# **ASX Announcement**



7 May 2024

# SCOPING STUDY COMPLETED FOR NUEVA SABANA MINE, CUBA

Antilles Gold Limited ("Antilles Gold" or the "Company") (ASX: AAU, OTCQB: ANTMF) is pleased to advise the results of the Scoping Study for the first stage of the proposed Nueva Sabana gold-copper mine in Cuba. The Study has been prepared by the 50:50 Cuban joint venture company, Minera La Victoria SA ("MLV"), which is undertaking the project.

- The 752ha concession covering the Nueva Sabana deposit also hosts the El Pilar, Gaspar, and Camilo porphyry copper intrusives, and numerous shallow gold targets identified by artisanal mining.
- The Nueva Sabana deposit has a small 3g/t gold cap, an underlying copper-gold zone, and a deeper sulphide copper zone that is open at depth at 150m, and could potentially transition into the El Pilar porphyry copper deposit which is offset to the south.
- The Study has been based on a pit limited to 100m depth which at a mining rate of 500,000tpa of ore, will result in an initial mine life of 4 years.
- With additional exploration by the joint venture, and a greater mining depth, the project life and NPV could be increased.
  - The Initial MRE for Nueva Sabana which is incorporated as ATTACHMENT A in the Study, established approximately 30M lb of 0.8% copper in Inferred Resources within the 50m below the planned 100m mining depth for the first stage of the development which is a positive indication of the potential to increase the mine life.
  - Metallurgical testwork set out in ATTACHMENT C has indicated the mine will initially produce a gold concentrate with a grade of ~70.9g/t Au, followed by a blended copper-gold concentrate with an average grade of ~27.4% Cu, and 25g/t Au.
- Payables for these concentrates have been received from the two international commodity traders the joint venture is negotiating with to establish an off-take agreement.



 The off-take agreement is expected to include a provision for advanced payments for concentrates by the buyer, to assist in the funding of construction costs.
 HIGHLIGHTS OF FINANCIAL ANALYSIS FOR STAGE ONE OF THE NUEVA SABANA MINE:

		US\$M
•	Mine Development Costs including engineering, construction, spares, and first fills	27.0
•	LoM Operating Costs including shipping, royalties, and other Government charges	104.3
•	LoM Sales	225.1
•	LoM Net Profit (taxation waived)	97.8
•	LoM Surplus Cash	89.0
•	NPV <sup>8</sup> 1 July 2024 at US\$2,000/oz Au, and US\$4.00/lb Cu	70.3
•	IRR	71.4%

Planned Construction - July 2024 to August 2025
Planned First Shipment of Concentrate - Q4 2025

Pre-development Costs of  $\sim$ USD5.0M including the concession acquisition are being met by MLV



The Chairman of Antilles Gold, Mr Brian Johnson, commented that "even though the first stage of the Nueva Sabana project is quite small, it is fortunate that it will be development-ready within a short period of time.

This is economically advantageous considering the joint venture's flagship development, the La Demajagua gold-silver-antimony mine, had to be delayed after being expanded to allow the production of a gold doré when the market for its gold-arsenopyrite concentrate became an issue in August 2023.

Antilles Gold intends to subscribe the final US\$2.0M of its US\$15.0M earn-in for a 50% shareholding in the joint venture company, Minera La Victoria ("MLV"), within the next few months. Thereafter, the Company's cash burn will be substantially reduced.

If MLV decides to undertake an exploration program on the copper properties before cash flow becomes available from the Nueva Sabana mine in Q4 2025, the required capital will probably have to come from a share issue by MLV to Antilles Gold, and, or a third party.

With respect to this possibility, MLV has recently presented commercial propositions to two major investors interested in becoming a shareholder in MLV, and participating in the exploration of its highly prospective copper properties, and the development of La Demajagua, and other gold projects potentially available to the joint venture.

However, MLV's near term priority is to finalise negotiations on a concentrate off-take agreement for Nueva Sabana, and to arrange project financing.

Antilles Gold's share of the NPV<sup>8</sup> for the first stage of Nueva Sabana is  $\sim$ A\$70M at current metal prices of US\$2,300 per oz Au, and US\$4.30 per lb Cu, and an exchange rate of A\$1.00 = US\$0.65, which is significantly higher than the Company's current market capitalisation of A\$10.4M.

The opportunity for growth will increase with the proposed development of the La Demajagua gold-silver-antimony mine, where the Company's share of NPV<sup>8</sup> reported to ASX on 30 March 2023 was ~A\$150M, prior to the decision to expand the project to produce gold doré from its gold arsenopyrite concentrate, and increase antimony production."

**END** 

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This announcement has been approved by the Board of Antilles Gold Limited.

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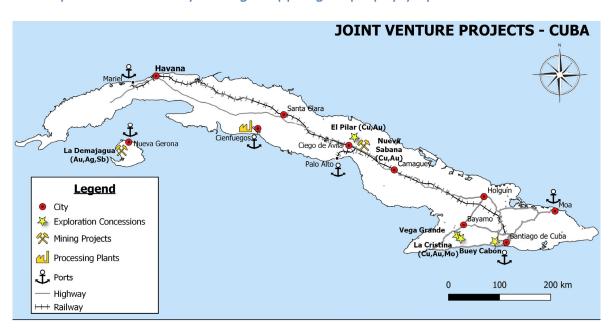
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# **ABOUT ANTILLES GOLD LIMITED:**

Antilles Gold's strategy is to participate in the successive development of previously explored gold, silver, and copper deposits in mineral rich Cuba.

- The Company is at the forefront of the emerging mining sector in Cuba and expects to be involved in the development of several projects through its joint venture with the Cuban Government's mining company, GeoMinera SA.
- The first project expected to be developed by the 50:50 joint venture company, Minera La Victoria SA, is the proposed Nueva Sabana mine based on the El Pilar gold-copper oxide deposit which overlays a large copper-gold porphyry system in central Cuba.



The second project is expected to be the development of the La Demajagua open pit mine on the Isle of Youth in south-west Cuba to produce gold-arsenopyrite, and gold-silver-antimony concentrates. It is planned to process the high arsenic concentrate at a plant incorporating a two-stage fluidised-bed roaster, CIL circuit and an antimony recovery circuit to produce gold doré, and maximise antimony production as it is an indemand strategic metal.

The joint venture partners intend to invest part of the expected surplus cash flow from the Nueva Sabana mine to fund exploration of major copper targets, including the El Pilar copper-gold porphyry system, and two highly prospective properties within the Sierra Maestra copper belt in south east Cuba.



- Antilles Gold is comfortable operating under the applicable law on Foreign Investment in Cuba, and the realistic Mining and Environmental regulations, and has been granted a generous fiscal regime by the Government which is supportive of its objectives.
- The existing joint venture agreement includes the requirement for all funds to be held in a foreign Bank account with the only transfers to Cuba being for local expenses, which will obviate country credit risk for foreign lenders and suppliers.





Drilling - El Pilar



# STAGE ONE NUEVA SABANA OPEN PIT MINE, CUBA SCOPING STUDY - SUMMARY



# FINANCIAL RESULTS FROM SCOPING STUDY FOR STAGE ONE NUEVA SABANA OPEN PIT GOLD-COPPER MINE, CUBA

Antilles Gold Inc ("AGI"), a Cayman Islands registered subsidiary of Antilles Gold Limited, formalised an Agreement in August 2020 with Gold Caribbean Mining SA ("GCM"), a subsidiary of the Cuban Government's mining company, GeoMinera SA ("GMSA"), to incorporate Minera La Victoria SA ("MLV") as a foreign joint venture company to undertake mining projects in Cuba.

The objective of the 50:50 joint venture company, MLV, is to achieve organic growth through the successive development of a series of mines based on previously explored gold, and copper-gold deposits made available to MLV by GMSA, with the aim of ultimately establishing MLV as a substantial mining company in Cuba.

The first project expected to be developed by MLV is the proposed small, low cost **Nueva Sabana gold-copper open pit mine** in central Cuba, which is the subject of this Scoping Study.

GMSA provided MLV with results from 24,000m of historic drilling of the Nueva Sabana deposit by Canadian exploration companies, and an additional 12,000m of cored drilling was undertaken by MLV in 2022 and 2023.

Assays received from this program plus selected data from the historic drilling were utilised by Brisbane based mining consultants, Mining Associates Pty Ltd, when establishing the Initial Mineral Resource Estimate ("MRE") for the proposed open pit mine which is included as ATTACHMENT A.

An additional 2,000m of infill drilling will be undertaken in June - July 2024 aimed at increasing the Indicated Resources at Nueva Sabana

The 720ha Concession that covers the proposed Nueva Sabana mine also includes a cluster of three porphyry copper intrusives (El Pilar, Gaspar, and Camila), and numerous shallow gold targets identified by artisanal workings.

Following commencement of mining operations, and a positive cash flow, MLV will undertake the exploration of a number of gold and copper targets within the concession hosting the Nueva Sabana deposit, with the aim of increasing the Resources, and extending the mine life.

The Nueva Sabana deposit has an outcropping oxide gold zone, an underlying coppergold zone, and a lower sulphide copper zone which is open at depth at 150m, and potentially transitions into the El Pilar porphyry copper deposit which is offset to the south.

Metallurgical testwork on core obtained from the gold and copper domains has been undertaken by Blue Coast Research in Canada, under the supervision of Antilles Gold's Technical Director, Dr Jinxing Ji, to provide flotation recoveries for use in resource estimation, pit optimisation and economic modelling (ATTACHMENT C).

Additional testwork is currently being undertaken which will also produce samples for testing by the purchaser of the concentrates.

The Scoping Study has been based on mining initially to a depth of 100m with a life of only four years, with the prospect of the mine being expanded in scale, and its life extended with deeper mining, and additional exploration. The initial MRE established approximately 30M lb of 0.8% copper in Inferred Resources between 100m and 150m which is a positive indicator of the potential to increase the mine life.

The production parameters, and data inputs to the Financial Analysis and their source, and various assumptions for the development concept, are recorded in the following:

# PROPOSED PROJECT TIMETABLE

Construction of Mine and Infrastructure

July 2024 to August 2025

Initial Operating Period – LoM Four years

First Shipment of Concentrate Q4 2025

# MÍNERAL RESOURCE ESTIMATE FOR NUEVA SABANA OPEN PIT Mining Associates Pty Ltd

Initial Mineral Resource Estimate to RL-100m (approximately 150m from surface) above a cut off 0.25% copper, and 0.3g/t gold

	Material Type	Resource Category	Tonnes	Gold (g/t)	Gold (koz)	Copper (%)	Copper (Mlb)
	Gold	Indicated	470,000	2.83	42.7	-	-
	Domain	Inferred	376,000	2.51	30.4	_	-
7	Sub Total		846,000	2.69	73.1	-	-
	Copper	Indicated	531,000	1.54	26.3	0.57	6.73
	Gold Domain						
		Inferred	90,000	1.95	5.7	0.50	0.99
	Sub Total		621,000	1.60	31.9	0.56	7.72
J T	Copper	Indicated	304,000	0.11	1.1	1.36	9.11
	Domain	Inferred	2,084,000	0.06	4.3	0.77	35.15
7	Sub Total		2,388,000	0.07	5.4	0.84	44.26
	Total		3,855,000	-	110.5	_	51.98

#### Notes

- Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes
- Mineral Resources are not Ore Reserves and do not have demonstrated economic viability
- Gold in the copper-gold domain, and copper domain are expected to report to the copper concentrate
- Inferred resources have less geological confidence than indicated resources and should not have modifying factors applied to them
- It is reasonable to expect that with further exploration most of the inferred resources could be upgraded to indicated resources

#### LOM PRODUCTION TARGET

The deposit at Nueva Sabana consists of a gold zone at surface with an underlying copper-gold zone, and a deeper copper zone.

The gold zone will produce a clean gold concentrate with minimal, or zero copper content, and ore from the copper-gold and copper zones will be blended to produce a copper-gold concentrate.

Mining production targets have been established by the Mining Study included as ATTACHMENT B;

- i) gold zone 679,638t at 3.09g/t Au
- ii) copper-gold zone 390,429t at 0.70% Cu, and 2.55g/t Au
- iii) copper zone 792,294t at 1.06% Cu

Of the total 1,862,000t mining target included in the Scoping Study, 58.3% is an Indicated Resource, and 41.7% is Inferred.

There is a low level of geological confidence associated with Inferred mineral resources, and there is no certainty that further exploration work will result in the determination of additional Indicated mineral resources or that the production target itself will be realised."

A 2,000m in-fill drilling program to be undertaken in June – July 2024 at Nueva Sabana at drill hole locations recommended by Mining Associates is aimed at increasing the Indicated Resources ahead of reserve estimation in accordance with the JORC code.

# **FLOTATION RECOVERIES \***

	Gold Concentrate	<b>Copper-Gold Concentrate</b>
Gold	84.6 %	80.2 %
Copper	NIL	82.9 %

# **ESTIMATED CONCENTRATE PRODUCTION \***

	G	old Do	main		Сор	per/Go	ld Domain		Te	otal
	Gold Concentrate Tonnage & Composition			(	Concentrate	Tonnage	e & Composition	on		
	Quantity	Gold Grade	Contained Gold	Quantity	Copper Content	Gold Grade	Contained Copper	Contained Gold	Contained Gold	Contained Copper
	tonne	g/t	Oz	tonne	%	g/t	Lb's	Oz	Oz	Lb's
Year 1	15,298	70.42	34,637						34,637	
Year 2	4,767	75.09	11,509	8,563	27.08	51.11	5,100,611	14,069	25,578	5,100,611
Year 3	3,014	68.49	6,637	11,738	27.40	23.20	7,074,598	8,757	15,394	7,074,598
Year 4	1,962	67.62	4,265	13,299	27.50	9.75	8,045,895	4,169	8,434	8,045,895
Total/Avge	25,041	70.86	57,048	33,599	27.36	24.99	20,221,104	26,995	84,043	20,221,104

<sup>\*</sup> Note - Established from metallurgical testwork set out in ATTACHMENT C

PROJECT DEVELOPMENT COSTS	US\$M	SOURCE OF DATA	RANGE
Earthworks, Roadworks & Waste Dump	0.8	MLV design/estimate	
Mine Buildings	1.6	MLV design/estimate	
Mining Fleet	-	Hired	
Mobile Equipment	2.4	Supplier quotation	
Concentrator (500,000 tpa)	12.4	Supplier quotation	
Power Station & Electrical Reticulation	3.6	Supplier quotation	
Tailings Storage Facility	1.5	MLV estimate	
Water Management	0.3	MLV estimate	
Spares, & First Fill	2.1	MLV estimate	
Construction Management	2.0	MLV estimate	
Government Charges	0.3	Regulations	
Capitalised Interest during Construction	1.3	MLV estimate	
TOTAL DEVELOPMENT COSTS	28.3		+10%
TUTAL DEVELOPMENT CUSTS	20.3		

# PROPOSED PROJECT FINANCING

Advance by Concentrate Buyer (8% pa) (repaid over 3 operating years)
Working Capital Loan (10% pa) (repaid in 6 months)

- 28.3 Indicated by potential buyer
  - 5.0 Indicated by potential lender

# LoM SALES at US\$2000/oz Au, and US\$4.00/lb Cu

Year	Gold Domain	Copper Domain	Total	
1	58,881,855	-	58,881,855	
2	19,564,178	46,455,299	66,019,477	
3	11,281,521	43,521,078	54,802,599	
4	7,252,147	38,135,712	45,387,859	
	96,979,701	128,112,089	225,091,790	

NOTE: The selling price for the gold, and copper-gold concentrates delivered in TEU shipping containers to the destination port in China has been advised by the preferred buyer net of treatment charges, subject to final concentrate grades and testing of samples.

This aspect of the financial modelling will remain uncertain until an off-take and financing agreement has been established. (currently being negotiated)

-0%

Lom Operating Costs	US\$M	SOURCE OF DATA	RANGE
Production			
Mining	29.7	MLV estimate	+20%
- US\$3.56/t total tonnes mined			-0%
Concentrate Processing	25.4	MLV estimate based on	+20%
- US\$13.63/t plant feed		metallurgical testwork	-0%
Power Supply	18.7	Concentrator Engineer's	+10%
- US\$10.07/t plant feed		estimate	-0%
Concentrate Transport	6.5	Shipping quotation	+20%
-US\$110.31/t			-0%
<b>Total LOM Production Costs</b>	80.3		
Indirect Costs			
Project Management, Administration & Site Costs	10.7	MLV estimate	
Havana Office Expenses	3.4	MLV estimate	
Rehabilitation	1.2	MLV estimate	
Total LOM Indirect Costs	15.3		+10%
			-0%
<b>Government Charges</b>			
David to 20/	<i>C</i> 0	Mining Degulation	
Royalty 3%	6.8	Mining Regulation	
Surface Rights Territorial Contribution	0.2	Mining Regulation	
Territorial Contribution	1.7	Mining Regulation	⊥ <b>0</b> 0/-
<b>Total LOM Government Charges</b>	8.7		+0% -0%
TOTAL LOM OPERATING COSTS	104.3		+15% -0%

Lom Operating Profit	120.8	+0% -15%
LESS INTEREST	(4.5)	13 /0
LESS DEPRECIATION	(18.5)	
LESS TAXATION	NIL	
LOM NET PROFIT	97.8	+0%
Lom CASH SURPLUS	89.0	-20%
NPA8	70.3	
IRR %	71.4%	

# **C1 CASH COSTS PER TONNE CONCENTRATE**

US\$	per tonne
Mining	506.2
Processing	433.2
Power Supply	318.9
Concentrate Transport	110.3
Project Management/Administration/Site Costs	182.5
Havana Office Expense	57.9
Government Charges	148.2
Total	1,757.2
AVERAGE SALES PER TONNE CONCENTRATE	3,838.5
SENSITIVITY TO METAL PRICES -15%	Base Case

EN	SITIVITY TO METAL PRICES	-15%	<b>Base Case</b>	+15%	Current
					metal price
	<b>GOLD PRICE US\$/OZ</b>	1,700	2,000	2,300	2,300
	COPPER PRICE US\$/lb	3.40	4.00	4.60	4.30
	Lom Cash Surplus US\$M	56.3	89.0	121.7	116.1
	NPV <sub>8</sub> US\$M	44.4	70.3	96.1	91.9
	IRR%	48.3%	71.4%	92.1%	90.2%

The order of accuracy for this Scoping Study is estimated to be  $\pm$  25%.

The Financial Model for the project will be updated as revised Mineral Resources, Reserves, and the final pit design are produced, metallurgical test work is concluded, supplier quotations are confirmed, and concentrate off-take and financing agreements negotiated.

# ADDITIONAL NOTES

# **CAUTIONARY STATEMENTS**

The Scoping Study referred to in this announcement is a preliminary technical and economic study of the potential viability of the proposed Nueva Sabana open pit mine gold-copper in Cuba. It is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further evaluation work and appropriate studies are required before Antilles Gold will be in a position to estimate any ore reserves or to provide any assurance of an economic development case.

The Scoping Study is based on the material assumptions previously noted. These include assumptions about the availability of funding. While Antilles Gold considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

million will be required. Investors should note that there is no certainty that the joint venture company which is developing the mine, Minera La Victoria SA, will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Antilles Gold's existing shares.

It is also possible that Antilles Gold may pursue other value realisation strategies such as a sale, partial sale, or joint venture of the foreign component (50%) of the project. If it does, this could materially reduce Antilles Gold's proportionate ownership of the project.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

# **Production Target**

All material assumptions underpinning the Production Target continue to apply and are not expected to materially change.

# Location

The 720ha El Pilar Mining Concession which covers the Nueva Sabana mine, and the El Pilar copper porphyry system is located 27.5km by paved highway to the Provincial city of Ciego de Avila in central Cuba.

The site is flat, uninhabited, and devoid of structures and vegetation, with HP power and the highway, and rail system to the Mariel container port, within 1.5km.



Map showing location of Nueva Sabana mine in central Cuba

# Fiscal Regime

Foreign Investment Law 118 was adopted in March 2014 and provides basic investment protection and other general rules relevant to foreign investors.

The fiscal regime applying to Minera La Victora and the Nueva Sabana mine include;

- Equal numbers of directors with important decisions to be unanimous.
- Senior management, and consultants nominated by Antilles Gold.
- An account at an International Bank will receive project loans, and concentrate sales proceeds, from which repayment of loans, foreign suppliers, and dividends will be met. Funds remitted to Cuba will be limited to those required to service local costs.
- The corporate tax rate (15%) has been waived for 8 years.
- Import duties have been waived for the project development.
- Disputes to be resolved at the International Court of Arbitration ("CCI") in Paris.

# FORWARD LOOKING STATEMENT

Some of the statements contained in this document are forward-looking statements, such as statements that describe Antilles Gold Limited's ("AGL") or Minera La Victoria SA's ("MLV") future plans, intentions, objectives or goals, and specifically include but are not limited to statements regarding MLV's properties, resource estimates, potential mineralization, future financial or operating performance, gold and silver prices, estimated future production, future costs, timing of production start and economic analysis.

Actual results and developments may differ materially from those contemplated by such forward—looking statements depending on, among others, such key factors as the possibility that actual circumstances will differ from estimates and assumptions used in assessing the potential of the proposed Nueva Sabana gold-copper open pit mine, the environmental and social cost of proceeding with the project, uncertainty relating to the availability and costs of financing needed in the future, economic sanctions, general business and economic conditions, inflation, changes in exchange rates, fluctuations in commodity prices, delays in the development of the project, and the impact of future legislation and regulations on expenses, capital expenditures and taxation, changes in project parameters, variation in ore grade or recovery rates, delays in obtaining government approvals and necessary permitting, impurities in products and other risks involved in the mineral exploration and development industry.

The forward-looking statements represent AGL's and MLV's current views and subsequent events and developments may cause these views to change. AAU disclaims any obligation to update forward-looking information except as required by law. Readers should not place undue reliance on any forward-looking statements.

# **ATTACHMENTS**

A INITIAL MINERAL RESOURCE ESTIMATE (& JORC CODE 2012 EDITION TABLE 1)

— Ian Taylor, Mining Associates Pty Ltd

B MINING STUDY – Anthony Stepcich, Mining Associates Pty Ltd

METALLURGICAL TESTWORK - Dr Jinxing Ji, JJ Metallurgical Services Inc

# **ANNEXURES**

PLANT & EQUIPMENT LIST

MINE GENERAL ARRANGEMENT

PROCESS FLOW SHEET FOR CONCENTRATOR (JJ Metallurgical Services Inc)

# ATTACHMENT A



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**Antilles Gold Ltd** 

Mineral Resource Estimate of the El Pilar Deposit. Nueva-Sabana Project, Central Cuba

Document No. MA2332-2-2 Mining Associates 05/03/24

#### **Caveat Lector**

This Resource Report (Report) has been prepared for Antilles Gold Limited by Mining Associates Propriety Limited (MA), based on upon information and data supplied by others, MA has formed opinions based on supplied data and made assumptions as identified throughout the text.

