

## APPENDIX A. OPTIRO RESOURCE REPORT

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## CNMC Goldmine Holdings Limited Sokor Gold Project – Updated Mineral Resource



**J\_1330**

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April 2012

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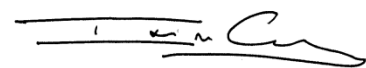
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The Board of Directors  
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Dear Sirs

### SOKOR GOLD PROJECT – UPDATED MINERAL RESOURCE

The Sokor Gold Project (the Project) 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 from an area of approximately 10 km<sup>2</sup> in the Ulu Sokor area in Kelantan. CNMC has defined three deposits in the southern part of the Project area (Manson's Lode, New Discovery and Ketubong) and a fourth deposit (Rixen) approximately 3 km to the north of Ketubong.

CNMC listed on the Catalist Board of the Singapore Exchange Securities Trading Limited (SGX-ST) on 28 October 2011 and wishes to make an announcement to the SGX-ST in connection with reporting of the Sokor Mineral Resource update.

At CNMC's request, Optiro Pty Ltd (Optiro) has updated the Mineral Resource estimates for the Manson's Lode, New Discovery, Ketubong and Rixen deposits using three dimensional geological models with block grades estimated by geostatistical techniques. These estimates incorporate data from additional drilling undertaken at Ketubong and Rixen since CNMC's June 2011 Resource Statement and have been classified and reported 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 2004 (the JORC Code).

Optiro has prepared this report in support of the planned SGX-ST announcement by CNMC for April 2012. 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 resource estimation services, but also reserve evaluation, corporate advisory, mining engineering, mine design, scheduling, audit, due diligence and risk assessment assistance. The principal office of Optiro is at 50 Colin 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 the proposed SGX-ST announcement of the Mineral Resource update for the Sokor Gold Project; as such, it should not be used or relied upon for any other purpose. Neither the whole nor any part of this report nor any reference thereto may be included in, or with, or attached to any document or used for any purpose without Optiro's written consent to the form and context in which it appears.

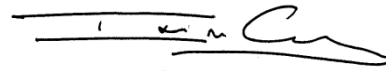
Mr Ian Glacken, Director of Optiro and Fellow of the Australian Institute of Mining and Metallurgy, and Mrs Christine Standing, Principal of Optiro and Member of the Australasian Institute of Mining and Metallurgy, fulfil the requirements of qualified persons as defined in the JORC Code and accept responsibility for the independent technical 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 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**



Christine Standing *BSc(Hons) MAusIMM, MAIG*  
Principal



Ian Glacken *FAusIMM (CP), CEng*  
Director and Principal



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## 1. EXECUTIVE SUMMARY

### 1.1. INTRODUCTION

The Sokor Gold Project (the Project) 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 from an area of approximately 10 km<sup>2</sup> in the Ulu Sokor area in Kelantan. CNMC has defined three deposits in the southern part of the Project area (Manson's Lode, New Discovery and Ketubong), and a fourth deposit (Rixen) approximately 3 km to the north of Ketubong.

At CNMC's request, Optiro Pty Ltd (Optiro) has updated the Mineral Resource estimates for the Manson's Lode, New Discovery, Ketubong and Rixen deposits using three dimensional geological models with block grades estimated by geostatistical techniques. Behre Dolbear Australia Pty Limited (BDA) has been assisting CNMC with reviews of exploration procedures and Mineral Resource and Ore Reserve estimation; BDA recommended that CNMC employ the services of Optiro to assist with Mineral Resource estimation.

Optiro undertook a site visit to the Sokor Gold Project on 7 and 8 December 2011 to review data for the Mineral Resource estimate. CNMC provided Optiro with the drillhole logging, assay and survey data, interpreted geological cross-sections and topographical data. Optiro generated a validated drillhole database, three dimensional interpretations of the mineralisation and prepared an updated Mineral Resource estimate using geostatistical techniques. These estimates incorporate data from additional drilling undertaken at Ketubong and Rixen carried out since the June 2011 Resource Statement (BDA, 2011b) and 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 2004 (the JORC Code).

### 1.2. MINERAL RESOURCE ESTIMATE

The gold mineralisation within the Sokor Gold 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 Manson's Lode and New Discovery.

At Manson's Lode there are economic grade silver, lead and zinc assays in addition to gold that have been incorporated into the resource estimate. At New Discovery, Ketubong and Rixen the silver and base metal concentrations are typically low.

Optiro interpreted the mineralisation at all deposits above a nominal 0.3 g/t gold cut-off grade. At Manson's Lode and New Discovery mineralisation was interpreted within backfilled material from previous mining and at New Discovery, Rixen and Ketubong a zone of mineralisation was interpreted within the alluvial/eluvial material overlying the bedrock. At New Discovery 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 east 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 two 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. Average bulk density values for each deposit and material type were calculated using 126 measurements from diamond drillholes and measurements of alluvial and backfilled material from 41 test pits.

### 1.3. MINERAL RESOURCE TABULATION

The Mineral Resource estimate, as at 31 December 2011, for the Sokor Gold Project is reported below. This has been classified and reported in accordance with the guidelines of the JORC Code and depleted for mining at Manson's Lode and New Discovery to 31 December 2011. The Mineral Resources are reported above a 0.5 g/t gold cut-off grade at Manson's Lode, New Discovery and Ketubong and above a 0.3 g/t gold cut-off grade at Rixen, to reflect current commodity prices, operating costs and processing options. As at 31 December 2011, the total Measured, Indicated and Inferred gold Mineral Resources for the Sokor Gold Project (above a 0.3 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) are 8.6 Mt at 1.7 g/t gold with contained gold of 503,000 ounces.

