

# NI 43-101 Technical Report for the Segovia Operations, Antioquia, Colombia



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## 1 Summary

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### 1.1 Introduction

This technical report has been prepared for Aris Mining Corporation (Aris Mining) in compliance with the disclosure requirements of National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* (NI 43-101) to disclose material updates to the mineral resource and mineral reserve estimates at the Segovia Operations resulting from Aris Mining's reviews and optimization of the geological interpretation and resource estimation methodologies, as well as the results of ongoing channel sampling and strategic exploration and infill drilling, optimization of mining, processing, productivity, labour structure, cost control, and updates to cost estimates and production plans.

### 1.2 Property description and ownership

The Segovia Operations (the Property) are a historical and current mining operation comprising four active underground gold mining operations, which include El Silencio, Sandra K, Providencia, and Carla, together with other mineral resources and exploration targets, the Maria Dama processing facility that processes both ore produced from the Property's mineral reserves and material that is mined by smaller groups outside of the Property titles, tailings management facilities, and numerous historical mines, located in the department of Antioquia, Colombia. Mining has taken place on the Property for over 150 years with approximately 4.6 million ounces of gold reported to have been mined from the Property between 1869 and 2010. Between 2011 and 2022, approximately 1.7 million ounces of gold have been produced at the Property's Maria Dama processing plant.

The Property's El Silencio, Sandra K, and Providencia mines, the Maria Dama processing plant, and other key infrastructure are located within mining title RPP 140 in the municipality of Segovia. The Carla mine is located in mining title H6045005, approximately 10 kilometres (km) to the south in the municipality of Remedios. Both of these municipality's community infrastructure has developed in response to the mining activities at the Property and the surrounding mining district. The Property is readily accessible by vehicle on national highways and sealed secondary roads leading 195 km to the northeast from Medellín.

On September 26, 2022, GCM Mining Corp (GCM Mining) completed a business combination with Aris Gold Corporation (Aris Gold) and the combined entity was renamed Aris Mining. Aris Mining is the 100% owner and operator of the Property.

### 1.3 Exploration drilling and channel sampling data

There are around 1,280 drillholes and 203,261 channel samples defining the characteristics of the mineralized gold veins at the Property. Exploration and infill drilling, as well as channel sampling of the mineralized structures at the active mining operations takes place on an ongoing basis and are utilized for annual updates of the mineral resource and mineral reserve estimates, using assumptions based on actual operational results and updated production plans. Annual drilling budgets have steadily increased since 2016, with exploration drilling plans guided by following the vein trends along strike and down dip as new surface and underground drilling platforms are constructed. In 2023, the number of development contractors was increased to allow for faster creation of drilling platforms. The strategic drill plan for 2023 included 84,500 metres (m) for infill drilling to increase mineral reserves and the life of mine plan, resource extensions at the producing mines, and strategic high priority vein targets located adjacent to the current mining operations. The Segovia Operations also provides drilling assistance to partner miners. The drillhole and channel sample data cut-off date used for the mineral resource estimate is June 30, 2023, using approximately half of the 2023 planned drilling metres. The 2023 drilling program is still underway.

### 1.4 Geology and mineralization

Regionally, the Property is located in the Central Cordillera of the Colombian Andes and at a local level, mesothermal quartz sulphide veins comprising the Segovia gold deposit are hosted in diorites and granodiorites of the Segovia Batholith. The Property geology is dominated by the Segovia Batholith, andesite to dolerite dikes, an extensive system of high grade gold mineralized quartz veins, and faulting resulting in offsets of the veins. The veins are controlled mainly by northeast trending, shallowly dipping faults associated with diorite to andesite dikes. The average width of the quartz veins is around 1.2 m and



pinches and swells along strike and down dip. The majority of the veins dip approximately 30° to the northeast, with a small number of steeply dipping veins.

Numerous large scale vein structures are currently being mined on the Property, in addition to minor associated veins, including veins 1040, Nacional, and Veta Manto at the El Silencio mine, the Providencia vein at the Providencia mine, the Sandra K Techo vein at the Sandra K mine, and the La Gran Colombia vein at the Carla Mine. There are numerous other associated smaller vein structures, some of which have been mined in the past, that are now identified as exploration targets, including Marmajito, Las Verticales, Vera, Cristales, Hilos 1, and Chumeca.

The orientation and dimensions of the gold veins at El Silencio, Providencia, Sandra K, and Carla as defined by channel sampling and diamond drilling are provided in Table 1-1.

Table 1-1 Vein dimensions

Vein	Average dip	Strike length (km)	Down dip length (km)	Average vein width (m)
El Silencio	30°	2.8	2.7	1.3
Providencia	33°	2.2	2.0	1.1
Sandra K	34°	1.5	2.3	1.2
Carla	34°	0.85	0.48	1.3

### 1.5 Mineral resource estimate

The Segovia Operations mineral resource estimate effective September 30, 2023 is shown in Table 1-2. The mineral resource cut-off grades were established for each area using a gold price of \$1,850 per ounce, a metallurgical gold recovery of 95.2%, and cost assumptions based on actual operating results. The mineral resource estimate utilized a gold cut-off grade of between 2.80 grams per tonne (g/t) and 3.12 g/t depending on mineral resource area. The cut-off grade is applied to vein grades diluted to a minimum height of one vertical metre.

Table 1-2 Segovia Operations mineral resources effective September 30, 2023

Classification	Tonnes (Mt)	Gold grade (g/t)	Contained gold (koz)
Measured	4.1	14.31	1,893
Indicated	3.8	14.38	1,736
Measured + Indicated	7.9	14.34	3,629
Inferred	4.7	12.11	1,823

Notes:

- Mineral resources are inclusive of mineral reserves.
- Mineral resources are not mineral reserves and have no demonstrated economic viability.
- A gold price of US\$1,850 per ounce was used for the mineral resource estimate.
- The mineral resource estimate utilized a gold cut-off grade of between 2.80 g/t and 3.12 g/t depending on mineral resource area. The cut-off grade values were applied to vein grades diluted to a minimum height of one vertical metre.
- The mineral resource estimate was prepared by Pamela De Mark, P. Geo., Senior Vice President of Geology and Exploration of Aris Mining.
- There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the mineral resource estimate.

### 1.6 Mineral reserve estimate

The mineral reserve estimate for the Segovia Operations effective September 30, 2023 is shown in Table 1-3. The mineral reserve cut-off grades were established for each area using a gold price of \$1,700 per ounce, a metallurgical gold recovery of 95.2%, and cost assumptions based on actual operating results. The mineral reserve estimate utilized a gold cut-off grade

of between 3.05 g/t and 3.40 g/t, depending on mining area. The cut-off grade is applied to vein grades diluted to a minimum height that varies according to the mining area.

Table 1-3 Segovia Operations mineral reserves effective September 30, 2023

Classification	Tonnes (kt)	Gold grade (g/t)	Contained gold (koz)
Proven	1,515	12.25	597
Probable	2,017	11.16	723
Proven + Probable	3,531	11.63	1,320

Notes:

- A gold price of US\$1,700 per ounce was used for the mineral reserve estimate.
- The mineral reserve estimate utilized a gold cut-off grade of between 3.05 g/t and 3.40 g/t, depending on mining area. The cut-off grade values were applied to vein grades diluted to a minimum mining height that varies according to the mining area.
- The mineral reserve estimate was prepared by Aris Mining technical staff under the supervision of and reviewed by Inivaldo Diaz, CP, Vice President Technical Services of Aris Mining’s Colombian operations.
- There are no known mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the mineral reserve estimate.

## 1.7 Mining

Mining has taken place at the Property for over 150 years and the underground mining operation, Maria Dama processing plant, and associated mining infrastructure have been in place for many years.

The ore at the Property has historically been mined from underground using labour intensive manual room and pillar mining methods from the 1.1 to 1.3 m wide veins that mostly dip between 30° and 35° degrees. In 2023 longwall mining was introduced to increase mining productivity. Both methods follow the dip of the veins and provide for a high level of selectivity to maximize ore recovery and minimize dilution, and includes a primary room and pillar phase and a secondary pillar recovery phase. The minimum mining height is around 1.2 m. The total mining recovery from both phases is between 90% and 95%. The total hoisting capacity is currently 3,220 tonnes per day (tpd).

Mining is undertaken by both Aris Mining and by for-profit partnerships with local community based mining groups utilizing a compensation scheme based on the market price of gold that incentivizes higher grade ore, allowing for consistent margins from partner operated mining and allows the partner miners to participate in changes in the market price of gold. The primary room and pillar phase is undertaken by the owner mining teams and the secondary pillar recovery phase is undertaken by contractors, utilizing manual mining methods.

The underground mine has approximately 1,000 underground Aris Mining employees and around 980 Aris Mining employees working in a support capacity. Aris Mining has approximately 60 operations contracts of three different types, formalizing approximately 2,900 contract miners:

1. Artisanal and small scale mining operation contracts with a view to formalizing: contracts with small mines that wish to formalize and work under traditional and artisanal methods using small machinery on the Property’s mining titles. These contractors represent around 7% of the Property’s total production.
2. Outsourcing: contracts with external mining companies at the El Silencio, Providencia, and Sandra K mines using regional small mining labour to selectively mine high grade ore on the Property’s mining titles. These contractors represent around 23% of the Property’s total production.
3. Third parties: contracts with miners who do not have their own processing plants and are extracting material outside of the Property’s titles. They represent around 13% of the Property’s total production.

The 3.5 million tonnes of mineral reserves could be mined in nearly 7 years at a mining rate of 1,400 tpd by owner and partner mining. The mine life is expected to increase annually through ongoing exploration and infill drilling campaigns and annual updates to the mineral resource and mineral reserve estimates. The owner mining teams produce approximately

1,050 tpd and partner mining teams produce approximately 350 tpd. The combined mill feed to the processing plant is sourced from the mineral reserves mined by owner and contractor mining teams, non-reserve material mined by partners on the Property's mineral titles, and non-reserve material mined by partners outside of the Property's mineral titles.

Other mining optimization work that has been completed since the business combination includes the acquisition of a new fleet of diesel powered equipment to increase development and production rates, the implementation of an information management system for better control of the mine schedule execution, a more efficient workforce structure and work roster, a new employee training and production bonus scheme, and an increase in development contractors to allow for improved production flexibility. No material expansion of production is considered in this Technical Report.

## **1.8 Infrastructure**

The Property is a mature mining operation with well established infrastructure including roads, the underground mine workings, the Maria Dama processing plant, a polymetallic concentrate processing plant, tailings storage facilities, power and water distribution networks, water and effluent treatment plants, water management systems, maintenance workshops, offices, metallurgical and chemical laboratories, core logging and storage facilities, and fuel and explosives storage. Sufficient area is available for future tailings storage facilities.

## **1.9 Metallurgical testwork and recovery methods**

The 2,000 tpd capacity Maria Dama processing plant has been operating and continually maintained and upgraded over many years since mining at the Property began, and the processing characteristics, requirements, and operational results are well established. The details of any past mineral processing and metallurgical testing are now superseded by actual plant operational results. Current programs comprise flotation, leach, and polymetallic concentrate plant optimization testwork.

The flow sheet comprises crushing, grinding, gravity concentration, gold flotation and regrind, cyanidation and polymetallic sulphide recovery of the flotation concentrate, Merrill-Crowe precipitation, and smelting of the Merrill-Crowe precipitate and gravity concentrate to produce a gold-silver doré. The process feed includes material mined by Aris Mining and partner-mining from within the Property titles, as well as material that is mined by smaller groups outside of the Property titles. Around 43% of production is sourced from partner mining. A 200 tpd polymetallic concentrate processing plant was installed in 2021 to clean sulphides from the Maria Dama processing tailings, recovering lead and zinc concentrates that provide an additional revenue source.

## **1.10 Community and environmental setting**

The Property is located within the municipalities of Segovia and Remedios, whose community infrastructure has developed in response to mining activities over the past 150 years, and therefore the environmental and social setting is mainly centred around mining. Over 7% of the adult population of the town of Segovia is employed by Aris Mining and partner miners represent over 40% of the Segovia Operations' workforce. The Segovia Operations have mining contracts that have formalized 2,900 miners and extended social security benefits to the families of those miners, positively impacting 12,000 family members. The Segovia Operations have a small mining team dedicated to increasing the formalization of local miners and strengthening the Segovia Operations' bonds with the community.

The environmental liabilities at the Property are typical of a historic and active mining operation, and none of the environmental liabilities, such as surface disturbance resulting from the historical operations, are the legal responsibility of Aris Mining. There are no known material environmental liabilities at the Property that are the responsibility of Aris Mining. The Segovia Operations have an active environmental management team working to improve the environmental conditions at the Property, including the restoration of land with tree planting and forestry management. The cost of reclamation and closure of the mining and tailings storage facilities has been considered in the cost estimates.

## **1.11 Operating cost estimates**

The mining cost structure is well established and varies depending on whether the material is mined by owner, contractor, or artisanal labour. Aris Mining uses cost per tonne metrics to monitor the financial performance of owner-managed labour and costs per ounce metrics to monitor the financial performance of contractor and artisanal miners who are paid under a

compensation scheme based on the market price of gold. Mining costs from January 1 to September 30, 2023 were US\$143 per tonne for owner mining, US\$823 per ounce of gold for contractor mining, and US\$1,291 per ounce of gold for artisanal mining. Processing costs for the same time period, for mill feed from all on-and-off title sources, averaged US\$35 per tonne processed, and mine site general and administration costs averaged US\$26 per tonne processed.

The Segovia Operations receive revenue from the sale of the silver contained in the gold-silver doré and from the sale of polymetallic concentrates that averaged US\$23 per tonne processed between January 1 to September 30, 2023, which is applied as a credit towards operating costs.

### **1.12 Taxes, royalties, and other interests**

Segovia Operations are subject to taxation by the Colombian State at an effective corporate income tax rate of 35%.

For metal produced at the El Silencio, Providencia, and Sandra K mines, Aris Mining pays the Colombian state a 4% royalty on 80% of the payable gold and silver produced, based on the previous month's London Metal Exchange's metal prices, and pays the ANM a 0.4% royalty on 80% of the payable gold and silver produced, based on the previous month's London Metal Exchange metal prices. For metal produced at the Carla mine, Aris Mining pays the ANM a 4% royalty on 80% of the payable gold and silver produced, based on the previous month's London Metal Exchange metal prices.

Aris Mining also makes social commitment payments to the local communities. The contribution rate is \$4 per ounce of gold produced from the Property at a minimum gold price of \$700 per ounce, with an increase by \$2 per ounce for each \$50 increment in the prevailing London Bullion Market Association price of gold.

### **1.13 Conclusions**

This technical report has been prepared for Aris Mining in compliance with the disclosure requirements of NI 43-101 to disclose material updates to the mineral resource and mineral reserve estimates at the Property resulting from Aris Mining's reviews and optimization of the geological interpretation and resource estimation methodologies, as well as the results of ongoing channel sampling and strategic exploration and infill drilling, optimization of mining, processing, productivity, labour structure, cost control, and updates to cost estimates and production plans.

There are no known significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the mineral resource or mineral reserve estimates.

Mining and processing have taken place at the Property for many years and the conditions and requirements are well understood. Approximately 4.6 million ounces of gold are reported to have been mined at the Property between 1869 and 2010. Between 2011 and 2022 approximately 1.7 million ounces of gold have been produced at the Property's historical Maria Dama processing plant.

Aris Mining will continue to conduct ongoing channel sampling as mining progresses as well as exploration and infill drilling. Mineral resource and mineral reserve estimates are expected to be updated on an annual basis. Aris Mining currently expects to continue processing material at a rate of 2,000 tonnes per day over the life of mine.

