

6 April 2021

## Tietto PFS forecasts 200,000oz gold in Abujar's first year of production; 168,000ozpa gold in first six years

All amounts stated in US Dollars unless stated otherwise. Base Case on 100% project basis at average gold price of \$1,506/oz<sup>1</sup>

### Highlights:

- Abujar Gold Project open pit 3.5Mtpa Pre-Feasibility Study (PFS) demonstrates:
  - ✓ Forecast annual production of **200,000 ounces gold in first year** of production; **more than 168,000 ounces per annum** over the first 6 years of project
  - ✓ Maiden Open Pit Probable Reserves of **15.7Mt ROM at 1.7 g/t Au for 860,000oz** (over 65% conversion of Indicated Resources)
  - ✓ LOM mining inventory inclusive of Ore Reserves of **22.9Mt ROM at 1.5 g/t Au for 1.1Moz<sup>2</sup>** at Average All-in Sustaining Costs (AISC) of \$839/oz
  - ✓ **2.8-year pay back** from commencement of construction on \$230 million capex (including pre-production mining and contingency)
  - ✓ **Strong economics** - pre-tax NPV (5%) of \$363M, IRR 53% and post-tax NPV (5%) of \$266M, IRR 42% based on an average gold price of US\$1506/oz
  - ✓ **Free cashflow of more than \$509 million (pre-tax) expected over first 10 years**, with substantial upside to project to be considered in the DFS, expected to be completed next quarter
  - ✓ **Leveraged to gold price** - pre-tax NPV (5%) of \$502M, IRR 63% and post-tax NPV (5%) of \$370M, IRR 51% at spot gold price of US\$1700/oz
- Robust PFS economics **support substantial debt funding element** to the funding mix for Abujar, and discussions continue with potential project financiers
- Tietto has **secured all mining and environmental approvals for Abujar**; negotiations with Ivoirian Government on Abujar Mining Convention underway - ratification expected this Quarter
- US\$2.5M of early site works underway at Abujar
- **Substantial upside** demonstrated to Abujar PFS base case – **Expanded Project<sup>3</sup> has potential to increase NPV, gold production (1.44Moz)** and mine life demonstrated by scoping study of APG open pit and AG Core underground - pre-tax NPV (5%) of \$432M, IRR 54% and post-tax NPV (5%) of \$311M, IRR 43% using an average gold price of US\$1491/oz:

<sup>1</sup> The Pre-Feasibility Study was prepared at a ±25% level of accuracy; these production targets must be read in conjunction with the production targets cautionary statement on Page 2.

<sup>2</sup> The LOM plan contains approximately 30% Inferred Mineral Resources. An Inferred Mineral Resource has a lower level of confidence than an Indicated Mineral Resource and there is no certainty that further exploration work will result in the conversion of the material into an Indicated Mineral Resource.

<sup>3</sup> The Expanded Project (Expanded Project) scoping study of the APG open pit and the AG underground have been prepared to an intended accuracy level of ±40% and must be read in conjunction with the cautionary statement on Page 4.

- ✓ Using US\$1700 delivers pre-tax NPV (5%) of \$620M, IRR 64% and LOM annual cashflow after tax and capital of US\$62M per year for 12 years
- Tietto is well funded with ~A\$52M cash at bank (31 March 2021 unaudited) to complete Definitive Feasibility Study (DFS) in Q3 2021:
  - ✓ DFS will **optimise** throughput and **reduce waste stripping costs**
  - ✓ ~25,000m **infill drilling completed** to target Inferred Resources within and beneath current ore reserve pit design and follow-up extensional drilling at AG and APG
  - ✓ **Updated** resource model, expected **late May 2021**, will be included in **Abujar DFS**
  - ✓ PFS to assess heap leach potential at APG to **add to gold production** at Abujar

### Forward Looking Statements

*Some statements in this document may be forward-looking statements. Such statements include, but are not limited to, statements with regard to capacity, future production and grades, projections for sales growth, estimated revenues and reserves, targets for cost savings, the construction cost of new projects, projected capital expenditures, the timing of new projects, future cash flow and debt levels, the outlook for minerals and metals prices, the outlook for economic recovery and trends in the trading environment and may be (but are not necessarily) identified by the use of phrases such as “will”, “expect”, “anticipate”, “believe” and “envisage”.*

*By their nature, forward-looking statements involve risk and uncertainty because they relate to events and depend on circumstances that will occur in the future and may be outside Tietto Minerals’ control. Actual results and developments may differ materially from those expressed or implied in such statements because of a number of factors, including levels of demand and market prices, the ability to produce and transport products profitably, the impact of foreign currency exchange rates on market prices and operating costs, operational problems, political uncertainty and economic conditions in relevant areas of the world, the actions of competitors, activities by governmental authorities such as changes in taxation or regulation.*

### Production Targets Cautionary Statement

*The Production Target and forecast financial information derived from the Production Target referred to in this ASX release is based on 70% Probable Ore Reserves and 30% Inferred Mineral Resources. The modifying factors used in the estimation of the Ore Reserve were also applied to the Inferred Resources.*

*There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the Production Target itself will be realised.*

*The material assumptions used in the estimation of the Production Target and associated forecast financial information are set out in the Ore Reserve Statements accompanying this release.*

*The Ore Reserve and Mineral Resource estimates underpinning the Production Target were prepared by a Competent Person in accordance with the JORC Code 2012.*

## ***Abujar AG Open Pit Pre-Feasibility Study – Production and Financial Highlights***

***Base case is stated on a 100% basis and an average gold price of \$1,506/oz (all amounts in US\$)***

***Financial model assumes project start from beginning October 2021***

<b><i>Average Production Y1-3</i></b>	<i>182,000oz/yr</i>
<b><i>Average Production LOM (Y1-6)</i></b>	<i>168,000oz/yr</i>
<b><i>Revenue LOM</i></b>	<i>\$1,618M</i>
<b><i>Production Costs LOM</i></b>	<i>Average Cash Costs of \$824/oz (including royalties)</i>
	<i>Average All-in Sustaining Costs (AISC) of \$839/oz</i>
<b><i>IRR</i></b>	<i>Pre-tax IRR of 53% and 2.4 year payback on initial capital</i>
	<i>After-tax IRR of 42% and 2.8 year payback on initial capital</i>
<b><i>NPV</i></b>	<i>Pre-tax NPV (5%) of \$363M</i>
	<i>Post-tax NPV (5%) of \$266M</i>
<b><i>Free Cashflow LOM</i></b>	<i>Pre-tax Free Cashflow of \$509M</i>
	<i>Post-tax Free Cashflow of \$382M</i>
<b><i>Capex</i></b>	<i>Pre-Production capital of \$230M (including pre-production mining and contingency)</i>
	<i>Sustaining capital and closure costs of \$32M</i>
<b><i>Project Life</i></b>	<i>10 years</i>
<b><i>Probable Mineral Reserves</i></b>	<i>15.7Mt ROM at 1.7 g/t Au for 860,000 ounces</i>
<b><i>Mineable quantities inclusive of Probable Mineral Reserves</i></b>	<i>22.9 Mt ROM at 1.5 g/t Au for 1,120,000 ounces at a strip ratio of 8.2 t:t</i>
<b><i>LOM Recoveries</i></b>	<i>96% for 1,075,000 ounces of gold recovered</i>

## Cautionary Statement

*The Scoping Study referred to in this announcement has been undertaken to determine the potential viability of an Expanded Project (Expanded Project) development of the Abujar Gold Project in Cote d'Ivoire comprising the AG open pit mine and process plant and an open pit at APG and an underground development at AG below the open pit. The Scoping Study for the Expanded Project has been prepared to an intended accuracy level of  $\pm 40\%$ . The results should not be considered a profit forecast or production forecast.*

*The Scoping Study is a preliminary technical and economic study of the potential viability of the Expanded Project. In accordance with the ASX Listing Rules, the Company advises it is based on low-level technical and economic assessments that are not sufficient to support the estimation of Ore Reserves for the APG open pit and the AG underground. Further evaluation work is planned with over 25,000m of infill diamond drilling already being complete and appropriate studies are required before Tietto will be able to estimate any Ore Reserves or to provide any assurance of an economic development case of the Expanded Project.*

*Approximately 57% of ounces making up the Expanded Project production targets are Probable Mineral Reserves from the AG open Pit, 17% of ounces within the AG Open Pit are Inferred Mineral Resource category. The APG open pit accounts for 14% of ounces making up the production target and these are currently in the Inferred Mineral Resource category. The AG underground is made up of Indicated and Inferred Mineral Resources; 3% of ounces in the production target come from AG underground ounces in the Indicated Mineral Resources category and 8% of the ounces are Inferred Mineral Resources.*

*The Company has concluded that it has reasonable grounds for disclosing a production target which includes an amount of Inferred Mineral Resource. However, there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work (including infill drilling underway) on the Abujar deposit will result in the determination of additional Indicated Mineral Resources or that the production target itself will be realized.*

*The Scoping Study is based on the material assumptions outlined elsewhere in this announcement. These include assumptions about the availability of funding. While Tietto considers all the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.*

*To achieve the range outcomes indicated in the Scoping Study, additional funding will likely be required. Investors should note that there is no certainty that Tietto will be able to raise funding when needed. It is also possible that such funding may only be available on terms that dilute or otherwise affect the value of the Tietto's existing shares. It is also possible that Tietto could pursue other 'value realization' strategies such as sale, partial sale, or joint venture of the Abujar Gold Project. If it does, this could materially reduce Tietto's proportionate ownership of the Abujar Gold Project.*

*The Company has concluded it has a reasonable basis for providing the forward-looking statements included in this announcement and believes that it has a reasonable basis to expect it will be able to fund the development of the Expanded Project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.*



## **Expanded Project: Abujar AG Open Pit Pre-Feasibility Study, APG Open Pit Scoping Study & AG Underground Mining Scoping Study – Production and Financial Highlights**

*Base case is stated on a 100% basis and an average gold price of \$1,491/oz (all amounts in US\$)*  
*Financial model assumes project start from beginning October 2021*

<b>Average Production Y1-3</b>	182,000oz/yr
<b>Average Production LOM (Y1-6)</b>	168,000oz/yr
<b>Revenue LOM</b>	\$2,141M
<b>Production Costs LOM</b>	Average Cash Costs of \$863/oz (including royalties)
	Average All-in Sustaining Costs (AISC) of \$903/oz
<b>IRR</b>	Pre-tax IRR of 54% and 2.4 year payback on initial capital
	After-tax IRR of 43% and 2.8 year payback on initial capital
<b>NPV</b>	Pre-tax NPV (5%) of \$432M
	Post-tax NPV (5%) of \$311M
<b>Free Cashflow LOM</b>	Pre-tax Free Cashflow of \$599M
	Post-tax Free Cashflow of \$461M
<b>Capex</b>	Pre-Production capital of \$230M (including pre-production mining and contingency)
	Underground development capital of \$48.4M beginning from Year 6
	Remaining capital and closure costs of \$48.1M
<b>Project Life</b>	12 years
<b>Probable Mineral Reserves</b>	15.7Mt ROM at 1.7 g/t Au for 860,000 ounces
<b>Mineable quantities inclusive of Probable Mineral Reserves<sup>1</sup></b>	AG Open Pit: 22.9 Mt ROM at 1.5 g/t Au for 1,120,000 ounces at a strip ratio of 8.2 t:t
<b>Scoping Study Production Targets<sup>2</sup></b>	APG Open Pit: 8.1 Mt ROM at 0.8 g/t Au for 209,000 ounces at a strip ratio of 3.3 t:t
	AG Underground <sup>2</sup> : 1.8Mt ROM at 2.8 g/t Au for 168,000 ounces
<b>LOM Recoveries</b>	96% for 1,436,000 ounces of gold recovered

West African gold explorer and developer Tietto Minerals Limited (ASX: TIE) (**Tietto** or the **Company**) is pleased to report positive results from an open pit Pre-Feasibility Study (PFS) for its 3.02Moz Abujar Gold Project in Côte d'Ivoire, West Africa, which is on track to be West Africa's next gold mine.

Tietto Managing Director, Dr Caigen Wang, said:

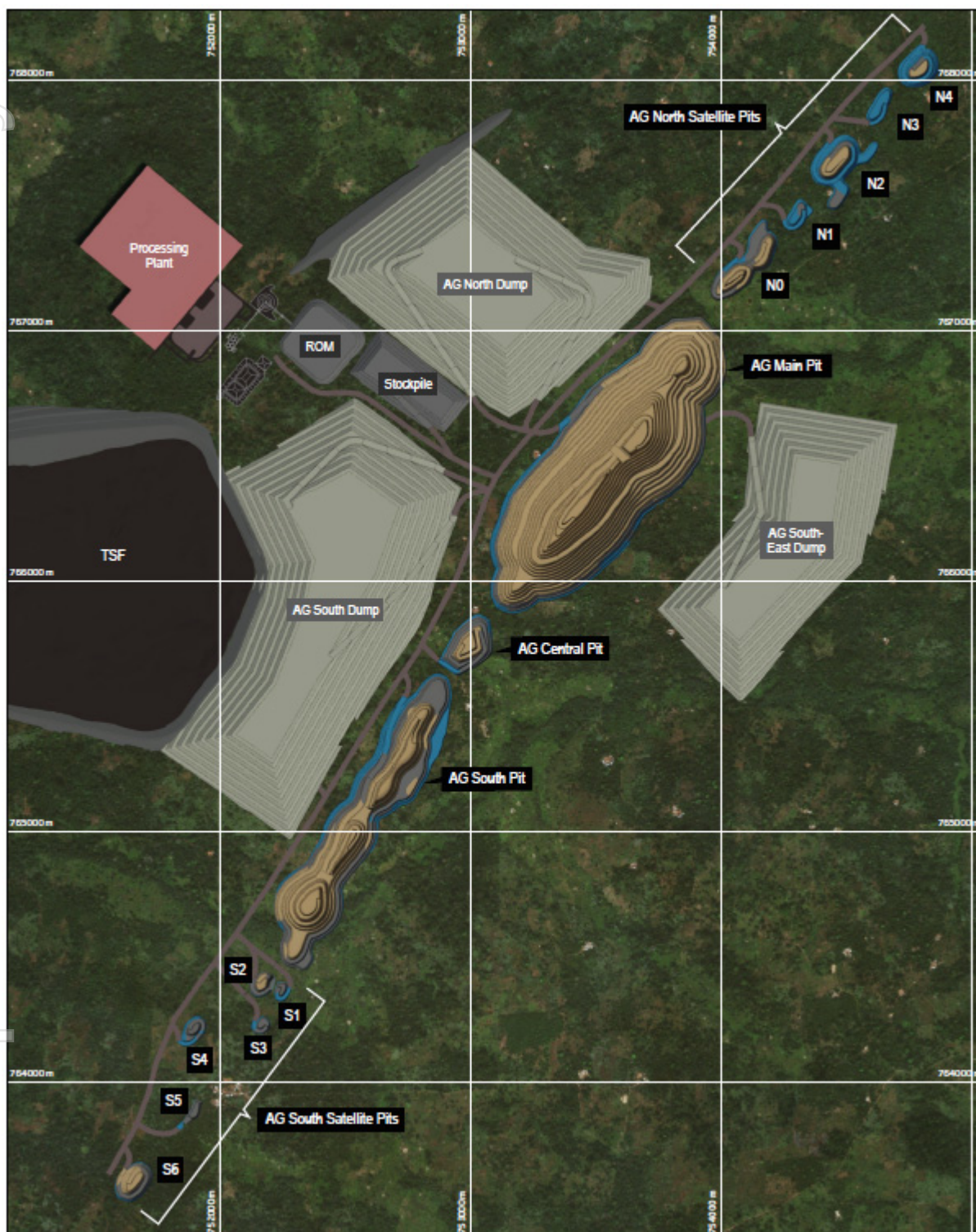
*"Delivery of this maiden JORC 2012 open pit Ore Reserve and supporting PFS is a milestone for Tietto and our shareholders, as it moves us closer towards realising our goal of developing West Africa's next gold mine."*

*"The PFS metrics are compelling and clearly suggest that the development of Abujar will transform Tietto into a substantial West African gold producer. Abujar is shaping up as a robust, long-life project based on the open-pit mine development, underpinned by maiden Ore Reserves of 860,000oz, with annual average gold production of more than 160,000 ounces of gold per annum."*

*"We believe there is considerable upside to the base case PFS, with a scoping study of the APG open pit and AG underground demonstrating considerable value remains to be unlocked for our shareholders."*

*"We will use this PFS as the basis for a Definitive Feasibility Study (DFS) and build on the value drivers that have been identified. For example, the DFS will consider the additional throughput potential and the lower operating costs of processing oxide and transition material in mine plan, and we will investigate the optimum processing rate to ascertain the correct mill size during the DFS. This has the potential to increase the value from mining operations earlier in the life of mine. Work will also commence on determining the feasibility of establishing a heap leach operation that will seek to add further value to the project from the resource base at APG."*

*"We are confident the Abujar Gold Project will continue to enjoy growth in both Resources and Reserves over the year through our continued aggressive drilling program. We have commenced early-stage debt financing negotiations for the project and we are focused on advancing the Abujar Gold Project towards becoming West Africa's next gold mine."*



*Figure 1: Proposed layout of Abujar Gold Project in Côte d'Ivoire*



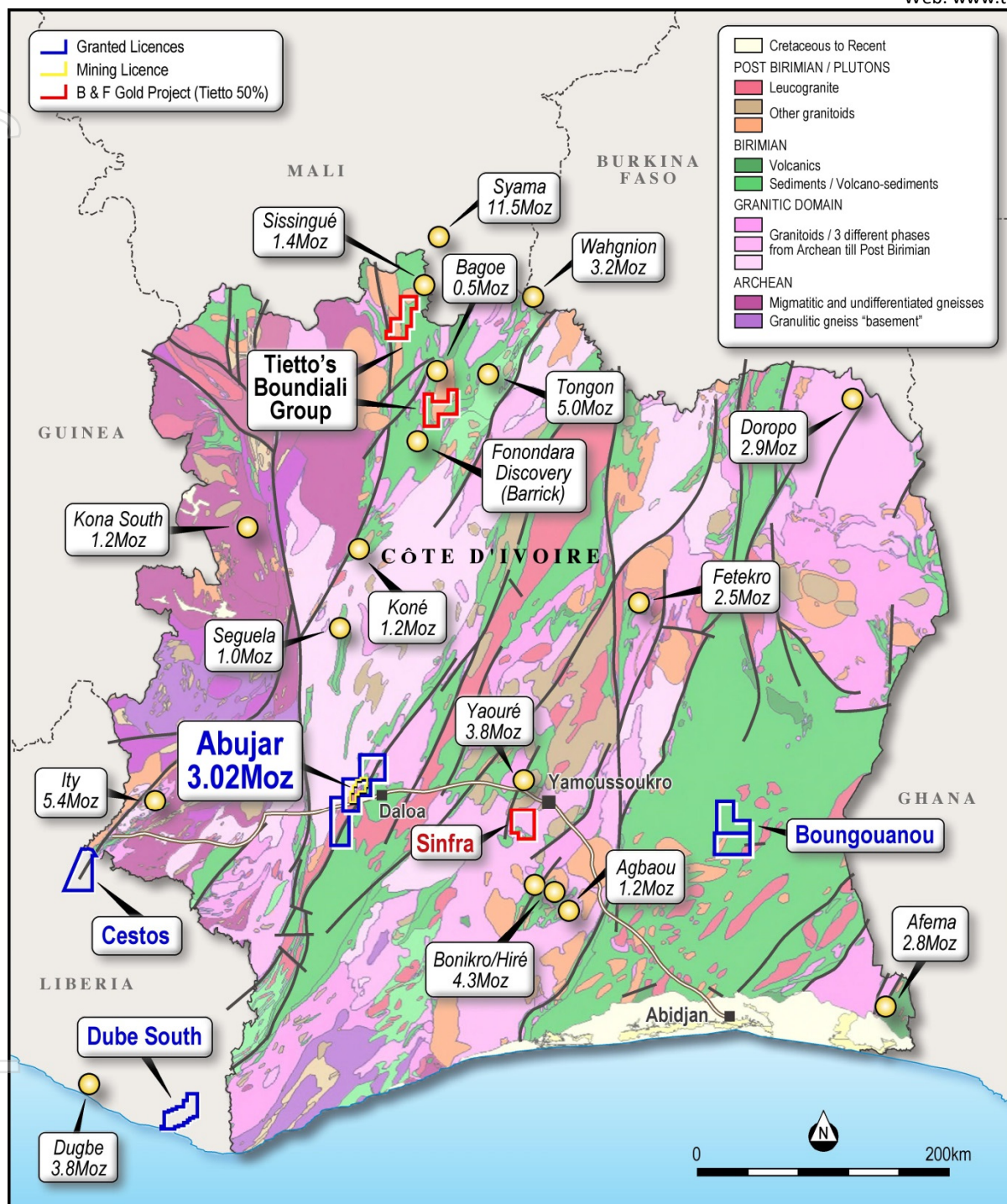


Figure 2: Abujar Gold Project Location in Côte d'Ivoire, West Africa

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## 1. Introduction and Executive Summary

Tietto (TIE) listed on the Australian Securities Exchange (ASX) in January 2018, focussed on development of the Abujar Gold Project in Côte d'Ivoire, West Africa.

Abujar is located approximately 30km from Daloa, a major regional city in central western Côte d'Ivoire. It is close to regional and local infrastructure, only 15km from the nearest tarred road and grid power, which has facilitated its exploration and development.

Abujar Gold Project is comprised of three contiguous exploration tenements, Middle, South and North, with a total land area of 1,114km<sup>2</sup>, of which less than 10% has been explored. It features an NNE-orientated gold corridor over 70km striking across three tenements.

In October 2020, Tietto received environmental approval, and it was granted a gold exploitation (mining) licence within the Abujar Middle tenement in December 2020. The mining tenement covers an area of 120.36km<sup>2</sup>. TIE has an 88% interest in the Abujar Gold Project with its local partners having a two percent interest. The Government of Côte d'Ivoire is entitled to a free-carried 10% interest in the Project on commencement of mining.

Tietto is well placed to grow its resource inventory. It has substantially advanced the project since starting exploration in mid-2015, defining a Mineral Resources containing 3.02 million ounces of gold and has completed a PFS for the project, which is the subject of this report.

The Abujar Gold Project Mineral Resource estimates<sup>4</sup> as presented in Table 1 were updated by independent resource consultant RPM Advisory Services Pty Limited (RPM) in October 2020 and were reported in accordance with JORC (2012) guidelines. The Abujar Gold Project Mineral Resource is summarised below with an effective date of 21 October 2020. Mineral resources are inclusive of Ore Reserves.

**Table 1: Updated Abujar Gold Project Mineral Resource**

Area	Class	Oxide			Transition			Fresh			Total		
		Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)
AG	Indicated	0.2	1.3	0.006	0.7	1.2	0.029	23.2	1.6	1.207	24.1	1.6	1.24
	Inferred	0.6	1.2	0.024	2.2	1.0	0.069	22.7	1.3	0.963	25.6	1.3	1.06
	Total	0.8	1.2	0.03	2.9	1.1	0.10	45.9	1.5	2.17	49.6	1.5	2.30
APG	Inferred	1.2	0.6	0.02	6.3	0.6	0.13	23.5	0.7	0.54	31.0	0.7	0.70
SG	Inferred	0.04	0.7	0.00	0.1	0.8	0.00	0.4	1.6	0.02	0.5	1.4	0.02
Grand Total		2.04	0.8	0.05	9.3	0.8	0.23	69.8	1.2	2.73	81.2	1.2	3.02

As detailed in the Statement of Mineral Resources, Mineral Resources by Deposit are as at October 21, 2020 Reported at 0.3 g/t Au cut off within pit shells; and 0.8 g/t Au cut off below the pit shells for AG, and 0.3 g/t to a depth of 120m and 0.8 g/t below 120m for APG, and 0.3 g/t to a depth of 120m for SG.

<sup>4</sup> ASX Announcement 26 October 2020



Abujar Gold Project Ore Reserves have been declared in this Study as a Probable Ore Reserve of 15.7Mt ROM at 1.71 g/t Au for 860,000 ounces as set out in Table 2.

**Table 2: Ore Reserve Estimate as at 31 December 2020**

	Proved			Probable			Total		
Deposit	Quantity	Au	Au	Quantity	Au	Au	Quantity	Au	Au
	Mt	g/t	Moz	Mt	g/t	Moz	Mt	g/t	Moz
AG Deposit	0	0.0	0	15.7	1.7	0.86	15.7	1.7	0.86
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>15.7</b>	<b>1.7</b>	<b>0.86</b>	<b>15.7</b>	<b>1.7</b>	<b>0.86</b>

**Notes:**

1. The Ore Reserve has been compiled under the supervision of Mr. Igor Bojanic who is a full-time employee of RPM and a Fellow of the Australian Institute of Mining and Metallurgy. Mr. Bojanic has sufficient experience that is relevant to the style of mineralisation and type of deposit and mining method under consideration and to the activity that he has undertaken to qualify as a Competent Person as defined in the JORC Code.
2. The following marginal cut-off grades determined based on a USD 1,459 per troy ounce gold price, and costs and mining and metallurgical modifying factors estimated as part of a PFS.  
Marginal cut-off grades: Oxide 0.35 g/t Au, Transition 0.35 g/t Au and Fresh 0.35 g/t Au.
3. All Ore Reserve figures reported in the table above represent estimates at 31 December, 2020. Ore Reserve estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results. The quantities contained in the above table have been rounded to three significant figures to reflect the relative uncertainty of the estimate. Rounding may cause values in the table to appear to have computational errors.
4. All Ore Reserve estimates are on a dry basis.
5. The Ore Reserves have been reported at a 100% equity stake and not factored for ownership proportions.

The AG Open Pit comprises several open pits, all within 1 to 2km of the proposed plant site. The proposed plant comprises a conventional SAG milling circuit, gravity and carbon in leach processing with a throughput capacity of 3.5Mtpa. The Project has an initial mine life of nine years, comprising pre-strip in Year 0, followed by mining in Years 1 to 7 and only ore treatment in the final year (Year 8).

Tietto's mining and processing strategy aims to prioritise the higher grade mineralisation, thereby generating significant early cashflow.

Mineable quantities reported in Table 3 include Inferred Resources and do not constitute an "Ore Reserve" as estimated in accordance with the JORC Code. An Inferred Mineral Resource has a lower level of confidence than an Indicated Mineral Resource and there is no certainty that further exploration work will result in the conversion of the material into an Indicated Mineral Resource from which Ore Reserves can be derived. An Ore Reserve Statement is presented in the Ore Reserves section of this report.

**Table 3: AG Open Pit Mineable Quantities for Scheduling (Dry basis)**

Description	Total (Mt)	ROM Mineable Quantity (Mt)	Waste (Mt)	Strip Ratio (t:t)	ROM Gold Grade (g/t)	Contained ROM Gold (k oz)
Main Pit	175.0	19.2	155.8	8.1	1.6	984
Central Pit	1.7	0.2	1.5	6.6	0.7	5
South Pit	28.3	2.6	25.7	9.9	1.3	108
Satellite Pits	6.7	0.9	5.8	6.3	0.7	22
<b>Total</b>	<b>211.8</b>	<b>22.9</b>	<b>188.9</b>	<b>8.2</b>	<b>1.5</b>	<b>1,120</b>

Of the total 23 Mt of ore mined:

- Oxide comprises: 1 Mt, or only 4% of the total;
- Transition comprises: 4 Mt or 16% of the total, and
- Fresh comprises: 18 Mt or 80% of the total.

Estimated operating costs for the project highlight it will be a conventional, low cost and high margin operation, with average LOM gold recovery of 96%, coarse grind size and low energy grinding requirements of all material types (oxide, transition and fresh) in the mine schedule, low reagent consumption and a high component of gravity recoverable gold.

The capital cost estimate provides current costs to assess the economics of the project and to provide the initial control of capital expenditure. All amounts in this report are in US\$ unless otherwise stated. The estimated project capital cost is \$230 million, inclusive of \$35 million of contingencies.

The Abujar Gold Project demonstrates strong economics - pre-tax NPV (5%) of \$363M, IRR 53% and post-tax NPV (5%) of \$266M, IRR 42% based on a conservative average gold price of US\$1506/oz.

Using a range of gold prices demonstrates the robust nature of the Project both pre and post-tax.

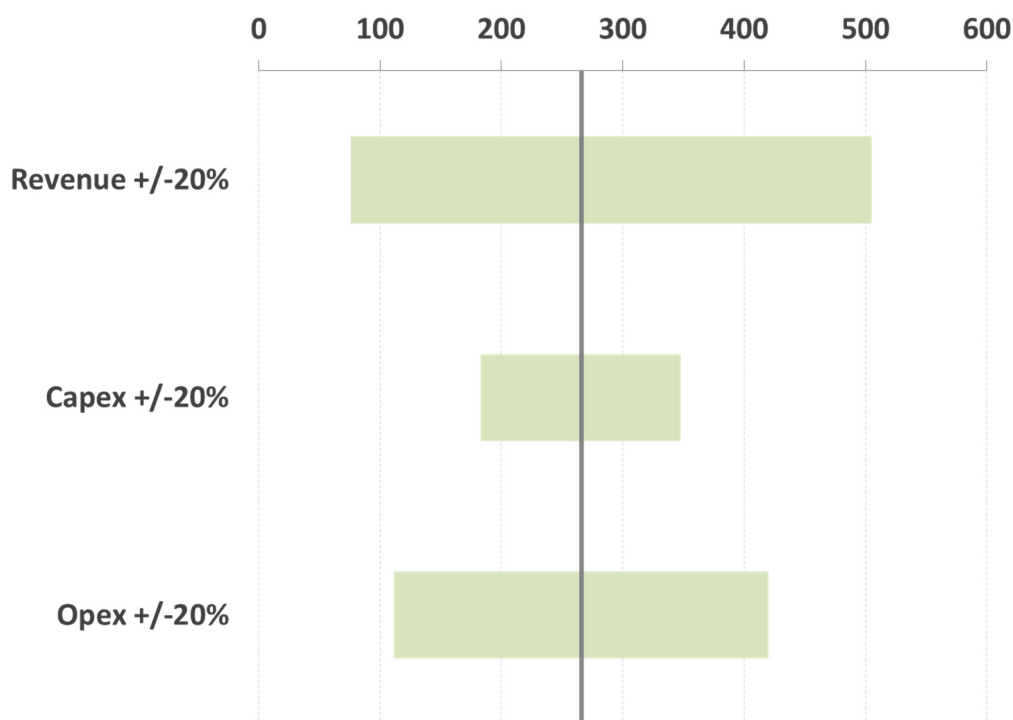
**Table 4: AG Open Pit PFS at Various Gold Prices (Pre-Tax US\$)**

Item	1200	1300	1506	1700	1900
<b>Net present value (NPV (5%))</b>	\$122 M	\$202 M	\$363 M	\$502 M	\$659 M
<b>Internal rate of return (IRR)</b>	20%	30%	53%	63%	81%
<b>Payback in Years (undiscounted)</b>	4.7	3.7	2.4	2.3	2.1
<b>LOM avg. annual cash flow after tax &amp; capital</b>	\$24 M	\$37 M	\$62 M	\$84 M	\$109 M
<b>LOM cumulative cash flow (undiscounted)</b>	\$206 M	\$309 M	\$509 M	\$694 M	\$898 M

**Table 5: AG Open Pit PFS at Various Gold Prices (Post-Tax US\$)**

Item	1200	1300	1506	1700	1900
<b>Net present value (NPV (5%))</b>	\$85 M	\$145 M	\$266 M	\$370 M	\$488 M
<b>Internal rate of return (IRR)</b>	16%	24%	42%	51%	65%
<b>Payback in Years (undiscounted)</b>	5.2	4.1	2.8	2.6	2.2
<b>LOM avg. annual cash flow after tax &amp; capital</b>	\$18 M	\$27 M	\$46 M	\$63 M	\$82 M
<b>LOM cumulative cash flow (undiscounted)</b>	\$154 M	\$232 M	\$382 M	\$521 M	\$673 M

Sensitivity analysis of the project demonstrates the robust nature of the project against +/-20% changes in revenue, capital cost and operating costs.



**Figure 3: Sensitivity of Post-tax NPV (5%) to +/-20% Change in Revenue, Capex and Opex**

Substantial upside to the PFS base case has been demonstrated by scoping study assessments of APG open pit and AG Core underground mine. These studies demonstrated that the Expanded Project<sup>5</sup> has potential to deliver increases NPV, gold production and mine life with gold production growing to 1,436,000 ounces of gold recovered over 12 years of operation.

The mineable quantities for the APG pit, AG underground and total project with AG are set out in Table 6.

**Table 6: Expanded Project Mineable Quantities for Scheduling (Dry basis)**

Description	Total (Mt)	ROM Mineable Quantity (Mt)	Waste (Mt)	Strip Ratio (t:t)	ROM Gold Grade (g/t)	Contained ROM Gold (k oz)
<b>APG</b>	35.2	8.1	27.1	3.3	0.8	209
<b>AG UG</b>	2.8	1.8	1	-	2.8	168
<b>AG</b>	211.8	22.9	188.9	8.2	1.5	1,120
<b>Total</b>	<b>249.8</b>	<b>32.8</b>	<b>217</b>	<b>6.9</b>	<b>1.4</b>	<b>1,497</b>

The quantities reported above include Inferred Resources and do not constitute an “Ore Reserve” as estimated in accordance with the JORC Code. An Inferred Mineral Resource has a lower level of confidence than an Indicated Mineral Resource and there is no certainty that further exploration work will result in the conversion of the material into an Indicated Mineral Resource from which Ore Reserves can be derived. An Ore Reserve Statement is presented in the Ore Reserves section of this report.

For this concept plan, no detailed pit and waste dump design was undertaken for APG. The Whittle shell was used to estimate mineable quantities for input into the scheduling process. Entech completed an underground scoping study level design, schedule, and cost model for the Abujar underground mine. The underground scoping study assumes a spatial starting point at the final pit design of that study (UG years, quarters and months start from that time).

<sup>5</sup> The Scoping Study referred to in this announcement has been undertaken to determine the potential viability of an Expanded Project (Expanded Project) development of the Abujar Gold Project in Cote d’Ivoire comprising the AG open pit mine and process plant and an open pit at APG and an underground development at AG below the open pit. The Scoping Study for the Expanded Project has been prepared to an intended accuracy level of  $\pm 40\%$ . The results should not be considered a profit forecast or production forecast (refer page 4).

The Expanded Project demonstrates a healthy increase in the pre-tax NPV (5%) of \$432M, IRR 54% and post-tax NPV (5%) of \$311M, IRR 43% using a conservative average gold price of US\$1491/oz.

Using a range of gold prices demonstrates the robust nature of the Expanded Project both pre and post-tax.

**Table 7: Expanded Project at Various Gold Prices (Pre-Tax US\$)**

Item	1200	1300	1491	1700	1900
<b>Net present value (NPV (5%))</b>	\$141 M	\$242 M	\$432 M	\$620 M	\$820 M
<b>Internal rate of return (IRR)</b>	21%	31%	54%	64%	81%
<b>Payback in Years (undiscounted)</b>	4.7	3.7	2.4	2.3	2.1
<b>LOM avg. annual cash flow after tax &amp; capital</b>	\$23 M	\$36 M	\$61 M	\$84 M	\$109 M
<b>LOM cumulative cash flow (undiscounted)</b>	\$242 M	\$380 M	\$629 M	\$895 M	\$1,166 M

**Table 8: Expanded Project at Various Gold Prices (Post-Tax US\$)**

Item	1200	1300	1491	1700	1900
<b>Net present value (NPV (5%))</b>	\$92 M	\$168 M	\$311 M	\$452 M	\$602 M
<b>Internal rate of return (IRR)</b>	17%	25%	43%	52%	66%
<b>Payback in Years (undiscounted)</b>	5.2	4.1	2.8	2.6	2.2
<b>LOM avg. annual cash flow after tax &amp; capital</b>	\$17 M	\$26 M	\$45 M	\$62 M	\$81 M
<b>LOM cumulative cash flow (undiscounted)</b>	\$172 M	\$275 M	\$461 M	\$661 M	\$865 M

Tietto has secured all mining and environmental approvals for Abujar; negotiations are underway with the Ivorian Government on concluding the Abujar Mining Convention which is expected in Q2 2021.

Early site works have commenced focussing on site infrastructure and camp construction. Project is expected to commence in late 2021 with a 12 month construction schedule leading to targeted gold production in the last half of 2022.

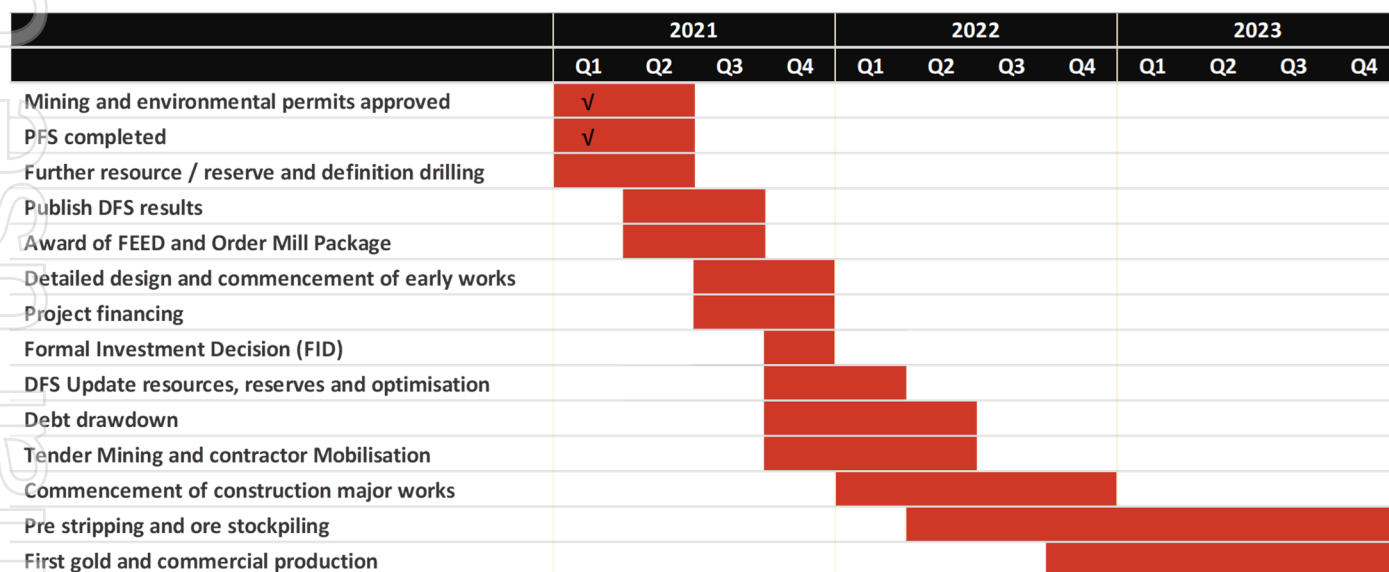


Figure 4: Forecast timeline

## Next Steps

Tietto will proceed to complete a Definitive Feasibility Study (DFS) which is fully funded and is due for delivery in Q3 2021:

- DFS will optimise the modelling of oxide and transitional material to increase throughput and reduce waste stripping costs
- Tietto is well advanced with over 25,000m of infill drilling completed. The drilling program is designed to target Inferred Resources within and beneath current ore reserve pit design as well as follow-up extensional drilling at AG and APG
- New drilling will be incorporated into the next resource model update scheduled for late May 2021
- Early stage metallurgical test work has demonstrated the amenability of transitional and fresh material from the APG deposit to heap leaching. Test work is expected to be completed in 2021 with a preliminary economic assessment of the feasibility of heap leaching the lower grade material to follow
- Exploration drilling will continue throughout 2021.



