Tel: +61 8 9331 6710 Fax: +61 8 6316 1428

Web: www.tietto.com



26 October 2020

# Tietto grows Abujar Gold Resources 40% to 3Moz

- Solid foundation to underpin Pre-Feasibility Study due in Q1 2021
- Exploration continues with 70,000m DD program underway next resource upgrade due in Q2 2021

# **Highlights:**

- AG Deposit gold resource grows by 490Koz from 1.81Moz to 2.30Moz @ 1.5g/t Au
- ➤ Overall JORC 2012 gold resource at the Abujar Gold Project increased by 870Koz from 2.15Moz to 3.02Moz (81.2Mt @ 1.2 g/t Au) at an all in exploration cost of US\$5.20 per additional ounce
- ➤ AG deposit's high-grade, near-surface core increased 16% to 22.8Mt @ 2.18 g/t Au for 1.60Moz of contained gold
- Indicated Resources within the AG Deposit increased by 44% to **24.1Mt @ 1.6 g/t Au for 1.24Moz** of contained gold, representing more than 41% of the Abujar project ounces
- Pre-Feasibility Study due in Q1 2021 examining the Company's aspiration for a large scale 3.5Mtpa open-pit mining operation built on a robust high-grade AG Resource and a large proportion of Indicated Resource ounces of gold
- ➤ The substantial uplift in the mineral resource estimate (MRE) resulted from focusing a major portion of the 61,000m of diamond drilling since November 2019 at Abujar into resource growth
- New SG Prospect (**South Gamina**) shows potential for new gold resource growth proximal to large scale untested artisanal pits
- New 70,000m diamond drilling program commenced targeting further resource growth:
  - Drill testing 8.5km of fertile Abujar main shear along strike from AG and APG
  - Drill testing high priority regional targets
- ➤ Next MRE update planned for **Q2 2021**
- Six Tietto-owned diamond rigs drilling at US\$35/m: sector-leading diamond drilling costs

Table 1: Updated Abujar Gold Project Mineral Resource

•	Class	Oxide				Transition			Fresh			Total		
Area		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)	
	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	
AG	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	
Gran	d 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	



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

As detailed in the Statement of Mineral Resources below, 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..

West African gold explorer Tietto Minerals Limited (ASX: TIE) (**Tietto** or the **Company**) is pleased to announce it has achieved further substantial Mineral Resource Estimate increases at its Abujar Gold Project in central west Côte D'Ivoire, West Africa.

Tietto's Managing Director, Dr. Caigen Wang, commented:

"We are very pleased to report significant growth in gold resources at our Abujar Gold Project which now stand at 3.02Moz Au with significant growth achieved at the AG Deposit which increased by 490Koz to 2.3Moz at 1.5 g/t Au. This latest resource snapshot provides us with a great foundation for our PFS on track to be delivered early in Q1 2021, as we begin to test the Company's aspiration for a large scale 3.5Mtpa open pit operation."

"AG's high-grade core has increased to <u>22.8Mt</u> @ <u>2.2 g/t Au for 1.60Moz</u> of contained gold. This is the centrepiece of the proposed mine development, delivering high-grade feedstock from surface. We also increased gold resources at APG which is shaping up as a large gold resource, and additionally delivered a maiden resource at South Gamina. Both APG and SG occur on the main Abujar Shear within 10km of our proposed mill adjacent to AG's high-grade core."

"We have grown the Abujar Gold Project to 3.02Moz Au by adding 870Koz Au to our previous November 2019 estimate of 2.15Moz Au. Such rapid growth is attributed to our geological and drilling teams' completing more than 61,000m of diamond drilling since November 2019 at arguably the lowest costs in the sector."

"Our exploration teams are planning to drill 70,000m of diamond drilling as we look to deliver the next round of resource growth in 2021. We have only scratched the surface with 11.5km of strike tested on the Abujar main shear delivering 3.02Moz Au. We expect this fertile structure to continue to underpin future resource growth as we drill test more than 8.5km of strike north and south of AG and APG in 2021."

"Exploration drilling is also planned for high-priority targets on parallel mineralised shears located to the west and east of the Abujar main shear. In addition, Tietto has a number of drill-ready targets on the adjacent northern and southern Abujar tenements which are expected to produce maiden gold resource estimates in 2021."