### **1.14 Recommendations**

An opportunity exists to increase the capacity of the Maria Dama processing plant from 2,000 to 3,000 tpd by utilizing a previously purchased ball mill that is already located at the Property, and by relocating and upgrading the facilities that receive material from the Segovia Operations' artisanal and small scale mining partners. This creates the potential to gradually increase annual gold production from 200,000 to 300,000 ounces of gold by filling the extra capacity by increasing mining rates. A portion of the extra capacity may be allocated to the Segovia Operations' artisanal and small scale mining partners. The addition of the ball mill to the existing circuit would enable both higher throughput and more effective use of available capacity, thereby enhancing the overall gold recovery rate for all processed materials. An upgraded receiving facility for partner mined material could also be designed to increase volumes and efficiencies.

The qualified person responsible for Section 17 recommends implementing this small-scope project, which could be completed by early 2025 at an estimated cost of US\$11.0 million.

## 2 Introduction

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### 2.1 Issuer and purpose of the technical report

This technical report has been prepared for Aris Mining in compliance with the disclosure requirements of NI 43-101 to disclose material updates to the mineral resource and mineral reserve estimates at the Property as a result of Aris Mining's reviews and optimization of the geological interpretation and resource estimation methodologies, as well as the results of ongoing channel sampling and strategic exploration and infill drilling, optimization of mining, processing, productivity, labour structure, cost controls, and updates to cost estimates and production plans.

The effective date of this technical report is September 30, 2023. No new material information has become available between this date and the signature date given on the certificate of the qualified persons. The quality of information, conclusion and estimates contained in this technical report is based on information available at the time of the effective date and the assumptions, conditions, and qualifications set forth in this technical report. Except for the purposes legislated under Canadian securities law, any other uses of this technical report by any third party is at that party's sole risk. The user of this technical report should ensure that this is the most recent technical report for the Property, as any previous technical reports are no longer current.

Aris Mining is a Canadian mining company with its common shares listed on the Toronto Stock Exchange under the symbol ARIS and the NYSE American LLC under the symbol ARMN.

### 2.2 Source information

Unless otherwise stated, information, data, and illustrations contained in this technical report or used in its preparation have been provided by Aris Mining for the purpose of this technical report.

### 2.3 Qualified persons and personal inspections

This technical report was prepared by Pamela De Mark, P. Geo., Senior Vice President, Geology and Exploration of Aris Mining, Inivaldo Diaz, CP, Registered Member and Competent Person of the Comisión Calificadora de Competencias en Recursos y Reservas Mineras (Chilean Mining Commission), Vice President, Technical Services of Aris Mining's Colombian operations, and Cornelius Lourens, Fellow of the Australasian Institute of Mining and Metallurgy, independent metallurgical consultant, all of whom are qualified persons as defined by NI 43-101. The responsibilities of each qualified person are shown in Table 2-1.

Ms. De Mark visited the Property from July 12<sup>th</sup> to 14<sup>th</sup>, 2022, on December 1<sup>st</sup>, 2022, and from July 17<sup>th</sup> to 21<sup>st</sup>, 2023. During the visits, Ms. De Mark reviewed the exploration drilling, logging, sampling, and sample security protocols; the drill core and core processing and storage facilities; the drilling plans and results; database management, and interpretations of the mineralized structures. Ms. De Mark also visited the El Silencio, Providencia, Sandra K, and Carla underground operations to review the key production areas, ground conditions, the channel sampling protocol, and the nature of the structures being mined. Ms. De Mark also visited the Maria Dama processing and polymetallic concentrate plants, and tailings storage facilities; and reviewed the operational plan and results, the environmental and community setting, and logistics for mining and processing.

Mr. Diaz has visited the Property numerous times since the commencement of his employment with Aris Mining in August 2018. The three most recent sites visits were from July 3<sup>rd</sup> to 7<sup>th</sup>, 2023, from July 24<sup>th</sup> to 28<sup>th</sup> 2023, and from August 14<sup>th</sup> to 18<sup>th</sup>, 2023. During those visits, Mr. Diaz reviewed the Maria Dama processing and polymetallic concentrate plants, and tailings storage facilities; the mineral processing parameters and results; the metallurgical balances; mine and plant maintenance; the chemical laboratory; civil construction and maintenance works; the surface layout and logistics for mining and processing; and the environmental and community setting. Mr. Diaz has visited the El Silencio, Providencia, Sandra K, and Carla underground operations to review the key production areas, development and underground infrastructure; ground conditions, and the nature of the structures being mined. Mr. Diaz has also reviewed the mine budget; the operational mine plan and results; geotechnical, processing, construction, environmental, and ventilation reports; the agreements with the contract miners and their operating results; and safety protocols and results.

Mr. Lourens visited the Property from August 17<sup>th</sup> to 18<sup>th</sup>, 2023. During the visit Mr. Lourens reviewed the Maria Dama processing and polymetallic concentrate plants, and tailings storage facilities; the mineral processing parameters and results; the metallurgical balances, plant maintenance; the chemical laboratory, civil construction and maintenance works; the surface layout and logistics for mining and processing; and the environmental and community setting. Mr. Lourens also discussed the geology and engineering aspects with the site teams. Mr. Lourens also reviewed the processing budget; metallurgical plan and results, and metallurgical testwork reports; and the agreements with the contract miners.

Table 2-1 Responsibilities of each qualified person

Qualified person	Responsible sections
Pamela De Mark	2: Introduction; 3: Reliance on other experts; 4: Property description and location; 5: Accessibility, climate, local resources, infrastructure, and physiography; 6: History; 7: Geological setting and mineralization; 8: Deposit types; 9: Exploration; 10: Drilling; 11: Sample preparation, analyses, and security; 12: Data verification; 14: Mineral resource estimates; 20: Environmental studies, permitting, and social or community impact; 23: Adjacent properties; 24: Other relevant data and information; 27: References; and the relevant summaries of those sections included in 1: Summary; 25: Interpretation and conclusions; and 26: Recommendations.
Inivaldo Diaz	3: Reliance on other experts; 12: Data verification; 15: Mineral reserve estimates; 16: Mining methods; 18: Project infrastructure; 19: Market studies and contracts; 21: Capital and operating costs; 22: Economic analysis; 24: Other relevant data and information; and the relevant summaries of those sections included in 1: Summary; 2: Introduction; 25: Interpretation and conclusions; and 26: Recommendations.
Cornelius Lourens	3: Reliance on other experts; 12 Data verification; 13: Mineral processing and metallurgical testing; 17: Recovery methods; 24: Other relevant data and information; and the relevant summaries of those sections included in 1: Summary; 2: Introduction; 25: Interpretation and conclusions; and 26: Recommendations.

## 2.4 Currencies, units, and coordinate system

Unless stated otherwise in this technical report, all currency amounts are in United States dollars and quantities are in metric units. Project coordinates are provided in either Magna Colombia Bogota or Bogota Bogota Colombia, depending on the Property area. North is up on all plan views.

### **3 Reliance on other experts**

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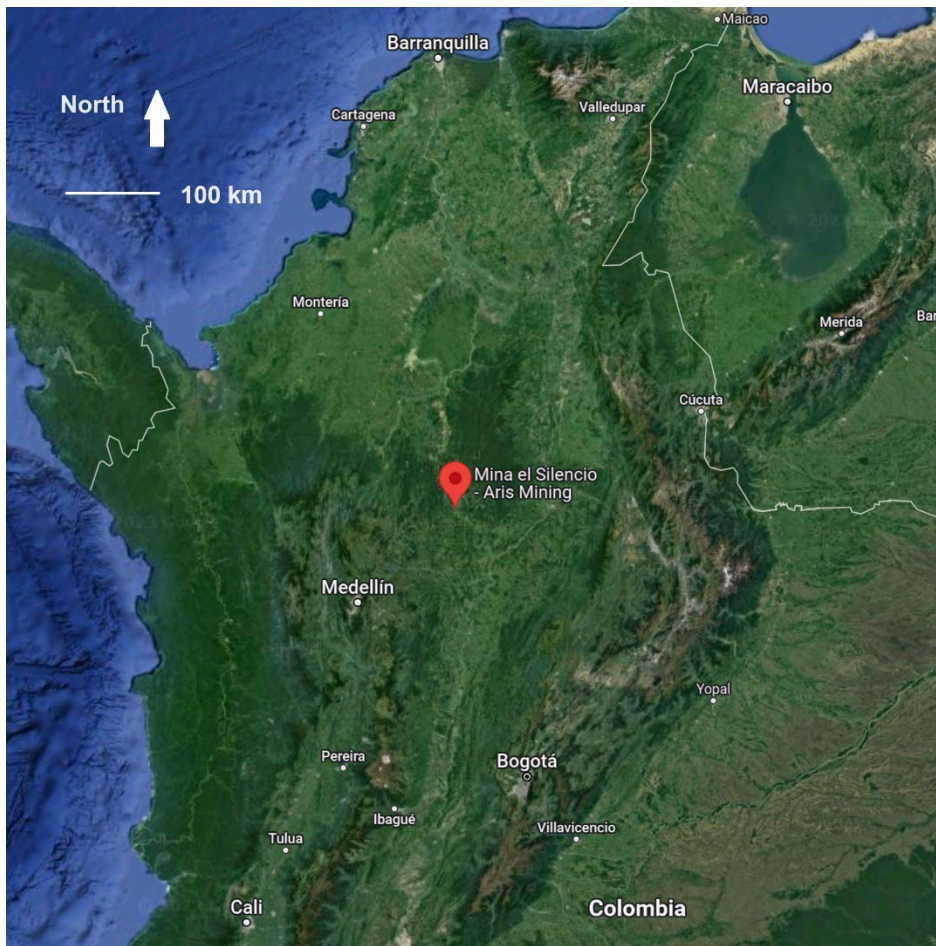
No reliance on other experts has been made for the purpose of preparing this technical report.

## 4 Property description and location

### 4.1 Property location

The Segovia Operation is located in the Segovia-Remedios mining district in the department of Antioquia, Colombia, approximately 180 km northeast of Medellín, at 7°04' North and 74°42' West. A Google map of the Property location is shown in Figure 4-1.

Figure 4-1: Property location map - source Google 2023



### 4.2 Mineral tenure and Aris Mining's interest

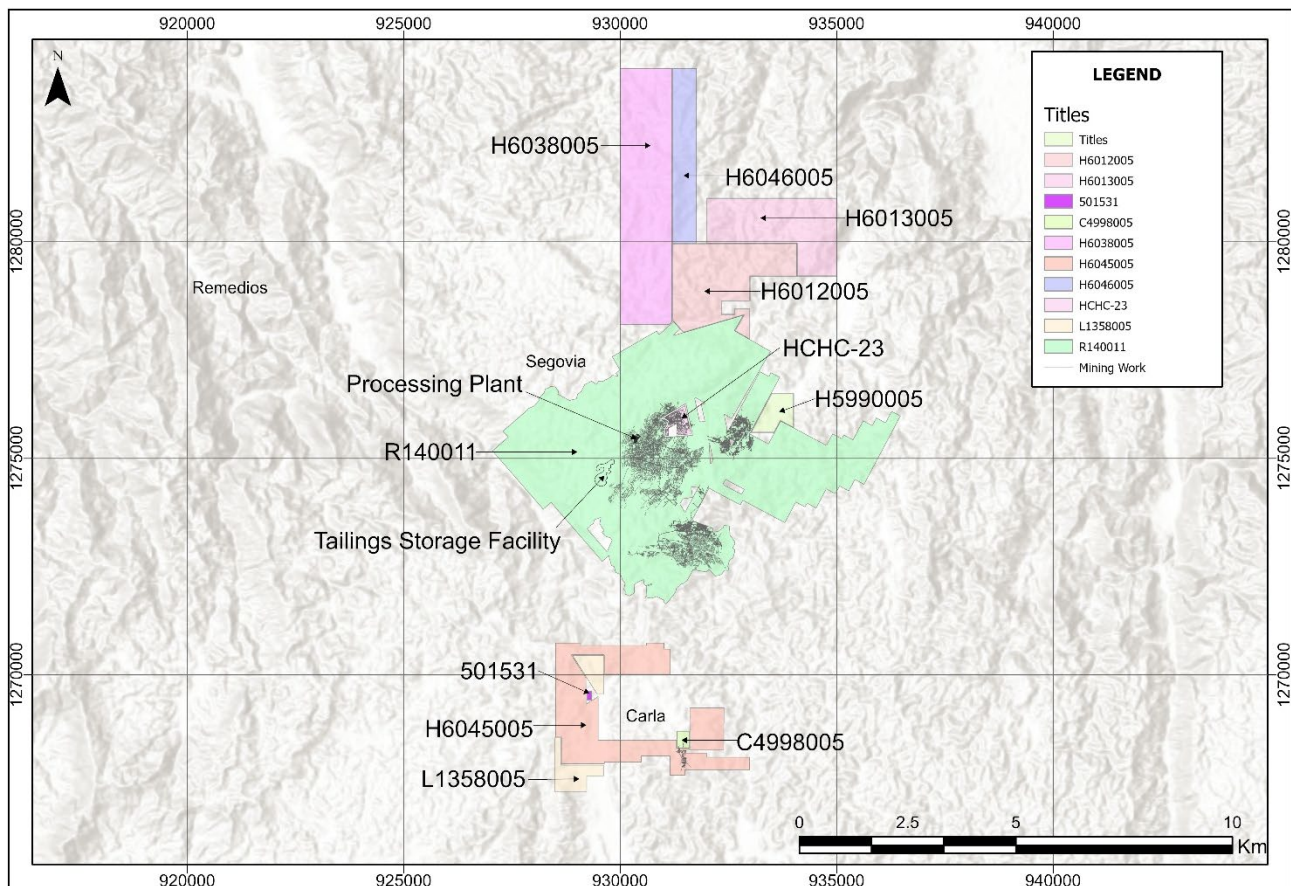
There are 11 titles with a total area of 5,335.58 hectares (ha) associated with the Property, all of which are 100% owned by Aris Mining. Three titles are associated with the El Silencio, Providencia, and Sandra K mines in the municipality of Segovia, and four titles are associated with the Carla mine to the south in the municipality of Remedios. Another four titles are located to the north of the Segovia titles. The key title containing the majority of the Property's mineral resources and mineral reserves and key infrastructure, Private Property Registry R140011 (RPP 140), was issued by the Ministry of Mines and Energy in 1998 and provides mining rights granted in perpetuity as long as exploitation occurs without a suspension of activities for a period of greater than one year. A summary of the titles is provided in Table 4-1 and a plan of the titles is shown in Figure 4-2. Title L1358005 is in the process of being converted to a concession contract with the Antioquia mine secretariat, and until such time as the license is converted, the title is current and valid for the granted activities.



Table 4-1 Property mineral title list

Number	Area	Type	Area (ha)	Expiry
R140011	Segovia	Recognition of private property	2,871.97	None
H5990005	Segovia	Concession contract	58.83	30/08/2034
HCHC-23	Segovia	Exploration licence	25.81	28/10/2031
H6045005	Carla	Concession contract	567.59	19/04/2035
L1358005	Carla	Exploration licence	106.94	28/04/2004
C4998005	Carla	Concession contract	12.00	09/02/2036
501351	Carla	Concession contract	2.44	19/09/2052
H6038005	Segovia north	Concession contract	710.21	19/04/2035
H6012005	Segovia north	Concession contract	415.46	19/04/2035
H6013005	Segovia north	Concession contract	388.09	08/05/2036
H6046005	Segovia north	Concession contract	226.24	09/09/2034

Figure 4-2: Property mineral title plan – source Aris Mining 2023



### 4.3 Surface rights

In addition to the mining titles that provide legal access to the Property, Aris Mining owns land with a total area of 4,727.2 ha and leases a further 2.4 ha of land to support the mining activities at the Property.

#### **4.4 Royalties, agreements, and encumbrances**

On title R140011, Aris Mining pays the Colombian state a 4% royalty on 80% of the payable gold and silver produced, based on the previous month's London Metal Exchange's metal prices, and pays the Agencia Nacional de Minería (ANM), the Colombian national mining agency, a 0.4% royalty on 80% of the payable gold and silver produced, based on the previous month's London Metal Exchange metal prices.

