



# CNMC Goldmine Holdings Limited Independent Qualified Persons' Report as at 31 December 2019



**J\_2458**

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April 2020

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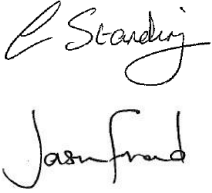
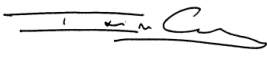

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		Date:	1 April 2020

**Important Information:**

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1 April 2020

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The Board of Directors  
CNMC Goldmine Holdings Limited  
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Dear Sirs

### **INDEPENDENT QUALIFIED PERSONS' REPORT AS AT 31 DECEMBER 2019**

At the request of CNMC Goldmine Holdings Limited (CNMC), Optiro Pty Ltd (Optiro) has prepared an Independent Qualified Persons' Report (IQPR) on the Sokor, Kelgold and CNMC Pulai Projects located in Malaysia. The Report has been prepared by Optiro in accordance with the Singapore Stock Exchange's (SGX) 'Additional Listing Requirements for Mineral, Oil and Gas Companies'. The Mineral Resources at the Sokor Project (Rixen, Manson's Lode, New Discovery, New Found, Ketubong and Sg Amang) and at the Pulai Feldspar Project, and the Ore Reserves at the Sokor Project (Rixen, Manson's Lode, New Discovery, New Found and Ketubong) have been classified and reported using the guidelines of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia, December 2012 (the JORC Code, 2012).

#### **SOKOR PROJECT**

The Sokor Project in Kelantan State, northern Peninsular Malaysia, is currently 81% owned by CNMC, through its subsidiary CMNM Mining Group Sdn. Bhd. (CMNM). CMNM holds the rights to mine and produce gold, silver and base metals from an area of approximately 10 km<sup>2</sup> in the Ulu Sokor area in Kelantan. CNMC has defined four gold deposits in the southern part of the project area (Manson's Lode, New Discovery, New Found and Ketubong), and a fifth gold deposit (Rixen) approximately 3 km to the north of Ketubong. Additional base metal and silver mineralisation is also present at Manson's Lode and at Sg Amang, to the east of Rixen.

At CNMC's request, Optiro Pty Ltd (Optiro) has updated the Mineral Resource estimate for the Sokor Project and has incorporated data from 69 diamond drillholes and 200 underground face samples collected by CNMC during 2019, since CNMC's previous 31 December 2018 Mineral Resource and Ore Reserve Statement. Mineral Resources have been updated for Rixen, Manson's Lode, Ketubong and the combined mineralisation at New Discovery and New Found and a Mineral Resource has been estimated for the base metal mineralisation at Sg Amang. Ore Reserve estimates have been updated for Rixen, New Discovery and Manson's Lode and Ore Reserves have been estimated at New Found and Ketubong. CNMC has mined ore from Rixen, Ketubong, Manson's Lode, New Discovery and New Found during 2019. The Mineral Resources and Ore Reserves at Rixen, Ketubong, Manson's Lode, New Discovery and New Found have been depleted for mining to 31 December 2019.

## **KELGOLD PROJECT**

The Kelgold Project comprises a 100% owned right to explore for gold, iron ore and other minerals over an area of approximately 15.5 km<sup>2</sup>. The concession is located in the state of Kelantan, Malaysia, approximately 30 km northwest of the Sokor mine.

Assessment of the Kelgold Project by CNMC is at an early stage and is currently on-going. CNMC considers that its Kelgold acquisition has significant potential based on the geological information available and offers a strategic synergy due to the proximity to the Group's existing Sokor Project. Optiro notes the presence of historic workings and gold in soil anomalism and considers further follow-up work is warranted.

## **CNMC PULAI**

CNMC holds a 51% interest in CNMC Pulai Mining Sdn. Bhd. (formerly known as Pulai Mining Sdn. Bhd.) (CNMC Pulai) which owns exploration and mining licenses with a combined license area of 38.41 km<sup>2</sup>. The project area is approximately 100 km south of the Sokor mine and 20 km to the southwest of the city of Gua Musang in the State of Kelantan, Malaysia.

The project area has historically been subject to alluvial gold mining operations especially along the Galas River. Feldspar mining has also been occurring and commenced prior to CNMC's involvement. Total alluvial gold production has been in the order of 260 kg and approximately 480,000 tonnes of feldspar has been produced. CNMC considers that geological data collected by previous explorers supports the potential for primary gold mineralisation similar to that discovered at the Sokor Project. Optiro considers that the work to date is encouraging and warrants follow-up.

During 2019, CNMC conducted exploration of the feldspar deposit, including collection and analysis of rock chip samples and the drilling of five diamond core holes for analysis and density measurements. From this data an Inferred Mineral Resource and an Exploration Target have been defined.

## **INDEPENDENT QUALIFIED PERSONS' REPORT**

Optiro has prepared this document in support of CNMC's Annual Report for the year 2019. Optiro is an independent consulting and advisory organisation which provides a range of services related to the minerals industry including, in this case, independent geological Mineral Resource and Ore Reserve estimation services, but also corporate advisory, mining engineering, mine design, scheduling, audit, due diligence and risk assessment assistance. The principal office of Optiro is at 16 Ord Street, West Perth, Western Australia, and Optiro's staff work on a variety of projects in a range of commodities worldwide.

The report has been provided to the Directors of CNMC in relation to reporting of the Mineral Resource and Ore Reserves estimates for the Sokor Project, the Mineral Resource and exploration results for the CNMC Pulai Project and the exploration results for the Kelgold Project as at 31 December 2019 for incorporation into CNMC's Annual Report for the Year 2019; as such, it should not be used or relied upon for any other purpose.

Neither the whole nor any part of this report or any reference thereto may be included in, or with, or attached to any document or used for any purpose without Optiro's written consent as to the form and context in which it appears.

The Mineral Resource estimates were prepared by Mrs Christine Standing and reviewed by Mr Ian Glacken. Mr Glacken, Director of Optiro and Fellow of the Australasian Institute of Mining and Metallurgy, and Mrs Standing, Principal of Optiro and Member of the Australasian Institute of Mining

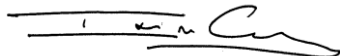
and Metallurgy, fulfil the requirements of Competent Persons as defined in the JORC Code (2012) and accept responsibility for the Qualified Persons' report and the JORC Code (2012) categorisation of the Mineral Resource estimate as tabulated in the form and context in which it appears in this report.

The Ore Reserve Estimate has been compiled by Mr Stephen O'Grady, Associate Consultant at Optiro and a Member of the Australasian Institute of Mining and Metallurgy. Mr O'Grady fulfils the requirement of a Competent Person as defined in the JORC Code 2012 and accepts responsibility for the Qualified Persons' report and the JORC Code 2012 categorisations of the Ore Reserve estimate as tabulated in the form and context in which they appear in this report.

Optiro has relied on the data, reports and information provided by CNMC; Optiro has nevertheless made such enquiries and exercised its judgement as it deems necessary and has found no reason to doubt the reliability of the data, reports and information which have been provided by CNMC.

Yours faithfully

**OPTIRO**



IAN M GLACKEN  
GEOLOGY

Ian Glacken *FAusIMM (CP), FAIG, CEng*  
**Director of Geology and Principal Consultant**



## TABLE OF CONTENTS

<b>1.</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>6</b>
1.1.	INTRODUCTION.....	6
1.2.	SOKOR PROJECT.....	6
1.3.	KELGOLD PROJECT .....	9
1.4.	CNMC PULAI .....	10
<b>2.</b>	<b>INTRODUCTION .....</b>	<b>10</b>
2.1.	TERMS OF REFERENCE.....	10
2.2.	COMPETENT PERSONS .....	13
2.3.	STATEMENT OF INDEPENDENCE .....	15
<b>3.</b>	<b>SOKOR PROJECT .....</b>	<b>15</b>
3.1.	PROJECT LOCATION .....	15
3.2.	PROJECT OWNERSHIP AND STATUS .....	15
3.3.	HISTORY OF THE PROPERTY .....	16
3.3.1.	PRODUCTION STATISTICS .....	17
3.4.	GEOLOGICAL SETTING .....	17
3.4.1.	REGIONAL GEOLOGY .....	17
3.4.2.	LOCAL GEOLOGY.....	17
3.5.	EXPLORATION DATA USED FOR MINERAL RESOURCE ESTIMATION .....	19
3.5.1.	DRILLING.....	19
3.5.2.	SURVEY DATA .....	20
3.5.3.	LOGGING, SAMPLING AND SAMPLE PREPARATION .....	20
3.5.4.	SAMPLE SECURITY .....	21
3.5.5.	ASSAYING.....	21
3.5.6.	QUALITY ASSURANCE/QUALITY CONTROL .....	21
3.5.7.	BULK DENSITY.....	21
3.6.	MINERAL PROCESSING AND METALLURGICAL TESTING .....	22
3.6.1.	PROCESSING .....	22
3.7.	MINING.....	26
3.7.1.	MINING METHODS .....	26
3.7.2.	PIT OPTIMISATION.....	27
3.7.3.	MINE DESIGN.....	33
3.7.4.	MINE SCHEDULE .....	36
3.7.5.	MINING OPERATIONS.....	36
3.8.	MINERAL RESOURCE ESTIMATES AND EXPLORATION RESULTS.....	38
3.8.1.	MINERAL RESOURCE.....	38
3.8.2.	COMPARISON WITH DECEMBER 2018 MINERAL RESOURCE .....	43
3.9.	ORE RESERVE ESTIMATION .....	45
3.9.1.	RIXEN PIT ORE RESERVES.....	45
3.9.2.	MANSON'S LODE PIT ORE RESERVES.....	47
3.9.3.	NEW DISCOVERY AND NEW FOUND PIT ORE RESERVES .....	47
3.9.4.	KETUBONG .....	48
3.10.	STATEMENT OF SOKOR MINERAL RESOURCES AND ORE RESERVES .....	50
3.11.	INFRASTRUCTURE, FACILITIES, ENVIRONMENTAL AND COMMUNITY ISSUES.....	51
3.11.1.	INFRASTRUCTURE .....	51
3.11.2.	MINE SITE FACILITIES.....	51
3.11.3.	ENVIRONMENTAL AND COMMUNITY ISSUES .....	51
3.12.	FINANCIAL ANALYSIS .....	55
3.12.1.	CAPITAL AND OPERATING COSTS .....	55
3.12.2.	OPERATING COSTS.....	55
3.12.3.	ECONOMIC EVALUATION .....	55
3.13.	INTERPRETATION AND COMMENTS.....	56
3.14.	CONCLUSIONS AND RECOMMENDATIONS.....	57
<b>4.</b>	<b>KELGOLD PROJECT .....</b>	<b>58</b>
4.1.	GEOLOGICAL SETTING .....	58
4.2.	EXPLORATION .....	59

<b>5.</b>	<b>CNMC PULAI PROJECT.....</b>	<b>61</b>
<b>5.1.</b>	<b>FELDSPAR.....</b>	<b>62</b>
<b>5.2.</b>	<b>GOLD MINERALISATION .....</b>	<b>64</b>
<b>6.</b>	<b>REFERENCES AND BIBLIOGRAPHY .....</b>	<b>65</b>
<b>7.</b>	<b>GLOSSARY .....</b>	<b>66</b>

## TABLES

Table 1.1	Sokor Project – Mineral Resource statement as at 31 December 2019 (inclusive of Ore Reserves) .....	8
Table 1.2	Combined Sokor Project gold Ore Reserves (Manson's Lode, New Discovery, New Found, Ketubong and Rixen) and exclusive Mineral Resources (at Manson's Lode, New Discovery and New Found, Rixen and Ketubong that are additional to Ore Reserves at Manson's Lode, New Discovery and Rixen) as at 31 December 2019 .....	9
Table 1.3	CNMC Pulai Project – Mineral Resource statement as at 31 December 2019 .....	10
Table 3.1	Sokor Project tenement schedule .....	16
Table 3.2	Sokor production statistics for 2015 to 2019 .....	17
Table 3.3	Optimisation input parameters .....	29
Table 3.4	Mine design parameters.....	33
Table 3.5	Mine design physicals.....	36
Table 3.6	Mining schedule physicals .....	37
Table 3.7	Sokor Project – Gold Mineral Resource statement as at 31 December 2019 (inclusive of material modified to generate Ore Reserves).....	42
Table 3.8	Silver and base metal Mineral Resources at Manson's Lode and Sg Amang as at 31 December 2019 (inclusive of material modified to generate Ore Reserves) .....	43
Table 3.9	Sokor Project – Mineral Resources as at 31 December 2019 (inclusive of Ore Reserves) .....	43
Table 3.10	Sokor Project – gold Mineral Resources at 31 December 2019 (exclusive of material used to generate Ore Reserves) .....	43
Table 3.11	Sokor Project – Mineral Resource as at 31 December 2018 (inclusive of Ore Reserves) .....	44
Table 3.12	Rixen Pit gold Ore Reserves and Mineral Resources (additional to Ore Reserves) as at 31 December 2019 .....	46
Table 3.13	Manson's Lode Pit gold Ore Reserves and Mineral Resources (additional to Ore Reserves) as at 31 December 2019 .....	47
Table 3.14	New Discovery and New Found Pit gold Ore Reserves and Mineral Resources (additional to Ore Reserves) as at 31 December 2019 .....	48
Table 3.15	Ketubong UG gold Ore Reserves and Mineral Resources at Ketubong (additional to Ore Reserves) as at 31 December 2019 .....	50
Table 3.16	Combined Sokor Project gold Ore Reserves (Manson's Lode, New Discovery, Ketubong, and Rixen) and Mineral Resources (at Manson's Lode, New Discovery/New Found, Rixen and Ketubong that are additional to Ore Reserves at Manson's Lode, New Discovery, Ketubong and Rixen) as at 31 December 2019 .....	51
Table 3.17	Mining unit costs and cut-off grade .....	56
Table 3.18	Financial metrics at varying gold prices.....	56
Table 4.1	Trenches and sampling completed in 2019.....	59
Table 4.2	2019 trench sampling significant intercepts .....	61
Table 5.1	Annual Pulai feldspar production .....	62
Table 5.2	Mineral Resource estimate for the Pulai feldspar deposit.....	63
Table 5.3	CNMC Pulai Project – Mineral Resource statement as at 31 December 2019 .....	63

## FIGURES

Figure 2.1	Location of CNMC's project area at Sokor, Kelgold and Pulau .....	12
Figure 2.2	Sokor Project – local geology and deposit location .....	13
Figure 3.1	Sokor CIL flowsheet .....	24
Figure 3.2	Sokor CIL plant and tailings facility – March 2019 .....	25
Figure 3.3	Construction of Sokor flotation plant – October 2019 .....	26
Figure 3.4	Ketubong shaft headframe – October 2019 .....	27
Figure 3.5	Optimisation results - Rixen .....	29
Figure 3.6	Optimisation results – New Discovery .....	30
Figure 3.7	Optimisation results – New Found .....	30
Figure 3.8	Optimisation results - Manson's Lode .....	31
Figure 3.9	Sensitivity results - Rixen .....	31
Figure 3.10	Sensitivity results - New Discovery .....	32
Figure 3.11	Sensitivity results - New Found .....	32
Figure 3.12	Sensitivity results - Manson's Lode .....	33
Figure 3.13	Final pit design – Rixen (north to right) .....	34
Figure 3.14	Final pit design - New Discovery .....	34
Figure 3.15	Final pit design - New Found .....	35
Figure 3.16	Final pit design - Manson's Lode .....	35
Figure 3.17	Rixen - Mineral Resource interpretation as at 2019 (red) and drillholes (prior to 2019 black and 2019 green) .....	38
Figure 3.18	Manson's Lode – gold Mineral Resource interpretation as at 2019 (red) and drillholes (prior to 2019 black and 2019 green) .....	39
Figure 3.19	New Discovery and New Found - Mineral Resource interpretation as at 2019 (red) and drillholes (prior to 2019 black and 2019 green) .....	39
Figure 3.20	Ketubong - Mineral Resource interpretation as at 2019 (red), drillholes (prior to 2019 black and 2019 green) and underground workings (grey) .....	40
Figure 3.21	Sg Amang - Mineral Resource interpretation as at 2019 (red) and drillholes (prior to 2019 black and 2019 green) .....	40
Figure 3.22	UG Ketubong Mineral Resource interpretation as at 2019 ( Indicated – blue; Inferred – green) .....	49
Figure 3.23	UG Ketubong Mineral Resource (above cut-off – red; below cut-off – blue) .....	49
Figure 4.1	Trenching and drilling completed at the Kelgold Project in 2019 .....	60
Figure 5.1	Pulai feldspar deposit - plan of drilling, rock chip sampling and extent of Inferred Mineral Resource and Exploration Target .....	62



## 1. EXECUTIVE SUMMARY

### 1.1. INTRODUCTION

At the request of CNMC Goldmine Holdings Limited (CNMC), Optiro Pty Ltd (Optiro) has prepared an Independent Qualified Persons' Report (IQPR) on the Sokor, Kelgold and CNMC Pulai Projects located in Malaysia. Optiro has prepared this document in support of CNMC's Annual Report for the year 2019. The Report has been prepared by Optiro in accordance with the Singapore Stock Exchange's (SGX) 'Additional Listing Requirements for Mineral, Oil and Gas Companies'.

The objectives of this Report are to provide an overview of the geological setting of CNMC's mineral assets and the associated mineralisation, outline the recent and historic exploration work undertaken over the project areas, report on the Mineral Resources and Ore Reserves defined within the projects and comment on the exploration potential of the projects.

### 1.2. SOKOR PROJECT

The Sokor Project, located in Kelantan State in northern Peninsular Malaysia, is currently owned 81% by CNMC, through its subsidiary, CMNM Mining Group Sdn. Bhd. (CMNM). CMNM holds the rights to mine and produce gold, silver and base metals from an area of approximately 10 km<sup>2</sup> in the Ulu Sokor area in Kelantan. CNMC has defined four deposits in the southern part of the project area (Manson's Lode, New Discovery, New Found and Ketubong) and a fifth deposit (Rixen), approximately 3 km to the north of Ketubong. Base metal and silver mineralisation is also present at Manson's Lode and at Sg Amang, to the east of Rixen.

Optiro visited to the Sokor Project during December 2011, June 2015 and January 2018 to review data for the Mineral Resource estimate, and during October 2012, June 2015, January 2018 and again in April 2018 to review the mining operations for the Ore Reserve estimate. Optiro most recently visited the Sokor Project in October 2019 to review the Sokor Project including underground operations at Ketubong. CNMC provided Optiro with the drillhole logging, assay and survey data for the drilling undertaken during 2019 and updated topographical data and production data for mining undertaken during 2019.

Optiro has been assisting CNMC with collation of the drillhole data, Mineral Resource and Ore Reserve estimates since 2012. Ore has been mined by CNMC at Rixen since 2012, at Manson's Lode and New Discovery from 2012 and 2013 respectively, and at New Found from 2016. During 2019 open pit mining was undertaken at Rixen, New Discovery and New Found, and underground mining development commenced at Ketubong. Optiro has updated the Mineral Resource models at Rixen, Manson's Lode, New Discovery, New Found and Ketubong and has estimated Mineral Resources at the Sg Amang deposit. Optiro has updated the Ore Reserve estimates at Rixen, New Discovery, New Found and Manson's Lode and reported a new Ore Reserve for Ketubong underground. The Mineral Resource and Ore Reserve estimates have been depleted for all mining to 31 December 2019.

The Mineral Resource and Ore Reserve estimates for the Sokor Project have been prepared and classified in accordance with the guidelines of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia, December 2012 (the JORC Code 2012).

### MINERAL RESOURCE ESTIMATE

The gold mineralisation within the Sokor Project is lithologically and structurally controlled and is generally hosted in acid to intermediate volcanic and carbonate-rich rocks. The depth to the base of oxidation varies between deposits, from a shallow depth of less than 3 m at Ketubong to up to 60 m at Rixen. Previous mining of near surface, high grade ore has occurred at Manson's Lode and New Discovery, and the pits have been backfilled with mineralised material of lower grades from these deposits.

At Manson's Lode there is economic grade silver, lead and zinc mineralisation in addition to gold that has been incorporated into the Mineral Resource model. At Rixen, New Discovery, New Found and Ketubong the silver and base metal concentrations are typically low. Exploration by CNMC has focussed on the definition of gold Mineral Resources and Ore Reserves at the Sokor Project; however, results from the drilling at Manson's Lode and Sg Amang also include economic zinc and lead grades.

At Rixen, Manson's Lode, New Discovery and New Found a nominal cut-off grade of 0.15 g/t gold was used to define the mineralisation. At Ketubong, where open pit mining has ceased and underground mining has commenced, a nominal cut-off grade of 0.5 g/t gold was used to define the mineralisation. At Manson's Lode and Sg Amang base metal mineralisation was interpreted above a nominal 2% lead plus zinc (Pb+Zn) cut-off grade.

At New Discovery, New Found and Ketubong two types of mineralisation were interpreted within the bedrock: narrow zones of structurally-controlled mineralisation within the north-south trending Ketubong-Rixen fault zone, and lithologically-controlled mineralisation to the west of the fault zone which overlies the structurally controlled mineralisation. At Manson's Lode and Rixen the bedrock mineralisation has been interpreted to be lithologically controlled within relatively flat zones at Manson's Lode and several east-dipping zones at Rixen. At Sg Amang the base metal mineralisation has been interpreted as narrow zones of structurally-controlled mineralisation.

Block grades were estimated using an ordinary kriging technique with appropriate assay top-cuts applied for each deposit and style of mineralisation. The mineralisation has been classified as Measured, Indicated and Inferred in accordance with the guidelines of the JORC Code (2012). Bulk density values for each deposit and material type were calculated using measurements from 369 sections of diamond drill core and measurements of alluvial and backfilled material from 41 test pits.

Mining at Rixen during 2019 extracted 2,886.9 kt of ore for the production of 10,485 ounces of gold via heap leach extraction, which was ongoing as at 31 December 2019. Mining at New Found, New Discovery and Manson's Lode during 2019 extracted 155.6 kt of ore for the production of 1,889 ounces of gold via vat leach extraction, which was ongoing as at 31 December 2019. Mining at New Discovery and Ketubong extracted 195.4 kt of ore for the production of 15,763 ounces of gold via a Carbon in Leach (CIL) extraction.

## MINERAL RESOURCE AND ORE RESERVE TABULATION

The Mineral Resource estimate, as at 31 December 2019, for the Sokor Project is reported in Table 1.1 below. This has been classified and reported in accordance with the guidelines of the JORC Code (2012) and has been depleted for mining at Rixen, New Discovery, New Found, Manson's Lode and Ketubong to 31 December 2019. The Mineral Resources are reported above a 0.5 g/t gold cut-off grade at Manson's Lode and Ketubong, and for the transitional and fresh rock at New Discovery and New Found, and above a 0.17 g/t gold cut-off grade at Rixen and for the oxide material at New Discovery and New Found to reflect current commodity prices, differential operating costs and processing options. As at 31 December 2019, the total Measured, Indicated and Inferred gold Mineral Resource for the Sokor Project (above a 0.17 g/t gold cut-off grade at Rixen and for oxide rock at New Discovery and New Found and above a 0.5 g/t gold cut-off grade at Manson's Lode and Ketubong, and at New Discovery, New Found for transitional and fresh rock,) is 16,320 kt at 1.7 g/t gold for 900,000 ounces of contained gold.

Gold mineralisation at Manson's Lode has associated silver and base metal mineralisation. Silver, lead and zinc Mineral Resources have been reported for Manson's Lode, both within the gold mineralisation, above a 0.5 g/t gold cut-off grade, and also external to the gold mineralisation, above a cut-off of 2% lead plus zinc (Table 1.1). Lead, zinc and silver Mineral Resources have been reported for Sg Amang above a cut-off of 2% lead plus zinc (Table 1.1).

The total Measured, Indicated and Inferred gold resources for the Sokor Project, previously reported in December 2018, were 17,910 kt at 1.6 g/t gold, with contained gold of 914,000 ounces. After depletion for mining at Rixen, New Discovery, New Found, Manson's Lode and Ketubong and resource extension through additional drilling the December 2019 Mineral Resource represents an overall decrease of approximately

1% in contained gold. The Manson's Lode Mineral Resource also contains silver, lead and zinc. As at 31 December 2018 this was 1,410 kt with an average grade of 42 g/t silver, 1.6% lead and 1.7% zinc. With the additional drilling at Manson's Lode and the definition of Mineral Resources at Sg Amang, the total resource for the silver, lead and zinc mineralisation is 1,720 kt with an average grade of 61 g/t silver, 2.1% lead and 2.5% zinc. This represents an increase of 74% in contained silver, 58% in contained lead and 84% in contained zinc. The Mineral Resource figures discussed above are inclusive of material which has subsequently been modified to produce Ore Reserves.

**Table 1.1 Sokor Project – Mineral Resource statement as at 31 December 2019 (inclusive of Ore Reserves)**

Category	Mineral	Gross attributable to licence			Gross attributable to CNMC			Change from previous update (%)
		Tonnes (millions)	Grade (Au g/t, Ag g/t, Pb%, Zn%)	Contained metal (Au koz, Ag koz, Pb t, Zn t)	Tonnes (millions)	Grade (Au g/t, Ag g/t, Pb%, Zn%)	Contained metal (Au koz, Ag koz, Pb t, Zn t)	
Measured	Gold	0.38	2.6	30	0.31	2.6	30	-12%
Indicated	Gold	9.44	1.6	480	7.65	1.6	390	10%
Inferred	Gold	6.50	1.7	380	5.26	1.7	310	-13%
<b>Total</b>	<b>Gold</b>	<b>16.32</b>	<b>1.7</b>	<b>900</b>	<b>13.22</b>	<b>1.7</b>	<b>730</b>	<b>-1%</b>
Measured	Silver	0.38	69	860	0.31	69	690	25%
Indicated	Silver	0.16	66	340	0.13	66	280	-16%
Inferred	Silver	1.17	57	2,150	0.95	57	1,740	156%
<b>Total</b>	<b>Silver</b>	<b>1.72</b>	<b>61</b>	<b>3,350</b>	<b>1.39</b>	<b>61</b>	<b>2,710</b>	<b>74%</b>
Measured	Lead	0.38	2.0	7,570	0.31	2.0	6,130	50%
Indicated	Lead	0.16	1.6	2,610	0.13	1.6	2,120	2%
Inferred	Lead	1.17	2.2	26,160	0.95	2.2	21,190	70%
<b>Total</b>	<b>Lead</b>	<b>1.72</b>	<b>2.1</b>	<b>36,340</b>	<b>1.39</b>	<b>2.1</b>	<b>29,430</b>	<b>58%</b>
Measured	Zinc	0.38	2.1	7,960	0.31	2.1	6,450	25%
Indicated	Zinc	0.16	1.8	2,960	0.13	1.8	2,400	-12%
Inferred	Zinc	1.17	2.8	32,390	0.95	2.8	26,240	135%
<b>Total</b>	<b>Zinc</b>	<b>1.72</b>	<b>2.5</b>	<b>43,320</b>	<b>1.39</b>	<b>2.5</b>	<b>35,090</b>	<b>84%</b>

*Note: Inconsistencies in totals are due to rounding*

Since the Mineral Resource was reported as at 31 December 2018, data from 69 holes drilled at Rixen, Manson's Lode, New Discovery, New Found and Ketubong were used to update the Mineral Resources. In addition, results from 200 face samples from the underground workings at Ketubong were used to update the Mineral Resource.

At Rixen, the drilling infilled an area adjacent to the southern pit design and extended the resource to the south and down-dip to the east. Mining at Rixen during 2019 has depleted both the Indicated and Inferred Resources. Mining at New Discovery and New Found has depleted the Measured, Indicated and Inferred Resources. The Measured Resources have essentially all been mined, with only less than 0.2 kt remaining. The additional drilling at New Found has increased both the Indicated and Inferred Resources. At Manson's Lode, the drilling extended the central area of the resource to the north-west and an updated and more accurate pit survey was used to deplete the resource model for all mining to 31 December 2019. At Ketubong, the revised cut-off grade used for the mineralisation interpretation (to reflect extraction by underground mining) has significantly increased the average grade of the resources. The increased cut-off grade and the exclusion of small discontinuous zones of mineralisation has decreased the resource tonnage.

As at 31 December 2019, the total Measured, Indicated and Inferred gold Mineral Resource for the Sokor Project (above a 0.17 g/t gold cut-off grade at Rixen and for oxide rock, New Discovery and New Found and above a 0.5 g/t gold cut-off grade at Manson's Lode and Ketubong and for transitional and fresh rock at New Discovery and New Found) is 16,320 kt at 1.7 g/t gold for 900,000 ounces of contained gold. Compared to the 31 December 2018 Mineral Resource estimate, there has been a decrease in gold Mineral Resource tonnage of 1,530 kt, the average gold grade has increased from 1.6 g/t to 1.7 g/t and there is an overall small decrease of 1% in contained gold in the 2019 Mineral Resource.

The 2019 Ore Reserves have been reported in Table 1.2. In this tabulation it should be noted that the Mineral Resources (in Table 1.2) have been reported 'exclusive' of and additional to Ore Reserves as at 31 December 2019. This means that there will be material declared in Table 1.1 which is neither reported as additional Mineral Resources nor Ore Reserves in Table 1.2; for instance, material which falls within the final pit, but which is below the Ore Reserve cut-off grade. Thus, it is not possible to add the Ore Reserves and Mineral Resources in Table 1.2 together to produce the total Mineral Resources in Table 1.1. Moreover, the Ore Reserves include factors for ore loss and dilution which, by convention, have not been applied to the Mineral Resources. All Ore Reserves have been reported in accordance with the JORC Code (2012).

The Ore Reserves reported for 2019 are greater than 2018, largely due to changes at Rixen relating to changes in the Mineral Resources, reductions due to depletion by mining during the year, addition of the deeper extension of the southern pit areas and increases due to an elevated gold price. The Ore Reserves have increased at Manson's Lode, due to a lower cut-off grade and increased gold prices. Ore Reserves have decreased at New Discovery and New Found due to mining depletion. Optiro has depleted the Ore Reserves for the Rixen and New Discovery pits with the current 2017 pit production, which is in accordance with guidelines of the JORC Code.

Furthermore, CNMC is considering underground mining for Rixen but these remain plans at a preliminary stage as at 31 December 2019. This has the potential to increase Ore Reserves at Rixen in the future.

**Table 1.2 Combined Sokor Project gold Ore Reserves (Manson's Lode, New Discovery, New Found, Ketubong and Rixen) and exclusive Mineral Resources (at Manson's Lode, New Discovery and New Found, Rixen and Ketubong that are additional to Ore Reserves at Manson's Lode, New Discovery and Rixen) as at 31 December 2019**

Category	Mineral	Gross attributable to licence			Gross attributable to CNMC			Change from previous update (%)
		Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	
<b>Ore Reserves</b>								
Proved	Gold	254	3.0	25	206	3.0	20	-20
Probable	Gold	4,238	1.3	180	3,432	1.3	145	73
<b>Total</b>	<b>Gold</b>	<b>4,492</b>	<b>1.4</b>	<b>204</b>	<b>3,638</b>	<b>1.4</b>	<b>165</b>	<b>51</b>
<b>Additional Mineral Resources</b>								
Measured	Gold	129	1.5	6	105	1.5	5	67
Indicated	Gold	6,288	1.5	307	5,093	1.5	248	-4
Inferred	Gold	7,107	1.7	393	5,757	1.7	319	17
<b>Total</b>	<b>Gold</b>	<b>13,524</b>	<b>1.6</b>	<b>706</b>	<b>10,955</b>	<b>1.6</b>	<b>572</b>	<b>-7</b>

Note: Inconsistencies in totals are due to rounding

### 1.3. KELGOLD PROJECT

The Kelgold Project comprises a 100% owned right to explore for gold, iron ore and other minerals over an area of approximately 15.5 km<sup>2</sup>. The concession is located in the state of Kelantan, Malaysia approximately 30 km northwest of the Sokor mine.

During 2019, CNMC completed 29 exploration trenches within Kelgold Project. All trenching carried out in 2019 was located in the southern portion of the licence area.

Assessment of the Kelgold Project by CNMC is at an early stage and is currently on-going. CNMC considers that its Kelgold acquisition has significant potential based on the geological information available and that it offers a strategic synergy due to the geographic proximity to the Group's existing Sokor Project. Optiro notes the presence of historic workings and gold in soil anomalism and considers that further follow-up work is warranted.

## 1.4. CNMC PULAI

CNMC holds a 51% interest in CNMC Pulai Mining Sdn. Bhd. (formerly known as Pulai Mining Sdn. Bhd.) (CNMC Pulai) which owns exploration and mining licenses with a combined license area of 38.41 km<sup>2</sup>. The project area is approximately 100 km south of the Sokor mine and 20 km to the southwest of the city of Gua Musang in the State of Kelantan, Malaysia.

The project area has historically been subject to alluvial gold mining operations especially along the Pulai River along with recent feldspar mining. Total alluvial gold production has been in the order of 260 kg and approximately 480,000 tonnes of feldspar has been produced.

During 2019, CNMC conducted exploration and resource development of the feldspar deposit, including collection and analysis of rock chip samples and the drilling of five diamond core holes for analysis and density measurements. From this data an Inferred Mineral Resource has been defined. As advised by CNMC, and commensurate with current mining practices at CNMC Pulai by the subcontractor which supplies feldspar to ceramics manufacturers in Malaysia, the Mineral Resource has been reported above a cut-off grade of 8% Na<sub>2</sub>O+K<sub>2</sub>O. The Inferred Mineral Resource for the CNMC Pulai Project is 23.7 Mt with an average grade of 6.8% Na<sub>2</sub>O and 2.8% K<sub>2</sub>O (Table 1.3). Optiro notes that the contents of the deleterious minerals (MgO and, Fe<sub>2</sub>O<sub>3</sub>) are higher than industry norms, but CNMC Pulai has advised that they are acceptable and can be further reduced through beneficiation processes. Furthermore, CNMC Pulai is currently carrying out testwork to explore the possibility of extracting silica sands from the ore.