## 2. Study Team

The AG Open Pit CIL Pre-Feasibility Study commenced in July 2020 and has included the following key consultants:

- ALS - Metallurgical Test Work
- Daniel and Morrell Comminution Consulting Pty Ltd - Comminution Modelling
- Dempers & Seymour - Geotechnical Assessment of Open Pit and Underground
- ECG Engineering – Powerline and electrical
- Entech Pty Ltd – Underground mine study
- Envitech and RPM – Flora and Fauna Surveys and Environmental Permitting
- Knight Piésold - Tailings Storage Design, Hydrology & Hydrogeology
- Mintrex - Study Management, Process Plant & Infrastructure Design, Metallurgical Overview
- RPM - Resource Estimation, Mine Planning and Ore Reserve Statement
- Sahara Geoservices – Surface Surveys

### **3. Project Location and Tenure**

#### **Côte d'Ivoire**

The Abujar Project in Côte d'Ivoire can be accessed by typical regional roads which vary in quality from good quality tarred and regional gravel roads to lesser quality dirt roads from local villages. The local roads, which would require upgrading to support mining operations, are accessible year-round and suitable to support ongoing exploration teams and associated equipment including drill rigs during the drilling season.

Regionally, the Project is connected to the political capital of Yamoussoukro by tarred road and to major regional towns by tarred and good quality gravel roads. The major regional city near Abujar, Daloa, has an airport; however it is not serviced by commercial airlines. International flights are available at Abidjan, which is 400km from Abujar.

#### **Regional Environment**

##### **Geography**

Project geography is typical of West Africa, with a reasonable flat-lying topography and a tropical climate with a pronounced dry season between November and March and a wet season occurring between April and October. This seasonal rainfall also varies on a year-by-year basis and has an impact on both mining activities and water supply and storage on a day-to-day basis. The average annual temperature is 22°C and the region has an average annual rainfall of 1,500mm.

The major regional town of Daloa is at the intersection of major north-south and east-west travel routes which connect neighbouring Liberia, Sierra Leone and Ghana. It is the primary collecting point for a forest region that produces coffee, cocoa, cashew nuts, and timber to the coast and major port at Abidjan for export. Daloa is also a local trade centre for rice, cassava, yams, bananas, and cotton and has a regional office of the Department of Agriculture.

##### **Mining History**

Artisanal surface mining has occurred within several areas of the Project, typically to a depth of 8m to 15m within the currently defined resource areas. Mining has targeted the higher grade near surface gold mineralisation. These activities occur in numerous places through the Project and they vary significantly from minor surface disturbances to small-scale handheld pit and underground workings within the oxide material above the water table. These mining activities are not considered material to the currently defined gold resources, nor are they restricted to the reported resource areas which highlights the untested mineralisation potential within the region.

##### **Mineral Rights and Land Tenure**

Tietto holds interests in a series of exploration licences and the combination of the Zoukougbeu, Zahibo and Issia licences are named the Abujar project. These enable the current exploration

activities and associated surface disturbances. Below is a summary of the key permit which hosts the mineral resources.

### **Zoukougbeu licence**

- Tietto Minerals Limited (**TMA**) entered a Joint Venture Agreement for the Development of an Exploration Licence for Gold in Zoukougbeu in Côte d'Ivoire dated 29 April 2014 (the **TMA-B&F Agreement**) with B & F Minerals SARL, a company incorporated under the laws of Côte d'Ivoire (**B&F**) and its shareholders.
- B&F is the registered holder of an exploration licence in the region of Zoukougbeu in Côte d'Ivoire registered with the Mines Directorate under number 469 (the Zoukougbeu Licence) which was granted on 15 September 2014 with Decree No. 2014-520.
- Under the terms of the TMA-B&F Agreement, TMA may earn an interest in the share capital of B&F of up to 50% subject to meeting certain expenditure and payment obligations; and 75% in any exploitation company formed if an exploitation (mining) permit is granted over all or part of the area covered by the Licence.
- TMA's current registered interest in the share capital of B&F is 50%. TMA continues to incur expenditure in accordance with the existing agreement.
- TMA and B&F reached an agreement on 28 March 2017 to allow TMA to have 90% interest in the Abujar Middle Tenement by transferring the exploration licence to a newly incorporate JV company called Tiebaya Gold Sarl, of which Tietto has 90% share capital, B&F has 10% share capital. Tiebaya was incorporated in late April 2017. The Côte D'Ivoire Mining Ministry officially transferred the Zoukougbeu licence to Tiebaya Gold Sarl on 28<sup>th</sup> February 2018.

The initial tenure of the three exploration licences is four years under the new Côte D'Ivoire mining regulations. Subject to satisfaction to the terms and conditions of the initial exploration licences, the exploration licences are entitled for renewal for second and third terms of three years respectively, followed by one exceptional renewal of two years.

### **Mining Licence**

In July 2020, Tietto Minerals, through its 90% owned subsidiary Tiebaya Gold Sarl, applied for a gold mineral mining licence within the Abujar Middle Tenement, part of the Abujar Project. The mining tenement application covers an area of 120.36km<sup>2</sup>. The licence was granted in December 2020. On 22<sup>nd</sup> January 2021, Tietto Minerals increased its interest in the Abujar Gold Project's Mining Licence to 88% with the rest 10% for Côte D'Ivoire government and 2% for local partners.

## 4. Geology and Mineralisation

### Geological Setting and Mineralisation<sup>6</sup>

The West African Craton formed by progressive accretion of younger orogenic belts onto a cratonic core of early Archean age. Locally, younger orogenic belts developed inside the existing cratons, but more commonly they were accreted along the margins. The West African Craton has been subdivided into the Archaean Leo-Man Shield and Palaeoproterozoic Birimian rocks.

The Leo-Man Shield is comprised of an Archean core of extensive granitic gneiss/granitoid complexes containing narrow, elongate metamorphosed volcano-sedimentary and sedimentary greenstones belts. Metamorphic and granitic rocks of the Liberian Province (~3200-2500Ma) underlie the north western two-thirds of Liberia whereas the south eastern portion of the country belongs to the Eburnean Province (~2100-1700Ma). These units are primarily re-activated Archaean basement rocks with some local Proterozoic lithologies. The Eburnean orogenic cycle (2100-1700Ma) re-metamorphosed Archaean cratonic rocks of the earlier Liberian metamorphic age province. In the central and eastern regions of the West African Craton these units have been broadly classified as mafic and ultramafic volcano-sedimentary rocks and iron formations, and are known to host many important precious metals, base metals and bulk mineral (principally iron ore) deposits in West Africa. The metamorphic grade of these greenstone belts ranges from lower greenschist to amphibolite facies.

The Birimian rocks comprise volcanic arc and sedimentary basinal successions that mantle the Leo-Man Shield to the north and east. These were deformed by the most active period of the Eburnean orogeny, which took place in three major tectono-metamorphic phases between 2150 and 2190Ma. After the Eburnean orogeny, most of West Africa formed a stable craton (around 1700Ma) and was bounded on the east and west by the Pan-African mobile zones. Birimian successions host most of the major gold deposits in West Africa.

The last major tectonic event in West Africa was the Pan-African Orogeny of Upper- Proterozoic to Lower Palaeozoic age (600-500Ma). This event also added new crustal material to the older cratons and re-metamorphosed older sequences of Archean to Late Proterozoic age. Pan- African mobile belts rim the western margins of West Africa and occur along Liberia's coastline. At the end of the Pan-African orogeny, the various cratons were joined together to form the approximate current shape of the continent of western Africa.

### Geology of the Region

The Ivory Coast lies in the southern portion of the West African Craton and the southern portion of the Leo-Man Shield. The country consists of four geological domains defined on geochronology; Archean, transition, Paleoproterozoic sedimentary basin and coastal sedimentary basin.

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<sup>6</sup> Independent Geologist's Reports, Coffey Mining September 2012 and RPMGlobal December 2016

## **Archean Domain**

The Project area is located to the central-western part of Cote d'Ivoire which is enclosed to the west of the major curved Sassandra Fault. This fault continues WNW, towards Guinea in the north. The lithology of the Archean area consists of grey gneiss and tonalite, trondhjemitic to charnokites; greenstone metamorphosed to granulite facies, banded quartzite, with magnetite and biotite migmatites. These formations are intruded by pink granites and basic-ultrabasic complex. This area was metamorphosed during orogenic cycles; Sierra Leone (3.5 to 2.9 Ga) and Liberia (2.9 - 2.6 Ga).

Modern dating on mono-zircon and monazite show that the oldest granulite formations are the tonalite gneisses in the northern part of the Archean area (north of the fault Danane-Man). These gneisses are dated to  $3050 \pm 10$  Ma and intruded by charnokite formations that are dated at  $2800 \pm 8$  Ma. The manifestation of the Eburnean orogeny in this area of Archean is dated to  $2100 \pm 40$  Ma, and exhibits retrogressive reactions in basic rocks in formations of Mount Tia (Toulepleu-Ity) and in basic gneiss northern area.

## **Transition Area Archean-Proterozoic**

The work of Kouamelan (1996) indicates the existence of a transition zone within the Paleoproterozoic area between the fault of Sassandra and longitude  $6^{\circ}$  W. This area is characterized by the contamination of Birimian juvenile training by Archean crust (Nd model age and intermediate inherited zircon). He determined the presence of inherited zircons whose isotopic ages Pb / Pb of respectively  $3132 \pm 9$  Ma and  $3141 \pm 2$  Ma. These ages prove the existence of Archean segments within a transition zone. This area is characterized in particular by the existence of Archean relics within the Paleoproterozoic domain.

## **Paleoproterozoic Domain**

The Proterozoic Domain is separated from Paleoproterozoic-Archean area by the Sassandra Fault. The characteristic lithology consists of volcano-sedimentary belts which are generally oriented 020 to 050 and sandwiched between granitoid batholiths. The age of this domain is attributed to Birimian with the formations consisting predominately of tholeiitic and calc-alkaline rocks.

The structure of this area is interpreted to be the result of two major Paleoproterozoic strains: the first was the result of tangential tectonics on structures oriented NS to NNE; the second corresponds to a transcurrent deformation, which is marked by the establishment of large sets of granitoids, around 2.1 Ga. Studies from geochronology show that the Birimian rocks were formed (quickly) between 2.25 and 2.05 Ga. This area is covered in the south by the coastal sedimentary basins up to the present Cretaceous basin.

## Coastal Sedimentary Basin

The Ivory Coast Sedimentary Basin extends along the Atlantic coast. Its history is linked to the rifting of Gondwana and opening of the South Atlantic in the Lower Cretaceous. This opening led to the separation of Africa and South America.

It is an "open" type of basin; part of a string of sedimentary basins along the Atlantic coast from southern Morocco to South Africa. The Ivory Coast crescent is 400 km long and 40 km wide. It represents only 2.5% of Ivory Coast's surface. The formations of the Ivory Coast sedimentary basin are of Cretaceous-Quaternary age.

The history of the basin is summarized by three episodes of transgressions:

- The Albo- Aptien is characterized by deposits of clay and sandstone;
- Lower Maastrichtian-Eocene is marked by glauconitic clays, clays and sands; and
- Lower Miocene is composed of marl, of variegated clays and lignite.

## Tectonic Development of the Birimian

The Birimian litho-stratigraphic succession is separated into two large groups:

- A Lower Birimian (B1) set essentially flyschoid basin fill. The whole basin is affected by three cycles of deformation:
  - ✓ D1 (2090-2100Ma) phase of major collision: duplication of the lower Proterozoic on the gneissic Archaean basement, a break in all B1 sedimentation and intrusion of syn- kinematic granites;
  - ✓ D2 and D3 (2090-1970Ma) responsible for the intrusion of granites mantle between;
  - ✓ 2080 and 1945my (D2 large sinistral offsets, related overlaps and folding; D3 dextral offsets and associated folds); and
- The upper Birimian (B2), volcanic-dominated, where fluvio-deltaic formations are intercalated in volcano-sedimentary facies.

## Metallogenesis of the Birimian

The Eburnean metallogenic cycle, which is rich in gold and base metals lasted 150Ma with:

- A first period at the time of the filling of the B1; stratiform deposits of Mn, Fe, Au, Zn-Ag were put in place at about 2150Ma at the top of the stratigraphic pile. This period ends with the deposition of gold mineralisation in conglomerates; and



- The second, late-orogenic metallogenic period appears with the latter brittle deformation phases of D1 and D2. It is marked by mesothermal mineralisation, followed by quartz veins and paragenetic Pb-Zn-Ag-Bi deposits dated at approximately 201Ma.

The deposits encountered in West Africa in the Birimian are diverse. Examples of deposit types are:

- Gold mineralisation associated with major shear zones for example, Obuasi (AngloGold Ashanti/Randgold Resources) along Ashanti Fault Zone in Ghana.
- Gold mineralisation associated with conglomerates at the base of paleo-channels (placers) as in the deposit at Tarkwa in Ghana (Iamgold).
- Volcanic Massive Sulphides in the lower Birimian for example the zinc deposit at Perkoa in Burkina Faso (Blackthorn Resources and Glencore International, project in development).
- Sedex deposits of the Nsuta Manganese Mine in Ghana operated by the Ghana Manganese Company Limited since 1916. Mineralisation is associated with turbidites within a volcano-clastic terrane.
- Gold skarn at Ity. Ity is the only known Au skarn in the Birimian however iron skarns are known in the Kéniéba-Kedougou Inlier of the Faleme District in Mali and Senegal.

## **Project Geology**

### **Abujar**

The Project is located within the Proterozoic Birimian rocks of the Leo-Man Shield, as situated on the Daloa 1:200,000 geologic sheet, 30km west of Daloa. It is located in the Hana-Lobo belt, east of the Sassandra Fault that marks the boundary between the Leo-Man Shield (Archean) and Eburnean domains.

### **Lithologies**

Within the Project area outcrops are very uncommon. Lateritic cover mainly consists of hardpans and duricrust occurrences. Owing to vegetation cover, weathering and laterite development, the 1:200,000 geological map lacks detail which can be interpreted with the recent drilling. However, general features of the local geology can be interpreted from the recently completed airborne geophysics magnetic survey.

The Abujar Deposit is located within a NNE-SSW orientated body of granitoid migmatite and is hosted within in an interpreted regional shear structure. This is then enclosed within two mica granite bodies of similar interpreted orientation which are regionally referred to as granodiorites. Greenstones are rare in the immediate vicinity but have been mapped as isolated bodies to the south and east.

Due to the lack of outcrop and limited drilling, the regional lithologies are relatively poorly understood, however they can be separated into either Proterozoic or post Proterozoic. The lithologies of Proterozoic age which are present inside the Project include:

- Migmatitic granitoids (Eburnean) associated with syntectonic granites; they can belong to either the metamorphic or the magmatic domain depending on the intensity of melting. They occur in the central portion of the property;
- Metamorphosed rhyolite (Eburnean) of pyroclastic origin. They occur as relics within two mica granites and consist mainly of quartz phenocrysts inside glass. They are found as light coloured banks showing mainly muscovite corresponding most probably to pyroclastic rhyolitic flows;
- Schists are divided into two groups:
  - ✓ Argillic schist: are always weathered with mottled texture and crosscut by quartz veins; and
  - ✓ Two-mica (+ staurolite and andalusite) schist: - consist of biotite and muscovite with minor andalusite, which is a common mineral of contact metamorphism. This rock occurs at the contact with two-mica granite bodies in the central area of the property.

Only artisanal pits and diamond drill holes exhibit the different lithologies associated with the Proterozoic aged rocks which typically host mineralisation and are outlined below:

- Granodiorite is post Eburnean in age and consist of calc-alkaline intrusions. They are generally coarse to medium grained in texture depending on the intensity of deformation. Mineral compositions consist of quartz, biotite, amphibole, plagioclase, chlorite, epidote/calcite and pyrite. Visible gold can be present. The granodiorite has undergone a regional metamorphism of greenschist facies, with a paragenesis assemblage made of chlorite-quartz-biotite-epidote.
- The Schist group (or highly deformed granodiorite) consists of rocks with schistose texture of indeterminate origin. Minerals are fine-grain, mainly biotite, chlorite, quartz and pyrite. The biotite-chlorite-quartz assemblage shows that the rock belongs to the greenschist facies, being marked by regional metamorphism.
- Later Intrusions crosscut the granodiorite and schists. These later intrusions consist of either diorite or pegmatites. Diorite is massive and fine grained. The minerals don't show any general orientation and are typically green biotite, quartz and plagioclase. The pegmatite has thicknesses ranging from centimetres to metres. They are high temperature rocks in terms of the paragenetic assemblage. Main minerals are K-feldspar, biotite, muscovite, quartz and garnet.

## Deformation and Mineralisation

Two styles of deformation are interpreted to be present within the drill cores at Abujar; these include ductile deformation and brittle deformation. The gold mineralisation is interpreted to be related to the deformed granodiorite, in shear zones, with sulphides (mainly pyrite and minor chalcopyrite) associated with visible gold. The mineralisation seems to be located within the granodiorite at the boundary between two different intensities of deformation i.e. weakly deformed and highly strained.

Alteration is characterised by chlorite, sericite, calcite, secondary quartz and disseminated pyrite. This assemblage is well developed in schistose, foliated rocks with the presence of quartz veins or veinlets.

## Mineralisation Style and Geometry

Deposits within the Abujar Project resemble typical shear zone deposits of the West African granite-greenstone terrane. The Abujar deposit is associated with a major regional shear zone and is developed in granodiorite hosts similar to that which hosts the Pischon & Golikro deposits and the interpreted extension areas in the Gamina deposits to the north (Gamina South and Centre). Mineralisation is potentially spatially related to the emplacement of intrusives and interpreted to be mesothermal in origin. It occurs as free gold in quartz vein stockworks and zones of silicification, associated with pyrite and chalcopyrite.

The gold mineralisation is typically found in linear domains with the contacts showing evidence of shearing with free gold frequently observed. Alteration is weak to severe depending on the development of the system. As noted, gold mineralisation is hosted within a continuous shear zone which is traced over 4.5km within Abujar, 1.5km within Pischon and 2.5km within Golikro, however analysis of the drill holes within these deposit indicates that within this low grade shear hosted halo, higher grade lodes occur which are slightly oblique to the strike of the shear. This is interpreted to be typical riedel ductile shear mineralisation, which is structurally controlled both at a local and regional scale.

Several occurrences of boudin structures are observed within the drill core, and it is hypothesized these structure control mineralisation both regionally and locally. Of particular note are the intersection of near vertical extremely high grade plunging shoots (>5g/t) which can be interpreted within both the Abujar and Pischon Deposit. These can be seen in the long sections of the grade estimates.

All lodes have similar southeast-dipping orientations striking 030° and dipping at varying angles of inclination typically between 50 and 75°. These lodes appear to coincide with strong linear geological structures which are offset by several faults and have strike length from 200 metre to up to 1.2km. The lodes range in thickness from 2m to up to 15m, with the thicker zones general

occurring where the higher grades occur, which is as expected for the structurally controlled style of mineralisation.

## **Exploration Works**

Tietto's exploration has focused on the Zoukougbeu Licence, which has included geochemical sampling, surface pits and trenches as well as surface diamond, RC and AC drilling since 2015. Recent work has focused on surface drilling over the AG and APG deposits located in the north-eastern part of the Zoukougbeu permit.

## **Drilling**

Drilling to date has targeted areas directly beneath artisanal workings and anomalous areas identified during the geochemical sampling programs. Both Reverse Circulation (**RC**) and Surface Diamond Drilling (**DD**) have been utilised for the Project to date in four phases during 2015 - 2017, 2018 and 2019 - 2020.

All drilling during 2015 and 2017 was via surface RC. In 2016 most holes were RC but some holes had RC pre-collars with DD-tails at depth, with the majority of mineralised intersections within the DD drilling. Drilling in 2019-2020 was predominately DD.

The diamond rigs used a conventional wire-line diamond drilling technique to produce HQ- or NQ-size diamond core. HQ-size rods and casing were used at the top of the holes to stabilise the collars, however the majority were drilled with NQ-NTW-size equipment to the end of the hole. On rare occasion BQ drilling was used at depth. In July 2018 Tietto started utilising its own man portable DD rig and now has six rigs working 24/7.

Drilling to date has targeted seven areas within the Project, these include: Abujar-Gludhehi (AG), Pischon (APG) and South Gamina (SG) deposits within the Zoukougbeu licence and the Gamina set of deposits within the Zahibo Licence.

Drilling at the deposits now extends to a vertical depth of approximately 700m within AG and 200m at APG and SG.

Drill hole collars were generally spaced on an approximate 100m by 50m grid in all deposits with recent drilling including infill drilling on 50m by 50m spacing within AG with some closer spacing in the central core of AG.

## **Mineral Resource Data Verification**

RPM Advisory Services Pty. Ltd ("RPM") conducted a review of the geological and digital data supplied by Tietto to ensure that no material issues could be identified and that there was no cause to consider the data inaccurate and not representative of the underlying samples.

RPM personnel visited the Abujar Project in July 2016, August 2017, July 2018 and October 2019 and reviewed the outcrops, drill-hole locations and core sheds as well as holding various

discussions with site personnel. RPM sighted mineralised drill-hole intersections for all the deposits, down hole surveys and assay data, laboratory facilities, and reviewed survey data acquisition protocols, assay procedures, bulk density determination, logging and sample preparation procedures and quality control (QC) results. RPM concluded that the data was adequately acquired and validated following industry best practices.

### **Exploration Data**

Both Reverse Circulation (RC) and Surface Diamond Drilling (DD) have been utilised for the Project to date. All drilling during 2015 at Abujar was RC with the 2016 drilling most completed with RC and some commencing with RC pre-collars and changing to DD at depth, subsequently all drilling during 2017 was RC. In 2018, drilling included DD, RC, and RC with DD tail and AC. Early 2019, DD and RC drilling was conducted and since late 2019 to present all drilling has been DD.

The diamond rigs used a conventional wire-line diamond drilling technique to produce HQ- or NQ-size diamond core. HQ-size rods and casing were used at the top of the holes to stabilise the collars, however the majority were drilled with NQ-NTW-size equipment to the end of the hole. In rare occasion BQ drilling was used at depth. In July 2018, Tietto started utilising its own man portable DD rig. Each drill run was 6m in length, or 1.5m in length for the man portable.

All RC samples were placed in plastic bags directly sourced from the rig mounted cyclone. The core was placed in approximately 1 m long wooden/metal/plastic core trays (each holding around 4 to 6m of drill core depending of the core diameter) subsequent to extraction from the core barrel. The 1m intervals were then marked and labelled for future reference.

### **Drilling Sample Recovery**

Within the diamond drilling typical core recoveries ranged between 90% and 100% for all holes which RPM considers suitable with no notable outliers within the mineralised zones. Some low recovery are associated with intensely fractured or faulted intervals and the more intensely weathered upper zone however these low recoveries are not considered material to the total Mineral Resource currently estimated.

## **Drill Hole Collar Locations**

All drill hole collar and trench locations were surveyed utilising the differential GPS methods by third party surveyors (Sahara Mining Services). The DGPS system utilised is typically within 10cm accuracy range which is suitable for the classification applied.

## **Down Hole Survey**

Contract drilling teams utilised the Reflex EZ-shot instrument to measure deviations in azimuth and inclination angles for all holes; however, vertical holes were not surveyed. The first measurement is taken at 12 m depth, and then approximately every 30m depth and again at the end of the hole. Tietto utilised its own survey tool with its man portable DD rig. RPM considers the drilling and the drilling information provided for the reported resources to be of high standard when compared to mining industry practices. RPM agrees with the surveys procedures, their controls and, as a result, all drilling for the Abujar Project can be used as a base for the Mineral Resource estimate.

## **Drill Hole Logging**

The Company has developed logging and sampling procedures based on the experience of the local technical team. These were subsequently reviewed by RPM during the site visit and it is their opinion that the processes and protocols implemented will provide results with a high level of confidence. Tietto company geologists log the core and RC samples according to the existing lithological, alteration and mineralogical nomenclature of the deposit as well as sulphide content. Photography and recovery measurements were carried out by assistants under a geologist's supervision.

Logging records were mostly registered in physical format and were inputted into a digital format (excel). However, as the project develops RPM would recommend capturing the geological logs in digital format, to avoid any potential for input errors. The core photographs, collar coordinates and down hole surveys were received in digital format.

## **Sample Methodology**

Diamond core was logged both for geological and mineralised structures as noted above. The core was then cut in half using a diamond brick cutting saw on 1m intervals. Typically the core was sampled to geological intervals as defined by the geologist within two metre sample intervals. The right hand side of the core was always submitted for analysis with the left side being stored in trays on site, as confirmed by RPM during the site visit.

RC samples were collected as 1m samples directly from the cyclone which were split using a riffle splitter with ¼ of the sample retained in the plastic bags, the remainder was re-split with ¼ retained in calico bag and the remainder placed in large green plastic bags. These samples were spear sampled to form 2 m samples which were subsequently sent to the laboratory.



### **Sample Preparation and Assaying**

All resource sample preparation and assay has been completed by independent international accredited laboratories. Prior to September 2018 ALS Minerals undertook the work and since then the work has been undertaken by Intertek. Subsequent to cutting or splitting, the samples were bagged by Tietto's employees and then sent to ALS Minerals laboratory in Yamoussoukro for preparation. These samples were subsequently sent to Ghana for analysis by fire assay. Since September 2018, samples have been analysed by Intertek. Samples were picked up from site and then sent to Ghana for preparation and analysis. Both labs used the exact same preparation and analytical method path.

Tietto employees insert quality control (QAQC) samples on site prior to delivering the samples to ALS Minerals in Yamoussoukro / to Intertek picking up the samples from site. Tietto employees have no further involvement in the preparation or analysis of the samples.

All samples followed a standard path as outlined below:

- Samples as received are initially sorted and verified against the client Sample Submission Form.
- Samples are air dried at 90°C.
- All samples are crushed to 2mm using a jaw crusher and Boyd crusher in a two-stage process.
- Sample split by rotary sample divider to 600-700 g, with reject retained.
- Whole sample is pulverised to 90% <75 µm.
- The pulverised sample is mixed and divided manually, with approximately 200g retained for the client and 300g retained for laboratory analysis.
- Gold by fire assay with atomic adsorption finish 30g.

## Quality Assurance and Quality Control

A definitive QAQC program has been implemented to provide verification of the sample procedure, the sample preparation and the analytical precision and accuracy of the primary laboratory, which includes the following:

- Standard Reference Material (SRM) samples: Two types of standards sourced from Geostats Ltd. were inserted 1 in every 20 samples.
- Primary RC duplicates: Generated from the first splitter off the rig and inserted 5% (1 in 20 samples). This sample is collected from a spear sample from the reject material of the primary split.
- Primary DD duplicate: Generated by cutting the remaining half core into a ¼ and sampled.
- Coarse blank samples: Inserted 1 in every 20 samples.
- Laboratory Internal Duplicates and Standards.

## Sample Security

Measures undertaken to ensure sample security included the following:

- Samples for the Mineral Resource estimates have been derived from surface drilling. The drilling crews are responsible for delivering the samples and core to the storage facilities, the Company's personnel are responsible for cutting the core and placing the cut core in bags for delivery to the preparation laboratory facilities which is also managed by the Company's Geology Department. Together with the cores and RC samples, the geology staff provide the laboratory with a report detailing the amount and numbers of samples and sample tickets to each core is provided. Prior to submission, duplicate and SRM's were included in the batches and documented within the sample runs. Batches are sent to the analytical laboratories with a report detailing the analysis method required for each element. Chain of custody is kept all the time by the Company personnel.
- Following submission, samples are managed and prepared by independent international accredited laboratory personnel.
- All personnel handling samples are supervised by senior site geologists and geotechnicians. In addition, photos are taken of all core trays prior to sampling. Core is clearly labelled for sampling, a suitable paper trail of sampling can be produced and duplicate samples are taken to ensure no sample handling issues arise. Half core rejects, core rejects and pulps are appropriately stored inside the core shed and are available for further checks.

## 5. Mineral Resource

Mineral Resources have been independently reported by RPM in compliance with the recommended guidelines of the JORC Code (2012) and reported to the ASX Announcement 26 October 2020.

### Mineral Resource Classification System under the JORC Code

A “Mineral Resource” is defined in the JORC Code as ‘a concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade (or quality) that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results.

For a Mineral Resource to be reported, it must be considered by the Competent Person to meet the following criteria under the recommended guidelines of the JORC Code:

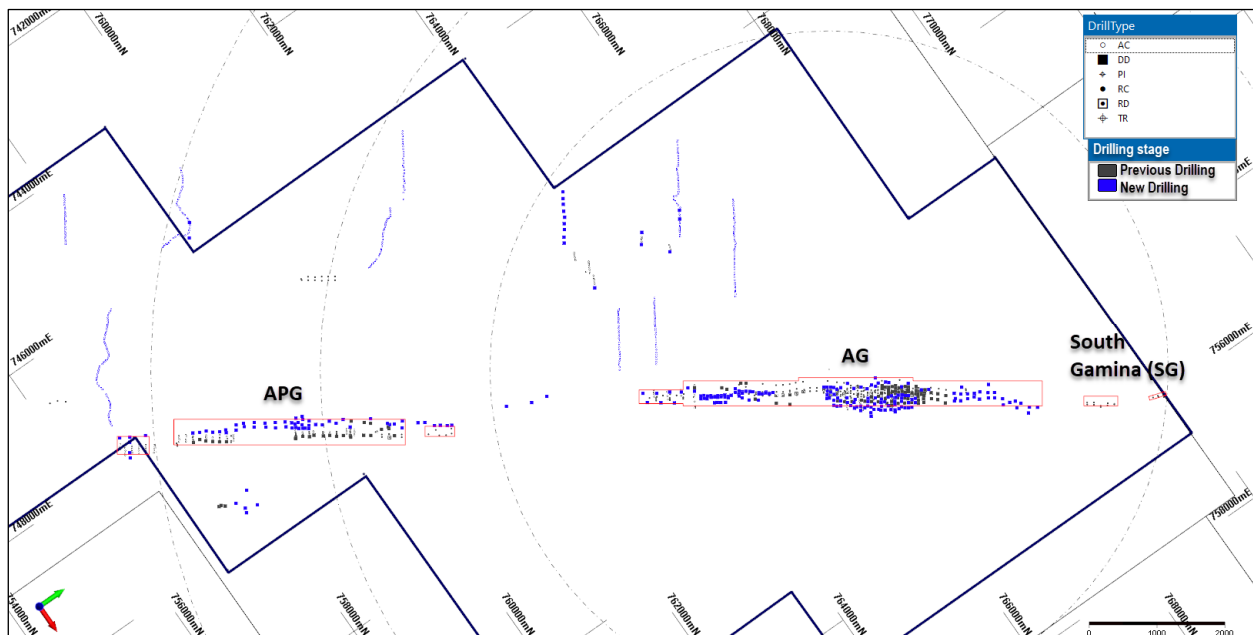
- There are reasonable prospects for eventual economic extraction.
- Data collection methodology and record keeping for geology, assay, bulk density and other sampling information is relevant to the style of mineralisation and quality checks have been carried out to ensure confidence in the data.
- Geological interpretation of the resource and its continuity has been well defined.
- Estimation methodology that is appropriate to the deposit and reflects internal grade variability, sample spacing and selective mining units.
- Classification of the Mineral Resource has taken into account varying confidence levels and assessment and whether appropriate account has been taken for all relevant factors i.e. relative confidence in tonnage/grade, computations, confidence in continuity of geology and grade, quantity and distribution of the data and the results reflect the view of the Competent Person.

### Area of the Resource Estimation

The deposits, which form part of the Mineral Resource estimates, are located approximately 27km west of Daloa in Cote d’Ivoire all within the Abujar Project. The Project consists of three exploration rights under the Ivory Coast mining code currently held by the Companies of which

Tietto have Joint Venture agreements or partial owners through subsidiaries. RPM notes that the reported Mineral Resources include the following areas (Figure 5):

- AG Deposit – Located within the northern portion of the Zoukougbeu licence this deposit consists of multiple vein structures defined up to 700m in depth with a strike length of 5.5 km.
- APG Deposit – Located to the south of the AG Deposit within the central portion of the Zoukougbeu licence this deposit consists of multiple vein structures defined up to 200m in depth with a strike length of 5.5 km.
- South Gamina – Located to the north of the AG Deposit within the northern portion of the Zoukougbeu licence this deposit consists of multiple vein structures defined up to 150m in depth with a strike length of 1.5 km.



**Figure 5: Area of the Abujar Resource Estimate**

## Estimation Parameters and Methodology

### Sample Data

A comprehensive dataset was provided to RPM which were utilised within the estimate and resultant classification of the resources. The dataset included RC, RD, AC, DD holes and surface trenches. All drill hole and channel sample collar, survey, assay and geology records were supplied to RPM in digital format by the site geologists. All Mineral Resource estimation work reported by RPM was based on data received as at October 2020 (Table 9).

**Table 9: Summary of Drill Hole Data Supplied to RPM**

Deposit	No holes	Type	Metres
AG	22	2015 RC	2,063
	2	2016 DD	477
	39	2016 RC	6,833
	12	2016 RD	2,800
	15	2017 RC	1,926
	6	2017 TRENCH	110
	43	2018 AC	1,497
	56	2018 RC	9,287
	6	2018 RD	1,610
	97	2019 DD	26,572
	7	2019 RC	1,299
	140	2020 DD	40,170
APG	7	2016 RC	800
	70	2018 AC	3,025
	17	2018 DD	2,746
	33	2018 RC	2,219
	1	2018 RD	180
	21	2019 DD	4,537
	53	2020 DD	13,034
Other	13	2016 RC	1,520
	37	2018 AC	1,430
	9	2019 DD	1,354
	581	2019 PITTING	2,983
	380	2020 AC	17,166
	6	2020 DD	1,278
<b>Total</b>	<b>1,673</b>		<b>146,915</b>

### Bulk Density Data

Bulk density determinations were carried out on the diamond core from holes within the Abujar Project:

- No relation can be interpreted between grade and density, this is as expected for the style of mineralisation;
- Rock types of granodiorite (Fgd) and Mafics (Msc) appear to have relationship with density, as would be expected; and
- Experimental density values were assigned for oxidised and transition areas with 2.0 g/cu.cm and 2.4 g/cu.cm respectively applied, and an average density value 2.82 g/cu.cm from provided density data used for fresh rock.

## Depletion Areas

Small scale mining has been undertaken on several areas within the project. This mining is restricted typically to the upper 10m of the oxide material, however is variable in depth and extent. A detailed topographic survey was used to deplete known mining areas.

## Geological Interpretation

Geological units and shear hosted veins for the deposits, defined by lithological logging and sample assays consisted of generally discrete, mineralised lenses. These were interpreted and wireframed as solids for each area.

RPM constructed one set of mineralised wireframes for each deposit using a cut-off grade of 0.3 g/t Au based on interrogation of log histograms and probability plots of the raw assay data. Geological interpretations of the lithological units, the geological structure, alteration and the different lodes of mineralisation were used to guide and interpret the shape of the mineralised wireframes.

All deposits have similar styles of mineralisation which was interpreted as being comprised of southeast-dipping lodes striking 035° dipping at varying angles of inclination typically between 50 and 75°. These lodes appear to coincide with strong linear geological structures which are offset by several offsetting faults.

RPM defined 39 discrete bodies for the AG Deposit based on the orientation and shape of the mineralisation.

Oxidation logging data was used to create a base of oxidation surface and the top of fresh rock to further constrain the mineralised domains and allow separation of material types into oxide, transition and fresh.

Drill hole collars were generally spaced on an approximate 100m by 50m grid in all deposits however closer spacing occurs within AG.

## Preparation of Wireframes

Wireframed solids were constructed based on sectional interpretations of drill hole geological and sample data using SURPAC version 6.7 geological software. The sectional resource outlines were generally extrapolated to a distance half-way between mineralised and un-mineralised holes/sections with a maximum distance of 50m along strike where the drill spacing was greater than 100m and on the edges of the mineralisation. In the up-dip and down-dip directions where no un-mineralised holes were available to constrain the mineralisation, extrapolation was also around 50m where geological continuity could be observed along strike.

The interpreted outlines were manually triangulated to form the wireframes. To form the ends of the wireframes, the end section strings were copied to a position mid-way to the next section (to a

maximum of 50m) and adjusted to match the overall interpretation and trend of the mineralisation. The wireframed objects were validated using SURPAC software and set as solids.

The resultant mineralised wireframes were used as hard boundaries to constrain the grade interpolation within the deposit. All un-sampled intervals were assumed to have no mineralisation and they were therefore set to zero grade, however these were minimal.

### **Sample and Generational Support**

RPM completed a sample support analysis of the two sample types RC and DD. As these are different sampling methods and importantly have different sampling volumes, there is the potential to introduce inherent sample bias. A statistical review of the assay results from the two sampling methods indicates that there is no potential bias when comparing close pairs of each dataset, as such no changes to the data was required.

### **Composites**

The sets of mineralised wireframes ("objects") were used to code the assay database to allow identification of the resource intersections. A review of the sample lengths was subsequently completed to determine the optimal composite length. The most prevalent sample length inside the mineralised wireframes was 2m, and as a result, was chosen as the composite length. The samples inside the mineralised wireframes were then composited to 2m lengths and SURPAC software was used to extract the composites. Separate composite files were generated for each resource object. The composites were checked visually in SURPAC software for spatial correlation with the wireframed mineralised objects.

### **Statistical Analysis**

The composites were imported into statistical software to analyse the statistics of the assays within the mineralised wireframes. The summary statistics for major lodes are shown in **Table 10**.

Log histograms and log probability plots for the drilling composites within AG, APG and SG are shown in **Figure 6**.

The composite samples show a moderate positively skewed log-normal distribution which is typical for the style of mineralisation observed within the deposits. RPM notes that it is apparent that multiple distributions occur within the populations at the AG and APG deposit.

### **Geospatial Analysis**

Due to the limited number of samples within the individual lodes, RPM combined the composited files of the three main mineralised lodes (32, 40, 43, 47, and 51) and completed relative variogram analysis for the AG area. These analyses indicated that within the continuous along strike shear (035°) which dip consistently at 60° - 80° to the south east, southerly plunging shoots can be



interpreted. This orientation is consistent with the high grade plunges which can be interpreted within the drill holes.

**Table 10: Basic Statistics and Major Lodes.**

Deposit	AG						APG		SG
Statistic	All	32	40	43	47	51	All	4	All
Number	5088	391	912	547	229	399	2783	854	61
Minimum	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05
Maximum	200.2	53.1	144.3	85.3	18.8	27.2	21.24	14.8	9.7
Mean	1.4	1.2	1.2	2.1	1.3	1.1	0.56	0.58	0.9
Std Dev	6.1	3.8	5.8	6.0	2.4	2.6	1.06	1.03	1.6
Coeff Var	4.5	3.2	4.7	2.8	1.9	2.5	1.89	1.77	1.8
Variance	37.0	14.5	33.7	35.5	5.9	6.8	1.11	1.06	2.4
Skewness	24.7	13.3	27.0	10.7	6.2	9.5	11.51	10.35	4.4
Percentiles									
10%	0.09	0.08	0.10	0.10	0.08	0.10	0.09	0.09	0.1
20%	0.17	0.15	0.18	0.18	0.16	0.18	0.14	0.14	0.3
30%	0.25	0.23	0.27	0.30	0.25	0.24	0.20	0.20	0.3
40%	0.33	0.30	0.35	0.38	0.31	0.30	0.26	0.26	0.4
50%	0.41	0.36	0.45	0.52	0.42	0.38	0.32	0.33	0.4
60%	0.53	0.47	0.57	0.72	0.56	0.53	0.39	0.40	0.5
70%	0.72	0.61	0.77	0.99	0.87	0.71	0.50	0.51	0.7
80%	1.06	0.95	1.08	1.70	1.68	1.02	0.66	0.71	1.0
90%	2.11	2.08	2.06	3.96	3.40	2.03	1.11	1.20	1.4
95%	4.17	4.03	3.56	9.08	4.86	3.55	1.68	1.73	2.9
97.50%	7.74	7.17	5.70	17.49	7.66	7.37	2.61	2.72	5.8
99%	17.87	14.63	11.00	27.23	13.16	11.77	4.25	4.31	9.7

### High Grade Cuts

The statistical analysis of the composited samples for Au inside the mineralised wireframes was used to determine the high-grade cuts that were applied to the grades in the mineralised objects before they were used for grade interpolation. All assays above the cut value were assigned the cut value. This was done to eliminate any high grade outliers in the assay populations which would result in conditional bias within the resource estimate. The high grade cuts applied to the composites were determined from the log histograms and log probability plots for each deposit resulting in the following conclusions:

- Top-cuts of 60g/t, 50g/t and 20g/t were appropriate for different lodes in the AG area respectively and a top-cut of 20g/t was appropriate for all lodes in the APG area. These high grade cuts were applied to the composites and were determined from the log histograms and log probability plots. RPM notes there were some extreme high grade samples identified during the latest exploration stage however the high grade domains were not extended.

