



22 February 2017

NEWS RELEASE

## PERSEUS UPDATES LIFE OF MINE PLAN FOR EDIKAN GOLD MINE

Perseus Mining Limited ("Perseus" or the "Company") (ASX/TSX: PRU) is pleased to announce details of its updated Life of Mine Plan ("LOMP") for its Edikan Gold Mine in Ghana, West Africa ("Edikan").

### HIGHLIGHTS

- Perseus has updated its LOMP for Edikan commencing 1 July 2017, following a re-estimation of Mineral Resources and Ore Reserves. Independently estimated Proved and Probable Ore Reserves for Edikan total 56.5 million tonnes of ore, grading 1.14 g/t gold and containing 2,078 kozo ounces of gold as at 31 December 2016;
- Comparisons of the updated Edikan Mineral Resource models against ore delineated by grade control during the last three months of 2016 and in January 2017 indicate that the updated Resource estimates on which the Ore Reserves are based are likely to be more reliable predictors of ore tonnes and grades than the Resource models used previously, resulting in a closer correlation between forecasts and actual gold production and improved reliability of the LOMP;
- Consistent with the revised Ore Reserve that contains 15% more tonnes, 8% lower grade and 5% more contained gold than previously estimated, the life of mine production profile is slightly flatter but extends for longer than the previous LOMP published in April 2016;
- Estimated remaining life of mine gold production of 1,388 kozo is 96.6% of the amount estimated for the corresponding period in the previous LOMP. Gold production averages 214,000 ounces/annum over Edikan's remaining 6.5 year mine life (from 1 July 2017) including production of approximately 240,000 ounces/annum for the next 5 years;
- Forecast weighted average all-in site costs including all direct production costs, royalties, waste stripping costs and sustaining capital expenditure ("AISC") of US\$875 per ounce in the 5 year period from 1 July 2017 to 30 June 2022 and US\$864 per ounce over the full remaining life of mine;
- Forecast sustaining capital costs (including the cost of site rehabilitation) which are included in the estimate of the AISC, total US\$34.5 million;
- The Edikan LOMP forecasts strong positive after tax cash flow totalling approximately US\$403 million (or A\$0.52 per share at an A\$:US\$ exchange rate of 0.75), assuming a flat spot gold price of US\$1,200 per ounce for the remaining mine life from 1 January 2017; and
- The LOMP should be considered in conjunction with previously provided production and cost guidance for the June 2017 Half Year. With 25% of the June 2017 Half Year elapsed, Perseus is on track to achieve in the middle of the production guidance range of 90 kozo to 100 kozo of gold and is currently positioned towards the middle of the cost guidance range of US\$1,000 to US\$1,220 per ounce.

