# NI 43-101 Technical Report Updated Resource Estimate Yandera Copper Project Papua New Guinea

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# **Appendices**

Appendix A: Certificates of Qualified Persons

# 1 Summary

This report has been prepared pursuant to the requirements of Canadian National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101). This report is an Updated Resource Estimate (Technical Report on Resources) for Era Resources, Inc. (Era) by SRK Consulting (U.S.), Inc. (SRK) on the Yandera Copper Project (Yandera or Project) located in Madang Province, Papua New Guinea (PNG). This report provides mineral resource estimates, and a classification of resources prepared in accordance with the Canadian Institute of Mining (CIM) Metallurgy and Petroleum, Standards on Mineral Resources and Reserves: Definitions and Guidelines, May 10, 2014. This 2016 mineral resource estimate follows 8,919 m (43 holes) of new resource drilling carried out in 2016. The project is being advanced rapidly toward prefeasibility, with engineering studies related to mining, processing and infrastructure being conducted in parallel with 2016 exploration drilling.

This 2016 Measured and Indicated copper-equivalent (CuEq) resource estimate for Yandera represents an update of the 2015 resource estimate. Enhancements to the new resource estimate include:

- Drill delineation of mineralization between Gremi and Omora, Gremi and Imbruminda, and Dimbi and Gamagu;
- Extension of mineralization in the South Dimbi, East Gremi, Omora, and Benbenubu areas;
- Meaningful refinement of the constraining geologic framework, including detailed models of specific mineralization-related units and later units that cut mineralization; and
- Refinement of grade shells to match geology and identified trends in the mineralization.

# 1.1 Property Description and Ownership

The Yandera Project is located in the southwest part of Madang Province in the central highlands of PNG at an elevation ranging from 1,800 to 2,200 m above mean sea level in steep terrain with high annual rainfall. The project is located at longitude 145.12°E and latitude 5.75°S, which is about 95 kilometers (km) southwest of the city of Madang.

Access to the site is by helicopter only. Road access to the site is in development as a refurbishment and extension of a pre-existing road. Era has an access arrangement with various native tribes in the area to facilitate near-term road construction.

Era holds two non-contiguous exploration licenses (EL): EL 1335 (Yandera) and EL 1854 (Lila/Cape Rigny). The total tenement package covers 269.39 km², but the vast majority of work to date and all the resources on the property have been within EL 1335.

Era currently holds 100% ownership of the land tenements. There are no other royalties, back-in rights, or other encumbrances on the property, except the Mining Lease royalty to the government of PNG, which is 2%.

In the EL agreements, the state (PNG) reserves the right to purchase up to 30% equity interest in any mineral discovery arising from the EL. The purchase price would be equal to the State's pro-rata accumulated exploration expenditures and thereafter its pro-rata share of exploration and development costs.

## 1.2 Geology and Mineralization

Yandera is an igneous-intrusive-hosted, structurally-controlled Cu porphyry system with ancillary Mo and Au comprised of a series of adjacent vertically oriented deposits along recognized structural trends. Mineralization is concentrated in several deposits, namely, Imbruminda, Gremi, Omora, and Dimbi. Imbruminda, Gremi, and Omora are contiguous and separated from Dimbi by a low-grade central silica-rich zone, which is bounded on three sides by high angle faults. The bulk of the mineralization is adjacent to these major structures on a NW-SE trend. Locally, north-northeast-trending cross faults bound mineral domains and reflect the structural complexity of the district.

Mineralization is related to multiple pulses of intrusive activity and hydrothermal alteration/mineralization. Elevated grade has spatial correlation with late dacite intrusions and polymictic breccias with over-printing phyllic alteration. Broad tabular zones of copper mineralization extend from surface to depths of over 500 m and have been drill-defined to a strike length of over 5 km.

All of the Yandera porphyry-hosted Cu deposits lie within the Miocene Bismarck Intrusive complex. This complex is a batholith comprised predominantly of granodiorite with lesser amounts of gabbro and quartz monzogranite. The Bismarck Intrusive complex is bounded to the north by the northwest striking Ramu Fault Zone and the upthrust sediments and ophiolites of the Ramu Ophiolite Complex. There is an interpreted flexure in the Ramu Fault zone to the north of Yandera which may have played an important role controlling extension and mineralization at Yandera.

Early interpretations suggested a major shift in plate movement north of PNG at the time of intrusive emplacement when the major principal stress direction changed from predominantly left-lateral strike slip to a stress field more dominantly compressive. The strike-slip movement is interpreted to have arranged the mineral deposits in a NW-SE orientation, while compression and subsequent relaxation appear to have had the most pronounced impact on the mineralization timing.

# 1.3 Status of Exploration, Development and Operations

The Yandera Project is currently in the advanced exploration stage of development. EL 1335 is fully covered by regional airborne geophysics including airborne magnetics and radiometrics. The airborne surveys have been supplemented by surface mapping and surface geochemistry to define drilling targets.

All drilling on the Project includes 625 drillholes that total 188,045 m of drilled length, of which Era (formerly Marengo) has drilled 471 that total 144,728 m. Since the 2015 resource estimate, Era completed a drilling program in 2016 that added 50 drillholes and 10,099 m of drilled length to the Project database. The majority of these drillholes (43 holes) were for resource infill, and seven were for geotechnical engineering purposes and were not assayed in time to be included in this resource estimate. Drill core is preserved in secure on-site core storage facilities at the Yandera Camp, Frog Camp, and Peure.

There has been no mining carried out to date apart from two shallow excavations for bulk metallurgical samples carried out in the Gremi deposit. The main base of operations for exploration are currently at Frog Camp with lesser support from Yandera Camp. Until the access road is upgraded, helicopter-assisted mapping, surface sampling and core drilling continue at the site.

# 1.4 Mineral Processing and Metallurgical Testing

Previous technical studies have included sulfide flotation testing for Cu, Mo, and Au recovery. Yandera sulfide material appears amenable to flotation processing. Test results of the Cu and Mo concentrates do not have deleterious elements at concentrations that will incur smelter penalties.

A portion of the deposit is oxide. Previous flotation testing of oxide Cu material demonstrated poor recovery. In 2015 and 2016, Era completed some preliminary leach test work that showed reasonable recoveries, but Era is favoring using the flotation of oxide Cu material for potential capital efficiencies.

There have been four metallurgical test work programs on Yandera mineralized material and one bulk sampling event:

- AMEC-Minproc performed comprehensive comminution studies and preliminary flotation and magnetic separation studies;
- NFC/Nerin did flotation test work and mineralization assessment;
- AMS/Era performed extensive flotation test work;
- Bulk sampling of Adit Alpha and Adit Bravo at Gremi; and
- McClelland/SRK/Era performed Cu leach testing on oxide material.

#### 1.4.1 AMEC-Minproc

Three samples from Omora and three samples from Gremi were used for comminution and metallurgical test work by ALS-Ammtec in 2009, supervised by AMEC-Minproc. Comminution tests indicated that the material is of medium to high hardness with Bond Rod Mill Work Index of 14 kWh/t and Bond Ball Mill Work Index of 15 kWh/t. The samples had relatively low abrasion characteristics.

Bulk flotation tests, consisting of a rougher-scavenger circuit indicated Cu recoveries over 91%, and Mo recoveries of approximately 80%. Gold and silver also were recovered in the concentrate. Cleaning tests of the bulk concentrate indicated that the concentrate weight could be reduced without loss of metals.

Magnetic separation testing indicated that a concentrate of >60% Fe could be made, but  $SiO_2$  values were above the penalty limit of 4.5%.

#### 1.4.2 NFC/Nerin

China Nonferrous Metal Industry's Foreign Engineering and Construction Co. Ltd (NFC) commissioned Beijing General Research Institute of Mining and Metallurgy (BGRIMM) to run flotation test work. The samples for this test work were obtained from 2,260 m of full core, totaling approximately 22 t. Samples were from 14 drillholes located specifically for metallurgical test work (YM-005 to YM-018) and spaced to get representative samples on the Omora, Gremi, and Imbruminda deposits. For each meter of sample, 80% was sent to BREIMM, with the remaining 20% sent to ALS-Ammtech in Perth.

Initial test work was done on the Imbruminda sample. Mineralogical tests indicate the main Cu minerals are chalcopyrite and bornite. Molybdenite is the main Mo mineral. Magnetite is the primary Fe mineral. Extensive test work was done on the sample including optimizing the grind size, reagent selection, and flotation time. Both open and closed circuit flotation tests were run. Test work

produced a process flow sheet that included: 1) Grinding to 60% passing 0.074 mm; 2) Cu and Mo bulk concentrate flotation; 3) Cu and Mo separation; and 4) Magnetic separation of Fe in the flotation tailings.

#### 1.4.3 AMS/Marengo

Testing on the remaining 20% of the core was run parallel to the NFC/Nerin test program at ALS-Ammtec in Perth under the supervision of Arccon Mining Services (AMS) and Marengo. The AMS/Marengo test work concentrated on optimizing the rougher-scavenger recovery. Flotation slurry density, grind size, and collector reagents were all evaluated. Results of this optimization indicate: 1) copper recovery of 96% in hypogene samples; 2) good molybdenum recovery in hypogene and mixed samples; 3) flotation recovery of Cu and Mo in oxides low at 60% to 65%; and 4) reasonable rougher concentrate grades for Cu and Mo.

#### 1.4.4 Bulk Sampling for Metallurgical Testing

In late 2010 and early 2011, Adit Alpha was driven a total distance of 49.4 m at Gremi to acquire a bulk sample for metallurgical testing of sulfide (hypogene) material. Adit Alpha was collared too high on the ridge, and thus the entire length of the adit was in oxide and mixed-oxide material.

In 2011, a second adit, Adit Bravo, was driven lower on the ridge to obtain hypogene material for bulk metallurgical testing. The total length of Adit Bravo was 70.1 m. A total of about 48 t of hypogene material was recovered from the end of the adit, and it was sent to ALS-Ammtec for metallurgical testing. Head grades of the sample were 0.36% Cu, 180 ppm Mo, and 0.14 ppm Au.

Two Locked Cycle Flotation Tests were run on the Bravo Adit ore. The flow sheet for the test work included a rougher cell, two stages of copper cleaning, and seven stages of molybdenum cleaning with regrinding between the  $3^{rd}$  and  $4^{th}$  moly cleaners. The rougher feed was ground to 80% passing 150  $\mu$ m. The rougher concentrate was reground to 80% passing 40  $\mu$ m. Results of the tests were approximately 95% recovery of Cu with a 40% Cu grade concentrate. Au recovery was greater than 80% to the copper concentrate. Mo recovery varied from 78.6% to 86.0% in the two tests with a 46% to 43.3% Mo concentrate respectfully.

## 1.4.5 Oxide Leach Metallurgical Testing

In 2015 and 2016, Era, through SRK and McClelland Laboratories, conducted column leach tests on oxide material. Column leach tests were conducted on two feed sizes (80% of material <25 mm and <9 mm) with no cure, being agglomerated, and acid cured (simulating dry stacking followed by application of concentrated acid solution after 5 days). Flooded vat leach tests were conducted on two feed sizes (80% of material <6.3 mm and <3.4 mm). Results showed a Cu recovery ranging from 74.5 to 88.2% for column leaching, and Cu recovery ranging from 75.5 to 84.3% for flooded vat leaching.

#### 1.4.6 Recovery Estimate Assumptions

For optimized pits and CoG calculations, SRK applied the following recoveries in sulfides and mixed ores: copper, 90%; molybdenum, 85%; and gold, 65%. For oxide ores, SRK applied the following recoveries assuming utilizing flotation: copper 60%, molybdenum 0%, and gold 43.3%.

#### 1.5 Mineral Resource Estimate

The resource block model was informed by 58,214 samples from 568 drillholes at an average drillhole spacing of less than 30 m in the principal resource areas (Gremi, Imbruminda, and Omora) and less than 100 m in other deposits within the model space. Drilling techniques included exclusively HQ- and NQ-sized diamond drill core. Samples were collected as one-half core splits using a diamond-bladed saw on 2 to 3 m intervals. Sampling produced an approximate 0.8 kg mass, which was pulverized to produce a charge for fire assay for gold, and four acid digestion and multi-element analysis with inductively-coupled plasma (ICP)- atomic emission spectroscopy (AES) for all other elements. Quality control data for the analytical database have been reviewed by the Qualified Person and were deemed acceptable for resource estimation.

Mineral resources were estimated by ordinary kriging (OK) using MineSight® software in  $25 \text{ m} \times 25 \text{ m} \times 10 \text{ m}$  blocks (XYZ), constrained by grade shells based on a 0.15% Cu cut-off. Grade estimates within the grade shells were based on capped, 5 m composited assay data. Capping was conducted prior to compositing.

The resource model was validated by visual inspection, statistical comparisons of block values to source data and comparison of Kriged results to other interpolation methods and swath plots. Resources were classified into Measured, Indicated and Inferred categories based on CIM Definition Standards (CIM, 2014) sufficient for NI 43-101 and JORC reporting.

A minimum of three drillholes were required for the assignment of Measured Mineral Resources within a drill data spacing of 50 m. Indicated resources were classified with a minimum of two drillholes but within a drill data spacing of 100 m. Inferred resources represent material estimated by as few as one drillhole at a distance greater than 100 m from source data, but within the copper grade shell and within the potential mining shape.

In order to establish a reasonable prospect of eventual economic extraction in an open pit/sulfide flotation and oxide-leach context, the mineral resources presented above are reported within a potentially mineable open pit configuration at a copper price of US\$3.35/lb Cu, a molybdenum price of US\$10/lb Mo and a gold price of US\$1,400/oz Au; metallurgical recoveries non-oxide ores of 90% for Cu, 85% for Mo and 65% for Au; metallurgical recoveries for oxide ores of 60% for Cu, 0% for Mo, and 43.3% for Au; mining cost of US\$2.50/t of material mined; and process and G&A costs of US\$7.50/t of material processed. Additional factors include a 2% royalty to the PNG government and a pit slope of 45 degrees.

The resources are reported within the pit configuration above a breakeven CuEq CoG of 0.15% CuEq. The metal prices, recoveries, and costs listed above were used to define CuEq cut-off.

The metal ratios used for reporting CuEq are:

$$CuEq = Cu\% + (Mo\% * 2.82) + (Au ppm * 0.44)$$

These metal ratios were developed using the metal prices and recovery assumptions listed above. Recoveries are based on metallurgical test work carried out by Marengo in 2011.

The Mineral Resource Statement, with an effective date of December 15, 2016, is presented in Table 1-1. The resource has been reported as a total, and as oxide and non-oxide components, as these material types will have different metallurgy and will have different recovery characteristics and costs.

Table 1-1: Mineral Resource Statement for the Yandera Copper, Molybdenum, Gold Deposit, Madang Province, Papua New Guinea [0.15 CuEq (%) Cut-off] SRK Consulting, December 15, 2016

		Mass		Metal	Grades			Cor	tained Mo	etal	
Zone	Classification	(kt)	CuEq (%)	Cu (%)	Mo (%)	Au (ppm)	CuEq (kt)	Cu (kt)	Mo (kt)	Au (kg)	Au (koz)
	Measured	196,496	0.46	0.38	0.01	0.10	895	742	26	18,883	607
	Indicated	532,147	0.36	0.31	0.01	0.06	1,915	1,655	46	30,652	985
Total Resource	Measured & Indicated	728,643	0.39	0.33	0.01	0.10	2,809	2,397	72	49,535	1,593
	Inferred	230,643	0.32	0.29	0.00	0.04	738	671	11	8,211	264
	Measured	19,530	0.42	0.37	0.01	0.12	82	72	1	2,320	75
	Indicated	44,216	0.36	0.33	0.01	0.07	159	146	2	Au (kg)         Au (koz           18,883         60°           30,652         988           49,535         1,59°           8,211         26°           2,320         7°           2,901         9°           5,221         16°           601         1°           16,564         53°           27,714         89°           44,279         1,42°	93
Oxide Resource	Measured & Indicated	63,746	0.38	0.34	0.01	0.12	242	219	4	5,221	168
	Inferred	18,597	0.27	0.26	0.00	0.03	51	48	1	601	19
	Measured	176,967	0.46	0.38	0.01	0.09	812	669	25	16,564	533
	Indicated	487,931	0.36	0.31	0.01	0.06	1,756	1,509	44	27,714	891
Non Oxide Resource	Measured & Indicated	664,898	0.39	0.33	0.01	0.10	2,568	2,178	69	44,279	1,424
	Inferred	212,045	0.32	0.29	0.01	0.04	687	623	11	7,591	244

<sup>•</sup> Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that any part of the Mineral Resources estimated will be converted into a Mineral Reserves estimate;

<sup>•</sup> Resources stated as contained within a potentially economically minable open pit; pit optimization was based on assumed copper, molybdenum, and gold prices of US\$3.35/lb, US\$10.00/lb, and US\$1,400.00/oz, respectively; hypogene and transition recoveries of 90% for Cu, 85% for Mo, 65% for Au; oxide recoveries of 60% for Cu, 0% for Mo, 43.3% for Au; a mining cost of US\$2.50/t, an ore processing and G&A cost of US\$7.50/t, and a pit slope of 45 degrees;

<sup>•</sup> Resources are reported using a 0.15 % CoG on an Equivalent Copper value that included process recoveries for metal;

<sup>•</sup> The CuEq was calculated using the formula CuEq = Cu% + (Mo% \* 2.82) + (Au ppm \* 0.44); and,

<sup>•</sup> Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.

#### 1.6 Mineral Reserve Estimate

There have been no mineral reserves estimated for this project.

# 1.7 Mining Methods

An open-pit truck-and-shovel operation is anticipated for this project. CoG calculations used this mining method as the basis of costs.

#### 1.8 Recovery Methods

Metal recovery of sulfide mineralization (Cu, Au, Mo) would likely be by conventional crushing, grinding, and flotation to produce a Cu-Au concentrate and separate Mo concentrate. Recovery of copper and gold from oxidized material would likely be by conventional crushing, grinding and flotation to produce a Cu-Au concentrate. CoG calculations used these process methods for the basis of costs.

# 1.9 Project Infrastructure

There are two active exploration camps servicing the exploration activities at the Yandera Project: Yandera Camp and Frog Camp. The camps have non potable water systems, diesel generated power and limited radio, internet and cell communications. These facilities are currently accessible by helicopter and by unpaved primitive road to the Yandera Camp.

## 1.10 Environmental Studies and Permitting

Era currently holds EL's on two tenements. An EL entitles the holder to exclusively explore for minerals for a period of two years, and it also entitles the lease holder the right to apply for a mining lease or special mining lease. Once an Environmental Impact Statement (EIS) has been submitted and a Feasibility Study has been completed, Era will need to apply for a mining lease or special mining lease. At this stage there are a number of permits that are required.

Prior to completion of this report, Era initiated environmental studies to be used for an EIS. Consultant Coffey Environments partially completed investigations on archeology and material culture; aquatic biodiversity; terrestrial vegetation and fauna; land and resource use; water resource use; noise, vibration, and blast overpressure; air quality, greenhouse gas and energy consumption; social impact assessment; sediment characterization and transport; streambed sediment quality; soil characterization and rehabilitation; health and nutrition; nearshore marine characterization survey/Madang Harbor studies; geochemical characterization of waste rock; and geochemical characterization of tailings. Era is currently collecting surface water flow data and water quality data for baseline studies.

#### 1.11 Conclusions and Recommendations

The Measured and Indicated Mineral Resource estimate for the Yandera deposit in the highlands of PNG is approximately 728 Mt at a grade of 0.39% CuEq, with contributions to the CuEq coming from low-grade Mo and Au. The resource is reported within a potentially mineable open pit configuration. Of the total resource, approximately 8% of the tonnes reside in oxide, where Cu is potentially recoverable by flotation. The majority of the resource is in sulfide, recoverable by conventional

flotation to produce a concentrate. Sulfide recoveries used in this study were: Copper, 90%; Molybdenum, 85%; and Gold, 65%. Exploration is ongoing at Yandera, as well as further metallurgical and geotechnical characterization to advance the project.

There are logistical, environmental and socio-political challenges for constructing and operating a mine in the highlands of PNG; however, Era has been active at the site for more than ten years, and building on a more than 25 year exploration presence in the district established by previous operators. Era's exploration team is almost exclusively comprised of PNG nationals and most of the labor and logistical support for the Project are locally employed.

Steep terrain poses both challenges and opportunities for mine development that will be addressed as the project proceeds. SRK is of the opinion that Yandera is a project of merit and there are no material technical, environmental or socio-political obstacles to project development.

#### 1.12 Recommended Work Programs

#### 1.12.1 Drilling and Data Collection for Project Advancement

Era has already initiated studies to facilitate project advancement in the areas of road access, mineral processing, tailings management, power and water supply, and social/environmental compliance. The following are specific activities recommended to provide economic inputs for a Prefeasibility Study (PFS). A substantial engineering database already exists for the project following advanced studies in 2011/2012. These data, in conjunction with data collection activities planned for 2017, would facilitate a fast-track to PFS based on the new 2016 mineral resource.

#### **Exploration Drilling**

SRK has identified a number of areas within the potential future mining footprint would benefit from additional drilling. These "conversion" targets have potential to improve economics at the next level of study by converting mineralized material to resources or resources to reserves. These targets are described below.

Two types of conversion drilling are recommended to support a PFS:

 Resource Conversion Drilling: Exploration of contiguous prospects with surface mapping, sampling and drilling that would convert waste to ore and expand the future resource pit shape.

Target Areas include Kauwo (A), and the Tonga/Mumnogi area (B)

- Reserve Conversion Drilling: Target generation and drilling to convert Inferred mineralization to Measured and Indicated Resources and immediately impact project profitability by connecting future pits and improving the strip ratio.
  - o Target Areas include Dimbi (A), South Dimbi (B), and Benbenubu (C)

#### **Engineering Drilling**

In addition to resource/reserve conversion, SRK recommends several Engineering drilling campaigns. Details of the engineering drilling requirements were provided to Era in a review of existing engineering studies conducted in early 2016 (SRK, 2016). Engineering drilling encompasses a variety of drilling programs to provide information for PFS-level cost estimation and risk mitigation.

As a priority, engineering drilling should be focused on the Dimbi-Gamagu area. The Imbruminda, Gremi and Omora areas are sufficiently drilled to facilitate PFS-level mine planning and economic evaluation. Pit optimization should be carried out using current and projected Measured and Indicated Resources to guide pit slope geotechnical characterization drilling. In addition to geotechnical drilling previously reported (Mining One, 2013) SRK recommends approximately six holes to 450 m depth of oriented core aimed at specific pit highwall targets.

Yandera project development also requires a better understanding of hydrogeological information for pit dewatering. A budget of 1,800 m of drilling has been proposed for this task. The remainder of the engineering drilling budget is proposed for a combination of metallurgical and short foundation geotechnical drilling to facilitate design of process plant components and other infrastructure.

#### 1.12.2 Resource Expansion and Regional Exploration

Era should continue to carry out work on district exploration prospects to expand the resource. District exploration includes known prospects such as Rima and Frog. In parallel, Era should continue to develop grass-roots exploration prospects through traditional targeting, mapping, sampling and drilling. Identified grass-roots prospects include Pomiea, Biom and Queen Bee.

#### 1.12.3 Engineering Trade-Offs and Prefeasibility

In parallel with PFS drilling and data collection, SRK recommends PFS-level trade-off studies in the areas of:

- Mine design (conventional open pit vs. underground or combination, truck vs. conveyor);
- Processing: (milling +/- leaching, highlands vs. lowlands plant siting, etc.);
- Power Supply: (diesel vs. LNG, line power vs. generators, fuel supply options);
- Tailings management: (on land impoundment vs offshore, conventional vs. dry stack);
- Access: (optimized route selection for roads and pipelines);
- Purchase/Offtake: (develop preliminary smelter terms)

At the conclusion of the data collection and trade-off studies, a PFS would be prepared to demonstrate economic potential of the project. The PFS would include an updated resource estimate, augmented by conversion and engineering drilling proposed for 2017.

One of Era's goals for PFS-level deposit characterization should be to develop a geometallurgical model for Yandera, from which predictions can be made regarding metal recovery, throughput, and concentrate grades. Geology is the foundation for this type of model, which includes defining alteration mineral assemblages and copper speciation by rock type, complemented by estimates of hardness, work index, and abrasiveness. Alteration modeling is lacking in the current resource model and should be addressed presently to support PFS-level planning.

#### **1.13 Costs**

Table 1-2 is a breakdown of the anticipated costs for the above recommendations. The schedule to complete the PFS is approximately 18 months. Ongoing district exploration is projected on a two- to three-year timeline.

Table 1-2: Cost Estimates for Recommended Work Programs

Work Program	Estimated	Assumptions/Comments
Drilling Data Collection for PFS	Cost US\$	
Exploration Drilling: Resource/Reserve Conversion	2,800,000	approx 7,000m (28 holes x 250m)
Engineering Drilling (pit slope, foundation, hydro, metallurgy)	2,565,000	approx.5,700m (20 holes x 275m)
Ongoing District Exploration	250,000	surface mapping, sampling and targeting
Total Data Collection	5,615,000	
Prefeasibility Study		
Resource update (with alteration/geometallurgy)	150,000	specialist contractor/engineer
Conceptual Trade-Off Studies	150,000	specialist contractor/engineer
Prefeasibility Study (Economics and Report)	350,000	specialist contractor/engineer
Total PFS	650,000	
contingency @15%	939,750	
Grand Total	7,204,750	

Source: SRK, 2016

# 2 Introduction

#### 2.1 Terms of Reference and Purpose of the Report

This report was prepared as a National Instrument 43-101 (NI 43-101) Technical Report – Updated Resource Estimate (Technical Report) for Era Resources, Inc. (Era) by SRK Consulting (U.S.), Inc. (SRK) on the Yandera Copper Project (Yandera or Project) located in Madang Province, PNG. Era was previously Marengo Mining, Limited (Marengo), and changed the company name in November, 2015.

The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in SRK's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Era subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits Era to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to NI 43-101, Standards of Disclosure for Mineral Projects. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Era. The user of this document should ensure that this is the most recent Technical Report. This report provides mineral resource estimates and a classification of resources prepared in accordance with the Canadian Institute of Mining (CIM) Metallurgy and Petroleum, Standards on Mineral Resources and Reserves: Definitions and Guidelines, May 10, 2014.

# 2.2 Qualifications of Consultants (SRK)

The Consultants preparing this technical report are specialists in the fields of geology, exploration, mineral resource and mineral reserve estimation and classification, underground mining, geotechnical, environmental, permitting, metallurgical testing, mineral processing, processing design, capital and operating cost estimation, and mineral economics.

None of the Consultants or any associates employed in the preparation of this report has any beneficial interest in Era. The Consultants are not insiders, associates, or affiliates of Era. The results of this Technical Report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between Era and the Consultants. The Consultants are being paid a fee for their work in accordance with normal professional consulting practice.

The following individuals, by virtue of their education, experience and professional association, are considered Qualified Persons (QP) as defined in the NI 43-101 standard, for this report, and are members in good standing of appropriate professional institutions. The QP's are responsible for specific sections as follows:

 J.B. Pennington, M.Sc. C.P.G., is the QP responsible for background, geology, exploration, and environmental Sections 2, 3, 4 through 9, 20, 27, and 28, and co-authorship of resource geology and modeling Section 14, and portions of Sections 1, 25, and 26 summarized therefrom, of this Technical Report.

- Kent W. Hartley B.Sc. Eng., P.E., is the QP responsible for non-applicable items, and mineral processing and metallurgy Sections 13, 15 through 19, 21 through 24, and portions of Sections 1, 25, and 26 summarized therefrom, of this Technical Report.
- Justin Smith, B.Sc., P.E., SME-RM is the QP who collaborated on resource modeling and co-authored Section 14 of this Technical Report.
- Brooke Miller M.Sc., C.P.G., is the QP responsible for drilling, data validation and verification Sections 10 through 12, and portions of Sections 1, 25, and 26 summarized therefrom, of this Technical Report.

Don Tschabrun SME-RM., is the Senior Reviewer responsible for SRK's internal review of this Technical Report.

## 2.3 Details of Inspection

SRK participated in a visit to the Yandera site November 7-15, 2014 (Table 2-1), with meetings, field and core inspections taking place November 10-14, 2014 with the other days being dedicated to travel.

**Table 2-1: Site Visit Participants** 

Personnel	Company	Expertise	Date(s) of Visit	Details of Inspection
Jay Pennington	SRK Consulting	Resource Geology	November 10-14, 2014	Full-time accommodation at the Yandera Camp. Review of core stored at the Camp. Review of data collection method, maps and cross-sections, and digital database. One-day inspection of active drilling at Rima and a field traverse from Rima to Frog Camp.

Source: SRK, 2015

#### 2.4 Sources of Information

The sources of information include data and reports supplied by Era personnel as well as documents cited throughout the report and referenced in Section 27. Nathan Chutas, Ph.D., C.P.G., provided project background, geology and exploration, and environmental Sections 4 through 9, 20, and portions of Sections 1, 25, and 26 summarized therefrom, of this Technical Report. Mr. Chutas, a QP under NI 43-101 criteria, is now an employee of Era and is therefore, no longer an independent third party.

#### 2.5 Effective Date

The effective date of this report is December 15, 2016.

#### 2.6 Units of Measure

The metric system has been used throughout this report. Tonnes are metric of 1,000 kg, or 2,204.6 lb. All currency is in U.S. dollars (US\$) unless otherwise stated.

# 3 Reliance on Other Experts

The Consultant's opinion contained herein is based on information provided to the Consultants by Era throughout the course of the investigations. SRK has relied upon agents of Era for input on property ownership, history, geology, and permitting in support of this Technical Report.

The Consultants used their experience to determine if the information from previous reports was suitable for inclusion in this technical report and adjusted information that required amending. This report includes technical information, which required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the Consultants do not consider them to be material.

SRK has relied on Era Resources, Inc. for information pertaining to property ownership and agreements. These items have not been independently reviewed by SRK, and SRK did not seek an independent legal opinion of these items.

# 4 Property Description and Location

# 4.1 Property Location

The Project is located in the southwestern portion of the province of Madang in PNG within the Bismarck Mountain range, at elevations ranging from 1,500 to 2,400 m above mean sea level. The project is located at about longitude 145.12°E and latitude 5.75°S, which is about 95 km southwest of the city of Madang. The location of the project relative to other major mineral projects on the island of New Guinea is shown in Figure 4-1.

