

# ASX Announcement

23 April 2014

**SUMATRA**  
COPPER & GOLD

## Tembang Project: Updated Feasibility Study Confirms Low Costs, Robust Economics

**Definitive Feasibility Study encompassing new JORC 2012 Ore Reserves**

### Project Highlights

- 5-year mine plan comprising Proven and Probable Ore Reserves (compliant with JORC Code, 2012 Edition).
- Total production of 2.1 Mt ore at 2.8 g/t gold and 33 g/t silver for a total of 168,795 oz of recovered gold and 1.8 M oz of recovered silver, at a mill process rate of 400,000 tonnes per annum (tpa):
  - Open pit: 1.7 Mt at 2.0 g/t gold and 30 g/t silver
  - Underground: 0.4 Mt at 6.1 g/t gold and 48 g/t silver

### Financial Highlights

- Average annual production of 33,000 oz gold and 345,000 oz silver.
- Forecast financials at an assumed gold price of US\$1,300/oz and silver price of US\$20/oz:
  - Net, pre-tax cash flow of US\$59M (full capital cost deducted) or US\$79M (excluding sunk capital).
  - Project NPV, pre-tax at 9% discount rate, of US\$33.8M (full capital cost) or US\$52.8M (excluding sunk capital).
- Forecast C<sub>1</sub> cash operating cost of US\$470/oz (net of silver credits of US\$212/oz).
- Forecast all-in-sustaining-cost (AISC) of US\$745/oz (net of silver credits of US\$212/oz).
- Remaining cost-to-complete of US\$33.6M.
- Total estimated capital cost of US\$71.3M, of which US\$19.5M is sunk capital to date, US\$33.6M is the remaining cost-to-complete and US\$18.3M is sustaining capital over the 5 year mine life.
- Revised capital is a modest increase on US\$68.1M estimate in the original 2012 DFS.
- Pre-production period of 10 months from re-commencement of construction.

### Growth Opportunities

- **Resource Growth:** historical RC drilling data highlights significant potential to expand resources in multiple areas, both in the open pits and also by underground extensions.
- **Underground Development:** low-cost opportunities to extend four of five planned open pits to new underground mines, using the existing pits as box cuts, to access high-grade shoots extending at depth.
- **Mill Expansion:** process plant design provides expansion opportunity in annual throughput rate to accommodate potential future additional production from underground development and exploration success.

### Directors

**Steve Robinson**  
Non-Executive Chairman

**Julian Ford**  
Managing Director & CEO

**AdiSjoekri**  
Executive Director

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Sumatra Copper & Gold plc (the “Company” or “SUM”) is pleased to announce the completion of an updated definitive feasibility study (DFS) for the Tembang Project (“Tembang” or the “Project”). The DFS is based on a five-year plan mining Ore Reserves at a nameplate plant throughput rate of 400,000 tonnes per annum (tpa) to produce a total of approximately 169,000 oz of gold and 1.8 million oz of silver. The DFS builds on the 2012 Stage 1 Definitive Feasibility Study and the Tembang construction activities to date.

Over the past 6 months the Company has undertaken a revision of the development plan and underlying business case for the Tembang Project in response to the volatility in the gold market experienced since April 2013. Extensive in-fill drilling programs have been completed at key deposits at the Project culminating in the publication of updated Ore Reserves, compliant with the JORC Code (2012 Edition), on 25 March 2014. Construction activities at Tembang were suspended in December 2013 pending the updated Ore Reserves and DFS completion.

The DFS, using a gold price of US\$1,300/oz and silver price of US\$20/oz, demonstrates the viability of a robust, low-cost operation at a competitive forecast C<sub>1</sub> cash operating cost of US\$470/oz (net of silver credits US\$212/oz) and all-in sustaining cost (AISC) cost of US\$745/oz (net of silver credits of US\$212/oz).

The DFS production and financial forecasts have assumed the recommencement of construction in mid-2014 for a mid-2015 commencement of production.

**Table 1: Summary of DFS Results – Annual Data (pre-tax)**

Description	Unit	Total <sup>(1)</sup>	Pre 2015	2015	2016	2017	2018	2019	2020
Ore mined	Kt	2,080	9	398	430	688	287	268	-
Recovered ounces	Au oz	168,795	-	39,936	44,061	36,958	24,664	19,703	3,473
	Ag oz	1,786,130	-	362,974	347,325	390,609	315,796	317,829	51,597
Revenue	US\$M	255.2	0.0	59.2	64.2	55.9	38.4	32.0	5.5
Operating costs	US\$M	(115.1)	0.0	(26.0)	(31.5)	(24.3)	(17.3)	(13.5)	(2.5)
Royalties	US\$M	(9.4)	0.0	(2.2)	(2.4)	(2.1)	(1.4)	(1.1)	(.2)
Full Capital	US\$M	(71.3)	(48.6)	(13.3)	(4.4)	(2.2)	(1.5)	(1.0)	(.3)
Net cash flow (full Capital)	US\$M	59.4	(48.6)	17.7	25.9	27.3	18.2	16.4	2.5
Sunk capital to date	US\$M	19.5	19.5	-	-	-	-	-	-
Net cash flow (excluding sunk Capital)	US\$M	78.9	(29.1)	17.7	25.9	27.3	18.2	16.4	2.5

Return metrics (pre-tax)	NPV (9% discount rate) US\$M	IRR %
Full Capital Cost	33.8	34 %
Excluding Sunk Capital	52.8	65 %

Sumatra's Managing Director, Julian Ford, said the successful completion of the DFS was a major milestone for the Company, paving the way for it to join the ranks of gold producers next year.

"We are now focused on completing the funding package of debt and equity to allow us to recommence construction," Mr Ford said.

"The revised DFS 5-year mine plan for Tembang provides low operating costs and a robust production profile able to withstand significant fluctuations in the gold price".

"It is also important to note that the Tembang Project provides a number of exciting organic growth opportunities beyond the 5-year life defined by existing Ore Reserves. These include drill-indicated underground opportunities at several of the open pits and multiple exploration targets which we intend to pursue once production has commenced".

"This represents a huge effort by our teams in Indonesia and Australia, supported by some dedicated consultants, and I would like to take this opportunity to acknowledge their efforts. In the space of just nine months, we have recast our entire development and mine plan, upgraded all of our Mineral Resources, established JORC 2012 compliant Ore Reserves and completed a new Definitive Feasibility Study".

"We are targeting completion of financing and recommencement of construction by mid-2014 with production targeted for mid-2015 which would mark a significant milestone for our shareholders and all of our stakeholders in Indonesia, who have been extremely patient and supportive throughout this process".

## 1.0 Definitive Feasibility Study

### 1.1 Previous Production

The mineralised system at Tembang was originally discovered in 1986 by CRA and was explored by the operating company PT BTM through to 1995. PT BTM drilled more than 1,300 drill holes totalling 128,000 metres ('m') to define gold-silver resources and during the period 1997 to 2000 operated an open pit mine under the ownership of Laverton Gold. The mine produced approximately 155,000oz of gold during this period but was closed in 2000 due to the low prevailing gold price.

### 1.2 Project Evolution

A Definitive Feasibility Study ("2012 DFS") prepared by SUM and its consultants was completed in late 2012 based on a gold price of US\$1,500 per ounce and a silver price of US\$30 per ounce of silver.

An Independent Technical Review prepared by Behre Dolbear Australia was subsequently completed in December 2012. The 2012 DFS focused on the Belinau deposit and the Asmar deposit, which included the Tembang-Anang deposit. The 400,000tpa production strategy delivered the benefits of a reduced capital expenditure exposure and reduced risk by establishing a smaller environmental footprint.

A Stage 2 expansion project was also completed soon after the publication of the 2012 DFS that contemplated an expansion of the process plant to 900,000tpa and mining the other deposits as open pits, providing a mine life extension from 5 years to 8 years with the expansion occurring in Year 3 of operations.

As a result of the lower gold price environment which developed in 2013, the Company revised its development strategy and made a strategic decision to review the Life of Mine ("LOM") plans based on a gold price of US\$1,100 per ounce and a silver price of US\$20 per ounce. The existing database, comprising mostly RC drill data, was then used to re-optimize all of the open pits at these lower prices and a 19,114m diamond drill program was undertaken to drill out and further define Mineral Resources within these open pits.

The Company published the Tembang, Mineral Resource and Ore Reserve estimates, compliant with the JORC Code (2012 Edition) in March 2014, following the completion of the diamond drill program.

### 1.3 Development Strategy

The development strategy for Tembang is to focus on the underground mining of high-grade veins from Belinau as the core production source for the Project. The Belinau underground, narrow vein mine is anticipated to ramp-up to a maximum annual capacity of 200,000tpa in Year 3. During the 5-year production period, open pit ore will fill the mill capacity in excess of the ore supplied by Belinau. The cash flow from operations will be used to drill potential additional underground targets to both replace and supplement the Belinau underground mine.

Given the extensive RC drill database currently not used in the Company's Mineral Resource estimates, the Company remains confident that there is a reasonable probability of success for these proposed exploration campaigns.

Figure 1: Tembang Project

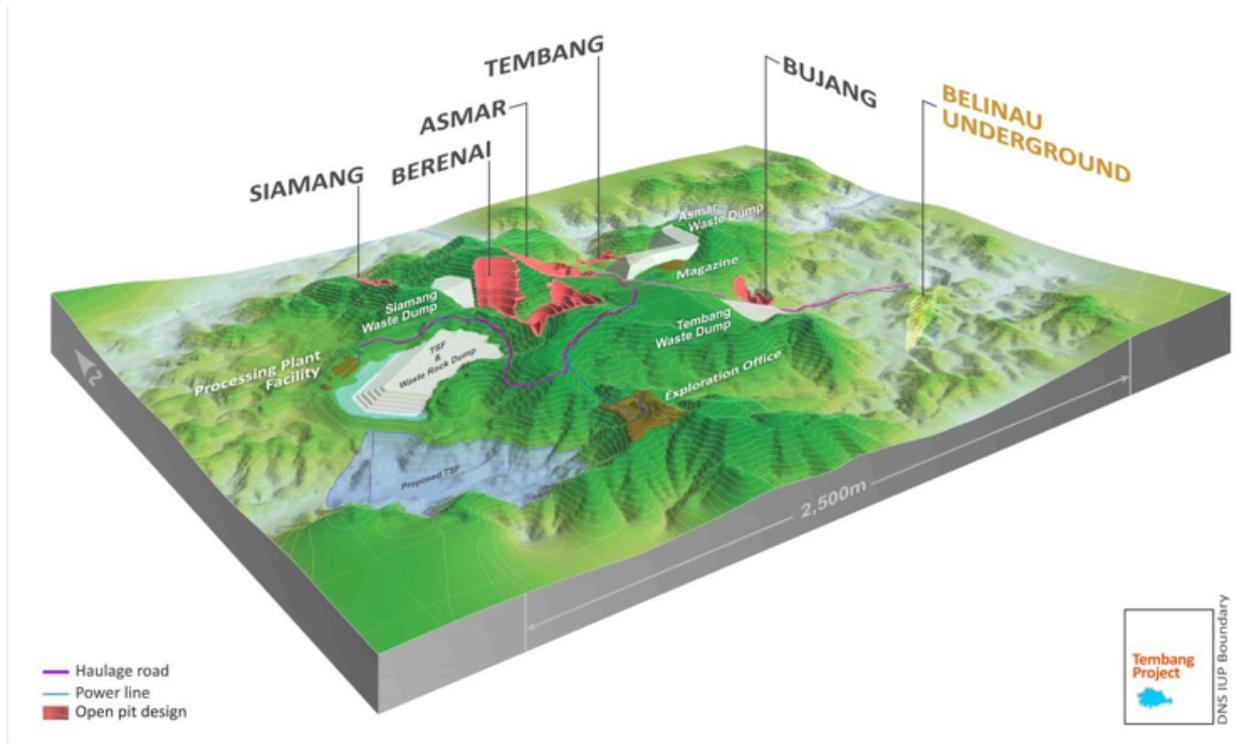
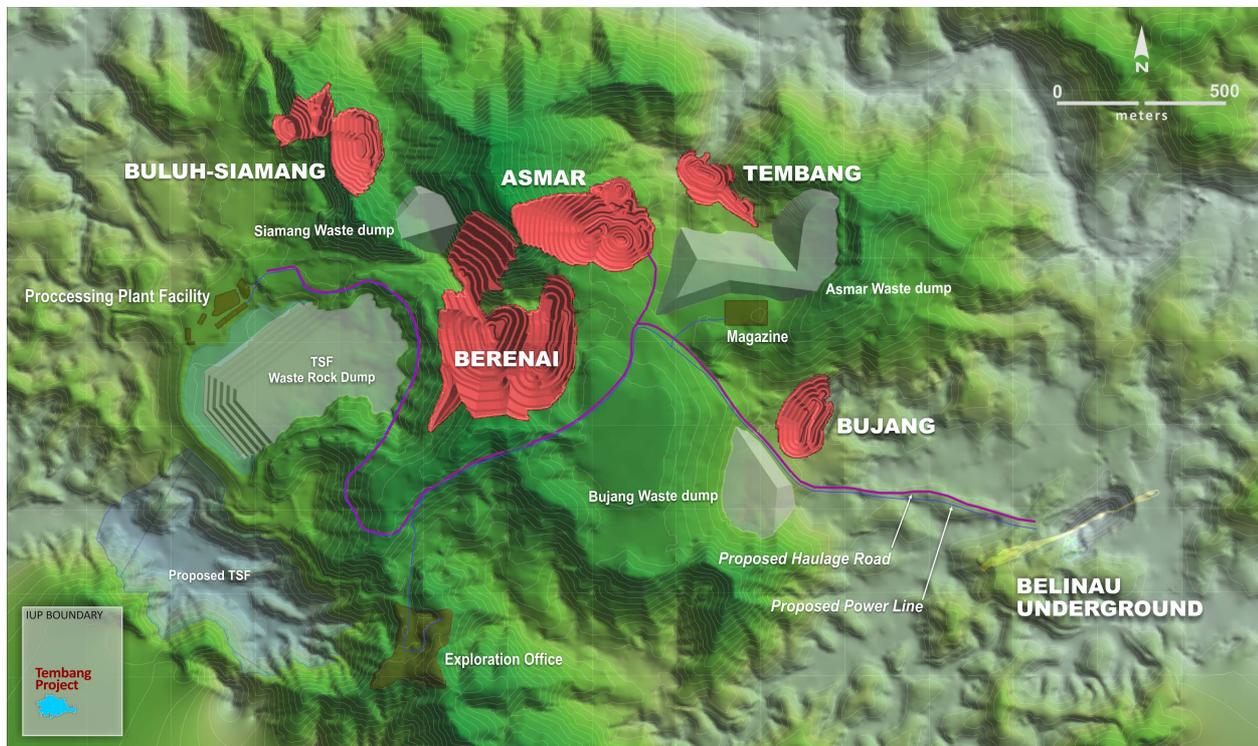