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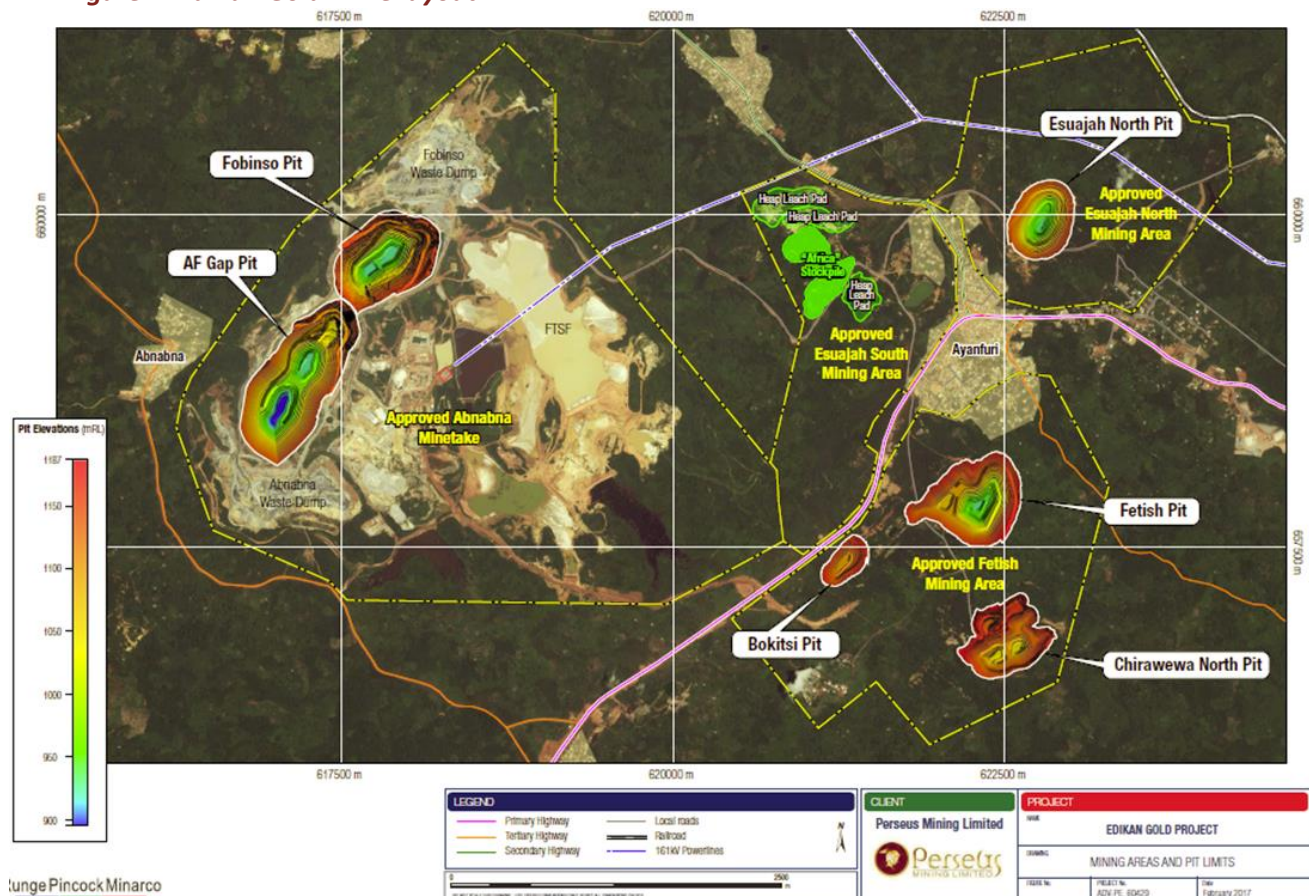
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## UPDATED LIFE OF MINE PLAN FOR EDIKAN GOLD MINE

### 1. Overview

The updated LOMP for Edikan involves mining and processing of ore from six open pits (Refer to **Figure 1** below) based on optimisation, design and scheduling using a gold price of US\$1,200 per ounce and input parameters based on Perseus's operating experience including costs from recently contracted supply contracts.

**Figure 1: Edikan Gold Mine layout**



Based on the LOMP, the key forecast operating statistics for Edikan are summarised below in **Tables 1** below.

**Table 1: Overview Key Parameters of the updated LOMP**

| Parameter               | Units    | Average per year     | Total             |
|-------------------------|----------|----------------------|-------------------|
| Ex-Pit Mining           |          | FY18-22 <sup>1</sup> | Life of Mine      |
| Total ore + waste mined | Mt       | 34.7                 | 156.1             |
| Waste mined             | Mt       | 25.4                 | 114.5             |
| Ore mined               | Mt       | 9.2                  | 41.6 <sup>2</sup> |
| Head grade              | g/t gold | 1.13                 | 1.13              |
| Strip ratio             | t:t      | 2.8                  | 2.8               |

Note: 1. Perseus has a financial year that ends on 30 June.

2. The LOMP excludes the Esuajah South Ore Reserve, but all other Ore Reserves are included consistent with Table 5 in Section 3 of this document.