#### Sokor Gold Project – Mineral Resource statement as at 31 December 2011 (inclusive of Ore Reserves)

Deposit	Measured			Indicated			Inferred			Total		
	Tonnes kt	Grade Au g/t	Gold koz	Tonnes kt	Grade Au g/t	Gold koz	Tonnes kt	Grade Au g/t	Gold koz	Tonnes kt	Grade Au g/t	Gold koz
Mason's Lode	410	2.9	42	150	2.3	12	30	1.4	2	590	2.7	56
New Discovery	220	4.0	31	210	3.2	24	220	1.8	13	640	3.0	68
Ketubong	-	-	-	110	3.8	15	670	2.3	55	790	2.5	70
Rixen	-	-	-	2,330	1.2	98	4,240	1.4	211	6,570	1.3	309
<b>Total</b>	<b>630</b>	<b>3.3</b>	<b>73</b>	<b>2,800</b>	<b>1.5</b>	<b>149</b>	<b>5,160</b>	<b>1.5</b>	<b>281</b>	<b>8,590</b>	<b>1.7</b>	<b>503</b>

The total Measured, Indicated and Inferred gold resources for the Sokor Gold Project previously reported in June 2011 (based on a polygonal estimate and above a 0.3 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) were 6.4 Mt at 1.81 g/t gold with contained gold of 372,700 ounces.

The Mineral Resource as at 31 December 2011 reports increased tonnage at a lower grade at Manson's Lode and New Discovery compared to the June 2011 estimate. This is to be expected from the application of geostatistical rather than polygonal techniques. The additional drilling since June 2011 has extended the mineralisation at Rixen and Ketubong and again, the application of geostatistical techniques has increased the tonnage and decreased the average grade compared to the June 2011 estimate. CNMC is planning to update the Ore Reserves based on the updated Mineral Resource estimates; updated Ore Reserves will be reported by CNMC on completion of this work.

The Mineral Resources at the Manson's Lode, New Discovery, Ketubong and Rixen deposits and this report have been prepared by Mrs Christine Standing and reviewed by Mr Ian Glacken. Mrs Standing is a Member of The Australasian Institute of Mining and Metallurgy and Mr Glacken is a Fellow of The Australasian Institute of Mining and Metallurgy and a Chartered Professional Geologist. Both Mrs Standing and Mr Glacken have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and as Qualified Persons under the SGX-ST listing rules.

## 1.4. RECOMMENDATIONS

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

- As previously reported by BDA, past diamond drilling rates and core recovery have been compromised by the use of less than optimum drilling equipment. BDA has recommended that CNMC engages a drilling company that is capable of supplying modern drill equipment and experienced drillers for future drilling campaigns; also that CNMC trials reverse circulation drilling. Optiro concurs with these recommendations.
- Optiro recommends that geological logging is based on standardised codes and that separate codes are used to record lithology, weathering, alteration and mineralisation.
- Depths to the base of oxidation and the base of transitional material should be logged at Manson's Lode, New Discovery and Ketubong. This data can then be incorporated into the Mineral Resource models.
- Optiro concurs with BDA's recommendation that CNMC purchases or generates at least three certified assay standards and inserts these into batches of samples sent for analysis.
- Optiro recommends that the samples selected for duplicate quality control analysis are not from first sample assayed in the drillhole. This material is often from eluvial or highly weathered material, may have poor recovery and is generally not representative of the overall data.
- Optiro recommends that significant differences between the topographical surface data and the drillhole collars surveys are resolved.
- Optiro recommends that CNMC uses the Mineral Resource block models for mine design and Ore Reserve estimation and that an updated production schedule is prepared.
- Optiro recommends that the capital and operating costs are reviewed.