Figure 2: Tembang Mine Layout Plan View



With the exception of the Tembang-Anang deposit, prior operators have previously mined all the open pits at Tembang. The cash cost of production from these pits is therefore relatively high as they involve relatively large cut-backs and resulting high strip ratios. However, the underground mine at Belinau will have much lower relative cash costs, with an estimated  $C_1$  cost of US\$277 per ounce and mine  $C_3$  Costs of US\$572 per ounce excluding the process plant. However, given the narrow and near-vertical dipping nature of the epithermal veins at Belinau, the drill-out of the underground mines to a reserve status suitable for bank project finance has been relatively expensive.

#### 1.4 Status of Project

The Tembang Project construction commenced in June 2013 and was suspended in December 2013. Significant infrastructure, including camp, administration buildings, leach tanks, concrete foundations, warehouse, security fencing and command posts have been completed. The major equipment items have been purchased with the majority complete and are awaiting shipment at the source vendor premises. To date, only the apron feeder has been delivered and has been installed.

**Figure 3: Processing Plant as at December 2013**



## 2.0 Project financial analysis

### 2.1 Key Assumptions

#### 2.1.1 Commodity price and financial assumptions

A gold price of US\$1,300 per ounce and a silver price of US\$20 per ounce have been used for the DFS, consistent with prevailing market prices.

An Australian: US Dollar exchange rate of 0.90 has been used and an exchange rate of 11,500 to 1 for the Indonesian Rupiah to the US\$.

A discount rate of 9% has been used for the calculation of the Net Present Value (NPV).

#### 2.1.2 Marketing assumptions

The DFS assumes that the silver-rich gold and silver doré is treated at the Indonesian refinery, Logam Mulia, which is London Bullion Market Association (LBMA) accredited. The DFS assumes off-take prices based on the LBMA price less the Jakarta discount that has been provided to SUM in a letter of offer by a reputable bank that currently purchases the majority of Indonesian gold and silver.

#### 2.1.3 Tax

**Royalties:** The DFS assumes that a gold net smelter rate (NSR) of 3.75% applies for gold and 3.25% for silver contained in the doré sent to the Logam Mulia Refinery.

**Carried-forward tax losses:** The current book value for the Tembang asset is approximately US\$18 million and PT DNS has tax losses of US\$2 million. Stated Project NPV's are calculated pre-tax but the Company will receive the benefit of these carried losses in terms of its future tax liabilities.

**Import duty:** Import duties have been included in capital estimates for all major equipment items. Reduction in these amounts may occur as a result of receiving the benefits attributable to the master list for capital equipment that the company has applied for.

**VAT:** VAT on capital and operating expenses has been estimated. VAT is assumed to apply to 80% of capital and operating costs at a rate of 10% with 5% of VAT not being refunded. VAT on capital, is assumed to be recovered after 13 months.

**Withholding tax:** Any withholding tax payable on disbursement of intercompany loans or the repatriation of dividends has been excluded from the economic analysis.

### 2.2 Economic analysis

#### 2.2.1 Key economic outcomes

Table 2 shows the Life of Mine parameters for the DFS. Table 1 shows the key financial results from the Discounted Cash Flow ("DCF") model.

#### 2.2.2 All In Sustaining Costs:

Additional costs included in the determination of the All In Sustaining Costs ["AISC", as per the World Gold Council definition] include exploration of US\$3.125 million, allocated corporate overheads of US\$15.625 million over the 5-year LOM. Note that the exploration costs are not associated with the mining and production of gold in the DFS, as they relate to proposed future production and not the existing Ore Reserves, and as such are not included in the Project cash flows or return metrics. Allocated Corporate Overheads are not attributable to the Project and so are not included in the Project cash flows or return metrics.

**Table 2: Key Physical Outputs used in DCF Model**

Description	Units	Total	Berenai Open Pit	Belinau Underground	Asmar Open Pit	Others Open Pits
<b>Mining</b>						
LOM ore mined	T	<b>2,080,324</b>	722,418	388,250	767,549	202,107
Contained gold	Oz	<b>186,881</b>	49,460	76,370	39,957	21,094
Contained silver	Oz	<b>2,206,444</b>	709,907	603,417	612,788	280,333
Recovered gold	Oz	<b>168,795</b>	44,514	70,642	34,483	19,156
Recovered silver	Oz	<b>1,786,130</b>	566,505	485,147	510,452	224,025
Gold contribution by mine	%	<b>100%</b>	<b>27%</b>	<b>40%</b>	<b>22%</b>	<b>12%</b>
<b>Unit costs</b>						
Mining	US\$/oz	356	484	268	407	292
Processing	US\$/oz	266	350	119	480	228
Administration	US\$/oz	60	78	28	104	57
Total	US\$/oz	682	912	414	991	577
Less Silver Credits <sup>(1)</sup>		(212)	(255)	(137)	(296)	(234)
<b>C<sub>1</sub> cost<sup>(2)</sup></b>	<b>US\$/oz</b>	<b>470</b>	<b>657</b>	<b>277</b>	<b>695</b>	<b>343</b>
Royalties	US\$/oz	56	57	53	58	56
C <sub>1</sub> Cash costs after royalties		526	714	330	754	399 <sup>(5)</sup>
Mining capital cost	US\$/oz	128	-	242	-	233
<b>C<sub>3</sub> cost<sup>(3)</sup></b>	<b>US\$/oz</b>	<b>654</b>	<b>714</b>	<b>572</b>	<b>754</b>	<b>633<sup>(6)</sup></b>
<b>AISC<sup>(4)</sup></b>	<b>US\$/Oz</b>	<b>745</b>				

**Notes:**

1. Costs are net of silver credits. Silver credits are based on a silver price of US\$20 per ounce and the revenue is after recovery factors.
2. C1 costs are as defined by Brook Hunt and are cash costs after mining, processing and site administrations costs, but before tax and royalties.
3. C3 Costs are C1 costs but after the inclusion of depreciation and amortization, royalties and refining costs but do not include interest charges nor are the process plant capital costs included. The C3 Costs are used to determine the profitability of each mine and its ability to pay off the mine capital costs associated directly with that mine.
4. AISC. The **All In Sustaining Costs** as defined by the World Gold Council on the 27 June 2013. The AISC costs used by Sumatra are C1 Costs plus sustaining capital costs, exploration costs, royalties' plus corporate overheads but exclude interest charges and taxes.
5. The C1 costs for Siamang, Bujang, and Tembang-Anang are 279, 243, and 850 respectively
6. The C3 costs for Siamang, Bujang, and Tembang-Anang are 632, 519 and 910 respectively.

**Table 3: Key DCF Model Outputs**

Summary Data	Units	Total
<b>Ore mined</b>	kt	2,086
Recovered ounces	Au oz	168,795
	Ag oz	1,786,130
<b>Revenue</b>	US\$M	\$255.2
<b>Operating costs</b>	US\$M	(\$115.1)
Royalties	US\$M	(\$9.4)
<b>Full capital cost</b>	US\$M	(\$71.3)
Net cash flow (full capital)	US\$M	\$59.4
Sunk capital to date	US\$M	\$19.5
Net cash flow ( excluding Sunk Capital)	US\$M	\$78.9

### 2.3 Cash flow analysis

The Tembang development outlines a strategic plan that is focused on minimising pre-development capital and then funding the underground development from operating cash flow. Figure 4 shows the cash flow with production commencing 10 months after recommencing construction.

The maximum cash drawdown is at 20 months after commencement or 10 months after production commences. The maximum drawdown will be dependent on the price of gold and silver used in the revenue assumptions and will be further refined closer to commencement of production.

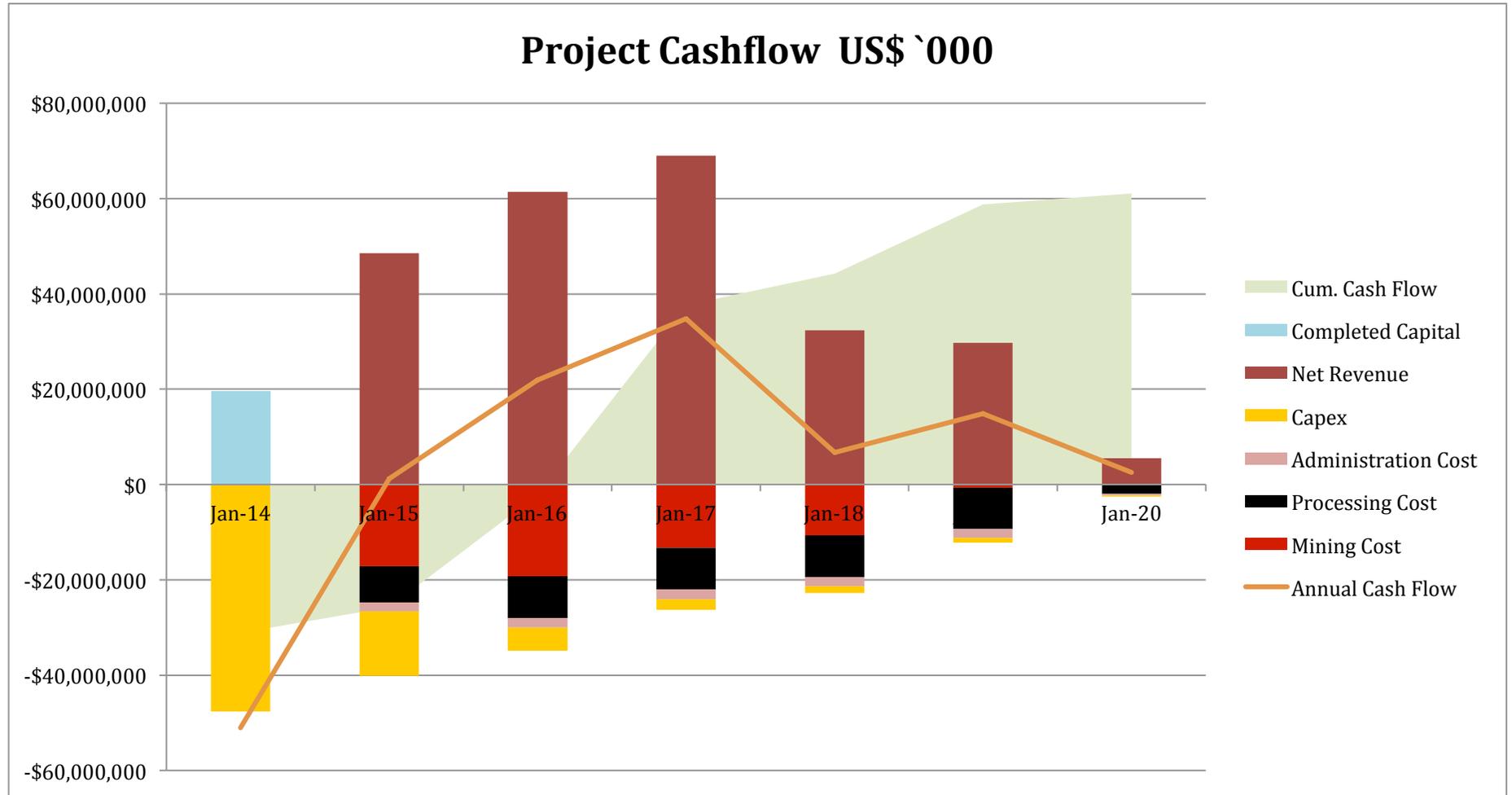
The current mine plan shows lower precious metals production and cash flow in Years 4 and 5 although cash costs do decline as underground development and then mining diminishes.

This is based in the current LOM Plan where the high-grade underground mine at Belinau is deemed to be exhausted after Year 3. In reality, the Belinau deposit contains additional Inferred Mineral Resources which have not been included in the Mine Plan and remains open in certain directions at depth.

