

# CNMC Goldmine Holdings Limited Independent Qualified Persons' Report as at 31 December 2018



# J\_2357

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April 2019

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		Date:	1 April 2019

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1 April 2019

The Board of Directors CNMC Goldmine Holdings Limited 745 Toa Payoh Lorong 5 #04-01 Singapore 319455

**Dear Sirs** 

## **INDEPENDENT QUALIFIED PERSONS' REPORT AS AT 31 DECEMBER 2018**

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 Singapore Stock Exchange (SGX) 'Additional Listing Requirements for Mineral, Oil and Gas Companies'. The Mineral Resources at Rixen, Manson's Lode, New Discovery, New Found and Ketubong 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).

### SOKOR PROJECT

The Sokor Project (the Project) in Kelantan State, northern Peninsular Malaysia, is currently 81% owned by CNMC Goldmine Holdings Limited (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 Among, 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 24 diamond holes drilled by CNMC during 2018, since CNMC's 31 December 2017 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. Ore Reserve estimates have been updated for Rixen, New Discovery and Manson's Lode. CNMC has mined ore from Rixen, Ketubong, New Discovery and New Found during 2018. The Mineral Resources at Rixen, Ketubong and New Discovery have been depleted for mining to 31 December 2018.

### **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 their Kelgold acquisition has significant potential based on the geological information available and 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 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 along with feldspar mining. Total alluvial gold production has been in the order of 260 kg and approximately 125,000 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 further follow-up work.

### INDEPENDENT QUALIFIED PERSONS' REPORT

Optiro has prepared this document in support of CNMC's Annual Report for the year 2018. 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 and the exploration results for the Kelgold and CNMC Pulai Projects as at 31 December 2018 for incorporation into CNMC's Annual Report for the Year 2018; 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** 

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

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# **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 2018. The Report has been prepared by Optiro in accordance with Singapore Stock Exchange (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 Goldmine Holdings Limited (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 Among, to the east of Rixen.

Optiro Pty Ltd (Optiro) undertook site visits 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 and January 2018 to review the mining operations for the Ore Reserve estimate and during April 2018 for issuance of Independent Technical Report for a proposed dual primary listing on the Main Board of the HKEx. CNMC provided Optiro with the drillhole logging, assay and survey data for the drilling undertaken during 2018 and updated topographical data and production data for mining undertaken during 2018.

Optiro has been assisting CNMC with collation of the drillhole data, Mineral Resource and Ore Reserve estimates since 2012. During 2012, Optiro generated a validated drillhole database, three-dimensional interpretations of the mineralisation and prepared updated Mineral Resource estimates for Manson's Lode, New Discovery, Rixen and Ketubong (Optiro, 2012 and 2013a). During 2013, CNMC drilled additional holes at Rixen and in 2014 Optiro updated the Mineral Resource estimates for Manson's Lode, Ketubong and Rixen deposits (Optiro, 2014a). Additional drilling was undertaken by CNMC during 2014 and updated estimates were prepared by Optiro for Rixen, Manson's Lode and New Discovery as at 31 December 2014 (Optiro, 2015a and 2015b). During 2015, CNMC drilled additional holes at Rixen, Manson's Lode, New Discovery and New Found and Optiro has updated the Mineral Resource and Ore Reserves estimates for Rixen, Manson's Lode and New Discovery (Optiro, 2016a and 2016b). During 2016, CNMC drilled additional holes at Rixen, Manson's Lode and New Found and Optiro updated the Mineral Resource and Ore Reserves estimates for Rixen, updated the Mineral Resource estimates at Manson's Lode and estimated the Mineral Resources at New Found (Optiro, 2017). Additional drilling was undertaken by CNMC during 2014 at Rixen, Manson's Lode, Ketubong, New Discovery and New Found. Optiro updated the Mineral Resource and Ore Reserve estimates at Rixen, New Discovery and Manson's Lode and updated the Mineral Resource estimates at Ketubong and New Found (Optiro, 2018). During 2018, CNMC drilled an additional 24 diamond core holes at Rixen, New Found and to the north of Ketubong. Optiro has updated the Mineral Resource models at Rixen, New Discovery and New Found and Ore Reserve estimates at Rixen and New Discovery.

Ore has been mined by CNMC at Rixen since 2012, at Manson's Lode and New Discovery during 2012 and 2013, at New Found during 2016, and at New Found, New Discovery and Ketubong during 2017 and 2018. The Mineral Resource and Ore Reserve estimates have been depleted for all mining to 31 December 2018.



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 rocks and in 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 pits.

At Manson's Lode there are economic grade silver, lead and zinc assays in addition to gold that have 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 also include potentially economic zinc and lead grades.

At Manson's Lode and Ketubong a nominal cut-off grade of 0.2 g/t gold was used to define the mineralisation. At Manson's Lode base metal mineralisation, external and additional to the gold mineralisation, was interpreted above a nominal 2% lead plus zinc (Pb+Zn) cut-off grade. Optiro reinterpreted the gold mineralisation at Rixen and the combined New Discovery and New Found deposits above a nominal 0.2 g/t gold cut-off grade. For the previous resource models the mineralisation was interpreted above a nominal cut-off grade of 0.25 g/t gold. The reduction in the gold grade used for the mineralisation interpretation is a result of the reduction in the economic cut-off from 0.3 g/t to 0.25 g/t gold grade at Rixen and New Discovery determined for the by Optiro in 2017 (Optiro,2018).

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 one relatively flat zone at Manson's Lode and several east-dipping zones at Rixen.

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 329 sections of diamond drill core and measurements of alluvial and backfilled material from 41 test pits.

Mining at Rixen during 2018 extracted 2,582 kt of ore for the production of 9,742 ounces of gold via heap leach extraction, which was ongoing as at 31 December 2018. Mining at New Found during 2018 extracted 145.8 kt of ore for the production of 3,096 ounces of gold via vat leach extraction, which was ongoing as at 31 December 2018. Mining at New Discovery and Ketubong extracted 141.5 kt of ore for the production of 18,636 ounces of gold via CIL extraction.

### MINERAL RESOURCE AND ORE RESERVE TABULATION

The Mineral Resource estimate, as at 31 December 2018, 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 Manson's Lode (as at 2012) and at Rixen, Ketubong and New Discovery/New Found to 31 December 2018. 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 rock 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 at Ketubong, New

Discovery and New Found to reflect current commodity prices, differential operating costs and processing options. 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) is 17,907 kt at 1.6 g/t gold for 914,000 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).

The total Measured, Indicated and Inferred gold resources for the Sokor Project, previously reported in December 2017, were 13,860 kt at 1.6 g/t gold, with contained gold of 724,000 ounces. After depletion for mining at Rixen, New Discovery and Ketubong the December 2018 Mineral Resource represents an increase of 26% in contained gold. The Manson's Lode Mineral Resource also contains silver, lead and zinc. As at 31 December 2017 this was 1,410 kt with an average grade of 42 g/t silver, 1.6% lead and 1.7% zinc. No drilling or mining was undertaken at Manson's Lode during 2018 and the Mineral Resource at Manson's Lode as at 31 December 2018 is the same as reported as at 31 December 2017. The Mineral Resource figures discussed above contain material which has subsequently been modified to produce Ore Reserves.

		Gros	ss attributable	to licence		Gross attr	ibutable to CNMC	
Category	Mineral type	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%
Total	Gold	17.91	1.6	914	14.50	1.6	740	26%
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%
Total	Silver	1.41	42	1,928	1.14	42	1,562	0%
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%
Total	Lead	1.41	1.6	23,025	1.14	1.6	18,650	0%
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%
Total	Zinc	1.41	1.7	23,505	1.14	1.7	19,039	0%

Table 1.1 Sokor Project – Mineral Resource statement as at 31 December 2018 (inclusive of Ore Reserves)
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Note: Inconsistencies in totals are due to rounding

The Mineral Resources in 2018 were reported above a 0.5 g/t gold cut-off grade at Manson's Lode and for the transitional and fresh rock 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 at Ketubong, New Discovery and New Found to reflect the commodity prices, differential operating costs and processing options at the time.

The infill drilling at Rixen has improved confidence within the southern area and has increased the Indicated Mineral resources. The additional drilling at Rixen, New Discovery and New Found, the change to the cut-off grade used for the mineralisation interpretation (from 0.25 g/t to 0.17 g/t gold) and the increase in density for the fresh material measured at Rixen has resulted in the definition of additional Mineral Resources and increased the global Mineral Resources by 26%. Furthermore, the improved

accuracy and detail of the depletion surfaces at Rixen, New Discovery and New Found has improved the definition of and confidence in the remaining Mineral Resources and Ore Reserves.

In reporting the 2018 Ore Reserves in Table 1.2, it should be noted that the tabulated Mineral Resources have been reported '*exclusive*' of and additional to Ore Reserves as at 31 December 2018. This means that there will be material declared in Table 1.1 which is neither reported as 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 2018 are lower than 2017, largely due to mining depletion at Rixen. CNMC are considering underground mining plans for Rixen but these remain at a preliminary stage as at 31 December 2018. This has the potential to increase Ore Reserves at Rixen in the future. The Ore Reserves have increased at Manson's Lode, due to lower processing and mining costs reducing the incremental cut-off grade. Ore Reserves have decreased at New Discovery due to a higher cut-off grade associated with the new Carbon in Leach (CIL) processing stream. 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.

Table 1.2	Combined Sokor Project gold Ore Reserves (Manson's Lode, New Discovery and Rixen) and 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 2018

		Gross a	ttributable t	o licence		Gross attri	butable to CNN	ЛС
Category	Mineral type	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Change from previous update (%)
				Ore Reserv	/es			
Proved	Gold	292	3.3	31	237	3.3	25	-24%
Probable	Gold	2,263	1.4	104	1,833	1.4	84	-35%
Total	Gold	2,555	1.6	135	2,070	1.6	109	-33%
			Addit	tional Mineral	Resources			
Measured	Gold	116	1.1	4	94	1.1	3	-25%
Indicated	Gold	6,534	1.5	320	5,293	1.5	259	188%
Inferred	Gold	8,137	1.7	436	6,591	1.7	354	11%
Total	Gold	14,785	1.6	760	11,977	1.6	616	49%

## 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 2018, CNMC completed 18 diamond drillholes and 34 exploration trenches within Kelgold Project. All drilling and trenching carried out in 2018 was located in the northern 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 their Kelgold acquisition has significant potential based on the geological information available and 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 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 feldspar mining. Total alluvial gold production has been in the order of 260 kg and approximately 125,000 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 further follow-up work.

# 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 Singapore Stock Exchange (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 Mineral Resources at Rixen, Manson's Lode, New Discovery, New Found and Ketubong 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).

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.