In addition to the Mineral Resource, an Exploration Target of 50 to 60 Mt with an average grade of 6 to 7% Na<sub>2</sub>O and 2.5 to 3% K<sub>2</sub>O has been defined adjacent to and to the north of the Inferred Mineral Resource. It is important to note that the potential quantity and grade of the Exploration Target is conceptual in nature, as there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Table 1.3 CNMC Pulai Project – Mineral Resource statement as at 31 December 2019

Category	Mineral type	Gross attributable to licence			Gross attributable to CNMC			
		Tonnes (millions)	Grade (Na <sub>2</sub> O%+K <sub>2</sub> O%)	Contained Na <sub>2</sub> O+K <sub>2</sub> O Kt	Tonnes (millions)	Grade (Na <sub>2</sub> O%+K <sub>2</sub> O%)	Contained Na <sub>2</sub> O+K <sub>2</sub> O Kt	Change from previous update
Measured	Feldspar	-	-	-	-	-	-	Not previously reported
Indicated	Feldspar	-	-	-	-	-	-	
Inferred	Feldspar	23.7	9.5	2.5	12.1	9.5	1.3	
<b>Total</b>	<b>Feldspar</b>	<b>23.7</b>	<b>9.5</b>	<b>2.5</b>	<b>12.1</b>	<b>9.5</b>	<b>1.3</b>	

## 2. INTRODUCTION

### 2.1. TERMS OF REFERENCE

At the request of CNMC Goldmine Holdings Limited (CNMC), Optiro Pty Ltd (Optiro) has prepared an Independent Qualified Persons' Report (IQPR) on the Sokor, Kelgold and CNMC Pulai Projects located in Malaysia. The Report has been prepared by Optiro in accordance with the Singapore Stock Exchange's (SGX) 'Additional Listing Requirements for Mineral, Oil and Gas Companies'. CNMC listed on the Catalist Board of the Singapore Exchange (SGX) by way of an Initial Public Offering on 28 October 2011.

The objectives of this report are to provide an overview of the geological setting of CNMC's mineral assets and the associated mineralisation, outline the recent and historic exploration work undertaken over the project areas, report on the Mineral Resources and Ore Reserves defined within the projects and comment on the exploration potential of the projects.

Optiro has prepared this report to document the update to the Mineral Resource and Ore Reserve estimates in support of the planned 2019 Annual Report, and to provide a market update on Mineral

Resources and Ore Reserves as at 31 December 2019, as required under the mineral, oil and gas guidelines of the SGX.

CNMC Goldmine Holdings Limited, through its subsidiary CMNM Mining Group Sdn. Bhd., holds an 81% interest in the Sokor Project (Figure 2.1 and Figure 2.2). CMNM holds the rights to mine and produce gold, silver and base metals from an area of approximately 10 km<sup>2</sup> in the Ulu Sokor area in Kelantan, Malaysia. Additional exploration tenure is held at the Kelgold and CNMC Pulai Projects. CNMC considers that these projects have significant exploration potential (Figure 2.1).

The Mineral Resources at the Sokor Project (Rixen, Manson's Lode, New Discovery, New Found, Ketubong and Sg Amang) and the Ore Reserves at Rixen, Manson's Lode and New Discovery have been classified and reported using the guidelines of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia, December 2012 (the JORC Code, 2012).

CNMC has defined four deposits in the southern part of the Sokor Project area (Manson's Lode, New Discovery, New Found and Ketubong) and a fifth deposit (Rixen), approximately 3 km to the north of Ketubong (Figure 2.2). Additional base metal mineralisation is present at Sg Amang, to the east of Rixen, and Mineral Resource has been defined at Sg Amang. Base metal mineralisation has also been identified at Sg Tiger, within the southern part of the Sokor Project area, but at present there is insufficient data to define Mineral Resources at Sg Tiger.

During 2019, CNMC drilled an additional 69 holes for a total of 11,096.85 m which were incorporated into the database used for resource estimation. This included eight holes at Manson's Lode, 16 holes at Rixen, four holes at Ketubong, two holes at New Discovery, 20 holes at New Found and 19 holes at Sg Amang. In addition, 200 face samples from the underground workings at Ketubong were analysed for gold. The Mineral Resource estimates have been updated for the combined New Found and New Discovery deposits, the Rixen, Manson's Lode and Ketubong deposit and a Mineral Resource has been estimated for the Sg Amang deposit.

Ore was mined at Rixen, New Discovery, New Found and Ketubong during 2019. The Mineral Resource and Ore Reserve estimates have been depleted for mining to 31 December 2019. All the Mineral Resources and Ore Reserves have been classified and reported in accordance with the guidelines of the JORC Code.



Figure 2.1 Location of CNMC's project area at Sokor, Kelgold and Pulai

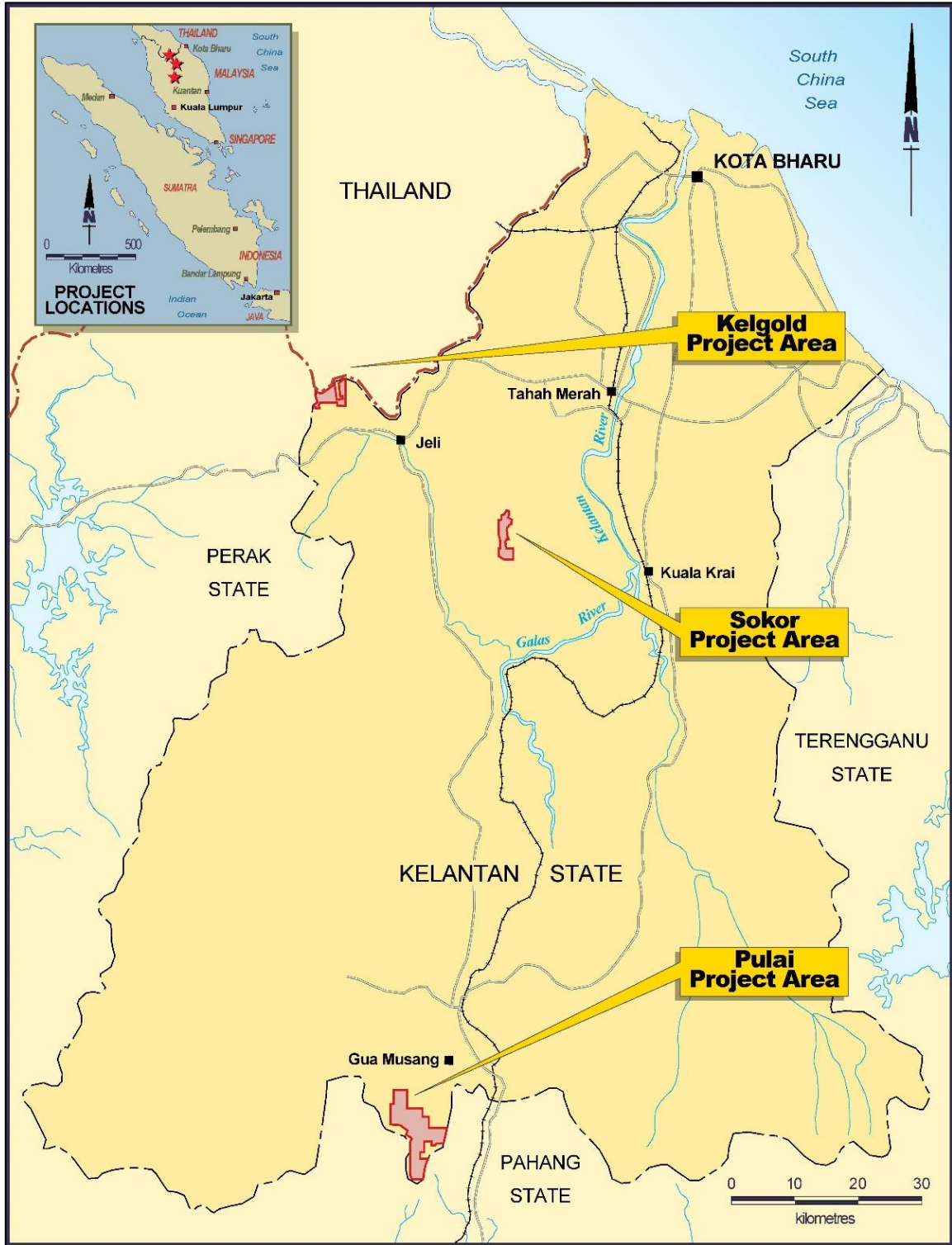
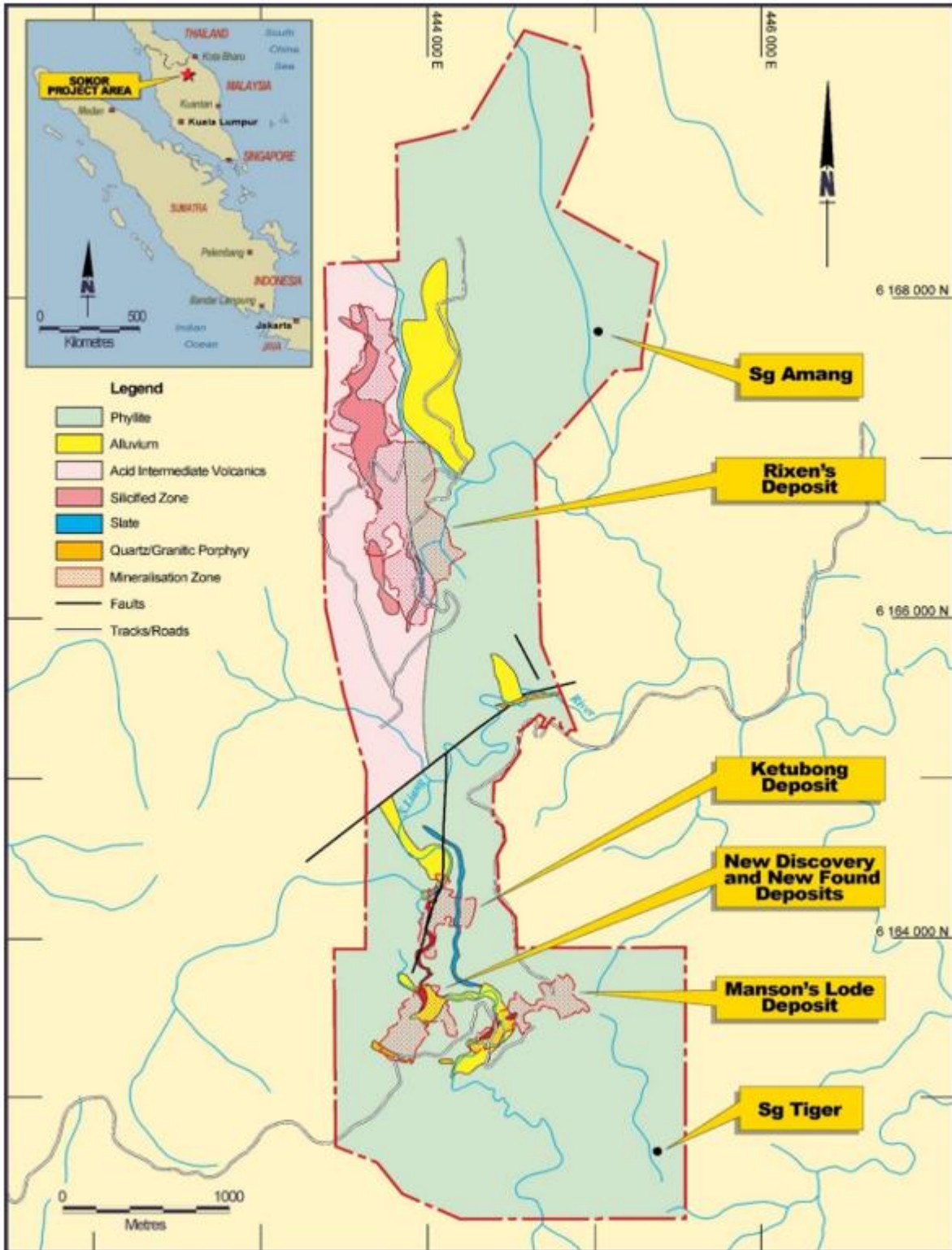


Figure 2.2 Sokor Project – local geology and deposit location



## 2.2. COMPETENT PERSONS

Behre Dolbear Australia Pty Ltd (BDA) assisted CNMC with reviews of exploration procedures and Mineral Resource and Ore Reserve estimation (BDA, 2011a and 2011b). The property description, history of the property, exploration data and procedures, mining and processing, infrastructure, environmental and community issues, life of mine production schedule and capital and operating costs have previously been documented by BDA in August and November 2011 (BDA, 2011a and 2011b).

Mrs Christine Standing of Optiro undertook a site visit to the Sokor Project on 7 and 8 December 2011 to review data for the Mineral Resource estimate; Mr George Brech of BDA assisted Optiro during the site visit. Mr Andrew Law of Optiro undertook a site visit to the Sokor Project between 16 and 18 May 2012 to review the mining operations for the Ore Reserve estimate. Mrs Christine Standing visited the Sokor Project again between 1 and 5 June 2015 to inspect the Sokor mine site, drilling procedures, drillhole core and the sampling and logging procedures and Mr Andrew Law undertook a site visit on 4 and 5 June 2015 to review the mining operations. Mrs Christine Standing and Mr Michael Leak visited the Sokor operation on 14 January 2018 to inspect the mine site and drillhole core and to examine the changes in mining and processing practices since 2015. Mr Jason Froud undertook a site visit to the Sokor Project between 8 and 10 April 2018 to review data and inspect the Sokor mine site, drilling procedures and drillhole core. Mr Jason Froud and Mr Stephen O'Grady most recently visited the Sokor Project in October 2019 to review the project and underground operations and development at Ketubong. CNMC provided Optiro with the drillhole logging, assay and survey data for the drilling undertaken during 2019 and updated topographical data and production data for mining undertaken during 2019.

Mrs Christine Standing visited the Kelgold and Pulai projects in January 2018 and Mr Jason Froud visited the Kelgold and Pulai projects in October 2019 to review and inspect the ongoing mining and exploration activities.

The Mineral Resource estimates were prepared by Mrs Christine Standing and reviewed by Mr Ian Glacken. Mr Glacken, Director of Optiro and Fellow of the Australian Institute of Mining and Metallurgy, and Mrs Standing, Principal of Optiro and Member of the Australasian Institute of Mining and Metallurgy, fulfil the requirements of Competent Persons as defined in the JORC Code (2012) and accept responsibility for the Qualified Persons' report and the JORC Code categorisation of the Mineral Resource estimate as tabulated in the form and context in which it appears in this report. Optiro has relied on the data, reports and information provided by CNMC; Optiro has nevertheless made such enquiries and has exercised its judgement as it deems necessary and has found no reason to doubt the reliability of the data, reports and information which have been provided by CNMC.

Mrs Christine Standing [BSc (Hons) Geology, MSc (Min Econs), MAusIMM, MAIG] is a geologist with over 35 years' worldwide experience in the mining industry. She has six years' experience as an exploration geologist in Western Australia and over 25 years' experience as a consultant specialising in resource estimation, reconciliation, project management and statutory and Competent Persons' reporting on worldwide projects for a range of commodities. She has acted as a Qualified Person and Competent Person for gold, silver, copper, mineral sands, nickel, chromium, kaolin and PGEs.

Mr Ian Glacken [BSc (Hons) Geology, MSc (Mining Geology), MSc (Geostatistics), Grad. Dip (Comp), FAusIMM (CP), FAIG, CEng, MIMMM, DIC] has 35 years worldwide experience in the mining industry. Ian is a geologist with postgraduate qualifications in geostatistics, mining geology and computing. Mr Glacken has over 20 years' experience in consulting, including a decade as Group General Manager of a major consulting organisation. He has worked on mineral projects and given over 250 training courses to thousands of attendees on every continent apart from Antarctica. Mr Glacken's skills are in resource evaluation and due diligence reviews, public reporting, training and mentoring, quantitative risk assessment, strategic advice, geostatistics, reconciliation, project management, statutory and Competent Persons' reporting and mining geology studies. He was a founding Director of Optiro.

Mr Jason Froud [BSc (Hons) Geology, MAusIMM, MAIG] is a geologist with over 20 years' experience in mining geology, exploration, resource definition, mining feasibility studies, reconciliation, consulting and corporate roles in gold, iron ore, base metal and uranium deposits principally in Australia and Africa. Mr Froud has previously acted as a Competent Person and Independent Expert across a range of commodities with expertise in mineral exploration, grade control, financial analysis, reconciliation and quality assurance and quality control.

The Ore Reserve Estimate has been compiled by Mr Stephen O'Grady, Associate Consultant at Optiro and Member of the Australasian Institute of Mining and Metallurgy. Mr O'Grady fulfils the definition and

requirements of Competent Persons as defined in the JORC Code and accepts responsibility for the qualified persons' report and the JORC Code categorisation of the Ore Reserve estimate as tabulated in the form and context in which it appears in this report.

Mr O'Grady [BEng (Mining), MAusIMM] is a mining engineer with over 35 years' experience in both open pit and underground operations in Australia, Africa and Asia. He has experience in various commodities including gold, copper, nickel, tin and lead-zinc and his skills are in operational management, due diligence, Ore Reserves, feasibility studies, mine planning and financial analysis.

### 2.3. STATEMENT OF INDEPENDENCE

Optiro is an independent consulting and advisory organisation which provides a range of services related to the minerals industry including, in this case, independent geological Mineral Resource and Ore Reserve estimation services, but also corporate advisory, mining engineering, mine design, scheduling, audit, due diligence and risk assessment assistance. The principal office of Optiro is at 16 Ord Street, West Perth, Western Australia, and Optiro's staff work on a variety of projects in a range of commodities worldwide.

This report has been prepared independently and to meet the requirements of the SGX minerals, oil and gas guidelines and in accordance with the VALMIN and JORC Codes. The authors do not hold any interest in CNMC, its associated parties, or in any of the mineral properties which are the subject of this report. Fees for the preparation of this report are being charged at Optiro's standard rates, whilst expenses are reimbursed at cost. Payment of fees and expenses is in no way contingent upon the conclusions drawn in this report.

## 3. SOKOR PROJECT

### 3.1. PROJECT LOCATION

The Sokor Project is located approximately 80 km southwest of Kota Bharu, the capital of Kelantan State, in northern Peninsular Malaysia (Figure 2.1). The project is accessed by a sealed road from Kota Bharu to Kampong Bukit, which is approximately 18 km from site, and thence by gravel track from Kampong Bukit to site. Kota Bharu is connected to Kuala Lumpur by a 55-minute flight. The nearest town, Tanah Merah, is located approximately half way between the project site and Kota Bharu.

The Sokor Project is situated in the upper catchment of the Sungai Sokor River, where topography consists of moderately steep hill ridges and narrow valleys, with elevations ranging from 200 m to 900 m above sea level. The project area experiences a hot, tropical monsoonal climate with dense tropical rainforest vegetation cover. Annual rainfall in Kelantan State averages between 2,000 mm and 2,500 mm, with November to January being the wettest months.

### 3.2. PROJECT OWNERSHIP AND STATUS

The Sokor Project consists of a Mining Licence (ML 10/2016) covering approximately 10 km<sup>2</sup> (known as the "Sokor Block"). In 2016, CNMC's mining rights to the Sokor Block were extended until 31 December 2034.

The Corporate income tax rate in Malaysia is 24%. A gold royalty of 10% of gross revenue is payable to the Kelantan State Government (KSG) and an additional tribute payment of 4% of gross revenue is payable to the Kelantan State Economic Development Corporation (KSEDC). Large scale mining approval was obtained from KSG in 2016, allowing for large scale mine production of unlimited ore.

Environmental approval was obtained from KSG in April 2010. Environmental approvals for the project included the submission of an Environmental Impact Assessment (EIA) in January 2008 and a supplementary EIA report in March 2009, with approval received in June 2009. An Environmental Management Plan (EMP) was submitted in February 2010 and an EMP Additional Information report submitted in March 2010, with approval received in April 2010. The EIA and EMP include approval for both heap leach and pond (vat) leach processing of gold ore at the Sokor mine site. The EIA and EMP for a CIL



plant was approved in February and May 2018. Where possible, CNMC will progressively rehabilitate disturbed areas and some areas, such as the process plant, will be rehabilitated when the mine is closed and the plant is decommissioned.

CNMC, through its subsidiary CMNM Mining Group Sdn. Bhd., holds an 81% interest in ML 10/2016 (which replaces ML 2/2008). The KSG holds a 10% share and other investors in Kelantan State hold the remaining 9% (Table 3.1). The 19% interest not held by CNMC is a non-contributory share during exploration and mine development and production stages.

**Table 3.1 Sokor Project tenement schedule**

Tenement ID	CNMC Interest	Status	Expiry date	Area km <sup>2</sup>	Type of mineral deposit	Remarks
ML 10/2016	81%	Development	31/12/2034	10.0	Gold	Mining rights

### 3.3. HISTORY OF THE PROPERTY

The earliest recorded exploration in the Ulu Sokor area was undertaken by Duff Development Company Limited in the early 1900s and included trenching and the development of numerous shafts and adits.

Between 1966 and 1970 Eastern Mining and Metals Company (EMM) undertook a drilling programme at Ulu Sokor, consisting of 104 holes totalling 2,963 m. EMM reported mineralisation of 227,000 t, with gold grades ranging from 1.94 g/t to 3.33 g/t gold and oxide mineralisation of 156,000 t, with gold grades ranging from 2.85 g/t to 5.34 g/t gold.

Between 1989 and 1991 Asia Mining Sdn. Bhd. (Asia Mining) conducted mapping, soil sampling, rock-chip sampling and completed a drilling programme consisting of 55 holes totalling 2,705 m. From 1995 to 1996 Asia Mining operated a heap leach facility that processed around 40,000 t of near-surface gossan ore from the Manson's Lode area and produced approximately 3,200 oz of gold. Asia Mining delineated a gold resource in the Rixen area totalling 4.1 Mt at 1.2 g/t gold above a cut-off grade of 0.5 g/t gold.

During 1997 and 1998 TRA Mining (Malaysia) Sdn. Bhd. (TRA) conducted geological mapping, rock chip and stream sediment sampling and completed a reverse circulation (RC) drilling programme consisting of 33 holes totalling 2,630 m. The TRA drilling was undertaken within the Manson's Lode and New Discovery areas.

CNMC commenced exploration in 2007, focusing on the known areas of mineralisation at Manson's Lode, New Discovery, Ketubong and Rixen. Over the length of its tenure CNMC has conducted geological mapping, soil sampling, Induced Polarisation geophysical surveys and diamond drilling programmes, and has excavated 27 trenches. Gold mineralisation was identified at New Found by CNMC in 2015. Diamond drilling has been undertaken at Manson's Lode, New Discovery, Ketubong, Rixen and New Found, and has tested areas to the east of Rixen, at Sg Amang and to the southeast of Manson's Lode, at Sg Tiger.

In July 2010, CNMC commenced commissioning of a 60,000 tpa vat leach facility and gold recovery plant. Initial ore production was sourced from the Manson's Lode deposit and in 2012, CNMC expanded production with the commissioning of the 70,000 t heap leach facility to treat ore from the Rixen deposit.

During 2017, CNMC commissioned the design of a CIL flowsheet and subsequently in 2018 built a 500 tonne per day CIL processing plant for Sokor. During 2019, some 195 kt of ore material was processed through the CIL plant. The current mine operating practice is that ore from Rixen, New Found and New Discovery will continue to be treated by both heap leach and vat leach processes and fresh rock ore sources from the adjacent deposits will be treated by the CIL plant.

### 3.3.1. PRODUCTION STATISTICS

Since CNMC commenced operations, there have been no comprehensive production records or reconciliation data collected. CNMC has advised Optiro of the production that has occurred between 2012 and 2019, and this is summarised for 2015 to 2019 in Table 3.2.

**Table 3.2 Sokor production statistics for 2015 to 2019**

Commodity	Production statistics	2015	2016	2017	2018	2019
<b>Rixen</b>						
Mined	Ore tonnes mined (claimed)	2,236,674	2,243,667	1,871,856	2,582,057	2,886,867
	Ore tonnes processed	2,236,674	2,243,667	1,871,856	2,869,429	2,886,867
	Ore stockpiled (not processed as at 31 December)	-	-	-	-	-
Gold	Calculated grade (g/t)	0.61	0.41	0.33	0.31	0.33
	Recovered gold (oz)	29,645	20,324	11,472	9,742	10,485
<b>Ketubong, New Discovery and New Found</b>						
Mined	Ore tonnes mined (claimed)	-	154,241	105,101	287,372	351,083
	Ore tonnes processed	-	154,241	105,101	287,372	351,083
Gold	Calculated grade (g/t)	-	1.92	1.40	3.20	1.91
	Recovered gold (oz)	-	7,080	3,345	21,731	17,652
<b>Total</b>						
Mined	Ore tonnes mined (claimed)	2,236,674	2,397,908	1,976,957	2,869,429	3,237,950
	Ore tonnes processed	2,236,674	2,397,908	1,976,957	3,156,801	3,237,950
Gold	Calculated grade (g/t)	0.61	0.51	0.45	0.58	0.50
	Recovered gold (oz)	29,645	27,190	14,817	31,474	28,137

### 3.4. GEOLOGICAL SETTING

#### 3.4.1. REGIONAL GEOLOGY

The Sokor Project is located in the Central Belt of Peninsular Malaysia. Peninsular Malaysia is divided structurally into three north-south to northwest-southeast trending belts, the Eastern, Central and Western Belts. The Eastern and Western Belts are dominated by tin-bearing granites and associated tin and wolfram mineralisation.

The Central Belt consists of Permian to Triassic age metasediments including phyllite, slate, sandstone and limestone and felsic to intermediate volcanic rocks intruded by Late Triassic to Tertiary, acid to intermediate stocks and dykes. The Central Belt contains base metal mineralisation including copper, lead, zinc, antimony and manganese, and gold mineralisation.

The eastern (Lebir Fault) and western (Bentong-Raub Fault) boundaries of the Central Belt are major fault zones featuring dextral rotation and strike slippage of 5 km to 10 km. Known gold deposits in the Central Belt include Raub, Selinsing and Penjom, all located south of Ulu Sokor. The Sokor gold mineralisation is located towards the middle of the Central Belt and is associated with the intersection of two major north-south trending structures with northeast to northwest trending secondary structures.

#### 3.4.2. LOCAL GEOLOGY

The Ulu Sokor area is underlain by north-south trending meta-sediments including phyllite, slate, conglomerate, limestone and felsic to intermediate volcanic rocks. The meta-sediments are lower greenschist facies and appear to form an asymmetric anticline with shallow easterly dips in the eastern part of the concession and steeper westerly dips in the west. Locally the rocks are highly folded and display variable shallow to steep dips.

The concession area is divided into two parts by the north-south trending Ketubong-Rixen fault zone. The eastern part is dominated by calcareous and argillaceous sediments interbedded with carbonate rocks which dip eastwards at 10 to 40°. The western part of the concession is dominated by tuffaceous volcanics



interbedded with minor calcareous phyllites and carbonate rocks. The acid to intermediate volcanic rocks comprise volcanic breccias and crystal tuffs. Silicification in the volcanic rocks is widespread.

The gold mineralisation within the Sokor Project is lithologically and structurally controlled and is generally hosted in acid to intermediate volcanic rocks and carbonate-rich rocks. The depth to the base of oxidation varies between deposits from a shallow depth of less than 3 m at Ketubong to up to 60 m at Rixen. Previous mining (during the 1990s) of near surface, high grade ore has occurred at Manson's Lode and New Discovery, and the pits have been backfilled with lower grade material from these deposits.

### **RIXEN DEPOSIT**

Gold mineralisation at the Rixen deposit is contained within acid volcanic rocks to the west of the Ketubong-Rixen fault. The deposit was defined initially by soil sampling and an Induced Polarisation survey which delineated an anomalous zone trending north-south. Drilling has outlined a zone of pervasively silicified tuffs and mineralisation extends over a strike of approximately 2,150 m, an across strike length of up to 700 m and to a depth of 400 m. The Rixen deposit has been tested by 264 diamond drillholes totalling 35,340.95 m.

### **MANSON'S LODE**

The Manson's Lode deposit is located 3.5 km south of Rixen. Manson's Lode consists of a surface gossan after sulphides, partially replacing a silicified limestone unit which is intercalated with phyllitic sediments. The gold mineralised zone extends over a strike length of approximately 750 m, trending 060°, and is marked by old surface workings and a number of shallow shafts that have been excavated to depths of up to 30 m. The mineralisation extends for up to 300 m across strike and from surface to a depth of 120 m. The Manson's Lode deposit has been tested by 183 diamond drillholes totalling 11,544.38 m.

The average width of mineralisation exposed in trenches is 15 m, varying from a few metres to up to 34 m. The thickness of mineralisation is variable, ranging from 5 m to 20 m, and the dip of the mineralisation is shallow (10° to 15°) to the southeast. Trench mapping by CNMC suggests that the mineralisation is associated with a breccia zone. A quartz porphyry dyke, which is exposed to the southeast of Manson's Lode, may be a causative intrusion for the base metal-gold mineralisation. The dyke contains pyrite mineralisation as disseminations and veinlets, with rock chips returning grades of 0.5 g/t to 0.7 g/t gold.

The base metal mineralisation has the same general strike and dip as the gold mineralisation and extends along strike to the northeast and down-dip to the southeast, external to the gold mineralisation. Much of the surface area has been disturbed by previous mining activity and hence the relationship between the different rock types is not clear.

### **NEW DISCOVERY AND NEW FOUND DEPOSITS**

The New Discovery deposit is located approximately 500 m west-northwest of Manson's Lode. Drilling during 2015 indicated that the mineralisation at New Discovery extended to the south: CNMC has named this area New Found. The gold mineralisation at New Discovery and New Found is associated with the Ketubong-Rixen fault that runs through the central part of the concession area.

At New Discovery, trench exposures indicate mineralised widths of 7 m to 35 m, trending 010° with a dip of approximately 30° to the east. In the north, the mineralised zone appears to be displaced to the west by a northwest trending fault. Based on trench mapping, mineralisation consists of gold in association with weak stockwork and disseminated pyrite hosted in sheared and brecciated phyllite and in an adjacent limestone unit. The phyllite is generally strongly altered close to the fault zone, with pervasive sericite-chlorite-epidote alteration, silicification and carbonate veining.

The New Discovery deposit has been drilled down-dip to a depth of 280 m from surface and generally remains open at depth. The mineralisation at New Discovery and New Found has a combined strike length of 500 m and a maximum width of 400 m. Mineral Resources at the New Discovery and New Found deposits have been defined by 133 diamond drillholes totalling 13,098.86 m.

## KETUBONG DEPOSIT

The Ketubong deposit is located approximately 600 m to the northwest of Manson's Lode and immediately north of New Discovery. Ketubong represents the northwards continuation of the north-south trending and easterly dipping mineralisation present in New Discovery. Mineralisation dips to the east at around 20° to 30°.

The deposit has been delineated by trenching and drilling over a strike length of 680 m. Mineralisation is contained within highly folded phyllite and intercalated limestone over widths of 2 m to 40 m, based upon trench exposures. Interpretation of trench mapping indicates that the gold is associated with disseminated-stockwork quartz-sulphide mineralisation and more massive sulphide, consisting predominantly of pyrite with minor, sporadic galena, chalcopyrite and sphalerite. Drilling data indicates that the mineralisation is closely associated with a limestone unit within phyllite. Open-pit mining at Ketubong was completed in early 2018 and underground development, which includes development of three drives, commenced in 2018.

CNMC has tested the Ketubong deposit with 57 diamond drillholes totalling 9,866.58 m and an additional five holes for a total of 1,036 m have been drilled to the north of Ketubong. In addition, 200 face samples from the underground workings at Ketubong were analysed for gold. Mineral Resources have been defined over a strike length of 550 m and an across strike length of around 350 m. Mineralisation has been intersected to a depth of 270 m.

## SG AMANG DEPOSIT

The Sg Amang deposit is located approximately 1.2 km to the east of the Rixen deposit. Base metal sulphide mineralisation (predominantly pyrite, galena and sphalerite) is present in series of steeply veins within a sequence of limestone and phyllite. In 2019, CNMC conducted Induced Polarisation and Resistivity surveys at the Sg Amang deposit. A crescent-shaped anomalous zone was delineated, steeply inclined with each end dipping northwest and southwest.

CNMC has tested the base metal mineralisation at Sg Amang with 28 drillholes totalling 4,531.43 m. The Sg Amang deposit has been drilled to a depth of 200 m from surface and generally remains open at down dip and at depth. The mineralisation has been interpreted as five lodes that have a combined strike length of 200 m and across strike extent of 200 m. The mineralisation dips to the north-west at around 50°.

### 3.5. EXPLORATION DATA USED FOR MINERAL RESOURCE ESTIMATION

BDA previously documented findings from its review of CNMC's exploration and data collection procedures on site, inspection of surface trenches, drill sites and drill core and review of drillhole logging, survey, bulk density testing, sampling and data quality procedures (BDA, 2011a and 2011b). From BDA's documentation and Optiro's site visit observations and review and validation of the drilling data used for the Mineral Resource estimate, Optiro considers that the drilling, logging, sampling and assaying procedures, as discussed below, are appropriate to define Mineral Resources and are in accordance with industry standards. In Optiro's overall opinion, the geological database forms an appropriate and reasonable basis for resource estimation.

#### 3.5.1. DRILLING

The five Sokor gold deposits (Manson's Lode, New Discovery, New Found, Ketubong and Rixen) have been evaluated by both surface trenches and diamond core drilling. Diamond drilling was completed on all five deposits using a combination of inclined and vertical drillholes on drill sections oriented normal to the strike of the mineralisation. Diamond drilling was completed at Sg Amang using inclined drillholes. Only the data from the CNMC diamond drillholes has been used for resource estimation. A total of 675 diamond drillholes for 75,970 m have been drilled at the Sokor Project for Mineral Resource definition.

CNMC provided the geological logs, assay data and survey data to Optiro as a series of Excel spreadsheets. Optiro consolidated this data and generated a drillhole database using Datamine mining software. During

2015, CNMC purchased Datamine software and updated the database with the data from the 2015 drilling programme. Optiro validated the 2015 data captured by CNMC against the drillhole logs and data from the laboratory. CNMC provided data from the 2016 to 2019 drillholes as a series of Excel spreadsheets and as Datamine files. Optiro used these files to update the master Datamine database used for Mineral Resource estimation.

### **3.5.2. SURVEY DATA**

CNMC has completed a topographic survey over a 7 km<sup>2</sup> area covering the five deposits; this local detailed survey has been tied into the Malaysian National Grid (MNG) using a number of MNG survey control points. This survey work was carried out using electronic distance measurement (EDM) devices and from this data a digital terrain model (DTM) was produced.

Drillhole collars have been surveyed using EDM equipment. Comparison of the drillhole collar data from the holes drilled prior to 2016 revealed that many of the drillhole collar elevations were significantly different to the DTM. This issue was resolved during 2016, and the collar elevations provided for holes drilled after 2016 match the current topographical survey data, once allowances have been made for excavation of material to prepare the drilling pad.

The 2019 drillholes were surveyed using industry standard downhole survey equipment at the start and end of the hole and at approximately 50 m intervals downhole for inclined holes and 100 m intervals for vertical holes. For the 2019 drillholes the dip deviations are generally less than 2° and the azimuth deviations average less than 2°, with a maximum deviation of 3°.

Mining at Rixen, New Discovery and New Found was undertaken during 2019, along with underground development mining at Ketubong. Open-pit mining at Ketubong was completed in early 2018. Detailed aerial pit surveys of Rixen, Manson's Lode, New Discovery and New Found were conducted at the end of 2019 using an unmanned aerial vehicle (UAV) and processed by Land Surveys, an Australian based company. Optiro has depleted the 2019 resource models at Rixen, New Discovery, New Found and Manson's Lode below the detailed 2019 mining surfaces.