#### 4.2 Mineral Titles

Era has two non-contiguous exploration licenses (EL): EL 1335 (Yandera) and EL 1854 (Lila/Cape Rigny) as listed in Table 4-1 and shown in Figure 4-2. The total tenement package covers 269.39 km<sup>2</sup>, but the vast majority of work to date and all the resources on the property have been within EL 1335. EL 1854 is currently under review for renewal.

Table 4-1: Era Mineral Titles and Status

Exploration License	Name	Sub-blocks	km²	Original Grant Date	Expiry Date	Status
1335	Yandera	72	245.52	November 20, 2003	November 19, 2017	Current
1854	Lila/ Cape Rigny	7	23.87	July 29, 2011	July 27, 2017	Current
Total		79	269.39			

Source: Era, 2016

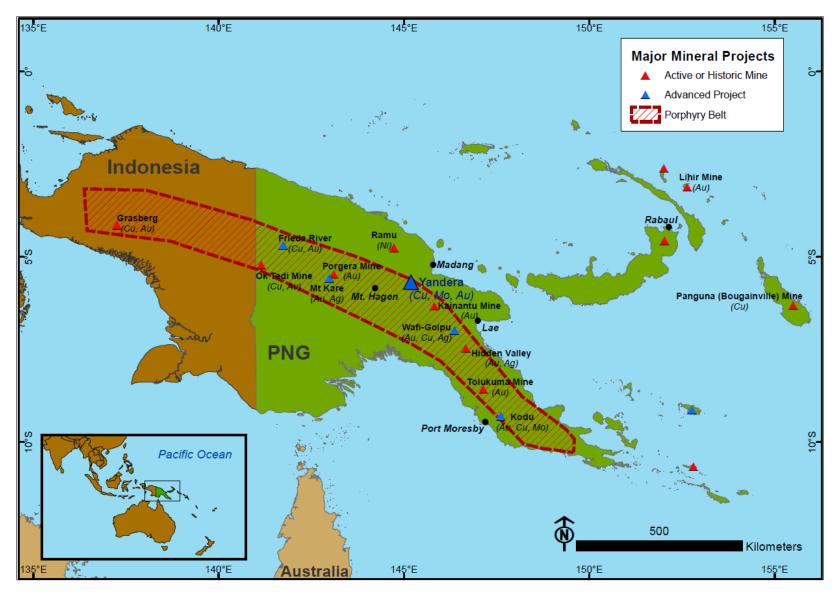
#### 4.2.1 Nature and Extent of Issuer's Interest

In PNG, the national government owns mineral rights for all property. Individuals and groups are allowed to own the surface. The PNG Mining Act of 1992 grants the holder of an EL access to the property for exploration purposes.

In the Yandera resource area, Era works with the Yandera Land Owner Association (YLOA) and community to coordinate access for work on the property. The YLOA works with Tribes and Clans for access. Although landowners are not entitled mineral rights, they are entitled to compensation for work-related disturbances that occur on their property, as specified by the government of PNG. Prior to developing a mine, Era is required to negotiate compensation with the local land owner association (LOA) for land owners that would be affected.

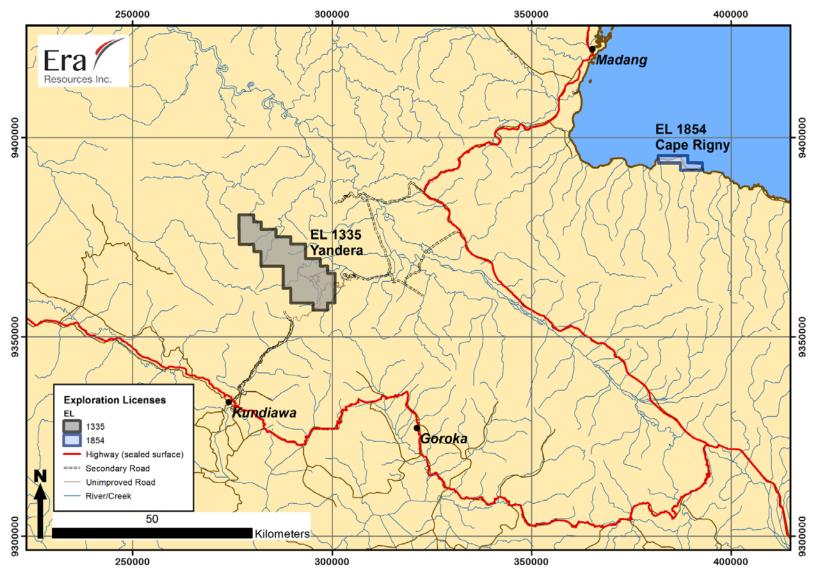
An EL entitles the holder to exclusively explore for minerals for a period of two years, and gives the holder the right to apply for a mining lease or special mining lease. The mining lease permits the holder to exclusively mine the lease for a period of up to 20 years, with the right to apply for 10 year extensions, and the special mining lease permits the holder to exclusively mine the lease for a period of up to 40 years with the right to apply for a renewal of up to 20 years.

Once an EL is granted, it must be renewed every two years, or at the end of each term. Holders are required to pay rental for each EL, and are required to accumulate a minimum amount of expenditures for each EL as shown in Table 4-2. EL 1335 is in its sixth term.



Source: Marengo, 2015

Figure 4-1: Project Location Map



Source: Marengo, 2015

Figure 4-2: Land Tenure Map

Table 4-2: Rentals and Expenditure Requirements for Exploration Licenses (1)

Term	Rental per Sub-block				
First	90	400			
Second	180	1,000			
Third and successive terms	470	2,000			

<sup>(1)</sup> Values are reported in PNG Kina

## 4.3 Royalties, Agreements and Encumbrances

Era currently holds 100% ownership of the land tenements. There are no other royalties, back-in rights, or other encumbrances on the property, except the Mining Lease royalty to the government of PNG, which is 2%.

In the EL agreements, the state (PNG) reserves the right to purchase up to 30% equity interest in any mineral discovery arising from the EL prior to commencement of mining. The purchase price would be equal to the State's pro-rata accumulated exploration expenditures and thereafter its prorata share of exploration and development costs.

# 4.4 Environmental Liabilities and Permitting

#### 4.4.1 Environmental Liabilities

There are no known environmental liabilities for the Yandera project.

#### 4.4.2 Required Permits and Status

An environmental permit is required when undertaking drilling to be permitted to "discharge wastes into the environment." Era currently holds a permit for drilling and a permit for water extraction. Marengo, now Era, was issued these permits under Section 65 of the PNG Environment Act 2000, and they expire on August 3, 2017.

If the project advances into development, there are a number of other permits and licenses that would be required.

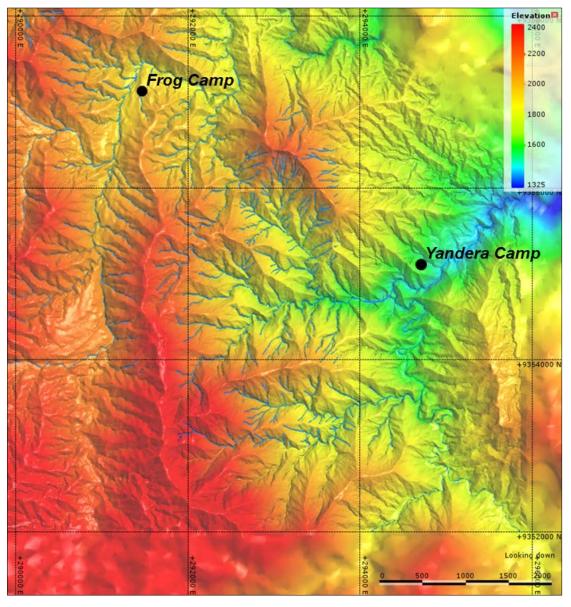
# 4.5 Other Significant Factors and Risks

The Project is located in steep terrain, with high seismicity and high annual rainfall, which provides some current logistical challenges and risk to future development and operations.

# 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

# 5.1 Topography, Elevation and Vegetation

The project is located in the Bismarck Mountain Range at an average elevation of 1,900 m, with the highest elevation in the resource area up to about 2,760 m and the lowest elevation in the resource area down to about 1,350 m. Local relief can reach 600 m, and much of the terrain is steep (with significant portions of the project with slopes greater than 40°). An image of topography with color-shaded elevation is presented in Figure 5-1.



Source: SRK, 2015

Figure 5-1: Project Area Topography

Most of the project area is covered with dense tropical vegetation. Clearings in this vegetation are associated with villages, local dwellings, camps, or isolated portions of the hillslopes used to grow fruits and vegetables. A photograph of the Frog Field Camp is provided in Figure 5-2.



Source: SRK, 2015

Figure 5-2: Frog Camp Photo

# 5.2 Accessibility and Transportation to the Property

The project is located approximately 95 km to the southwest from the coastal city of Madang (population approximately 30,000), which is the capital city of Madang Province. The project is also approximately 235 km to the northwest of Lae (population of about 100,000), which is known as the largest port city in PNG and an important industrial center. Both cities have active port facilities with tidewater access, and there is a maintained road between them.

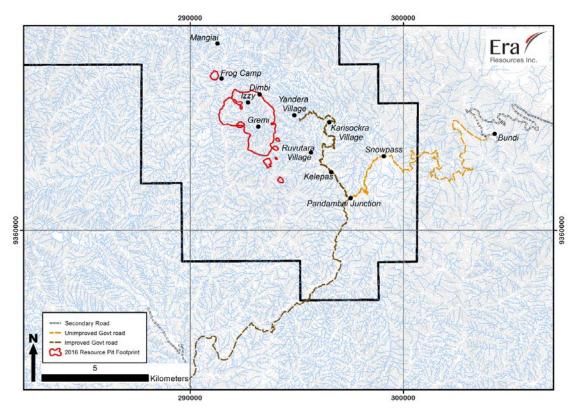
There are several other population centers in the vicinity of the property; however these areas are located within the mountains. The two largest are Mt Hagen (population of about 46,000), which is about 100 km to the southwest of the property, and the other is Goroka, (population of about 20,000), which about is about 47 km to the southeast of the property.

Within EL 1335, the largest population center is the village of Yandera (population approximately 1,500), which lies about 2 km east of the footprint of the Mineral Resource. Much of the remaining population in the project area live in dwellings dispersed along walking trails.

Era currently uses Madang as its logistical base of operations. Materials and labor are transported from Madang to the project site via helicopter, with a departure point of Madang airport or, more commonly, from a lay-down yard ('Lay Down 5') that is accessible via road that travels through the village of Usino.

The Ramu River is a prominent northwest trending river that drains to the northwest, and eventually reaches the ocean near the northwest corner of Madang Province. Usino is on the northeast side of the Ramu River and Lay Down 5 is on the southwest side, accessed by crossing the Ramu River at the Banu Bridge.

Era has almost exclusively accessed the property via helicopter, as there are no conveniently located landing strips with capacity for reasonable sized fixed-wing aircraft. The closest existing road that could access the property is located to the east of EL 1335, near the village of Bundi. Locals from Yandera Village use an existing trail that passes through Snowpass to reach Bundi. Some locals also use trails to travel southward through Pandambai Junction to reach Goroka or the smaller road-accessible village of Kundiawa. The existing trails and road are mainly used for walking and are not currently in a condition suitable for bringing in personnel or materials with this ground network. The unimproved highlands trail to the south end of EL 1335 and the Yandera Camp is shown in Figure 5-3.



Source: Era, 2016

Figure 5-3: Site Access Map

## 5.3 Climate and Length of Operating Season

Climate at the project site is that of a high-elevation tropical, equatorial environment. Humidity is high, and precipitation is frequent. Skies tend to be clear early in the morning, but by late morning and for the remainder of the day, cloudy, reduced visibility conditions are common.

Average annual temperature is around 18°C, with average highs around 25°C and average lows down to 12°C. Rainfall in the project area ranges between 3 to 5 m/y, with higher quantity of precipitation in the rainy season (typically from December through March). The project is area is not typically affected by tropical cyclone activity.

Climate in the coastal city of Madang has an average high of 29.8°C and an average low of 23°C. Average annual precipitation in Madang is about 3.5 m, with the rainy season typically starting in October and ending in May.

In most years, the field activities at site will ramp up in March and ramp down in late November. This is largely a response to the onset of the rainy season, when visibility and flying conditions can severely limit the helicopter accessibility. Exploration activities (mapping, sampling, drilling, etc.) are typically very limited during the rainy season due to poor helicopter flying conditions, but the base camp is still accessible and some activities carry on year-round.

## 5.4 Sufficiency of Surface Rights

Currently the surface rights for the project are sufficient to continue exploration work. If and when the project moves to apply for a special mining lease, there will need to be additional arrangements and agreements with current landowners through a LOA.

# 5.5 Infrastructure Availability and Sources

Currently the project is helicopter-supported in virtually all aspects. Fuel, materials, equipment, and personnel are flown to camp directly from Madang or from 'lay-down' locations accessible by the roads connecting Madang and Lae. These lay-down locations are typically a 20 to 25 minute helicopter flight one way.

Much of the recent helicopter support has been provided by Heli Nuigini in the form of a Bell 407. There are not sufficiently long flat areas to utilize sizeable fixed-wing aircraft.

There are some government maintained roads to the east of EL 1335, but at present these roads have not been improved or extended sufficiently such that materials can be brought into any of the camps on a safe and regular basis.

Locals in the vicinity of the Yandera project sell fresh fruit and vegetables to the camp, but other staples such as rice and meats have to be flown in.

Power for the camp facilities is provided with a diesel-powered generators.

There are no overhead telephone lines, however there is a Digicel tower that provides mobile access for a large portion of the project area.

# 6 History

# 6.1 Prior Ownership and Ownership Changes

In 1965, Kennecott acquired the EL to work on the property. They continued ownership and operated until 1973, when Triako Mines acquired the property and had its operator, Amdex, complete the work programs. Amdex jointly worked with Broken Hill Proprietary Company (BHP) on the property from 1974 to 1977. In 1978 Amdex joint-ventured with Buka Minerals. Work and ownership between Amdex and Buka Minerals continued until 1984, when they dropped the property. The property sat idle until 1999, when Highland Pacific and Cyprus Amax acquired an EL and worked on the property, dropping it before 2000. The property then sat idle until Belvedere Limited acquired the EL for the property. In 2005, Belvedere formed a joint-venture with Marengo, who operated the property. In 2006, Marengo acquired 100% the property through purchase of Belvedere's interest. Since that time, Marengo (now Era), has been the sole owner and operator on the property.

## 6.2 Exploration and Development Results of Previous Owners

Geologists from the Australian Bureau of Mineral Resources first investigated outcrops of copper mineralization near Yandera village in the mid-1950s and early 1960s. Kennecott Exploration ran the first systematic exploration of the project area from 1965 to 1972. Over the course of their work, they completed geochemical sampling of stream sediment, soil, and rock; completed detailed geological mapping; completed several ground-based magnetic and induced polarization surveys; and completed 14 diamond drillholes that total 2,276 m drilled length.

From 1973 to 1977, Broken Hill Proprietary Company Limited (BHP) and Amdex Mining Limited jointly completed 82 diamond drillholes that total about 27,620 m drilled length. This joint-venture completed additional geochemical sampling, mapping, and contour trenching programs. The results of this was the identification of the Imbruminda, Gremi, and Omora prospect areas. After BHP left the venture, Amdex continued to drill 10 holes, which total 3,323 m of drilled length, and explore with surface mapping, sampling, and some ground geophysics until they dropped the property in 1984.

In 1999, Highlands Pacific/Cyprus Amax completed surface mapping, sampling, and trenching. Historic Mineral Resource and Reserve Estimates

#### 6.3 Historic Mineral Resource and Reserve Estimates

Excerpted from the 2012 Ravensgate Report (Ravensgate, 2012):

Several resource estimates were completed for the project in the 1970s, however these predate all versions of modern reporting Codes. In 2007 an indicated resource of 163 Mt at 0.49% Cu equivalent and inferred resource of 497 Mt at 0.48% Cu equivalent was estimated by Golder Associates (Golder) in accordance with JORC (2004).

A resource estimate at Yandera prepared in accordance with JORC (2004) guidelines was completed by Golder in August 2008. This resource was based on 175 diamond drillholes (57,000 metres) including drilling completed by Marengo from 2006 to 2008. The interpolation method used by Golder was by ordinary kriging and included estimations for Cu, Mo and Au. Rhenium was also estimated using a linear regression based on Mo grades.

In 2011, Golder completed a JORC (2004) compliant resource based on 345 diamond drillholes (113,715 m), which included drilling from 2006 to January 2011. Golder used an OK interpolation method, which included separate estimations for Cu, Mo, Au, and Ag (Rhenium was estimated from a linear regression based on Mo grades). In this resource, all Au, Ag, and Re resources were Inferred. The mineral resource form Cu and Mo as stated by Golder in 2011 is presented in Table 6-1.

Table 6-1: Yandera Mineral Resource Statement by Golder 2011 at 0.2% Copper Equivalent Cut-off Grade

Resource Category	Mass		Grade	Contained Metal		
0.20 CuEq% Cut-off	Mt	CuEq%	Cu ppm	Mo ppm	Cu (kt)	Mo (kt)
Measured	132	0.53	3,700	167	488	22
Indicated	490	0.35	2,772	89	1,358	44
Combined Measured + Indicated	622	0.39	2,968	108	1,846	67
Inferred	1,017	0.33	2,840	68	2,888	69

Source: Golder, 2011

A sensitivity analysis of resources over a range of CoG's is presented in the Golder report (Golder, 2011) and not reiterated here.

In 2012, Ravensgate completed a JORC compliant resource based on 462 diamond drillholes (145,258 m), which included additional drilling from February 2011 to February 2012. Ravensgate used an OK interpolation method, which included separate estimations for Cu, Mo, and Au. The mineral resource form Cu, Mo, and Au as stated by Ravensgate in 2012 is presented in Table 6-2. Note this statement uses a copper CoG.

Table 6-2: Yandera Mineral Resource Estimate by Ravensgate 2012 at 0.2% Copper Cut-off Grade

Resource Category	Mass		Grade		Contained Metal			
0.20 Cu% Cut-off	Mt	Cu %	Mo ppm	Au ppm	Cu (kt)	Mo (kt)	Au (t)	
Measured	314	0.38	104.6	0.085	1,193	33	27	
Indicated	172	0.35	52.7	0.048	602	9	8	
Combined Measured + Indicated	486	0.37	105.2	0.09	1,798	51	44	
Inferred	347	0.31	37.8	0.03	1,076	13	10	

Source: Ravensgate, 2012

A sensitivity analysis of resources over a range of cut-off grades (COG) is presented in the Ravensgate report (Ravensgate, 2012) and not reiterated here.

In 2015, SRK completed a NI 43-101 and JORC compliant resource based on 553 diamond drillholes (32,250 samples), which included drilling from March 2012 to December 2014. SRK used an OK interpolation method, which included separate estimations for Cu, Mo, and Au. The mineral resource form Cu, Mo, and Au as stated by SRK in 2015 is presented in Table 6-3. Note this statement uses a CuEq CoG.

Table 6-3: Yandera Mineral Resource Statement by SRK 2015 at 0.15% Copper Equivalent Cutoff Grade

Resource Category	Mass	Grade				Contained Metal			
0.15 CuEq% Cut-off	Mt	CuEq%	Cu %	Mo %	Au ppm	Cu (kt)	Mo (kt)	Au (koz)	CuEq (kt)
Measured	195	0.46	0.37	0.013	0.076	723	25	476	890
Indicated	435	0.38	0.32	0.008	0.069	1,379	37	963	1,663
Combined Measured + Indicated	630	0.41	0.33	0.010	0.071	2,103	62	1,439	2,664
Inferred	117	0.34	0.30	0.005	0.052	348	6	195	401

Source: SRK, 2015

# 6.4 Historic Production

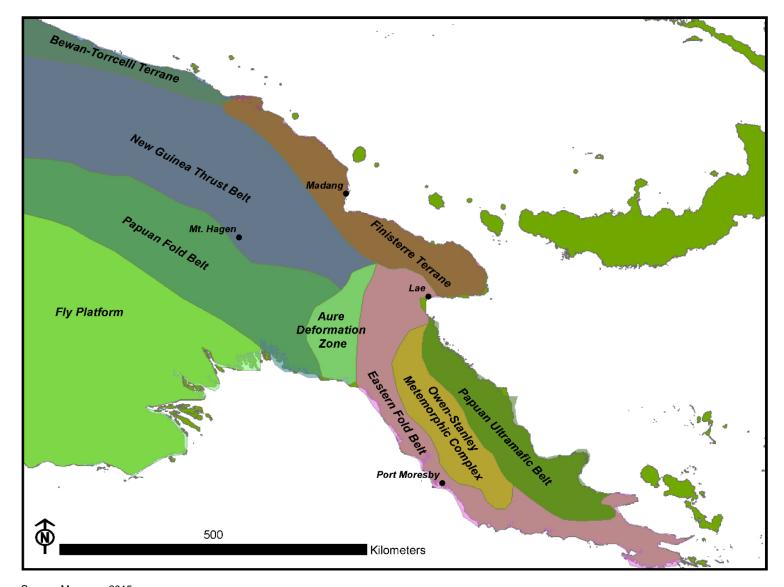
There is no known historic production at the property.

# 7 Geological Setting and Mineralization

## 7.1 Regional Geology

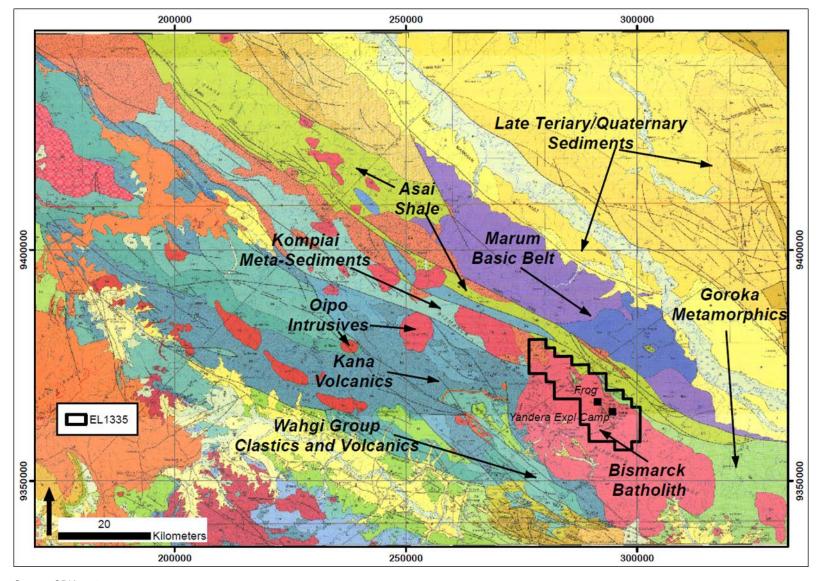
The island of New Guinea is a zone of complex interaction between the Indo-Australian and Pacific plates. The result is a number of microplates accommodating the large-scale compression and transpression by rotation, subduction, dip-slip and strike slip movement, and localized temporal extension. The resultant New Guinea Mobile Belt (regionally divided into packages of fold and thrust belts) encompasses the mountainous region running centrally through the length of the island, and it includes slices of metamorphic basement, ophiolites, and a myriad of intrusive and sedimentary packages. A simplified illustration of the major litho-tectonic terranes of New Guinea is shown in Figure 7-1 (after Dow, 1977).

The property lies within the New Guinea Mobile Belt, which stretches from the southeastern portion of the island, through the central mountain ranges, into Indonesia, and to the west of Freeport's Grasberg Cu-Au deposit. On top of metamorphosed late Paleozoic and early Mesozoic schists, marbles, and granodiorite lie successive packages of Triassic to Jurassic volcanic, volcanogenic, and clastic sediments; and Jurassic to Cretaceous clastic, volcanic, and volcanogenic sediments. Early Tertiary (Eocene to Miocene) carbonates and clastic sediments overly the Mesozoic sediments. Middle Tertiary (Miocene) granodiorites and diorites, such as the Bismarck Intrusive Complex, intrude older sedimentary and metamorphic packages along a strong northwest structural fabric (e.g., Ramu fault), which generated low-grade metamorphic conditions in some of the late Mesozoic sediments (e.g., Asai shale) and emplaced the Miocene Marum Basic Belt. Late Tertiary (Pliocene) clastic-dominated sediments rest on some of these hypabyssal units. Pleistocene clastic units with local Quaternary volcanics and localized alluvium cap the stratigraphy. Regional geology is shown in Figure 7-2 (after Bain and Mackenzie, 1975).



Source: Marengo, 2015

Figure 7-1: Geologic Terranes of New Guinea



Source: SRK, 2015

Figure 7-2: Regional Geology Map

### 7.2 Local Geology

The bulk of the property and the current resource lie within the Bismarck intrusive complex. In this portion of the complex, porphyritic quartz diorite phases (POD on Figure 7-3) intrude the 12 to 14 Ma (Grant and Neilson, 1978; and Page, 1976) host granodiorite (HGR), which comprises the bulk of the Bismarck Intrusive Complex. At the northeast boundary of the Bismarck Intrusive Complex is a package of moderately metamorphosed late Paleozoic and early Triassic sediments whose contact with the Bismarck Intrusive Complex strikes northeasterly, parallel to a very strong regional trend, i.e. the Ramu Fault Zone. This northwest trending structural zone juxtaposed the Miocene Ramu Ophiolite Complex (within the Marum Basic Belt), which hosts the Ramu Nickel deposit, against the late Mesozoic sediments that delineate the northeast boundary of the Bismarck Intrusive Complex. Local geology is shown in Figure 7-3 (after Timm, 2012).

The geometry of the Bismarck intrusive complex and fold and thrust belts reflect large-scale orientation of NE-SW directed subduction. Changes in the regional stress resulted in a shift to dominantly strike-slip movement along features like the Ramu Fault Zone. Younger intrusive bodies, faults, and mineralized veins observed at Yandera suggest locally there was a period of N-S directed compression followed by a period of NE-SW directed compression (or NW-SE extension), before the onset of some of broader regional tectonic relaxation.

### 7.3 Property Geology

A number of younger igneous units, including a later porphyritic quartz diorite (POK), porphyritic dacite (PDA), andesite (PAN), microdiorite (POM), and some leucocratic quartz diorite (PLQ), intrude the volumetrically larger quartz diorite porphyry (POD) phases at the property. The younger igneous phases are generally tabular in geometry, sub-vertical, and likely reflect structural zones that were important at the time of emplacement of each. A map of the property geology is provided in Figure 7-4.

Within and around the large bodies of POD there are domains of porphyry-style alteration. Within a broad envelope of propylitic alteration, there are more limited domains of potassic alteration and phyllic alteration. Domains of phyllic alteration commonly envelope structures as well as some of the younger intrusive units within domains of potassic and even propylitic alteration. A map of the property alteration is provided in Figure 7-5.

In association with some of these intrusive units, particularly the porphyritic dacite, there are localized hydrothermal or intrusive breccias. These breccias are commonly closely associated with zones of phyllic alteration. Tectonic breccias observed at the property commonly appear very planar, and sometimes have envelopes of phyllic alteration.

While there is a prominent northwest striking structural trend (300°), there are several other important structural trends including a prominent north-northwesterly trend (330° to 360°) and a northeasterly trend (030°). The northwest trend appears to be the oldest of the three, and reflects the regional-scale structural grain. The north-northwesterly trend cuts the northwesterly trend in a number of locations, but there are some instances when the northwest trend offsets the north-northwesterly trend. The northeast appears to be one of the youngest trends, and it is reflected by a number of veins and fractures throughout the property, as well as some prominent sub-vertical dikes of PLQ.