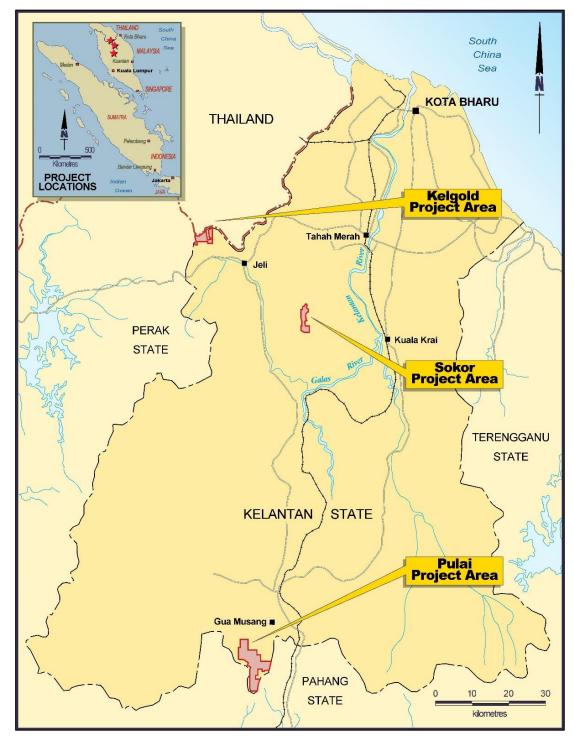
CNMC Goldmine Holdings Limited, through its subsidiary CMNM Mining Group Sdn. Bhd., holds an 81% interest in the Sokor Project (Figure 2.1 and Figure 2.2). CMNM holds the rights to mine and produce gold, silver and base metals from an area of approximately 10 km<sup>2</sup> in the Ulu Sokor area in Kelantan, 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).

Optiro has prepared this report to document the update to the Mineral Resource and Ore Reserve estimates in support of the planned 2018 Annual Report, and to provide a market update on Mineral Resources and Ore Reserves as at 31 December 2018, as required under the mineral, oil and gas guidelines of the SGX.

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 Among, to the east of Rixen, and at Sg Tiger, within the southern part of the Sokor Project area. At present there is insufficient data to define Mineral Resources within these areas.







During 2018, CNMC drilled an additional 24 holes for a total of 6,683.26 m including 20 holes at Rixen, three holes at New Found and one hole that was drilled between Rixen and Ketubong. The Mineral Resource estimates have been updated for the Rixen deposit and the combined New Found and New Discovery deposits.

Ore was mined at Rixen, New Discovery, New Found and Ketubong during 2018. The Mineral Resource and Ore Reserve estimates have been depleted for mining to 31 December 2018. All the Mineral Resources and Ore Reserves have been classified and reported in accordance with the guidelines of the JORC Code.



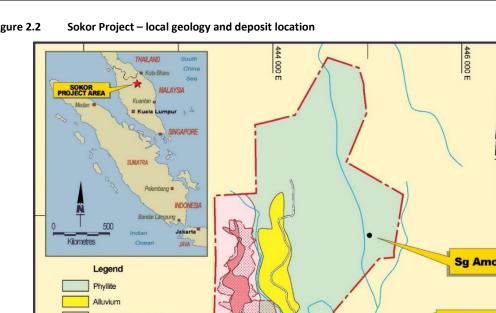
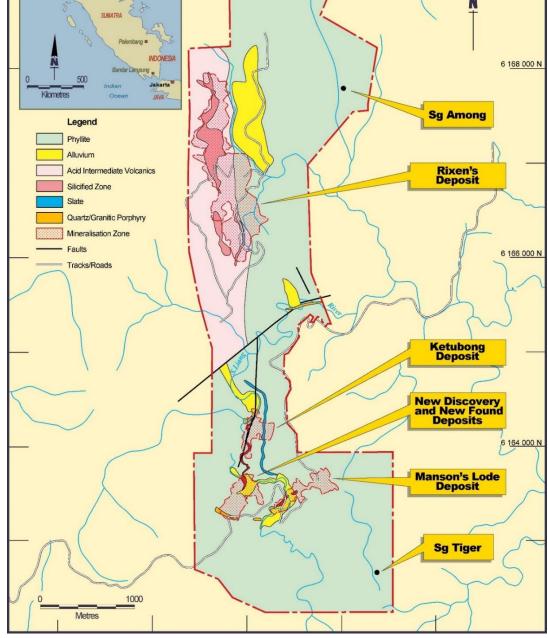


Figure 2.2



#### 2.2. **COMPETENT PERSONS**

Behre Dolbear Australia Pty Ltd (BDA) has 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.

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.

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 Stephen 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 Bhara 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 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.

Tenement ID	CNMC Interest	Status	Expiry date	Area km²	Type of mineral deposit	Remarks
ML 10/2016	81%	Development	31/12/2034	10.0	Gold	Mining rights

#### Table 3.1 Sokor Project tenement schedule

During 2017, CNMC acquired interests in two exploration projects located within Kelantan State, Malaysia:

- On 24 February 2017, CNMC completed the acquisition of a 51% interest in CNMC Pulai Mining Sdn. Bhd. (formerly known as Pulai Mining Sdn. Bhd.) (CNMC Pulai). CNMC Pulai has 100% interest in 11 licenses that cover a total area of 38.4 km<sup>2</sup> and are prospective for gold and iron ore and feldspar. The project includes a feldspar mine with area of 0.15 km<sup>2</sup> located approximately 5 km south of Gua Musang. At present there is insufficient data to define Mineral Resources within these areas.
- On 16 May 2017, CNMC completed the acquisition a 100% stake of Kelgold Mining Sdn. Bhd. Through this acquisition, CNMC has a 100% interest an exploration licence with a total area of 15.5 km<sup>2</sup> that is prospective for iron and gold mineralisation. At present there is insufficient data to define Mineral Resources within this area.

## 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 Among and to the southwest 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 tonne heap leach facility to treat ore from the Rixen deposit.

During 2017, CNMC commissioned the design of a Carbon in Leach (CIL) flowsheet and subsequently build a 500 tonne per day CIL processing plant for Sokor. As of December 2018, some 149 kt of ore material had been processed through the CIL plant since commissioning. 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 2018, which is summarised in Table 3.2.

Commodity	Production statistics	2012	2013	2014	2015	2016	2017	2018	
Rixen									
Mined	Ore tonnes mined (claimed)	90,000	323,000	1,362,138	2,236,674	2,243,667	1,871,856	2,582,057	
	Ore tonnes processed	90,000	386,000	1,362,138	2,236,674	2,243,667	1,871,856	2,869,429	
	Ore stockpiled (not processed	63,000	c2 200					-	
	as at 31 December)	63,000	63,200	-	-	-	-		
Gold	Calculated grade (g/t)	0.3	1.07	0.94	0.61	0.41	0.33	0.31	
	Recovered gold (oz)	861	11,800	27,685	29,645	20,324	11,472	9,742	
	К	etubong, Ne	w Discovery	/ and New Fo	ound				
Mined	Ore tonnes mined (claimed)	-	31,000	-	-	154,241	105,101	287,372	
	Ore tonnes processed	-	31,000	-	-	154,241	105,101	287,372	
Gold	Calculated grade (g/t)	-	1.14	-	-	1.92	1.40	3.20	
	Recovered gold (oz)	-	1,100	-	-	7,080	3,345	21,731	
Silver	Calculated grade (g/t)	-	N/A	-	-	-	-	-	
	Recovered silver (oz)	-	690	-	-	-	-	-	
			Manson's L	ode					
Mined	Ore tonnes mined (claimed)	50,000	-	-	-	-	-	-	
	Ore tonnes processed	46,791	-	-	-	-	-	-	
Gold	Calculated grade (g/t)	0.65	-	-	-	-	-	-	
	Recovered gold (oz)	984	-	-	-	-	-	-	
Silver	Calculated grade (g/t)	75.00	-	-	-	-	-	-	
	Recovered silver (oz)	112,451	-	-	-	-	-	-	
Lead	Calculated grade (%)	0.003	-	-	-	-	-	-	
	Recovered lead (kg)	1,397	-	-	-	-	-	-	
Zinc	Calculated grade (%)	0.004	-	-	-	-	-	-	
	Recovered zinc (kg)	1,752	-	-	-	-	-	-	
			Total					-	
Mined	Ore tonnes mined (claimed)	140,000	354,000	1,362,138	2,236,674	2,397,908	1,976,957	2,869,429	
	Ore tonnes processed	136,791	417,000	1,362,138	2,236,674	2,397,908	1,976,957	3,156,801	
Gold	Calculated grade (g/t)	0.42	0.96	0.94	0.61	0.51	0.45	0.58	
	Recovered gold (oz)	1,845	12,900	27,685	29,645	27,190	14,817	31,474	
Silver	Calculated grade (g/t)	75.00	N/A	N/A	N/A	-	-	-	
	Recovered silver (oz)	112,451	690	20,886	22,057	-	-	-	
Lead	Calculated grade (%)	0.003	-	-	-	-	-	-	
	Recovered lead (kg)	1,397	-	-	-	-	-	-	
Zinc	Calculated grade (%)	0.004	-	-	-	-	-	-	
	Recovered zinc (kg)	1,752	-	-	-	-	-	-	

### 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 consist of 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 with a strike length of approximately 800 m.

Drilling has outlined a zone of pervasively silicified tuffs and mineralisation extends over a strike of approximately 2,025 m, an across strike length of up to 600 m and to a depth of 330 m. The Rixen deposit has been tested by 248 diamond drillholes totalling 31,541.64 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 Manson's Lode deposit has been tested by 175 diamond drillholes totalling 11,065.85 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 330 m. Mineral Resources at the New Discovery and New Found deposits have been defined by 111 diamond drillholes totalling 9,822.27 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 and by gold-in-soil and Induced Polarisation anomalies, which are open to the north. 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.

CNMC has tested the Ketubong deposit with 53 diamond drillholes totalling 9,126.43 m and an additional five holes for a total of 1,037.58 m have been drilled to the north of Ketubong. Mineral Resources have been defined over a strike length of 520 m and an across strike length of around 200 m. Mineralisation has been intersected to a depth of 270 m.

## 3.5. EXPLORATION DATA USED FOR MINERAL RESOURCE ESTIMATION

BDA previously documented outcomes 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 and 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 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. Only the data from the CNMC diamond drillholes has been used for resource

estimation. A total of 606 diamond drillholes for 64,876.16 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 the 2016, 2017 and 2018 drillhole data 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 has been resolved during 2016, and the collar elevations provided for the 2016 and 2017 drillholes match the current topographical survey data, once allowances have been made for excavation of material to prepare the drilling pad.

The 2018 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 2018 drillholes the dip deviations are generally less than 1°, although a dip deviation of 3.25° has been recorded for one drillhole. The azimuth deviations average less than 0.5°, with a maximum deviation of 5°.