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

#### Abujar Project – Resource Snapshot

There has been significant growth in gold resources at our Abujar Gold Project which now stand at 81.2Mt at 1.2 g/t Au for 3.02Moz of contained gold. This latest resource snapshot shows that resources have grown across all deposits making up the Abujar Gold Project.

At the AG Deposit, we have added 490Koz to deliver 49.6Mt at 1.5 g/t Au for 2.3Moz of contained gold. AG now hosts more gold than our previous Mineral Resource Estimate which was delivered in November 2019.

AG's high-grade core has increased to 22.8Mt at 2.2 g/t Au for 1.60 Moz of contained gold (Figure 1). This is the centrepiece of the proposed mine development, delivering high-grade feedstock from surface. We also increased gold resources at APG and delivered a maiden resource estimate at South Gamina, both located on the main Abujar Shear and within 10km of our proposed mill next to AG's high-grade core.

#### Next steps

The Company is well positioned to advance its dual strategy in 2021:

# Aggressively exploring to drive rapid resource growth:

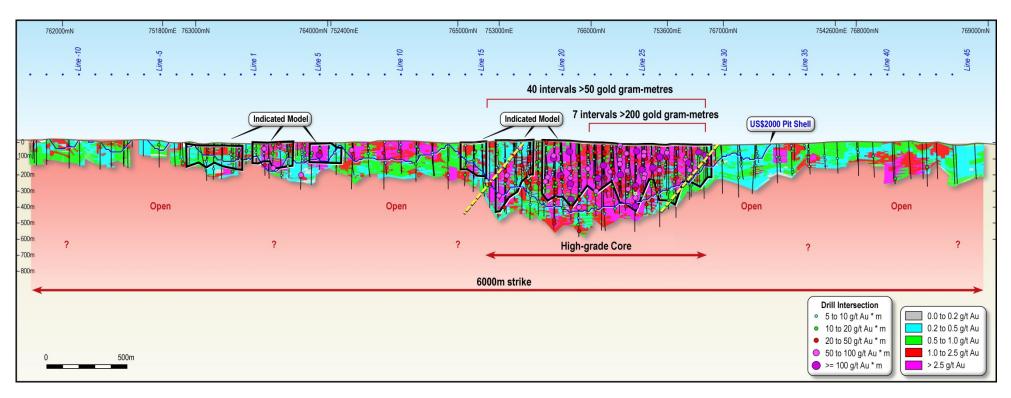
- New 70,000m diamond drilling program using our own DD rigs drilling at US\$35/m
- Drill testing 8.5km of fertile Abujar main shear along strike from AG and APG
- Drill testing high priority regional targets
- Artisanal workings dotted along 70km mineralised corridor

# > Fast tracking development of the Abujar Gold Project:

- Côte d'Ivoire premier mining investment destination
- Growing 3.02 million ounce gold open pit opportunity
- Feasibility study underway PFS in Q1 2021 and DFS expected Q3 2021
- Clear pathway to development permitting underway, near infrastructure
- Well funded over A\$60M in cash



Fax: +61 8 6316 1428 Web: www.tietto.com



TIETTO

**MINERALS** 

Figure 1: Oblique long section view of the AG deposit



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

### **Project Location and Access**

#### Côte d'Ivoire

The Abujar Project in Côte d'Ivoire can be accessed by typical regional dirt/gravel roads which vary in quality from tarred and regional gravel good quality 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**

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 resources, nor are they restricted to the reported resource areas which highlights the untested mineralisation potential within the region.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

### **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, followed by one exceptional renewal of two years.

#### Mining licence application

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>. Tietto expects that grant of the mining licence will be achieved in H1 2021.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

# Geological Setting and Mineralisation<sup>1</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.

#### **Archean Domain**

-

<sup>&</sup>lt;sup>1</sup> Independent Geologist's Reports, Coffey Mining September 2012 and RPMGlobal December 2016



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

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 tholeiltic 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.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

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 synkinematic 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 (lamgold).



Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com



- 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 volcanoclastic 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 occurs 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:



Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com



- 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.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

### 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.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

### **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 four rigs working 24/7 with one rig kept as back-up.

Drilling to date has targeted seven areas within the Project, these include: Abujar-Gludehi (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 550m within AG and 200m at APG and SG.

Drill hole collars were generally spaced on an approximate 100 m by 50 m 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.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

#### **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 have 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, 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.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

#### **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 is 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 same 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.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

### 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 send 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 2 mm 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 200 g retained for the client and 300 g retained for laboratory analysis.
- Gold by fire assay with atomic adsorption finish 30 g.