The Report is to be read in the context of the methodology, procedures and techniques used, MA's assumptions, and the circumstances and constraints under which the Report was written. The Report is to be read as a whole, and sections or parts thereof should therefore not be read or relied upon out of context.

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#### 1 SUMMARY

The El Pilar Deposit lies within the Nueva-Sabana Project area, located 25 km east-southeast of the city of Ciego de Avila, central Cuba. The project is owned by Minera La Victoria, which is a Joint Venture between subsidiaries of Antilles Gold Limited and the Cuban state-owned mining company Geominera SA.

The Nueva-Sabana Project comprises a cluster of dioritic porphyritic intrusions along an extensive trend including the El Pilar – Gaspar – Camilo prospects. At El Pilar the oxide gold zone is associated with the deeply eroded roots of a gold-rich high-sulphidation lithocap that partly over prints the upper zone of a porphyry copper system and associated copper-rich diatreme breccias. Widespread porphyry style veining is also present, both within diorite intrusives and the hostrocks, as quartz pyrite chalcopyrite veins (B-type, quartz with a centre line of sulphides) and chlorite – pyrite (C-Type) veins.

The resource is reported above a depth of -100 m RL and above a cut-off grade of 0.25 % Cu including gold mineralisation, or greater than 0.3 g/t gold where mineralisation is outside the copper mineralisation. (-100 m RL is approximately 150 m below the surface). The resource is divided into three metallurgical domains based on mineralisation, namely, a gold domain, a coper and gold domain, and a copper domain mineralisation.

Material Type	Resource Category	Tonnes	Gold (g/t)	Gold (koz)	Copper (%)	Copper (Mlb)
Gold Domain	Indicated	470,000	2.83	42.7	-	-
Goid Domain	Inferred	376,000	2.51	30.4	-	ī
Sub Total		846,000	2.69	73.1	-	1
Copper Gold Domain	Indicated	531,000	1.54	26.3	0.57	6.73
Domain	Inferred	90,000	1.95	5.7	0.50	0.99
Sub Total		621,000	1.60	31.9	0.56	7.72
Copper Domain	Indicated	304,000	0.11	1.1	1.36	9.11
Domain	Inferred	2,084,000	0.06	4.3	0.77	35.15
Sub Total		2,388,000	0.07	5.4	0.84	44.26
Total		3,855,000	-	110.5	-	51.98

Table 1-1. El Pilar Mineral Resource Estimate 2024

Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes.

Mineral Resources are not Ore Reserves and do not have demonstrated economic viability.

Gold in the copper gold domain and copper domain are expected to report to the copper concentrate, gold in concentrate above 1 g/t is commonly payable.

Inferred resource have less geological confidence than Indicated resources and should not have modifying factors applied to them. It is reasonable to expect that with further exploration most of the inferred resources could be upgraded to indicated resources.

#### 1.1 GEOLOGY AND GEOLOGY INTERPRETATION

The El Pilar deposit is hosted within the volcanic island arc rocks of the Caobilla Formation (Coniacian – Lower Campanian, 89-72 Ma, (Iturralde-Vinent, Tchounev, & Cabrera, 1981), which is a bimodal volcanic sequence of predominantly lavas and tuffs of basic composition and minor acidic equivalents. During the Cretaceous, the Caobilla Fm was intruded by diorites and granodiorites which now occupy the central part of the Camagüey province. These intrusives are genetically linked to the formation of magmatic-hydrothermal systems associated with the porphyry, diatreme breccia and high-sulphidation mineralisation within the belt.

Rock types on a local scale are predominantly andesitic tuffs (lapilli, lithic and lesser ash) interbedded with andesitic and basaltic flows. These rocks have been intruded by diorite, quartz-diorite porphyries and hydrothermal and magmatic breccias. The area is extensively altered, and vein and disseminated mineralisation (Chalcopyrite + pyrite + primary chalcocite ± magnetite) is predominantly associated with the diorite and quartz-diorite porphyries. Some secondary copper oxides are found at the transition from advanced argillic alteration to intermediate argillic alteration.

# 1.2 DRILLING TECHNIQUES

Historic drilling comprises 35 NQ holes (1996) for 3,475.5 m and 163 RC holes (1997) for 21,751 m, of which 14,821 m were carried out by a truck mounted drill rig, and 6,900 m by a smaller track mounted drill rig.

Antilles Gold has drilled 76 HQ and NQ diamond holes for 11,760.2 m. Samples were collected at 2 m intervals in 2022 and 1m intervals from April 2023. Drill holes across the deposit are spaced at nominal 20 m x 20 m centres.

The historical drill holes have been verified by Antilles Gold with an initial twin drill hole program. The twin hole drill program showed the historic truck mounted gold results required factoring down. A linear regression was sufficient to align the histogram of the truck mounted gold results with the sample histogram of the current diamond drilling. Historic copper and the track mounted drill rig gold samples were shown to have similar distributions (statistically and graphically) and were suitable for the use in a mineral resource without adjustment.

# 1.3 SAMPLING AND SUB-SAMPLING TECHNIQUES

Historic sample intervals were variable based on geological features however the majority range from 1m to 2m in length. RC samples were riffle split to 3.0 kg. Antilles Gold drilling has been completed using diamond drilling at HQ and NQ core size. Samples were collected at 2 m intervals in 2022 and 1 m intervals from April 2023 although adjusted for geological features as required.

#### 1.4 SAMPLE ANALYSIS

Historic drill samples were sent to XRAL laboratory in Vancouver for fire assay (Au) and ICP (Cu). Antilles Gold sample were sent to SGS Peru for analysis of Au and 49 elements by a 2-acid digest. Quarter-core duplicates are collected at an average rate of 1 in every 20 samples. Certified Reference Material (CRM) is inserted at a rate of one every 25 samples, and a blank inserted every 40 samples.

# 1.5 ESTIMATION METHODOLOGY

The geological interpretations are based on drill hole data: as there is limited sub-crop and most of the deposit is under cover. Drill core has been used to define the main geological units and weathering profile boundaries.

Mineralisation is divided into copper and gold domains independently, with some overlap of domains. Gold sits higher in the deposit compared to the copper mineralisation. The gold resource has oxidised and sulphur content is low, (< 0.5% S), where copper occurs the sulphur content increases (> 1.5% S).

Six mineralised domains were interpreted, three are based on continuity of grade at a lower cut-off of 0.30 g/t Au and three copper domains with a lower cut off 0.25% Cu.

The mineralised domains were grouped into geostatistical domains based on grade similarities and structural orientation. El Pilar strikes north-east and dip steeply southeast. The deposits host rocks are strongly argillic altered, tending to moderate chlorite alteration away from mineralisation.

The Mineral Resource statement reported herein is a reasonable representation of the El Pilar deposits based on current sampling data. Grade estimation was undertaken using Geovia's Surpac<sup> $\mathsf{TM}$ </sup> software package (v7.7). Ordinary Kriging ("OK") was selected for grade estimation of copper and gold. Sulphur and iron were estimated with Inverse Distance Squared (ID<sup>2</sup>).

The block model utilises parent blocks measuring 5 m x 10 m x 5 m with sub-blocking to 1.25 m x 2.5 m x 1.25 m (XYZ) to better define the volumes. Blocks above topography are flagged as air blocks. Estimation resolution was set at the parent block size.

Informing samples were composited down hole to 1 m intervals. Grade capping was applied to outlier composites. Experimental variograms were generated and modelled in Surpac. For domains where experimental variograms could not be created, variogram models were borrowed from similar domains. A two-pass estimation process was employed, the first pass (60 m search) required a minimum of 6 or 8 samples and a maximum of 12 to 16 composites depending on the size of the estimation domain, the second pass (120 m search) required a minimum of 4 or 5 composites and a maximum of 8 or 10 composites. Density values are assigned to blocks based on depth, near surface (above 50 mRL) was assigned 2.13 t/m³, material below -50 mRL is assigned 2.6 t/m³, the remainder of the blocks are assigned a density from a regression formula based on the RL of the block. The average density of the mineralisation is 2.50 t/m³.

Block model validation comprised visual checks in plan and section, global comparisons between input and output means, and alternative estimation techniques.

# 1.6 CUT-OFF GRADES

The resource is reported above a 0.25 % Cu and material outside the copper mineralisation above 0.30 g/t gold grade and within 150 m of the surface (-100 mRL).

The following assumptions were considered when assessing the reasonable prospects of eventual economic extraction (RP3E),

Parameter	Metric	Unit
Mining	3.40	\$/tonne
Process	11.70	\$/tonne
General/Admin	2.00	\$/tonne
Gold Recovery	83%	
Copper Recovery	82%	
Mining Dilution	5%	
Gold Price	2000	\$/oz
Copper Price	4.00	\$/lb
Gold Cut Off	0.34	g/t
Copper Cut Off	0.25	%

Table 1-2. RP3E Assumptions (USD)

#### 1.7 CRITERIA USED FOR CLASSIFICATION

The Resource Estimates were classified in accordance with the JORC 2012 code. The El Pilar resources are classified based on data quality, drill density, number of informing samples, kriging efficiency, average distance to informing samples and vein consistency (geological continuity). Geological continuity has been

demonstrated at 20 m grid spacing over the entire strike of the deposits. Areas of high grade or geological complexity have been infilled to 10 m centres. Areas drill on 20 m sections may be classified as indicated, predicated on geological confidence and grade continuity. Areas less densely drilled have been classified as inferred. Areas of limited geological confidence or at a depth beyond a reasonable open pit depth remains unclassified. A mineral resource is not an ore reserve and does not have demonstrated economic viability.

# 1.8 MINING AND METALLURGICAL METHODS AND PARAMETERS AND OTHER MATERIAL MODIFYING FACTORS CONSIDERED TO DATA.

Antilles Gold foresees mining via open pit and conventional grinding and flotation, with metallurgical testwork undertaken on a range of composites for both the gold domain, and the copper/copper gold domain at Blue Coast Research in British Columbia, Canada. The El Pilar mineralisation sampled has been shown to be amenable to floatation for copper and gold. 82% of the copper reports to the float concentrates. The low-grade gold associated with the copper domains will provide gold credits in the copper concentrate (gold in concentrates is commonly payable above 1g/t). Low Sulphur gold mineralisation (gold domains) show 83 % recovery to the float concentrates. MA notes that this is a reasonable assumption but should not be regarded as rigorous at this stage of the project. The current Mineral Resource does not include any dilution or ore loss associated with practical mining constraints.

Mr I. Taylor

BSc Hons (Geology), G.Cert.(Geostats), FAusIMM (CP), MAIG.

Brisbane, Australia

Date: 05/03/24

#### 2 DATA VERIFICATION

The Competent Person, Mr Ian Taylor, has worked as an Independent Principal Geologist since 2009 with Mining Associates. The CP has gained good familiarity and confidence in the available diamond drilled data, the geology models and understanding of the prevailing mineralisation. Mr Taylor believes the geological understanding and data available for the El Pilar resource estimate is of good quality and is representative of the prevailing mineralisation relevant to the deposit.

Several verifications are hereby confirmed by Mr Taylor.

- 1. Diamond drillhole collar coordinates were checked against the latest topographic survey data and were verified through visual observation and digital checks against database data. Spot checks were completed using a hand held GPS.
- 2. Sampling methods and data correspond to visual inspection stored core and sample tags and are correctly represented against the original sample sheet records and the stored database data.
- 3. Database validations were performed to:
  - a) Ensure assay results reflect original assay certificates.
  - b) Investigate outlier values for assays data fields.
  - c) Checked for and addressed errors related to overlapping or duplicate logging and sampling records (x3 found)
  - d) Check orientations and relative magnitudes of downhole survey data.
  - e) Confirmed that relevant metadata was recorded consistently and accurately.
- 4. QAQC data reports were provided by Antilles together with the process used for analysis and were verified as robust methods for assuring assay accuracy, precision and controlled contamination.
- 5. Drill core observations served to verify the prevailing geology model and its association with the different styles of alteration as per the logged data and 3D geology models.

# 2.1 SITE VISIT

A site visit to the Project was carried out April 8 to April 10, 2021, by Ian Taylor, FAusIMM(CP)., QP for Mineral Resources. Activities during the site visit included:

- Review of the geological and geographical setting of the Project.
- Review and inspection of the site geology, mineralisation, and structural controls on mineralisation.
- Review of the drilling, logging, sampling, analytical and QA/QC procedures.
- Review of the drill logs, drill core, storage facilities.
- Confirmation of 6 drill hole collar locations. (Average ±3.03 m as expected with a hand held GPS)
- Assessment of logistical aspects, potential OP locations, potential waste dumps and other surface infrastructure practicalities relating to the Property.
- Review of the structural measurements recorded within the drill logs and how these measurements are utilized within the 3D structural model; and
- Validation of a portion of the drill hole database

# 2.2 HISTORIC ASSAYS

An extensive twin hole programme was undertaken by Antilles Gold. Antilles Gold has twinned 30 RC holes originally drilled either the truck or the track mounted rig. QQ plots are the main validation tool to compare grade distributions of two sample sets, along with statistical approaches. The findings of the review are summarised by Taylor (2023).

The historic assays obtained from the truck mounted drill rig were shown to be over reporting the gold concentration (Figure 2-1). An MS Access™ database query was written with the following regression formula to create a new table with corrected truck mounted assays, for the other drill methods, priority was given to

the au\_ppm\_best result (most appropriate historic assay result) or the Antilles Gold sample data sent to SGS. The new assay table was called Assay\_Res and stored in the MS Access™ database (240128 el pilar 1996 2023.accdb).

 $Au\_ppm: = IIf([C].[Hole\_Type] = "RC", (IIf([au\_ppm\_best] < 0.09, [au\_ppm\_best] * 0.1, [au\_ppm\_best] * 0.8838 - 0.0788)), Nz([au\_ppm\_best], [Au\_g\_t\_SGS])).$ 

Simplified the regression is  $Y = 0.8838 \times X - 0.0788$  where X gold grade of the truck mounted RC sample. The Track mounted RC drill rig showed similar gold distributions to the diamond twin holes, no factor was applied to the track mounted rig (Taylor, 2023). No factors were required for the copper assays.

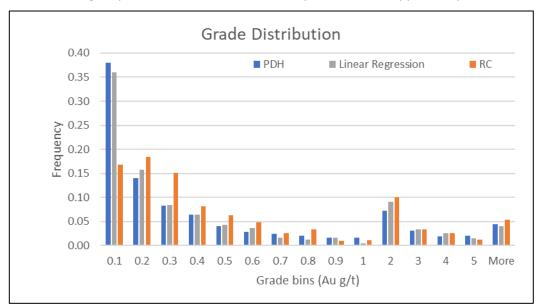
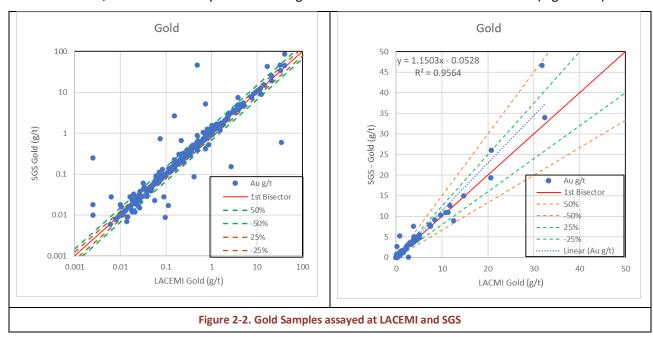


Figure 2-1. Histogram of Raw RC (orange) vs Diamond (Blue) and corrected RC results (grey)

Initially the company sent samples to LACEMI (local laboratory) for faster turn-around times, the pulps were also sent to SGS, the LACEMI assays are returning about 15% lower than the SGS results. (Figure 2-2)



#### 2.3 REJECTED DRILL HOLES

The initial Antillies drill program set about to twin a proportion of the historic drilling, this twin program was used to determine the suitability of the historic drilling. All twined historic holes were not used in the resource estimate. Holes that were dubious were also removed from the estimate. A list of holes and the justification is provided in Table 2-1.

Table 2-1. Rejected Holes - not used in the resource estimate

Hole id	replaced	Reason
PDH-001A		3 m sample at 194 g/t Au is not reflected in the earlier LACEMI assays, or the two redrills, 001A or 001B
PZ-002		Water monitoring holes
PZ-002 PZ-003		Water monitoring noies  Water monitoring holes
	DDH 010	
RC-001	PDH-019	Poor correlation of high-grade mineralisation between original and new hole – potential smearing
RC-002	KGP-29	twinned by a diamond hole
RC-004	PDH-010	replaced with an Antilles Hole
RC-005	PHD-002	New hole PDH-002 reports typically better grades than the original hole
RC-006	PDH-013	replaced with an Antilles Hole
RC-008	PDH-012	replaced with an Antilles Hole
RC-012	PDH-008	replaced with an Antilles Hole
RC-025	PDH-003	replaced with an Antilles Hole
RC-029	PDH-027	replaced with an Antilles Hole
RC-044	PDH-014	replaced with an Antilles Hole
RC-045	PDH-020	replaced with an Antilles Hole
RC-052	PDH-040	replaced with an Antilles Hole
RC-088	PDH-023	replaced with an Antilles Hole
RC-092	PDH-018	Some alignment in upper portions of RC-092 against PDH-018 however evidence of smearing in lower portions, with scissor hole (PDH-001B) showing no mineralisation
RC-094	PHD-006	replaced with an Antilles Hole
RC-096	PDH-017	replaced with an Antilles Hole
RC-105	PDH-011	replaced with an Antilles Hole
RC-107	PDH-030	replaced with an Antilles Hole
RC-108	PDH-007	replaced with an Antilles Hole
RC-114	PDH-009	replaced with an Antilles Hole
TRC-251	PDH-038	replaced with an Antilles Hole
TRC-254	PDH-037	replaced with an Antilles Hole
TRC-263	PDH-060	replaced with an Antilles Hole
TRC-264	PDH-034	replaced with an Antilles Hole
TRC-267	PDH-033	replaced with an Antilles Hole
TRC-268	PDH-032	replaced with an Antilles Hole
TRC-269	PDH-029	replaced with an Antilles Hole
TRC-270	PDH-036	replaced with an Antilles Hole
TRC-271	PDH-001B	very high grade assays not seen in PDH-001B
TRC-272		no down hole survey
TRC-274	PDH-035	replaced with an Antilles Hole
TRC-277	PDH-004A	Scissor hole (PDH-025) an new hole PDH-004A show no mineralisation at bottom of TRC-277
TRC-278	PDH-028	replaced with an Antilles Hole
TRC-291	PDH-022	Mineralisation shown in TRC holes not reflected in new DD hole (PDH-022)
TRC-294	PDH-039	replaced with an Antilles Hole
TRC-304	PDH-003A	replaced with an Antilles Hole

Hole id	replaced	Reason
TRC-305	PDH-031	replaced with an Antilles Hole

# 2.4 QAQC

Onix Geological Services reviewed the QAQC data (Sierra, 2024). Antilles Gold has an acceptable insertion rate for CRM's, field duplicates and blanks. Antilles Gold procedures require 3 blanks, 3 duplicates and 5 CRM's per 100 samples submitted. To date Antilles gold has submitted 3% blanks, 5% core duplicates and 4% CRM's, sufficient to judge the quality of sampling and assaying.

A blank failure is considered as 10 x the lower detection limit. The copper blanks returned 12 fails (4%) and three gold blanks 3 failed (1%). No action was deemed necessary.

Field duplicates returned an average coefficient of variation (CVavg) of 13% for gold duplicates. Acceptable sampling practice in a coarse to medium grained gold deposit is 30% CVavg and best practice is 20% CVavg (Abzalov, 2008). Antilles Golds copper duplicates returned a 14% CVavg, Absolov lists copper deposits (Australia and Canada) as having average CV ranging from 13.5 to 15.3, confirming Antilles sample practices are acceptable.

OGS reviewed the certified reference material results and associated graphs and expresses satisfaction that they generally demonstrate a high degree of accuracy at the assaying SGS laboratory. Standard deviations were used as control gates for submitted CRM's (3x and 2x).

MA collated the certified reference material (CRM) results (Table 2-2) and noted the bias of each CRM, CRM 21F is a certified blank and returned at or below the detection limit. CRM 254B is the worst performing CRM with a 3.41% bias, note this bias calculation does not include sample PEL-4148, 90 ppm Cu), the worst gold standard was 907, both CRM's expected values are within 10 x the detection limit, thus the bias is not material. All standards with expected values above 10x detection limits performed well (negligible bias, within  $\pm$  1%).

OREAS Cu (%) Au (ppm) Count Count CRM EV Fail Bais ΕV Bais Avg Avg Fail 21F 0.0001 BDL 0 NA 0.0049 0.0047 NA 4 9 0 258 23 0.010 0.0101 0 0.00% 21 11.15 11.05 0 0.9% 254B 56 0.004 0.0044 3.41% 57 2.53 2.53 0 0.0% 503d 26 0.524 0.52 2 -0.48% 22 0.666 0.668 -0.3% 503e 111 0.531 0.529 0 -0.37% 85 0.709 0.70 4 -0.96% 0.44 0.444 506 88 0 0.90% 85 0.364 0.36 0 -0.35% 907 58 0 -0.86% 54 0.10 0 0.638 0.632 0.1 1.80% 908 74 1.272 0.99% 74 0.0187 0.0188 1.26 0 0 0.88%

Table 2-2. Summary of CRM results

Antilles QA-QC procedures state jobs with fails should be rejected, however no jobs were removed from the dataset. One copper CRM (PEL-4148 – OREAS254B) failed dramatically, (90 ppm compared to 42.9 ppm) but did not fail on the gold assay, the detection limit for copper is 5 ppm, the expected value of the CRM is less than 10x the detection limit and therefore is not a suitable copper CRM. CRM 254B shows no bias in the gold results confirming the CRM has too low an expected copper value to be reliable.

One 503d CRM (PEL-0560) reported low for both copper (0.483 %) and gold (0.617ppm) assays. CRM 503d is of sufficient grade and is a suitable CRM. No follow up was reported, MA checked the sample certificate, the laboratory repeated PEL-0560, at the time and the second analysis returned 0.691 (EV

0.666 ppm), no further follow up was deemed necessary. Copper results are not included on the laboratory assay certificate.