Mining at Rixen, Ketubong, New Discovery and New Found was undertaken during 2018. Open-pit mining at Ketubong was completed in early 2018 and CNMC provided a pit survey for Ketubong as at 31 May 2018. This was used to deplete the 2017 resource model. Detailed aerial pit surveys of Rixen, New Discovery and New Found were conducted in early 2019 using an unmanned aerial vehicle (UAV) by Land Surveys, an Australian based company.

With the detailed 2019 mining surfaces, and higher level of confidence in this data compared to the previous mining surfaces, Optiro has depleted the 2019 resource models at Rixen, New Discovery and New Found only below the detailed 2019 mining surfaces. As a result, areas of the resource that are below the 2019 mining surface but are above the previous mining surfaces have been retained in the resource model. For the previous resource estimates, Optiro adopted an approach of sequentially depleting the Mineral Resource below the each of the successive mining surfaces. This removed the gold grades from areas of the resource model that were flagged as being below any of the pit surfaces from 2012 to 2018.

## 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, 2017 and 2018 the average sample length was 1.0 m. Sample intervals selected for analysis from the 2018 drillholes are between 0.06 m and 1.67 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 the 2016, 2017 and 2018 drilling 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. During 2016, 2017 and 2018, 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 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 2015 drilling programmes were analysed by SGS (Malaysia) Sdn. Bhd. Laboratory by four-acid digest, followed by AAS.

The samples from 2018 drilling programmes were analysed at the CNMC on-site laboratory with 14% of the samples sent to SGS (Malaysia) Sdn. Bhd. Laboratory for check analysis. Approximately 52% 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 2018 drilling programme included the insertion of standard, duplicate and blank samples, with duplicate samples sent to SGS (Malaysia) Sdn. Bhd. Laboratory and interlaboratory duplicate samples (of pulps) being submitted to ALS in Perth, Australia.

Duplicate samples (320) were analysed by SGS (Malaysia) Sdn. Bhd. Laboratory. Of the duplicate samples 169 samples that were analysed by CNMC's on-site laboratory and SGS (Malaysia) Sdn. Bhd. Laboratory were also analysed by the umpire laboratory, ALS Perth. For all three sets of data, the original and duplicate results show a high correlation and no bias in the data sets.

For the 2018 drilling programme, standard samples have been inserted at a rate of 8% and blank samples at a rate of 10%, which is well above the industry standard insertion rate. Of the 176 standard samples, all but five of the results are within three standard deviations of the expected certified value and indicate acceptable precision of the assay data. All 22 of the 23 blank samples 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 329 sections of diamond drill core (including 69 measurements obtained during 2018) 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. 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 2018.

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 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. 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
- two 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
- a gold room comprising an acid wash tank and an elution column, each with a capacity of 1 t of carbon
- a 1,000 kg carbon/day diesel-fired carbon regeneration furnace
- a pressurised electrowinning cell.

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 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 Carbon in Leach (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.

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.

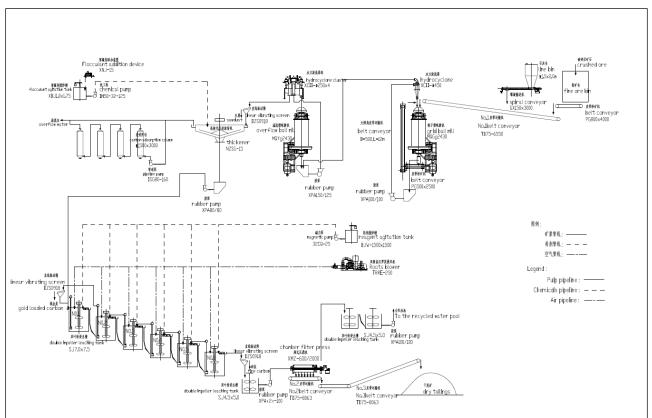
The CIL plant consists of:

- a crushed ore feed conveyor
- two ball mills, to mill 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.

As of December 2018, some 149 kt of ore material had been processed through the CIL plant. The plant achieved an average recovery of 88% over the commercial operation period from May to December 2018. 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.

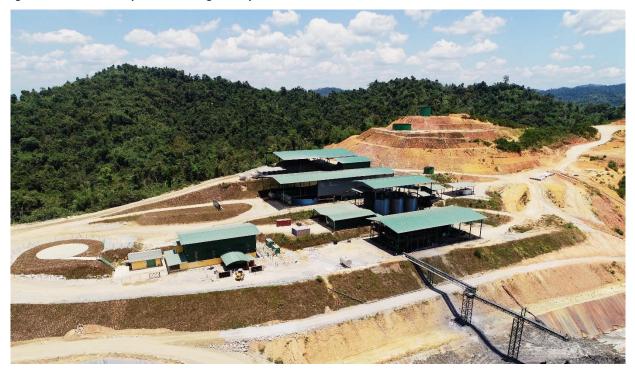




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Figure 3.2 Sokor CIL plant and tailings facility – March 2019



### 3.7. MINING

#### 3.7.1. MINING METHODS

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

- the deposits virtually 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.

### **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 2018 calendar year and do not provide any breakdown as to the type of material mined. The average 2018 mining costs as supplied were:

- Rixen \$0.48/t mined (range from \$0.27 to \$0.86/t)
- New Found \$2.08/t mined (range from \$1.34 to \$6.67/t)
- New Discovery \$1.52/t mined (range from \$0.40 to \$3.90/t).

This compares to the mining costs used in determining the 2017 Mine Reserve of:

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

The mining unit costs applied in the pit optimisations were:

- Rixen oxide \$0.65/t, transition and fresh \$1.50/t
- New Discovery oxide \$1.00/t, transition and fresh \$2.50/t
- Manson's Lode 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 on, 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 2018 calendar year were supplied by CNMC. The average 2018 processing costs were:

- heap leach at Rixen \$3.49/t
- vat leach at New Found \$18.48/t (range from \$9.60 to \$28.00/t)
- CIL at New Discovery \$43.91/t (range from \$28 to \$64/t).

This compares to the costs used in 2017 of:

- heap leach \$5.00/t.
- CIL \$23.10/t.

The total processing costs applied in the optimisations were:

- heap leach \$3.50/t for all deposits.
- CIL \$40.00/t for New Discovery and Mason's Lode deposits.

The lower cost for heap leach is primarily based on the Rixen results and allows for start-up costs at the New Found deposit that are expected to reduce. The higher CIL cost applied is based solely on the average 2018 costs with a small reduction assuming better performance in future years.

### **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 Manson's Lode an overall slope angle of 42° was used.

### **OPTIMISATION INPUTS**

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

#### Table 3.3 Optimisation input parameters

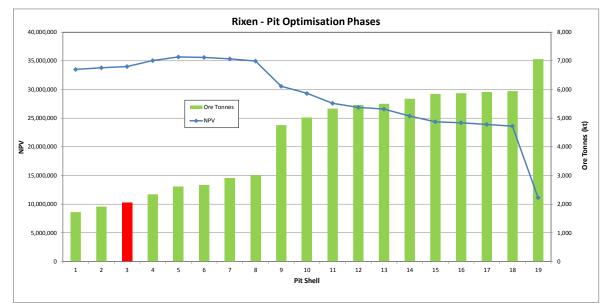
Item	Units	Amount	Comment
Overall slope angle – Rixen and New Discovery			
Oxide material	degrees	40	Oxidation states have not been fully logged
Transitional material	degrees	42	at Manson's Lode, hence one overall wall
Fresh material	degrees	45	angle which roughly approximates the Rixen
Overall slope angle – Manson's Lode	degrees	42	average slope angle was used
Production factors			
Dilution	%	5	Optiro estimates,
Mining recovery	%	95	align well with previous performance
Ore processing limit – heap leach	Mtpa	1.0	
Ore processing limit – CIL	Ktpa	182	
Mining costs			
Oxide material - Rixen	US\$ /t	0.65	Optiro estimates based on 2018 CNMC data
Transitional material - Rixen	US \$/t	1.00	
Fresh material – Rixen	US \$/t	1.50	
Oxide material - New Discovery	US \$/t	1.00	
Transition and fresh material - New	US \$/t	2.50	
Discovery	03 \$/1	2.50	
Transition and fresh material - Manson's			
Lode	US\$ /t	2.50	Optiro estimate based on CNMC costs
			extrapolated for other pits
Processing recovery			
Heap leach - All deposits	%	55%	2018 CNMC recoveries in later months
CIL - New Discovery and Manson's Lode	%	91.5%	Jun / Dec CNMC 2018 CIL performance
Processing costs			
Heap leach	US\$ /t ore	3.50	Explained in Costs Section
CIL (inclusive of administration and royalty	US\$ /t ore	40	
Revenue			
Gold	US\$ /oz	1,250	

### **OPTIMISATION RESULTS**

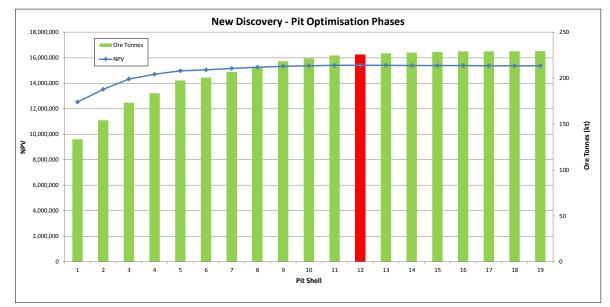
The optimisation results for each deposit are shown in Figure 3.3 to Figure 3.5. In each instance a pit shell smaller than the highest theoretically conceivable value pit has been chosen as the basis for the design. Optiro believes pits larger than the chosen shell do not have sufficient reward (contained 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.













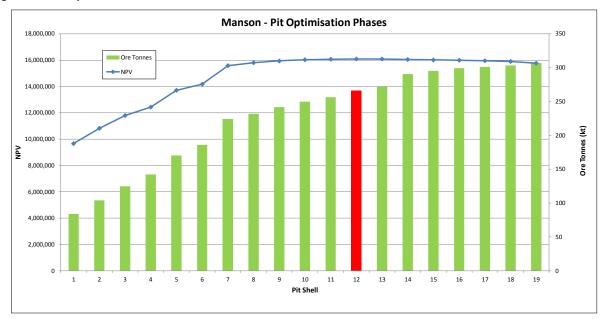


Figure 3.5 Optimisation results - Manson's Lode

### SENSITIVITY

A sensitivity analysis (Figure 3.6 to Figure 3.8) 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 ±US\$200 per ounce (base case is US\$1,250 per ounce)
- <u>+</u> 20% on processing cost
- <u>+</u> 20% on mining cost.