### **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.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

### 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.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

#### **Mineral Resource Estimate**

### **Abujar**

Mineral Resources have been independently reported by RPM in compliance with the recommended guidelines of the JORC Code (2012).

### 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.

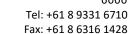
Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results.

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



Web: www.tietto.com



Venture agreements or partial owners through subsidiaries. RPM notes that the reported Mineral Resources include the following areas (Figure 2):

- AG Deposit Located within the northern portion of the Zoukougbeu licence this deposit consists of multiple vein structures defined up to 550m 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 Zoukougheu 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.

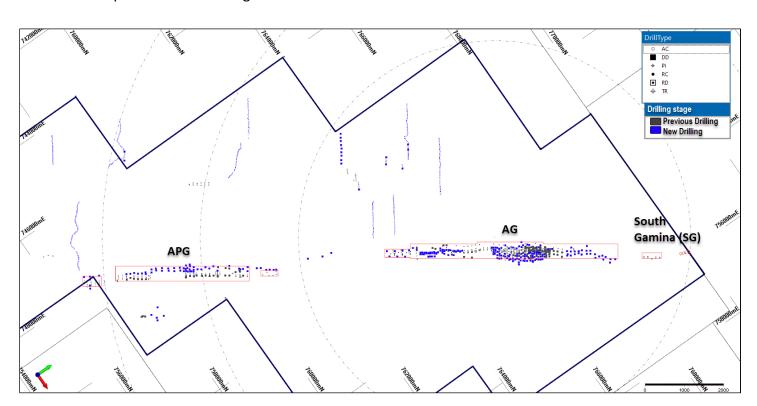
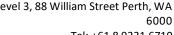


Figure 2: Area of the Resource Estimate







# **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 2).

Table 2: Summary of Drill Hole Data Supplied to RPM

Deposit	No holes	Туре	Metres
	22	2015 RC	2,063
	2	2016 DD	477
	39	2016 RC	6,833
	12	2016 RD	2,800
	15	2017 RC	1,926
AG	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
	7	2016 RC	800
	70	2018 AC	3,025
	17	2018 DD	2,746
APG	33	2018 RC	2,219
	1	2018 RD	180
	21	2019 DD	4,537
	53	2020 DD	13,034
	13	2016 RC	1,520
	37	2018 AC	1,430
Other	9	2019 DD	1,354
	581	2019 PITTING	2,983
	380	2020 AC	17,166
	6	2020 DD	1,278
Total	1,673		146,915



Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com



### **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.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

### **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 100 m 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 3**.



Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

Log histograms and log probability plots for the drilling composites within AG, APG and SG are shown in **Figure 3**.

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.

Table 3: Basic Statistics and Major Lodes.

Deposit			AG				AF	PG	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

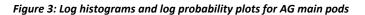
Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

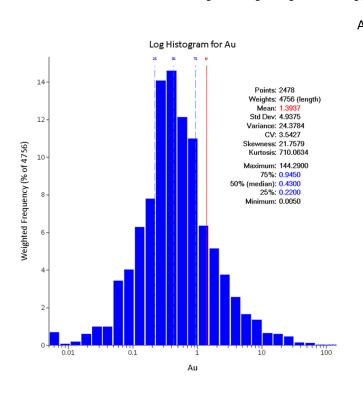


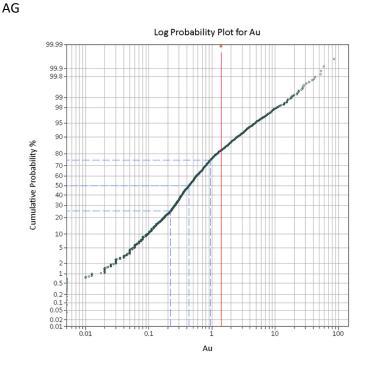
# **High Grade Cuts**

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.