### **3.5.3. LOGGING, SAMPLING AND SAMPLE PREPARATION**

Drillhole cores are logged for lithology, weathering, alteration, structure, mineralisation and geotechnical data, including core recovery, RQD (rock quality designation) and fracture frequency measurements.

All drill core is photographed using a digital camera and potentially mineralised core is marked up for sampling. From 2011 to 2013 the average length of the samples selected for analysis was 1.46 m, during 2014 and 2015 the average sample length was 1.27 m and for 2016 to 2018 the average sample length was 0.99 m. Sample intervals selected for analysis from the 2019 drillholes are between 0.16 m and 2.01 m with an average of 0.90 m.

Systematic logging of oxidation boundaries (base of oxide and base of transitional) was introduced by CNMC for the 2011 exploration programme and oxidation was recorded as a separate field in the 2012 core logging. This practice was not continued during 2013 but was reinstated during 2014: the geological logs for all holes drilled during 2014 to 2018 drillholes recorded oxidised, transition and fresh material.

Half core samples were selected for analysis, with quarter core samples used for quality assurance/quality control (QAQC) analysis. Prior to 2012, sample preparation was undertaken at the ALS Group Laboratory in Perth, Australia; the samples collected from 2012 to 2015 were prepared by SGS (Malaysia) Sdn. Bhd. laboratory, Malaysia, and the samples collected from holes drilled after 2015 were prepared at CNMC's on-site laboratory. Sample weights range from 1 kg to 3 kg. Samples are dried, crushed to 6 mm and the whole sample is pulverised to 85% passing 75 microns. A pulp sample of 200 g is split for assay and the pulp reject bagged and retained.

#### **3.5.4. SAMPLE SECURITY**

Prior to 2016, exploration samples were selected, bagged and labelled by site geologists at Sokor and placed in sealed cartons for transport to the assay laboratory. The samples were stored at the Sokor exploration office in the sample storage area prior to dispatch to the laboratory, and the camp was patrolled day and night by security personnel. After 2016, samples were analysed at CNMC's on-site laboratory.

#### **3.5.5. ASSAYING**

Gold analyses at all five deposits were by 30 g fire assay with atomic absorption spectrometry (AAS) finish, having a detection limit of 0.01 g/t gold. Prior to 2012, sample analysis was undertaken at the ALS Group Laboratory in Perth, Australia (ALS); samples from the 2012 to 2015 drilling programmes were analysed by SGS (Malaysia) Sdn. Bhd. Laboratory. Samples from 16 of the 2013 drillholes were assayed using a 50 g fire assay charge.

Samples from Manson's Lode and Sg Amang are routinely analysed for Au, Ag, Cu, Pb and Zn. Prior to 2012, Ag, Cu, Pb and Zn were analysed at the ALS Group Laboratory in Perth, Australia by four-acid digest and ICP Atomic Emission Spectrometry (ICPAES). The samples from the 2012 to 2019 drilling programmes were analysed by SGS (Malaysia) Sdn. Bhd. Laboratory by four-acid digest, followed by AAS.

The samples from 2019 (gold) drilling programmes were analysed at the CNMC on-site laboratory with 7% of the samples sent to SGS (Malaysia) Sdn. Bhd. Laboratory for check analysis. Approximately 26% of the check samples were sent to ALS Group Laboratory in Perth for inter-laboratory check analysis.

At New Discovery, New Found, Ketubong and Rixen, silver and base metal concentrations are low and the majority of samples were analysed for gold only.

#### **3.5.6. QUALITY ASSURANCE/QUALITY CONTROL**

CNMC's QAQC protocols for the 2019 drilling programme included the insertion of standard, duplicate and blank samples, with duplicate samples sent to SGS (Malaysia) Sdn. Bhd. Laboratory and inter-laboratory duplicate samples (of pulps) being submitted to ALS in Perth, Australia.

Duplicate samples (1,006) were analysed by SGS (Malaysia) Sdn. Bhd. Laboratory. Of the duplicate samples, 503 samples that were analysed by CNMC's on-site laboratory and SGS (Malaysia) Sdn. Bhd. Laboratory (SGS) were also analysed by the umpire laboratory, ALS, Perth, Western Australia. For all three sets of data, the original and duplicate results show a high correlation and no bias in the data sets.

CNMC noted that the results from the standard samples submitted to SGS showed a low-grade bias and SGS advised that there was a problem with the equipment. Optiro recommends that both the duplicate samples and the standard samples that are in the batches that were analysed when there was a problem with the equipment should be re-assayed by SGS.

For the 2019 drilling and underground face sampling programmes, standard samples have been inserted at a rate of 7%. Of the 336 gold standard samples submitted to the CMNC on-site laboratory with the drill samples and underground face samples, all but three of the results (one of which was mis-labelled) are within three standard deviations of the expected certified value and indicate acceptable precision of the assay data.

Blanks samples were inserted with the drilling samples at a rate of 2%. Optiro recommends that blank samples are submitted with the face samples. Of the 23 blank samples submitted from drilling at Sokor, 22 returned below detection assay results and one sample returned 0.05 g/t gold. This indicates good sample preparation with little sample contamination.

#### **3.5.7. BULK DENSITY**

Bulk density measurements are made on selected core samples of approximately 0.2 m in length using the water immersion method (weight in air and water). Samples are dried before measurement. Bulk density

values for each deposit and material type were calculated using measurements from 369 sections of diamond drill core (including 40 measurements obtained during 2019) and of alluvial/eluvial and backfill material from 41 test pits.

### **3.6. MINERAL PROCESSING AND METALLURGICAL TESTING**

#### **3.6.1. PROCESSING**

CNMC engaged Changchun Gold Research Institute (CGRI) to carry out process testwork in 2008 and to design a process for recovery of gold and silver from the Sokor ore. A vat leaching plant was constructed on site in early 2010 and operations commenced in July 2010. During 2013, vat leaching operations continued on a minimal scale, with ore from the New Discovery deposit being batch treated.

During 2012, the processing capability of the Sokor Project was increased, with the construction and commissioning of a trial 70 kt heap leach facility to treat the ore from Rixen. The heap leach process was commissioned and declared operational during January 2013, and has continued to operate throughout 2013, 2014 and 2015, with ore being supplied solely from the Rixen deposit, during 2016 with ore from the Rixen and New Found pits, and during 2018 with ore being supplied from the Rixen, New Found, New Discovery and Ketubong pits.

In 2019, material from Rixen, New Found and New Discovery pits and oxide material from Manson's Lode were supplied to both heap and vat leaching processes. Heap leach recoveries during the year ranged from 18% to 60% (average 37%) at Rixen, 21% to 74% (average 47%) at New Found and for the CIL plant 80% to 99% (average 88%) at New Discovery.

Sampling of the spent heap leach during 2016 indicated that over 60% of the results have less than 0.2 g/t gold. This indicates good performance of the heap leaching process.

#### **METALLURGICAL TESTWORK**

During 2013, CNMC carried out further metallurgical testwork in the following areas:

- gravity gold recovery and heap leaching of Manson's Lode backfill ore
- mineralogical analysis on polymetallic Manson's Lode ore for selection of a process route
- mineralogical and leaching testwork on primary ore from New Discovery and Ketubong.

Metallurgical testwork continues as part of the current operations, with the results being applied to the leaching processes as required to ensure that the operational parameters remain appropriate for the anticipated variations in ore characteristics across the various deposits, as well as to validate the new process flowchart for the recently constructed and commissioned CIL plant.

#### **LEACHING OPTIONS**

CNMC is currently using a combination of heap and vat leaching and CIL processing. The heap leach was still the predominant processing method (for tonnes) in 2019.

#### **HEAP LEACHING**

The heap leaching process previously being used by CNMC features standard heap leaching practices, with fresh ore remaining on the leach pad for a residence time of between 30 and 45 days before it is regarded as being barren. Pregnant leach solution is subsequently stripped of leached gold via a standard elution and electrowinning process, with gold recoveries in the order of 60% being achieved during 2017. The spent heap leach material is then removed from the heap pad to a tailings storage area, which is then progressively rehabilitated during the year.

CNMC had during second half of 2018 completed the construction of the first of two new permanent heap leach pads to replace three older leach pads. The new permanent heap leach pad, which was put to use during second half of 2018, is designed to hold mined ore for continuous leaching to enhance gold recovery.

The second new permanent heap leach pad was completed by early 2019 and was put to use during the year. CNMC is now constructing a third permanent heap leach pad, scheduled to complete by first half of 2020. Together, these three permanent leach pads are expected to boost the CNMC's heap leaching capacity to 6 Mt of ore.

CNMC had during second half of 2018 completed the construction of the first of two new permanent heap leach pads to replace three older leach pads. The new permanent heap leach pad, which has been put to use during second half of 2018, is designed to hold mined ore for continuous leaching to enhance gold recovery. The second new permanent heap leach pad is planned to be built during 2019. Together, the two new permanent leach pads are expected to boost the CNMC's heap leaching capacity to 6 Mt of ore.

## VAT LEACHING

The vat leaching plant comprises the following equipment:

- a 50 t per hour crushing plant which includes a jaw crusher, a secondary impact crusher and a 10 mm vibrating screen to split the secondary crusher product into plus and minus 10 mm material
- three leaching vats, each with a capacity of 2,300 t of ore
- pregnant, barren and raw water ponds
- eight activated carbon columns set up in two trains of four columns

Crushed ore is trucked about 150 m to the leaching vats and loaded into the vats using excavators. Barren solution is pumped into the vat to saturate the ore and to allow it to soak. The pregnant solution is then drained from the vat into the pregnant solution pond. Pregnant solution is pumped through the carbon columns, an estimated 97% of the contained gold is captured on the carbon and the solution discharging from the columns is recirculated to the barren pond, whence it is pumped back to the vat. The loaded carbon for both the heap leach and vat processes is transferred to the gold room at northern part of Sokor mine site for acid washing, elution and regeneration prior to recirculation to the adsorption columns. Eluate from the elution stage is circulated through an electrowinning process to produce a gold sludge which is dried and smelted to produce gold doré bars.

## CARBON IN LEACH CIRCUIT

During 2017, CNMC commissioned the design of a CIL flow sheet and subsequently build a 500 tonne per day CIL processing plant for Sokor.

The general extraction of the gold through a CIL process can be thought of as:

- the use of cyanide to dissolve the gold from the rock into solution
- the extraction of the gold from the cyanide solution by adsorption onto activated carbon
- the removal of the gold from the activated carbon by acid washing and elution
- the re-solidification and extraction of gold from solution by way of electrowinning and smelting to remove impurities.

Due to the expansion of New Found pit, the existing crushing circuit will be relocated to approximately 500 m southwest of the CIL plant. The crushed ore will feed both the CIL plant and vat leaching process. Until this occurs, the Sokor CIL Plant does not include a crushing circuit as it has been designed to accept ore feed material from the existing crushing circuit, located near the New Discovery pit, which is trucked to the CIL plant.

The CIL plant consists of:

- a crushed ore feed conveyor
- two ball mills, to reduce the ore feed material to -200 micron
- a thickener
- six leach tanks, containing cyanide solution to leach gold onto the activated carbon



- a filter press, to dewater tailings material for dry stacking
- dry tailings stacking infrastructure.

A new gold room was built as part of the plant in 2018. The new gold room is designed to handle activated carbon from the CIL leach tanks for acid washing and elution to remove the gold from the carbon. The gold solution is then electrowon and smelted to produce gold doré bars.

The flowsheet for the recently built Sokor CIL plant is shown in Figure 3.1, and pictured in Figure 3.2 as of March 2019.

During 2019, some 195 kt of ore material was processed through the CIL plant. The plant achieved an average recovery of 94.5% over the period. The current mine operating practice is that all oxide ore will continue to be treated via the heap leach and vat leach processes and certain fresh rock ore sources will be treated via the CIL plant.

**Figure 3.1 Sokor CIL flowsheet**

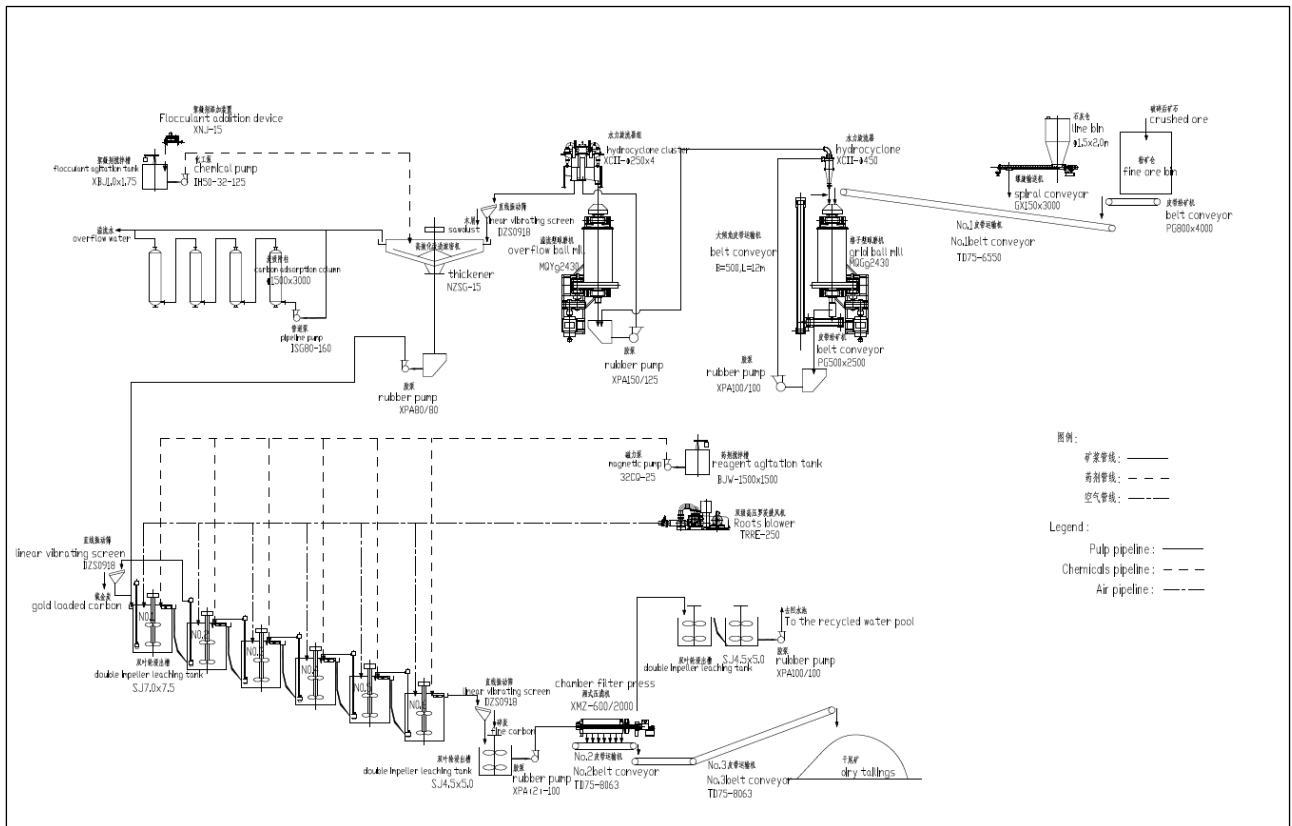


Figure 3.2 Sokor CIL plant and tailings facility – March 2019



## LEAD-ZINC PROCESSING

In March 2018, CNMC engaged Yantai Xinhai Mining Research & Design Co Ltd (Xinhai) to complete mineral process testing on lead-zinc mineralisation from Manson's Lode to provide a basis for mine design.

CNMC provided seven separate samples with a total weight of 46 kg. After blending and splitting, the samples were made into test samples containing 2.65% lead, 2.60% zinc, 90.8 g/t silver, 4.37 g/t gold, 27.6% sulphur, 33.6% iron, 0.34% tin and 0.38% arsenic. The mineralogy comprised mainly pyrite, galena, sphalerite, chalcopyrite, pyrite, magnetite and cassiterite, while non-metallic minerals were feldspar and quartz.

The Xinhai test analysed the characteristics of the ore minerals and mineral processing technology, mineral processing method, process flow structure, mineral processing indexes, technological conditions and final products. According to the different metal contents of the samples, Xinhai conducted comparative research on three mineral processing schemes and detailed condition tests on Schemes 1 and 2. The three schemes comprised:

- Scheme 1: When the raw material comprised a high lead and zinc grade and a low gold grade, a differential flotation process was adopted.
- Scheme 2: When the raw material comprised a low lead and zinc grade and a high gold grade, a leaching process was applied.
- Scheme 3: When the raw material comprised a high lead, zinc, gold and silver grade, leaching and differential flotation was applied.

**Differential flotation process (Scheme 1).** Raw material was ground to 65% passing -200 mesh (75  $\mu\text{m}$ ). Lead was recovered first through differential flotation and lead concentrate recovered through one-stage roughing, two-stage scavenging and two-stage cleaning. The lead concentrates had a yield of 4.05%, a lead grade of 51.6% and a silver grade of 1,378 g/t. Lead recovery was 78.8% and silver recovery was 60.1%.

The lead flotation tailings flowed to the zinc flotation process with one-stage roughing, two-stage scavenging and two-stage cleaning. The zinc concentrate had a yield of 4.67%, a zinc grade of 46.5% and a zinc recovery of 83.5%.

The closed-circuit tailings were treated by sulphur flotation (one-stage roughing and one-stage scavenging). Then sulphur flotation tailings were deslimed and then subject to a gravity separation process. Gravity concentrates were processed by two-stage magnetic separation (4,000 Oersted [Oe] and 7,000 Oe) to retrieve tin concentrates with an operation yield of 0.13% (0.12% relative to raw ore), a tin grade of 43.5% and a tin operational recovery of 20.9% (15.3% relative to raw ore). The recovery of tin was notably lower due to tin being dominantly distributed in fine fraction (-200 mesh) and partly associated with sulphides.

**Leaching process (Scheme 2 and 3).** Raw material was ground to 85% passing -200 mesh and lime was used as protective alkali. The gold grade of leaching tailings and the gold leaching rate achieved 0.43 g/t and 90.16% respectively under a lime dosage of 14 kg/t, a sodium cyanide dosage of 5 kg/t and a leaching time of 24 hours.

For raw material with a high lead, zinc, gold and silver grades, after the raw material was ground to 85% passing -200 mesh, gold and silver were retrieved through the leaching process. The leaching process achieved a gold leaching rate of 88.3% and a silver leaching rate of 45.7% (with some loss of lead and zinc). Leaching tailings were treated by differential flotation to retrieve lead and then lead concentrates are retrieved through one-stage roughing, one-stage scavenging and two-stage concentration. The lead concentrates achieved a yield of 1.56% and a lead concentrate grade of 75.8%, a silver grade of 1,272 g/t, a lead recovery of 51.8% and a silver recovery of 41.0%. After lead flotation, tailings flow to the zinc flotation process. Through two-stage roughing, two-stage scavenging, and two-stage concentration, zinc concentrates were recovered, with a yield of 3.2%, a zinc grade of 47.0% and a zinc recovery of 62.9%. The leaching and flotation process tests achieved a gold recovery of 88.3% and a silver recover of 68.4% (45.7% in leaching process and 22.7% in the flotation process).

During 2019, CNMC commenced construction of a flotation plant for the production of lead and zinc concentrate based on the Scheme 1 process flow and design prepared by Xintai. CNMC expects the flotation plant to be operational in 2021.

**Figure 3.3 Construction of Sokor flotation plant – October 2019**



## 3.7. MINING

### 3.7.1. MINING METHODS

The deposits at the Sokor Project are largely suited to conventional open pit mining methods, the primary reasons being:

- the deposits almost all outcrop with limited overburden
- the deposits dip at roughly 35° to 40°, which allows one wall of the pit to follow the footwall (minimal waste dilution)
- there are multiple parallel lenses that fall within the pit boundaries, resulting in low stripping ratios
- the width of the ore zones and the dip would be problematic for underground extraction.



Underground development commenced at Ketubong in 2019 with the mining by shrinkage stoping and accessed by a vertical shaft. Three horizontal development drives have been wholly or partly excavated, accessing the deposit along strike with a 40 m vertical design stope height (approximately 80 m down dip). Rises and related works are designed on both sides of the stope and along the dip. 5 m crown pillars are to be kept at the top and bottom of the stopes and recovered after completion. Ore rib pillars within the mine stope will be kept at suitable spacing and will be recovered depending on the wall condition.

No stope ore had been taken from the Ketubong deposit by the end of 2019 with only a small amount of development ore hoisted to surface.

**Figure 3.4 Ketubong shaft headframe – October 2019**



### **3.7.2. PIT OPTIMISATION**

#### **PROCESS**

Whittle mining software was used to determine the optimum pit limits. This programme uses the input parameters of costs and revenues and applies these via an algorithm to create a series of “nested” pit shells, which are evaluated to find the shell with the highest NPV.

#### **PROCESSING STREAMS**

For the purposes of the open pit optimisation, and in line with current operating practices, pit optimisations were run such that:

- the only available processing stream for oxide material was the heap leach
- transitional and fresh rock above the processing cut-off grade was sent to the CIL plant.

#### **COSTS**

Site costs were provided by CNMC for the 2019 calendar year and do not provide breakdown as to the type of material mined. The average 2019 mining costs as supplied were:

- Rixen – \$0.48/t mined (range from \$0.28 to \$0.72/t)
- New Discovery/New Found and Manson's Lode – \$2.40/t mined (range from \$0.67 to \$6.55/t).

The mining unit costs applied in the pit optimisations were:

- Rixen – oxide \$0.45/t, transition \$1.00/t and fresh \$1.50/t
- New Discovery/New Found – oxide \$1.00/t, transition \$1.50/t and fresh \$2.50/t
- Manson's Lode – oxide \$1.00/t, transition \$1.50/t and fresh \$2.50/t.

Costs applied reflected the fact that Rixen has been extensively mined and with the other deposits, Optiro has taken a more conservative approach to the unit costs. It is understood that the CNMC figures reported to Optiro do not contain the final rehabilitation costs and these have been added back, based on known costs of similarly sized, geographically similarly located operations.

Processing costs, inclusive of administration and royalties for the heap leach and CIL for the 2019 calendar year were supplied by CNMC. The average 2019 processing costs were:

- heap leach at Rixen – \$3.15/t
- vat leach at New Found – \$12.43/t.
- CIL at New Discovery/New Found and Manson's Lode – \$30.02/t.

The total processing costs applied in the optimisations were:

- heap leach - \$3.50/t for Rixen.
- CIL - \$30.00/t for New Discovery/New Found and Mason's Lode deposits.

#### **DILUTION AND RECOVERY**

The ore zones at Sokor have reasonable width and are in an orientation amenable to good recovery through open pit mining. As such, dilution and recovery of the ore zones were estimated at 5% and 95% respectively. These assumptions result in average grades for heap leach material that closely approximate historical performance and which are considered reasonable.

#### **GEOTECHNICAL**

The geotechnical parameters on which the optimisation and subsequent design were undertaken were based on current operating practices for the Rixen pit. For Rixen and New Discovery, the slope angles used were:

- 40° for oxide material
- 42° for transitional material
- 45° for fresh rock. At Rixen this was reduced to 40° below the 60 mRL to allow for ramp inclusion in the deeper extensions of the southern pit area.

At Manson's Lode an overall slope angle of 50° was used and restricted to the base of the existing pit walls.

#### **OPTIMISATION INPUTS**

Input parameters used for pit optimisation are listed in Table 3.3.

**Table 3.3 Optimisation input parameters**

Item	Units	Amount	Comment
<b>Overall slope angle – Rixen and New Discovery</b>			
Oxide material	degrees	40	Oxidation states have not been fully logged at Manson's Lode, hence one overall wall angle which roughly approximates the Rixen average slope angle was used
Transitional material	degrees	42	
Fresh material	degrees	40/45	
<b>Overall slope angle – Manson's Lode</b>	degrees	50	
<b>Production factors</b>			
Dilution	%	5	Optiro estimates which align well with previous performance
Mining recovery	%	95	
Ore processing limit – heap leach	Mtpa	1.0	
Ore processing limit – CIL	Ktpa	182	
<b>Mining costs</b>			
Oxide material - Rixen	US\$ /t	0.45	Optiro estimates based on 2019 CNMC data
Transitional material - Rixen	US \$/t	1.00	
Fresh material – Rixen	US \$/t	1.50	Optiro estimate based on CNMC costs extrapolated for other pits
Oxide material – All other deposits	US \$/t	1.00	
Transition material – All other deposits	US \$/t	2.50	
Fresh material – All other deposits	US\$ /t	2.50	
<b>Processing recovery</b>			
Heap leach - All deposits	%	35%	2019 CNMC recoveries in later months Jun / Dec CNMC 2019 CIL performance
CIL - New Discovery and Manson's Lode	%	94.5%	
<b>Processing costs</b>			
Heap leach	US\$ /t ore	3.50	Explained in costs section
CIL (inclusive of administration and royalty)	US\$ /t ore	30	
<b>Revenue</b>			
Gold	US\$ /oz	1,500	

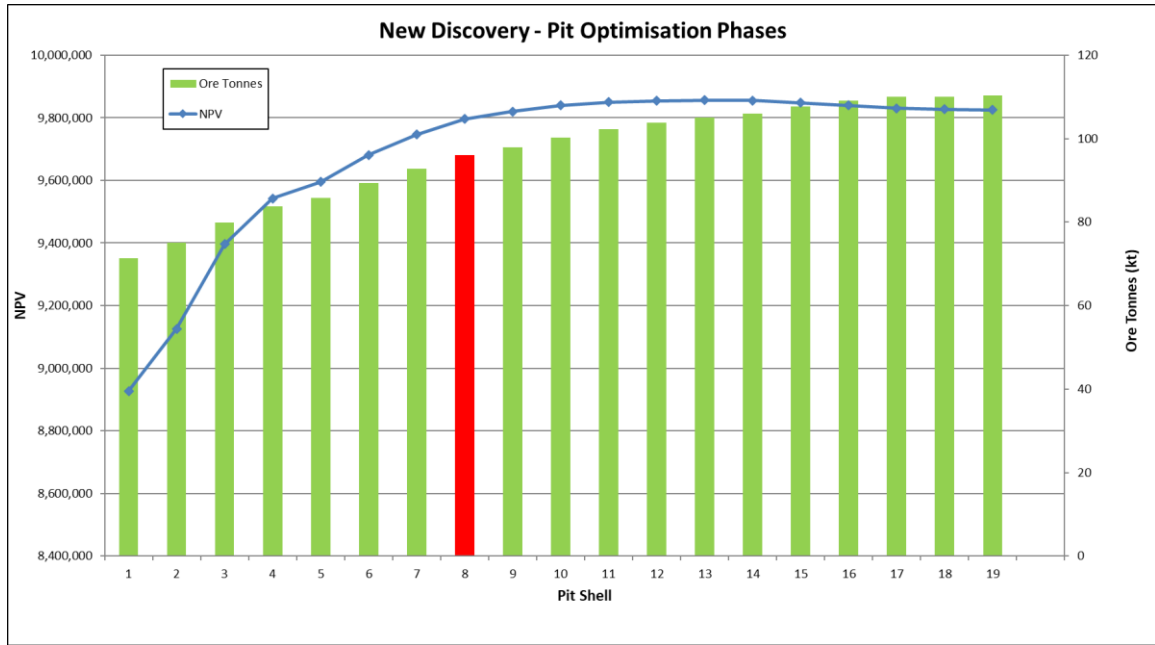
## OPTIMISATION RESULTS

The optimisation results for each deposit are shown in Figure 3.5 to Figure 3.8. In each instance a pit shell smaller than the highest theoretically conceivable value pit has been chosen as the basis for the design. Optiro believes pits larger than the chosen shell do not have sufficient reward (contained ounces, NPV, free cashflow) to justify the additional risk (larger pit, higher stripping ratio and higher costs). In each instance the pit shell chosen as the basis for design is shown in red.

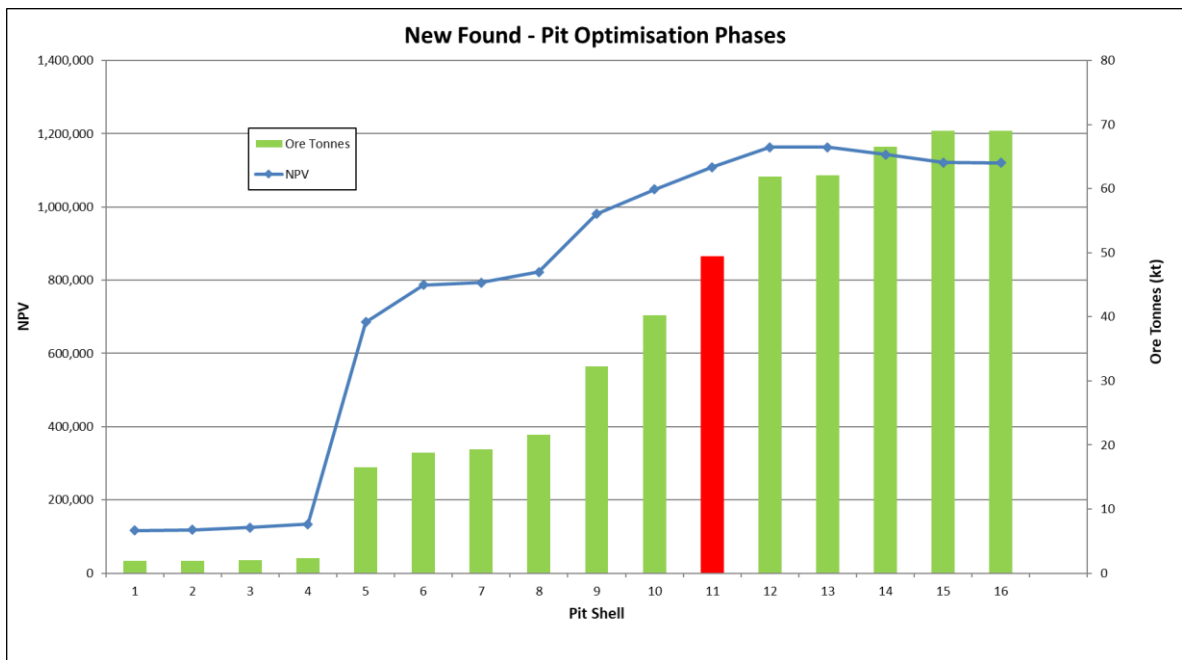
**Figure 3.5 Optimisation results - Rixen**



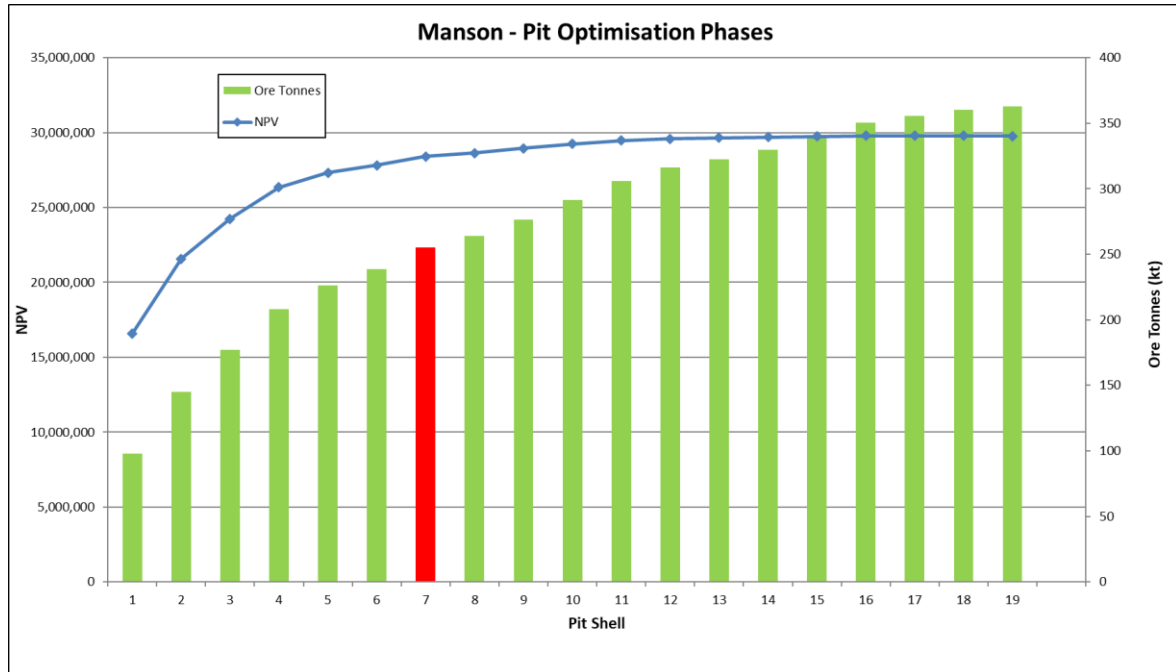

**Figure 3.6** Optimisation results – New Discovery



**Figure 3.7** Optimisation results – New Found



**Figure 3.8 Optimisation results - Manson's Lode**



**SENSITIVITY**

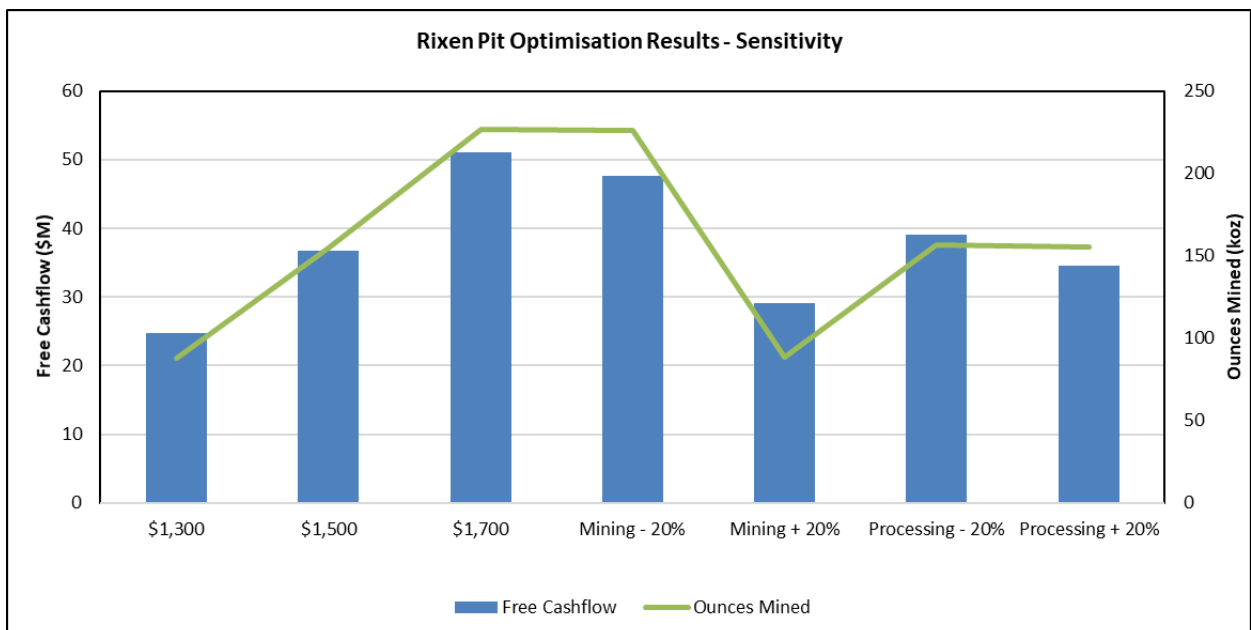
A sensitivity analysis (Figure 3.9 to Figure 3.12) was undertaken to:

- ensure that the chosen pit shell for design was still relevant at an appropriate range of key input drivers
- test overall project sensitivity.