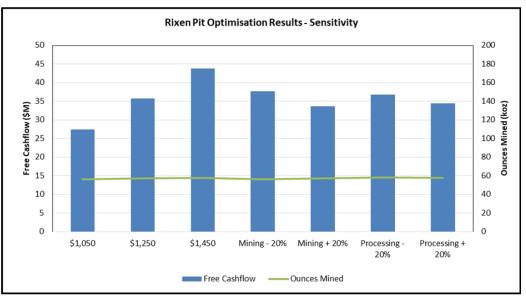
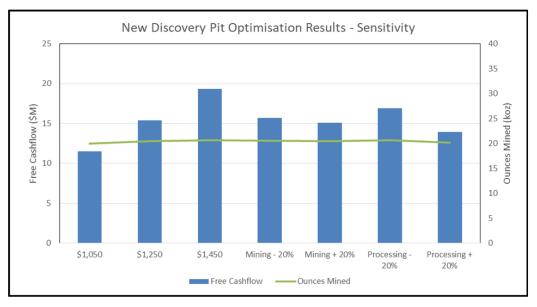
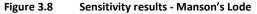
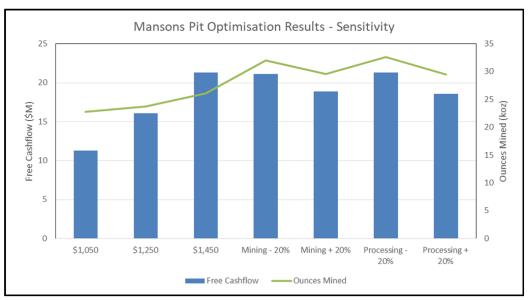




Figure 3.7 Sensitivity results - New Discovery







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 3.4Mine design parameters

ltem	Units	Amount
Batter angles		
Oxide and transitional	degrees	60
Fresh	degrees	75
Batter height	m	10
Berm width	m	5
Ramp width		
Dual lane	m	20
Single lane*	m	10
Minimum mining width	m	30

\* 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 3.9 to Figure 3.11.

The pit design at Rixen has been modified from the previous 2017 design with the addition of a southerly extension of the main northern pit and a deepening and expansion of the separate southern pit area.

Figure 3.9 Final pit design – Rixen (north to right)

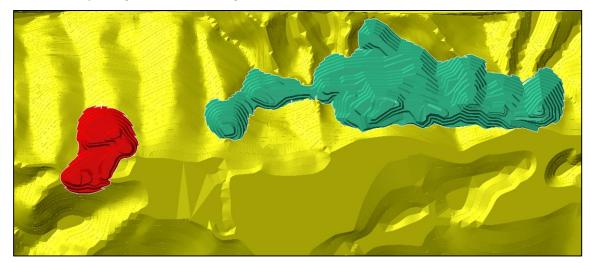


Figure 3.10 Final pit design - New Discovery

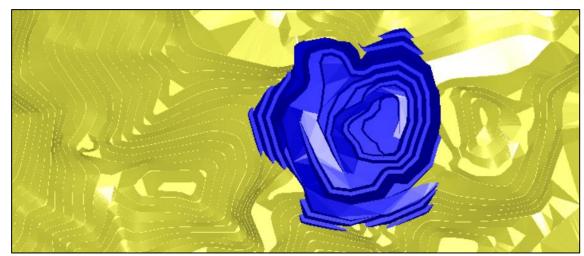
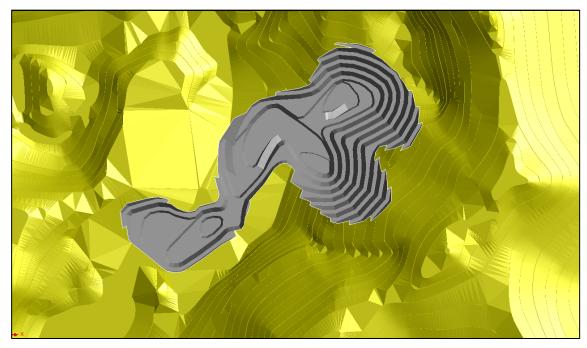




Figure 3.11 Final pit design - Manson's Lode



### 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.

Deposit	Waste	Ore tonnes (kt)		Ore grade (g/t Au)			Gold mined (koz)			
Deposit	kt	Heap leach	CIL	Total	Heap leach	CIL	Total	Heap leach	CIL	Total
Manson's Lode	1583	0	212	212	0.00	3.15	3.15	0	26	26
New Discovery	1,051	22	189	211	3.17	3.36	3.34	2	20	23
Rixen	9,510	2,082	0	2,082	1.28	0.00	1.28	85	0	85
Total	12,144	2,105	401	2,506	1.30	3.25	1.61	88	47	135

#### Table 3.5 Mine design physicals

#### 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.

### 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 utilised 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.

#### Table 3.6Mining schedule physicals

Source	Unit	Total	Year 1	Year 2	Year 3				
Manson's Lode									
Waste	kt	1,586	709	836	41				
Total ore	kt	262	33	200	29				
Heap leach ore	kt	0	0	0	0				
CIL ore	kt	262	33	200	29				
Heap leach ore grade	g/t	0.0	0.0	0.0	0.0				
CIL ore grade	g/t	3.3	2.7	3.2	4.4				
Gold mined (heap leach)	koz	0.0	0.0	0.0	0.0				
Gold mined (CIL)	koz	27.8	2.9	20.8	4.1				
Gold mined	koz	27.8	2.9	20.8	4.1				
New Discovery									
Waste	kt	1,053	1,053	0	0				
Total ore	kt	211	211	0	0				
Heap leach ore	kt	22	22	0	0				
CIL ore	kt	189	189	0	0				
Heap leach ore grade	g/t	3.3	3.3	0.0	0.0				
CIL ore grade	g/t	3.5	3.5	0.0	0.0				
Gold mined (heap leach)	koz	2.4	2.4	0.0	0.0				
Gold mined (CIL)	koz	21.4	21.4	0.0	0.0				
Gold mined	koz	23.8	23.8	0.0	0.0				
		Rixen							
Waste	kt	9,505	3,461	3,641	2,403				
Total ore	kt	2,093	919	751	423				
Heap leach ore	kt	2,093	919	751	423				
CIL ore	kt	0	0	0	0				
Heap leach ore grade	g/t	1.3	1.2	1.6	1.2				
CIL ore grade	g/t	0.0	0.0	0.0	0.0				
Gold mined (heap leach)	koz	90.1	35.2	38.2	16.7				
Gold mined (CIL)	koz	0.0	0.0	0.0	0.0				
Gold mined	koz	90.1	35.2	38.2	16.7				
Sokor Project - Total									
Waste	kt	12,144	5,223	4,478	2,444				
Total ore	kt	2,566	1,163	950	452				
Heap leach ore	kt	2,115	941	751	423				
CIL ore	kt	451	222	200	29				
Heap leach ore grade	g/t	1.4	1.2	1.6	1.2				
CIL ore grade	g/t	3.4	3.4	3.2	4.4				
Gold mined (heap leach)	koz	92.5	37.6	38.2	16.7				
Gold mined (CIL)	koz	49.2	24.3	20.8	4.1				
Gold mined	koz	141.8	61.9	59.0	20.8				

### 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 area at Manson's Lode, New Discovery, New Found, Ketubong or Rixen, has not been included in this report.

### 3.8.1. MINERAL RESOURCE

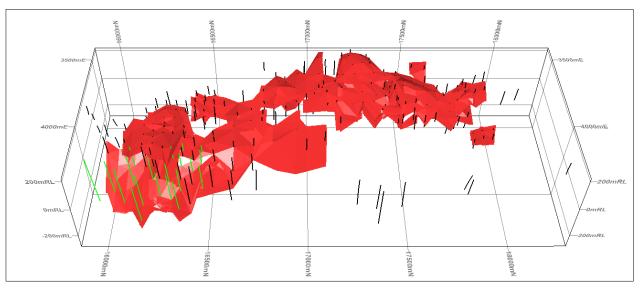
### INTERPRETATION

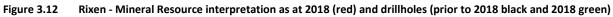
CNMC provided cross-sections of the mineralisation and geology interpreted from the geological logging and assay results from drillholes to the end of 2013. Optiro used the cross-sections to guide interpretation of the mineralisation at all deposits. Interpretation of the 2014 to 2018 drillhole data 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.

The 2018 drilling focussed on the Rixen deposit. One hole was drilled to the north of Ketubong and three holes were drilled to the south-east of New Found. Assay results are not yet available for these four drillholes.

For the 2018 updates to the Rixen and the combined New Discovery and New Found resource models a nominal 0.2 g/t gold cut-off grade to re-interpret the gold mineralisation. For the previous resource models the mineralisation was interpreted above a nominal cut-off grade of 0.25 g/t gold. The reduction in the gold grade used for the mineralisation interpretation is a result of the reduction in the economic cut-off grade from 0.3 g/t to 0.25 g/t gold at Rixen and New Discovery determined by Optiro in 2017 (Optiro, 2018).

At Rixen, the 2018 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 Mineral Resource extends for 2,025 m along strike (north-south), up to 600 m across strike (east-west) and up to 330 m from surface. The drillholes and the resource interpretation for 2018 are illustrated in Figure 3.12.





No additional drilling was undertaken at Manson's Lode during 2018 and the Mineral Resource estimate has not changed since 2017. A cut-off grade of 0.25 g/t was used to interpret the gold mineralisation and the base metal mineralisation, external and additional to the gold mineralisation, was interpreted using a nominal 2% lead plus zinc (Pb+Zn) cut-off grade.

No additional driling was undertaken at Ketubong during 2018 and the Mineral Resource estimate has not changed since 2017. A cut-off grade of 0.25 g/t was used to interpret the gold mineralisation. The 2017 Mineral Resource estimate at Ketubong was depleted for mining undertaken during 2018. CNMC plan to begin extracting mineralisation by underground mining in 2019.

### DATA ANALYSIS

Data within the interpreted mineralisation at Ketubong and 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. 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. A top-cut was not applied to the eluvial mineralisation at Ketubong. For the other material types top-cut values range between 8 g/t gold (within the structurally controlled mineralisation at New Discovery and New Found) to 30 g/t gold (within the elluvial and lithologically controlled mineralisation at New Discovery and New Found) Top-cuts of 9,



18 and 25 g/t were applied at Rixen depending on material type. These top-cuts affected the top 1% to 3.5% of the gold data.

At Manson's Lode, silver, lead and zinc grades were top-cut to 310 g/t Ag, 9% Pb and 2% Zn respectively within the backfill material, and to 440 g/t Ag, 14% Pb and 14% Zn within the bedrock material. These top-cuts affected the top 1% to 3.6% of the data.

Mineralisation continuity was interpreted from variogram analysis to have an along-strike range of 52 m to 185 m, and a down-dip range of 29 m to 95 m. The longest ranges of continuity are within the fresh rock at Rixen.