**Table 1: Overview Key Parameters of the updated LOMP (Continued)**

| Parameter                                      | Units                | Average per year     | Total             |
|------------------------------------------------|----------------------|----------------------|-------------------|
| Processing                                     |                      | FY18-22 <sup>1</sup> | Life of Mine      |
| Quantity ore processed                         | Mt                   | 7.3                  | 47.6 <sup>2</sup> |
| Head grade processed                           | g/t gold             | 1.19                 | 1.06              |
| Contained gold                                 | '000 ounces          | 281                  | 1,624             |
| Gold recovery rate                             | %                    | 88.3                 | 88.1              |
| Mine Call Factor <sup>3</sup>                  | %                    | 3.0                  | 3.0               |
| Gold production                                | '000 ounces          | 240                  | 1,388             |
| Operating and Capital Costs                    |                      |                      |                   |
| Average mining costs                           | US\$/tonne mined     | 3.24                 | 3.29              |
| Average processing costs                       | US\$/tonne processed | 9.14                 | 9.21              |
| Average general & administration ("G&A") costs | US\$/tonne processed | 2.37                 | 2.16              |
| Production costs                               | US\$/ounce           | 769                  | 758               |
| Royalty                                        | US\$/ounce           | 81                   | 81                |
| Sustaining capital                             | US\$/ounce           | 25                   | 25                |
| All-in site costs                              | US\$/ounce           | 875                  | 864               |

**Note:** 1. Perseus has a financial year that ends on 30 June. 2. Includes Ore mined ex-pit plus Ore drawn from ROM stockpile and Heap Leach pads. 3. The Mine Call Factor is an allowance to cover any residual mine to mill reconciliation issues that may exist after the full implementation of improvement measures that among other things, have included the new Mineral Resource estimates.

## 2. Comparison of Key Parameters relative to the April 2016 EDIKAN LOMP

The current LOMP differs relative to the prior version of the LOMP released in April 2016, as shown below in **Table 2**.

**Table 2: Overview Key Parameters of the updated LOMP**

| Parameter                      | Units                | 2016 LOMP <sup>1</sup> | 2017 LOMP <sup>2</sup> | % Change |
|--------------------------------|----------------------|------------------------|------------------------|----------|
| Mining                         |                      |                        |                        |          |
| Total ore + waste mined        | Mt                   | 149.5                  | 156.1                  | +4       |
| Waste mined                    | Mt                   | 109.3                  | 114.5                  | +5       |
| Ore mined                      | Mt                   | 40.2                   | 41.6                   | +4       |
| Head grade                     | g/t gold             | 1.15                   | 1.13                   | -2       |
| Strip ratio                    | t:t                  | 2.7                    | 2.8                    | +4       |
| Processing                     |                      |                        |                        |          |
| Average quantity ore processed | Mt/year              | 7.2                    | 7.3                    | +1       |
| Head grade processed           | g/t gold             | 1.08                   | 1.06                   | -2       |
| Contained gold                 | '000 ounces          | 1,624                  | 1,624                  | 0        |
| Gold recovery rate             | %                    | 88.5                   | 88.1                   | -1       |
| Mine Call Factor               | %                    | -                      | 3.0                    | NA       |
| Gold production                | '000 ounces          | 1,437                  | 1,388                  | -3       |
| Average gold production        | '000 ounces/ year    | 221                    | 214                    | -3       |
| Operating and Capital Costs    |                      |                        |                        |          |
| Average mining costs           | US\$/tonne mined     | 3.47                   | 3.29                   | -5       |
| Average processing costs       | US\$/tonne processed | 8.73                   | 9.21                   | +5       |
| Average Site G&A costs         | US\$/tonne processed | 2.19                   | 2.16                   | -1       |
| Production costs               | US\$/ounce           | 714                    | 758                    | +6       |
| Royalty                        | US\$/ounce           | 81                     | 81                     | 0        |
| Sustaining capital             | US\$/ounce           | 16                     | 25                     | +56      |
| All-in site costs              | US\$/ounce           | 811                    | 864                    | +7       |

Notes: 1. FY2017 omitted from 2016 LOMP for comparison purposes 2. LOMP commences 1 July 2017 and ends 31 December 2023

### 3. Mineral Resources and Ore Reserves

The updated global Measured and Indicated Mineral Resource for Edikan is now estimated as 155.8 Mt grading at 1.0g/t gold, containing 5,011 kozs of gold as shown in **Table 3**. The Mineral Resource includes the Esuajah South Underground Resource, which is not included in the current LOMP.