The various tables in this report extend to 2019 which is one year of development and five years of production. However, cash-flow from the project will extend past this date as VAT returns are scheduled for 13 months after they are paid and mill production may extend past 2019.

The Company's strategic objective is to maintain a gold equivalent production rate of 60,000oz per annum. To achieve this the Company will need to develop additional underground mines. The existing high-grade open pits at Siamang, Bujang and Berenai all remain open at the bottom of the existing pits. The Company intends to drill these projects out once cash-flow is available from the Tembang operation.

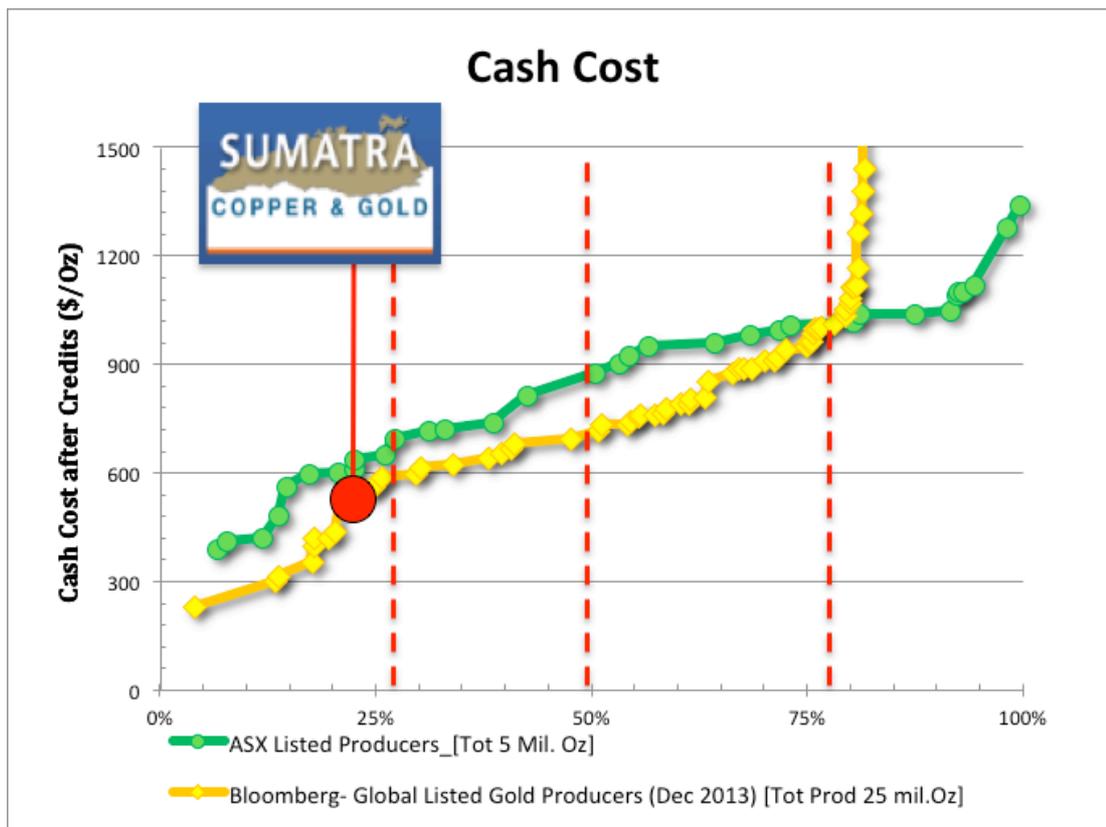
Figure 4: Cash flow



## 2.5 Competitive position

The forecast Tembang Stage 1 C<sub>1</sub> cost of US\$470 per ounce (net of silver credits, post-royalties) would place the project in the lowest cost quartile of gold producers as shown in Figure 5. The cost curve shown below is based on the ASX-quoted gold producers and has been extracted from the March 2014 Gold Nerds database for the Australian listed gold producers and the Bloomberg Database for the Global Producers. The Bloomberg database is sourced primarily from Dec 2013 returns.

Figure 5: C<sub>1</sub> cash cost curve for Australian and Global Producers



There is currently insufficient public data to publish meaningful AISC curves. For the 2013 Financial year, Bloomberg currently publish average AISC costs for the major and mid-tier producers as US\$ 1,040/oz and US\$1,149/oz respectively. The Tembang AISC of US\$745 /Oz thus compare very favourably.

## 3.0 Project description

### 3.1 Location, Project history and ownership

The Tembang Project lies within the Province of South Sumatra in Indonesia. The Project is owned by PT Dwinad Nusa Sejahtera ('PT DNS'), an Indonesian Foreign Direct Investment Company ('PMA'), which holds the Mining Business Permits ('IUPs') or mining leases over the Project area. PT DNS is a wholly owned subsidiary of Sumatra Copper & Gold plc, which is listed on the Australian Securities Exchange ('ASX').

A Kuasa Pertambangan ('KP') or exploration licence was granted to PT DNS in January 2007 and was converted into an exploration IUP in December 2009. The exploration IUP was converted into an exploitation licence (IUP-Operation and Production) in April 2012. The IUP permit covers an area of 9,975 hectares ('ha').

The IUP-Operation and Production licence is for a period of 20 years, which includes two years for construction, with an option for two additional 10-year extension periods.

The Tembang Project is based on a large intermediate sulphidation epithermal system containing gold and silver-bearing quartz veins hosted within volcanic rocks. The system was discovered in 1986 by CRA and was explored by the operating company PT BTM through to 1995. PT BTM drilled more than 1,300 drill holes totalling 128,000 metres ('m') to define gold-silver resources and during the period 1997 to 2000 operated an open pit mine under the ownership of Laverton Gold.

The mine produced approximately 155,000oz of gold during this period but was closed in the year 2000 due to the low prevailing gold price.

### 3.2 Mining Method At Belinau

The mining method applied to this deposit is jumbo ore drive development and bottom-up long hole stoping utilising unconsolidated waste rock back-fill. Approximately 40% of the ore production will be from development and 60% from long-hole stoping.

Ore drives are designed at 16m vertical intervals (floor-to-floor) and are planned to be developed with a jumbo drill at minimum dimensions of 3.0m W x 4.0m H. The twin boom jumbo will develop all capital development and also be used to bore out ore drive faces. The single boom jumbos will be used to install ore drive ground support. A CAT R1300G or equivalent loader will remove ore drive material and fill placement. A single-boom jumbo will drill the stopes with 64mm diameter holes to heights of approximately 12m.

The planned stoping sequence is bottom-up, allowing for the majority of the long-hole stopes to be continuously filled with waste rock as the stope advances (i.e. a modified Avoca mining method). 3m high floor benches will be developed on several of the ore drives and filled with cemented aggregate fill (CAF) to create a crown pillar to separate mining blocks and allow concurrent stoping in a number of locations.

The decline and level access development is generally located centrally along the strike of the ore body and the stoping on each level will retreat from the extremes of the ore drives toward the central level access.

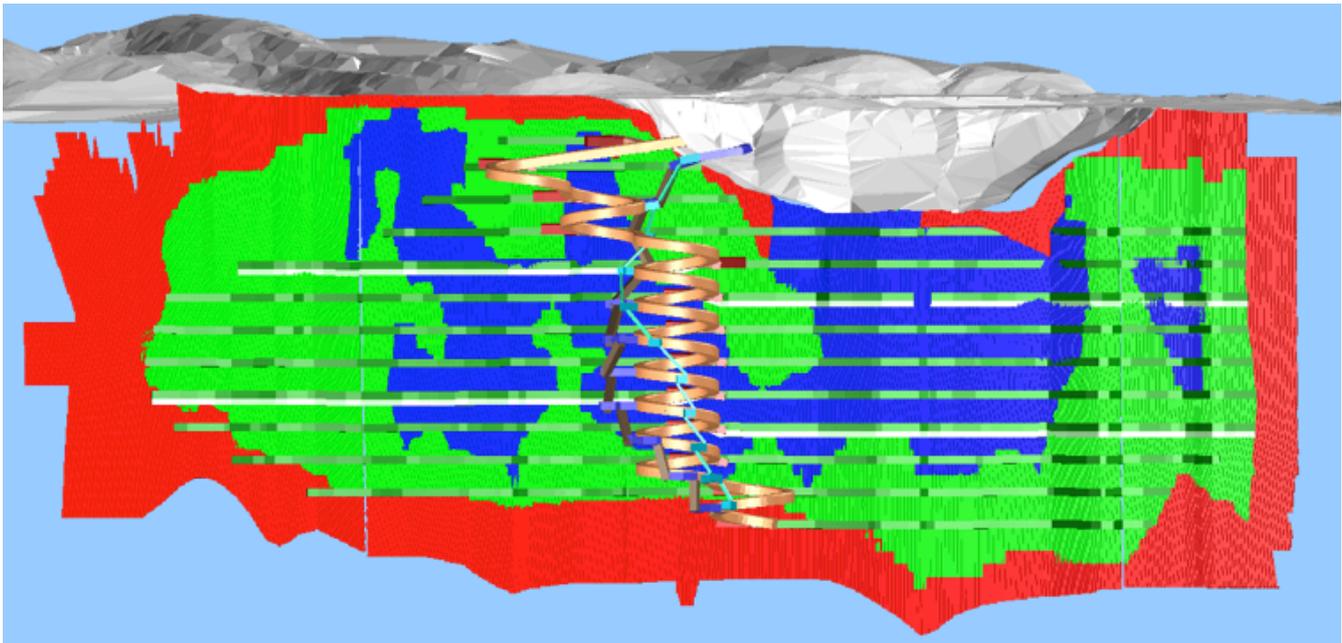
Following completion of production drilling on a level (or part thereof), the basic stoping cycle will be as follows:

- Stope firing (approximately 5.0m along strike);
- Extraction of the fired material;
- Filling of the stope void with unconsolidated waste rock fill from the level above; and
- Firing of the next stope panel against the unconsolidated waste rock fill.

Due to the small stope firings, the majority of stopes will not require remote stope loading. The stopes that lie immediately below the CAF crown pillars or other stopes with no top access are the exception and these will require remote extraction. It is estimated that approximately 80% of stope ore will be extracted by manual loading. No waste rock fill is planned to be placed in stopes without top access.

Due to the relatively small stope height of 12m, it is expected that long-hole slot rises will be able to be successfully applied to commence each stoping front.

**Figure 6: Long-section view of mine design and Resource categories**



*Note: Legend for classification of Mineral Resource categories: blue – Measured; green – Indicated; red – Inferred.*

### 3.3 DFS - Open Pit Mining

The mine plan for the open pit deposits involves starting mine production with an initial single-stage high stripping ratio but high-grade Siamang and Bujang open pit together with the low strip ratio Asmar deposit providing ore to keep the mill full. Siamang waste will be contained within the northern end of the Berenai Pit and Bujang waste placed on the existing Bujang waste dump. Asmar waste will be placed on the existing Asmar waste dump.

The Siamang and Bujang pits will only be mined for an estimated six months whereby the larger Berenai pit will start ore production coupled with low grade Asmar ore where required to maintain the mill at full capacity. The Berenai pit will finish at the middle of Year 4 and the Asmar open pit will then be ramped up to be completed within 12 months of Berenai finishing building up a low grade 300,000t stockpile. The mining fleet will then be demobilised and the mill operated for a further 9 months.

The open pit designs were optimised using a gold price of US\$1,100 per ounce. Dilution has been estimated at 10% and mining recovery at 95%, with the exception of Asmar where no dilution is applied due the resource estimate already being diluted. The Asmar deposit is a stock work deposit and the Mineral Resource has been estimated using *Multiple Indicator Kriging* methodology.

A dilution skin was applied to Berenai as diluting material is expected to be low-grade mineralisation. For Siamang, Bujang and Tembang-Anang and because mining blocks are defined by a sharp geological contact, the risk of dilution exists and a 10% at zero grade is applied to compensate for this.

Mining operations will be conducted by contractors using hydraulic excavators and articulated all-wheel drive trucks. The fleet selection is considered appropriate for both pioneering and production activities in the high rainfall and soft ground conditions. The Tembang area is subject to a monsoonal

climate and allowances have been made for lower mine productivity during the wet season, using stockpiled ore to maintain mill feed. All haul roads will be sheeted with rock to ensure reasonable conditions for mining throughout the year. The Company will use fresh rock from underground development for road sheeting.

Optimisation studies have indicated that the economics of selectively scheduling the higher grade ore early (Siamang & Bujang) are favourable and the financial model adopts significantly higher mining rates for the first six months, peaking at around 240,000bcm/month tpa of ore and waste material moved. As a result, mining will effectively be conducted over approximately five years, from 2015 through 2019. SRK has provided a stockpile design to allow for the build-up of the stockpile which allows early demobilisation of the mining contractor.

The stripping ratio over the LOM is approximately 11:1. Mining block grade estimation is based on Ordinary Kriging and Multiple Indicator Kriging for Asmar. Ore and low-grade material will be mined and stockpiled separately; ore will be stockpiled according to rock-type and grade and the primary crusher will be fed by front-end CAT 966H loader working from stockpile to allow appropriate blending; 50% of ore is scheduled to be direct tipped.

