First Majestic Silver Corp.
Santa Elena Silver/Gold Mine

Sonora, Mexico

NI 43-101 Technical Report on Mineral Resource and Mineral Reserve Estimates

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Report Prepared For:	**First Majestic Silver Corp.**
Effective Date:	**June 30, 2021**

CERTIFICATE OF QUALIFIED PERSON

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I, Ramón Mendoza Reyes, P.Eng., am employed as Vice President of Technical Services with First Majestic Silver Corp. (First Majestic).

This certificate applies to the technical report entitled "Santa Elena Silver/Gold Mine, Sonora, Mexico, NI 43-101 Technical Report on Mineral Resource and Mineral Reserve Estimates" that has an effective date of June 30, 2021.

I graduated from the National Autonomous University of Mexico with a Bachelor of Science Degree in Mining Engineering in 1989, and also obtained a Master of Science Degree in Mining and Earth Systems Engineering from the Colorado School of Mines in Golden, Colorado, in 2003.

I am a member of the Engineers and Geoscientists British Columbia (P.Eng. #158547).

I have practiced my profession continuously since 1990 and have been involved in precious and base metal mine projects and operations in Mexico, Canada, the United States of America, Chile, Peru, and Argentina. As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101).

I have been involved with the Santa Elena Silver/Gold Mine overseeing technical and operational aspects including mine planning, mining operations and mineral reserves estimation, since the acquisition by First Majestic in October 2015.

I have visited the Santa Elena Silver/Gold Mine on several occasions from 2015 to 2021. My most recent site visit was on September 6-10, 2021, during which I inspected the Santa Elena operation to review the implementation of the mining practices in the Alejandras and America veins. Inspected as well the Ermitaño project to expedite the infrastructure construction and the mine development to assess operation readiness.

I am responsible for Sections 1.1 to 1.3, 1.9.2, 1.10, 1.12 to 1.14, 1.15.2, 2 to 6, 15, 16, 18 to 24, 25.1, 25.7 to 25.9, 25.11 to 25.16, 26.1.2 to 26.1.4, 26.2 and 27 of the Technical Report.

I am not independent of First Majestic as that term is described in Section 1.5 of NI 43–101.

I have read NI 43–101, and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument.

As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the technical report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

"Signed and sealed"

Ramón Mendoza Reyes, P.Eng.

Dated: November 24, 2021

CERTIFICATE OF QUALIFIED PERSON

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This certificate applies to the technical report "Santa Elena Silver/Gold Mine, Sonora, Mexico, NI 43-101 Technical Report on Mineral Resource and Mineral Reserve Estimates" that has an effective date of June 30, 2021.

I graduated from the University of Technology, Sydney, NSW, Australia, with a Bachelor of Applied Science in Geology in 1999 and obtained a Master of Science in Mineral Economics from Curtin University, Perth, WA, Australia, in 2010.

I am a member of the Engineers and Geoscientists British Columbia; Professional Geologist (P. Geo. #178608).

I have practiced my profession continuously since 1999 and have been involved in geological modelling and mineral resource estimation for several base and precious metal deposits in Australia, Ireland, Saudi Arabia, and Mexico. Prior to the Santa Elena project, I have been involved in geological modelling and mineral resource estimation of the San Martín, La Guitarra and La Encantada Silver Mines in Mexico.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101).

I visited the Santa Elena Silver/Gold Mine and Ermitaño project on several occasions since 2019. My most recent site visit and inspection was between August 12-14, 2021.

I am responsible for Section 1.4 to 1.6, 1.9.1, 1.15.1, 7 to 10, 14, 25.2, 25.3, 25.6, and 26.1.1 of the Technical Report.

I am not independent of First Majestic as that term is described in Section 1.5 of NI 43–101.

I have been involved with the Santa Elena Silver/Gold Mine and Ermitaño project in my role as Senior Resource Geologist since September 2018.

I have read NI 43–101, and the section. of the Technical Report for which I am responsible has been prepared in compliance with that Instrument.

As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

"Signed and sealed"

Phillip J. Spurgeon, P. Geo.

Dated: November 24, 2021

CERTIFICATE OF QUALIFIED PERSON

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I, María Elena Vázquez Jaimes, P.Geo., am employed as Geological Database Manager with First Majestic Silver Corp. (First Majestic).

This certificate applies to the technical report entitled “Santa Elena Silver/Gold Mine, Sonora, Mexico, NI 43-101 Technical Report on Mineral Resource and Mineral Reserve Estimates” that has an effective date of June 30, 2021 (the Technical Report).

I graduated from the National Autonomous University of Mexico with a Bachelor in Geological Engineering degree in 1995 and obtained a Master of Science degree in Geology from the “Ensenada Center for Scientific Research and Higher Education”, Ensenada, BC, Mexico, in 2000.

I am a member of the Engineers and Geoscientists British Columbia (P.Geo. #35815).

I have practiced my profession continuously since 1995. I have held technical positions working with geological databases, conducting quality assurance and quality control programs, managing geological databases, performing data verification activities, and conducting and supervising logging and sampling procedures for mining companies with projects and operations in Canada, Mexico, Peru, Ecuador, Brazil, Colombia and Argentina. I have served as the Geologic Database Manager for First Majestic since 2013, and I direct the QAQC programs, sampling and assay procedures, and database verification for all their mines in Mexico.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101).