**Table 3: Edikan's Measured and Indicated Mineral Resources – December 2016**

| Deposit                        | Deposit Type | Measured Resources |             |              | Indicated Resources |             |              | Measured + Indicated Resources |             |              |
|--------------------------------|--------------|--------------------|-------------|--------------|---------------------|-------------|--------------|--------------------------------|-------------|--------------|
|                                |              | Quantity           | Grade       | Gold         | Quantity            | Grade       | Gold         | Quantity                       | Grade       | Gold         |
|                                |              | Mt                 | g/t gold    | koz          | Mt                  | g/t gold    | koz          | Mt                             | g/t gold    | koz          |
| AF Gap <sup>1,2</sup>          | Open Pit     | 11.0               | 0.97        | 342          | 35.6                | 0.84        | 963          | 46.6                           | 0.87        | 1,305        |
| Fobinso <sup>1,2</sup>         | Open Pit     | 2.7                | 1.08        | 93           | 11.8                | 0.94        | 357          | 14.5                           | 0.97        | 450          |
| Esuajah North <sup>1,2</sup>   | Open Pit     | 11.4               | 0.96        | 352          | 19.5                | 0.89        | 557          | 30.9                           | 0.92        | 909          |
| Fetish <sup>1,2,5</sup>        | Open Pit     | 9.6                | 1.00        | 309          | 23.9                | 0.90        | 692          | 33.5                           | 0.93        | 1,001        |
| Chirawewa North <sup>1,2</sup> | Open Pit     | 1.4                | 0.85        | 38           | 5.7                 | 0.82        | 150          | 7.1                            | 0.83        | 188          |
| Chirawewa South <sup>1,2</sup> | Open Pit     | 0.2                | 1.16        | 6            | 0.6                 | 1.02        | 19           | 0.8                            | 1.05        | 25           |
| Bokitsi South <sup>1,2</sup>   | Open Pit     | 0.9                | 2.57        | 71           | 1.1                 | 1.90        | 66           | 1.9                            | 2.20        | 137          |
| Sub-Total                      | Open Pit     | 37.2               | 1.01        | 1,211        | 98.2                | 0.89        | 2,804        | 135.3                          | 0.92        | 4,015        |
| Esuajah South <sup>3</sup>     | U/ground     | 8.5                | 1.9         | 533          | 6.3                 | 1.7         | 353          | 14.8                           | 1.8         | 879          |
| Heap Leach <sup>4</sup>        | Stockpile    |                    |             |              | 4.3                 | 0.6         | 89           | 4.3                            | 0.6         | 89           |
| ROM Stockpiles                 | Stockpile    | 1.4                | 0.61        | 28           | -                   | -           | -            | 1.4                            | 0.61        | 28           |
| <b>Total</b>                   |              | <b>47.1</b>        | <b>1.17</b> | <b>1,772</b> | <b>108.8</b>        | <b>0.93</b> | <b>3,246</b> | <b>155.8</b>                   | <b>1.00</b> | <b>5,011</b> |

A further 30.0 Mt of material grading at 0.9 g/t gold and containing a further 899 kozs of gold are classified as Inferred Resources. Details of these estimates are shown below in **Table 4**.

**Table 4: Edikan's Inferred Mineral Resources – December 2016**

| Deposit                        | Deposit Type | Inferred Resources |            |            |
|--------------------------------|--------------|--------------------|------------|------------|
|                                |              | Quantity           | Grade      | Gold       |
|                                |              | Mt                 | g/t gold   | koz        |
| AF Gap <sup>1,2</sup>          | Open Pit     | 9.4                | 0.8        | 250        |
| Fobinso <sup>1,2</sup>         | Open Pit     | 3.5                | 0.9        | 95         |
| Esuajah North <sup>1,2</sup>   | Open Pit     | 2.9                | 0.9        | 88         |
| Fetish <sup>1,2,5</sup>        | Open Pit     | 6.3                | 1.0        | 191        |
| Chirawewa North <sup>1,2</sup> | Open Pit     | 1.5                | 0.8        | 39         |
| Chirawewa South <sup>1,2</sup> | Open Pit     | 0.04               | 1.1        | 1          |
| Bokitsi South <sup>1,2</sup>   | Open Pit     | 1.3                | 1.1        | 43         |
| Esuajah South <sup>3</sup>     | Underground  | 4.7                | 1.3        | 192        |
| <b>Total</b>                   |              | <b>30</b>          | <b>0.9</b> | <b>899</b> |