CRM 503e (Figure 2-3) has four fails and several below the warning level (2xSD), although the fails are just below the control line (3xSD) they represent the beginning of a time when gold assays are reported low (1.5% under-call), highlighting the importance of early identification of fails and action. Overall CRM 503e reports a -0.3% under call. There is also an under call in CRM 506, but it is negligible (-0.35%).

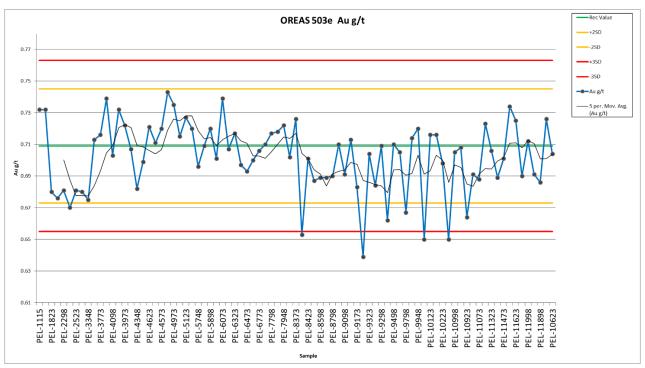


Figure 2-3. OREAS CRM 503e gold

Copper standard 907 (Figure 2-4) does not trigger any fails but does show an under-call (-1.5%) in copper in the first half, early action would have lessened this impact. The second half shows a fair distribution around the expected value. Note 506 (Figure 2-5) and 908 (Figure 2-6) shows a constant copper overcall  $(\sim0.9\%)$  positive bias).

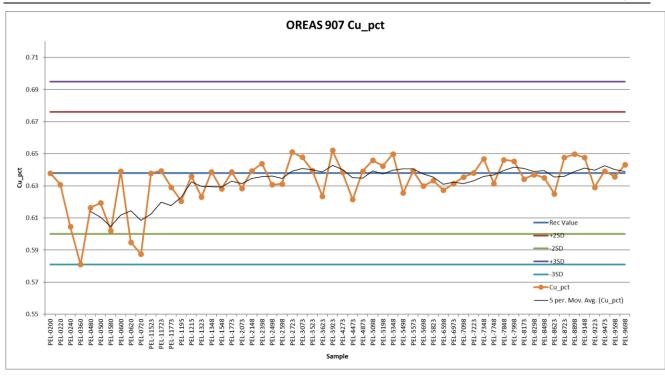


Figure 2-4. Copper CRM OREAS 907

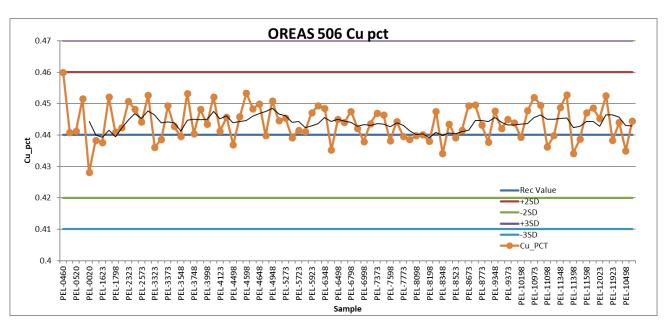


Figure 2-5. Copper CRM OREAS 506

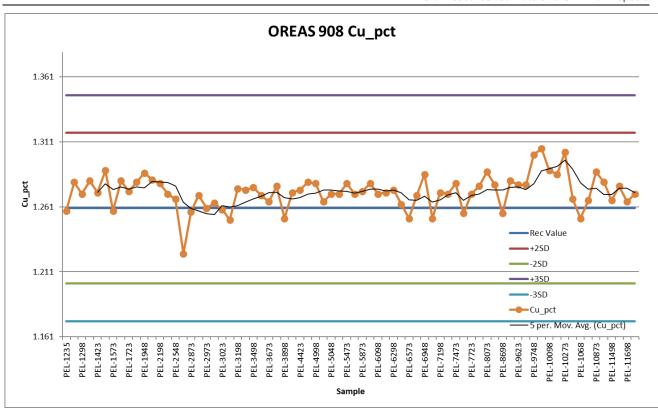


Figure 2-6. Copper CRM OREAS 908

# 2.5 RECOVERY AND ROCK QUALITY DESIGNATION

In areas of poor rock quality, the core runs are kept short (1.5 m) and the entire run is sampled. Competent core is half sawn, moderately broken or highly altered core is wrapped in sticky tape before cutting, highly broken core is grab sampled collecting approximately ½ the rubble. 80.6% of core is recorded as 100% recovery. This includes shorts runs where broken core can be compiled (not reconstructed) to the drill rod advancement. A better measure of sample quality at this project is RQD, Figure 2-7 shows RQD is relatively variable, very little rock is of good quality, (above 80% RQD).

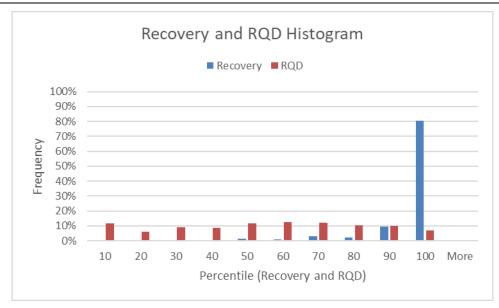
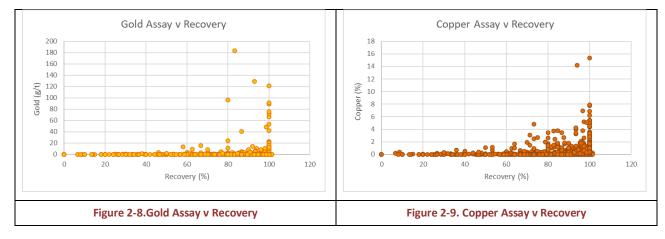
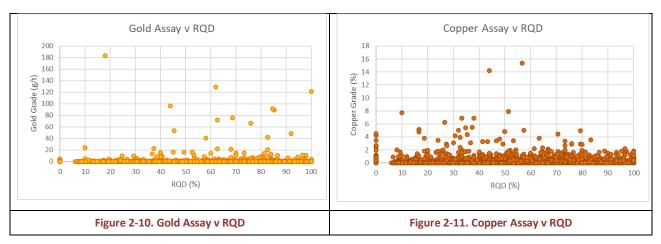


Figure 2-7. Histogram of Core Recovery and RQD

Comparing recovery and RQD to assay grades, show that a similar proportion of gold outliers are from poor recovery core (Figure 2-8) as good recovery areas. A similar observation applies to the copper assays (Figure 2-9). Most of the mineralisation has low RQD's, Figure 2-10 showing gold assays and Figure 2-11 showing copper assays against RQD.





# 2.6 CONCLUSION

Review of drilling and logging procedures, sample preparation, analytical methods, database security and management, supports the assessment that data is a fair quality and is likely to be representative of in-situ mineralisation.

Of the 8 CRM's 3 are at or near the detection limit, one is near the cut off value (0.3 g/t) two are near 0.7 g/t and two are high grade 2.53 and 11.05 g/t. The general observation is that low grade gold samples are under-called (0.35% to 0.9%), ore grade samples show no bias and very high-grade samples are overcalled by 0.9%. MA predicts the under call at the cut off will provide marginally (<1%) fewer tonnes, the overcall at the top end will not be material as most of these assays will be top cut during the exploratory data analysis.

The same 8 CRMs were analysed for copper. Three CRM's are below the detection limit, four are considered mineralised ( $\sim$ 0.5%) and one high grade copper CRM. Copper CRM's perform variably, with all bias less within  $\pm$ 0.9%, the strongest bias is seen in the high grade copper result (bias  $\pm$ 0.99%), these values are likely to be considered outliers during the EDA and will be capped, thus having minimal effect on the mineral resource estimate.

Commonly the core shows advanced argillic alteration and is highly broken, the company countered this by drilling short runs and sampling the entire run length, commonly recording the highly broken rock as 100% recovery. When considering core quality and coincidentally sample quality, the rock quality designation (RQD) shows that samples with poor RQD have the best gold and copper grades. There are significant gold outliers associated with low core recovery, but not all outliers are associated with low core recovery. The host rock is highly altered and commonly highly broken, there is no guarantee that the lost core has the same grade as the recovered core.

The CP is confident that the information available is of a good standard for use in estimating the EL Pilar mineralisation.

# 3 GEOLOGICAL INTERPRETATION

Wireframes representing oxide gold and copper zones were provided by Antilles, the wireframes represent alteration phases and the respective enrichment in economic elements. The alteration wireframes were used as guide to the mineralisation wireframes.

The gold oxide zone is associated with the presence of hematite (20% to 50% disseminated and in veinlets). Hematite is associated with advanced argillic alteration from surface. The presence of vuggy silica alteration is interpreted to be part of the lithocap above the advanced argillic alteration. Gold is found preferentially in the argillic alteration commonly associated with hydrothermal breccias (Figure 3-1). Below the gold in oxide is a zone of copper mineralisation with decreasing hematite and increasing secondary chalcocite at the transition between advanced argillic to intermediate argillic (Figure 3-2). The copper sulphide zone appears below the intermediate argillic alteration down to the base of argillic alteration zone where primary chalcocite, chalcopyrite and pyrite occur (Figure 3-3). The sulphides occur in the thickest zones of argillic alteration associated with identified early and inter-mineral porphyries. The periphery of the deposit is chlorite altered with pyrite chlorite veins (Figure 3-4).

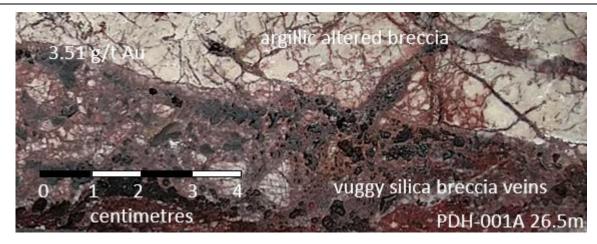


Figure 3-1. Argillic altered breccia and vuggy silica boxwork breccia veins (MA 2024)



Figure 3-2. Advanced Argillic Alteration, veinlets of chalcocite and fine sulphides. (MA 2024)

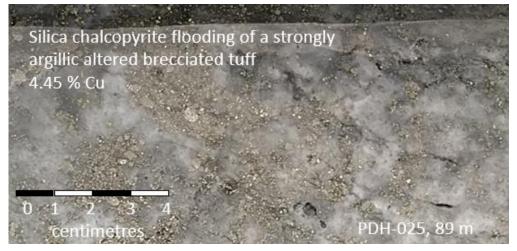


Figure 3-3. Silica chalcopyrite flooding of an argillic altered brecciated tuff. (MA 2024)



Figure 3-4. Phyllic Altered Lithic tuff with a pyrite chalcopyrite chlorite vein. (MA 2024)

# 4 EXPLORATORY DATA ANALYSIS

Exploratory Data Analysis (EDA) is a crucial practice in geoscience, employed by scientists to analyse and investigate data sets. EDA helps determine the best ways to manipulate data sources, making it easier to discover patterns, spot anomalies, test hypotheses, and check assumptions. Originally developed by mathematician John Tukey in the 1970s, and continues to be widely used in the data discovery process today.

EDA provides a deeper understanding of data set variables and their relationships which are critical to our understanding of a deposit. It is used to identify errors, understand patterns, detect outliers, and validate results, thus improving the estimates based on the data. EDA tools include techniques such as visualisation methods, clustering, dimension reduction, univariate and bivariate visualisations, and variograms.

# 4.1 DATA LOCATION (SURVEY)

Drill collars are surveyed using World Geodetic System 1984 (WGS84) UTM Zone 17 N (EPSG 32617).

The collar coordinates are measured with a Nikon XF total station (serial number E053548), based on the national support network, converted to UTM using the Datum NAD 27 to WGS84. The final depth of the borehole and the inclination are not measured by the surface surveyors, but by the drillers; the inclusion of hole and final depth are stored in the collar survey report ensuring all spatial location data of the boreholes are in one place within the company. The angular values of the azimuths and the angles of inclination are expressed in decimal degrees (degrees and tenths of degrees).

The historical data does not specify how historical drill collars are surveyed, the collar coordinates were originally located in a local grid and converted to Cuba Norte (GPS99) this was corrected to Cuba Norte (3795), a shift of approximately 30.41 m west and 3.35 m north. The Cuba Norte gird was then transformed to UTM Z17N (WGS84). Two documents record the historic data, Smith 1997 and Paltser 1997.

Smith provides surface plots (local Grid) and Palster provided the hole azimuth, though no record if the azimuths are true or magnetic. Plotting collars and down hole surveys confirmed the grid is correct and the azimuths recorded were magnetic. The magnetic declination in 1996 was 4° 48′ W (-4.8°) (IGRF model, 15/06/1996, 21° 44′ 36″ N 78° 32′ 28″ W.) The current magnetic declination is -7.57°. Antilles drill contractors used an Reflex EZ-trac for DH survey and the Reflex ACT III is used for core orientation. The EZ-Trac provides readings in Magnetic (original azimuth) and a corrected true north azimuth using a magnetic declination of -7.57 degrees. The compasses used for sighting drill rigs have been adjusted to true north.

Hole RC-093 and RC-100 both had the same collar location (Paltser, 1997), a validation check against (Smith, 1997) and the spreadsheet, Base de Datos El Pilar proyecciones oct 2022.xls, showing Cuba Norte (GPS99 &

3795) latitude and longitude and WGS84 Z17N coordinates for the historic holes confirm the database collar table in is likely wrong. RC-100 was given the Smith 1997 collar coordinates and subsequently used in the resource estimate.

The provided database had duplicate survey records for holes PDH-053 to DPH-070 (identical records). The identical records were removed, and input data checked against the Topographic certificates provided by the surveyors.

# 4.2 DRILL HOLE SPACING

Drill holes across the deposit are spaced at nominal 20 m x 20 m centres, the northern portion of the deposit is drilled on 25 m lines. (Figure 4-1). Antilles gold twinned 30 historic RC holes and significantly added to the deposit knowledge expanding the copper mineralisation to the south west.

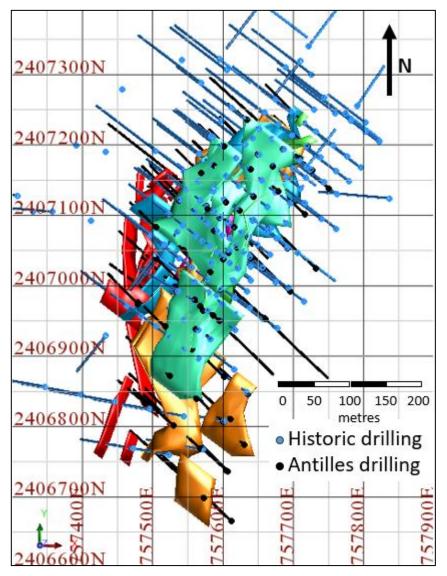


Figure 4-1. Plan View - drill location plan

# 4.3 GEOSTATISTICAL DOMAINS

Mineralised boundaries were assessed with log probability plots of raw sample data to determine natural breaks in the assay distributions. A lower natural break occurs at 0.25 % copper and 0.3 g/t gold.

Geological interpretation involved defining the broad oxide zone (the presence of hematite and advanced argillic alteration). Within this halo confirming flat lying gold zones above 0.3 g/t were defined. Three estimation domains lie within the oxide zone (Figure 4-2), a broad flat domain (13), thin sub parallel to bedding lodes (12) and vertical breccia vein domains (14). The vertical breccia veins appear to wrap around a barren intrusion, with the highest gold grades on the contacts.

Separate domains were defined for copper at a 0.25% cut off. The broadest domain (18) lies below the interpreted boundary of advanced argillic alteration, where the sulphides remain preserved. A subvertical domain (19), associated with elevated copper mineralisation due to an increase in primary chalcocite and chalcopyrite is interpreted to be associated with the porphyry intrusions. Deep copper mineralisation (17) has been identified and interpreted to be associated with the deeper proportions of the porphyry system, although interpreted and estimated this domain largely remains outside the classification of a resource.

Mineralisation outlines were interpreted on serial cross sections oriented at 307° and spaced at 20 m intervals to the south and 25 m to the north, the sections were digitised in Surpac™, Cross-section interpretations were checked in 3 dimensions to ensure continuity. These cross sections provided the framework for triangulations (Figure 4-3), providing the three-dimensional interpretation to constrain resource estimation.

Assay intervals enclosed by interpreted mineralisation wireframes were flagged with the domain name and stored in a database table containing drill hole ID, start and end downhole depths of the interval and the domain name. These intervals were used to select sample assays for the creation of informing sample composites.

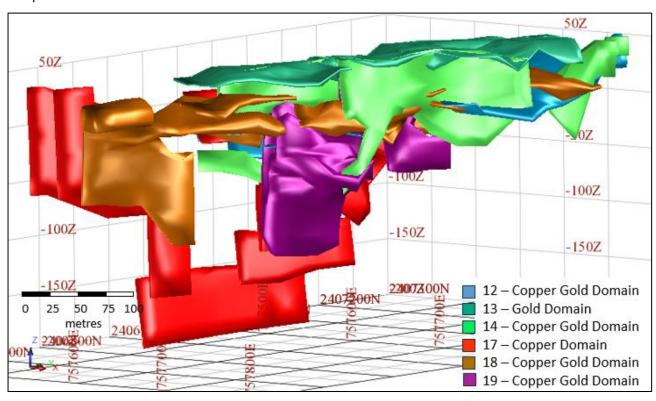


Figure 4-2. Copper and gold estimation domains.

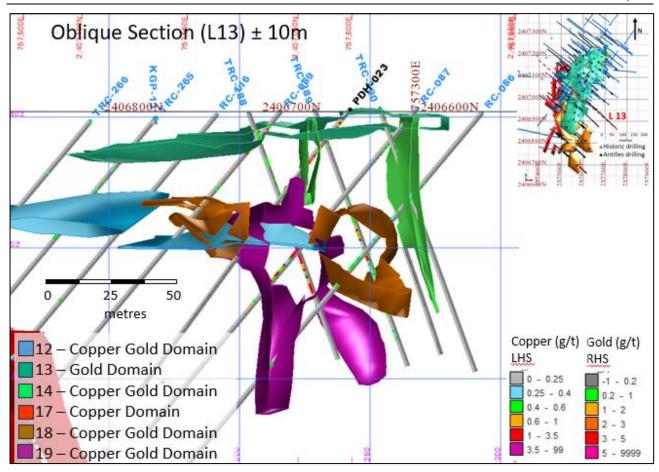


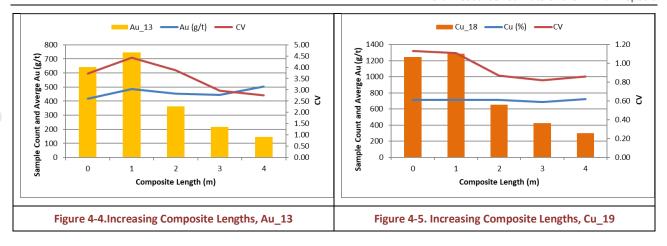
Figure 4-3. Oblique Section looking NE ±10m

# 4.4 COMPOSITING

Samples are composited to minimise volume variance issues. Commonly short samples of geologically interesting features are often mineralised, but these short samples are then considered outliers in the selected domain. Rather than capping the raw data of unequal sample support, samples are composited to a consistent length before outliers are considered. Lengths of the samples were statistically assessed prior to selecting an appropriate composite length. Most (92%) of the samples within the mineralised domains are 1 m intervals. Only 8% of samples longer than 1 m with the 2022 Antilles gold drill program was sampled on 2 m intervals. Very few short samples (0.25%) occur in the database, due to the entire core run (1.5 m) being sampled in zones of poor recovery.

Composite lengths were tested, considering the change in mean and the coefficient of variation for the primary element of each domain. An example of compositing lengths affecting the mean and coefficient of variation (CV) of copper grades are presented in Figure 4-4 and Figure 4-5.

MA selected one metre composites. The Surpac Function "Best Fit" was used to composite samples downhole. The best fit method reduces the number of rejected short samples by varying the composite length to best fit the interval while ensuring the composite length is as close as possible to the nominated composite length. allowing minimum composite length of 0.60 m.



# 4.5 COMPOSITE STATISTICS

A domain is a defined volume that delineates the spatial limits of a single grade population. Domains have a single orientation of grade continuity, are geologically homogeneous and have geostatistical parameters that are applicable throughout the volume (i.e. the principles of stationarity apply). Summary statistics for gold domains are shown in Table 4-1, copper domains in Table 4-2 and sulphur and iron statistics are shown in Table 4-3.

**Table 4-1. Gold Domains** 

Domain	Au_12		Au_13		Au_14	
Statistic	Au (g/t)	Cu (%)	Au (g/t)	Cu (%)	Au (g/t)	Cu (%)
Count	350	350	724	724	436	436
Mean	2.40	0.31	3.00	0.01	6.60	0.23
Median	0.43	0.04	0.58	0.01	1.21	0.02
CV	4.02	2.09	4.54	2.09	2.74	4.21
SD	9.65	0.65	13.67	0.02	18.22	0.98
97.50%	12.15	1.80	17.11	0.05	48.40	1.79
Max	112.95	7.59	194.00	0.27	170.24	11.90

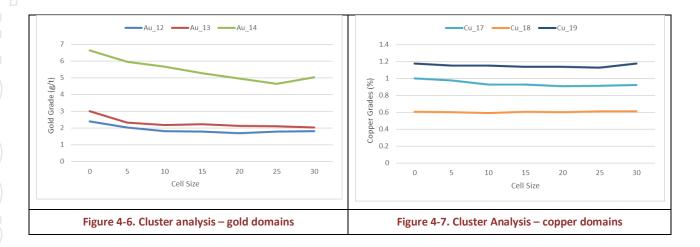
**Table 4-2. Copper Domains** 

Domain	Cu_17		Cu_18		Cu_19	
Statistic	Cu (%)	Au (g/t)	Cu (%)	Au (g/t)	Cu (%)	Au (g/t)
Count	309	309	1358	1358	861	861
Mean	1.00	0.12	0.60	0.87	1.20	0.09
Median	0.53	0.02	0.45	0.03	0.70	0.02
CV	1.52	9.21	1.12	7.77	1.37	4.34
SD	1.52	1.07	0.67	6.76	1.61	0.41
0.98	5.89	0.11	1.76	4.34	5.40	0.56
Max	13.67	13.40	11.90	123.00	17.14	5.90

Table 4-3. Sulphur and iron all domains

Statistic	Sulphu	Sulphur (%)						Iron (%)				
	Au_12	Au_13	Au_14	Cu_17	Cu_18	Cu_19	Au_12	Au_13	Au_14	Cu_17	Cu_18	Cu_19
Count	40	179	86	114	370	219	40	179	86	114	370	219
Mean	1.70	0.00	0.40	2.60	1.20	2.10	4.05	3.25	3.81	6.12	4.00	3.30
Median	1.39	0.02	0.03	2.03	0.94	1.68	3.88	3.07	3.3	5.82	3.575	2.71
CV	0.93	1.96	2.52	0.78	0.94	0.75	0.38	0.55	0.6	0.3	0.57	0.61
SD	1.57	0.04	1	2.03	1.14	1.56	1.55	1.78	2.27	1.81	2.28	2.02
0.975	5.51	0.04	3.94	7.37	3.82	6.15	8.32	8.52	10.94	11.04	9.74	8.21
0.99	6.79	0.19	5.72	8.92	5.25	7.90	10.37	9.93	12.53	13.26	10.16	10.27
Maximum	6.79	0.43	6.45	9.53	7.10	8.89	10.37	10.35	13.98	13.37	12.81	11.22

Clustering analysis showed gold domains have a level of clustering affecting the overall average grade of the composites with Domain 14, the high-grade domain having the greatest clustering issues. In gold domains 12 and 13 the clustered data smoothed with a relatively small cell size, finding a stable mean.