On title H6045005, Aris Mining pays the ANM a 4% royalty on 80% of the payable gold and silver produced, based on the previous month's London Metal Exchange metal prices.

To the extent known, there are no other royalties, back-in rights, payments, or other agreements and encumbrances to which the Property is subject.

#### **4.5 Environmental liabilities**

The environmental liabilities at the Property are typical of a historic and active mining operation, and none of the environmental liabilities, such as surface disturbance resulting from the historical operations, are the legal responsibility of Aris Mining. There are no known material environmental liabilities at the Property that are the responsibility of Aris Mining. The Segovia Operations have an active environmental management team working to improve the environmental conditions at the Property, including the restoration of land with tree planting and forestry management. The cost of reclamation and closure of the mining and tailings storage facilities has been considered in the cost estimates.

#### **4.6 Permits**

Aris Mining holds all of the necessary operating permits for the Segovia Operation through the granting of the recognition of private property and mining concession titles.

The Property commenced production well in advance of the current regulatory requirement to prepare an environmental impact assessment as part of the mine permitting process. Properties that began operating prior to December 1993 are authorized through the approval of an Environmental Management Plan (PMA). The first PMA for the Property was approved in 2004 and has been updated from time to time at the request of the regional environmental authority, Corantioquia. Corantioquia is a public corporate entity that directly regulates mining operations with material movement of less than two million tonnes per year.

The current PMA relating to title RPP 140, where the mineral resources and mineral reserves at El Silencio, Providencia, and Sandra K as well as the processing plants and tailings management facility are located, is valid for five years, such term expiring on December 2024. Aris Mining is currently updating the environmental plan for renewal. An additional 33 minor permits are current for RPP 140 and a further six minor permits are in the process of being updated.

The PMA relating to title H6045005, which contains the mineral resource and mineral reserves at Carla, is authorized and in force for the useful life of the Property. The PMA is currently being modified by Corantioquia with the current conditions of the mining plan. All of the minor permits required for the operations at Carla are authorized.

#### **4.7 Significant factors and risks**

There are no known significant factors or risks that may affect access, title, or the right or ability to perform ongoing work programs on the Property.

## **5 Accessibility, climate, local resources, infrastructure, and physiography**

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### **5.1 Property access, transport, population centres, and mining personnel**

The Property is readily accessible by vehicle on national highways and sealed secondary roads leading 195 km to the northeast from Medellín. Charter flights are available via a sealed airstrip at Otú, located 15 km to the south of the Property. The towns of Segovia and Remedios have developed to within 300 metres of the mining operations as a result of the long history of mining in the region and have a combined population of approximately 70,000 that supply a pool of skilled and experienced labour.

### **5.2 Topography, elevation, vegetation, and climate**

The Property is located at an elevation of around 600 to 850 m above sea level in a relatively flat area with local topographic relief of less than 250 m. The majority of the land has been cleared of vegetation for grazing, mining, and community development. The climate is tropical with an average mean temperature of 25°C, with highs around 30°C and lows of 20°C. Monthly rainfall ranges from 100 to 400 millimetres (mm), with the highest rainfall occurring between the months of April and October. The mines operate year round.

### **5.3 Surface rights and surface area**

The Segovia Operations own and lease sufficient land to provide access to the mining operations and to conduct mining and processing activities, including tailings storage facilities.

### **5.4 Infrastructure**

The Property is a mature mining operation with well established infrastructure including roads, the underground mine development and production areas, the Maria Dama processing plant, a polymetallic concentrate processing plant, tailings storage facilities, power and water distribution networks, water and effluent treatment plants, water management systems, maintenance workshops, offices, metallurgical and chemical laboratories, core logging and storage facilities, and fuel and explosives storage. Sufficient area is available for future tailings storage facilities.

### **5.5 Power and water**

Sufficient power is available to the Property through the public utility service company Empresas Públicas de Medellín E.S.P., which provides 70.5 GWh per year and by a private power producer, Compañía Proeléctrica, which supplies 30 GWh per year from a hydroelectric project located approximately 20 km from the Property.

Sufficient water is available to the Property from mine dewatering, water recycling, and rainwater run-off, which is stored in a pond. The Maria Dama processing plant requires approximately 47 cubic metres per hour and the underground operations require a total of approximately 29 cubic metres per hour.

## 6 History

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### 6.1 Ownership history

There is little documentation of the early history of mining at the Property prior to 1852. Mostly placer or near surface mining by the Spanish utilizing slave labour occurred in the region of Segovia during the late 1500's, but was short lived due to the mountainous terrain, distance from navigable rivers, lack of labour, and high costs. Mining activity was limited from the mid eighteenth century.

The first formal company to mine in the region of the Property was a British company generally known as Frontino, first registered in London in approximately 1852. Between 1910 and 2004, the company was directed by a North American group that went bankrupt in 1976. In 1977, Frontino was placed in self administration by its creditors, and was placed under compulsory liquidation in September 2004 with a Liquidator and a Liquidation Advisory Board designated by the Colombian Superintendent of Corporations.

The Liquidation Advisory Board approved the sale of Frontino to Zandor Capital S. A. Colombia (Zandor), a subsidiary of Medoro Resources Ltd. (Medoro), in March 2010 and the acquisition was completed on August 23, 2010.

Also, in March 2010, Medoro and Gran Colombia Gold S.A. (Gran Colombia Gold) entered into an agreement for Gran Colombia Gold to acquire a 50% interest in Zandor. The agreement was modified on June 8, 2010 providing Gran Colombia Gold a 95% interest in Zandor.

On June 13, 2011, Gran Colombia Gold and Medoro merged to form Gran Colombia Gold Corp (Gran Colombia). On November 29, 2021, Gran Colombia changed its name to GCM Mining Corp. On September 26, 2022, GCM Mining completed a business combination with Aris Gold and the combined entity was renamed Aris Mining Corporation. Aris Mining is the current 100% owner of the Property.

### 6.2 Exploration and development work

Exploration was undertaken by Frontino, Gran Colombia Gold, Gran Colombia, and GCM Mining by underground mapping, channel sampling, and exploration and infill diamond drilling. The results of the channel and drilling samples have been utilized for historical as well as the current mineral resource and mineral reserve estimate. The sampling and drilling results have guided the development of past and current mines, culminating in the current 2,000 tonnes per day operation.

### 6.3 Historical mineral resource and mineral reserve estimates

Numerous historical mineral resource and mineral reserve estimates have been undertaken at the Property. The first mineral resource and mineral reserve estimate was prepared by Scott E. Wilson Consulting, Inc. effective June 9, 2010, for the three mines operating at the time, including El Silencio, Providencia, and Sandra K.

An updated mineral resource estimate was prepared by SRK Consulting effective March 2, 2012 but did not include an estimate of mineral reserves. The first mineral resource estimate for Carla was prepared by SRK Consulting effective April 2, 2012. The first mineral reserve estimate following the June 9, 2010 estimate was prepared by SRK Consulting effective December 31, 2017, which also included a mineral reserve estimate for Carla. Since December 31, 2017, mineral resource and reserve estimates have been updated at the Property on an annual basis.

### 6.4 Past production

Approximately 4.6 million ounces of gold are reported to have been mined at the Property by Frontino between 1869 and 2010, but no detailed records exist to verify the estimate. Since 2010, gold production has been reported with inconsistent distinction between owner and contractor production as well as production from material sourced from outside the Property's mining titles. Between 2011 and 2022, approximately 1.7 million ounces of gold have been produced at the Maria Dama processing plant from these three production sources. Since 2018, the Maria Dama processing plant has produced approximately 200,000 ounces per year. Production from the Carla mine began in late 2020.

## 7 Geological setting and mineralization

### 7.1 Regional geology

The Property is located in the Central Cordillera, one of three branches of the Colombian Andes, where the geology is characterized by the interaction of the Caribbean, Nazca, and South American tectonic plates which has resulted in the creation of subduction zones and associated magmatism, uplifted blocks, and compressional faulting. The Segovia gold deposit is hosted in diorites and granodiorites of the north-northeast trending Upper Jurassic aged Segovia Batholith. A map of the regional geology is shown in Figure 7-1.

Figure 7-1: Map of the regional geology – source Scarpelli, W., (2021)



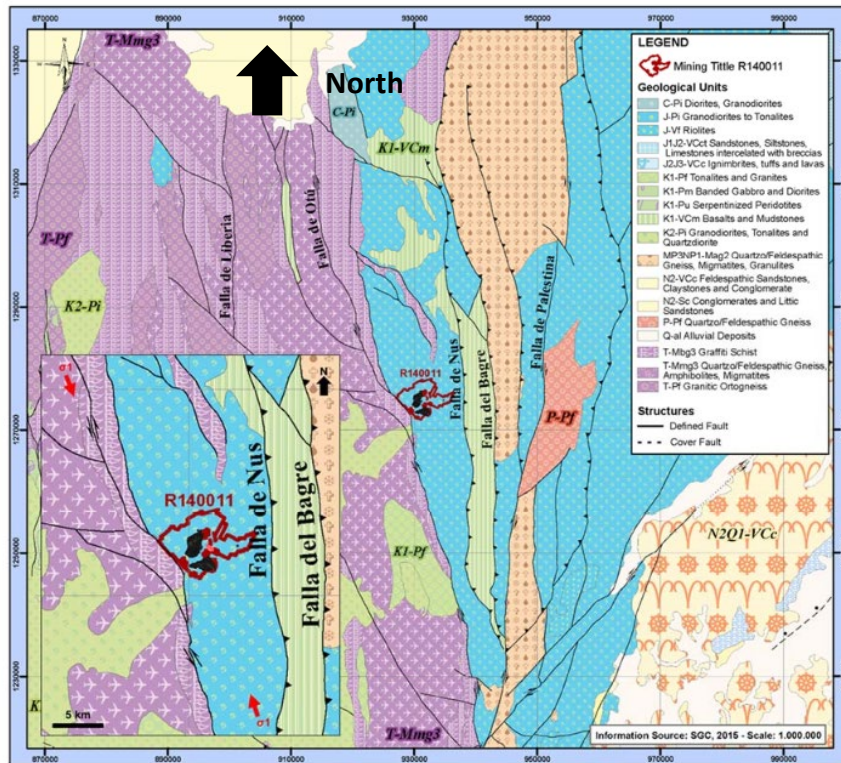
### 7.2 Local geology

At the Property, the Segovia Batholith is approximately 10 km wide and trends north-south. The intrusion of the Segovia Batholith was followed by two principal deformation events resulting in shear and fracture zones, the formation of molybdenite veinlets, the intrusion of andesite to dolerite composition dikes, and gold mineralization. Faulting and fracturing are another control on mineralization and comprise three sets, including:

1. northeast trending, shallowly dipping faults associated with diorite to andesite dikes and the quartz pyrite veins hosting the gold that has been mined at the Property
2. shallowly dipping faults that dip to the northwest
3. vertical faults that trend to the northwest.

A map of the local geology is shown in Figure 7-2.

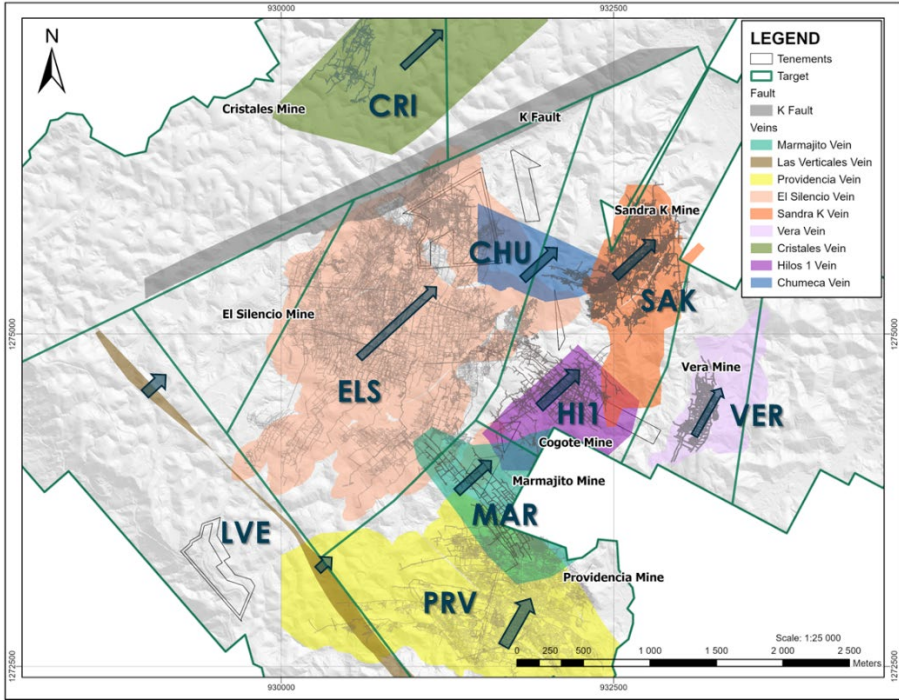
Figure 7-2: Map of the local geology – source Gómez, J., et al. (2015)



### 7.3 Property geology

The Property geology is dominated by the diorite to granodiorite Segovia Batholith, andesite to dolerite dikes, the large system of high grade gold mineralized quartz veins, and faulting resulting in offsets of the veins. A map of the Property mineralized vein systems in the Segovia area is shown in Figure 7-3.

Figure 7-3: Map of the vein systems in the Segovia area – source Aris Mining 2023



## 7.4 Mineralization and alteration

Mineralization at the Property is present as an extensive system of high gold grade mesothermal quartz-sulphide veins hosted in diorite to granodiorite rocks of the Segovia Batholith, with a close spatial relationship with 2 to 3 m wide dolerite to andesite dikes. The granodiorite and dikes have been affected by a narrow zone of potassic, argillic, and propylitic alteration in the hangingwall and footwall of the veins.

Three types of veins are present on the Property, including massive quartz with clusters of pyrite, galena, and sphalerite associated with low grade gold mineralization; banded and recrystallized quartz with pyrite, galena, and sphalerite associated with high grade gold mineralization; and late widespread calcite veinlets with pyrite with no associated gold mineralization. Gold and electrum are generally less than 20 microns but visible gold has been noted in drill core. The majority of the veins dip approximately 30° to the northeast, with a small number of steeply dipping veins.

Numerous large scale vein structures are currently being mined on the Property, in addition to minor associated veins, including veins 1040, Nacional, and Veta Manto at the El Silencio mine, the Providencia vein at the Providencia mine, the Sandra K Techo vein at the Sandra K mine, and the La Gran Colombia vein at the Carla mine. There are numerous other associated smaller vein structures, some of which have been mined in the past, that are now identified as exploration targets, including Marmajito, Las Verticales, Vera, Cristales, Hilos 1, and Chumeca.

The orientation and dimensions of the gold veins at El Silencio, Providencia, Sandra K, and Carla as defined by channel sampling and diamond drilling, are provided in Table 7-1.

Table 7-1 Vein dimensions

Vein	Average dip	Strike length (km)	Down dip length (km)	Average vein width (m)
El Silencio	30°	2.8	2.7	1.3
Providencia	33°	2.2	2.0	1.1
Sandra K	34°	1.5	2.3	1.2
Carla	34°	0.85	0.48	1.3

## 8 Deposit types

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Segovia is considered to be a mesothermal quartz sulphide vein hosted gold deposit and this model forms the basis of the exploration plans. The geology and mineralization of the Property is well understood, and the deposits have been mined for over 150 years. A large quantity of exploration drilling and channel sampling data is available at the Property. Annual exploration drilling plans are guided by following the vein trends along strike and down dip as new surface and underground drilling platforms are constructed.



## 9 Exploration

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### 9.1 Introduction

All of the relevant exploration data is related to an extensive number of channel samples of the vein taken from the underground development drives at intervals of approximately 2 m throughout the historical and currently operating mines. Given the close spaced nature of the channel samples, they are considered representative of the areas currently being mined or have been mined in the past. Channel sampling advances concurrently with mining, resulting in new, close spaced sample data to inform the future mining plan.