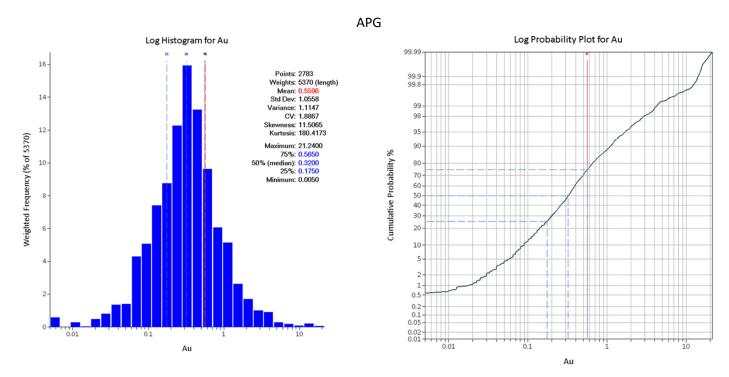


6000 Tel: +61 8 9331 6710

Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com



Figure 4: Log histograms and log probability plots for APG main pods



# **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, 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.







#### 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 25 m NS (along strike) by 10 m EW (across strike) by 5 m vertical with sub-cells of 3.125 m by 3.125 m by 0.625 m based on the drill spacing. The block model origin, extent and attributes are shown in Table 4.

**Table 4: Block Model parameters** 

Estimate		Origin			Rotation		
Area	Easting	Northing	Elevation	Easting	Northing	Elevation	Degrees
AG	750,400	763,500	-400	1,600	7,000	700	35
APG	748,000	762,000	-175	1,600	6,000	470	35
SG	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 5.



Web: www.tietto.com



Table 5: AG Search Ellipsoid Parameters

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

**Table 6: APG Search Ellipsoid Parameters** 

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



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

### **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,



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

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 – 50 m 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.

See JORC Table 1 for further details.



### **Metallurgical Testwork**

Independent metallurgical testwork has been completed on samples from Tietto's Abujar Gold Project and these demonstrate highly favourable characteristics for low-cost processing including:

- Free milling ores very high gravity gold and CIL gold recoveries delivering up to 98-99% overall gold recoveries.
- High gold recovery at coarse grind sizes ranging from 96% (180 μm) to 98% (106 μm) for fresh ore.
- Notable low energy and low reagent requirements.
- Simple flowsheet single-stage crusher with SAG mill circuit (SSAG) with gravity and CIL for gold recovery.
- Testwork completed on representative samples from the AG deposit.
- Tietto has engaged Mintrex, a reputable engineering consultant, to manage metallurgy and plant design for the PFS and DFS.

**Table 7: Summary of Metallurgical Testwork Results** 

Pro	ocess	Material	Value
		Oxide	64.4%
	Gravity	Trans	82.6%
Cold Becovery		Fresh	83.6%
Gold Recovery		Oxide	98.5%
	CIL	Trans	99.5%
		Fresh	99.1%
		Oxide	0.02
Bond Abras	ion Index (Ai)	Trans	0.06
		Fresh	0.28
		Oxide	*
Bond Rod Mill \	Work Index (Rw i)	Trans	8.5
		Fresh	13.17
		Oxide	*
Bond Ball Mill \	Vork Index (Bw i)	Trans	8.95
		Fresh	12.02

6000 Tel: +61 8 9331 6710





# Samples

Samples were divided into nine composites on the basis of their ore type (oxide, transitional and fresh ores) and their proximity. **Table 8** identifies the nine composites.

**Table 8: Sample Identification** 

r	
Sample ID	Metallurgical Drill Hole ID
Fresh 1	ZDD028, ZDD080, ZDD082
Fresh 2	ZDD028
Fresh 3	ZDD043
Variability Fresh 1	ZDD029, ZDD035
Variability Fresh 2	ZDD081, ZDD090
Variability Fresh 3	ZDD038, ZDD085
Transitional	ZDD090
Variability Trans	ZDD075, ZDD084, ZDD088, ZDD091, ZDD093
Oxide	ZDD087, ZDD088, ZDD090, ZDD093

### **Physical Testwork**

The physical properties of the Abujar ores allow Tietto to consider a lower cost, simple flowsheet utilising single-stage crushing with SAG mill circuit (SSAG) given the high gold recoveries obtained at coarser grind sizes (>106 µm) and excellent physical testwork results, demonstrating gold mineralisation at AG is not abrasive and is of medium to moderate hardness:

- Bond Abrasion Index (Ai) average results were 0.28 for fresh ore and 0.06 for transitional ore.
- Bond Rod Mill Work Index (RWi) average results were 13.2 kWh/t for fresh ore and 8.5 kWh/t for transitional ore.
- Bond Ball Mill Work Index (BWi) average results were 12.0 kWh/t for fresh ore and 9.0 kWh/t for transitional ore.