### **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, New Discovery/New Found and Ketubong and 10 mE by 20 mN on 2 m benches at Rixen. Block grades were estimated using ordinary kriging with appropriate top-cuts, as previously described, applied per deposit and style of mineralisation.

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.

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 2018 Mineral Resource estimate at Rixen were 2.64 t/m<sup>3</sup> for the oxide and transitional material and 2.85 t/m<sup>3</sup> for the fresh material. For the combined New Discovery and New Found resource estimate, a bulk density of 2.2 t/m<sup>3</sup> was used for the eluvial material, 2.47 t/m<sup>3</sup> was used for the oxide material and 2.83 t/m<sup>3</sup> for the transitional and fresh material. Bulk density values used for the 2017 Mineral Resource estimate at Ketubong were 2.2 t/m<sup>3</sup> for the eluvial material, 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 2018 Mineral Resource for Manson's Lode a bulk density of 1.85 t/m<sup>3</sup> was used for the backfill material. There is a strong relationship between the sulphide mineralisation, in particular the silver, lead and zinc grades, and the bulk density. An ordinary multivariate least squares regression model between density and metal grade was developed and the following equation was used to determine the bulk density for the bedrock material at Manson's Lode as a function of the silver, lead and zinc grades:

Bulk density = 3.34+(0.004\*Ag)+(-0.116\*Pb)+(0.063\*Zn)

### MINERAL RESOURCE TABULATION

The Mineral Resource estimate, as at 31 December 2018 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 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 material at Ketubong, 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 <u>inclusive</u> 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, New Found and Ketubong. 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 the transitional and fresh Mineral Resources at New Discovery, New Found and Ketubong. This cut-off grade is lower than the current economic mining and reflects potential future economic extraction.

### Table 3.7 Sokor Project – Gold Mineral Resource statement as at 31 December 2018 (inclusive of material modified to generate Ore Reserves)

	Measured		Indicated		Infe	rred	Total	
Deposit	Tonnes (kt)	Grade (Au g/t)						
Manson's Lode	330	2.6	170	2.4	500	0.9	1,000	1.7
New Discovery/New Found	80	3.7	180	3.1	860	1.3	1,120	1.7
Ketubong	-	-	100	3.3	1,040	3.3	1,140	3.3
Rixen	-	-	8,770	1.4	5,880	1.5	14,650	1.4
Total	410	2.8	9,220	1.5	8,280	1.7	17,910	1.6

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.

### Table 3.8Silver and base metal Mineral Resources at Manson's Lode as at 31 December 2018 (inclusive of material<br/>modified to generate Ore Reserves)

Cut-off	Measured			Indicated			Inferred				Total					
grade	Tonnes	Ag	Pb	Zn	Tonnes	Ag	Pb	Zn	Tonnes	Ag	Pb	Zn	Tonnes	Ag	Pb	Zn
graue	(kt)	g/t	%	%	(kt)	g/t	%	%	(kt)	g/t	%	%	(kt)	g/t	%	%
0.5 g/t Au	340	63	1.5	1.9	170	74	1.5	2.0	500	48	1.4	1.3	1,000	57	1.5	1.6
2% Zn+Pb	1	68	4.2	7.2	3	47	1.3	2.2	400	6	2.0	1.8	410	6	2.0	1.9
Total	340	63	1.5	1.9	173	74	1.5	2.0	900	29	1.7	1.5	1,410	42	1.6	1.7

Note: Inconsistencies in totals are due to rounding

The total Mineral Resource, <u>inclusive</u> 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, <u>exclusive</u> of and <u>additional to</u> the material used to generate Ore Reserves, is presented in Table 3.10.



		Gros	ss attributable	to licence		Gross attri	ibutable to CNMC	
Category	Mineral type	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%
Total	Gold	17.91	1.6	914	14.50	1.6	740	26%
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%
Total	Silver	1.41	42	1,928	1.14	42	1,562	0%
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%
Total	Lead	1.41	1.6	23,025	1.14	1.6	18,650	0%
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%
Total	Zinc	1.41	1.7	23,505	1.14	1.7	19,039	0%

Note: Inconsistencies in totals are due to rounding

 Table 3.10
 Sokor Project – gold Mineral Resources at 31 December 2018 (exclusive of material used to generate Ore Reserves)

		Gross a	attributable to	licence	Gross attributable to CNMC					
Category	Mineral type	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Change from previous update (%)		
Measured	Gold	116	1.1	4	94	1.1	3	-25%		
Indicated	Gold	6,534	1.5	320	5,293	1.5	259	188%		
Inferred	Gold	8,137	1.7	436	6,591	1.7	354	11%		
Total	Gold	14,785	1.6	760	11,977	1.6	616	49%		

Note: Inconsistencies in totals are due to rounding

#### 3.8.2. COMPARISON WITH DECEMBER 2017 MINERAL RESOURCE

As at 31 December 2017, the total Measured, Indicated and Inferred gold resources for the Sokor Project above a 0.25 g/t gold cut-off grade at Rixen and a 0.5 g/t gold cut-off grade at Manson's Lode, New Discovery and Ketubong (exclusive of stockpiles and inclusive of material used to generate Ore Reserves) were 13,860 kt at 1.6 g/t gold, for 724,000 ounces of contained gold. The Manson's Lode Mineral Resources contained silver, lead and zinc and, as at 31 December 2017, this comprised 1,410 kt with an average grade of 42 g/t silver, 1.6% lead and 1.7% zinc. The 2017 Mineral Resources have been subdivided by resource category below in Table 3.11; this table can be compared directly with Table 3.9.

Since the Mineral Resource was reported as at 31 December 2017, the gold mineralisation was reinterpreted at Rixen, New Discovery and New Found using a nominal cut-off grade of 0.2 g/t gold, drilling data from 20 holes drilled at Rixen were used to update the Mineral Resource and the resource models for Rixen, Ketubong, New Discovery and New Found were depleted for all mining to 31 December 2018.

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. The re-interpretation of the mineralisation and the additional drilling have increased both the Indicated and Inferred Mineral resources. In addition, the detailed 2019 mining surfaces have provided a higher level of confidence in this data compared to the previous mining surfaces and Optiro has depleted the 2019 resource models at Rixen only below the detailed 2019 mining surfaces. As a result, areas of the resource that are below the 2019 mining surface but are above the previous mining surfaces have been retained in the resource model. Mining at Rixen during 2018 has depleted

both the Indicated and Inferred Resources. After depletion for mining at Rixen during 2018, the Indicated Mineral Resource tonnage has increased by 59%, the average grade increased by 6%, with an overall increase of 68% in contained gold. The Inferred Mineral Resource tonnage has increased by 19%, the grade increased by 2%, with an overall increase of 22% in contained gold. The total Mineral Resource tonnage at Rixen has increased by 40%, the average grade increased by 4%, with an overall increase of 45% in contained gold.

		Gros	s attributable	to licence		Gross attri	ibutable to CNMC	
Category	Mineral type	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	0.49	3.1	49	0.40	3.1	40	-12%
Indicated	Gold	6.01	1.5	282	4.86	1.5	228	3%
Inferred	Gold	7.36	1.7	393	5.96	1.7	318	34%
Total	Gold	13.86	1.6	724	11.22	1.6	586	16%
Measured	Silver	0.34	63	683	0.27	63	553	1%
Indicated	Silver	0.17	74	407	0.14	74	330	2%
Inferred	Silver	0.90	29	838	0.73	29	679	-6%
Total	Silver	1.41	42	1,928	1.14	42	1,562	-2%
Measured	Lead	0.34	1.5	5,058	0.27	1.5	4,097	-10%
Indicated	Lead	0.17	1.5	2,560	0.14	1.5	2,074	-12%
Inferred	Lead	0.90	1.7	15,407	0.73	1.7	12,480	9%
Total	Lead	1.41	1.6	23,025	1.14	1.6	18,650	2%
Measured	Zinc	0.34	1.9	6,370	0.27	1.9	5,160	15%
Indicated	Zinc	0.17	2.0	3,365	0.14	2.0	2,726	2%
Inferred	Zinc	0.90	1.5	13,770	0.73	1.5	11,154	9%
Total	Zinc	1.41	1.7	23,505	1.14	1.7	19,039	10%

Table 3.11	Sokor Project – Mineral Resource as at 31 December 2017 (inclusive of Ore Reserves)
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Note: Inconsistencies in totals are due to rounding

Since the Mineral Resource was reported as at 31 December 2017, the gold mineralisation was reinterpreted at Rixen, New Discovery and New Found using a nominal cut-off grade of 0.2 g/t gold, drilling data from 20 holes drilled at Rixen were used to update the Mineral Resource and the resource models for Rixen, Ketubong, New Discovery and New Found were depleted for all mining to 31 December 2018.

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. The re-interpretation of the mineralisation and the additional drilling have increased both the Indicated and Inferred Mineral resources. In addition, the detailed 2019 mining surfaces have provided a higher level of confidence in this data compared to the previous mining surfaces and Optiro has depleted the 2019 resource models at Rixen only below the detailed 2019 mining surfaces. As a result, areas of the resource that are below the 2019 mining surface but are above the previous mining surfaces have been retained in the resource model. Mining at Rixen during 2018 has depleted both the Indicated and Inferred Resources. After depletion for mining at Rixen during 2018, the Indicated Mineral Resource tonnage has increased by 59%, the average grade increased by 6%, with an overall increase of 68% in contained gold. The Inferred Mineral Resource tonnage has increased by 19%, the grade increased by 2%, with an overall increase of 22% in contained gold. The total Mineral Resource tonnage at Rixen has increased by 40%, the average grade increased by 4%, with an overall increase of 45% in contained gold.

At New Discovery and New Found, the re-interpretation of the mineralisation has increased both the Indicated and Inferred Mineral resources and mining has depleted the Measured, Indicated and Inferred Resources. The combined New Discovery and New Found Mineral Resources tonnage has decreased by 10%, the gold grade decreased by 14% for an overall decrease of 23% in the contained gold.

At Ketubong, mining during 2018 has depleted the Indicated Mineral Resources by 9% of the resource tonnage, 8% in average grade for an overall decrease of 16% in contained gold. There has been no change in Inferred Mineral Resources.

The Mineral Resources at Manson's Lode have not changed since 31 December 2017. No additional drilling or mining took place at Manson's Lode during 2018.

As at 31 December 2018, the total Measured, Indicated and Inferred gold Mineral Resource for the Sokor Project (above a 0.2 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) is 17,907 kt at 1.6 g/t gold for 914,000 ounces of contained gold (inclusive of material used to define Ore Reserves). Manson's Lode Mineral Resources contain additional silver, lead and zinc Mineral Resources of 1,410 kt, with an average grade of 42 g/t silver, 1.6% lead and 1.7% zinc. The share of the Mineral Resource attributable to CNMC is 81% and the figures are summarised in Table 3.9.