## 4.6 GRADE CAPPING

Capping is the process of reducing the grade of an outlier sample to a value that is representative of the surrounding grade distribution. Reducing the value of an outlier sample grade minimises the overestimation of adjacent blocks in the vicinity of that value. The datasets (raw samples) were assessed for extreme outliers, values beyond the expected, that are not part of the sample distribution. No extreme outliers were found in the raw sample data set. Composite statistics were analysed to determine if grade capping was necessary to reduce the influence of expected outliers on the estimation. Histograms, log probability plots, interquartile ranges (Tukey Fences (Tukey, 1977)), standard deviations and metal loss are assessed when selecting a grade cap. Selected grade caps and summary statistics of domains before and after capping for gold are shown in Table 4-4 and copper statistics are shown in Table 4-5.

**Uncapped Composite Data** Capped Composite Data Grade Mean # Capped Domain Maximum Au 12 350 2.40 112.95 4.03 6 1.55 14.4 1.84 0.02 -0.35Au\_13 721 2.22 72.92 2.68 8 2.03 31.7 2.17 0.01 -0.08 453 **92.6** | 2.48 Au\_14 6.53 170.24 2.76 6.09 0.02 -0.07

**Table 4-4. Grade Capping - Gold Domains** 

**Table 4-5. Grade Capping - Copper Domains** 

Uncapped Composite Data				Capped Composite Data				Grade		
Domain	Count	Mean	Maximum	CV	# Capped	Mean	Cap	CV	% Cap	% Δ
Cu_W	309	1.00	13.67	1.52	4	0.97	7.0	1.38	0.01	-0.03
Cu_S	1364	0.60	11.90	1.12	7	0.58	3.6	0.82	0.01	-0.03
Cu_D	861	1.17	17.14	1.37	1	1.17	15.6	1.36	0.00	0.00

No grade capping was required for sulphur and iron.

## 4.7 VARIOGRAPHY

The most important bivariate statistic used in geostatistics is the semi-variogram. The experimental semi-variogram is estimated as half the average of squared differences between data separated exactly by a distance vector (lag). Semi-variograms models used in grade estimation should incorporate the main spatial characteristics of the underlying grade distribution at the scale at which mining is likely to occur.

Variogram maps were produced in Supac using samples in the plane of mineralisation to determine if any directional anisotropy was present. Generally, the experimental variograms were moderately formed, short lag (sample spacing) omni directional variograms were used in lieu of down hole variograms to determine and appropriate nugget effect. Modelled gold variogram parameters are shown in Table 4-6. Nugget effects range from 0.104 to 0.34 for gold deposits and 0.25 to 0.31 for the copper domains. Maximum ranges are 50 m to 100 m.

	Rotation			Vario	gram				Anisotropy	
Domain	bearing	plunge	dip	Со	C1	A1	C2	C2	Major/Semi- Major	Major minor
12	214.7	-0.11	20.66	0.34	0.66	71.25			1.680	1.839
13	60.00	0.00	-10.42	0.10	0.33	33.00	0.56	98.0	1.245	1.603
14	206.4	-19.68	-80.56	0.27	0.730	100.00			1.428	2.491
17	5.62	0.00	-19.24	0.25	0.75	49.46			1.117	1.281
18	200.54	-3.24	8.81	0.31	0.69	70.00			1.290	1.810
19	211.52	-19.63	69.41	0.25	0.72	55.46			1.697	2.220

Table 4-6: Variogram model parameters - Gold

## 5 MINERAL RESOURCE ESTIMATE

The El Pilar deposit is contained withing the 752 Ha Geological Investigation Concession (GIC), which is held by the Minera La Victoria JV (MLV). The GIC is surrounded by +17,000 Ha El Pilar Reconnaissance Permit that is held by the Los Llanos IEA. MLV is currently in the process of converting the GIC to an Exploitation Concession which will allow mining to occur. The company commonly refers to this as the "oxide" zone but does include material below the depth of weathering.

# 5.1 DIMENSIONS

The El Pilar deposit is defined over a 600 m strike and is dominantly flat lying. Some lodes are interpreted to have a vertical aspect, steeply dipping. The flat lying mineralisation is commonly thicker, up to 20 m, with minor distal mineralisation along lithological contacts quite thin, modelled to down to 2 m. The deposit strikes NE (UTM) and dips shallowly to the SE  $^{\sim}10-20^{\circ}$ , with and has a shallow plunge to the SW. The steep central proportion of the deposit with elevated copper is expected to propagate to depth. Deep drilling is limited, thus not all mineralisation is reported as a resource. The reported resource lies within 150 m of the surface. (-100 m RL).

# 5.2 GRADE ESTIMATION

Kriging techniques were used to estimate grade into large parent blocks. These parent blocks were subsequently sub-blocked to give accurate volumes. The sub-blocks reflect a reasonable smallest mining unit (SMU). The estimation has been tightly constrained by the wireframes.

Ordinary Kriging ("OK") is a robust grade estimation technique and is the main algorithm used in geostatistics. The most common use of OK is to estimate the average grades into parent blocks at the scale of the available drill hole spacing. OK is a globally unbiased estimator which produces the least error variance for grade estimates. It uses the grade continuity information from the variogram to estimate grades into parent blocks. It is also able to accommodate anisotropy within the data and is able to replicate this in the panel estimates.

0

0

Another important feature of kriging is that it automatically deals with clustering of data which is important in areas where the data density is not uniform.

# 5.2.1 Block Model

The El pilar block model uses regular shaped blocks measuring 5 m by 10 m by 5 m (XYZ). Choice of block size and rotation was aligned with the trend and continuity of mineralisation, taking into account the dominant drill pattern. The orientation of the block model is parallel to the direction of dominant strike (bearing 035 degrees). Block model parameters (El\_Pilar\_4.mdl) are shown in Table 5-1 and block model attributes are shown in Table 5-2. Blocks above topography were tagged and excluded from the model estimation.

Drill sections at El Pilar are 20 m to 25 m along strike with drill centres spaced 20 m across strike. Sub-blocking is permitted to represent the volumes of the interpreted wireframes more precisely. The minimum block size (sub-block) is  $1.25 \times 1.25 \times$ 

Type Minimum Coordinates 2406820 757160 -200 Maximum Coordinates 2407560 757680 100 User Block Size 5 5 10 Min. Block Size 1.25 1.25 1.25

35

Table 5-1. Block Model Origins, rotation extents and block size

Table 5-2.	<b>Block</b>	model	attri	butes
------------	--------------	-------	-------	-------

Rotation

Type	Decimal	Backgroun	Description
Eleat	_		gold inverse distance estimate conned
			gold inverse distance estimate capped
	_		gold nearest neighbour estimate capped
	_		gold ordinary krige estimate capped
			gold ordinary krige estimate un-capped
			copper inverse distance estimate capped
			copper nearest neighbour estimate capped
			copper ordinary krige estimate capped
Float		<u> </u>	copper ordinary krige estimate un-capped
Float	2	2.5	Density
Charact	-	CU	Deposit Region - Cuba
er			
Float	3	0	iron inverse distance estimate capped
Float	3	0	iron nearest neighbour estimate capped
Integer	-	-99	lode number gold
Integer	-	-99	lode number copper
Charact	-	WS	Mineralisation Gold Domain
er			
Charact	-	WS	Mineralisation Copper Domain
er			
Integer	-	6	Resource classification (1 measured 2 indicated 3 inferred 4 unclassified 5 mined out 6 rock
Integer	-	1	Air=0 Rock=1 Basalt = 2 Tertiary Sediments = 3
Float	3	0	sulphur inverse distance estimate capped
Float	3	0	sulphur nearest neighbour estimate capped
Charact	_	FR	weathering and Alteration codes
er			o a constant of the constant o
Float	2	0	block centroid
Float	2	0	average distance to samples
Float	2	0	bearing of the lode
Float	2	0	Conditional bias slope
	-	0	number of informing drillholes
	Float Charact er Float Integer Integer Charact er Integer Integer Float	S   Float   3   Float   3   Float   3   Float   3   Float   2   Float   2   Float   2   Float   3   Float   3   Float   3   Float   3   Float   3   Float   3   Float   4   Float   5   Float   5	S

Attribute Name	Туре	Decimal	Backgroun	Description
z_dhid	Charact	- S	0	hole_id
z_dip	Float	2	0	dip of the load
z_dns	Float	2	0	distance to nearest sample
z_ke	Float	2	0	krige efficiency
z_kv	Float	2	0	krige variance
z_ns	Integer	-	0	number of informing samples
z_ps	Integer	-	0	1 First Pass; 2 Second Pass Estimate
zs_ads	Float	2	0	average distance to samples
zs_dh	Integer	-	0	number of informing drillholes
zs_ns	Integer	-	0	number of informing samples
zs_ps	Integer	-	0	1 First Pass; 2 Second Pass Estimate

# **5.2.2** Informing Samples and Search Parameters

The domains are treated as having hard boundaries; this restricts sample data from one lode influencing the grade of a lower lodes. The search ellipse was found to be optimal at or near the distance that the variogram reached the sill. A 60 m search ellipse was selected with anisotropic ratios of 1.4 and 1.8 as factors for the major-semi-minor and major-minor axis. The informing sample search ellipse was constant for all domains and elements.

Selection of the informing sample is via a moving neighbourhood, moving with respect to the centroid of the block. The orientation of the search ellipse utilised a fixed search orientation as defined by variogram analysis. A two-pass strategy was employed to estimate blocks, the first pass allowed a minimum of six (6) and maximum of 12 for domains 12,14 and 17 and a minimum of eight (8) and maximum of 16 for domains 13,18 and 19. A kriging neighbourhood analysis and the number of samples within a domain determined the minimum and maximum number of samples to use. The maximum number of samples per drill hole was set at 5. The second pass the search distance was doubled, the minimum required samples was reduced to 4 or 5, and the maximum number of permitted samples restricted to 8 or 10.

# 5.3 DENSITY ESTIMATION

Antilles have collected 63 density measurements; the most common logged lithology is Tuff, and this is reflected in the proportion of density measurements in tuff (56%). Density measurements collected from hydrothermal breccia and diorite represent approximately 20% each (Table 5-3).

Count | Min SG (g/cc) | Max SG (g/cc) | Avg SG (g/cc) 95th Confidence Lithology Andesite 4 2.19 2.78 2.54  $\pm 0.40$ 2.49 Hydrothermal Breccia 10 2.13 2.7  $\pm 0.11$ Tectonic Breccia 2.48 2.78 2.63 ± 1.98 Diorite 11 1.79 2.79 2.46  $\pm 0.18$ Massive Sulphide 2.47 2.47 2.47 Tuff 35 2.06 3.45 2.48  $\pm 0.08$ 

Table 5-3. Density by logged lithology.

Density readings range from 1.79 to 3.45  $t/m^3$ , with most falling in the 2.4 to 2.6  $t/m^3$  bins (Figure 5-1).

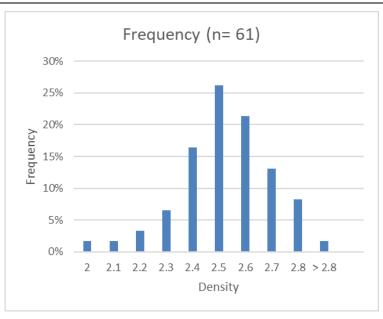


Figure 5-1. Density histogram

Weathering at El Pilar is quite shallow (few metres) and has limited effect on the density. The greater influence on density is alteration. Alteration assemblages at El Pilar progress from advance argillic (inner) to propylitic (outer). There is a relationship between density and depth, down hole depths were converted to vertical depth assuming all drillholes dipped 50° (Figure 5-2). Two outliers were removed from the regression the lowest and highest samples; sample from PDH-001A (52 to 52.8 m) in tuff with a density of 3.45 t/m³ and a sample from PDH-047 (92 to 93 m) in diorite with a light density of 1.79 t/m³.

Material above 50 m RL was assigned a density of  $2.13 \text{ t/m}^3$ , and material below -50 m RL was assigned a density of  $2.60 \text{ t/m}^3$ . The remainder of the blocks were assigned a density based on their RL, using the regression formula shown in Figure 5-2.

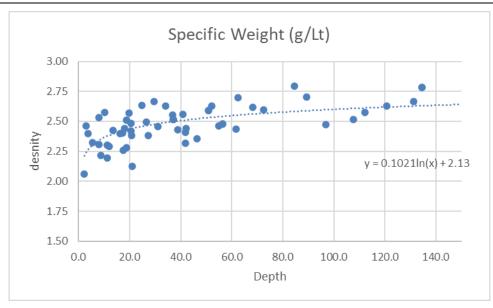


Figure 5-2. Logarithmic regression with depth

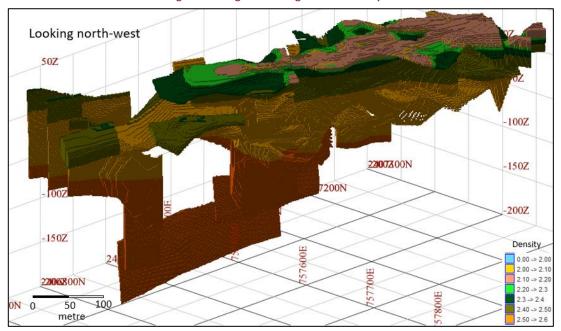


Figure 5-3. Mineralised Domains coloured by density.

# 5.4 VALIDATION

The block model was validated by visual and statistical comparison of drill hole and block grades and through grade-tonnage analysis. Initial comparisons occurred visually on screen, using extracted composite samples and the block model. Further validation used swath plots to compare block estimates with informing sample statistics along parallel sections through the deposits.

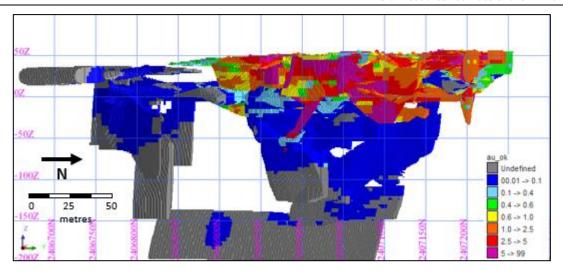


Figure 5-4. El Pilar block model, looking west, gold grades.

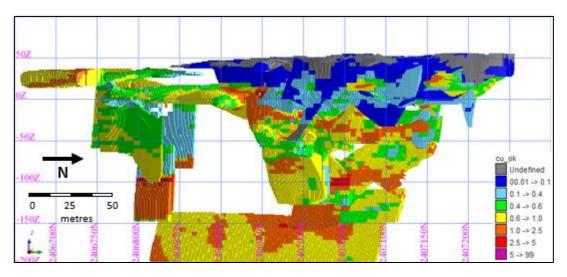
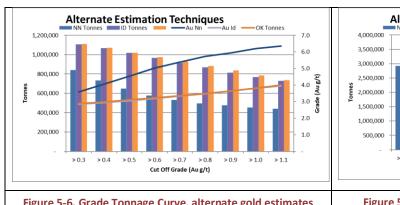


Figure 5-5. El Pilar block model, looking West, copper grades.

# 5.4.1 Alternate Estimation Methods

Kriged copper and gold estimates were validated against nearest neighbour (NN) and inverse distance squared (ID<sup>2</sup>) estimates (Error! Reference source not found.). Comparing the three methods showed expected results:

- NN gives the highest grades and lowest tonnes above cut-off due to the absence of averaging and the tendency for any higher grades at the limits of drilling to be spread out into too many blocks. This outcome can be predicted from the clustered data charts (Figure 4-6) as evidenced by the rapidly changing mean grade with increasing cell size. The copper NN is closer to the ID and OK due to being less impacted by clustered data.
- ID<sup>2</sup> gives higher tonnes and lower grade compared with NN due to the introduction of distance weighted averaging.
- OK gives slightly lower tonnes and lower grades than ID<sup>2</sup> due to the ability to account for anisotropy and sample variance related to distance (variography) and the ability of the kriging matrix to decluster samples.



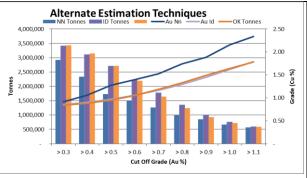


Figure 5-6. Grade Tonnage Curve, alternate gold estimates

Figure 5-7. Grade Tonnage Curve, alternate copper estimates

#### 5.4.2 **Comparison with past estimates**

The current resource has increased the tonnes and grade, largely due to the confirmation drilling undertaken by Antilles and their extension drilling has pushed the copper resource farther south. The 1997 density assigned to the resource was inferred, Antilles have collected 63 samples showing the assigned density is higher than that used in 1997.

Table 5-4. Historic Resource (Smith 1997)

Historic*	Tonnes	Cu %	Au g/t	M lb	k Oz	Density
Gold	1,574,000		2.08		105.23	2.40
Copper	2,123,000	0.74		34.50		2.40
Total tonnes	3,697,000	Not ap	plicable	34.50	105.23	2.40

<sup>\*</sup>the 1997 historic resource is superseded by the current resource reported here-in.

Table 5-5, Current Resource (2024)

	Tonnes	Cu %	Au g/t	M lb	k Oz	Density
Gold (> 0.3 g/t, < 0.25 % Cu)	845,000		2.69		73.03	2.35
Copper (>0.25%)	3,009,000	0.78	0.39	37.36	51.97	2.53
	3,854,000	Not ap	plicable	37.36	125.00	2.49

#### 5.4.3 **Global Bias Check**

The modelled block volumes have been compared against the mineralisation wireframe volumes for each domain, to ensure the chosen sub-blocks are sufficient to define the volumes. The block model volumes and wireframe volumes reconcile well, except for the oxide domain where some of the shapes cross into the transported material and were not assigned a grade.

A comparison of global mean values within the grade domains shows a reasonably close relationship between composites and block model values (Figure 5-8). The comparison of composite and block grade means would normally be expected to show the composite mean being slightly higher than the block grade mean. The estimates reflect the mean sample grades well, lying on or near (within 10% deviation) except for the SHW, the southern hanging wall domain. The southern hanging wall domain has high grade gold in the shallow southern portion of the lode, the grade tenor drops off rapidly to depth.

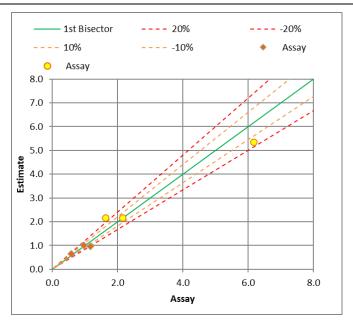


Figure 5-8. Global Validation by Domains Comparing OK and Average Sample Data (gold)

## 5.4.4 Local Bias Check

Swath plots were generated on vertical E-W 20 m wide swaths, to assess local bias along strike by comparing the OK estimate with informing composite means for gold and copper. Results show no significant bias between OK estimates and informing samples and the smoothing effects of kriging is suitably contained.

The broad trend demonstrated by the raw data is honoured by the block model (Figure 5-9 and Figure 5-10), and the interpolated grades are, as expected, smoothed compared to the average composite grades. Raw data is length weighted and the blocks are volume weighted, increasing the probability that composite grades will average higher. The estimated grades generally closely follow the trends shown by the composite mean grades except for areas of variably spaced or limited sampling,

The high spike in seen in the composite data (Figure 5-9; 140 mN local grid) is caused by the high-grade drill hole PDH-002, in the block model this data is constrained to a interpreted high grade shoot restricting the spatial influence, however does present a risk as the holes below PDH-002, RC-115 and PDH-010, confirm the limited extent of mineralisation in hole PDH-002. Figure 5-10 shows copper mineralisation does kick around -140 mN (local grid) associated with several high copper values from hole PDH-031, these outliers are tempered with the high number of copper samples on the next section (-120 mN). The southern extent of the copper mineralisation is strongly influenced by hole PDH-167 which returned high grade near surface copper mineralisation, this hole has not been sufficiently followed up and may represent copper mineralisation associated with east north-east faulting (NE local grid).

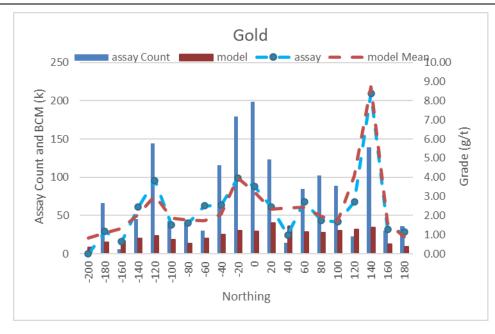


Figure 5-9. Northing Swath Plot – El Pilar Gold Mineralisation

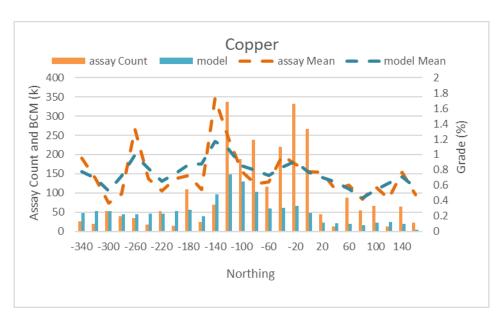


Figure 5-10.Northing Swath Plot – El Pilar Copper Mineralisation

# 5.5 REASONABLE PROSPECTS OF EVENTUAL ECONOMIC EXTRACTION

The resource is reported above a 0.25 % Cu and material outside the copper mineralisation above 0.30 g/t gold grade and within 150 m of the surface (-100 mRL).