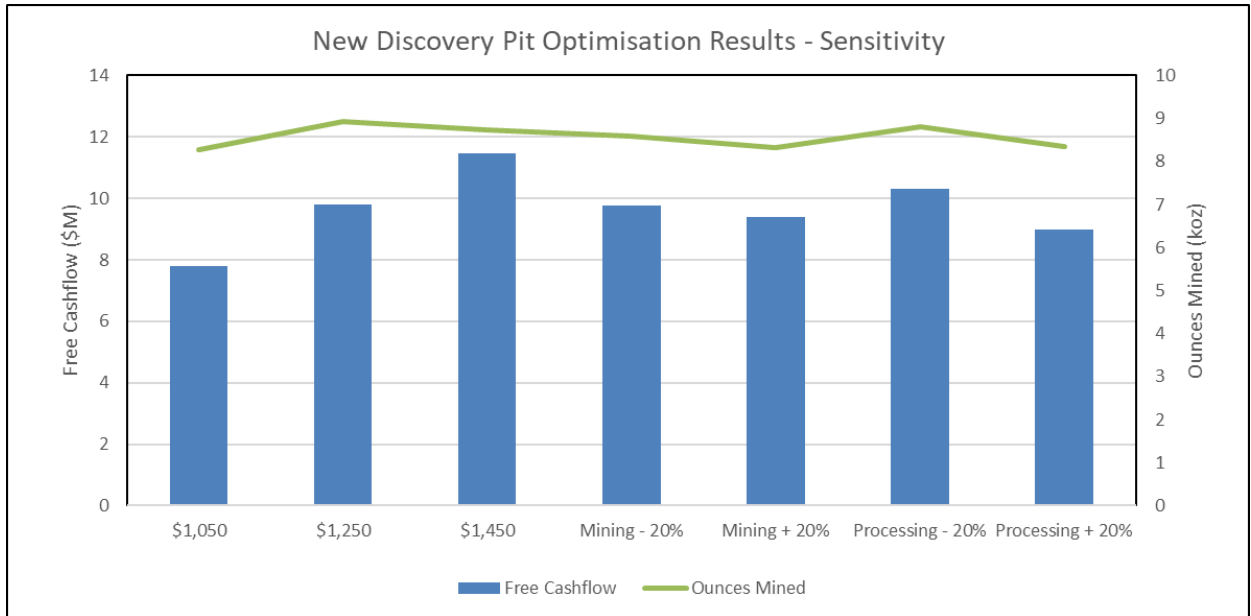
Sensitivity analysis was undertaken on the following parameters:

- a gold price of  $\pm$ US\$200 per ounce (base case is US\$1,500 per ounce)
- $\pm$  20% on processing cost
- $\pm$  20% on mining cost.

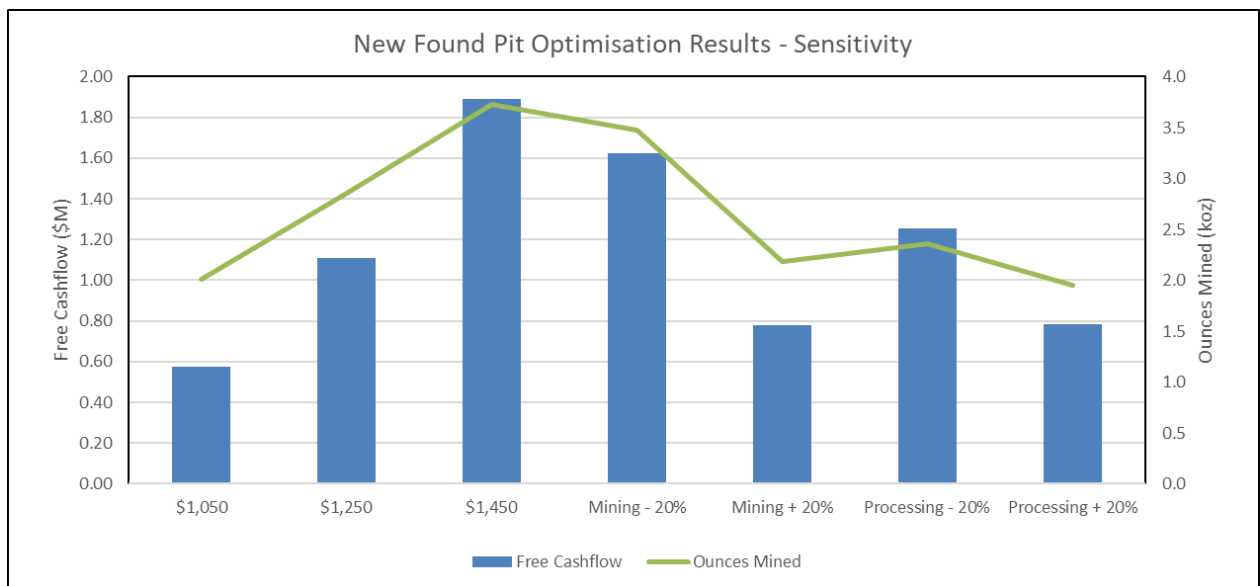
**Figure 3.9 Sensitivity results - Rixen**

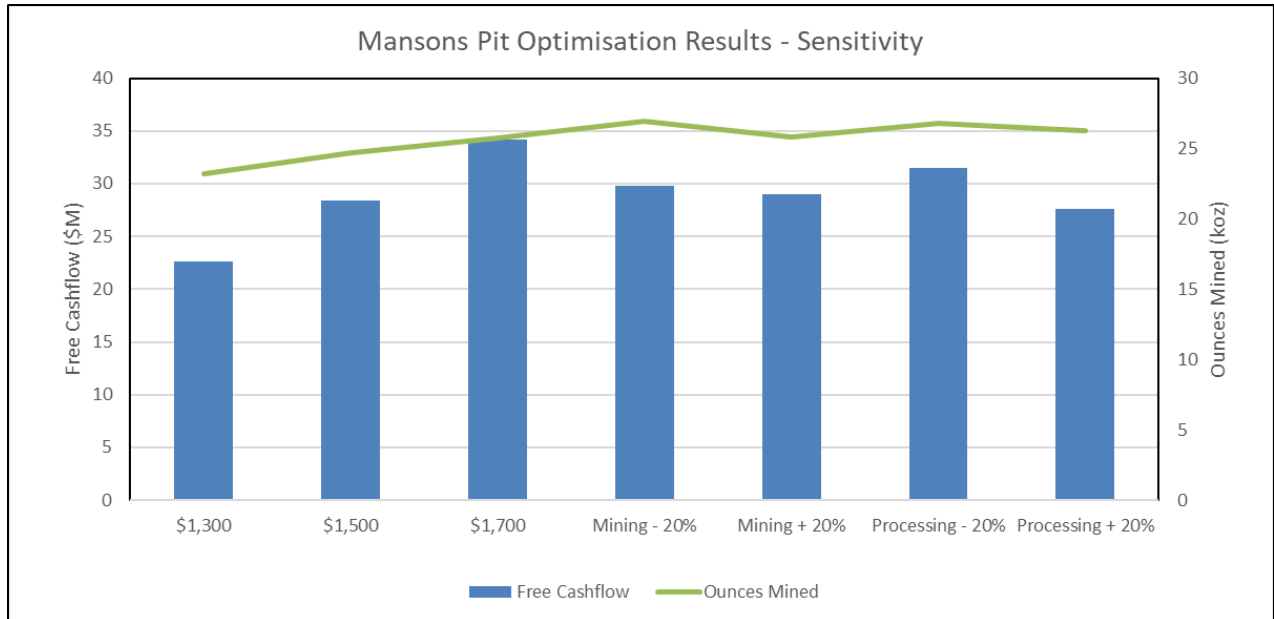


**Figure 3.10 Sensitivity results - New Discovery**



**Figure 3.11 Sensitivity results - New Found**



**Figure 3.12 Sensitivity results - Manson's Lode**


The results of the sensitivity analysis (highest theoretical NPV pit is shown for comparison) show that whilst the value (free cashflow) of the mine changes with input parameter, the key physical (contained ounces) is relatively unchanged (relatively insensitive). The results also show that all cases (including downside sensitivities) contain, at the very least, a pit with equivalent tonnes, grade, contained ounces and similar stripping ratios as that chosen as the basis of the pit design. Thus, the pit selection as the basis for design is robust and a relatively low-risk option.

### 3.7.3. MINE DESIGN

The mine design was undertaken using industry accepted parameters, in line with current site operating practices and based on a conventional, drill, blast, load and haul mining scenario.

#### DESIGN PARAMETERS

Design parameters are summarised in Table 3.4.

**Table 3.4 Mine design parameters**

Item	Units	Amount
Batter angles		
Oxide and transitional	degrees	60
Fresh	degrees	60
Batter height	m	10/12
Berm width	m	5
Ramp width		
Dual lane	m	18
Single lane*	m	9
Minimum mining width	m	15

\* Single lane employed at bottom of pit and in small pits that do not warrant dual lane ramps

#### PIT DESIGN

Pit designs are depicted in Figure 3.13 to Figure 3.16.

The pit design at Rixen has been modified from the previous 2018 design with the addition of a southerly extension of the main northern pit and a deepening and a major expansion of the separate southern pit area.

Figure 3.13 Final pit design – Rixen (north to right)

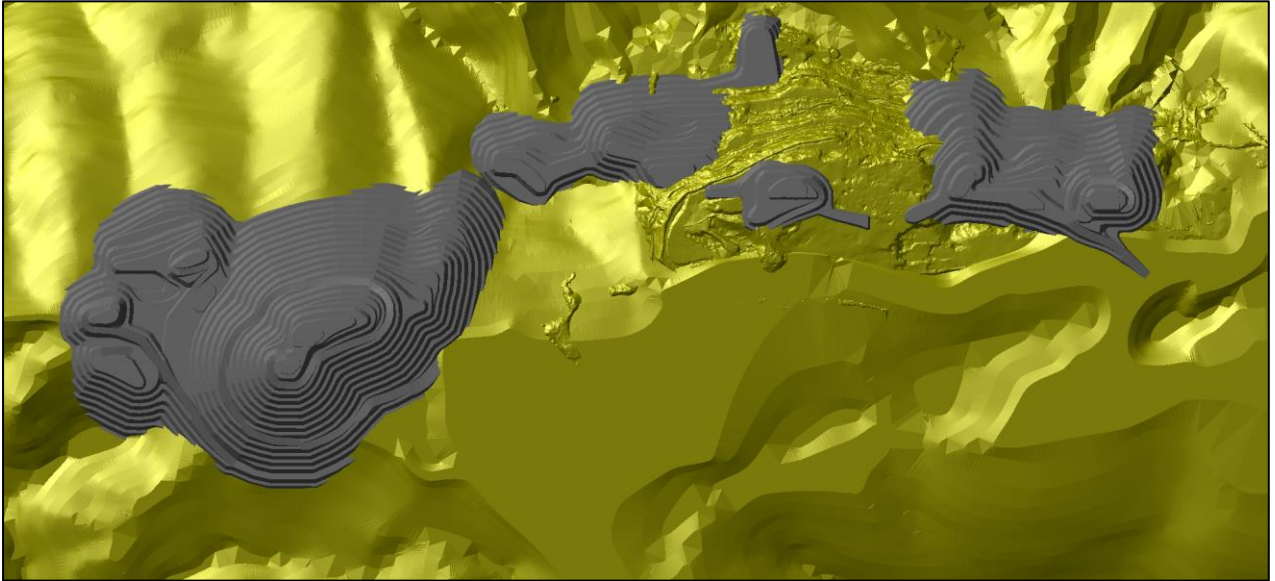


Figure 3.14 Final pit design - New Discovery

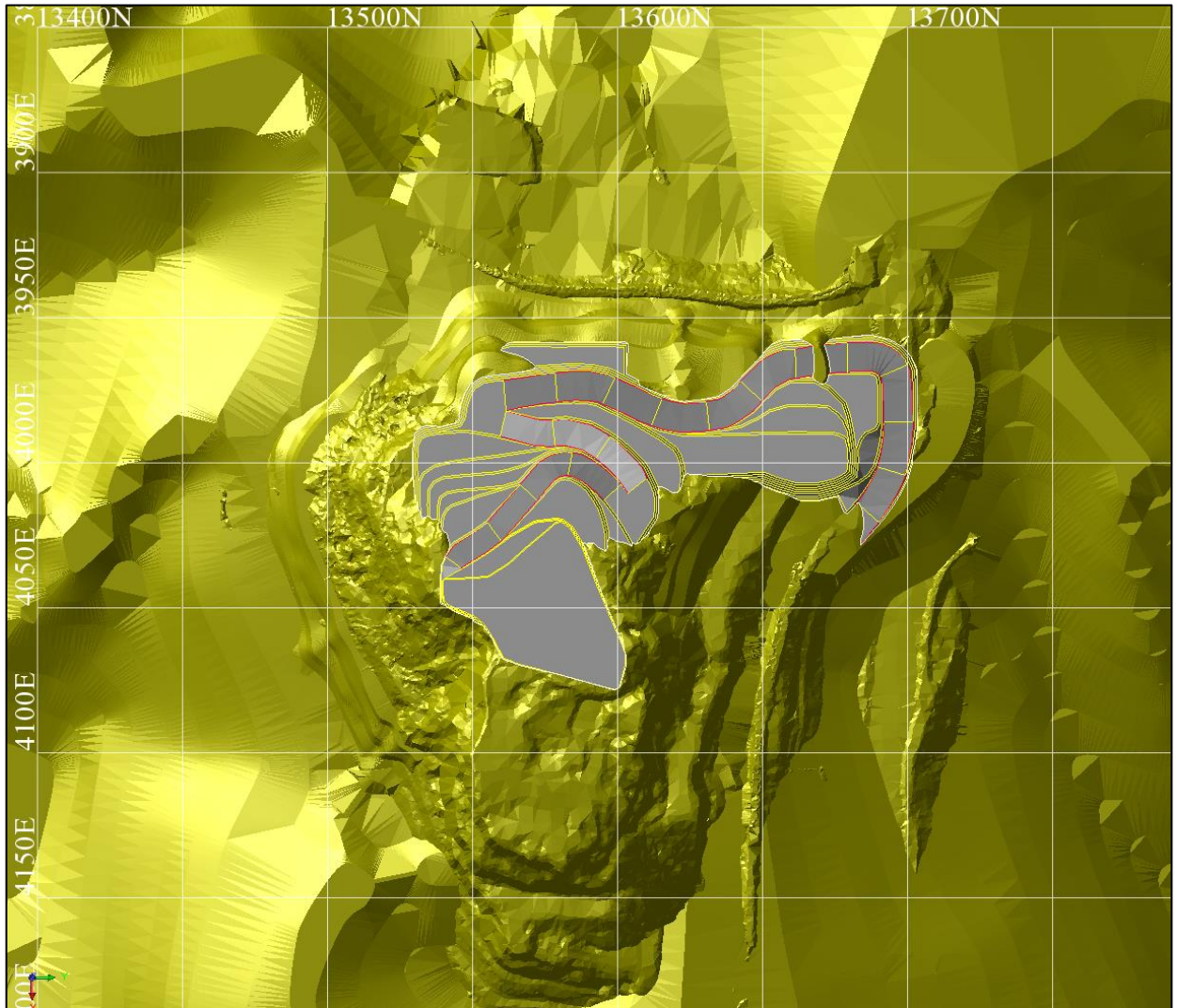




Figure 3.15 Final pit design - New Found

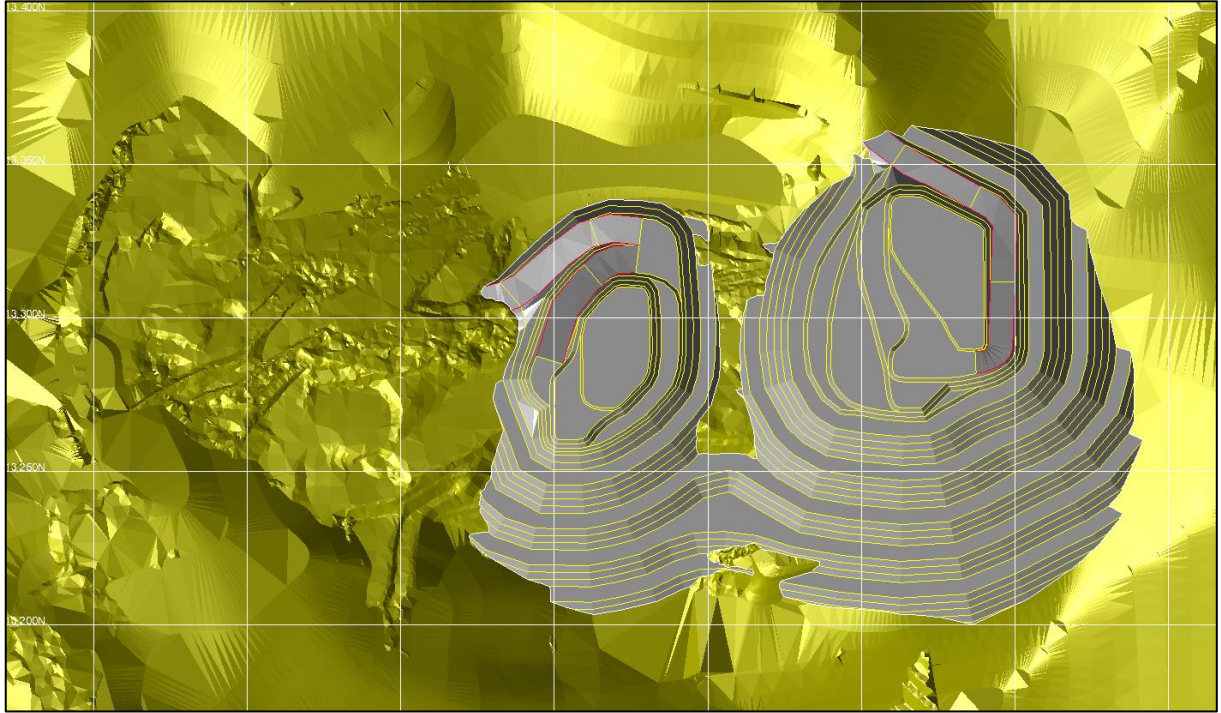


Figure 3.16 Final pit design - Manson's Lode





## MINE DESIGN PHYSICALS

The mine designs were reimported into the optimisation package to report key physicals. This was done to ensure that a consistent method of reporting ore and waste by rock type, processing stream and the applicable cut-off grade was adhered to. The key physicals of each mine design are shown in Table 3.5.

**Table 3.5** Mine design physicals

Deposit	Waste kt	Ore tonnes (kt)			Ore grade (g/t Au)			Gold mined (koz)		
		Heap leach	CIL	Total	Heap leach	CIL	Total	Heap leach	CIL	Total
Manson's Lode	264	0	280	280	0.00	2.97	2.97	0	27	27
New Discovery	77	0	69	69	0.00	3.30	3.30	0	7	7
New Found	1,069	0	53	53	0.00	1.77	1.77	0	3	3
Rixen	30,085	30,085	0	30,085	1.24	0.00	1.24	161	0	161
Ketubong UG	0	0	49	49	0.00	3.97	3.97	0	6	6
<b>Total</b>	<b>31,495</b>	<b>30,085</b>	<b>451</b>	<b>30,536</b>	<b>1.24</b>	<b>2.99</b>	<b>1.26</b>	<b>161</b>	<b>43</b>	<b>204</b>

### 3.7.4. MINE SCHEDULE

The mine schedule was undertaken using NPV scheduler. The final pit design was imported into the optimisation package and merged with the surface topography to produce an ultimate mining surface.

For Rixen, pushbacks were then created that:

- contained approximately 1 Mt of ore
- attempted to maintain similar stripping ratios.

Due to the small size of both the New Discovery and Manson's Lode pits, these were scheduled based on the final pit design, with no pushbacks.

### SCHEDULING STRATEGY

The mine schedule had three primary objectives:

- Continue to mine heap leach sources as per current operating practice (scheduled at a nominal 1 Mtpa)
- achieve the nominal CIL rate of 500 tpd
- mine CIL sources in order of decreasing grade (New Discovery First, then Manson's Lode)
- smooth overall material movement as much as possible to keep the stripping ratio constant.

### SCHEDULE OUTPUTS

The key outputs of the mining schedule are shown in Table 3.6. Optiro notes that the mining schedule is for Ore Reserves estimation purposes only.

### 3.7.5. MINING OPERATIONS

#### MINING METHODS

The current mining method is conventional, drill and blast, load and haul in the open pit. The dip of the orebody (35° to 40°) aligns well with the conceptual overall pit slope. One wall of the pit has been designed to follow the footwall of the orebody.

#### WORKFORCE

The current operating workforce comprises both CNMC employees and various contractors. Administration and technical services staff are employed directly by CNMC. CNMC endeavours to employ labour from the local communities as required.

**Table 3.6 Mining schedule physicals**

Source	Unit	Total	Year 1	Year 2	Year 3	Year 4
<b>Manson's Lode</b>						
Waste	kt	264	198	53	13	0
Total ore	kt	280	121	130	29	0
Heap leach ore	kt	0	0	0	0	0
CIL ore	kt	280	121	130	29	0
Heap leach ore grade	g/t	0.0	0.0	0.0	0.0	0.0
CIL ore grade	g/t	3.1	2.7	3.4	3.6	0.0
Gold mined (heap leach)	koz	0	0	0	0	0
Gold mined (CIL)	koz	28	11	14	3	0
Gold mined	koz	28	11	14	3	0
<b>New Discovery / New Found</b>						
Waste	kt	1,149	719	354	75	0
Total ore	kt	122	74	12	37	0
Heap leach ore	kt	0	0	0	0	0
CIL ore	kt	122	74	12	37	0
Heap leach ore grade	g/t	0.0	0.0	0.0	0.0	0.0
CIL ore grade	g/t	2.8	3.3	1.9	1.9	0.0
Gold mined (heap leach)	koz	0	0	0	0	0
Gold mined (CIL)	koz	11	8	1	2	0
Gold mined	koz	11	8	1	2	0
<b>Rixen</b>						
Waste	kt	30,144	6,565	8,532	9,504	5,544
Total ore	kt	4,038	1,103	984	1,232	719
Heap leach ore	kt	4,038	1,103	984	1,232	719
CIL ore	kt	0	0	0	0	0
Heap leach ore grade	g/t	1.2	1.5	1.2	0.9	1.3
CIL ore grade	g/t	0.0	0.0	0.0	0.0	0.0
Gold mined (heap leach)	koz	156	53	36	35	31
Gold mined (CIL)	koz	0	0	0	0	0
Gold mined	koz	156	53	36	35	31
<b>Ketubong</b>						
Waste	kt	0	0	0	0	0
Total ore	kt	49	26	23	0	0
Heap leach ore	kt	0	0	0	0	0
CIL ore	kt	49	26	23	0	0
Heap leach ore grade	g/t	0.0	0.0	0.0	0.0	0.0
CIL ore grade	g/t	4.0	4.0	4.0	0.0	0.0
Gold mined (heap leach)	koz	0	0	0	0	0
Gold mined (CIL)	koz	6	3	3	0	0
Gold mined	koz	6	3	3	0	0
<b>Sokor Project - Total</b>						
<b>Waste</b>	<b>kt</b>	<b>31,556</b>	<b>7,482</b>	<b>8,939</b>	<b>9,591</b>	<b>5,544</b>
<b>Total ore</b>	<b>kt</b>	<b>4,489</b>	<b>1,324</b>	<b>1,149</b>	<b>1,297</b>	<b>719</b>
<b>Heap leach ore</b>	<b>kt</b>	<b>4,038</b>	<b>1,103</b>	<b>984</b>	<b>1,232</b>	<b>719</b>
<b>CIL ore</b>	<b>kt</b>	<b>451</b>	<b>221</b>	<b>165</b>	<b>65</b>	<b>0</b>
<b>Heap leach ore grade</b>	<b>g/t</b>	<b>1.2</b>	<b>1.5</b>	<b>1.2</b>	<b>0.9</b>	<b>1.3</b>
<b>CIL ore grade</b>	<b>g/t</b>	<b>3.1</b>	<b>3.1</b>	<b>3.4</b>	<b>2.7</b>	<b>0.0</b>
<b>Gold mined (heap leach)</b>	<b>koz</b>	<b>156</b>	<b>53</b>	<b>36</b>	<b>35</b>	<b>31</b>
<b>Gold mined (CIL)</b>	<b>koz</b>	<b>45</b>	<b>22</b>	<b>18</b>	<b>6</b>	<b>0</b>
<b>Gold mined</b>	<b>koz</b>	<b>201</b>	<b>75</b>	<b>54</b>	<b>40</b>	<b>31</b>

## MINING FLEET

Due to the small volumes of material movement required, the pit is mined using a small fleet of machinery. Several back-hoe type excavators in the 60 t to 120 t class are used in the mining of the ore and waste, as well as in the post-heap tails relocation and rehabilitation process. A mixed fleet of 10-wheel haul trucks and 30 t articulated haul trucks are used in the mining operations as required. Ancillary equipment for in pit work requirements, waste dump management and road maintenance is provided by a fleet of graders, dozers and front-end loaders.

Drilling of blast holes is completed by a contractor and CNMC provides the blasting supervision.

### 3.8. MINERAL RESOURCE ESTIMATES AND EXPLORATION RESULTS

Only exploration data used for the Mineral Resource estimate has been reviewed by Optiro. Any additional exploration data obtained by CNMC which is not within the Mineral Resource areas at Manson's Lode, New Discovery, New Found, Ketubong, Rixen or Sg Amang, has not been included in this report.

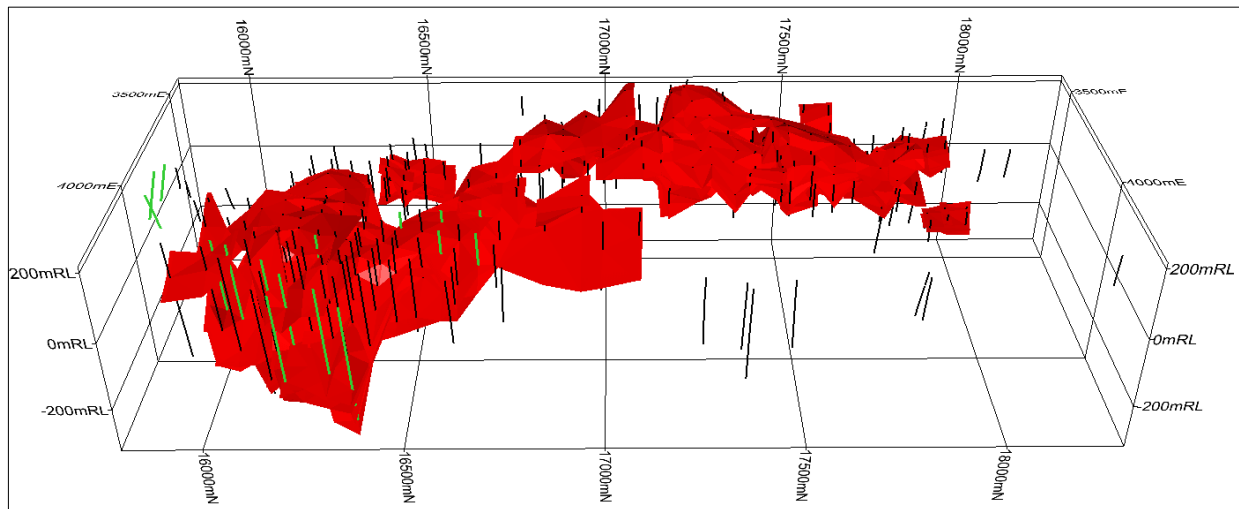
#### 3.8.1. MINERAL RESOURCE

##### INTERPRETATION

CNMC provided cross-sections of the mineralisation and geology interpreted from the geological logging and assay results from drillholes to the end of 2013. Optiro used the cross-sections to guide interpretation of the mineralisation at all deposits. Interpretation of the 2014 to 2019 drillhole data was by Optiro, and used the geological logs provided by CNMC and the assay data. It maintained a similar orientation to that interpreted by CNMC geologists prior to 2014.

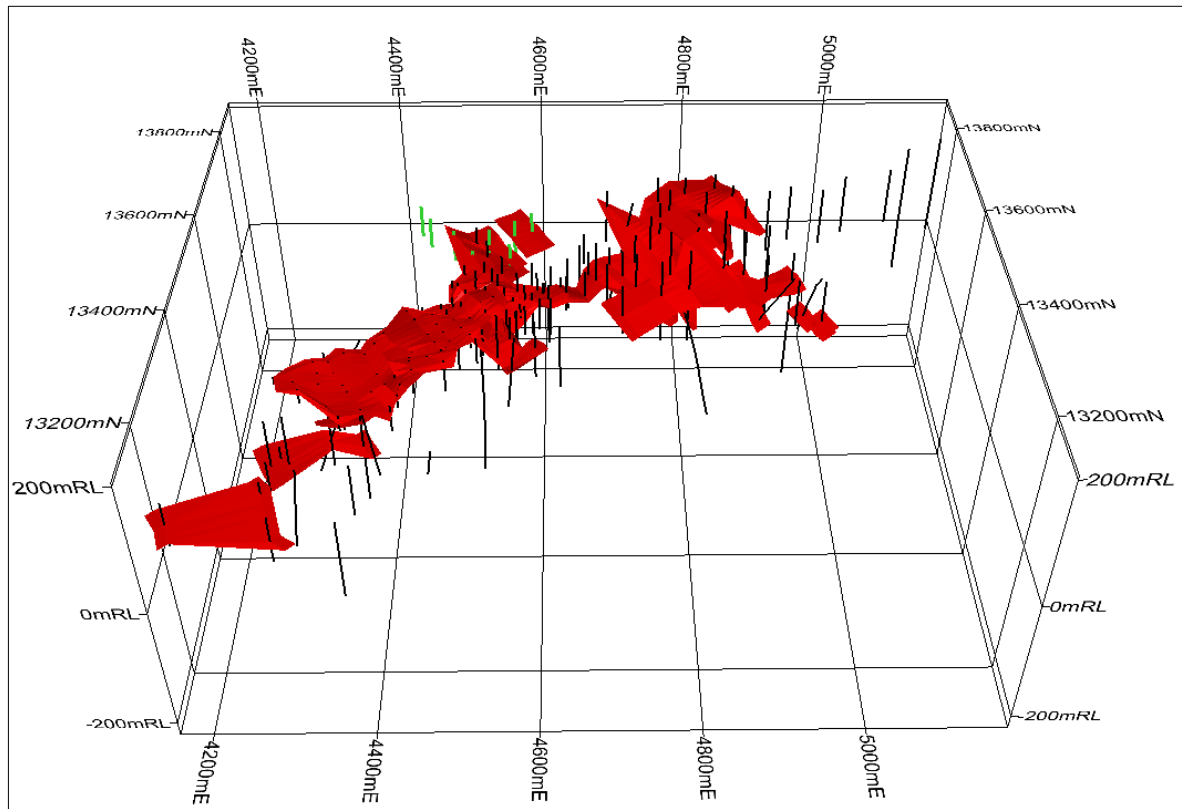
For the 2019 update to the Rixen, Manson's Lode and the combined New Discovery and New Found resource models, a nominal 0.15 g/t gold cut-off grade was used to interpret the gold mineralisation. At Rixen, the 2019 drilling infilled an area within the southern part of Rixen and extended the resource down-dip to the east and long strike to the south. The drillholes and the resource interpretation for 2019 are illustrated in Figure 3.17.

**Figure 3.17 Rixen - Mineral Resource interpretation as at 2019 (red) and drillholes (prior to 2019 black and 2019 green)**



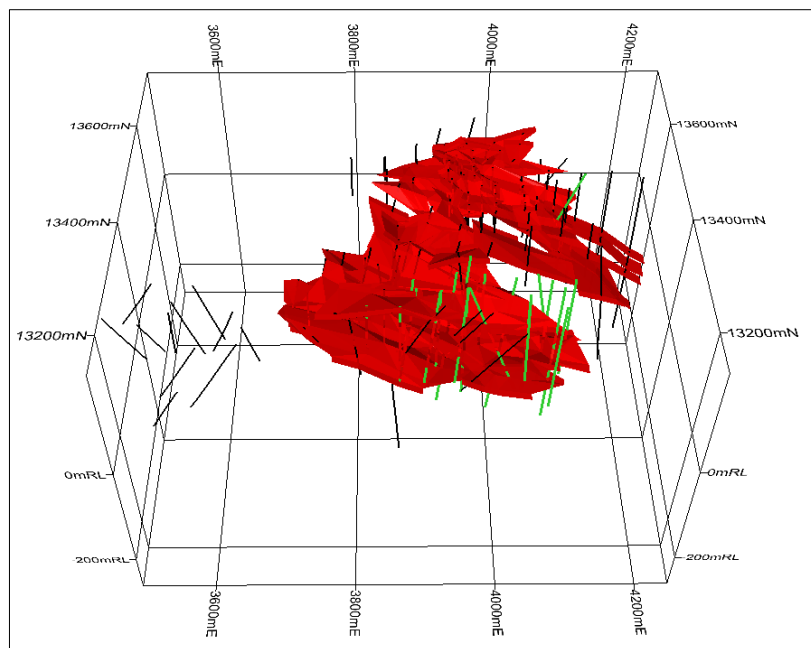
At Manson's Lode, the 2019 drilling extended the gold mineralisation to the northwest, within the central area of the deposit. The base metal mineralisation (interpreted using a nominal 2% lead+zinc cut-off grade) also extended to the northeast, but not as far as the gold mineralisation. The drillholes and the resource interpretation for 2019 are illustrated in Figure 3.18.