#### **Grind Size Testwork**

Gravity amalgamation testwork established significant gravity gold in almost all composites (including Fresh 1 and Variability Fresh 2, the two samples for the optimisation testwork). The samples were quite "spotty", having particles of free gold throughout; meaning the grade of the composites was quite variable. This led to the addition of a gravity recovery step which was added before each leach optimisation test.

Selected composites (Fresh 1 and Var Fresh 2) were ground to four particle sizes – 180 μm, 150 μm, 106 µm and 75 µm. Subsequently, samples were gravity separated, the concentrate measured and the tails leached under standard cyanidation conditions. Overall recovery after 24 hours was broadly between 94-99%.



> Tel: +61 8 9331 6710 Fax: +61 8 6316 1428 Web: www.tietto.com

### **Leach Optimisation Testwork**

This stage of testwork focussed on optimising the conditions for leaching the gold from the ore by cyanidation including detailed gravity separation testwork. The effect of various conditions and parameters on gold recovery during leaching were then examined using the selected samples. Leaching optimisation tests on two fresh samples found that the leaching process was relatively simple and robust:

- Optimum Grind size size between 106 μm and 150 μm.
- Use of air or oxygen sparging (ore is not an oxygen consumer).
- Oxygen uptake rate -consumption of oxygen by the reaction is minimal and thus the ore is a very low oxygen consumer.
- Addition of lead nitrate was not necessary.
- Inclusion of carbon in the leaching vessel has a minor positive effect on total gold recovery calculated head grade and assay grade matched well for these tests, which indicates that the
  composites do not have any significant preg-robbing characteristics.
- The optimised leaching process consumed of 0.2-0.3 kg/t of cyanide. Lime consumption was around 0.2 kg/t for the fresh domain, 0.6 kg/t for the transitional sample and 2.7 kg/t for the oxide.
- The total gold recovery including gravity and leaching was between 95.5-99%.

# **Appointment of Mintrex for PFS/DFS**

Following the successful completion of the metallurgical test program, the Company has subsequently appointed Mintrex to manage the metallurgy and design of the Abujar Processing Plant for the feasibility study (PFS and DFS). The PFS in due in early Q1 2021 and the DFS expected Q3 2021.



Tietto Minerals Ltd Level 3, 88 William Street Perth, WA 6000 Tel: +61 8 9331 6710

Fax: +61 8 6316 1428 Web: www.tietto.com

#### **JORC Statement of Mineral Resources**

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 9.

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 9: 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.

	Class	Oxide				Transition			Fresh			Total		
Area		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)	
	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	
AG	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	

#### Note:

- 1. The Mineral Resources has been compiled under the supervision of Mr. Jeremy Clark who is a full-time employee of 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.
- 2. 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



Tietto Minerals Ltd Level 3, 88 William Street Perth, WA 6000 Tel: +61 8 9331 6710 Fax: +61 8 6316 1428

Web: www.tietto.com

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.

- 3. 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).
- 4. 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 is provided in Table 10 below. However, RPM recommends that the Mineral Resource be reported using the criteria shown in Table 9. 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 10: AG and APG Mineral Resources at varying cut off grades

	AG	Indicate	d	А	G Inferre	d	AF	PG Inferre	ed		Total	
cog	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



Tietto Minerals Ltd Level 3, 88 William Street Perth, WA 6000 Tel: +61 8 9331 6710

Fax: +61 8 6316 1428 Web: www.tietto.com

#### **ENDS**

This announcement has been authorised for release by the Board of the Company. For further information, visit www.tietto.com or contact:

**Dr Caigen Wang** 

Managing Director Tel: +61 8 9331 6710 Mark Strizek

Executive Director Mob: +61 431 084 305

#### 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 tenements, Middle, South and North tenement, with a total land area of 1,114km², of which less than 10% has been explored. It features an NNE-orientated gold corridor over 70km striking across three tenements.

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 is currently undertaking feasibility studies with a PFS expected to be released early in 01 2021

#### **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 or 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. 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 and 24 September 2020. The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous announcements.