I visited the Santa Elena Silver/Gold Mine on several occasions since 2015. My most recent site visit and inspection was from August 9-14, 2021. During these visits I observed current drill core and channel logging and sampling procedures; inspected drill core, core photos, core logs and QAQC reports.

I am responsible for Sections 1.7, 11, 12 and 25.4 of the Technical Report.

I am not independent of First Majestic as that term is described in Section 1.5 of NI 43–101.

I have been directly involved with the Santa Elena Silver/Gold Mine in my role as the Geological Database Manager since 2015.

I have read NI 43–101, and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument.

As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed in order to make the Technical Report not misleading.

“Signed and sealed”

Maria Elena Vazquez Jaimes, P.Geo.

Dated: November 24, 2021

CERTIFICATE OF QUALIFIED PERSON

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I, Persio Pellegrini Rosario, P.Eng., am employed as Vice President of Processing, Metallurgy & Innovation with First Majestic Silver Corp. (First Majestic).

This certificate applies to the technical report entitled “Santa Elena Silver/Gold Mine, Sonora, Mexico, NI 43-101 Technical Report on Mineral Resource and Mineral Reserve Estimates” that has an effective date of June 30, 2021 (the Technical Report).

I am a graduate of the University of British Columbia, where, in 2003 and 2010, respectively, I obtained a Master in Applied Sciences (MASc) and the Doctor in Philosophy (PhD) degrees in Mineral Processing through the Mining and Mineral Processing Department.

I am a member of the Engineers and Geoscientists British Columbia (P.Eng. # 32355).

I have practiced my profession continuously since 2003 and acquired extensive experience in the design and optimization of mineral processing flowsheets through the elaboration and management of metallurgical test programs and the interpretation of their results. I have been involved in precious and base metal mine projects and operations in Mexico, Canada, the United States of America, Brazil, Chile, Peru, Argentina, and Russia.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 Standards of Disclosure for Mineral Projects (NI 43–101).

I carried out two site inspections of the Santa Elena Silver/Gold Mine in 2018 and in 2021. My most recent site visit and inspection was on June 24-26, 2021.

I am responsible for sections 1.8, 1.11, 13, 17, 25.5, and 25.10 of the Technical Report.

I am not independent of First Majestic as that term is described in Section 1.5 of NI 43–101.

I have been involved with the Santa Elena Silver/Gold Mine overseeing technical and operational aspects including processing and metallurgy, since joining First Majestic in January 5, 2021. Prior to that, I had been involved in modernization and expansion projects since May 2018 to December 2020, as a technical consultant for First Majestic.

I have read NI 43–101, and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument.

As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the technical report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

“Signed and sealed”

Persio Pellegrini Rosario, P.Eng.

Dated: November 24, 2021

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1. SUMMARY

1.1. Introduction

This Report provides information on Mineral Resource and Mineral Reserve estimates, and mine and process operations and planning for the Santa Elena mine. The Mineral Resource and Mineral Reserve estimates are reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (May 2014; the 2014 CIM Definition Standards).

For the purpose of this Report the following naming convention was adopted:

- "Santa Elena Silver/Gold Mine" (Santa Elena or Santa Elena mine) is used to refer to the property where the underground mine operation, the processing plant and the associated infrastructure is located, Santa Elena also refers to the limits of all of the consolidated mining concessions;
- "Santa Elena deposits" is used to refer to the mineralized zones within the currently-operating underground mine.
- "Ermitaño project" is used to refer to the mineralized zones and underground mine currently under development.

Units of measurement are metric unless otherwise noted. All costs are expressed in United States dollars unless otherwise noted.

1.2. Property Description, Location and Access

The Santa Elena mine is a producing underground gold and silver mining complex owned and operated by the Company's wholly owned indirect subsidiary, Nusantara de México, S.A. de C.V. (Nusantara). The property is in Sonora, México, approximately 150 kilometres northeast of the state capital city of Hermosillo and seven kilometres east of the community of Banámichi. The property is centered on latitude 30°01.3'N and longitude 110°09.5'W.

The Santa Elena mine can be easily accessed year-round by paved highways 90 km east from Hermosillo to Ures, then 50 km north along a paved secondary road to the community of Banámichi, then by a well-maintained gravel road for seven kilometres to the mine site. The Ermitaño project can be accessed by a 10 kilometres gravel road from the Santa Elena mine.

In 2015, First Majestic completed the acquisition of SilverCrest Mines Inc. (SilverCrest), the then-owner of Nusantara and the Santa Elena mine.

In 2017, First Majestic expanded the Santa Elena property by purchasing a royalty-free 100% interest in the El Gachi property from Santacruz Silver Mining Ltd.

First Majestic expanded the Santa Elena property again in 2018 by completing the acquisition of a 100% interest in the Ermitaño and Cumobabi properties from Orogen Royalties Inc., formerly Evrim Resource Corp. (Orogen). Upon completion of the exercise, Orogen retained a 2% net smelter return (NSR) royalty from the sale of mineral products extracted from the Ermitaño property, and retained a 1.5% NSR from the sale of mineral products extracted from the Cumobabi property. In addition, there is an underlying NSR royalty where Osisko Gold Royalties Ltd (Osisko) retains a 2% NSR from the sale of mineral products extracted from the Ermitaño and Cumobabi properties.

In December 2020, First Majestic completed all option payments and work commitments, and acquired 100% interests in the Los Hernandez property from Pan American Silver Corp., (PanAm). Upon completion of the exercise, PanAm retained a 2.5% NSR from the sale of mineral products derived from the Los Hernandez property.