#### Notes on Tables 3 and 4:

1. Allows for mining depletion to 31 December 2016.
2. 0.4g/t gold cut-off applied
3. 0.7g/t gold cut-off grade applied
4. At zero cut-off grade
5. Includes Bokitsi North lode
6. Mineral Resources are inclusive of any Ore Reserves
7. Numbers are rounded and may not add up correctly in the table
8. Note that the Dadieso and Mampong deposits have been removed from the Mineral Resource on economic grounds

Edikan's updated Ore Reserve which is summarised below in **Table 5** is estimated at 56.5 million tonnes of ore, grading 1.14 g/t gold and containing 2,078koz of gold and is based on the re-estimated Edikan Mineral Resources as at 31 December 2016 and updated pit optimisation, design and scheduling of the Open Pit resources and a new Esuajah South Ore Reserve based on underground mining methods. Table 5 reports the Ore Reserves by category, deposit and type, above variable cut-off grades. The classification categories of Proved and Probable under the JORC Code are equivalent to the CIM categories of the same name (CIM, 2010).

**Table 5: Edikan's Proved and Probable Ore Reserves as at 31 December 2016**

| Deposit          | Deposit Type    | Proved      |             |            | Probable    |             |              | Proved + Probable |             |              |
|------------------|-----------------|-------------|-------------|------------|-------------|-------------|--------------|-------------------|-------------|--------------|
|                  |                 | Quantity    | Grade       | Gold       | Quantity    | Grade       | Gold         | Quantity          | Grade       | Gold         |
|                  |                 | Mt          | g/t gold    | koz        | Mt          | g/t gold    | koz          | Mt                | g/t gold    | koz          |
| AF Gap           | Open Pit        | 5.5         | 1.09        | 191        | 6.0         | 1.07        | 208          | 11.5              | 1.08        | 399          |
| Fobinso          | Open Pit        | 1.1         | 1.19        | 44         | 3.3         | 1.11        | 119          | 4.5               | 1.13        | 163          |
| Esuajah North    | Open Pit        | 6.5         | 1.10        | 229        | 7.8         | 1.04        | 262          | 14.3              | 1.07        | 491          |
| Fetish           | Open Pit        | 4.6         | 1.21        | 179        | 7.9         | 1.11        | 281          | 12.5              | 1.15        | 459          |
| Chirawewa North  | Open Pit        | 0.5         | 1.05        | 17         | 2.0         | 0.99        | 63           | 2.5               | 1.01        | 80           |
| Bokitsi          | Open Pit        | 0.5         | 2.94        | 44         | 0.1         | 2.75        | 10           | 0.6               | 2.91        | 55           |
| <b>Sub-total</b> | <b>Open Pit</b> | <b>18.7</b> | <b>1.17</b> | <b>704</b> | <b>27.1</b> | <b>1.08</b> | <b>943</b>   | <b>45.8</b>       | <b>1.12</b> | <b>1,647</b> |
| Esuajah South    | U/ground        |             |             |            | 4.9         | 2.0         | 314          | 4.9               | 2           | 314          |
| Heap Leach       | Stockpile       |             |             |            | 4.3         | 0.6         | 89           | 4.3               | 0.6         | 89           |
| ROM Stockpiles   | Stockpile       | 1.4         | 0.61        | 28         |             |             |              | 1.4               | 0.61        | 28           |
| <b>Total</b>     |                 | <b>20.1</b> | <b>1.13</b> | <b>733</b> | <b>36.3</b> | <b>1.13</b> | <b>1,346</b> | <b>56.5</b>       | <b>1.14</b> | <b>2,078</b> |