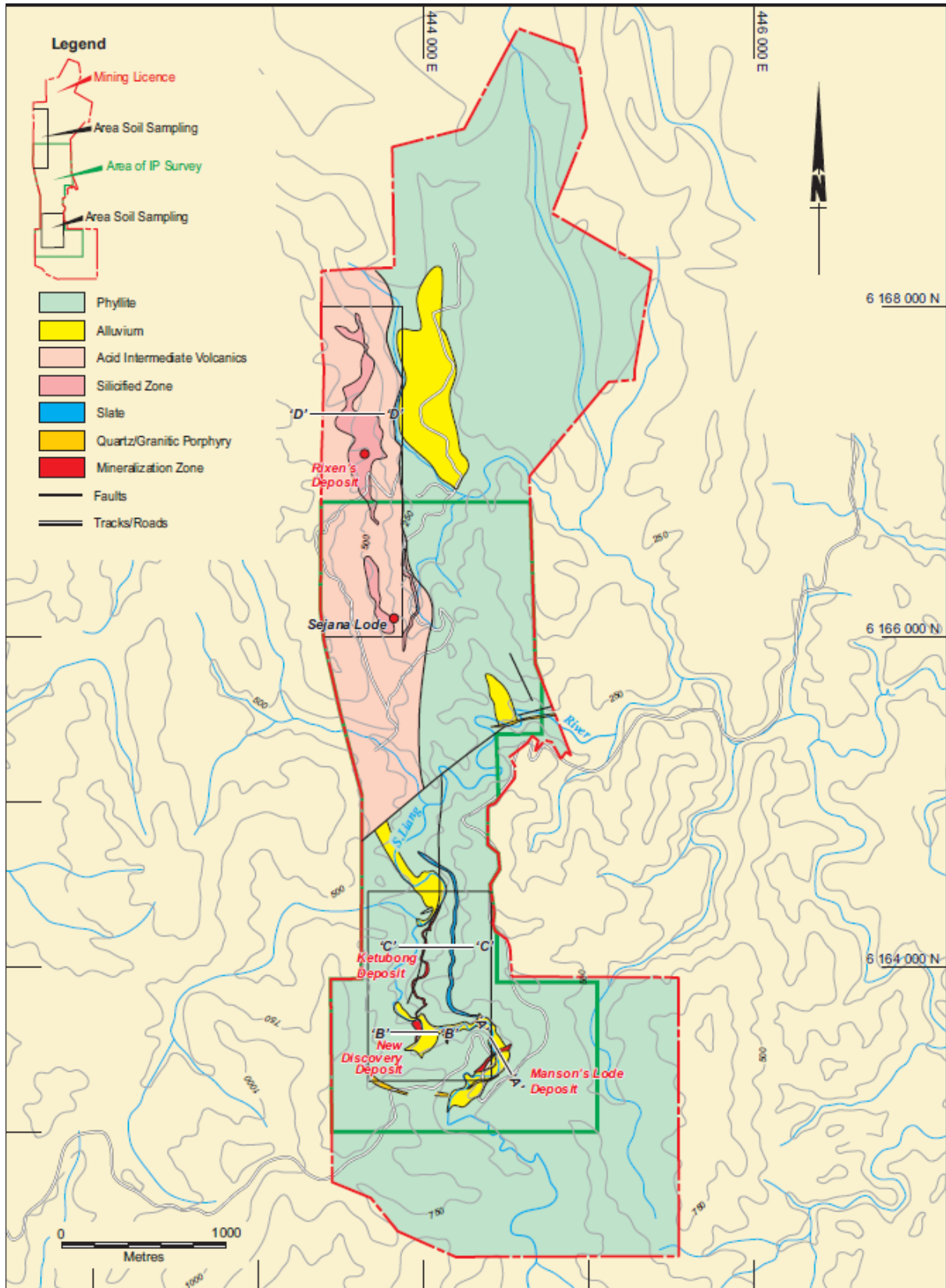
## 2. INTRODUCTION AND TERMS OF REFERENCE

### 2.1. INTRODUCTION

CNMC Goldmine Holdings Limited through its subsidiary CMNM Mining Group Sdn. Bhd. holds an 81% interest in the Sokor gold project (Figure 1). CMNM holds the rights to mine and produce gold from an area of approximately 10 km<sup>2</sup> in the Ulu Sokor area in Kelantan, Malaysia. CNMC listed on the Catalist Board of the Singapore Exchange Securities Trading Limited (SGX-ST) by way of an Initial Public Offering on 28 October 2011 and plans to make an announcement to the SGX-ST in April 2012 in connection with the Mineral Resource update.

CNMC has defined three deposits in the southern part of the Project area (Manson's Lode, New Discovery and Ketubong) and a fourth deposit (Rixen) approximately 3 km to the north of Ketubong (Figure 1). At CNMC's request, Optiro has updated the Mineral Resource estimates for the Manson's Lode, New Discovery, Ketubong and Rixen deposits using three dimensional geological models with block grades estimated by geostatistical techniques. These estimates incorporate data from additional drilling undertaken at Ketubong and Rixen since the June 2011 Resource Statement and 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 2004 (the JORC Code). Optiro has prepared this report to document the update to the Mineral Resource estimates and in support of the planned SGX-ST announcement in April 2012.

Figure 1 Sokor Gold Project – local geology and deposit location (BDA, 2011a)



BDA has been assisting 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, Ore Reserves, mining and processing, infrastructure, environmental and community issues, life of mine production schedule and capital and operation costs have all 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 Gold Project on 7 and 8 December 2012 to review data for the Mineral Resource estimate; Mr George Brech of BDA assisted Optiro during the site visit and review.

Optiro viewed the drill core, trenches, excavations and drillhole collars at Manson's Lode, New Discovery, Ketubong and Rixen and held discussions with CNMC personnel regarding drilling, logging and sampling procedures and selection of samples for metallurgical testwork. CNMC provided Optiro with the drillhole logging, assay and survey data, interpreted geological cross-sections and topographical data.

### **3. DATA FOR MINERAL RESOURCE ESTIMATION**

BDA has 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. These are discussed below. In Optiro's overall opinion, the geological database forms an appropriate and reasonable basis for resource estimation.

#### **3.1. DRILLING**

The four Sokor deposits - Manson's Lode, New Discovery, Ketubong and Rixen - have been evaluated by surface trenches and diamond core drilling. Diamond drilling was completed on all four 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 diamond drillholes has been used for resource estimation. The Mineral Resource estimate is based upon data from 272 diamond drillholes drilled for a total of 19,046 m.

CNMC previously reported the Mineral Resource in June 2011. Since then, 21 holes for a total of 1,746.03 m were drilled at Rixen and four holes for a total of 895.93 m were drilled at Ketubong. Results from this drilling have been incorporated into the March 2012 Mineral Resource estimate.

CNMC provided the geological logs, assay data and survey data to Optiro as a series of spreadsheets. Optiro consolidated this data and generated a drillhole database using Datamine mining software. CNMC also provided the assay certificates from ALS Group Laboratory for 162 of the drillholes. Optiro validated the data captured by CNMC against the data from the laboratory and found only minor inconsistencies and sample mix-ups, which were subsequently resolved with CNMC.

#### **3.2. SURVEY**

CNMC has completed a topographic survey over a 7 km<sup>2</sup> area covering the four 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), and from this data a digital terrain model (DTM) was produced.

Drillhole collars have been surveyed using EDM equipment. Comparison of the drillhole collars with the DTM revealed that in general there are only small differences at Manson's Lode, Ketubong and New Discovery. Some of these differences relate to recent mining by CNMC. Where there were

significant differences the topographic surface was adjusted to incorporate the drillhole collar data. Survey data from the pit areas was later used to deplete the Mineral Resource estimates for mining.

At Rixen there are differences of up to 17 m between the drillhole collar elevation and the DTM, with 55% of the drillhole collar elevations having a difference of over 3 m from the DTM. Optiro adjusted the drillhole collar elevations to the DTM and took account of this data mismatch in the classification of the Mineral Resource.

Drillholes have been surveyed using industry standard downhole survey equipment at 50 m intervals. Deviations are reported to be minimal with differences in the dip angles of less than 0.5°. The downhole survey data was not provided to Optiro for the Mineral Resource estimate and should be incorporated into future resource estimates. Optiro took account of this in the classification of the Mineral Resource and consequently mineralisation at depths of greater than 60 m below the surface was classified as Inferred.

### **3.3. 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. The logging data needs to be standardised and a common set of codes used to record the lithology, weathering, alteration and mineralisation as separate fields.

All drill core is photographed using a digital camera and potentially mineralised core is marked up for sampling. Sample intervals range between 0.3 and 3.2 m with an average sample interval of 1.5 m.

Systematic logging of oxidation boundaries (base of oxide and base of transitional) was introduced by CNMC for the 2011 exploration programme. Oxidation boundaries have been interpreted on cross-sections prepared for Rixen from the logging of the degree of oxidation of sulphide mineralisation observed in the drill core. This practice needs to be extended and downhole depths to the base of oxidation and base of transition need to be recorded and interpreted at Manson's Lode, New Discovery and Ketubong.