- A grade dependent search was applied to all samples above 35 g/t. This was limited to a 32.5m radius influence of 8 samples due to the extreme grades of these holes.

AG

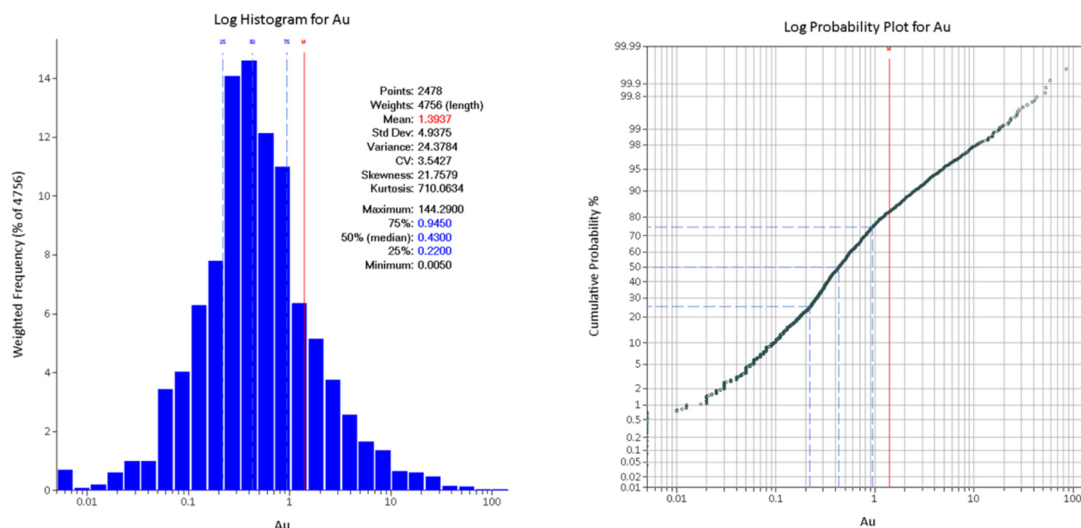


Figure 6: Log histograms and log probability plots for AG main pods

APG

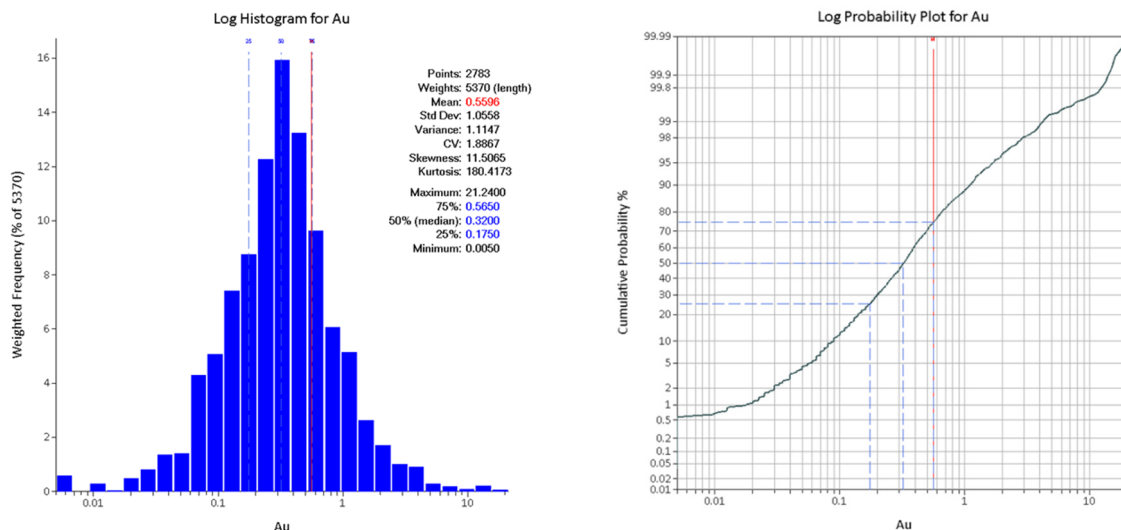


Figure 7: Log histograms and log probability plots for APG main pods

## Mineral Resource estimation

### Block Model

SURPAC block models were created to encompass the full extent of each resource area as currently defined within the licence boundary for the AG, APG and SG deposits. The block model was rotated to a bearing of 035 degrees to align with the general strike of the majority of the mineralised lenses, to improve the fit of the blocks to the wireframe and to reduce the size of the block model. The block dimensions used in the model were 25m NS (along strike) by 10m EW (across strike) by 5m vertical with sub-cells of 3.125m by 3.125m by 0.625m based on the drill spacing. The block model origin, extent and attributes are shown in **Table 11**.

*Table 11: Block Model parameters*

Estimate Area	Origin			Extent			Rotation Degrees
	Easting	Northing	Elevation	Easting	Northing	Elevation	
<b>AG</b>	750,400	763,500	-400	1,600	7,000	700	35
<b>APG</b>	748,000	762,000	-175	1,600	6,000	470	35
<b>SG</b>	755,000	768,800	0	900	1,500	300	35

### Grade Interpolation and Estimation Parameters

Each mineralised wireframed object was used as a hard boundary for the interpolation of Au. That is, only composites inside each object were used to interpolate the blocks inside the same object. The Ordinary Kriging (**OK**) algorithm was selected for grade interpolation of Au. The OK algorithm was selected to minimise smoothing within the estimate and to give a more reliable weighting of clustered samples.

An isotropic search ellipsoid in the major and semi-major directions was used for the interpolation process based on the number of samples to be used to estimate a block and the relative orientations of the mineralisation, however an anisotropic parameter was used in the minor direction (across strike). The search ellipsoid orientations used for interpolation matched the general orientation of the mineralised lodes in each domain, with separate parameters used for the north, middle and south. Three passes were used for the estimation including a final pass with a large search ellipsoid and a minimum sample of one to ensure that all blocks were estimated within the block model, as shown in Table 12.

*Table 12: AG Search Ellipsoid Parameters*

Parameter	Estimation Pass Pass 1	Estimation Pass Pass 2	Estimation Pass Pass 3
<b>Search Type</b>	Ellipsoid		
<b>Bearing</b>	35	35	35
<b>Dip</b>	-65	-65	-65
<b>Plunge</b>	0	0	0
<b>Major-Semi Major Ratio</b>	1	1	1
<b>Major-Minor Ratio</b>	5	5	5
<b>Search Radius</b>	60	100	200
<b>Minimum Samples</b>	8	8	1
<b>Maximum Samples</b>	18	18	18
<b>Max. Samples per Hole</b>	5	5	5
<b>Block Discretisation</b>	5 X by 4 Y by 2 Z		

*Table 13: APG Search Ellipsoid Parameters*

Parameter	Estimation Pass Pass 1	Estimation Pass Pass 2	Estimation Pass Pass 3
<b>Search Type</b>	Ellipsoid		
<b>Bearing</b>	35	35	35
<b>Dip</b>	-65	-65	-65
<b>Plunge</b>	0	0	0
<b>Major-Semi Major Ratio</b>	1	1	1
<b>Major-Minor Ratio</b>	5	5	5
<b>Search Radius</b>	50	100	20
<b>Minimum Samples</b>	8	4	1
<b>Maximum Samples</b>	30	30	30
<b>Max. Samples per Hole</b>	8	8	8
<b>Block Discretisation</b>	5 X by 4 Y by 2 Z		

## Model Validation

A rigorous process was used to validate the estimation for the Project as outlined below:

- Mathematical Comparison by Domain;
- Visual Inspection of the Blocks; and
- Overall Validation.

### Visual Inspection of the Blocks

Following the mathematical comparison and the validation notes, a visual comparison of the block estimates to the composites was completed. The visual inspection indicates a good correlation exists at a local scale down dip and when closer spaced drilling occurred between the block estimate and the surrounding composites with the block estimate grade smoothed due to a combination of the block dimensions and the OK algorithm.

RPM notes due to the style of mineralisation there is a degree of smoothing within each lode, however RPM considers this level of smoothing suitable to interpretation on a global scale, however variation may occur on a local scale. As such RPM considers that further drilling and closer drilling spacing will be required should a higher level of classification be required.

### Overall Validation

The review of the mathematical comparison indicates that a good overall correlation exists between the block estimates and the composite grades within both deposit and each lode. This good correlation of the drill holes and interpolated block model is further supported when a visual inspection is completed, however RPM does note that there is a degree of smoothing.

As a result of the validation completed, RPM considers the estimate is representative of the composites and is indicative of the known controls of mineralisation and the underlying data.

See JORC Table 1 for further details.

## Mineral Resource Classification

Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified as Indicated and Inferred Mineral Resource on the basis of data quality, sample spacing, and lode continuity.

The AG and APG deposits both show good continuity of the main mineralised lodes along strike and down dip which allowed the drill hole intersections to be modelled into coherent, geologically robust wireframes within the drill spacing of 50m-100m by 50m with some closer spacing within the core of the AG deposit. Relative consistency is evident in the thickness of the structures, along with the continuity of structure between sections. While there is good geological continuity along strike and down dip, there is evidence, and it is interpreted, that local variation of grade and thickness will occur between the current drill spacing arising from the boudin type structures resulting in discontinuous pods of mineralisation.

Given the interpretation of further local grade variation with further drilling, within the good geological continuity, RPM considers the current data suitable to provide a good estimate of tonnage and metal content within the current drilling spacing on a global scale. For the AG area, RPM considers the 2020 infill and extension drilling undertaken allows good confidence in the grade and geological continuity with both the 50m and closer spacing allowing interpretation between section and down dip. As such RPM considers 50m by 50m spacing suitable for the Indicated classification in central and north area of AG which was selected based on variogram ranges (60% of the sill range) and visual confirmation of structure and grade continuity. RPM however considers that further drilling is required to allow a confirmed estimate of local grade and metal distribution; as such no Measured resource is reported. All other areas report the Mineral Resource as Inferred within the 100m by 50m drilling spacing areas and extrapolated to 30 – 50m from the nearest drill hole.

Limited bulk density samples have been determined for the transition and no samples for oxide. While RPM considers the applied densities suitable for the style of mineralisation and rock types, further determinations are recommended to enable Measured resources to be estimates. RPM highlights that the oxide and transition material constitute a very minimal portion of the Indicated estimate (4% of tonnes and 3% of metal content) and as such does not have a material impact on either the local or global estimates.

All APG and South Gamina were classified as Inferred due to the larger drill spacing and contain the bulk of the oxide and transition material.

## JORC Statement of Mineral Resources – 21 October 2020

Results of the independent Mineral Resources estimate for the Project are tabulated in the Statement of Mineral Resources below, which are reported in line with the requirements of the 2012 JORC Code; as such the Statement of Mineral Resources is suitable for public reporting. The Statement of Mineral Resources shown in Table 14.

Within AG, the Mineral Resource is reported at a cut of grade of 0.3 Au g/t within a pit shell within a gold price of 2,000 USD per troy ounce, and 0.8 Au g/t below the pit. The cut off grades were based on estimated mining and processing costs and recovery factors of similar projects in Cote d'Ivoire as detailed in JORC Table 1. It is highlighted that while a 2,000 USD per ounces pit shell was utilised the cut-off grades were estimated based on the gold price of 1,881 USD per troy ounce which is 1.25 times the consensus forecast as of September, 2020.

Within APG due to the shallow nature of mineralisation (maximum depth 250m) and Inferred classification the resource was reported with a changing cut-off grade at depth. This was due to the increased costs of potential mining and likely requirement to haul material to the plant at AG. The resource is reported using a 0.3g/t cut off to a depth of 120m and a 0.8 g/t cut off below 120m at APG. Similarly, the South Gamina Resource was reported to a depth of 120m and not reported at depths below 120m.

**Table 14: Statement of Mineral Resources by Deposit as at October 21, 2020 Reported at 0.3 g/t Au cut off within pit shells; and 0.8 g/t Au cut off below the pit shells for AG, and 0.3 g/t to a depth of 120m and 0.8 g/t below 120m for APG, and 0.3 g/t to a depth of 120m for SG.**

Area	Class	Oxide			Transition			Fresh			Total		
		Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)
AG	Indicated	0.2	1.3	0.006	0.7	1.2	0.029	23.2	1.6	1.207	24.1	1.6	1.24
	Inferred	0.6	1.2	0.024	2.2	1.0	0.069	22.7	1.3	0.963	25.6	1.3	1.06
	<b>Total</b>	<b>0.8</b>	<b>1.2</b>	<b>0.03</b>	<b>2.9</b>	<b>1.1</b>	<b>0.10</b>	<b>45.9</b>	<b>1.5</b>	<b>2.17</b>	<b>49.6</b>	<b>1.5</b>	<b>2.30</b>
APG	Inferred	1.2	0.6	0.02	6.3	0.6	0.13	23.5	0.7	0.54	31.0	0.7	0.70
SG	Inferred	0.04	0.7	0.00	0.1	0.8	0.00	0.4	1.6	0.02	0.5	1.4	0.02
<b>Grand Total</b>		<b>2.04</b>	<b>0.8</b>	<b>0.05</b>	<b>9.3</b>	<b>0.8</b>	<b>0.23</b>	<b>69.8</b>	<b>1.2</b>	<b>2.73</b>	<b>81.2</b>	<b>1.2</b>	<b>3.02</b>

Note:

- The Mineral Resources has been compiled under the supervision of Mr. Jeremy Clark who is a sub-consultant to RPM and a Registered Member of the Australian Institute of Mining and Metallurgy. Mr. Clark has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he has undertaken to qualify as a Competent Person as defined in the JORC Code.
- All Mineral Resources figures reported in the table above represent estimates at 21 October, 2020. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.
- Mineral Resources are reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The Joint Ore Reserves Committee Code – JORC 2012 Edition).



9. The Mineral Resources have been reported at a 100% equity stake and not factored for ownership proportions.

The total resource at AG and APG is reported at varying cut-off grades are provided in Table 15 below. However, RPM recommends that the Mineral Resource be reported using the criteria shown in Table 14. It is highlighted that Table 10 is not a Statement of Mineral Resources and does not include the use of pit shells to report the quantities rather the application of various cut off grades. As such variations with Table 9 will occur and a direct comparison is not able to be completed.

**Table 15: AG and APG Mineral Resources at varying cut off grades**

COG	AG Indicated			AG Inferred			APG Inferred			Total		
	Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)
0.1	28.5	1.4	1.3	45.4	0.9	1.3	57.5	0.6	1.0	131.4	0.9	3.7
0.2	28.2	1.4	1.3	44.6	0.9	1.3	56.0	0.6	1.0	128.8	0.9	3.7
0.3	26.8	1.5	1.3	41.5	1.0	1.3	48.5	0.6	1.0	116.8	1.0	3.6
0.4	24.0	1.6	1.3	35.3	1.1	1.2	35.9	0.7	0.8	95.2	1.1	3.3
0.5	20.6	1.8	1.2	28.9	1.2	1.2	23.6	0.9	0.6	73.2	1.3	3.0
0.6	17.9	2.0	1.2	23.4	1.4	1.1	16.3	1.0	0.5	57.5	1.5	2.7
0.7	15.6	2.2	1.1	18.8	1.6	1.0	10.8	1.2	0.4	45.2	1.7	2.5
0.8	13.8	2.4	1.1	15.7	1.8	0.9	7.6	1.3	0.3	37.1	1.9	2.3
0.9	12.4	2.6	1.0	13.5	1.9	0.8	6.0	1.5	0.3	31.9	2.1	2.1
1	11.2	2.8	1.0	11.8	2.0	0.8	3.9	1.7	0.2	27.0	2.3	2.0
1.1	10.2	2.9	1.0	10.4	2.2	0.7	2.8	2.0	0.2	23.4	2.5	1.9
1.2	9.4	3.1	0.9	9.3	2.3	0.7	2.4	2.2	0.2	21.1	2.6	1.8
1.3	8.7	3.2	0.9	8.3	2.4	0.6	2.1	2.3	0.2	19.1	2.8	1.7
1.4	8.0	3.4	0.9	7.5	2.5	0.6	1.7	2.5	0.1	17.1	2.9	1.6
1.5	7.4	3.6	0.8	6.7	2.7	0.6	1.6	2.6	0.1	15.7	3.1	1.6
1.6	6.8	3.7	0.8	6.0	2.8	0.5	1.5	2.7	0.1	14.3	3.2	1.5
1.8	5.9	4.0	0.8	5.0	3.0	0.5	1.2	2.9	0.1	12.1	3.5	1.4
1.9	5.6	4.2	0.7	4.5	3.2	0.5	1.1	3.0	0.1	11.2	3.6	1.3
2	5.2	4.3	0.7	4.0	3.3	0.4	1.1	3.0	0.1	10.3	3.8	1.3
2.5	4.0	4.9	0.6	2.6	3.9	0.3	0.8	3.3	0.1	7.4	4.4	1.0
3	3.2	5.5	0.6	1.8	4.4	0.3	0.4	3.8	0.1	5.4	5.0	0.9

## 6. Geotechnical

Dempers & Seymour Pty Ltd (D&S) was commissioned by Tietto Minerals Ltd to undertake the pre-feasibility pit slope design for the Abujar Gold Project in Côte d'Ivoire, West Africa.

Raw data for the project comprised geotechnical parameters interpreted from photo logging of core from selected exploration drillholes. This data was used to construct a 3d Mining Rock Mass Model for the project. Rock mass characteristics are summarised in the following table.

**Table 16: Rock Mass Characteristics**

Rock Unit	Rock Strength	Joint Condition	Fracture Freq.	RMR	MRMR
OXIDE	1MPa - 5MPa	Smooth and undulating with gouge infill	>40 frac/m Spacing <0.02m	9 - 11 Average 9	7 - 9 Average 8
TRANSITION	5MPa - 25MPa	Smooth and undulating with gouge infill	6.0 frac/m Spacing 0.17m	21 - 33 Average 27	17 - 26 Average 21
GRANODIORITE	50MPa - 100MPa	Rough and planar with non-softening medium infill	0.8 frac/m Spacing 1.25m	60 - 65 Average 62	48 - 52 Average 50
HS GRANODIORITE	50MPa - 100MPa	Rough and planar with non-softening medium infill	0.9 frac/m Spacing 1.11m	60 - 66 Average 61	48 - 53 Average 49

Based on the Mining Rock Mass Model and other analyses, geotechnical domains have been defined as shown in the following figure.

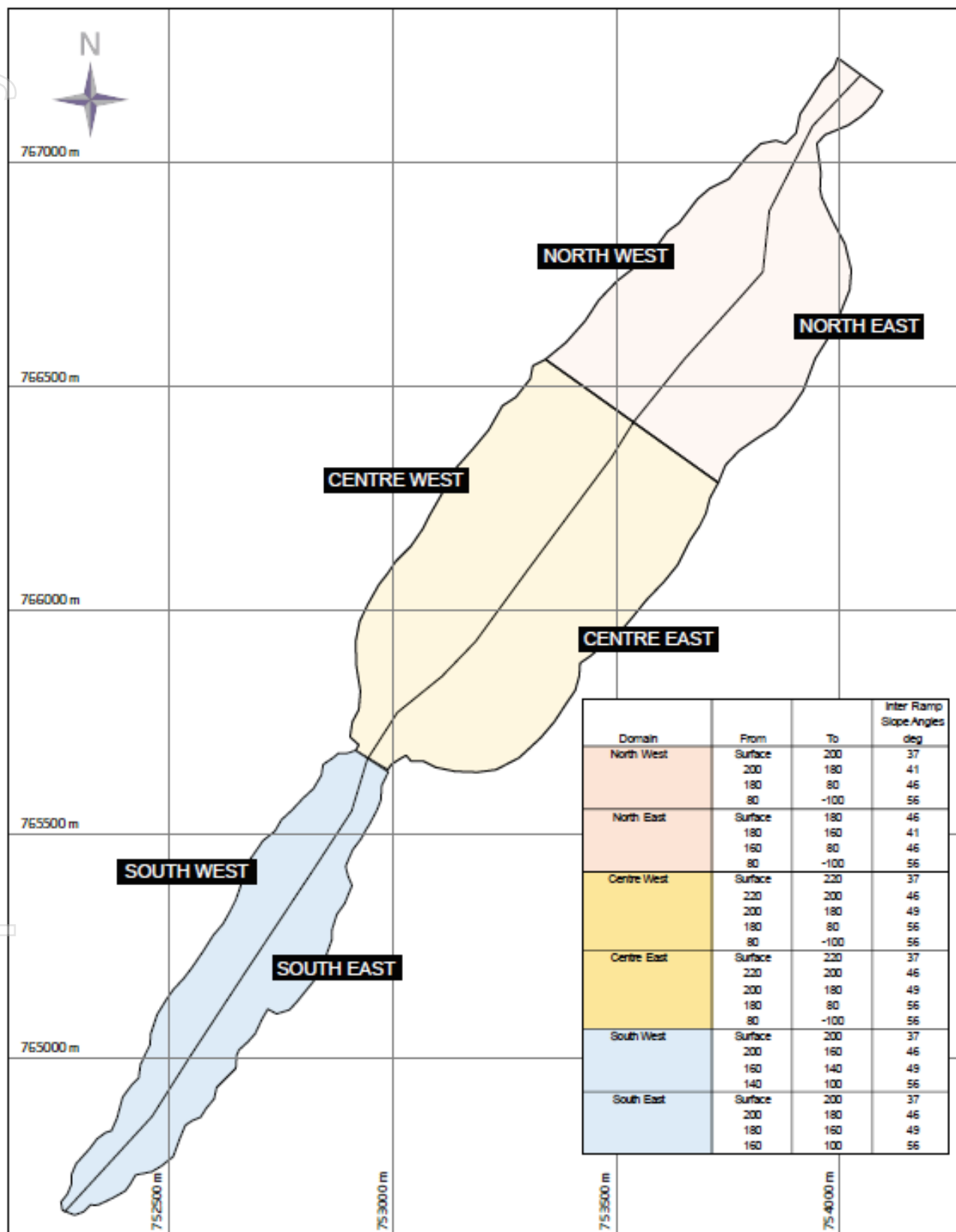


Figure 8: Geotechnical pit domains

Recommended pit slope design configurations excluding haul ramps for each geotechnical domain are given in the following table.

**Table 17: Recommended pit slope design configurations**

PIT PARAMETERS						
Domain	From	To	Bench	Berm	Batter Angle	Inter Ramp Slope
North West	Surface	200	10	5	50	43
	200	180	20	14	65	
	180	80	20	14	75	49
	80	-100	20	8	75	58
North East	Surface	180	10	5	55	50
	180	160	20	14	65	
	160	80	20	14	75	49
	80	-100	20	8	75	58
Centre West	Surface	220	10	5	50	43
	220	200	20	5	55	
	200	180	20	8	65	
	180	80	20	8	75	58
	80	-100	20	8	75	58
Centre East	Surface	220	10	5	50	43
	220	200	20	5	55	
	200	180	20	8	65	
	180	80	20	8	75	58
	80	-100	20	8	75	58
South West	Surface	200	10	5	50	43
	200	160	20	5	55	50
	160	140	20	8	65	
	140	100	20	8	75	59
South East	Surface	200	10	5	50	43
	200	180	20	5	55	55
	180	160	20	8	65	
	160	100	20	8	75	58

The pit slope design configurations are dependent on dry dewatered slopes. A 25m geotechnical berm must be included at RL 80 for Centre and North domains.

Further geotechnical investigation is required to supplement the limited geotechnical data and to confirm the assumptions made for this study. The work includes:

- Drilling of targeted geotechnical diamond drillholes. This has been completed and the cores have been photo logged.
- Laboratory testing of selected core samples. Samples have been selected and at time of writing were being shipped to Australia for testing.
- Construction of a 3d geotechnical structural model.
- Update the MRMM with new geotechnical data (rock mass and structure).
- Structural analyses to confirm batter slope angles.
- Undertake rigorous numerical modelling analyses.

## **7. Hydrology**

### **Introduction**

Knight Piésold Pty Ltd (KP) was commissioned by Tietto to undertake the Prefeasibility Study (PFS) design of the following site infrastructure for the Abujar Gold Project:

- Tailings Storage Facility (TSF)
- Water Storage Dam (WSD)
- Sediment management system
- Surface water management system
- Site Access Road

### **Site Characteristics**

Côte d'Ivoire is characterised by a tropical climate with two distinct, wet and dry seasons. The average annual rainfall for the project area is 1,361 mm. The average annual lake evaporation for the project area is 1,212 mm.

### **Groundwater Assessment**

A baseline desktop groundwater assessment was undertaken of previous works completed by others including geology, hydrogeology, groundwater elevations and groundwater quality; and recommendations for the next phase of study made. The desktop evaluation of available groundwater, geological and environmental information indicates that potential groundwater pit inflows may be significant. The potential pit inflows should be assessed to establish estimates of pit inflow volumes relative to the mining schedule and the broader implications on dewatering and developing a dewatering cone of depression.

### **Tailings Storage Facility Siting Study**

A TSF siting options assessment was conducted to evaluate 3 potential sites for the Abujar TSF. The recommended TSF site (Option 2) from the siting assessment was adopted as the basis of the PFS design. This option was recommended primarily due to lower construction costs and closer proximity to the Plant Site and Open Pit.

### **Tailings Storage Facility Design**

The TSF will comprise a valley storage formed by multi-zoned earth fill embankments, comprising a total footprint area (including the basin area) of approximately 72 ha for the Stage 1 TSF increasing to 189 ha for the final TSF. The TSF is designed to accommodate a total of 30 Mt of tailings.



The Stage 1 TSF will be designed for 15 months storage capacity. Subsequently, the TSF will be constructed in annual raises to suit storage requirements. Downstream raise construction methods will be utilised for all TSF embankment raises.

A downstream seepage collection system will be installed within and downstream of the TSF embankment, to direct seepage from the TSF into the downstream WSD reservoir.

The TSF basin area will be cleared, grubbed and topsoil stripped, and a 200 mm thick compacted soil liner will be constructed in the TSF basin area and overlain with 1.5 mm smooth HDPE geomembrane over the entire basin area. The embankment upstream face and decant tower areas will be lined with 1.5 mm textured HDPE geomembrane liner.

The TSF design incorporates an underdrainage system to reduce pressure head acting on the compacted soil and HDPE geomembrane liners, reduce seepage, increase tailings densities, and improve the geotechnical stability of the embankments. The underdrainage system comprises a network of collector and finger drains. The underdrainage system drains by gravity to a collection sump located at the lowest point in the TSF basin. A leakage collection and recovery system (LCRS) will be installed beneath the basin composite liner. Solution recovered from the underdrainage system and LCRS will be released to the top of the tailings mass via submersible pump, reporting to the supernatant pond.

Supernatant water will be removed from the TSF via submersible pumps (designed by others) located within a series of decant towers, constructed at start-up and raised during operation. The supernatant pond will be maintained in the eastern valley of the TSF basin. Solution recovered from the decant system will be pumped back to the plant for re-use in the process circuit.

An emergency spillway will be available at all times during TSF operation in order to protect the integrity of the constructed embankments in the unlikely event of emergency overflow.

Prior to decommissioning, the deposition plan will be managed to move the supernatant pond adjacent to the northern TSF embankment. The closure spillway will be located on the northern side of the TSF, at the low point of the final tailings beach. The closure spillway will discharge into the WSD reservoir (via a channel excavated into the natural ground). Upon closure, the TSF will be a fully water-shedding structure.

Tailings will be discharged into the TSF by sub-aerial deposition methods, using a combination of spigots at regularly spaced intervals from the TSF embankment.

For the purpose of the PFS design, an ANCOLD consequence category of 'High A' was conservatively assumed on the basis of a potential PAR in the range of ' $\geq 100$  to  $<1,000$ ' and a Severity Level of 'MAJOR'. The above classification is primarily due to the anticipated business, environmental and social impacts if tailings flow were to inundate the pit. This ANCOLD consequence category is typical of similar scale projects in the region.

### **Water Storage Dam**

The Water Storage Dam (WSD) is the main collection and storage pond for raw process water for the project, and is designed to store up to 7.7 Mm<sup>3</sup> of water at the maximum operating level. The WSD will attenuate and divert surface water runoff around the Open Pit via the Pit Diversion Channel, which will act as an engineered spillway for the WSD and run around the northern extent of the Open Pit.

The WSD will collect rainfall runoff from upstream catchments (512 km<sup>2</sup>). Water stored in the WSD will be pumped back to the plant (by others) to supply plant raw water requirements and process make-up water requirements, if required.

Discharge from the WSD will occur in a controlled manner via an engineered spillway, in order to protect the integrity of the embankments from overtopping failure. As the WSD is expected to fill during each year of operation, it is anticipated that the spillway will flow in a channel around the Open Pit and discharge water will report to the existing stream bed downstream of the Open Pit, each wet season. A backwater dam will be constructed to prevent discharge from the Pit Diversion Channel flowing back into the Open Pit.

### **Sediment Management**

Sediment control structures (SCSs) are sediment dams that will be constructed in the downstream reaches of catchments impacted by site infrastructure. The SCSs were designed to limit the maximum water depth to 2.0 m for safety reasons, and will be able to capture particles larger than coarse silt.

### **Site Access Road**

The Site Access Road (19 km long) runs from the A6 motorway to the Abujar project area, and comprises two 3.5 m width running lanes with a 1 m shoulder each side, for a total formation width of 9 m.

At one location along the Site Access Road, a combined culvert and floodway structure will be required. The floodway will comprise low flow culverts and a trafficable floodway structure to convey all runoff resulting from a 1 in 100-year average recurrence interval storm event, over and above the flow through the culvert.

### **Monitoring**

A total of 3 groundwater monitoring stations will be installed downstream of the TSF to facilitate early detection of changes in groundwater level and/or quality, both during the operating life and following decommissioning.

Standpipe piezometers will be installed in both the TSF and WSD embankments to monitor pore water pressures at several locations within the embankments to ensure that stability is not compromised.

Survey pins will be installed at regular intervals along the TSF and WSD embankment crests in order to monitor embankment movements and assess effects of any such movement on the embankment.

### **Rehabilitation**

At the end of the TSF operation, the downstream faces of the embankments will have an overall slope profile of approximately 3.5H:1V. The profile will be inherently stable under both normal and seismic loading conditions. The embankment downstream face will be re-vegetated once the final downstream profile is achieved.

Upon closure the final tailings surface will be capped with a soil cover. The following cover system was assumed:

- Mine waste capillary break (500mm).
- Low permeability fill layer (300 mm).
- Topsoil growth medium layer (200 mm).
- The finished surface will be shallow ripped and seeded with shrubs and grasses.

If required, the WSD may be decommissioned by breaching the WSD embankment to achieve full drainage of the WSD reservoir into the decommissioned Open Pit. Alternatively, it could remain in place for use by local communities.

## 8. Mining

### Introduction

The PFS base case consists of analysis of the Abujar Gludehi Deposit (AG), which contains Indicated and Inferred Mineral Resources. The PFS also includes a strategic analysis examining the upside potential of the Abujar-Pischon-Golikro ("APG") deposit located 8 km to the south from AG, which contains only Inferred Resources and is sequenced after the AG deposit.

The AG deposit currently comprises three main open cut pits, namely: AG Main pit, Central pit and South pit. It is a greenfields project and aims to complete a definitive feasibility study in 2021 and commence development as soon as funding approved.

The purpose of the PFS is to confirm the economic potential of the Project to support decision-making by Tietto to proceed to a Detailed Feasibility Study. Tietto are aiming to fast-track development with construction commencing late 2021 and production commencing 3rd quarter 2022.

The PFS process is being managed by Tietto with specialist consultants assigned to different technical areas. RPM's scope is the preparation of the Mineral Resource Statement, the mining study and the Ore Reserve Statement. RPM is also assisting with the financial modelling incorporating outcomes from the different technical specialists.

### Key Outcomes

The key outcomes of the mining study include:

- Ore Reserves of 15.7 Mt ROM at 1.71 g/t Au for 860,000 ounces;
- Mineable quantities (Indicated and Inferred) of 22.9 Mt ROM at 1.52 g/t Au for 1,120,000 ounces and a strip ratio of 8.24;
- Mine life based on production target of 3.5 Mt ROM per year;
- Average gold production from Year 2 to Year 7 is 167 k oz. per annum;
- Mining activity of 8 years comprising one year construction and pre-strip, six years primary production, and final year stockpile reclaim;
- Pre-production capital expenditure of US\$230M (including pre-production mining and contingency). US\$35M of sustaining capital and closure costs;
- Mine cash operating costs average US\$824/oz (including royalties);
- Average product selling price of US\$1,506/oz;
- pre-tax NPV (5%) of \$363M, IRR 53% and post-tax NPV (5%) of \$266M, IRR 42%;

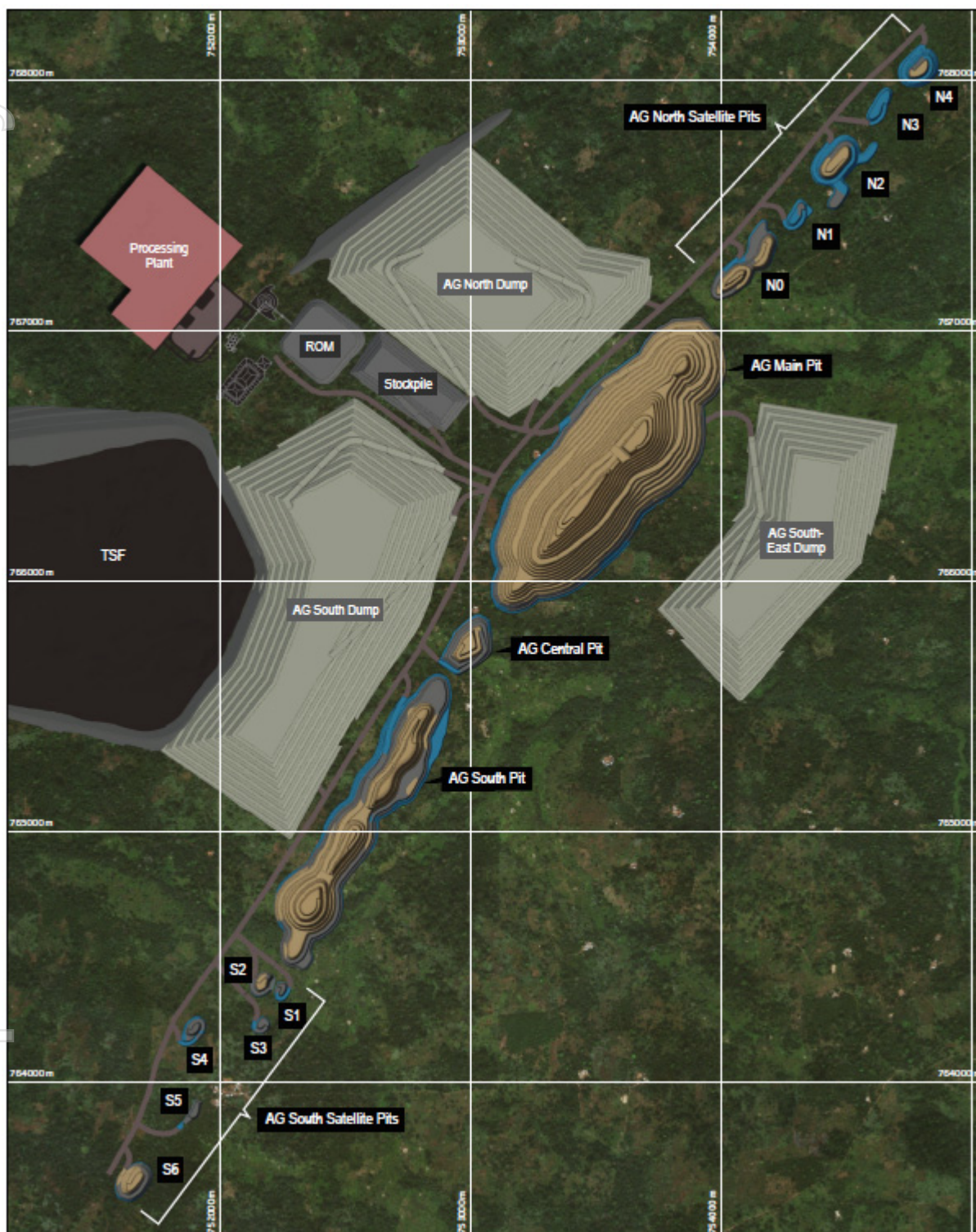
- APG Deposit adds potentially an additional 8.1 Mt ROM at 0.8 g/t Au for 209,00 and strip ratio of 3.32:1; and
- Pit limit sensitivity analysis indicated the Project mineable quantities are highly sensitive to economic factors, including good upside, especially at APG.

## Project Description

The Project involves the development of a truck-and-shovel, open-pit mine using conventional metalliferous mining techniques. The total project life is 10 years, comprising a 12 month construction phase with commissioning commencing October 2022, followed by an 8 year mining period and then site reclamation in the following year. The initial construction phase involves site preparation, infrastructure construction and waste pre-striping and stockpiling of ore. Major infrastructure to be constructed on site includes a process plant (capacity of 3.5 Mtpa ROM feed), ore stockpiles and handling equipment, mine offices, equipment workshops and access road.

The key aspects of the site layout for the AG deposit and main complex, include the main (north) pit, central pit and south pit, as well as the AG north and south satellite pits, as well as the three waste dumps – two adjacent to the main pit, and one adjacent to the south pit (**Figure 9**). Additionally the APG deposit is located 9 km to the south along strike.





*Figure 9: Proposed layout Abujar Gold Project – AG Open Pit*



## Production Rate Study

A production rate study was completed as part of the initial project definition phase. Within Geovia Whittle 4X software, RPM examined production rate options ranging from 2 Mtpa to 4 Mtpa, in 0.5 Mtpa increments. In conjunction with Tietto, the 3.5 Mtpa ore production rate was selected as it best met corporate objectives for cash flow and mining life.

## Pit Limits

Geovia Whittle 4X pit limit optimisation software was used to determine the economic mining limits. The Resource model was converted to a mining model by regularising the blocks to a smallest mining unit (SMU) of 2.5 (X), 6.25 (Y), 2.5 (Z).

The SMU was selected on the basis of an ore loss and dilution study based on the structure of the mineralisation, proposed mining method, excavator size and mining bench height. The goal was to select the smallest practical mining unit (SMU) that would produce the lowest ore loss and dilution for each pit. This analysis was completed using an in-house software package that rapidly evaluated the impact of different SMU sizes within the geological model. The estimated cut-off grade was used to categorise ore and waste both before (in situ) and after SMU re-blocking. Ore dilution was provided from adjacent blocks in the model that had grades below the cut-off.

From these results RPM selected the most suitable SMU size for each deposit and estimated the expected global ore loss and dilution, the results of which are presented below in Table 18.