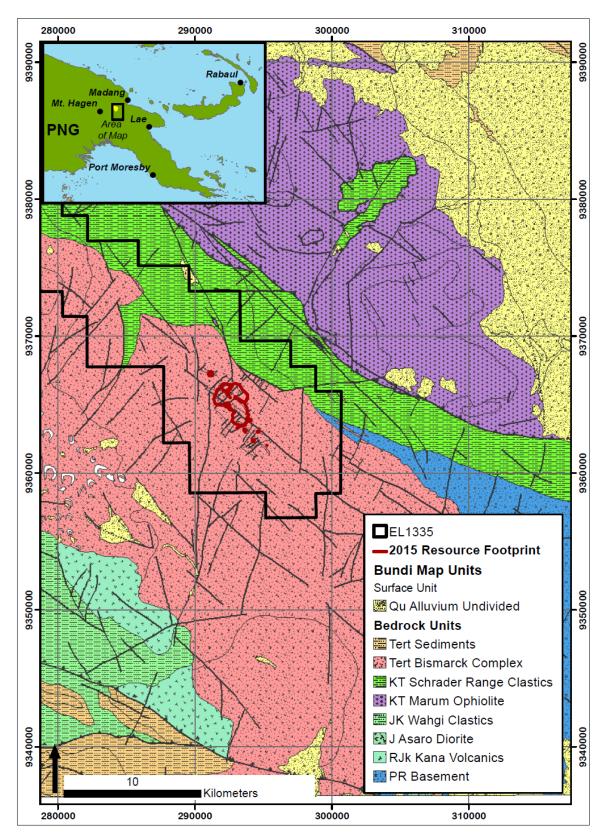


Figure 7-3: Local Geology Map

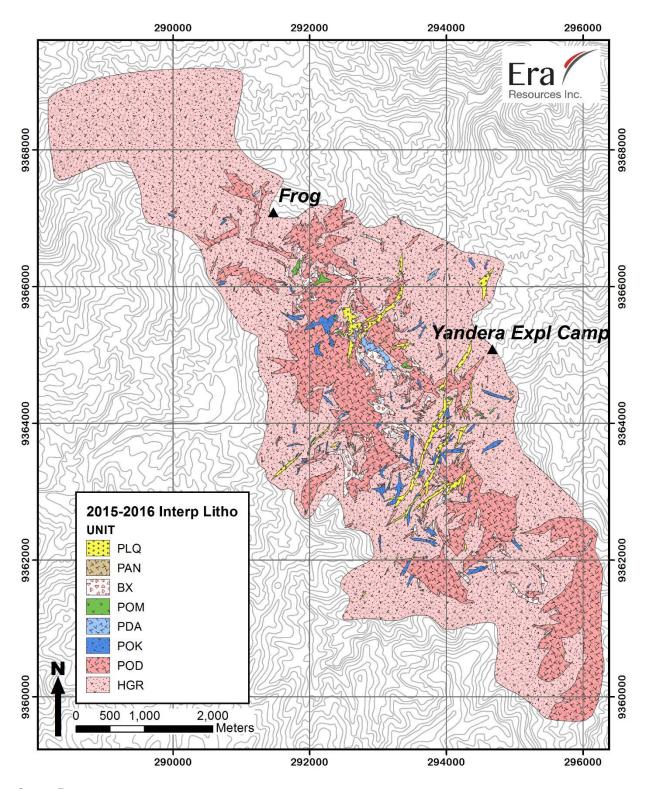


Figure 7-4: Property Geology Map

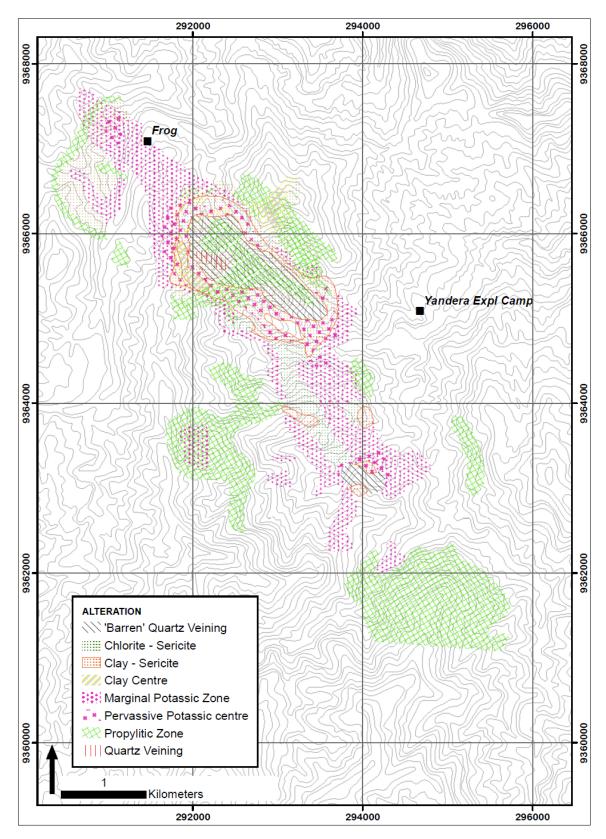


Figure 7-5: Property Alteration Map

Work on some of the smaller intrusive bodies indicates that they may be as young as 7.1 to 6.3 Ma (Roberts, 2012), which suggests that mineralization may be younger than previous workers appreciated (Titley et al. 1978; and Watmuff, 1978).

### 7.4 Significant Mineralized Zones

As noted above, this property displays alteration styles in hypabyssal and porphyritic rocks typically observed in porphyry copper systems. Previous work has identified a number of prospects within and around these altered domains, including mineralized zones at Gremi, Omora, Imbruminda, Dimbi, Gamagu, Frog, and Rima. A number of these areas have distinct styles of copper mineralization but do not appear to fit into the classic porphyry model. These main mineralized zones, overlain on property geology, are shown in Figure 7-6.

Early in the copper mineralization history there likely were some more typical porphyry-style mineralization events, with better mineralization associated with potassically altered cores. However, younger structurally controlled mineralizing events cut these older systems with phyllic alteration that locally enhanced zones of copper mineralization.

Previous work has been guided with a typical porphyry copper model, including the presence of an interpreted northwesterly elongated 'barren quartz core' located between Imbruminda/Gremi and Dimbi. Recent work has led geologists to re-interpret this zone as a structurally bounded block with elevated density of quartz veining with some silicification and evidence of weak to moderate copper mineralization. Work to date on this block is very sparse, and additional work in this zone may show that the bounding structures brought in excess silica remobilized copper mineralization proximal to these structures.

Mineralization is most commonly hosted in breccias, porphyritic dacite, porphyritic microdiorite, quartz diorite porphyry, and less commonly the granodiorite host. Recent interpretive geologic work suggests that higher grade copper mineralization is commonly associated with phyllic alteration in association with breccias likely related to emplacement of porphyritic dacite.

The most common sulfide minerals in mineralized domains are pyrite, chalcopyrite, bornite, and molybdenite, with varying abundances between prospect areas. For example, bornite is more prominent in the Imbruminda area, while chalcopyrite is by far the dominant copper mineral at Omora. Previous workers have interpreted these changes as evidence of typical zonation in a porphyry system; however some of these differences may alternatively be explained as structural blocks that have been up-thrown or down-thrown to expose different portions of the mineralized system.

Recent work suggests that large-scale structure is very important to controls for mineralization. Mineralization at Gremi and Dimbi roughly follow a northwest trend; however, higher grade copper mineralization at Imbruminda is coincident with the intersection of a mineralized north-northwesterly trend and a mineralized northwesterly trend.

Analysis of structural data from oriented core indicate that the largest population of veins, dominantly mineralized, in the resource area strike northeasterly, and dip steeply (~70°+) to the SE or NW. The orientation of these veins is sub-parallel to the most populous drill azimuth in the Property. Locally, such as at Rima, mineralized veins and veinlets strike nearly north-northwesterly and dip steeply (77°+) to the west.

Most of the known copper mineralization is hypogene, and near-surface sulfides have been oxidized to varying depths and degrees. For example, oxide mineralization at Gremi reaches depths of up to 50 m, while oxide mineralization at Dimbi is significantly shallower. To date, no significant supergene enrichment blanket has been identified at the property.

Property geology is depicted in a set of cross sections, preceded by a cross section index shown in Figure 7-6. The geologic cross sections are presented Figure 7-7 through Figure 7-13.

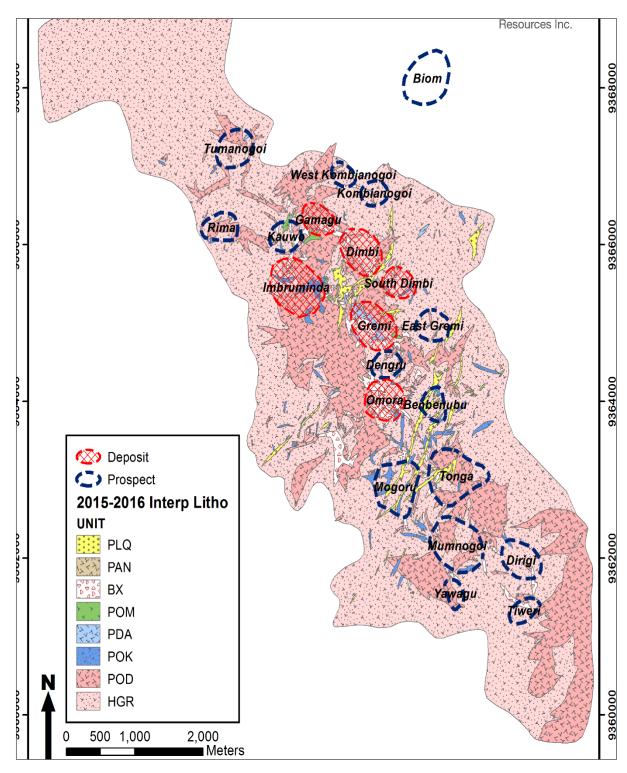


Figure 7-6: Main Mineralized Zones

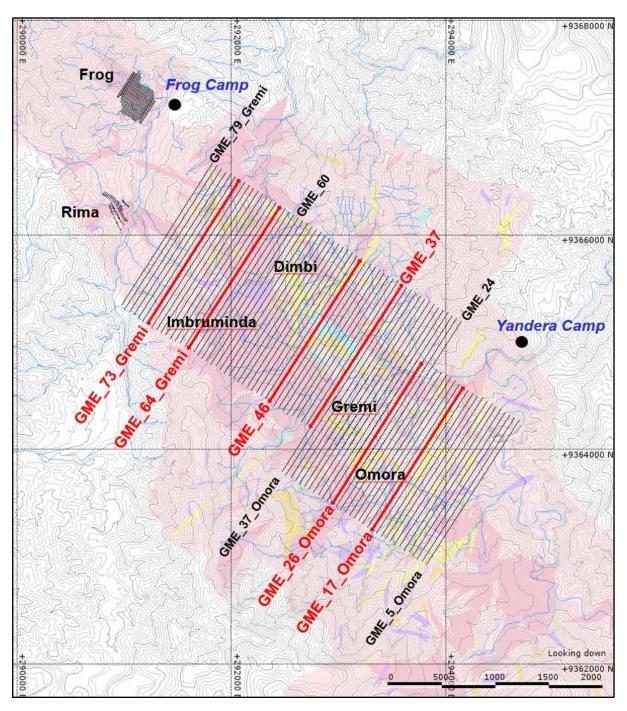


Figure 7-7: Property Geology and Cross Section Index Map

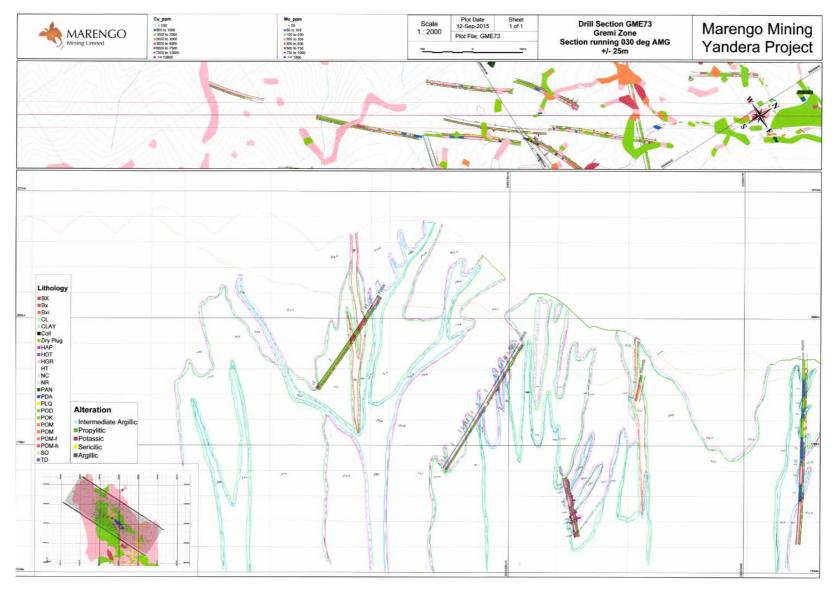


Figure 7-8: Geologic Cross Section GME\_73\_Gremi

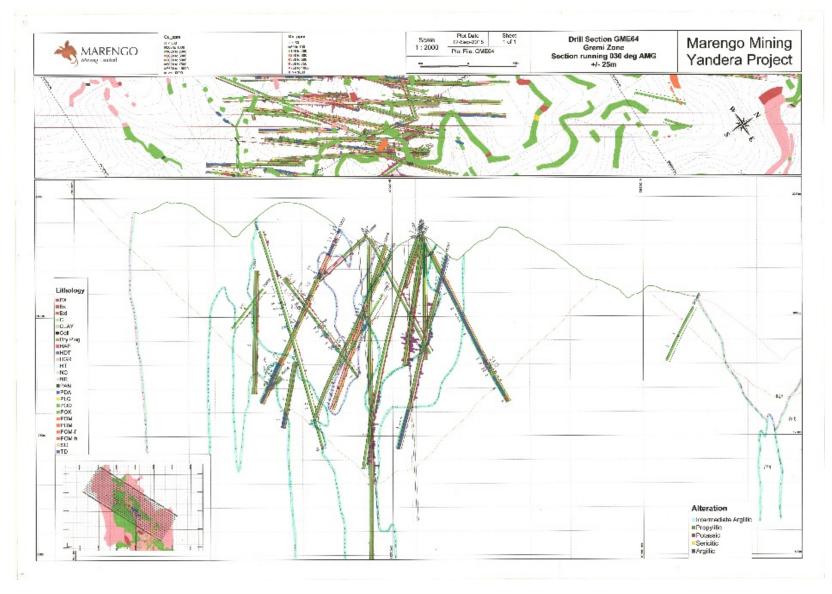


Figure 7-9: Geologic Cross Section GME\_64\_Gremi

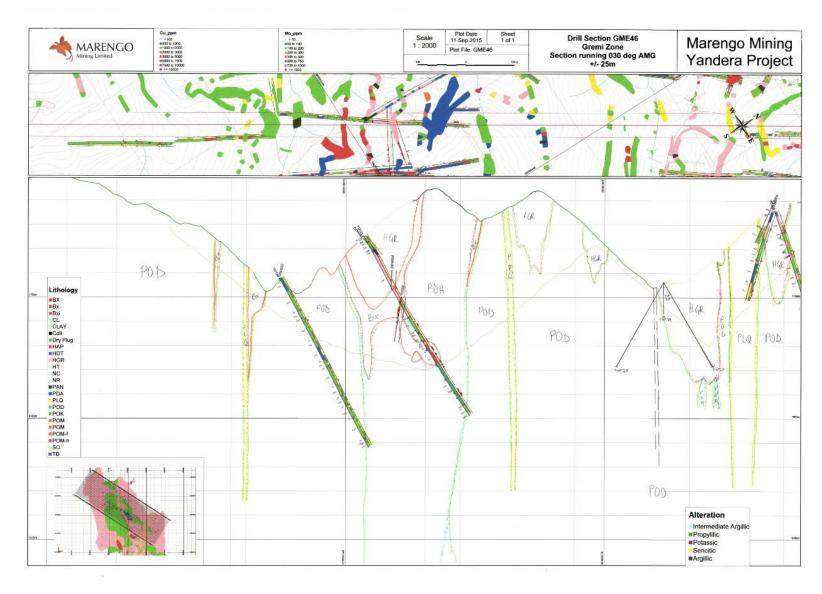


Figure 7-10: Geologic Cross Section GME\_46

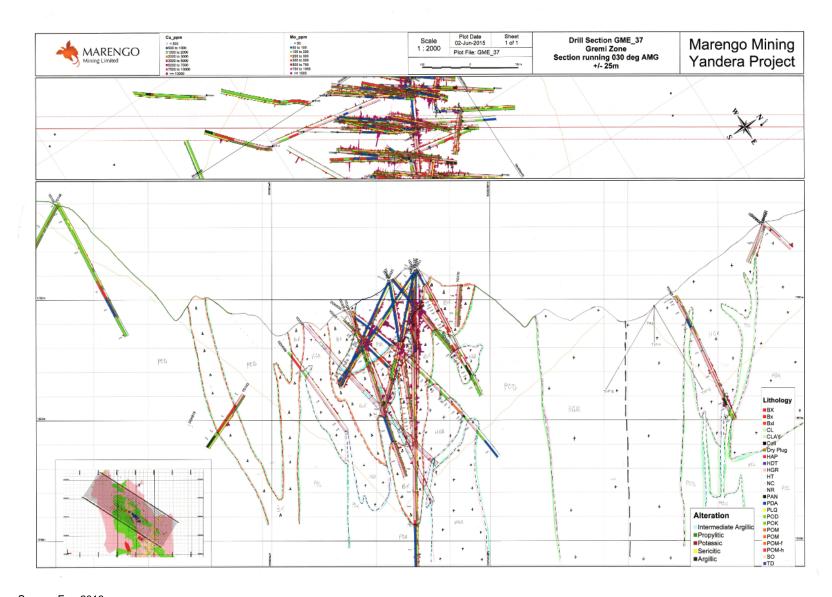


Figure 7-11: Geologic Cross Section GME\_37

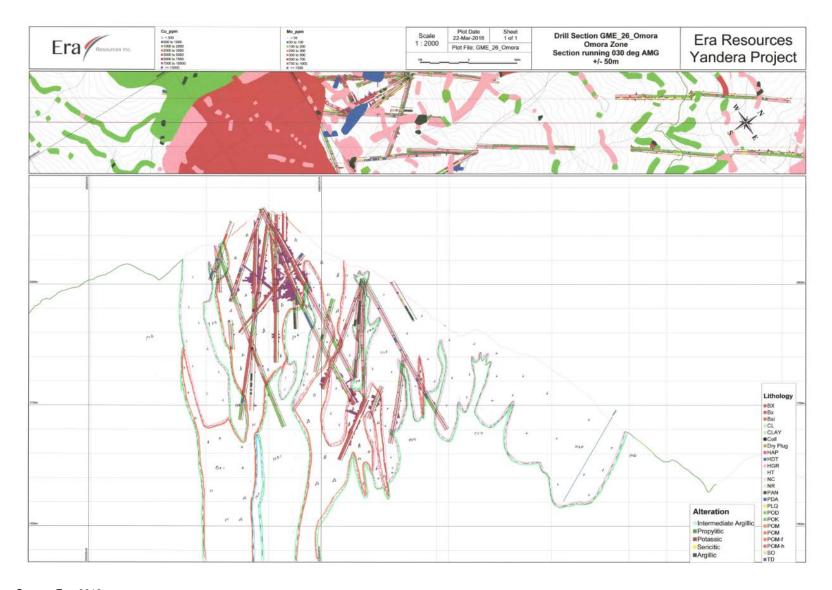


Figure 7-12: Geologic Cross Section GME\_26\_Omora

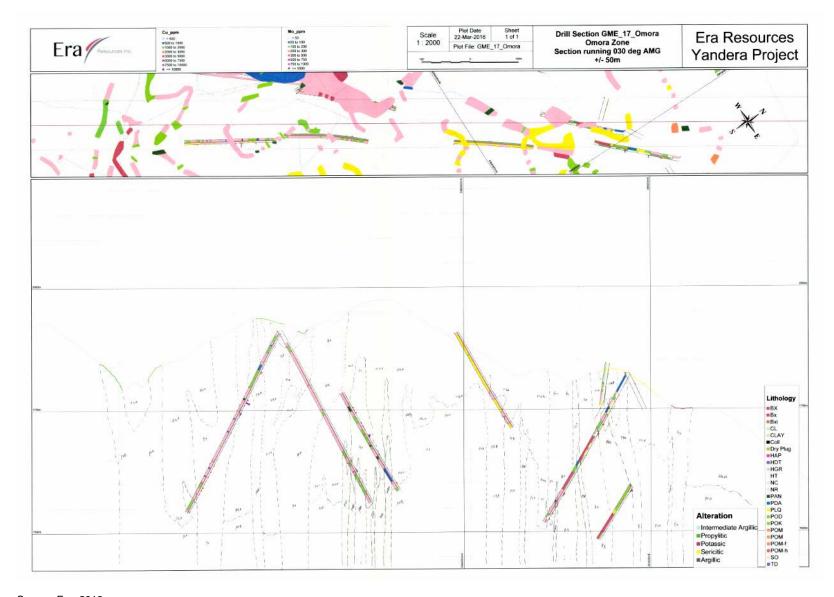


Figure 7-13: Geologic Cross Section GME\_17\_Omora

# 8 Deposit Type

### 8.1 Mineral Deposit

In general terms, the mineral system could be classified as a porphyry copper deposit. The system has many of the characteristics of a typical porphyry system, including an association with porphyritic phases of dioritic to granodioritic intrusive phases, and typical alteration assemblages associated with potassic, phyllic, and propylitic altered rocks. However, there are some key differences between Yandera and typical zoned porphyry systems, including strong structural controls on mineralization, and an association between phyllic alteration and elevated copper grades.

### 8.2 Geological Model

The porphyry system at Yandera is hosted in late intrusive phases and structures that disrupt the Bismarck granodiorite. Mineralization appears locally controlled by porphyritic dacite and associated intrusive breccia bodies. The occurrence of these intrusive bodies and later alteration appears to be controlled by a strong northwest trend that intersects and/or is intersected by north and north-easterly trends. Higher grade copper mineralization appears to be concentrated near the intersection of these trends, such as at Imbruminda, within broader zones of potassic and phyllic alteration.

## 9 Exploration

### 9.1 Relevant Exploration Work

Typical exploration work at Yandera consists of surface mapping and sampling, with the results being used to generate drill targets. Previous campaigns have collected geophysical data, mostly airborne, although there was an IP survey in 2009. Some of the previous explorers, such as Kennecott, BHP, and Amex, excavated 'contour' trails across selected ridges to expose weathered bedrock, which they subsequently mapped and sampled. Regional exploration activities by various predecessors is presented in Figure 9-1.

Exploration activities by Era between 2015 and the date of this report include a surface mapping and sampling campaign (Figure 9-2) with a focus on filling gaps in coverage of geochemical sampling at the periphery of the resource north and east of the Dimbi area, additional geochemical coverage northwest of the Gamagu area, and mapping and sampling exposures in the Benbenubu and Omora areas.

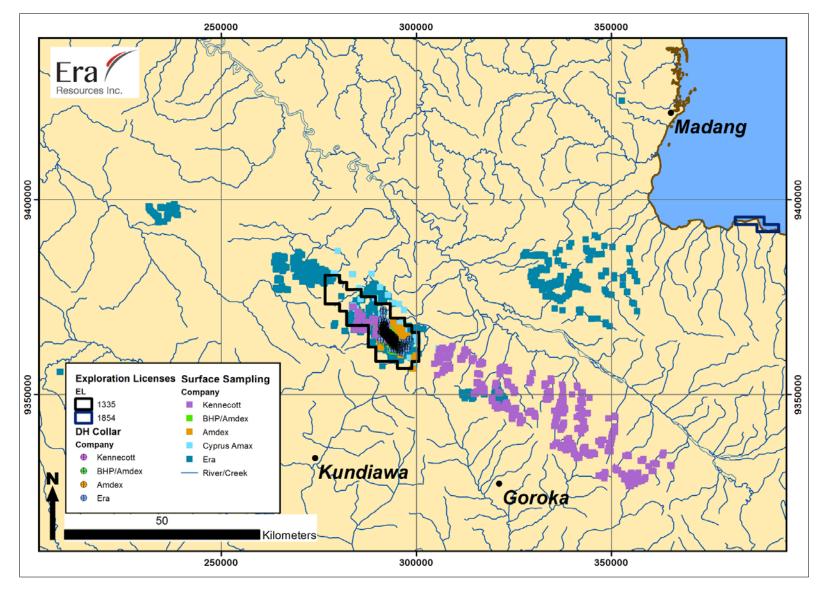
Exploration at Yandera by Era since the 2015 SRK report has been within EL 1335, and focused at the periphery of the existing resource, but did include some exploration at the Pomeia prospect. Recent mapping and sampling campaigns have focused on fresh rock outcrops exposed in the drainages in these areas to collect the highest quality surface data available.

### 9.2 Sampling Methods and Sample Quality

Most of the surface samples in the recent campaigns have been collected as 'grab' or 'chip' samples and/or 'channel' samples. In the case of a grab or chip sample, a geologist would collect enough exposed rock to obtain about a kilogram of material with a hammer and chisel from the outcrop. In the case of channel samples, geologists would collect chips of material across specified horizontal length (commonly between 1.5 and 10 m) of an exposure at chest to waist height so that there was at least a kilogram of material. As such, analytical results from rocks should be representative of a localized average.

One of the biases of focusing mapping and sampling efforts in the drainages is that in some instances the better mineralized material may be eroded at a higher rate than unmineralized material. Thus, the Inferred amount of mineralization in some locations might not be representative.

In general, sampling over the known resource area has been fairly thorough, although there are some 300 m or greater sampling gaps in the Frog, Rima, and Imbruminda areas. Soils samples collected by BHP and Amdex over the Gremi area were collected with relatively dense sample spacing along contours lines (~7 m) that were on the order of 100 m apart. Sampling along contours across other portions is less dense with samples along contours on the order of 50 to 60 m apart with sampling lines over 200 m apart in some areas. Outside of the resource area, sample density drops off dramatically.



Source: Marengo, 2015

Figure 9-1: Regional Exploration Work by Company

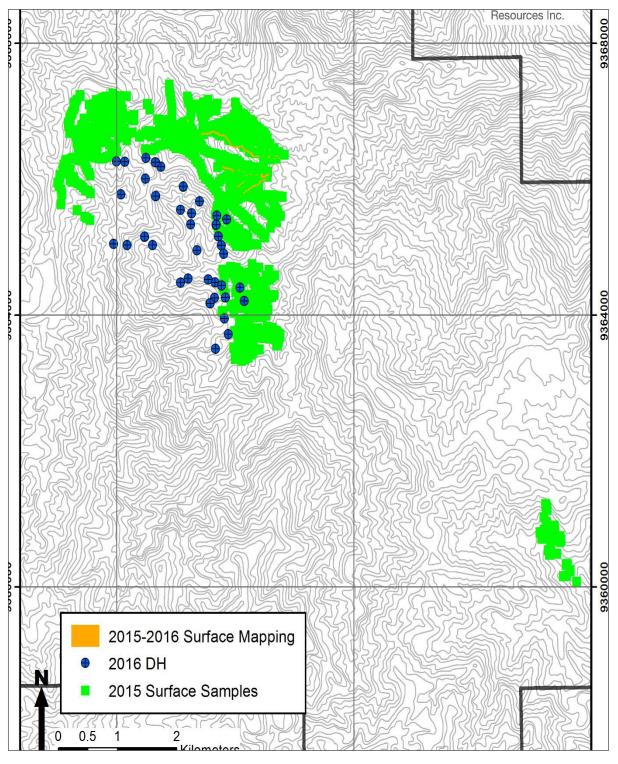


Figure 9-2: Marengo/Era 2015-2016 Surface Exploration

### 9.3 Significant Results and Interpretation

Re-examination of geophysical data in 2014 and 2015 resulted in the generation of a number of regional targets at intersections of linear features observed in magnetics, radiometrics, topography, and geology. Using an exploration model emphasizing the importance of structural trends in this mineral system, these intersections may be more prospective than previously understood. Results from 2015 work at the Pomeia prospect, where there are some intersecting linear trends, showed high-grade bornite-dominated copper mineralization associated with structures and what appear to be tabular zones of breccia and later intrusives.

Mapping and sampling in 2015 and 2016 in the Dimbi area resulted in identification of copper in soil anomalies on a southeasterly trend from known Dimbi mineralization. Drill tests of this area showed that copper mineralization continues to the southeast of the Dimbi-South Dimbi area. Surface work and drill data are insufficient to close mineralization to the southeast of this trend. Surface work in the Dimbi area also suggests that potential for mineralization to the immediate northeast of the resource is low.

Mapping and sampling in the Omora and Benbenubu areas in 2015 showed some continuity in copper anomalies not previously recognized. This surface work generated a number of drill targets that were later shown to contain copper mineralization that became part of the 2016 resource.

Sampling in the Kauwo area to the northwest of Imbruminda showed a significant surface copper anomaly trending to the northwest of both the 2015 and 2016 resource limits. This target was not drill tested but appears very prospective for extending the resource to the northwest.

SRK considers the surface exploration and sampling as adequate to define geological and mineralogical information to assist in drilling target definition; and they are appropriate exploration techniques for the geology and the terrain.

# 10 Drilling

### 10.1 Type and Extent

All drillholes at the Project and therefore, all of the drillholes used in the resource estimate, were drilled with a diamond core rig. The majority of the drilled length was completed with triple-tube HQ tooling, with a nominal 6.1 cm core diameter. The drillers reduced to triple-tube NQ tooling (4.5 cm diameter) if dictated by ground conditions. Typically, the planned total depths of the drillholes did not exceed the pullback capability of the rigs advancing HQ tooling, and therefore, the ground conditions were the only factor that would require NQ coring.

The drilling contractor for the 2012-2014 programs was Quest Exploration Drilling (QED), based in Lae, PNG. For the 2016 drilling program, Titeline Drilling Ltd., also based in PNG, was contracted. Table 10-1 is a summary of all Project area drilling, with the main resource areas highlighted. As of 2015, Era had completed 471 drillholes that total 138,428 m of drilled length. Since the previous MRE (SRK, 2015), Era completed a drilling program in 2016 that added 50 drillholes and 10,099 m of drilled length to the Project database. The 2016 program, summarized in Table 10-3, focused on resource infill drilling, and added 43 drillholes with logged geology and assay data to the Project data set. The 2016 geotechnical drillholes are not included in the geological model or resource estimation presented in this report.

The Project drillhole collar locations are shown in Figure 10-1, which highlights the recent drilling programs. Table 10-2 presents Marengo's 2012-2014 drillholes by purpose and deposit area. The majority of these drillholes were completed in 2012, and many of them were for geotechnical engineering purposes, and not directly applicable to the MRE. The 2012-2014 Marengo drilling is shown in Figure 10-2, with the 2016 Era drilling as summarized in Table 10-3.