Geotechnical investigations have resulted in pit designs with overall pit slopes of 35-40° in oxide and 40-55° in transition and fresh. Only in the Asmar open pit are water depressurisation drain holes proposed. Golder Associates have provided geotechnical parameters with reasonable levels of safety for the long-term integrity of the wall. After 14 years since previous mining was completed the Berenai and Bujang pit walls remain in reasonable condition with no major failures visible.

### 3.4 Underground Mining

The underground mine at Belinau will mine the quartz vein which dips at approximately 85° to the southeast and has two main ore shoots. The mine plan is a relatively standard small mine design typical in Australia with access to the vein lenses via a decline from surface. The portal is planned from inside the existing Belinau open pit below the level of oxidation at approximately the 30mRL but well above the pit bottom to deal with high intensity rainfall events, which are common in the region. The decline is designed in the hanging wall of the quartz vein, which is considered to have better ground conditions. The total length of the decline is approximately 1,360m with a 1-in-7 gradient taking the mine to a depth of around 235m.

The planned mining method is long-hole stoping with backfill, retreating from the vein limits back to the access crosscut. The mining method has a slight variation to the typical Avoca or bench stoping method with a 3m bench cut into the ore drive floor on each planned cemented aggregate fill ('CAF') level.

The mining inventory has assumed 20% dilution after adjusting vein widths to a minimum mining width of 1.5m. Dilution has been assumed at zero-grade. The mining recovery applied to the diluted resources was 95%. For the stope blocks close to the bottom of the pit, reduced recovery factors were applied; 100% recovery has been assumed for the ore development.

It is intended to back-fill all stopes with waste from development but some waste from the surface dumps may be required. The stopes will be mined in a series of panels; the bottom bench level of each panel will be filled with a cemented aggregate fill CAF to form a sill pillar, which will allow mining of the lower sequence up to the CAF sill pillar.

AMC Consultants Pty Limited ('AMC') was commissioned to undertake a geotechnical study of the Belinau underground mine. AMC provided recommendations on ground support and indicated unsupported stope voids could be up to 50m along strike. With the Avoca mining method there will be limited open ground and the design is considered reasonably conservative. Entech has used the AMC ground support recommendations in preparing schedules and costs.

In the underground schedule the lateral development with the jumbos is 8,050m with a development rate of around 200-300m per month for the first two years of underground operation. The average production rate from the underground mine is 16,000t/month. Golders have provided recommendations of potential water inflows. Entech have taken these recommendations into consideration when designing the underground dewatering system.

The Belinau mine design currently includes two portals:

- Main decline portal (MDP), nominal dimensions of 5m wide by 5.5m high, flat backs with arched shoulders; and
- Exhaust decline portal (MDP), nominal dimensions of 3.5m wide by 4m high, flat backs with arched shoulders.

The proposed portal locations are currently under water, as the Belinau pit is flooded. General ground conditions and depth of weathering were observed from photographs taken in 2000, prior to flooding of the pit.

A review of the interpreted weathering profile indicates that both portals will be developed in fresh/transitional rock below the weathered material. Drill holes closest to the proposed portal locations were photo-logged geotechnically. These holes have similar rock mass quality at 40–50m from the collar. AMC have interpreted a possible shear or fault plane, which may intersect the decline at approximately 65m from the MDP. The current main decline design includes an ore drive approximately 25m from the portal.

### **3.5 Mine operations and schedule**

Entech prepared production schedules for each pit assuming reasonable equipment productivities and taking into account weather disruptions in setting available operational hours.

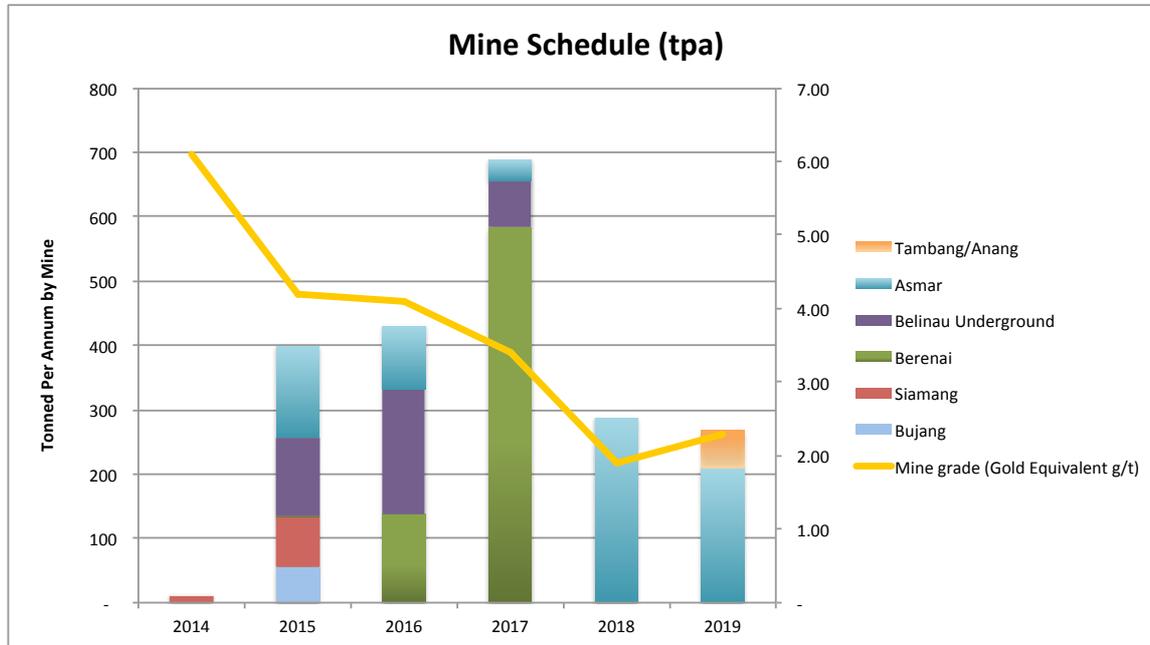
The mine schedule involves starting mine production with the high strip ratio but high grade Buluh (includes Siamang, Buluh East, Buluh North) and Bujang pits blending with the low strip ratio, lower grade Asmar ore to provide sufficient mill feed. A waste tip head will be constructed at northern edge of the Berenai pit. Siamang waste will be placed and contained within northern end of the Berenai Pit. Bujang waste placed on the existing Bujang waste dump. Asmar waste will be placed on the existing Asmar waste dump.

The open pit production fleet will start with two 80t excavators with one excavator at Bujang and the other mining between the Siamang and Asmar deposits. Due to the waste haulage being short (less than 300m) only five articulated AD40 trucks are required within the first 7 months, reducing to 3 thereafter. The ramp-up of production in the first 3 months is 90,000bcm, 180,000bcm and peaking at 240,000bcm for 6 months. Ore load and haulage will be by local contractor under the supervision of the mining contractor. Ore loading will be using a smaller CAT350 excavator and ore haulage will be via 6 wheel rigid frame local trucks. This fleet will be owner operated on a dry hire basis.

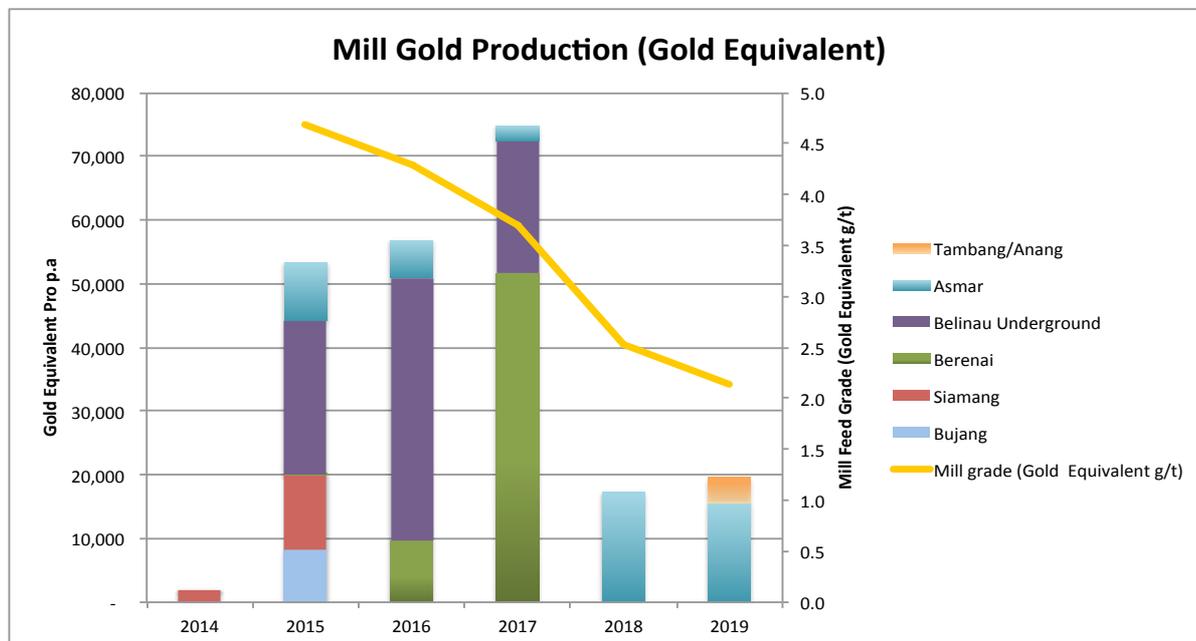
From months 13-42, high-grade Belinau ore is delivered to the mill. Asmar first stage is mined from month 17-28. From months 25-49 Berenai ore blended with Belinau is delivered to the mill. Asmar ore is mined intermittently to ensure the mill has sufficient feed. Berenai waste is placed on the existing TSF where SRK has designed a WRD to a detailed Feasibility standard. Belinau waste is deposited underground with any excess development waste used for site road works.

After Berenai is completed in month 53 the mining of the Asmar deposit is accelerated from months 53-65 and is ramped up until a stockpile of an estimated 300,000t of low grade Asmar ore is built. SRK have provided an ore stockpile design to the capacity of 450,000t. Tembang-Anang is the last pit to be mined in months 65-66. The contractor mining fleet is the demobilised in month 66 to reduce costs.

**Figure 7: Tembang Mine Schedule - Ore Tonnes**



**Figure 8: Tembang Mine Schedule - Ounces by Mine**



A detailed Mine Schedule is shown in Appendix 1, Table 1

### 3.6 Geotechnical & Hydrological Studies

The slope stability analysis for Asmar and Tembang-Anang is based on DFS 2012 data while that for Siamang (Buluh) and Berenai open pits has been based on 2013/14 data. Both the geotechnical and

hydrological studies have been completed by Golders. Only Asmar is planned to have depressurisation holes. Siamang and Tembang-Anang pits are assumed to be fully saturated.

The Buluh (Siamang) geotechnical study was carried out by Golders in 2014. Slope stability analysis was undertaken by AMC for Berenai and Bujang. AMC managed and supervised the geotechnical drilling at Berenai and Bujang. AMC undertook a geotechnical review of the 1995 BFS (BFP) and 2008 PFS (Snowden) geotechnical studies and provided an interim report for the recommended wall angles for mine design.

Golders have undertaken both ground water and surface water studies and a total project water balance model including pit dewatering completed based on international standards. Water management is aided by utilise the existing topography and gravity, the existing pits and tails storage facility together with the existing read bed filtration system for water management. The Company has already built, but not yet commissioned, a lime dosing station to manage the initial low pH water levels from the existing pits.

The Company already has in place a sophisticated monitoring system for water management which is currently being enhanced by the input of external consultants to build company capability and capacity to ensure compliance with the equator principles for environment and social management.

### **3.6.1 Waste Rock and Tails Storage Facility**

The Company has completed test work on all deposits to characterize these as either potentially acid forming ('PAF') and non-acid forming ('NAF') material. A 5-year Life of Mine Plan for waste rock management and Tails Storage Facility ("TSF") have been completed by SRK. SRK was appointed to update the 2012 Feasibility design for the new Tails Storage Facility, which is designed to contain a maximum of 2Mt of tailings. The cyanide detoxification circuit is designed to reduce Weak Acid Dissociable Cyanide (CNWAD) to less than 2mg/L.

The Company plans to utilise the air/SO<sub>2</sub> process to detoxify both free and complex cyanide to cyanates in the pH range of 8 to 10 contained in the tailings prior to being discharged to the TSF. A geotechnical drill program and sterilisation program was also completed for the TSF site in 2013. The plant site is currently licensed to store 10 million tonne of tails material although the current detailed design has only allowed for 2 million tonnes. The tails will be thickened and complete a cyanide destruction prior to its tails placement.

## **3.7 Environmental Management & Safety**

The Tembang Project received the Indonesian Environmental ("AMDAL") permit in Quarter 2, 2012. However the Company has since updated the environmental management plan and environmental impact assessment to meet the IFC Environmental and Social Standards and Guidelines ("IIESR"). In late 2013, the Company appointed SRK to complete an independent assessment of the company's plans and performance, viz-a-vie the IIESR standards.

The Company already has a comprehensive Safety and Management System in place, which has been operational for the last 12 months. The capacity and systems will be enhanced and expanded once production commences.

## **3.8 Processing**

### **3.8.1 Process selection and engineering design basis**

Selection of the process route has been largely based upon proven technology and historical data from the previous mining operation. Some improvements to the previous design have been made possible by reviewing the historical plant data and input from the previous plant operators.