Half core samples were selected for analysis, with quarter core samples used for QAQC analysis. Sample preparation was undertaken at the ALS Group Laboratory in Perth, Australia. Sample weights range from 1 to 3 kg. Samples are dried, crushed to 6 mm and the whole sample is pulverized to 85% passing 75 microns. A pulp sample of 200 g is split for assay and the pulp reject bagged and retained.

#### **3.3.1. ASSAYING**

Samples from Manson's Lode were routinely analysed for Au, Ag, Cu, Pb and Zn. Ag, Cu, Pb and Zn were analysed by four acid digest and ICP Atomic Emission Spectrometry (ICPAES) using the ALS method ME-OG62. At New Discovery, Ketubong and Rixen, silver and base metal concentrations are low and after initial analysis to establish this, samples were analysed for gold only. Gold analyses at all four deposits were by 30g fire assay with atomic absorption spectrometry (AAS) finish, with a detection limit of 0.01g/t Au.

#### **3.3.2. QUALITY ASSURANCE/QUALITY CONTROL**

CNMC's quality assurance/quality control (QA/QC) protocols consist of the insertion of duplicates at a rate of approximately one per batch of 20 samples, and blanks at a rate of approximately one in every 40 samples. The duplicate samples are prepared from quarter core samples and are submitted blind to ALS.

Data from a total of 284 duplicate samples from Manson's Lode, New Discovery, Ketubong and Rixen were analysed by Optiro. Statistical analysis of original and duplicate results indicates medium to poor overall precision, with the data from Manson's Lode and New Discovery having slightly better

levels of precision than the data from Ketubong and Rixen. This was taken into consideration in the classification of the Mineral Resource. Optiro notes that 31% of the duplicates are of the first sample selected for analysis in each drillhole. These are generally from eluvial or highly weathered material where sample recovery may be poor and thus could bias the QAQC results. Optiro recommends that the duplicate samples are taken at a range of depths so these are more representative.

QA/QC procedures should also be improved by the submission of standards by CNMC and carrying out additional inter-laboratory or umpire checks, particularly of higher grade samples.

### **3.3.3. BULK DENSITY**

Bulk density measurements are made on selected core samples of approximately 0.2 m in length using the water immersion method, weighing in air and water. Samples are dried before measurement. Average bulk density values for each deposit and material type were calculated using 126 measurements from diamond drillholes and of alluvial/eluvial and backfill material from 41 test pits.

## **4. MINERAL RESOURCE**

### **4.1. INTERPRETATION**

The gold mineralisation within the Sokor Gold 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 of near surface, high grade ore has occurred at Manson's Lode and New Discovery, and the pits have been backfilled with material with lower grades from Manson's Lode and New Discovery.

CNMC provided interpreted cross-sections of the mineralisation and geology. Optiro used the cross-sections to guide interpretation of the mineralisation at all deposits using a nominal 0.3 g/t gold cut-off grade.

At Manson's Lode mineralisation was interpreted within backfilled material from previous mining and within bedrock. Interpretation of a base of oxidation surface, using the current drillhole logging and cross-sectional interpretation, was not possible at Manson's Lode. Optiro recommends that all drillholes are logged to identify the base of oxidation and base of transition and that this information is included in the mineral resource model.

At New Discovery, Rixen and Ketubong a zone of mineralisation was interpreted within the alluvial/eluvial material overlying the bedrock. At New Discovery 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 east 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 two east dipping zones at Rixen.

The sectional interpretations were wireframed to create three dimensional models of the mineralisation which were used to code the drillhole data and the block models for mineralisation and material type.

## 4.2. DATA ANALYSIS

Data within the interpreted mineralisation was composited to 1.5 m downhole intervals and coded for material type (alluvial/eluvial, backfill, lithologically controlled or structurally controlled). Statistical analysis of the composited and coded gold values indicated that the data populations are positively skewed and top-cut values were therefore selected for each deposit and material type. Top-cuts were not applied to the eluvial mineralisation at Ketubong or the structurally controlled mineralisation at New Discovery. For the other material types top-cut values range between 6 g/t gold within the alluvial material at Rixen and 20 g/t gold within the lithologically controlled mineralisation at Manson's Lode and New Discovery. These top-cut grades affected the top at 1% to 2.6% of the data.

Mineralisation continuity was interpreted from variogram analyses to have an along strike range of 40 m to 95 m within the alluvial/eluvial and backfill material, and 30 m to 105 m within the bedrock mineralisation.

## 4.3. GRADE ESTIMATION AND CLASSIFICATION

Block models were generated for each deposit based on a block size of 10 mE by 10 mN on 2 m benches at Manson's Lode, New Discovery and Ketubong, and based on a block size of 10 mE by 20 mN on 2 m benches at Rixen. A kriging neighbourhood analysis was undertaken to optimise the block size and the kriging parameters. Block grades were estimated using ordinary kriging techniques with appropriate top-cuts as previously described 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 Australian JORC Code (2004). Areas with well-defined geological and grade continuity were classified as Measured or Indicated and areas with close spaced drilling and 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 March 2012 estimate were 1.85 t/m<sup>3</sup> for the backfill material at Manson's Lode and the alluvial material at New Discovery. At Ketubong and New Discovery a bulk density value of 2.2 t/m<sup>3</sup> was applied to the oxide material. For the fresh material values of 2.79 t/m<sup>3</sup> and 2.96 t/m<sup>3</sup> were applied at Ketubong and New Discovery respectively. At Rixen a bulk density of 2.2 t/m<sup>3</sup> was applied to the eluvial material, 2.58 t/m<sup>3</sup> to the oxide material and 2.67 t/m<sup>3</sup> to the fresh material. At Manson's Lode there is a strong relationship between the sulphide mineralisation, in particular the silver and lead grades, and the bulk density. A bulk density of 3.4 t/m<sup>3</sup> was applied to sulphide material with low silver and lead grades and a bulk density of 4.2 t/m<sup>3</sup> was applied to sulphide material with grades of over 1.2% lead and 120 g/t silver.