**Notes:**

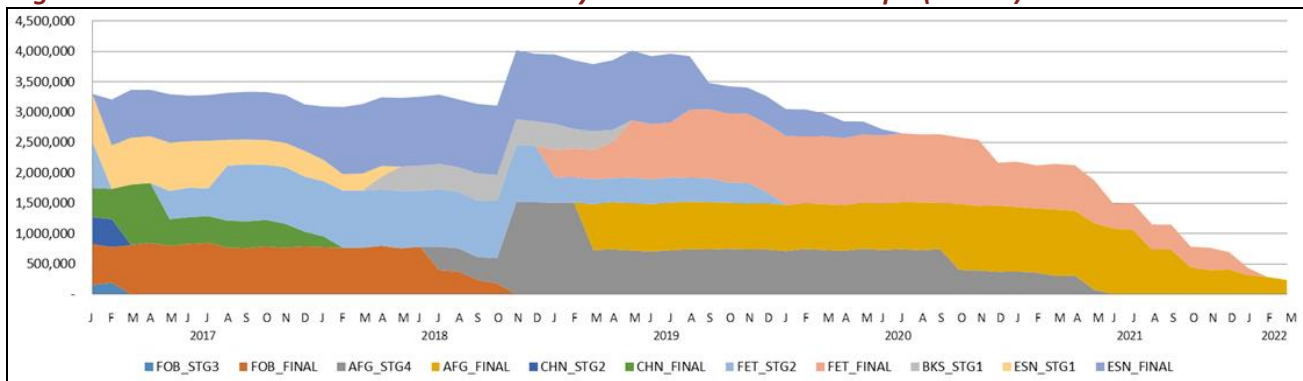
1. Numbers are rounded and may not add up correctly in the table
2. All the estimates are on a dry tonne basis
3. Based on December 2016 Mineral Resource estimation
4. Variable gold cut-off grade based on material type and mining method
5. Inferred Mineral Resource is treated as mineralised waste
6. Allows for mining depletion up to and including 31 December 2016
7. ROM denotes Run of Mine
8. Heap Leach refers to decommissioned heap leach pads established by prior owners of Edikan

Proven and Probable Ore Reserves are found within the economic limits of six discrete open pits, an underground project (not currently included in the LOMP) and stockpiles that have been designed based on Measured and Indicated Mineral Resources that incorporated all available Resource drilling results, a gold price of US\$1,200 per ounce and mining, processing and general and administration costs derived from recent operating experience.

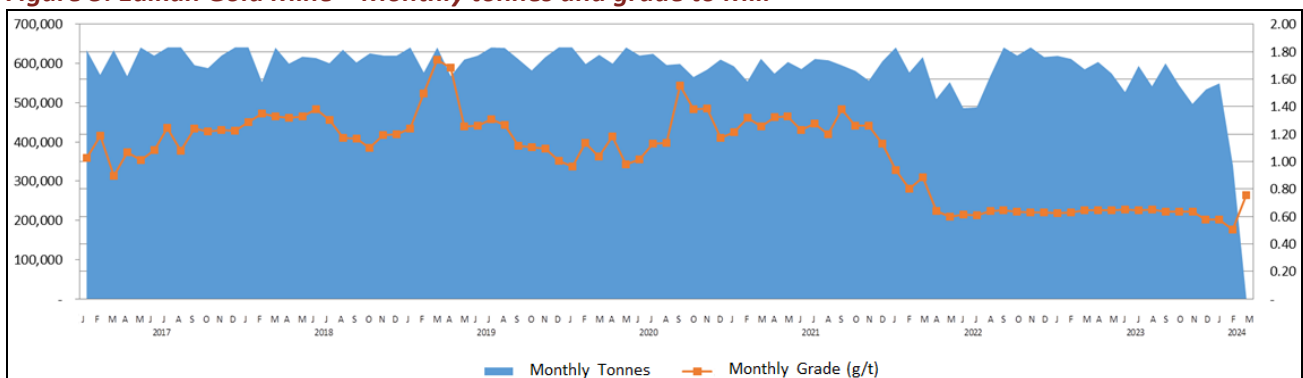
#### 4. Gold production profile

With the aim of maximising the return on funds employed at Edikan, the mining sequence of the pits along with mill feed profile has been optimised and scheduled. The result of this scheduling is that the gold production profile and resulting cash flows from Edikan remain strong for the remainder of the mine life. (Refer to **Figures 2, 3 and 4** below.)