The selection of flow sheet and equipment for the process plant has been made with the following aims:

- Expand on the operating experiences at the previous Rawas plant;

- Optimize gold and silver recoveries, taking into account grind size constraints and reagent consumption;
- Maximize recovery of gold and silver with gravity separation;
- Reduce plant operating costs;
- Detoxify CIL tailings slurry to less than 2ppm WAD prior to TSF discharge;
- Include an emergency feed system;
- Provide for expansion to a nominal 900,000tpa throughput rate by:
  - Designing SAG mill discharge hopper and concrete sump to provide for future ball mill;
  - Providing additional cyclone outlets in the cyclone cluster
  - Providing an additional centrifugal concentrator in the gravity separation circuit.

Mechanical equipment was selected with consideration given to the previous operation. AMEC, who previously constructed the plant as “MinProc”, has provided a review of the previous operation’s mechanical equipment list and reviewed their applicability.

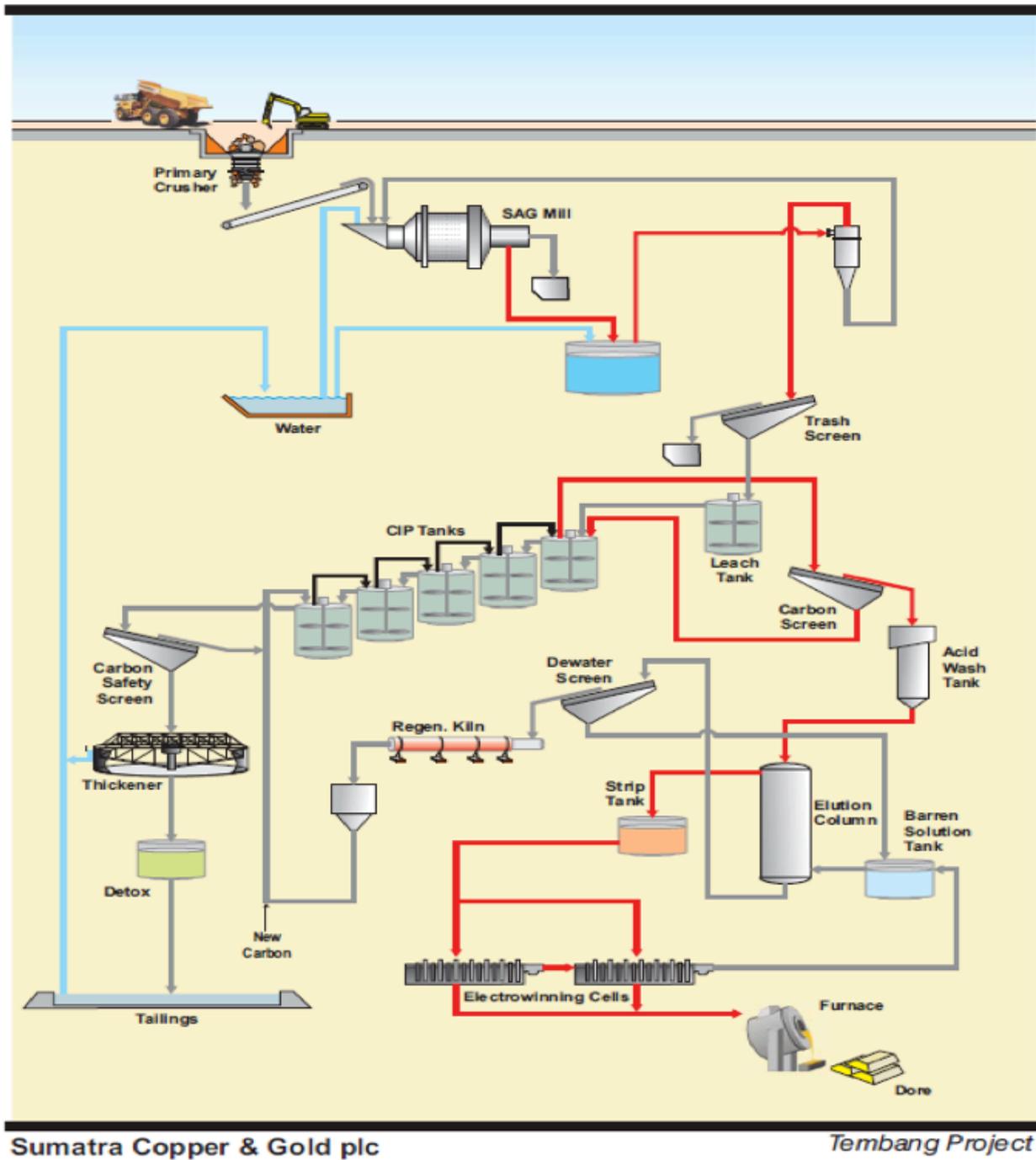
Detailed structural testing of existing concrete foundations at the site of the previous operation was undertaken by Contromation and the investigation concluded that all foundations were sound, except for the mill foundations. The Mill foundations are being replaced/modified to allow for the newly purchased CITIC mill. A flow sheet based on the original design was adopted in order to generate construction time-savings, due to the elimination of civil works and reduce the risk of earth works in the tropical environment.

### 3.8.2 Plant design

The plant has a treatment rate of 400ktpa and incorporates the following operations:

- Single stage primary crushing loaded by Front-end loader with emergency feed capability.
- The SAG mill is driven by 1.6 MW variable speed drive motor with cyclone clusters
- The Gravity concentration consists of Knelson centrifugal concentrator which report to the intensive cyanidation circuit, which will be a Concep Acacia CS500
- Leaching and carbon adsorption comprised six CIL adsorption tanks with a 7.1 hours nominal residence time for a total of 49 hours. Loaded carbon will gravitate to the acid wash column
- The elution consists of an Acid wash, elution and carbon regeneration with a 6 t capacity columns with an AARL and electro-winning cells operating in parallel
- Regeneration kiln will be a horizontal rotary type unit, diesel fired
- Gold recovery electro-winning cells with pressure filtration followed by a bullion furnace to produce a silver rich gold doré; and
- Tailings thickening will feed to the Detoxification circuit.

Figure 9: Processing flowsheet



**Table 4: Mill Physicals by Year**

	Unit	2014	2015	2016	2017	2018	2019	2020	Total
<b>Processing</b>									
<b>Ore Milled</b>	kt	-	339	401	409	421	425	84	2,080
<b>Ore Grade</b>	g/t Au	-	4.0	3.7	3.1	2.0	1.7	1.5	2.8
	g/t Ag	-	41.4	33.4	37.0	28.9	28.0	23.1	33.0
	g/t Au Equiv.	-	4.7	4.3	3.7	2.5	2.1	1.9	3.0
<b>Au Recovery</b>	%	-	91.5%	91.6%	90.5%	88.9%	86.2%	86.1%	90.3%
<b>Ag Recovery</b>	%	-	80.6%	80.6%	80.3%	80.8%	82.9%	82.5%	81.0%
<b>Au Production</b>	oz	-	39,936	44,061	36,958	24,664	19,703	3,474	168,795
<b>Ag Production</b>	oz	-	362,974	347,325	390,609	315,796	317,829	51,597	1,786,130

### 3.9 Infrastructure

#### 3.9.1 Site access

The project area lies approximately 70km northwest of the township of Lubuk Linggau, around 12km from the Trans-Sumatra Highway. The Trans-Sumatra Highway joins Bengkulu, the provincial capital of the Bengkulu Province, approximately 100km to the southwest of Lubuk Linggau. Bengkulu is serviced by regular commercial flights from Jakarta. The road journey from Bengkulu to Lubuk Linggau takes approximately 4 hours. The Lubuk Linggau airport has been upgraded in 2014 and is now receiving BAe146 jet aircraft connecting with Jakarta, Jambi and Palembang.

Imported mining, construction and process plant equipment and bulk materials for the initial site activities and consumables and other supplies for the operations phase are to be imported through the port of Palembang, approximately 325km to the east, and trucked to the site. Indonesian sourced items will be trucked to the site via the Trans-Sumatra Highway. The current plan for bullion transport is to transport the doré by armoured car to an airport in the region and then by commercial or charter flights to Jakarta with armoured car transfer to a refinery in Jakarta.

#### 3.9.2 Power supply

Power will be supplied from a contractor-operated power station on site. Initially 6 X 1MW diesel gensets will be installed until steady state operation has been achieved. Thereafter it is anticipated that two off 1500kVA compressed natural gas (CNG) fuelled generating sets will be installed to carry out the majority of the power supply. The diesel generation sets will be utilised only for Mill start-ups, to provide additional power under peak load conditions and to provide standby power to the mine, should the gas supply be interrupted.

Given the supply cost advantages of utilising CNG over diesel, the power station will adopt CNG as its primary fuel supply. It is proposed that CNG will be procured, transported and delivered under contract in 20ft container type storage vessels on a daily basis or as required. Furthermore, the power station will be provided with a dedicated CNG storage facility, capable of securing two days of CNG supply under base load running conditions. As an alternative, the secondary fuel of choice for the Tembang mine site is diesel.

Generally the plant electrical, control and instrumentation systems have been designed and will be installed to comply with all relevant IEC standards and statutory requirements, and to provide high reliability, ease of maintenance and to be generally in accordance with international mining industry practice.

### 3.9.3 Other Infrastructure & Services

The estimated total water demand is around 10L/s. Water supply will be from the Berenai open pit and a bore-field at the campsite. Process water will be provided from tailings thickener overflow and from tailings dam decant, made up with raw water as required. Potable water will be provided to the workforce accommodation facilities and the process plant from the camp bore-field after treatment.

Site accommodation for the operations has been completed and current accommodation for 213 members of the workforce are in place. The site accommodation facilities will include a mess, recreational facilities, wet mess, laundry and drying rooms, etc. and will be equipped with a package sewage treatment plant. These items are yet to be completed.

It is planned to establish microwave connection to the site, telephone system, computer servers for data and email and radio systems on the surface. The camp is currently supplied by two satellite dishes, while a local mobile phone operator has already established mobile phone communications on site.

Figure 10: Tembang Infrastructure



A bypass road has been upgraded from the nearby Pusan village through to the Trans Sumatran highway.

Site buildings adjacent to the process plant including a process plant warehouse and workshop, administration offices, a medical clinic, ablutions facilities, a crib-room have been completed. Additional buildings such as a control room, a laboratory and a reagent shed are still to be constructed.

### 3.9.4 Mobile equipment and light vehicles

A 25t crane has already been purchased additional mobile equipment, including a tele-handler, a flat-bed truck, a twenty seat bus and an ambulance will be provided for the process plant, and light vehicles are to be provided for managerial and supervisory staff.

## 4.0 Capital Costs

### 4.1 Estimating method and accuracy range

The DFS has been completed to an estimated target accuracy of -10% to +10% reflecting progress on construction to date with a base date of 31 December 2013.

The following definitions have been used for the preparation of the capital cost estimate:

- Pre-production capital costs (start-up): all costs associated with the start-up of the project prior to commissioning of the process plant;
- Sustaining capital: based on the useful working life of equipment in the facility and the capital estimate to replace this equipment. Includes appropriate allowances for ongoing ore body definitions, where necessary, to confirm or improve the quality of definition of mineral resources planned to be exploited over the life of the mine.

An Australian: US Dollar exchange rate of 0.90 has been used and an exchange rate of 11,500 to 1 for the Indonesian Rupiah to the US\$.

**Table 5: Summary of Life of Mine Capital**

Item	Initial Capital US\$M	Deferred and Sustaining US\$M	Total US\$M
Preliminaries	1.20	0.26	1.46
Surface Mining Equipment	0.06	0.00	0.06
Surface Mining Pre-Production	4.67	0.27	4.94
Surface Mining Mobilisation/Demobilisation	0.50	0.22	0.71
Underground Mining Total	3.88	12.85	16.73
Mine Infrastructure	0.72	0.19	0.91
EPCM	9.06	0.00	9.06
Process Plant	21.09	0.00	21.09
Surface Infrastructure	2.80	0.00	2.80
Tailings Storage Facility	0.68	1.71	2.39
Support Infrastructure and Mobile Equipment	0.98	0.37	1.34
Owner's Costs	5.53	1.85	7.38
<i>Subtotal</i>	51.17	17.71	68.87
<i>Contingency</i>	1.89	0.55	2.44
<b>Total</b>	<b>53.05</b>	<b>18.26</b>	<b>71.31</b>

**Table 6: Underground mine development capital costs**

	Unit cost	Total
		(US\$ 000's)
Decline development	\$2,420 /m	3,339
Capital lateral development	\$2,261 /m	3,074
Vertical development	\$ 146 / m	87
Preproduction		406
Mining Equipment		6,794
Equipment & infrastructure		3,032
Contingency		345
<b>Total</b>		<b>17,077</b>

The capital costs are based on new equipment.

The underground mining costs have been based on detailed engineering studies carried out by Entech. In addition, company personal have also visited the majority of the major underground operations in Indonesia to review operating procedures and local preferences.

The Company has ordered new mining equipment from Indonesia with the Jumbo drill rigs been supplied by Atlas Copco and the underground mining loaders and trucks to be supplied by Caterpillar (Elphinstone). All new equipment will be supplied with a service contract and guaranteed availabilities provided by the suppliers.