The Santa Elena mine complex currently consists of 32 individual concessions covering 102,172 hectares and four concessions applications in process which cover 72 hectares, for a total of 102,244 hectares.

First Majestic is party to a purchase agreement (streaming) with Sandstorm Gold Ltd. (Sandstorm). Sandstorm invested $12 million in May 2009 and an additional $10.0 million in March 2014 which entitles Sandstorm to receive 20% of the gold production from the Santa Elena mine in exchange for ongoing payments equal to the lesser of $464/oz Au (as of December 2020 and subject to a 1% annual inflation adjustment) and the prevailing market price, for each gold ounce delivered under the agreement.

Surface rights in the area of the mining concessions are held both privately and through group ownership either as communal or Ejido lands. First Majestic has agreements in place regarding surface rights with Bienes Comunales de Banámichi, Mr. Francisco Maldonado, Dabafa S.P.R. de R.L., Ejido Banámichi, and the Community of Banámichi. As of October 2021, all obligations have been met for these agreements.

Santa Elena holds the necessary permits to operate, such as the Environmental License, water rights concessions, and federal land occupation concessions, inclusive of the permits to operate the Ermitaño project.

Environmental liabilities for the operation are typical of those that would be expected to be associated with an operating underground precious metals mine, including the future closure and reclamation of mine portals and ventilation infrastructure, access roads, processing facilities, power lines, filtered tailings and all surface infrastructure that supports the operations.

1.3. History

London-based Consolidated Goldfields of Mexico Limited owned and operated the Santa Elena mine in the late 19th century and mined from surface and underground until around 1910. There is no indication of any further significant mining or exploration at Santa Elena until Industrias Peñoles S.A de C.V. drilled two or three holes on the property in the 1960s. During the early 1980s, Tungsteno de Baviacora

(Tungsteno) owned the property and mined 45,000 tonnes grading 3.5 g/t Au and 60 g/t Ag from an open cut. Tungsteno periodically surface mined high silica/low fluorine material from Santa Elena.

The property remained under control of Tungsteno until 2009, when SilverCrest Mines Inc. (SilverCrest) acquired 100% of the Santa Elena property. SilverCrest commenced production from the Santa Elena open pit in October 2010 and by year end 2014 had produced 3.7 Mt at an average grade of 53 g/t Ag and 1.47 g/t Au and in 2015 was producing gold and silver by processing 3,000 tpd of mineralized material from open pit, and underground mining, and reprocessing previously heap-leached material. First Majestic acquired the Santa Elena property in October 2015.

From 2015 to June 30, 2021, Santa Elena has extracted 3.34 Mt at 125 g/t Ag and 2.20 g/t Au from the underground mine and has reprocessed 2.42 Mt at 41 g/t Ag and 0.69 g/t Au from previously leached material.

1.4. Geological Setting, Mineralization and Deposit Types

The Santa Elena deposits are hosted in rocks of the Sierra Madre Occidental (SMO), an igneous province that extends from the USA–Mexican border south to Guadalajara, Mexico. The SMO geological province consists of Late Cretaceous to early Miocene volcanic and sedimentary rocks that formed during two main periods of continental magmatic activity. The first period, concurrent with the Laramide orogeny, produced an intermediate intrusive suite and its volcanic counterpart. These rocks, named the Lower Volcanic Complex (LVC), include the Late Cretaceous to Paleocene volcanic succession of the Tarahumara Formation and are intruded by the Sonora batholiths. In the late Eocene, volcanism became dominated by rhyolitic ignimbrites. Extensional basins and associated continental sedimentary deposits formed between 27 Ma and 15 Ma in a north–northwest-trending belt along the western half of the SMO.

Many significant porphyry deposits of the SMO occur in the LVC rocks. Northwest-trending fault zones associated with early Eocene east–west directed extension, appear to control epithermal mineralization in the Sonora region. The Santa Elena Main Vein and the Ermitaño Vein have orientations similar to this extensional trend.

The Santa Elena and the Ermitaño deposits are the most significant zones of gold and silver mineralization currently known within the Santa Elena property.

Drilling at the Santa Elena mine has delineated three primary structures occupied by veins. The Main Vein strikes east, dips approximately 55–45° south and is delineated 1,950 m along strike and 750 m down dip. The Alejandra and America Veins are splay of the Main Vein and strike east to east–southeast and dip steeply to the south. Andesite and granodiorite dykes occur adjacent and sub-parallel to the Main Vein.

Drilling at the Ermitaño project has delineated one primary vein, one secondary vein and several sub-parallel tertiary veins. The Ermitaño Vein strikes east, dips 60° to 80° north, and is delineated 1,800 m along strike and 550 m down dip. The vein is best developed where the structure cuts the older, brittle volcanic rocks.

The mineral deposits of Santa Elena are typical of low sulphidation gold and silver epithermal vein-hosted deposits. Silver and gold mineralization is hosted in quartz veins and stockworks displaying typical epithermal textures, including banded, crustiform and vuggy quartz, bladed calcite (pseudomorph to quartz) and hydrothermal breccia. Sulphide abundance is generally low within the veins and are dominantly pyrite and pyrrhotite with minor galena, sphalerite, and chalcopyrite. Gold occurs typically as native gold, electrum, and silver occurs as electrum, minor acanthite, and argentite.