The following assumptions listed in Figure 5-4 were considered in determining a reasonable prospect of economic extraction, these assumptions should not be considered exhaustive. Mineral resources are not ore reserves and do not have demonstrated economic viability. Portions of a deposit that do not have reasonable prospects for eventual economic extraction have not been included in the Mineral Resource Statement.

Table 5-6. Cost Assumptions (USD)

Parameter	Metric	Unit	

Mining	3.40	\$/tonne
Process	11.70	\$/tonne
General/Admin	2.00	\$/tonne
Gold Recovery	83%	
Copper Recovery	82%	
Mining Dilution	5%	
Gold Price	2000	\$/oz
Copper Price	4.00	\$/lb
Gold Cut Off	0.34	g/t
Copper Cut Off	0.25	%

Metallurgical testing has shown that copper will float to a concentrate of saleable quality. The tests have also shown that low sulphur gold will float to the concentrate, upgrading to a few grams per tonne. Gold credits will be payable, starting at 1g/t, with 90% payable from 1 to 3g/t and 92% for 3 to 5g/t.

The grade tonnage chart (Figure 5-11) indicates mineralised tonnes increase with decreasing cut-off. The gold only material adds an additional.

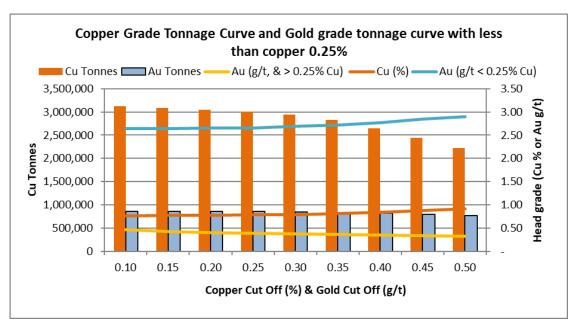


Figure 5-11. Grade Tonnage Curve, copper-gold, and gold only mineralisation.

# 5.6 RESOURCE CLASSIFICATION

Resource classification is based on data quality, drill density, number of informing samples, kriging efficiency, conditional bias slope, average distance to informing samples and geological continuity (deposit consistency). The confidence in the quality of the data justified the classification of Indicated and Inferred Resources (Figure 5-12).

Indicated Resources are the portions of the deposit with a drill spacing of 20 m x 20 m or tighter, particularly where Antilles Gold have infilled key locations and have demonstrated a reasonable level of confidence in the geological continuity of the mineralisation. Indicated blocks are more intensely sampled than inferred blocks, with most blocks having a drill hole within 20 m and an average distance to informing composites generally less than 40 m, and are informed by the maximum number of composites (12 or 16 domain dependent) and have a conditional bias slope above 0.8.

Inferred Resources are the portions of the deposit covered by drill spacing greater than 20 m, or those portions of the deposit with a smaller number of intercepts but demonstrating an acceptable level of geological confidence. Inferred block can be informed by as few as 5 composites. Portions of the resource that do not meet these requirements remain unclassified resources and are not reported.

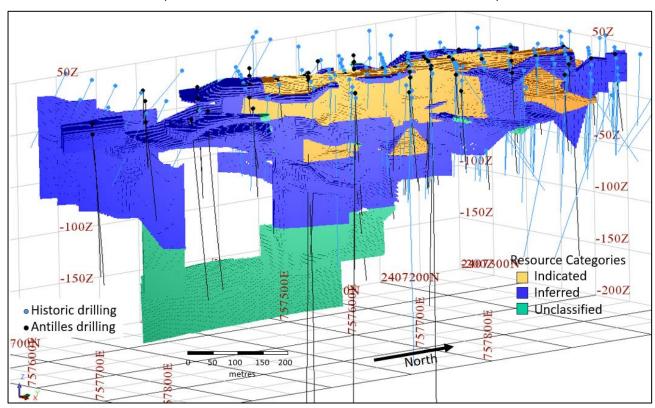


Figure 5-12. MRE Block Models by Resource Classification

# 5.7 MINERAL RESOURCE STATEMENT.

The resource is reported above a depth of -100 m RL and above a cut-off grade of 0.25 % Cu including gold mineralisation, or greater than 0.3 g/t gold where mineralisation is outside the copper mineralisation. (-100 m RL is approximately 150 m below the surface). No significant artisanal mining and no mechanised mining has occurred on the property. The resource is divided into three metallurgical domains based on mineralisation, namely a gold domain, a coper and gold domain, and a copper domain mineralisation.

Material Type	Resource Category	Tonnes	Gold (g/t)	Gold (koz)	Copper (%)	Copper (Mlb)
Gold Domain	Indicated	470,000	2.83	42.7	-	-
Gold Domain	Inferred	376,000	2.51	30.4	-	-
Sub Total		846,000	2.69	73.1	-	-
Copper Gold Domain	Indicated	531,000	1.54	26.3	0.57	6.73
Domain	Inferred	90,000	1.95	5.7	0.50	0.99
Sub Total		621,000	1.60	31.9	0.56	7.72
Copper Domain	Indicated	304,000	0.11	1.1	1.36	9.11
Domain	Inferred	2,084,000	0.06	4.3	0.77	35.15
Sub Total		2,388,000	0.07	5.4	0.84	44.26
Total		3,855,000	•	110.5	•	51.98

## Table 5-7. Reward Mineral Resource Estimate 2021

Due to rounding to appropriate significant figures, minor discrepancies may occur, tonnages are dry metric tonnes.

Mineral Resources are not Ore Reserves and do not have demonstrated economic viability.

Gold in the copper gold domain and copper domain are expected to report to the copper concentrate, gold in concentrate above 1 g/t is commonly payable.

Inferred resource have less geological confidence than Indicated resources and should not have modifying factors applied to them. It is reasonable to expect that with further exploration most of the inferred resources could be upgraded to indicated resources.

The mineral resource contains 110.5 koz Au of shallow gold, and 90% of the MRE tonnes and ounces are within 50 m of the surface. Of the 51.98 Mlb of copper, 46% lies between 20 and 50 m of the surface.

# 5.8 MINING AND METALLURGICAL METHODS AND PARAMETERS AND OTHER MATERIAL MODIFYING FACTORS CONSIDERED

Antilles Gold foresees mining via open pit and conventional grinding and flotation, with metallurgical testwork undertaken on a range of composites for both the gold domain, and the copper/copper gold domain at Blue Coast Research in British Columbia, Canada. The El Pilar mineralisation sampled has been shown to be amenable to floatation for copper and gold. 82% of the copper reports to the float concentrates. The low-grade gold associated with the copper domains will provide gold credits in the copper concentrate (gold in concentrates is commonly payable above 1g/t). Low Sulphur gold mineralisation (gold domains) show 83 % recovery to the float concentrates. MA notes that this is a reasonable assumption but should not be regarded as rigorous at this stage of the project. The current Mineral Resource does not include any dilution or ore loss associated with practical mining constraints.

# 6 REFERENCES

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- 7 JORC CODE, 2012 EDITION TABLE 1 REPORT TEMPLATE 1

# JORC Table 1 – El Pilar Gold Project

# **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

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.</li> <li>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>	Historic Drilling (pre-2021) was completed using open hole (reverse circulation) and diamond core.  Sample intervals were variable based on geological features however the majority range from 1m to 2m in length.  Recent Drilling (2022 onwards)  Recent drilling has been completed using diamond drilling at HQ and NQ core size. Samples were collected at 2m intervals in 2022 and are collected at 1m intervals from April 2023 although adjusted for geological features as required.
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by</li> </ul>	Historic Drilling (pre 2022)     Historical drilling was undertaken utilising both reverse circulation and diamond drilling. Historic diamond holes are NQ. Historic RC drilling utilised a truck mounted drill rig and a smaller track mounted drill rig. The RC hole size is not known.

# recovery Logging

# what method, etc).

# Recent Drilling (2022 onwards)

 Recent drilling was completed exclusively using diamond drilling methods using HQ triple tube techniques (HQ3) with a core diameter of ~61mm, and NQ3 with a core diameter of 45mm.

# Drill sample • Method of recording and assessing core and chip sample recoveries and results assessed.

# Measures taken to maximise sample recovery and

ensure representative nature of the samples. • 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.

# Historic Drilling (pre 2022)

• Detailed records on drill core and chip recovery are not available.

# Recent Drilling (2022 onwards)

 Core recoveries were measured after each drill run, comparing length of core recovered vs. drill depth. Core recoveries were generally better than 96% however core recoveries as low as 80% have been recorded in some vein zones. Short runs were undertaken to counter the poor rock quality (low RQD), in zones of highly broken rock the whole run (~1.5m) was the sample interval. There is no relationship between core recovery and grade. \*Diamond drill core was not oriented due to technological limitations in-country for holes PDH-001 to 006, but all subsequent holes have been orientated Reflex ACTIII.

- 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.
- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
- The total length and percentage of the relevant intersections logged.

# Historic Drilling (pre 2022)

• No drill logs (hard copies) have been seen for the historical drilling. The drill hole database has basic geology codes for the historic holes.

# Recent Drilling (2022 onwards)

- · All core has been geologically logged by qualified geologists under the direct supervision of a consulting geologist to a level to support reporting of Mineral Resources.
- Core logging is qualitative and all core trays have been digitally photographed and will be stored on a server.

# Sub-sampling techniques sample and preparation

- If core, whether cut or sawn and whether quarter, half or all core taken.
- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all subsampling stages to maximise representivity of samples.
- Measures taken to ensure that the sampling is representative of the in situ material collected.

### Historic Drilling (pre 2022)

- Records on the nature of sub-sampling techniques associated with the historical diamond drilling are not available for review. The Historic RC returns were collected in buckets and passed through riffle splitter to produce approximately a 3 kg sample. Wet samples were run through a separator and after drying approximately 0.5 to 1.5 kg was retained as the sample.
- Information available from historic reports regarding the sample preparation techniques are that 1m core intervals were course ground, homogenised and screened at 1 mm. Cuttings from RC drilling were similarly homogenised, pulverised and screened at 1 mm.

# Recent Drilling (2022 onwards)

Core is cut using diamond saw, with half core selected for sample analysis. Samples too broken to cut were split and half the rubble was submitted.



- including for instance results for field duplicate/second-half sampling.
- Whether sample sizes are appropriate to the grain size of the material being sampled.
- Samples submitted for preparation at LACEMI in Havana are dried at a temperature between 80 and 100 °C for a minimum 24 hrs. Sample is then crushed to 75% passing 2 mm, with two 250 g subsamples collected through a riffle splitter.
- Subsample is pulverised to 104 microns.
- One 250 g sample is sent to SGS Peru for analysis of Au and 49 elements by a 2 acid digest.
- 1/4 core duplicates are collected at an average rate of 1 in every 20 samples.
- pXRF results from drill core are averaged from spot readings taken at 20 cm intervals per each meter of
  core. The pXRF readings have been taken from above the commencement of the Cu mineralisation
  zone, until the termination of the hole. pXRF readings are not used in the determination of the mineral
  resource.

Quality of assay data and laboratory tests

- The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.
- For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.
- 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.

# Historic Drilling (pre 2022)

Soil samples were sent to Chemex Labs Ltd. in Vancouver through CIMTEC, where they were analyzed by means of Fire Assay with AA finish for gold, determining another 32 elements (Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sc, Sr, Ti, Tl, U, V, W, Zn) via ICP. The trench and drill samples were sent to the XRAL laboratory in Canada where the determination of the gold was carried out via fire assay with instrumental finish (ppb), the results higher than 1000 ppb were verified with Fire Assay (ppm). The rest of the elements (Be, Na, Mg, Al, P, K, Ca, Sc, Tl, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Sr, Y, Zr, Mo, Ag, Cd, Sn, Sb, Ba, La, W, Pb and Bi), were determined by ICP.

#### Recent Drilling (2022)

Preliminary analysis was undertaken at LACEMI in Havana Cuba, which is not a certified laboratory for the purposes of JORC. The LACEMI facilities have however been inspected by Competent Persons and it is the intention to work through the process of having the laboratory certified.

Analysis for gold is via 30g fire assay with AA finish. Over range gold assays (+30g/t) are repeated with Fire Assay and a gravimetric finish.

Cu is analysed by 2 acids HNO3 -HCL, and measurement by ICP

Both Fire Assay and 2 acid digest are considered total assay methods for the elements of interest. There are no observed copper silicates or oxides.

Certified reference materials from OREAS (21f, 907, 506, 503d, 254b and 258) are inserted at a rate of one every 20 samples, with a blank inserted every 40 samples. Coarse field duplicates are submitted at a rate of 1 in every 33 samples.

Corresponding duplicate pulp samples (from the 2022 drill program) were analysed at the SGS laboratory in Burnaby Vancouver, utilising 30g Fire Assay AAS for Au, with 30g Fire Assay gravimetric for overrange analysis and 4 acid digest ICP-AAs/ICP-MS (49 element) including Cu

SGS results were prioritised over the LACEMI results for the estimation of the mineral resource.

# Recent Drilling (2023)

Analysis is being undertaken at SGS laboratories in Lima Peru.

- Analysis for gold is via 30g fire assay with AA finish. Over range gold assays (+30g/t) are repeated with Fire Assay and a gravimetric finish.
   Cu is analysed by 2 acids HNO3 -HCL, and measurement by ICP
   Both Fire Assay and 2 acid digest are considered total assay methods for the elements of interest (no observed copper silicates or oxides).
  - Certified reference materials from OREAS (908, 907, 506, 503e, 254b and 258) are inserted at a rate of one every 25 samples, with a blank inserted every 40 samples. Coarse field duplicates are submitted at a rate of 1 in every 20 samples.
  - pXRF results on drill core were reported using a Thermo Scientific Portable XRF Analyzer, Model Niton XL2, with a shot every 20 cm, shot duration 30 seconds. A mix of standards are utilised every 50 samples and blanks every 60 samples. No pXRF readings were used in the delineation of the mineral resource.

Verification of sampling and assaying

- The verification of significant intersections by either independent or alternative company personnel.
- The use of twinned holes.
- Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.
- Discuss any adjustment to assay data.
- 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.
- Specification of the grid system used.
- Quality and adequacy of topographic control.
- Data spacing and distribution
- 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.

Data spacing for reporting of Exploration Results.

• Whether sample compositing has been applied.

- Significant intersections are reviewed by multiple company and contractor personnel.
- Part of the 2023 drilling has been designed to twin historic drilling as part of a sample verification
  process as well as extend further into the mineralisation at depth.
- The twin hole drill program showed the historic truck mounted gold results required factoring down. A
  linear regression was sufficient to align the histogram of the truck mounted gold results with the sample
  histogram of the current diamond drilling. Historic copper and the track mounted drill rig gold samples
  were shown to have similar distributions (statistically and graphically) and were suitable for the use in a
  mineral resource without adjustment.
- Two datum points have been established on the site using high precision GPS (differential GPS).
- All completed drill collars were surveyed by total station utilizing the local survey datum, on the WGS 84 UTM 17N grid.
- A LiDAR survey undertaken in September 2022 defines the natural surface topography. 1 m contours
  across the project area were extracted and is used to delineate the upper surface of the Mineral
  Resource
- The holes drilled were aimed at verifying data from historical drilling, rather than being on a specific spacing.
- Approximately 25,000m of historical drilling exists in a database, and the 6 holes drilled in 2022 were aimed at verifying historical intercepts.
- Additional holes are being drilled to twin historic holes for validation of the historical drilling, as well as develop a Mineral Resource Estimate for the El Pilar oxide zone.

>		of in to		Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.  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.	•	Given the oxide zones are sub-horizontal and elongated, based on the level of oxidation, the drilling has been oriented to cut both the oxide gold and copper zones at optimal angles from previous drilling. However, given there are multiple subvertical structures, along with the oxidation boundaries, this has to be taken in mind also in the optimum orientation of drillholes. The underlying sulphide mineralisation has been shown to be largely sub-vertical in nature and drilling has cut these zones at more optimal angles.
	Sample security	,	•	The measures taken to ensure sample security.	•	All core is securely stored in a warehouse in Ciego de Avila where it is logged and sampled. Samples are transported to the sample preparation laboratory in Havana in a company vehicle with Company driver.  For transport of pulp samples to SGS Peru, the prepared samples are collected by company personnel in a company vehicle, and driven directly to the Jose Marti International airport, where the waybill is prepared by Cubana. The samples are flown to Lima via Cubana airfreight for customs clearance prior to transport to the SGS Lima laboratory.
	Audits of reviews	or	•	The results of any audits or reviews of sampling techniques and data.	•	98 sample pulps were sent from SGS to Bureau Veritas in Lima, with all Au and Cu assays showing high repeatability.

# **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
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 licence to operate in the area.</li> </ul>	<ul> <li>The El Pilar Reconnaissance Permit is registered to the Los Llanos International Economic Association, which is an agreement between Antilles Gold Inc (a 100% subsidiary of Antilles Gold Limited) and Gold Caribbean Mining SA, which is a subsidiary of the Cuban State owned mining company Geominera SA. The Reconnaissance Permit encompasses 17,839 Ha and is located in the topographic sheets at scale 1: 50 000 Ceballos (4481-I), Gaspar (4481-II), Corojo (4581-III) and Primero de Enero (4581-IV), 25 km east-southeast of the city of Ciego de Ávila, central Cuba.</li> <li>Within the Reconnaissance Permit is a separate752.3Ha El Pilar Geological Investigation Concession (GIC), covering the El Pilar oxide gold and copper mineralisation to a mining depth of 100m below surface. The GIC has been transferred from Gold Caribbean Mining to the 50:50 Minera la Victoria JV.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>The El Pilar prospect was explored most recently by Canadian company KWG, who undertook airborne geophysics, trenching (22 trenches totalling 4640m) and RC and Diamond drilling.</li> <li>Drilling was undertaken between 1994 and 1997, with 159 RC holes drilled for a total of 20,799m and 29 diamond holes drilled for a total of 3,611m.</li> <li>Chemical analysis for Au, Cu and other elements undertaken at Chemex laboratories in Canada. No core samples remain.</li> </ul>
Geology	<ul> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul> <li>The El Pilar copper-gold porphyry system is hosted within a Cretaceous age volcanic island arc setting that is composed of mafic to intermediate composition tuffs, ash and volcanoclastic rocks that are intruded by similar age granodiorite and diorite intrusive stocks.</li> <li>The geological setting is very similar to the many prospective volcanic island arc geological environments that are related to porphyry style mineralisation, and associated vein systems.</li> <li>The El Pilar system has shown to date both overlapping hydrothermal alteration styles, and complex multiple veining events that is common with the emplacement of a mineralised porphyry copper-gold system.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole</li> </ul> </li> </ul>	This report relates to a mineral resource estimate, no new drill results are reported here in.

	•	collar o dip and azimuth of the hole o down hole length and interception depth o 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.		
Data aggregation methods	•	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.  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.  The assumptions used for any reporting of metal equivalent values should be clearly stated.	•	No new exploration drill results are reported here in
Relationship between mineralisation widths and intercept lengths	•	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	•	No new exploration drill results are reported here in.
Diagrams	•	Appropriate maps and sections (with scales) and tabulations of intercepts should be included	•	See Figures included the body of this Announcement. Relevant commentary relating to diagrams is provided in the resource report.

Balanced reporting	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.  • Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	<ul> <li>No new exploration results are reported here in.</li> <li>All exploration data was considered during the interpretation and estimation of the mineral resource.</li> </ul>
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.	Refer memo: El Pilar – Gold Concentrate Produced from a Gold Oxide Sample, dated 17 August 2023, by Antilles Gold Limited Technical Director Dr Jinxing Ji, JJ Metallurgical Services inc
Further work	<ul> <li>The nature and scale of planned further work (eg 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>	The resource has been classified as indicated and inferred, the model is suitable for a scoping study.

# **Section 3 Estimation and Reporting of Mineral Resources**

(Criteria listed in the preceding section also apply to this section.)

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>Mining Associates (MA) has undertaken limited independent first principal checks using hard copies of results from current and historic sources and sectional interpretations.</li> <li>Historical Independent Technical Reports were relied upon to validate the historic drill hole database. The reports included plans and cross sections.</li> <li>The database is currently managed by Antilles Gold staff.</li> <li>Basic database validation checks were run, including collar locations, drill holes plot on topography, checks for missing intervals, overlapping intervals and hole depth mismatches</li> </ul>
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>	<ul> <li>The Competent Person (Mr I.Taylor, BSc(Hons), FAusIMM(CP)) visited site on the 25th and 26th of January 2024 to review the geology, drill core, field and drill practices as part of the 2024 Mineral Resource Estimate Update.</li> <li>Selected drill holes were laid out and reviewed by the CP, several drill collars were verified with a handheld GPS.</li> <li>Data collection and discussions with the site geologists were the primary focus of the visits, a greater understanding of the geological setting and appreciation of Antilles Gold Procedures.</li> </ul>
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>Confidence in the geological interpretation is considered moderate to high, dependent on the differing drill hole spacing in parts of the deposit.</li> <li>Interpretations are based solely on drill hole data: there is only sub-crop in the area covering the deposit.</li> <li>Drill core logging has been used to define the main geological (alteration) units and shallow weathering profile boundaries.</li> <li>Observations from diamond drill core show strong argillic alteration grading to phyllic and out to propylitic alteration.</li> <li>Alternative interpretations of mineralised domain boundaries would affect tonnage and grade, although the CP is confident that the current model is a fair representation of the deposit based on available data.</li> <li>Six highly altered mineralised domains were interpreted, based on continuity of gold and copper grade. Mineralised domain grade cut-offs were based on examination of probability plots. Domains strike northeast and are relatively flat dipping to the south-east. Few domains show a shallow south westerly plunge.</li> <li>Gold domains are defined by a 0.3 g/t boundary and the copper domains are defined by a 0.25% Cu boundary.</li> <li>Faulting does exist at the project and significantly affects the rock quality (low RQD). Major faults have been identified at the project; the offsets help define the resource extents. The northern end of the mineralisation lies under a shallow hill (~15 m above the surrounds).</li> </ul>

# **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.

- The El Pilar deposit is defined over a 600 m strike and is dominantly flat lying. Some lodes are interpreted to have a vertical aspect, steeply dipping. Mineralisation is commonly thick, up to 20 m, with minor distal mineralisation along lithological contacts quite thin, modelled to down to 2 m.
- The resource shows depth potential, though drilling at depth is limited, the resource is reported to approximately 150 m below the surface. (-100 m RL).
- Mineralisation strikes NE (UTM) and dips shallowly to the SE ~10-20°, with a perceived plunge to the SW, ~5°.
- The steep central proportion of the deposit with elevated copper is expected to propagate to depth and is still open.