**Table 18: Estimated Loss and Dilution**

Model	Loss (tonnage) %	Dilution (tonnage) %	Loss (gold) %
<b>AG (SMU 2.5x6.5x2.5)</b>	20	9	15
<b>APG (SMU 2.5x6.5x2.5)</b>	21	7	17

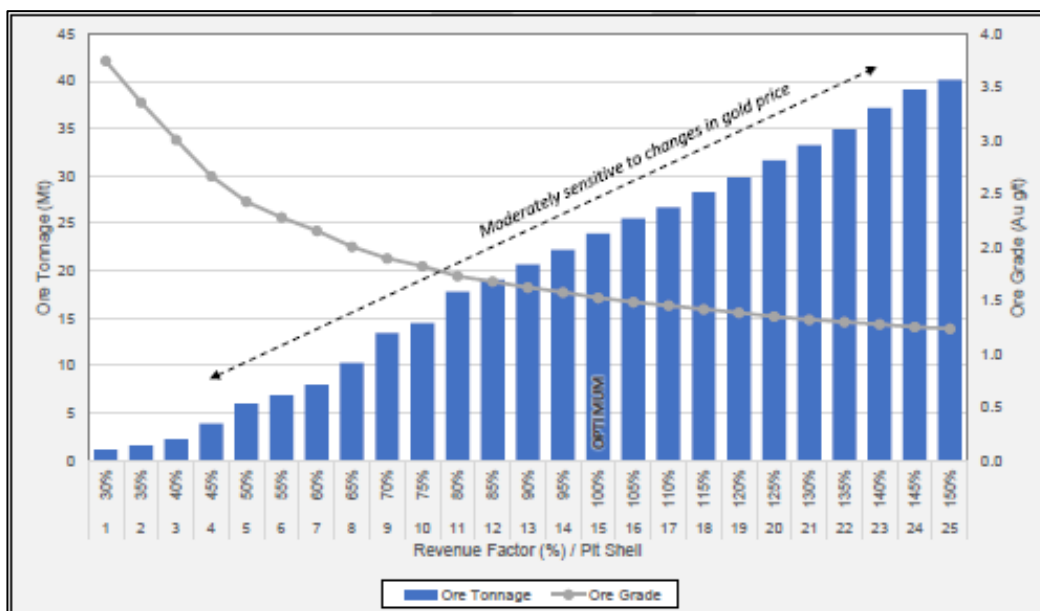
The SMU size selected assumes a 5 m bench height for blasts containing ore, and 110 t hydraulic excavators being used for a high proportion of ore mining. Given the thin nature of the orebodies considerable attention will be needed to selective mining practises in order to achieve the proposed loss and dilution.

RPM notes that the global ore loss and dilution in the table above is based on the full resource model and that the actual ore loss and dilution can differ throughout different domains of the deposit and this had the effect of applying loss and dilution primarily at the edges of the “ore” zones.

For key software inputs, RPM estimated mining costs, Mintrex processing costs and metal recovery and Dempers & Seymour the geotechnical parameters.

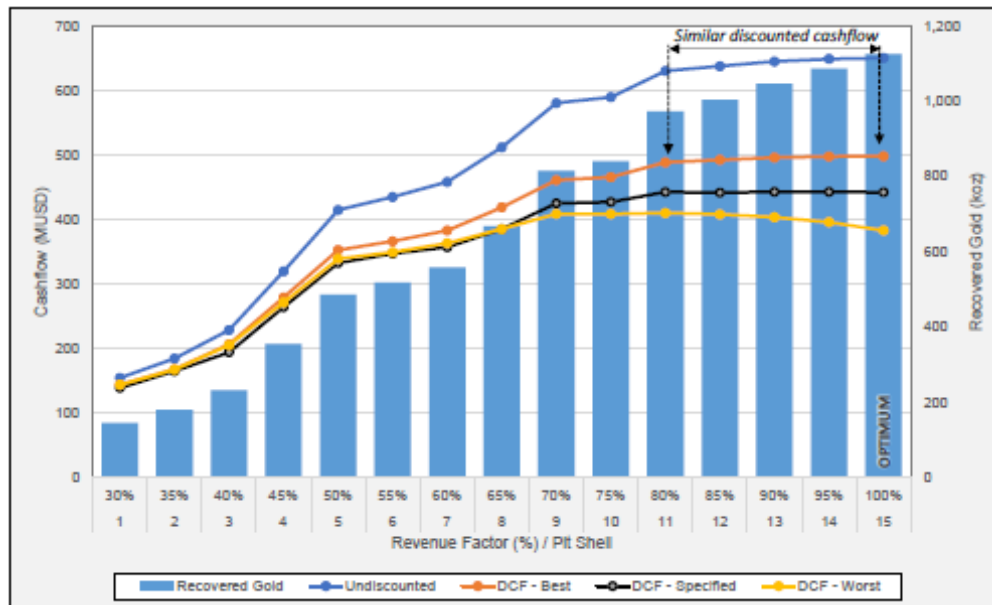
The “base case” mine gate gold price used for optimisation was the September 2020 Consensus Forecast long term price at USD1,459/oz.

A gold price sensitivity analysis was completed on metal prices ranging from 30% to 150% of the reference price, which is equivalent to a USD438/oz. to USD2,188/oz. gold price. The change in ore tonnage and grade for each gold price increment is presented graphically in **Figure 10**. This shows a relatively linear increase in the available ore as the gold price increases. This suggests that the deposit is moderately sensitive to changes in gold price, and consequently operating costs. For example, a 20% decrease in price results in a 25% drop in ore tonnage while a 20% increase gives a similar 25% increase in ore tonnage.



**Figure 10: Price Sensitivity – Ore Tonnage and Grade**

To aid pit selection, Whittle 4X software estimates the discounted value of each pit at the base case parameters. A discount rate of 10% was applied. The results of the cash flow analysis are presented in **Figure 11**.



**Figure 11: Shell Analysis - Discounted Cashflow and Ore Tonnage**

In conjunction with Tietto, pit shell 15 (100% RF) was selected to represent the final pit limit and basis for subsequent detail pit design. It was considered this pit best reflects the upside resource potential associated with the deposit and confidence the deposit will be developed in the short term while current gold prices remain elevated.

## Mine Design and Mineable Ore Quantities

A detailed pit design was prepared based on the Whittle Pit Shell 15. The mineable quantities for the AG per pit and at a cut-off grade of 0.35 g/t Au are set out in **Table 19**.

*Table 19: Mineable Quantities for Scheduling (Dry basis)*

Description	Total (Mt)	ROM Mineable Quantity (Mt)	Waste (Mt)	Strip Ratio (t:t)	ROM Gold Grade (g/t)	Contained ROM Gold (k oz)
<b>AG</b>						
<b>Main Pit</b>	175.0	19.2	155.8	8.13	1.60	984
<b>Central Pit</b>	1.7	0.2	1.5	6.58	0.67	5
<b>South Pit</b>	28.3	2.6	25.7	9.91	1.29	108
<b>Satellite Pits</b>	6.7	0.9	5.8	6.28	0.74	22
<b>Total</b>	<b>211.8</b>	<b>22.9</b>	<b>188.9</b>	<b>8.24</b>	<b>1.52</b>	<b>1,120</b>

Of the total 23 Mt of ore mined:

- Oxide comprises: 1 Mt, or only 4% of the total;
- Transition comprises: 4 Mt or 16% of the total; and
- Fresh comprises: 18 Mt or 80% of the total.

The quantities reported above include Inferred Resources and do not constitute an “Ore Reserve” as estimated in accordance with the JORC Code. An Ore Reserve Statement is presented in Ore Reserves.

## Production Schedule

A life-of-mine (“LOM”) schedule has been developed using RPM’s Open Pit Metal Solution scheduling software. The schedule targets 3.5 Mtpa crusher feed. The production strategy involved accelerated mining targeting up to 40 Mtpa total material movement to selectively feed high grade ore to the plant, with lower grade ore directed to a long-term stockpile.

The following assumptions were made when developing the schedule:

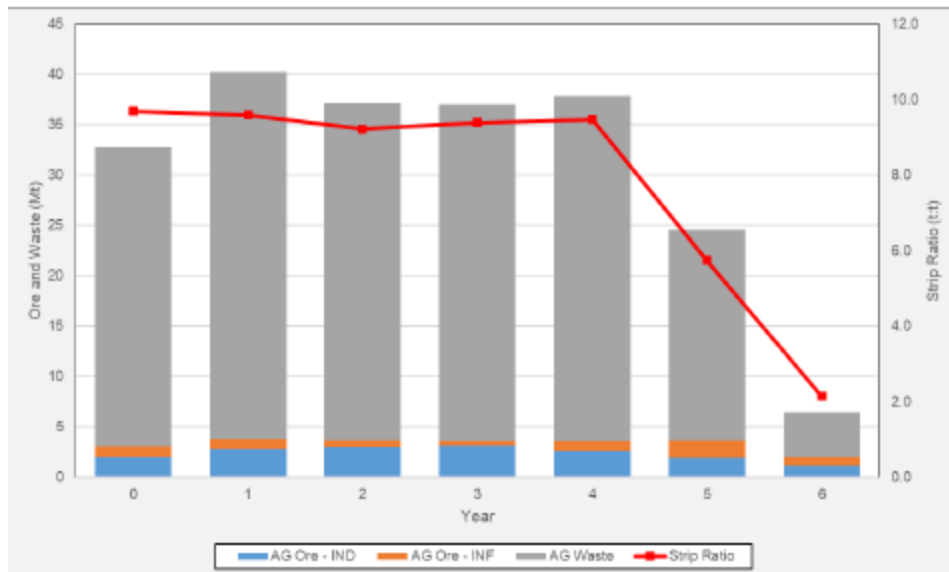
- Schedule on calendar years commencing 2022;
- Pre-strip in the first 9 months from January 2022 to September 2022;
- Plant commissioned in October 2022 with ramp up of 64% in the first month and fully operational in the second month at nameplate capacity (as per guidance from Mintrex);
- Ore target feed rate to the processing plant of 3.5 Mtpa;
- Mining sequence was guided by considering total material movement per ore tonne mined and per ounces of gold recovered;

- The vertical advance rate set to approximately 12 benches (of 5 m bench height) per year.
- This was varied through scenarios as vertical advance rate is slightly quicker in early stages when benches are smaller and predominately consist of oxide material. The vertical advance rate is 60 m generally and 75 m in selected years/stages where mainly waste rock;
- An ore production limit (this was varied through scenarios) to analyse the maximum ounces of gold could recovered; and
- Stockpiling to three different grade bins:
  - ✓ High Grade: 1.1 g/t or above;
  - ✓ Medium Grade: 0.7 to 1.1 g/t, and
  - ✓ Low Grade: 0.35 to 0.7 g/t.

Key characteristics of the production schedule are:

- Schedule commences October 2022;
- Total material movement (TMM) in Years 0 to 4 averages 35 Mt (maximum 40 Mtpa in Year 1);
- Ore mining targeted 3.55 Mtpa from Year 0 to Year 6;
- Accelerated mining rate gained 209 k oz recovered with 3.4 Mt of ore processed in the first year;
- Strip Ratio steady at 9.5:1 (t waste : t ore) from Y0 to Y4;
- Average 75% of ore is Indicated in the first 5 years of mining;
- Main Pit Stage 4 cutback has a high strip ratio with 7 Mt of ore to 90 Mt of waste and hence was commenced as Stage 3 ended (Year 2) to maintain ore supply beyond Year 3; and
- Ramp down TMM from Year 6 as mining gains access to lower strip ratio ore towards bases of pits.

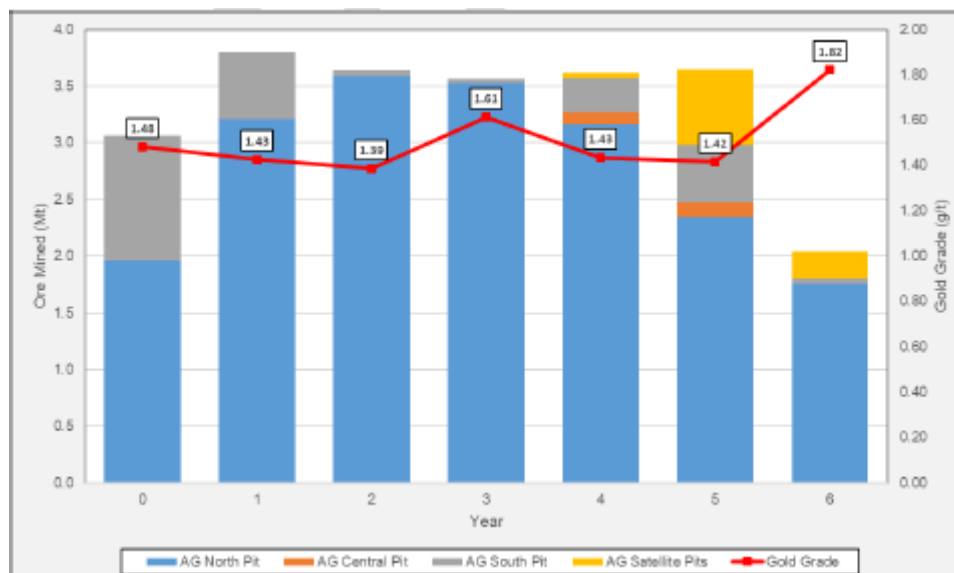
The annual material movement is shown graphically below in **Figure 12**.



**Figure 12: Production Schedule: Total Annual Material Movement**

The results show a well-balanced TMM generally between 35 to 40 Mtpa from Y0 to Y4;

The ore production per pit is illustrated in **Figure 13**. It shows mining commencing in the South and Main pit with all the satellite pits deferred to the end of mine life because of lower grade ore.

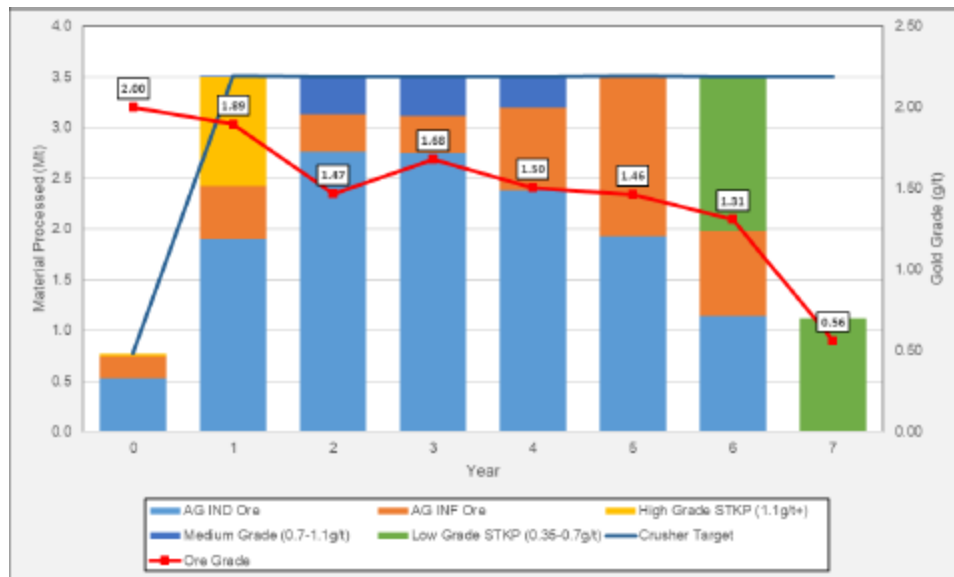


**Figure 13: Production Schedule: Ore Mined by Pit**



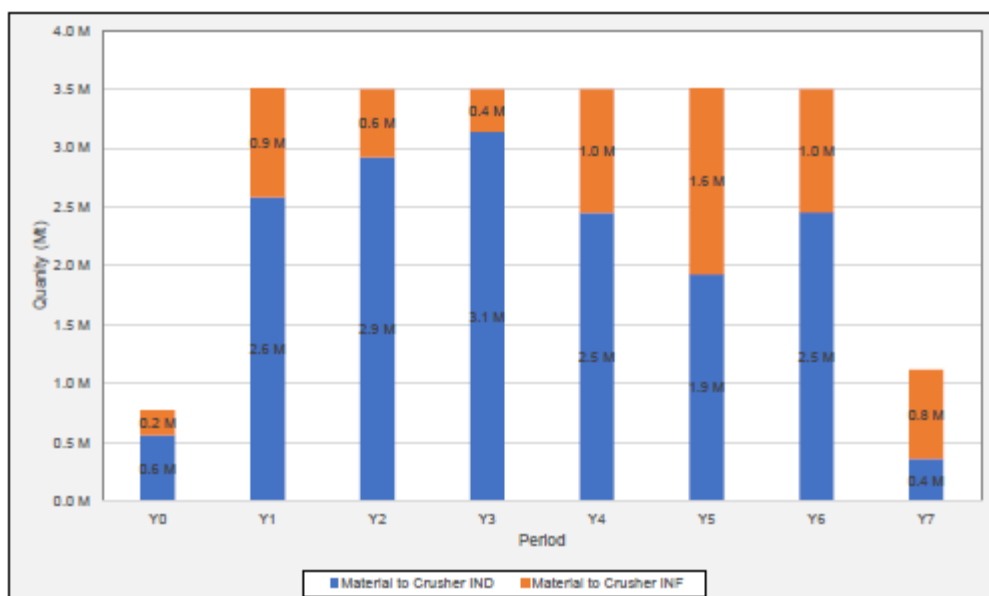
The annual plant feed tonnage is shown in **Figure 14**. Key results include:

- High grade material is processed in Years 0 and 1 to maximise the early cash-flow for the project;
- 90% is direct feed (or feed from ROM);
- Low grade stockpile is processed in Years 6 and 7; and
- Average feed grade at 1.5 g/t.



**Figure 14: Production Schedule: Annual Crusher Feed Tonnage and Grade**

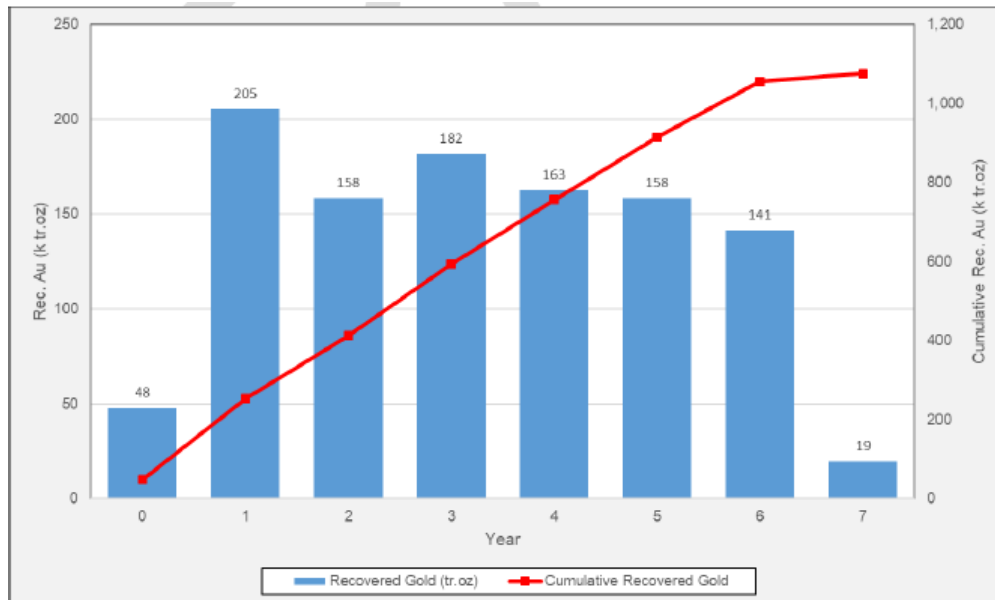
The mineable quantities by Resource class are shown in **Figure 15**. Crusher feed comprises 80% Indicated Resources for the first four years and 72% over the mine.



**Figure 15: Crusher Feed by Resource Class**

The annual gold production is shown in **Figure 16** and Table 20. Key results include:

- Total gold production is 1,075 k oz. over the life of mine for AG deposit; and
- Average gold production from Year 1 to Year 6 is 168 k oz. per annum and is relatively consistent.



**Figure 16: Production Schedule: Annual Gold Production**

**Table 20: Production Schedule Processed Quantities – AG**

Description	Units	Year 0 Qtr4	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Total
Direct Feed - AG	Mt	0.74	2.42	3.12	3.11	3.20	3.51	1.98		18.08
Stockpile: High Grade (1.1g/t+)	Mt	0.03	1.08							1.11
Stockpile: Medium Grade (0.7-1.1g/t)	Mt		0.01	0.38	0.39	0.30				1.08
Stockpile: Low Grade (0.35-0.7g/t)	Mt							1.52	1.12	2.64
<b>Total</b>	<b>Mt</b>	<b>0.77</b>	<b>3.51</b>	<b>3.50</b>	<b>3.50</b>	<b>3.50</b>	<b>3.51</b>	<b>3.50</b>	<b>1.12</b>	<b>22.91</b>
Processed Grade	g/t	2.0	1.9	1.5	1.7	1.5	1.5	1.3	0.6	1.5
Contained Gold	Koz	50	214	165	189	169	165	147	20	1,120
Recovered Gold	Koz	48	205	158	182	163	158	141	19	1,075

## Mining Equipment

The geometry of the deposit and shallow ore zones make open pit mining preferred both practically and economically. The requirement for selective ore mining, cutback staging to maintain ounce production profile, and potential for either owner operator or contractor mining, supports a mining method utilising a conventional truck and excavator approach.

Open pit mining is envisaged utilising hydraulic excavators in backhoe configuration, and standard off-highway rear-dump trucks. Ore and waste material will be drilled and blasted on 5 m bench heights and excavated on 2.5 m flitches. With appropriate grade control and ore management practices, the selected flitch height will assist in minimising ore loss and waste rock dilution. Pre-split drilling and wall control will be completed on 10 m benches in fresh rock.

Key outcomes from the mining equipment assessment include:

- Conventional truck and loader mining system was selected using 90 tonne trucks and a combination of 110t and 250 tonne excavators;
- Fleet selections were made assuming contractor operation;
- Approximately 5 excavators (3 x 250t and 2 x 110t) and an average of 33 trucks are required for prime material movement, with commensurate levels of associated support equipment;
- A long term stockpile is utilised, with a FEL and truck fleet transporting material to the ROM as required;
- ROM rehandle is not part of the mining scope and is understood to be included as part of the processing operating costs;
- Truck requirements were estimated by calculating the travel time from each schedule block to destination;
- Truck travel times increase over the life of the mine as pit depth and dump height increases and distance from the ROM pad increases; and
- A top hammer drill rig capable of drilling 102 and 115mm blast holes in a single pass for production and pre-split drilling is proposed.

A summary of equipment requirements is listed below in **Table 21**.

**Table 21: Summary Equipment Requirements**

Class	Nominal Model	Size	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Hydraulic Excavator	Hitachi EX2600-6	250 t	3	3	3	3	3	2	1	-
Truck - Rear Dump	Komatsu PC1250SP-7	112 t	2	2	2	2	2	2	1	-
	Cat 777F	90 t	21	29	29	33	38	25	10	-
Front End Loader	Cat 777F SP Reclaim	90 t	2	2	2	2	2	2	2	2
	Cat 990H Stockpile	8.8 cu.m.	1	1	1	1	1	1	1	1
Dozer - Track	Caterpillar D8R	228 kW	2	2	2	2	2	2	1	1
	Caterpillar D9R	302 kW	3	3	3	3	3	3	2	-
Grader	Caterpillar 16M	221 KW	2	2	2	2	2	2	1	1
	Sandvik Pantera DP1500	45000 lb	8	13	14	15	13	9	3	-
Watercart	Caterpillar 773D	45 kl	2	3	3	3	3	2	1	1

## 9. Ore Reserves

### Overview

RPM has prepared an independent estimate of the Open Cut Ore Reserves (the “Statement”) for the Abujar Gold Project (the “Project”) focussing on its Abujar Gludehi (“AG”) Deposit. The Statement estimates the Ore Reserves as at 31 December 2020 and has been undertaken in compliance with the requirements of the reporting guidelines of the 2012 Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (“JORC Code”).

### Terminology for this Statement

RPM has adopted the following JORC terms for the reporting of Mineral Resources and Ore Reserves:

- Mineral Resources as used in this Statement are the same as “Mineral Resource” as defined in the JORC Code. “Geological Resources” and “In Situ Resources” are also common terms used in the industry to refer to Mineral Resources;
- Measured, Indicated and Inferred Resources are categories of Mineral Resources and are defined in the JORC Code to reflect the level of confidence in the quantities and grade estimated in the Resource Statement;
- Ore Reserves as used in this Statement are the same as “Ore Reserves” in the JORC Code and “Mining Reserves”, a common term used in the industry;
- Ore Reserves in the JORC Code are subdivided into Proved and Probable to reflect the confidence in the underlying resource data and modifying factors applied during mine planning;
- Mineral Resources are reported inclusive of Ore Reserves, (that is, Ore Reserves are not additional to Resources); and
- Ounces are Troy ounces of gold.

Additional terminology applied within this Statement includes the following:

- Geological Model (or “In Situ” Model) is the computerised three-dimensional estimate of the deposit based on topographic survey data, samples derived from outcrop, drill hole or other methods. No loss or dilution parameters have been applied to this model;
- Mineable In Situ Ore (not JORC terminology) is used in this Statement to refer to in situ ore within the mine designs which has not had loss and dilution applied; and
- Run of Mine (ROM) Ore (not JORC terminology) is used in this Statement to refer to the mineable in situ ore after application of ore loss and waste rock dilution.

## Approach

The Ore Reserve estimate is based on the outcomes of a Preliminary Feasibility Study (PFS) prepared for the Project. The PFS relied on the following outcomes that supported the estimation of Ore Reserves:

- Geotechnical design criteria as outlined in this study
- Mining modifying factors as outlined in this study
- Identification of the economic mining area is outlined in this study
- Ultimate pit design which formed the basis of the Reserves estimated outlined in this study
- Life of mine schedule as outlined in this study
- Metallurgical modifying factors provided by Mintrex and summarised as outlined in this study
- Additional technical considerations for infrastructure, environment and water management as outlined in this study
- Economic viability of the Project confirmed as part of the financial evaluation outlined in this study.

In the estimation of Ore Reserves, a number of spot checks were completed to validate the accuracy of the estimate and the results. An additional check was to do a separate an independent pit limit optimisation on Measured and Indicated Resources only. The results of the analysis are discussed in this study.

## Mineral Resource Estimate

The Abujar Gold Project Mineral Resource estimates were updated by independent resource consultants RPM in October 2020 and were reported in accordance with JORC (2012) guidelines. The Abujar Gold Project Mineral Resource is summarised below with an effective date of the 21<sup>st</sup> October 2020. Mineral Resources in this Statement are inclusive of Ore Reserves.

**Table 22: Statement of Mineral Resources by Deposit as at 21 October 2020**

Area	Class	Oxide			Transition			Fresh			Total		
		Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)	Quantity (Mt)	Au (g/t)	Au (Moz)
AG	Indicated	0.2	1.3	0.006	0.7	1.2	0.029	23.2	1.6	1.207	24.1	1.6	1.24
	Inferred	0.6	1.2	0.024	2.2	1.0	0.069	22.7	1.3	0.963	25.6	1.3	1.06
	Total	0.8	1.2	0.03	2.9	1.1	0.10	45.9	1.5	2.17	49.6	1.5	2.30
APG	Inferred	1.2	0.6	0.02	6.3	0.6	0.13	23.5	0.7	0.54	31.0	0.7	0.70
SG	Inferred	0.04	0.7	0.00	0.1	0.8	0.00	0.4	1.6	0.02	0.5	1.4	0.02
Grand Total		2.04	0.8	0.05	9.3	0.8	0.23	69.8	1.2	2.73	81.2	1.2	3.02

As detailed in the Statement of Mineral Resources, Mineral Resources by Deposit are as at October 21, 2020 Reported at 0.3 g/t Au cut off within pit shells; and 0.8 g/t Au cut off below the pit shells for AG, and 0.3 g/t to a depth of 120m and 0.8 g/t below 120m for APG, and 0.3 g/t to a depth of 120m for SG.



## Site Visit

A site visit has not been undertaken to the Project area by the Competent Person, Mr. Igor Bojanic due to COVID-19 international travel restrictions. This is not considered to be a risk as site information has been provided to Mr Bojanic by Tietto, and Mr Jeremy Clark, RPM's competent person for Resource estimation, who has completed three site visits.

## Cut-off Grade Parameters

Using the ore related costs estimated for the pit limit optimisation, RPM calculated the break-even cut-off grades for oxide, transition and fresh ore types. These inputs and estimate cut-off grade are presented in **Table 23**.

*Table 23: Cut-off Grade and Input Parameters*

Area	Item	Units	Oxide	Transition	Fresh
Physicals	Processing Recovery	%	96%	96%	96%
Unit Rates	Incremental Ore Mining Cost	USD/t.ore	0.62	0.63	0.65
	Mill Processing Costs	USD/t.ore	8.62	8.62	8.62
	Site Infrastructure & Community	USD/t.ore	0.45	0.45	0.45
	General & Admin Costs	USD/t.ore	3.00	3.00	3.00
	Total Ore Related Incremental Costs	USD/t.ore	12.69	12.70	12.72
Price	USD Metal Price	USD/oz	1,459	1,459	1,459
	Royalties	%	4.5%	4.5%	4.5%
COG			0.35	0.35	0.35

## Pit Optimisation Results and Pit Selection – AG Ore Reserve Pit

According to JORC guidelines, only Measured and Indicated categories can be converted to an Ore Reserve (there is no Measured material in the AG deposit). To understand the sensitivity of the deposit to Resource class, and to validate the Ore Reserve estimate, a separate pit limit optimisation was completed with Inferred material as waste rock. Note that this shell is wholly contained within the larger "Project" evaluation pit shell that included Inferred material.

## Classification

Ore Reserves are classified based on the underlying Mineral Resources classifications and the level of detail in the mine planning. Mineral Resources are classified as Measured, Indicated and Inferred. Ore Reserves are based only on the Measured and Indicated Resources and are classified as Proved and Probable Ore Reserves, respectively and taking into account other factors where relevant.

The deposit's geological model is well-constrained and well-understood. The Ore Reserve classification is considered appropriate given the nature of the deposit, the moderate grade variability, drilling density, structural complexity and mining history. Therefore, it was deemed

appropriate to use Measured and Indicated Mineral Resources as a basis for Proven and Probable Reserves.

No Inferred Mineral Resources are reported in the estimation of the Ore Reserve estimate. The sensitivity to the inclusion of Inferred Resources has been examined to understand the strategic potential of the Resource.

### Statement of Ore Reserves

A total of 15.7 Mt of Open Cut Ore Reserves at 1.7 g/t Au grade were estimated as at 31 December 2020, refer **Table 24**. As no mining has taken place at the site, the reporting date reflects the completion of the technical work supporting the estimate.

**Table 24: Ore Reserve Estimate as at 31 December 2020**

Deposit	Proved			Probable			Total		
	Quantity	Au	Au	Quantity	Au	Au	Quantity	Au	Au
	Mt	g/t	Moz	Mt	g/t	Moz	Mt	g/t	Moz
AG Deposit	0	0.0	0	15.7	1.7	0.86	15.7	1.7	0.86
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>15.7</b>	<b>1.7</b>	<b>0.86</b>	<b>15.7</b>	<b>1.7</b>	<b>0.86</b>

#### Notes:

1. The Ore Reserve has been compiled under the supervision of Mr. Igor Bojanic who is a full-time employee of RPM and a Fellow of the Australian Institute of Mining and Metallurgy. Mr. Bojanic has sufficient experience that is relevant to the style of mineralisation and type of deposit and mining method under consideration and to the activity that he has undertaken to qualify as a Competent Person as defined in the JORC Code.
2. The following marginal cut-off grades determined based on a USD 1,459 per troy ounce gold price, and costs and mining and metallurgical modifying factors estimated as part of a PFS.  
Marginal cut-off grades: Oxide 0.35 g/t Au, Transition 0.35 g/t Au and Fresh 0.35 g/t Au.
3. All Ore Reserve figures reported in the table above represent estimates at 31 December, 2020. Ore Reserve estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results. The quantities contained in the above table have been rounded to three significant figures to reflect the relative uncertainty of the estimate. Rounding may cause values in the table to appear to have computational errors.
4. All Ore Reserve estimates are on a dry basis.
5. The Ore Reserves have been reported at a 100% equity stake and not factored for ownership proportions.

### Audits and Reviews

The Ore Reserve estimate set out in Table was computed using Surpac mine planning software. RPM completed an independent audit of the Reserve estimate by generating quantity estimates for the total pit and also of the individual pits. RPM did an additional check by estimating quantities based on grade tonnage curves. All checks demonstrated that the Reserve estimate is reasonable.

## **Key Changes from Previous Ore Reserves Statement**

This is the Maiden Ore Reserve Statement for the AG Gold Project.

## **Other Relevant Factors**

The estimate of Ore Reserves for the Project is not, to RPM's knowledge, materially affected by any other known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant factors other than that described in the preceding text. It is believed that the classification of Ore Reserves as set out in this section is reasonable.

The Mineral Resource Statement notes that the resources are open at depth. The ultimate pit shell that supports the current Ore Reserve estimate is limited in depth by the Mineral Resources and hence the potential exists to extract additional material using underground mining methods.

A scoping study was completed to assess the underground mining potential at AG. It confirmed an underground mining operation is potentially economically viable and could contribute approximately 2 Mt of additional plant feed at a grade of 2.8 g/t.

A scoping study was also completed on the APG Pit as this is located 9 km to the south of AG and likely to share infrastructure. The scoping study confirmed that the APG pit is potentially economically viable and could contribute an additional 8 Mt of additional plant feed at a grade of 0.8 g/t.

An exploration program has commenced and early indications appear to confirm an extension at depth of the mineralisation to support the underground mining proposal. It is therefore reasonable to assume that the AG Ore Reserve estimate will likely increase in the near future.

Additional exploration drilling and metallurgical test work is occurring for the APG deposit to increase confidence in technical and economic outcomes.

## **Competent Persons Statement**

The information in the report to which this Competent Persons Statement is attached, relates to the Ore Reserves of the Abujar Gold Project, and is based on information compiled and reviewed by Mr. Igor Bojanic, who is a Fellow of the Australasian Institute of Mining and Metallurgy, and is an employee of RPM.

Mr. Igor Bojanic has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which he has undertaken to qualify as a Competent Person, as defined in the 2012 Edition of the Australasian Code for the Reporting of Mineral Resources and Ore Reserves.

Mr. Igor Bojanic is not aware of any potential for a conflict of interest in relation to this work for the Client.

## 10. Open Pit Scoping Study – APG

An alternative mining plan was prepared to understand the upside potential to the Project with the addition of the APG deposit. The APG planning was completed to a conceptual level of engineering (+/-40%) as the Mineral Resources are currently only of Inferred status. It was assumed that the APG Pit would commence on conclusion of the AG Pit.

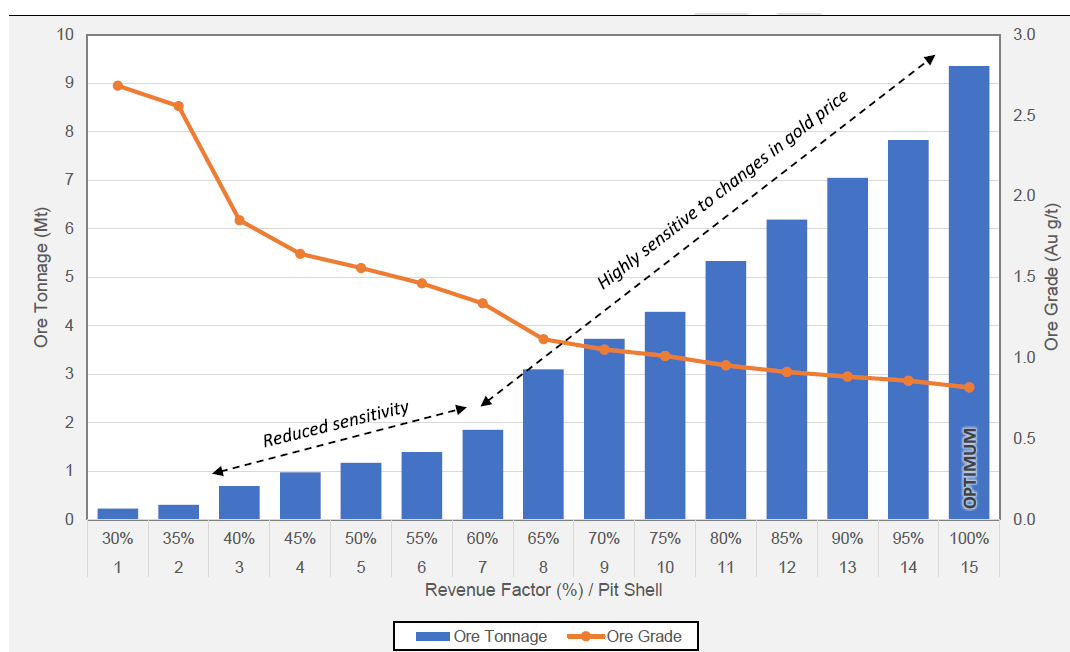
### Pit Limits

The approach to determining the economic pit limits is outlined in section 8 Mining. The APG pit limit optimisation used the same inputs to Whittle 4X, except an additional ore haulage cost was included of US\$0.44/t ore for the transport of ore to the ROM pad located 8.8 km distance at AG.

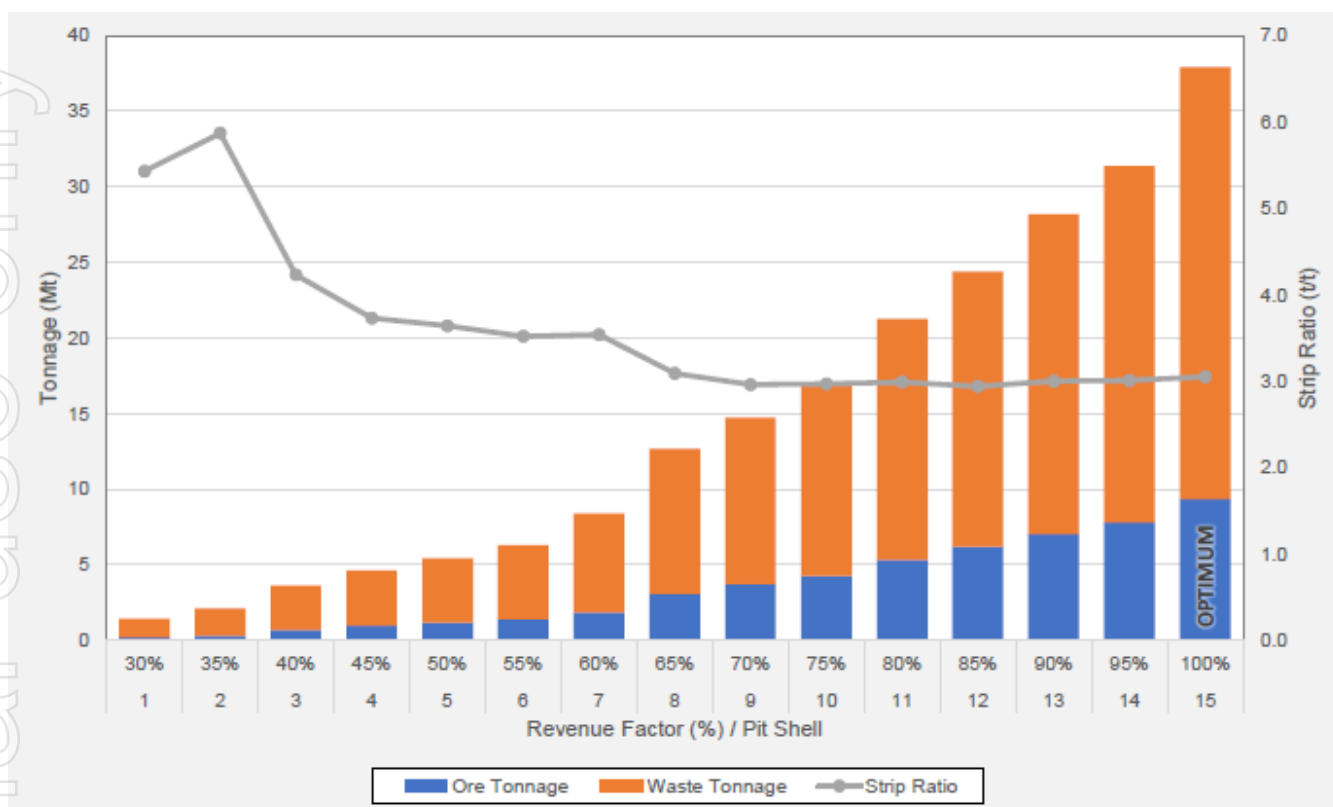
RPM notes that while a small portion of the southern APG mineralisation extends outside the mining lease boundary, as this is only a concept study, this material has been included in the analysis.