Table 10-1: Summary of Yandera Drilling by Deposit Area and Property Owner

Prospect	Owner	Drillholes	Total Length (m)
Benbenubu	Era	3	704
Dengru	Era	4	926
Dimbi	BHP/ Amdex JV	7	2,187
Dimbi	Marengo	31	10,238
Dimbi	Era	9	1,874
Dirigi	BHP/ Amdex JV	4	1,667
Dirigi	Marengo	19	6,663
East Gremi	Era	4	667
Frog	BHP/ Amdex JV	2	406
Frog	Marengo	23	2,891
Gamagu	Era	2	407
Gremi	Kennecott	7	1,017
Gremi	BHP/ Amdex JV	26	8,583
Gremi	Marengo	98	32,453
Gremi	Era	2	408
Imbruminda	Kennecott	2	361
Imbruminda	BHP/ Amdex JV	27	8,913
Imbruminda	Marengo	144	52,258
Imbruminda	Era	7	1,190
Kauwo	Era	1	167
Kombruku	Marengo	12	3,509
Mangiai	Marengo	9	1,158
Mumnogoi	BHP/ Amdex JV	8	2,625
Mumnogoi	Marengo	12	3,581
Omora	Kennecott	2	593
Omora	BHP/ Amdex JV	16	6,160
Omora	Marengo	93	26,370
Omora	Era	9	1,864
Ongoma	Marengo	2	77
Queen Bee	Marengo	1	39
Rima	Marengo	4	1,005
South Dimbi	Era	9	1,893
TAI-YOR	Marengo	21	4,186
Windi	Marengo	2	300
Yandera	Kennecott	1	305
Yandera	BHP/ Amdex JV	2	402
Database Total:		625	188,045
Model Area:		588	180,367

Table 10-2: 2012-2014 Marengo Drilling Programs

Year	Purpose	Area	Drillholes	Length (m)
2012	Resource, n = 50	Dirigi	2	429
		Gremi	17	3,788
		Imbruminda	19	5,857
		Omora	11	3,139
		TAI-YOR	1	356
	Geotechnical	Frog, others	13	843
	Exploration	Dirigi, others	20	7,311
2012	Total		83	21,722
2013	Exploration	Dimbi	9	1,833
2014	Exploration	Rima	4	1,005
2012-2014	Total		96	24,560

Table 10-3: Era 2016 Drilling Programs

Purpose	Area	Drillholes	Length (m)
	Dimbi	22	4405
Doggurgo	Gremi	9	1827
Resource	Imbruminda	4	818
	Omora	8	1868
Total, 2016 Resource Drilling:		43	8,919
Geotechnical	Dimbi	3	602
	Imbruminda	4	579
Total, 2016 Geotechnical Drilling:		7	1,181
2016 Drilling Programs:		50	10,099

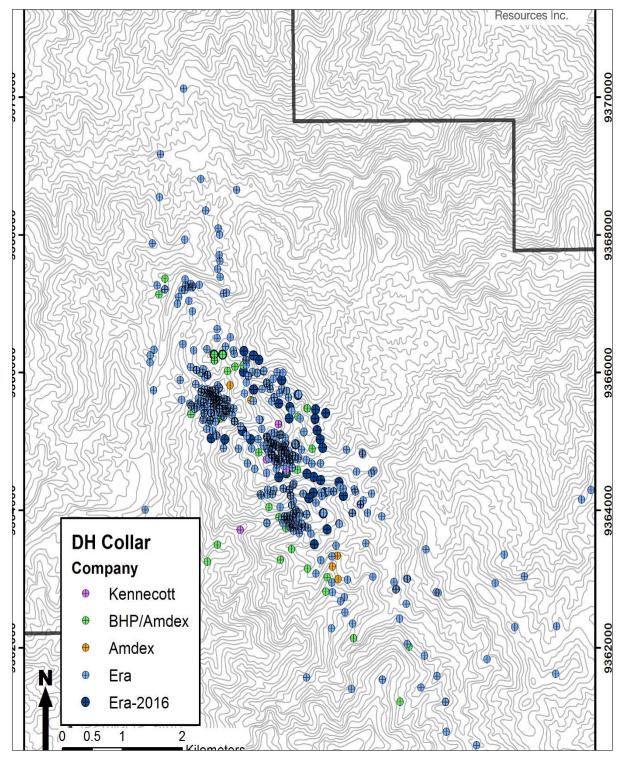


Figure 10-1: Location of Drillhole Collars by Company

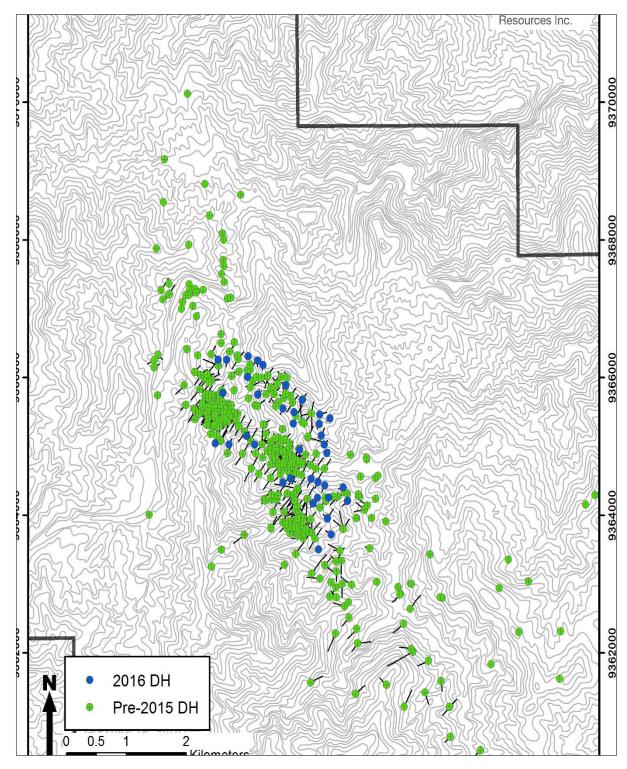


Figure 10-2: Recent Marengo Drilling from 2012-2014

#### 10.2 Procedures

The procedures documented in this section are from internal documents provided by Era (2014) with an addendum by Era (2016) and additional information from Project staff and SRK's site visit.

Drillhole collar elevations in a number of instances differ from native topography because extensive cut and fill is required to build drill pads. Collar surveys were completed for most holes by a PNG surveyor using Differential GPS, however holes drilled in 2013 and 2014 were surveyed using a handheld GPS. Era used Differential GPS to survey all holes drilled in 2016.

Collar elevations were validated against the high-resolution topographic surface and drillhole locations before resource estimation began.

Drillholes were oriented at surface with a compass. Downhole surveys were collected with a Reflex multi-shot tool. Deviation in the drillhole was tracked while drilling to monitor for anomalies or suspicious measurements.

Core is typically drilled in 3 or 1.5 m runs, and placed in core boxes after the core is oriented. At the drill site, geotechnical and structural logging is completed and includes a summary of lithology. In case of disturbance during transport to the logging facility, the summary log is used as a guide to restore the core samples to the original configuration. The core box numbering and length intervals are verified at the drill site, and again when the boxes are laid out in sequence at the logging facility. The core is transported by helicopter to the Frog Camp logging facility.

At the Frog Camp logging facility, high resolution photography of the core is completed and verified for quality before logging. Detailed geological logging is completed by geologists. The logging geologist marks a cut line on the core to ensure unbiased sampling.

Drill sample intervals are determined by the logging geologist, and assigned a sequential sample number with a "MY" prefix. Sample intervals and reference samples are marked with aluminum tags in the core boxes. Nominal sample intervals for the 2016 drilling program were 3 meters, or shorter to reflect changes in material type. The 2012-2014 drilling programs had 2 m nominal sample length, and the rest of the historical data set had 3 meter samples. After every 10<sup>th</sup> or 20<sup>th</sup> drill core sample, depending on the drilling program, a reference sample is included in the sample sequence. For two meter sample intervals, the insertion rate is one reference sample per 20 drill core samples, but for previous work, when the typical sample intervals were three meters, one reference sample was inserted after every tenth drill core sample. The 2016 program had one reference sample per 10 drill samples, and an additional sample identification code reserved for the coarse reject duplicate of every 20<sup>th</sup> drill sample.

All core is saw split, and all equipment including core saw is cleaned after each sample interval is cut. After cutting, the left side of core is sampled, and the right side is retained for archival. After the analytical data is received, geologists complete advanced geological logging, and technicians photograph the half core.

All analytical results were sent to Era's Madang office and select technical personnel. Data is imported to Maxwell Geoservices Datashed software, which includes data validation and reporting tools. Geological data is also added to the Datashed database after tabulation from paper drill logs.

Though there is much agreement in lithology nomenclature through the drilling programs, there are some minor intrusive units that have been identified differently between some of drilling campaigns. Generally, these differences can be rectified with the use of core photography.

Alteration identified in the logging is not as consistent as the lithology. There are several factors that have led to complications, including inconsistent methodology of categorizing alteration for logged intervals and over-interpretation on the drill logs. First, the alteration described in historic logging was generally focused on the strongest style of alteration visible in the core, which did not distinguish early alteration from later alteration. Later drilling campaigns attempted to differentiate the sequential alteration assemblages, although this resulted in an over-estimation of the abundance of interpreted early potassic alteration. In the later drilling campaigns that categorized the age relationships of the alteration, the alteration category that appears to have the least amount of interpretation is the Alteration 2.

### 10.3 Interpretation and Relevant Results

All relevant drillholes in the database were considered for geological interpretation and resource estimation.

SRK considers the drilling method and procedures appropriate for the geology and style of mineralization. The drilling procedures generate samples that are sufficient for use in resource estimation.

# 11 Sample Preparation, Analysis and Security

### 11.1 Security Measures

Sample security and quality assurance includes Era Chain of Custody and supervision of drill core from initial production through sample shipment. From the drill site, Era geologists or techs transport core to the Frog Camp Core Yard for detailed logging followed by saw splitting and sampling the left side. Samples are prepared at the Intertek labs in Frog Camp and Lae, PNG. Prepared samples are usually transported to Lae via road by Era, but occasionally other carriers are contracted for sample shipment.

### 11.2 Sample Preparation for Analysis

Drillhole sample preparation was completed by Intertek at the Frog Camp and Lae preparation labs. Intertek is an international analytical corporation and is independent from Era and any of its affiliates. Intertek's Frog Lab is managed and staffed by Intertek. Initial crushing was completed on site to reduce shipping costs.

The sample preparation code for drill core samples is SP123, and included:

- At the Frog Lab
  - o Initial crushing stage is 100% passing 6 mm;
  - Secondary jaw crush to 100% passing 10 mesh (2 mm);
  - Using a riffle splitter, a 700 to 900 g split was taken from the crushed coarse reject;
  - Two coarse reject splits were generated from every 20<sup>th</sup> core sample, and;
  - Select core samples were used for specific gravity determination.
- At the Lae prep lab
  - The coarse split was pulverized to 95% passing -200 mesh (75 μm) in a ring and puck mill; and
  - o A 250 to 300 g sample was taken to send to Intertek's laboratory in Jakarta for analysis.

### 11.3 Sample Analysis

Geochemical drillhole sample analysis was completed by Intertek in Jakarta, Indonesia or in Townsville, Australia. These labs are ISO 17025 accredited and meet international quality standards.

For determination of the base metals, 4-acid digestion and multi-element inductively coupled plasma (ICP) atomic emission spectroscopy (AES) analysis of a 0.5 g charge was completed. In Intertek's laboratory certificates, the reported method code is 4A/OE/MS for 36 element multi-element analysis. Gold fire assay method FA50 on a 50 g charge was used for gold determination. Although the lower method detection limit (MDL) for this gold determination is listed as 1 ppb (0.001 ppm), reported results indicate a higher MDL of 5 ppb (0.005 ppm). Method detection limits and COGs of the elements of interest are summarized in Table 11-1.

In 2016, Era used the specific gravity determination method detailed by the Australasian Institute of Mining and Metallurgy (AusIMM) (2001), and includes analysis of reference samples of intact granodiorite with known specific gravity values.

Table 11-1: Method Detection Limits for Key Elements

Description	Copper (ppm Cu)	Moly (ppm Mo)	Sulfur (% S)	Gold FA (ppm Au) (2)
Lower MDL	1	2	0.005	0.001
Upper MDL	10,000	10,000	10	n/a
COG (1)	1500	25.0	0.10	0.025

<sup>(1)</sup> Economic CoG for copper is shown. Grade shell threshold values for moly and gold are included.

## 11.4 Quality Assurance/Quality Control Procedures

The 2016 resource drilling program has 2,974 primary drill samples from 43 drillholes. Sample batches by drillhole included Quality Assurance/Quality Control (QA/QC) Certified Reference Materials (CRMs) of known value and blanks, and coarse reject duplicate samples, for 3,568 total samples. A subset of samples was sent to a second independent laboratory for check assay analysis.

#### 11.4.1 Reference Materials

There are 297 certified reference material (CRM) samples in the 2016 drillhole assay data set. The average CRM insertion rate is every 10<sup>th</sup> drill core sample, which meets and exceeds current industry standards. The reference samples analyzed with the 2016 drill samples were from the following materials:

- OREAS 501b (n = 95, 32%);
- OREAS 502b (n = 92, 31%);
- OREAS 503b (n = 95, 32%); and,
- OREAS 504b (n = 15, 5%).

These CRMs are made from porphyry-hosted Cu-Au-Mo sulfide mineralization similar to that found at Yandera.

Performance of OREAS 501b through OREAS 504b are discussed below. Copper results are the most relevant, because most of the Project's value is from copper mineralization. Molybdenum and gold are lesser components of the resource's value. Sulfur results are also presented below, because the Cu:S ratio was used as a guide for modeling oxide and defining metallurgical material types for resource reporting. Table 11-2 shows the mean values the four elements of interest of the four CRM. This table also includes the economic CoG of copper, and grades of interest for molybdenum, gold, and sulfur.

Table 11-2: Mean Values of CRM in 2016 Drilling Program

CRM	Copper (ppm)	Moly (ppm)	Gold (ppm)	Sulfur (%)
OREAS 501b	2600	99	0.248	0.354
OREAS 502b	7730	238	0.495	0.950
OREAS 503b	5310	319	0.695	0.667
OREAS 504b	11100	499	1.61	1.31
COG	1500	25	0.025	0.10

Economic CoG for copper is shown. Grade shell threshold values for moly and gold are included. Source: SRK, 2016

<sup>(2)</sup> Fire assay with gravimetric finish. The minimum value reported in the database is 0.005 ppm. Gold grades of Yandera samples are much less than the upper MDL.

The range of copper, moly, gold, and sulfur values in the CRM samples are appropriate to assess the analytical capability of the laboratory in the range of values typical at the Project. Copper results for the CRM are shown in Figure 11-1 through Figure 11-4.

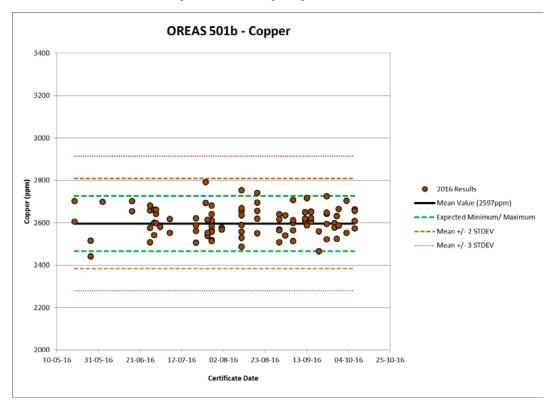


Figure 11-1: Copper Results for OREAS 501b

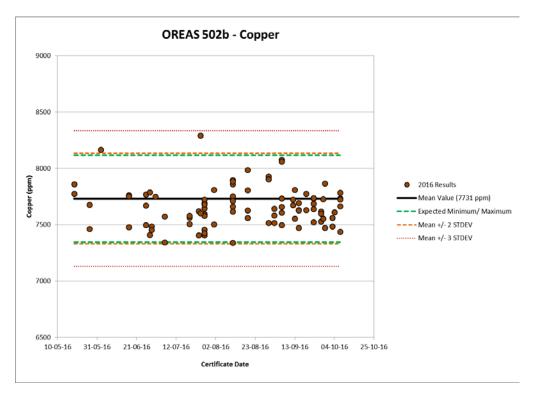


Figure 11-2: Copper Results for OREAS 502b

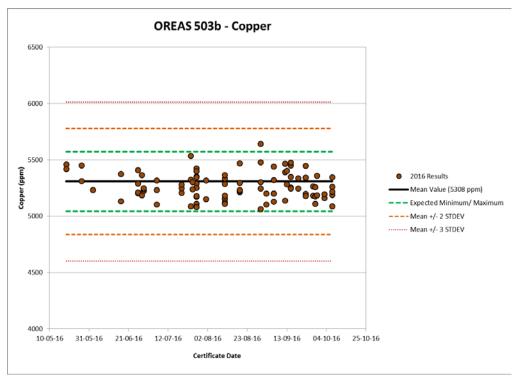


Figure 11-3: Copper Results for OREAS 503b

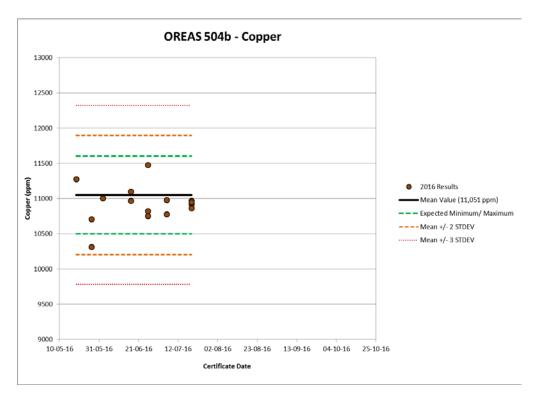


Figure 11-4: Copper Results for OREAS 504b

Molybdenum results are shown in Figure 11-5 through Figure 11-8. The moly results indicate good performance of the CRM samples, and the isolated samples with low values may indicate sample mix-ups for that analytical method, which appears to be from a different instrument than the copper values. Gold results are shown in Figure 11-9 through Figure 11-12. While most of the gold values are within acceptable limits from the certified mean value, they show more variability than the base metal values and have a slight low bias. The apparent low bias could be an artifact of decreasing precision near the lower method detection limit. The variability and low bias in gold could instead indicate incomplete fusion during the fire assay process. Several samples have reported gold values near the method detection limit. These results could indicate a sample mix-up at the analytical lab, or that the CRM used was actually blank material.

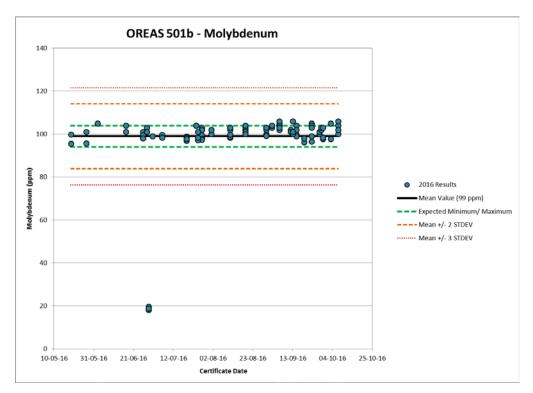


Figure 11-5: Molybdenum Results for OREAS 501b

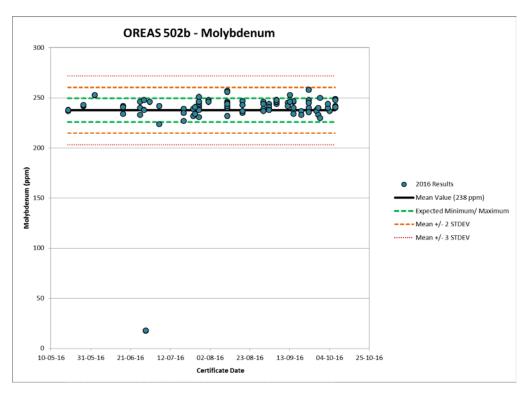


Figure 11-6: Molybdenum Results for OREAS 502b

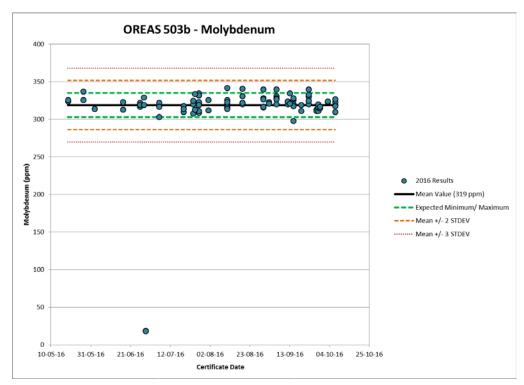


Figure 11-7: Molybdenum Results for OREAS 503b

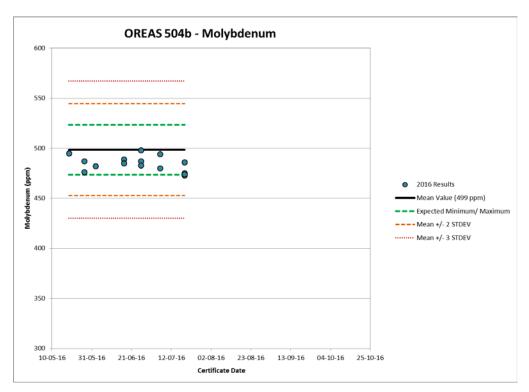


Figure 11-8: Molybdenum Results for OREAS 504b

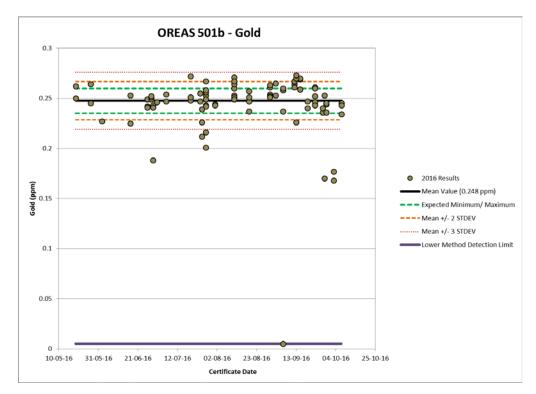


Figure 11-9: Gold Results for OREAS 501b

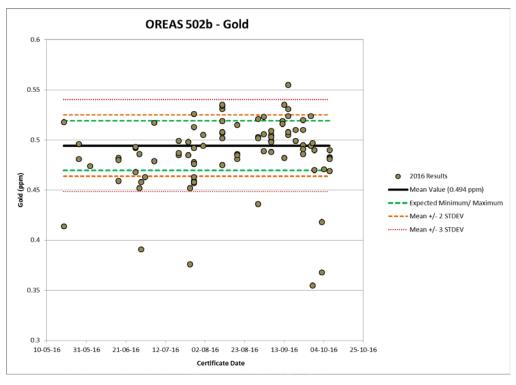


Figure 11-10: Gold Results for OREAS 502b

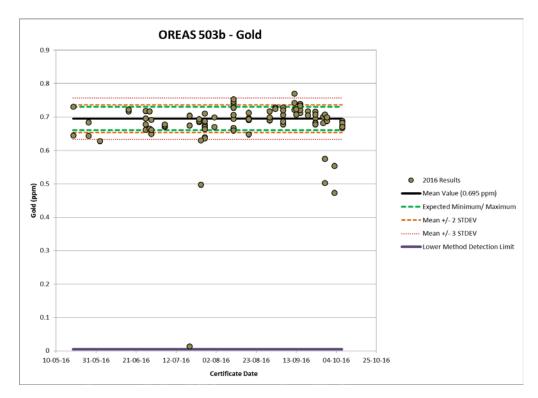


Figure 11-11: Gold Results for OREAS 503b

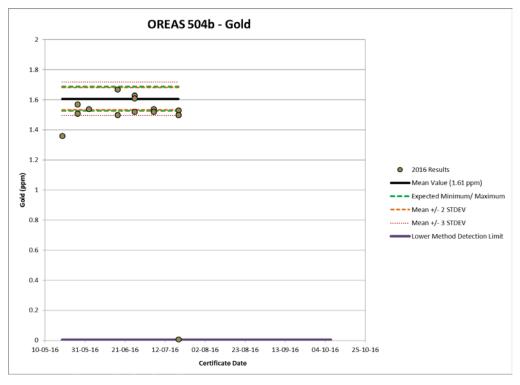


Figure 11-12: Gold Results for OREAS 504b

The main CRMs have reported average sulfur values in addition to the metals discussed above. Sulfur values are currently applied to define metallurgical material types, and although sulfur is not reported in the Mineral Resource Estimation, it is an important component of the oxide model.

Figure 11-13 through Figure 11-16 show the sulfur results for the four CRM sample groups. Generally, the CRM samples performed well with respect to total sulfur, with no apparent bias.

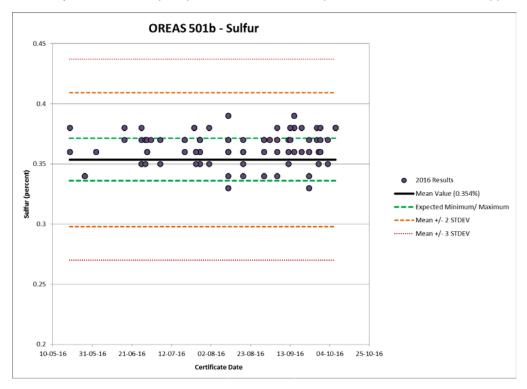


Figure 11-13: Sulfur Results for OREAS 501b

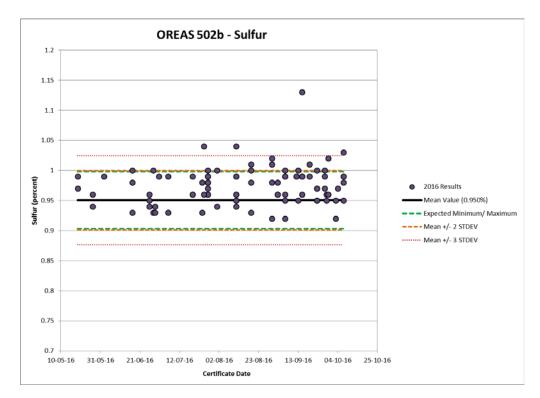


Figure 11-14: Sulfur Results for OREAS 502b

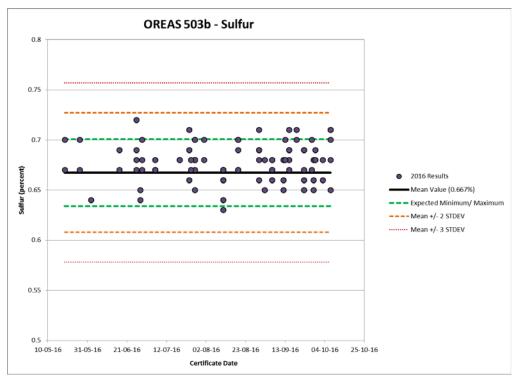


Figure 11-15: Sulfur Results for OREAS 503b

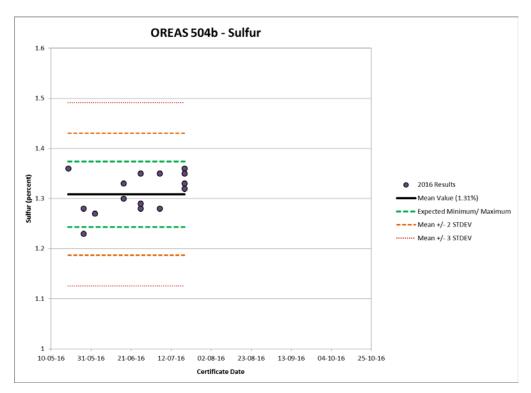


Figure 11-16: Sulfur Results for OREAS 504b

#### 11.4.2 Blank Samples

Era included samples of OREAS 27b, which is barren, coarse felsic volcanic reference material in the 2016 drill sample suite. The batch of samples for YD568 included 4 samples of OREAS 24b, which is coarse barren granodiorite. The certified values and lower method detection limits are listed in Table 11-3. This material is suitable for assessing the risk of cross contamination or sample mixups at the lab, and the mean values are much lower than the economic values for each element of interest.

Table 11-3: Certified Values and Method Detection Limits for Blank Samples

CRM	Copper (ppm)	Moly (ppm)	Gold (ppb)	Sulfur (%)
OREAS 24b	38.0	4.03	<3	0.198
OREAS 27	4.61	10.2	<1	0.007
Lower MDL	2	1	5	0.010

Source: SRK, 2016

Results for copper, moly, gold and sulfur for the 99 blank samples are shown in Figure 11-17 through Figure 11-20. The average blank sample insertion rate is every 35 or 40 samples, and is adequate for analytical sample batches of 60 samples.

Results for copper are variable, and many are more than five times the method detection limit. Because the mean value is close to the method detection limit, the variability can be attributed to

inherent analytical uncertainty. The variability may indicate cross-contamination during analysis. One of the values is so far from the mean that it could indicate a sample mix-up. Moly and gold values are less variable, and have values in the acceptable range. Measured sulfur values should be less than the lower method detection limit, and the observed variation is from analytical uncertainty in values near the detection limit.

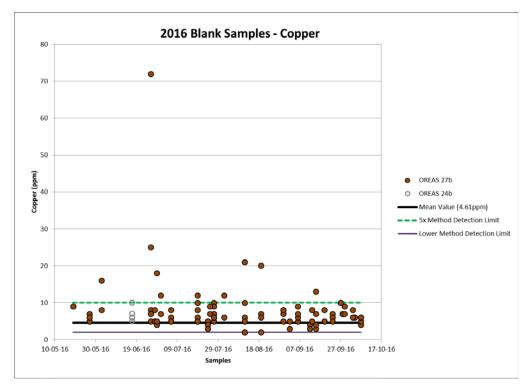


Figure 11-17: Copper Results for Blank Samples

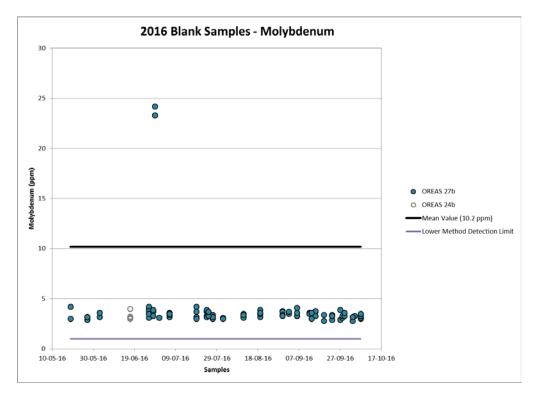


Figure 11-18: Molybdenum Results for Blank Samples

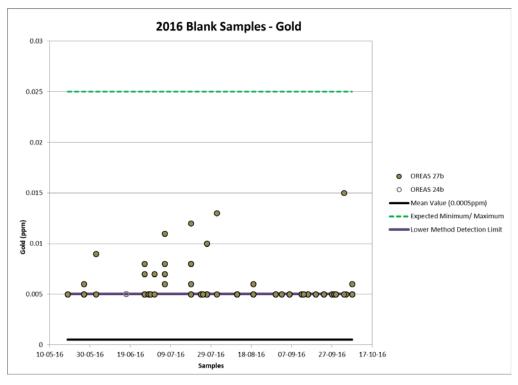


Figure 11-19: Gold Results for Blank Samples

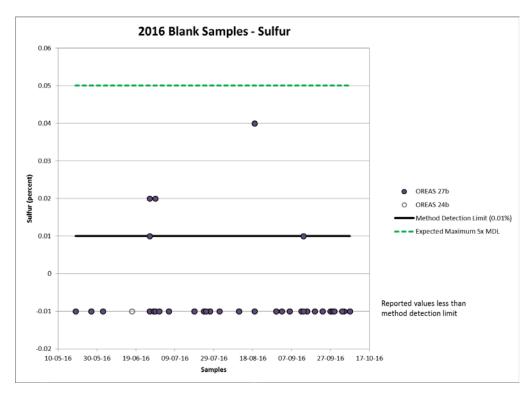


Figure 11-20: Sulfur Results for Blank Samples

#### 11.4.3 Check Assay Analysis

Check assays were completed by Australian Laboratory Services (ALS), in Brisbane, Australia, on select pulp samples. For the 2016 drilling program, 98 drillhole samples were sent in Batch 1 of check samples, about 3.3% of the total. There were also 14 CRM and 4 blank samples the first batch of check samples. The second batch of samples for check assay analysis was in progress while this report was written, and results were not available. Figure 11-21 through Figure 11-23 show the Relative Percent Difference (RPD) vs. average value for copper, molybdenum, and gold for the check assay pairs. The equation for RPD is:

The desired maximum difference for check assay results is within 10% of the original or average value. Only seven sample pairs varied by more than 10% for copper values. All of the selected check assay samples are greater than 1,000 ppm copper; most are economic grades, indicated by the vertical line on the chart, below. The measured copper values are several orders of magnitude greater than the lower method detection limit, which provides data with low analytical uncertainty, evident in the consistent distribution of relative difference for all copper values. The two pairs of samples with high relative differences may be incorrectly reported; Era geologists were working with the lab to resolve this apparent discrepancy as this report was in preparation.