Tietto Minerals Ltd Level 3, 88 William Street Perth, WA 6000 Tel: +61 8 9331 6710

Fax: +61 8 6316 1428 Web: www.tietto.com

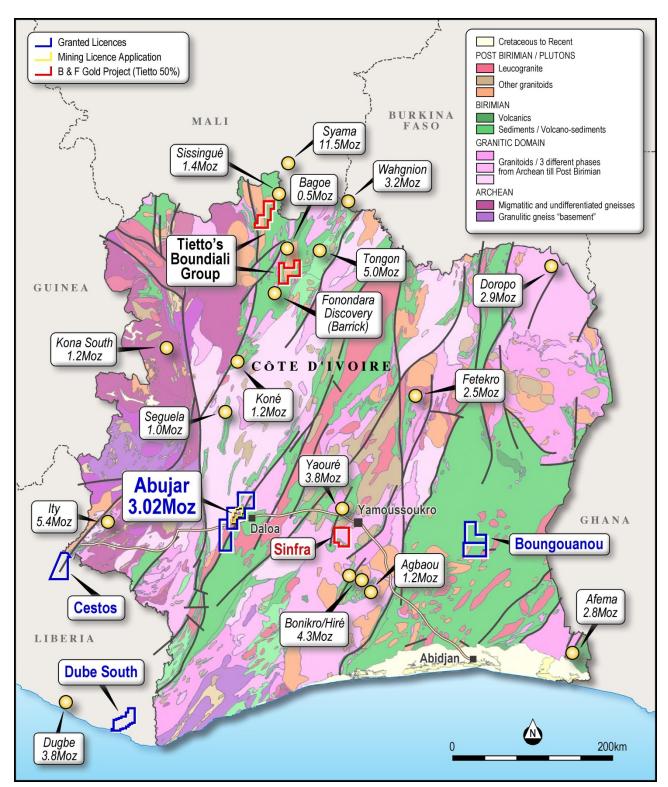


Figure 5: Plan view showing location of the Abujar Gold Project



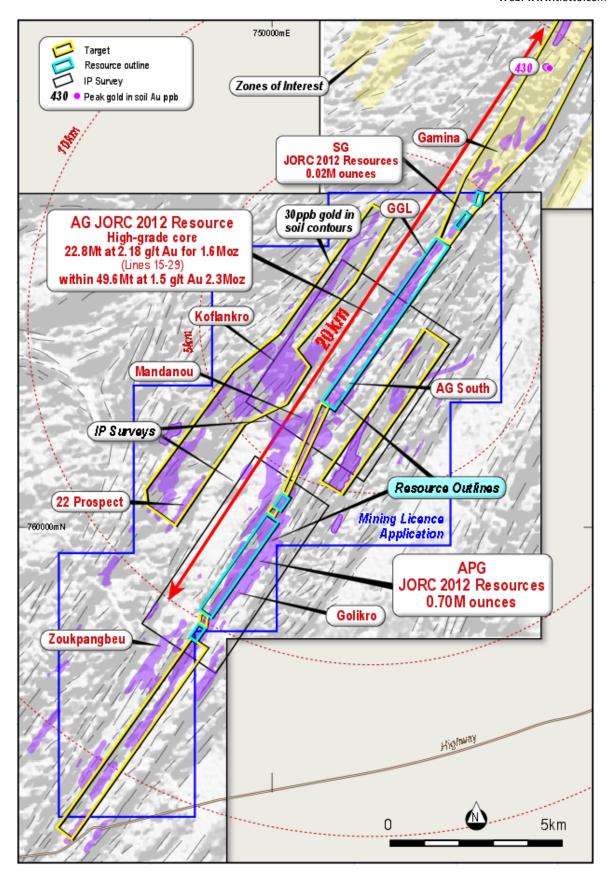


Figure 6: Plan view showing location of deposits and resources at the Abujar Gold Project