**Table 7: Processing Plant - Capital Costs Summary**

Process Plant	Already Committed	ETC	Remaining 5 LOM	Total
EPCM and mine indirects	4,520	4,877	-	9,397
Process plant	7,548	14,224	-	21,772
Surface infrastructure	1,633	1,228	-	2,861
Tailings Storage Facility	-	746	1,877	2,623
Owners costs	2,208	3,576	1,941	7,725
Preliminaries	935	270	254	1,459
<b>Total processing capital costs</b>	<b>16,844</b>	<b>24,921</b>	<b>4,072</b>	<b>45,837</b>

Of the US\$45.8 million Capital Cost for the project Construction, US\$16.8 million has already been committed. The detailed engineering is nearly complete and the process plant is currently partly constructed with all major equipment items already ordered, except for the electrical equipment.

## 4.2 Operating Costs

**Table 8: Summary of operating costs**

Description	Unit	\$/Unit	\$/Oz	\$ '000
Open Pit Mining	\$/bcm	\$5.46	\$244	\$41,178
Underground Mining	\$/t mined	\$48.68	\$112	\$18,898
Sub Total Mining Costs	\$/t mined	\$28.80	\$356	\$60,076
Processing Plant	\$/t processed	\$21.58	\$266	\$44,886
General & Administration	\$/t processed	\$4.86	\$60	\$10,100
TOTAL	\$/t processed	\$55.23	\$672	\$115,062
Silver Credits	\$/t processed	(\$17.17)	(\$212)	(\$35,723)
Net Costs	\$/t processed	\$38.06	\$470	\$79,340

*Note: 1. Includes silver credits at \$20/oz for silver  
Values may include rounding errors.*

**Open Pit Mining:** The mining operating costs are based on quotes from Indonesian contractors. The equipment productivity and cycle times are based on information supplied from Indonesian sites and contractors.

The Underground Mining Costs are based on Australian Expatriate Supervision and owner mining costs.

All explosives and underground mining suppliers are based on quotes and local suppliers.

**Process Plant:** The Process plant costs are based on historical data, local reagent costs and metallurgical test work estimates.

**Table 9: Open pit mining operating costs**

	Unit Cost USD/bcm	Total US\$
Grade Control	\$0.03	252,052
Mobilisation & Demobilisation	-	-
Blast-hole Drilling	\$0.37	3,117,262
Blasting	\$0.47	3,967,004
Mobile Equipment Hire	\$2.43	20,305,138
Fixed Plant Hire	\$0.12	1,031,085
Light Vehicle Hire	\$0.03	234,141
Diesel Fuel	\$0.81	6,730,618
Mine Services	-	-
Mine Overheads	\$0.51	4,234,914
Ore Haulage	\$0.16	1,305,778
SubTotal	\$4.93	41,177,993
Pre-Production Operating Costs	\$0.54	4,469,950
<b>Total Operating Cost (includ. Pre-Prod)</b>	<b>\$5.46</b>	<b>45,647,943</b>

**Table 10: Underground mining operating costs**

	Unit Cost	Total
Lateral Development (Jumbo)	\$1,099 /m	7,732,460
Stoping	\$11.04 /t ore	4,287,791
Backfilling	\$6.34 /t ore	2,459,886
Surface Road Haulage	\$1.62 /t ore	628,144
Mine Services	\$3.46 /t ore	1,343,408
Mine Overheads	\$6.30 /t ore	2,446,501
<b>Total Operating Cost</b>	<b>\$48.68 /t ore</b>	<b>18,898,190</b>

**Table 11: Processing operating costs**

	Unit Cost \$/Ton	Total US\$
Power	\$12.62	26,250,232
Other	\$8.95	18,337,936
<b>Total</b>	<b>\$21.57</b>	<b>44,588,168</b>

## 5.0 Project implementation

### 5.1 Project management

The Company has awarded an EPC contract for the EPC for the Process Plant. The EPC contractor will appoint a local contractor for the final 3 Mechanical, Structural and Piping (“MSP”) with the first 1½ packages already completed. The owner’s team together with an international engineering company with extensive experience in this field will complete the commissioning.

### 5.2 Status of the project at project suspension

In December 2013, CES, the appointed EPCM contractor issued a Project Close-Out Report. With the majority of the procurement completed and a number of the construction packages either completed or tendered, the Company has been able to determine the capital cost completion estimate of the project to a relatively high confidence level. This close out report has been used as the basis for the estimate to complete.

### 5.3 Project team

A strong owner/client representative team will continue to be engaged to ensure high level project management levels and controls are adhered to during the construction and commissioning phases of the Project.

The Project execution plan will continue to be based on an EPCM managed construction execution philosophy. An EPCM contractor (CES) will be re-engaged to assist with the remaining process and power plant and construction; however all remaining infrastructure construction will be handled by the owner’s team. The nature of brownfields projects and the size of the remaining construction exercise at Tembang make this type of project execution the most appropriate. This approach will provide some costs savings and also ensure the key contracts, supply and logistics tasks are managed by a team with extensive Indonesian experience.

Mine development and operations will continue to be managed by the PT DNS owners mine operations team and contractors, where required. PT DNS is the Companies wholly owned Indonesian subsidiary that is the Project Owner.

#### 5.3.1 Engineering contractors

The engineering contractor will complete the remaining detailed engineering and designs and will manage the site construction of the process plant and power station facilities.

The engineering contractor will complete all detailed engineering design of the process plant and power supply.

In addition, the engineering contractor will be responsible for overall construction schedule and cost controls, with a closed loop systems to provide for feedback on purchase order from the owners project management team.

PT DNS will utilise sub-consultant assistance where necessary in construction of the remaining infrastructure areas requiring specialist technical skills such as TSF dam design, dewatering pumping system, site geotechnical evaluation and site access road design.

#### 5.3.2 Project management

The PT DNS Project Manager will oversee all aspects of the design and construction of the process plant, power station and infrastructure, including camp facilities, water supply and site access roads.

#### 5.4 Plant and infrastructure

The Project is proposed to be managed by an Owner's Project team comprising a Project Manager and a Construction Manager supported by project engineers, construction supervisors and quality assurance/quality control personnel for the process plant and infrastructure and a Mining Manager supported by mining technical and supervisory staff for the mine development.

#### 5.5 Project Schedule

The DFS Project schedule shows project engineering, procurement, construction and commissioning being achieved in 10 months from project recommencement. Site works have been completed along with detailed engineering. Commissioning of the process plant is scheduled to be completed four weeks following the completion of construction. The schedule has been based on data provided by the prospective engineering contractor and equipment suppliers.

A Project implementation schedule has been developed for the design; construction and commissioning of the process plant and associated infrastructure, and key milestones have been identified.

The Project schedule indicates remaining Project duration of 10 months from PT DNS Board approval to proceed. The schedule durations are based on quoted manufacturing and installation periods from vendors and constructors or previous experience working on similar projects.

Detailed engineering design is expected to be completed in 1.5 months and the process plant construction duration 10 months. These activities will run in parallel.

## 6.0 Ore Reserves and Mineral Resources

### 6.1 Ore Reserves

**Table 12: Ore Reserves are shown below and were published on 25 March 2014**

Deposit	Ore Reserve Category	Tonnes ('000t)	Grade Au (g/t)	Contained Gold (oz)	Grade Ag (g/t)	Contained Silver (oz)
<b>Open Pit Reserves</b>						
Asmar	Proved	-	-	-	-	-
	Probable	733	1.6	38,000	24.8	585,000
Berenai	Proved	-	-	-	-	-
	Probable	710	2.2	51,000	31.8	726,000
Bujang	Proved	-	-	-	-	-
	Probable	56	3.7	7,000	57.2	102,000
Siamang	Proved	4	7.8	1,000	102.8	12,000
	Probable	31	7.6	8,000	61.6	61,000
Tembang Anang	Proved	-	-	-	-	-
	Probable	59	1.6	3,000	31.1	59,000
Total Open Pit	Proved	4	7.8	1,000	102.8	12,000
	Probable	1,588	2.1	106,000	30.0	1,534,000
	<b>Total</b>	<b>1,592</b>	<b>2.1</b>	<b>107,000</b>	<b>30.2</b>	<b>1,546,000</b>
<b>Underground Reserves</b>						
Belinau	Proved	204	6.0	39,000	41.5	272,000
	Probable	214	5.1	35,000	44.4	306,000
	<b>Total</b>	<b>418</b>	<b>5.5</b>	<b>74,000</b>	<b>43.0</b>	<b>578,000</b>
<b>Total Reserves 2014</b>						
Total Open Pit & Underground	Proved	208	6.0	40,000	42.5	284,000
	Probable	1,802	2.4	141,000	31.7	1,839,000
	<b>Total</b>	<b>2,010</b>	<b>2.8</b>	<b>181,000</b>	<b>32.9</b>	<b>2,123,000</b>

*Calculations have been rounded to the nearest 1,000 t, 0.1 g/t grade and 1,000 oz. metal.*

There have been no material changes to these Ore Reserves estimates since the date of this publication.

The current Life of Mine Reserves shows a total of 2.08 M tonnes at 2.8 g/t gold and 33 g/t silver for a total of 188K oz contained gold and 2.1M oz silver which is an increase of 4% and 1% in gold and silver respectively over the previously published Ore Reserve estimate as shown in Table 12 above. These variations are a result of minor modifications and improvements to the block modelling of the ore and are not deemed material. The Company intends to uptake the Ore Reserves estimates once the planned infill drilling is completed as part of the preproduction process.

## 6.2 Mineral Resources

Table 13: The Mineral Resource estimates are shown below and were published on 19 March 2014

Deposit	Resource Category	Tonnes	Grade Au g/t	Grade Ag g/t	Gold (oz)	Silver (oz)
<b>Open Pit – using a 0.5 g/t Au cut-off</b>						
Asmar <sup>(1)</sup>	Measured	-	-	-	-	-
	Indicated	1,636,000	1.2	20.6	64,000	1,082,000
	Inferred	1,509,000	1.4	11.9	68,000	577,000
	<b>Total</b>	<b>3,145,000</b>	<b>1.3</b>	<b>16.4</b>	<b>132,000</b>	<b>1,659,000</b>
Berenai <sup>(1)</sup>	Measured	-	-	-	-	-
	Indicated	1,546,500	2.2	34.9	109,000	1,736,000
	Inferred	322,500	1.4	25.6	14,000	265,000
	<b>Total</b>	<b>1,869,000</b>	<b>2.0</b>	<b>33.3</b>	<b>123,000</b>	<b>2,001,000</b>
Buluh (inc Siamang) <sup>(2)</sup>	Measured	109,000	4.0	50.5	14,000	177,000
	Indicated	236,000	2.4	29.9	18,000	227,000
	Inferred	302,000	2.3	31.7	22,000	308,000
	<b>Total</b>	<b>647,000</b>	<b>2.3</b>	<b>30.9</b>	<b>54,000</b>	<b>712,000</b>
Bujang <sup>(1)</sup>	Measured	-	-	-	-	-
	Indicated	204,000	2.9	38.7	19,000	254,000
	Inferred	68,000	1.8	20.1	4,000	44,000
	<b>Total</b>	<b>272,000</b>	<b>2.6</b>	<b>34.1</b>	<b>23,000</b>	<b>298,000</b>
Tembang / Anang <sup>(1)</sup>	Measured	-	-	-	-	-
	Indicated	170,500	2.5	29.3	13,500	160,500
	Inferred	55,500	2.5	30.0	4,500	53,500
	<b>Total</b>	<b>226,000</b>	<b>2.3</b>	<b>29.5</b>	<b>17,000</b>	<b>214,000</b>
SubTotal Open Pit	Measured	109,000	4.0	50.5	14,000	177,000
	Indicated	3,793,000	1.8	28.4	223,500	3,459,500
	Inferred	2,257,000	1.6	17.2	112,500	1,247,500
	<b>Total</b>	<b>6,159,000</b>	<b>1.7</b>	<b>24.2</b>	<b>349,000</b>	<b>4,884,000</b>
<b>Underground – using &gt;2.78 g/t Au</b>						
Belinai <sup>(2)</sup>	Measured	132,000	9.7	70.2	41,000	298,000
	Indicated	139,000	9.0	77.0	40,000	346,000
	Inferred	67,000	7.3	65.0	16,000	140,000
	<b>Total</b>	<b>338,000</b>	<b>8.9</b>	<b>33.3</b>	<b>97,000</b>	<b>784,000</b>
<b>TOTAL O/P &amp; U/GL</b>	Measured	241,000	7.1	61.3	55,000	475,000
	Indicated	3,932,000	2.1	30.1	262,000	3,807,000
	Inferred	2,324,000	1.7	18.6	129,000	1,388,000
	<b>TOTAL</b>	<b>6,497,000</b>	<b>2.1</b>	<b>27.1</b>	<b>446,000</b>	<b>5,670,000</b>

**Notes:**

- The Mineral Resource Estimates for Asmar, Berenai, Tembang/Anang and Bujang were published on the 19<sup>th</sup> March 2014 in accordance with the JORC 2012 Standards.

2. The Mineral Resource Estimates for Belinau Underground and Buluh were published on the 4<sup>th</sup> December 2013 in accordance with the JORC 2012 Standards. Sumatra confirms that it is not aware of any new information or data that materially affects the information included in the Mineral Resource estimation for Buluh and or Belinau on the 4<sup>th</sup> December 2013. In addition, the Company confirms that all material assumptions and technical parameters underpinning the Mineral Resource estimate of the 4<sup>th</sup> December 2013 continue to apply and have not materially changed.