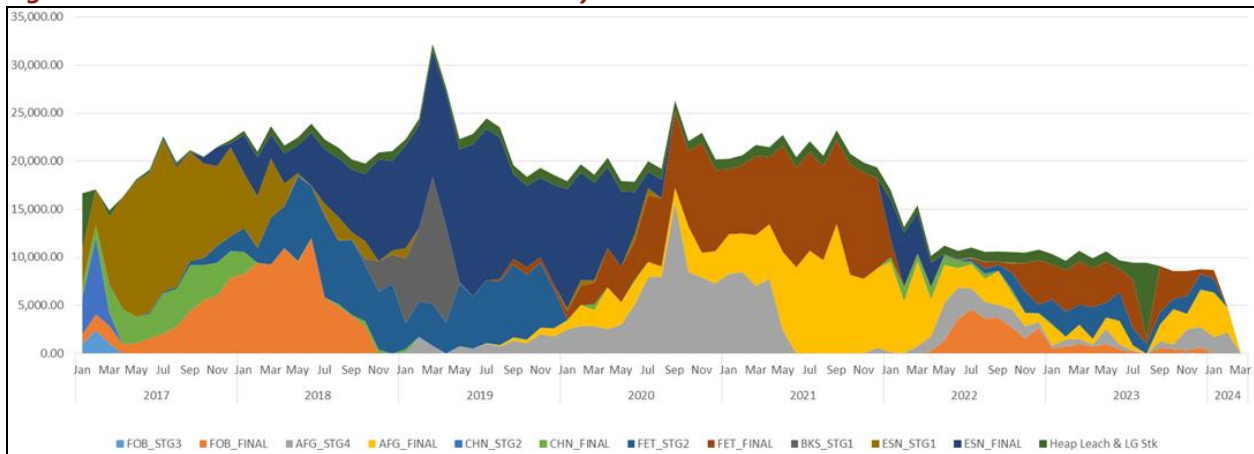
**Figure 2: Edikan Gold Mine - scheduled monthly material movement ex-pit (tonnes)**



**Figure 3: Edikan Gold Mine – Monthly tonnes and grade to Mill**



**Figure 4: Edikan Gold Mine – Gold Production by Pit**



While the development of the Esuajah South deposit is not currently included in Edikan’s production profile, the risk/return equation relating to the development of this deposit using underground mining techniques would change in a higher gold price environment and therefore development of this deposit may be included in future versions of the LOMP.

## 5. Improved operating efficiencies

During calendar year 2016, Perseus invested heavily in upgrading key elements of the process plant and also establishing standby power generating capacity to ensure continuity of operations irrespective of the availability of power from the national electricity grid. These works were largely completed in the December 2016 quarter and were intended to enhance the Company’s ability to deliver the updated LOMP.

Plant performance in latter part of the December 2016 Quarter, and in calendar 2017 to date confirm that forecast run time, throughput rates and gold recovery rate are readily achievable.

Average annual processing throughput rate of ore is nominally 7.3Mtpa, with throughput rates variable by material type and deposit. The processing circuit involves single stage crushing, semi-autogenous grinding, gravity recovery, flotation, regrind and CIL. Assumed run time which is the product of availability and utilisation is forecast to average 90% for the remaining life of mine

The process metallurgical recovery for gold is fixed by material type in each deposit. Gold recovery rates range from 59.5-69% for oxide ore and 86-94% for primary ore. The variable recoveries are a function of differing metallurgical properties of ores from different deposits. Recoveries by pit are as shown in **Table 6**.

**Table 6: Metallurgical recoveries by material type and pit**

| Deposit       | Recovery by Ore Type (%) |            |                   |
|---------------|--------------------------|------------|-------------------|
|               | Oxide                    | Transition | Fresh             |
| AF Gap        | 61.0                     | 73.4       | 88.0              |
| Fobinso       | 61.0                     | 73.4       | 88.0              |
| Chirawewa     | 59.5                     | 72.0       | 86.0              |
| Bokitsi       | 69.0                     | 78.0       | 87.0 <sup>1</sup> |
| Fetish        | 61.0                     | 73.4       | 90.0              |
| Esuajah North | 61.0                     | 73.4       | 93.0              |
| Heap Leach    | 67.0                     | -          | -                 |

<sup>1</sup> Average value, the recovery for Bokitsi is variable based on the input grade

## 6. Substantial decrease in sustaining capital

In the two years to December 2016, Perseus has invested heavily in a programme of capital works at Edikan that included upgrading the processing plant, installing electricity generating capacity, construction of relocation housing to house people impacted by mining operations and pre-stripping three open pits.