As of the channel and drillhole sample data cut-off date of June 30, 2023 utilized for the current mineral resource and mineral reserve estimates, there are 203,261 channels sampled for a total length of 190,186 m.

All of the channel sample data results are considered significant, as they comprise 99% of the total available sample intersections in the veins, and therefore inform the majority of the mineral resource estimate in terms of the geological interpretation of the vein structures as well as the underlying sample grades used in the mineral resource estimate. As the channel samples are used as an input into the mineral resource estimate, the relevancy of the raw channel sample assay results are superseded by the mineral resource estimate and are more meaningfully described in the context of the mineral resource estimate as disclosed in Section 14.

As the channel samples are all taken within areas of the active mining operations, they are focussed on higher grade locations relative to the diamond drillholes. Potential biases may be present where the hardness of the vein results in inconsistent volumes of material collected across the vein, but based on actual mining production data, there are no known material biases in the channel sample data.

### 9.2 Channel sampling method

The channel sampling method has evolved over time with increasingly improved protocols, with the current mineral resource estimate mostly relying on more modern channel samples collected from the active mining fronts. The older channel samples are typically associated with historical mined out areas that do not form part of the current mineral resource and mineral reserve estimates. The underlying channel data is reviewed in detail during the mineral resource estimate and the reliability of the sample data is considered in the mineral resource classification.

Currently the majority of the channel samples are taken from both walls of the underground drives with the rest taken from raises and stoped areas. Samples are collected from a continuous channel across the quartz vein using a hammer and chisel to break the vein into pieces onto a plastic sheet and then transferred to a sample bag, with a sample weight usually between 1 and 2 kilograms (kg).

The majority of the samples are plotted correctly in three dimensional space relative to the surveyed excavations. Work is ongoing to locate all of the available channel samples relevant to the current mineral resource and reserve estimate as accurately as possible.

## 10 Drilling

### 10.1 Drilling summary

The first known drillhole at the Property was executed by Frontino in 1967. All of the drilling at the Property has been undertaken by surface and underground diamond drilling methods. Annual drilling budgets have steadily increased since 2016 with exploration drilling plans guided by following the vein trends along strike and down dip as new surface and underground drilling platforms are constructed. In 2023, the number of development contractors was increased to allow for faster creation of drilling platforms.

The strategic drill plan for 2023 included 84,500 m of infill drilling to increase mineral reserves and the life of mine plan, resource extensions at the producing mines, and strategic high priority vein targets located adjacent to the current mining operations. The Segovia Operations also provide drilling assistance to partner miners. The drillhole and channel sample data cut-off date used for the mineral resource estimate is June 30, 2023, using approximately half of the 2023 planned drilling metres. The 2023 drilling program is still underway as of the effective date of this technical report.

A breakdown of the drillhole data available as of the channel and drillhole sample data cut-off date of June 30, 2023 utilized for the current mineral resource and mineral reserve estimates is provided in Table 10-1. Of this database, 167 drillholes for 24,497 m were drilled by Frontino, a previous operator.

Drillhole intersections account for 1% of the sample grades of intersections in the mineralized veins utilized for the current mineral resource and mineral reserve estimates. As the drillhole intersections through the vein interpretations are used as an input into the mineral resource estimate, the relevancy of the raw drillhole sample assay results are superseded by the mineral resource estimate and are more meaningfully described in the context of the mineral resource estimate as disclosed in Section 14.

Table 10-1 Drilling summary

Target	Number of holes	Total metres
El Silencio	790	163,547
Sandra K	655	124,963
Providencia	637	81,416
Carla	196	41,334
Las Verticales	142	36,369
Cristales	120	30,412
Manzanillo	62	12,309
Cordoba Marmajito	56	10,938
Guia Antigua	44	8,069
La Vera	43	10,219
Sin Nombre	25	5,832
La Culebra	8	2,679
Other	6	1,439
<b>Total</b>	<b>2,784</b>	<b>529,527</b>

A plan of the drillholes is provided in Figure 10-1 and an example plan view of the drilling and channel data available to one of the several Veta Manto fault blocks at the El Silencio mine is shown in Figure 10-2. The channel sample data are distinguished by their regular pattern along the mine workings and the diamond drilling intersections are distinguished by their wider spaced, more irregular pattern away from the mine workings.

Figure 10-1: Plan of the Property drillholes – source Aris Mining 2023

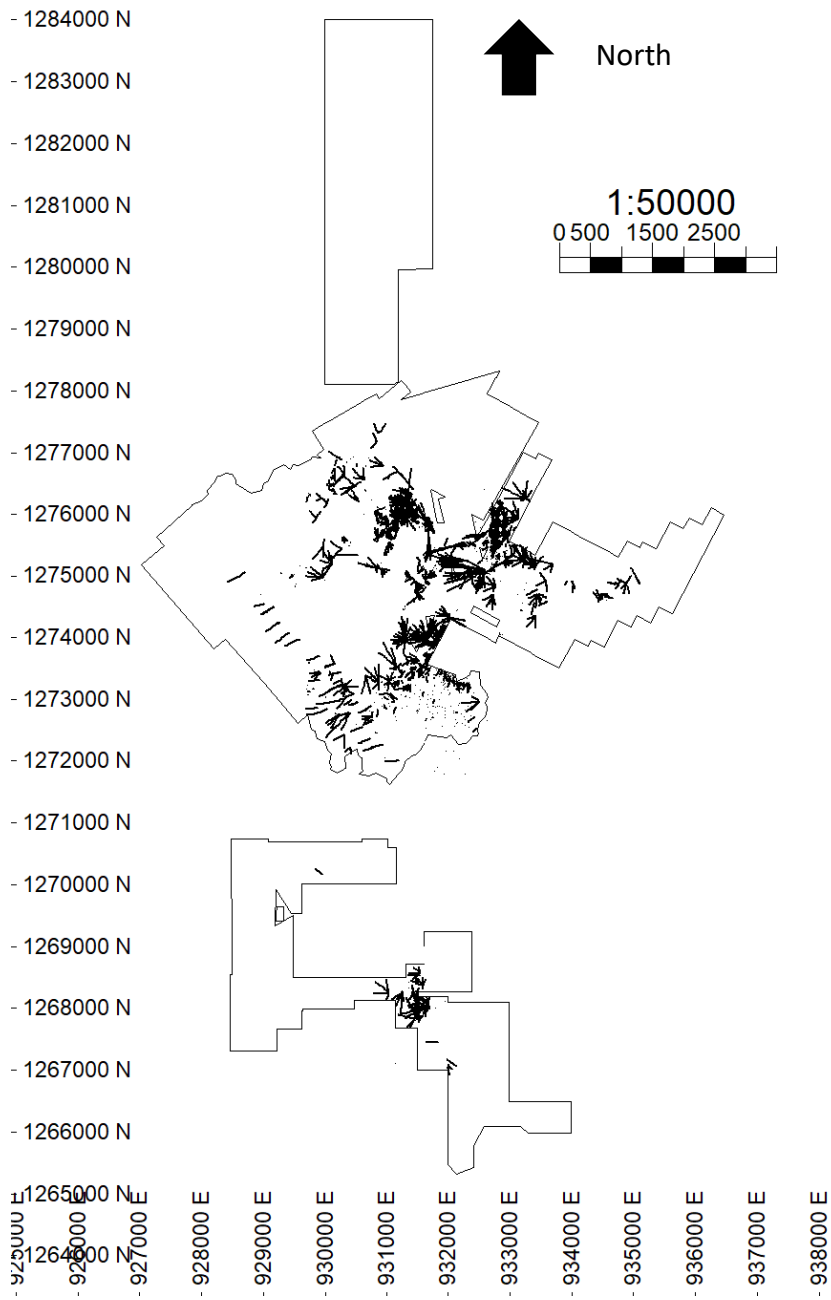
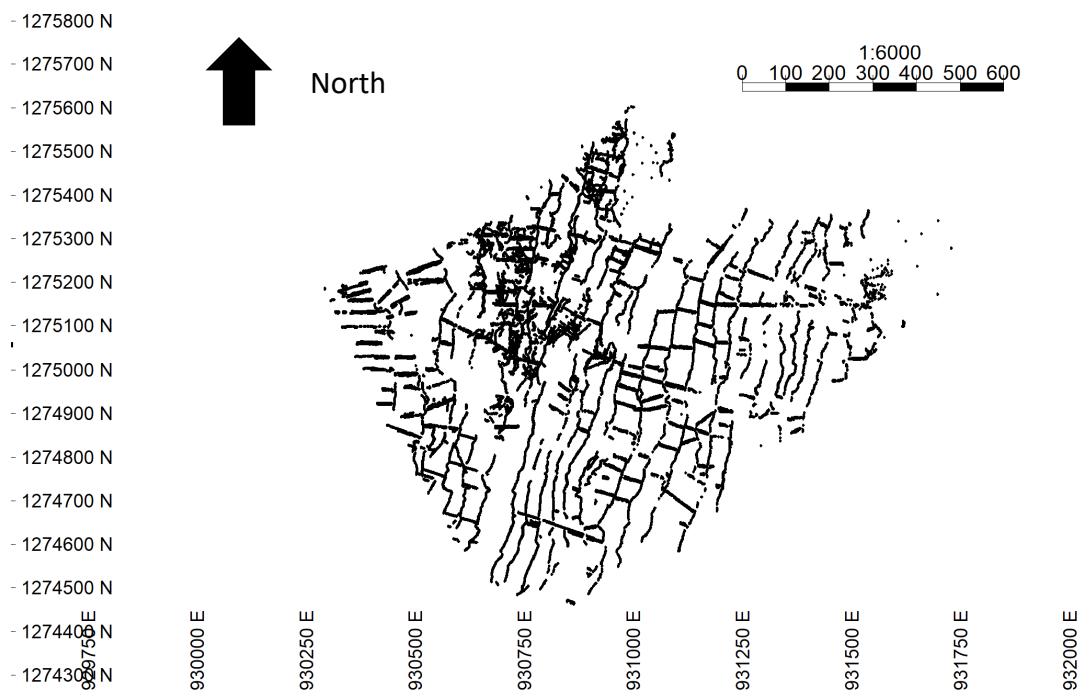


Figure 10-2: Plan of drillhole and channel samples at Veta Manto – source Aris Mining 2023



## 10.2 Drilling methods

Standard diamond drilling has been undertaken for many years, using a variety of improving protocols. Diamond drilling by Frontino was undertaken using conventional drilling methods from the surface in vertical holes to a maximum depth of 1,000 m at BQ (36.5 mm) and NQ diameter (47.6 mm).

Currently three drilling contractors are utilized for surface and underground drilling, including Kluane, Ecodrill, and Explomin, all of Medellín. Aris Mining also operates company-owned drilling rigs. Kluane begin surface drillholes at HTW diameter (81.5 mm) to a depth of 50 m, then reduce to HQ diameter (63.5 mm), and reduce again to NQ diameter at a depth of 400 m. Holes drilled underground by Ecodrill and Explomin commence at HQ diameter and reduce to NQ diameter between 200 and 400 m downhole.

Triple tubing is implemented to improve recovery in zones with clay or fractures. While core recovery records do not exist for all of the drilling in the database, currently the core recovery in the mineralized zone is estimated at greater than 90%.

### 10.2.1 Drillhole collar and downhole surveys

The collar coordinates are currently determined using electronic total station equipped with data storage. Prior to the introduction of electronic total stations, drill collars were surveyed using mechanical theodolites.

A variety of downhole survey methods have been utilized over time. As of 2023, to ensure that the drillhole is advancing as planned, downhole surveys have been taken using a gyroscope from the collar every metre downhole once the drillhole advance reaches a depth of 30 m, then again when the advance reaches 100 m, then again at every following 100 m increment. Upon completion of the hole, downhole surveys are taken every 1 m from the collar to the end of hole.

## 10.3 Drilling, sampling, and recovery factors

There are no known drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results despite the historical nature of some of the drilling methods, given that the drilling data comprises a small fraction of the data informing the mineral resource and mineral reserve estimates, and the data is considered suitable for the current mineral resource and mineral reserve estimates.

## **11 Sample preparation, analysis, and security**

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### **11.1 Introduction**

Sample preparation, analysis, and security protocols have evolved over the life of the Property at increasingly higher standards. A significant proportion of the channel samples associated with the mined out workings were historically assayed using basic methods with a low level of precision, resulting in large numbers of gold assays reported to the nearest gram per tonne, or in equivalent gram per tonne units after conversion from the original ounces per tonne units recorded to the nearest ounce per tonne. This can be identified in sample histograms such as those shown in Figure 14-2.

### **11.2 Sampling and security**

Channel samples are collected in plastic bags, labelled for sample number, and transported to the surface to the on-site sample laboratory located within the secured mine facilities.

Diamond drill core is placed in wooden core boxes at the drill rig, sealed, and transported to the core logging facilities on the surface. Drill recovery and rock quality descriptor are recorded at the drill rig prior to transportation. The drill core is photographed and geologically logged prior to sampling. The geologist marks the sample intervals on the drill core according to the vein width in lengths ranging from 30 to 100 centimetres. The geologist marks a centre line on the core and the core is split into two halves with a diamond bladed saw. One of the two halves is placed into a plastic sample bag and shipped with quality assurance and quality control (QAQC) samples to the external, independent commercial laboratory SGS Colombia S.A. (SGS) in Medellín for sample preparation and analysis. All of the drill core is maintained in a core storage facility within the secured mine facilities prior to shipment to the laboratory.

### **11.3 Laboratory sample preparation and analytical methods**

Channel samples are prepared and analyzed by the unaccredited mine laboratory located near the Maria Dama processing plant. The most recent laboratory was constructed in 2015 under the guidance of SGS but is operated by Aris Mining. The channel samples are crushed to 80% passing 2 mm, then a 200 to 300 gram split is selected using a riffle splitter, then the split is pulverized to 90% passing 75 microns. The samples are assayed for gold using fire assay with atomic absorption spectrometry finish on a 25 gram charge. The detection limits are 0.02 g/t gold (Au) to 10.00 g/t Au. Any sample with a grade greater than 10 g/t Au is assayed by fire assay with gravimetric finish on a 25 gram charge.

Diamond drill core samples are prepared and analyzed by the independent commercial laboratory SGS in Medellín which is ISO 9001:2000 accredited. The samples are crushed to 80% passing 2 mm, then split to 1,000 grams with a riffle splitter, then pulverized to 90% passing 75 microns. The samples are assayed for gold by fire assay with atomic absorption spectrometry finish on a 30 gram charge. The detection limits are 0.005 g/t Au to 10.00 g/t Au. Any sample with a grade greater than 10 g/t Au is assayed by fire assay with gravimetric finish on a 30 gram charge.

#### **11.3.1 QAQC samples**

Since approximately 2011, the mine geologists have submitted industry standard QAQC samples with the channel and drillhole samples, including coarse and fine blanks, certified standards, coarse and pulp reject duplicates, and field duplicates. Blanks and standards are submitted for every 20 geological samples and duplicates are submitted for every 50. The QAQC sample results are monitored daily by a QAQC manager, and any sample considered to have failed is flagged and the entire batch is re-assayed. The results indicate that there are currently no issues with sample contamination and accuracy at the two laboratories.

### **11.4 Bulk density measurements**

Bulk density is measured from diamond drill core using the Archimedes immersion method. The database contains 1,670 bulk density measurements with the majority of the samples at or near the bulk density of the quartz vein of 2.70 grams per cubic centimetre.

### **11.5 Adequacy of the sample preparation, security, and analytical procedures**

It is the opinion of the qualified person responsible for this section of the technical report that the sampling, sample preparation and analysis, security, and QAQC protocols currently in place are consistent with generally accepted industry best practices and are suitable for the mineral resource and mineral reserve estimates.