There have been no material changes to these Mineral Resource estimates since the date of this publication.

## 7.0 Future Growth and Opportunities

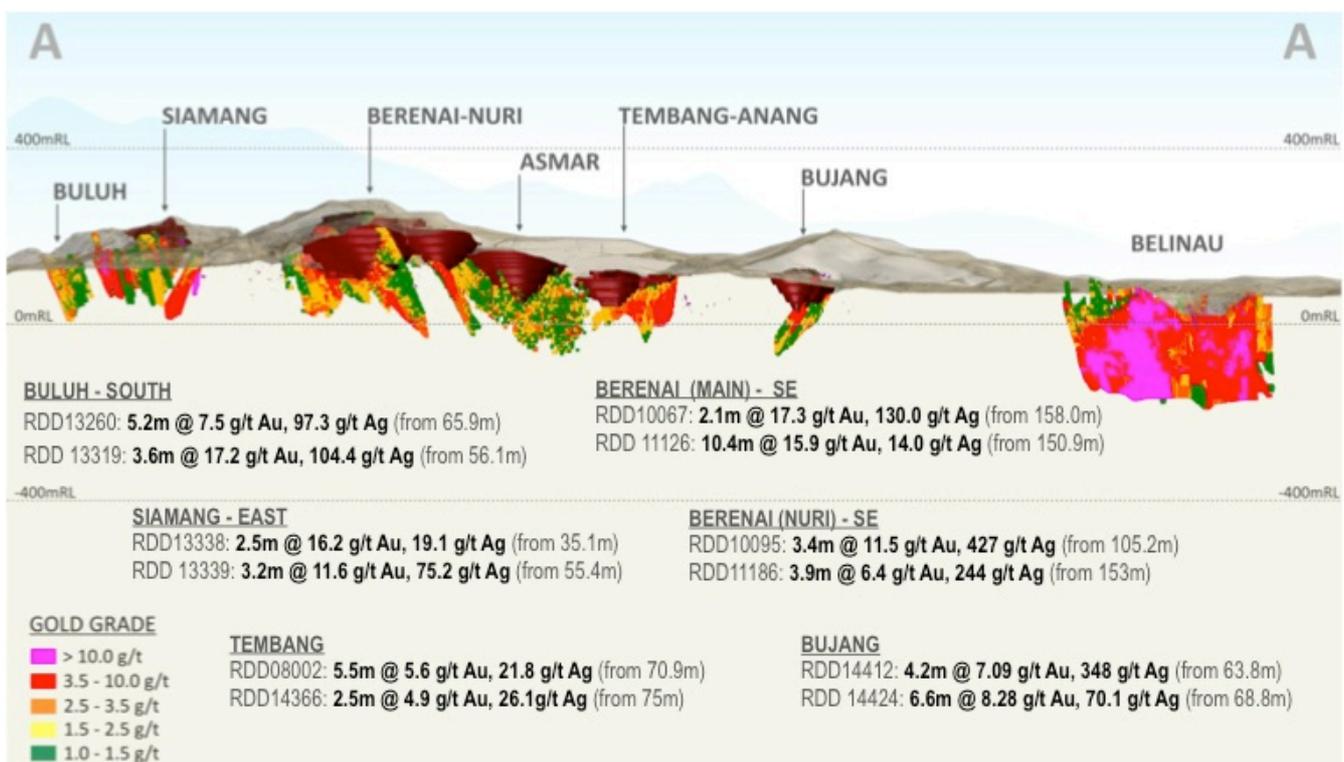
This DFS study was targeted at maximising the debt capacity which is available over a five-year period; the five-year period being the maximum exposure that the debt financiers prefer for this jurisdiction. The drill out the Reserves to 2.1 million tonnes for a 400,000tpa plant achieved this objective. However, there remain a number of additional optimisation opportunities, even within the existing Ore Reserve base. These will be investigated over the next 12 months.

### 7.1 Resource Growth

The Company is confident in the potential to expand the resource base across the Tembang project area. Mineral Resource estimates are based on 80,000m of diamond drilling data, of which 61% has been completed by Sumatra with the remainder completed historically by the previous owner-operators, BTM. There is approximately 93km of historical RC drilling data that has been excluded from the Mineral Resource estimates. However, this data outlines numerous prospects and deposits that present immediate, high quality targets.

Diamond drilling to date, has primarily been focused on Mineral Resource definition and in infill drilling across the Tembang project area. Suitable mining parameters and US\$1,000 pit optimizations have been used to focus drilling around the deposits defined to date. The Company has developed a robust geological model and exploration framework that will allow targeted drilling to rapidly and efficiently grow the Tembang Resource base once cash flow from operations becomes available. The figure below highlights RC drill defined deep exploration targets.

Figure 11: Mineral Resource Expansion Opportunities using RC Drill Data



In summary, the short-term plan will be to utilize the significant amount of historical data to prioritise targets with high potential for conversion to Mineral Resources and subsequently into Ore Reserves. Underground targets will likely be prioritised due to the simple fact that many have already been identified with historical RC and diamond drilling and only require more drilling to increase confidence.

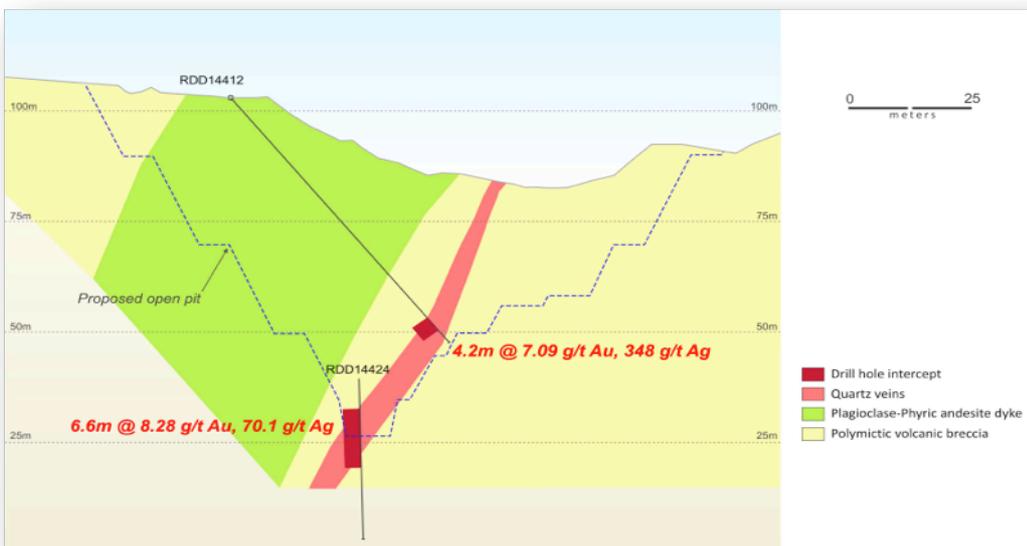
## 7.2 Underground Development

The Belinau underground development has C<sub>3</sub> Costs of US\$572 per ounce gold and with grade increasing with depth, the lowest unit costs gold produced is that at depth. The immediate future of the Tembang operation lies with underground development of already identified mineral deposits at Berenai, Siamang, Bujang and Tembang-Anang. The potential at Berenai and Bujang are shown in Figure 12 and Figure 13 respectively.

Figure 14: Underground Development Opportunity at Berenai



Figure 15: Enderground Development at Bujang

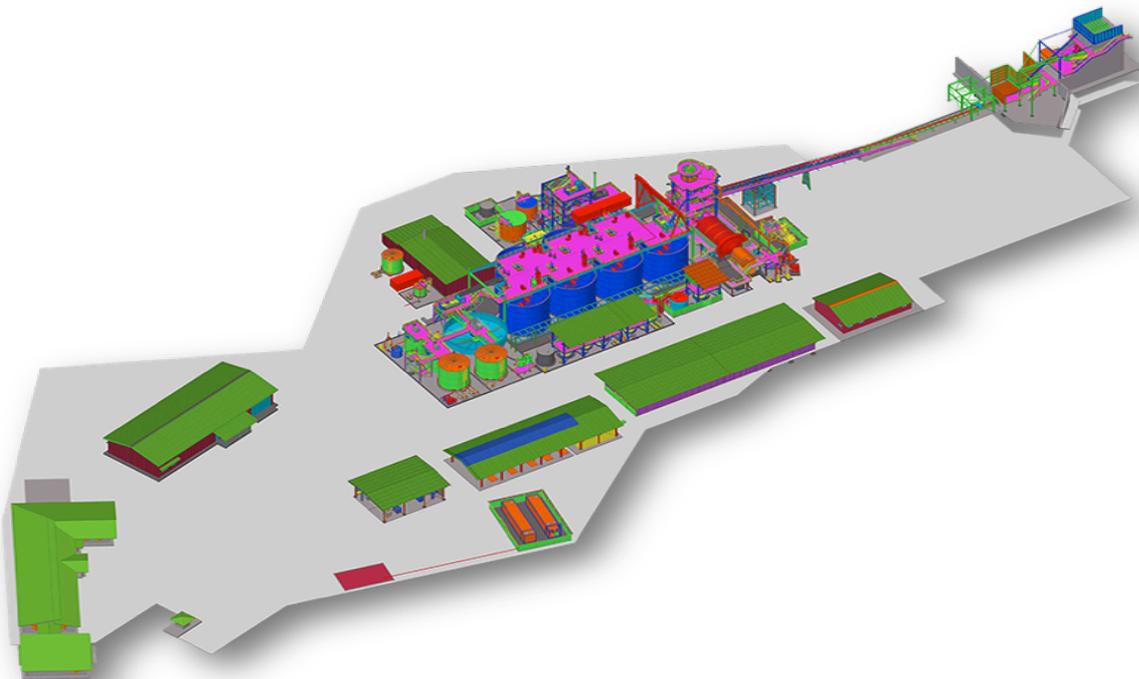


### 7.3 Mill Expansion

The current plant is based on the original Minproc design, which was designed as a 750,000tpa plant and operated at up to 860,000tpa. The current plant design is based on the historical flow sheet; however a smaller SAG mill has been installed; although this SAG mill has been specified with the capacity to operate as a ball mill and has the mechanical and motor drive power to do so. The current mine plan and the balancing of the work index to match the mine plan is conservative with only a small portion of the 5-year Life-of-Mine operating at the maximum work index. There is a very real opportunity to expand the current mill throughput towards 600,000tpa with negligible impacts on the grind size and recovery. The thickener is currently designed at a throughput capacity of 900,000tpa and there is excess capacity in the front end jaw crusher and conveyers. The Company is currently evaluating these expansion options; however the operational experience will determine to what extent these theoretical increases can be achieved.

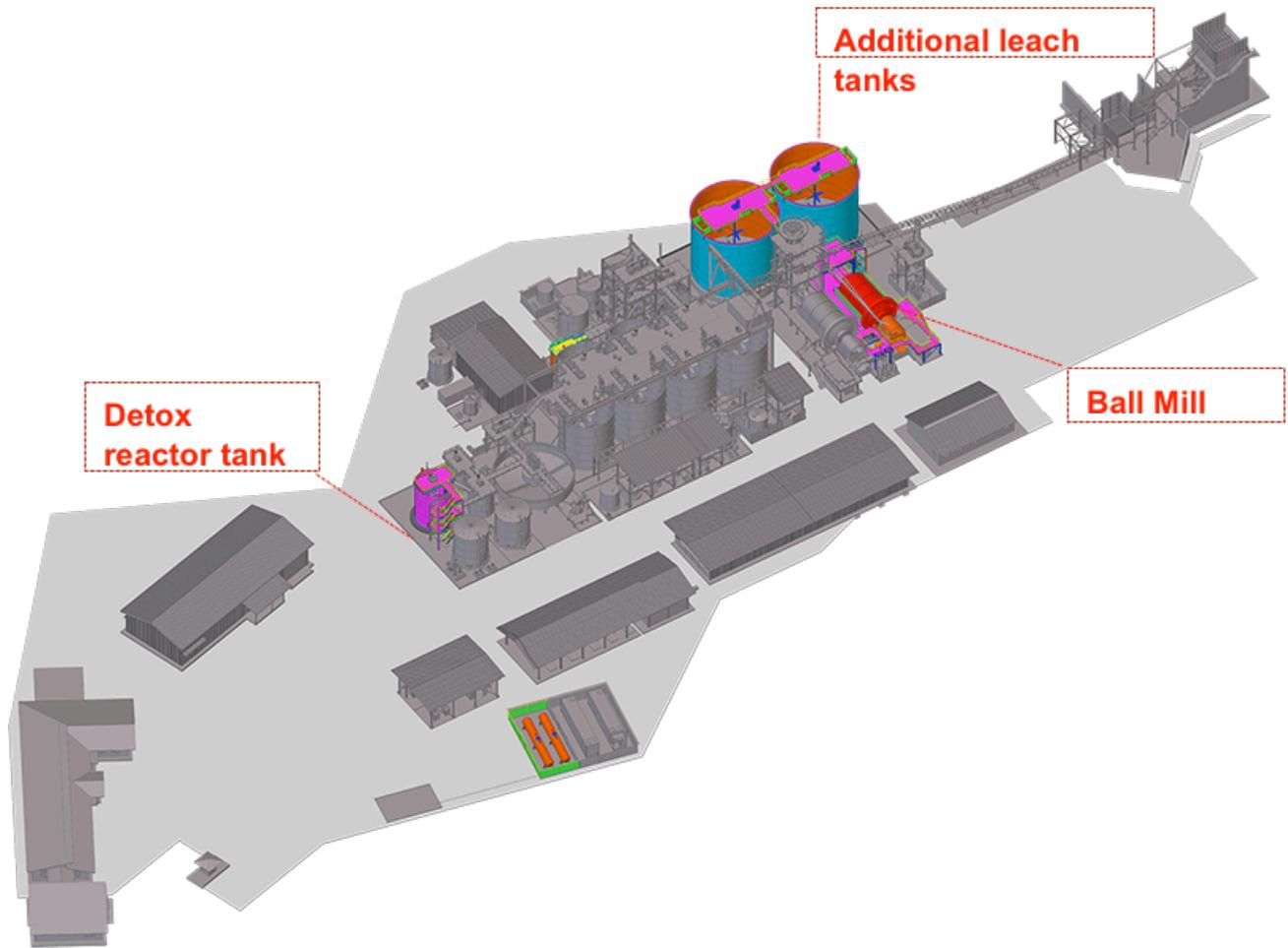
The remaining plant design post comminution has been substantially oversized and has excess capacity. The current plant design has also incorporated a gravity extraction circuit, which should have a material impact on the leach kinetics and favourable affect the conservative 48 hours residence time of the leach circuit. The current elution has currently been designed for a single strip per day, whereas a twice-daily strip would nearly double the capacity of this section. The tails thickener has also been designed to operate at 900,000tpa. In summary, the current plant design has been constrained by the comminution circuit, which is conservative.