# 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.
- The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.
- The assumptions made regarding recovery of by-products.
- Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological

- The southern portion of the deposit is drilled on 20 m and the northern portion of the deposit is drilled on 25 m sections. Critical areas of the historic drilling has been twinned with diamond core holes. One section is infilled on 10 m centres. Down dip pierce points are commonly 20 m
- A KNA analysis showed the optimal block size was 10 x 10 x 10 m. MA chose a smaller parent block size of 5 x 10 x 5 m to add detail in the Z direction and better match the likely finial mining scenario, (open pit benches). The sub blocking was chosen to reflect a likely SMU of and open pit operation, (1.25 x 2.5 x 1.25 m (XYZ))
- Search ellipses were based on a combination of drill density and variogram ranges, variogram ranges ranged between 50 and 100 m, 60 m was selected as the long axis of the search ellipse.
- A two-pass estimation process was employed, the first pass (60m) required a minimum of 6 or 8 samples and a maximum of 12 or 16 composites, the second pass (120m) required a minimum of 4 or 5 composites and a maximum of 8 or 10 composites, depending on the number of composites in the domain.
- The deposit is best suited to open pit mining methods, the sub block size chosen (1.25, 3.25, 1.25m (XYZ) was chosen to reflect a reasonable smallest mining unit assuming 5 m blasts and 2.5 flitches. The smallest mining unit also was considered when selecting appropriate composite lengths.
- Gold and copper mineralisation are not correlated and are estimated independently. Fe and S are correlated are estimated into the model.
- The geological model included weathering/alteration profiles. Mineralisation is assumed to be affected by meteorological and or hydrothermal fluids and is interpreted as dominantly horizontal lenses.
- Composite lengths of 1 to 4 m were considered, mean and CV assessed, and 1 m composites assays were selected. Extreme outliers were checked against primary assay results and in relation to the remainder of the domain.
- Global drill hole and sample means were compared. Localised Swath plots were checked, both at the
  deposit scale and domains scale.
- Grade tonnage curves from a Nearest neighbour and ID<sup>2</sup> estimate were compared to the OK grade tonnage curve.
- No mining has occurred at the project.



	<ul> <li>interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	No moisture readings were collected, samples were air dried before weighing, for use in the density
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	determinations.
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	• The deposit is reported at a 0.25 % copper cutoff, the gold only material is reported at a 0.3 g/t gold cut off.
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>	<ul> <li>No mining factors or assumptions have been applied to the resource.</li> <li>MA considers the Nueva-Sabana deposit amenable to open pit mining methods and assumes the likely mining scenario will have 5 m benches and 2.5 m flitches. These assumptions have influenced, composite length, block size and resource cut off parameters.</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	<ul> <li>Four composite samples of Cu (high grade 1.1% Cu, high/medium grade 0.69% Cu, Medium grade 0.5% Cu and low grade 0.29% Cu) were tested in a 3 stage open circuit and then 2 stage locked cycle to determine recoveries and concentrate specifications.</li> <li>Two composite samples of Au (2.2 g/t Au and 17.3 g/t) were subjected to froth flotation testing, with the 2.2 g/t sample produced a combined rougher 1 to 4 concentrate of 55.8 g/t gold at a recovery of 83.6% with few penalty elements present based on a detailed chemical analyses. The same test was conducted on the high grade sample which produced a concentrate with a grade of 240 g/t gold at a recovery of 93.8%.</li> <li>The gold to concentrate recovery is 84% and the copper to concentrate recovery is 82%</li> </ul>

# 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. Assumptions made regarding possible waste **Environmental** and process residue disposal options. It is or always necessary as part of the process of assumptions determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and

- The Nueva Sabana Project area is situated in a largely anthropized territory where much of the original flora has given way to invasive and opportunistic plant species such as marabou, several specimens of pine, and eucalyptus. The terrain is mostly flat with no important features such as rivers, lakes, or protected zones.
- An Environmental Impact Study (EIS) is currently underway by State Agency Empresa Geocuba Camagüey-Ciego de Ávila (AEMA-GEOCUBA). This study is due to be completed by June 2024.

# **Bulk density**

made.

factors

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.

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

- 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.
- Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.

- 63 density measurements have been collected from diamond core.
- Density is determined using Archimedes principal.
- Density readings range from 1.79 to 3.45 t/m3, with most falling in the 2.4 to 2.6 t/m3.
- Density increases with depth. Material above 50 m RL was assigned 2.13 t/m<sup>3</sup>, and material below -50 m RL was assigned a density of 2.6 t/m<sup>3</sup>. The remainder of the blocks were assigned a density based a regression formula from the RL of the block.

# Classification

- The basis for the classification of the Mineral Resources into varying confidence categories.
- Mineralisation has been classified in accordance with the JORC 2012 guidelines.
- The interpretation is informed by reliable input data, tested geological continuity and a demonstrated grade

- Whether appropriate account has been taken
  of all relevant factors (ie relative confidence in
  tonnage/grade estimations, reliability of input
  data, confidence in continuity of geology and
  metal values, quality, quantity and distribution
  of the data).
- Whether the result appropriately reflects the Competent Person's view of the deposit.

distribution.

- The mineral resource estimate has been classified as indicated, inferred or unclassified based on drill hole spacing, geological continuity and estimation quality parameters.
- Indicated resources are defined as mineralisation of is drilled on a 20 x 20 m, blocks are informed by 12 to 16 composites with most of the informing samples within 40 m of the block. Indicated resources have a low krige variance (< 0.3) and high conditional bias slope (> 0.8).
- Inferred mineralisation is dominantly informed by a 20 x 20 m drill pattern but does include extrapolations through lower drill densities. Geological continuity is assumed but not verified. The average distance to informing samples is dominantly less than 80 m. Krige variances are higher (~0.6) and conditional bias slopes are low (~0.2).
- The above criteria were used to determine areas of implied and assumed geological and grade continuity.
   Classification was assessed on a per domain basis and resource categories were stamped onto the individual domains.
- Unclassified mineralisation has not been included in this Mineral Resource. Unclassified material is either
  contained in isolated blocks above cut off, too thin or in deep proportions of the deposit associated unlikely to
  be extracted in an open pit scenario.
- The classification reflects the competent person's view of the Bellbird deposit.
- The results of any audits or reviews of Mineral The results of any audits or reviews of Mineral
- There has been no independent audit of the data or mineral resource.

# Discussion relative accuracy/confidence

**Audits** 

reviews

Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.

Resource estimates.

 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

- No geostatistical confidence limits have been estimated. The relative accuracy and confidence in the
  Mineral Resource Estimate is reflected in the Resource Categories. It should be highlighted that some of
  the historic gold assays were factored down to reflect the distribution seen in the current diamond drill
  campaign.
- The ordinary kriging result, due to the high level of smoothing, should only be regarded as a global estimate, and is suitable as a life of mine planning tool.
- Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to an Ore Reserve.
- Should local estimates be required for detailed mine scheduling techniques such as Uniform conditioning or conditional simulation should be considered, ultimately grade control drilling is required.
- Comparison with the previous estimates indicates that the changes implemented in the current Mineral Resource Estimate produced results that are in line with expectations. (reduced tonnes and increased copper and gold grades)
- No mining has occurred at the deposit.

assumptions made and the procedures used.

 These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.



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# Memorandum

Date	26 March 2024
То	James Tyers, Executive Director, Antilles Gold Ltd
From	Anthony Stepcich, Principal Consultant, Mining Associates Pty Ltd
СС	Peter Caristo and Ian Taylor, Mining Associates Pty Ltd Steve Mertens, Antilles Gold Ltd
Subject	Nueva Sabana Project - Mining Scoping Study

#### 1 INTRODUCTION

The El Pilar Deposit lies within the Nueva-Sabana Project area, located 25 km east-southeast of the city of Ciego de Avila, central Cuba. The project is owned by Minera La Victoria, which is a Joint Venture between subsidiaries of Antilles Gold Limited and the Cuban state-owned mining company Geominera SA.

Mining Associates Pty Ltd (MA) have been engaged by Antilles Gold Limited (Antilles) to undertake a pit optimisation, pit design and preliminary schedule of the Nueva Sabana project located in Cuba. The type of mining evaluation work undertaken can be categorised as a Scoping Study, with an estimated level of accuracy of approximately +/- 50%.

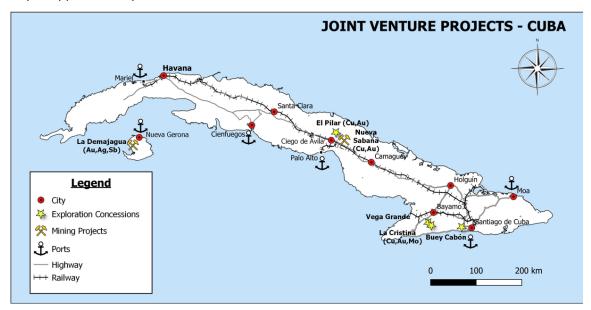


Figure 1-1: Cuba Joint Venture Projects

# 2 MINERAL RESOURCES

A JORC 2012 Code compliant Mineral Resource Estimate (MRE) of the El Pilar deposit in central Cuba was undertaken by the Competent Person, Ian Taylor of Mining Associates Pty Ltd. The MRE for Nueva Sabana was released publicly by Antilles on 5 March 2024.

The MRE was reported above the depth of -100 mRL and above a geological cut-off grade of 0.25% Cu, including gold mineralisation greater than 0.3 g/t where mineralisation is outside of the copper mineralisation. The mineralisation is divided into three metallurgical domains, a gold domain, a copper domain and a copper-gold domain.

The current MRE does not include any dilution or ore loss associated with practical mining constraints. No significant artisanal mining and no mechanised mining has occurred on the property.

Material Type	Resource Category	Tonnes	Gold (g/t)	Gold (koz)	Copper (%)	Copper (Mlb)
Gold Domain	Indicated	470,000	2.83	42.7	-	-
Gold Domain	Inferred	376,000	2.51	30.4	-	-
Sub Total		846,000	2.69	73.1	-	-
Copper Gold Domain	Indicated	531,000	1.54	26.3	0.57	6.73
Domain	Inferred	90,000	1.95	5.7	0.50	0.99
Sub Total	_	621,000	1.60	31.9	0.56	7.72
Copper Domain	Indicated	304,000	0.11	1.1	1.36	9.11
Domain	Inferred	2,084,000	0.06	4.3	0.77	35.15
Sub Total		2,388,000	0.07	5.4	0.84	44.26
Total		3,855,000	1	110.5	-	51.98

Table 2-1: Mineral Resources at Nueva Sabana

Antilles envisages mining via conventional open pit truck and excavator methods and utilising standard grinding and flotation methods to process the ore. Metallurgical test work was undertaken at Blue Coast Research in British Columbia, Canada, on a range of composites for the gold domain, the copper domain, and the copper-gold domain. The mineralisation sampled by El Pilar has been shown to be amenable to floatation for copper and gold. Overall copper recovery across all domains totalled approximately 80% of contained metal with the Company planning the send a float concentrate product off site.

The low-grade gold associated with the copper domains will provide gold credits in the copper concentrate (gold-in-concentrates is commonly payable above 1g/t). Low sulphur, higher grade gold mineralisation (gold domain) shows a recovery to the float concentrates above 80%.

#### 3 MINING STUDY

MA has undertaken a pit optimisation, pit design and mine schedule for the Nueva Sabana deposit. This work was carried out utilising the Deswik CAD package and Micromine's SPRY scheduling package. Deswik's optimisation module uses the Psuedoflow optimiser algorithm.

Due to the preliminary nature of the evaluation work undertaken by MA, this mining study should be considered as a Scoping Study, with an inherent level of accuracy of approximately +/- 50%

#### 3.1 BLOCK MODEL REGULARISATION

The MRE sub-cell block model was regularised to a standard selective mining unit size (SMU) of 5 m  $\times$  2.5 m (xyz) to generate as mining block model suitable for pit optimisation purposes. This SMU size was selected based on considerations for the given mineralisation geometry and expected mining equipment sizings.

Expected mining losses and mining dilution were accounted for via the regularisation process used to generate the mining block model from the MRE model. No further dilution or loss factors were applied to the mineralisation for this study.

A comparison between the MRE and the results for the regularised mining model is shown in Table 3-1: Regularised Model Pit Inventory:

Table 3-1: Regularised Model Pit Inventory

### **Summary Mineral Resource**

Resource	tonnes	Gold (g/t)	Cu (%)	koz	Mlb	S (%)
Indicated	1,306,000	1.67	0.56	70.16	16.07	1.27
Inferred	2,548,000	0.49	0.65	40.23	36.53	1.52
Total	3,854,000	0.89	0.62	110.39	52.59	1.44

#### **Regularised Mining Model**

Resource	tonnes	Gold (g/t)	Cu (%)	koz	Mlb	S (%)
Indicated	1,347,967	1.54	0.52	66.61	15.42	1.17
Inferred	2,528,729	0.42	0.60	34.15	33.34	1.35
Dilution	421,886	0.59	0.18	7.98	1.67	0.40
Total	4,298,582	0.79	0.53	108.73	50.44	1.20

Dilution	11.5%	-11.7%	-14.0%	-1.5%	-4.1%	-16.3%
Dilation	11.5/0	-11.770	14.070	1.5/0	- <del></del>	10.570

#### 3.2 PIT OPTIMISATION

#### 3.2.1 Operating Cost

The optimisation operating costs (Table 3-1) used for each concentrate stream were as follows:

**Table 3-2: Optimisation Operating Costs** 

Unit Costs	Units	Gold Stream	Copper Stream	Au/Cu Stream
Mining Cost	US\$/t TMM	\$3.53	\$3.53	\$3.53
Processing Cost	US\$/t Plant Feed	\$12.45	\$14.91	\$14.91
Power Station	US\$/t Plant Feed	\$10.21	\$10.21	\$10.21
General & Admin	US\$/t Plant Feed	\$6.04	\$6.03	\$6.03
Concentrate Transport	US\$/t Concentrate	\$110.31	\$110.31	\$110.31
Royalty	% Ad Valorum	3.0%	3.0%	3.0%
Cu Treatment Charge	US\$/t Concentrate		\$80.00	\$80.00
Cu Refining Charge	US\$/Ib Cu		\$0.08	\$0.08
Au Refining Charge	US\$/oz Au			\$5.00

#### 3.2.2 Capital Cost

An initial capital cost estimate of US\$20.25M was supplied to MA by Antilles and is currently considered reasonable for use in a Scoping Study. Major capital development costs are not used directly in the pit optimisation process. Instead, the capital development costs are accounted for in the subsequent financial modelling for the project.

#### 3.3 METALLURGICAL ASUMPTIONS

The metallurgical parameters and assumptions used for each concentrate stream (Table 3-3) are shown as follows:

Metallurgical Assumptions	Units	Gold Stream	Copper Stream	Au/Cu Stream
Recovery Au	%	84%		81.5%
Recovery Cu	%	0%	80.7%	77.8%
Concentrate Grade Au	g/t	64.6		varies
Concentrate Grade Cu	%		27.4%	25%
Payability	%	90%	96.5%	96.5%
Price Received Au	US\$/oz	\$2,000		\$2,000
Price Received Cu	US\$/Ib		\$4.00	\$4.00

**Table 3-3Metallurgical Assumptions** 

# 3.4 CUT-OFF GRADES

The cut-off grades used in this preliminary project evaluation were estimated using the processing and smelting costs. If the revenue received from a tonne of plant feed exceeded the processing and smelting cost of that block of material, then that block will be fed through the processing plant.

- For mineralisation in the copper domain, this equated to material with a grade greater than 0.52% Cu being processed.
- For mineralisation in the gold domain, this equated to material with a grade greater than 0.63 g/t being processed.
- For mineralisation in the copper-gold domain, the cut-off grade is a combination of the gold and copper grades that have a combined revenue greater than the processing and smelting cost.

### 3.5 PIT DESIGN

An optimisation process was undertaken using the Deswik Pseudoflow software. The Revenue Factor 1 pit shell was used as the basis for detailed pit design work for this Scoping Study.

An initial overall slope angle (OSA) of 47 degrees was supplied to MA by Antilles and is considered reasonable for use in the pit optimisation and design process for a Scoping Study. The overall pit wall angle was reduced to 42 degrees in those pit wall zones that included the addition of a 15 m wide access ramp. This ramp width this based on standard calculations for a two-way access ramp being utilised by the expected mining equipment fleet.

The pit design utilised 10 m benches, 60 degree batters and 4 m berms for the walls, and generally includes a single-spiral ramp layout. This pit design configuration conforms with the OSA optimisation assumption of 47 degrees, while minimising deviations from the selected RF=1 pit optimisation shell.

A number of pit design iterations were conducted for this Scoping Study, in order to verify and validate the evaluation process and results for this new Nueva Sabana project. No other relevant technical studies have been conducted for the Nueva Sabana Project, hence there is no project history available to otherwise validate the results of this Scoping Study.

Below (Table 3-4 and Figure 3-1) is a comparison of the final Version 18 pit design versus the initial RF=1 pit optimisation shell

Table 3-4: Pit Design compared to RF1 Optimal Shell

	Total Waste	Total Min Waste	Total Plant Feed	Strip Ratio	TMM
Pit18 Design	6,161,173	341,887	1,847,411	3.52	8,350,471
RF=1 Optimal Pit	5,998,230	331,975	1,916,239	3.30	8,246,444
Variance	2.7%	3.0%	-3.6%	6.6%	1.3%

	Pit 18	Optimal shell	Variance
Au Plant Feed	681,716	694,161	-1.8%
Cu Plant Feed	777,187	815,586	-4.7%
AuCu Plant Feed	388,508	406,491	-4.4%
Total Plant Feed	1,847,411	1,916,239	-3.6%

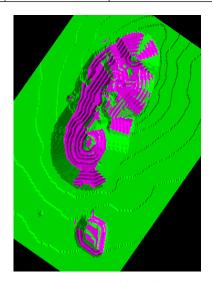


Figure 3-1: RF=1 Optimal Shell and Final Pit Design

A starter pit and an Ultimate pit (Figure 3-2) were both designed as shown below. The purpose of the Starter was to access the gold domain while maintaining a low strip ratio.

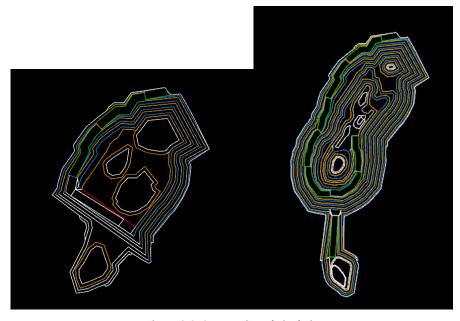


Figure 3-2: Starter Pit and Final Pit

Cross sections through the Starter Pit (yellow) & Ultimate Pit (pink) can be seen in Figure 3-3 to Figure 3-6. Figure 3-3

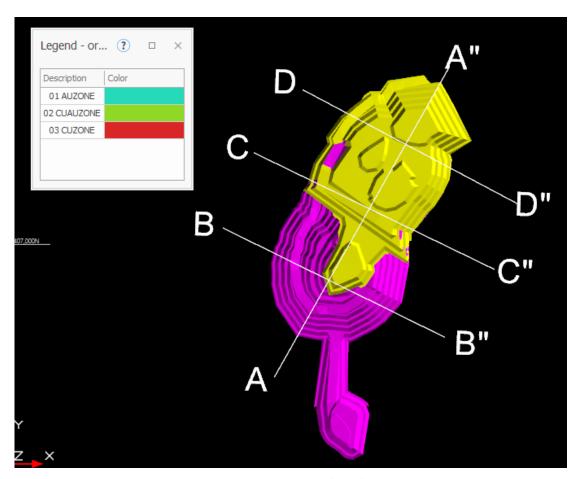


Figure 3-3: Cross-sections through pit

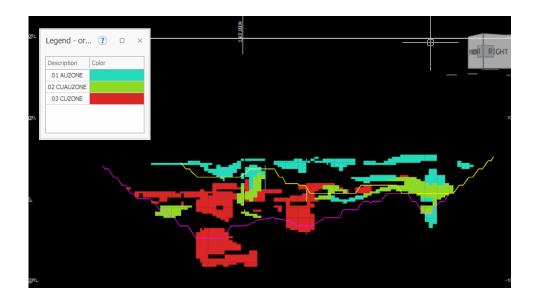


Figure 3-4: Long Section A-A"

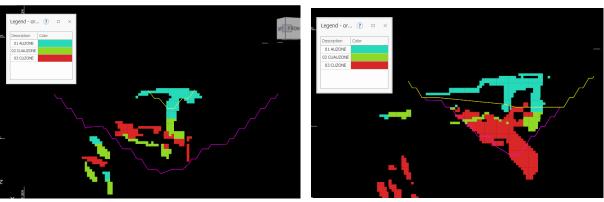


Figure 3-5: Sections B-B" and Sections C-C"

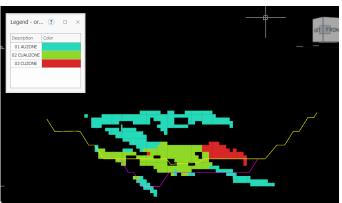


Figure 3-6: Sections D-D"

### 3.6 SCHEDULE

A mirror version of the regularised mining model was created in Deswick CAD, containing only model block volumes correlating to the pit design volumes. All other attributes for the mirror model were interrogated from, and directly correlate to, the regularised mining model. The mirror model results were then imported into by Micromine's SPRY Scheduler as the basis for generating mining schedules for the Starter Pit and Ultimate Pit designs. SPRY was configured to reflect all relevant physical mining parameters and assumptions for Nueva Sabana. Source, destination and haulage scheduling were then undertaken in SPRY, with numerous schedule iterations generated to compare and validate mining options. The Rev J LOM physical schedule results are summarised in Table 3-5.