**Figure 3.18 Manson's Lode – gold Mineral Resource interpretation as at 2019 (red) and drillholes (prior to 2019 black and 2019 green)**



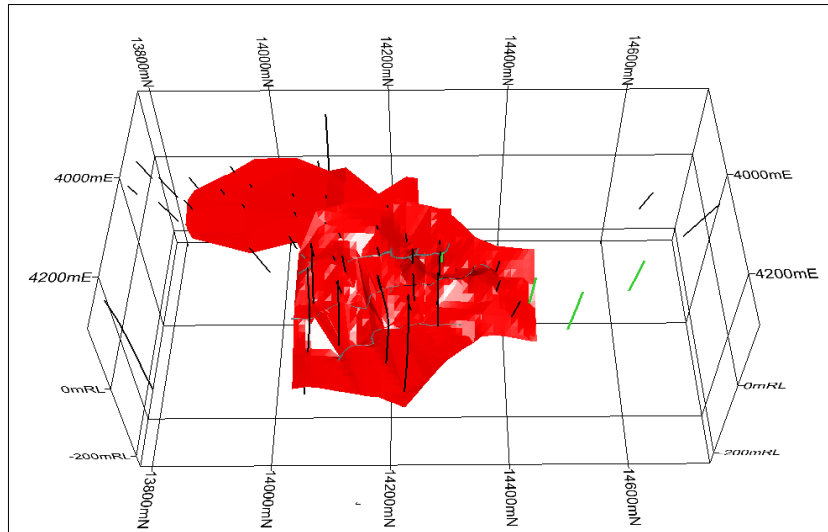
Two holes were drilled at New Discovery during 2019. This drilling tested the mineralisation at depth and has extended the mineralisation down-dip, to the east. The 2019 drilling at New Found has extended the resource to the south and down-dip, to the east. The drillholes and the resource interpretation for 2019 for New Discovery and New Found are illustrated in Figure 3.19.

**Figure 3.19 New Discovery and New Found - Mineral Resource interpretation as at 2019 (red) and drillholes (prior to 2019 black and 2019 green)**



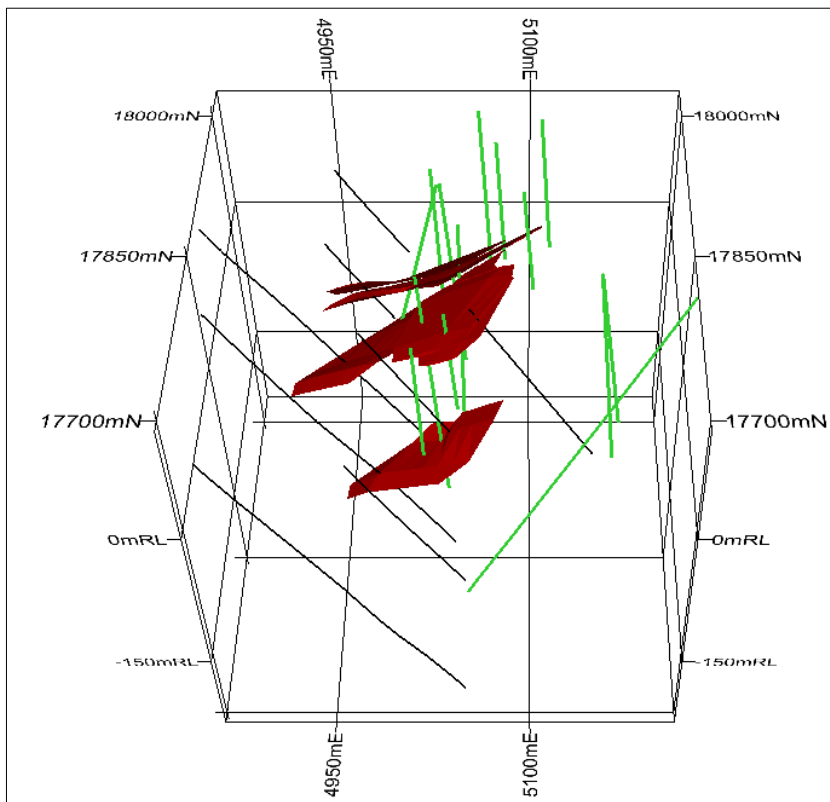
Open pit mining stopped at Ketubong during 2018 and the focus is now on extending the resource at depth and down dip for underground extraction. Four holes were drilled at Ketubong in 2019 to investigate the mineralisation at depth within the northern area of the deposit and two of these drillholes extended the resource to the north. Sampling of the underground workings included results from 200 face samples. The cut-off grade used for mineralisation interpretation was increased from 0.15 g/t gold to 0.5 g/t gold, commensurate with the planned underground mining method. The resource was screened to exclude mineralisation within 10 m of the existing open pit. The drillholes and the resource interpretation for 2019 for Ketubong and the underground workings are illustrated in Figure 3.20.

**Figure 3.20 Ketubong - Mineral Resource interpretation as at 2019 (red), drillholes (prior to 2019 black and 2019 green) and underground workings (grey)**



Drilling in 2019 at Sg Amang has defined five lodges of base metal mineralisation. The drillholes and the resource interpretation for 2019 for Sg Amang is illustrated in Figure 3.21.

**Figure 3.21 Sg Amang - Mineral Resource interpretation as at 2019 (red) and drillholes (prior to 2019 black and 2019 green)**



## DATA ANALYSIS

Data within the interpreted mineralisation Manson's Lode was composited to 1.5 m downhole intervals and data within the interpreted mineralisation at Rixen, New Discovery, New Found and Sg Amang was composited to 1.0 m downhole intervals.

The data was then coded for material type (alluvial/eluvial, backfill, lithologically controlled or structurally controlled). Statistical analysis of the composited and coded gold values indicated that the data populations are positively skewed and top-cut values were therefore selected for each deposit and material type. Top-cut values range between 10 g/t gold (within the eluvial mineralisation at Rixen) to 32 g/t gold (within the lithologically controlled mineralisation at New Discovery and New Found). These top-cuts affected the top 0.4% to 2.3% of the gold data.

At Manson's Lode, silver, lead and zinc grades were top-cut to 310 g/t silver, 9% lead and 2.8% zinc respectively within the backfill material, and to 450 g/t silver, 23% lead and 19% zinc within the bedrock material. These top-cuts affected the top 0.3% to 2.3% of the data. The resource at Sg Amang is based on relatively sparse data, which was taken into consideration for resource classification. As the data distributions are poorly defined and positively skewed, the top-cuts that were applied (of 1,100 g/t Silver, 25% lead and 30% zinc) are more restrictive and affected the top 7.8% to 13.2% of the data.

At Ketubong, the face sample data from the underground workings was combined with the drillhole data and a seam model was used to model the potential underground resources, the samples were then length weighted for statistical and geostatistical analysis and for grade estimation. Top-cuts were not applied.

The gold mineralisation at the Sokor deposits has a low to moderate nugget effect (10% to 30% of the total sample variance) and mineralisation continuity was interpreted from variogram analysis to have an along-strike range of 46 m to 135 m, and a down-dip range of 44 m to 98 m. The longest ranges of continuity are within the fresh rock at Manson's Lode. The gold accumulation data at Ketubong has a moderately high nugget effect (35% of the total sample variance), an along strike range of 65 m and a down dip range of 44 m. The base metal mineralisation (lead and zinc) at Manson's Lode and Sg Amang has a low nugget effect (10% to 15% of the total sample variance) and along strike ranges of 74 m to 105 m and down-dip ranges of 52 m to 130 m.

## GRADE ESTIMATION AND CLASSIFICATION

Block models were generated for each deposit using a block size of 10 mE by 10 mN on 2 m benches at Manson's Lode and New Discovery/New Found, 10 mE by 20 mN on 2 m benches at Rixen and 10 mE by 10 mN by 1 m benches at Sg Amang. Block grades were estimated using ordinary kriging with appropriate top-cuts, as previously described, applied per deposit and style of mineralisation.

For Ketubong, a seam model using a block size of 5 mE by 5 mN with a variable bench height was used to represent the increased selectivity that can be achieved by underground mining practices. The face sampling data and drillhole data were length weighted for the entire thickness of the interpreted mineralised lode and ordinary kriging was used to estimate gold accumulation (gold grade times length). The block height was determined from the lode thickness at each block centroid and this was used to convert the estimated gold accumulation grade to a gold grade for each block by division.

Average bulk density values for each deposit and material type were calculated using measurements from diamond drillholes and test pits. Bulk density values used for the 2019 Mineral Resource estimate at Rixen were 2.62 t/m<sup>3</sup> for the oxide and transitional material and 2.84 t/m<sup>3</sup> for the fresh material. For the combined New Discovery and New Found resource estimate, 2.60 t/m<sup>3</sup> was used for the oxide material and 2.82 t/m<sup>3</sup> for the transitional and fresh material. A bulk density of 2.2 t/m<sup>3</sup> was used for the eluvial material at Rixen, New Discovery and New Found. Bulk density values used at Ketubong were 2.47 t/m<sup>3</sup> for the oxide material and 2.85 t/m<sup>3</sup> for the transitional and fresh material.

For the 2019 Mineral Resource for Manson's Lode, a bulk density of 1.85 t/m<sup>3</sup> was used for the backfill material and a density of 2.91 t/m<sup>3</sup> was used for the gold mineralised lodes within the bedrock material.



There is a strong relationship between the sulphide mineralisation and the bulk density. An ordinary multivariate least squares regression model between density and metal grade was developed and the following equation (and a minimum density of 2.6 t/m<sup>3</sup>) was used to determine the bulk density for the bedrock material at Manson's Lode within the base metal lodes as a function of the lead and zinc grades:

$$\text{Bulk density} = 3.34 + (-0.116 * \text{Pb}) + (0.063 * \text{Zn})$$

The mineralisation has been classified as Measured, Indicated and Inferred in accordance with the guidelines of the Australian JORC Code (2012). Table 1 criteria of the JORC Code and supporting comments are listed in Appendix A. Areas with well-defined geological and grade continuity were classified as either Measured or Indicated, and areas with close-spaced drilling with higher estimation quality were classified as Measured. Areas with wide spaced drilling and/or poor grade continuity were classified as Inferred.

## MINERAL RESOURCE TABULATION

The Mineral Resource estimate, as at 31 December 2019 for the Sokor Project, is reported in Table 3.7. This has been classified and reported in accordance with the guidelines of the JORC Code (2012) and has been depleted for mining. The Mineral Resources are reported above a 0.17 g/t gold cut-off grade at Rixen and for oxide material at New Discovery and New Found and above a 0.5 g/t gold cut-off grade at Manson's Lode and Ketubong, and for transitional and fresh material at New Discovery and New Found to reflect current commodity prices, operating costs and processing options. The Mineral Resources in Table 3.7 have been reported inclusive of the material used to generate Ore Reserves.

The cut-off grades used for reporting reflect the current and anticipated processing operations. The economic cut-off grade determined from Optiro's mining study of 0.17 g/t at Rixen and New Discovery was used to report the Mineral Resources at Rixen and the oxide Mineral Resources at New Discovery and New Found. Optiro's mining study at New Discovery and Manson's Lode indicates that the current economic cut-off grade for reporting of transitional and fresh material (to be processed using CIL) is 0.7 g/t gold. A cut-off grade of 0.5 g/t gold was used to report the Mineral Resources at Manson's Lode and Ketubong, the transitional and fresh Mineral Resources at New Discovery and New Found. This cut-off grade is lower than the current economic mining cut-off grade, and reflects potential future economic extraction.

**Table 3.7 Sokor Project – Gold Mineral Resource statement as at 31 December 2019 (inclusive of material modified to generate Ore Reserves)**

Deposit	Measured		Indicated		Inferred		Total	
	Tonnes (kt)	Grade (Au g/t)	Tonnes (kt)	Grade (Au g/t)	Tonnes (kt)	Grade (Au g/t)	Tonnes (kt)	Grade (Au g/t)
Manson's Lode	380	2.6	160	2.3	550	1.0	1,090	1.7
New Discovery	0.2	3.7	120	2.7	390	1.5	510	1.8
New Found	-	-	350	1.5	660	1.0	1,010	1.2
Ketubong	-	-	30	7.4	650	3.7	680	3.9
Rixen	-	-	8,780	1.5	4,250	1.8	13,030	1.6
<b>Total</b>	<b>380</b>	<b>2.6</b>	<b>9,440</b>	<b>1.6</b>	<b>6,500</b>	<b>1.8</b>	<b>16,320</b>	<b>1.7</b>

*Note: Inconsistencies in totals are due to rounding*

At Manson's Lode, elevated silver and base metal concentrations are associated with the gold mineralisation and are reported in Table 3.8 above a cut-off grade of 0.5 g/t gold. Additional base metal mineralisation is present, which is external and additional to the interpreted gold mineralisation, and this has been reported above a 2% lead plus zinc (Pb+Zn) cut-off grade in Table 3.8. Silver, lead and zinc mineralisation has also been identified at Sg Amang and has been reported above a 2% lead plus zinc cut-off grade in Table 3.8.

**Table 3.8 Silver and base metal Mineral Resources at Manson's Lode and Sg Amang as at 31 December 2019 (inclusive of material modified to generate Ore Reserves)**

Deposit	Cut-off grade	Measured				Indicated				Inferred				Total			
		Tonnes (kt)	Ag g/t	Pb %	Zn %	Tonnes (kt)	Ag g/t	Pb %	Zn %	Tonnes (kt)	Ag g/t	Pb %	Zn %	Tonnes (kt)	Ag g/t	Pb %	Zn %
Manson's Lode	0.5 g/t Au 2% Zn+Pb	380	69	2.0	2.1	160	66	1.6	1.8	550	40	1.4	1.2	1,090	54	1.7	1.6
		-	-	-	-	0.7	53	2.3	1.7	450	3	2.2	2.1	450	3	2.2	2.1
Sg Amang	2% Zn+Pb	-	-	-	-	-	-	-	-	180	243	4.6	9.3	180	243	4.6	9.3
<b>Total</b>		<b>380</b>	<b>69</b>	<b>2.0</b>	<b>2.1</b>	<b>160</b>	<b>66</b>	<b>1.6</b>	<b>1.8</b>	<b>1,170</b>	<b>57</b>	<b>2.2</b>	<b>2.8</b>	<b>1,720</b>	<b>61</b>	<b>2.1</b>	<b>2.5</b>

Note: Inconsistencies in totals are due to rounding

The total Mineral Resource, inclusive of material used to generate Ore Reserves, is presented in Table 3.9. This has then been depleted for material used to generate Ore Reserves and the corresponding tabulation, exclusive of and additional to the material used to generate Ore Reserves, is presented in Table 3.10.

**Table 3.9 Sokor Project – Mineral Resources as at 31 December 2019 (inclusive of Ore Reserves)**

Category	Mineral	Gross attributable to licence			Gross attributable to CNMC			
		Tonnes (millions)	Grade (Au g/t, Ag g/t, Pb%, Zn%)	Contained metal (Au koz, Ag koz, Pb t, Zn t)	Tonnes (millions)	Grade (Au g/t, Ag g/t, Pb%, Zn%)	Contained metal (Au koz, Ag koz, Pb t, Zn t)	Change from previous update (%)
Measured	Gold	0.38	2.6	30	0.31	2.6	30	-12%
Indicated	Gold	9.44	1.6	480	7.65	1.6	390	10%
Inferred	Gold	6.50	1.7	380	5.26	1.7	310	-13%
<b>Total</b>	<b>Gold</b>	<b>16.32</b>	<b>1.7</b>	<b>900</b>	<b>13.22</b>	<b>1.7</b>	<b>730</b>	<b>-1%</b>
Measured	Silver	0.38	69	860	0.31	69	690	25%
Indicated	Silver	0.16	66	340	0.13	66	280	-16%
Inferred	Silver	1.17	57	2,150	0.95	57	1,740	156%
<b>Total</b>	<b>Silver</b>	<b>1.72</b>	<b>61</b>	<b>3,350</b>	<b>1.39</b>	<b>61</b>	<b>2,710</b>	<b>74%</b>
Measured	Lead	0.38	2.0	7,570	0.31	2.0	6,130	50%
Indicated	Lead	0.16	1.6	2,610	0.13	1.6	2,120	2%
Inferred	Lead	1.17	2.2	26,160	0.95	2.2	21,190	70%
<b>Total</b>	<b>Lead</b>	<b>1.72</b>	<b>2.1</b>	<b>36,340</b>	<b>1.39</b>	<b>2.1</b>	<b>29,430</b>	<b>58%</b>
Measured	Zinc	0.38	2.1	7,960	0.31	2.1	6,450	25%
Indicated	Zinc	0.16	1.8	2,960	0.13	1.8	2,400	-12%
Inferred	Zinc	1.17	2.8	32,390	0.95	2.8	26,240	135%
<b>Total</b>	<b>Zinc</b>	<b>1.72</b>	<b>2.5</b>	<b>43,320</b>	<b>1.39</b>	<b>2.5</b>	<b>35,090</b>	<b>84%</b>

Note: Inconsistencies in totals are due to rounding

**Table 3.10 Sokor Project – gold Mineral Resources at 31 December 2019 (exclusive of material used to generate Ore Reserves)**

Category	Mineral	Gross attributable to licence			Gross attributable to CNMC			
		Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Change from previous update (%)
Measured	Gold	129	1.5	6	105	1.5	5	36
Indicated	Gold	6,288	1.5	307	5,093	1.5	248	0
Inferred	Gold	7,107	1.7	393	5,757	1.7	319	17
<b>Total</b>	<b>Gold</b>	<b>13,524</b>	<b>1.6</b>	<b>706</b>	<b>10,955</b>	<b>1.6</b>	<b>572</b>	<b>9</b>

Note: Inconsistencies in totals are due to rounding

### 3.8.2. COMPARISON WITH DECEMBER 2018 MINERAL RESOURCE

As at 31 December 2018, the total Measured, Indicated and Inferred gold Mineral Resource for the Sokor Project (above a 0.17 g/t gold cut-off grade at Rixen and for oxide rock at Ketubong, New Discovery and New Found and above a 0.5 g/t gold cut-off grade at Manson's Lode and for transitional and fresh rock at Ketubong, New Discovery and New Found) was 17,910 kt at 1.6 g/t gold for 914,000 ounces of contained gold. The Manson's Lode Mineral Resources contained silver, lead and zinc and, as at 31 December 2018, this was 1,410 kt with an average grade of 42 g/t silver, 1.6% lead and 1.7% zinc. The 2018 Mineral

Resources have been subdivided by resource category below in Table 3.11; this table can be compared directly with Table 3.9.

**Table 3.11 Sokor Project – Mineral Resource as at 31 December 2018 (inclusive of Ore Reserves)**

Category	Mineral	Gross attributable to licence			Gross attributable to CNMC			
		Tonnes (millions)	Grade (Au g/t, Ag g/t, Pb%, Zn%)	Contained metal (Au koz, Ag koz, Pb t, Zn t)	Tonnes (millions)	Grade (Au g/t, Ag g/t, Pb%, Zn%)	Contained metal (Au koz, Ag koz, Pb t, Zn t)	Change from previous update (%)
Measured	Gold	0.41	2.8	37	0.33	2.8	30	-25%
Indicated	Gold	9.22	1.5	438	7.47	1.5	355	56%
Inferred	Gold	8.27	1.7	439	6.70	1.7	355	12%
<b>Total</b>	<b>Gold</b>	<b>17.91</b>	<b>1.6</b>	<b>914</b>	<b>14.50</b>	<b>1.6</b>	<b>740</b>	<b>26%</b>
Measured	Silver	0.34	63	683	0.27	63	553	0%
Indicated	Silver	0.17	74	407	0.14	74	330	0%
Inferred	Silver	0.90	29	838	0.73	29	679	0%
<b>Total</b>	<b>Silver</b>	<b>1.41</b>	<b>42</b>	<b>1,928</b>	<b>1.14</b>	<b>42</b>	<b>1,562</b>	<b>0%</b>
Measured	Lead	0.34	1.5	5,058	0.27	1.5	4,097	0%
Indicated	Lead	0.17	1.5	2,560	0.14	1.5	2,074	0%
Inferred	Lead	0.90	1.7	15,407	0.73	1.7	12,480	0%
<b>Total</b>	<b>Lead</b>	<b>1.41</b>	<b>1.6</b>	<b>23,025</b>	<b>1.14</b>	<b>1.6</b>	<b>18,650</b>	<b>0%</b>
Measured	Zinc	0.34	1.9	6,370	0.27	1.9	5,160	0%
Indicated	Zinc	0.17	2.0	3,365	0.14	2.0	2,726	0%
Inferred	Zinc	0.90	1.5	13,770	0.73	1.5	11,154	0%
<b>Total</b>	<b>Zinc</b>	<b>1.41</b>	<b>1.7</b>	<b>23,505</b>	<b>1.14</b>	<b>1.7</b>	<b>19,039</b>	<b>0%</b>

*Note: Inconsistencies in totals are due to rounding*

Since the Mineral Resource was reported as at 31 December 2018, data from 69 holes drilled at Rixen, Manson's Lode, New Discovery, New Found and Ketubong were used to update the Mineral Resources. In addition, results from 200 face samples from the underground workings at Ketubong were used to update the resource. Detailed aerial pit surveys of Rixen, New Discovery, New Found and Manson's Lode were conducted at the end of 2019 and resource models for Rixen, New Discovery, New Found and Manson's Lode were depleted for all mining to 31 December 2019. The Ketubong resource model was depleted for underground mining to the end of 2019 and resources within 10 m of the existing open pit were excluded from the reported Mineral Resource.

At Rixen, the drilling infilled an area adjacent to the southern pit design and extended the resource to the south and down-dip to the east. Mining at Rixen during 2019 has depleted both the Indicated and Inferred Resources. After depletion for mining at Rixen during 2019, the Indicated Mineral Resource tonnage did not change, the average grade increased by 10%, with an overall increase of 10% in contained gold. The Inferred Mineral Resource tonnage decreased by 28%, the grade increased by 21%, with an overall decrease of 13% in contained gold. The total Mineral Resource tonnage at Rixen has decreased by 11%, the average grade increased by 13%, with an overall increase of 1% in contained gold.

Mining at New Discovery has depleted the Measured, Indicated and Inferred Resources. The Measured Resources have essentially all been mined, with only less than 0.2 kt remaining. The Indicated tonnage has decreased by 34%, the grade decreased by 11%, for an overall decrease of 42% in contained gold. The Inferred Mineral Resource tonnage decreased by 1%, the grade decreased by 1%, with an overall decrease of 2% in contained gold. The total Mineral Resource tonnage at New Discovery has decreased by 22%, the average grade decreased by 19%, with an overall decrease of 36% in contained gold.

Mining at New Found has depleted the Inferred Resources. The additional drilling at New Found has increased the Inferred Resources and has defined Indicated Mineral Resources. The total Mineral Resource tonnage at New Found has increased by 117%, the average grade increased by 16%, with an overall increase of 152% in contained gold.

At Manson's Lode, the drilling extended the central area of the resource to the northwest and an updated and more accurate pit survey was used to deplete the resource model for all mining to 31 December 2019. For the gold resources the Measured tonnage increased by 14%, the average grade increased by 2%, with an overall increase of 16% in contained gold. The Indicated tonnage decreased by 5%, the average grade decreased by 6%, with an overall decrease of 11% in contained gold. The Inferred tonnage increased by 22%, the grade decreased by 3%, with an overall increase of 19% in contained gold. The total gold Mineral Resource tonnage at Manson's Lode has increased by 9%, the average grade increased by 1%, with an overall increase of 10% in contained gold.

At Ketubong, the revised cut-off grade used for the mineralisation interpretation (to reflect extraction by underground mining) has significantly increased the average grade of the resources. The increased cut-off grade and the exclusion of small discontinuous zones of mineralisation has decreased the resource tonnage. The Indicated tonnage decreased by 66%, the average grade increased by 125%, with an overall decrease of 24% in contained gold. The Inferred tonnage decreased by 37%, the grade increased by 15%, with an overall decrease of 28% in contained gold. The total gold Mineral Resource tonnage at Ketubong has decreased by 35%, the average grade increased by 19%, with an overall decrease of 23% in contained gold.

As at 31 December 2019, the total Measured, Indicated and Inferred gold Mineral Resource for the Sokor Project (above a 0.17 g/t gold cut-off grade at Rixen and for oxide rock, New Discovery and New Found and above a 0.5 g/t gold cut-off grade at Manson's Lode and Ketubong and for transitional and fresh rock at New Discovery and New Found) is 16,320 kt at 1.7 g/t gold for 900,000 ounces of contained gold. Compared to the 31 December 2018 Mineral Resource estimate and after depletion for mining during 2019, there has been a decrease in gold Mineral Resource tonnage of 1,590 kt, the average gold grade has increased from 1.6 g/t to 1.7 g/t and there is an overall small decrease of 1.8% in contained gold in the 2019 Mineral Resource.

The Manson's Lode Mineral Resources contained silver, lead and zinc and, as at 31 December 2018, this comprised 1,410 kt with an average grade of 42 g/t silver, 1.6% lead and 1.7% zinc. With the additional base metal mineralisation defined at Sg Amang and the drilling at Manson's Lode, there has been a significant increase in the silver, lead and zinc resources. As at 31 December 2019, this comprised 1,720 kt with an average grade of 61 g/t silver, 2.1% lead and 2.5% zinc. The total Mineral Resource tonnage has increased by 22%, the contained silver by 74%, the contained lead by 58% and the contained zinc by 84%.

### 3.9. ORE RESERVE ESTIMATION

The Ore Reserve estimates as stated in this document have been reported in accordance with the guidelines of the JORC Code, 2012 edition. Any inconsistencies within the tables may be attributed to the JORC requirement to report to an appropriate number of significant figures, and as such are due to rounding.

The reporting of the Ore Reserve estimates below is laid out such that each deposit is reported and discussed individually in its own section, with a combined estimate reported at the end of Section 3.10. Where changes in ounces as a percentage are quoted, these refer to the change in ounces attributable to CNMC (not the original gross value) and are based upon the rounded figures instead of the detailed base data.

#### 3.9.1. RIXEN PIT ORE RESERVES

Between the period of 1 January 2019 and 31 December 2019, there was mining at Rixen. CNMC reported to Optiro that for the 2019 production period, approximately 2,887 kt of ore was removed from the Rixen Pit as contained in the spreadsheet '*Production\_and\_Cost\_Inputs\_Spreadsheet\_2019*'; however, accurate reporting of the precise ore tonnes, grade and amount of waste removal was not available, and hence this information has been considered in conjunction with surveyed data and the 2019 depleted block model.

With the information available to Optiro, a detailed reconciliation of actual mined against the depleted model could not be completed; therefore this Ore Reserve estimate has been compiled solely on the basis

of the depleted Mineral Resource block model against the pit design and working face surveys at 31 December 2019.

The Rixen Pit Ore Reserve estimate is reported above a 0.19 g/t gold cut-off grade for all ore going to the heap leach, incorporating 95% mining recovery and 5% dilution at zero grade, and using a gold price of US\$1,500 per ounce. The 2019 Ore Reserve estimate is quoted in Table 3.12.

**Table 3.12 Rixen Pit gold Ore Reserves and Mineral Resources (additional to Ore Reserves) as at 31 December 2019**

Category	Mineral type	Gross attributable to licence			Gross attributable to CNMC			
		Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Change from previous update (%)
<b>Ore Reserves</b>								
Proved	Gold	0	0.0	0	0	0.0	0	0
Probable	Gold	4,041	1.2	161	3,273	1.2	130	88
<b>Total</b>	<b>Gold</b>	<b>4,041</b>	<b>1.2</b>	<b>161</b>	<b>3,273</b>	<b>1.2</b>	<b>130</b>	<b>88</b>
<b>Additional Mineral Resources</b>								
Measured	Gold	0	0.0	0	0	0.0	0	0
Indicated	Gold	5,805	1.5	281	4,702	1.5	227	-5
Inferred	Gold	4,590	1.6	242	3,718	1.6	196	-13
<b>Total</b>	<b>Gold</b>	<b>10,395</b>	<b>1.6</b>	<b>523</b>	<b>8,420</b>	<b>1.6</b>	<b>423</b>	<b>-9</b>

- Notes:
- Ore Reserves reported as per the JORC Code 2012 edition
  - Totals may display rounding inconsistencies
  - Cut-off grade for Rixen Mineral Resources is 0.17 g/t and Ore Reserves is 0.19 g/t gold
  - Gold price used for cut-off calculation is US\$1,500 /oz
  - No Inferred material is included in the Ore Reserves
  - Dilution of 5% and ore loss of 5% have been applied to Ore Reserves, with zero grade attributed to dilution
  - Inconsistencies in totals are due to rounding.

## COMPARISON WITH 2018 ORE RESERVES ESTIMATE - RIXEN

The variance between the 2018 and 2019 Ore Reserves estimates is due to:

- changes in the Mineral Resources
- reductions due to depletion by mining during the year
- addition of the deeper extension of the southern pit areas
- increases due to an increased gold price.

The operating cost base used for the 2019 Ore Reserves was based on the actual (weighted) cost base as reported to Optiro over the 2019 production year for oxide material mined in the Rixen Pit. The cost for mining fresh material was taken from the 2019 actual mining costs for New Found and Ketubong which produced fresh material during 2019.

Pit surveys were taken for the end-of-reporting period of 31 December 2019, and these formed the basis of the depletion model. CNMC has reported to Optiro that for the period up to 31 December 2019 4,661 kt of material had been mined.

Any variation between the claimed mined tonnes and the surveyed depletion of the Mineral Resources/Ore Reserves is attributable to dilution occurring during the mining phase, combined with the addition of material to the ore mined claimed through operational grade control work and ore loss during mining.

Optiro has taken a prudent and conservative approach to account for the lack of accurate and timely production data provided and has assumed that the Ore Reserve portion was depleted prior to 31 December 2019. As no detailed reconciliation data was provided to Optiro with respect to mine production, this Ore Reserve estimate (Table 3.12) has been calculated solely on the evaluation results from the pit design using the updated and depleted block model created as part of this Ore Reserve report.



### 3.9.2. MANSON'S LODE PIT ORE RESERVES

Between the period of 1 January 2019 and 31 December 2019, approximately 32 kt of ore was removed from the Manson's Lode Pit as contained in the spreadsheet '*Production\_and\_Cost\_Inputs\_Spreadsheet\_2019*'; however, accurate reporting of the precise ore tonnes, grade and amount of waste removal was not available, and hence this information has been considered in conjunction with surveyed data and the 2019 depleted block model.

Metals other than gold have not been included within this Ore Reserve estimate, nor has the impact on either credits or penalties for the presence of other metals and contaminants been included within the cost model or cut-off grade calculations. Metallurgical testwork was previously undertaken to determine lead and zinc recoveries from previously stockpiled material from Manson's Lode. Based on a feasibility study conducted during 2018, it was concluded that extracting base metals using a flotation facility can achieve a recovery rate of 60% for silver, 84% for zinc and 85% for lead. The Manson's Lode Pit Ore Reserves are reported above a 1.14 g/t gold cut-off grade, using a 95% mining recovery and 5% dilution at zero grade and a gold price of US\$1,500 per ounce. The 2019 Ore Reserves are quoted in Table 3.13 with the 2019 Mineral Resources (additional to the Ore Reserves) presented below. The total of the Ore Reserves and additional Mineral Resources will not equal the inclusive Mineral Resources, due mainly to the difference in cut-off grade between the Mineral Resources and Ore Reserves and the exclusion of Inferred Resources inside the pit designs.

**Table 3.13 Manson's Lode Pit gold Ore Reserves and Mineral Resources (additional to Ore Reserves) as at 31 December 2019**

Category	Mineral type	Gross attributable to licence			Gross attributable to CNMC			Change from previous update (%)
		Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	
<b>Ore Reserves</b>								
Proved	Gold	254	3.0	25	206	3.0	20	11
Probable	Gold	26	2.5	2	21	2.5	2	-33
<b>Total</b>	<b>Gold</b>	<b>280</b>	<b>3.0</b>	<b>27</b>	<b>226</b>	<b>3.0</b>	<b>22</b>	<b>5</b>
<b>Additional Mineral Resources</b>								
Measured	Gold	129	1.5	6	105	1.5	5	67
Indicated	Gold	135	2.2	10	110	2.2	8	14
Inferred	Gold	524	0.9	16	425	0.9	13	8
<b>Total</b>	<b>Gold</b>	<b>789</b>	<b>1.3</b>	<b>32</b>	<b>639</b>	<b>1.3</b>	<b>26</b>	<b>18</b>

- Notes:
- Ore Reserves reported as per the JORC Code 2012 edition
  - Totals may display rounding inconsistencies
  - Cut-off grade for Manson's Lode Ore Reserves is 0.69 g/t gold
  - Cut-off grade for Manson's Lode Mineral Resources is 0.5 g/t gold outside optimised pit and 0.5 g/t gold for Inferred transitional and fresh material inside optimised
  - Gold price used for cut-off calculation is US\$1,500 /oz
  - No Inferred material is included in the Ore Reserves
  - Dilution of 5% and ore loss of 5% have been applied to Ore Reserves, with zero grade attributed to dilution
  - Inconsistencies in totals are due to rounding.

Although there has been no mining at Manson's in the 2018 calendar year, the increase in the Reserve is attributable to the expansion of the pit in the South East sector that recovers economic resource.

### 3.9.3. NEW DISCOVERY AND NEW FOUND PIT ORE RESERVES

Between the period of 1 January 2019 and 31 December 2019, mining activity occurred at New Discovery and New Found. CNMC reported to Optiro that for the 2019 production period approximately 312 kt of ore was mined from the New Discovery and New Found Pit.

The New Discovery and New Found Pit Ore Reserve estimate has been reported above a 0.69 g/t gold cut-off grade for all oxide, transitional and fresh ore going to the CIL plant, 95% mining recovery and 5% dilution at zero grade and a gold price of US\$1,500 per ounce. The resultant Ore Reserves for the combined New Discovery and New Found pits are reported below in Table 3.14 and are applicable for 2019. The additional

Mineral Resources (exclusive of Ore Reserves) are for the combined New Discovery and New Found deposit only.

**Table 3.14 New Discovery and New Found Pit gold Ore Reserves and Mineral Resources (additional to Ore Reserves) as at 31 December 2019**

Category	Mineral type	Gross attributable to licence			Gross attributable to CNMC			Change from previous update (%)
		Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	
<b>Ore Reserves</b>								
Proved	Gold	0.10	6.9	0.02	0.08	6.9	0.02	-100
Probable	Gold	122	2.6	10	99	2.6	8	-33
<b>Total</b>	<b>Gold</b>	<b>122</b>	<b>2.6</b>	<b>10</b>	<b>99</b>	<b>2.6</b>	<b>8</b>	<b>-56</b>
<b>Additional Mineral Resources</b>								
Measured	Gold	0	6.5	0	0	6.5	0	0
Indicated	Gold	343	1.5	16	278	1.5	13	550
Inferred	Gold	1,022	1.3	41	828	1.3	33	18
<b>Total</b>	<b>Gold</b>	<b>1,365</b>	<b>1.3</b>	<b>57</b>	<b>1,106</b>	<b>1.3</b>	<b>46</b>	<b>48</b>

- Notes:
- Ore Reserves reported as per the JORC Code 2012 edition
  - Totals may display rounding inconsistencies
  - Cut-off grade for New Discovery Ore Reserves is 0.69 g/t gold for oxide, transitional and fresh ore going to the CIL plant
  - Cut-off grade for Mineral Resources is 0.17 g/t gold for oxide, transitional and fresh material outside optimised pit and 0.5 g/t gold for Inferred transitional and fresh rock inside optimised
  - Gold price used for cut-off calculation is US\$1,500 /oz
  - No Inferred material is included in the Ore Reserves
  - Dilution of 5% and ore loss of 5% have been applied to Ore Reserves, with zero grade attributed to dilution
  - The change in Proved Ore Reserves is not shown due to the immaterial portion of material remaining.