Compared to the 31 December 2017 Mineral Resource estimate, there has been an increase in gold Mineral Resource tonnage of 4,050 kt, the average gold grade of 1.6 g/t is the same as at 31 December 2017 and there is an overall increase of 26% in contained gold in the 2018 Mineral Resource. There is no change to the base metal and silver Mineral Resources at Manson's Lode.

### 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 2018 and 31 December 2018, there was mining at Rixen. CNMC reported to Optiro that for the 2018 production period, approximately 2,582 kt of ore was removed from the Rixen Pit as contained in the spreadsheet '*Production\_and\_Cost\_Inputs\_Spreadsheet\_2018*'; 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 2018 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 2018.

The Rixen Pit Ore Reserve estimate is reported above a 0.17 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\$1,250 per ounce. The 2018 Ore Reserve estimate is quoted in Table 3.12.

Notes:

Table 3.12	Rixen Pit gold Ore Reserves and Mineral Resources (additional to Ore Reserves) as at 31 December 2018	
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		Gross at	tributable to	o licence	Gross attributable to CNMC					
Category	Mineral type	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Change from previous update (%)		
				Ore Reser	ves					
Proved	Gold	0	0.0	0	0	0.0	0	0%		
Probable	Gold	2,082	1.3	85	1,687	1.3	69	-40%		
Total	Gold	2,082	1.3	85	1,687	1.3	69	-40%		
			Addi	tional Minera	l Resources					
Measured	Gold	0	0.0	0	0	0.0	0	0%		
Indicated	Gold	6,254	1.5	295	5,065	1.5	239	246%		
Inferred	Gold	5,742	1.5	279	4,651	1.5	226	21%		
Total	Gold	11,995	1.5	574	9,716	1.5	465	82%		

Ore Reserves reported as per the JORC Code 2012 edition

• Totals may display rounding inconsistencies

• Cut-off grade for Rixen Mineral Resources and Ore Reserves is 0.17 g/t gold

• Gold price used for cut-off calculation is US\$1,250 /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.

#### COMPARISON WITH 2017 ORE RESERVES ESTIMATE - RIXEN

The variance between the 2017 and 2018 Ore Reserves estimates is due to:

- changes in the Mineral Resources
- reductions due to depletion by mining during the year
- previous Ore Reserves for Rixen have had another pit in between the northernmost and southernmost Rixen pits; this is not economic based on the 2017 Mineral Resource
- increases due to an increased gold price and changes to the cost base lowering the overall cutoff grade.

The operating cost base used for the 2018 Ore Reserves was based on the actual (weighted) cost base as reported to Optiro over the 2018 production year for oxide material mined in the Rixen Pit. The cost for mining fresh material was taken from the 2018 actual mining costs for New Found and Ketubong which produced fresh material during 2018.

Pit surveys were taken for the end-of-reporting period of 31 December 2018, and these formed the basis of the depletion model. CNMC has reported to Optiro that for the period up to 31 December 2018 2,5281 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 2018. 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 2018 and 31 December 2018, no mining activity occurred at Manson's Lode.

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\$1,250 per ounce. The 2018 Ore Reserves are quoted in Table 3.13 with the 2018 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 2018

		Gross	attributable	to licence	Gross attributable to CNMC					
Category	Mineral type	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Change from previous update (%)		
				Ore Reserves			-			
Proved	Gold	228	3.1	23	185	3.1	18	6%		
Probable	Gold	34	3.6	4	27	3.6	3	50%		
Total	Gold	262	3.1	26	212	3.1	21	17%		
			Additio	nal Mineral Re	sources					
Measured	Gold	104	1.1	4	84	1.1	3	-25%		
Indicated	Gold	134	2.1	9	109	2.1	7	-22%		
Inferred	Gold	498	0.9	15	403	0.9	12	0%		
Total	Gold	736	1.2	27	596	1.2	22	-12%		

Totals may display rounding inconsistencies

Cut-off grade for Manson's Lode Ore Reserves is 1.14 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\$1,250 /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.

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 economical resource.

#### 3.9.3. **NEW DISCOVERY PIT ORE RESERVES**

Between the period of 1 January 2018 and 31 December 2018, only minimal mining activity occurred at New Discovery. CNMC reported to Optiro that for the 2018 production period approximately 141 kt of ore was mined from the New Discovery Pit.

The New Discovery Pit Ore Reserve estimate has been reported above a 0.14 g/t gold cut-off grade for oxide ore going to the heap leach and a 1.14 g/t gold cut-off grade for transitional and fresh ore going to the CIL plant, 95% mining recovery and 5% dilution at zero grade and a gold price of US\$1,250 per ounce. The resultant Ore Reserves for the New Discovery pit are reported below in Table 3.14 and are applicable for 2018. The additional Mineral Resources (exclusive of Ore Reserves) are for the combined New Discovery and New Found deposits.

### Table 3.14 New Discovery Pit gold Ore Reserves and Mineral Resources at New Discovery and New Found (additional to Ore Reserves) as at 31 December 2018

	Mineral type	Gross a	ttributable t	o licence	Gross attributable to CNMC					
Category		Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Change from previous update (%)		
				Ore Reserve	s					
Proved	Gold	64	4.0	8	52	4.0	7	-59%		
Probable	Gold	147	3.0	14	119	3.0	12	-8%		
Total	Gold	211	3.3	23	171	3.3	18	-40%		
			Additi	onal Mineral R	esources					
Measured	Gold	12	0.9	0	10	0.9	0	-		
Indicated	Gold	36	2.4	3	29	2.4	2	0%		
Inferred	Gold	860	1.3	35	697	1.3	28	-10%		
Total	Gold	908	1.3	38	736	1.3	31	-9%		

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 0.17 g/t gold for oxide ore going to the heap leach and 1.14 g/t gold for transitional and fresh ore going to the CIL plant

• Cut-off grade for Mineral Resources is 0.17 g/t gold for oxide material, 0.5 g/t gold for transitional and fresh material outside optimised pit and 0.7 g/t gold for Inferred transitional and fresh rock inside optimised

- Gold price used for cut-off calculation is US\$1,250 /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.

#### COMPARISON WITH 2017 ORE RESERVES ESTIMATE – NEW DISCOVERY

The variance between the 2017 and 2018 Ore Reserve estimate is due to changes in the Mineral Resource, mining depletion and to cut-off grade changes. Due to the increased gold price the cut-off grade for heap leach material has reduced to 0.17 g/t gold. Due to processing changes (transitional and fresh rock now sent to CIL, not heap leach), the cut-off grade for transitional and fresh rock material has increased to 1.14 g/t gold. No other modifying factors have been changed for the New Discovery Pit Ore Reserves between 2017 and 2018.

#### 3.9.4. NEW FOUND

No Ore Reserve estimate was calculated or reported for the New Found deposit. Mineral Resources are classified as Inferred and thus cannot be converted to Ore Reserves, as defined by the JORC Code 2012.

#### 3.9.5. KETUBONG

No Ore Reserve estimate was calculated or reported for the Ketubong deposit. CNMC is currently constructing underground mining infrastructure at Ketubong. Optiro will determine the Ore Reserves at Ketubong once underground cost parameters have been collected by CNMC and sufficient underground mining has occurred to determine the modifying factors, so as to have sufficient confidence to allow the reporting of an Ore Reserve.

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

The combined Ore Reserve estimate for Rixen, Manson's Lode and New Discovery deposits has been calculated and is shown in Table 3.15, accompanied by the Mineral Resources tabulation for Rixen, Manson's Lode and New Discovery deposits (reported exclusive of and additional to Ore Reserves) and for Ketubong and New Found (where Ore Reserves have not been defined).

Table 3.15Combined Sokor Project gold Ore Reserves (Manson's Lode, New Discovery and Rixen) and Mineral Resources<br/>(at Manson's Lode, New Discovery/New Found, Rixen and Ketubong that are additional to Ore Reserves at<br/>Manson's Lode, New Discovery and Rixen) as at 31 December 2018

		Gross a	ttributable t	o licence	Gross attributable to CNMC					
Category	Mineral type	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Tonnes (kt)	Grade (Au g/t)	Contained Au (koz)	Change from previous update (%)		
				Ore Reserv	es					
Proved	Gold	292	3.3	31	237	3.3	25	-24%		
Probable	Gold	2,263	1.4	104	1,833	1.4	84	-35%		
Total	Gold	2,555	1.6	135	2,070	1.6	109	-33%		
			Addi	ional Mineral	Resources					
Measured	Gold	116	1.1	4	94	1.1	3	-25%		
Indicated	Gold	6,534	1.5	320	5,293	1.5	259	188%		
Inferred	Gold	8,137	1.7	436	6,591	1.7	354	11%		
Total	Gold	14,785	1.6	760	11,977	1.6	616	49%		

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 0.17 g/t gold for ore going to the heap leach (all Rixen material and other sources of oxide) and 1.14 g/t gold for transitional and fresh ore going to the CIL plant (transitional and fresh rock from Manson's Lode, and New Discovery)

• Cut-off grade for Mineral Resources is 0.17 g/t gold for Rixen, 0.2 g/t gold for Manson's Lode, and at New Discovery, New Found and Ketubong it is 0.2 g/t gold for oxide material, 0.5 g/t gold for transitional and fresh material outside optimised pit and 0.5 g/t gold for Inferred transitional and fresh material inside the optimised pit

Gold price used for cut-off calculation is US\$1,250 /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.

### 3.11. INFRASTRUCTURE, FACITILTES, 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 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 of 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 east to west, flowing through Sg Tapis, Sg Amang, Sg Sejana, Sg Liang and Sg Ketubong, which eventually discharge into the Sg Pergau.

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 is mainly processed via the heap leach circuit.

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 0.1 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 2018.

### 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\$1,250 per ounce has been applied at the request of CNMC. The unit operating costs and cut-off grade calculations used are presented in Table 3.16.

### 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\$67.5 M, with a Net Present Value of US\$56.4 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\$1,450/oz and US\$1,050/oz respectively, the results of which are shown in Table 3.17.

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 and New Discovery deposits. No financial analysis has been completed for:

- the Ketubong deposit as actual underground mining cost parameters do not yet exist in December 2018 to support the determination of an Ore Reserve
- the New Found deposit as the Mineral Resource is classified as Inferred and thus no Ore Reserves have been stated.