1.5. Exploration

There have been several surface and airborne exploration surveys and studies completed within the Santa Elena mineral concessions since 2006, including prospecting, mapping, rock and soil geochemical sampling, petrographic and spectrographic studies, magnetic, electromagnetic, and induced polarization surveys. Most of this work has focused on the Santa Elena mine and Ermitaño project areas. The regional satellite and airborne surveys have been useful for developing a conceptual geological framework and local mapping and geochemical soil and rock sampling have been useful for identifying prospective drill targets.

Drilling remains the best and most widely used exploration tool within the Santa Elena property.

1.6. Drilling

Between 2006 and June 30, 2021, 990 drill holes totalling 186,317 m were drilled at the Santa Elena mine, including 797 core holes and 76 reverse circulation (RC) and reverse circulation collared drill holes finished with core drill tail holes (RCDD). The drilling delineated three primary vein-hosted gold and silver deposits. The Main Vein is the most prominent. Drilling in 2020 and 2021 has revealed that mineralization in the Alejandra and America Veins remains open at depth. Mineralization is narrowing at depth in the Main Vein, and current drilling has limited the potential local down dip extent

Between 2016 and June 30, 2021, 288 core drill holes totalling 88,056 m were drilled at the Ermitaño project, including six metallurgical holes and four geotechnical holes. Drilling has delineated one primary vein, one secondary vein and several tertiary veins. The Ermitaño Vein is the most prominent and strikes east and dips approximately 80° north in the west where the bulk of current gold and silver mineralization occurs, and approximately 60° north in the eastern area. Widely spaced drilling in 2020 and 2021 on the Ermitaño project has shown that gold and silver mineralization in the Ermitaño Vein remains open at depth to the east.

Between 2011 and June 30, 2021, 155 core drill holes totalling 39,875 m of drilling have been completed in 11 regional target areas.

1.7. Sampling, Analysis and Data Verification

The Santa Elena and Ermitaño Mineral Resource estimates are based on logging and sampling of NQ and HQ diameter core and underground channel samples. The entire length of drill core is photographed and logged for lithology, mineralization, structure, and alteration. Core recovery, rock quality designation (RQD) and specific gravity measurements are also collected. Sampling intervals respect lithology and mineralization boundaries. The core is sawn in half for sampling. Channels are taken within a 20 cm wide swath along the line using a hammer and hand chisel and are collected on a tarpaulin and then bagged.

Sample quality control is monitored using certified reference materials (CRMs), blanks, and quarter-core field duplicates, coarse reject duplicates, and pulp duplicates. Coarse reject and pulp samples are prepared and inserted by the primary laboratory during sample preparation. Pulp duplicates are also periodically submitted to a secondary laboratory to assess between-laboratory bias.

Before 2016, samples were dispatched to ALS in Hermosillo or Chihuahua, Mexico and Bureau Veritas in Hermosillo, Mexico. Since 2016, samples from Ermitaño are dispatched to SGS in Durango or Hermosillo, Mexico. The ALS and SGS laboratories are independent of First Majestic. Samples from the Santa Elena mine underground drill holes are dispatched to First Majestic's Central Laboratory in Jose La Parrilla, Durango, Mexico (Central Laboratory). This laboratory is not independent of First Majestic. Underground channel samples are sent to the Santa Elena Laboratory.

The SGS laboratories conform to the ISO/IEC 17025 standard and most regional facilities have been ISO 9001 certified since 2008. The Central Laboratory received ISO 9001 accreditation in mid-2015 and 2017. The Santa Elena laboratory received ISO 9001 accreditation in August 2021 has been managed by the Central Laboratory since 2016.

At SGS samples are dried crushed and pulverized and then analyzed for 34 elements using aqua regia digestion with an inductively-coupled plasma (ICP) atomic emission spectroscopy finish. Samples are also analyzed for silver by three-acid digestion with an atomic absorption (AA) spectroscopy finish. Samples returning greater than 300 g/t Ag from are reanalyzed for silver by 30 g fire assay with a gravimetric method. Gold is analyzed by a 30 g fire assay with an AA finish and samples returning >10 g/t Au are reanalyzed for gold by a 30 g fire assay with a gravimetric finish.

At the First Majestic Central Laboratory samples are dried crushed and pulverized and then analyzed for 34 elements by two-acid digestion with an ICP finish. All samples are also analyzed for silver by three-acid digestion with AA finish. Samples returning greater than 300 g/t Ag are reanalyzed for silver by a 20 g fire assay with a gravimetric finish. Gold is analyzed by two-acid digestion with an AAS finish. Samples returning >10 g/t Au are reanalyzed for gold by a 20 g fire assay with a gravimetric finish.

At the Santa Elena Laboratory samples are dried crushed and pulverized and then analyzed for silver by a 30 g fire assay gravimetric finish. Gold is analyzed by a 30 g fire assay AA finish. Samples with gold values >10 g/t Au are analyzed by a 30 g fire assay gravimetric method.

Data verification included data entry error checks, visual inspections of important data, and a review of QAQC assay results for data collected between 2012 and June 2021 from the Ermitaño, Alejandra, America, Santa Elena Main, and Tortugas veins (the verification dataset). Several site visits were also completed as part of the data verification process at which time drilling, logging, and sampling procedures were observed and cross sections as, core photos, core logs, and QAQC reports were reviewed. No significant transcription errors or grade accuracy and contamination issues were observed.