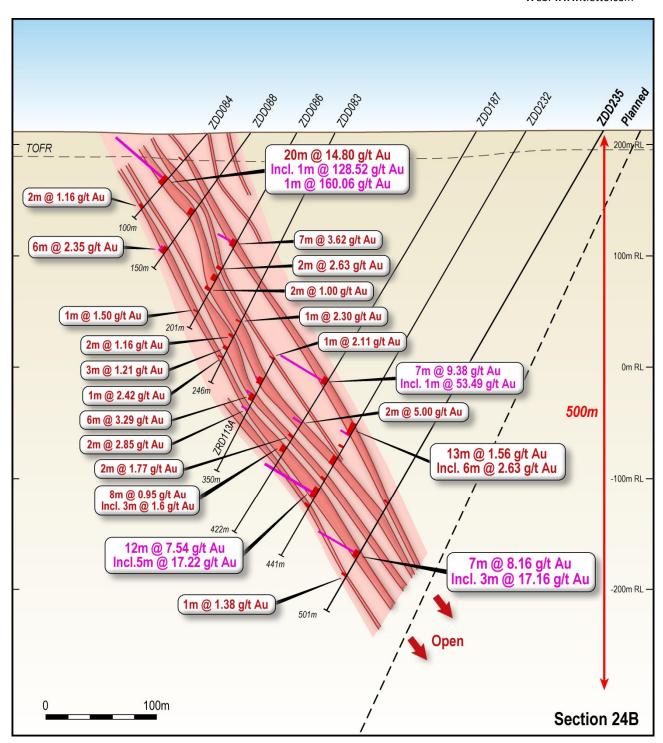


Figure 7: Cross Section showing drill results at AG deposit



Fax: +61 8 6316 1428 Web: www.tietto.com

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

# **Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Samples at AG and APG project areas were collected using drilling techniques including Air Core Drilling (AC), Reverse Circulation (RC), 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 20</li></ul>



Criteria	JORC Code explanation	Commentary
		by 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).
Drilling techniques	Drill type (eg core, reverse circulation, openhole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	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.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</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> <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>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <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 "chipboard", 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>
Sub-sampling techniques and sample	<ul> <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>	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



Criteria	JORC Code explanation	Commentary
preparation	<ul> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling 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>	from the same side of the core.  AC, RC samples were collected as 1m samples from the cyclone, which were subsequently composited using as spear samples to form 2 m samples.  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).  The 250gm sample is milled through an LM5 using a single puck to 90% <75 micron  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.  Field QC procedures involved the use of 2 types certified reference materials (1 in 20) which is certified by Geostats Ltd,  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 sizes are considered appropriate to correctly represent the moderately nuggetty gold mineralisation, the thickness and consistency of the intersections, the sampling
Quality of assay data and laboratory tests	<ul> <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, spectrometres, 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> <li>methodology and assay value ranges for Au.</li> <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 Client.</li> <li>The QAQC results confirm that acceptable levels of accuracy and precision have been established for the Classifications applied.</li> </ul>



Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	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
	<ul> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	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
	Discuss any adjustment to assay data.	geologist's supervision. The logging for all RC holes is also recorded on a logging "chipboard", where the chips for each metre are glued to a board to form a visual log of the entire hole  Twinned holes have not been drilled as not considered appropriate as the Company has
		<ul> <li>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> </ul>
		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.
		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.
Location of data points	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.	All drill hole and trench collar locations were surveyed utilising the differential GPS methods by third party surveyors.      RPM notes that the DGPS system utilised is typically within a 10 cm accuracy range which is suitable for the classification
	Specification of the grid system used.	<ul> <li>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 the project. This mining is restricted typically to the upper 10m of the oxide material</li> </ul>



Criteria	JORC Code explanation	Commentary
	Quality and adequacy of topographic control.	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.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>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 was 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>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <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>
Sample security  Audits or	The measures taken to ensure sample security.  The results of any audits or reviews of	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 have no further involvement in the preparation or analysis of the samples.  A review of sampling techniques was carried
reviews	sampling techniques and data.	out on each site visit by RPM in July 2016 and July 2018 and again in October 2019.



Fax: +61 8 6316 1428 Web: www.tietto.com

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul> <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 resource are contained within the Zahibo tenement.</li> <li>The tenements are in good standing with no known impediment to future grant of a mining lease (which is under application).</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <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>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <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>
Drill hole	A summary of all information material to the	Drill hole locations are shown on the map
	under-standing of the exploration results	within the body of this Mineral Resource



Criteria	JORC Code explanation	Commentary
information	including a tabulation of the following information for all Material drill holes:  • easting and northing of the drill hole collar  • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  • dip and azimuth of the hole  • down hole length and interception depth  • hole length  • 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.	report and the ASX release.  • All information has been included in the appendices. No RC or DD drill hole information has been excluded however no AC drilling is utilised.
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Exploration results are not being reported</li> <li>No aggregation of intercepts was carried out. 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>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g.'down hole length, true width not known').</li> </ul>	<ul> <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>
Diagrams	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.	Relevant diagrams have been included within the Mineral Resource report main body of report and ASX release However exploration results are not being reported
Balanced Reporting	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Where comprehensive reporting of all Exploration Results is not practicable,</li> </ul>	<ul> <li>All drill hole and trench collar locations were surveyed utilising the differential GPS methods by third party surveyors. DGPS system utilised it typically within 10 cm accuracy range.</li> <li>Drilling teams utilised the Reflex EZ-shot instrument to measure deviations in azimuth</li> </ul>