The qualified person's review of the QAQC data has shown that there is no indication of any material bias in the assays, there is no evidence of material sample contamination, and the duplicate samples show the expected variability for the mineralization style.

Prior to approximately 2011 no QAQC samples were submitted with geological samples and the analytical techniques were rudimentary, however, the majority of the historical samples are associated with mined out portions of the deposit and the mineral resource and mineral reserve estimates rely on more modern and reliable samples taken from the active mining fronts.

As part of the grade estimation validation process, the sample grades utilized for each grade estimate in each of the veins were carefully reviewed to identify the presence and potential impact of historical sample data. Of the few veins that did rely on historical data, the resource confidence classification was downgraded accordingly.

The qualified person is of the opinion that the poor quality sample data from the few veins that did rely on historical data do not pose a material risk to the mineral resource and mineral reserve estimates, and that the data used for the mineral resource and mineral reserve estimates are sufficiently reliable for those purposes.

## 12 Data verification

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### 12.1 Geology data reviews

The qualified person responsible for geology verified the geological data supporting the mineral resource and reserve estimates through the site visits and through collaboration with the Segovia Operation site team, including reviews of:

- exploration drilling plans, budgets, and results;
- monthly operational plan and results;
- the mineralized veins in drill core and underground workings;
- the diamond drillhole and channel sampling protocols;
- the database management and data export to mining software to check for any errors or inconsistencies;
- the QAQC data and reports to assess the data for any issues with grade contamination or accuracy;
- the geological interpretations of the mineralized veins relative to the available sample data in mining software to ensure the geological interpretation wireframes select the vein samples as expected;
- validated the collar, survey, assay, lithology, and density data utilized in the mineral resource estimate to check for any errors or inconsistencies;
- reviewed the mineral resource and mineral reserve estimate processes and results with site geology and engineering staff; and
- environmental and community factors.

In the opinion of the qualified person, the data used for the purpose of estimating the mineral resources and mineral reserves are sufficiently reliable.

### 12.2 Metallurgy and processing data reviews

The qualified person verified the metallurgical and processing factors supporting the mineral resource and reserve mineral estimates through the site visits and through collaboration with the Segovia Operations site team, including reviews of:

- monthly operational plan, metallurgical recovery, and gold, silver, and concentrate production results;
- processing rates, and power, water, and reagent consumption;
- plant availability, utilization, maintenance, and optimization;
- processing costs; and
- the metallurgical laboratory, the processing plants, and the tailings storage facility operations.

In the opinion of the qualified person, the assumptions used for the purpose of estimating the mineral resources and mineral reserves are sufficiently reliable.

### 12.3 Engineering data reviews

The qualified person verified the mining and mineral reserve factors supporting the mineral resource and reserve estimates through the site visits and through collaboration with the Segovia Operations site team, including reviews of:

- mineral reserve estimation assumptions including mining recovery and dilution estimates;
- production rates, mine design, schedule, and economic analysis of the life of mine plan;
- monthly operational plan and results;
- mining fleet availability, utilization, and maintenance;
- operating costs and budget;
- geotechnical and hydrological studies;
- transport and logistics;
- power and water requirements;

In the opinion of the qualified person, the assumptions used for the purpose of estimating the mineral resources and mineral reserves are sufficiently reliable.

## 13 Mineral processing and metallurgical testing

### 13.1 Introduction

The 2,000 tonnes per day capacity Maria Dama processing plant has been operating and continually maintained and upgraded over many years since mining at Segovia began and the processing characteristics, requirements, and operational results are well established. The details of any past mineral processing and metallurgical testing are now superseded by actual plant operational results. Current programs comprise flotation, leach, and polymetallic concentrate plant optimization testwork.

The process plant has a comprehensive metallurgical laboratory with the capacity to perform milling, float, gravity, leach and polymetallic concentrate flotation optimization tests for both current and future ore types. The metallurgical laboratory is further supported by a comprehensive analytical laboratory which provides a high level of quality control management in all the assaying procedures, and to perform additional tests that include diagnostic leach test work. Both the laboratory team and the metallurgical laboratory team have sufficient knowledge, skills, and experience to proactively investigate and react to potential current and future processing challenges.

### 13.2 Recovery estimates

The basis of the metallurgical recovery assumptions used for the purpose of the current mineral resource and mineral reserve estimates is the current processing plant operational performance. The processing plant operational results from 2019 to September 30, 2023 are shown in Table 13-1.

Table 13-1 Processing plant operational results

	2019	2020	2021	2022	2023 (to September 30, 2023)
Processed tonnes	451,450	468,597	556,219	611,765	467,274
Processed Au grade (g/t)	15.48	13.63	12.84	11.87	10.34
Process recovery (%)	95.2	95.6	94.7	94.9	95.4
Gold produced (ounces)	214,036	196,329	206,389	210,163	148,221

### 13.3 Processing factors and deleterious elements

The primary process product is a gold-silver doré. There are no known processing factors or deleterious elements that could have a significant effect on potential economic extraction.



## 14 Mineral resource estimates

### 14.1 Disclosure

Mineral resource estimates have been prepared for the Property on an annual basis since December 31, 2017 to consider the results of ongoing exploration and infill drilling, mining depletions, and updates to production plans and cost estimates.

The current mineral resource estimate was prepared by Pamela De Mark, P. Geo., Senior Vice President of Geology and Exploration of Aris Mining. The mineral resource estimate has been prepared in compliance with the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines of 2019 and reported in compliance with the CIM Definition Standards for Mineral Resources and Mineral Reserves of 2014.

The drillhole and channel sample data cut-off date used for the mineral resource estimate is June 30, 2023. The mineral resource estimate has been depleted for mining and utilizes a cut-off grade calculation with an effective date of September 30, 2023.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the mineral resource estimate.

### 14.2 Available data

The channel and drillhole data available for the mineral resource estimate is shown in Table 14-1. As part of the data validation process, the sample grades utilized for each grade estimate in each of the veins were carefully reviewed to identify the presence and potential impact of historical sample data. Of the few veins that did rely on historical data, the resource confidence classification was downgraded accordingly.

The qualified person is of the opinion that the poor quality sample data do not pose a material risk to the mineral resource and reserve estimates, and that the data used for the purposes of estimating the mineral resources and mineral reserves are sufficiently reliable.

Table 14-1 Data available for the mineral resource estimate

Area	Number of channels	Total channel metres	Number of drillholes	Total drillhole metres
El Silencio	94,416	96,380	790	163,547
Providencia	56,221	55,237	637	81,416
Sandra K	38,913	27,684	655	124,963
La Vera	4,693	3,450	43	10,219
Cristales	4,090	2,626	120	30,412
Carla	3,245	3,369	196	41,334
Guia Antigua	1,047	968	44	8,069
Cordoba Marmajito	499	287	56	10,938
Manzanillo	109	168		
La Culebra	28	17	8	2,679
Las Verticales			142	36,369
Manzanillo			62	12,309
Sin Nombre			25	5,832

Area	Number of channels	Total channel metres	Number of drillholes	Total drillhole metres
Other titles			6	1,439
Total	203,261	190,186	2,784	529,527

### 14.3 Geological interpretation

Geological interpretations of each of the vein structures and the fault surfaces are updated by the Aris Mining Segovia geology team on an annual basis using Leapfrog software to consider the results of additional channel sampling and exploration and infill drilling undertaken during the year. In 2023, the implementation of the software was optimized by utilizing the snap to sample function and the vein pinch out function in spatially continuous zones where the vein structure was not intersected in drilling and channel sampling as expected. Each of the vein structures intersected by faulting is divided into separate vein fault blocks with the data within each vein fault block considered separately for the mineral resource estimate. The number of vein structure fault blocks for each of the mine areas is shown in Table 14-2. The wireframes of each of the vein structure fault blocks were used to select and code a unique domain number to the drillhole and channel sample intervals intersecting the wireframes as well as the block model.

Table 14-2 List of vein structure fault blocks used for the mineral resource estimate

Area	Vein structure fault blocks
El Silencio	61
Providencia	30
Sandra K	23
Carla	26

### 14.4 Statistics, sample compositing, and treatment of extreme grades

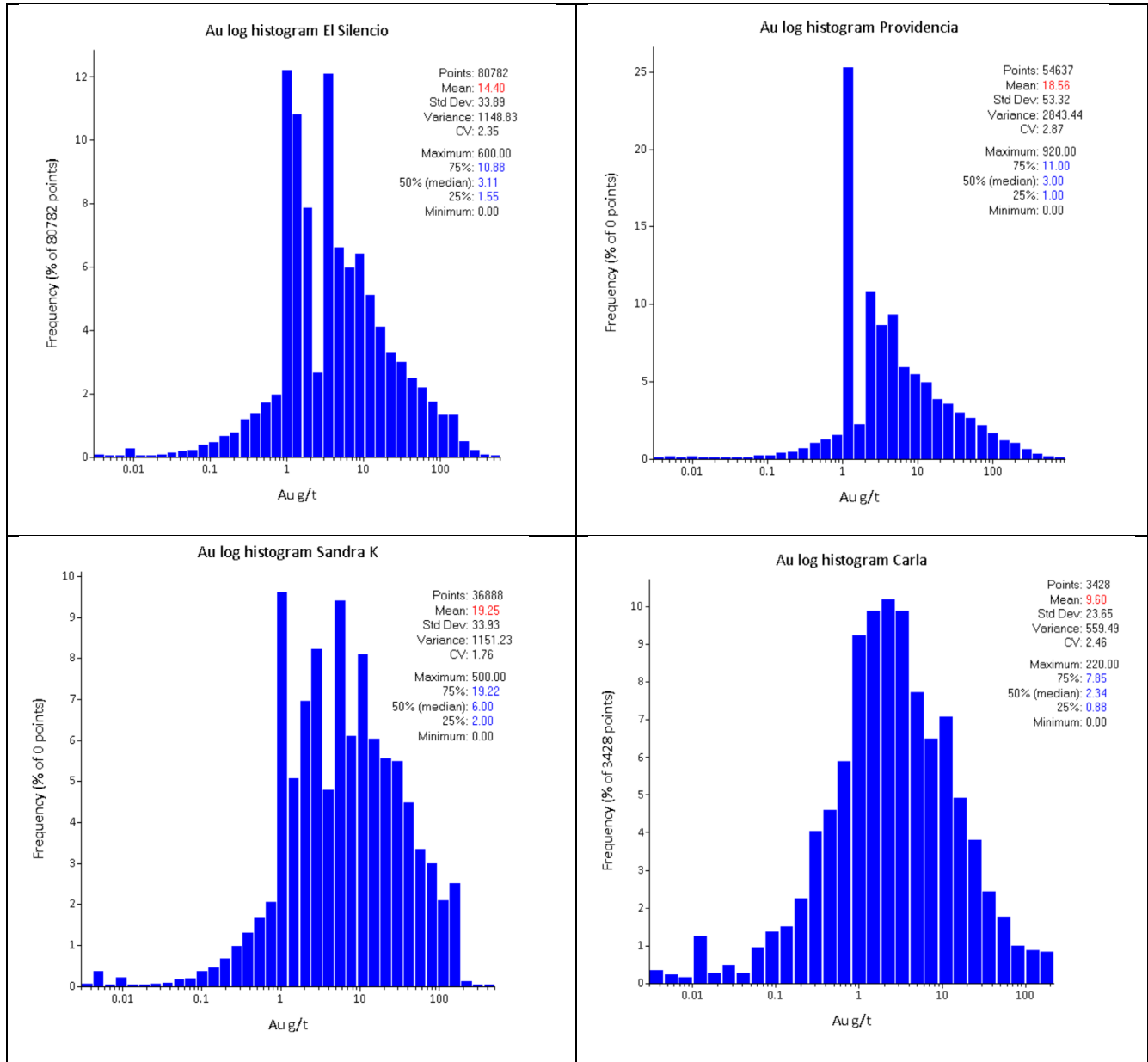
As the entire vein width is expected to be mined, and the majority of samples are selected across the width of the vein, each of the channel and drillhole intersections were composited to the full width of the vein. Channel and drillhole data are treated the same in the estimate, and while there are different sample support and sample collection biases associated with the two sample types, channel samples represent 99% of the available samples in the veins. Greater reliance on drillhole data is typically made at the extremities of the veins as defined by sampling data, where the estimate is largely classified as inferred.

Top cuts for the majority of the vein structure fault blocks were straightforward with few extreme grades relative to each of the vein fault block grade population. The sample composite statistics are shown in Table 14-3 and histograms of the top cut composited data for El Silencio, Providencia, Sandra K, and Carla are shown in Figure 14-1. The histograms demonstrate the effects of historical poor sample assay precision and the conversion of units from ounces per tonne to grams per tonne. However, not all of the available sample information is utilized in the grade estimate due to the minimum and maximum sample requirements for grade averaging as well as depletion of the estimate for previous mining. The historical samples are typically located in areas of the mine that have already been mined out and depleted from the mineral resource estimate and have been superseded by more reliable and modern data from diamond drilling and channel samples collected from the currently active mining operations.

Table 14-3 Sample composite statistics

Area	Number of composites	Average top cut composited gold grade (g/t)	Top cut gold coefficient of variation
El Silencio	80,782	14.40	2.4
Providencia	54,637	18.56	2.9
Sandra K	36,888	19.25	1.8
Carla	3,428	9.60	2.5

Figure 14-1 Log histograms of top cut composited samples



### 14.5 Block model construction and depletion for mining

The block model was created by filling the vein interpretations with blocks of dimension 5 m east, 5 m north, and the full vertical height of the vein in the elevation direction. The parent block was allowed to sub-cell to 1 m in the east and north directions in order to obtain a better fit with the wireframe. Grade estimates were made within the parent block. The block models were then coded for a unique vein structure fault block, and assigned a default bulk density of 2.71 grams per cubic centimetre, based on the average value of bulk density measurements of drillcore at each of the mines. The block models were depleted for previous mining by assigning both a depletion code and a bulk density value of 0.