1.8. Mineral Processing and Metallurgical Testing

Santa Elena is an operating mine and the metallurgical test-work data supporting the initial plant design has been proven and reinforced by plant operating results through the years of operation, combined with more recent metallurgical studies.

Metallurgical testing along with mineralogical investigation is periodically performed, and metallurgists at the plant are continually testing to optimize metal recoveries and to reduce operating costs. Composite samples are analyzed monthly to determine the metallurgic behaviour of the mineralized material fed to the processing plant. The metallurgical testing is carried out by the Central Laboratory and occasionally by third party laboratories.

Typical metal recoveries for the Santa Elena mineralized material ranged from 91% to 94% for silver and 94% to 97% for gold from the combination of run-of-mine (ROM) production from the underground mine and the leach pad material.

To determine the metallurgical behavior of the Ermitaño mineralized material that will be fed to the Santa Elena processing plant, a preliminary testwork program was carried out at the Central Laboratory, followed by a comprehensive sampling and testwork program conducted at SGS Mineral Services, Lakefield, ON, Canada in 2020 and 2021. Based on this testwork, metal recoveries for the Ermitaño deposit for Q1 to Q3 2022 are projected at 92.6% for gold and 66.0% for silver. In Q4 2022, a new Tailings Press Filter and additional equipment will be added to the processing plant improving expected gold recovery to 94.5%.

Due to the high purity of the Santa Elena doré (>98% silver and gold), no penalties are applied by the refineries for the presence of heavy metals. This purity is expected to be maintained after processing the Ermitaño ore.

1.9. Mineral Resources and Mineral Reserves Estimates

1.9.1. Mineral Resources

The block model Mineral Resource estimates are based on the database of exploration drill holes and production channel samples, underground level geological mapping, geological interpretations and models, as well as surface topography and underground mining development wireframes available. The combined drill hole and channel sample database for Santa Elena was reviewed and verified by the resource geologists and support that the QAQC program was reasonable. The sample data used in the Mineral Resource estimate consists of exploration drill holes, production channel and sawn channel samples. Mineral Resource estimate for the Ermitaño project only consisted of diamond drill-holes. Geostatistical analysis, analysis of semi-variograms, block model resource estimation, and validation of the model blocks were completed.

The drill hole and channel samples were composited to an appropriate sample length and evaluated for high-grade outliers that were capped to values considered appropriate for estimation. Capping of composite sample values was limited to a select few extreme values. Outlier restriction was also used to restrict the influence of high-grade samples.

The dominant gold and silver mineralization trends were identified based on the 3D numeric models for the metal in each domain. To establish the metal grade continuity within the domains, model variograms for composite values were developed along the trends identified, and the nugget values were established from downhole variograms.

Bulk density was derived from SG measurements. Bulk density for the resource domains was either estimated into the block models from the SG data or the mean SG value was assigned.

Block model estimates were completed for gold and silver. Block grades were estimated by either inverse distance squared (ID2) or ordinary kriging (OK). The method chosen in each case considered the characteristics of the domain, data spacing, variogram quality, and which method produced the best representation of grade continuity.

All channel samples that were used during construction of the geological models were reviewed. Only those channels that completely cross the mineralized deposit were used during grade estimation.

If channel samples were used, the grade estimation was completed in two successive passes. The first pass used all composites, including channel samples, and only estimated blocks within a restricted short distance from the channel samples. The second pass applied less restrictive criteria using drill hole composites only. If only drill hole composites were used, the estimation was often completed with a single pass.

The Mineral Resources were classified into Measured, Indicated, or Inferred categories based on the confidence in the geological interpretation and models, the confidence in the continuity of metal grades, the sample support for the estimation and reliability of the sample data, and on the presence of underground mining development providing detailed mapping and production channel sample support.

The Mineral Resource estimates for Santa Elena and Ermitaño are summarized in Table 1-1 and Table 1-2 using the silver-equivalent (Ag-Eq) cut-off grades appropriate for the mining method assigned to each domain, and an effective date of June 30, 2021. Measured and Indicated Mineral Resources are reported inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The Qualified Person for the estimate is Mr. Phillip Spurgeon, P.Geo, a First Majestic employee.

Table 1-1: Santa Elena Silver/Gold Mine Mineral Resource Estimates, Measured and Indicated Category (Effective date June 30, 2021)

Project	Domain	Category	Mineral Type	Tonnage	Grades			Metal Content		
				k tonnes	Ag (g/t)	Au (g/t)	Ag-Eq (g/t)	Ag (k Oz)	Au (k Oz)	Ag-Eq (k Oz)
Santa Elena	Main Vein	Measured	Sulphides	485	102	1.51	212	1,590	24	3,310
	Alejandras	Measured	Sulphides	225	233	2.55	420	1,690	19	3,040
	America	Measured	Sulphides	139	244	1.73	370	1,090	8	1,660
Ermitaño	Ermitaño	Measured	Sulphides	58	21	4.00	408	40	8	770
ALL	**Total Measured**		**Sulphides**	**907**	**151**	**1.96**	**300**	**4,410**	**57**	**8,780**
Santa Elena	Main Vein	Indicated	Sulphides	1,340	92	1.37	193	3,980	59	8,310
	Alejandra	Indicated	Sulphides	270	207	2.10	361	1,800	18	3,130
	Americas	Indicated	Sulphides	252	281	1.22	371	2,280	10	3,010
	Tortuga	Indicated	Sulphides	110	118	2.52	303	420	9	1,070
Heap Leach	Heap Leach Pad	Indicated	Oxides Spent Ore	283	31	0.56	66	280	5	600
Ermitaño	Ermitaño and N. Splay	Indicated	Sulphides	1,936	69	5.10	563	4,310	318	35,060
	Ermitaño Stockwork	Indicated	Sulphides	653	42	1.86	222	880	39	4,660
	Intermedias	Indicated	Sulphides	273	57	4.49	491	500	39	4,300
	Other Minor Veins	Indicated	Sulphides	39	17	1.85	199	20	2	250
ALL	**Total Indicated**		**All Mineral Types**	**5,157**	**87**	**3.01**	**364**	**14,470**	**499**	**60,390**
ALL	**Total Measured & Indicated**		**All Mineral Types**	**6,064**	**97**	**2.85**	**355**	**18,880**	**557**	**69,170**