Criteria	JORC Code explanation	Commentary
	representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	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.
Other substantive exploration data	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.	All interpretations for each deposit are consistent with observations made and information gained during drilling at the project.
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Further exploration work has been planned which will focus on expanding the resource and infill drilling to increase the confidence in the resource.</li> <li>Subject to several years of systematic exploration the Project contains numerous gold anomalous areas with particular focus on the AG Deposit. While encompassing the entire Project, this Report focused on the estimation of Mineral Resources within two areas (AG and APG); however several other anomalous areas have been identified within the Project. So further exploration works could be planned.</li> <li>Infill and extensional drilling during 2019-2020 on the AG Mineral Resource account for the classification update.</li> </ul>



Fax: +61 8 6316 1428 Web: www.tietto.com

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

# **Estimation and Reporting of Mineral Resources**

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>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</li> </ul>
		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.  RPM performed data audits in Surpac and in excel.
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	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.  RPM concluded that the data was adequately acquired and validated following industry best practices.
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative 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> <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 the APG area and 9 in South Gamina based on the orientation and shape of the mineralisation.</li> </ul>



Criteria	JORC Code explanation	Commentary
		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.  No additional high grade domaining was undertaken within the deposit based on statistic reviews however further infill drilling may confirm the presence.  Current interpretation is considered suitable for the classification.  Outcrops of mineralisation and host rocks within the Project support the geometry of the mineralisation.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	<ul> <li>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> </ul>
Estimation and modelling techniques	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.	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
	<ul> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine</li> </ul>	mineralisation was observed in the alluvial pits, the lodes were extrapolated to surface.  • 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



ICRITORIA IOPE Codo ovalanation	Commontary
Criteria JORC Code explanation	Commentary
drainage characterisation).  In the case of block model interpolation, to block size in relation to the average samples spacing and the search employed.	
<ul> <li>Any assumptions behind modelling selective mining units.</li> <li>Any assumptions about correlation betwee variables.</li> <li>Description of how the geologic interpretation was used to control to resource estimates.</li> </ul>	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
Discussion of basis for using or not usi grade cutting or capping.	<ul> <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</li> </ul>
The process of validation, the checking process used, the comparison of model do to drill hole data, and use of reconciliating data if available.	for all three areas based on QKNA analysis on both AG and APG. No QKNA was undertaken on South Gamina due to



Criteria	JORC Code explanation	Commentary
		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 of 1 sample. A maximum of 8 samples was used for all 3 passes.
		<ul> <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> </ul>
		<ul> <li>Only Au assay data was available, therefore correlation analysis was not possible.</li> </ul>
		<ul> <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</li> </ul>
		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.
		<ul> <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.</li> <li>Validation of the model included detailed comparison of composite grades and block grades by northing and elevation.</li> <li>Validation plots showed good correlation between the composite grades and the block model grades.</li> </ul>
		While some smoothing is noted within the grade estimates, RPM considers this



Criteria	JORC Code explanation	Commentary
		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.  • With additional infill drilling, RPM recommends that further high grade domains be investigated along with the use of MIK or conditional simulation, which given the current drill spacing is not considered a suitable estimation methodology.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages and grades were estimated on a dry in situ basis. No moisture values were reviewed.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <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</li> </ul>



Criteria	JORC Code explanation	Commentary
		highlights that additional studies and drilling is required to confirm economic viability.  • 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.
Mining factors or assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>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>
Environmental factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential 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> <li>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>



Criteria	JORC Code explanation	Commentary
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>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> <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</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative)</li> </ul>	<ul> <li>analysis from diamond drilling programs.</li> <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</li> </ul>



Criteria	JORC Code explanation	Commentary
	confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	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 AG area, RPM considers the 2020 infill and
	Whether the result appropriately reflects the Competent Person's view of the deposit.	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 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.
		<ul> <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 Resource</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>reflects the view of the Competent Person.</li> <li>Internal audits have been completed by RPM which verified the technical inputs, methodology, parameters and results of the estimate.</li> </ul>
Discussion of relative accuracy/	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	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



Criteria	JORC Code explanation	Commentary
confidence	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.  • 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.  • These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	global estimates of tonnes and grade.