRM	Certified Reference Material for assaying
Cu	Symbol for the element copper.
Cut-off Grade	The lowest grade of mineralised rock that qualifies as ore grade in each deposit and is also used as the lowest grade below which the mineralised rock currently cannot be profitably exploited. Cut-off grades vary between deposits depending upon the amenability of ore to gold extraction and upon costs of production.
Deposit	An informal term for an accumulation of mineralisation or other valuable earth material of any origin.
Dilution	Waste rock that is, by necessity, removed together with the ore in the mining process, thereby reducing the mined grade of the ore.
Dip	The angle at which a vein, structure or rock bed is inclined from the horizontal as measured at right angles to the strike.
Economic Pit- Shell	The spatial limits determined by an algorithm to define the optimum minable resources from an unconstrained resource model. The optimum ultimate pit of a mine is defined as the "pit shell", which is the result of extracting the volume of material that provides the total maximum profit while satisfying the operational requirements of safe wall slopes. The ultimate pit limit gives the shape of the mine at the end of its life. Usually this contour is smoothed to produce the final pit outline.
Fault	A break in the Earth's crust caused by tectonic forces which have moved the rock on one side with respect to the other.
Flotation	A milling process in which valuable mineral particles are induced to become attached to bubbles and float as others sink.
FSEG	Fellow of the Society of Economic Geology
g/t	Grams Per Metric Ton
Grade	Term used to indicate the concentration of an economically desirable mineral or element in its host rock as a function of its relative mass. With gold, this term may be expressed as grams per tonne (g/t) or ounces per tonne (opt).
ground magnetics	A ground-based survey technique that measures the variation in the earth's magnetic field and is a response to local rock iron content.
Ha	Hectares
Hanging Wall	The rock on the upper side of a vein or mineral deposit.
High Grade	Rich mineralisation or ore. As a verb, it refers to selective mining of the best ore in a deposit.
Hr	Hour(s)

Hydrothermal	Processes associated with heated or superheated water, especially mineralisation or alteration.
ICP	Inductively coupled plasma analysis, an analytical technique used for elemental determinations.
Indicated Mineral Resource	An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.
Inferred Mineral Resource	An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of Ltd geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
Intrusive	A body of igneous rock formed by the consolidation of magma intruded into other rock type.
IP	Induced Polarization Survey, an electrical geophysical technique
JORC	Joint Ore Reserve Committee Australasian Code.
Kg	Kilograms.
Km	Kilometres.
Leaching	The separation, selective removal or dissolving-out of soluble constituents from a rock.
LG	Low grade, as in the lower grade gold portion of a process stream.
m	Meters
M	million
m.a.s.l.	Meters above mean sea level.
Ma	Mega-annum (one million years).
MapInfo	A Geographic Information System (GIS) software
Measured Mineral Resource	A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.
Metallurgy	The science and art of separating metals and metallic minerals from their ores by mechanical and chemical processes.
Metavolcanic	Being or relating to a type of metamorphic rock originally produced by a volcano, either as lava or tephra, then buried and subjected to high pressures and temperatures, causing it to recrystallize.
Mineral	A naturally occurring homogeneous substance having definite physical properties and chemical composition and, if formed under favourable conditions, a definite crystal form.

Mineral Reserve	A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study. Note no Mineral Reserves are reported in this Technical Study.
Mineral Resource	A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated, or interpreted from specific geological evidence and knowledge, including sampling. Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals. The term mineral resource used in this report is a Canadian mining term as defined in accordance with NI 43-101 – Standards of Disclosure for Mineral Projects under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM), Standards on Mineral Resource and Mineral Reserves Definitions and guidelines adopted by the CIM Council on December 11, 2005 and recently updated as of May 10, 2014 (the CIM Standards).
mm	Millimetres.
mt or t	Metric tonnes.
NI 43-101	National Instrument 43-101 Standards of Disclosure for Mineral Projects
nT	Nanotesla, a unit of magnetic field intensity.
Open pit or cut	A form of mining operation designed to extract minerals that lie near the surface. Waste or overburden is first removed, and the mineral is broken and loaded for processing. The mining of metalliferous ores by surface-mining methods is commonly designated as open-pit mining as distinguished from strip mining of coal and the quarrying of other non- metallic materials, such as limestone and building stone.
Outcrop	An exposure of rock or mineral deposit that can be seen on surface that is not covered by soil or water.
oz or tr oz	Troy Ounces.
P80	80% passing, commonly used to designate particle size 80% of which will pass through a given screen opening.
Pb	chemical symbol for the metal lead
Plant	A building or group of buildings in which a process or function is carried out; at a mine site it will include warehouses, hoisting equipment, compressors, maintenance shops, offices and the mill or concentrator.
ppb	Parts per Billion.
ppm	Parts per Million.
QAQC	Quality Assurance/Quality Control, procedures implemented to assure integrity of results.

Qualified Person (QP)	Conforms to that definition under NI 43-101 for an individual (a) to be an engineer or geoscientist with a university degree, or equivalent accreditation, in an area of geoscience, or engineering, related to mineral exploration or mining; (b) has at least five years' experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these, that is relevant to his or her professional degree or area of practice; (c) to have experience relevant to the subject matter of the mineral project and the technical report; (d) is in good standing with a professional association; and (e) in the case of a professional association in a foreign jurisdiction, has a membership designation that (i) requires attainment of a position of responsibility in their profession that requires the exercise of independent judgement; and (ii) requires (A.) a favourable confidential peer evaluation of the individual's character, professional judgement, experience and ethical fitness; or (B.) a recommendation for membership by at least two peers, and demonstrated prominence or expertise in the field of mineral exploration or mining.
RC	Reverse Circulation Drilling.
Sb	chemical symbol for the metal antimony
SG	Specific Gravity.
Shoot	A concentration of mineral values; that part of a vein or zone carrying values of ore grade.
SMU	Selective mining unit.
SRK	SRK Consulting, an independent international consulting group focused on advice and solutions to earth and water resource industries.
Strike	The direction, or bearing from true north, of a vein or rock formation measure on a horizontal surface.
Sulphide	A group of minerals which contains Sulphur and other metallic elements such as copper and zinc. Gold and silver are usually associated with sulphide enrichment in mineral deposits.
T/O Study	Trade-off study, a technical and economic comparison of alternatives.
Till	Unsorted material deposited directly by glacial ice and showing no stratification.
Ton or Tonne	A metric ton of 1,000 kilograms (2,205 pounds).
tourmaline	Tourmaline is a crystalline boron silicate mineral compounded with elements such as aluminium, iron, magnesium, sodium, lithium, or potassium.
tpd	Metric Tonnes Per Day.
um	Micron (0.001 millimetre).
Vein	A fissure, fault or crack in a rock filled by minerals that have travelled upwards or laterally from a deep source.
VMS	Volcanogenic Massive Sulphide.
VRS GPS	Virtual Reference Station Global Positioning System.
Waste	Unmineralised, or rock which is insufficiently mineralised to mine at profit. XRD
XRD	X-ray diffraction, a rapid analytical technique primarily used for phase identification of a crystalline material.
XRF	X-ray fluorescence a non-destructive analytical technique used to determine the elemental composition of materials.
Zn	chemical symbol for the metal zinc
Zone	An area of distinct mineralisation.

Appendices