Table 1-2: Santa Elena Silver/Gold Mine Mineral Resource Estimates, Inferred Category (Effective date June 30, 2021)

Project	Domain	Category	Mineral Type	Tonnage	Grades			Metal Content		
				k tonnes	Ag (g/t)	Au (g/t)	Ag-Eq (g/t)	Ag (k Oz)	Au (k Oz)	Ag-Eq (k Oz)
Santa Elena	Main Vein	Inferred	Sulphides	569	68	1.08	148	1,250	20	2,700
	Alejandras	Inferred	Sulphides	372	185	1.84	320	2,210	22	3,820
	America	Inferred	Sulphides	213	304	1.02	379	2,080	7	2,600
	Tortuga	Inferred	Sulphides	28	74	0.94	143	70	1	130
Ermitaño	Ermitaño and N. Splay	Inferred	Sulphides	2,837	55	2.82	328	5,060	257	29,950
	Ermitaño Stockwork	Inferred	Sulphides	660	53	1.77	224	1,120	38	4,760
	Intermedias	Inferred	Sulphides	465	74	3.44	407	1,110	51	6,090
	Other Minor Veins	Inferred	Sulphides	666	35	1.90	219	750	41	4,680
	Soledad	Inferred	Sulphides	444	176	3.73	538	2,520	53	7,670
ALL	**Total Inferred**		**Sulphides**	**6,254**	**80**	**2.43**	**310**	**16,170**	**490**	**62,400**

(1) Mineral Resource estimates are classified in accordance with the CIM Definition Standards on Mineral Resources and Mineral Reserves, whose definitions are incorporated by reference into NI 43-101.

(2) The Mineral Resource estimates are based on internal estimates prepared as of June 30, 2021. The information provided was reviewed and prepared by Phillip Spurgeon, P.Geo., a First Majestic employee.

(3) Silver-equivalent grade is estimated considering metal price assumptions, metallurgical recovery, and the metal payable terms.

Ag-Eq = Ag Grade + (Au Grade x Au Recovery x Au Payable x Au Price) / (Ag Recovery x Ag Payable x Ag Price).

(4) Metal prices used in the Mineral Resources estimates were $26.00/oz Ag and $1,850/oz Au.

(5) Metallurgical recovery was 92.7% for silver and 95.5% for gold for Santa Elena and the heap leach pad. For Ermitaño, the metallurgical recovery used was 72.0% for silver and 98.0% for gold based on Preliminary Metallurgical Testwork conducted at the Central Laboratory.

(6) Metal payable used was 99.85% for silver and 99.80% gold.

(7) The cut-off grade used to constrain the Mineral Resource estimate was 95 g/t Ag-Eq for all Santa Elena mine domains and 70 g/t Ag-Eq for the heap leach pad. The cut-off grade used for the Ermitaño zone domains was 135 g/t Ag-Eq. The cut-offs used were based on actual and budgeted operating and sustaining costs.

(8) Tonnage is expressed in thousands of tonnes; metal content is expressed in thousands of ounces.

(9) Totals may not add up due to rounding.

(10) Measured and Indicated Mineral Resources are reported inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Risk factors that could materially impact the Mineral Resource estimates include: metal price and exchange rate assumptions; changes to the assumptions used to generate the silver-equivalent grade cut-off grade; changes in the interpretations of mineralization geometry and continuity of mineralized zones; changes to geological and mineralization shape and geological and grade continuity assumptions; unexpected increase in groundwater inflows into the mine workings beyond the ones considered in the geohydrological models; changes to geotechnical, mining, and metallurgical recovery assumptions; changes to the assumptions related to the continued ability to access the site, retain mineral and surface rights titles, maintain environment and other regulatory permits, and maintain the social license to operate. The production channel sampling method has some risk of non-representative sampling that could result in poor precision and accuracy.

1.9.2. Mineral Reserves

The Mineral Reserves estimation process consists of converting Mineral Resources into Mineral Reserves by identifying material that exceeds the mining cut-off values while conforming to specified geometrical constraints determined by the applicable mining method and applying modifying factors such as mining dilution and mining recovery factors. If the Mineral Resources comply with the previous constraints, Measured Resources could be converted to Proven Reserves and Indicated Resources could be converted to Probable Reserves, and, in some instances, Measured Resources could be converted to Probable Reserves if any or more of the modifying factors reduces the confidence of the estimates.

The Mineral Reserves for the Santa Elena Silver/Gold Mine are presented in Table 1-3.