## 4.4. MINERAL RESOURCE TABULATION

The Mineral Resource estimate, as at 31 December 2011, for the Sokor Gold Project is reported in Table 1 by material type and classification. This has been classified and reported in accordance with the guidelines of the JORC Code and has been depleted for mining at Manson's Lode and New Discovery. The Mineral Resources are reported above a 0.5 g/t gold cut-off grade at Manson's Lode, New Discovery and Ketubong and above a 0.3 g/t gold cut-off grade at Rixen, to reflect current commodity prices, operating costs and processing options.

At Manson's Lode, elevated silver and base metal concentrations are associated with the gold mineralisation and are reported in Table 2 above a cut-off grade of 0.5 g/t gold. The Mineral Resource has been depleted for mining by CNMC from 15 June 2010 to 31 December 2011 at Manson's Lode and New Discovery. The Mineral Resource is reported inclusive of any Ore Reserves which will be derived from this revised estimate.

The cut-off grades used for reporting reflect the current and anticipated processing operations. Processing of the Manson's Lode and New Discovery ore and future processing of ore from Ketubong is or will be by vat leaching. The application of the lower cut-off grade at Rixen reflects the higher degree of oxidation and the proposed lower cost heap leach operation at this deposit.

**Table 1 Sokor Gold Project – Mineral Resource statement as at 31 December 2011  
(inclusive of Ore Reserves)**

Deposit	Material type	Measured			Indicated			Inferred			Total		
		Tonnes kt	Au g/t	Gold koz	Tonnes kt	Au g/t	Gold koz	Tonnes kt	Au g/t	Gold koz	Tonnes kt	Au g/t	Gold koz
Mason's Lode	Backfill	140	2.4	12	80	1.5	4	-	-	-	220	2.1	16
	Oxide/fresh	270	3.2	31	70	3.3	8	30	1.4	2	370	3.1	40
	Total	410	2.9	42	150	2.3	12	30	1.4	2	590	2.7	56
New Discovery	Alluvial	10	3.8	1	20	2.4	2	10	1.3	0.4	40	2.5	3
	Oxide	50	4.2	7	10	2.7	1	20	1.4	1	70	3.4	9
	Fresh	160	4.0	23	180	3.2	21	190	1.8	12	530	3.0	55
	Total	220	4.0	31	210	3.2	24	220	1.8	13	640	3.0	68
Ketubong	Eluvial/oxide	-	-	-	20	2.7	1	30	1.8	2	40	2.1	3
	Fresh	-	-	-	100	4.0	14	640	2.4	53	740	2.6	67
	Total	-	-	-	120	3.8	15	670	2.3	55	790	2.5	70
Rixen	Eluvial	-	-	-	210	0.7	6	270	1.1	11	490	0.9	16
	Oxide	-	-	-	1,660	1.2	71	2,190	1.4	105	3,850	1.3	176
	Fresh	-	-	-	450	1.3	21	1,780	1.5	96	2,230	1.5	117
	Total	-	-	-	2,330	1.2	98	4,240	1.4	211	6,570	1.3	309
<b>Total</b>		<b>630</b>	<b>3.3</b>	<b>73</b>	<b>2,800</b>	<b>1.5</b>	<b>149</b>	<b>5,160</b>	<b>1.5</b>	<b>281</b>	<b>8,590</b>	<b>1.7</b>	<b>503</b>

Note: inconsistencies in the totals are due to rounding

**Table 2 Silver and base metal concentration within Manson's Lode Mineral Resource based on a 0.5 g/t gold cut-off grade**

Classification	Tonnes kt	Grade		
		Ag g/t	Pb%	Zn%
Measured	410	75	1.7	2.0
Indicated	150	50	0.9	0.8
Inferred	30	31	0.7	0.5
<b>Total</b>	<b>590</b>	<b>66</b>	<b>1.5</b>	<b>1.6</b>

#### 4.5. COMPARISON WITH NOVEMBER 2011 MINERAL RESOURCE

Mineral Resources within the Sokor Gold Project were previously estimated by CNMC using a polygonal or cross-sectional methodology. Traditionally this method emphasises the higher grade intersections and tends to report a Mineral Resource at a higher grade and lower tonnage compared to an estimation based upon a three dimensional interpretation and the application of geostatistical techniques. Since the June 2011 resource estimate 21 holes for a total of 1,746.03 m were drilled at Rixen and four holes of a total of 895.93 m were drilled at Ketubong. Results from this drilling have been incorporated into the updated Mineral Resource estimate.

The total Measured, Indicated and Inferred gold resources for the Sokor Gold Project previously reported in June 2011 (based on a polygonal estimate and above a 0.3 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) were 6.4 Mt at 1.81 g/t gold, with contained gold of 372,700 ounces (Table 3). As at 31 December 2011, the total Measured, Indicated and Inferred gold resources for the Sokor Gold Project (above a 0.3 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)



are 8.6 Mt at 1.7 g/t gold, with contained gold of 503,000 ounces. The share of the gold Mineral Resource attributable to CNMC is 81%.

Compared to the June 2011 Mineral Resource estimate based on a polygonal technique, there has been an increase in gold resources of 2.2 Mt at 1.2 g/t gold with contained gold of 130,000 ounces (after adjusting for mining depletion during the period July 2011 to December 2011). This represents an increase of 35% in contained gold (Table 4).

As may be expected from the application of geostatistical techniques, the December 2011 Mineral Resource reports increased tonnage at a lower grade at Manson's Lode and New Discovery compared to the June 2011 estimate. The additional drilling since June 2011 has extended the mineralisation at Rixen and Ketubong and again, the application of geostatistical techniques has increased the tonnage and decreased the average grade compared to the June 2011 estimate.