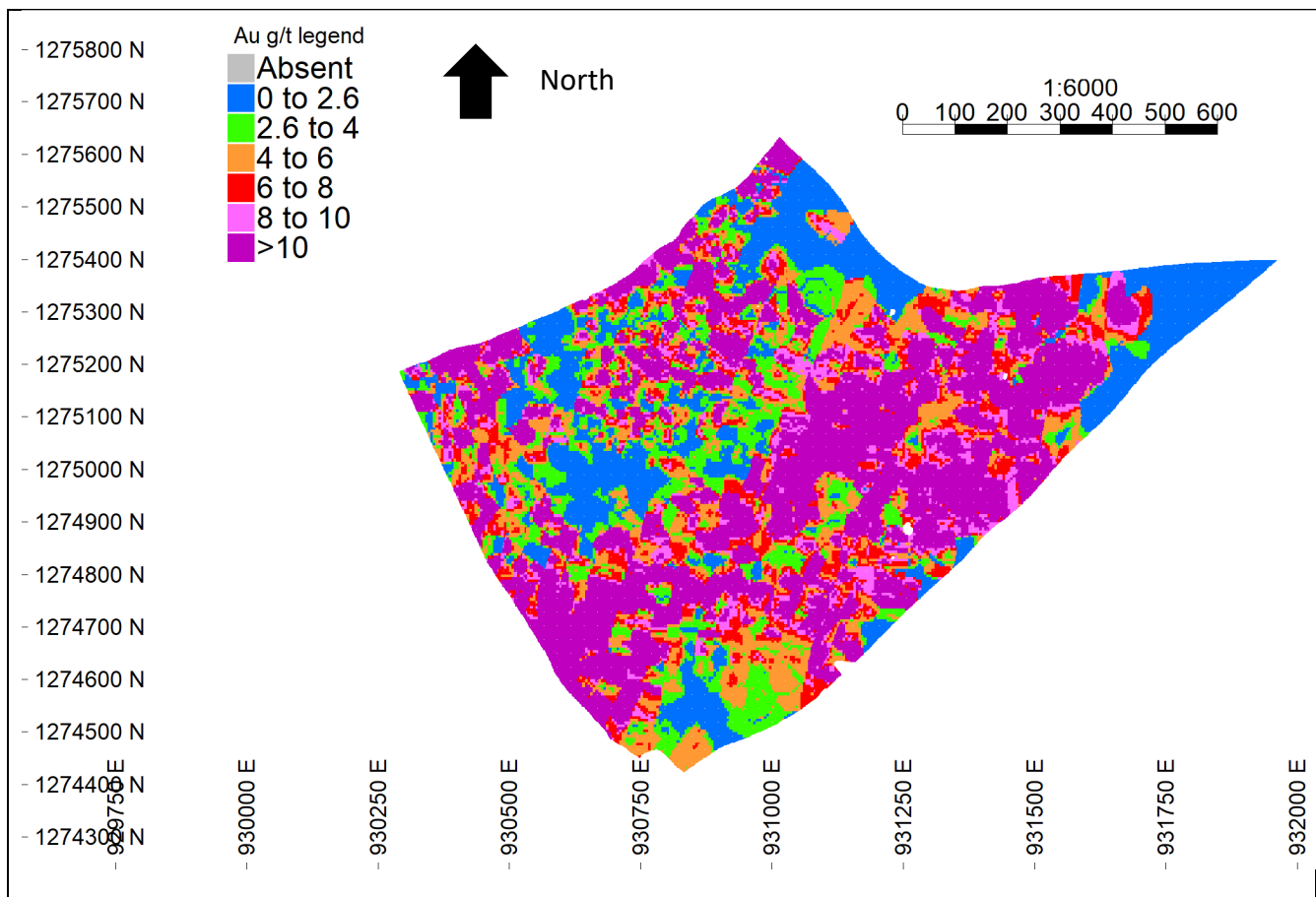
### 14.6 Composite search and grade interpolation parameters

Individual search parameters were prepared for each vein structure fault block depending on the orientation of each of the structural trends. For all structures, the gold grade estimation was completed in three search passes using a strategy to maximize the number of close spaced sample composites for grade averaging. The first search distance was 20 m by 20 m by 20 m using a minimum of 8 composites and a maximum of 16. While the veins are relatively flat and narrow with a trend to the northeast, a longer search distance was allowed in the elevation direction to ensure that all composites were included in the search by accounting for local variations in the vein orientations. An example of the gold grade trends in the estimate at one of the Veta Manto fault blocks at El Silencio is shown in Figure 14-2. The second search was twice the distance of the first search requiring a minimum of 4 and a maximum of 14 composites, and the third search was 3.75 times the distance of the first search requiring a minimum of 3 and a maximum of 12 composites. Around half of the grade estimates were made in the first and second searches using the maximum number of composites.

The gold grade interpolation methodology was inverse power of distance squared as good quality variograms could not be obtained from the sample composite data.

Estimated gold grades were multiplied by the height of the block filling the vertical height of the vein to dilute the estimated grades of any vein less than one metre thick vertically. Since the veins dip at approximately 30° and mining occurs along the dip of the vein, this results in dilution to a one metre apparent width, which is wider than a one metre true width.

Figure 14-2 Estimated grade trends in the Veta Manto mineral resource estimate – source Aris Mining 2023



## 14.7 Estimation validation

Standard statistical and visual methods of estimation validation were completed at every step of the process from data import to mineral resource reporting to ensure that the assumptions and parameters were applied as expected, and no issues were noted. Care was taken to identify the presence and impact of any historical sample data and extreme grade values on the grade estimate by examining the histograms of the samples selected within each search volume and used for grade averaging; no issues of over reliance on extreme values were noted. Where historical data was used in the estimate, the mineral resource confidence was lowered.

## 14.8 Mineral resource classification

The mineral resource classification considered all aspects of the input data and estimation processes. Given the long operating history of the Property, the available data has a range of reliability but is sufficient to support the mineral resource and mineral reserve estimates and life of mine plan. Measured classification was applied to those estimates completed with a minimum of eight channel or drillhole intersections within 20 metres of the estimated block, indicated was applied to those estimates completed with a minimum of four channel or drillhole intersections within 40 metres, and inferred was applied to those estimates completed with a minimum of three channel or drillhole intersections within 75 metres. This resulted in nearly all of the measured and indicated estimates being completed with channel samples within or in close proximity of the active mining operations.

## 14.9 Cut-off grade calculation

The mineral resource estimates have been tabulated using cut-off grades based on a mineral resource gold price assumption; recent metallurgical gold recoveries achieved at the Maria Dama processing plant; recent operational costs including smelting and refining, royalties, mining, processing, general and administration; sustaining capital cost estimates; and credits received from the sale of concentrates and the silver contained in the doré. A breakdown of the cut-off grade calculations by mine is shown in Table 14-4. The cut-off grade value was applied to the gold grade diluted to one metre vertical height calculation in the block model.

Table 14-4 Mineral resource cut-off grades

Variable	Unit	El Silencio	Providencia	Sandra K	Carla
Gold price	US\$/oz	1,850	1,850	1,850	1,850
Smelting and refining	US\$/oz	9.25	9.25	9.25	9.25
Royalties	US\$/oz	3.52	3.52	3.52	3.20
Gold processing recovery	%	95.2	95.2	95.2	95.2
Mining cost	US\$/tonne	114	125	132	121
Processing cost	US\$/tonne	34	34	34	34
Mine site general and administration cost	US\$/tonne	25	25	25	25
Life of mine tailings storage facility sustaining capital cost	US\$/tonne	1.5	1.5	1.5	1.5
Concentrate and silver credit	US\$/tonne	(23)	(23)	(23)	(23)
<b>Cut-off grade</b>	<b>g/t Au</b>	<b>2.80</b>	<b>3.00</b>	<b>3.12</b>	<b>2.91</b>

## 14.10 Mineral resource tabulation

The mineral resource estimate for the Segovia Operations effective September 30, 2023 is shown in Table 14-5. The mineral resources are reported above the cut-off grades provided in Table 14-4.

Table 14-5 Segovia Operations mineral resources effective September 30, 2023

Classification	Tonnes (Mt)	Gold grade (g/t)	Contained gold (koz)
Measured	4.1	14.31	1,893
Indicated	3.8	14.38	1,736
Measured + Indicated	7.9	14.34	3,629
Inferred	4.7	12.11	1,823

Notes:

- Mineral resources are inclusive of mineral reserves.
- Mineral resources are not mineral reserves and have no demonstrated economic viability.
- A gold price of US\$1,850 per ounce was used for the mineral resource estimate.
- The mineral resource estimate utilized a gold cut-off grade of between 2.80 g/t and 3.12 g/t depending on mineral resource area. The cut-off grade values were applied to vein grades diluted to a minimum height of one vertical metre.
- The mineral resource estimate was prepared by Pamela De Mark, P. Geo., Senior Vice President of Geology and Exploration of Aris Mining.
- There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the mineral resource estimate.

### 14.11 Comparison with previous mineral resource estimate

The current mineral resource estimate includes additional channel sampling and exploration and infill drilling completed since the previous mineral resource estimate.

A significant difference of the current mineral resource estimate as compared to previous mineral resource estimates is a change in the methodology used to select drillhole and channel samples to create the vein wireframe interpretations in 3D geological modelling software. This change involved utilizing the “snap to sample” function to appropriately select the high grade vein samples in the vein interpretation. The improvement to the vein interpretation methodology resulted in both the elimination of significant numbers of waste material sample assays and the inclusion of significant numbers of high grade vein sample assays, better representing the volume and grade of the vein material that is expected to be mined. The impact on the mineral resource estimate is both a material increase in the volumes of high grade vein material as well as a reduction in the amount of diluting waste grades that have the potential to lower estimated grades to below the mineral resource cut-off grades, thereby eliminating those volumes from the mineral resource inventory.

The mineral resource cut-off grade now considers actual mining cost assumptions at each mine resulting in a different cut-off grade value for each mine, compared to the past practice of applying the same cut-off grade utilizing the lowest mining cost assumption to all of the mines.

## 15 Mineral reserve estimates

### 15.1 Disclosure

Mineral reserve estimates have been prepared for the Property on an annual basis since December 31, 2017 to consider the results of ongoing exploration and infill drilling, mining depletions, and updates to production plans and cost estimates.

The current mineral reserve estimate was prepared Aris Mining technical staff under the supervision of and reviewed by Inivaldo Diaz, CP, Vice President Technical Services of Aris Mining's Colombian operations. The mineral reserve estimate has been prepared in compliance with the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines of 2019 and reported in compliance with the CIM Definition Standards for Mineral Resources and Mineral Reserves of 2014.

The mineral reserve estimate has been depleted for mining and utilizes a cut-off grade calculation with an effective date of September 30, 2023.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the mineral reserve estimate.

### 15.2 Method

The mineral reserve estimate comprises measured and indicated mineral resources that can be mined economically utilizing cut-off grades based on a mineral reserve gold price assumption; recent metallurgical gold recoveries achieved at the Maria Dama processing plant; recent operational costs including smelting and refining, royalties, mining, processing, general and administration; sustaining capital cost estimates; and credits received from the sale of concentrates and the silver contained in the doré. A breakdown of the cut-off grade calculations is shown in Table 15-1. The cut-off grade value was applied to the estimated gold grade diluted to a minimum mining width that varies between 1.2 and 1.5 m depending on location and mining method.

The block model diluted mineral reserve grades above the cut-off grade at each mine was reviewed and a three dimensional mine design was created for each vein and mining panel that considers the mining method, local conditions, and the interaction between neighbouring veins and previous mining. Mining recovery and dilution factors are considered in the design with values varying depending on the vein thickness, ground conditions, location, and mining method. Mining dilution varies between 0.2 and 0.3 m and mining recovery varies between 60% and 95%.

Any spatially isolated blocks, blocks that do not form a reasonably sized mining panel, or blocks involving too much interference between neighbouring veins or previous and active mining are removed from the inventory. Any of the remaining mining panels above the mineral reserve cut-off grade are scheduled and included in the life of mine plan.

Table 15-1 Mineral reserve cut-off grades

Variable	Unit	El Silencio	Providencia	Sandra K	Carla
Gold price	US\$/oz	1,700	1,700	1,700	1,700
Smelting and refining	US\$/oz	8.50	8.50	8.50	8.50
Royalties	US\$/oz	3.52	3.52	3.52	3.20
Gold processing recovery	%	95.2	95.2	95.2	95.2
Mining cost	US\$/tonne	114	125	132	121
Processing cost	US\$/tonne	34	34	34	34
Mine site general and administration cost	US\$/tonne	25	25	25	25
Life of mine tailings storage facility sustaining capital cost	US\$/tonne	1.5	1.5	1.5	1.5
Concentrate and silver credit	US\$/tonne	(23)	(23)	(23)	(23)
<b>Cut-off grade</b>	<b>g/t Au</b>	<b>3.05</b>	<b>3.27</b>	<b>3.40</b>	<b>3.17</b>

### 15.3 Mineral reserve tabulation

The mineral reserve estimate for the Segovia Operations effective September 30, 2023 is shown in Table 15-2. The mineral reserves are reported above the cut-off grades provided in Table 15-1.

Table 15-2 Segovia Operations mineral reserves effective September 30, 2023

Classification	Tonnes (kt)	Gold grade (g/t)	Contained gold (koz)
Proven	1,515	12.25	597
Probable	2,017	11.16	723
Proven + Probable	3,531	11.63	1,320

Notes:

- A gold price of US\$1,700 per ounce was used for the mineral reserve estimate.
- The mineral reserve estimate utilized a gold cut-off grade of between 3.05 g/t and 3.40 g/t depending on mining area. The cut-off grade values were applied to vein grades diluted to the minimum mining height that varies according to the mining area.
- The mineral reserve estimate was prepared by Aris Mining technical staff under the supervision of and reviewed by Inivaldo Diaz, CP, Vice President Technical Services of Aris Mining’s Colombian operations.
- There are no known mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the mineral reserve estimate.



## 16 Mining methods

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### 16.1 Mining methods

The ore at the Property has historically been mined using labour intensive manual room and pillar mining methods from the 1.1 to 1.3 m wide veins that mostly dip between 30° and 35° degrees. In 2023, longwall mining was introduced to increase mining productivity. Both methods follow the dip of the veins and provide for a high level of selectivity to maximize ore recovery and minimize dilution, and include a primary room and pillar phase and a secondary pillar recovery phase. The primary development phase allows for the early identification and management of any geotechnical risks and an understanding of the nature of the structures being mined.

Other mining optimization work that has been completed since the business combination include the acquisition of a new fleet of diesel powered equipment to increase development and production rates, the implementation of an information management system for better control of the mine schedule execution, a more efficient workforce structure and work roster, a new employee training and production bonus scheme, and an increase in development contractors to allow for improved production flexibility and the creation of new drilling platforms. No material expansion of production is considered in this technical report.

The underground operations are accessed by inclined shafts equipped with rail cars at each of the four mines. Development ramps are excavated using mechanized drill jumbos. No backfill is utilized.

#### 16.1.1 Room and pillar mining

The primary room and pillar phase is undertaken by the owner mining teams and the secondary pillar recovery phase is undertaken by contractors, utilizing manual mining methods. The minimum mining height is around 1.2 m, limited by the space required for the miners to work effectively. The total mining recovery from both phases is between 90% and 95%.

In the primary room and pillar phase, mining panels are accessed from the overlying and underlying haulage levels as well as from the down dip development by 3.5 m x 3.5 m development drifts that break the panels into discrete mining blocks following the dip of the vein. Rooms are typically 4 to 6 m wide and pillars are typically 4 m x 4 m. A loading chute is constructed within the lower haulage level access at either the end or the middle of the panels and used to load the ore into the materials handling system. Sublevels are then developed horizontally along strike. Rooms between the sublevels are mined using an air powered slusher or an electric scraper to pull broken ore from the face back to the loading chute. Ramps angled to follow the dip of the vein are developed in waste rock adjacent to the veins and equipped with winzes for moving material and for access to the levels. The subsequent cuts are developed and then connected by cross drifts. Some veins narrower than the minimum mining height may be mined by rescue mining where the face is drilled and the ore and waste are separately blasted and mucked to reduce the amount of dilution delivered to the processing plant.

In the secondary pillar recovery phase, contract miners reduce the pillar size to 2.0 m x 2.0 m. Timber pack pillars approximately 200 mm by 200 mm square are installed adjacent to the pillar prior to pillar recovery mining under the guidance of a geotechnical plan. If required, additional support such as split sets and mesh may be installed. The pillar is then either partially or completely mined depending on the geotechnical conditions. Manual methods including an airleg with a chisel bit and hand-held picks may be used in areas where the vein is very narrow or access is challenging. The recovered ore is hauled by hand from the work face to the haulage levels in approximately 40 kilogram sacks. The sacks are hauled to the surface in rail cars of the material handling system.

Blasting is undertaken using jackleg rotary percussion rock drills to drill 38 mm blastholes to a depth of around 2 m, then charged with mostly emulsion cartridges and some ammonium nitrate fuel oil.

#### 16.1.2 Longwall mining

In longwall mining, the main incline raise is made from the lower haulage level to an upper level, then five metres of the upper and lower sublevels are developed horizontally along the face. The method is more productive as the entire length of the block is drilled, blasted, and cleaned using an air powered or electric slusher to pull the ore from the face back to the

loading chute. Timber pack pillars are installed as support, and drilling and blasting occurs in the same way as room and pillar.

## **16.2 Geotechnical and hydrological data**

Geotechnical mapping and geotechnical and structural data collection takes place on an ongoing basis by the mine geomechanical teams, in addition to testwork conducted at external laboratories and reviews by external consultants. The geotechnical information is used for the design parameters utilized at each of the four mines, including room and pillar width, length, and height. A convergence monitoring network implemented across the operations shows no indication of excessive deformation, indicating that pillar recovery has had a minimal effect on mine stability.