Moly and gold values are much closer to the respective lower method detection limits, and the paired values have generally higher relative differences than copper values. The greater deviation in

sample pairs for moly and gold reflects these metals' lower concentrations, and the increase in inherent analytical uncertainty as values approach the method detection limit.

For values of economic interest, most check samples performed well relative to the original values, especially for copper. Moly and gold results may have a low bias at the second lab, but this trend is most evident at low concentrations, and may be related to inherent analytical uncertainty.

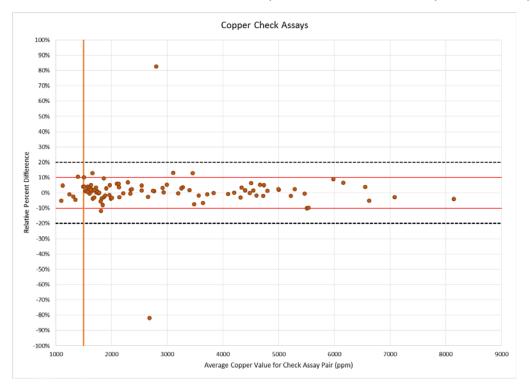


Figure 11-21: Check Assay Relative Percent Difference vs. Average Value, Copper

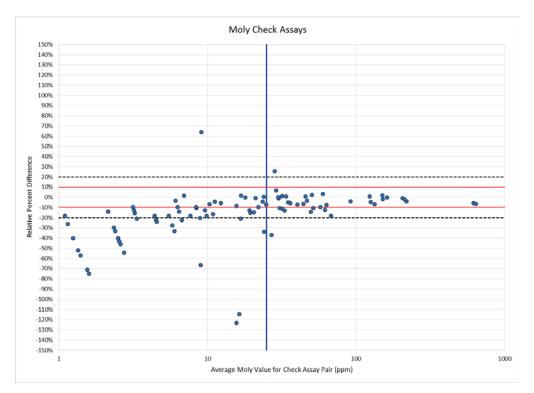


Figure 11-22: Check Assay Relative Percent Difference vs. Average Value, Molybdenum

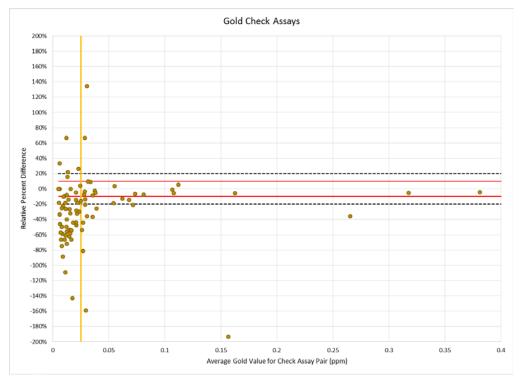


Figure 11-23: Check Assay Relative Percent Difference vs. Average Value, Gold

#### 11.4.4 Coarse Reject Duplicate Sample Pairs

The 2016 drilling program included two splits from 6.6% (198) of the drill samples. These splits were collected after the crushing phase of preparation, to assess the homogeneity of the sample after crushing, before the sample mass was reduced for pulverization. The analytical values of the original and duplicate sample pairs should be within 20% of each other for values greater than about five times the method detection limit. Results for copper, moly, gold, and sulfur are shown as charts of relative percent difference vs. average value, similar to the check assay results above, in Figure 11-24 through Figure 11-27.

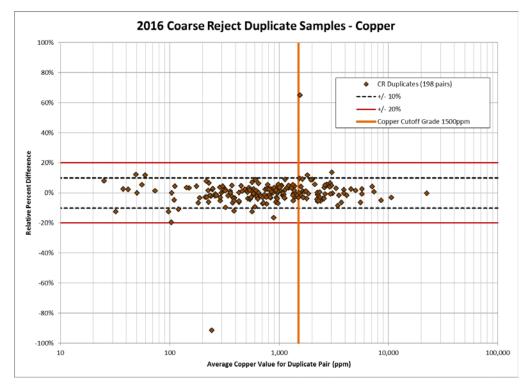


Figure 11-24: Coarse Reject Duplicates Relative Percent Difference, Copper

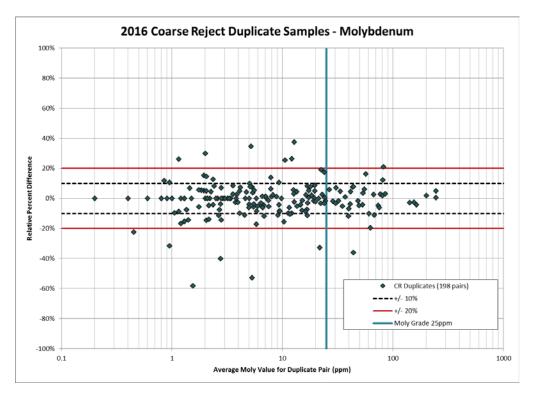


Figure 11-25: Coarse Reject Duplicates Relative Percent Difference, Moly

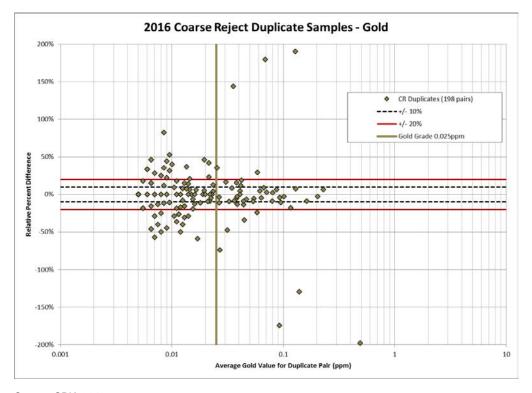


Figure 11-26: Coarse Reject Duplicates Relative Percent Difference, Gold

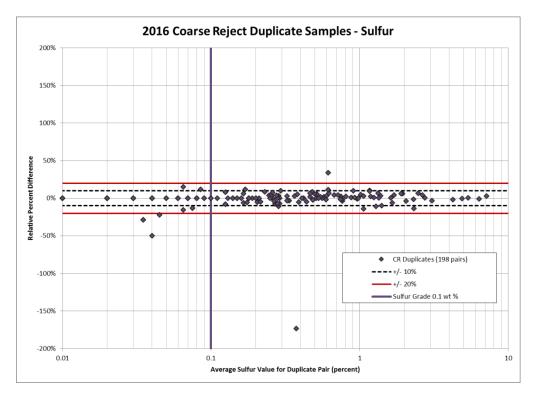


Figure 11-27: Coarse Reject Duplicates Relative Percent Difference, Sulfur

#### **11.4.5 Actions**

Era should continue to use four-acid digestion to completely dissolve the silicate host rock and get representative copper and molybdenum values. The current gold fire assay and multi-element analysis methods are suitable to determine base and precious metal abundances in the deposit. CRM sample results are the best indication of data quality, and Era should continue to monitor them as new results are received from the lab. The insertion rate of CRM samples could be decreased, to a minimum of one per sample batch. Coarse blank samples add confidence to the analytical data, to verify the quality of the preparation process. The new procedure to generate coarse reject duplicate samples also validates the current sample preparation protocols.

#### **11.4.6 Results**

Era's assay QA/QC protocol for the 2016 drilling program provides verification for all of the sample preparation and analysis stages.

On average, each batch of fire assay samples should have one blank and one standard sample. There should also be enough CRM samples to include an average of two or three in each batch of ICP samples. The CRM results assess the lab's analytical capability at a range of grades representative of the deposit.

Era should continue to evaluate assay QA/QC data as results are received, and include data review in the process of adding new analytical results to the resource database.

## 11.5 Opinion on Adequacy

It is SRK's opinion that the sample security at the Project is adequate to maintain Chain of Custody until the analytical samples are relinquished for shipment to the analytical laboratory. The quality of sample preparation and analytical procedures meets or exceeds current industry standards, and the resulting data is suitable to use in a Mineral Resource Estimation.

## 12 Data Verification

Yandera geologists produce drillhole logs on paper that must be transcribed to digital data tables. These tables are then imported to the master database for modeling applications. Laboratory data is received from the lab in digital format and imported to the master database. To ensure accurate data is used for modeling, the digital database is compared to the sources- geological logs and assay certificates.

For SRK's previous technical report (2015), data verification was completed for geology and analytical data on a portion of the drillholes. Although some drillholes from all phases were reviewed, emphasis was placed on verification of the more recent drilling. For this report, about 11% of the 2016 drillholes were selected for verification, as well as several holes verified for the 2015 resource report with data entry errors. Since the last resource estimation, logged geology has been reinterpreted, and the master database updated.

#### 12.1 Procedures

SRK verified drillhole collar locations against a high-resolution topographic surface. Several holes that appeared much lower than current topography were reconciled, realizing that a number of drill sites required extensive earth work for construction. The apparent discrepancies were from cut or fill from pad construction. Most of the drillholes with collar locations above topography do not have assay or lithology data, and are not material to the resource estimation. A second collar location survey was completed for recent drilling, but results indicated incorrect X-Y locations for many drillholes. Original collar survey results were more consistent, and were maintained in the database. Downhole survey results appeared reasonable when displayed in 3-D modeling software. Several drillholes with unusual trajectory were verified, and match the source data. A summary of geological and analytical data verification follows.

For Era's 2016 resource drilling campaign, holes YD564 through YD605, 5 holes (11%) were selected to compare the electronic geological database and original drill logs. This group of drillholes was completed after the previous resource estimation in 2015, and over half of them were drilled in the Dimbi deposit area. Verified drillholes are located in the four main deposit areas tested in 2016. Verification results for the 2016 program are summarized in Table 12-1. Digital copies of all analytical laboratory certificates were available, and the gold, copper, and molybdenum values in the database matched the certificates for all drillholes. Intervals in the digital tables for lithology, alteration, and oxide zonation all matched the source logs, except for one typographical error noted for alteration intervals in YD584. The 2016 drillholes comprise about 7% of the database, and the group verified did not include the geotechnical holes drilled later in 2016.

Marengo (now Era) drilling completed prior to 2016 was included in a previous resource estimation, which also required data verification. Because this data had been previously verified and reported, a subset of seven drillholes with errors identified in the previous report were selected for verification. Table 12-2 has a summary of the results. Historical drilling completed by Kennecott and BHP was also included in previous resource estimations, and one of these drillholes was selected for verification. Historical drillholes completed before Marengo or Era (n = 104) comprise 18% of the drillholes in the database.

All copper, molybdenum, and gold values in the database for the pre-2016 drillholes verified match the values on the assay certificates. Since the last resource report, Era has corrected the assay database, and these changes are evident in YD258 and YD457, which had incorrect copper, gold, and moly values in 2015. The other drillholes re-verified in 2016 had correct values in 2015, and have not changed. Geological logging in these holes has generally not been updated since 2015, and discrepancies between the drillhole logs and database tables still exist. The drillhole geology does not directly impact the geological model, which is built on a framework of interpreted lithology from cross sections.

Table 12-1: Summary of 2016 Drillhole Data Verification

Hole ID	Deposit	Year Drilled	Purpose	Lithology	Alteration	Oxidation	Copper	Moly	Gold
YD577	South Dimbi	2016	Resource	Correct	Correct	Correct	Correct	Correct	Correct
YD578	Dengru	2016	Resource	Correct	Correct	Correct	Correct	Correct	Correct
YD584	Omora	2016	Resource	Correct	Incorrect	Correct	Correct	Correct	Correct
YD596	Dimbi	2016	Resource	Correct	Correct	Correct	Correct	Correct	Correct
YD597	Imbruminda	2016	Resource	Correct	Correct	Correct	Correct	Correct	Correct

Source: SRK, 2016

Table 12-2: Summary of Verification, Pre-2016 Drillholes

Hole ID	Deposit	Year Drilled	Purpose	Lithology	Alteration	Oxidation	Copper	Moly	Gold
YD556	Dimbi	2013	Exploration	Correct	Correct	Correct	Correct	Correct	Correct
YD546	Imbruminda	2012	Resource	Incorrect	Incorrect	Correct	Correct	Correct	Correct
YD525	Gremi	2012	Resource	Correct	Correct	Incorrect	Correct	Correct	Correct
YD457	Omora	2011	Resource	Incorrect	Incorrect	Correct	Correct	Correct	Correct
YD258	Imbruminda	2010	Resource	Incorrect	Incorrect	Incorrect	Correct	Correct	Correct
YD208	Imbruminda	2008	Resource	Incorrect	Incorrect	Incorrect	Correct	Correct	Correct
DDH066	Imbruminda	1975	Exploration	Correct	Correct	Correct	Correct	Correct	Correct

Source: SRK, 2016

#### 12.2 Limitations

Geological logs and assay certificates were available for all drillholes verified. Criteria for logging lithology and alteration were not consistent for all drilling campaigns, and the resulting database is also not entirely consistent. During detailed geological interpretation for resource modeling, the Project team found many discrepancies between lithology and alteration in neighboring drillholes. This was largely due to different interpretations by logging geologists over time, and evolution of the working model. Because some geological data in the database was inconsistent, it was not applied directly to the geological model. Instead, during this 2016 modeling effort, Era geologists revisited core photography and reconciled previous discrepancies to build cross sectional interpretations. These revised cross sections were used to underpin the geologic model.

# 12.3 Opinion on Data Adequacy

All verified analytical values for economic metals match the assay certificates and are suitable for use in resource modeling. Following corrections and exclusions in the geologic data set, it is SRK's opinion that the Yandera dataset is suitable for modeling and resource estimation.

# 13 Mineral Processing and Metallurgical Testing

Previous technical studies (Ravensgate, 2012 and Golder, 2011) included sulfide flotation testing for copper, molybdenum, and gold recovery. Yandera sulfide material appears amenable to flotation processing. A portion of the mineralization is oxide. Flotation of oxide Cu material had poor recovery. In 2015 and 2016, Era, through SRK and McClelland Laboratories, conducted column leach tests on oxide material. Those tests and results are summarized below.

### 13.1 Testing and Procedures

There have been three metallurgical test work programs on Yandera mineralized material and one bulk sampling event:

- AMEC-Minproc performed comprehensive comminution studies and preliminary flotation and magnetic separation studies;
- NFC/Nerin did flotation test work and mineralization assessment;
- AMS/Marengo performed extensive flotation test work; and
- Bulk Sampling of Adit Alpha and Adit Bravo at Gremi.

Highlights of the testing programs are discussed below.

#### 13.1.1 AMEC-Minproc

Three samples from Omora and three samples from Gremi were used for comminution and metallurgical test work by ALS-Ammtec in 2009, supervised by AMEC-Minproc. Comminution tests indicated the material is of medium to high hardness with Bond Rod Mill Work Index of 14 kWh/t and Bond Ball Mill Work Index of 15 kWh/t. The samples had relatively low abrasion characteristics.

Bulk flotation test tests, consisting of a rougher-scavenger circuit indicated Cu recoveries over 91% and Mo recoveries of approximately 80%. Gold and silver also were recovered in the concentrate. Cleaning tests of the bulk concentrate indicated that the concentrate weight could be reduced without loss of metals.

Magnetic separation testing indicated that a concentrate of >60% Fe could be made, but SiO<sub>2</sub> values were above the penalty limit of 4.5%.

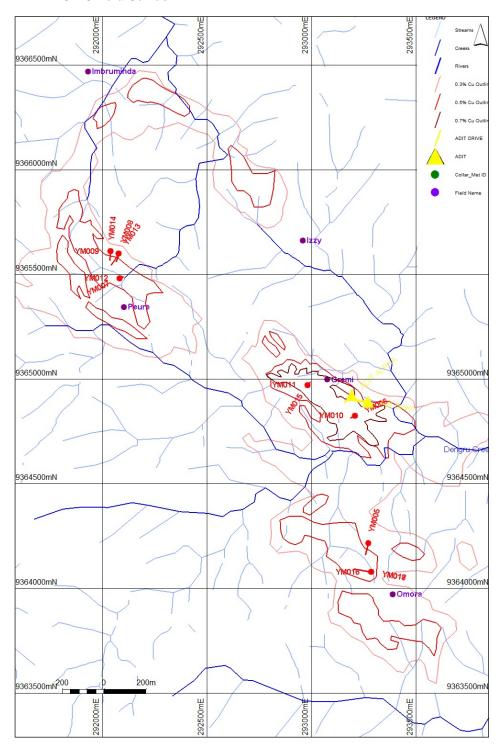
#### 13.1.2 NFC/Nerin

China Nonferrous Metal Industry's Foreign Engineering and Construction Co. Ltd (NFC) commissioned Beijing General Research Institute of Mining and Metallurgy (BGRIMM) to run flotation test work. The samples for this test work were obtained from 2,260 m of full core, totaling approximately 22 t. Samples were from 14 drillholes located specifically for metallurgical test work (YM-005 to YM-018) and spaced to get representative samples on the Omora, Gremi and Imbruminda deposits. Metallurgical hole locations are shown in Figure 13-1. A total of 80% of each meter of sample was sent to BREIMM, with the remaining 20% sent to ALS-Ammtech in Perth.

Samples were combined into five groups:

- OX Oxide:
- MX Mixed;

- G Gremi Sulfide;
- I Imbruminda Sulfide; and
- O Omora Sulfide.



Source: NFC/Nerin, 2012

Figure 13-1: Metallurgical Drillhole Locations

Initial test work was done on the Imbruminda sample. Mineralogical tests indicate the main Cu minerals are chalcopyrite and bornite. Molybdenite is the main Mo mineral. Magnetite is the primary Fe mineral. Extensive test work was done on the "I" sample including optimizing the grind size, reagent selection and flotation time. Both open and closed circuit flotation tests were run. Test work produced a process flow sheet that included:

- Grinding to 60% passing 0.074 mm;
- Cu and Mo bulk concentrate flotation;
- Cu and Mo separation; and
- Magnetic separation of Fe in the flotation tailings.

Table 13-1 contains the recovery of the closed circuit testing

Table 13-1: Closed Circuit Flotation Test Results

Concentrate	Feed Grade (%)	Recovery (%)	Concentrate Grade (%)
Copper	0.60	88.275	30.72
Molybdenum	0.021	80.44	50.67
Iron	1.65	18.87	65.29

Source: SRK, 2015

The same flow sheet developed for the I sample was then used on the other four samples. Results are summarized in Table 13-2.

Table 13-2: Results of Closed Cycle Tests

Sample	Feed Grade		d Grade Recovery (in concentrat	
Sample	Cu	Мо	Cu	Мо
OX	0.76	0.018	54.512	55.90
MX	0.37	0.087	80.960	90.83
G	0.65	0.028	89.658	81.39
0	0.33	0.016	84.044	82.156

Source: SRK, 2015

### 13.1.3 AMS/Marengo

Testing on the remaining 20% of the core was run parallel to the NFC/Nerin test program at ALS-Ammtec in Perth under the supervision of Arccon Mining Services (AMS) and Marengo. The AMS/Marengo test work concentrated on optimizing the rougher-scavenger recovery. Flotation slurry density, grind size and collector reagents were all evaluated. Results of this optimization indicate:

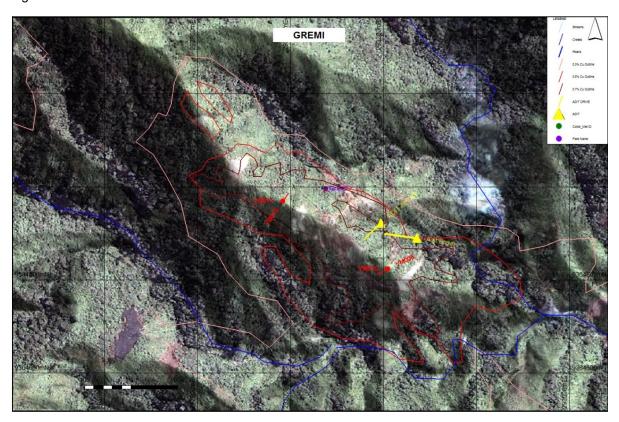
- Copper recovery of 96% in hypogene samples;
- Good molybdenum recovery in hypogene and mixed samples;
- Flotation recovery of Cu and Mo in oxides low at 60 to 65%; and
- Rougher concentrate grades for Cu and Mo were reasonable.

#### 13.1.4 Bulk Sampling for Metallurgical Testing

In late 2010 and early 2011, Adit Alpha was driven a total distance of 49.4 m at Gremi to acquire a bulk sample for metallurgical testing of sulfide (hypogene) material. Adit Alpha was collared too high on the ridge, and thus the entire length of the adit was in oxide and mixed-oxide material.

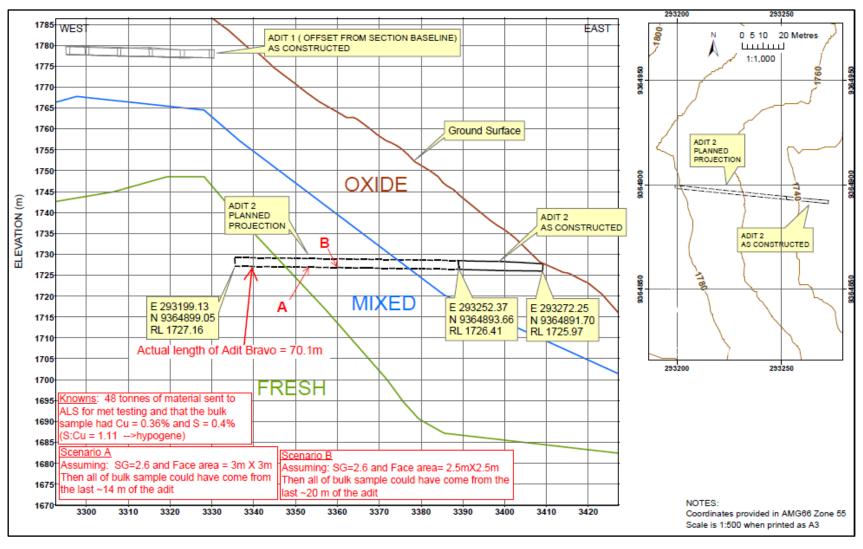
In 2011, a second adit, Adit Bravo, was driven lower on the ridge to obtain hypogene material for bulk metallurgical testing. The total length of Adit Bravo was 70.1 m. A total of about 48 t of hypogene material was recovered from the end of the adit, and it was sent to ALS for metallurgical testing.

Location details of the excavations are presented in plan in Figure 13-2 and shown in section in Figure 13-3.



Source: NFC/Nerin, 2012

Figure 13-2: Locations of Bulk Sample Excavations - Adit Alpha and Adit Bravo



Source: Golder, 2011

Figure 13-3: Schematic Cross Section of the Adits Excavated for Bulk Metallurgical Testing

#### 13.1.5 Oxide Leach Metallurgical Testing

In 2015 and 2016, Era commissioned SRK and McClelland Laboratories to complete column and vat leach tests on composite oxide material from Gremi averaging 0.51% Cu. Column leach tests were conducted on two feed sizes (80% of material <25 mm and <9 mm) with no cure, being agglomerated, and acid cured (simulating dry stacking followed by application of concentrated acid solution after 5 days). Flooded vat leach tests were conducted on two feed sizes (80% of material <6.3 mm and <3.4 mm). Table 13-3 summarizes results from these tests, which showed a Cu recovery ranging from 74.5 to 88.2% for column leaching, and Cu recovery ranging from 75.5 to 84.3% for flooded vat leaching.

Table 13-3: Summary of Metallurgical Results Heap and Flooded Vat Leach Testing

Test Type	Feed	Procedure	Leach/Rinse Time	Cu Recovery	H2SO4 consumption,
restrype	Size	Frocedure	(Days)	(%)	Net (kg/MT ore)
Column Leach	25 mm	No Cure	91	74.5	19.6
Column Leach	25 mm	Agglomerated	92	77.6	21.9
Column Leach	25 mm	Acid Cured	91	81.3	23.5
Column Leach	9 mm	No Cure	91	88.2	33.7
Column Leach	9 mm	Agglomerated	92	86.0	22.0
Column Leach	9 mm	Acid Cured	91	85.4	26.0
Vat Leach	6.3 mm	No Cure	17	75.5	11.1
Vat Leach	6.3 mm	Agglomerated	25	84.3	20.4
Vat Leach	3.4 mm	No Cure	22	84.0	18.4
Vat Leach	3.4 mm	Agglomerated	18	83.0	12.0

## 13.2 Recovery Estimate Assumptions

It is likely that at full scale production the recovery will be lower than bench scale tests described above, and smelter deductions will also lower net payable metal. Therefore, for optimized pits and CoG calculations, SRK used the following recoveries in sulfides and mixed ores:

- Copper, 90%
- Molybdenum, 85%
- Gold, 65%

To simplify the costs used in the optimized pits, the same processing costs as used in the flotation plant (US\$7.50/t) were used for the oxide material. SRK used the following recoveries in oxide ore:

- Copper, 60%
- Molybdenum, 0%
- Gold, 43.3%

## 13.3 Significant Factors

Test results of the copper and molybdenum concentrates do not have deleterious elements at concentrations that will incur smelter penalties.

SRK considers the metallurgical recovery information sufficient for use in determining CuEq cut-offs in the resource estimation that incorporate Mo and Au.

## 14 Mineral Resource Estimate

#### 14.1 Introduction

The most recent Mineral Resource Estimation for the Yandera deposit was prepared by SRK Consulting as a Technical Report on Resources, with an effective date of May 1, 2015, pursuant to the guidance of the Canadian National Instrument 43-101 – Standards of Disclosure for Mineral Projects National Instrument (NI 43-101). Working closely with the Era staff and consultants in 2016, SRK has constructed a new block model that included independent analysis of the project database, geostatistical analysis of the data, construction of 3D solids with Leapfrog<sup>™</sup> modeling software, and estimation of a 3D block model with MineSight<sup>®</sup> software.

In preparing the current resource statement, SRK has used engineering experience and informed assumptions to define the appropriate CoG to reflect the mining and process methods and costs anticipated as the project advances. This report provides a mineral resource estimate and a classification of resource reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves, May 10, 2014 (CIM, 2014). The resource estimate and related geologic modeling were conducted by, or under the supervision of, J.B. Pennington, M.Sc., C.P.G., and Justin Smith, B.Sc., P.E., SME-RM, both of SRK Consulting (U.S.), Inc., Reno, Nevada. Mr. Pennington and Mr. Smith are Qualified Persons, and are independent of Era for purposes of NI 43-101.

The Mineral Resource estimate was based on a 3D geological model of major structural features and geologically controlled alteration and mineralization. A total of eleven litho-structural mineral domains were interpreted from mineralized drill intercepts, comprised mostly of 3 m core samples. The block size of the model was 25 m x 25 m x 10 m (XYZ). The project is in metric units. Copper, molybdenum, and gold were estimated independently into model blocks using Ordinary Kriging (OK). Oxide, non-oxide, and transition material types were modeled according to geologic logging and S:Cu ratios characteristic of the three metallurgical material types summarized later in Table 14-1. Density was determined from 4,932 samples which, within the variogram range of the data, were interpolated into the block model using OK. Un-estimated blocks were assigned the average estimated density corresponding to its location within the oxide, transition, or non-oxide zones.

Cautionary Note to U.S. Investors concerning estimates of Measured and Indicated Resources and Inferred Resources: This report uses the terms "Measured" and "Indicated resources." These terms are recognized and required by Canadian regulations; The SEC does not recognize them and U.S. investors are cautioned not to assume that any part or all of mineral resources in these categories will ever be converted into reserves. This section also uses the term "Inferred resources." This term is recognized and required by Canadian regulations; the SEC does not recognize it. "Inferred resources" have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an Inferred Mineral Resource will ever be upgraded to a higher category. Under Canadian rules, estimates of Inferred Mineral Resources may not form the basis of feasibility or prefeasibility studies, except in rare cases. U.S. investors are cautioned not to assume that part or all of an Inferred resource exists, or is economically or legally minable. Reserves meeting the requirements of the Securities and Exchange Commission's Industry Guide 7 for the Yandera project have not been determined.

### 14.2 Project Coordinates

The coordinate system of the project is AGD66 zone 55 as established by BHP. Before operations would begin the project would be converted to the gazetted national datum for PNG, PNG94, to generate a local grid with sufficiently low distortion.

#### 14.3 Drillhole Database

The Yandera project drillhole database consists of 188,045 m from 625 drillholes. The majority of the drilling done to date is represented by fans of angled holes perpendicular to the main trend of the district (NW-SE). The holes have intersected mineralization at variable angles producing both true-and apparent-thickness intercepts. Drilling in the resource area is shown in Figure 14-1 highlighting 2016 drill collars.

Drilling techniques included exclusively HQ- and NQ-sized diamond drill core. Samples were collected a one-half core splits using a diamond-bladed saw on 2 to 3 m intervals. Sampling produced an approximate 0.8 kg mass, which was pulverized to produce a charge for fire assay for gold and four acid digestion and multi-element analysis with ICP-AES or ICP-OES for all other elements. Quality control data for the analytical database have been reviewed by the Qualified Person and were deemed acceptable for resource estimation.