**Table 3 Sokor Gold Project, Malaysia - Mineral Resource as at June 2011 (inclusive of Ore Reserves)**

Category JORC Code	Mineral type	Gross attributable to licence			Gross attributable to CNMC		
		Tonnes (kt)	Grade (Au g/t)	Contained Au (kcozs)	Tonnes (kt)	Grade (Au g/t)	Contained Au (kcozs)
Measured	Gold	613	3.5	69	497	3.5	56
Indicated	Gold	3,781	1.6	191	3,062	1.6	154
Inferred	Gold	2,000	1.8	113	1,621	1.8	92
<b>Total</b>	<b>Gold</b>	<b>6,394</b>	<b>1.8</b>	<b>373</b>	<b>5,180</b>	<b>1.8</b>	<b>302</b>

**Table 4 Sokor Gold Project, Malaysia - Mineral Resource as at December 2011 (inclusive of Ore Reserves)**

Category JORC Code	Mineral type	Gross attributable to licence			Gross attributable to CNMC			
		Tonnes (kt)	Grade (Au g/t)	Contained Au (kcozs)	Tonnes (kt)	Grade (Au g/t)	Contained Au (kcozs)	Change from previous update (%)
Measured	Gold	630	3.3	73	510	3.3	59	+5
Indicated	Gold	2,800	1.5	149	2,270	1.5	121	-22
Inferred	Gold	5,160	1.5	281	4,180	1.5	228	+148
<b>Total</b>	<b>Gold</b>	<b>8,590</b>	<b>1.7</b>	<b>503</b>	<b>6,960</b>	<b>1.7</b>	<b>407</b>	<b>+35</b>

## 5. ORE RESERVES

CNMC is planning to update the pit designs and Ore Reserves using the updated Mineral Resource models. An announcement on the updated Ore Reserves will be made after this study has been completed.

## 6. PROCESSING

Processing issues were reviewed and reported by BDA in 2011 (BDA, 2011a). Results from this are summarised in the following section.

CNMC engaged Changchun Gold Research Institute 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.

### 6.1. METALLURGICAL TESTWORK

In 1991, testwork carried out by Asia Mining Sdn. Bhd. (Asia Mining) included bottle roll tests carried out at Ammtec in Perth, Western Australia on oxide samples from Rixen. Gold recoveries ranging from 54% to 86% were obtained on leach feed crushed to -3 mm. When the material was crushed to finer than 180 micron ( $\mu\text{m}$ ), gold recoveries increased to between 97% and 99%. Asia Mining also

carried out column leaching testwork on five samples from Rixen, New Discovery and Manson's Lode. Gold recoveries were between 60.1% and 93.8%.

In 2008, CNMC contracted CGRI to carry out a testwork programme on two samples representing oxidised and primary mineralisation from several locations on the site. The oxide sample contained 400 kg of material from Manson's Lode and New Discovery areas; the primary sample contained 400 kg of primary and partial primary ore material from Manson's Lode and primary material from Ketubong. Unfortunately, the two samples were combined by CGRI and testing took place on one mixed oxide and primary sample.

The single sample tested assayed 3.61 g/t Au, 45.5 g/t Ag, 0.055% Cu, 1.03% Pb, 1.38% Zn, 17.2% Fe, 0.27% As and 3.85% S. The gangue minerals present were mainly quartz, feldspar, sericite, chlorite, calcite and kaolin. A detailed mineralogical examination concluded that the gold was either included in sulphides, oxidised sulphides or in the gangue minerals, between grains of these minerals and in fractures. Gold grains appeared to be predominantly finer than 75 µm and about 30% finer than 10 µm.

A gravity concentration test using an unspecified method at a particle size of 80% finer than ( $p_{80}$ ) 74 µm produced 6% gold recovery. A 24 hour cyanide leaching test at a  $p_{80}$  of 74µm produced 93% to 95% Au extraction, depending on cyanide addition rate. Column tests were carried out testing variables including crushed ore size (30 mm and 50 mm top size), cyanide addition rate (600 to 1,000g/t of sodium cyanide and 7 to 35 day leaching time. A test was carried out at optimised conditions of 30 mm top size, pH11, 800g/t NaCN and 30 days leaching time, achieving extraction of 80.6% of the gold and 11.6% of the silver.

Optiro understands that CNMC has not undertaken additional metallurgical testwork as of 31 December 2011. CNMC plans to carry out further metallurgical testwork in the following areas:

- heap leaching of Rixen's oxide ore
- 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.

## 6.2. PLANT DESIGN

CNMC is using a vat leaching process. The plant comprises the following equipment:

- a 50 tonnes per hour crushing plant which includes a jaw crusher, a secondary impact crusher and a 10 mm vibrating screen to split the secondary crusher product into plus and minus 10 mm material
- three concrete leaching vats, each with a capacity of 1,500 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 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, from where it is pumped back to the vat.

Carbon 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.

Optiro understands that CNMC is considering using a heap leaching process for the Rixen ore. This option will be fully considered once additional testwork has been completed.

## **7. INFRASTRUCTURE**

### **7.1.1. POWER AND WATER SUPPLY**

Power to the operation is 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.

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.

### **7.2. MINE SITE FACILITIES**

CNMC has constructed offices, accommodation camp, assay laboratory and a mobile equipment maintenance facility on the site. Communications are provided via a satellite phone system. Telephone, fax and data transmission facilities are provided.

## **8. ENVIRONMENTAL AND COMMUNITY ISSUES**

BDA reviewed the project's Environmental Impact Assessment 2008, 2009 and Environmental Management Plan 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 have not changed since BDA's review in 2011 and the summary below is from the BDA report (BDA, 2011a)

### **8.1. ENVIRONMENTAL ISSUES**

#### **8.1.1. ENVIRONMENTAL IMPACT ASSESSMENT**

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.

The project mining and environmental approvals are granted by the Kelantan State Department of Environment (DOE). The EIA approval was received in June 2009 with approval conditions stipulated, whilst the EMP approval was received in April 2010. The Mining Scheme approval was obtained in January 2010 and is subject to initial mine production not exceeding 300,000 tpa of mined ore. This condition will be relaxed on submission to government of a full feasibility study and mine plan directed at expanding the project to include treatment of the primary gold sulphide mineralisation using a carbon in pulp process.

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 gold 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 Puncak Moriah Engineering Sdn. Bhd., whilst the EMP document was prepared by EQM Ventures Sdn. Bhd. The Sokor Mining Schemes Report was prepared by CMNM Mining Consultant Engineer, Ir. Chue Hang Cheong.