**Table 3-5: LOM Pit Physicals** 

Waste and Mineralised Waste Physicals	
Waste tonnes	6,133,669
Mineralised Au waste tonnes	99,850
Min Au Au Grade	0.47
Min Au S Grade	0.15
Min Au Fe Grade	3.72
Mineralised Cu waste tonnes	239,960
Min Cu Cu Grade	0.43
Min Cu S Grade	1.35
Min Cu Fe Grade	2.82
Mineralised AuCu waste tonnes	0
Min AuCu Au Grade	
Min AuCu Cu Grade	
Min AuCu S Grade	
Min AuCu Fe Grade	
Total Waste tonnes	6,133,669
Total Mineralised Waste Stockpiled	339,810

Production Target Mining	
Au Production Target tonnes	679,638
Au Production Target Au Grade	3.09
Au Production Target S Grade	0.17
Au Production Target Fe Grade	3.09
Cu Production Target tonnes	792,294
Cu Production Target Cu Grade	1.06
Cu Production Target Au Grade	0.06
Cu Production Target S Grade	1.33
Cu Production Target Fe Grade	4.11
AuCu Production Target tonnes	390,429
AuCu Production Target Au Grade	2.55
AuCu Production Target Cu Grade	0.70
AuCu Production Target S Grade	1.48
AuCu Production Target Fe Grade	3.38

Total Material Movement	
Total Production Target Mined (Au, Cu, AuCu)	1,862,361
Waste	6,133,669
Mineralised Waste	339,810
Total Material Movement	8,335,840
Strip Ratio	3.48

Monthly Physicals for the Rev J schedule are shown in Figure 3-7 and Figure 3-8.

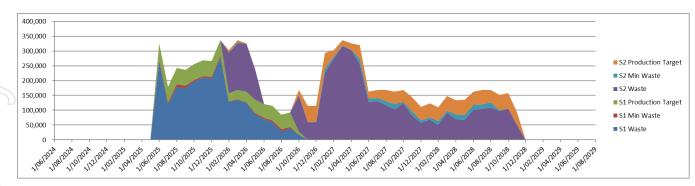


Figure 3-7: Monthly Physicals by Stage Total Material Movement

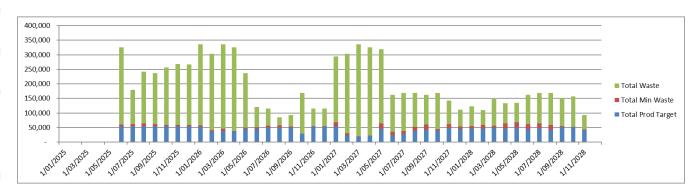


Figure 3-8: Monthly Physicals TMM

### 3.7 MINING EQUIPMENT

The excavators planned to be utilised at Nueva Sabana are two Volvo EC750E diggers. The scheduled dig rate for the excavators is 328 t/hr. The excavators are to operate 355 days per year with an 83% availability and 83% utilisation for a total of 5,869 dig hours per year per excavator (Figure 3-9). The articulated trucks planned are Volvo A45G trucks, a maximum of 7 trucks will be required (Figure 3-10).

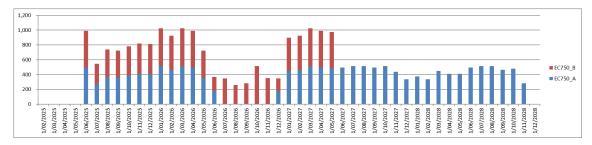


Figure 3-9: LOM Digger hours required.

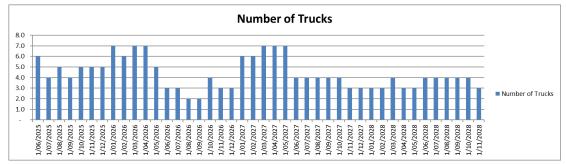


Figure 3-10: LOM Truck numbers required.

The Resource Categories within the pit shell consisted of 58.3% Indicated and 41.6% Inferred. Table 3-6 below shows LOM Resource categories. And Figure 3-11 below shows proportion of each Resource Category mined by month.

**Table 3-6: Resource Categories within Pit Shell** 

Resource Categories	Percentage	Tonnes
Indicated	58.3%	1,085,967
Inferred	41.6%	775,201
Unclassified	0.1%	1,193
Total Production Target	100.0%	1,862,361

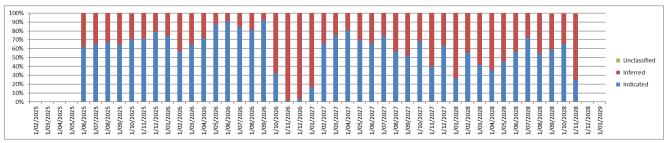


Figure 3-11: Scheduled Resource Categories by Month

### 3.8 FINANCIAL MODELLING

A financial model was constructed once scheduling was completed. Summary LOM cashflows and pre-tax NPV's are shown Table 3-7 and Table 3-8 below.

The Nueva Sabana Project has a positive NPV at a Scoping Study level of accuracy of approximately +/- 50%.

**Table 3-7: Summary LOM Cashflows** 

Cashflow	Units	US\$M
Revenue	US\$M	\$228.1
Royalty	US\$M	\$6.8
Processing OPEX	US\$M	\$67.3
Mining OPEX	US\$M	\$29.4
CAPEX	US\$M	\$20.3
Pre-tax Cash Flow	US\$M	\$104.3

Table 3-8: Pre-Tax NPV

Discount Rate	Pre-tax NPV US\$M
0.0%	\$104.3
2.5%	\$97.4
5.0%	\$91.0
7.5%	\$85.3
10.0%	\$80.0
12.5%	\$75.1
15.0%	\$70.6
17.5%	\$66.5
20.0%	\$62.6
22.5%	\$59.1
25.0%	\$55.8
27.5%	\$52.7
30.0%	\$49.8



Figure 3-12: Cumulative Pre-tax cashflow.

### 3.9 SUMMARY AND CONCLUSIONS

Mining Associates has undertaken a mining study at a scoping study level of accuracy of  $\pm$ -50%. A pit optimisation, pit design and schedule have been completed in this study. The project has shown a positive NPV at a scoping level of accuracy.

#### 4 COMPETENT PERSONS STATEMENT

#### 4.1 RESOURCE STATEMENTS

The information in this report that relates to Mineral Resources at the Nueva Sabana Resource is based on information, geostatistical analysis and modelling carried out by Mr Ian Taylor.

Mr Taylor is an employee of Mineral Associates Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy and a Member of the Australian Institute of Geoscientists. Mining Associates Pty Ltd have been engaged by Antilles Gold Limited (Antilles) to prepare this independent report and there is no conflict of interest between the parties. Mr Taylor has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for 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 (The JORC Code). Mr Taylor consents to the inclusion in the report on the matters based on their information in the form and context in which it appears.

Where reference is made to previous releases of Mineral Resources in this announcement, the Company confirms that it is not aware of any new information or data that materially affects the information included in those announcements and all material assumptions and technical parameters underpinning the resource estimates included in this announcement continue to apply and have not materially changed.

The information in this report that relates to previous Mineral Resources was prepared and first disclosed under the JORC Code 2012 and has been properly and extensively cross-referenced in the text to the date of the original announcement to the ASX.

#### 4.2 SCOPING STUDY SUMMARY

The information in this Scoping Study release is based on information compiled by Anthony Stepcich, a Competent Person who is a Fellow and Chartered Professional of the Australasian Institute of Mining and Metallurgy, FAusIMM(CP). Mr Stepcich is a mining engineer and an Associate of Mining Associates Pty Ltd. Mining Associates Pty Ltd has been engaged by Antilles Gold Limited to prepare this scoping study summary. Mr Stepcich has sufficient experience in the study, development, and operation of open pit metalliferous projects and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### 4.3 FORWARD LOOKING STATEMENTS

This document may contain forward looking statements. Forward looking statements are often, but not always, identified by the use of words such as "seek", "indicate", "target", "anticipate", "forecast", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Indications of, and interpretations on, future expected exploration results or technical outcomes, production, earnings, financial position, and performance are also forward-looking statements.

The forward-looking statements in this announcement are based on current interpretations, expectations, estimates, assumptions, forecasts and projections about Nueva Sabana, Antilles Gold Limited projects and assets and the industry in which it operates as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made.

The forward-looking statements are subject to technical, business, economic, competitive, political and social uncertainties and contingencies and may involve known and unknown risks and uncertainties. The forward-looking statements may prove to be incorrect.

#### 4.4 DISCLAIMER

Antilles Gold Ltd and its related bodies corporate, any of their directors, officers, employees, agents or contractors do not make any representation or warranty (either express of implied) as to the accuracy, correctness, completeness, adequacy, reliability or likelihood of fulfilment of any forward-looking statement, or any events or results expressed or implied in any forward-looking statement, except to the extent required by law.

Antilles Gold Ltd and its related bodies corporate and each of their respective directors, officers, employees, agents and contractors disclaims, to the maximum extent permitted by law, all liability and responsibility for any direct or indirect loss or damage which may be suffered by any person (including because of fault or negligence or otherwise) through use or reliance on anything contained in or omitted from this announcement.

Other than as requested by law and the ASX listing Rules, Antilles Gold Ltd disclaims any duty to update forward-looking statements to reflect new developments.

#### 4.5 REASONABLE BASIS FOR FORWARD LOOKING STATEMENTS

No Ore Reserve has been declared. The ASX release has been prepared in compliance with the JORC Code (2012) and the ASX Listing Rules. All material assumptions on which the Scoping Study Production Target and projected financial information are based have been included in this release and disclosed in the body of the announcement, and associated graphs and figures.

# Memorandum

	Concentrate Production		
Re:	Nueva Sabana – Metallurgical Testwork, Flo	owshe	et and Forecast of
Date:	April 22, 2024		
From:	Jinxing Ji JJ Metallurgical Services Inc		
10:	Antilles Gold Limited	CC:	Steve Mertens
To:	James Tyers	cc:	Steve Mertens

# 1 Metallurgical Testwork, Flowsheet and Forecast of Concentrate Production

#### 1.1 Introduction

Preliminary metallurgical testwork was started in January 2023 and completed in April 2024 by Blue Coast Research in Parksville, British Columbia, Canada, involving nine mineralized composite samples of different mineralization and oxidation extent. The scope of work included the detailed head analysis, comminution testing, gravity concentration, whole ore cyanide leach for gold recovery, bulk flotation to generate gold concentrate, selective flotation to generate copper/gold concentrate and detailed assays of the concentrates. Three reports were issued by Blue Coast Research.

- The first report entitled "Gold Oxide Preliminary Metallurgical Testwork, Project No. PJ5446" was issued on February 8, 2024. Two mineralized composite samples (2.22 g/t Au and 17.34 g/t Au, respectively) from the Gold Domain were involved. The scope of work included the gravity concentration, cyanide leach, bulk flotation to generate gold concentrate using two composite samples from the Gold Domain and the detailed assay of one flotation concentrate which contained 55.8 g/t gold.
- The second report entitled "Copper Oxide Preliminary Metallurgical Testwork, Project No. PJ5454" was issued on March 8, 2024. Four mineralized composite samples (1.16% Cu, 0.71% Cu, 0.48% Cu and 0.28% Cu, respectively) from the Copper/Gold Domain were involved. The scope of work covered the gravity concentration and selective flotation to generate copper/gold concentrate using four composite samples from the Copper/Gold Domain and the detailed assay of two flotation concentrates which contained 25.1% copper and 27.1% copper, respectively.
- The third report entitled "Comminution Testwork, Project No. PJ5478" was issued on April 16, 2024. The scope of work included the ball mill work index, abrasion index and SMC testing using three samples, each from the Gold Domain (2.32 g/t Au), Copper Domain (0.64% Cu) and Deep Copper Domain (0.67% Cu).

#### 1.2 Comminution testwork

Three mineralized composite samples from the Gold Domain (2.32 g/t Au), Copper Domain (0.64% Cu) and Deep Copper Domain (0.67% Cu) were subjected to the comminution testing, including SMC testing, Bond ball mill work index and Bond abrasion index. The results of comminution testing are summarized in Table 1. These data indicate the mineralized samples from the Gold Domain and Copper Domain are relatively soft and very mildly abrasive. For

the mineralized sample from the Deep Copper Domain, the mineralized material is moderately hard and moderately abrasive.

Table 1 Results of comminution testing for the mineralized samples

	Abrasion Ball Mill		Specific	SMC Testing Result					
Sample ID	Index	Work Index	Gravity	^	b	Axb	ta	SCSE	
	g	kW.h/t	t/m <sup>3</sup>	Α				kW.h/t	
Gold Composite	0.064	10.0	2.44	68.5	1.52	104	1.11	6.80	
Copper Composite	0.048	8.1	2.59	66.2	1.49	99	0.99	6.85	
Deep Copper Composite	0.176	16.1	/	/	/	/	/	/	

# 1.3 Gravity concentration of the mineralized composite samples from the Gold Domain and Copper/Gold Domain

Two mineralized samples from the Gold Domain and another two mineralized samples from the Copper/Gold Domain were subjected to the standard extended gravity recoverable gold (E-GRG) testing. Contents of gold, silver, copper, sulphur, iron and mercury in these four samples are shown in Table 2.

Table 2 Compositions of the mineralized samples used in the gravity concentration testing

		Gold D	Domain	Copper/Gold Domain			
		Low-Grade Sample	High-Grade Sample	Low Copper- Grade Sample	High Copper- Grade Sample		
Gold	g/t	2.22	17.34	4.57	2.84		
Silver	g/t	1.1	1.0	0.1	0.3		
Copper	%	0.010	0.013	0.28	1.16		
Sulphur	%	0.02	0.02	1.01	1.91		
Iron	%	3.37	2.69	3.04	2.89		
Mercury	g/t	0.010	0.006	0.018	0.006		

The gravity concentration testing involved a 20-kg sample, which was passed in three stages through a MD-3 Knelson centrifugal concentrator with the tailing being ground finer each stage. The target particle sizes were 80% passing 850  $\mu$ m, 250  $\mu$ m and 75  $\mu$ m, respectively. The obtained testwork data indicate that majority of gold particles in the recovered gravity concentrate were smaller than 25  $\mu$ m.

The obtained E-GRG testwork data were then utilized in the simulation to estimate gold recovery if a commercial gravity concentration circuit is constructed. The simulation results are presented in Table 3. When the Knelson centrifugal concentrator and shaking table are applied to either cyclone underflow or ball mill discharge, the expected gold recovery is between 7.9% and 13.5% for the mineralized samples from the Gold Domain and between 3.4% and 10.2% for the mineralized samples from the Copper/Gold Domain.

Table 3 Gold recovery expected from the commercial operation of gravity concentration

			Gold [	Domain	Copper/Gold Domain		
				High-Grade Sample	Low Copper- Grade Sample	High Copper- Grade Sample	
Head Grade	rade		2.22	17.34	4.57	2.84	
Knelson Concentrator + Gold Shaking Table		%	7.9 ~ 10.7	9.6 ~ 13.5	7.2 ~ 10.2	3.4 ~ 4.6	
Recovery Knelson Concentrator + Intensive Cyanide Leach		%	12.9	17.0	11.4	5.4	

# 1.4 Cyanide leach of one mineralized composite sample from the Gold Domain

Three cyanide leach tests were completed for one mineralized composite sample (2.22 g/t Au) from the Gold Domain under the conditions of grind size 80% passing 50  $\sim$  150  $\mu m$ , cyanide concentration 0.50  $\sim$  2.0 g/L NaCN, pulp density 40% solid, pH 11.0, and retention time 48 hours. Gold recovery was between 96.6% and 97.1% and sodium cyanide consumption was between 0.44 kg/t and 0.81 kg/t.

# 1.5 Bulk flotation of two mineralized composite samples from the Gold Domain to generate gold concentrate

A series of bulk flotation tests were completed for two mineralized composite samples from the Gold Domain to generate gold concentrate. The compositions of these two mineralized samples are shown in Table 2 above. Key conditions for bulk flotation were:

- Lower pulp density (22% solid) was beneficial to achieve higher gold grade in the concentrate by reducing entrainment of gangue minerals
- Guar gum was utilized to depress the clay/slime
- Copper sulphate was used as an activator
- The first collector was Aerofloat 208 (dithiophosphate), which is a selective collector for copper ore and native gold, silver and copper
- The second collector was PAX (potassium xanthate), which is a non-selective strong collector for sulphide minerals
- Grind size was 80% passing 100 μm

Average additions of chemical reagents for Tests F-6, F-7, F-9 and F-17 were 125 g/t soda ash, 1022 g/t guar gum, 313 g/t copper sulphate, 79 g/t Aerofloat 208, 105 g/t PAX and 85 g/t MIBC. Optimization of chemical reagents are currently underway. Furthermore, additions of chemical reagents for the commercial flotation operations are expected to be less than what were used during flotation testing in the laboratory.

Figure 1 shows the gold grade in the concentrate as a function of concentrate mass pull for the mineralized sample which contains 2.20 g/t gold. Based on the trendline of the results of these four rougher flotation tests, the concentrate mass pull needs to be controlled at 3.2% in order to achieve 55 g/t gold grade in the concentrate.

Figure 2 indicates the gold recovery as a function of gold grade in the concentrate for the mineralized sample which contains 2.20 g/t gold. Based on the trendline in this graph, gold recovery is around 84% when gold grade in the concentrate is 55 g/t.

Figure 1 Gold grade in the concentrate as a function of concentrate mass pull for the mineralized sample which contains 2.20 g/t gold

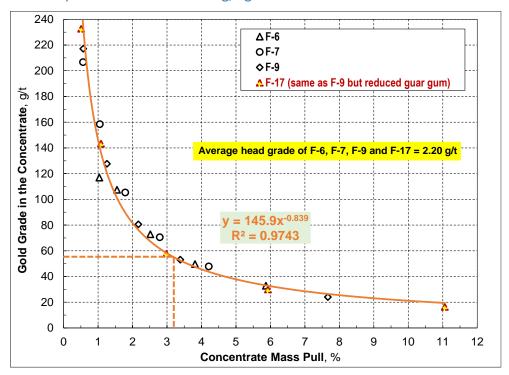


Figure 2 Gold recovery as a function of gold grade in the concentrate for the mineralized sample which contains 2.20 g/t gold

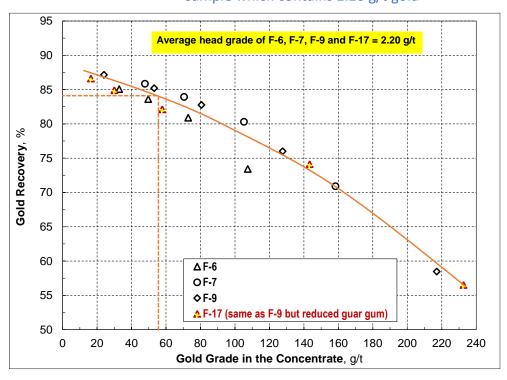


Figure 3 compares the flotation performance of the high-grade mineralized sample (17.3 g/t Au) with the low-grade sample (2.20 g/t Au). Based on the trendline for the high-grade sample, gold grade in the concentrate is above 800 g/t when gold recovery is 90%.

100 90 80 70 60 Gold Recovery, Δ 50 40 30 △ F-6 Low-Grade Gold Oxide O F-7 Low-Grade Gold Oxide 20 ♦ F-9 Low-Grade Gold Oxide Low-Grade Gold Oxide = 2.20 g/t ♣ F-17 Low Grade Gold Oxide 10 High-Grade Gold Oxide = 17.3 g/t **X-F-10 High-Grade Gold Oxide** 0 0 400 800 1.200 1.600 2.000 2.400 2.800 Gold Grade in the Concentrate, g/t

Figure 3 Comparison of the flotation performance between the high-grade sample (17.3 g/t Au) and the low-grade sample (2.20 g/t Au)

The high-quality flotation concentrate was produced from the mineralized sample in the Gold Domain. The detailed assays were carried out for one concentrate, which contains 55.8 g/t gold, 8.3 g/t silver, 0.005% arsenic, less than 0.01% antimony, 2 g/t cadmium and 0.052 g/t mercury.

# 1.6 Selective flotation of four mineralized composite samples from the Copper/Gold Domain to generate copper/gold concentrate

Four mineralized composite samples in the Copper/Gold Domain were subjected to selective flotation to generate copper/gold concentrate. A portion of pyrite was rejected during selective flotation in order to increase copper content in the concentrate. Two of these four mineralized composite samples are shown in Table 2 above. Two additional samples were composited by blending these two samples at ratios of 75:25 and 50:50. Key conditions for selective flotation are:

- Lower pulp density (22% solid) was beneficial to achieve higher concentrate grade by reducing entrainment of gangue minerals
- Guar gum was utilized to depress clay/slime
- Copper sulfate was not used so that pyrite could be rejected
- Combination of cyanide addition and high pH were applied to depress pyrite flotation
- A selective collector AP3418A was used

- The combination of the regrinding of rougher concentrate, higher cyanide dosage, less addition of collector (AP3418A) and high pH increased greatly the copper content in the concentrate because of the enhanced rejection of pyrite
- Primary grind size was 80% passing 100 μm

Average additions of chemical reagents for Tests LCT-1, LCT-2, LCT-3 and F-42 were 2.2 kg/t lime, 218 g/t sodium cyanide, 688 g/t guar gum and 27 g/t AP3418. Table 4 summarizes the flotation results of these four mineralized samples from the Copper/Gold Domain. These results indicate that over 25% copper content in the concentrate was achieved when copper head grade was 0.48% or higher, and the corresponding copper recovery was between 79.3% and 82.1%. When copper head grade was 0.27%, the concentrate contained 19.3% copper with corresponding copper recovery of 72.2%. Gold recovery for these mineralized samples was between 76.4% and 86.5%.