### 14.4 Topography

The topographic surface used for this resource report was taken from two sources provided by Marengo in 2015. The first was a regional survey at a lower precision of 40 m contours referred to as the Bundi surface, which is from the 2012 1:100,000 Bundi quad published by the Mineral Resources Authority of PNG (Timm, 2012). The second surface provided by Era was a much higher resolution surface (1 m contours) referred to as the LiDAR survey that covered a much smaller area directly over the model area. SRK patched the high resolution LiDAR surface into the Lower Resolution Bundi surface, which then served as the basis for SRK's work.

## 14.5 Geologic Model

Yandera is a porphyry copper deposit that, historically, was interpreted as a typical zoned porphyry system, where it was assumed there was a late, barren core surrounded by a concentric pattern of potassic and phyllic alteration. Based on the combined work from SRK and Era for this report, it became apparent that the deposit is more complex and structurally controlled and the application of the underlying geology would need to be updated to refine the block model.

Yandera is an igneous-hosted, structurally-controlled copper porphyry system comprised of a series of adjacent deposits along recognized structural trends. Mineralization is related to multiple pulses of intrusive rock and hydrothermal alteration. Grade has spatial correlation with late dacite intrusions and polymictic breccias with over-printing phyllic alteration.

Within the modeled area, broad tabular zones of copper mineralization extend from surface to depths of over 500 m and have been drill-defined to a strike length of over 5 km.

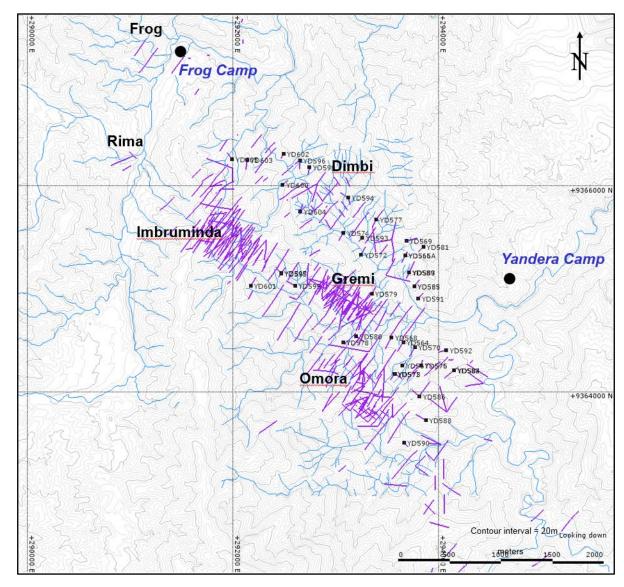


Figure 14-1: Resource Drilling in Model Area, Highlighting 2016 Drill Collars

In 2016, the Era exploration team, informed by select re-logging of historic drilling and lithology from 43 new drillholes, developed a total of 88 50 m-spaced NE-SW trending geologic cross sections. This main set of cross sections was supplemented by an additional 34 sectional interpretations at Frog and 25 sectional interpretations at Rima. Cross sections were digitized in 2D and used to generate 3D wireframes for block model coding. Sectional interpretations have enhanced the geological understanding of the deposit and formed the basis of the 2016 resource update.

## 14.6 Mineral Domains for Interpolation

SRK re-interpreted the deposit's structural controls and grade trends relative to new 2016 interpreted geology. A total of five structural domains were established to control the search direction during grade estimation. These structural domains are shown in Figure 14-2.

There is a strong NW-SE (122-125°) trend to mineralization that corresponds to the strike of the intrusive units. This was identified as the primary search orientation for mineralization in Dimbi, Imruminda, and Gremi structural domains. There is also a low-angle SE plunge to much of the mineralization in these domains, which seems to correspond to crackle breccia along the crown or maximum vertical ascent of the nested intrusions. The emplacement of the younger intrusions tends to impart more lateral than vertical continuity in grade and explains the somewhat "rootless" geometry of this part of the deposit.

As previously interpreted, Omora mineralization is oriented more southeasterly (~150-155°) and also trends steeper following structural intersections and brecciation along intrusive contacts. The strong SE trend is mirrored in the North domain, which includes the NW extent of the main zone plus the peripheral deposits at Rima and Frog.

To establish final mineral domains for grade estimation, the structural domains were further subdivided based on lithology. Mineralization is clearly hosted in the breccia unit, in late dacite (PDA) dikes and to a lesser degree the POD stock. Geostatistics of the different lithologies showed a strong grade tenor difference between breccia and PDA (high grade) and POD and HGR (low grade). Therefore, grades in these pairs of rock units, at a minimum, were always estimated separately. Grades were estimated by individual rock units where there was sufficient data.

In total, eleven mineral domains were developed as a combination of structure, lithology and mineral continuity. Grades were interpolated in ten of those domains and one, the late, low grade, quartz-latite porphyry (PLQ) was set to a fixed grade based on the statistical average grades in that rock unit. The PLQ is interpreted as the last intrusion in the sequence, consisting of a series of thin, tabular NNE trending "barren" dikes, which largely cut-out grade from older, adjacent mineralized units.

The final constraint on grade estimation was a grade-limiting boundary (grade shell) that was constructed tracking lithologic contacts and honoring the identified structural trends. For the primary metal, copper, wireframes were constructed around composites using a CoG of 0.15% Cu. This CoG was determined based on early estimates of the project economics. Low grade intervals that are internal to the overall grade shell were included in the domain to account for internal dilution that would be expected during mining. All resources are reported inside the copper grade shell, which is shown in Figure 14-2.

For molybdenum and gold, wireframes were constructed around composites using a cut-off of 25 ppm Mo, and 0.025 ppm Au. These relatively low CoGs were chosen in order to generate wireframes that approximated of the volume of the copper grade shells. By insuring that the blocks containing estimated copper grades were also populated with ancillary metal grades, even at low concentrations, SRK was able to account for the molybdenum and gold that could potentially be recovered as a byproduct during eventual copper extraction.

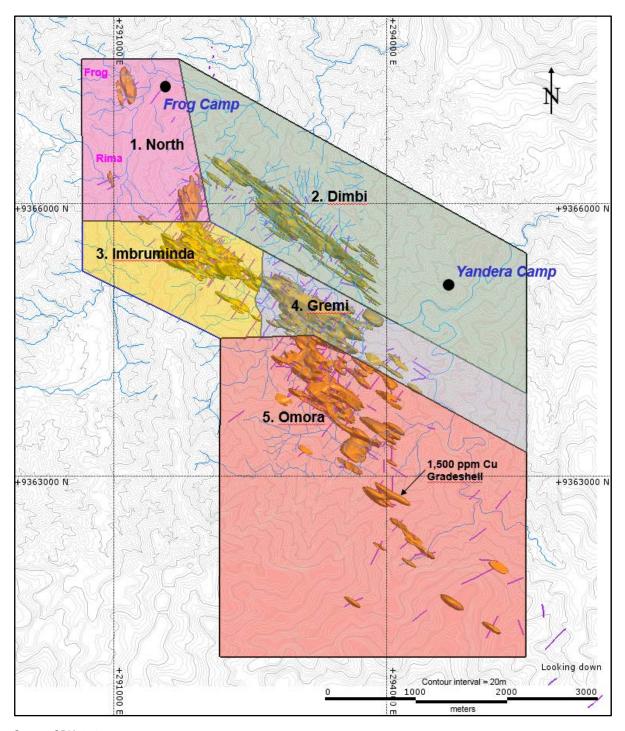


Figure 14-2: Yandera Structural Domains and 0.15% Copper Grade Shell

Detailed geostatistics were analyzed using the assay intervals that fell within each of the coded lithologies to determine high-grade capping values. The capped grades were used to generate a new set of fixed 5 m length composites. The 5 m composites were used in interpolation.

## 14.7 Oxide Modeling

Metallurgical material types determine ore processing methods and metal recovery. The main goal of oxide modeling was to define a horizon at the top of material suitable for sulfide flotation processing, referred to interchangeably here as non-oxide or hypogene. Oxidized material above the hypogene may be suitable for acid-leach processing, but the current focus is to recover copper from oxidized material with flotation.

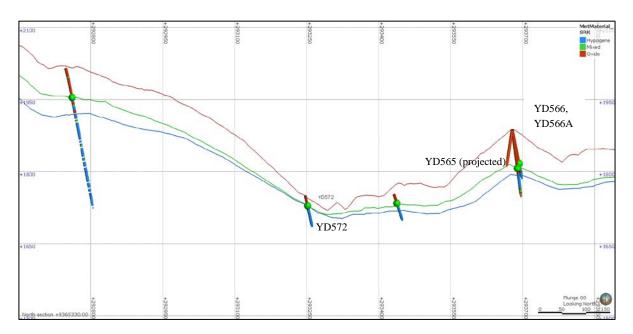
The metallurgical materials defined by recent test work (ARCCON, 2013) are summarized in Table 14-1. Although the empirically determined S:Cu threshold is different in Gremi than in the rest of the deposit, this difference does not result in a significantly different depth to the modeled bottom of oxidation. The S:Cu ratios change by orders of magnitude, and the ratio values change abruptly, rather than gradationally, between material types. Note that the stated copper recovery for oxide material in Table 14-1 was not used for resource reporting; those recoveries were established using the full body of metallurgical data available.

Table 14-1: Metallurgical Materials and Approximate Copper Recoveries by Flotation

S:Cu	Material	Recovery of Copper by Flotation
< 0.3	Oxide, Gremi	60% to 65%
< 0.5	Oxide, Others	60% to 65%
0.3 to 0.9	Transition, Gremi	80%
0.5 to 0.9	Transition, Others	80%
>0.9	Non-Oxide, All	>95%

Source: SRK, 2015

Geological logging included visual estimation of oxidation extent, but the appearance of the material does not always correlate with the metallurgical material type. Using the calculated S:Cu values and deposit area coding, material types were assigned to sample intervals according to Table 14-1. Only Era (Marengo) drillhole samples have sulfur data, and samples with either sulfur or copper results below the method detection limit were not assigned a material type. There were 40,130 samples with a material type assigned according to ratio values, and an additional 212 channel samples from Alpha and Bravo Adits at Gremi with assigned material types. Using Leapfrog™ software, contact points between oxide/ transition and transition/ non-oxide horizons were generated. This process did not generate single contact points for each drillhole, and additional geological and geochemical interpretation was required to build boundary surfaces. To constrain the oxide boundary in areas without sufficient drillhole data, the interpolation between contact points included an offset from the topographic surface. This approach ensured that the oxidation horizon would be below topography, and did not require extensive digitization. This approach was implemented for the 2015 model, and additional drilling data from 2016 was appended to the existing data set. Generally, new data corroborated nearby data from previous drilling programs. The additional drilling in the Dimbi deposit area substantially increased the data density there, and provided additional constraint on redox boundaries. An example of the resulting modeled metallurgical materials in the Dimbi area is shown in Figure 14-3. Material types in available drillholes are shown, and 2016 drillholes are labeled.



Section width 50 meters. Source: SRK, 2016

Figure 14-3: Modeled Oxidation Boundaries with Drillhole Contact points, East-West Section at 9,365,330 m North, Dimbi Deposit

The S:Cu value is a defensible proxy for material type definition in lieu of acid-soluble copper data, especially for oxidized material. Oxidation strongly depletes sulfur in all deposit settings. Therefore, the maximum depth of sulfur depletion is a reliable indicator for the bottom of oxidation. This parameter was used to validate the S:Cu interpretation during modeling and therefore, the depth of modeled oxidation is unlikely to change significantly with the addition of acid-soluble copper data to the data set.

From test work, copper recovery for transition material is comparable to recovery for hypogene material, and the transition zone is typically less than 20 m thick. Therefore, transition material was grouped with hypogene material for resource reporting. For flotation processing, weakly to moderately oxidized material can be blended with hypogene material without detriment to overall copper recovery.

The modeled oxide and transition boundary surfaces were used to code the block model by majority. The default code assigned to all blocks was hypogene, then all blocks with more than 50% volume above the transition boundary were coded as transition material. Next, all blocks with more than 50% volume above the oxide boundary were coded as oxide material. This approach ensured that the bottom of oxide boundary had priority over the other material types, to reflect the limited metal recovery of the material and to honor available data. Topography was coded to blocks as a separate item, and was not applied for oxidation coding. The resulting oxide coding in the block model at the same section location as the figure above is shown in Figure 14-4.

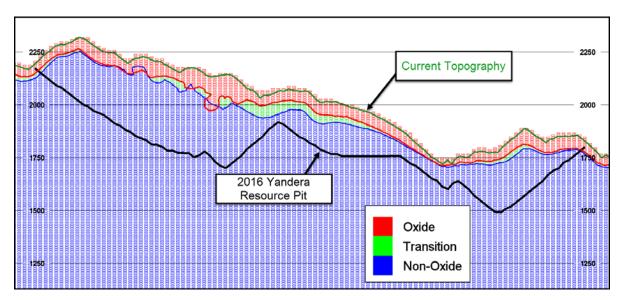


Figure 14-4: Oxidation Coding in 2016Block Model, East-West Section at 9,365,330 m North

Oxidation extent influences material density. The modeled oxidation zones were used to assign average density values to blocks without interpolated values. The density modeling process is discussed in Section 14.13.

#### 14.8 Block Model

The resource block model was informed by 58,214 samples from 568 drillholes at an average drillhole spacing less than 30 m in the principal resource areas (Gremi, Imbruminda, and Omora) and less than 100 m in other deposits within the model space. Based on this drillhole spacing and anticipated surface mining methods and bench heights, it was decided that a 25 m x 25 m x 10 m (XYZ) block size would be appropriate. The model extents, which include all of the model areas, are listed Table 14-2. The Yandera 3D block model items and definitions for the 2016 SRK resource model are included in Table 14-3.

Table 14-2: Yandera 3D Block Model Extents

Coordinate	Minimum	Maximum	Size	No.
Coordinate	(m)	(m)	(m)	Blocks
Easting	290,000	296,250	25	250
Northing	9,360,750	9,368,000	25	290
Elevation	700	2,800	10	210
Total No. Blo	15,225,000			

Table 14-3: Yandera 3D Block Model Items

Item	Item Min	Item Max	No. Decimals	Item Description
TOPO	0	100	1	Percentage of each block below topography
CLASS	0	5	0	Material Classification (1=Measured, 2=Indicated, 3=Inferred)
REDOX	0	5	0	Oxidation State for Block (1=Oxide, 2=Mixed, 3=Non-Oxide)
SDOM	0	10	0	Structural Domain Flag
LITH	0	10	0	Lithology Domain Code
INTDM	0	999	0	Interpolation Domain - Combines LITH, SDOM, and CUDOM
SG	0	5	3	Specific Gravity - OK interpolation
ESTSG	0	3	0	Flags Blocks with Estimated SG Values
CUEQ	0	10	4	Equivalent Copper Grade (%)
CUDOM	0	100	0	Copper Grade Shell Flag
CUOK	0	5	4	Copper Grade (%) - Estimated with OK
CUNN	0	5	4	Copper Grade (%) - Estimated with NN
CUDCL	0	1000	0	Distance to closest composite for Cu OK estimation
CUDAV	0	1000	0	Average distance to composites for Cu OK estimation
CUNCP	0	20	0	Number of composites used for Cu OK estimation
CUNDH	0	10	0	Number of drillholes used for Cu OK estimation
CUPAS	0	5	0	Interpolation pass for Cu OK Estimation
MODOM	0	100	0	Molybdenum Grade Shell Flag
MOOK	0	5	4	Molybdenum Grade (%) - Estimated with OK
MONN	0	5	4	Molybdenum Grade (%) - Estimated with NN
MODCL	0	1000	0	Distance to closest composite for Mo OK estimation
MODAV	0	1000	0	Average distance to composites for Mo OK estimation
MONCP	0	20	0	Number of composites used for Mo OK estimation
MONDH	0	10	0	Number of drillholes used for Mo OK estimation
MOPAS	0	5	0	Interpolation pass for Mo OK Estimation
AUDOM	0	100	0	Gold Grade Shell Flag
AUOK	0	4	4	Gold Grade (%) - Estimated with OK
AUNN	0	4	4	Gold Grade (%) - Estimated with NN
AUDCL	0	1000	0	Distance to closest composite for Au OK estimation
AUDAV	0	1000	0	Average distance to composites for Au OK estimation
AUNCP	0	20	0	Number of composites used for Au OK estimation
AUNDH	0	10	0	Number of drillholes used for Au OK estimation
AUPAS	0	5	0	Interpolation pass for Au OK Estimation

## 14.9 Assay Capping

To prevent extremely high grade values from over-influencing block grade estimates, the assay grades were capped before compositing within each interpolation domain. To determine the appropriate capping values, Log Cumulative Probability Plots (CPPs) were generated for all of the assays by Lithological Unit. Statistical outliers of the raw assays in each unit were capped. The results of the capping exercise are listed in Table 14-4 through Table 14-6 for each set of mineral domains.

Table 14-4: Copper Assay Capping Values by Lithological Unit

Lith Unit	Lith Code	Cu Cap (ppm)
HGR	1	20,000
POD	2	30,000
PDA	3	25,000
BX	4	32,000
PLQ	5	4,000

Table 14-5: Molybdenum Assay Capping Values by Lithological Unit

Lith Unit	Lith Code	Mo Cap (ppm)
HGR	1	3,000
POD	2	2,900
PDA	3	2,900
BX	4	7,000
PLQ	5	115

Source: SRK, 2016

Table 14-6: Gold Assay Capping Values by Lithological Unit

Lith Unit	Lith Code	Au Cap (ppm)
HGR	1	2,000
POD	2	2,800
PDA	3	1,800
BX	4	1,600
PLQ	5	90

Source: SRK, 2016

## 14.10 Compositing

The raw assay database was back-coded with the structural domain and lithology wireframes described in Section 14.6, resulting in 30,640 copper assays within the Cu mineral domain, 33,453 molybdenum assays within the Mo mineral domain, and 32,825 gold assays within the Au mineral domain. The Mo and Au domains had a larger volume than the Cu domain. These coded assays were then composited by lithology domain to a fixed 5 m down-hole length.

Summary statistics by interpolation domain for each composite file are provided in Table 14-7 through Table 14-9. The average grades for the PLQ lithology type was calculated globally for each grade item and assigned directly to the model. These PLQ grades, which are well below the cut-off of the deposit, are listed in Table 14-10.

Table 14-7: Yandera Copper Composite Statistics by CUDOM, SDOM, and LITH

Estimation Domain (1)	Structural Domain	Lithology Domain	No. Intervals	Minimum (Cu %)	Maximum (Cu %)	Mean (Cu %)	Co. of Variation
112	1	1 & 2	791	0.005	2.042	0.250	0.76
134	1	3 & 4	163	0.017	1.708	0.274	0.87
212	2	1 & 2	1,554	0.000	3.000	0.316	0.97
234	2	3 & 4	393	0.022	2.413	0.368	0.90
341	3 & 4	1	1,709	0.007	1.463	0.310	0.69
342	3 & 4	2	2,656	0.000	3.000	0.321	0.88
343	3 & 4	3	3,481	0.021	2.500	0.364	0.79
344	3 & 4	4	3,557	0.006	3.200	0.409	0.72
512	5	1 & 2	1,859	0.006	1.940	0.251	0.73
534	5	3 & 4	2,090	0.006	2.812	0.398	0.88

(1) Combination of SDOM and LITH codes where AUDOM = 1 in the Block Model. Stored to INTDM item in Model. Source: SRK 2016

Table 14-8: Yandera Molybdenum Composite Statistics by MODOM, SDOM, and LITH

Estimation Domain <sup>(1)</sup>	Structural Domain	Lithology Domain	No. Intervals	Minimum (Mo %)	Maximum (Mo %)	Mean (Mo %)	Co. of Variation
112	1	1 & 2	921	0.000	0.145	0.007	1.59
134	1	3 & 4	122	0.000	0.132	0.008	1.94
212	2	1 & 2	2,030	0.000	0.174	0.008	1.76
234	2	3 & 4	450	0.000	0.124	0.009	1.55
341	3 & 4	1	2,085	0.000	0.222	0.010	1.69
342	3 & 4	2	3,323	0.000	0.267	0.011	1.65
343	3 & 4	3	3,990	0.000	0.290	0.011	1.71
344	3 & 4	4	3,646	0.000	0.522	0.016	1.72
512	5	1 & 2	2,156	0.000	0.300	0.006	1.64
534	5	3 & 4	1,845	0.000	0.700	0.021	2.72

<sup>(1)</sup> Combination of SDOM and LITH codes where MODOM = 1 in the Block Model. Not stored to model. Source: SRK 2016

Table 14-9: Yandera Gold Composite Statistics by AUDOM, SDOM, and LITH

Estimation Domain <sup>(1)</sup>	Structural Domain	Lithology Domain	No. Intervals	Minimum (Au %)	Maximum (Au %)	Mean (Au %)	Co. of Variation
112	1	1 & 2	1,219	0.001	1.788	0.082	1.50
134	1	3 & 4	221	0.005	0.815	0.082	1.16
212	2	1 & 2	2,252	0.000	1.226	0.065	1.47
234	2	3 & 4	494	0.001	0.560	0.070	1.05
341	3 & 4	1	1,814	0.000	1.505	0.077	1.30
342	3 & 4	2	3,832	0.000	2.752	0.109	1.69
343	3 & 4	3	4,371	0.000	1.564	0.098	1.31
344	3 & 4	4	3,657	0.000	1.139	0.105	1.17
512	5	1 & 2	1,176	0.000	1.476	0.056	2.27
534	5	3 & 4	1,246	0.001	1.240	0.082	1.51

<sup>(1)</sup> Combination of SDOM and LITH codes where AUDOM = 1 in the Block Model. Not Stored to model Source: SRK 2016

Table 14-10: Average Yandera PLQ Grades (rounded to reflect accuracy)

Item	Units	Grades
PLQ Cu OK Grade	(%)	0.062
PLQ Mo OK Grade	(%)	0.010
PLQ Au OK Grade	(ppm)	0.001

## 14.11 Variogram Analysis and Modeling

Variography was carried out on the 5 m composites by interpolation domain. To facilitate this work SRK used the MineSight® Data Analysis tool kit to develop a series of correlograms, (semi-variograms where the sill has been normalized to 1.0), for each mineral domain.

Before developing the 3D correlograms for each mineral domain, the nugget effect was determined by calculating a downhole variogram. The nugget value was then applied to the variogram models.

The variogram for each interpolation domain was controlled fundamentally by a geologic interpretation (lithology, structure, alteration) of that domain. From that original starting orientation, variograms were then adjusted slightly by changing the search directions by a few degrees around each axis to investigate if the initial directions could be improved. Once this work was completed a final set of directions and search ranges were chosen. The downhole, major, semi-major, and minor direction correlograms for the Breccia Lithology, within the Gremi-Imbruminda Structural Domain are provided as an example in Figure 14-5 through Figure 14-8.

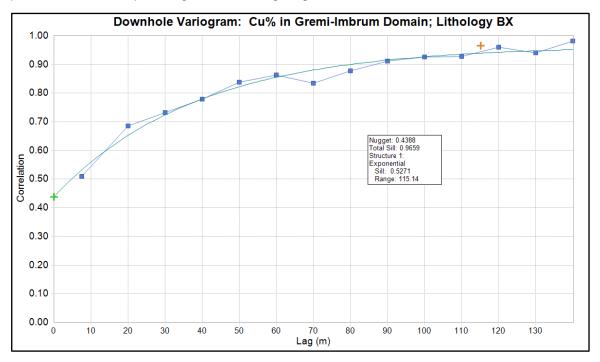


Figure 14-5: Copper Downhole Correlogram – Gremi-Imbrum: BX Lithology

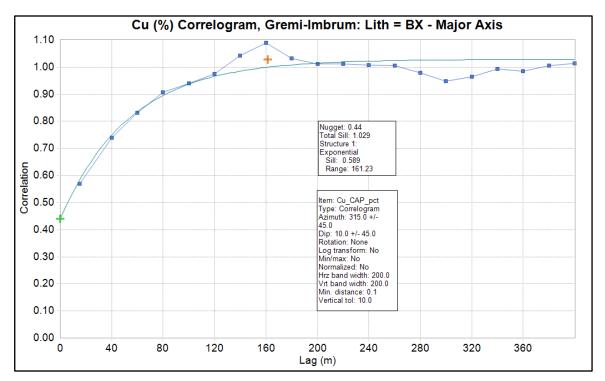


Figure 14-6: Copper Correlogram - Major Axis - Gremi-Imbrum: BX Lithology

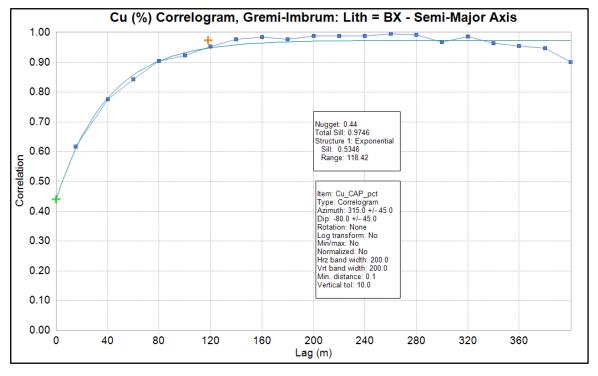


Figure 14-7: Copper Correlogram - Semi Major Axis - Gremi-Imbrum: BX Lithology

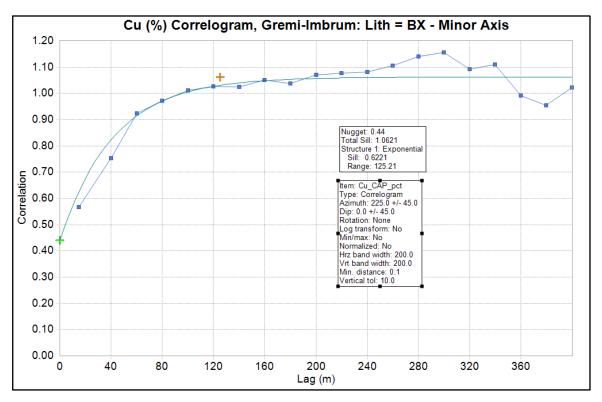


Figure 14-8: Copper Correlogram - Minor Axis - Gremi-Imbrum: BX Lithology

The variogram parameters for the copper, molybdenum, and gold interpolation domains are provided in Table 14-10, Table 14-11, and Table 14-12, respectively.

Table 14-10: Copper Variogram Parameters by Cu Interpolation Domain

Copper Interpolation Domain	North	North	Dimbi	Dimbi	Grem- Imbrum	Grem- Imbrum	Grem- Imbrum	Grem- Imbrum	Omora	Omora
Lithology	HGR + POD	BX + PDA	HGR + POD	BX + PDA	HGR	POD	PDA	вх	HGR + POD	BX + PDA
Major Axis Range (m)	190	150	180	120	120	120	100	160	80	230
Semi Major Axis Range (m)	155	160	190	60	100	120	90	120	100	100
Minor Axis Range (m)	105	105	60	60	120	75	100	125	100	130
Major Axis Rotation (deg)	345	355	122	132	305	310	310	315	315	155
Semi Major Axis Rotation (deg)	-5	-15	-15	-15	-20	-20	20	10	10	-60
Minor Axis Rotation (deg)	90	90	-75	-80	90	90	90	90	90	-80
Nugget Effect	0.36	0.25	0.5	0.45	0.45	0.31	0.36	0.44	0.33	0.33

Table 14-11: Molybdenum Variogram Parameters by Mo Interpolation Domain

Molybdenum Interpolation Domain	North	North	Dimbi	Dimbi	Grem- Imbrum	Grem- Imbrum	Grem- Imbrum	Grem- Imbrum	Omora	Omora
Lithology	HGR + POD	BX + PDA	HGR + POD	BX + PDA	HGR	POD	PDA	вх	HGR + POD	BX + PDA
Major Axis Range (m)	150	150	100	100	175	175	180	180	120	120
Semi Major Axis Range (m)	155	155	120	120	130	130	180	180	100	100
Minor Axis Range (m)	70	70	120	120	140	140	100	100	60	60
Major Axis Rotation (deg)	355	355	330	330	300	300	330	330	155	155
Semi Major Axis Rotation (deg)	-15	-15	30	30	-20	-20	30	30	-80	-80
Minor Axis Rotation (deg)	90	90	90	90	90	90	90	90	90	90
Nugget Effect	0.55	0.55	0.48	0.48	0.55	0.55	0.6	0.6	0.35	0.35

Table 14-12: Gold Variogram Parameters by Au Interpolation Domain

Gold Interpolation Domain	North	North	Dimbi	Dimbi	Grem- Imbrum	Grem- Imbrum	Grem- Imbrum	Grem- Imbrum	Omora	Omora
Lithology	HGR + POD	BX + PDA	HGR + POD	BX + PDA	HGR	POD	PDA	вх	HGR + POD	BX + PDA
Major Axis Range (m)	165	300	190	50	170	170	170	170	165	165
Semi Major Axis Range (m)	100	80	130	70	170	170	130	130	30	30
Minor Axis Range (m)	40	180	85	90	100	100	110	110	90	90
Major Axis Rotation (deg)	355	335	125	125	330	330	320	320	155	155
Semi Major Axis Rotation (deg)	30	30	-15	-10	-25	-25	20	20	-80	-80
Minor Axis Rotation (deg)	90	90	90	90	90	90	90	90	90	90
Nugget Effect	0.45	0.3	0.5	0.3	0.4	0.4	0.5	0.5	0.45	0.45

Source: SRK, 2016

As a reference, Figure 14-9 has been included to show the copper variogram search ellipses defined in Table 14-12 relative to their corresponding lithology groupings.