## **8.2. 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 are being 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.
- Wastewater generation and disposal impacting on water quality - mitigation measures include provision of suitable sanitation facilities and potable water supply, solid waste to be recycled, and composted or disposed in secure areas designed in accordance with Department of Environment of Malaysia guidelines.
- Chemicals and hazardous material use impacting on water quality - mitigation measures include prevention of leakage from tailings vats by installing water proofing materials to inhibit seepage, conducting regular maintenance of vats, engagement of Kualiti Alam (a Federal Government licensed toxic waste collector) to handle all acids and hazard chemicals resulting from the operations, and provision of proper safe and secure storage facilities located away from incompatible substances that may generate heat, fire, gas or explosion.
- Traffic associated with the project impacting on air quality, noise, and road safety - mitigation measures include provision of sufficient width to access roads, limiting speed of vehicles, restricting entry to active mining areas to project vehicles only.
- Mine closure impacting on water quality, employment opportunities, development opportunities, loss of environmental values - mitigation measures include developing an appropriate Mine Closure and Rehabilitation Plan which includes appropriate systems for handling site storm water runoff, compacting and sealing potentially acid-generating waste rock, closure and covering tailings dams, site re-vegetation, employee training and multi-skilled experience which is transferable to other mining operations or other sectors of employment.

## **8.3. 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 Malaysian ambient standards.

#### **8.4. 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. Ketabong, which eventually discharge into the Sg. Pergau.

Surface water baseline evaluations have been conducted in the Sokor Project area as part of the environmental assessment. Baseline water quality analysis shows 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 complying with Standard B of the Malaysian Environmental Quality (Sewage & Industrial Effluents) Regulations, 1979.

#### **8.5. WATER MANAGEMENT**

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

The mine and processing plant are to be operated as a closed-loop circuit where no water from the site operations will be discharged to nearby surface waters. All process water from the plant area is to be channelled to the proposed 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 will be 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 stormwater and water collected from the mine pits will be 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 will be via a spillway. The mine is to be 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 are to be 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 will be controlled so as not to impact on surrounding surface waters.

#### **8.6. TAILINGS MANAGEMENT**

Originally it was proposed that the project would initially use alluvial and heap leach methods to develop the mine; however, crushed ore is currently processed using the vat leaching process rather than a heap leach. CNMC has indicated its intention to expand the capacity of the existing plant, with construction of a multi-lift heap leaching system and development of a carbon-in-leach plant.

Neither BDA nor Optiro have 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. BDA and Optiro note that it is prudent that any heap leach system (besides provisioning for process ponds - barren and pregnant solution ponds) provides a stormwater (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 is 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 stormwater (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.

The small TSF will store tailings from the current vat leaching system. It is proposed that future tailings will be placed in existing mine pits and that as additional mined-out pits become available, they will also be used to contain tailings. If the project is expanded utilising heap leaching, then tailings storage will not be required if the vat leach method is discontinued.

### **8.7. 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.

### **8.8. REHABILITATION**

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

### **8.9. SOCIAL ISSUES**

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

It is expected that the Sokor Gold 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.

## 9. LIFE OF MINE PRODUCTION SCHEDULE

The current production schedule was developed in June 2010 and Optiro understands that it has not been updated. This schedule is based on the production forecasts for the period 2010 to 2014. The initial production for the period from 2010 to 2012 is based on Ore Reserves at a cut-off grade of 0.5 g/t Au while the further two years production is based on primary ore, Inferred Mineral Resources and possible extensions at the Rixen pit.

Under the mine plan for the first initial period to 2012, mine production increases from an initial rate of 265,000 tpa of material including 84,000 tpa of ore in 2011 up to 1.74 Mtpa of material including 705,000 tpa of ore in 2012. The waste to ore stripping ratio over this period is approximately 1.5:1. Under the present terms of the mining approval, production is limited to 300,000 tpa and further mining approval will be required prior to 2012.

For the extended mine life an additional ore inventory of 2.0 Mt has been assumed at a mining rate around 3.3 Mtpa of total material. Ore production is forecast at 600,000 tpa of ore to the heap leach pads at Rixen while an initial 230,000 t of primary ore will be treated in the CIL plant, increasing to 490,000 t in 2014. The waste to ore stripping ratio over the extended production period is approximately 2.3:1.

CNMC plans to commission its primary ore CIL plant with an initial capacity of 165,000 tpa, based on a throughput of 500 t per day, increasing to 230,000 tpa during 2013. The total ore treatment rate is projected to increase to an average of 1.0 Mtpa for 2013 and 2014, with gold production projected to be around 50,000 ozs in 2013, increasing to 58,000 ozs in 2014.

BDA (2011a) noted that while initial mining is based on ore reserves estimated from a mine plan developed by CSU, the extended production schedule is based on a more conceptual mine plan. The overall mine production schedule provides a general guide to production, but further work is required to better define the parameters used to prepare the plan. Metallurgical performance depends upon successful operation of a heap leach in a wet tropical climate and on achievement of good gold recovery from primary ore on which testwork has yet to be carried out. The proposed ramp-up in tonnage processed may also be difficult to achieve.

Optiro understands that CNMC is addressing these issues. An updated production schedule will be prepared following the planned update to the pit designs and Ore Reserves.

## 10. CAPITAL AND OPERATING COSTS

Capital and operating costs have been estimated by CNMC and were reviewed and reported by BDA in 2011 (BDA, 2011a). Optiro understands that there has been no change to the estimated costs and that CNMC plans to review the costs as part of the study to update the Ore Reserve and production schedule.

### 10.1. INITIAL DEVELOPMENT CAPITAL

CNMC reported an initial project development capital cost to July 2010 of approximately US\$1.2M. The mine plan is based on the use of contractors to carry out the mining operation, removing the requirement to purchase mine equipment; all other mining costs are considered within the mine operating costs.

No mobilisation costs for the mining contractor were included in the August 2011 figure. In the future additional mobilisation costs are likely to be incurred as production ramps up and there will need to be some establishment costs in accessing the Rixen mining area.

Process capital costs to date of approximately US\$0.9M have established the vat leaching operation, including the crushing plant, the three leaching vats and the process ponds, and the gold room.