With the completion of this work, the amount of capital expenditure required to sustain the Edikan operation for the remaining mine life has reduced materially. Total remaining life of mine capital expenditure of US\$34.5 million is forecast, including approximately US\$8 million of capital to complete rehabilitation of the mine site when operations cease.

## 7. Future cash flows and sensitivity analysis

Based on the LOM gold production and cost parameters, the net after tax cash flows forecast to be generated by Edikan from 1 January 2017, at US\$1,200 per ounce gold price, are estimated to total US\$403 million or A\$0.52 per share (assuming an A\$:US\$ exchange rate of 0.75).

The sensitivity analysis shown below in **Table 7** summarises the sensitivity of Edikan's net after tax cash flows to movements in the gold price. Within an expected short term trading range of US\$1,100 per ounce to US\$1,300 per ounce, the projected cash flows of the mine remain robust and capable of materially contributing to the development funding of Perseus's two growth projects, namely the Sissingué Gold Mine and the Yaouré Gold Mine, both located in Côte d'Ivoire.

**Table 7: Sensitivity Edikan's After Tax Cashflow to gold price movements**

| Gold Price                       |                                  |                                    |
|----------------------------------|----------------------------------|------------------------------------|
| US\$1,100/ounce                  | US\$1,200/ounce                  | US\$1,300/ounce                    |
| US\$319 million<br>A\$0.41/share | US\$403 million<br>A\$0.52/share | US\$487 million<br>A\$0.63 / share |

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**Caution Regarding Forward Looking Information:**

*This report contains forward-looking information which is based on the assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management of the Company believes to be relevant and reasonable in the circumstances at the date that such statements are made, but which may prove to be incorrect. Assumptions have been made by the Company regarding, among other things: the price of gold, continuing commercial production at the Edikan Gold Mine without any major disruption, development of a mine at Tengrela, the receipt of required governmental approvals, the accuracy of capital and operating cost estimates, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used by the Company. Although management believes that the assumptions made by the Company and the expectations represented by such information are reasonable, there can be no assurance that the forward-looking information will prove to be accurate. Forward-looking information involves known and unknown risks, uncertainties, and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any anticipated future results, performance or achievements expressed or implied by such forward-looking information. Such factors include, among others, the actual market price of gold, the actual results of current exploration, the actual results of future exploration, changes in project parameters as plans continue to be evaluated, as well as those factors disclosed in the Company's publicly filed documents. The Company believes that the assumptions and expectations reflected in the forward-looking information are reasonable. Assumptions have been made regarding, among other things, the Company's ability to carry on its exploration and development activities, the timely receipt of required approvals, the price of gold, the ability of the Company to operate in a safe, efficient and effective manner and the ability of the Company to obtain financing as and when required and on reasonable terms. Readers should not place undue reliance on forward-looking information. Perseus does not undertake to update any forward-looking information, except in accordance with applicable securities laws.*

**Competent Person Statement**

*All production targets for Edikan referred to in this report are underpinned by estimated Ore Reserves which have been prepared by competent persons in accordance with the requirements of the JORC Code. The information in this report in relation to Edikan Mineral Resource and Ore Reserve estimates was previously published in a market release dated 21 February 2017. The Company confirms that all material assumptions underpinning those estimates and the production targets, or the forecast financial information derived therefrom, in that market release continue to apply and have not materially changed. The Company further confirms that material assumptions underpinning the estimates of Ore Reserves described in "Technical Report — Central Ashanti Gold Project, Ghana" dated 30 May 2011 continue to apply. Gary Brabham and Paul Thompson, each of whom is a Qualified Person as defined in NI 43-101 and an employee of the Company, have approved the inclusion of technical and scientific information in this report.*