The Whittle 4X pit shell analysis results for APG, at a constant base-case gold price, are shown in Figure 17 (ore tonnage and grade) and **Figure 18** (ore & waste tonnage and strip ratio).

These graphs indicate that there is a potential for adding an additional 9 Mt of ore to the Project. However, these graphs also show that the deposit is extremely sensitive to changes in economic factors, especially favourable improvements such as higher gold price or lower costs.



**Figure 17: Price Sensitivity – Ore Tonnage and Grade**



**Figure 18: Shell Analysis - Discounted Cashflow and Ore Tonnage**

These graphs also show that the deposit is extremely sensitive to changes in economic factors, especially favourable improvements such as higher gold price or lower costs.

The mineable quantities for APG pit and total project with AG are set out in **Table 25**.

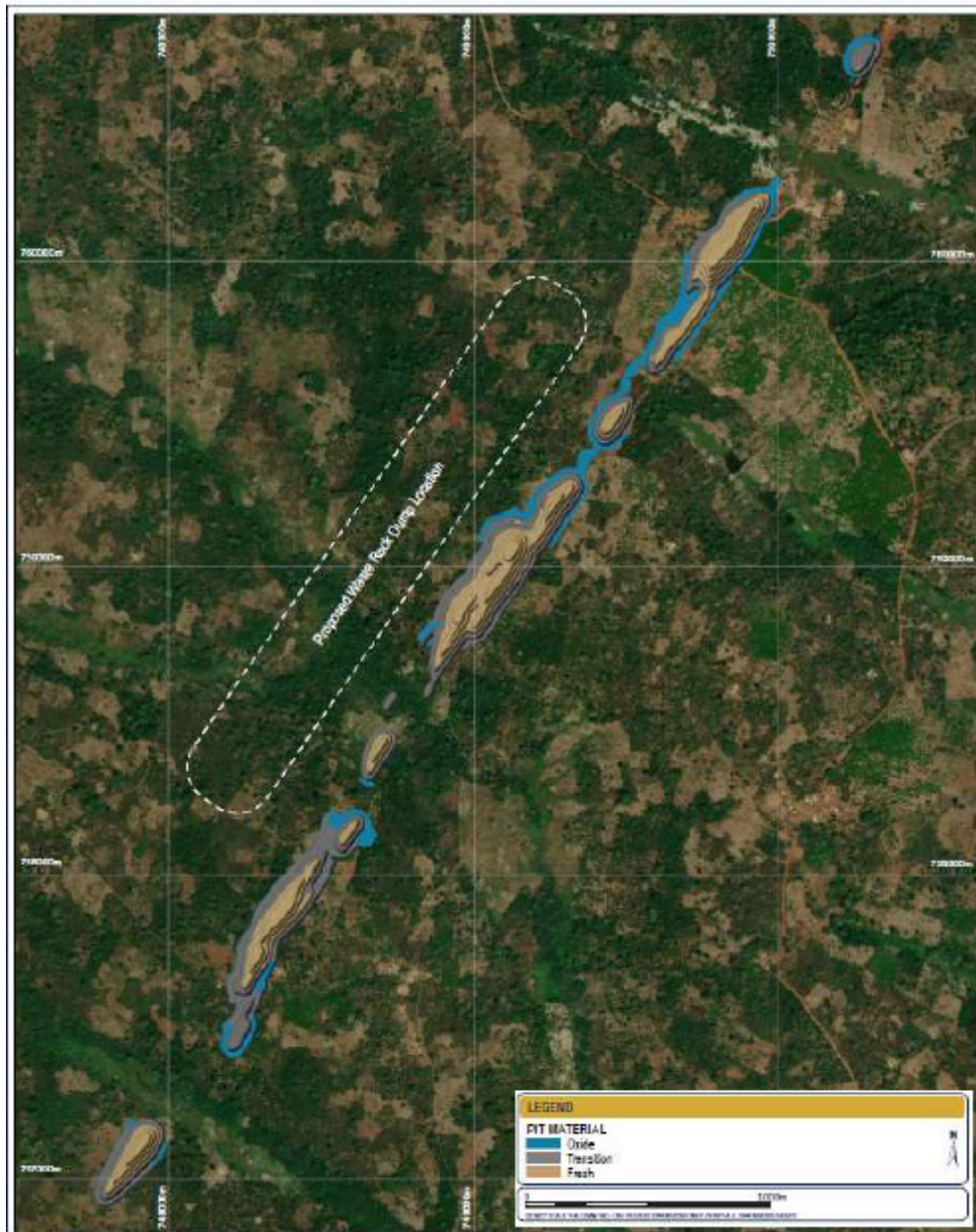
**Table 25: Mineable Quantities for Scheduling (Dry basis)**

Description	Total (Mt)	ROM Mineable Quantity (Mt)	Waste (Mt)	Strip Ratio (t:t)	ROM Gold Grade (g/t)	Contained ROM Gold (k oz)
APG	35.2	8.1	27.1	3.3	0.8	209
AG	211.8	22.9	188.9	8.2	1.5	1,120
<b>Total</b>	<b>247.0</b>	<b>31.1</b>	<b>216.0</b>	<b>6.9</b>	<b>1.3</b>	<b>1,329</b>

The quantities reported above include Inferred Resources and do not constitute an “Ore Reserve” as estimated in accordance with the JORC Code. An Inferred Mineral Resource has a lower level of confidence than an Indicated Mineral Resource and there is no certainty that further exploration work will result in the conversion of the material into an Indicated Mineral Resource from which Ore Reserves can be derived. An Ore Reserve Statement is presented in the Ore Reserves section of this report.



For this concept plan, no detailed pit and waste dump design was undertaken. The Whittle shell was used to estimate mineable quantities for input into the scheduling process. The conceptual “contour” pit for this deposit, and as used in determining mineable quantities, is shown in **Figure 19**.



**Figure 19: Conceptual APG Mine Layout**

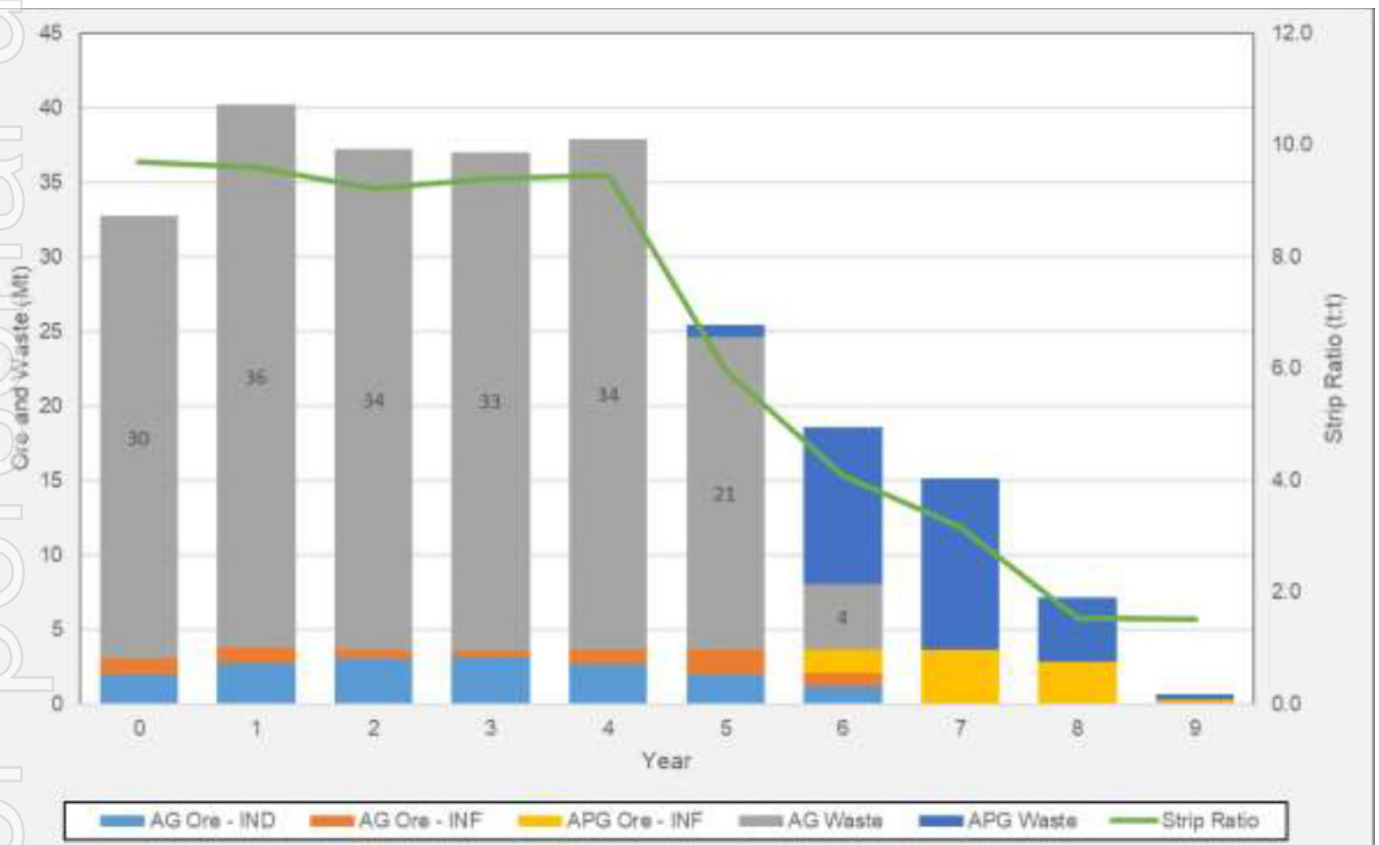


## Mining Schedule

The mining schedule for APG was completed using the OPMS software. It was assumed that the APG pit will be mined on conclusion of the AG deposit. Inclusion of the APG Pit in the life of mine plan results in:

- Increased total gold production by 218koz to 1,275koz;
- Total material movement increases during Years 5 to 8, however, given the low strip ratio there is still a marked step down in total material movement from Year 5; and
- Processing of the low grade AG stockpile is delayed to Years 8 and 9, as the mined ore from APG is of a slightly higher than the material in low grade stockpile.

The total annual production schedule for AG and APG is shown in **Figure 20** and Table 26.



**Figure 20: Production Schedule: Total Annual Material Movement AG & APG**

**Table 26: Production Schedule Processed Quantities – AG & APG**

Description	Units	Year 0 Qtr4	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
Direct Feed - AG	Mt	0.74	2.42	3.12	3.11	3.20	3.50	1.99				18.08
Direct Feed - APG	Mt						0.01	1.51	3.50	2.72	0.26	8.00
Stockpile: High Grade (1.1g/t+)	Mt	0.03	1.08		0.00							1.11
Stockpile: Medium Grade (0.7-1.1g/t)	Mt		0.01	0.38	0.39	0.30						1.08
Stockpile: Low Grade (0.35-0.7g/t)	Mt									0.79	2.01	2.79
<b>Total</b>	Mt	0.77	3.51	3.50	3.50	3.50	3.51	3.50	3.50	3.50	2.27	31.06
Processed Grade	g/t	2.0	1.9	1.5	1.7	1.5	1.5	1.4	0.9	0.7	0.6	1.3
Contained Gold	Koz	50	214	165	189	169	165	160	98	78	41	1,329
Recovered Gold @ 96%	Koz	48	205	158	182	163	158	153	94	75	39	1,275

## Mining Equipment

The same methodology for equipment selection as used for the AG only case has also been used to estimate the mining fleet and operating hours for the AGP case. In the first five years both cases are the same. AGP commences from this period once the AG area is nearly exhausted and cannot sustain the process plant capacity at the required feed rate (due mostly to limitations in practical vertical advance rate). The estimated mine equipment fleet numbers required for the APG Case in key years are set out in **Table 27**.

**Table 27: Equipment Requirements for Key Years – AGP inclusive case**

Class	Nominal Model	Size	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8
Hydraulic Excavator	Hitachi EX2600-6	250 t	3	3	3	3	3	2	1	1	1
	Komatsu PC1250SP-7	110 t	2	2	2	2	2	2	2	2	1
Truck - Rear											
Dump	Cat 777F	90 t	21	29	29	33	38	26	28	16	6
	Cat 777F Stockpile	90 t	2	2	2	2	2	2	2	2	2
Front End											
Loader	Cat 990H Stockpile	8.8 cu.m.	1	1	1	1	1	1	1	1	1
Dozer - Track	Caterpillar D8R	228 kW	2	2	2	2	2	2	1	1	1
	Caterpillar D9R	302 kW	3	3	3	3	3	3	2	2	1
Grader	Caterpillar 16M	221 KW	2	2	2	2	2	2	1	1	1
	Sandvik Pantera										
	DP1500	45000 lb	8	13	14	15	13	9	4	4	1
Watercart	Caterpillar 773D	45 kl	2	3	3	3	3	2	2	1	1
Light Plant	Generic	30-ft tower	9	9	9	9	9	8	6	6	1
Service Truck	Generic	12 tonne	1	1	1	1	2	1	1	1	1
Tyre Handler	Generic	ea	1	1	1	1	2	1	1	1	1
IT	CaterpillarIT38H	ea	1	1	1	1	1	1	1	1	1
Backhoe	Caterpillar430E	ea	1	1	1	1	1	1	1	1	1
Bobcat	Caterpillar246C	ea	1	1	1	1	1	1	1	1	1
LV 4WD	LV 4WD Generic	ea	18	24	24	27	30	21	14	12	1
Compactor	Caterpillar 825	264 kW	1	1	1	1	1	1	1	1	1

### **Capital Costs**

As the project is costed on a mining contractor basis, equipment costs are included as part of a leasing charge in the operating costs. The mining capital cost estimate is set out for the AG Project.

The only difference for the APG Deposit is an allowance for haul road construction of US\$700,000, constructed the year prior to the mining commencing in this area (once the AG area is ramping down). This cost is not relevant for the base case with mining of AG only.

### **Mining Operating Costs**

A scenario inclusive of costs for mining of the APG pits (all Inferred material) after the AG pits was completed using the same methodology and assumptions as applied to the AG estimation.

The key difference is an additional two calendar years of operation (at reduced rates) to enable extraction of the APG pit. The pit is shallower, but located an additional 8.8 km from the ROM pad. The costs are comparable, but slightly higher than the AG only case.

## 11. Underground Scoping Study – AG Core

Tietto engaged Entech Pty Ltd (Entech) to generate a underground scoping study level design, schedule, and cost model for the Abujar underground mine (hereby referred to as the mine plan).

The underground scoping study was conducted partway through the Abujar open pit Pre-Feasibility Study and assumes a spatial starting point at the final pit design of that study (UG years and months start from that time).

A stope optimisation process was carried out with the parameters detailed in **Table 28**. All Mineral Resource categories were included during the optimisation process. The assumed mining method is longhole open stoping.

**Table 28: Stope Optimisation Parameters**

Optimisation Parameter	Unit	Value
Stope Cut-off Grade	g/t Au	2
Min. Mining Width (True Width)	m	2.5
Vertical Level Interval	m	20
HW Dilution (True Width)	m	0
FW Dilution (True Width)	m	0
Min. FW Dip Angle	°	50

The stope optimisation outputs were compared with stope shapes provided by Tietto and **Table 29** shows the comparison.

**Table 29: Stope Optimisation Scenarios**

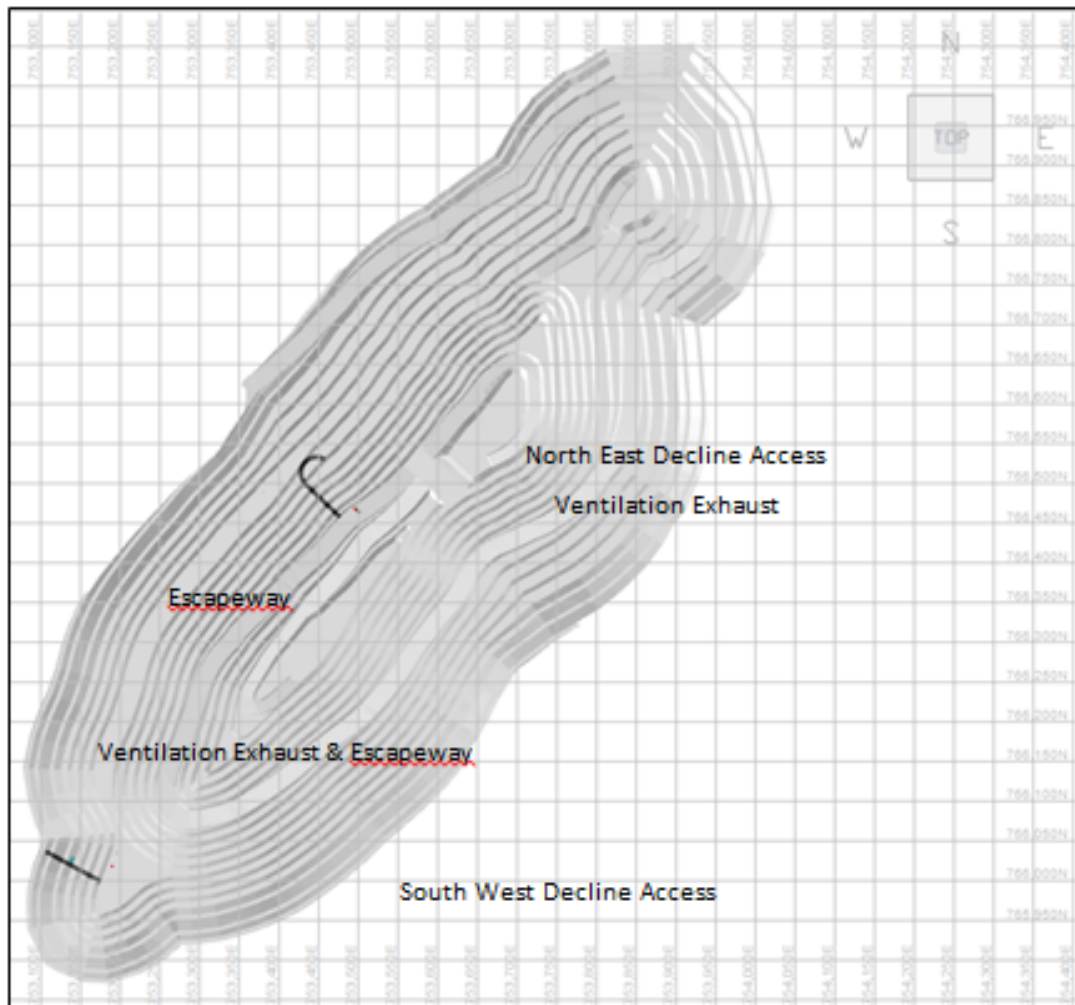
Scenario	kt	Density	Au	k oz
5m width Undiluted shapes	2,155	2.8	3.2	222
10m width Undiluted shapes	2,077	2.8	3.2	214
20m width Undiluted shapes	1,971	2.8	3.1	199
Client Shapes	2,295	2.8	3.1	228

Based on these results, the shapes provided by Tietto were accepted as the input shapes into scheduling process.

A geotechnical study was conducted by Dempers and Seymour and informed maximum stope dimensions and ground support requirements.

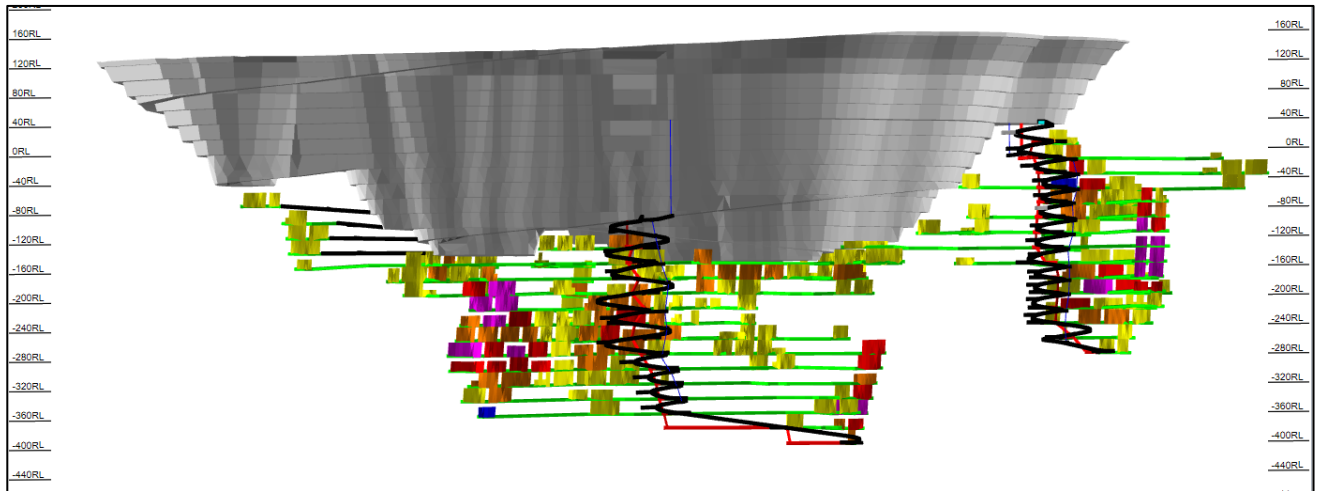
Mining recoveries of 90% were applied to stopes to allow for issues such as local orebody spatial variability and material left behind during remote loading. Rib and Crown pillars were also modelled as per the geotechnical recommendations by further reducing stope recoveries. Ore development had 100% recovery applied.

The stope inventory was reviewed for mineability and profitability to access. A detailed development design was carried out on the economic stope envelope. The mine will be accessed from two newly excavated portals (located in the North West of Proposed Pit), with two declines developed underneath the open pit as shown in *Figure 21*. This design is based on the geotechnical recommendations, and limits ore drive lengths to a maximum of approximately 350 m for efficient ore development and stope material movement.



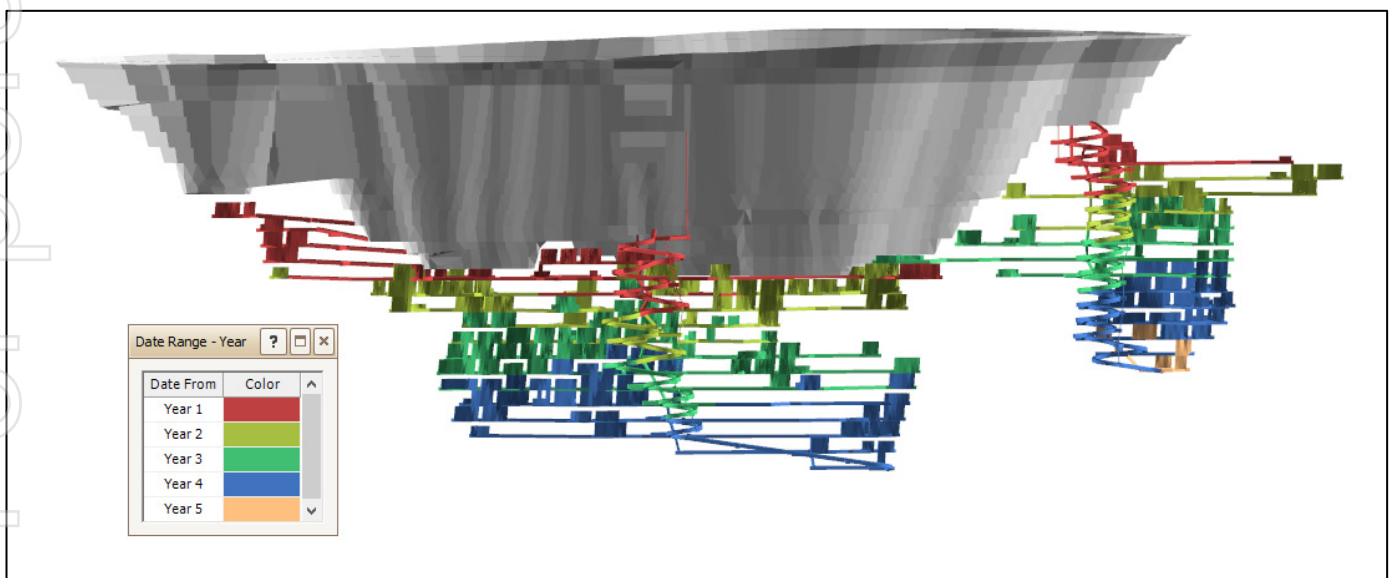
*Figure 21: Access Decline Systems (Plan View)*

The development design will allow the use of a modern fleet of 60 t trucks and 7 m<sup>3</sup> loaders, minimising material movement costs per ore tonne. Allowances have been made for underground infrastructure including dewatering, second means of egress, and electrical power distribution. The final mine design is shown in **Figure 22**.



**Figure 22: Final Abujar UG Mine Plan Design (Long Section Looking SE)**

The Abujar UG mine plan was scheduled using Deswik Scheduler®, with appropriate productivity estimates based on local mining industry standards for the proposed fleet. Steady-state ore production of 50,000 t ore/month was found to be achievable. The mine plan coloured by scheduled year is shown in Figure 23.



**Figure 23: Abujar UG Mine Plan Coloured by UG Year**

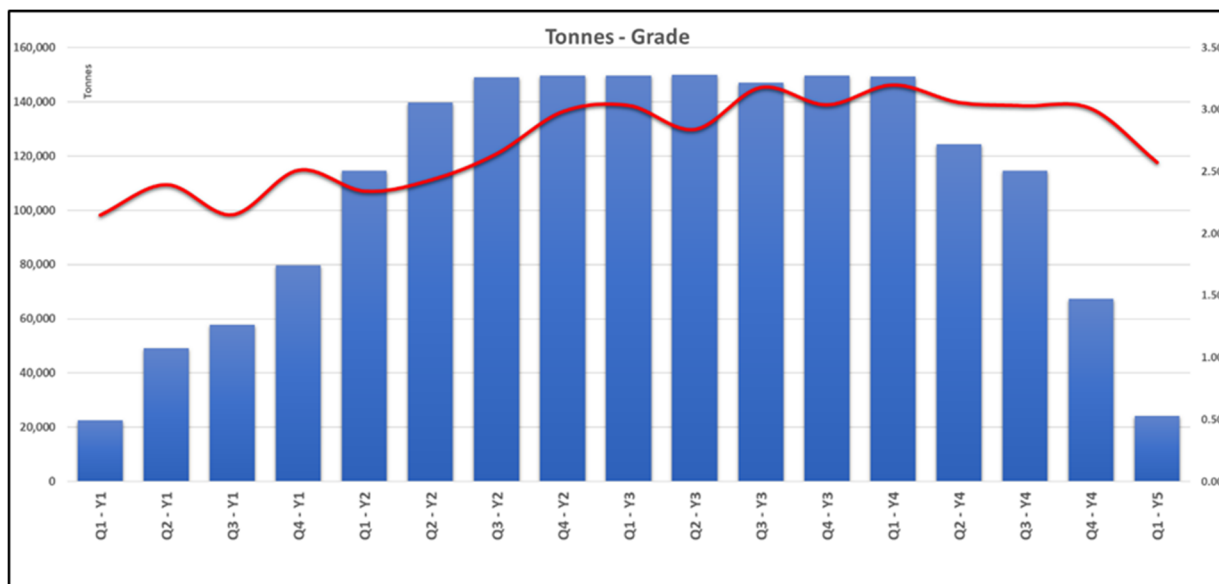


The mine plan physicals schedule is shown in **Table 30**.

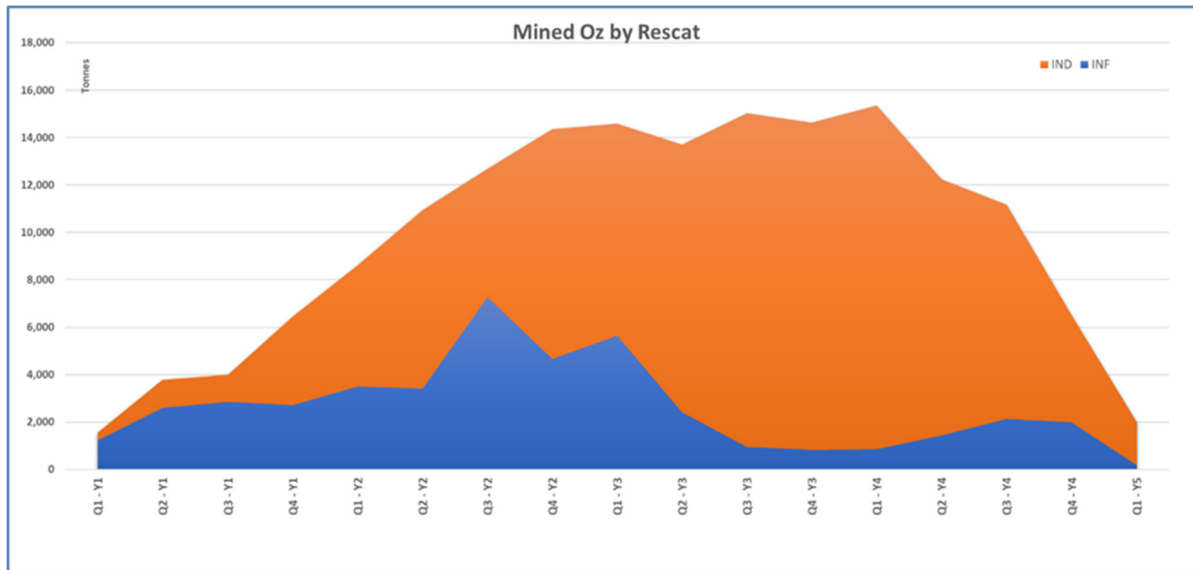
**Table 30: Abujar UG Mine Plan Physicals by Year**

Item	Unit	Total	Year 1	Year 2	Year 3	Year 4	Year 5
Total Development (m)	m	22,532	5,593	5,701	5,752	5,349	138
Capital Development (m)	m	8,636	2,999	1,405	1,739	2,402	91
Operating Development (m)	m	13,896	2,593	4,296	4,013	2,946	48
Waste Tonnes (t)	Kt	997	290	208	233	258	9
Slot Meter (m)	M	4,082	434	1,099	1,345	1,083	120
Production Drilling (m)	M	211,282	22,800	60,097	72,939	51,720	3,727
Total Ore Tonnes	Kt	1,839	209	553	596	456	24
Total Ore Grade	g/t Au	2.8	2.3	2.6	3.0	3.1	2.6
Total Ore Mined Metal	Koz Au	168	16	47	58	45	2
Stope Ore Tonnes	Kt	1,375	113	413	468	359	23
Stope Ore Grade	g/t Au	2.9	2.4	2.6	3.1	3.3	2.6
Stope Ore Mined Metal	Koz Au	130	9	35	47	38	2
Development Ore Tonnes	Kt	463	97	140	128	97	2
Development Ore Grade	g/t Au	2.5	2.3	2.6	2.6	2.3	2.1
Development Ore Mined Metal	Koz Au	37	7	12	11	7	0.1
Total TKM	tkm	10,004,158	1,552,723	2,484,075	2,941,794	2,900,211	125,356

A summary of ore tonnes and grade production by quarter is presented in **Figure 24**. Gold metal mined split by JORC Resource classification is presented in **Figure 25**.



**Figure 24: Abujar Mine Plan Ore Production Profile**



**Figure 25: Abujar UG Mined Gold Metal by JORC Resource Classification**

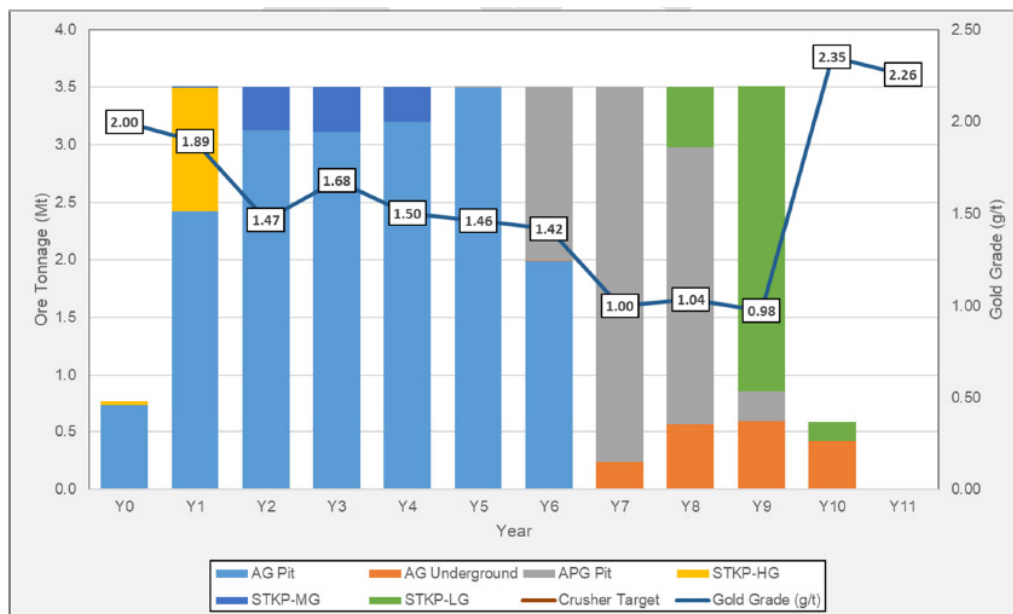
The mineable quantities for the APG pit, AG underground and total project with AG are set out in Table 31.

**Table 31: Mineable Quantities for Scheduling (Dry basis)**

Description	Total (Mt)	ROM Mineable Quantity (Mt)	Waste (Mt)	Strip Ratio (t:t)	ROM Gold Grade (g/t)	Contained ROM Gold (k oz)
<b>APG</b>	35.2	8.1	27.1	3.3	0.8	209
<b>AG UG</b>	2.8	1.8	1	-	2.8	168
<b>AG</b>	211.8	22.9	188.9	8.2	1.5	1,120
<b>Total</b>	<b>249.8</b>	<b>32.8</b>	<b>217</b>	<b>6.9</b>	<b>1.4</b>	<b>1,497</b>

The quantities reported above include Inferred Resources and do not constitute an “Ore Reserve” as estimated in accordance with the JORC Code. An Inferred Mineral Resource has a lower level of confidence than an Indicated Mineral Resource and there is no certainty that further exploration work will result in the conversion of the material into an Indicated Mineral Resource from which Ore Reserves can be derived. An Ore Reserve Statement is presented in the Ore Reserves section of this report.

For this concept plan, no detailed pit and waste dump design was undertaken for APG. The Whittle shell was used to estimate mineable quantities for input into the scheduling process. Entech completed an underground scoping study level design, schedule, and cost model for the Abujar underground mine scoping study. The underground scoping study assumes a spatial starting point at the final pit design of that study (UG years, quarters and months start from that time) (**Figure 26** and **Table 32**).



**Figure 26: UG + Open Cut Ore Processed Schedule**

**Table 32: Production Schedule Processed Quantities – AG & APG Open Pits & AG Underground**

Description	Units	Year 0 Qtr4	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Total
Direct Feed – AG OP	Mt	0.74	2.42	3.12	3.11	3.20	3.50	1.99						18.08
Direct Feed – APG OP	Mt						0.01	1.51	3.26	2.41	0.26			7.45
Direct Feed – AG UG	Mt								0.24	0.57	0.60	0.42	0.01	1.83
Stockpile: High Grade (1.1g/t+)	Mt	0.03	1.08											1.11
Stockpile: Medium Grade (0.7-1.1g/t)	Mt		0.01	0.38	0.39	0.30								1.08
Stockpile: Low Grade (0.35-0.7g/t)	Mt									0.52	2.65	0.16		3.34
<b>Total</b>	Mt	0.77	3.51	3.50	3.50	3.50	3.51	3.50	3.50	3.50	3.51	0.59	0.01	32.8
Processed Grade	g/t	2.0	1.9	1.5	1.7	1.5	1.5	1.4	1.0	1.0	1.0	2.4	2.3	1.4
Contained Gold	Koz	50	214	165	189	169	165	160	113	117	110	44	1	1,496
Recovered Gold @ 96%	Koz	48	205	158	182	163	158	153	108	112	106	43	1	1,436

The Entech estimated mining costs assume a contract mining strategy. The contract mining unit rates are based on benchmarking against similar operations in the Entech project database.

Capital and infrastructure costs for items not being provided by the contractor have been determined based on relevant supplier quotes and actual costs at similar operations.

The underground cost estimate includes only direct costs attributable to the Abujar underground mine and excludes the following:

- Shared mining services (Survey, Geology and mine management),
- Open pit mining costs,
- Processing costs,
- Site administration costs,
- Site infrastructure set-up costs (outside of infrastructure directly required for the UG mine),
- Taxes,
- Escalation or inflation,
- Cost changes due to currency fluctuation,
- Head office/corporate costs,
- Closure costs,
- Exploration,
- Permits or cost of permits,
- Financial charges of any description, and
- Interest.

The contractor unit rates include supply, installation, and maintenance of the following infrastructure:

- Low voltage power reticulation cabling and equipment,
- Secondary dewatering system,
- Secondary ventilation fans and ducting,
- Surface explosives magazines,
- Underground services and communication reticulation,
- Mobile 4-person refuge chambers,
- Fixed refuge chambers,
- Supply and fit-out of all required workshop facilities and stores, and
- Air compressors.

Capital infrastructure costing was based on Abujar supplying primary ventilation, primary dewatering, mining of the in-pit Portals, surface infrastructure, power supply and high voltage electrical reticulation, refuge chambers, mines rescue equipment, first aid, technical and regulatory management staff, and diesel. The contractor was assumed to supply all other required equipment, facilities, and personnel for the works. A summary of the estimated capital costing for the Abujar UG mine is presented in **Table 33**.

**Table 33: Abujar UG Mining Capital Cost Estimate**

Item	Capital Expenditure (\$'000)	Unit	Unit Cost
Infrastructure	4,411	US\$/t ore	2.40
Decline	17,535	US\$/t ore	9.54
Access	5,557	US\$/t ore	3.02
Ventilation	3,884	US\$/t ore	2.11
Escapeway	2,240	US\$/t ore	1.22
Misc Drilling	942	US\$/t ore	0.51
Other Lateral	687.8	US\$/t ore	0.37
Decline Stockpile	1,759	US\$/t ore	0.96
Contract Fleet	4,169	US\$/t ore	2.26
Contract Staff	2,729	US\$/t ore	1.48
Capital Mine Services	3,238	US\$/t ore	1.76
Capital Mine Overheads	1,249	US\$/t ore	0.68
Total Capital	48,404	US\$/t ore	26.33

A summary of the estimated operating costing for the Abujar UG mine is presented in **Table 34**. Operating costs are based on database contract mining rates from similar operations in the region.

**Table 34: Abujar UG Mining Operating Costs**

Item	Expenditure (\$'000)	Unit	Cost
Level Stockpile	1,923	USD/t ore	1.05
Ore Drive	40,834	USD/t ore	22.21
Stope	33,641	USD/t ore	18.30
Contract Fleet	10,868	USD/t ore	5.91
Contract Staff	5,917	USD/t ore	3.22
Operating Mine Services	5,980	USD/t ore	3.25
Operating Mine Overheads	2,712	USD/t ore	1.48
Dayworks	2,180	USD/t ore	1.19
Surface Haulage	1,525	USD/t ore	0.83
Grade Control	6,987	USD/t ore	3.80
Total	112,567	USD/t ore	61.22

Personnel and equipment resources allowed for operating the Abujar underground mine are shown in **Table 35** and **Table 36**.