## 10.2. FUTURE MINE EXPANSION CAPITAL

CNMC has estimated the future mine expansion capital cost for construction of the heap leach facility at the Rixen deposit and construction of the CIL plant at US\$8.14M.

An allowance of US\$1.5M has been made for construction of the proposed multi-lift heap leaching facility to process oxidised ore. A total of US\$3.5M has been allowed for the cost of construction of a CIL plant to process primary ore types. Testwork has yet to be completed on this material and the plant design is therefore preliminary and subject to modification. The proposed capital cost is therefore provisional and subject to change.

## 10.3. OPERATING COSTS

Site operating costs were prepared by CSU and reported in June 2010. Total site costs are projected to be US\$16.6M over the initial period from 2010 to 2012; process plant and mine operating costs comprise 37% and 26% of the total respectively. Other costs include administration and realisation costs and royalties. The cash cost of gold produced is projected to average US\$438/oz for the first three years of the mine life and average US\$489/oz in the two further years of extended mine life.

Mine operating costs include both ore mining of US\$2.65/t of ore mined and waste mining costs of US\$1.76/t of waste mined. Ore mining includes the mining of the ore and the associated geological control of mining; waste mining includes both the initial extraction of waste and the reclamation cost of the waste.

It is planned to use a contractor to carry out the mining operation but at this stage there are no contract tenders to indicate the likely contract mining rates.

Processing costs are estimated to be US\$30.8M over the period from mid-2010 to 2014, equivalent to US\$11/t processed. CNMC has proposed operating costs of US\$8/t for heap leaching, US\$10/t for vat leaching and US\$20/t for CIL processing of ore. Optiro notes that CNMC has not supplied actual operating costs for the period from July to December 2011.

Administration charges are estimated at US\$540k per annum for 2012, increasing to US\$660k for the period when the CIL plant will be operating in 2013-2014. A royalty is payable to the state government equal to 5% of gross revenue and an additional tribute equal to 3% of gross revenue is payable to the state economic development commission.

As reported by BDA in 2011, the operating costs are provisional and are likely to be accurate to ±50%. Optiro understands that CNMC plans to review the operating costs as part of the study to update the Ore Reserve and production schedule.

## 11. DECLARATIONS BY OPTIRO

Optiro declares that the tabulations of Mineral Resources at the Manson's Lode, New Discovery, Ketubong and Rixen deposits at the Sokor Gold Project presented by Optiro for CNMC and listed in Table 1 and Table 2 have been reported and classified in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves, 2004 (the JORC Code). The Mineral Resources are regarded as having reasonable prospects of eventual economic extraction by open pit mining methods and have been reported above a 0.5 g/t gold cut-off grade at Manson's Lode, New Discovery and Ketubong and above a 0.3 g/t gold cut-off grade at Rixen, to reflect current commodity prices, operating costs and processing options.

### 11.1. QUALIFICATIONS

The principal personnel responsible for the preparation and review of this report are Mrs Christine Standing (Principal) and Mr Ian Glacken (Principal) of Optiro. The Mineral Resources at the Manson's Lode, New Discovery, Ketubong and Rixen deposits and this report have been prepared by



Mrs Christine Standing and reviewed by Mr Ian Glacken. Mrs Standing is a Member of The Australasian Institute of Mining and Metallurgy and Mr Glacken is a Fellow of The Australasian Institute of Mining and Metallurgy and a Chartered Professional Geologist. Both Mrs Standing and Mr Glacken have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and Qualified Persons under the SGX-ST listing rules.

Mrs Christine Standing [BSc (Hons) Geology, Grad Cert (Min Econs), MAusIMM, MAIG] is a geologist with 30 years extensive experience in the exploration and mining industry. She has been consulting in resource estimation and generating independent experts' reports since 1988, and her skills include resource evaluation studies, grade control and reconciliation work. Christine is a Principal for Optiro in Perth and is involved in resource estimation, independent technical reviews, audits and valuations of exploration assets.

Mr Ian Glacken [BSc (Hons) Geology, MSc (Mining Geology), MSc (Geostatistics), Grad Dip (Comp), FAusIMM (CP), CEng, MIMMM, DIC] is a geologist with 30 years worldwide experience in the mining industry. He has postgraduate qualifications in geostatistics, mining geology and computing. For over ten years Ian managed and grew the resource evaluation function of a major mining consultancy. He also assumed responsibility for a Training business which is among the most successful in the industry and initiated a Risk Services division. Ian's is a Director and Principal of Optiro and has skills in resource evaluation, quantitative risk assessment, strategic advice, geostatistics, reconciliation, project management, statutory and competent persons' reporting and mining geology studies.

## **11.2. 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 resource estimation services, but also reserve evaluation, corporate advisory, mining engineering, mine design, scheduling, audit, due diligence and risk assessment assistance. The principal office of Optiro is at 50 Colin 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 in accordance with the JORC Code. The authors do not hold any interest in CNMC Goldmine Holdings Limited, their 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.

## **11.3. LIMITATIONS AND CONSENT**

This mineral resource update report has been based on data, reports and other information made available to Optiro by CNMC. Optiro has been advised that the information is complete as to material details and is not misleading. A draft copy of this report has been provided to CNMC for comment as to any errors of fact, omissions or incorrect assumptions.

Optiro has reviewed the data, reports and information provided and has used consultants with appropriate experience and expertise relevant to the various technical aspects. The opinions stated herein are given in good faith. Optiro does not accept any liability other than its statutory liability to any individual, organisation or company and takes no responsibility for any loss or damage arising from the use of this report, or information, data, or assumptions contained therein.

The report has been provided to the Directors of CNMC for the purpose of assisting them in preparing their planned announcement to the SGX-ST in April 2012 relating to an update in gold resources for the Sokor Gold Project; as such, it should not be used or relied upon for any other

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

## 12. REFERENCES

Behre Dolbear Australia Pty Limited, 2011a. Independent Technical Report – Sokor Gold Project – Kelantan – Malaysia. Report prepared for CNMC Goldmine Holdings Limited and Prime Partners Corporate Finance Pte. Ltd., dated 12 August 2011.

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