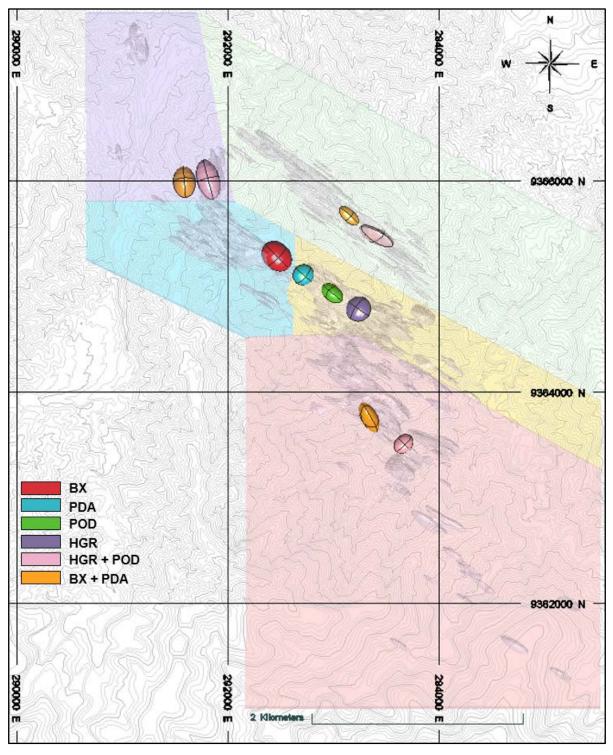


Figure 14-9: Copper Search Ellipses Relative to Lithology Groupings

### 14.12 Grade Estimation

Copper, molybdenum, and gold grades were estimated using a three pass OK method within each estimation domain. Grade estimation was repeated using polygonal methods (nearest neighbor - NN) to facilitate model validation. The SRK polygonal method used one composite to estimate each block and applied anisotropy that approximated the directional distance weighting used in the OK estimate.

The first pass was limited to data very close to the composites at approximately one half of the variogram range and required at least four composites from a minimum of two holes. This distance factor was adjusted until the SRK QP was satisfied that the blocks estimated in the first pass represented an appropriate volume given the density of the source data. This short first pass ensures that blocks close to composite data have grades consistent with the composite data.

The second interpolation pass was limited to data within the full variogram range and required at least three composites from two drillholes. This distance factor was adjusted until the estimated blocks filled a volume appropriate given the density of the source data.

The third pass was given a large search radius and a minimum of one composite from one drillhole to ensure that all blocks within the interpolation domain were estimated.

The key interpolation parameters for the copper OK estimate are shown in Table 14-3.

Table 14-13: Ordinary Kriging Interpolation Parameters for the Yandera Copper Estimation

Interpolation Domain		112			134			212			234			341			342			343			344			512			534	
Interpolation Pass	Short	Medium	Long																											
Search Parameters																														i
Rotation - Major	345	345	345	355	355	355	122	122	122	132	132	132	305	305	305	310	310	310	310	310	310	315	315	315	315	315	315	155	155	155
Rotation - Semi Major	-5	-5	-5	-15	-15	-15	-15	-15	-15	-15	-15	-15	-20	-20	-20	-20	-20	-20	20	20	20	10	10	10	10	10	10	-60	-60	-60
Rotation - Minor	90	90	90	90	90	90	-75	-75	-75	-80	-80	-80	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	-80	-80	-80
Search Range Factor	1.00	1.00	5.00	0.50	1.00	5.00	0.75	1.00	5.00	0.50	1.00	5.00	0.50	1.00	5.00	0.50	1.00	5.00	0.50	1.00	5.00	0.75	1.00	5.00	0.50	1.00	5.00	0.75	1.00	5.00
Ellipse Major Search Range	190	190	950	75	150	750	135	180	900	60	120	600	60	120	600	60	120	600	50	100	500	120	160	800	40	80	400	173	230	1150
Ellipse Semi-Major Search Range	155	155	775	80	160	800	143	190	950	30	60	300	50	100	500	60	120	600	45	90	450	90	120	600	50	100	500	75	100	500
Ellipse Minor Search Range	105	105	525	53	105	525	45	60	300	30	60	300	60	120	600	38	75	375	50	100	500	94	125	625	50	100	500	98	130	650
Min No. Comps to Estimate	4	3	1	4	3	1	4	3	1	4	3	1	4	3	1	4	3	1	4	3	1	4	3	1	4	3	1	4	3	1
Max No. Comps to Estimate	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Max No. Comps per Hole	3	2	2	3	2	2	3	2	2	3	2	2	3	2	2	3	2	2	3	2	2	3	2	2	3	2	2	3	2	2
Split Octant Declustering																														
Max# Composites per Oct/Quad	3	3	2	3	3	2	3	3	2	3	3	2	3	3	2	3	3	2	3	3	2	3	3	2	3	3	2	3	3	2
Max# Adjacent Empty Oct/Quad	8	10	15	8	10	15	8	10	15	8	10	15	8	10	15	8	10	15	8	10	15	8	10	15	8	10	15	8	10	15
Correlogram Parameters																														
Correlogram Range - Major	190	190	190	150	150	150	180	180	180	120	120	120	120	120	120	120	120	120	100	100	100	160	160	160	80	80	80	230	230	230
Correlogram Range - Semi Major	155	155	155	160	160	160	190	190	190	60	60	60	100	100	100	120	120	120	90	90	90	120	120	120	100	100	100	100	100	100
Correlogram Range Minor	105	105	105	105	105	105	60	60	60	60	60	60	120	120	120	75	75	75	100	100	100	125	125	125	100	100	100	130	130	130
Correlogram Model Type	Exp	Ехр	Exp	Exp	Exp	Exp	Exp	Ехр	Exp	Exp	Exp	Exp	Exp	Ехр	Exp	Exp	Ехр	Exp	Exp	Exp	Exp	Exp	Exp	Exp	Exp	Ехр	Exp	Exp	Exp	Exp
Nugget Effect	0.36	0.36	0.36	0.25	0.25	0.25	0.5	0.5	0.5	0.45	0.45	0.45	0.45	0.45	0.45	0.31	0.31	0.31	0.36	0.36	0.36	0.44	0.44	0.44	0.33	0.33	0.33	0.33	0.33	0.33
Outlier Restrictions																														ĺ
Outlier Cut-off	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999	999
Outlier Distance of Influence	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999	-999

A positive distance of influence means an outlier composite is not used beyond the distance of influence. A negative value means an outlier grade is capped to the CoG beyond the distance of influence. No outliers were used for copper interpolation, but were used for other metals. Source: SRK, 2015

SRK applied outlier restrictions to each interpolation run. These outlier restrictions limit the composites distance of influence above a specified grade and can either make those composites invisible to blocks beyond a certain distance, or cap those values to a lower grade beyond a given distance. These outlier restrictions were adjusted for each run until the resulting grades validated both visually and statistically.

Yandera\_FINAL\_NI43-101\_TRRUpdate\_465300-080\_Rev09\_20170201\_MLM.docx

### 14.13 Density Modeling

Following Era's 2012 exploration drilling program and into the 2016 program, there was a high priority placed on density sampling. This density sampling program increased the original data set from approximately 200 samples to one that now contains 4,932 density measurements. The new sampling is well distributed within the modeled volume of rock and facilitated interpolation of density, rather than a simple assignment by material type.

Due to the relatively low variance, spacing, and quantity of the density samples, SRK conducted variography on all of the density samples to determine appropriate search distances for density interpolation. Once the ranges were determined, SRK used the major controlling structures within each Model Area to develop the rotation angles to be used for interpolation in those domains. Using the variogram parameters listed in Table 14-14 a single pass OK interpolation was completed within each Model Area.

Table 14-14: Density Variogram Parameters by Model Area

Model Area	1. North	2. Dimbi	3. Inbruminda	4. Gremi	5. Omora
Major Axis Rotation	15	127	135	120	90
Semi Major Axis Rotation	-15	-10	-5	-20	-10
Minor Axis Rotation	0	0	0	0	0
Major Search Distance	210	210	210	210	210
Semi Major Axis Range	190	190	190	190	190
Minor Axis Range	60	60	60	60	60
Nugget Effect	0.2	0.2	0.2	0.2	0.2

Source: SRK, 2016

Approximately 87% of the model ore blocks (above and below cut-off) inside the resource pit shape were interpolated from density data measured in drill core. The remaining 13% were assigned based on oxidation material type using the mean values listed in Table 14-15.

Table 14-15: Full Model Summary Statistics for SG by Level of Oxidation

Level of Oxidation	No. Blocks	Minimum	Maximum	Mean
Oxide	51,685	1.74	3.27	2.51
Transition	16,561	1.98	3.47	2.57
Hypogene	361,258	2.03	3.82	2.63
All	429,504	1.74	3.82	2.61

Source: SRK, 2016

### 14.14 Model Validation

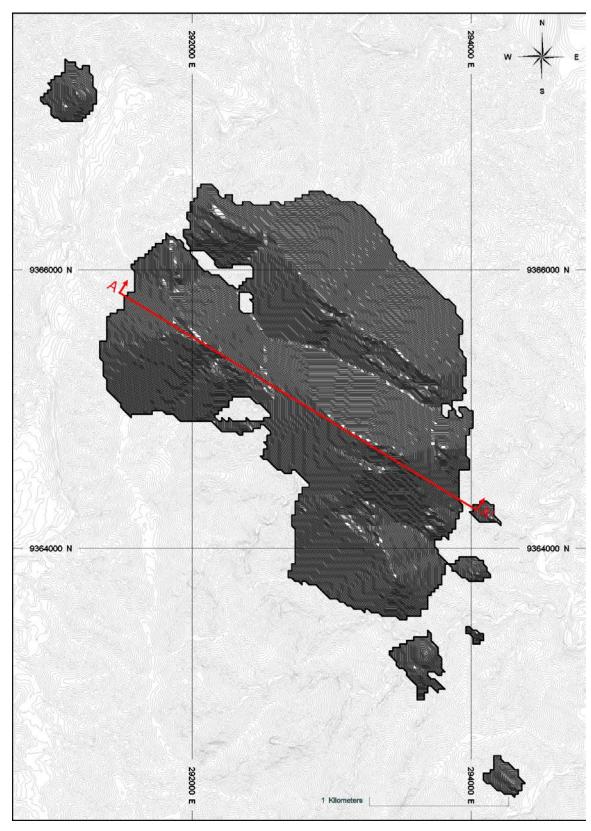
Various measures were implemented to validate the Yandera resource block model. These measures included the following:

- Comparison of drillhole composites with resource block grade estimates from all zones visually in section;
- Statistical comparisons between block and composite data using distribution analyses;
- Statistical comparisons between the OK and NN models; and

• Swath plot analysis (drift analysis) comparing the inverse distance model with the NN model and composite grades.

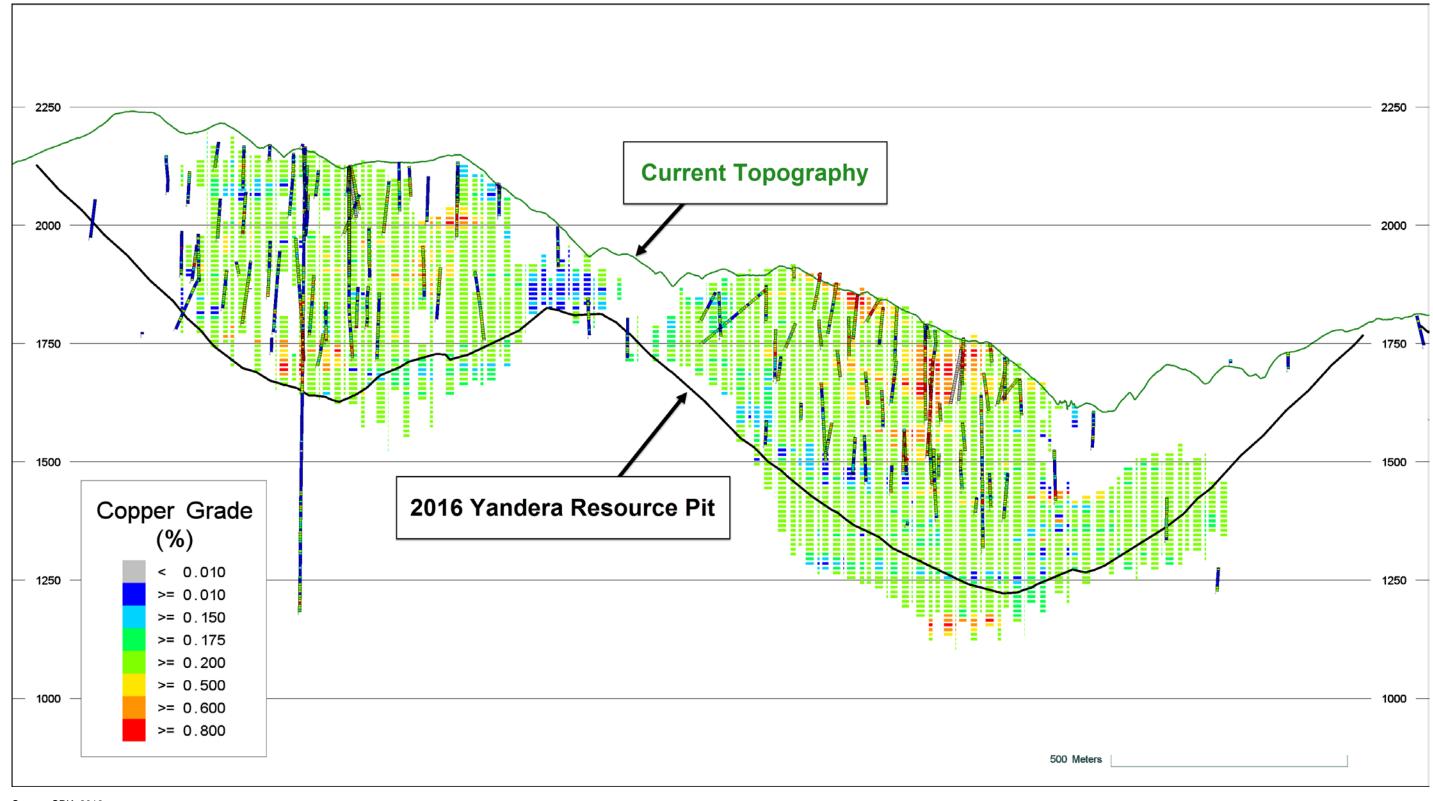
### 14.14.1 Visual Comparison

Visual comparisons between the block grades and underlying composite grades in section show close agreement. A sectional view through both the Gremi and Imbruminda model areas displaying both block and drillhole composite grades is provided in Figure 7-10. Figure 7-11 provides a plan view showing the location of this longitudinal section.



Source: SRK, 2016

Figure 14-10: Visual Grade Validation - Plan View

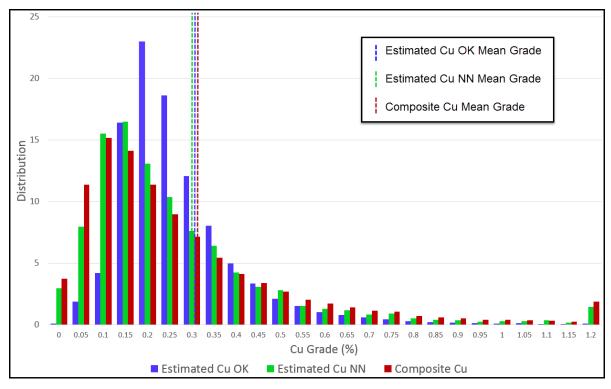


Source: SRK, 2016

Figure 14-11: Visual Grade Validation – Longitudinal Section View

### 14.14.2 Comparative Statistics

SRK conducted statistical comparisons between the OK blocks contained within mineral domains and their underlying composite grades. A histogram comparing block and composite copper grades is provided in Figure 14-12. The comparison shows that the model OK grade distribution for copper is appropriately smoothed towards the mean grades when compared with the underlying composite or NN distributions. The pull of the OK grades away from zero are expected as the grade shell constraining the interpolation was built around 0.15% Cu grades.



Source: SRK, 2016

Figure 14-12: Model Validation - Modeled Cu OK vs. Cu NN vs. Composite Cu CAP

SRK ran additional statistics by interpolation domain for each model element comparing the Cu NN and Cu OK grades. The NN interpolation method provides a declustered representation of the sample grades and therefore, the resulting mean grades of any other method should be similar to the mean grade of the NN estimate at a zero CoG. To ensure that the OK estimate was close to the NN estimate, SRK adjusted the search criteria pass by pass in the interpolation until the estimated OK mean was within acceptable tolerances of the NN mean, approximately +/- 5%. The global mean Copper OK grade was 0.8% more than the NN estimate. For Molybdenum, the global mean OK grade was 3.6% less than the NN estimate. For gold, the global mean OK grade was 1.5% less than the NN estimate.

#### 14.14.3 Swath Plots

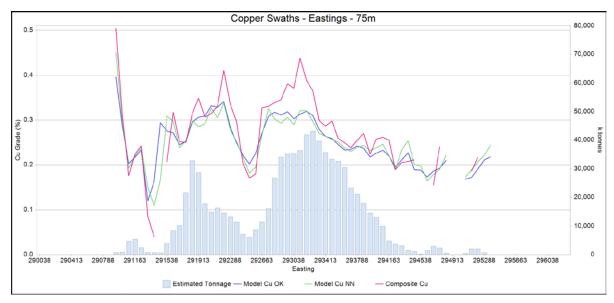
A swath plot is a graphical display of the grade distribution derived from a series of bands, or swaths, generated in several directions through the deposit. Using the swath plot, grade variations from the

OK model are compared to the distribution derived from the NN grade model and source composites.

On a local scale, the NN model does not provide reliable estimations of grade, but on a much larger scale it represents an unbiased estimation of the grade distribution based on the underlying data. Therefore, if the OK model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend of the OK should be similar to the NN distribution of grade.

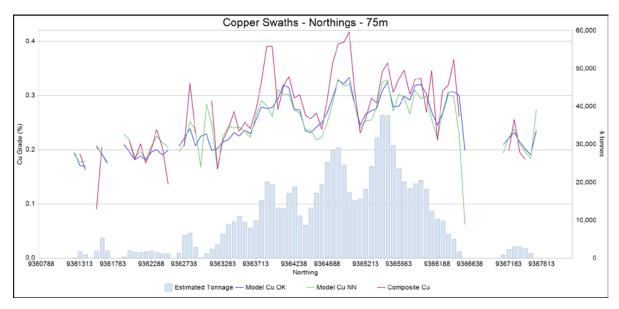
Swath plots were generated for copper, molybdenum, and gold along east-west and north-south directions, and also for elevation. Swath widths were 75, 75, and 20 m wide for east-west, north-south and elevation, respectively. Items plotted include Cu, Mo, and Au grades by OK and NN for all estimated blocks as well as the corresponding capped metal grades in composites. The swath plots for copper are shown in Figure 14-13 through Figure 14-15.

According to the swath plots, there is good correlation between the modeling methods. The degree of smoothing in the NN model is evident in the peaks and valleys shown in some swath plots; however, this comparison shows close agreement between the OK and NN models in terms of overall grade distribution as a function of easting, northing, and elevation; especially where there are high tonnages (vertical bars on the plots). The plots also demonstrate the high degree of variance of the input composites and the model smoothing of the composite grades.



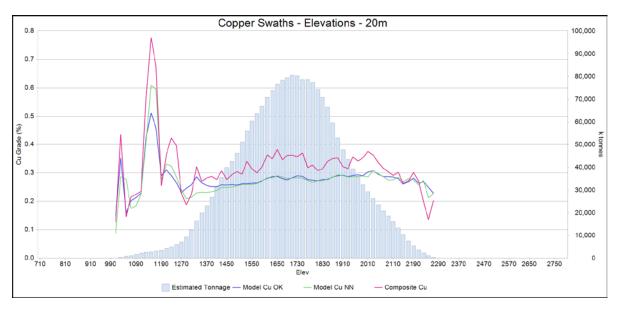
Source: 2016

Figure 14-13: East/West Copper Swath Plot - 75 m



Source: SRK, 2016

Figure 14-14: North/South Copper Swath Plot – 75 m



Source: SRK, 2016

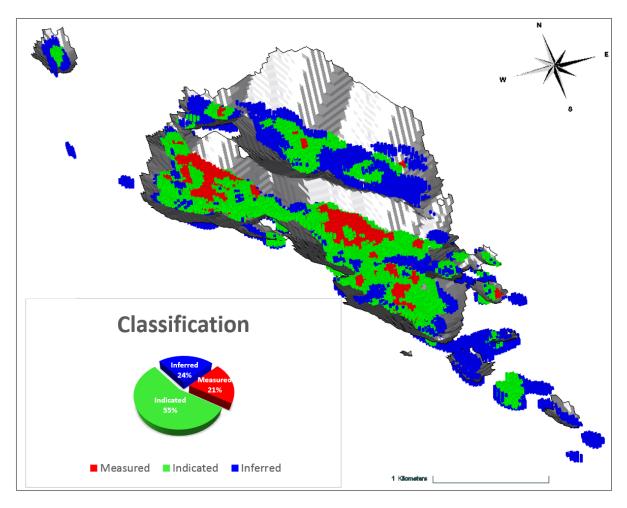
Figure 14-15: Elevation Copper Swath Plot – 20 m – All Domains

### 14.15 Resource Classification

Resources were classified into Measured, Indicated and Inferred categories based on CIM Definition Standards compliant with NI 43-101 reporting. A minimum of three drillholes were required for the assignment of Measured Mineral Resources within a drill data spacing of 50 m. Indicated resources were classified with a minimum of two drillholes but within a drill data spacing of 100 m. Inferred resources represent material estimated by as few as one drillhole at a distance greater than 100 m from source data, but within the copper grade shell and within the potential mining shape.

Classification using a purely statistical approach occasionally produces artifacts, blocks that fail mathematical criteria but are clearly related to adjacent blocks. Therefore, to finalize classification, SRK generated wireframes for Measured and Indicated categories. The wireframes were based on a block's interpolation pass, number of drillholes, and average distance to data; as well as and interpretation of geologic continuity. By building classification wireframes based on a combination of statistics and geology, blocks of contiguous confidence are appropriately categorized and facilitate future mine planning.

An oblique view of model blocks showing the distribution of Measured, Indicated and Inferred categories is provided in Figure 14-16. The high percentage of Measured and Indicated resources compared to Inferred in this model represents a previous drilling bias toward defining reserves rather than developing and expanding resources. Gremi, Omora, and Imbruminda, are densely drilled, resulting in high resource classification in those areas. More inter-deposit drilling and step-out exploration carried out in 2016 produced a higher percentage of Inferred resource in 2016 compared to 2015.



Source: SRK. 2016

Figure 14-16: Yandera Estimated Blocks Colored by Classification Code

### 14.16 Mineral Resource Statement

The Mineral Resource statement for the Yandera deposit is presented in Table 14-16, which includes a separate statement for oxide and sulfide material. To comply with NI 43-101, and satisfy the guideline that reported mineralization have "reasonable prospect for eventual economic extraction," SRK reports Mineral Resources within a Lerchs-Grossmann (LG) optimized pit shape. The optimized pit defining the mineral resource is shown Figure 14-17.

Table 14-16: Mineral Resource Statement for the Yandera Copper, Molybdenum, Gold Deposit, Madang Province, Papua New Guinea [0.15 CuEq (%) Cut-off] SRK Consulting, December 15, 2016

		Mass		Metal	Grades			Cor	ntained Me	etal	
Zone	Classification	(kt)	CuEq (%)	Cu (%)	Mo (%)	Au (ppm)	CuEq (kt)	Cu (kt)	Mo (kt)	Au (kg)	Au (koz)
	Measured	196,496	0.46	0.38	0.01	0.10	895	742	26	18,883	607
	Indicated	532,147	0.36	0.31	0.01	0.06	1,915	1,655	46	30,652	985
Total Resource	Measured & Indicated	728,643	0.39	0.33	0.01	0.10	2,809	2,397	72	49,535	1,593
			T	П	T			1	T	T	
	Inferred	230,643	0.32	0.29	0.00	0.04	738	671	11	8,211	264
	Measured	19,530	0.42	0.37	0.01	0.12	82	72	1	2,320	75
	Indicated	44,216	0.42	0.33	0.01	0.12	159	146	2	2,901	93
Oxide Resource	Measured & Indicated	63,746	0.38	0.34	0.01	0.12	242	219	4	5,221	168
	Inferred	18,597	0.27	0.26	0.00	0.03	51	48	1	601	19
	Measured	176,967	0.46	0.38	0.01	0.09	812	669	25	16,564	533
	Indicated	487,931	0.36	0.31	0.01	0.06	1,756	1,509	44	27,714	891
Non Oxide Resource	Measured & Indicated	664,898	0.39	0.33	0.01	0.10	2,568	2,178	69	44,279	1,424
			T	ı	T			ı	T	ı	T
	Inferred	212,045	0.32	0.29	0.01	0.04	687	623	11	7,591	244

<sup>•</sup> Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that any part of the Mineral Resources estimated will be converted into a Mineral Reserves estimate;

<sup>•</sup> Resources stated as contained within a potentially economically minable open pit; pit optimization was based on assumed copper, molybdenum, and gold prices of US\$3.35/lb, US\$10.00/lb, and US\$1,400.00/oz, respectively; hypogene and transition recoveries of 90% for Cu, 85% for Mo, 65% for Au; oxide recoveries of 60% for Cu, 0% for Mo, 43.3% for Au; a mining cost of US\$2.50/t, an ore processing and G&A cost of US\$7.50/t, and a pit slope of 45 degrees;

<sup>•</sup> Resources are reported using a 0.15 % CoG on an Equivalent Copper value that included process recoveries for metal;

<sup>•</sup> The CuEq was calculated using the formula CuEq = Cu% + (Mo% \* 2.82) + (Au ppm \* 0.44); and,

<sup>•</sup> Numbers in the table have been rounded to reflect the accuracy of the estimate and may not sum due to rounding.

### 14.16.1 Calculation of Cut-off Grade

A breakeven CoG of 0.15% CuEq was applied to report resources. The CoG for the resource was determined using a copper sales price of US\$3.35/lb, copper recovery of 90%, ore and waste mining costs of US\$2.50/t, processing and G&A costs of US\$7.50/t, and a 2% royalty. The calculation for determining the CoG was:

Breakeven CoG = <u>Mining Cost ore + Processing and G&A Costs</u> Cu Price x (Process Recovery – Royalty) x 22.046

#### 14.16.2 Pit Limited Resource

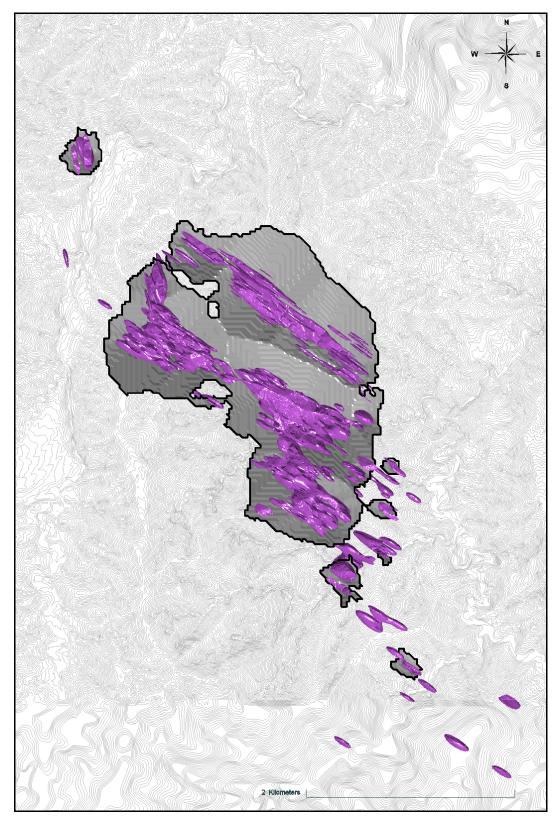
Pit optimization was performed on the Yandera model using MineSight Economic Planner (MSEP). MSEP employs the industry-accepted Lerchs-Grossmann algorithm, which determines the maximum pit extents by optimizing the stripping ratio. Blocks classified as Measured, Indicated, and Inferred were all used to define the resource pit shell. Input criteria for the pit optimization, including prices and recoveries for all metals, are described in the footnotes of the resource statement. It was assumed during pit optimization that molybdenum and gold would not be recovered from oxide material.

### 14.16.3 Calculation of Copper Equivalent

The following metal ratios were used for reporting CuEq in the resource statement:

$$CuEq = Cu\% + (Mo\% * 2.82) + (Au ppm * 0.44)$$

These metal ratios were developed using the metal prices and recovery assumptions listed in the CoG calculation above. Recoveries are based on metallurgical test work carried out by Marengo in 2011.



Source: SRK, 2016

Figure 14-17: Yandera 2016 Resource Pit in Plan with 1500 ppm Copper Interpolation Domains

### 14.17 Mineral Resource Sensitivity

Per industry standards, the Yandera Mineral Resource is reported below at variable cut-offs within the 2016 Resource Pit at incremental CoG's to demonstrate the sensitivity of the resource. These sensitivities are provided for the total resource, oxide resource, and non-oxide resource in Table 14-17.

Table 14-17: Yandera Total MI&I Resource Sensitivity within the 2016 SRK Resource Pit

			M	etal Grad	es		Contained Metal
Resource	CuEq COG (%)	Mass	CuEq	Cu OK	Mo OK	Au OK	CuEq
		(kt)	(%)	(%)	(%)	(%)	(kt)
	0.100	973,288	0.37	0.32	0.009	0.060	3,565
	0.125	969,539	0.37	0.32	0.009	0.060	3,561
	0.150	959,285	0.37	0.32	0.009	0.060	3,546
	0.175	932,451	0.38	0.32	0.009	0.062	3,502
Total	0.200	879,899	0.39	0.33	0.009	0.064	3,403
	0.225	807,308	0.40	0.35	0.010	0.068	3,249
	0.250	718,465	0.42	0.36	0.011	0.073	3,038
	0.275	627,834	0.45	0.38	0.011	0.078	2,800
	0.300	545,234	0.47	0.40	0.012	0.084	2,563
	0.100	83,320	0.35	0.32	0.005	0.070	294
	0.125	83,172	0.35	0.32	0.005	0.070	294
	0.150	82,343	0.36	0.32	0.005	0.071	292
	0.175	78,900	0.36	0.33	0.005	0.073	287
Oxide	0.200	73,431	0.38	0.34	0.006	0.077	276
	0.225	65,688	0.40	0.36	0.006	0.083	260
	0.250	57,792	0.42	0.38	0.006	0.089	241
	0.275	49,057	0.45	0.40	0.007	0.098	218
	0.300	43,086	0.47	0.42	0.007	0.105	201
	0.100	889,969	0.37	0.32	0.009	0.059	3,272
	0.125	886,368	0.37	0.32	0.009	0.059	3,267
	0.150	876,943	0.37	0.32	0.009	0.059	3,254
	0.175	853,551	0.38	0.32	0.009	0.061	3,216
Non Oxide	0.200	806,469	0.39	0.33	0.010	0.063	3,127
	0.225	741,620	0.40	0.35	0.010	0.067	2,989
	0.250	660,673	0.42	0.36	0.011	0.071	2,797
	0.275	578,776	0.45	0.38	0.012	0.077	2,582
	0.300	502,148	0.47	0.40	0.013	0.082	2,362

Source: SRK, 2016

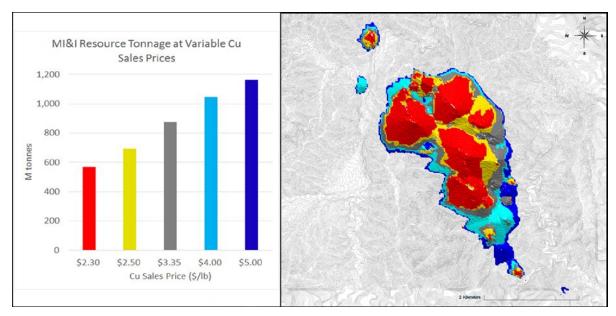
### 14.18Relevant Factors

For this study, SRK did not identify any environmental, permitting, legal, title, taxation, marketing, or other non-technical factors that could affect resources.