### Table 3.16

Mining		costs	and	out off	arada
Mining	unit	COSIS	anu	cut-on	graue

	Units	Heap Leach	CIL Material			
	Processing costs					
Processing cost	US\$ /t	3.50	40			
	Revenue a	nd selling costs				
Rehabilitation cost	US\$ /t ore	-	-			
Solling cost	US\$ /g	0.05	0.05			
Selling cost	US\$ /g	2.95	2.95			
Total sale cost	US\$ /g	3	3			
Coldprice	US\$ /oz	1,250	1,250			
Gold price	US\$ /g	38.6	38.6			
Final sale price	US\$ /g	40.19	40.19			
Mining recovery	%	95%	95%			
Process recovery	%	55.00%	91.50%			
Recovered revenue	US\$ /g	20.0	28.1			
Marginal cut-off	g/t	0.17	1.14			

 Table 3.17
 Financial metrics at varying gold prices

Gold Price (US\$ /oz)	\$1,050	\$1,250	\$1,450
Free cashflow (US\$ M)	48.3	67.5	86.7
NPV (US\$ M)	40.3	56.4	72.5

#### 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 Rixen, Manson's Lode, Ketubong, New Discovery and New Found deposits have been well defined by drilling. The drilling has essentially defined the limits of gold and base metal mineralisation at Manson's Lode.

The 2018 drilling has extended the mineralisation at Rixen to the south and down-dip to the east. Three holes were drilled at New Found to test southern extension to the mineralisation and a hole was drilled to the north of Ketubong to test an area of mineralisation identified between Rixen and Ketubong. Assay data for these four holes has not yet been received. The Rixen, Ketubong, New Discovery and New Found deposits warrant additional drill testing both along strike and down-dip.

Optiro considers that there is considerable potential remaining in the Sokor Block mining licence to locate additional gold and base metal mineralisation and CNMC's exploration programme is assessing targets within the exploration licences held by CNMC Pulai Mining Sdn. Bhd. and Kelgold Mining Sdn. Bhd. Additional base metal mineralisation has been identified at Sg Among, to the east of Rixen, and at Sg Tiger, within the southern part of the Sokor Project area.

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 2018. 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 2018.

On a similar note, the movement of material from stockpiles to leach pads continued to be recorded during 2018. 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. As recommended by Optiro (Optiro, 2018):

- CNMC has undertaken infill drilling at Rixen to improve confidence in the 2017 Inferred Mineral Resources, which has allowed some of the Inferred Mineral Resources to be upgraded to Indicated Mineral Resources and has increased the Ore Reserves at Rixen.
- CNMC has replaced the older certified reference material used for the QAQC standards.

In addition, as recommended by Optiro, CNMC has obtained high quality and detailed survey data of the Rixen, New Discovery and New Found pits. This has improved confidence in the remaining material and has increased the Mineral Resources at Rixen.

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

- Optiro recommends that field duplicate samples (quarter core) are submitted to the primary laboratory as part of the QAQC procedures.
- 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 has 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 expires in 2019. 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 near west 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 2018, CNMC completed 18 diamond drillholes for 3,219.49 m (Table 4.1) and 34 exploration trenches (Table 4.2) with total trench length of 2,750.2 m. All drilling and trenching carried out in 2018 was located in the northern portion of the licence area (Figure 4.1).

Significant intercepts from the 2018 drilling are summarised in Table 4.3.

Drillhole		Location		Azimuth	Dim	Depth	Samples
Driinole	Northing	Easting	RL	Azimuth	Dip	(m)	(no.)
ZK33-2	413438	636605	525.0	90	67	233.28	217
ZK33-3	413461	636604	536.0	90	50	149.52	162
ZK35-1	413462	636644	503.0	90	64	142.57	145
ZK35-2	413424	636632	515.0	90	53	202.32	207
ZK35-3	413503	636640	530.0	270	53	174.00	175
ZK37-1	413425	636690	451.0	65	55	94.85	93
ZK39-1	413534	636775	450.0	245	55	109.95	113
ZK39-2	413575	636801	423.7	245	70	164.70	179
ZK35-4	413596	636640	489.0	270	60	238.12	248
ZK31-1	413541	636557	486.0	245	55	307.65	332
ZK29-1	413553	636508	477.0	245	60	169.42	188
ZK31-2	413580	636575	470.0	245	54	247.52	273
ZK29-2	413589	636525	460.0	245	57	240.00	153
ZK101-1	413603	637302	443.5	105	80	115.00	122
ZK103-1	413634	637335	439.0	285	78	105.22	106
ZK102-1	413580	637225	438.0	105	70	113.00	119
ZK100-1	413630	637249	431.0	105	69	310.37	332
ZK109-1	413854	637400	398.0	105	70	102.00	

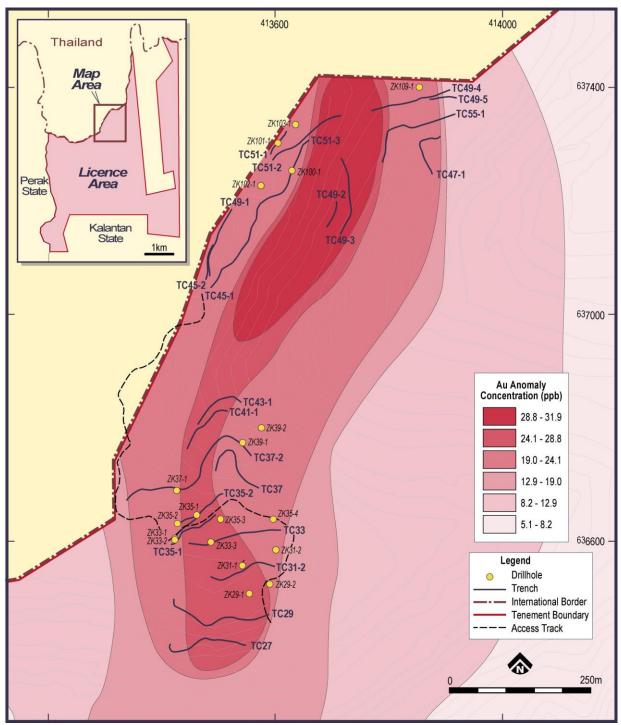
#### Table 4.1 Diamond drillholes completed in 2018

.z Trencnes	Location (western extent) Length Samples				
Trench			ent) RL	Length (m)	Samples (no.)
TC31	Northing 636538	<b>Easting</b> 413487	<b>KL</b> 518	( <b>m</b> ) 132	105
TC35-1	636595	413487	509	52	38
TC35-2	636956	413986	549	149.5	149
TC37-X*	636725	413496	545	149.5	64
TC37-2	636672	413430		296	230
TC37-2	636683	413338	515	166	166
TC41	636764	413445	515	100	105
TC41 TC45-1	637020	413445	445	105	103
TC49-1	637068	413478	443	130	134
TC51-1	637283	413484	443.0	50	26
TC45-2	637067	413392	409	63	63
TC31-2	636548	413471 413547	440	19	20
TC51-2	637276	413547	489	152	116
TC51-2 TC51-3	637308	413659	448	330	330
TC49-2	637200	413039	403 389	100	94
			449		
TC27-1 TC49-3	636419 637142	413415 413715	343	155 142	152 51
TC49-5	636846	413713	429	142	55
TC43-1 TC49-4	637360	413339	375	101.7	55
TC43-4 TC47-1	637314	413770	313	143	96
TC49-5	637380	413890	313	50	51
TC55-1	637268	413788	379		159
TC45-1*	637208	413788	445	162	139
TC45-1*	637020	413478	445	66	63
TC43-2 TC49-1*	637068	413471	440	130	129
TC49-2*	637200	413484	389	130	94
TC49-3*	637142	413708	343	110	51
TC51-1*	637283	413713	469	50	26
	637276		409	153	115
TC51-2* TC51-3*	637276	413589 413659	448	153 330	330
TC49-4*	637308	413059	403 375	330 145	55
TC49-4* TC49-5*	637360	413770 413872	375 357	145 50	30
TC49-5* TC47-1*			357	50 100	30 95
	637314	413890			
TC55-1*	637268	413788	379	186	159

\* Resampling of existing trench







Drillhole	Sample no.	From	То	Length	(g/t)
ZK29-1	H131	108.43	109.16	0.73	20.03
ZK29-1	H136	112.97	113.97	1.00	1.74
ZK31-1	H116	106.68	107.68	1.00	1.20
ZK31-1	H117	107.68	108.05	0.37	11.29
ZK31-1	H120	109.05	109.43	0.38	1.31
ZK31-1	H67	64.25	65.25	1.00	1.49
ZK33-1	H82	78.05	79.05	1.00	1.81
ZK33-1	H91	86.83	87.82	1.00	2.29
ZK33-2	H155	172.60	173.60	1.00	4.72
ZK33-3	H162	0.00	1.00	1.00	0.38
ZK33-3	H163	1.00	2.00	1.00	0.76
ZK33-3	H164	2.00	3.00	1.00	2.25
ZK33-3	H165	3.00	4.00	1.00	0.50
ZK33-3	H166	4.00	5.00	1.00	0.99
ZK33-3	H167	5.00	5.70	0.70	0.75
ZK33-3	H168	5.70	6.70	1.00	0.96
ZK33-3	H1	6.70	7.60	0.90	0.16
ZK33-3	H2	7.60	8.40	0.80	0.22
ZK33-3	Н3	8.40	9.40	1.00	0.33
ZK35-1	H61	55.50	56.50	1.00	1.43
ZK35-1	H62	56.50	57.50	1.00	3.50
ZK35-1	H63	57.50	58.50	1.00	0.96
ZK35-1	H64	58.50	59.50	1.00	4.38
ZK35-1	H65	59.50	60.50	1.00	0.66
ZK35-1	H66	60.50	61.55	1.05	3.07
ZK35-1	H91	84.28	85.28	1.00	2.09
ZK35-1	H92	85.28	86.28	1.00	0.52
ZK35-1	H93	86.28	87.28	1.00	4.50
ZK35-2	H94	87.09	88.09	1.00	9.18
ZK35-2	H95	88.09	89.09	1.00	0.83
ZK35-2	H132	122.56	123.60	1.04	3.93
ZK35-2	H133	123.60	124.60	1.00	0.57
ZK35-2	H134	124.60	126.00	1.40	2.94
ZK35-2	H135	126.00	126.90	0.90	2.34
ZK35-3	H42	39.12	40.31	1.19	0.40
ZK35-3	H43	40.31	41.26	0.95	0.44
ZK35-3	H44	41.26	41.95	0.69	0.30
ZK35-3	H46	42.59	43.89	1.30	1.02
ZK35-3	H47	43.89	44.89	1.00	1.90
ZK39-2	H63	58.70	59.70	1.00	4.65
ZK101-1	H106	95.56	96.56	1.00	1.50
ZK101-1	H115	104.03	104.70	0.67	1.28

 Table 4.3
 2018 diamond drillhole significant intercepts

As at 31 December 2018, the Kelgold Project is at an early stage exploration stage. Optiro has reviewed the exploration work completed to date and whilst prospective, considers that there has been insufficient exploration completed as at 31 December 2018 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 2018 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 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>).

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 and approximately 125,000 tonnes of feldspar has been produced.

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.

Overall, assessment of 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 prospect 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 western area consists of limestone, tuff (interbedded with carbonaceous slate and slate), volcanic breccia and andesite. The overall dip direction found in 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 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.