### COMPARISON WITH 2018 ORE RESERVES ESTIMATE – NEW DISCOVERY

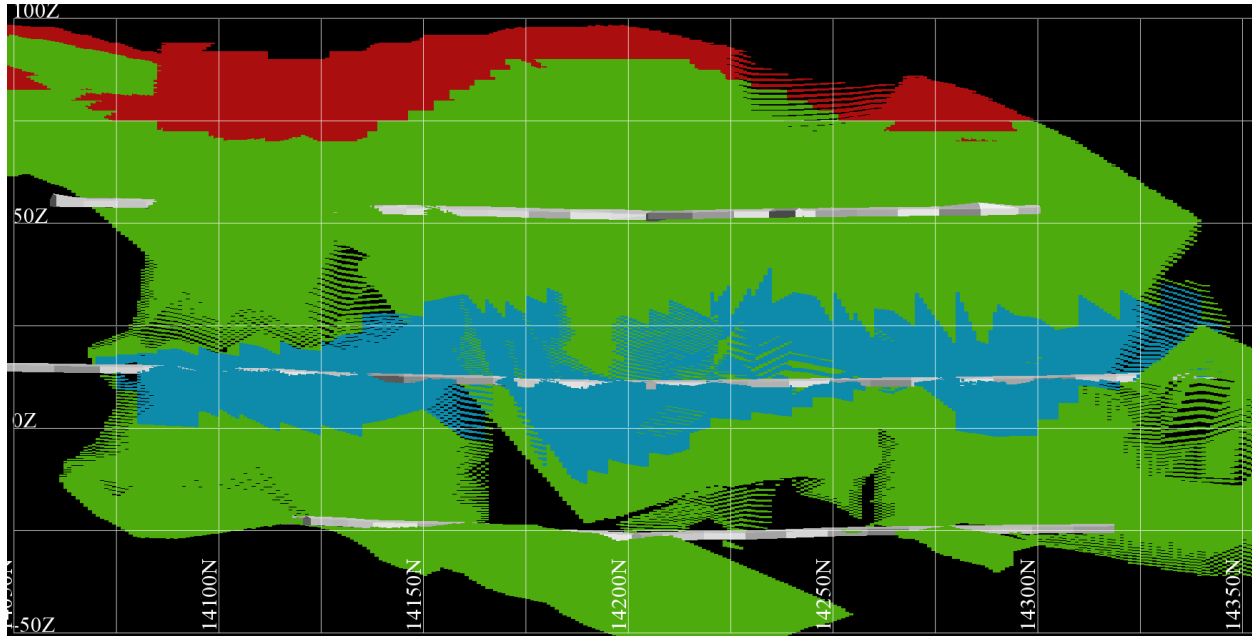
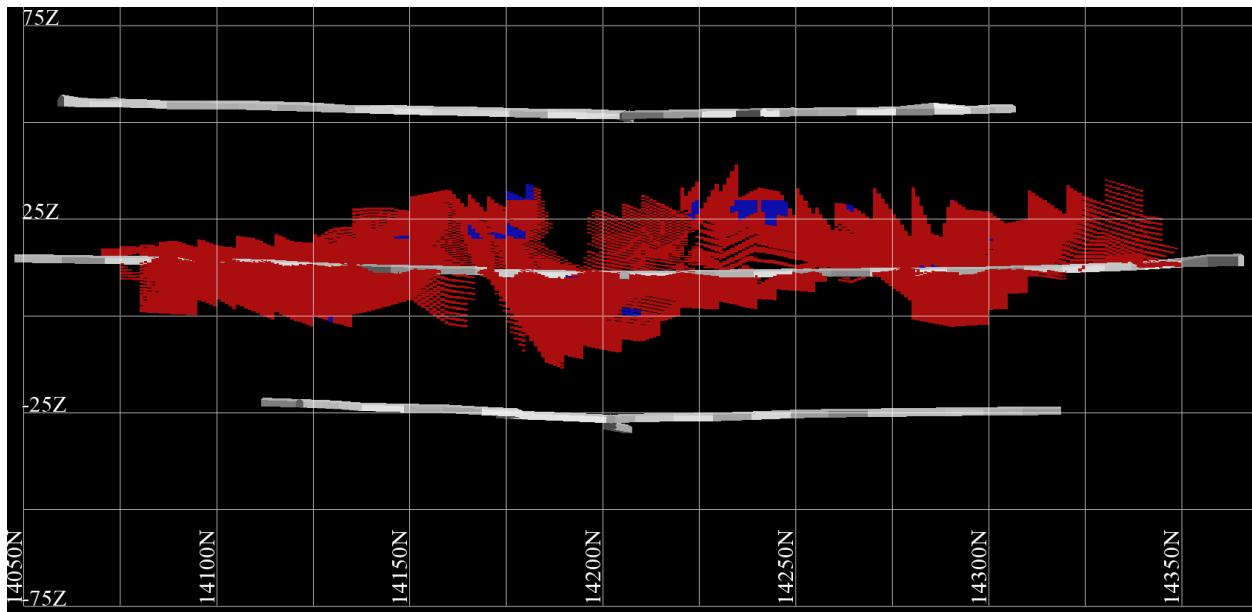
The variance between the 2018 and 2019 Ore Reserve estimate is primarily due to changes in the Mineral Resource, increased gold price, mining depletion of 312 kt of ore and 1.10 Mt of total movement and to changes in the cut-off grade from 1.17 g/t down to 0.69 g/t. No other modifying factors have been changed for the New Discovery and New Found Pit Ore Reserves between 2018 and 2019.

#### 3.9.4. KETUBONG

An Ore Reserve estimate has been calculated for the underground working area of the Ketubong deposit. CNMC is currently underground mining with level and vertical development as the primary source of ore at Ketubong. Optiro has determined the Ore Reserves at Ketubong using preliminary underground cost and physical development and stoping parameters provided by CNMC and with other modifying factors applied to allow the reporting of an Ore Reserve.

The UG Reserve has been estimated using the following guidelines:

1. Only the Indicated resource classification of the resource can be converted to a Probable Ore Reserve. Figure 3.22 shows the position of the Indicated resource located around the strike drive development at the 8 mRL where significant face sampling has occurred. Only this portion of the resource can be converted to an Ore Reserve. The Indicated resource is 33.2 kt at 7.67 g/t gold for 8,185 ounces. Optiro expects that a significant portion of the Inferred material will be converted to Indicated with further underground face sampling.
2. Only ore development drives have been provided. There are no designs provided that outline stoping panels and pillars required to undertake the gallery stoping method proposed.
3. The underground mining cost supplied was \$30/t of ore but a detailed breakdown was not provided. The total underground ore cost inclusive of processing is \$60/t. The underground cut-off grade is calculated as 1.3 g/t of gold. Figure 3.23 shows the grade distribution above and below cut-off within the Indicated resource.

**Figure 3.22 UG Ketubong Mineral Resource interpretation as at 2019 ( Indicated – blue; Inferred – green)**

**Figure 3.23 UG Ketubong Mineral Resource (above cut-off – red; below cut-off – blue)**


4. Within the Indicated resource the:
  - minimum width is 0.12m
  - maximum width is 8.1m
  - average width is 1.12m.
5. To estimate the dilution factor the footwall and hanging wall wireframes were expanded to a minimum mining width of 1.5 m.
6. Planned dilution of 0.50 m was then added to the minimum mining width.
7. After addition of the minimum width and planned dilution factors the diluted Indicated resource now has:
  - minimum width of 2.0 m
  - maximum width of 8.6 m
  - average width of 2.1 m.
8. The resulting diluted resource is 65.4 kt at 3.97 g/t gold for 8,330 ounces.
9. To account for pillars and ore loss a factor of 75% has been applied to the diluted resource.

10. The resulting underground Probable Reserve is 49.0 kt at 3.96 g/t for 6,250 contained ounces.

**Table 3.15 Ketubong UG gold Ore Reserves and Mineral Resources at Ketubong (additional to Ore Reserves) as at 31 December 2019**

Category	Mineral type	Gross attributable to licence			Gross attributable to CNMC			Change from previous update (%)
		Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	
<b>Ore Reserves</b>								
Proved	Gold	0	0.0	0	0	0.0	0	N/A
Probable	Gold	49	4.0	6	40	4.0	5	N/A
<b>Total</b>	<b>Gold</b>	<b>49</b>	<b>4.0</b>	<b>6</b>	<b>40</b>	<b>4.0</b>	<b>5</b>	<b>N/A</b>
<b>Additional Mineral Resources</b>								
Measured	Gold	0	0.0	0	0	0.0	0	N/A
Indicated	Gold	1	4.5	0	1	4.5	0	N/A
Inferred	Gold	697	3.7	84	564	3.7	68	N/A
<b>Total</b>	<b>Gold</b>	<b>698</b>	<b>3.7</b>	<b>84</b>	<b>565</b>	<b>3.7</b>	<b>68</b>	<b>N/A</b>

- Notes:
- Ore Reserves reported as per the JORC Code 2012 edition
  - Totals may display rounding inconsistencies
  - Cut-off grade for Ketubong Ore Reserves is 1.32 g/t gold for oxide, transitional and fresh ore going to the CIL plant
  - Cut-off grade for Mineral Resources is 0.5 g/t gold for oxide, transitional and fresh material.
  - Gold price used for cut-off calculation is US\$1,500 /oz
  - No Inferred material is included in the Ore Reserves
  - Dilution applied based on min mining width of 1.5m, 0.5m planned dilution and 75% recovery factor have been applied to Ore Reserves, with zero grade attributed to dilution
  - Inconsistencies in totals are due to rounding.

### 3.10. STATEMENT OF SOKOR MINERAL RESOURCES AND ORE RESERVES

The combined Ore Reserve estimate for Rixen, Manson's Lode, Ketubong and New Discovery deposits has been calculated and is shown in Table 3.16, accompanied by the additional Mineral Resources tabulation for Rixen, Manson's Lode, Ketubong and New Discovery deposits (reported exclusive of and additional to Ore Reserves) and for New Found (where Ore Reserves have not been defined).

**Table 3.16 Combined Sokor Project gold Ore Reserves (Manson's Lode, New Discovery, Ketubong, and Rixen) and Mineral Resources (at Manson's Lode, New Discovery/New Found, Rixen and Ketubong that are additional to Ore Reserves at Manson's Lode, New Discovery, Ketubong and Rixen) as at 31 December 2019**

Category	Mineral type	Gross attributable to licence			Gross attributable to CNMC			Change from previous update (%)
		Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	
<b>Ore Reserves</b>								
Proved	Gold	254	3.0	25	206	3.0	20	-20
Probable	Gold	4,238	1.3	180	3,432	1.3	145	73
<b>Total</b>	<b>Gold</b>	<b>4,492</b>	<b>1.4</b>	<b>204</b>	<b>3,638</b>	<b>1.4</b>	<b>165</b>	<b>51</b>
<b>Additional Mineral Resources</b>								
Measured	Gold	129	1.5	6	105	1.5	5	67
Indicated	Gold	6,288	1.5	307	5,093	1.5	248	-4
Inferred	Gold	7,107	1.7	393	5,757	1.7	319	-10
<b>Total</b>	<b>Gold</b>	<b>13,524</b>	<b>1.6</b>	<b>706</b>	<b>10,955</b>	<b>1.6</b>	<b>572</b>	<b>-7</b>

- Notes:
- Mineral Resources and Ore Reserves reported as per the JORC Code 2012 edition
  - Totals may display rounding inconsistencies
  - Cut-off grade for Ore Reserves is 0.19 g/t gold for ore going to the heap leach (all Rixen material) and 0.69 g/t gold for transitional and fresh ore going to the CIL plant (oxide, transitional and fresh rock from Manson's Lode, and New Discovery and New Found) and 1.32 g/t gold for fresh ore (UG at Ketubong) going to the CIL plant
  - Cut-off grade for Mineral Resources is 0.17 g/t gold for Rixen, 0.5 g/t gold for oxide, transitional and fresh material outside optimised pit and 0.5 g/t gold for Inferred oxide, transitional and fresh material inside the optimised pit
  - Gold price used for cut-off calculation is US\$1,500 /oz for all lodes
  - No Inferred material is included in the Ore Reserves
  - Dilution of 5% and ore loss of 5% have been applied, with zero grade attributed to dilution
  - Inconsistencies in totals are due to rounding.

### 3.11. INFRASTRUCTURE, FACILITIES, ENVIRONMENTAL AND COMMUNITY ISSUES

#### 3.11.1. INFRASTRUCTURE

##### POWER AND WATER SUPPLY

Power to the operation has previously been provided by three on-site diesel generators. Two generators of 400 kW and 240 kW capacity provide the bulk of the power requirements, with a 160 kW unit available as a stand-by. Small portable generators provide power to living quarters. In 2013, an additional six diesel generators were added to provide additional power generation for the expanded heap leach operations. In 2017, five additional high-power diesel generators were added to provide additional power generation for the newly constructed carbon-in-leach facility. CNMC plans to install a national grid power line at Sokor Project to reduce dependence on diesel generators to supply power.

The project site is in an area of high, consistent rainfall. Water is sourced from local streams for use in mining and processing. Potable water is trucked to the site.

#### 3.11.2. MINE SITE FACILITIES

CNMC has constructed offices, accommodation camp, assay laboratories and equipment maintenance facilities on the site. Communications are provided via satellite phone systems and cell tower. Telephone, fax and data transmission facilities are provided.

#### 3.11.3. ENVIRONMENTAL AND COMMUNITY ISSUES

Optiro understands that BDA reviewed the project's Environmental Impact Assessment in 2008, 2009 and its Environmental Management Plan in 2010. The review focussed on environmental aspects and social/community issues which are considered a material part of the project and which may have implications for project feasibility, costs and timing. Optiro understands that these aspects and issues have not changed since BDA's review in 2011 and the summary below is from the BDA report (BDA, 2011a).



## **ENVIRONMENTAL IMPACT ASSESSMENT**

The project mining and environmental approvals are granted by the Kelantan State Department of Environment (DOE). Environmental approvals for the project include submission of an Environmental Impact Assessment in January 2008 and a supplementary EIA report in March 2009, with approval received in June 2009. An Environmental Management Plan was submitted in February 2010 and an EMP – Additional Information report was submitted in March 2010, with approval received in April 2010. The EIA and EMP cover both heap leach and pond (vat) leach processing of gold ore at the Sokor mine site. CNMC obtained the large-scale mining permit for the Sokor Project in December 2016 and EIA approval for the CIL plant in February 2018. The EMP for the CIL plant was approved on 30 May 2018.

As part of the environmental investigations undertaken to date, potential project impacts to physical and biological resources have been assessed to identify key environmental risks that may arise from the construction, operation and eventual mine closure of the Sokor Project. Formal assessment, documentation and communication of potential project-related impacts, including the anticipated scope, magnitude, extent and duration, have been completed in conformance with the Kelantan State permitting process, including the DOE requirements and requirements under the Environmental Quality Act 1974. The information supplied under the Supplementary EIA was in response to further information requests from the DOE and the Kelantan State Minerals and Geoscience Department.

The EIA reports were prepared by I.Z. Environmind Sdn. Bhd., whilst the EMP document was prepared by I.Z. Environmind Sdn. Bhd. The Sokor Mining Schemes Report was prepared by CMNM Mining Consultant Engineer, KF Lee Mining Consultant and Surveyor.

## **ENVIRONMENTAL PROTECTION AND MITIGATION MEASURES**

CNMC has identified the key potential environmental impacts arising from the project's operations and their associated mitigation measures, which have been implemented. These potential impacts and CNMC mitigation measures include:

- Site clearing impacting on downstream water quality – mitigation measures include the use of silt traps and runoff barriers, retention of vegetation, vegetation removal to follow natural contours to maximise effects of silt traps.
- Soil erosion and dust emissions resulting from earthmoving activities – mitigation measures include revegetation to control runoff and soil loss, water spraying of mine roads and trafficked areas to suppress dust emissions and provision of personal protection equipment to provide protection from dust and noise.
- Biomass waste and other waste disposal causing air pollution, fire hazard, unhealthy environment – mitigation measures include no burning of biomass waste allowed on site, spoils and waste materials to be buried on-site in a designated 'fill' area, properly designed spoil piles surrounded by soil containment berms and biodegradable waste to be left in situ to decompose naturally.
- Waste water generation and disposal impacting on water quality – mitigation measures include provision of suitable sanitation facilities and potable water supply, solid waste to be recycled and composted or disposed in secure areas designed in accordance with Department of Environment of Malaysia guidelines.
- Chemicals and hazardous material use impacting on water quality – mitigation measures include prevention of leakage from tailings vats by installing water proofing materials to inhibit seepage, conducting regular maintenance of vats, engagement of Kualiti Alam (a Federal Government licensed toxic waste collector) to handle all acids and hazard chemicals resulting from the operations and provision of proper safe and secure storage facilities located away from incompatible substances that may generate heat, fire, gas or explosion.
- Traffic associated with the project impacting on air quality, noise and road safety – mitigation measures include provision of sufficient width to access roads, limiting speed of vehicles, restricting entry to active mining areas to project vehicles only.

- Mine closure impacting on water quality, employment opportunities, development opportunities, loss of environmental values – mitigation measures include developing an appropriate Mine Closure and Rehabilitation Plan which includes appropriate systems for handling site storm water runoff, compacting and sealing potentially acid-generating waste rock, closure and covering tailings dams, site re-vegetation, employee training and multi-skilled experience which is transferable to other mining operations or other sectors of employment.
- CNMC advised Optiro, in January 2018, that there had been no reported breaches of the environmental conditions and that all monitoring requirements were being carried out as per the licence requirements.

## **AIR QUALITY AND NOISE**

Background air quality and noise were measured in and around the Sokor Project area in 2007 as part of baseline monitoring for environmental assessment purposes. In general, ambient air quality and noise levels in areas sampled in the project area are within Government of Malaysia ambient standards.

## **SURFACE HYDROLOGY**

Based on topographical information, there are numerous streams which pass through the Sokor mine site area from west to east, flowing through Sg Tapis, Sg Amang, Sg Sejana, Sg Liang and Sg Ketubong, combined into Sg Sokor which eventually discharge into the Sg Kelantan.

Surface water baseline evaluations have previously been conducted in the Sokor Project area as part of the environmental assessment process.

Baseline water quality analysis showed that the water quality in the project area is generally good and the parameter levels comply with the limits of Class III of the Interim National River Water Quality Standard for Malaysia and Standard B of the Malaysian Environmental Quality (Sewage & Industrial Effluents) Regulations, 1979.

## **WATER MANAGEMENT**

Given the project area's high rainfall, water management is a significant issue for the project, with the need to minimise any potential downstream impacts.

The mine and processing plant are operated as a closed-loop circuit where no water from the site operations discharges to nearby surface waters. All process water from the plant area is channelled to the tailings storage facility, while any excess water from the tailings storage facility (TSF) is recycled to the plant's processing circuits.

The TSF is designed to operate with a minimum freeboard of 1.5 m and is surrounded by berms. The design capacity is at least twice the actual design capacity of all water from the mineral processing circuit and has also been designed to accommodate the recorded maximum rainfall event.

The berms are designed to prevent overflow from discharging from the TSF and will also preclude rainfall runoff from entering the TSF. Any storm-water and water collected from the mine pits is channelled to a sedimentation pond (i.e. environmental control pond), which is designed to provide a retention time of 48 hours.

Discharge from the sedimentation control pond is via a spillway. The mine has been developed with minimum disturbance to streams and creeks in the area. Where this is unavoidable, silt traps and sediment control practices are to be used to prevent any inflow of sediment to surface water. Surface runoff from the workshop area and other vehicle service areas is channelled to an oil/water separator device prior to the water being discharged.

Discharge of waste water from the sewerage system, domestic waste water and rainwater runoff from on-site facilities such as workshops is controlled so as not to impact on surrounding surface waters.

## **TAILINGS MANAGEMENT**

Originally it was proposed that the project would commence using alluvial and vat leach methods to develop the mine; however, since 2013 the ore has mainly been processed via the heap leach circuit, with the CIL plant coming online in 2018.

Optiro has not been supplied with any details of the design of these plants, any expansion details on proposed plant process ponds, or any site water balance data. Optiro notes that it is prudent that any heap leach system (besides provisioning for process ponds – barren and pregnant solution ponds) provides a storm-water (safety) pond with sufficient capacity to accommodate the local maximum rainfall event. Such a pond will need to accommodate runoff from the entire process plant area, including the process ponds and heap leach area. A cyanide detoxification system will likely be necessary to handle increased rainfall on the heap leach area during the monsoon period and to provide for decommissioning of the heap leach structures and to make safe the process solutions once the heap leach system has closed. The EMP contains limited details on three possible cyanide detoxification methods; however, the information provided is considered preliminary, as no particular detoxification method has yet been selected.

The EIA Supplementary report contains design details and environmental protection measures to minimise the potential for water pollution. It is proposed that no solutions are to be discharged from the storm-water (safety) pond and that the cyanide content of water in the pond will be constantly monitored to ensure it remains below 0.05 mg/L.

All ponds, channels and impounding bunds are planned to be constructed with the required minimum freeboard and be HDPE-lined for protection against erosion and potential groundwater contamination.

## **ENVIRONMENTAL MONITORING**

The approved Environmental Management Plan contains details concerning the environmental monitoring requirements stipulated under the Government approval. They include requirements for the monitoring and reporting of air quality, noise and water quality.

An Environmental Audit process is set out in the Environmental Management Plan. CNMC has advised Optiro that all monitoring is being undertaken in accordance with the requirements of the licence conditions. There have been no reported breaches during the past 12 months.

## **REHABILITATION**

It is proposed that where possible, any disturbed areas will be progressively rehabilitated; however, there are some areas, such as the process plant, which cannot be rehabilitated until the mine is closed and the plant is decommissioned.

An Erosion and Sediment Control Plan is set out in the Environmental Management Plan, together with other specific pollution control and occupational health and safety plans.

## **SOCIAL ISSUES**

There is a possibility that the Sokor Project may encroach into fishing areas, which may impact on revenue and livelihoods for the local communities which use the area. Consequently, local dissatisfaction with the project may arise if access to fish resources is restricted.

It is expected that the Sokor Project will create employment opportunities for residents of the area. In the communities surveyed, the residents expressed the desire to seek work at the site for both skilled and unskilled work opportunities.

CNMC has made substantial efforts to integrate its project activities with the local communities and is assisting them in social and economic development programmes. It is providing the local community with new employment opportunities, training and skills development for those staff employed in CNMC's mining activities and has broadened the economic and commercial base for local businesses, contributing to

economic growth in the region. In addition, it provides opportunities for business investors to invest in Kelantan.

The main negative social impact that can occur at mine closure is the loss of jobs resulting from the cessation of mining. CNMC's proposed mitigation measure is to ensure that the workforce that has been employed will be fully trained with multi-skilled experience that is easily transferable at the time of mine closure, thus enabling potential further employment in other sectors.

### **3.12. FINANCIAL ANALYSIS**

The current production schedule was updated by Optiro to reflect the depletion due to mining at Rixen, Manson's Lode and New Discovery. The schedule mines the deposits to achieve the production rate of the newly commissioned CIL plant, ensuring that heap leach Ore Reserves are depleted at the same rate (i.e. the heap leach processing and CIL processing are scheduled to finish at the same time). Whilst this mining schedule is adequate for the purpose of an Ore Reserve estimate, Optiro recommends that CNMC completes a detailed life of mine schedule combining all ore sources for accurate reporting of tonnes and grade. This mining schedule has been authorised for use by CNMC for the purpose of an Ore Reserve estimate. The mining schedule is presented in Section 3.7.4 and Table 3.6 of this report.

#### **3.12.1. CAPITAL AND OPERATING COSTS**

Capital and operating costs have been estimated by CNMC. Optiro understands that there has been no change to the previous year's estimated costs and that CNMC plans to review the costs as part of further study work to be undertaken during 2020.

#### **3.12.2. OPERATING COSTS**

The operating costs used to determine the economic viability of this Ore Reserve estimate have been provided to Optiro by CNMC. Whilst some actual production and processing costs have been recorded, and are lower than the study applied costs, Optiro has opted to use a combination of the current costs and escalated cost assumptions for reasons of conservatism and consistency over variable recorded costs. The mining costs used are considered to be in line with current operational expectations and actuals. A forecast gold price of US\$1,500 per ounce has been applied at the request of CNMC. The unit operating costs and cut-off grade calculations used are presented in Table 3.17.

#### **3.12.3. ECONOMIC EVALUATION**

Economic evaluation of the Ore Reserves for the Sokor Project shows that the net cashflow from the operation is estimated to be US\$79.3 M, with a Net Present Value of US\$65.0 M (based on a 10% discount rate). In-line with the pit optimisation sensitivity, the financial metrics were tested at an upside and downside gold price case of US\$1,700/oz and US\$1,300/oz respectively, the results of which are shown in Table 3.18.

Based on the economic evaluation undertaken by Optiro, Optiro can demonstrate, and is satisfied that, there is a positive financial outcome for the Manson's Lode, Rixen, New Found and New Discovery deposits. Financial analysis has been completed for the Ketubong deposit, but actual underground mining capital and operating cost parameters are considered to be of a preliminary nature in December 2019.

**Table 3.17 Mining unit costs and cut-off grade**

	Units	Heap Leach	CIL material
<b>Processing costs</b>			
Processing cost	US\$ /t	3.50	30
<b>Revenue and selling costs</b>			
Rehabilitation cost	US\$ /t ore	-	-
Selling cost	US\$ /g	0.05	0.05
	US\$ /g	2.95	2.95
Total sale cost	US\$ /g	3	3
Gold price	US\$ /oz	1,500	1,500
	US\$ /g	48.22	48.22
Final sale price	US\$ /g	40.19	40.19
Mining recovery	%	95%	95%
Process recovery	%	34.00%	94.50%
Recovered revenue	US\$ /g	20.0	28.1
<b>Marginal cut-off</b>	<b>g/t</b>	<b>0.19</b>	<b>0.69</b>

**Table 3.18 Financial metrics at varying gold prices**

Gold price (US\$ /oz)	\$1,300	\$1,500	\$1,700
Free cashflow (US\$ M)	59.0	79.3	99.7
NPV (US\$ M)	48.6	65.0	81.5

### 3.13. INTERPRETATION AND COMMENTS

The geology and mineralisation controls at Sokor are reasonably well understood, with mineralisation being both structurally and lithologically controlled. The 2019 drilling has extended the mineralisation at Rixen to the south and down-dip to the east and the drilling at New Found has extended the mineralisation to the east and at depth. Mining at Ketubong is now from underground. The additional drilling and face sampling data have confirmed the extension of the gold mineralisation at depth, although this has indicated that there are possible faults and off-sets to the mineralisation that are not yet fully understood. Drilling at Sg Amang has defined additional base metal resources. Optiro considers that there is considerable potential remaining in the Sokor Block mining licence to locate additional gold and base metal mineralisation.

From an operational perspective, Optiro recommends that CNMC continues to improve the rigour that has been applied to the recording and reconciliation of operating activities during 2015 to 2019. Accurate reporting of mining locations and material movements on to and off stockpiles and leach pads will provide CNMC with greatly improved production tracking and enable meaningful reconciliation of actual against planned mine performance in terms of both tonnes and grades.

The above recording should continue to be supported by accurate face and stockpile surveys on a monthly basis to provide a spatial basis for reconciliation against the reported physicals. The implementation of these processes would eliminate unaccounted for material movements and significantly streamline end of period reporting requirements. Optiro notes that there has been good improvement in this aspect of operations on site during 2016 to 2019.

On a similar note, the movement of material from stockpiles to leach pads continued to be recorded during 2019. Optiro recommends that additional details are recorded in the future to ensure that CNMC has a more detailed basis for measuring the performance of the heap leach circuits. Without recording this additional information from the leach circuits, the basis for determining how the leaching process has performed during the month is sub-optimal.



The above operational processes are considered to be essentials for a single-source mining and processing operation. With the continued potential for multiple ore sources to be mined concurrently at Sokor, the requirement for accurate and rigorous reporting processes is multiplied to ensure that operational performance is recorded on an appropriate basis.

In summary, Optiro notes the improved progress in recording of the operational performance of the Sokor Project. Optiro supports CNMC's desire and actions to continue implementing a more formalised and structured production recording and reporting process, as commenced during 2016.

### 3.14. CONCLUSIONS AND RECOMMENDATIONS

CNMC purchased Datamine mining software in 2015. CNMC is maintaining the database and using this to plan drilling programmes to test for Mineral Resource extensions. CNMC is intending to undertake regular updates to the resource models. CNMC has obtained high quality and detailed survey data of the Rixen, Manson's Lode, New Discovery and New Found pits. This has improved confidence in the remaining material.

Optiro has the following recommendations with respect to the data used for the Mineral Resources estimate at the Sokor Project:

- As noted by CNMC, the results from the standard samples submitted to SGS show a low grade bias due to equipment problems. Optiro recommends that both the duplicate samples and the standard samples that are in the batches that were analysed when there was a problem with the equipment should be re-assayed by SGS.
- Ongoing updates to the mineralisation interpretations should be undertaken during the drilling programmes. This will assist with optimisation of the drilling programmes and with planning any additional drillholes.
- A 3D interpretation of the lithology should be developed; this will improve the mineralisation interpretation and Mineral Resource definition.
- Pit survey pickups should be completed on a regular basis (at least at the end of each quarter, but ideally at the end of each month) and the Mineral Resource models should be reconciled against production at least on a quarterly basis.
- A database of the grade control data from the operating pits should be maintained and used to construct grade control block models for reconciliation with the Mineral Resource models.
- Reconciliation of the Mineral Resource models, grade control data and production should be undertaken at quarterly intervals.
- Facilities at the core shed should be improved to allow drill core to be laid out from an entire drillhole and tables should be installed so the core is at waist height.

Optiro has the following recommendations with respect to the data used for the Ore Reserves estimate at the Sokor Project. These are considered 'best practice' recommendations:

- A detailed life-of-mine schedule should be updated with the depleted Ore Reserves and accounting for mining activities that have occurred.
- Certain sections of the resource block models are believed to be backfill material (due to changes year on year of the provided topographical surface) that has been placed in situ from nearby mining activities. Now that detailed 3D topographic surfaces for each deposit have been developed, this assumption should be validated on the ground at Sokor and the block models updated should the historical assumption not be accurate.
- A more detailed cost capturing process should be developed to allow understanding of different cost elements by mining location. This will allow more deposit specific cost and cut-off grade assumptions for future mine planning and forecasting.
- Ongoing recording of monthly operational production figures is occurring to a reasonably good standard, but needs to be supported by appropriately detailed daily tracking of mining and

processing activities that include more detailed records of the material source and destination locations; this reporting standard improved during 2016.

- A pit reconciliation system needs to be established that reconciles the actual pit production against the planned production versus the Ore Reserves and versus the Mineral Resources on a classification by classification basis. That is whether (A) the production material mined was from Proved or Probable Ore Reserves in the pit or was from Inferred Mineral Resources or additional material within the optimised pit design – Ore Reserves reconciliation; or (B) the production material mined was from Measured, Indicated or Inferred Mineral Resources in the pit or was from additional material within the optimised pit design – Mineral Resources reconciliation.
- Surveys of mining face positions and stockpile profiles should continue to be generated on a monthly basis to facilitate effective reconciliation between all stages of the operation from the resource block model through to gold produced.
- Training of production staff should be implemented to ensure that continuity of production tracking and reporting is maintained whilst staff are absent from site on rosters.

## 4. KELGOLD PROJECT

On 20 March 2017, CNMC announced that the Company had entered into a share sale agreement to acquire 100% of KelGold Mining Sdn. Bhd. (KelGold). KelGold had the right to explore for iron ore, gold and other minerals in an area of approximately 1,550 hectares (15.5 km<sup>2</sup>) that expired in 2019. A renewal application has been submitted and paid for and renewal of the licence is expected. This concession is located in the state of Kelantan, Malaysia immediately south of the Thailand-Malaysia border and approximately 30 km northwest of the Sokor mine.

### 4.1. GEOLOGICAL SETTING

The Kelgold Project area falls within the Central Gold Belt of Malaysia which also hosts CNMC's Sokor mine and the third party Penjom and Selinsing mines among others. The project geology comprises a sequence of north-south trending Permian to Triassic marine sedimentary rocks along with a mylonitic granite in the central portion of the licence. The main units include argillite, sericite-quartz schist, tuff and sandy slate.

The lithologies within the licence area are affected by regional tectonic movement and are generally foliated and folded with complicated structural observations in outcrop. The strata generally trend near north-south with dipping to the east or northwest controlled by folding dipping between 35° to 85°. A series of anticline folds are found in the south-eastern portion of the project area, with a north-south trending axis.

Faulting is well developed in the area. The larger rivers are typically located within fracture zones trending near north-south, north-westerly or north-easterly with compressive-twisting. The main fault in the area is in the east of the licence area trending north-south with a strike length of approximately 8 km. Secondary faults are predominantly northeast or northwest trending. Magmatic activity is common with mylonitic monzogranite distributed in the west of the area and associated with the Noring Stong Granite. Quartz veining is common and quartz porphyry and diorite float is rarely observed. Gold anomalism / mineralisation observed to date is usually associated with fine pyritised quartz veins. The occurrence and distribution of gold anomalism remains uncertain as the exploration only began by late 2017.

Assessment of the Kelgold Project by CNMC geologists is at an early stage and is currently on-going. The current assessment of the project area includes geological mapping, soil geochemical sampling, trenching and follow-up drilling of any anomalous results. Known mineralisation within the project area includes an area of historic gold workings located in the northern part of the project associated with highly silicified rocks and pyrite or limonite mineralisation. Further gold in soil anomalism has been identified and warrants further follow-up work.

CNMC considers that the Kelgold acquisition has significant potential based on the geological information available and the strategic synergy with the Company due to the geographic proximity to the Group's existing Sokor Project.