**Table 35: Abujar UG Personnel Schedule**

	Unit	Y1	Y2	Y3	Y4	Y5
Contractor Staff						
Project Manager	No.	1	1	1	1	1
Maintenance Supervisor	No.	1	1	1	1	1
Electrical Supervisor	No.	1	1	1	1	1
Underground Supervisor	No.	4	4	4	4	4
Safety & Training Co-Ordinator	No.	1	1	1	1	1
Trainer	No.	1	1	1	1	1
Site Administrator	No.	1	1	1	1	1
Contractor Mining						
Jumbo Operator	No.	8	8	8	8	0
Charge-Up	No.	4	4	4	4	4
Loader Operator	No.	8	12	12	12	8
Vertical Development Drillers	No.	4	4	4	4	4
Production Drillers	No.	4	4	4	4	4
Truck Operators	No.	8	12	12	12	8
Rise Miner	No.	2	2	2	2	2
Grader Operator	No.	4	4	4	4	4
Service Crew	No.	4	8	8	8	4
Jumbo Offsider	No.	4	4	4	4	0
Contractor Maintenance						
Mechanical Tradesperson	No.	8	8	8	8	8
Electrical Tradesperson	No.	4	4	4	4	4

**Table 36: Abujar UG Equipment Schedule**

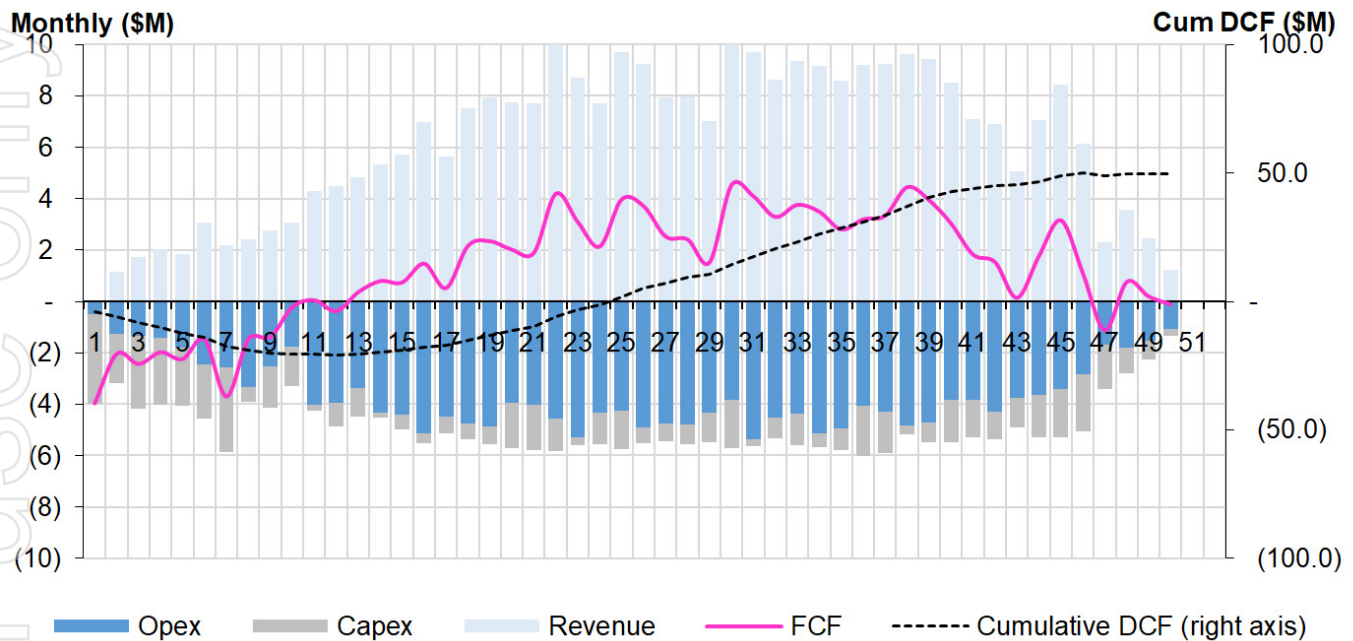
	Unit	Y1	Y2	Y3	Y4	Y5
Primary Fleet						
Jumbo	No.	2	2	2	2	1
Charge-Up Unit	No.	1	1	1	1	1
Loader	No.	2	3	3	3	2
Vertical Development Drill	No.	1	1	1	1	1
Production Drill	No.	1	1	1	1	1
Truck	No.	2	3	3	3	2
Ancillary Fleet						
Grader	No.	1	1	1	1	1
Integrated Tool carrier	No.	1	2	2	2	2
Light Vehicles	No.	6	6	6	6	6

Entech modelled project costs and revenues in a spreadsheet, and estimated project cashflow is summarised in **Table 37** and **Figure 27**. Tietto will integrate the open pit feasibility study and underground scoping study mining physicals and costs into a separate overarching project model.

**Table 37: Abujar UG Mining Physicals**

	Unit	Total	Y1	Y2	Y3	Y4	Y5
Revenue	USD M	234.73	22.10	65.26	81.16	63.41	2.81
Capital Expenditure							
Mining Infrastructure	USD M	(4.41)	(2.76)	(0.46)	(0.48)	(0.49)	(0.23)
Mining	USD M	(43.99)	(15.00)	(7.59)	(8.77)	(12.09)	(0.54)
Operating Expenditure							
Mining	USD M	(111.04)	(17.62)	(32.84)	(33.15)	(25.80)	(1.63)
Processing	USD M	(17.37)	(1.98)	(5.23)	(5.63)	(4.31)	(0.23)
Royalty	USD M	(9.39)	(0.88)	(2.61)	(3.25)	(2.54)	(0.11)
Cashflow							
Free Cashflow	USD M	48.53	(16.14)	16.53	29.89	18.19	0.06
Discounted Cashflow	USD M	37.75	(15.76)	14.62	24.73	14.12	0.04





**Figure 27: Abujar UG Mining Cashflow**

Entech can make the following recommendations regarding forward works for Abujar underground project moving into pre-feasibility study:

- Infill resource drilling to convert Inferred Mineral Resources to Measured or Indicated;
- Conduct detailed first principles cost estimation, or seek contractor quotations, when PFS mine design and schedule is available;
- Conduct detailed ventilation simulation; and
- Conduct detailed integration study to optimise open pit and underground interface, including crossover analysis and scheduling.

## 12. Metallurgy and Process Flowsheet Development

### Introduction

Tietto engaged ALS Ltd. (ALS) in January 2020 to undertake a program of metallurgical testwork on a number of samples from its Abujar gold deposit in order to provide inputs to the Pre-Feasibility Study (PFS).

### Testwork Program

A scoping-level process plant flowsheet was used as a basis for developing the PFS testwork program, consisting primarily of comminution and leaching testwork. The testwork program has indicated very favourable grinding and leaching characteristics for the ore:

- Various comminution tests were undertaken on the composites. Bond abrasion (Ai), ball mill (BWi) and rod mill (RWi) indices and SMC tests undertaken. This provided adequate input for a pre-feasibility level comminution modelling report developed by DMCC. Unfortunately, most of the oxide composite was too friable to be reliably tested with these methods; however, this is not considered material given that the proportion of oxide in the resource is very low.
- Comminution testing results indicated the following:
  - ✓ Ai (average ~0.3 for fresh domain) indicates that the ore is not abrasive;
  - ✓ BWi, RWi and SMC results indicate that the ore is of medium to moderate hardness, with the exception of the transitional (trans) and oxide composite which were quite soft. The friability of the composite shows that the oxide is very soft;
  - ✓ The average RWi (13.2 kWh/t) for fresh and variability fresh ore is generally slightly higher than the BWi (12.1 kWh/t), which indicates that the ore is slightly more competent at larger sizes. This may result in a pebble crushing circuit being included, subject to comminution modelling during the DFS;
  - ✓ The SMC testwork indicates that the ore is likely to be amenable to single-stage crushing followed by SAG milling (SSAG) (average A\*b of 48.6 for fresh and variability fresh ore) in closed circuit with or without a pebble crusher;
  - ✓ One oxide sample was not too friable. The SMC testwork on this sample indicated an A\*b of 57.6 and BWi of up to 23.6 kWh/t. This BWi is not representative of the whole oxide composite as the sample is filtered for competent ore to test; and
  - ✓ The following ore properties based on fresh composite averages were adapted by Mintrex and DMCC for modelling.

**Table 38: Consolidated Ore Properties for Circuit Design**

Description	Value
Plant availability (%)	91.3
ktpd	7.5
sg	2.78
A	68
b	0.671
Axb	45.6
t <sub>a</sub>	0.45
<b>SMC Test®</b>	
DWi (kWh/m <sup>3</sup> )	6.12
Mia (kWh/t)	17.5
Mib (kWh/t)@106	16.7
Mib (kWh/t)@125	15.9
Mib (kWh/t)@150	15.0
Mic (kWh/t)	6.58
Mih (kWh/t)	12.7
P <sub>80</sub> (microns)	125

- \* inferred from Axb

- Gravity testwork has indicated that the ore contains a large proportion of free/gravity recoverable gold. The proportion of gravity recoverable gold varied from 45-85%. Broadly, the higher gold grade fresh ores had higher fractions of gravity gold (average ~70%), but even the low-grade transitional and oxide composites (0.05 g/t to 0.63 g/t) showed substantial gravity gold recovery.
- Leaching optimisation tests on two fresh samples found that the leaching process was relatively simple and robust:
  - ✓ Use of air instead of oxygen for sparging did not impact gold recovery significantly;
  - ✓ The addition of 100 g/t of lead nitrate did not improve gold recovery significantly;
  - ✓ Decreasing cyanide concentration to 500 ppm (maintained at 250 ppm) did not impact overall gold recovery significantly;
  - ✓ Varying the solids concentration between 40-55% did not significantly impact gold recovery;
  - ✓ The oxygen uptake rate of the samples was low;
  - ✓ Longer leach times in excess of 24 hrs will not be necessary;
  - ✓ Gold leaching kinetics are fast;
  - ✓ The samples did not display any preg-robbing characteristics; and

- Applying the optimised leach conditions to all composites found that the leach recovery of gold (that is, of leach feed gold) was between 89-95%. Overall, the composites tested demonstrated very high average total gold recoveries (including gravity) of 95.5-99% after 24 hrs, with gravity gold making up 45-81% of the total gold recovered – in general, the higher grade fresh ore had higher gravity recovery, while the other lower grade samples had lower.

### Further Testwork

The testwork program was undertaken on six fresh composites, two transitional composites and one oxide composite, which were considered adequate for the PFS. In order to provide adequate inputs for a bankable feasibility study, further comminution and leach testwork was undertaken in November 2020. Twenty one further composites were selected are representative of the expected pit area have been selected for SMC, BWi, leaching and adsorption testwork. This testwork used the conditions developed in the initial testwork phase.

### Key Process Design Criteria

The proposed PFS process design criteria for the process plant are presented in this report. The key process design criteria for the plant from the current testwork are depicted in **Table 39**.

*Table 39: Proposed Design Inputs from Testwork*

Parameter	Units	Value
Gravity gold component	%	60-70
CIL gold component	%	25-28%
Total gold recovery	%	96-98%
CIL residence time	hr	20-24 hrs
CIL cyanide consumption	kg/t	0.30
CIL lime consumption	kg/t	0.20-0.60

## 13. Process Plant

### Introduction

The Abujar Process Plant flowsheet is broadly based on similar free-milling gold plant designs utilised in Western Australia and Africa. The process flow diagrams (PFDs) have been developed from the process design criteria (PDC) prepared by Mintrex. The plant design proposed is simple but robust and broadly comprises the following:

- Primary Crushing;
- Single Stage Semi-Autogenous Grinding;
- Gravity Concentration & Intensive Leaching;
- Leaching and Adsorption;
- Cyanide Destruction;
- Carbon Elution and Electrowinning; and,
- Smelting.

The following sections outline the key design criteria and considerations adopted and provide overview of the process plant design and operation.

### Process Design Philosophy

The Abujar flowsheet was designed for an annual fresh ore throughput of 3.5 Mtpa. It incorporates a carbon in leach (CIL) design typical of Australian and West African gold plants fed via a primary jaw crusher and single stage SAG mill comminution circuit.

### Comminution Circuit Design

The preliminary design of the comminution equipment for the Abujar process plant was undertaken by Mintrex at a pre-feasibility level (PFS) based on inputs from Mintrex, Tietto Minerals, RPM Global and DMCC. The equipment design and selection is based on testwork using fresh ore samples from exploration work.

The process design has an 80% passing ( $F_{80}$ ) size of 150 mm transferred from primary crushing to milling, and  $P_{80}$  of 115  $\mu\text{m}$  transferred from the comminution circuit to leaching.

## Comminution Circuit Design Basis

### Process Criteria

The process criteria adopted for the preliminary design of the comminution circuit are summarised in **Table 40**.

*Table 40: Comminution Circuit Process Design Criteria*

Criteria	Units	Value
Annual Throughput	Mtpa	3.5
Crushing Availability	%	71
Crushing Circuit Operating Hours	h/yr	6,220
Crushing Circuit Throughput	tph	563
Grinding Circuit Availability	%	91.3
Grinding Circuit Operating Hours	h/yr	8,000
Grinding Circuit Transfer P80	µm	115

### Grind Size Selection

Grind size selection is important as it is the determining factor when deciding between which comminution circuit is applicable for the ore characteristics to achieve a certain throughput. A smaller grind size generally increases gold recovery through improved leaching while a larger grind size will reduce power consumption but adds capital costs for larger leach tanks to achieve longer residence times.

A high-level economic analysis by Mintrex compared grade recovery against main cost drivers for various grind sizes. Based on the economic model, a grind size of 115 µm was selected.

### Ore Specific Criteria

Ore specific criteria were based on comminution testwork undertaken by Tietto Minerals through Mintrex and ALS in 2020, with further detailed modelling and interpretation by DMMC. The key data for DMCC comminution circuit modelling is presented in **Table 41**.

*Table 41: Updated Consolidated Ore Properties used for Circuit Design*

Parameter	Units	Value
A x b		40.1
ta	%	1.45
DWi	kWh/m <sup>3</sup>	6.9

Bond Impact CWI	kWh/t	15.4*
RWi	kWh/t	13.5
BWi	kWh/t	10.2
Ai		0.35
SG	t/m <sup>3</sup>	2.78
Circuit P80	µm	115

### Oxide and Transitional Feed

The process plant has been designed for an annual throughput of 3.5 Mtpa of fresh ore. Less than 14 % of the resource estimate is oxide and transition ore as shown in **Table 1**.

Bond test results show (as typical) that oxide and transitional ores are softer than fresh ore. The wide variation in ore grade encourages the use of blending.

The oxide and transitional ore feed do not define the plant configuration, other than ensuring leach tanks are sized for required leaching time and reagent dosing systems can deliver the required consumption rates for lime and cyanide. While stockpile buffering of mined ore ahead of the plant can smooth the fraction of soft (oxide + transition) presented for processing, the lack of soft ore in years 3-5 drives the need for a pebble crushing circuit to maintain mill throughput.

### Comminution Circuit Selection

The comminution circuit selected (as recommended by DMCC) is a single stage SAG mill, fed with primary crushed ore. For fresh ore above ~90% of total feed a pebble crushing circuit is considered necessary and is included in the plant design. The SAG Mill specifications proposed by DMCC are presented in **Table 42**.

**Table 42: Comminution Design Parameters**

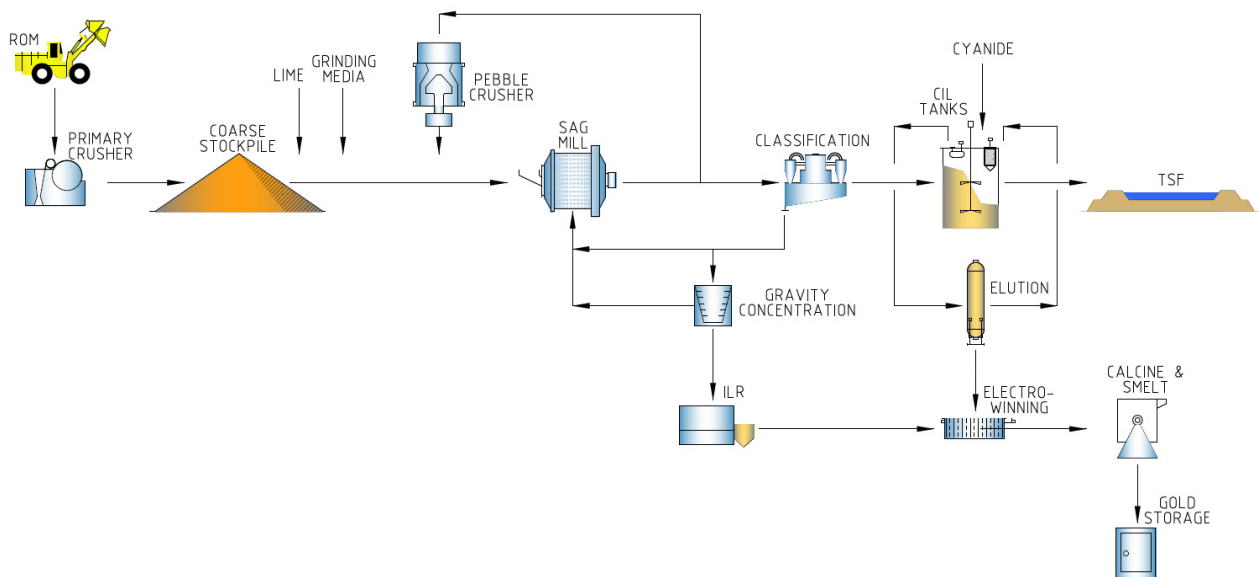
Parameter	Units	SAG Mill
Number of Mills		1
Mill Diameter (Inside Shell)	m	9.75
Effective Grinding Length (EGL)	m	4.88
L:D Ratio		0.50
SAG circulating load	%	450
Specific Energy	kWh/t	15.8
Power at Pinion	kWh	6,840
Motor rating (operating)	kWh	7,315
Installed Mill Motor Power	MW	9.0 (2 x 4.5)



Comminution layout design has considered future addition of a ball mill for design changes or potential expansion.

## Process and Plant Description

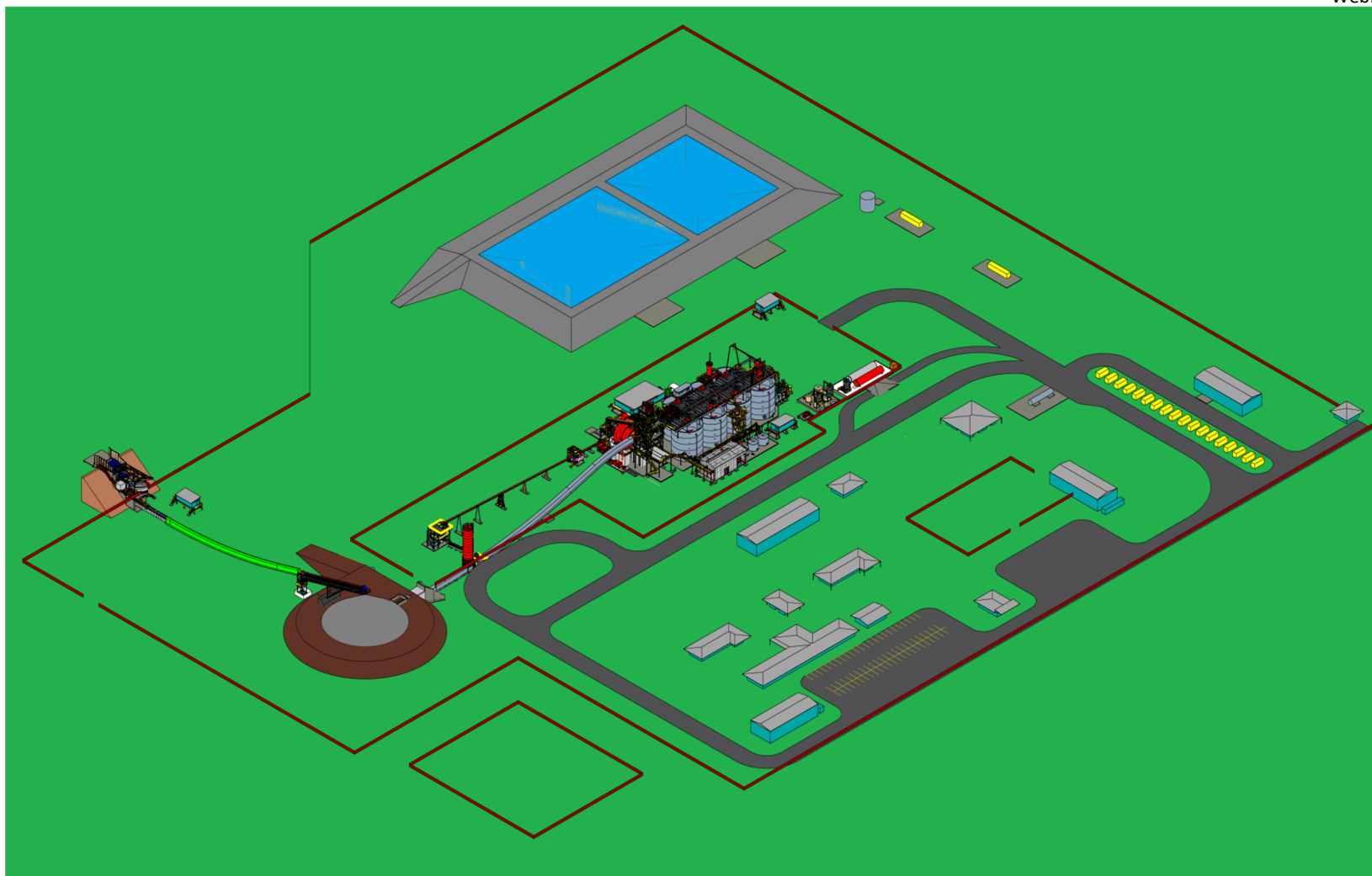
The processing schematic for the Abujar plant is presented in **Figure 28**.



**Figure 28: Abujar Schematic Flow Sheet**

Preliminary equipment selections have been completed for all process plant mechanical units.

An isometric view from a 3D model is presented in **Figure 29** and a general arrangement in **Figure 30**.



*Figure 29: Process plant indicative arrangement*

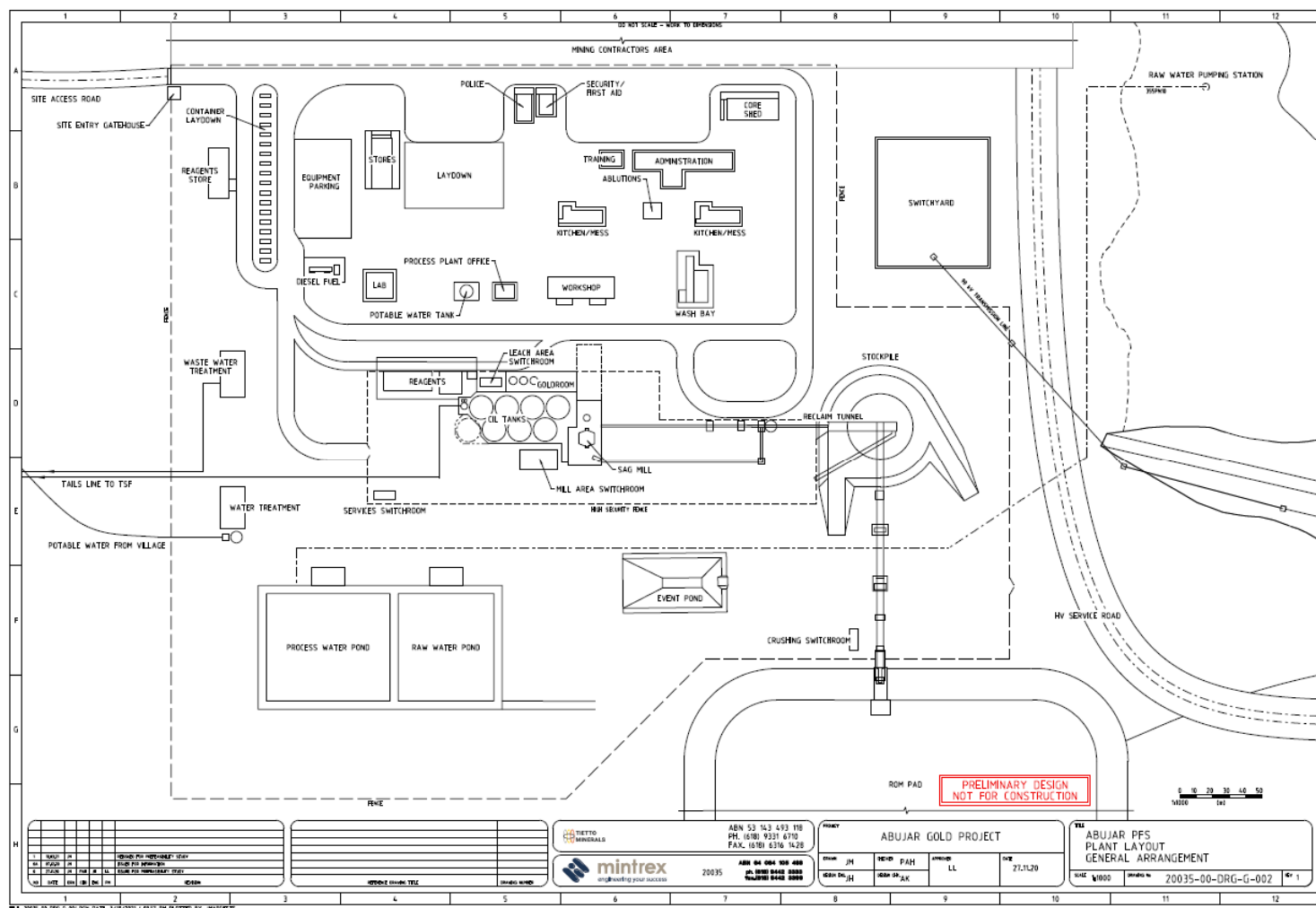


Figure 30: Process plant general arrangement

## Crushing Plant

Ore will be fed to the process plant via the ROM pad, with possible blending of ore types/grades as feed to the primary crusher. The estimated maximum lump size of ore on the ROM pad will be 900 mm in any dimension. Oversize rock will be placed to one side and broken below 900 mm in the mine or on the ROM pad.

The crushing plant provides single stage crushing to feed the SAG mill. The crushing plant design has been based on a bespoke fixed crushing plant with a Metso C150 jaw crusher (or equivalent). The crushing plant consists of ROM bin, apron feeder, jaw crusher, stockpile feed conveyor and rock breaker, including all associated chutes, mechanical and electrical equipment, steelwork and platework.

The ROM bin will be fed ore from the ROM pad stockpiles using either a 10 m<sup>3</sup> front end loader (FEL) or via direct dump from a haul truck (~120 t payload). The ROM bin will have a live capacity of 150 tonnes, with replaceable liners. Feeding of the ROM bin will be controlled by signal lights controlled by a radar level sensor. Dust control will be achieved using high pressure water sprays installed within the ROM bin, to form a dense mist to contain the fugitive dust particles.

The ROM bin and steel wing walls are set in a reinforced concrete vault. The ROM bin discharge will be handled on a 1,500 mm wide apron feeder. The primary crusher is located outside the vault in a steel structure on concrete foundations. Walkways and stairs will provide full operational and maintenance access throughout the primary crushing station.

The primary crusher has a feed opening of 1,200 mm x 1,400 mm, allowing for crushing of the 900 mm ROM top size. A rock breaker mounted adjacent to the crusher will break any oversized rocks that lodge in the crusher and would otherwise not be passed. The crusher jaws will be set to 150 mm closed side setting and will reduce the rock to a nominal P<sub>80</sub> of 150 mm. Downstream material flow paths will be sized to accommodate rocks to up to 300 mm.

The primary crusher discharge is directed onto the stockpile feed conveyor (1,200 mm belt), which feeds the crushed ore directly to the crushed ore stockpile. The stockpile feed conveyor is fitted with access walkways on both sides, and a weightometer to record crushing plant throughput.

During periods of high primary crusher utilisation, ore will be crushed and accumulated on the conical stockpile as a buffer for crusher shutdowns. A central feeder in the reclaim tunnel provides live recovery of around 20% of gross capacity. The balance is available via FEL reclaim into a dedicated hopper/feeder outside the edge of the stockpile.

## Grinding and Classification Circuit

Primary crushed ore will be fed to the SAG mill from the crushed ore stockpile. The stockpile will have a live capacity around 2,300 t, equivalent to 5.5 hours of mill feed at the design grinding rate. The dead stockpile capacity will be approximately 9,500 t, giving a total stockpile capacity (live and dead) of around 27 hrs of mill feed.

The stockpile apron feeder provides a controlled discharge from the stockpile onto the mill feed conveyor. A separate reclaim bin and apron feeder allows mill feed to be sourced via FEL recovery of dead stock, and a backup if the stockpile apron feeder is not operational.

The mill feed conveyor will have a weightometer to measure and control mill fresh feed, with a nominal rate of 438 tph.

A 200 tonne lime silo will be installed above the mill feed conveyor, allowing for a controlled lime addition to the mill feed via a rotary valve installed on the silo discharge.

New feed from the mill feed conveyor is added to the recirculating load in the mill feed chute. Controllers provide density control of the circuit by water addition to the mill feed chute and discharge hopper in proportion to the mill feed rate.

A 9.75m  $\phi$  x 4.88m EGL SAG mill is proposed for the primary grinding duty. The SAG mill will operate with a ball charge of <5% for first 24 months on soft ore and then 5-10% thereafter (70 to 105 mm for first 24 months and then 105 and 125 mm balls thereafter). Total charge will be 22- 30%, with an expected pinion power draw of 6.8 MW. The SAG mill will be driven by dual pinions (4.5 MW motors) with variable speed drives. Mill discharge will be onto a vibrating screen installed to control the particle size of the slurry reporting to the mill discharge pumps. The screened slurry from the mill reports to the mill discharge hopper.

Screen oversize will report to the pebble crushing circuit with optional diversion to a local scats bunker for disposal. A cross-belt magnet rejects mill ball remnants from the conveyor prior to crushing. A metal detector and diverter gate provides protection to the tertiary cone crusher. Crushed pebble material is conveyed back onto the mill feed conveyor.

Duty/standby mill discharge pumps have separate suction lines from the mill discharge hopper. Pneumatically controlled knife gate valves on the suction and discharge pipework allow pump changeover and maintenance while the system is operating.

The slurry in the mill discharge hopper is pumped to a 14-outlet cyclone cluster. The cluster will have 12 x 400 mm cyclones installed (10 operating and 2 standby). The cyclone underflow recirculation is designed as a nominal 350% of new mill feed with an overflow  $P_{80}$  of 115  $\mu$ m to the CIL circuit.

Cyclone underflow is split with a fraction to the gravity circuit and balance returning to the SAG mill feed chute.

### **Gravity Recovery Circuit**

The gravity feed stream is directed over the two scalping screens operated in parallel to enable continuous operation of the gravity concentration. Undersize from the scalping screens is directed to respective 40" centrifugal gravity concentrators. The concentrators will continually operate on a 45 minute cycle, with the cycles staggered 15 minutes apart. Each unit will remove approximately 40 kg of concentrate per cycle which is transferred as gravity flow to the intensive leach reactor in the goldroom. Concentrator tails slurry is routed to the mill feed boil box with an optional split to the mill discharge hopper for mill density control.

The intensive leach reactor is a batch process, leaching the gravity concentrate to dissolve the contained gold into solution. The pregnant liquor from the reactor is pumped to the dedicated electrowinning module in the goldroom. The barren leach slurry is returned to the mill circuit.

The gold collected from the gravity circuit cell will be smelted separately using the calcine oven and smelting furnace to allow for separate metallurgical accounting of the gravity circuit. The final doré gold bars will be stored in the goldroom safe. Around 2/3 of the available gold is recovered via the gravity processing.

### **Carbon in Leach Circuit**

Fine slurry from the cyclone overflow is directed to a pair of trash screens which normally operate as Duty/Duty. Oversize material from the trash screens will normally be returned to the SAG mill feed chute. The chutework will have dual outlets to allow dumping of trash to a bin at ground level if required.

Trash screen underflow will be directed to the first carbon in leach (CIL) tank, or the second tank if the first tank is offline for maintenance. An HCN monitor is installed in this area to provide warning of toxic emissions should these arise from trash screens or cyanide addition to lead CIL tanks.

The carbon in leach train will comprise 7 tanks, 14.3 m in diameter and 16.3 m high (2,538 m<sup>3</sup> working volume), providing a total slurry residence time in the leach circuit of 24 hours with a slurry density of 43% solids by weight.

Each CIL tank will be fitted with a pumped inter-tank screen. Carbon will be held in all tanks except the first (leaching) tank where the inter-tank screen will act as a safety screen to



prevent oversize material entering the carbon tanks in the event of cyclone roping or a trash screen failure.

All tanks will be equipped with hollow shaft agitators to facilitate oxygen injection through the shafts. Only the first three operating tanks will normally be sparged with oxygen.

CIL tanks will be equipped with recessed impeller carbon transfer and recovery pumps. These will be used to advance the carbon, except for tank 2. The pump in tank 2 will pump slurry over the carbon recovery screen to recover loaded carbon from the circuit.

A carbon safety screen below the outlets of tanks 6 and 7 will be located adjacent to tank 6. This screen will collect any carbon that escapes from tank 7 (or tank 6 if tank 7 is off-line) into a drum for manual reintroduction to the circuit.

A 5-tonne travelling gantry crane mounted above the tanks will facilitate removal of the intertank screens, cyclone clusters and agitator gearboxes for maintenance.

The tanks will be constructed on concrete ring beams within a concrete bunded containment structure equipped with a sump pump. The bunded structure around the tanks is not designed for full tank containment because CIL slurry is below the PG III toxicity range, so is not classified as Dangerous Goods (DG). Minor spillages are fully contained, and in the unlikely event of a large spill, it will be contained by the confined surface drainage system around the plant and collected in an Event Pond nearby. Solids will be recovered by mechanical means e.g. FEL.

### **Elution Circuit and Goldroom Operations**

The elution batch size is 6t of carbon. The carbon removed at the recovery screen is transferred to a wash hopper. The acid wash and rinse cycles are performed as required in the 15 m<sup>3</sup> rubber lined wash hopper located beneath the recovery screen.

Carbon stripping is implemented in a Split AARL system. Following the rinse cycle the carbon in the storage hopper is dumped into the elution column with a volumetric capacity of approximately 14 m<sup>3</sup>.

The strip solution is dosed with sodium hydroxide and sodium cyanide, then preheated by the heater system to a temperature of 130°C. The hot strip solution will then be introduced to the bottom of the elution column.

After approximately one “bed-volume” of caustic cyanide solution has been passed through the elution column to pre-soak the carbon a further five bed volumes of hot rinse water will be passed through the column. A further one bed volume of cold rinse water will be passed through the column after the hot rinse water to cool down the carbon. The pre-soak and

rinse water will be delivered via the eluate filters to either of the two pregnant solution tanks via a recovery heat exchanger to recover heat to the strip solution from the eluate.

Elution of the gold from the carbon is expected to take about 7 hours. Pregnant solution will be collected into either one of two pregnant solution tanks. The solution tanks have a pregnant solution pump which will feed the dedicated electrowinning cells 1 or 2. The return barren solution from the electrowinning cells will be returned to pregnant solution tank 1 or 2.

Steel wool cathodes from electrowinning cells will be oxidised in a calcine oven. The product from the calcine oven will be direct smelted using fluxes in a diesel-fuelled barring furnace to produce doré bars which are weighed and then stored in the gold safe. Doré produced from gravity gold is smelted separately for metallurgical accounting purposes.

On completion of the elution cycle barren carbon will be pumped from the elution column to the regen kiln storage hopper above CIL tank 7. From this hopper the carbon is either regenerated in a kiln or dropped directly into CIL tank 7 by gravity. The barren carbon will be de-watered over a small sieve bend screen above the storage hopper. The kiln feed chute drains free water from the carbon prior before it the kiln. Kiln off-gases are used to dry the carbon before it enters the kiln. The regenerated carbon feeds directly by gravity into CIL tank 7, with the option to feed CIL tank 6.

### **Tailings Disposal**

Underflow slurry from the carbon safety screen flows to the tails hopper. Two tailings discharge pumps in a duty/standby arrangement transfer slurry from the tails hopper via HDPE pipelines to the tailings storage facility (TSF). Pumps are equipped with actuated inlet and discharge valves to allow changeover and maintenance with the plant in operation. The proximity and elevation of the TSF are such that only a single stage of pumping is required with PN16 delivery lines. Process and raw water can be supplied to the tails hopper to control tailings slurry density or for tails flushing.

A cyanide gas monitor will be installed above the tails hopper. If excess HCN is detected the monitor will energise a local siren and beacon to warn operators in the vicinity and alarm in the PCS. The alarm and beacon will also be energised whenever spent acid is being transferred from the elution area as this stream increases cyanide gas risks.

## Reagents

### Lime

Quicklime will be delivered to site by road tankers and transferred to the silo. Current testwork indicates that a 200t lime silo will provide storage of ~24 days demand. Delivery trucks are self-unloading using on-board compressors to deliver lime through a pneumatic transfer line. A dust collector on the silo will contain dust emissions during the inload process. Maintenance access will be provided to the bin top dust collectors.

A bin activator will mobilise the quicklime to discharge from the silo via a rotary valve. The silo will deliver lime directly onto the mill feed conveyor with feed rate proportioned to the mill feed conveyor tonnage.

### Cyanide

Cyanide will be delivered to site as solid briquettes in bulky-box packaging. The boxes are discharged within a closed cabinet, and briquettes are dissolved in an agitated tank below. The solution is transferred to horizontal storage tanks. All cyanide handling is fully contained within a Dangerous Goods bund, sized to contain the total volume of all cyanide tanks.

Duty/standby cyanide circulating pumps will circulate cyanide solution through the plant ring main with a constant pressure return to the storage tank. A cyanide dosing pump will transfer cyanide from the ring main to the stripping plant as required.

Fixed HCN gas monitors will alarm if high gas levels are detected in the cyanide mixing and storage area.

The cyanide bund has a collection sump to recover spillage. The cyanide sump pump will recover minor spillage and collected rainfall and deliver it to the trash screen underflow stream.

### Caustic Soda (Sodium Hydroxide)

Caustic soda pearl (sodium hydroxide) will be delivered to site in bulk bags. The bags are lifted by the caustic bag hoist and broken over a bag splitter into the agitated caustic mixing tank. The mixing tank is sized at 15m<sup>3</sup>. Raw water is added to achieve a solution strength of 50% w/w. A separate 20 m<sup>3</sup> storage tank is provided.

A dosing pump draws from the storage tank and delivers caustic to the stripping plant. The dosing pump is protected with a pressure relief valve and a return line back to the mixing tank.

The caustic mixing and storage tanks will be contained within the same concrete bund as the cyanide facilities.

### **Hydrochloric Acid**

Concentrated (32% w/w) HCl will be delivered in liquid form in 1 m<sup>3</sup> bulk boxes which will be stored in a dedicated acid-resistant bund in the reagents area. An acid dosing pump will be used to combine the HCL with dilution water to make a 3% w/w HCl stream for the carbon wash hopper.

The concrete containment bunds surrounding cyanide, caustic and acid tanks will comply with the DG statutory requirements, including separations as required.

### **Activated Carbon**

Activated carbon will be delivered in 500 kg bulk boxes transported to the site in shipping containers. It will be stored in original shipping containers or the reagent store for protection from the weather. When make-up is required, a 500 kg package will be hoisted up to the top of CIL tank 7 with the OHT crane and broken directly into the tank.

### **Oxygen**

Oxygen gas will be manufactured on site using a small pressure swing adsorption (PSA) plant. The plant will have a nominal capacity of ~0.05 t/d. Plant compressed air would provide a backup if required.

### **Grinding Media**

Grinding media will be a 100 mm and 125 mm steel balls delivered in 200 litre drums each holding a tonne. The supply chain will utilise the normal site freight delivery system and schedule. The annual consumption of grinding media is expected to be 3,250 t. It is envisaged that the site stock capacity for grinding media will be 270 t or 30 days plant consumption.

### **Plant Process Control Systems**

The automation and control of the plant will be generally a low-level of complexity with the option of local or remote control and remote monitoring from a central control room. The Plant Control System (PCS) will be programmed in accordance with the project P&IDs and Control Philosophy. The system will be configured such that modifications, troubleshooting and fault finding will be able to be carried out by maintenance personnel without extensive training.

The PCS will consist of a programmable logic controller (PLC) network and supervisory control and data acquisition (SCADA) system.