			Mass	Composition				Recovery			
Sample	Test #	Product	Pull	Au	Cu	Fe	S	Au	Cu	Fe	S
			%	g/t	%	%	%		9	6	
High-Grade Sample	LCT-1	2 <sup>nd</sup> -Stage Concentrate	3.3	62	27.1	24.2	34.7	76.4	82.1	26.4	62.0
(VAR1002)	LC1-1	Feed		2.7	1.10	3.0	1.9				
High/Medium-Grade	1 OT 0	3 <sup>rd</sup> -Stage Concentrate	2.1	157	28.0	27.2	36.9	86.5	81.9	17.8	53.3
Sample (VAR1003)	LCT-3	Feed		3.8	0.71	3.2	1.4				
Medium-Grade	LCT-2	3 <sup>rd</sup> -Stage Concentrate	1.5	228	25.1	30.1	40.4	80.9	79.3	14.4	51.1
Sample (VAR1004)		Feed		4.3	0.48	3.1	1.2				
_		3 <sup>rd</sup> -Stage Concentrate	1.0	355	19.3	33.1	41.5	80.2	72.2	10.5	40.3
Low-Grade Sample (VAR1001)	F-42	2 <sup>nd</sup> -Stage Concentrate	1.2	317	17.1	31.1	38.3	84.9	75.8	11.6	44.1
1(*/ (1001)	1										

Table 4 Flotation results of the mineralized samples from the Copper/Gold Domain

The high-quality flotation concentrates were produced from the mineralized samples in the Copper/Gold Domain. The detailed assays were carried out for two concentrate samples, which contain 25.1  $\sim$  27.1% copper, 34.7  $\sim$  40.4% sulphur, 62  $\sim$  228 g/t gold, 10  $\sim$  12 g/t silver, 0.009  $\sim$  0.011% arsenic, less than 0.001  $\sim$  0.002% antimony, 5  $\sim$  8 g/t cadmium and 0.07  $\sim$  0.25 g/t mercury.

0.27

3.3

# 1.7 Flowsheet to generate gold flotation concentrate from the mineralized material in the Gold Domain

The mineralized material in the Gold Domain contains a negligible amount of sulphide minerals. As such, bulk flotation is appropriate to generate gold flotation concentrate. The flowsheet of bulk flotation is shown in Figure 4. The rougher concentrate is the final product. Key unit operations are:

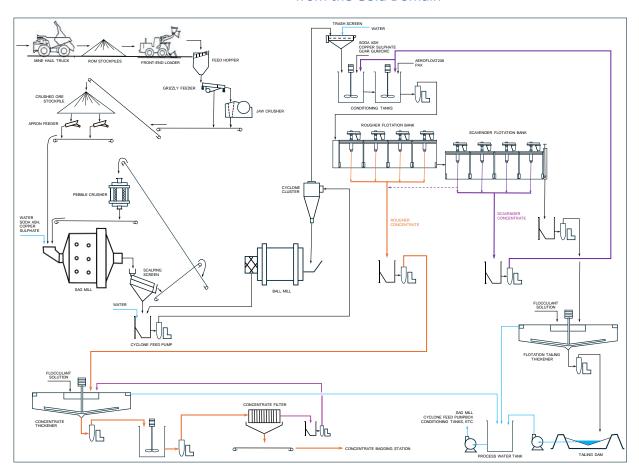
- The ROM material is stockpiled according to gold head grade.
- Single stage crushing is applied before grinding.
- The crushed material is stockpiled.

Feed

• The crushed material is then conveyed to the grinding circuit, which consists of a SAG mill, a ball mill, a pebble crusher and a cyclone cluster. Copper sulphate and soda ash are added to the grinding circuit.

- The cyclone overflow then goes through a trash screen and the screen undersize is then subjected to the conditioning where copper sulphate, soda ash, guar gum, or CMC, dilution water, Aerofloat 208 and PAX are added as required.
- One or two suitable frothers among MIBC, DF250, W31, OrePrep F-549 and F160-10, etc can be considered for addition in the flotation cells.

Figure 4 Flowsheet to produce gold concentrate when processing the mineralized materials from the Gold Domain

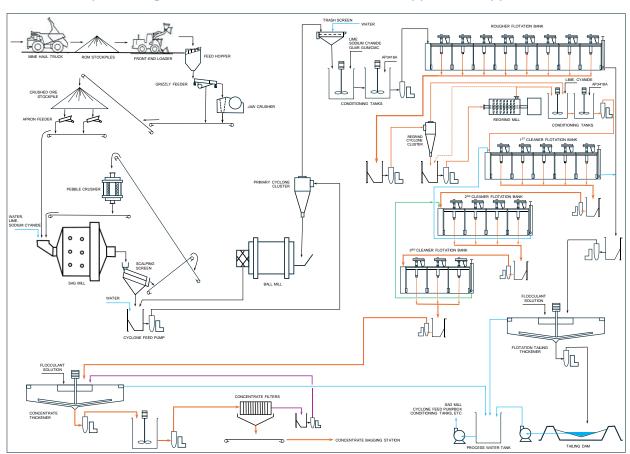


- The conditioned slurry is first floated in the rougher flotation bank, and the tailing from the rougher flotation tank is floated again in the scavenger flotation tank. Most of the scavenger concentrate is recycled to the conditioning tanks.
- Subject to the gold grade, some of the scavenger concentrate may be combined with the rougher concentrate.
- The rougher concentrate, which is the final concentrate, is then thickened and then filtered. The concentrate filter cake is finally bagged.
- The scavenger tailing is thickened, and the thickener underflow is pumped to the tailing dam.
- The supernatant in the tailing dam is reclaimed and recycled back to the process plant.

# 1.8 Flowsheet to generate copper flotation concentrate and copper/gold flotation concentrates from the mineralized materials in the Copper Domain and Copper/Gold Domain

The mineralized materials in the Copper Domain and Copper/Gold Domain contain a large amount of pyrite, and thus selective flotation is necessary in order to generate high-grade copper concentrate and copper/gold concentrate. The flowsheet of selective flotation is shown in Figure 5Figure 4. Key unit operations are:

Figure 5 Flowsheet to produce copper concentrate and copper/gold concentrate when processing the mineralized materials from the Copper and Copper/Gold Domains



- The ROM materials are stockpiled according to copper head grade, sulphur content, and the ratio of copper to sulphur
- Single stage crushing is applied before grinding.
- The crushed material is stockpiled.
- The crushed material is then conveyed to a grinding circuit, which consists of a SAG mill, a ball mill, a pebble crusher and a cyclone cluster. Lime and sodium cyanide are added to the grinding circuit.
- The cyclone overflow goes through a trash screen and the screen underflow is then subjected to the conditioning where lime, sodium cyanide, dilution water, guar gum or CMC and AP3418A are added as required.

- One or two suitable frothers among MIBC, DF250, W31, OrePrep F-549 and F160-10, etc can be considered for additions in the flotation cells.
- The conditioned slurry is then floated in the rougher flotation bank.
- All of the rougher concentrates are forwarded to the regrind circuit.
- The reground rougher concentrate is then conditioned with addition of lime, sodium cyanide and AP3418A collector.
- The conditioned rougher concentrate is then upgraded in three stages to reject additional pyrite and non-sulphidic gangue minerals.
- The concentrate after 3 stages of upgrade is then thickened, filtered and then bagged.
- The tailing from the first stage of cleaner contains a high level of pyrite, and thus combines with the rougher tail, and is then pumped to the tailing thickener. The thickener underflow is pumped to the tailing dam.
- The supernatant in the tailing dam is reclaimed and recycled back to the process plant.

# 1.9 Forecast of concentrate production

The production of gold concentrate and copper/gold concentrate has been estimated on the basis of the monthly mine production schedule and flotation testwork results described above. For the mineralized materials from the Gold Domain, bulk flotation will be applied to produce the gold concentrate. For the mineralized materials from the Copper Domain and Gold/Copper Domain, selective flotation will be applied to produce the copper concentrate which contains the associated gold. The parameters used to estimate the concentrate production are as follows.

- The flotation plant processing rate is 500,000 tonnes per annum, i.e., 41,667 tonnes per month.
- The mining operation will commence one month prior to the start of flotation operation.
- The estimation of concentrate production is carried out month by month.
- The mineralized material, which is mined during the same month, will be processed first. When there is shortage, the mineralized material from the ROM stockpiles will be used to make up the shortfall. When there is any surplus, the surplus material will be placed onto the ROM stockpiles.
- The concentrate quantity, gold recovery and copper recovery are estimated on the basis of the trendlines that are derived from the flotation testwork data. The recovery of gold associated with the Copper Domain is discounted due to its lower gold head grade.
- When flotation operation is switched between bulk flotation to produce gold concentrate and selective flotation to produce copper concentrate, it is assumed that the concentrate in the entire processing plant is completely collected before another concentrate is produced.
- The mineralized materials from the Copper Domain and Gold/Copper Domain can be processed jointly. During estimation of concentrate production, processing rates for Copper Domain and Gold/Copper Domain are proportional to the mine production from their respective domains during the same months.

For the Gold Domain, 25,041 tonnes of gold concentrate are expected to be produced at a grade of 70.9 g/t gold. Total contained gold in the concentrate is estimated to be 57,047 ounces.

For the combined Copper/Gold Domain and Copper Domain, 33,600 tonnes of copper/gold concentrate are expected to be produced at grades of 27.4% copper and 25.0 g/t gold. Total amounts of metals contained in the concentrate are estimated to be 20,265,091 pounds of copper and 26,996 ounces of gold.

When all three domains are combined, total estimated amounts of metals contained in the concentrates are 20,265,091 pounds of copper and 84,043 ounces of gold.

Table 5 Forecast of annual concentrate production from the Gold Domain and the combined Copper and Copper/Gold Domains

				Year 1	Year 2	Year 3	Year 4	Total
		Quantity	tonne	416,667	125,000	83,333	54,638	679,638
	Mill Feed	Gold Grade	g/t	3.06	3.38	2.93	2.88	3.09
		Sulphur Content	%	0.06	0.09	0.13	1.24	0.17
Cald Damaia		Quantity	tonne	15,298	4,767	3,014	1,962	25,041
Gold Domain	Concentrate	Gold Grade	g/t	70.4	75.1	68.5	67.6	70.9
	Production	Sulphur Content	%	1.4	1.9	3.0	29.1	3.9
		Contained Gold	ounce	34,636	11,508	6,636	4,266	57,047
	Recovery	Gold	%	84.6	84.8	84.5	84.4	84.6
		Quantity	tonne	/	375,000	416,667	391,056	1,182,723
	Mill Feed  Concentrate Production	Copper Content	oper Content % / 0.77		0.77	0.93	1.10	0.94
		Gold Grade	g/t	/	1.44	0.82	0.42	0.89
		Sulphur Content	%	/	0.84	1.41	1.86	1.38
		Quantity	tonne		8,563	11,738	13,299	33,600
0 11/0		Copper Content	%		27.1	27.4	27.5	27.4
Copper+Gold/Copper Domain		Gold Grade	g/t		51.1	23.2	9.8	25.0
Domain		Sulphur Content	%		19.3	29.5	35.3	29.2
	Toduction	Contained Copper	tonne		2,318	3,216	3,658	9,192
		Contained Copper	pound		5,111,329	7,089,463	8,064,300	20,265,091
		Contained Gold	ounce		14,069	8,757	4,171	26,996
	Pagayary	Copper	%		80.2	82.6	84.9	82.9
	Recovery	Gold	%		81.0	79.4	79.3	80.2
	Composition	Contained Copper	tonne		2,318	3,216	3,658	9,192
Total	Concentrate Production	Contained Copper	pound		5,111,329	7,089,463	8,064,300	20,265,091
	Production	Contained Gold	ounce	34,636	25,577	15,393	8,437	84,043

# 1.10 Planned future metallurgical testwork

Four new composite samples were collected recently and have been delivered to Blue Coast Research in Canada. Flotation testwork with these four new samples commenced at the beginning of April

- The first composite sample was collected from the Gold Domain, and the expected head grades are 2.77 g/t gold and 0.02% copper.
- The second composite sample was collected from the Copper/Gold Domain, and the expected head grades are 1.79 g/t gold, 0.71% copper and 1.85% sulphur.
- The third composite sample was collected from the Copper Domain, the expected head grades are 0.05 g/t gold, 0.97% copper and 1.84% sulphur.

• The fourth composite sample was also collected from the Copper Domain, but with the lower copper content. The expected head grades are 0.05 g/t gold, 0.53% copper and 1.55% sulphur.

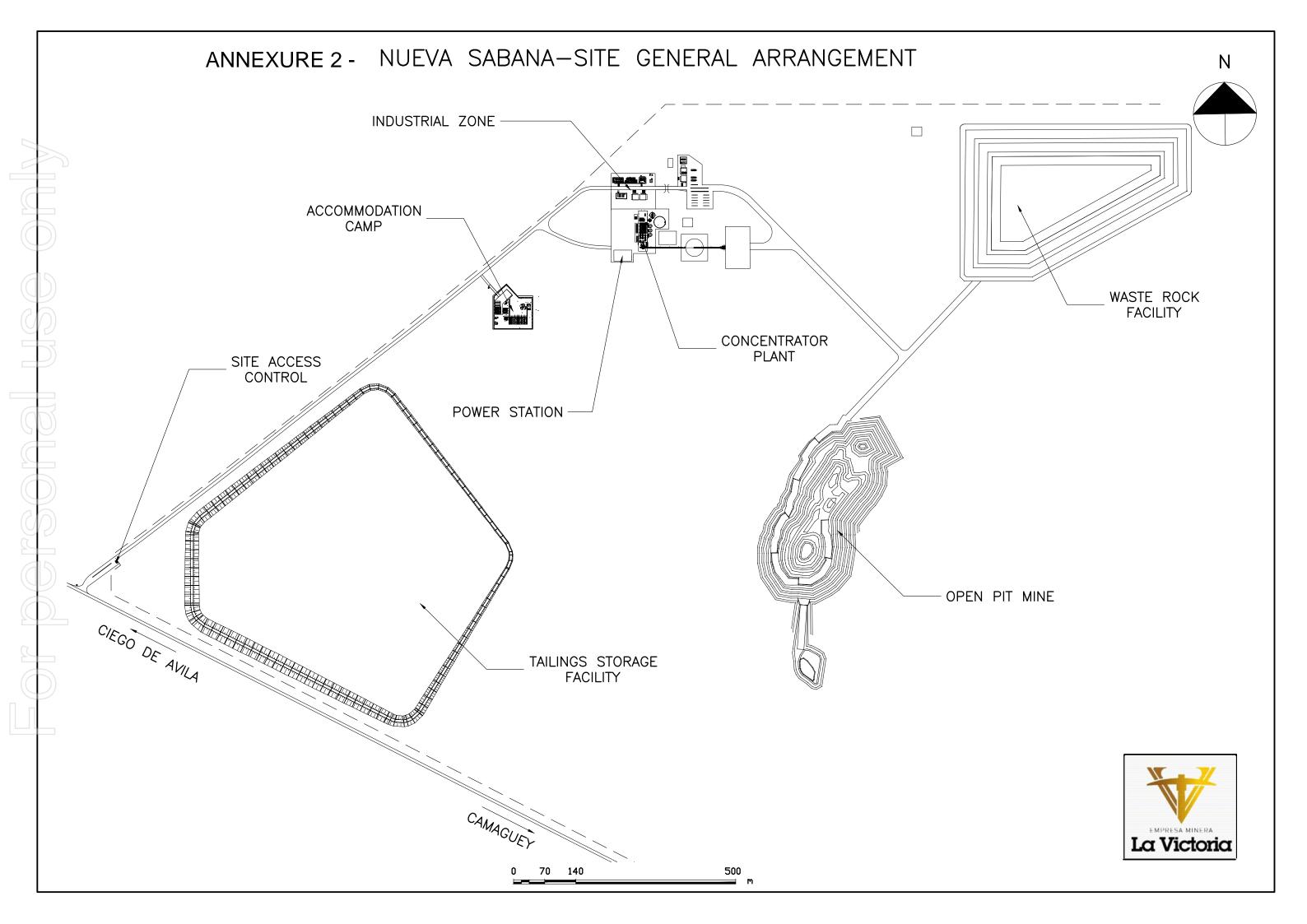
Each of these four composite samples will be tested individually for their flotation performance. In addition, three blended samples will also be tested for their flotation performance. These three blended samples are:

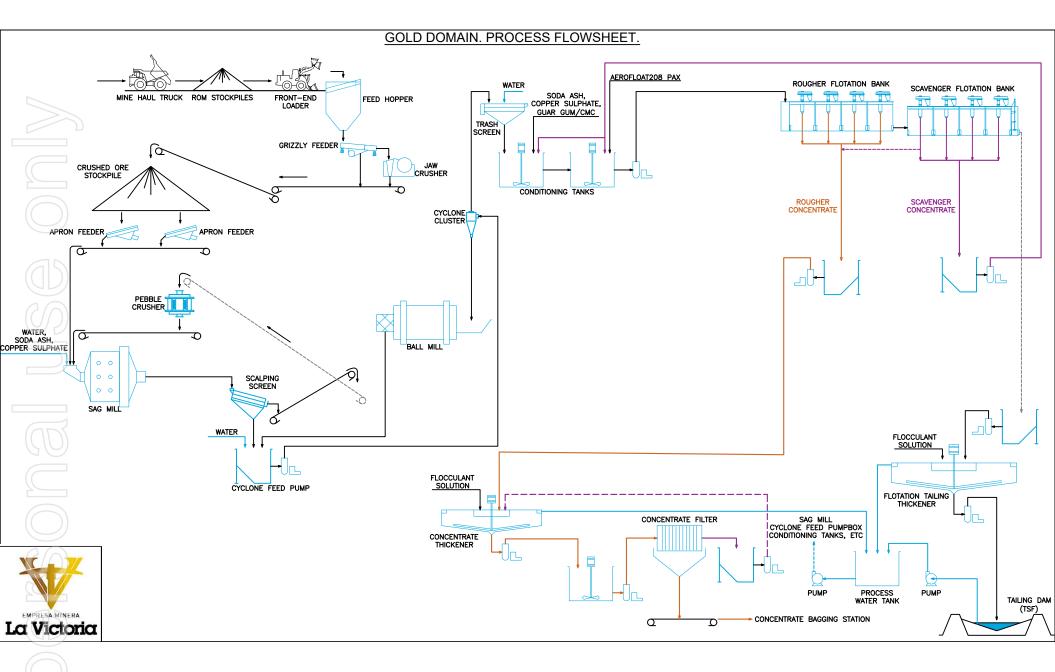
- The first blended sample will be prepared between the mineralized sample from the Copper Domain and the mineralized sample from Copper/Gold Domain. Selective flotation will be applied to produce copper concentrate which contains the associated gold.
- The second blended sample will be prepared between the mineralized sample from the Gold Domain and the mineralized sample from the Copper Domain. Selective flotation will be applied to produce copper concentrate which is expected to carry most of gold from the mineralized sample of the Gold Domain. If copper flotation performance (both copper recovery and copper content in the concentrate) is not adversely affected and gold recovery is same or higher, the situation will be desirable due to a series of benefits related to the concentrate marketing and flotation operation itself.
- The third blended sample is similar to the second blended sample, but the mineralized sample from the Copper/Gold Domain will be blended with the mineralized sample from the Gold Domain. Selective flotation will be applied to produce the copper/gold concentrate.

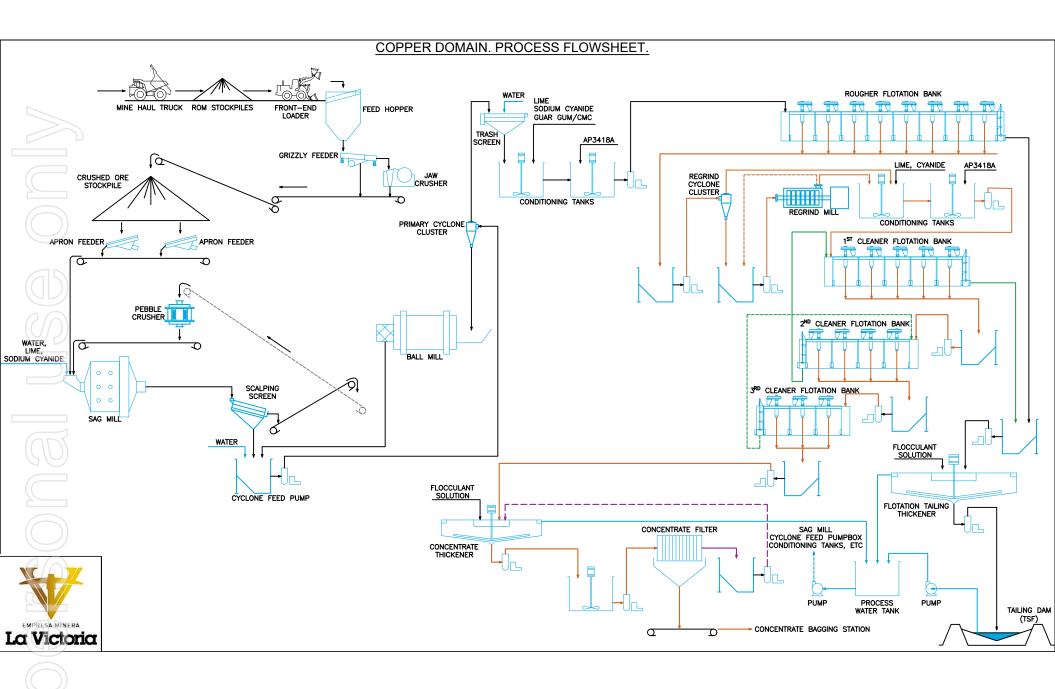
Results from the first flotation tests that are combining material from the gold domain and copper domain are demonstrating that the materials can be combined with no impact to the recovery of either metal. This will potentially allow the production of a single copper/gold concentrate from year 2 in the schedule that would benefit from increased payables for gold contained within copper concentrate over a straight gold concentrate.

# ANNEXURE 1 - Plant and Equipment List

MOBILE	EQUIPMENT			
	TYPE	MAKE	MODEL	QTY
MINING	(Hire through Univol Cuba)			
	Excavator	VOLVO	EC750E	
	Excavator	VOLVO	EC480D	
	Articulated Dump Truck	VOLVO	A45G	
	Loader	VOLVO	L220H	
	Dozer	DRESSDAT	D20	
	Grader	SDLG	G9220	
MINING	(MLV Purchase)			
	Drill	EPIROC	PowerROC T35	
(D)	Water Truck	SINOTRUK		
MINE SU	JPPORT (MLV Purchase)			
	All-Terrain Crane Truck	XCMG	XCA60	
	Telescopic Handler	XCMG	XC6-4517K	
	Forklift	XCMG	FD35T-JBN	
	Pickup	TOYOTA	HiLux	1
	Mini Bus	TOYOTA	Coaster	
	Mine Service Truck / Fuel Truck	SINOTRUK		
	Truck Tractor	SINOTRUK		
	Truck Trailers (incl container side lift)	SINOTRUK		
	Ambulance	ТОУОТА	Hiace	
ANCILLA	RY (MLV Purchase)			
	Light Tower	ATLAS COPCO	HILIGHT V5+ LED	
	Diesel Water Pump			







Note – The two circuits are common, with the Gold circuit only requiring the use of the rougher and scavenger flotation cells to attain the required recoveries, with the additional cleaner cells utilised during Cu flotation