#### 4.2. EXPLORATION

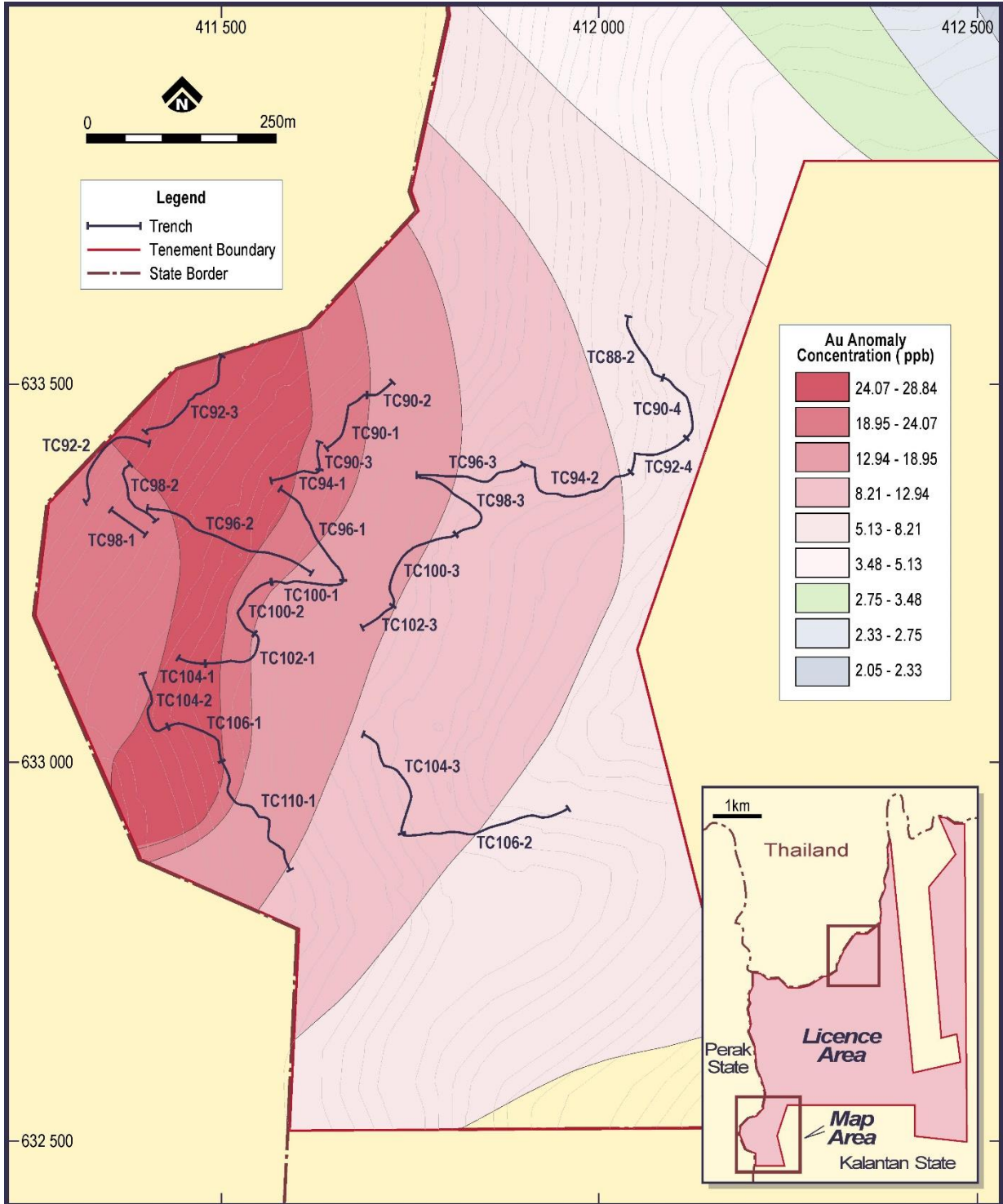
During 2019, CNMC completed 29 exploration trenches (Table 4.1) with total trench length of 3,774.5 m. All trenching carried out in 2019 was located in the southern portion of the licence area (Figure 4.1). Significant intercepts from the 2019 trench sampling are summarised in Table 4.2.

**Table 4.1 Trenches and sampling completed in 2019**

Trench	Location (western extent)			Length (m)	Number of samples
	Northing	Easting	Elevation		
TC88	633532	411516	840	50	48
TC92	633458	411274	903	319.5	319
TC92-2	633343	411320	874	150	86
TC98-1	633333	411354	825	58	59
TC98-2	633317	411414	807	100	92
TC92-3	633436	411398	835	162	158
TC90-1	633485	411692	736	41	41
TC90-2	633485	411692	736	98	98
TC94-1	633386	411629	692	69	69
TC96-1	633360	411578	740	150	150
TC90-3	633423	411630	682	39	40
TC100-1	633360	411578	740	100	100
TC102-1	633169	411543	742	100	100
TC96-2	633335	411402	800	184	84
TC104-1	633129	411479	743	38	38
TC104-2	633118	411396	687	100	100
TC106-1	633047	411429	688	100	100
TC110-1	633001	411500	688	193	93
TC88-2	633589	412038	604	100	53
TC90-4	633507	412083	601	100	73
TC92-4	633427	412113	608	100	47
TC94-2	633382	412040	613	179	79
TC96-3	633394	411898	618	150	61
TC98-3	633300	411728	645	150	104
TC100-3	633589	412038	604	150	86
TC102-3	633507	412083	601	250	147
TC104-3	633427	412113	608	164	85
TC106-2	632904	411738	598	229	224
TC92-5	633405	412085	626	151	48
TC92*	633458	411274	903	-	20
TC92-3*	633436	411398	835	-	21
TC92-4*	633436	411398	835	-	40
TC92*	633458	411274	903	-	20
TC92-4*	633343	411320	874	-	13

\* Resampling of existing trench

Figure 4.1 Trenching and drilling completed at the Kelgold Project in 2019



**Table 4.2 2019 trench sampling significant intercepts**

Drillhole	Sample no.	Length (m)	Gold (g/t)
TC92	H69	1	0.58
TC92	H172	1	0.94
TC92	H178	1	0.27
TC92	H182	1	0.96
TC92	H183	1	1.63
TC92	H319	1	0.28
TC92-3	H1	1	0.56
TC92-3	H26	1	0.87
TC92-3	H31	1	0.22
TC92-3	H32	1	0.16
TC92-3	H34	1	0.71
TC92-3	H35	1	0.19
TC92-3	H98	1	0.65
TC96-2	H38	1	0.34
TC96-2	H39	1	0.45
TC102-3	H52	1	0.11
TC102-3	H57	2	0.40
TC102-3	H58	1	0.45
TC102-3	H61	1	0.11
TC102-3	H62	1	0.18
TC102-3	H107	1.5	0.43
TC102-3	H114	2	0.14
TC104-2	H82	1	0.13
TC104-2	H83	1	0.17
TC104-2	H84	1	0.31
TC92-2	H31	1	0.37

As at 31 December 2019, the Kelgold Project is at an exploration stage of assessment. Optiro has reviewed the exploration work completed to date and whilst prospective, considers that there has been insufficient exploration completed as at 31 December 2019 to estimate a Mineral Resource in accordance with JORC 2012 guidelines. The project is at a conceptual stage and it is uncertain if further exploration will result in the estimation of a Mineral Resource. There is insufficient information as at 31 December 2019 available to disclose the location and size of any potential future mine, the expected mineral quality or the development costs.

## 5. CNMC PULAI PROJECT

On 28 June 2016, CNMC announced it had entered into a non-binding letter of intent with CNMC Pulai in respect of the proposed subscription of new shares in CNMC Pulai representing 51% of the enlarged issued and paid-up share capital of CNMC Pulai. The purchase consideration for the proposed subscription was RM13,800,000. On 27 February 2017, CNMC announced that it had completed the proposed subscription and CNMC Pulai was a 51%-owned subsidiary of the Company.

CNMC Pulai owns exploration and mining licenses with a combined license area of 3,841.3 hectares (38.41 km<sup>2</sup>) and a 70% stake of Sumberjaya Land & Mining Sdn. Bhd. which holds the rights to mine iron ore for the iron ore mining licenses assigned to CNMC Pulai. The project area is approximately 100 km south of the Sokor mine and 20 km to the southwest of the city of Gua Musang in the State of Kelantan, Malaysia. This comprises:

- one exploration licence of approximately 2,300 hectares (23 km<sup>2</sup>)
- seven gold mining licenses (of which four gold mining licences are in the process of renewal) totalling approximately 1,166.19 hectares (11.7 km<sup>2</sup>)
- one iron ore mining licenses totalling approximately 179.7 hectares (1.7 km<sup>2</sup>)
- one feldspar mining license for approximately 15.41 hectares (0.15 km<sup>2</sup>).



## 5.1. FELDSPAR

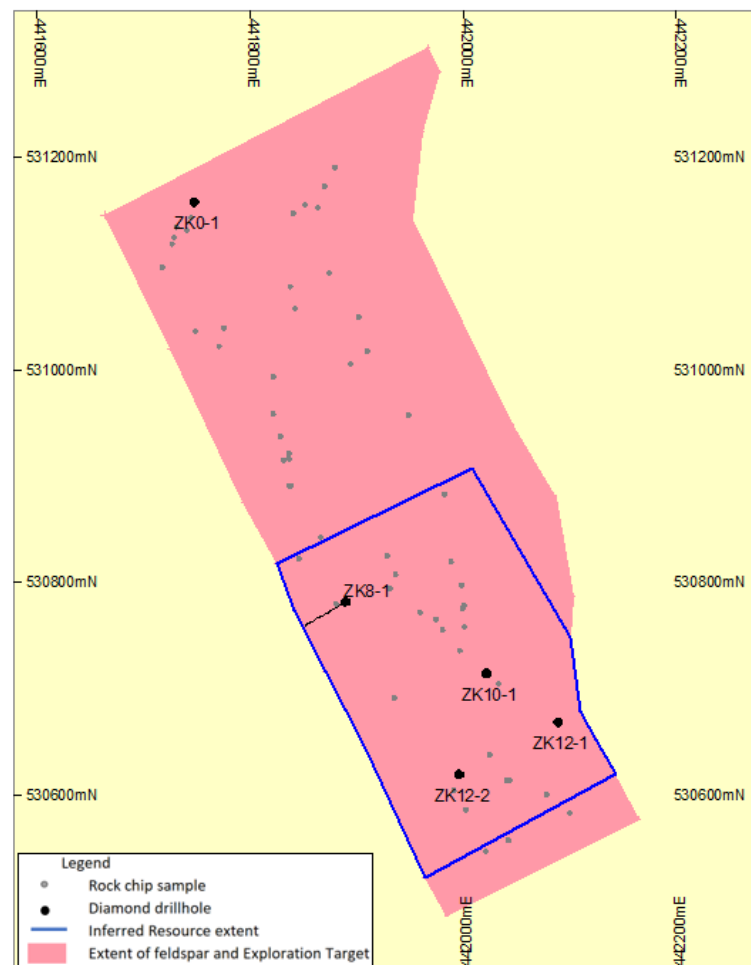
Feldspar was mined from the feldspar mining licence prior to CNMC's involvement and has continued since. Mining is subcontracted to a local feldspar producer who supply to ceramics manufacturers in Malaysia. Annual production from the mining licence is summarised in Table 5.1. CNMC plans to continue to work with the existing subcontractor to further develop the Malaysian market and explore for marketing opportunities outside Malaysia.

**Table 5.1 Annual Pulai feldspar production**

Year	Tonnes mined
2019	72,411
2018	105,672
2017	73,174
2016	68,941
2015	92,835
2014	65,625

Feldspar mineralisation in the CNMC Pulai region has been developed by hydrothermal alteration of volcanic rocks of various types and from shallow intrusive bodies. During 2019, CNMC conducted exploration of the feldspar deposit, including collection and analysis of rock chip samples and drilling five diamond core holes (for a total of 1,046.9 m) for analysis and density measurements (Figure 5.1). From this data an Inferred Mineral Resource and Exploration Target has been defined. Half core samples were used for analysis, while quarter core samples and pulp samples were selected for QAQC analysis. The average sample length was 4.14 m, and sample intervals are between 0.98 m to 7.99 m.

**Figure 5.1 Pulai feldspar deposit - plan of drilling, rock chip sampling and extent of Inferred Mineral Resource and Exploration Target**



The samples were crushed and split at CNMC's Sokor onsite laboratory and subsamples were sent to SGS Australia's laboratory via SGS Malaysia. The sub-samples were pulverised and major elements were analysed by X-ray fluorescence (SGS method XRF78S).

QAQC procedures included analysis of duplicate samples, and submission of blanks samples and certified standards with the drillhole samples. Approximately 10% of samples were sent to ALS, Australia for check analysis. Of the 24 duplicate samples analysed, two samples have higher sodium (Na) and lower potassium (K) results from SGS compared to ALS. The remaining 22 samples have a high correlation and no bias. Two blank samples (OREAS 22e and 22f from Ore Research and Exploration P/L) that are essentially pure quartz, returned 0.01% K and Na. Standard samples (three of GTA-02 and two GTA-03 from Geostats Pty Ltd) were submitted. The standards performed well for K%, with all five samples returning values that are within one standard deviation of the expected mean. For Na% the results from the standard samples were all biased high with all five values higher and are outside acceptable limits (plus three standard deviations from the expected mean). This bias should be discussed with SGS and the samples reanalysed for Na.

Three geological domains were interpreted from mapping and drillhole logging to define the syenite (associated with the feldspar mineralisation), limestone, and area with eluvial and/or backfill material. A base of oxidation surface was interpreted. Grade top-cuts were not applied. Na<sub>2</sub>O and K<sub>2</sub>O have low coefficients of variation (0.58 and 0.41) and outliers were not observed. Variogram analysis defined mineralisation continuity ranges of 175 m along strike by 96 m down dip (-60° to the north-east) by 83 m (perpendicular to the plane of mineralisation) Al<sub>2</sub>O<sub>3</sub>. Variogram analysis of the Na<sub>2</sub>O, K<sub>2</sub>O, CaO, Fe<sub>2</sub>O<sub>3</sub>, MgO, SiO<sub>2</sub> indicated down-dip ranges of 46 m to 90 m, and perpendicular ranges of 23 m to 83 m. The variograms for grade continuity of Na<sub>2</sub>O, K<sub>2</sub>O, CaO, Fe<sub>2</sub>O<sub>3</sub>, MgO and SiO<sub>2</sub> in the along strike direction are poorly defined at the current drill spacing.

A block model was generated using a block size of 20 mE by 20 mN on 4 m benches. Assay data was composited to 4 m intervals within the syenite domain and block grades for Na<sub>2</sub>O, K<sub>2</sub>O, Al<sub>2</sub>O<sub>3</sub>, CaO, Fe<sub>2</sub>O<sub>3</sub>, MgO, SiO<sub>2</sub> and LOI were estimated using ordinary kriging. Density measurements were taken for 25 core samples and the average density of 2.54 t/m<sup>3</sup> was applied for tonnage estimation.

The feldspar Mineral Resource has been classified as Inferred in accordance with the guidelines of the Australian JORC Code (2012). Table 1 criteria of the JORC Code and supporting comments are listed in Appendix C. As advised by CNMC, and commensurate with current mining practices at CNMC Pulai by the subcontractor who supplies feldspar to ceramics manufacturers in Malaysia, the Mineral Resource has been reported above a cut-off grade of 8% Na<sub>2</sub>O+K<sub>2</sub>O. The Inferred Mineral Resource for the CNMC Pulai Project is 23.7 Mt with an average grade of 6.8% Na<sub>2</sub>O and 2.8% K<sub>2</sub>O (Table 5.2). Optiro notes that the contents of the deleterious minerals (MgO and, Fe<sub>2</sub>O<sub>3</sub>) are higher than industry norms, but CNMC Pulai has advised that they are acceptable and can be further reduced through beneficiation processes. Furthermore, CNMC Pulai is currently carrying out testwork to explore the possibility of extracting silica sands from the ore. The Mineral Resource that is attributable to CNMC is included in Table 5.3.

**Table 5.2 Mineral Resource estimate for the Pulai feldspar deposit**

Category	Tonnes (Mt)	Na <sub>2</sub> O (%)	K <sub>2</sub> O (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	CaO (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	MgO (%)	LOI (%)
Inferred	23.7	6.8	2.8	69.7	15.5	1.9	0.9	0.4	1.9

**Table 5.3 CNMC Pulai Project – Mineral Resource statement as at 31 December 2019**

Category	Mineral type	Gross attributable to licence			Gross attributable to CNMC			
		Tonnes (millions)	Grade (Na <sub>2</sub> O%+K <sub>2</sub> O%)	Contained Na <sub>2</sub> O+K <sub>2</sub> O Kt	Tonnes (millions)	Grade (Na <sub>2</sub> O%+K <sub>2</sub> O%)	Contained Na <sub>2</sub> O+K <sub>2</sub> O Kt	Change from previous update
Measured	Feldspar	-	-	-	-	-	-	Not previously reported
Indicated	Feldspar	-	-	-	-	-	-	
Inferred	Feldspar	23.7	9.5	2.5	12.1	9.5	1.3	
<b>Total</b>	<b>Feldspar</b>	<b>23.7</b>	<b>9.5</b>	<b>2.5</b>	<b>12.1</b>	<b>9.5</b>	<b>1.3</b>	

In addition, an Exploration Target of 50 to 60 Mt with an average grade of 6 to 7% Na<sub>2</sub>O and 2.5 to 3% K<sub>2</sub>O has been defined adjacent to and to the north of the Inferred Mineral Resource. The potential quantity and grade of the Exploration Target is conceptual in nature, as there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

## 5.2. GOLD MINERALISATION

As for the Kelgold Project, the CNMC Pulai Project falls within the Central Gold Belt of Malaysia which hosts CNMC's Sokor mine and the third party Penjom and Selinsing mines, among others.

The project area has historically been subject to alluvial gold mining operations, especially along the Galas River, along with previous feldspar mining. Total historical alluvial gold production has been in the order of 260 kg.

Overall, assessment of the gold mineralisation potential at the CNMC Pulai Project by CNMC geologists is at an early stage and is currently ongoing. The current assessment of the project area includes geological mapping, soil geochemical sampling, trenching and follow-up drilling of any anomalous results.

Quaternary cover is relatively thick within the Pulai area, with outcrop mostly present along road and river cuttings. According to geological mapping and drill core logging, the lithology within the project area is mainly lower Permian metamorphic rock, pyroclastic rocks and volcanic rocks striking in a north-northeast direction. The Pulai area has been divided into the western, central and southern areas. The lithology of the western area consists of limestone, tuff (interbedded with carbonaceous slate and slate), volcanic breccia and andesite. The overall dip direction found in the western area is west-northwest and the dip angle 20° to 70°. The central area is mainly composed of andesitic tuff, with some rhyolitic tuff and andesite. Andesite, with minor andesitic tuffs, is distributed through the southern area. Pyroclastic and volcanic rocks occur widely across the area, while sedimentary rocks have only been found in the western area.

Fracture and fault structures are common across the Pulai area. Major faults are north-south and north-northeast oriented, while secondary faults are mainly northwest, west-northwest and northeast in direction. Medium to coarse grained granite has been mapped along fault zones which are partially mylonitised and accompanied by pyrite mineralisation.

Primary gold anomalism identified to date appears to be related to silicification and limonitic (after pyrite) alteration. In the west of the project area, quartz-limonite veinlets in slate and tuff associated with gold anomalism have been identified through trenching, but the controls on the occurrence of gold are not yet clear.

Several styles of gold mineralisation potentially occur within the Pulai area, with the major types being alluvial occurrences, high-arsenic mesothermal auriferous quartz veins, low-arsenic auriferous stockwork and sheeted quartz veins with variable sulphidation and porphyry-style gold mineralisation.

China Railway Resources Exploration Ltd (2015) completed geological studies and concluded that the CNMC Pulai Project has similar mineralisation characteristic to the Sokor gold mine. Comparable to the Sokor deposits, the CNMC Pulai Project was interpreted as having the following features:

- within 15 to 30 km east of the Bentong-Raub Suture
- north-south fault structures are well developed with sub-ordinate northeast, northwest and north-northeast faults controlling the distribution of alteration and mineralisation
- alluvial gold present within the project area
- geochemical anomalism of pathfinder elements antimony, arsenic and uranium.

CNMC considers that geological data collected by previous explorers supports the potential for gold mineralisation similar to that discovered at the Sokor Project. Optiro considers that the work to date is encouraging and warrants further follow-up work.

Optiro has reviewed the exploration work completed to date for definition of the gold mineralisation and considers that there has been insufficient exploration completed to estimate a Mineral Resource in accordance with JORC 2012 guidelines. The project is at a conceptual stage and it is uncertain if further exploration will result in the estimation of a Mineral Resource. There is insufficient information available to disclose the location and size of any potential future mine, the expected mineral quality or the development costs.

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## 7. GLOSSARY

Term	Explanation
Abbreviations	AAS - Atomic Absorption Spectrometry, Ag – silver, AIG – Australian Institute of Geoscientists, Au – gold, AusIMM – Australasian Institute of Mining and Metallurgy, CEng – Chartered Engineer, CIL – carbon in leach, CIM – Canadian Institute of Mining, Metallurgy and Petroleum, CP – Chartered Professional of the AusIMM, Cu – copper, DTM – digital terrain model, g/t – grams per tonnes, EL – Exploration Licence, ICPAES – Inductively Coupled Plasma with Atomic Emission Spectroscopy (assay device), IMMM – Institute of Materials, Mining and Metallurgy, kg – kilogram, km - kilometre, km <sup>2</sup> - square kilometre, koz – one thousand ounces, kt – one thousand tonnes. ktpa, kilo tonnes per annum, kW – kilowatt, one thousand watts, m - metre, m <sup>3</sup> - cubic metres, Ma - million years, mm - millimetre, M - million, ML – Mining Licence, Mt - million tonnes, Mtpa - million tonnes per annum, NPV – net present value, oz - (troy ounce – 31.1 g), % - percentage, Pb – lead, RQD – rock quality designation, QA/QC – quality control and quality assurance, SGX – Singapore Stock Exchange, t - metric tonnes, t/m <sup>3</sup> – tonnes per metre cubed, US\$ – United States dollars, Zn – zinc..
Base metals	Non-ferrous (other than iron and alloys) metals excluding precious metals. These include copper, lead, nickel and zinc.
Bedrock	The solid rock lying beneath superficial material such as gravel or soil.
Bulk density	The mass of many particles of the material divided by the volume they occupy. The volume includes the space between particles as well as the space inside the pores of individual particles.
Cut-off grade	The grade that differentiates between mineralised material that is economic to mine and material that is not.
Diamond drilling	Drilling method which produces a cylindrical core of rock by drilling with a diamond tipped bit.
Fault	A fracture in rock along which displacement has occurred.
Face sample	The cutting of pieces of ore and rock from exposed faces of ore and waste. The faces may be natural outcrops or faces exposed in surface trenches and pits. Face samples may be taken by cutting grooves or channels of uniform width and depth across the face or sections of the face.
Indicated Mineral Resource	An 'Indicated Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.
Inferred Mineral Resource	An 'Inferred Mineral Resource' is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes which may be limited or of uncertain quality and reliability.
JORC Code	The JORC Code provides minimum standards for public reporting to ensure that investors and their advisers have all the information they would reasonably require for forming a reliable opinion on the results and estimates being reported. The current version is dated 2012.
Metallurgy	Study of the physical properties of metals as affected by composition, mechanical working and heat treatment.
Measured Mineral Resource	A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. The locations are spaced closely enough to confirm geological and grade continuity.
Mineral Resource	A 'Mineral Resource' is a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
Mineralisation	The process by which a mineral or minerals are introduced into a rock, resulting in a valuable deposit.
Ordinary kriging	A geostatistical estimation method relying upon a model of spatial continuity as defined in a variogram.
Ore	Mineralised material which is economically mineable at the time of extraction and processing.



Term	Explanation
Ore Reserve	An 'Ore 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. Appropriate assessments and studies have been carried out and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves.
Oxidation	The addition of oxygen to the metal ion, generally as a result of weathering.
Recovery	Metallurgical: The percentage of metal that can be recovered given the limitations of the processing equipment.
Reverse Circulation (RC)	Drilling method that uses compressed air and a hammer bit to produce rock chips.
Stripping	Open pit mining term relating to the removal of uneconomic waste material to expose ore. Metallurgical term relating to the removal of copper from the organic phase in the solvent extraction process.
Top cut	A process that reduces the effect of isolated (and possible unrepresentative) outlier assay values on the estimation.
Transitional	The partially oxidised zone between oxidized and fresh material.
Volcanics	Sequence of strata formed from an erupting volcano.

## Appendix A Sokor Project

### JORC Code, 2012 Edition – Table 1 reporting

#### SECTION 1 SAMPLING TECHNIQUES AND DATA

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>All drilling by CNMC is by diamond drill rigs.</li> <li>Drill cores were photographed and logged by geologists. Core identified as having potential for mineralisation was marked up for sampling.</li> <li>Half core samples were selected for analysis and quarter core samples were used for quality assurance and quality control analysis.</li> <li>From 2011 to 2013 the average length of the samples selected for analysis was 1.46 m, during 2014 and 2015 the average sample length was 1.27 m and for 2016 to 2018 the average sample length was 0.99 m. Sample intervals selected for analysis from the 2019 drillholes are between 0.16 m and 2.01 m with an average of 0.90 m.</li> <li>All sample preparation and analyses were undertaken at CNMC's Sokor on-site laboratory.</li> <li>Gold analyses of the 2019 samples were by fire assay with atomic absorption spectrometry (AAS) finish of a 30 g sample, with a detection limit of 0.01 g/t gold (method FAA303).</li> <li>Ag, Cu, Pb and Zn were analysed by a four acid digest using SGS method AAS43B.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>Triple tube diamond core drilling - fully drilled with diamond bit without RC pre-collar.</li> <li>Core diameter varies from 122 mm, 96 mm to 76 mm with depth.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have</li> </ul>	<ul style="list-style-type: none"> <li>Core sample recovery recorded in logging sheet and recovery results assessed by geologists.</li> <li>Statistical analysis indicates there is no relationship between recovery and grade.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>occurred due to preferential loss/gain of fine/coarse material.</i>	
<i>Logging</i>	<ul style="list-style-type: none"> <li>• <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drillholes were logged by geologists.</li> <li>• Logging data recorded includes interval from and to, colour, major mineral composition, texture and structure, mineralisation and lithology types.</li> <li>• Cores were photographed.</li> <li>• All samples that were identified as having potential mineralisation were assayed.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Core samples were logged and intervals for analysis were marked-up by CNMC geologists.</li> <li>• Core samples were cut into half and collected by experienced CNMC personnel.</li> <li>• From 2011 to 2013 the average length of the samples selected for analysis was 1.46 m, during 2014 and 2015 the average sample length was 1.27 m and for 2016 to 2018 the average sample length was 0.99 m.</li> <li>• Sample intervals selected for analysis from the 2019 drillholes are between 0.16 m and 2.01 m with an average of 0.90 m.</li> <li>• Quarter core samples were used for quality assurance and quality control analysis.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All 2019 samples were assayed at CNMC's Sokor on-site laboratory.</li> <li>• CNMC's procedures for 2019 included the submission of blanks, blind duplicate samples and standards with samples and submission of duplicate sample to independent laboratory SGS (Malaysia) Sdn. Bhd. laboratory, Malaysia and an umpire laboratory (ALS Minerals laboratory in Perth, Australia).</li> <li>• Seven standard samples (G314-3, G315-2, G905-7, G912-2, G912-7, G913-10 and G916-2) from Geostats Pty Ltd were submitted to CNMC's on-site laboratory. In total, 336 standard sample were submitted and of these only 3 samples were outside the acceptable limits (of which on sample has been mis-labelled).</li> <li>• Analysis of the QAQC data indicates acceptable levels of precision and there is no bias across the grade ranges.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A twin hole was drilled at New Discovery during 2013. This confirmed the mineralised intersection within the upper part of the orebody.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Data validation included checking for out of range assay data and overlapping or missing intervals.</li> <li>Below detection values were set to half the detection limit.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li><i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>Drillhole collar locations (easting, northing and elevation) are surveyed by geologists after hole completion using CHCNAV X91 GNSS receivers of +/- 10 cm accuracy or GARMIN GPSMap 64s accurate to within +/-7 m.</li> <li>Grid system used is Malaysian National Grid (MNG).</li> <li>A detailed topographical surface has been defined over a 7 km<sup>2</sup> area that covers the four deposits. Contour intervals are at 5 m intervals and points along the contour lines are generally at intervals of around 10 m. This data was used to generate a DTM for the resource estimate.</li> <li>Drillhole collars were pressed to the DTM. For data prior to 2016 differences of up to 24 m were noted between the drillhole collar elevation and the topography.</li> <li>Detailed aerial pit surveys of Rixen, Manson' Lode, New Discovery and New Found were conducted in early 2020 by CNMC using an unmanned aerial vehicle (UAV) and processed by Land Surveys, an Australian based company.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>A total of 675 diamond drillholes for 75,973 m have been drilled at the Sokor Project for Mineral Resource definition.</li> <li>Drillhole spacing and drill section spacing averages 20 m to 50 m depending on location, access and ground conditions.</li> <li>Data obtained is sufficient to establish the degree of geological and grade continuity.</li> <li>Samples are not composited for analysis. Downhole compositing to 1.5 m intervals was applied for Mineral Resource estimation at Manson's Lode. Downhole compositing to 1.0 m intervals was applied for Mineral Resource estimation at Rixen, New Discovery and New Found.</li> <li>The data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimation procedure and classification applied.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this</i></li> </ul>	<ul style="list-style-type: none"> <li>Drill sections are oriented perpendicular to the strike of the deposit.</li> <li>Vertical and inclined holes have been drilled, depending on the orientation of the lithology and mineralisation.</li> <li>The orientation of drilling is considered adequate for an unbiased assessment of the deposit with respect to interpreted structures and controls on mineralisation.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>should be assessed and reported if material.</i>	
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>All sample preparation and assaying was completed at the Sokor on-site laboratory.</li> <li>Security procedures are in place including inspection of vehicles and personnel entering and leaving the mine site.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Optiro visited the Sokor project during December 2011, June 2015, January and April 2018, and October 2019. Review of the sampling techniques did not reveal any material issues.</li> </ul>

## SECTION 2 REPORTING OF EXPLORATION RESULTS

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Ulu Sokor area is covered by numerous exploration, mining and general purpose tenements which support the ongoing gold ore mining operation.</li> <li>Mining Lease ML 10/2016 is held by CMNM Mining Group Sdn. Bhd.; a subsidiary of CNMC Goldmine Holdings Ltd.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Ulu Sokor area has a long history of gold prospecting and small scale alluvial and hard rock mining since 1900s, by Duff Development Company Ltd, Eastern Mining and Metals Company, Asia Mining Sdn. Bhd., and TRA Mining (Malaysia) Sdn. Bhd.</li> <li>BDA (Behre Dolbear Australia Pty Ltd) had provided an independent assessment of technical aspects on this project.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>Ulu Sokor is located in the Central Belt of Peninsular Malaysia. Gold mineralisation is located towards the middle of Central Belt and is associated with the intersection of two major north-south trending structures with northeast to northwest trending secondary structures.</li> <li>Gold mineralisation at Ulu Sokor is both lithologically and structurally controlled. It is generally hosted in acid to intermediate tuffaceous rocks and in carbonate-rich rocks. High grade gold mineralisation is typically associated with intense shearing and brecciation, veining and pervasive alteration.</li> <li>Four gold deposits have been defined within the southern area (Manson's Lode, New Discovery, New Found and Ketubong) and a fifth deposit (Rixen) is located within the northern area of the tenement.</li> <li>Gold at Manson's Lode is strongly associated with pyrite, chalcopyrite, galena and sphalerite.</li> <li>Base metal mineralisation (lead and zinc) has also</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>been defined at Sg Amang, about 1.2 km to the east of Rixen.</p>
<p><i>Drillhole Information</i></p>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drillhole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable – drilling was designed for resource definition.</li> </ul>
<p><i>Data aggregation methods</i></p>	<ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li>• <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable – drilling was designed for resource definition.</li> </ul>
<p><i>Relationship between mineralisation widths and intercept lengths</i></p>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable – drilling was designed for resource definition.</li> </ul>
<p><i>Diagrams</i></p>	<ul style="list-style-type: none"> <li>• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable – drilling was designed for resource definition.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable – drilling was designed for resource definition.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable – drilling was designed for resource definition.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Future resource definition drilling is planned to further extend known mineralised zones at Rixen, Ketubong, New Discovery, New Found and Sg Amang, and to explore for additional mineralised zones within the Sokor project area.</li> <li>Exploration drilling has been undertaken and results from this will be evaluated for further exploration drilling.</li> </ul>

### SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

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

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>Data entry by site geologist, checked by geological supervisor and additional checking and validation by resource geologist.</li> <li>Data validation included checking for out of range assay data and overlapping or missing intervals</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Site visits undertaken during December 2011, June 2015, January and April 2018 and October 2019 by Optiro.</li> <li>During the site visits geological logging, sampling techniques and procedures were reviewed.</li> </ul>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and</li> </ul>	<ul style="list-style-type: none"> <li>The level of confidence in the interpretations of the mineralised horizons is reflected by the Mineral Resource classification.</li> <li>In general infill drilling has confirmed the mineralisation interpretations.</li> <li>Previous mining of near surface, high grade ore has occurred at Manson's Lode and the pit has been backfilled with mineralised material of lower grades from Manson's Lode.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>controlling Mineral Resource estimation.</i></p> <ul style="list-style-type: none"> <li><i>The factors affecting continuity both of grade and geology.</i></li> </ul>	<ul style="list-style-type: none"> <li>Geological interpretation has been defined by diamond drilling. Gold mineralisation interpretation at Manson's Lode, Rixen, New Discovery and New Found was based on a nominal 0.15 g/t gold cut-off grade. The interpretation was completed along drill sections, typically at spacings of 20 m and 50 m and the interpretations were triangulated to form 3D solids of the mineralisation domains.</li> <li>At Ketubong (where underground mining has commenced) the interpretation was based on a nominal 0.5 g/t gold cut-off grade. The interpreted mineralisation included results from drillholes and underground face samples.</li> <li>Base metal mineralisation was interpreted at Manson's Lode and Sg Amang based on a nominal 2% Pb+Zn cut-off grade.</li> <li>All available geological data has been used to interpret the mineralisation and to differentiate between mineralisation within eluvial/alluvial, backfill and bedrock.</li> <li>Mineralised domains were interpreted for the backfill material (at Manson's Lode), alluvial and eluvial mineralisation, and bedrock mineralisation that occurs sub-parallel to the lithology and is structurally controlled in the vicinity of the Ketubong-Rixen fault zone.</li> <li>A base of oxidation surface and a top of fresh surface have been interpreted for each deposit area.</li> </ul>
<p><i>Dimensions</i></p>	<ul style="list-style-type: none"> <li><i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i></li> </ul>	<ul style="list-style-type: none"> <li>At Manson's Lode the mineralisation strikes northeast-southwest and has a relatively flat orientation. It is 750 m along strike and 300 m across strike and extends from surface to a depth of 120 m.</li> <li>At New Discovery and New Found the mineralisation strikes north-south and dips approximately 25° to the east. It has a combined strike length of 500 m and is up to 400 m across strike. Mineralisation extends from surface to a depth of up to 280 m.</li> <li>At Ketubong the mineralisation strikes north-south and dips approximately 50° to the east. It is 550 m along strike by 350 m down dip. Mineralisation extends from surface to a depth of approximately 270 m.</li> <li>At Rixen the mineralisation strikes north-south and dips approximately 20° to the east. It is 2,150 m along strike and is up to 700 m across strike. Mineralisation extends from surface to a depth of approximately 400 m.</li> <li>The Sg Amang deposit has been drilled to a depth of 200 m from surface and generally remains open at down dip and at depth. The mineralisation has been interpreted as five lodes that have a combined strike length of 200 m and across strike extent of 200 m. The mineralisation dips to the north-west at</li> </ul>