**Figure 16: Tembang Plant Design**



In the event that the exploration upside becomes a reality, then the Process plant can be relatively cheaply expanded. This expansion has been costed at US\$10.5 million as shown in Figure 15 below.

Figure 17: Stage 2 - Expanded Design to 900,000tpa



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**About Sumatra Copper & Gold**

Sumatra Copper & Gold plc (ASX: SUM) is an emerging gold and silver producer and the pre-eminent precious metals explorer in southern Sumatra, Indonesia. The Company has a significant project portfolio encompassing projects ranging from greenfields exploration projects to brownfields, near-production opportunities.

**Definitions**

**C<sub>1</sub> Costs:** C<sub>1</sub> costs are as originally defined by Brook Hunt and are cash costs after mining, processing and site administrations costs but before tax and Royalties.

**C<sub>3</sub> Costs:** C<sub>3</sub> Costs are originally defined by Brook Hunt where C<sub>3</sub> equals C<sub>1</sub> costs plus the addition of depreciation and amortization, royalties and refining costs but do not include interest charges.

**All In Sustaining Costs (“AISC”):** The **All In Sustaining Costs** as defined by the World Gold Council on the 27 June 2013. The AISC costs used by Sumatra are C<sub>1</sub> Costs plus sustaining capital costs, exploration costs, royalties, plus corporate overheads but exclude interest charges and taxes (other than royalties).

**Gold Equivalent:** This ratio was calculated using a gold price of US\$1,100 per Oz and a recovery of 90% for Gold and a silver price of US\$20 for and a recovery of 82.5% for silver. Gold Equivalent thus = gold assay + (silver assay/60) where the number 60 represents the ratio where 60g/t Ag = 1 g/t Au.

### Appendix 1: Table 1: Projected open pit and underground mining production schedule

	Unit	2014	2015	2016	2017	2018	2019	Total
<b>Combined pits</b>								
Ore Mined	kbcm	4	115	99	256	121	113	<b>707</b>
Waste Mined	kbcm	716	2,053	2,241	1,513	719	404	<b>7,648</b>
Total Material Movement	kbcm	720	2,169	2,340	1,769	840	517	<b>8,355</b>
Strip Ratio	W:O	185	18	23	6	6	4	<b>11</b>
<b>Asmar open pit</b>								
Ore Mined	kt	-	141	99	32	287	209	<b>768</b>
Ore Grade	g/t Au	-	1.66	1.50	1.93	1.44	1.84	<b>1.62</b>
	g/t Ag	-	20.8	21.7	18.4	25.6	28.9	<b>24.8</b>
<b>Bujang open pit</b>								
Ore Mined	kt	-	56	-	-	-	-	<b>56</b>
Ore Grade	g/t Au	-	3.67	-	-	-	-	<b>3.67</b>
	g/t Ag	-	57.2	-	-	-	-	<b>57.2</b>
<b>Berenai open pit</b>								
Ore Mined	kt	-	2	138	583	-	-	<b>722</b>
Ore Grade	g/t Au	-	1.38	1.72	2.23	-	-	<b>2.13</b>
	g/t Ag	-	9.5	26.2	31.7	-	-	<b>30.6</b>
<b>Tembang open pit</b>								
Ore Mined	kt	-	-	-	-	-	59	<b>59</b>
Ore Grade	g/t Au	-	-	-	-	-	1.59	<b>1.59</b>
	g/t Ag	-	-	-	-	-	31.1	<b>31.1</b>
<b>Buluh Open pit</b>								
Ore Mined	kt	9	78	-	-	-	-	<b>88</b>
Ore Grade	g/t Au	5.26	3.95	-	-	-	-	<b>4.10</b>
	g/t Ag	49.2	41.5	-	-	-	-	<b>42.3</b>
<b>Belinau underground</b>								
Ore Mined	kt	-	122	193	73	-	-	<b>388</b>
Ore Grade	g/t Au	-	5.4	6.0	7.7	-	-	<b>6.1</b>
	g/t Ag	-	46.4	42.7	66.4	-	-	<b>48.3</b>

Note: This table contains rounding errors

**Appendix 1: Table 2: Processing Schedule and Production**

	Unit	Total	2015	2016	2017	2018	2019	2020
<b>Processing</b>								
<b>Ore Milled</b>	kt	2,080	339	401	409	421	425	84
Ore Grade	g/t Au	2.79	4.00	3.73	3.09	2.04	1.67	1.49
	g/t Ag	32.99	41.40	33.43	36.97	28.93	28.02	23.10
<b>Au Recovery</b>	%	90.3%	91.5%	91.6%	90.5%	88.9%	86.2%	86.1%
<b>Ag Recovery</b>	%	81.0%	80.6%	80.6%	80.3%	80.8%	82.9%	82.5%
Au Production	oz	168,795	39,936	44,061	36,958	24,664	19,703	3,474
Ag Production	oz	1,786,130	362,974	347,325	390,609	315,796	317,829	51,597

Note: This table contains rounding errors

**Appendix 1: Table 3: Mine Production Plan**

	Unit	Total	2014	2015	2016	2017	2018	2019
<b>ASSUMPTIONS</b>								
Gold Price	USD/oz	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Silver Price	USD/oz	20	20	20	20	20	20	20
Exchange Rate	USD:AUD	0.90	0.90	0.90	0.90	0.90	0.90	0.90
<b>MINE PRODUCTION</b>								
<b>Open Pit Mining</b>								
Total Ore Mined (O/P)	kbcm	707	4	115	99	256	121	113
Total Waste Mined (O/P)	kbcm	7,648	716	2,053	2,241	1,513	719	404
Strip Ratio	Waste to Ore	11	NA	18	23	6	6	4
Open Pit	kt	1,681	9	277	237	614	287	268
Grade – Gold	g/t	2.05	5.26	2.71	1.63	2.21	1.44	1.79
Grade – Silver	g/t	29.5	49.2	33.9	24.3	31.0	25.6	29.4
Recovered Metal - Gold	Oz	110,511	1,602	24,067	12,390	43,711	13,320	15,420
Recovered Metal - Silver	Oz	1,603,027	15,004	301,593	184,830	612,126	236,173	253,302
<b>Underground Mining</b>								
Ore Mined	kt	388	-	122	193	73	-	-
Grade – Gold	g/t	6.1	-	5.41	5.95	7.73	-	-
Grade - Silver	g/t	48.3	-	46.4	42.7	66.4	-	-
Mined – Gold	Oz	76,370	-	21,185	36,944	18,241	-	-
Mined - Silver	Oz	603,417	-	181,528	265,225	156,663	-	-
<b>Total Mining</b>								
Ore Mined	kt	2,080	9	398	430	688	287	268
Grade – Gold	g/t	2.8	5.3	3.5	3.6	2.8	1.4	1.8
Grade - Silver	g/t	33.0	49.2	37.7	32.6	34.8	25.6	29.4

Note: This table contains rounding errors

**Appendix 1: Table 4: Cash-Flow Estimate from Production Plan**

PROJECT REVENUE		Total	2014	2015	2016	2017	2018	2019	2020
<b>Total Mining</b>									
Revenue - Gold	\$ '000	219,434	-	51,917	57,279	48,045	32,063	25,615	4,516
Revenue - Silver	\$ '000	35,723	-	7,259	6,946	7,812	6,316	6,357	1,032
Royalties	\$ '000	(9,390)	-	(2,183)	(2,374)	(2,056)	(1,408)	(1,167)	(203)
<b>Net Project Revenue</b>	<b>\$ '000</b>	<b>245,767</b>	<b>-</b>	<b>56,994</b>	<b>61,851</b>	<b>53,802</b>	<b>36,971</b>	<b>30,804</b>	<b>5,345</b>
<b>PROJECT COSTS</b>									
<b>Capital</b>									
Preliminaries	\$ '000	1,460	1,178	282	-	-	-	-	-
Surface Mining Equipment	\$ '000	60	60	-	-	-	-	-	-
Surface Mining Pre-Production	\$ '000	4,938	3,596	1,267	75	-	-	-	-
Surface Mining Mobilisation/Demobilisation	\$ '000	714	496	-	-	-	-	219	-
Underground Mining Total	\$ '000	16,732	2,952	8,401	3,440	1,294	645	-	-
Mine Infrastructure	\$ '000	913	681	232	-	-	-	-	-
EPCM	\$ '000	9,057	8,603	454	-	-	-	-	-
Process Plant	\$ '000	21,095	19,858	1,237	-	-	-	-	-
Surface Infrastructure	\$ '000	2,803	2,682	121	-	-	-	-	-
Tailings Storage Facility	\$ '000	2,385	573	192	512	512	512	85	-
Support Infrastructure and Mobile Equipment	\$ '000	1,341	957	260	53	53	18	-	-
Owner's Costs	\$ '000	7,376	5,326	415	232	232	232	637	301
<i>Subtotal</i>	\$ '000	68,874	46,961	12,861	4,313	2,091	1,406	941	301
<i>Contingency</i>	\$ '000	2,436	1,651	465	134	65	64	40	15
<b>Total</b>	<b>\$ '000</b>	<b>71,310</b>	<b>48,613</b>	<b>13,326</b>	<b>4,447</b>	<b>2,157</b>	<b>1,470</b>	<b>981</b>	<b>316</b>
Capital Cost per ounce Gold Produced	US\$/ Oz	422	NA	334	101	58	60	50	91

**Appendix 1: Table 4: Cash-Flow Estimate from Production Plan (Continued)**

Operating	Units	Total	2014	2015	2016	2017	2018	2019	2020
Open Pit Mining	\$ '000	41,178	-	9,737	11,457	10,621	6,588	2,775	-
<i>Cash Operating Cost per bcm</i>	<i>\$/bcm</i>	<b>\$5.46</b>	\$4.72	\$4.98	\$4.90	\$6.00	\$7.84	\$5.37	-
Underground Mining	\$ '000	<b>18,898</b>	-	6,774	9,177	2,947	-	-	-
<i>Cash Operating Cost per tonne</i>	<i>\$/t</i>	<b>\$49</b>	-	\$56	\$48	\$40	-	-	-
Processing Plant	\$ '000	<b>44,886</b>	-	7,645	8,881	8,744	8,764	8,776	2,076
<i>Cash Operating Cost per tonne</i>	<i>\$/t</i>	<b>\$21.58</b>	-	\$22.56	\$22.14	\$21.35	\$20.81	\$20.63	\$24.63
General & Administration	\$ '000	<b>10,100</b>	-	1,855	1,971	2,011	1,912	1,901	451
<i>Cash Operating Cost per tonne</i>	<i>\$/t</i>	<b>\$4.86</b>	NA	\$5.47	\$4.91	\$4.91	\$4.54	\$4.47	\$5.35
Total C <sub>1</sub> Cash Operating Cost per tonne	<i>\$/t</i>	<b>\$38</b>	NA	\$55	\$61	\$40	\$26	\$17	NA
Total C <sub>1</sub> Cash Operating Cost per ounce (before Silver credits)	<i>\$/oz</i>	<b>\$470</b>	<b>\$415</b>	<b>\$503</b>	<b>\$391</b>	<b>\$387</b>	<b>\$301</b>	<b>\$372</b>	-
<b>Total Operating Costs</b>	<b>\$ '000</b>	<b>\$115,062</b>	-	<b>\$26,012</b>	<b>\$31,485</b>	<b>\$24,323</b>	<b>\$17,263</b>	<b>\$13,453</b>	<b>\$2,526</b>
<b>Total Project Costs</b>	<b>\$ '000</b>	<b>\$186,372</b>	<b>\$48,613</b>	<b>\$39,338</b>	<b>\$35,932</b>	<b>\$26,480</b>	<b>\$18,734</b>	<b>\$14,434</b>	<b>\$2,842</b>

Note: This table contains rounding errors