## **Electrical Systems**

### **Plant Power Distribution**

Five 11kV and 415V Switchrooms will be provided in the Plant as follows:

- Plant 11kV switchroom
- Crushing Switchroom
- Milling Switchroom
- Metal Recovery and Reagents Switchroom
- Services Switchroom

The plant 11kV switchroom will be fed by an underground cable from an 11kV switchboard at the 90kV substation. The plant 11kV switchroom will also house the VSD for the SAG Mill and an 11kV switchboard which will feed 11/0.415 transformers located to each switchroom.

## **Services**

### **Compressed Air**

Plant air and instrument air will be supplied from two air compressors operating in duty/standby mode located near the CIL area. The plant air compressors feed the plant air receiver. Air for instrument services will be dried and filtered before reporting to the instrument air receiver. A separate compressor will be located near primary crushing providing plant air to that area.

### **Raw Water / Fire Water**

Raw water will be supplied from the river water pump station located adjacent to the water diversion dam. Transfer pumps will deliver river water to the raw water pond with a required rate up to 460m<sup>3</sup>/hr. Raw water will be stored in a lined pond holding ~12,000 m<sup>3</sup> in addition to a 4 hour reserve for fire-fighting service.

Raw water will be drawn from the pond via two Raw Water pumps installed in a duty/standby arrangement for use in gland water, fire water and other clear-water applications. A dedicated diesel engine driven fire water pump set provides backup for the

fire service duty in case of electrical failure. The Raw Water pond will have an overflow into the Process Water pond.

### **Process Water**

Water will be delivered to the Process Water pond (18,000 m<sup>3</sup> capacity) from:

- Raw Water pond overflow;
- TSF decant return water; and
- Fill line from the Raw Water pond via the raw water pumps. This pumped transfer will only be used if other sources fail to maintain a suitable pond level.

Process water will be discharged from the pond to plant demands via two process water pumps in a duty/standby arrangement. Process water demand is designed at 557 m<sup>3</sup>/hr.

### **Potable Water**

Potable water for the plant area will be sourced through a pipeline from the accommodation village.

General plant usage is estimated at 10m<sup>3</sup>/d. A 50m<sup>3</sup> lined and enclosed storage tank will be used for plant potable water. Water will be treated with minor sterilisation and distributed via plant potable water pumps to safety showers and in ablutions, offices and workshops, with a branch to the mining contractor's area.

To prevent contamination of the potable water supply, there will be no potable water service points in the plant areas or any direct connection of the potable water system to process equipment.



## **14. Project Infrastructure**

### **Site Access**

Road access to the site from Daloa is currently via the sealed A6 highway followed by unsealed roads. Tietto will be responsible for building and maintaining the access road into the site.

The project will upgrade the unsealed road access to plant site with improved geometry, width, drainage and laterite surfacing. The improved Site Access Road (19 km long) will run from the A6 motorway West of Daloa to the Abujar project area. It comprises two 3.5 m width running lanes with a 1 m shoulder each side, for a total formation width of 9 m.

At one location along the Site Access Road, a combined culvert and floodway structure will be required. The floodway will comprise low flow culverts and a trafficable floodway structure to convey all runoff resulting from a 1 in 100-year average recurrence interval storm event, over and above the flow through the culvert.

The road will be constructed with in-situ material where possible. Borrow locations will be identified along the road route to provide suitable road-base as required. This route will be used for material delivery during construction, workforce commuting, and supply of fuel and other consumables during operation.

A route survey will be commissioned in the next phase of this project to define transport constraints on project deliveries from Abidjan port right through to the site.

### **Accommodation Camp**

Tietto will construct a fully supported 270 person accommodation camp, located adjacent to the process plant. The camp will be operated by a catering and accommodation service provider on a long term operating contract. The camp contractor will be responsible for all operations at the accommodation camp including catering, cleaning and maintenance activities.

The accommodation camp will be constructed prior to the commencement of process plant construction in order to utilise the camp to accommodate construction personnel.

The camp will be composed of the single ensuite rooms in blocks of 20. These will be constructed in-situ using site-manufactured concrete blocks. Central facilities will cover food storage and preparation, security, messing, laundry and recreation facilities. A section will be allocated to site services with water treatment, sewage treatment and a back-up generator.

The camp will be supported by the following facilities/buildings:

- Kitchen/diner building;
- Laundry building;
- Recreation building;
- Swimming pool;
- Dry storage building; and
- Security office.

Power and water services are provided from the process plant to the village services compound. Power will be provided from an 11 kV overhead powerline. Potable water will be pumped from the treatment unit at the process plant. It is stored in local tanks and distributed via underground piping after further sterilisation.

### **Power Supply**

Power for the mine will be supplied from the 90kV Daloa substation located approximately 30km away from the site. A new 90kV bay will be installed at the Daloa substation and a new 90kV transmission line run to a new 90/11 kV switchyard installed adjacent to the process plant. The supply voltage will be stepped down via a transformer within this substation. An 11kV switchroom will be installed adjacent to the 90kV switchyard and will house an 11kV switchboard that will provide feeders to the Plant 11kV switchroom and the 11kV overhead transmission lines.

### **Tailings Storage Facility**

Knight Piésold has undertaken a preliminary design for tailings storage facility and water storage dam. The TSF is located immediately South West of the process plant, selected after a 3-option comparison study. It comprises a fully lined cross-valley storage formed by multi-zoned earth-fill embankments. The TSF basin area will be cleared, grubbed and topsoil stripped.

The TSF is designed to accommodate a total of 30Mt of tailings over the life of mine. The Stage 1 (starter) TSF will be designed for 18 months storage capacity of 4.5 Mt dry tails. Subsequently, TSF will be raised as planned to cover ongoing storage requirements. A downstream construction method was selected for raise construction. The conceptual design for stage 1 indicates a crest elevation of 233.5 m RL (20m maximum height) and final crest elevation of 251.4m RL (37m maximum height).

The deposition of tailings into the TSF will be sub-aerial from HDPE pipelines located around the perimeter. Deposition will occur from multiple spigots inserted along the tailings distribution line on the crest of the TSF embankment. The deposition locations will be moved progressively along the distribution line as required to provide even deposition of tailings and control the supernatant pond location. Decant water will be removed from the TSF by a submersible pumps set within a tower structure and routed to the Process Water pond.

Capital costs for the starter TSF embankment and pipelines for tails and decant are included in the project capital. The future capacity extensions will be funded as sustaining capital.

### **Diversion Dam and channel**

A diversion dam is built across a river basin NE of the process plant serving two purposes:

- It impounds river flows during the wet months of April to October to be available as a fresh water source for potable purposes and ore processing.
- The raised upstream water level allows water discharge through a constructed diversion channel around the North end of the main mine pit.

### **Mining Contractors Area**

A mining contractor's area will be established adjacent to the plant infrastructure area and connected into the mine HV access routes. The area is approximately 220,000m<sup>2</sup> within a general security perimeter fence. The location will be optimised in the BFS stage as part of the site layout analysis. The mining contractor's area will be serviced with power, raw and potable water from the process plant area at a designated battery limit at the boundary of the area. Washdown water will be clarified for re-use within the area.

The mining contractor will establish facilities within this area which will include, workshops, warehouse, ablution blocks, offices, washdown area, fuel and waste oil management facilities. The washdown slab will incorporate a silt and oil trap. An oil separator will remove any contaminant oil from the waste water before it is recycled into the washbay facility, with excess water used for dust suppression. The mining contractor will manage the safe removal of waste oil by approved parties.

The treatment and disposal of sewage from the contractor's area will be through the process plant sewage treatment facility. A pump station will be installed in the mining contractor's area to transfer the sewage via an underground line.

## 15. Environment and Social

During the past 5 years of exploration, Tietto has developed a privileged relationship with the communities living in the villages of the Abujar project area. Tietto has always strived to live in harmony with the immediate environment and these local communities. The multidimensional social actions undertaken have involved communities in the promotion of sustainable development and social well-being.

Tietto's exploration operations have increased over time since 2014 and our financial contributions now total more than 0.25 billion FCFA (approximately US\$0.5 million) to help the local communities of the villages located within the perimeters of exploration permits to develop road infrastructure, support training, trade, transport and communication.

An Environmental and Social Impact Assessment (ESIA) for the Project was prepared during 2020 by Ivoirian based consultants Envitech with assistance from RPM. Tietto's goal is to adhere to both Côte d'Ivoire's standards and IFC guidelines for social and environmental measures and reporting associated with the Abujar project.

Envitech collected and supplied data in regards to the project and its impacts to the National Environment Agency (ANDE). This included information and observations on:

- Weather;
- Air quality;
- Noise and sound levels;
- Hydrology;
- Hydrobiology;
- Hydrogeology;
- Chemical and biological balance of surface and groundwater;
- Fauna and flora;
- Classification of soils;
- Archaeology and sacred sites;
- Economic and social situation; and
- Community Health.

The studies were carried out according to appropriate scientific methods, the data being systematically collected. Reference samples were collected to represent both the dry season and the rainy season in order to account for seasonal changes in climate.

Tietto takes its social responsibility seriously and strives to respect, protect and promote the human rights of local populations. The ESIA provides a social licence to operate and requires that Tietto:

- Develop a community development plan, in consultation with local communities and administrative authorities, with clearly defined objectives and well-developed investment plans. This fund is intended to carry out socio-economic development projects for local communities as agreed to in the community development plan
- Tietto will work with community leaders to set up a Local Mining Development Committee responsible for the implementation of economic and social development projects for local communities
- The community development plan must include projects for:
  - ✓ the development of basic infrastructure and equipment;
  - ✓ the development of basic social services and the living environment;
  - ✓ promotion of employment;
  - ✓ development of the local economy; and
  - ✓ development of human capital.

Tietto is required to set up a “local development fund” for the villages directly impacted by mining activities, as identified during the ESIA studies. The local development fund will be used to finance and develop projects identified exclusively for local communities affected or impacted by the project. These projects must be approved by the Local Development Committee. Funding for the local development fund is currently stipulated as 0.5% of turnover, after deduction of transport costs, FOB prices and refining costs.

A mine closure plan that will be developed during the mine life, and a set of completion criteria for rehabilitation, which are consistent with overall site closure objectives, will be determined and agreed with the regulator and relevant stakeholders. Through long-term monitoring of the site, the development of rehabilitated areas will be consistent with the completion criteria. Consultation with stakeholders will continue throughout the life of the Project.

## **16. Operations Strategy**

Tietto's overall operations strategy is to mine the project reserves by using bulk tonnage mining methods to feed the processing plant. The plant will utilise conventional gravity recovery and cyanide leaching technology to recover and produce gold doré bars. Mining and processing will be supported by facilities, systems, services and infrastructure that are sufficient in magnitude, fit for purpose and based upon existing models and methods used at other gold operations within West Africa.

The General Manager – Abujar Operations (GM) will be responsible for overall site operations and will report to Tietto's Managing Director. Most personnel will be sourced locally with a focus on Ivoirian nationals, with initial key positions filled with experienced expatriate staff. Staff will be housed in a purpose-built 270 person mining camp, with other workers housed in nearby towns and villages.

Contract mining operations will operate on a continuous (two 12 hour shift per day basis). Contract mining personnel will be accommodated in the Abujar mining camp and nearby villages and towns. It is expected that the mining contractor personnel will operate on the same roster as the processing personnel of 14 work shifts followed by seven rostered days off.

The operations strategy is based on the use of directly employed personnel in full time positions in preference to the use of contractors, except for mining and catering operations. Operational support functions such as bullion transport, access road maintenance and freight services will be provided by service contractors.

### **Mining Contract**

All mining operations will be carried out by a suitably experienced open pit mining contractor. This contractor will also be responsible for the mining-related construction activities, including ROM pad and haul road construction and maintenance during operations.

ROM stockpile management will be shared by Tietto mining and processing departments. The mining department will engage the mining contractor to haul ore to and stockpile ore on the ROM pad. Feeding of the primary crusher will be carried out by the mining contractor under supervision of Tietto's process staff.



## 17. Operating Cost Estimate

An operating cost estimate has been prepared for the Abujar Process Plant with an operating throughput of 3.5 Mtpa.

The mining costs have been estimated from first principles costing using recent equipment quotations available in the RPM equipment database and modified to reflect contractor mining.

The plant operating costs have been estimated from a variety of sources including:

- Consumable consumption rates based on the metallurgical test work results summaries and historical operating consumptions;
- Power and grinding media consumptions as determined by DMCC;
- Quotations for the supply of consumables, equipment and services;
- A proposed manning schedule and corresponding labour costs; and
- Mintrex database of costs from similar sized and located operations.

All costs are in US dollars (USD) and reflect an estimate accuracy of  $\pm 25\%$  as at Quarter 4 2020 (Q4 2020). A summary of the operating cost estimate is provided in **Table 43**.

**Table 43: Operating Cost Estimate**

Item	LOM Cost (US\$)	LOM Cost / Ore Tonne	LOM Cost / Ounce (US\$/oz)
<b>Mining</b>	\$527M	23	490
<b>Processing and Maintenance</b>	\$211.7M	9.24	197
<b>G &amp; A</b>	\$71.7M	3.13	67
<b>Sustaining Capital</b>	\$16M	0.69	14.9
<b>Selling</b>	\$6.4M	0.28	6
<b>Royalties</b>	\$68.9M	3.01	64
<b>Total</b>	\$901.7M	39.3	839

## 18. Capital Cost Estimate

The purpose of the capital cost estimate is to provide current costs suitable for use in assessing the economics of the Abujar Gold Project and to provide the initial control of capital expenditure.

The estimated total plant and infrastructure project capital cost is \$177.5M for plant and infrastructure, including a contingency of ~\$25M.

The capital cost estimate is based upon an EPCM approach whereby the project owner assumes the budget and schedule risk and therefore includes no builder's margin.

The capital cost estimate has been prepared as a preliminary feasibility level study and is presented in United States Dollars (USD) to an accuracy level of +/-25%, as at Quarter 1 2021 (Q1/2021). **Table 44** below summarises the capital cost estimate for the Project, including contingency.

**Table 44: Capital Cost Summary**

Plant and Infrastructure	Subtotal (US\$)	Contingency (US\$)	Grand Total (US\$)
<b>3.5Mtpa Process Plant</b>	\$76.7M	\$11.9M	\$88.6M
<b>Infrastructure (TSF, Plant Vehicles, Mobile Equipment, Process Plant Infrastructure, Powerline and Camp)</b>	\$51.4M	\$9.2M	\$60.6M
<b>Owners Costs (Insurance, Construction Facilities, First Fills and Capital Spares)</b>	\$24.6M	\$3.7M	\$28.3M
<b>Total Plant and Infrastructure</b>	<b>\$152.7M</b>	<b>\$24.8M</b>	<b>\$177.5M</b>
<b>Mine Contractor Establishment</b>	\$2.5M	\$0.6M	\$3.1M
<b>Pre-production Mining</b>	\$39.4M	9.9M	\$49.3M
<b>Total</b>	<b>\$194.6M</b>	<b>\$35.3M</b>	<b>\$230M</b>

### Estimate Basis

Mintrex prepared the capital cost estimate for the process plant, associated infrastructure and accommodation camp. Cost estimates for the tailings storage facility, water storage facility, and the sedimentation and surface water controls have been prepared by Knight Piésold (KP). Electrical and instrumentation capital costs for the process plant and infrastructure and power supply capital costs have been prepared by ECG Engineering (ECG). Mining development capital costs were prepared by RPM. Construction Labour is based on budget prices provided by a number of Contractors operating in the region.

## Estimate Assumptions and Clarifications

The following assumptions and clarifications apply to the cost estimates:

- The capital estimate is based on an EPCM implementation strategy and the overall contracting strategy described in this report;
- Capital costs assume the preliminary PFS bulk earthworks design and plant layout which may be changed based on geotechnical investigation data (preliminary bulk earthworks concept was based only on initial Geotech site visit);
- Limited materials handling testwork has been undertaken with preliminary plant design based on best engineering knowledge and previous experience;
- The cost of mining-related bulk earthworks, such as the construction of the run of mine (ROM) ore stockpile area, primary crushed ore stockpile and the mining haulage roads are the responsibility of the mining contractor and hence form part of the mining development costs;
- The mining contractor facilities will be provided by the Owner, with corresponding capex included in the estimate;
- Sufficient material is available nearby for local borrow stockpiles for use as subgrade material and structural fill for bulk earthworks construction;
- Power will be available through HV overhead line route from Daloa to the processing plant switch yard in time to progress the plant commissioning;
- The estimate is based on contractor-quoted wage rates and the expected site safety regulations and work practices;
- Scheduled international air services are operating and sufficient seats are available as required to meet the program schedule;
- Sufficient manpower resources are available in Cote D'Ivoire to undertake the project in the timescale envisaged. The project requires locals as well as expatriate personnel from other African countries and international personnel;
- Vehicles and mobile equipment for project operations will be purchased outright (excluding the contract mining fleet); and
- Expatriate work permits for the construction management workforce are available from the Cote D'Ivoire government.

## Exclusions

The following exclusions apply to this capital cost estimate:

- Escalation of prices;
- Financing costs or interest;
- Import duty for capital items and services;
- Government approvals and special permits;
- Currency exchange rate variations;
- VAT (if applicable);
- The provision of process guarantees or performance warranties beyond the normal vendor obligations;
- Owner's sunk costs prior to formal approval of project implementation;
- Expatriate construction personnel taxation and employment law compliance costs;
- Inclement weather delays; and
- Working capital.

## 19. Financial Evaluations

The base case financial evaluation has been completed on a 100% project basis and is based on a US\$1,506/oz gold price and reported in US\$ (**Table 45**). Project start date is assumed to be 1 October 2021.

The Abujar Gold Project demonstrates strong economics - pre-tax NPV (5%) of \$363M, IRR 53% and post-tax NPV (5%) of \$266M, IRR 42% based on a conservative average gold price of US\$1506/oz.

**Table 45: Abujar AG Open Pit Pre-Feasibility Study Financial Summary**

<b>Average Production Y1-3</b>	182,000oz/yr
<b>Average Production LOM (Y1-6)</b>	168,000oz/yr
<b>Revenue LOM</b>	\$1,612M
<b>Production Costs LOM</b>	Average Cash Costs of \$824/oz (including royalties)
	Average All-in Sustaining Costs (AISC) of \$840/oz
<b>IRR</b>	Pre-tax IRR of 53% and 2.4 year payback on initial capital
	After-tax IRR of 42% and 2.8 year payback on initial capital
<b>NPV</b>	Pre-tax NPV (5%) of \$363M
	Post-tax NPV (5%) of \$266M
<b>Free Cashflow LOM</b>	Pre-tax Free Cashflow of \$509M
	Post-tax Free Cashflow of \$382M
<b>Capex</b>	Pre-Production capital of \$230M (including pre-production mining and contingency)
	Sustaining capital and closure costs of \$32M
<b>Project Life</b>	10 years
<b>Probable Mineral Reserves</b>	15.7Mt ROM at 1.7 g/t Au for 860,000 ounces
<b>Mineable quantities inclusive of Probable Mineral Reserves</b>	22.9 Mt ROM at 1.5 g/t Au for 1,120,000 ounces at a strip ratio of 8.2 t:t
<b>LOM Recoveries</b>	96% for 1,075,000 ounces of gold recovered

Because of the relatively low AISC, the project is robust at a range of gold prices. **Table 46** and **Table 47** provide a sensitivity analysis demonstrating the forecast robust economics under a range of gold price scenarios.

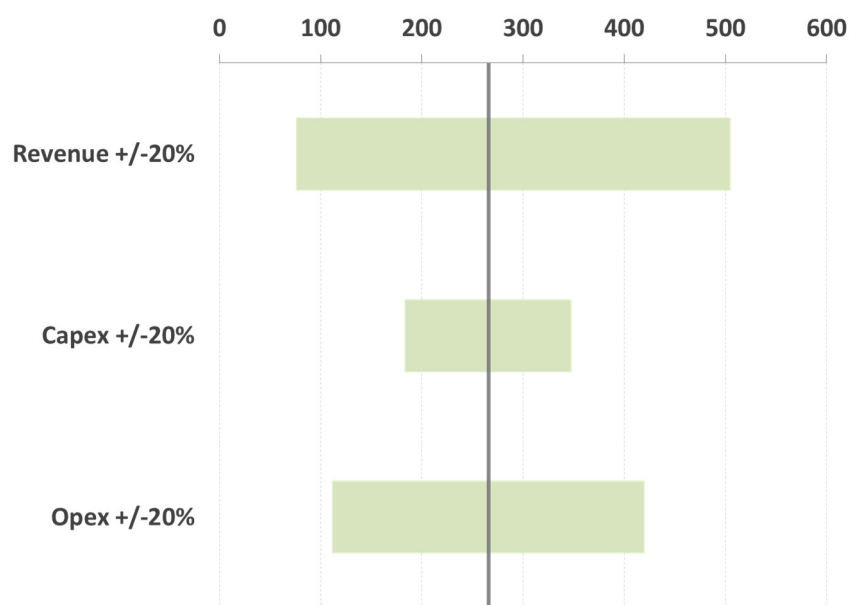
**Table 46: AG Open Pit PFS at Various Gold Prices (Pre-Tax)**

Item	1200	1300	1506	1700	1900
Net present value (NPV (5%))	\$122 M	\$202 M	\$363 M	\$502 M	\$659 M
Internal rate of return (IRR)	20%	30%	53%	63%	81%
Payback in Years (undiscounted)	4.7	3.7	2.4	2.3	2.1
LOM avg. annual cash flow after tax & capital	\$24 M	\$37 M	\$62 M	\$84 M	\$109 M
LOM cumulative cash flow (undiscounted)	\$206 M	\$309 M	\$509 M	\$694 M	\$898 M

**Table 47: AG Open Pit PFS at Various Gold Prices (Post-Tax)**

Item	1200	1300	1506	1700	1900
Net present value (NPV (5%))	\$85 M	\$145 M	\$266 M	\$370 M	\$488 M
Internal rate of return (IRR)	16%	24%	42%	51%	65%
Payback in Years (undiscounted)	5.2	4.1	2.8	2.6	2.2
LOM avg. annual cash flow after tax & capital	\$18 M	\$27 M	\$46 M	\$63 M	\$82 M
LOM cumulative cash flow (undiscounted)	\$154 M	\$232 M	\$382 M	\$521 M	\$673 M

Sensitivity analysis of the project demonstrates the robust nature of the project against +/- 20% change in revenue, capital cost and operating costs.



**Figure 31: Sensitivity of Post-tax NPV (5%) to +/-20% Change in Revenue, Capex and Opex**

## Expanded Project

Substantial upside to the PFS base case has been demonstrated by scoping study assessments of APG open pit and AG Core underground mine.

These studies demonstrated that the Expanded Project (starting from October 2021) has potential to deliver increases NPV, gold production and mine life with gold production growing to 1,436,000 ounces of gold recovered over 12 years of operation

The Expanded Project demonstrates a healthy increase in the pre-tax NPV (5%) of \$432M, IRR 54% and post-tax NPV (5%) of \$311M, IRR 43% using a conservative average gold price of US\$1491/oz.

**Table 48: Expanded Project Scoping Study Financial Summary**

<b>Average Production Y1-3</b>	182,000oz/yr
<b>Average Production LOM (Y1-6)</b>	168,000oz/yr
<b>Revenue LOM</b>	\$2,133M
<b>Production Costs LOM</b>	Average Cash Costs of \$863/oz (including royalties)
	Average All-in Sustaining Costs (AISC) of \$903/oz
<b>IRR</b>	Pre-tax IRR of 54% and 2.4 year payback on initial capital
	After-tax IRR of 43% and 2.8 year payback on initial capital
<b>NPV</b>	Pre-tax NPV (5%) of \$432M
	Post-tax NPV (5%) of \$311M
<b>Free Cashflow LOM</b>	Pre-tax Free Cashflow of \$599M
	Post-tax Free Cashflow of \$461M
<b>Capex</b>	Pre-Production capital of \$230M (including pre-production mining and contingency)
	Underground development capital of \$48.4M beginning in Year 6
	Remaining capital and closure costs of \$48.1M
<b>Project Life</b>	14 years
<b>Probable Mineral Reserves</b>	15.7Mt ROM at 1.7 g/t Au for 860,000 ounces
<b>Mineable quantities inclusive of</b>	AG Open Pit: 22.9 Mt ROM at 1.5 g/t Au for 1,120,000 ounces at a strip



<b>Probable Mineral Reserves<sup>1</sup></b>	ratio of 8.2 t:t
<b>Scoping Study Production Targets<sup>2</sup></b>	APG Open Pit: 8.1 Mt ROM at 0.8 g/t Au for 209,000 ounces at a strip ratio of 3.3 t:t AG Underground <sup>2</sup> : 1.8Mt ROM at 2.8 g/t Au for 167,000 ounces
<b>LOM Recoveries</b>	96% for 1,436,000 ounces of gold recovered

Using a range of gold prices demonstrates the robust nature of the Expanded Project both pre and post-tax (see tables below).

**Table 49: Expanded Project at Various Gold Prices (Pre-Tax US\$)**

Item	1200	1300	1491	1700	1900
<b>Net present value (NPV (5%))</b>	\$141 M	\$242 M	\$432 M	\$620 M	\$820 M
<b>Internal rate of return (IRR)</b>	21%	31%	54%	64%	81%
<b>Payback in Years (undiscounted)</b>	4.7	3.7	2.4	2.3	2.1
<b>LOM avg. annual cash flow after tax &amp; capital</b>	\$23 M	\$36 M	\$61 M	\$84 M	\$109 M
<b>LOM cumulative cash flow (undiscounted)</b>	\$242 M	\$380 M	\$629 M	\$895 M	\$1,166 M

**Table 50: Expanded Project at Various Gold Prices (Post-Tax US\$)**

Item	1200	1300	1491	1700	1900
<b>Net present value (NPV (5%))</b>	\$92 M	\$168 M	\$311 M	\$452 M	\$602 M
<b>Internal rate of return (IRR)</b>	17%	25%	43%	52%	66%
<b>Payback in Years (undiscounted)</b>	5.2	4.1	2.8	2.6	2.2
<b>LOM avg. annual cash flow after tax &amp; capital</b>	\$17 M	\$26 M	\$45 M	\$62 M	\$81 M
<b>LOM cumulative cash flow (undiscounted)</b>	\$172 M	\$275 M	\$461 M	\$661 M	\$865 M

## **20. Permitting and Approvals**

### **Environmental and Social Impact Assessment**

In October 2020 the Côte d'Ivoire Ministry of Environment and Sustainable Development approved the Environmental and Social Impact Assessment ("ESIA") for the Abujar Gold Project. The ESIA is associated with our Exploitation (Mining) Permit which covers an area of 120.36km<sup>2</sup>.

The ESIA allows Tietto to operation the Abujar Gold Project in accordance with the conditions listed in the application file and subject to the Environmental and Social Management Plan ("PGES").

The National Environment Agency ("ANDE") has responsible for ensuring the project operations in compliance with environmental regulations.

### **Mining Licence**

In December 2020 Côte d'Ivoire's Le Ministère des Mines, du Pétrole et de l'Energieh (Ministry of Mines, Petroleum and Energy) granted the Mining Licence for Tietto's Abujar Gold Project. The Mining Licence covers an area of 120.36km<sup>2</sup>.

### **Mining Convention**

Tietto is negotiating the Mining Convention with the Ivoirian Government and expects to reach agreement in Q2 2021. This is the final statutory approval required for operations to start.

## 21. Project Implementation Schedule

The Company has proceeded to a Definitive Feasibility Study. Once this work is complete in Q3 2021, the company will look to secure project finance and begin construction.

Early site works have commenced focussing on site infrastructure and camp construction. Project is expected to commence in late 2021 with a 12 month construction schedule leading to targeted gold production in the last half of 2022.

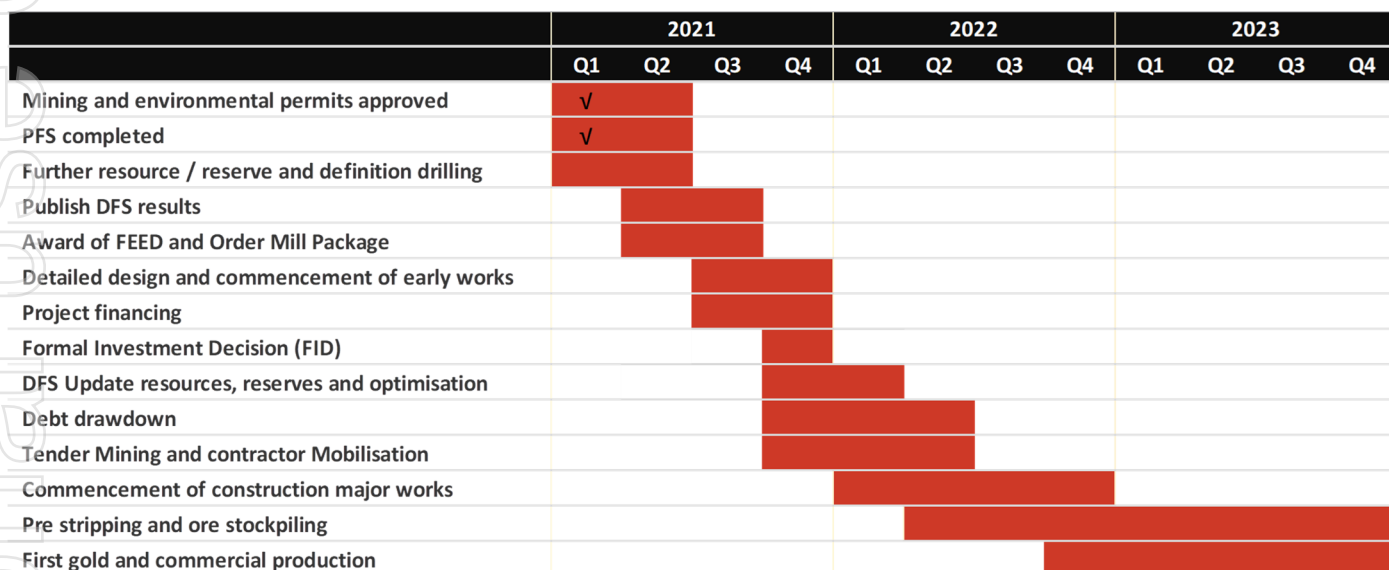


Figure 32: Forecast timeline

## 22. Financing

Tietto's Board believes that there are reasonable grounds to assume that future funding will be available for the ongoing development of the Project, as envisaged in this announcement, on the following basis:

- Project economics will be improved following completion of the DFS which will be underpinned by an updated Mineral Resource and Ore Reserves. Tietto expects to complete infill drilling towards the end of April 2021. This drilling will be incorporated into an updated Mineral Resource Estimate which is due at the end of May 2021.
- The production and economic outcomes delivered in the Pre-Feasibility Study are sufficiently robust to provide confidence in the Company's ability to fund development of the project through conventional debt and equity financing. Early stage discussions with a number of potential financiers are already underway however no material or binding Agreements for funding have been signed to date.
- The Company currently has significant cash reserves (A\$52 million) in addition to the potential conversion of up to 77 million options, which are exercisable at various prices between now and January 2023. If fully exercised, the options would provide up to A\$17m cash. These funds in addition to cash reserves could be applied directly to Project funding or to future debt reduction payments.
- There are recent examples of similar projects in West Africa attracting debt and equity funding.

## **23. Conclusions and Recommendations**

Tietto will proceed to complete a Definitive Feasibility Study (DFS) which is funded and due for delivery in Q3 2021.

### **Modelling of oxide/trans impact on throughput variable costs**

The current model has the processing power, throughput rates and reagent consumptions on an entirely fresh oxidation state of ore. The DFS will consider the additional throughput potential and operating costs of processing the oxide and transition material in mine plan. This should serve to lower the processing cost per ton of ore particularly in the first 2-3 years of operations where the oxide and transitional material make up a significant portion of the feed to the processing plant.

### **Mill Throughput**

Tietto will investigate the optimum processing rate to ascertain the correct mill size during the DFS to potentially process some of the lower grade stockpiles earlier, reducing the stockpile inventories on site. This has the potential to increase the “released value” from mining operations earlier in the life of mine.

### **APG heap Leach Potential**

Early stage metallurgical test work has demonstrated the amenability of transitional and fresh material from the APG deposit to heap leaching. KCAA (Kappes Cassidy Australia) have been retained to further this metallurgical test work program to PFS level. Test work is expected to be completed in 2021 with a preliminary economic assessment of the feasibility of heap leaching the lower grade material to follow.

### **Infill drilling**

Tietto is well advanced with over 25,000m of infill drilling completed. The drilling program is designed to target Inferred Resources within and beneath current ore reserve pit design as well as follow-up extensional drilling at AG and APG.

### **Exploration Drilling**

Tietto’s six diamond drill rigs that are operating at Abujar are now delivering approximately 11,000m of diamond core per month at what are industry low costs of US\$35/m. Tietto’s geologist have identified over 20 exploration prospects within 10km of the proposed Abujar Plant. Diamond drilling to define mineral resources at these prospects will continue throughout 2021.

## 24. Competent Persons and Qualified Persons Statement

*The information in the report to which this Competent Persons Statement is attached, relates to the Ore Reserves for the Abujar Gold Project focussing on its Abujar Gludehi Deposit. It is based on information compiled and reviewed by Mr. Igor Bojanic, who is a Fellow of the Australasian Institute of Mining and Metallurgy, and is an employee of RPM. Mr. Igor Bojanic has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which he has undertaken to qualify as a Competent Person, as defined in the 2012 Edition of the Australasian Code for the Reporting of Mineral Resources and Ore Reserves.*

*Mr. Igor Bojanic is not aware of any potential for a conflict of interest in relation to this work for the Client.*



.....  
Igor Bojanic (B.Eng. (Mining), FAusIMM)

*The estimates of Ore Reserves presented in this Statement have been carried out in accordance with the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (December, 2012).*

**ENDS**

This release has been authorised on behalf of Tietto Minerals Limited by:

**Dr Caigen Wang**  
Managing Director  
Tel: +61 8 9331 6710

**Mark Strizek**  
Executive Director  
Mob: +61 431 084 305

**Competent Persons' Statements**

*The information in this report that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Mark Strizek, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Strizek is a non-executive director of the Company. Mr Strizek has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Strizek consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears. Additionally, Mr Strizek confirms that the entity is not aware of any new information or data that materially affects the information contained in the ASX releases referred to in this report.*

*The information in this report that relates to Mineral Resources is based on information evaluated by Mr Jeremy Clark who is a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM) and who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Clark is an associate of RPM and he consents to the inclusion of the estimates in the report of the Mineral Resource in the form and context in which they appear.*

**Compliance Statement**

*This report contains information extracted from ASX market announcements reported in accordance with the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" ("2012 JORC Code") and available for viewing at [www.tietto.com](http://www.tietto.com). Includes results reported previously and published on ASX platform, 16 January 2018, 27 March 2018, 23 April 2018, 8 May 2018, 7 June 2018, 4 October 2018, 1 November 2018, 28 November 2018, 31 January 2019, 26 February 2019, 12 March 2019, 19 March 2019, 9 April 2019, 9 May 2019, 30 May 2019, 9 July 2019, 26 July 2019, 2 October 2019, 24 October 2019, 12 December 2019, 23 January 2020, 20 February 2020, 10 March 2020, 24 March 2020, 2 April 2020, 9 April 2020, 23 April 2020, 3 June 2020, 9 June 2020, 25 June 2020, 2 July 2020, 21 July 2020, 20 July 2020, 29 July 2020, 19 August 2020, 9 September 2020, 24 September 2020, 26 October 2020, 11 December 2020, 18 January 2021, 12 February 2021, 23 February 2021 and 23 March 2021. The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous announcements.*



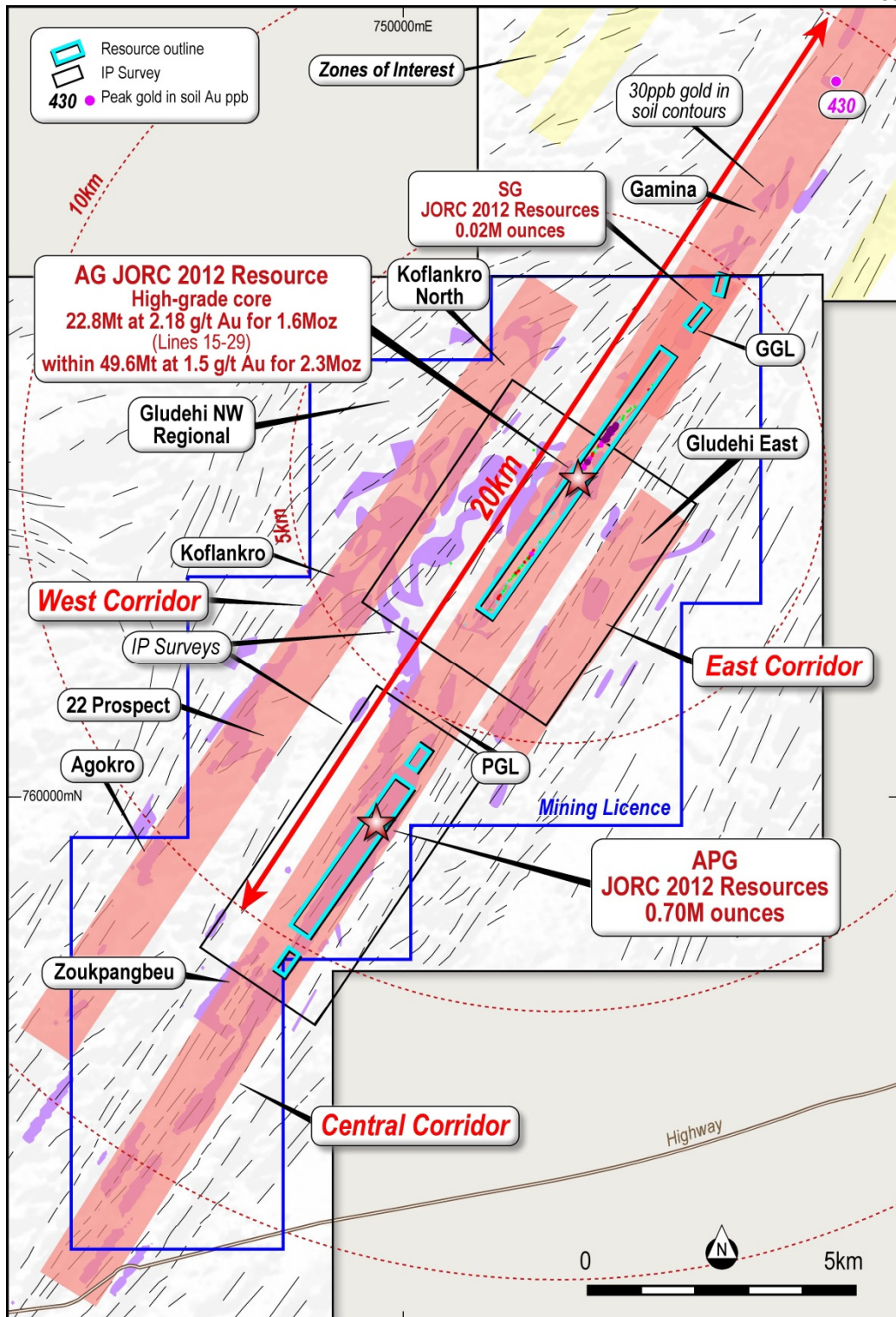


Figure 33: Plan view showing Abujar Project

**Abujar Gold Project, Côte d'Ivoire**

The Abujar Gold Project is located approximately 30km from the major regional city of Daloa in central western Côte D'Ivoire. It is close to good regional and local infrastructure to facilitate exploration and development being only 15km from nearest tarred road and grid power.

The Abujar Gold Project is comprised of three contiguous exploration tenements, Middle, South and North tenement, with a total land area of 1,114km<sup>2</sup>, of which less than 10% has been explored. It features an NNE-orientated gold corridor over 70km striking across three tenements.

In December 2020, a gold exploitation (mining) licence within the Abujar Middle exploration tenement was granted. The mining tenement covers an area of 120.36km<sup>2</sup>.