Ground support is installed as required and mostly consists of rock bolts, split sets, timber, mesh, and shotcrete. Much of the development is left unsupported due to the good quality of the diorite and granodiorite wall rock. Timber pack pillars are used during pillar recovery.

Hydrological and hydrogeological studies have taken place to characterize the environment. Given the long operating history of the Property, a large cone of water drawn down is assumed to exist at the mines and the surrounding mining district. Field testing indicates an expected relatively low hydraulic conductivity in the diorite and granodiorite bedrock with a reduction at depth and an increase in faulted and fractured zones. The hydrogeological system is controlled by the fracture and fault systems resulting in confined conditions of moderately pressured water in the fracture zones. The mines are not impacted by excessive surface water. The dewatering strategy for the mines allows for passive inflow of groundwater into the underground mine down to the lower levels, where it is collected and pumped in the dewatering system to a network of tanks at strategic locations on the surface.

## **16.3 Material handling**

Slushers and scrapers remove the mined ore from the working face to a loading chute feeding the rail network. Battery operated locomotives haul the ore in trains of six to ten 2 tonne capacity rail cars to a grizzly that feeds an inclined shaft, then the ore is hoisted to the surface. In other areas ore is transported by mining dump truck to the inclined shaft. The total hoisting capacity is currently 3,220 tpd.

## **16.4 Mining equipment**

The Property historically utilized a small amount of mechanized mining equipment due to the manual mining methods, with each mine using a few dumpers, scoops, and jumbos. In 2023 a new fleet of diesel powered equipment was acquired to increase development and production. Contract miners utilize a large number of jack legs. The current trackless fleet includes eight 15 tonne capacity trucks, four 20 tonne capacity trucks, four 7 tonne capacity trucks, two 4 tonne scoops, eight 7 tonne scoops, and four single boom jumbos.

## **16.5 Production rate and mine life**

The 3.5 million tonnes of mineral reserves could be mined in nearly 7 years at a mining rate of 1,400 tpd by owner and partner mining. The mine life is expected to increase annually through ongoing exploration and infill drilling campaigns and annual updates to the mineral resource and mineral reserve estimates. The owner mining teams produce approximately 1,050 tpd and partner mining teams produce approximately 350 tpd. The combined mill feed to the processing plant is sourced from the mineral reserves mined by owner and contractor mining teams, non-reserve material mined by partners on the Property's mineral titles, and non-reserve material mined by partners outside of the Property's mineral titles.

## **16.6 Labour**

The Segovia Operations utilize both owner mining and contractor mining, with partner mining representing over 40% of the workforce. In late 2022 Aris Mining implemented a new safety program including training, increased supervision, and visible leadership practices. The work rotation was adjusted in 2023 to a 14 day on, 7 day off roster and a new employee training and bonus scheme was implemented to increase productivity.

The underground mine has approximately 1,000 underground Aris Mining employees and around 980 Aris Mining employees working in a support capacity, including mine management, planning, geology, small mining management, processing, health and safety, security, finance, purchasing, and laboratory.

Aris Mining has approximately 60 operations contracts of three different types, formalizing around 2,900 contract miners under a compensation scheme based on the market price of gold and incentivizes higher grade ore, allowing for consistent margins from partner operated mining and allows the partner miners to participate in changes in the market price of gold. These partner miners are required to undergo health, safety, and environmental stewardship training. The contract types include:

1. Artisanal and small scale mining operation contracts with a view to formalizing: contracts with small mines that wish to formalize and work under traditional and artisanal methods using small machinery on the Property's mining titles. These contractors represent around 7% of the Property's total production.
2. Outsourcing: contracts with external mining companies at the El Silencio, Providencia, and Sandra K mines using regional small mining labour to selectively mine high grade ore on the Property's mining titles. These contractors represent around 23% of the Property's total production.
3. Third parties: contracts with miners who do not have their own processing plants and are extracting material outside of the Property's titles. They represent around 13% of the Property's total production.



crusher and a 200 hp tertiary cone crusher operated in closed circuit with a secondary 1.8 m x 6.0 m vibrating screen. Another crushing line is available on standby, comprised of a 150 hp primary jaw crusher, two 200 hp secondary cone crushers, and two vibratory screens. The final crushed product is produced at 80% passing 7 mm, sampled with a primary cross-cut sampler and a secondary rotary sampler as it is conveyed to the fine ore bin. The samples are assayed by the Property's analytical laboratory.

Ore from the partner operated mines at the Property does not require crushing and is dumped into a receiving bin then sampled on a primary cross-cut sampler and a secondary rotary sampler and conveyed to a separate fine ore bin. The partner ore samples are assayed by an external commercial SGS laboratory.

### **17.1.2 Grinding and gravimetric concentration**

The combined crushed owner and partner ore is conveyed on a single belt to a grinding circuit comprised of a 2,000 tonne per day capacity, 12.5 foot x 23 foot 2,300 hp ball mill operated in a closed circuit cluster of four hydrocyclones (with two on standby) to produce a final grind of 80% passing 106 microns, which advances to the flotation circuit. Half of the cyclone underflow is diverted to the gravity concentration circuit comprised of two 40 hp Knelson centrifugal concentrators, operating in closed circuit with the grinding circuit. Approximately 30% of the contained gold is recovered into a primary gravity concentrate, then upgraded on a Gemini table. The grinding circuit feed is continuously weighed on a belt scale and sampled every hour.

### **17.1.3 Flotation and regrind**

Cyclone overflow from the grinding circuit advances to the flotation circuit for conditioning with flotation reagents. The conditioned slurry then passes through one stage of rougher flotation in a 40 cubic metre tank cell with the overflow passing to one 30 cubic metre cleaner cell and then three stages of scavenger flotation in three 30 cubic metre flotation cells to recover the contained gold. The rougher and scavenger flotation concentrate is upgraded in one stage of cleaner flotation and combined with the rougher flotation concentrate. The combined rougher and scavenger cleaner concentrate is thickened to around 55% solids and reground in a 4 foot x 8 foot 40 hp ball mill to approximately 80% passing 38 microns then passed to the cyanidation circuit. The regrind ball mill is operated in closed circuit with 6 inch cyclones. The flotation tailings are pumped to the tailings storage facility where they are thickened and filtered to around 15% moisture prior to dry stack placement at the tailings storage facility. The thickener overflow and filtrate solutions are recycled back from the tailings storage facility to the process plant.

### **17.1.4 Cyanidation and counter current decantation**

The reground flotation concentrate is thickened and processed in a cyanidation circuit comprised of four agitated leach tanks operated in series for a total leach retention time of around 96 hours. The cyanide concentration is adjusted in the first leach tank and allowed to attenuate naturally in the last leach tank. The pH of the leach slurry is maintained at around 10.5 to 11 with the addition of lime.

Discharge from the last agitated leach tank flows to the counter current decantation circuit, comprised of one 24 foot diameter thickener, two 16 foot diameter thickeners, and one 42 foot diameter thickener to wash the pregnant leach solution from the leach residue. The pregnant leach solution from the first thickener overflow advances to the Merrill-Crowe recovery circuit. The tails of the leaching process are detoxified using hydrogen peroxide and iron sulphate, then passed to the polymetallic concentrate processing plant.

### **17.1.5 Merrill-Crowe and refining**

The solubilized gold and silver are recovered from the pregnant leach solution by clarifying the solution to remove any remaining suspended solids, de-aerating the solution to less than 1 ppm dissolved oxygen, and then precipitating the gold and silver with the addition of zinc dust. The gold and silver precipitate is recovered in three plate and frame pressure filters then smelted with a flux in a gas fired furnace to produce the doré product. The gravity concentrate produced by the Gemini table is separately smelted with a flux in a gas fired furnace to produce a second doré product.

## 17.2 Polymetallic concentrate plant

The 200 tonne per day capacity polymetallic concentrate plant was constructed in 2021 to clean lead and zinc sulphides from the tailings generated by the Maria Dama processing plant. The tailings are passed to the polymetallic concentrate processing plant into a five cubic metre conditioning tank in the lead circuit and treated with regulating reagents to depress sphalerite, pyrite, and insoluble materials. The tails proceed to a second five cubic metre conditioning tank treated with collectors that react with lead sulphides. Once the pulp is conditioned, it goes to a rougher stage consisting of a bank of four rougher cells with forced air that operate in parallel with a single scavenger feed cell where flotation begins. The flotation concentrates are taken to three cleaning cells with a total capacity of 1.2 cubic metres. The depleted tails then pass to the zinc circuit and the recovered and cleaned lead concentrate from the cleaning stage is transported to the thickening area.

Zinc flotation takes place in a circuit similar to the lead flotation, starting with two stages of conditioning that activates the sphalerite that was depressed by the reagents in the lead circuit. Flotation begins in the rougher stage, then the flotation concentrates are taken to the cleaner and scavenger stage and the final tails are pumped to the tailings filtration plant at the dry stack tailings facility.

The lead and zinc concentrates are pumped to separate thickeners to obtain a solids percentage of around 55 to 65%, then discharged to a lead or zinc homogenizer tank used as a pre-filtration stage, then pumped to separate hydraulic filter presses. The dried lead and zinc concentrates are then separately packed in 1,000 kg capacity bags and stored in a warehouse prior to shipment to the concentrate buyer. The first concentrate was exported in December 2022.

## 17.3 Power, water, and process material requirements

The Property consumes a total of 100.5 GWh annually from public and private power producers.

The processing plants require 47.0 litres of water per second for an annual consumption of 1.5 million cubic metres and is sourced from underground dewatering and rainwater runoff stored in a surface pond near the Maria Dama processing plant.

Reagent and grinding ball use and consumption is typical of the processing method and includes mineral activators, frother, and collector in the flotation circuit, flocculants in the thickening circuit, sodium cyanide and lime in the cyanidation circuit, zinc dust in the Merrill-Crowe circuit, hydrogen peroxide in the cyanide detoxification circuit, a variety of fluxes in the refinery, grinding balls in the primary grinding and regrind circuit, and other standard processing chemicals.

The costs of the power, water, and process materials are considered in the processing plant operating cost assumptions.

## 17.4 Recommendations

An opportunity exists to increase the capacity of the Maria Dama processing plant from 2,000 to 3,000 tpd by utilizing a previously purchased ball mill that is already located at the Property, and by relocating and upgrading the facilities that receive material from the Segovia Operations' artisanal and small scale mining partners. This creates the potential to gradually increase annual gold production from 200,000 to 300,000 ounces of gold by filling the extra capacity by increasing mining rates. A portion of the extra capacity may be allocated to the Segovia Operations' artisanal and small scale mining partners. The addition of the ball mill to the existing circuit would enable both higher throughput and more effective use of available capacity, thereby enhancing the overall gold recovery rate for all processed materials. An upgraded receiving facility for partner mined material could also be designed to increase volumes and efficiencies.

The qualified person responsible for Section 17 recommends implementing this small-scope project, which could be completed by early 2025 at an estimated cost of US\$11.0 million.

## **18 Project infrastructure**

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### **18.1 Overview**

The Property is a mature mining operation with well established infrastructure including roads, the underground mine workings, the Maria Dama processing plant, a polymetallic concentrate processing plant, tailings storage facilities, power and water distribution networks, water and effluent treatment plants, water management systems, maintenance workshops, offices, metallurgical and chemical laboratories, core logging and storage facilities, and fuel and explosives storage. Sufficient area is available for future tailings storage facilities. A plan of the Property's infrastructure relative to the Property boundaries is shown in Figure 4-2.

### **18.2 Tailings storage facility**

The first tailings facilities at the Property were traditional informal pulp facilities. The original formal project was designed by Knight Piésold Consulting of Denver, Colorado in July 2012 and included two earthen dams with a capacity of 744,500 cubic metres. Construction of a final tailings facility began in 2017 and in 2018, the first filter press to dewater the tailings for dry stacking was acquired. A second filter press was installed in 2021.

The current 2.5 million cubic metre capacity dry filtered tailings storage facility has been in operation since April 2018. The facility has been built in five phases with the initial phases designed by Geomatrix of California, Knight Piésold of Argentina, and the later stages by Wood, now WSP, of Denver, Colorado. The facility is located in an area of naturally occurring silt and clay, and an additional 30 centimetre thick base of saprolitic clay to act as an impermeable layer was placed to mitigate subsurface seepage. Constructed bunds contain the stacked tailings on top of geofabric. The facility has a starter dam which contains compacted dry filtered tailings stacked upstream.

The tailings from the Maria Dama and polymetallic concentrate processing plants are delivered through a 10 inch diameter pipeline to the tailings filtration plant, where the tailings are dewatered to between 10% and 14% in a filter press. The dried tailings are then claimed by a loader and trucked to the storage facility, where a bulldozer flattens the material to a depth of 30 m. A vibro-compactor passes over the tailings layer to ensure a compaction degree of greater than 95%. The facility has sufficient storage for another four years, at which time the closure plan will be initiated.

The Segovia Operations are currently working on studies to re-use around 2.5 hectares of the existing facility for additional storage, utilizing the same operational design as the existing facility.

### **18.3 Waste rock management**

There are no waste rock management facilities on the Property as waste material is used in infrastructure construction, and has been utilized since 2021 as aggregate in the construction of intermunicipal connection roads within the framework of the development of the national circular economy policy, under an agreement endorsed by Corantioquia.

## **19 Market studies and contracts**

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The Segovia Operations produce a gold-silver doré that is sold at the mine gate to an international refiner under a long term exclusive sales agreement in place until the end of 2024, at which point Aris Mining is free to enter into contracts with other refiners. Gold and silver are freely trading commodities with fluctuating prices and numerous international buyers. Additionally, the lead and zinc concentrates obtained from the treatment of leached tailings in the polymetallic plant are sold with an international trader. The qualified person has reviewed the gold price and gold production costs and confirms that the results support the assumptions used in the current mineral resource and reserve estimates disclosed in this technical report.

All of the necessary contracts are in place at the Segovia Operations and are regularly reviewed and renegotiated as appropriate. The terms, rates, and charges are within industry norms. The most material contracts in place include mining contracts for the supply of ore sourced both on and off the Property's mining titles, the supply of explosives, and exploration and infill drilling.



## **20 Environmental studies, permitting and social or community impact**

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### **20.1 Environmental studies, permitting, and environmental issues**

The Property commenced production well in advance of the current regulatory requirement to prepare an environmental impact assessment as part of the mine permitting process. Properties that began operating prior to December 1993 are authorized through the approval of a PMA. The first PMA for the Property was approved in 2004 and has been updated from time to time at the request of the regional environmental authority, Corantioquia. Corantioquia is a public corporate entity that directly regulates mining operations with material movement of less than two million tonnes per year.

Updates to the PMA have included baseline studies and site investigations including geology, geomorphology, soils, hydrology, hydrogeology, climate/meteorology, air quality, noise, geotechnical, landscape, flora, birds, mammals, herpetofauna, fish, macro-invertebrates, and socio-economic conditions.

The current PMA relating to title RPP 140 where the mineral resources and mineral reserves at El Silencio, Providencia, and Sandra K as well as the processing plants and tailings management facility are located has a validity of five years until December 2024. Aris Mining is currently updating the environmental plan for renewal. An additional 33 minor permits are current for RPP 140 and a further six minor permits are in the process of being updated.

The PMA relating to title H6045005, which contains the mineral resource and mineral reserves at Carla, is authorized and in force for the useful life of the Property. The PMA is currently being modified by Corantioquia with the current conditions of the mining plan. All of the minor permits required for the operations at Carla are authorized.

The main environmental issue associated with the Property is the historical disposal of mine tailings, but no historical liability was transferred following Zandor's ownership in 2010. The historical mine tailings are being managed as part of the operation's environmental management plan. There are no requirements to post performance or reclamation bonds. RPP 140 is exempt from the requirement for an Environmental Mining Insurance Policy to guarantee compliance with mining and environmental obligations, but title H6045005 does carry such insurance. The Segovia Operations have an active environmental management team working to improve the environmental conditions at the Property, including the restoration of land with tree planting and forestry management.