#### 14.19 Resource Potential

In addition to the in-pit resource sensitivity, SRK generated a series of pits at varying metal sales prices. Figure 14-18 shows the resulting pits from this work long with the resource tonnages within those pits reported at a CuEq cut-off of 0.15%. The bar graph indicates the number of potential resource tonnes over a range of metal prices. The analysis highlights target areas for further exploration. For example, areas between pits that may contain metal but have not been adequately tested represent immediate drill targets to increase the resource. Similarly, any other prospects that

are contiguous to this pit shape and could potentially share stripping with known mineralization become high priority targets.



Source: SRK, 2016

Figure 14-18: Optimized Pit Price Sensitivity Reported at a CuEq Cut-off of 0.15%

### 15 Mineral Reserve Estimate

Mineral Reserves were not produced as part of this report.

# 16 Mining Methods

Other than conceptual open pit mining as a pit shell to constrain the Mineral Resource, mining methods, designs, schedules, and other mining engineering parameters have not been considered as part of this report.

## 17 Recovery Methods

For the purposes of this report, it was assumed that a mill would be used to process oxide and sulfide material with flotation recovery. No work has been done to quantify the costs and/or fatal flaws with those methods and therefore a discussion on recovery methods is not included in this report.

### 18 Project Infrastructure

Currently the project is helicopter-supported in virtually all aspects. Fuel, materials, equipment, and personnel are flown to camp from 'lay-down' locations accessible by roads from Madang and Lae. These lay-down locations are typically a 20 minute helicopter ride in each direction.

Much of the recent helicopter support has been provided by Heli Nuigini in the form of a Bell 407. There are not sufficiently long flat areas to utilize sizeable fixed-wing aircraft.

There are some government maintained roads to the east of EL 1335, but at present these roads have not been improved or extended sufficiently to the point that materials can be brought into any of the camps on a safe and regular basis.

Locals in the vicinity of the Yandera project sell fresh fruit and vegetables to the camp, but other staples such as rice and meats have to be brought in to camp.

Power for the camp facilities is provided with a diesel-powered generator.

### 19 Market Studies and Contracts

This section is not relevant to the current Yandera Project. No marketing studies or economic analysis have been undertaken for the Project at this stage of development.

# 20 Environmental Studies, Permitting and Social or Community Impact

Environmental studies and permitting requirements are stated in Section 4.4 of this report.

### 20.1 Required Permits and Status

Era currently holds Exploration Licenses (EL) on two tenements. An EL entitles the holder to exclusively explore for minerals for a period of two years, and it also entitles the lease holder the right to apply for a mining lease or special mining lease. Once an Environmental Impact Statement (EIS) has been submitted and a Feasibility Study has been completed, Era will need to apply for a mining lease or special mining lease. At this stage there are a number of permits that are required.

### 20.2 Environmental Study Results

Prior to completion of this report, Era initiated environmental studies to be used for an EIS. Coffey Environments partially completed investigations on archaeology and material culture; aquatic biodiversity; terrestrial vegetation and fauna; land and resource use; water resource use; noise, vibration, and blast overpressure; air quality, greenhouse gas and energy consumption; social impact assessment; sediment characterization and transport; streambed sediment quality; soil characterization and rehabilitation; health and nutrition; nearshore marine characterization survey/Madang Harbour studies; geochemical characterization of waste rock; and geochemical characterization of tailings. Era is still collecting surface water flow and quality data for baseline studies.

# 21 Capital and Operating Costs

This section is not relevant to the current Yandera Project. No economic analysis has been undertaken for the Project.

# 22 Economic Analysis

This section is not relevant to the current Yandera Project. No economic analysis has been undertaken for the Project.

### 23 Adjacent Properties

There has been no exploration of interest in the properties adjacent to the Yandera EL 1335, in which the Yandera Cu-Mo-Au deposit has been modeled. The nearest mining activity is Ramu Nickel, a nickel-laterite operation also located in Madang Province approximately 25 km north of Yandera. There is potential for the Yandera Project to share infrastructure with Ramu Nickel if Yandera advances to mining status.

### 24 Other Relevant Data and Information

There is no other data or information beyond that which has been described herein, which is relevant to this report.

### 25 Interpretation and Conclusions

The estimate of Measured and Indicated Resources for the Yandera deposit in the highlands of PNG is approximately 728 Mt at a grade of 0.39% CuEq, with contributions to the CuEq coming from low-grade Mo and Au. There is an additional 230 Mt at 0.32% CuEq reported as Inferred Resource. The resource is reported within a potentially mineable open pit configuration. The majority of the resource is in sulfide, which recent metallurgical test work demonstrates is recoverable by conventional flotation to produce a concentrate. Of the total resource, approximately 8% of the tonnes reside in oxide, which is expected to have lower recoveries for each of the economic metals. Exploration is ongoing at Yandera, as well as further metallurgical, geotechnical and environmental characterization to advance the project.

There are logistical, environmental and socio-political challenges for constructing and operating a mine in the highlands of PNG; including, steep terrain, high rainfall, poor infrastructure, and private land ownership. However, Era has been active at the site for more than ten years, and building on a more than 25 year exploration presence in the district established by previous operators. Era's exploration team is almost exclusively comprised of PNG nationals and most of the labor and logistical support are locally sourced.

Steep terrain poses both challenges and opportunities for mine development that will be addressed as the project advances. SRK is of the opinion Yandera is a project of merit warranting further study. There are no material technical, environmental or socio-political obstacles to project development.

### 26 Recommendations

### 26.1 Recommended Work Programs

### 26.1.1 Drilling and Data Collection for Advanced Studies

Era has already initiated studies to facilitate project advancement in the areas of road access, mineral processing, tailings management, power and water supply, and social/environmental compliance. The following are specific activities recommended to provide economic inputs for a Prefeasibility Study (PFS). A substantial engineering database already exists for the project following advanced studies in 2011/2012. These data, in conjunction with data collection activities planned for 2017, would facilitate a fast-track to PFS based on the new 2016 mineral resource.

### **Exploration Drilling**

SRK has identified a number of areas within the potential future mining footprint would benefit from additional drilling. These "conversion" targets have potential to improve economics at the next level of study by converting mineralized material to resources or resources to reserves. These targets are described below and illustrated in Figures 26-1 and 26-2.

Two types of conversion drilling are recommended to support a PFS:

 Resource Conversion Drilling: Exploration of contiguous prospects with surface mapping, sampling and drilling that would convert waste to ore and expand the future resource pit shape.

Target Areas include Kauwo (A), and the Tonga/Mumnogi area (B)

- Reserve Conversion Drilling: Target generation and drilling to convert Inferred mineralization to Measured and Indicated Resources and immediately impact project profitability by connecting future pits and improving the strip ratio.
  - o Target Areas include Dimbi (A), South Dimbi (B), and Benbenubu (C)

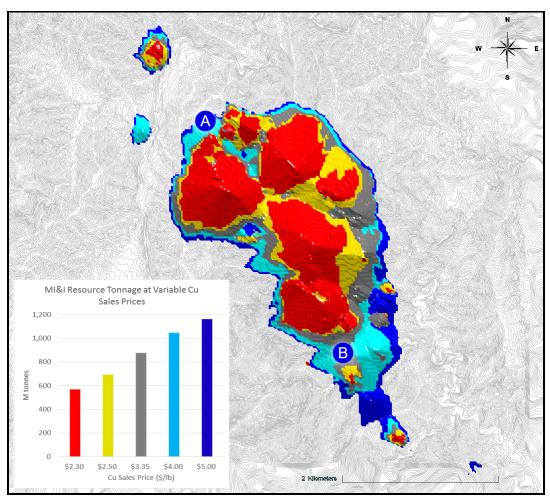
#### **Engineering Drilling**

In addition to resource/reserve conversion, SRK recommends several Engineering drilling campaigns. Details of the engineering drilling requirements were provided to Era in a review of existing engineering studies conducted in early 2016 (SRK, 2016). Engineering drilling encompasses a variety of drilling programs to provide information for PFS-level cost estimation and risk mitigation.

As a priority, engineering drilling should be focused on the Dimbi-Gamagu area. The Imbruminda, Gremi and Omora areas are sufficiently drilled to facilitate PFS-level mine planning and economic evaluation. Pit optimization should be carried out using current and projected Measured and Indicated Resources to guide pit slope geotechnical characterization drilling. In addition to geotechnical drilling previously reported (Mining One, 2013) SRK recommends approximately six holes to 450 m depth of oriented core aimed at specific pit highwall targets.

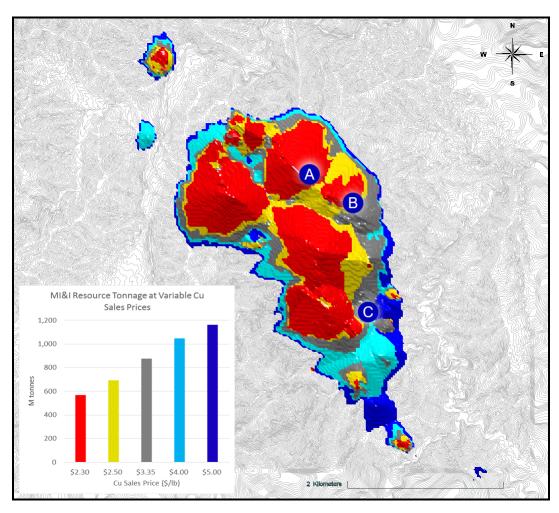
Yandera project development also requires a better understanding of hydrogeological information for pit dewatering. A budget of 1,800 m of drilling has been proposed for this task. The remainder of the

engineering drilling budget is proposed for a combination of metallurgical and short foundation geotechnical drilling to facilitate design of process plant components and other infrastructure.



Source: SRK, 2016

**Figure 26-1: Resource Conversion Drilling Targets** 



Source: SRK, 2015

Figure 26-2: Reserve Conversion Drilling Targets

### 26.1.2 Engineering Trade-Offs and Prefeasibility Study

In parallel with PFS drilling and data collection, SRK recommends PFS-level trade-off studies in the areas of:

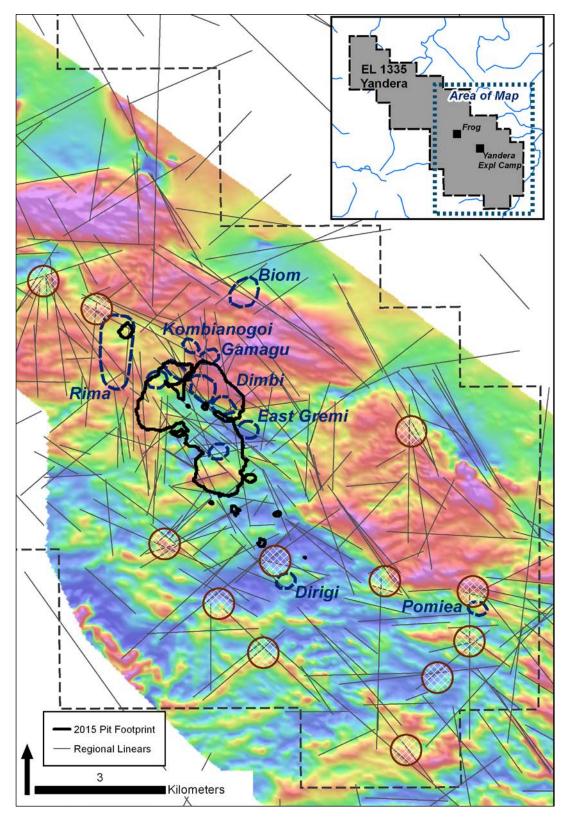
- Mine design (conventional open pit vs. underground or combination, truck vs. conveyor);
- Processing: (milling +/- leaching, highlands vs. lowlands plant siting, etc.);
- Power Supply: (diesel vs. LNG, line power vs. generators, fuel supply options);
- Tailings management: (on land impoundment vs offshore, conventional vs. dry stack);
- Access: (optimized route selection for roads and pipelines);
- Purchase/Offtake: (develop preliminary smelter terms)

At the conclusion of the data collection and trade-off studies, a PFS would be prepared to demonstrate economic potential of the project. The PFS would include an updated resource estimate, augmented by conversion and engineering drilling proposed for 2017.

One of Era's goals for PFS-level deposit characterization should be to develop a geometallurgical model for Yandera, from which predictions can be made regarding metal recovery, throughput, and concentrate grades. Geology is the foundation for this type of model, which includes defining alteration mineral assemblages and copper speciation by rock type, complemented by estimates of hardness, work index, and abrasiveness. Alteration modeling is lacking in the current resource model and should be addressed presently to support PFS-level planning.

### 26.1.3 Resource Expansion and Regional Exploration

Era should continue to carry out work on district exploration prospects to expand the resource. District exploration includes known prospects such as Rima and Frog. In parallel, Era should continue to develop grass-roots exploration prospects through traditional targeting, mapping, sampling and drilling. Identified grass-roots prospects include Pomiea, Biom and Queen Bee. Regional exploration targets are presented in Figure 26-3.



Source: Marengo, 2015

Figure 26-3: Regional Exploration Targets from Airborne Magnetics and Linears

### **26.2 Costs**

Table 26-1 is a breakdown of the anticipated costs for the above recommendations. The schedule to complete the PFS is approximately 18 months. Ongoing district exploration is projected on a two to three year timeline.

Table 26-1: Cost Estimates for Recommended Work Programs

Work Program	Estimated	Assumptions/Comments
Drilling Data Collection for PFS	Cost US\$	
Exploration Drilling: Resource/Reserve Conversion	2,800,000	approx 7,000m (28 holes x 250m)
Engineering Drilling (pit slope, foundation, hydro, metallurgy)	2,565,000	approx.5,700m (20 holes x 275m)
Ongoing District Exploration	250,000	surface mapping, sampling and targeting
Total Data Collection	5,615,000	
Prefeasibility Study		
Resource update (with alteration/geometallurgy)	150,000	specialist contractor/engineer
Conceptual Trade-Off Studies	150,000	specialist contractor/engineer
Prefeasibility Study (Economics and Report)	350,000	specialist contractor/engineer
Total PFS	650,000	
contingency @15%	939,750	
Grand Total	7,204,750	

Source: SRK, 2016

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### 28 Glossary

The Mineral Resources and Mineral Reserves have been classified according to CIM (CIM, 2014). Accordingly, the Resources have been classified as Measured, Indicated or Inferred, the Reserves have been classified as Proven, and Probable based on the Measured and Indicated Resources as defined below.

#### 28.1 Mineral Resources

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.

An **Inferred Mineral Resource** is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

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.

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.

#### 28.2 Mineral Reserves

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.

A **Probable Mineral Reserve** is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

A **Proven Mineral Reserve** is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

### 28.3 Definition of Terms

The following general mining terms may be used in this report.

**Table 28-1: Definition of Terms** 

Term	Definition
Assay	The chemical analysis of mineral samples to determine the metal content.
Capital Expenditure	All other expenditures not classified as operating costs.
Composite	Combining more than one sample result to give an average result over a larger
	distance.
Concentrate	A metal-rich product resulting from a mineral enrichment process such as gravity
	concentration or flotation, in which most of the desired mineral has been separated
	from the waste material in the ore.
Crushing	Initial process of reducing ore particle size to render it more amenable for further
0 : "0 ! (0 0)	processing.
Cut-off Grade (CoG)	The grade of mineralized rock, which determines as to whether or not it is economic
	to recover its gold content by further concentration.
Dilution	Waste, which is unavoidably mined with ore.
Dip	Angle of inclination of a geological feature/rock from the horizontal.
Fault	The surface of a fracture along which movement has occurred.
Footwall	The underlying side of an orebody or stope.
Gangue	Non-valuable components of the ore.
Grade	The measure of concentration of gold within mineralized rock.
Hangingwall	The overlying side of an orebody or slope.
Haulage	A horizontal underground excavation which is used to transport mined ore.
Hydrocyclone	A process whereby material is graded according to size by exploiting centrifugal
	forces of particulate materials.
Igneous	Primary crystalline rock formed by the solidification of magma.
Kriging	An interpolation method of assigning values from samples to blocks that minimizes
	the estimation error.
Level	Horizontal tunnel the primary purpose is the transportation of personnel and
	materials.
Lithological	Geological description pertaining to different rock types.
LoM Plans	Life-of-Mine plans.
LRP	Long Range Plan.
Material Properties	Mine properties.
Milling	A general term used to describe the process in which the ore is crushed and ground
	and subjected to physical or chemical treatment to extract the valuable metals to a
	concentrate or finished product.
Mineral/Mining Lease	A lease area for which mineral rights are held.
Mining Assets	The Material Properties and Significant Exploration Properties.
Ongoing Capital	Capital estimates of a routine nature, which is necessary for sustaining operations.
Ore Reserve	See Mineral Reserve.
Pillar	Rock left behind to help support the excavations in an underground mine.

Term	Definition
RoM	Run-of-Mine.
Sedimentary	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks.
Shaft	An opening cut downwards from the surface for transporting personnel, equipment, supplies, ore and waste.
Sill	A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the injection of magma into planar zones of weakness.
Smelting	A high temperature pyrometallurgical operation conducted in a furnace, in which the valuable metal is collected to a molten matte or doré phase and separated from the gangue components that accumulate in a less dense molten slag phase.
Stope	Underground void created by mining.
Stratigraphy	The study of stratified rocks in terms of time and space.
Strike	Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction.
Sulfide	A sulfur bearing mineral.
Tailings	Finely ground waste rock from which valuable minerals or metals have been extracted.
Thickening	The process of concentrating solid particles in suspension.
Total Expenditure	All expenditures including those of an operating and capital nature.
Variogram	A statistical representation of the characteristics (usually grade).

### 28.4 Abbreviations

The following abbreviations may be used in this report.

**Table 28-2: Abbreviations** 

Abbreviation	Unit or Term
A	ampere
AA	atomic absorption
A/m <sup>2</sup>	amperes per square meter
ANFO	ammonium nitrate fuel oil
Ag	silver
Au	gold
AuEq	gold equivalent grade
°C	degrees Centigrade
CCD	counter-current decantation
CIL	carbon-in-leach
CoG	cut-off grade
cm	centimeter
cm <sup>2</sup>	square centimeter
cm <sup>3</sup>	cubic centimeter
cfm	cubic feet per minute
ConfC	confidence code
CRec	core recovery
CSS	closed-side setting
CTW	calculated true width
0	degree (degrees)
dia.	diameter
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
FA	fire assay
ft	foot (feet)
ft <sup>2</sup>	square foot (feet)
ft <sup>3</sup>	cubic foot (feet)
g	gram
gal	gallon

Abbreviation	Unit or Term
g/L	gram per liter
g-mol	gram-mole
gpm	gallons per minute
g/t	grams per tonne
ha	hectares
HDPE	Height Density Polyethylene
hp	horsepower
HTW	horizontal true width
ICP	induced couple plasma
ID2	inverse-distance squared
ID3	inverse-distance cubed
IFC	International Finance Corporation
ILS	Intermediate Leach Solution
kA	kiloamperes
kg	kilograms
km	kilometer
km <sup>2</sup>	square kilometer
koz	thousand troy ounce
kt	thousand tonnes
kt/d	thousand tonnes per day
kt/y	thousand tonnes per year
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
kWh/t	kilowatt-hour per metric tonne
L	liter
L/sec	liters per second
L/sec/m	liters per second per meter
lb	pound
LHD	Long-Haul Dump truck
LLDDP	Linear Low Density Polyethylene Plastic
LOI	Loss On Ignition
LoM	Life-of-Mine
m	meter
m <sup>2</sup>	square meter
	cubic meter
masl MARN	meters above sea level
MDA	Ministry of the Environment and Natural Resources  Mine Development Associates
	milligrams/liter
mg/L	millimeter
mm mm <sup>2</sup>	square millimeter
mm <sup>3</sup>	cubic millimeter
MME	Mine & Mill Engineering
Moz	million troy ounces
Mt	million tonnes
MTW	measured true width
MW	million watts
m.y.	million years
NGO	non-governmental organization
NI 43-101	Canadian National Instrument 43-101
OSC	Ontario Securities Commission
OZ	troy ounce
%	percent
PLC	Programmable Logic Controller
PLS	Pregnant Leach Solution
PMF	probable maximum flood
ppb	parts per billion
ppm	parts per million

Abbreviation	Unit or Term	
QA/QC	Quality Assurance/Quality Control	
RC	rotary circulation drilling	
RoM	Run-of-Mine	
RQD	Rock Quality Description	
SEC	U.S. Securities & Exchange Commission	
sec	second	
SG	specific gravity	
SPT	standard penetration testing	
st	short ton (2,000 pounds)	
t	tonne (metric ton) (2,204.6 pounds)	
t/h	tonnes per hour	
t/d	tonnes per day	
t/y	tonnes per year	
TSF	tailings storage facility	
TSP	total suspended particulates	
μm	micron or microns	
V	volts	
VFD	variable frequency drive	
W	watt	
XRD	x-ray diffraction	
У	year	

# **Appendices**

**Appendix A: Certificates of Qualified Persons** 



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#### **CERTIFICATE OF QUALIFIED PERSON**

- I, J.B. Pennington, M.Sc., C.P.G.do hereby certify that:
- 1. I am Principal Mining Geologist of SRK Consulting (U.S.), Inc., 5250 Neil Road, Suite 300, Reno, Nevada 89502.
- 2. This certificate applies to the technical report titled, "NI 43-101 Technical Report, Updated Resource Estimate, Yandera Copper Project, Papua New Guinea" with an Effective Date of December 15, 2016 (the "Technical Report").
- 3. I graduated with a Bachelor of Science Degree in Geology from Tulane University, New Orleans, La. in 1985. In addition, I have obtained a Master of Science Degree in Geology from Tulane University, New Orleans, La., USA; 1987. I am a Certified Professional Geologist through membership in the American Institute of Professional Geologists, C.P.G. #11245. I have been employed as a geologist in the mining and mineral exploration business, continuously, for the past 30 years, since my undergraduate graduation from university. My relevant experience includes
  - Project Geologist, Archaen gold exploration with Freeport-McMoRan Australia Ltd. Perth Australia, 1987-1989;
  - Exploration Geologist, polymetallic regional exploration, Freeport-McMoRan Inc; Papua, Indonesia, 1990-1994;
  - Chief Mine Geologist, mine geology and resource estimation, Grasberg Cu-Au Deposit, Freeport-McMoRan Inc, Papua, Indonesia 1995-1998;
  - Corporate Strategic Planning: Geology and Resources, Freeport-McMoRan Inc., New Orleans, LA., 1999:
  - Independent Consultant: Geology, Steamboat Springs, CO., 2000;
  - Senior Geologist, environmental geology and mine closure, MWH Consulting, Inc., Steamboat Springs, CO., 2000-2003;
  - Principal Mining Geologist, precious and base metal exploration, resource modeling, and mine development, SRK Consulting (U.S.), Inc., 2004 to present;
  - Experience in the above positions working with, reviewing and conducting resource estimation and feasibility studies in concert with mining and process engineers; and
  - As a consultant, I have participated in the preparation of NI 43-101 Technical reports from 2006-2015.
- 4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) 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 fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- 5. I visited the Yandera property on November 10 to 14, 2015.
- 6. I am responsible for background, geology, exploration, and environmental Sections 2, 3, 4 through 9, 20, 27, and 28, and co-authorship of resource geology and modeling Section 14, and portions of Sections 1, 25, and 26 summarized therefrom, of this Technical Report.
- 7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
- 8. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement was in the preparation of the report titled, "NI 43-101 Technical Report, Updated Resource Estimate, Yandera Copper Project, Papua New Guinea" with an Effective Date of May 1, 2015.

U.S. Office:	s:	Canadian C	Offices:	Group Offices:
Anchorage	907.677.3520	Saskatoon	306.955.4778	Africa
Denver	303.985.1333	Sudbury	705.682.3270	Asia
Elko	775.753.4151	Toronto	416.601.1445	Australia
Fort Collins	970.407.8302	Vancouver	604.681.4196	Europe
Reno	775.828.6800	Yellowknife	867.873.8670	North America
Tucson	520.544.3688			South America

SRK Consulting (U.S.), Inc.

9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.

10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 1s	<sup>t</sup> Day of February,	2017.
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"Signed and Sealed"

J.B. Pennington, M.Sc., C.P.G.



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#### CERTIFICATE OF QUALIFIED PERSON

- I, Brooke J. Miller M.Sc., C.P.G.do hereby certify that:
- 1. I am a Senior Consultant of SRK Consulting (U.S.), Inc., 5250 Neil Road, Suite 300, Reno, Nevada 89502.
- 2. This certificate applies to the technical report titled, "NI 43-101 Technical Report, Updated Resource Estimate, Yandera Copper Project, Papua New Guinea" with an Effective Date of December 15, 2016 (the "Technical Report").
- 3. I graduated with a Bachelor of Arts degree in Geology from Lawrence University in 2002. In addition, I have obtained a Master of Science degree in Geological Sciences from The University of Oregon in 2004. I am a Certified Professional Geologist of the American Institute of Professional Geologists (AIPG). I have worked as a Geologist for over ten years since my graduation from university. My relevant experience includes mapping, drill core logging, and sampling at copper-moly porphyry deposits in exploration and development stages.
- 4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) 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 fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- 5. I have not visited the Yandera property.
- 6. I am responsible for drilling, data validation and verification Sections 10 through 12, and portions of Sections 1, 25 and 26 summarized therefrom, of this Technical Report.
- 7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
- I have had prior involvement with the property that is the subject of the Technical Report. The nature of
  my prior involvement was in the preparation of the report titled, "NI 43-101 Technical Report, Updated
  Resource Estimate, Yandera Copper Project, Papua New Guinea" with an Effective Date of May 1, 2015.
- 9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
- 10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 1 <sup>st</sup> Day of February, 2017.	
"Signed and Sealed"	
Brooke J. Miller, M.Sc., C.P.G. 11668	_



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#### CERTIFICATE OF QUALIFIED PERSON

I, Justin Smith, B.Sc., P.E., SME-RM, do hereby certify that:

- 1. I am Mining Engineer of SRK Consulting (U.S.), Inc., 5250 Neil Road, Suite 300, Reno, Nevada 89502.
- 2. This certificate applies to the technical report titled, "NI 43-101 Technical Report, Updated Resource Estimate, Yandera Copper Project, Papua New Guinea" with an Effective Date of December 15, 2016 (the "Technical Report").
- 3. I graduated with a B.Sc. degree in Mining Engineering from the Colorado School of Mines in 2009. I am a licensed Professional Mining Engineer in the State of Nevada, license # 23214. In addition, I am a Registered Member of the Society for Mining, Metallurgy and Exploration, registered member #4152085RM. I have worked as a Mining Engineer for a total of seven years since my graduation from university. My relevant experience includes assisting with resource modeling and mine planning at several porphyry copper operations in Arizona, Utah, and the Democratic Republic of Congo. Additionally, I have been a contributor to several precious and base metal technical reports in Nevada, Alaska, Arizona, Nebraska, Idaho, Peru, New Zealand, Mexico, Guinea and Guyana.
- 4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) 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 fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- 5. I did not visit the Yandera property.
- 6. I collaborated on resource modeling and co-authored Section 14 of this Technical Report.
- 7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
- 8. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement was in the preparation of the report titled, "NI 43-101 Technical Report, Updated Resource Estimate, Yandera Copper Project, Papua New Guinea" with an Effective Date of May 1, 2015.
- 9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
- 10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 1 <sup>st</sup> Day of February, 2017.	
"Signed and Sealed"	
Justin Smith, B.Sc., P.E., SME-RM	_



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#### CERTIFICATE OF QUALIFIED PERSON

- I, Kent W. Hartley B.Sc. Eng., P.E.do hereby certify that:
- 1. I am Principal Consultant of SRK Consulting (U.S.), Inc., 5250 Neil Road, Suite 300, Reno, Nevada 89502.
- 2. This certificate applies to the technical report titled, "NI 43-101 Technical Report, Updated Resource Estimate, Yandera Copper Project, Papua New Guinea" with an Effective Date of December 15, 2016 (the "Technical Report").
- 3. I graduated with a degree in Mining Engineering from Michigan Technological University in 1979 I am a registered Professional Engineer in Nevada, license number 021612. I have worked as an Engineer for a total of 30+ years since my graduation from university. My relevant experience includes mine planning and project engineering at a number of open pit and underground mines as well as construction management and cost estimating experience.
- 4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) 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 fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- 5. I did not visit the Yandera property.
- 6. I am responsible for non-applicable items and mineral processing and metallurgy Sections 13, 15 through 19, 21 through 24, and portions of Sections 1, 25 and 26 summarized therefrom, of this Technical Report.
- 7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
- I have had prior involvement with the property that is the subject of the Technical Report. The nature of
  my prior involvement was in the preparation of the report titled, "NI 43-101 Technical Report, Updated
  Resource Estimate, Yandera Copper Project, Papua New Guinea" with an Effective Date of May 1, 2015.
- 9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
- 10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 1 <sup>st</sup> Day of February, 2017.	
"Signed and Sealed"	
Kent W. Hartley B.Sc. Eng., P.E.	