Table 1-3: Santa Elena Consolidated Mineral Reserves Statement (Effective Date June 30, 2021)

Category	**Mineral Type**	**Tonnage (kt)**	**Grade**			**Metal Content**		
			Ag (g/t)	**Au (g/t)**	**Ag-Eq (g/t)**	**Ag (k Oz)**	**Au (k Oz)**	**Ag-Eq (k Oz)**
Santa Elena Proven	Oxides + Sulphides	640	120	1.23	210	2,460	25.4	4,330
Ermitaño Proven	Sulphides	59	16	3.11	314	30	5.9	600
Total Proven	**Oxides + Sulphides**	**699**	**111**	**1.39**	**219**	**2,490**	**31.3**	**4,930**
Santa Elena Probable	Oxides + Sulphides	1,289	120	1.24	210	4,960	51.2	8,710
Ermitaño Probable	Sulphides	2,775	54	3.71	412	4,850	330.9	36,750
Leach Pad Probable	Oxides Spent Ore	283	31	0.56	72	280	5.1	650
Total Probable	**Oxides + Sulphides**	**4,347**	**72**	**2.77**	**330**	**10,090**	**387.2**	**46,110**
Santa Elena P&P	Oxides + Sulphides	1,929	120	1.24	210	7,420	76.6	13,030
Ermitaño P&P	Sulphides	2,835	54	3.69	410	4,880	336.7	37,340
Leach Pad P&P	Oxides Spent Ore	283	31	0.56	72	280	5.1	650
Total Proven & Probable	**Oxides + Sulphides**	**5,047**	**78**	**2.58**	**314**	**12,580**	**418.4**	**51,020**

(1) Mineral Reserves have been classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards on Mineral Resources and Mineral Reserves, whose definitions are incorporated by reference into NI 43-101.

(2) The Mineral Reserves statement provided in the table above is based on internal estimates prepared as of June 30, 2021. The information provided was prepared and reviewed under the supervision of Ramon Mendoza Reyes, PEng, and a Qualified Person ("QP") for the purposes of NI 43-101.

(3) The cut-offs were estimated considering metal price assumptions, metallurgical recovery for the corresponding mineral type/mineral process and the metal payable of the selling contract.

a) Silver-equivalent grades were estimated for Santa Elena underground mine and the Leach Pad material.

b) Cut-off value was estimated for the Ermitaño project material.

c) Metal prices considered for Mineral Reserves estimates were $24.00 /oz Ag and $1,700.00 /oz Au.

d) Other key assumptions and parameters include: Metallurgical recoveries; metal payable for silver and gold; direct mining and haulage costs, mill feed, process and treatment costs, sustaining costs and indirect costs including general and administration costs and are different for each deposit as described in tables 15-10, 15-11 and 15-12 of the Report.

(4) A two-step constraining approach has been implemented to estimate reserves for each mining method in use: A General Cut-Off Grade (GC) was used to delimit new mining areas that will require development of access, infrastructure, and all sustaining costs. A second Incremental Cut-Off Grade (IC) was considered to include adjacent mineralized material which recoverable value pays for all associated costs, including but not limited to the variable cost of mining and processing, indirect costs, treatment, administration costs and plant sustaining costs but excludes the access development assumed to be covered by the block above the GC grade.

(5) Modifying factors for conversion of resources to reserves include consideration for planned dilution due to geometric aspects of the designed stopes and economic zones, and additional dilution consideration due to unplanned events, materials handling and other operating aspects. Mineable shapes were used as geometric constraints.

(6) Tonnage is expressed in thousands of tonnes; metal content is expressed in thousands of ounces. Metal prices and costs expressed in USD.

(7) Numbers have been rounded as required by reporting guidelines. Totals may not sum due to rounding.

Factors which may materially affect the Mineral Reserve estimates for the Santa Elena mine and the Ermitaño project include fluctuations in commodity prices and exchange rates assumptions used; material changes in the underground stability due to geotechnical conditions that may increase unplanned dilution and mining loss; unexpected variations in equipment productivity; material reduction of the capacity to process the mineralized material at the planned throughput and unexpected reduction of the metallurgical recoveries; higher than anticipated geological variability; cost escalation due to external factors; changes in the taxation considerations; the ability to maintain constant access to all working areas; changes to the assumed permitting and regulatory environment under which the mine plan was developed; the ability to maintain mining concessions and/or surface rights; the ability to renew agreements with the different surface owners in Santa Elena; and the ability to obtain and maintain social and environmental license to operate.

The Company is not aware of any known mining, metallurgical, environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the mineral reserve estimates, other than those mentioned in this Report.

1.10. Mining Operations

The Santa Elena mine operation consists of the Santa Elena underground mine and the Ermitaño project. Mining activities are conducted by both First Majestic and contractor personnel.

The Santa Elena and the Ermitaño deposits vary in dip, thickness, and geotechnical conditions along strike and dip. Multiple mining methods are required to achieve the maximum efficient extraction of mineralized material at site. Three well-established methods were selected for mining extraction at Santa Elena:

- Longitudinal longhole stoping;
- Avoca;
- Cut-and-fill.

The Avoca mining method was selected for the Ermitaño project.

Ground conditions throughout most of the Santa Elena and the Ermitaño underground workings are considered good. Bolting is used systematically in the main haulage ramps, drifts, and underground infrastructure. For those sectors that have poorer rock quality, shotcrete, mesh and/or steel arches are used.