There are no known environmental issues that could materially impact the extraction of the mineral resources and mineral reserves.

### **20.2 Dry stack tailings and waste rock management**

The plans for dry stack tailings management are described in Section 18.1. As described in Section 18.3, no waste rock management facilities are present on site.

### **20.3 Water management**

Water is available from a variety of surface sources and utilized in the operation according to its characterization. The mine holds permits to capture water in lentic systems and to treat the water in a drinking water treatment plant with the water utilized by both the operation and the surrounding communities.

Water utilized by the mining and processing operations are granted through the authorization of a water concession. The mine holds environmental permits to discharge industrial and domestic water under constant control and monitoring conditions to ensure environmental compliance with the regulatory legislation. An industrial wastewater treatment system processes water from the Maria Dama processing plant where it is recycled back to the processing plant for further use.

### **20.4 Site monitoring**

Site monitoring that takes place under the PMA include hazard measurements of the dry stack tailings facility by means of a CRETIP analysis (corrosivity, reactivity, toxicity, flammability, and pathogen analysis); physiochemical characterization of raw water, drinking water, surface water, and domestic and non-domestic waste water; geotechnical measurements in the

dry stack tailings facility including water table and displacement monitoring; isokinetic monitoring for fixed sources; and air quality and noise monitoring over the area of influence of the titles. This monitoring and analysis supports a non-hazardous classification. Acid drainage potential tests were initiated in 2022 and continue through 2023. Metal concentration in recent test leachate are within regulatory limits and the pH values for tailings leachate are near neutral, indicating low potential for acid rock drainage in the short and long term.

Post mine closure monitoring plans to preserve biodiversity and the recovery of ecosystems, as well as the physical and chemical stability of the abiotic environment, include maintenance of drainage systems, geotechnical stability monitoring, discharge and runoff water monitoring, and maintenance of vegetation cover.

## **20.5 Social and community related requirements and plans**

The Property is located within the municipalities of Segovia and Remedios, whose community infrastructure has developed in response to mining activities, and therefore the social setting is mainly centred around mining. Over 7% of the adult population of the town of Segovia are employed by Aris Mining and partner miners represent over 40% of the workforce. The Segovia Operations have mining contracts that have formalized 2,900 miners and extended social security benefits to the families of those miners, positively impacting 12,000 family members. The Segovia Operations have a small mining team dedicated to increasing the formalization of local miners and strengthening the Segovia Operations' bonds with the community.

The Segovia Operations have a Health, Safety, and Environmental Quality system designed to comply with the relevant ISO standards that complies with Colombian legal requirements. Environmental and social issues are managed in compliance with the approved PMA with the submission of annual reports to Corantioquia.

The Segovia Operations have a principals based model to analyze and measure the effectiveness and efficiencies of engagement with internal and external stakeholders and the communities. Initiatives are aligned with the United Nations Sustainable Development Goals, the needs and issues of the communities, local government plans, Global Compact principals, IDB in Corporate Social Strategy, and IFC guidelines.

The Segovia Operation have a Social Investment Framework around topics including education, culture and sports, socioeconomic development, infrastructure for competitiveness, and equity and gender equality.

## **20.6 Mine closure requirements and costs**

The operation carries out rehabilitation of disturbed areas through the planning and execution of mine closure plans that are developed progressively during all stages of the mining cycle. Exploration drilling platforms are permanently shut down with the area reshaped and revegetated to the initial conditions, complying with the guidelines established by the environmental authority through the Mining Environmental Exploration Guide. The operation carries out rehabilitation and progressive closure of historical and current tailings storage facilities.

Aris Mining has planned the progressive closure of all its operations in compliance with all environmental, legal, and social commitments acquired by the Property following the completion of all operational and administrative activities. This includes infrastructure decommissioning, drainage management, environmental rehabilitation through the recovery of vegetation, maintenance of water management systems, monitoring of drains and geotechnical stability, and the definition of land end use in relation to the planning instruments of the municipalities of Segovia and Remedios. The undiscounted cost assumed by Aris Mining for its asset retirement obligations totals US\$15.7 million.

## 21 Capital and operating costs

The Property have been in production for many years with well established infrastructure. No material production expansion requiring capital costs is currently contemplated in this technical report.

### 21.1 Smelting and refining

Gold ounces sold to external refiners are payable at 99.5% of the contained value of the gold shipped. At a gold price of \$1,700, this equates to a charge of approximately US\$8.5 per ounce.

### 21.2 Taxes, royalties, and other interests

Segovia Operations are subject to taxation by the Colombian State at an effective corporate income tax rate of 35%.

For metal produced at the El Silencio, Providencia, and Sandra K mines, Aris Mining pays the Colombian state a 4% royalty on 80% of the payable gold and silver produced, based on the previous month's London Metal Exchange's metal prices, and pays the ANM a 0.4% royalty on 80% of the payable gold and silver produced, based on the previous month's London Metal Exchange metal prices.

For metal produced at the Carla mine, Aris Mining pays the ANM a 4% royalty on 80% of the payable gold and silver produced, based on the previous month's London Metal Exchange metal prices.

Aris Mining also makes social commitment payments to the local communities. The contribution rate is \$4 per ounce of gold produced from the Property at a minimum gold price of \$700 per ounce, with an increase by \$2 per ounce for each \$50 increment in the prevailing London Bullion Market Association price of gold.

### 21.3 Mining and processing costs

The mining cost structure is well established and varies depending on whether the material is mined by owner, contractor, or artisanal labour. A breakdown of mining costs from January 1 to September 30, 2023 is shown in Table 21-1. Aris Mining uses cost per tonne metrics to monitor the financial performance of owner-managed labour and costs per ounce metrics to monitor the financial performance of contractor and artisanal miners who are paid under a compensation scheme based on the market price of gold.

Table 21-1 Summary of the 2023 mining costs

Description	Unit	Owner mining	Contractor mining	Artisanal mining
Mining costs	US\$ 000s	36,758	28,472	38,942
Material mined	kt	257	98	85
Attributable gold production	Ounces	83,462	34,588	30,171
Cost per tonne mined	US\$/t	143	na	na
Cost per gold ounce produced	US\$/oz	na	823	1,291

A breakdown of processing costs from January 1 to September 30, 2023 is shown in Table 21-2.

Table 21-2 Summary of the 2023 processing costs

Description	Units	Amount
Processing costs	US\$ 000s	16,227
Material processed	kt	467
Cost per tonne processed	US\$/t	35

## 21.4 Mine site general and administration costs

A breakdown of mine site general and administration costs from January 1 to September 30, 2023 is shown in Table 21-3.

Table 21-3 Summary of the 2023 mine site general and administration costs

Description	Units	Amount
Mine site general and administration	US\$ 000s	11,969
Total tonnes processed	kt	467
Cost per tonne processed	US\$/t	26

## 21.5 Sustaining and non-sustaining costs

A breakdown of sustaining and non-sustaining capital costs from January 1 to September 30, 2023 is shown in Table 21-4.

Table 21-4 Summary of the 2023 sustaining and non-sustaining costs

Description	US\$ 000s
<b>Sustaining</b>	
Mine development	8,774
Infill drilling	2,454
Mining	2,103
Processing plant and maintenance	1,098
Administration, occupational health and safety, and security	659
Tailings storage facility	595
Leases	541
Environmental and other	243
<b>Total sustaining</b>	<b>16,467</b>
<b>Non-sustaining costs</b>	
Exploration and drilling	8,018
Title maintenance	3,249
Leases and other	1,999
Maintenance	1,091
IT	1,031
Mine development	1,001
Administration	407
Processing plants	54
<b>Total non-sustaining costs</b>	<b>16,849</b>

## 21.6 Credits

A breakdown of concentrate and silver credits from January 1 to September 30, 2023 is shown in Table 21-5.

Table 21-5 Summary of the 2023 concentrate and silver credits

Description	Units	Amount
Concentrate credits	US\$ 000s	7,682
Silver credits	US\$ 000s	3,104
Total credits	US\$ 000s	10,786
Credits per tonne processed	US\$/t	23

## **22 Economic analysis**

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As the Segovia Operation is currently in production and this technical report does not consider a material expansion of production, the information required under Item 22 is excluded.

## **23 Adjacent properties**

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There is no relevant information on adjacent properties to report.

## **24 Other relevant data and information**

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There is no additional information or explanation to report.

## 25 Interpretation and conclusions

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This technical report has been prepared for Aris Mining in compliance with the disclosure requirements of NI 43-101 to disclose material updates to the mineral resource and mineral reserve estimates at the Property resulting from Aris Mining's reviews and optimization of the geological interpretation and resource estimation methodologies, as well as the results of ongoing channel sampling and strategic exploration and infill drilling, optimization of mining, processing, productivity, labour structure, cost control, and updates to cost estimates and production plans.

Mining and processing have taken place at the Property for many years and the conditions and requirements are well understood. Approximately 4.6 million ounces of gold are reported to have been mined at the Property between 1869 and 2010. Between 2011 and 2022 approximately 1.7 million ounces of gold have been produced at the Property's historical Maria Dama processing plant.

Aris Mining will continue to conduct ongoing channel sampling as mining progresses as well as exploration and infill drilling. Mineral resource and mineral reserve estimates are expected to be updated on an annual basis. Aris Mining currently expects to continue processing material at a rate of 2,000 tonnes per day over the life of mine.

There are no known drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results, and the data is considered suitable for the current mineral resource and mineral reserve estimates. There are no known significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information and mineral resource and mineral reserve estimates.



## 26 Recommendations

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An opportunity exists to increase the capacity of the Maria Dama processing plant from 2,000 to 3,000 tpd by utilizing a previously purchased ball mill that is already located at the Property, and by relocating and upgrading the facilities that receive material from the Segovia Operations' artisanal and small scale mining partners. This creates the potential to gradually increase annual gold production from 200,000 to 300,000 ounces of gold by filling the extra capacity by increasing mining rates. A portion of the extra capacity may be allocated to the Segovia Operations' artisanal and small scale mining partners. The addition of the ball mill to the existing circuit would enable both higher throughput and more effective use of available capacity, thereby enhancing the overall gold recovery rate for all processed materials. An upgraded receiving facility for partner mined material could also be designed to increase volumes and efficiencies.

The qualified person responsible for Section 17 recommends implementing this small-scope project, which could be completed by early 2025 at an estimated cost of US\$11.0 million.

## 27 References

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Author and Date	Title
CIM, 2014	CIM Definition Standards for Mineral Resources and Mineral Reserves. Prepared by the CIM Standing Committee on Reserve Definitions, adopted by CIM Council 19 May 2014
CIM, 2019	CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines. Prepared by the CIM Mineral Resource and Mineral Reserve Committee, adopted by the CIM Council on 29 November 2019.
Gómez, J., Montes, N.E., Nivia, A., and Diederix, H., 2015	Mapa Geológico de Colombia, 2015. Servicio Geológico Colombiano, Bogotá.
Scarpelli, Wilson, 2021	The corridor of mineralization in the California gold district, in the Santander Department of Colombia. Journal of the Geological Survey of Brazil vol 4, n1, 23-41, April 2021.

## 28 Date, signatures, and certificates of qualified persons

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### Certificate of qualified person Pamela De Mark

I, Pamela De Mark, P.Ge., do hereby certify that:

1. I am Senior Vice President, Geology and Exploration of Aris Mining at 550 Burrard Street, Suite 2900, Vancouver, BC, V6C 0A3, Canada.
2. This certificate applies to the technical report titled “NI 43-101 Technical Report for the Segovia Operations, Antioquia, Colombia” with an effective date of September 30, 2023 (the Technical Report).
3. I obtained a Bachelor of Applied Science in Applied Geology from the University of Technology, Sydney, Australia in 1994. I am registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists of British Columbia. I have been employed as a geologist in the mining industry since my graduation from the University of Technology, Sydney in 1994.
4. I have read the definition of “qualified person” set out in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
5. I visited the Segovia Operations on July 12<sup>th</sup> to 14<sup>th</sup>, 2022, December 1<sup>st</sup>, 2022, and July 17<sup>th</sup> to 21<sup>st</sup>, 2023.
6. I am responsible for Sections 2 through 12, 14, 20, 23, 24, 27, and the relevant summaries of those sections in Sections 1, 25, and 26.
7. I am not independent of Aris Mining as described in section 1.5 of NI 43-101 due to my employment with Aris Mining.
8. I have been involved with the Property since September 26, 2022 as part of my employment responsibilities.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 6<sup>th</sup> day of December, 2023.

*(signed and sealed) Pamela De Mark*

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Pamela De Mark, P.Ge.  
Senior Vice President Geology and Exploration  
Aris Mining

**Certificate of qualified person Inivaldo Diaz**

I, Inivaldo Diaz, CP, do hereby certify that:

1. I am Vice President, Technical Services of Aris Mining’s Colombian operations at Cra. 43 A #14-57, Piso 13, Edificio San Francisco, Medellín, Antioquia, 050021 Colombia.
2. This certificate applies to the technical report titled “NI 43-101 Technical Report for the Segovia Operations, Antioquia, Colombia” with an effective date of September 30, 2023 (the Technical Report).
3. I obtained a Bachelor of Engineering Sciences in Civil Mine Engineering from the Universidad de Atacama, Chile in 2002. I am a Registered Member and Competent Person of the Comisión Calificadora de Competencias en Recursos y Reservas Mineras (Chilean Mining Commission). I have been employed as mining engineer since my graduation from the Universidad de Atacama in 2002.
4. I have read the definition of “qualified person” set out in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
5. I visited the Segovia Operations most recently on July 3<sup>rd</sup> to 7<sup>th</sup>, 2023, July 24<sup>th</sup> to 28<sup>th</sup> 2023, and August 14<sup>th</sup> to 18<sup>th</sup>, 2023.
6. I am responsible for Sections 2, 3, 12, 15 and 16, 18 and 19, 21, 24, and the relevant summaries of those sections in Sections 1, 25, and 26.
7. I am not independent of Aris Mining Corporation as described in section 1.5 of NI 43-101 due to my employment with Aris Mining Corporation.
8. I have been involved with the Property since my employment with Gran Colombia Gold Corporation (now Aris Mining) in August, 2018.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 6<sup>th</sup> day of December, 2023.

*(signed) Inivaldo Diaz*

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Inivaldo Diaz, CP  
Vice President Technical Services Colombia  
Aris Mining

**Certificate of qualified person Cornelius Lourens**

I, Cornelius Lourens, FAusIMM, do hereby certify that:

1. I am an independent metallurgical consultant in Colombia at Cra. 43 A #14-57, Piso 13, Edificio San Francisco, Medellín, Antioquia, 050021 Colombia.
2. This certificate applies to the technical report titled “NI 43-101 Technical Report for the Segovia Operations, Antioquia, Colombia” with an effective date of September 30, 2023 (the Technical Report).
3. I obtained a National Higher Diploma in Metallurgical Engineering from the Vaal University of Technology, South Africa, in 1991. I am a Fellow of the Australasian Institute of Mining and Metallurgy. I have been employed as metallurgical engineer since my graduation from Vaal University of Technology in 1991.
4. I have read the definition of “qualified person” set out in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
5. I visited the Segovia Operations on August 17<sup>th</sup> and 18<sup>th</sup>, 2023.
6. I am responsible for Sections 2 and 3, 13, 17, 24, and the relevant summaries of those sections in Sections 1, 25, and 26.
7. I am independent of Aris Mining Corporation as described in section 1.5 of NI 43-101.
8. I have been involved with the Property since my contract for consulting services with Aris Mining commenced on August 1, 2023.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 6<sup>th</sup> day of December, 2023.

(signed) Cornelius Lourens

Cornelius Lourens, FAusIMM  
Metallurgical Consultant