Fracture and fault structures are common across the Pulai area. Major faults are north-south and northnortheast 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 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 control on the occurrence of gold is 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:

- 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.

Feldspar mineralisation in the CNMC Pulai region has been developed by hydrothermal alteration of volcanic rocks of various types and from shallow intrusive bodies. Whilst feldspar has previous been mined from the project area further work is required to determine the future economic potential of any feldspar mineralisation.

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.

As at 31 December 2018, the CNMC Pulai Project is at an early stage exploration stage. Optiro has reviewed the exploration work completed to date 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.
Indicated Mineral	An 'Indicated Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape,
Resource	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	An 'Inferred Mineral Resource' is that part of a Mineral Resource for which tonnage, grade and mineral
Resource	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.

Term	Explanation
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.
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	Drilling method that uses compressed air and a hammer bit to produce rock chips.
Circulation (RC)	
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

### 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> <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> <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, 2017 and 2018 the average sample length was 1.0 m.</li> <li>Sample intervals selected for analysis from the 2018 drillholes are between 0.06 m and 1.67 m.</li> <li>All sample preparation and analyses were undertaken at CNMC's Sokor on-site laboratory.</li> <li>Gold analyses of the 2018 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> <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> <li>Triple tube diamond core drilling - fully drilled with diamond bit without RC precollar.</li> <li>Core diameter varies from 122 mm, 96 mm to 76 mm with depth.</li> </ul>
Drill sample recovery	<ul> <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> <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
Logging Sub-sampling techniques and sample preparation Quality of assay data and laboratory tests	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations</li> </ul>	<ul> <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> <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, 2017 and 2018 the average sample length was 1.0 m.</li> <li>Sample intervals selected for analysis from the 2018 drillholes are between 0.06 m and 1.67 m.</li> <li>Quarter core samples were used for quality assurance and quality control analysis.</li> <li>All 2018 samples were assayed at CNMC's Sokor on-site laboratory.</li> <li>CNMC's procedures for 2018 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</li> </ul>
	<ul> <li>factors applied and their derivation, etc.</li> <li>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.</li> </ul>	<ul> <li>laboratory (ALS Minerals laboratory in Perth, Australia).</li> <li>Seven standard samples (G314-3, G905-7, 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, however there is a bias to lower grades than expected across all grade ranges. This is being investigated by CNMC.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data</li> </ul>	<ul> <li>A twin hole was drilled at New Discovery during 2013. This confirmed the mineralised intersection within the upper part of the orebody.</li> <li>Data validation included checking for out of</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul><li>range assay data and overlapping or missing intervals.</li><li>Below detection values were set to half the detection limit.</li></ul>
Location of data points	<ul> <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> <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, New Discovery and New Found were conducted in early 2019 using an unmanned aerial vehicle (UAV) by Land Surveys, an Australian based company.</li> <li>Pit surveys of Manson's Lode and Ketubong were provided by CNMC based on GPS data taken from pit traverses.</li> </ul>
Data spacing and distribution	<ul> <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> <li>During 2018, data from 24 additional inclined drillholes for a total of 6,683.26 m at Sokor 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 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 Ketubong and Manson's Lode. Downhole compositing to 1.0 m intervals was applied for Mineral Resource estimation at Rixen, New Discovery and New Found.</li> </ul>
Orientation of data in relation to geological structure	<ul> <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</li> </ul>	<ul> <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</li> </ul>



Criteria	JORC Code explanation	Commentary
	should be assessed and reported if material.	structures and controls on mineralisation.
Sample security	• The measures taken to ensure sample security.	<ul> <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	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>Optiro visited the Sokor project during December 2011, June 2015 and January 2018. 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> <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> <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> <li>KelGold Mining Sdn. Bhd. has the right to explore for iron ore, gold and other minerals in an area of approximately 1,550 hectares (15.5 km2) that expires in 2019.</li> </ul>
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	<ul> <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	Deposit type, geological setting and style of mineralisation.	<ul> <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 deposits have been defined within the southern area (Manson's Lode, New Discovery, New Found and Ketubong) and</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul> <li>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>The Kelgold Project area falls within the Central Gold Belt of Malaysia. 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.</li> </ul>
Drillhole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:         <ul> <li>easting and northing of the drillhole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	Drillhole information is summarised in
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Drilling data reported in the Kelgold exploration results are nominally reported above a cut-off grade of 0.2 g/t gold. Where reported across multiple samples, length weighted averages are reported.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul> <li>The orientation of mineralisation at Kelgold is yet to be accurately defined. The relationship between reported thickness and true thickeness is currently unknown.</li> </ul>
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should</li> </ul>	• Provided in Section 4.2 of the report.



Criteria	JORC Code explanation	Commentary
	include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
Balanced reporting	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.	All drillholes are reported.
Other substantive exploration data	<ul> <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         <ul> <li>size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul> </li> </ul>	<ul> <li>34 exploration trenches with total trench length of 2,750.2 m have been excavated to provide additional geological information including geological mapping, lithology, geochemical and structural measurements.</li> </ul>
Further work	<ul> <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> <li>Future resource definition drilling is planned to further extend known mineralised zones at Rixen, Ketubong, New Discovery and New Found, and to explore for additional mineralised zones within the Sokor project area.</li> <li>Future exploration drilling is planned at Kelgold to define and extend known mineralisation.</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
Database integrity	<ul> <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> <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>
Site visits	<ul> <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> <li>Site visit undertaken during December 2011, June 2015 and January 2018 by Optiro (Competent Person for the Mineral Resource estimate).</li> <li>During site visit geological logging, sampling techniques and procedures were reviewed.</li> </ul>
Geological interpretation	<ul> <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</li> </ul>	<ul> <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> </ul>



Criteria	JORC Code explanation	Commentary
	interpretations on Mineral Resource estimation. • The use of geology in guiding and controlling Mineral Resource estimation. • The factors affecting continuity both of grade and geology.	<ul> <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> <li>Geological interpretation has been defined by diamond drilling. Mineralisation interpretation at Manson's Lode and Ketubong was based on a nominal 0.25 g/t gold cut-off grade and at Rixen, New Discovery and New Found was based on a nominal 0.2 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>Additional base metal mineralisation was interpreted at Manson's Lode based on a nominal 2% Pb+Zn cut-off grade.</li> <li>All available geological data has been used to interpret the 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>Where possible, a base of oxidation surface</li> </ul>
Dimensions	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.	<ul> <li>has been interpreted.</li> <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 330 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 520 m along strike by 200 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 270 m.</li> <li>At Rixen the mineralisation strikes north-south and dips approximately 20° to the east. It is 2,025 m along strike by 600 m across strike. Mineralisation extends from surface to a depth of approximately 20° to the east. It is 2,025 m along strike by 330 m.</li> </ul>

Criteria JORC Code explanation	Commentary
<ul> <li>Estimation and modelling</li> <li>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.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <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 Ketubong and 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>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 52 m to 185 m, and a downdip range of 29 m to 95 m.</li> <li>Parameters from kriging neighbourhood analysis, undertaken in 2012 (Manson's Lode and New Discovery) and 2015 (Rixen) to optimise the block size, search distances and sample numbers, were used.</li> <li>Grade estimation was into parent blocks of 10 m by 20 m at Rixen, on 2 m benches.</li> <li>Block grade 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 65% of blocks at Rixen and over 40% of the blocks at Ketubong and the combined New Discovery and New Found deposits were estimated in the first pass.</li> <li>The estimated block model grades were visually validated against the input drillhole data and by easting, northing and elevation slices.</li> </ul>



Criteria	JORC Code explanation	Commentary
	dry basis or with natural moisture, and the method of determination of the moisture content.	
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul> <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. 2 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, are reported above a 2% Pb+Zn cut-off grade.</li> </ul>
Mining factors or assumptions	<ul> <li>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.</li> </ul>	<ul> <li>Planned extraction is by open pit mining. Mining factors such as dilution and ore loss have not been applied.</li> </ul>
Metallurgical factors or assumptions	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.	<ul> <li>No metallurgical assumptions have been built into the Mineral Resource models.</li> </ul>
Environmen- tal factors or assumptions	<ul> <li>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</li> </ul>	<ul> <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
	environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	<ul> <li>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.</li> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <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 101 sections of diamond core for New Discovery and New Found, from 139 sections of core for Rixen and from 32 sections of core for Ketubong.</li> <li>Density measurements were obtained from 51 sections of core from Manson's Lode. An ordinary least squares model was developed that was used to determine the density from the silver, lead and zinc contents.</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>
Classification	<ul> <li>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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <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 and New Discovery 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>
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	The estimation parameters and Mineral Resource models were peer reviewed by Optiro staff.
Discussion of relative accuracy/ confidence	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	<ul> <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
	<ul> <li>confidence of the estimate.</li> <li>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.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</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> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul> <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>
Site visits	<ul> <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> <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.</li> </ul>
Study status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>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.</li> </ul>	<ul> <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>
Cut-off parameters	<ul> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<ul> <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>
Mining factors or assumptions	• 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).	<ul> <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> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>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.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and preproduction drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<ul> <li>The open pit mining methods selected for the CNMC mines have been selected to best address the operational requirements of the deposit characteristics, and have been in effect since the commencement of mining operations in 2010.</li> <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 exiting 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>
Metallurgical factors or assumptions	<ul> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>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.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	<ul> <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>
Environmen- tal factors or assumptions	• 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	<ul> <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
	storage and waste dumps should be reported.	
Infrastructure	• 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.	• The Sokor Project is currently in operation and all required infrastructure is in place.
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul> <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>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>
Revenue factors	<ul> <li>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.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul> <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>
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul> <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</li> </ul>

Criteria	JORC Code explanation	Commentary
		baseline for the production period applied.
Economic	<ul> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul> <li>No detailed economic analysis has been completed by Optiro as the project is already in operation and demonstrates an economically viable project.</li> <li>No assumptions or inputs have been applied in an NPV analysis.</li> </ul>
Social	• The status of agreements with key stakeholders and matters leading to social licence to operate.	• There are no existing impediments to the licence to operate for the project.
Other	<ul> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>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.</li> </ul>	<ul> <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 Audits or	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> <li>The results of any audits or reviews of Ore</li> </ul>	<ul> <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> <li>The Ore Reserve has been calculated by</li> </ul>
Audits or reviews Discussion of relative accuracy/ confidence	<ul> <li>The results of any audits or reviews of Ore Reserve estimates.</li> <li>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 such an approach is not deemed appropriate, a qualitative discussion of the factors which</li> </ul>	<ul> <li>The Ore Reserve has been calculated by Independent consultants Optiro and an internal peer review undertaken.</li> <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
	<ul> <li>could affect the relative accuracy and confidence of the estimate.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	