Criteria	JORC Code explanation	Commentary
<p><i>Estimation and modelling techniques</i></p>	<ul style="list-style-type: none"> <li>• <i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></li> <li>• <i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li>• <i>The assumptions made regarding recovery of by-products.</i></li> <li>• <i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> <li>• <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li>• <i>Any assumptions behind modelling of selective mining units.</i></li> <li>• <i>Any assumptions about correlation between variables.</i></li> <li>• <i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li>• <i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li>• <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<p>around 50°.</p> <ul style="list-style-type: none"> <li>• Drillhole sample data was flagged using domain codes generated from three-dimensional mineralisation domains and oxidation surfaces.</li> <li>• Data within the interpreted mineralisation at Manson's Lode was composited to 1.5 m downhole intervals and data within the interpreted mineralisation at Rixen, New Discovery and New Found was composited to 1.0 m downhole intervals.</li> <li>• A seam models was developed for Ketubong and the gold assay data within the mineralised lodes at Ketubong was length weighted.</li> <li>• The influence of extreme sample distribution outliers was reduced by top-cutting. The top-cut levels were determined using a combination of top-cut analysis tools (grade histograms, log probability plots and CVs).</li> <li>• Directional variograms were modelled using a normal score transformation. Mineralisation continuity was interpreted from variogram analyses.</li> <li>• Mineralisation continuity was interpreted from variogram analyses to have an along strike range of 46 m to 135 m, and a down-dip range of 44 m to 98 m.</li> <li>• Kriging neighbourhood analysis was undertaken in to optimise the block size, search distances and sample numbers.</li> <li>• Grade estimation was into parent blocks of 10 mE by 10 mN on 2 m benches at Manson's Lode and New Discovery/New Found, 10 mE by 20 mN on 2 m benches at Rixen and 10 mE by 10 mN by 1 m benches at Sg Amang. For Ketubong, a seam model with a parent block size of 5 mE by 5 mN with a variable bench height was used.</li> <li>• Block grade estimation was carried out using ordinary kriging at the parent block scale. Three estimation passes were used for all domains; the first search was based upon the variogram ranges for each domain in the three principal directions; the second search was typically two times the first search in all directions, and the third search was four or five times the initial search, with reduced sample numbers required for estimation.</li> <li>• Over 77% of blocks at Manson's Lode, 42% of the blocks at Rixen, 21% of the blocks at the combined New Discovery and New Found deposits and 65% of the blocks at Sg Amang were estimated in the first pass. At Ketubong, only 4% of the blocks were estimated in the first pass and 19% in the second pass.</li> <li>• The estimated block model grades were visually validated against the input drillhole data and comparisons were carried out against the declustered drillhole data and by easting, northing and elevation slices.</li> </ul>
<p><i>Moisture</i></p>	<ul style="list-style-type: none"> <li>• <i>Whether the tonnages are estimated</i></li> </ul>	<ul style="list-style-type: none"> <li>• The tonnages are estimated on a dry basis.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></p>	
<p><i>Cut-off parameters</i></p>	<ul style="list-style-type: none"> <li><i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resources are reported above a 0.5 g/t gold cut-off grade at Manson's Lode and for the transitional and fresh material at Ketubong, New Discovery and New Found and above a 0.17 g/t gold cut-off grade at Rixen and for the oxide material Ketubong, New Discovery and New Found to reflect current commodity prices, differential operating costs and processing options.</li> <li>Base metal Mineral Resources at Manson's Lode (in addition to the gold Mineral Resources) and at Sg Amang are reported above a 2% Pb+Zn cut-off grade.</li> </ul>
<p><i>Mining factors or assumptions</i></p>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>Planned extraction is by open pit mining. Mining factors such as dilution and ore loss have not been applied.</li> </ul>
<p><i>Metallurgical factors or assumptions</i></p>	<ul style="list-style-type: none"> <li><i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>No metallurgical assumptions have been built into the Mineral Resource models.</li> </ul>
<p><i>Environmental factors or assumptions</i></p>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the</i></li> </ul>	<ul style="list-style-type: none"> <li>CNMC has identified the key potential environmental impacts arising from the project's operations and their associated mitigation measures are being implemented.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i></p>	
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>• <i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></li> <li>• <i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></li> <li>• <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Representative sections of core of around 0.2 m were selected and weighted in water and air.</li> <li>• Bulk density values for each deposit and material type were calculated using measurements from 369 sections of diamond drill core (including 40 measurements obtained during 2019) and of alluvial/eluvial and backfill material from 41 test pits.</li> <li>• An ordinary least squares model was developed that was used to determine the density from the lead and zinc contents for domains with high lead and zinc contents at Manson's Lode. This was also applied for tonnage estimation used at Sg Amang.</li> <li>• Average bulk density values for the eluvial/alluvial and back fill material was determined from measurements of material from 41 test pits.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (kriging efficiency).</li> <li>• Measured Mineral Resources have been defined at Manson's Lode generally in areas of 20 m by 20 m drill spacing.</li> <li>• Indicated Mineral Resources have been defined generally in areas of 40 m by 40 m drill spacing and where infill drilling has confirmed the mineralisation interpretation.</li> <li>• Inferred Mineral Resources have been defined generally in areas of 80 m by 80 m drill spacing and where the confidence in the block estimate (as measured by the kriging efficiency) is low.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The estimation parameters and Mineral Resource models were peer reviewed by Optiro staff.</li> </ul>
<b>Discussion of relative accuracy/ confidence</b>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether</i></li> </ul>	<ul style="list-style-type: none"> <li>• The assigned classification of Measured, Indicated and Inferred reflects the Competent Person's assessment of the accuracy and confidence levels in the Mineral Resource estimate.</li> <li>• The confidence levels are believed to be appropriate for quarterly production volumes.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></p> <ul style="list-style-type: none"> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	

#### SECTION 4 ESTIMATION AND REPORTING OF ORE RESERVES

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral Resource estimate for conversion to Ore Reserves</i>	<ul style="list-style-type: none"> <li>• <i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i></li> <li>• <i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Mineral Resource estimate used for the Rixen, Manson's Lode and New Discovery deposits are classified as a JORC 2012 Mineral Resource Statement and were completed by Mrs Christine Standing of Optiro on behalf of CNMC.</li> <li>• The Mineral Resources are reported exclusive of (additional to) the Ore Reserves as stated in this report.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li>• <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A site visit was undertaken by Optiro (Mr Andrew Law) in May 2012 and June 2015 and a follow-up site visit was undertaken by Optiro (Mr Michael Leak) in January 2018 to examine the changes in mining and processing practices since 2015 and in October 2019 (Mr Stephen O'Grady) to underground development and mining practices.</li> </ul>
<i>Study status</i>	<ul style="list-style-type: none"> <li>• <i>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</i></li> <li>• <i>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Mineral Resources have been converted to Ore Reserves on the basis of the existing operational status of the deposits and historical records.</li> <li>• As the mine is currently operating, no additional studies have been completed to support this Ore Reserve estimate. The mine has current, optimised mine plans in place, and material modifying factors have been derived on the basis of the current operational data.</li> </ul>
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> <li>• <i>The basis of the cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Cut-off grades have been calculated based on forecast mined gold grades, recovery and dilution parameters, mining and processing costs and forecast commodity pricing.</li> </ul>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> <li>• <i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i></li> </ul>	<ul style="list-style-type: none"> <li>• The methods and assumptions used in converting Mineral Resources to Ore Reserves are based on operating parameters from the mines. The mines have appropriate current designs developed from the recently re-done optimisation processes.</li> <li>• The open pit mining methods selected for the CNMC mines have been selected to best address the</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i></li> <li><i>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i></li> <li><i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i></li> <li><i>The mining dilution factors used.</i></li> <li><i>The mining recovery factors used.</i></li> <li><i>Any minimum mining widths used.</i></li> <li><i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i></li> <li><i>The infrastructure requirements of the selected mining methods.</i></li> </ul>	<p>operational requirements of the deposit characteristics, and have been in effect since the commencement of mining operations in 2010.</p> <ul style="list-style-type: none"> <li>Assumptions made regarding geotechnical constraints have been developed based on operating knowledge of the existing mines.</li> <li>The assumptions made for pit optimisation have been based on known operating conditions from the existing mines.</li> <li>Mining dilution of 5% has been used.</li> <li>Mining recovery of 95% has been used.</li> <li>No minimum mining widths have been applied</li> <li>Inferred Mineral Resources have not been included in any Ore Reserve figures reported.</li> <li>As an operating mine, all infrastructure requirements are already in place for the applied mining methods.</li> </ul>
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></li> <li><i>Whether the metallurgical process is well-tested technology or novel in nature.</i></li> <li><i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></li> <li><i>Any assumptions or allowances made for deleterious elements.</i></li> <li><i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</i></li> <li><i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul>	<ul style="list-style-type: none"> <li>Heap leaching and vat leaching are currently being used at the Sokor Project. These methods have been selected based on the prevailing ore characteristics.</li> <li>The two leaching methods are well-tested and do not represent an untried processing strategy.</li> <li>Metallurgical testwork has been carried out on samples from across the project area to confirm the appropriateness of the leaching processing methodologies. No metallurgical domaining has been applied within specific mine areas. Recovery factors have been applied on a mine by mine basis.</li> <li>No assumptions or allowances have been made for deleterious elements.</li> <li>A pilot scale test of the heap leach process was undertaken during 2012 to confirm the suitability of that process for the Rixen ore. The size (approx. 90 kt) of the trial was considered representative of the Rixen deposit.</li> <li>There are no specifications applied to the mine production.</li> </ul>
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></li> </ul>	<ul style="list-style-type: none"> <li>CNMC has identified the key potential environmental impacts arising from the project's operations and their associated mitigation measures are being implemented.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Infrastructure</i>	<ul style="list-style-type: none"> <li><i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Sokor Project is currently in operation and all required infrastructure is in place.</li> </ul>
<i>Costs</i>	<ul style="list-style-type: none"> <li><i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></li> <li><i>The methodology used to estimate operating costs.</i></li> <li><i>Allowances made for the content of deleterious elements.</i></li> <li><i>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.</i></li> <li><i>The source of exchange rates used in the study.</i></li> <li><i>Derivation of transportation charges.</i></li> <li><i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></li> <li><i>The allowances made for royalties payable, both Government and private.</i></li> </ul>	<ul style="list-style-type: none"> <li>There are no projected major capital costs forecast for the project as all construction is complete and the operating fleet is a mix of owner and contracted equipment.</li> <li>Operating cost data has been provided by CNMC.</li> <li>No allowances have been made for deleterious elements.</li> <li>Metal pricing has been provided by CNMC based on current market forecasts and existing sales agreements.</li> <li>All costs have been provided in US dollars with no conversions used.</li> <li>Transport charges have been provided by CNMC.</li> <li>Treatment and refining charges have been based on site data provided by CNMC.</li> <li>A gold royalty of 10% of gross revenue is payable to the Kelantan State Government (KSG) and an additional tribute payment of 4% of gross revenue is payable to the Kelantan State Economic Development Corporation (KSEDC). CNMC holds an 81% share in the production from the project.</li> </ul>
<i>Revenue factors</i>	<ul style="list-style-type: none"> <li><i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i></li> <li><i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></li> </ul>	<ul style="list-style-type: none"> <li>As an operating project, all revenue factors have been derived from operating data.</li> <li>Commodity pricing assumptions have been provided by CNMC based on gold price forecasts and existing sales arrangements.</li> </ul>
<i>Market assessment</i>	<ul style="list-style-type: none"> <li><i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></li> <li><i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></li> <li><i>Price and volume forecasts and the basis for these forecasts.</i></li> <li><i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i></li> </ul>	<ul style="list-style-type: none"> <li>Bullion produced is currently sold on the spot market to local licensed buyers. There are currently no prevailing supply or demand constraints in the local gold industry. No constraints are anticipated over the production period for the project.</li> <li>The local gold market is not considered to present any competitor risk given the relatively low volume of bullion to be produced by the project.</li> <li>The forecast gold price used in preparation of this statement is considered to be an appropriate sales baseline for the production period applied.</li> </ul>
<i>Economic</i>	<ul style="list-style-type: none"> <li><i>The inputs to the economic analysis to produce the net present value</i></li> </ul>	<ul style="list-style-type: none"> <li>No detailed economic analysis has been completed by Optiro as the project is already in operation and</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>(NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i></p> <ul style="list-style-type: none"> <li>• <i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></li> </ul>	<p>demonstrates an economically viable project.</p> <ul style="list-style-type: none"> <li>• No assumptions or inputs have been applied in an NPV analysis.</li> </ul>
Social	<ul style="list-style-type: none"> <li>• <i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></li> </ul>	<ul style="list-style-type: none"> <li>• There are no existing impediments to the licence to operate for the project.</li> </ul>
Other	<ul style="list-style-type: none"> <li>• <i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i></li> <li>• <i>Any identified material naturally occurring risks.</i></li> <li>• <i>The status of material legal agreements and marketing arrangements.</i></li> <li>• <i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No identifiable naturally occurring risks have been identified to impact the Ore Reserves.</li> <li>• There are no material legal agreements or marketing arrangements in place for the project at this time.</li> <li>• Government agreements include: Mining right ML 10/2016.</li> </ul>
Classification	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> <li>• <i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Mineral Resources were converted to Ore Reserves as per JORC 2012 guidelines, i.e. Measured to Proven, Indicated to Probable. No downgrading in category has occurred for this project.</li> <li>• The result reflects the Competent Person's view of the deposit.</li> <li>• No Measured Mineral Resources have been converted to Probable Ore Reserves.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Ore Reserve estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Ore Reserve has been calculated by Independent consultants Optiro and an internal peer review undertaken.</li> </ul>
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if</i></li> </ul>	<ul style="list-style-type: none"> <li>• Relative accuracy and confidence calculations have not been conducted for the Ore Reserve.</li> <li>• Current and past production and reconciliation data has been used throughout the Ore Reserve estimations.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></p> <ul style="list-style-type: none"> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></li> <li>• <i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	

## Appendix B Kelgold Project

### JORC Code, 2012 Edition – Table 1 reporting

#### **SECTION 1 SAMPLING TECHNIQUES AND DATA**

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>All drilling by CNMC is by diamond drill rigs.</li> <li>Trench samples were dug using an excavator and sampled by trained personnel supervised by geologist.</li> <li>Drill cores were photographed and logged by geologists. Core identified as having potential for mineralisation was marked up for sampling.</li> <li>All samples that were identified as having potential mineralisation were assayed.</li> <li>Half core samples were selected for analysis and quarter core samples were used for quality assurance and quality control analysis.</li> <li>All sample preparation and analyses were undertaken at CNMC's Sokor on-site laboratory.</li> <li>Gold analyses of the samples were by fire assay with atomic absorption spectrometry (AAS) finish of a 30 g sample, with a detection limit of 0.01 g/t gold (method FAA303).</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>Triple tube diamond core drilling - fully drilled with diamond bit without RC pre-collar.</li> <li>Core diameter varies from 122 mm, 96 mm to 76 mm with depth.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>Core sample recovery recorded in logging sheet and recovery results assessed by geologists.</li> <li>Statistical analysis indicates there is no relationship between recovery and grade.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have</li> </ul>	<ul style="list-style-type: none"> <li>All drillholes were logged by geologists.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <ul style="list-style-type: none"> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Logging data recorded includes interval from and to, colour, major mineral composition, texture and structure, mineralisation and lithology types.</li> <li>• Cores were photographed.</li> <li>• All samples that were identified as having potential mineralisation were assayed.</li> <li>• Trenches were geologically mapped along their length.</li> </ul>
<p><i>Sub-sampling techniques and sample preparation</i></p>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Core samples were logged and intervals for analysis were marked-up by CNMC geologists.</li> <li>• Core samples were cut into half and collected by experienced CNMC personnel.</li> <li>• During 2017, the average length of the samples selected for analysis was 1.14 m, during 2018 the average sample length was 0.96 m.</li> <li>• Sample intervals selected for analysis from the 2018 drillholes are between 0.15 m and 1.65 m.</li> <li>• Quarter core samples were used for quality assurance and quality control analysis.</li> <li>• Trenches samples were collected horizontally or vertically on the field, depending on the outcrop occurrence.</li> <li>• Sample intervals selected for 2018 trenches are between 0.5 m to 2 m.</li> <li>• Sample intervals selected for 2019 trenches are between 1 m to 2 m.</li> </ul>
<p><i>Quality of assay data and laboratory tests</i></p>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All samples were assayed at CNMC's Sokor on-site laboratory.</li> <li>• CNMC's procedures included the submission of blanks, blind duplicate samples and standards with samples and submission of duplicate sample to independent laboratory SGS (Malaysia) Sdn. Bhd. laboratory, Malaysia and ALS, Perth, Western Australia and an umpire laboratory (ALS Minerals laboratory in Perth, Australia).</li> <li>• Six standard samples (G314-3, G910-3, G912-7, G196-1, G916-2 and G916-4) from Geostats Pty Ltd were submitted to CNMC's on-site laboratory.</li> <li>• Analysis of the QAQC data indicates acceptable levels of precision for all standards.</li> </ul>
<p><i>Verification of sampling and assaying</i></p>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data</i></li> </ul>	<ul style="list-style-type: none"> <li>• The project is at an early stage of assessment and twin holes have not been completed.</li> <li>• Data validation included checking for out of range assay data and overlapping or missing intervals.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>storage (physical and electronic) protocols.</i></p> <ul style="list-style-type: none"> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Below detection values were set to half the detection limit.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li><i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>Drillhole collar locations (easting, northing and elevation) are surveyed by geologists after hole completion using CHCNAV X91 GNSS receivers of +/- 10 cm accuracy or GARMIN GPSMap 64s accurate to within +/- 7 m.</li> <li>Grid system used is Malaysian National Grid (MNG).</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>During 2018, data from 18 vertical and inclined drillholes for a total of 3,219.49 m at Kelgold were incorporated into the database.</li> <li>Drillhole spacing and drill section spacing averages 50 m depending on location, access and ground conditions.</li> <li>Data obtained to date is insufficient to establish the degree of geological and grade continuity.</li> <li>Samples are not composited for analysis.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<ul style="list-style-type: none"> <li>Drilling and trenching has been carried out on an exploration basis and the orientation of any mineralisation is yet to be determined with sufficient confidence for Mineral Resource estimation.</li> <li>Any relationship between the drilling orientation and the orientation of key mineralised structures has not yet been determined.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>All sample preparation and assaying was completed at the Sokor on-site laboratory.</li> <li>Security procedures are in place including inspection of vehicles and personnel entering and leaving the mine site.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Optiro visited the Kelgold project during October 2019. Review of the sampling techniques did not reveal any material issues.</li> </ul>

## Appendix C Pulai Project

### JORC Code, 2012 Edition – Table 1 reporting

#### SECTION 1 SAMPLING TECHNIQUES AND DATA

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>All drilling completed by CNMC Pulai was by diamond drilling methods.</li> <li>Drill cores were logged and photographed by geologists. Whole core was marked up for sampling for feldspar drill cores.</li> <li>Half core samples were used for analysis, while quarter core samples and pulp samples were selected for QAQC analysis.</li> <li>The average sample length was 4.14 m, and sample intervals are between 0.98 m to 7.99 m.</li> <li>CNMC's Sokor on-site laboratory completed crushing and splitting with subsamples sent to SGS Malaysia laboratory for pulverisation and analyses.</li> <li>Major elements were analysed by X-ray fluorescence (SGS method XRF78S), while REE were analysed by a four-acid digest (SGS method DIG40Q), followed by inductively coupled plasma mass spectrometry, ICP-MS (SGS method IMS40Q).</li> <li>Umpire laboratory check by ALS Perth laboratory was using ME-XRF26 for major elements and ME-MS61r for REE.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>Drilling was entirely diamond core drilling (without RC pre-collar). Core diameter ranges from PQ, HQ to NQ with depth.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>Core sample recovery is accessed by geologists are recorded in logging sheet. RQD is recorded.</li> <li>Sample recovery was typically &gt;95% and is considered acceptable for resource estimation.</li> <li>There is no relationship between sample recovery and grade and no bias due to preferential loss/gain of fine/coarse material</li> </ul>



Criteria	JORC Code explanation	Commentary
<i>Logging</i>	<ul style="list-style-type: none"> <li>• <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drillholes were logged in entirely by geologists. Logging data recorded lithology, interval from and to, colour, major mineral composition, texture and structure and mineralisation.</li> <li>• Wet cores were photographed.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Core samples were marked up by CNMC geologists.</li> <li>• Core samples were cut into half and collected by experienced CNMC personnel.</li> <li>• Average sample length was 4.14m, and sample intervals are between 0.98 m to 7.99 m.</li> <li>• Quarter core samples were used for QAQC analysis.</li> <li>• Blanks, standards and duplicate samples were inserted at a rate of approximately 1 in 25 for each.</li> <li>• The Sokor on-site laboratory completed crushing and splitting with subsamples sent to SGS Malaysia laboratory for pulverisation and analyses.</li> <li>• Given the bulk nature of the mineralisation, sample size and representivity is considered appropriate.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All Pulai samples were assayed at the accredited SGS Malaysia laboratory.</li> <li>• CNMC included submission of blanks, blind duplicate samples and standards to SGS (Malaysia) Sdn. Bhd. laboratory and umpire laboratory (ALS Minerals laboratory in Perth, Australia).</li> <li>• Two standards (GTA-02 and GTA-03 from Geostats Pty Ltd) and two blanks (OREAS 22e and 22f from Ore Research &amp; Exploration P/L) were submitted to SGS Malaysia and ALS Perth laboratories.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No twin holes have been completed at this stage of assessment.</li> <li>• Data validation included checking for out of range assay data and overlapping or missing intervals.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Discuss any adjustment to assay data.</li> </ul>	
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>Drillhole collar locations (easting, northing and elevation) are surveyed by geologists after hole completion using CHCNAV X91 GNSS receivers of +/- 10 cm accuracy or GARMIN GPSMap 64s accurate to within +/-7 m.</li> <li>Grid system used is Malaysian National Grid (MNG).</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Drillhole spacing and drill section spacing averages 120 m apart and drill section spacing is 200 m depending on location, access and ground conditions. In the southern part spacing of 60 m by 100 m was achieved in a staggered pattern depending on location, access and ground conditions.</li> <li>Given the bulk nature of the mineralisation, drillhole spacing along with surface mapping and rock chip sampling is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource estimation procedure and classification applied.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>The mineralisation is bulk in nature.</li> <li>Vertical and inclined holes have been drilled, depending on the orientation of the lithology and mineralisation.</li> <li>The orientation of drilling is considered adequate for an unbiased assessment of the deposit with respect to interpreted structures and controls on mineralisation.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Samples were crushed at Sokor on-site laboratory and sent to SGS Malaysia laboratory by CNMC personnel for pulverisation and analysis.</li> <li>Security procedures are in place including inspection of vehicles and personnel entering and leaving mine site.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Optiro visited the Pulai project during October 2019 prior to drilling taking place. No other audits or review of sampling techniques or data has taken place.</li> </ul>

## SECTION 2 REPORTING OF EXPLORATION RESULTS

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> </ul>	<ul style="list-style-type: none"> <li>CNMC Pulai Sdn. Bhd. owns exploration and mining licenses with a combined license area of 3,841.3 hectares (38.41 km<sup>2</sup>) and 70% stake of Sumberjaya Land &amp; Mining Sdn. Bhd. which holds the rights to mine iron ore for the iron ore mining licenses assigned to CNMC Pulai.</li> <li>Mining Lease ML7/2005 for the feldspar mine is held by CNMC Pulai Sdn. Bhd.; a subsidiary of</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	CNMC Goldmine Holdings Ltd.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>Galas River within the tenement has a history of alluvial gold mining.</li> <li>Previously Pulai Mining Sdn. Bhd. carried out geological exploration in the tenement, included geological mapping, soil geochemical sampling and trench sampling.</li> <li>China Railway Resources Exploration Ltd compiled geological studies in 2015 and concluded CNMC Pulai Project has similar mineralisation characteristic to the Sokor gold project.</li> <li>Feldspar was mined from the feldspar mining license prior to CNMC's involvement and has continued since. Mining is subcontracted to a local feldspar producer who supply to ceramics manufacturers in Malaysia.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>The lithology within the project area is mainly lower Permian metamorphic rock, pyroclastic rocks and volcanic rocks striking in a north-northeast direction. The lithology of western area consists of limestone, tuff (interbedded with carbonaceous slate and slate), volcanic breccia and andesite. The central area is mainly composed of andesitic tuff, with some rhyolitic tuff and andesite. Andesite with minor andesitic tuffs are distributed through the southern area. Pyroclastic and volcanic rocks occur widely across the area while sedimentary rocks have only been found in the western area.</li> <li>Feldspar mineralisation in the CNMC Pulai region has been developed by hydrothermal alteration of volcanic rocks of various types and from shallow intrusive bodies.</li> <li>Several styles of gold mineralisation potentially occur within the Pulai area, with the major types being alluvial occurrences, high-arsenic mesothermal auriferous quartz veins, low-arsenic auriferous stockwork and sheeted quartz veins with variable sulphidation and porphyry-style gold mineralisation.</li> </ul>
<i>Drillhole Information</i>	<ul style="list-style-type: none"> <li><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:</i> <ul style="list-style-type: none"> <li><i>easting and northing of the drillhole collar</i></li> <li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li><i>dip and azimuth of the hole</i></li> <li><i>down hole length and interception</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>In 2019, five drillholes within the CNMC Pulai feldspar mine were completed for 1,046.9 m.</li> <li>Drillhole spacing and drill section spacing averages 120 m apart and drill section spacing is 200 m depending on location, access and ground conditions. In the southern part spacing of 60 m by 100 m was achieved in a staggered pattern depending on location, access and ground conditions.</li> </ul>

Criteria	JORC Code explanation	Commentary																																										
	<p><i>depth</i></p> <ul style="list-style-type: none"> <li>○ <i>hole length.</i></li> </ul>	<table border="1"> <thead> <tr> <th>Hole</th> <th>Easting</th> <th>Northing</th> <th>RL</th> <th>Depth</th> <th>Dip</th> <th>Azi</th> </tr> </thead> <tbody> <tr> <td>ZK8-1</td> <td>441,890.5</td> <td>530,781.6</td> <td>162.3</td> <td>247.4</td> <td>80</td> <td>240</td> </tr> <tr> <td>ZK12-1</td> <td>442,089.7</td> <td>530,668.3</td> <td>120.6</td> <td>117.4</td> <td>90</td> <td>0</td> </tr> <tr> <td>ZK12-2</td> <td>441,996.8</td> <td>530,619.1</td> <td>157.8</td> <td>251.5</td> <td>90</td> <td>0</td> </tr> <tr> <td>ZK0-1</td> <td>441,748.0</td> <td>531,157.2</td> <td>177.5</td> <td>241.7</td> <td>90</td> <td>0</td> </tr> <tr> <td>ZK10-1</td> <td>442,022.5</td> <td>530,714.2</td> <td>123.7</td> <td>188.9</td> <td>90</td> <td>0</td> </tr> </tbody> </table>	Hole	Easting	Northing	RL	Depth	Dip	Azi	ZK8-1	441,890.5	530,781.6	162.3	247.4	80	240	ZK12-1	442,089.7	530,668.3	120.6	117.4	90	0	ZK12-2	441,996.8	530,619.1	157.8	251.5	90	0	ZK0-1	441,748.0	531,157.2	177.5	241.7	90	0	ZK10-1	442,022.5	530,714.2	123.7	188.9	90	0
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<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li>• <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable – drilling was designed for resource definition.</li> </ul>																																										
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable – drilling was designed for resource definition.</li> </ul>																																										
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable – drilling was designed for resource definition.</li> </ul>																																										
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable – drilling was designed for resource definition.</li> </ul>																																										
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method</i></li> </ul>	<ul style="list-style-type: none"> <li>• 64 surface rock chip samples were collected at the feldspar mine to have a preliminary idea of material quality.</li> </ul>																																										

Criteria	JORC Code explanation	Commentary
	<i>of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>Future exploration and resource definition drilling to improve geological confidence is planned at feldspar mine.</li> </ul>

### SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

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

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> <li><i>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</i></li> <li><i>Data validation procedures used.</i></li> </ul>	<ul style="list-style-type: none"> <li>Data entry by site geologist, checked by geological supervisor and additional checking and validation by resource geologist.</li> <li>Data validation included checking for out of range assay data and overlapping or missing intervals</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> <li><i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>Site visit undertaken during January 2018 and October 2019 by Optiro</li> <li>During site visit the geology was reviewed and geological logging, sampling techniques and procedures were discussed for the up-coming drilling programme.</li> </ul>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <li><i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i></li> <li><i>Nature of the data used and of any assumptions made.</i></li> <li><i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></li> <li><i>The use of geology in guiding and controlling Mineral Resource estimation.</i></li> <li><i>The factors affecting continuity both of grade and geology.</i></li> </ul>	<ul style="list-style-type: none"> <li>The level of confidence in the interpretations of the mineralised horizons is reflected by the Mineral Resource classification.</li> <li>Geological interpretation has been defined by diamond drilling and surface mapping.</li> <li>Where possible, a base of oxidation surface has been interpreted.</li> </ul>
<i>Dimensions</i>	<ul style="list-style-type: none"> <li><i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i></li> </ul>	<ul style="list-style-type: none"> <li>The feldspar mineralisation at Pulai has been interpreted from geological mapping and rock-chip sampling to extend over a strike length of 730 m, an across strike width of 250 m and to a depth of 220 m.</li> <li>The Inferred Resource has an along stake extent of 320 m, an across strike width of 200 m and extends to a depth of 220 m.</li> </ul>
<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> <li><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of</i></li> </ul>	<ul style="list-style-type: none"> <li>Drillhole sample data was flagged using domain codes generated from three-dimensional geological domains and oxidation surfaces.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></p> <ul style="list-style-type: none"> <li>• <i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li>• <i>The assumptions made regarding recovery of by-products.</i></li> <li>• <i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> <li>• <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li>• <i>Any assumptions behind modelling of selective mining units.</i></li> <li>• <i>Any assumptions about correlation between variables.</i></li> <li>• <i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li>• <i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li>• <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Data within the interpreted geological domains was composited to 4 m downhole intervals.</li> <li>• Top-cut grades were not applied. Na<sub>2</sub>O and K<sub>2</sub>O have low coefficients of variation (0.58 and 0.41) and outliers were not observed.</li> <li>• Directional variograms were modelled using a normal score transformation. Mineralisation continuity was interpreted from variogram analyses.</li> <li>• Mineralisation continuity was interpreted from variogram analyses to have a down-dip range of 80 m, an along strike range of 150 m and a perpendicular range of 78 for K<sub>2</sub>O. For Na<sub>2</sub>O a down-dip range of 90 m, an along strike range of 70 m and a perpendicular range of 55 were interpreted.</li> <li>• Grade estimation was into parent blocks of 20 m by 20 m on 4 m benches.</li> <li>• No assumptions were built into the estimation process and all variables were estimated independently. There is a high negative correlation between Na<sub>2</sub>O and K<sub>2</sub>O.</li> <li>• In addition to Na<sub>2</sub>O and K<sub>2</sub>O, block grades were also estimated for Al<sub>2</sub>O<sub>3</sub>, CaO, Fe<sub>2</sub>O<sub>3</sub>, MgO, SiO<sub>2</sub> and LOI.</li> <li>• Block grade estimation was carried out using ordinary kriging at the parent block scale. Three estimation passes were used; the first search was based upon the variogram ranges in the three principal directions; the second search was two times the first search in all directions, and the third search was four times the second search, with reduced sample numbers required for estimation. Over 65% of blocks were estimated in the first and second passes for Na<sub>2</sub>O and 17% for K<sub>2</sub>O.</li> <li>• The estimated block model grades were visually validated against the input drillhole data and comparisons were carried out against the declustered drillhole data and by easting, northing and elevation slices.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>• <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The tonnages are estimated on a dry basis.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>• <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• As advised by CNMC, and commensurate with current mining practises at CNMC Pulai by the subcontractor who supplies feldspar to ceramics manufacturers in Malaysia, the Mineral Resource has been reported above a cut-off grade of 8% Na<sub>2</sub>O+K<sub>2</sub>O.</li> <li>• Optiro notes that the contents of the deleterious minerals (MgO, Fe<sub>2</sub>O<sub>3</sub> and Al<sub>2</sub>O<sub>3</sub>) are higher than industry standards, but CNMC has advised that these are acceptable given the anticipated blending of this material with ore from third party</li> </ul>

Criteria	JORC Code explanation	Commentary
<p><i>Mining factors or assumptions</i></p>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></li> </ul>	<p>mines.</p> <ul style="list-style-type: none"> <li>Planned extraction is by open pit mining. Mining factors such as dilution and ore loss have not been applied.</li> </ul>
<p><i>Metallurgical factors or assumptions</i></p>	<ul style="list-style-type: none"> <li><i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>No metallurgical assumptions have been built into the Mineral Resource models.</li> </ul>
<p><i>Environmental factors or assumptions</i></p>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>CNMC has identified the key potential environmental impacts arising from the project's operations and their associated mitigation measures are being implemented.</li> </ul>
<p><i>Bulk density</i></p>	<ul style="list-style-type: none"> <li><i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></li> <li><i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and</i></li> </ul>	<ul style="list-style-type: none"> <li>Representative sections of core of around 0.2 m were selected and weighted in water and air.</li> <li>Average bulk density values were calculated using measurements from 25 sections of diamond core.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>differences between rock and alteration zones within the deposit.</i></p> <ul style="list-style-type: none"> <li>• <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	
<p><i>Classification</i></p>	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model and modelled grade continuity.</li> <li>• Inferred Mineral Resources have been defined in the southern area of the feldspar deposit where the four drillholes are at a spacing of around 60 m by 100 m.</li> </ul>
<p><i>Audits or reviews</i></p>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The estimation parameters and Mineral Resource models were peer reviewed by Optiro staff.</li> </ul>
<p><i>Discussion of relative accuracy/confidence</i></p>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The assigned classification of Inferred reflects the Competent Person's assessment of the accuracy and confidence levels in the Mineral Resource estimate.</li> <li>• The confidence level is believed to be appropriate for annual production volumes.</li> </ul>