Tietto is well placed to grow its resource inventory. It has substantially advanced the project since starting exploration in mid-2015 with the identification of 3.02 million ounces Indicated and Inferred JORC 2012 Mineral Resources and has completed metallurgical test work and a PFS. Tietto is currently undertaking feasibility studies with a DFS expected to be released in Q3 2021.

## Section 1 of the JORC Code, 2012 Edition – Table 1

### Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li><i>Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>Samples at AG and APG project areas were collected using drilling techniques including Air Core Drilling (AC), Reverse Circulation (RC), and Diamond Drilling (DD). Holes were generally angled at 60° to 90° towards northwest at AG to optimally intersect the mineralised zones however within APG the recent holes were drilled to the North East due to the reinterpreted westerly dip of the mineralisation.</li> <li>AC samples were collected every 1m from cyclone, and 2m composite samples which is combined with two 1/3 of each one meter sample were sent for assaying. No Aircore samples were used in the estimates reported in the Report.</li> <li>RC samples were collected as 1m samples from the cyclone, which were subsequently spear sampled to form 2 m samples which were subsequently sent to the laboratory. All one meter samples were split using a riffle splitter with 1/4 of the same retained in the plastic bags, the remainder was re-split with 1/4 retained in calico bag and the remainder discarded.</li> <li>Diamond core was logged both for geological and mineralised structures as noted above. The core was then cut in half using a diamond brick cutting saw on 1m intervals. Typically the core was sampled to geological intervals as defined by the geologist within the even two metre sample intervals utilised. The right hand side of the core was always submitted for analysis with the left side being stored in trays on site.</li> <li>No QAQC was completed during the 2015 drilling program, however the vast majority of the data is sourced from the 2016-2020 drilling which implemented definitive QAQC program, to provide verification of the sample procedure, the sample preparation and the analytical precision and accuracy of the primary laboratory.</li> <li>Sampling and QAQC procedures were carried out to industry standards upon the advice of RPM.</li> <li>Sample preparation was completed by independent international accredited laboratories ALS Ghana in 2016 and Intertek Minerals Ltd in 2018 to 2020. Following cutting or splitting, the samples were bagged by</li> </ul>

Criteria	JORC Code explanation	Commentary
		the Client employees and then sent to the laboratory for preparation. These samples were subsequently sent to Ghana for analysis via 30g fire assay in 2016-2017 (ALS Ghana) and 150g fire assay in 2018-2020 (Intertek Ghana).
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>AC drilling size is 89 mm, RC drilling comprising 105mm diameter face sampling bit. Diamond drilling carried out with mostly NTW and some HQ sized equipment. PQ-size rods and casing were used at the top the holes to stabilise the collars although no samples were taken from the PQ size core.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>Within the Diamond drilling typically core recoveries ranged between 85% and 100% for all holes with no significant issues noted. All 2019 and 2020 holes have recoveries above 95% in the majority of the mineralised areas.</li> <li>Some low recovery are associated with intensely fractured or faulted intervals and the more intensely weathered upper zone however These low recoveries are not considered material to the total Mineral Resource currently estimated.</li> <li>AC, RC samples were visually checked for recovery, moisture and contamination. RPM notes that it has relied on information for the majority of holes for sample recovery based on drilling plods however considers sample recovery suitable and notes that the majority of the Mineral Resources reported are underpinned by diamond holes.</li> <li>No relationship exists between sample recovery and grade.</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>All holes were field logged by company geologists. Lithological, alteration and mineralogical nomenclature of the deposit as well as sulphide content were recorded. No geotechnical and structural data measured has been recorded until the last 10 holes of the 2019 program and the 2020 holes.</li> <li>Photography and recovery measurements were carried out by assistants under a geologist's supervision. The logging for all RC holes is also recorded on a logging "chip-board", where the chips for each metre are glued to a board to form a visual log of the entire hole</li> <li>All drill holes were logged in full.</li> <li>Logging was qualitative and quantitative in nature.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> </ul>	<ul style="list-style-type: none"> <li>HQ and NTW core was cut in half using a core saw. Typically the core was sampled to major geological intervals as defined by the geologist within the even two metre sample intervals utilised. All samples were collected</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p>from the same side of the core.</p> <ul style="list-style-type: none"> <li>AC, RC samples were collected as 1m samples from the cyclone, which were subsequently composited using as spear samples to form 2 m samples.</li> <li>Sampling of diamond core and AC, RC chips used industry standard techniques. Sample preparation for the 2020 drilling is detailed below; previous releases detail the 2016 and 2018 drilling results. After drying the sample is subject to a primary crush to 2mm. Sample is split through a riffle splitter until 250gm is left (this involves 4-5 splits through the riffle splitter).</li> <li>The 250gm sample is milled through an LM5 using a single puck to 90% &lt;75 micron</li> <li>Milled sample is homogenised through a matt roll with a 150gm routine sample collected using a spoon around the quadrants and sent to Ghana for analysis and the remaining 100gm kept at Intertek for checks.</li> <li>Field QC procedures involved the use of 2 types certified reference materials (1 in 20) which is certified by Geostats Ltd,</li> <li>Primary RC duplicates: Generated from the first splitter off the rig and inserted 5% (1 in 20 samples). This sample is collected from a spear sample from the reject material of the primary split.</li> <li>Primary DD duplicate: Generated by cutting the remaining half core into a ¼ and sampled.</li> <li>Coarse blank samples: Inserted 1 in every 20 samples</li> <li>Laboratory Internal Duplicates and Standards</li> <li>Sample sizes are considered appropriate to correctly represent the moderately nuggetty gold mineralisation based on: the style of mineralisation, the thickness and consistency of the intersections, the sampling methodology and assay value ranges for Au.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>The analytical techniques used Fire Assay on 150g pulp samples.</li> <li>No geophysical tools were used to determine any element concentrations used in this Mineral Resource estimate.</li> <li>Sample preparation checks for fineness were carried out by the laboratory as part of internal procedures to ensure the grind size of 2mm was being attained. Laboratory QAQC includes the use of internal standards using certified reference material, and pulp replicates. No anomalous assays were noted in information provided to RPM or from discussions with the</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<p>Client.</p> <ul style="list-style-type: none"> <li>The QAQC results confirm that acceptable levels of accuracy and precision have been established for the Classifications applied.</li> <li>The Company has developed logging and sampling procedures that is based on the African experience of the local teams and subsequently reviewed by RPM during the site visits that confirmed the processes and protocols implemented giving the results a high level of confidence. The Company geologists log the core and RC samples according to the existing lithological, alteration and mineralogical nomenclature of the deposit as well as sulphide content. Photography and recovery measurements were carried out by assistants under a geologist's supervision. The logging for all RC holes is also recorded on a logging "chip-board", where the chips for each metre are glued to a board to form a visual log of the entire hole.</li> <li>Twinned holes have not been drilled as not considered appropriate as the Company has been responsible for all holes.</li> <li>Logging records were mostly registered in physical format and were input into a digital format. The core photographs, collar coordinates and down the hole surveys were received in digital format.</li> <li>Assay values that were below detection limit were adjusted to equal half of the detection limit value. Un-sampled intervals were assumed to have no mineralisation and they were therefore set to blank in the database, however these are minimal.</li> <li>The selective original data review and site visit observations carried out by RPM did not identify any material issues with the data entry or digital data. In addition RPM considers that the onsite data management system meets industry standard which minimizes potential 'human' data-entry errors and no systematic fundamental data entry errors or data transfer errors.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li><i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> </ul>	<ul style="list-style-type: none"> <li>All drill hole and trench collar locations were surveyed utilising the differential GPS methods by third party surveyors.</li> <li>RPM notes that the DGPS system utilised is typically within a 10 cm accuracy range which is suitable for the classification applied.</li> <li>The Client's drilling teams utilised the Reflex EZ-shot instrument to measure deviations in azimuth and inclination angles for all holes; however, vertical holes were not surveyed. The first measurement is taken at 5 m depth, and then at approximately every 30 to 50m depth interval and at the end of the hole.</li> <li>Small scale artisanal mining has been undertaken on several areas within</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<p>the project. This mining is restricted typically to the upper 10m of the oxide material however is variable in depth and extent with recent underground mining occurring in the fresh rock. For AG area, the latest provided topographic survey models based on satellite imagery. In addition two key areas with known underground mining were depleted a further 20m. For AGP area, no significant UG mining has been undertaken as such the latest topography was utilised as the depletion.</p>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>Drill hole collars were generally spaced on an approximate 100 m by 50 m grid in both deposits with recent drilling including infill drilling on 50m by 50m spacing within AG with some closer spacing in the central core of AG.</li> <li>The drill hole spacing and distribution is considered sufficient to establish the degree of continuity appropriate for the Inferred and Indicated Mineral Resource estimation procedures. A combined composited file of the 5 largest lodes with the AG area was created for constructing variogram. Object 40 was also investigated which returned very similar variograms.</li> <li>The most prevalent sample lengths inside the mineralised wireframes were 1m and 2 m, and as a result, 2m was chosen as the composite length. The samples inside the mineralised wireframes were then composited to 2 m lengths</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<ul style="list-style-type: none"> <li>No bias was interpreted to be introduced as most drill holes are angled to northwest in AG, which is approximately perpendicular to the orientation of the mineralised trends are interpreted being comprised of southeast-dipping lodes striking 30° dipping at varying angles of inclination typically between 60° and 80°.</li> <li>APG has recently been reinterpreted to have a westerly dipping orientation, as such recent holes have been drilled to the southeast. All previous holes were drilled to the northwest, however given the large drill spacing this is not consider to be a bias in the sampling and was considered during interpretation.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>Chain of custody is managed by the Client's senior site geologists and geotechnicians. Samples are stored in a core shed at site and samples were delivered to the laboratory by client geologists. Client employees</li> </ul>



Criteria	JORC Code explanation	Commentary
		have no further involvement in the preparation or analysis of the samples.
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>A review of sampling techniques was carried out on each site visit by RPM in July 2016 and July 2018 and again in October 2019.</li> </ul>

## Section 2 of the JORC Code, 2012 Edition – Table 1

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The Project is contained within three adjacent exploration licenses (Zoukougbeu, Zahibo and Issia licenses) which are currently held by third party companies, of which Tietto or its wholly owned subsidiaries are part owners. All resources are contained within the Zahibo tenement.</li> <li>The tenements are in good standing.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>No exploration programs have been conducted by other parties on the Project.</li> <li>The license area was not historically known as a prospective region for gold, but recent artisanal workings revealed the presence of primary gold mineralisation in artisanal pits and small scale underground mining.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The AG-APG Deposits are located within the Proterozoic Birimian rocks of the Man shield. It is situated on the Daloa 1:200,000 geologic sheet, 30km west of Daloa. It is located in the Hana-Lobo belt, east of the Sassandra fault that marks the boundary between the Man shield (Archean) and Eburnean domain. The regional trend is NNE to NE.</li> <li>The AG-APG deposits resemble typical shear zone deposits of the West African granite-greenstone terrane. The deposits themselves are associated with a major regional shear zone and are developed in a granodiorite host. Mineralisation may be spatially related to the emplacement of intrusives. The gold mineralisation is mesothermal in origin and occurs as free gold in quartz vein stockworks and zones of silicification, associated with pyrite and chalcopyrite. The gold mineralisation is found in linear zones with the contacts showing evidence of shearing. Free gold is frequently observed. Alteration is weak to strong depending on the development of the system.</li> <li>Two types of deformation are present in the drill cores: ductile deformation and brittle deformation. The gold mineralisation is related to deformed granodiorite, in shear zones, with sulphides (mainly pyrite and minor chalcopyrite) associated with visible gold. Alteration is characterized by chlorite, sericite, calcite, secondary quartz and disseminated pyrite. This assemblage is well developed in schistose, foliated rocks with presence of quartz veins or veinlets.</li> </ul>
<b>Drill hole information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the</li> </ul>	<ul style="list-style-type: none"> <li>Drill hole locations are shown on the map within the body of this Mineral</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>exploration results including a tabulation of the following information for all Material drill holes:</i></p> <ul style="list-style-type: none"> <li><i>easting and northing of the drill hole collar</i></li> <li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li><i>dip and azimuth of the hole</i></li> <li><i>down hole length and interception depth</i></li> <li><i>hole length</i></li> </ul> <p><i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></p>	<p>Resource report and the ASX release.</p> <ul style="list-style-type: none"> <li>All information has been included in the appendices. No RC or DD drill hole information has been excluded however no AC drilling is utilised.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>Intervals are shown in detail. Drilling intervals are predominantly 1m and 2m.</li> <li>AC, RC samples were collected as 1m samples from the cyclone, which were subsequently spear samples to form 2 m samples which were subsequently sent to the laboratory</li> <li>Metal equivalent values are not being reported.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>Most drill holes are angled to northwest at AG, which is approximately perpendicular to the orientation of the mineralised trends as all deposits have similar styles of mineralisation which was interpreted as being comprised of southeast-dipping lodes striking 30° dipping at varying angles of inclination typically between 60° and 80°.</li> <li>APG has recently been reinterpreted to the westerly dip with changes to drilling orientation completed at such.</li> <li>Sections are provided in the main body of the report and the press release however exploration results are not being reported</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>Relevant diagrams have been included within the Mineral Resource report main body of report and ASX release However exploration results are not being reported</li> </ul>
<b>Balanced Reporting</b>	<ul style="list-style-type: none"> <li><i>Accuracy and quality of surveys used to locate drill holes (collar and down-</i></li> </ul>	<ul style="list-style-type: none"> <li>All drill hole and trench collar locations were surveyed utilising the</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</p> <ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<p>differential GPS methods by third party surveyors. DGPS system utilised it typically within 10 cm accuracy range.</p> <ul style="list-style-type: none"> <li>Drilling teams utilised the Reflex EZ-shot instrument to measure deviations in azimuth and inclination angles for all holes; however, vertical holes were not surveyed. The first measurement is taken at 6 m depth, and then at approximately every 30m depth interval and at the end of the hole.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples - size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>All interpretations for each deposit are consistent with observations made and information gained during drilling at the project.</li> <li>Feasibility studies are underway with a PFS due in Q1 2021</li> <li>Work completed to date <u>has not identified</u> any potential deleterious or contaminating substances.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Further infill and extensional drilling is planned and is in the process of being executed</li> <li>Diagrams accompany this release</li> </ul>

## Section 3 of the JORC Code, 2012 Edition – Table 1

### Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>The data base is systematically audited by Client's senior geologists. All drill logs are validated digitally by the database geologist once assay results are returned from the laboratory.</li> <li>The selective original data review and site visit observations carried out by RPM did not identify any material issues with the data entry or digital data. In addition RPM considers that the onsite data management system meets industry standard which minimizes potential 'human' data-entry errors and no systematic fundamental data entry errors or data transfer errors; accordingly, RPM considers the integrity of the digital database to be sound.</li> <li>RPM performed data audits in Surpac and in excel.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Site visits have been conducted by Jeremy Clark (RPM) in July 2016 and subsequently by Philippe Baudry in July, 2018 and in October 2019 by Jeremy Clark. During the visits the visitors reviewed the outcrops, drill-hole location and core sheds as well as held various discussions with site personnel. RPM sighted mineralised drill-hole intersections of all the deposits, down hole surveys and assay data, laboratory facilities, sampling and reviewed survey data acquisition protocols, assay procedures, bulk density determination, logging and sample preparation procedures and quality control (QC) results.</li> <li>RPM concluded that the data was adequately acquired and validated following industry best practices.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>The confidence in the geological interpretation is considered to be assumed and is based on good quality drilling.</li> <li>All deposits have similar styles of mineralisation which was interpreted as being comprised of southeast-dipping lodes striking 30° dipping at varying angles of inclination, typically between 60° and 80° and westerly dip at APG. These lodes appear to coincide with strong linear geological structures which are offset by several faults which have been interpreted based on logging of samples taken at regular intervals from angled drill holes.</li> <li>RPM defined 43 discrete bodies for the AG area, and 38 discrete bodies for</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>the APG area and 9 in South Gamina based on the orientation and shape of the mineralisation. These are still some sub domains that are likely separated by interpreted fault zones identified from geophysical surveys; however the style of mineralisation appears the same between domains although grade ranges vary.</p> <ul style="list-style-type: none"> <li>No additional high grade domaining was undertaken within the deposit based on statistic reviews however further infill drilling may confirm the presence.</li> <li>Current interpretation is considered suitable for the classification.</li> <li>Outcrops of mineralisation and host rocks within the Project support the geometry of the mineralisation.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>Mineral Resource Estimate is comprised of 3 areas.</li> <li>The AG Mineral Resource area extends over a strike length of 5,400m (from 763,500mN – 768,600mN), has a typical width of 90m (from 751,300mE – 752050mE). It includes the 590m vertical interval from -354mRL to 235mRL.</li> <li>The APG Mineral Resource area extends over a strike length of 5,175m (from 756,675mN – 761,850mN), has a typical width of 650m (from 747,500mE – 748,150mE). It includes the 400m vertical interval from -108mRL to 254mRL.</li> <li>The South Gamina Area is located to the north of AG for a further 1.5km.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> </ul>	<ul style="list-style-type: none"> <li>The Ordinary Kriging (“OK”) algorithm was selected for grade interpolation of Au for Ag and APG while ID3 was used for South Gamina due to the initial resource. The Inverse Distance (“ID”) and Nearest Neighbour (“NN”) algorithms were also assessed as a way of validating the OK estimation results.</li> <li>A maximum distance of 30m was generally applied; however in areas of 100m at depth with no infill drilling the distance was increased if depth consistency was observed between the section and the main lodes which were extrapolated to 50m, both areas are classified as inferred. Additionally, due to the limited drilling near surface if mineralisation was observed in the alluvial pits, the lodes were extrapolated to surface.</li> <li>Due to the limited number of samples within the individual lodes, no robust variograms could be interpreted within any single lode; as a result RPM combined the composited files of the three main mineralised lodes (32, 40, 43, 47, and 51) and completed relative variogram analysis for the AG area. Reasonable variograms were</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> <li><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> </ul> <ul style="list-style-type: none"> <li><i>Any assumptions behind modelling of selective mining units.</i></li> <li><i>Any assumptions about correlation between variables.</i></li> <li><i>Description of how the geological interpretation was used to control the resource estimates.</i></li> </ul> <ul style="list-style-type: none"> <li><i>Discussion of basis for using or not using grade cutting or capping.</i></li> </ul> <ul style="list-style-type: none"> <li><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<p>obtained for lode 13 and for separate zones for the APG area. These analyses indicated that within the highly continuous along strike sheets (30° which dip consistently at 60° - 80° to the south east, a southerly plunging shoots can be interpreted. This orientation is consistent with the high grade plunges which can be interpreted within the drill holes</p> <ul style="list-style-type: none"> <li>Surpac software was used for the estimations.</li> <li>Top-cuts of 60g/t, 50g/t and 20g/t were appropriate for different lodes in the AG area respectively and a top-cut of 20g/t was appropriate for all lodes in the APG area. These high grade cuts were applied to the composites and were determined from the log histograms and log probability plots. RPM notes there were some extreme high grade samples identified during the latest exploration stage however the high grade domains were not extended.</li> <li>No Top cuts were applied to the South Gamina composites.</li> <li>A grade dependent search was applied to all samples above 40 g/t. This was limited to a 45m radius influence of 8 samples due to the extreme grades of these holes.</li> <li>The parent block dimensions used were 25m NS by 10m EW by 5m vertical with sub-cells of 3.125m by 1.125m by 0.625m for all three areas based on QKNA analysis on both AG and APG. No QKNA was undertaken on South Gamina due to the limited composites and assumed the AG results. The parent block size was selected on the basis of average drill hole spacing in the deposit. Each block model was rotated to a bearing of 035 degrees to align with the general strike of the majority of the mineralised lenses, to improve the fit of the blocks to the wireframe and to reduce the size of the block model.</li> <li>Historical production records were not available for small scale artisanal mining operations.</li> <li>No assumptions have been made regarding recovery of by-products.</li> <li>No estimation of deleterious elements was carried out. Only gold (Au) was interpolated into the block model.</li> <li>An orientated 'ellipsoid' search was used to select data and was based on parameters taken from the variography or the observed lode geometry. Three passes were used for each domain. The first pass used a range of 60m, with a minimum of 8 samples. For the second pass, the range was extended to 100m, with a minimum of 4 samples. For the final pass, the range was extended to 200m, with a minimum</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>of 1 sample. A maximum of 8 samples was used for all 3 passes.</p> <ul style="list-style-type: none"> <li>• Selective mining units were not modelled in the Mineral Resource model. The block size used in the model was based on drill sample spacing and lode orientation.</li> <li>• Only Au assay data was available, therefore correlation analysis was not possible.</li> <li>• The deposit mineralisation was constrained by wireframes constructed using a 0.3g/t Au cut-off grade in association with logged lithology codes. The wireframes were applied as hard boundaries in the estimate.</li> <li>• Statistical analysis was carried out on data from 81 lodes based on the orientation and shape of the mineralisation, which were further domained in the northern AG area and southern APG area. These 2 domains are likely separated by interpreted fault zones identified from geophysical surveys; however the style of mineralisation appears the same between domains although grade ranges vary. Similarly, South Gamina is a continuation of the shear from Ag to the north with likely faulting offsetting this shear.</li> <li>• A four step process was used to validate the model. A qualitative assessment was completed by slicing sections through the block model in positions coincident with drilling. A quantitative assessment of the estimate was completed by comparing the average Au grades of the composite file input against the Au block model output for all the resource objects. Validation of the model included detailed comparison of composite grades and block grades by northing and elevation. Validation plots showed good correlation between the composite grades and the block model grades.</li> <li>• While some smoothing is noted within the grade estimates, RPM considers this appropriate for the style of mineralisation which displays a relatively high nugget, with good geology continuity displayed. The validation indicated that the NN estimate showed reasonable variation on a global scale however this is considered to be not representative of the local variability with both the ID3 and OK displaying smoothing which is considered appropriate and suitable.</li> <li>• With additional infill drilling, RPM recommends that further high grade domains be investigated along with the use of MIK or conditional</li> </ul>

Criteria	JORC Code explanation	Commentary
		simulation, which given the current drill spacing is not considered a suitable estimation methodology.
<b>Moisture</b>	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>Tonnages and grades were estimated on a dry in situ basis. No moisture values were reviewed.</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>Within AG Mineral Resource is reported at a cut of grade of 0.3 Au g/t within a pit shell within a gold price of 2,000 USD per troy ounce, and 0.8 Au g/t below. The cut off grades were based on estimated mining and processing costs and recoveries factors of similar projects in the Ivory Coast. The pit shell was generated with resources using the following parameters are:</li> <li>Gold Price of USD 2,000 per ounce, RPM notes this is based on the eventual extraction sometime in the future and not the long term consensus forecast.</li> <li>The cut off grades were estimated based on the gold price of 1,881 USD per troy ounce which is 1.25 times the consensus forecast as of September, 2020.</li> <li>Mining Cost of USD 2.4 /tonnes rock</li> <li>A re-blocked model to 5m N, 6.25m E and 5 m east, which is considered the SMU, as such no dilution was included, however 5% ore loss was applied.</li> <li>Processing costs of USD 16.38 per tonne milled (including G &amp; A), and;</li> <li>Processing recovery of 96%.</li> <li>RPM has utilised the operating costs and recoveries along with the price noted above in determining the appropriate cut-off grade. Given the above analysis RPM considers both the open pit and material below the pit demonstrates reasonable prospects for eventual economic extraction, however highlights that additional studies and drilling is required to confirm economic viability.</li> <li>Within APG due to the shallow nature of mineralisation (maximum depth 250m) and inferred classification the resource was reported with a changing cut-off grade at depth. This was due to the increased costs of potential mining and likely requirement to haul material to the plant at AG. The resource is reported using a 0.3g/t cut off to a depth of 120m and a 0.8 g/t cut off below 120m at APG. Similarly, the South Gamina Resource was reported to a depth of 120m and not reported below.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>RPM has assumed that the deposit could be mined using mostly open cut techniques with some possibility of underground mining.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Bulk metallurgical testing has been conducted on the AG Project. It is likely that processing would entail gravity separation of Au followed by leaching to produce a concentrate with expected recoveries greater than 98% for Au based on these results.</li> <li>Further metallurgical studies are planned as part of the feasibility study work.</li> </ul>
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>No assumptions have been made regarding environmental factors. Tietto Minerals Pty Ltd will work to mitigate environmental impacts as a result of any future mining or mineral processing.</li> <li>While RPM has not completed a detailed environmental review RPM has not been informed nor is aware of any issues with the licence and understands that the licence in which Exploration results and Mineral Resources are reported are in good standing.</li> </ul>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>RPM is aware a total of 954 bulk density determinations were carried out on the diamond core from numerous holes within the AG Project and 317 from within APG (no samples were undertaken on South Gamina and AG densities were assumed. While it is considered that there is limited determinations for the volume of the Project, the values do show consistent trends which include the following:</li> <li>No relation can be interpreted between grade and density, this is as expected for the style of mineralisation;</li> <li>Rock types of granodiorite (Fgd) and Mafics (Msc) appear to have a relationship with density, as would be expected,</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>There appears to be consistent variations in around the 2.8 g/cu.m with a long tail within the fresh and high variability in the transition.</li> <li>Measurements were determined by wax coating samples and immersing in water.</li> <li>While there is limited data from oxidised, transition, experimental density values were assigned for oxidised and transition areas with 2.0 g/cu.cm and 2.4 g/cu.cm respectively applied, and an average density value 2.82 g/cu.cm from provided density data used for fresh rock. The transition density was selected based on the assumption that the higher values were incorrectly logged and are fresh, which friable material will be found within the profile which has not been sampled for determinations.</li> <li>RPM recommends an ongoing program of submitting suitable core samples for density analysis from diamond drilling programs.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li><i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> </ul>	<ul style="list-style-type: none"> <li>Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified as Indicated and Inferred Mineral Resource on the basis of data quality, sample spacing, and lode continuity.</li> <li>The AG and APG deposits both show good continuity of the main mineralised lodes along strike and down dip which allowed the drill hole intersections to be modelled into coherent, geologically robust wireframes within the drill spacing of 50m-100m by 50m with some closer spacing within the core of the AG deposit. Relative consistency is evident in the thickness of the structures, along with the continuity of structure between sections. While there is good geological continuity along strike and down dip, there is evidence, and it is interpreted, that local variation of grade and thickness will occur between the current drill spacing arising from the boudin type structures resulting in discontinuous pods of mineralisation.</li> <li>Given the interpretation of further local grade variation with further drilling, within the good geological continuity, RPM considers the current data suitable to provide a good estimate of tonnage and metal content within the current drilling spacing on a global scale. For AG area, RPM considers the 2020 infill and extension drilling undertaken allows good confidence in the grade and geological continuity with both the 50m and closer spacing allowing interpretation between section and down dip. As such RPM considers 50m by 50m spacing suitable for the indicated</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<p>classification in central and north area of AG which was selected based on variogram ranges (60% of the sill range) and visual confirmation of structure and grade continuity. RPM however considers that further drilling is required to allow a confirmed estimate of local grade and metal distribution; as such no measured resource is report. All other areas are reported the Mineral Resource as Inferred within the 100m by 50m drilling spacing areas and extrapolated to 30 – 50 m from the nearest drill hole.</p> <ul style="list-style-type: none"> <li>Limited bulk density samples have been determined for the transition and no samples for oxide. While RPM considers the applied densities suitable for the style of mineralisation and rock types, further determinations are recommended to enable measured resources to be estimates. RPM highlights that the oxide and transition material constitute a very minimal portion of the indicated estimate (4% of tonnes and 3% of metal content) as such does not have a material impact on either the local or global estimates.</li> <li>All APG and South Gamina were classified as inferred due to the larger drill spacing and contain the bulk of the oxide and transition material.</li> <li>The Mineral Resource estimate appropriately reflects the view of the Competent Person.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>Internal audits have been completed by RPM which verified the technical inputs, methodology, parameters and results of the estimate.</li> </ul>
<b>Discussion of relative accuracy/ confidence</b>	<ul style="list-style-type: none"> <li><i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource estimate has been reported with a high degree of confidence. The lode geometry and continuity has been interpreted to reflect the Mineral Resource classification. The data quality is good and the drill holes have detailed logs produced by qualified geologists. Recognised laboratories have been used for all analyses.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> <li>This is an update to the existing Mineral Resource and no recorded mining activities have been undertaken therefore reconciliation could not be conducted.</li> </ul>

## Section 4 of the JORC Code, 2012 Edition – Table 1

### Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary
<ul style="list-style-type: none"> <li>Mineral Resource estimate for conversion to Ore Reserves</li> </ul>	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resources has been compiled under the supervision of Mr. Jeremy Clark who is a consultant to RPM and a Member of the Australasian Institute of Mining and Metallurgy. Mr. Clark has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he has undertaken to qualify as a Competent Person as defined in the JORC Code.</li> <li>The Mineral Resources are inclusive of these Ore Reserves.</li> </ul>
<ul style="list-style-type: none"> <li>Site visits</li> </ul>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Mr Igor Bojanic, is the nominated Competent Person. He is a Fellow of the Australasian Institute of Mining and Metallurgy, and is an employee of RPM. Mr Igor Bojanic has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity, which he has undertaken to qualify as a Competent Person, as defined in the 2012 Edition of the Australasian Code for the Reporting of Mineral Resources and Ore Reserves.</li> <li>A site visit has not been undertaken to the Project area by Mr. Igor Bojanic due to COVID-19 international travel restrictions. This is not considered to be a study risk as site information has been provided to Mr Bojanic by Tietto, and Mr Jeremy Clark, RPM's competent person for Resource estimation, who has completed a site visit.</li> </ul>
<ul style="list-style-type: none"> <li>Study status</li> </ul>	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resources have been converted to Ore Reserves by means of a Pre-Feasibility Study (PFS) including economic assessment.</li> <li>The PFS mine plan demonstrates that the Project outcomes are technically achievable and the Project is economically viable.</li> </ul>

Criteria	JORC Code explanation	Commentary
<ul style="list-style-type: none"> <li>• <i>Cut-off parameters</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>The basis of the cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>The cut-off grade estimates are an outcome of the final detailed engineering and cost modelling from the PFS.</i></li> <li>• <i>The marginal cut-off grades for the estimate of Ore Reserves were estimated to be:</i> <ul style="list-style-type: none"> <li>• <i>Oxide: 0.35 g/t Au.</i></li> <li>• <i>Transition: 0.35 g/t Au.</i></li> <li>• <i>Fresh: 0.35 g/t Au.</i></li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <i>Mining factors or assumptions</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i></li> <li>• <i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i></li> <li>• <i>The assumptions made regarding geotechnical parameters (egg pit slopes, stope sizes, etc.), grade control and pre-production drilling.</i></li> <li>• <i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i></li> <li>• <i>The mining dilution factors used.</i></li> <li>• <i>The mining recovery factors used.</i></li> <li>• <i>Any minimum mining widths used.</i></li> <li>• <i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i></li> <li>• <i>The infrastructure requirements of the selected mining methods.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>The PFS included technical analyses to determine the most appropriate mining method and estimate ore loss and dilution</i></li> <li>• <i>The mining method for the extraction of ore is to be selective open cut mining</i></li> <li>• <i>The in situ Resource model was converted to a run-of-mine mining model by regularisation of the sub-blocks to a size of 2.5 m east-west, 6.25 m north-south and 2.5 m vertical.</i></li> <li>• <i>The geotechnical criteria for the design of the open cut were developed by Dempers &amp; Seymour Pty Ltd for the purposes of the DFS. The mining region was sub-divided into a north, central and south area and parameters assigned based on rock characteristics. In general, oxide rock had an overall slope of ~37 degrees, transition ~45 degrees and fresh rock ~50 degrees.</i></li> <li>• <i>The ROM model was calculated to have a global ore tonnage loss of 20% and dilution of 9%.</i></li> <li>• <i>Minimum mining width for “good-bye” cut is 25 m</i></li> <li>• <i>The economic mining limit was defined using Whittle 4X pit optimisation software (“Whittle 4X”) with inputs such as geotechnical parameters, ore loss and dilution, metallurgical recovery and mining costs. Only Measured and Indicated Resources were used to identify the economic mining limit.</i></li> <li>• <i>Economic mining limits were tested inclusive and exclusive of Inferred Mineral Resources. That is, the exclusive scenario assumed Inferred material to have zero grade. The results indicated that Inferred Resources did not materially impact the potential pit viability and hence as a PFS has a strategic element, were included to estimate mineable quantities. Inferred Resources were not converted to Ore Reserves.</i></li> <li>• <i>Conventional open cut mining is a very common mining method used through the mining industry and requires no specialist infrastructure.</i></li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>The required supporting infrastructure like equipment workshops has been included in the PFS</li> </ul>
<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate metallurgical testwork has been undertaken to support the PFS.</li> <li>The samples tested are considered representative of the different material types throughout the mining area.</li> <li>A pilot plant was not considered necessary as the preferred processing approach of leaching gold using cyanide is used throughout the industry and a proven technology.</li> <li>The processing plant will be a carbon-in-leach plant designed to process 3.5 Mt/a of ore.</li> <li>No major presence of deleterious material has been identified.</li> <li>Metal recoveries are estimated to be 96%.</li> </ul>
<ul style="list-style-type: none"> <li>Environmental</li> </ul>	<ul style="list-style-type: none"> <li>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</li> </ul>	<ul style="list-style-type: none"> <li>In October 2020 the Côte d'Ivoire Ministry of Environment and Sustainable Development approved the Environmental and Social Impact Assessment ("ESIA") for the Abujar Gold Project. The ESIA is associated with our Exploitation (Mining) Permit which covers an area of 120.36km<sup>2</sup>.</li> <li>The ESIA allows Tietto to operation the Abujar Gold Project in accordance with the conditions listed in the application file and subject to the Environmental and Social Management Plan ("PGES").</li> <li>The National Environment Agency ("ANDE") has responsible for ensuring the project operations in compliance with environmental regulations.</li> <li>Tietto is negotiating the Mining Convention with the Ivoirian Government and expects to reach agreement in Q2 2021. This is the final statutory approval required for operations to start.</li> </ul>
<ul style="list-style-type: none"> <li>Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</li> </ul>	<ul style="list-style-type: none"> <li>No site infrastructure is currently in place.</li> <li>Site infrastructure requirements have been defined as part of the PFS.</li> <li>Sufficient land is available for the placement of all required infrastructure, including ore processing plant, tailings management facility, waste rock storage, Explosives Magazine and accommodation village.</li> <li>Water will be provided by constructing a site dam.</li> <li>Power for the mine will be supplied from the 90kV Daloa substation located</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p><i>approximately 30km away from the site.</i></p> <ul style="list-style-type: none"> <li>Professional staff will be sourced nationally and accommodated in the accommodation village. Some specialist roles will need to be sourced internationally. Where feasible, employment will focus on local communities.</li> </ul>
<ul style="list-style-type: none"> <li>Costs</li> </ul>	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul style="list-style-type: none"> <li>The estimating of capital and operating costs was supported by detailed engineering commensurate with a pre-feasibility study.</li> <li>Cost modelling was undertaken in United States Dollars.</li> <li>A large proportion of the costing was supported by direct quotes from manufacturers and suppliers.</li> <li>Mine costs were largely then derived from first-principle engineering.</li> <li>Where reasonable, some costs were benchmarked against existing operating gold mines in the region.</li> <li>Government royalty at 4.5% of revenue on average.</li> <li>Allowances for deleterious materials is made through the estimation of gold metal recovery.</li> </ul>
<ul style="list-style-type: none"> <li>Revenue factors</li> </ul>	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul style="list-style-type: none"> <li>Gold is the only metal considered in the Ore Reserves to generate a revenue.</li> <li>A gold price of USD1,459/oz was estimated from a long-term forecast using published metal price forecasts.</li> </ul>
<ul style="list-style-type: none"> <li>Market assessment</li> </ul>	<ul style="list-style-type: none"> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul style="list-style-type: none"> <li>The demand for gold is considered in the gold price used.</li> <li>It was considered that gold will be marketable for beyond the processing life of these Reserves.</li> <li>The commodity is not an industrial metal.</li> </ul>
<ul style="list-style-type: none"> <li>Economic</li> </ul>	<ul style="list-style-type: none"> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul style="list-style-type: none"> <li>An economic model has been prepared from the outcomes of the detailed engineering and costing associated with the PFS. The economic modelling demonstrates that the Project is cash flow positive.</li> <li>The base case results in a positive economic outcome as assessed by an NPV calculation (@8% DCF). The NPV is most sensitive to the gold price. The</li> </ul>

Criteria	JORC Code explanation	Commentary
		<i>project break-even gold price is approximately USD1,097/oz..</i>
<ul style="list-style-type: none"> <li><i>Social</i></li> </ul>	<ul style="list-style-type: none"> <li><i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Tietto advises that it enjoys a good relationship with the local community.</i></li> </ul>
<ul style="list-style-type: none"> <li><i>Other</i></li> </ul>	<ul style="list-style-type: none"> <li><i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i></li> <li><i>Any identified material naturally occurring risks.</i></li> <li><i>The status of material legal agreements and marketing arrangements.</i></li> <li><i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>All property permissions, permitting, legal and marketing arrangements are understood to be in good standing.</i></li> <li><i>All Government agreements and approvals are understood to be in good standing or nearing approval.</i></li> <li><i>The current overall Project has the potential for improved economic viability. A scoping study has been completed on the APG deposit, 8 km to the south and likely to share some infrastructure. The scoping study confirmed economic potential and further exploration is currently underway to continue the technical assessment.</i></li> <li><i>A scoping study has also confirmed the economic potential of an AG underground operation. The underground proposes to extract material below the proposed open cut.</i></li> </ul>
<ul style="list-style-type: none"> <li><i>Classification</i></li> </ul>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> <li><i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></li> </ul>	<ul style="list-style-type: none"> <li><i>The Ore Reserve is classified as Probable in accordance with the JORC Code, corresponding to the resource classifications of Measured and Indicated Resources.</i></li> <li><i>No Measured Resources are currently estimated.</i></li> <li><i>Indicated Resources have been converted to Probable Reserves.</i></li> <li><i>No Inferred Mineral Resources were included in the Ore Reserve estimate.</i></li> </ul>
<ul style="list-style-type: none"> <li><i>Audits or reviews</i></li> </ul>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Ore Reserve estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>The JORC Code provides guidelines which set out minimum standards, recommendations and guidelines for the Public Reporting of exploration results, Mineral Resources and Ore Reserves. Within the JORC Code is a "Checklist of Assessment and Reporting Criteria" (Table 1 – JORC Code). This checklist has been used as a systematic method to undertake a review of the underlying Study used to report in accordance with the JORC Code.</i></li> <li><i>RPM has completed an internal review of the Ore Reserve estimate, deriving results using separate methods, and believes the estimate accurate.</i></li> </ul>
<ul style="list-style-type: none"> <li><i>Discussion of relative accuracy/ confidence</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could</i></li> </ul>	<ul style="list-style-type: none"> <li><i>The proposed gold mine will be employing conventional mining and ore processing techniques delivering a high confidence that technical outcomes will be achieved.</i></li> <li><i>The PFS has been supported by engineering and costing to provide a level of service targeting +/-25% accuracy.</i></li> <li><i>Detailed pit design was undertaken based on the preferred pit shell.</i></li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>affect the relative accuracy and confidence of the estimate.</i></p> <ul style="list-style-type: none"> <li><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li><i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></li> <li><i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>Ore Reserve quantities and grades were derived based on the mining model, the cut-off grade and with the detailed ultimate pit shell.</i></li> <li><i>An internal audit checked the estimation of quantities.</i></li> <li><i>Sensitivity analyses were undertaken on the economic model to confirm robustness of the economic outcomes.</i></li> <li><i>The total Project breakeven cost is USD1,097/oz., is well below the current spot price.</i></li> <li><i>These outcomes demonstrate the economic robustness of the Project.</i></li> <li><i>The accuracy of the underlying Mineral Resources is defined by the Resource Category that the Mineral Resources are assigned to. Only Measured and Indicated Resources have been used for estimating Ore Reserves.</i></li> </ul>