Groundwater inflow has been increasing at depth in the Santa Elena mine. Dewatering systems consist of main and auxiliary pumps in place in each of the active mine areas. Groundwater inflows in Ermitaño started increasing when the workings reached the 760 masl elevation.

The ventilation system in Santa Elena consists of a forced air intake system through two main fans located on surface. These fans generate the necessary pressure change for return air to exhaust through the portals and ventilation raises.

The ventilation system in Ermitaño is planned to use a pull system with fresh air being drawn through the main twin ramps, as well as the planned Western Access ramp. Spent air will then exhaust out of the three vent raises to surface at the centre and edges of planned mineralisation. There are three 400 HP primary fans proposed to be installed on surface that are estimated to provide a total of 495 kCFM to the mine.

1.11. Processing and Recovery Methods

At the Report effective date, the Santa Elena mine processes a blended feed consisting of high-grade underground mineralized material and spent-ore from the existing heap leach pad. The processing plant has been successfully operating for several years and has continuously improved silver and gold metallurgical recoveries. The process is based on cyanide tank leaching and Merrill-Crowe smelting of fine-ground ore to produce silver–gold doré bars. The nominal plant capacity is for the processing of 3,000 tpd with the possibility for higher throughput rates depending on ore hardness, targeted final grind, and leaching residence time. Throughput levels averaged 2,150 tpd in 2020 and 2,450 in the first half of 2021.

With the introduction of mineralized material from Ermitaño, starting with industrial trials in Q4 2021 and commercial production in 2022, the plant will continue to process Santa Elena blended material in campaigns alternating with mineralized material from Ermitaño. There are significant differences between these two ores in hardness and metallurgical performance at different grinding sizes. To achieve optimum levels of metal recoveries and the corresponding maximum metal production, the Santa Elena ore will be processed at higher throughput rates than the Ermitaño ore during their corresponding production campaigns.

The process plant is mostly built as a single train with the crushing area split from the remaining areas and connected through a belt conveyor to transfer the crushed product to the fine stockpiles. The current leaching plant includes a grinding ball mill, one Outotec HIG-Mill, leaching tanks, three counter-current decantation or washing tanks, a previously-processed leach-pad, a belt-filter facility and a filtered-tailings storage facility (FTSF). The processing plant will be modified with the commissioning of a new filter-press, an additional leaching tank and a fourth CCD thickener in Q4-2022.

1.12. Infrastructure, Permitting and Compliance Activities

The existing infrastructure can support current and LOM plan mining and mineral processing activities.

Most of the operation’s support facilities are located within a 1.5 km radius of the Santa Elena plant, facilitating the transportation and logistics of personnel, material, and equipment. Operations personnel are transported by passenger buses from nearby towns. All equipment, supplies and materials are brought in by road.

Most non-local staff and contractor personnel stay in rental homes available in the nearby towns of Banámichi, Huepac and Aconchi. There are multiple hotels available in the area for visitors.

The main infrastructure consists of roads, administrative offices, a first-aid station, warehouse, assay laboratory, diesel and natural gas power generation plants, maintenance shop, water storage tanks, and water supply tank.

The FTSF has 15 Mt of storage capacity, which at current throughput rates can support approximately nine years of operation. The storage capacity of the Santa Elena FTSF is sufficient to support the LOM plan presented in this Report.

The electric power required for the Santa Elena mine operation and supporting infrastructure is generated on-site. The power generation plant consists of seven recently commissioned LNG-powered generators with a total capacity of 12.6 MW. Power consumption averaged 7.5 MW per month from January to October 2021.

Industrial water is supplied mainly from the Santa Elena mine dewatering system. A licensed water-well is also equipped and regularly pumps water to an elevated tank for non-process uses.

The Santa Elena mine has implemented the First Majestic Environmental Management System, which supports the adoption of an environmental policy and is applied to standardize tasks and strengthen a culture focused on minimizing environmental impacts. The EMS is based on the requirements of the international standard ISO 14001:2015 and the requirements to obtain the Certificate of Clean Industry, issued by the Mexican environmental authorities, the Ministry of Environment and Natural Resources (SEMARNAT), through the Federal Attorney for Environmental Protection in Mexico (PROFEPA). The EMS includes an annual compliance program to review all environmental obligations.

Environmental and social studies are routinely performed to characterize existing conditions and to support the preparation of Risk Assessments and Accident Prevention Programs for the operation and are documented as part of the EMS.

Santa Elena is an operating mine, as such it holds all major environmental permits and licenses required by the Mexican authorities to carry out mineral extracting activities in the mining complex. The environmental permits that are in place at the Report effective date authorize the various works and mining activities that are currently being carried out in the Santa Elena mine, in the surroundings of the site and in the Ermitaño project.

The main environmental permit is the environmental license “Licencia Ambiental Unica” (LAU) under which the mine operates its industrial facilities in accordance with the Mexican environmental protection laws administered by SEMARNAT as the agency in charge of environment and natural resources. The most recent update to the main environmental permit was approved in July 2018.

Other permits and authorizations include:

- Environmental risk study (ERA);
- Accident prevention program (PPA);
- Mining waste management plan;
- Environmental impact assessment for the Santa Elena mine, FTSF, and the Ermitaño project;
- Change of land use for the Santa Elena mine and the Ermitaño project;
- Industrial water and mine groundwater discharge;
- Power generation permits.

In 2017, the Santa Elena mine started the voluntary process to obtain the Clean Industry Certification. The certification recognizes improvements in environmental management practices, regulatory compliance and environmental performance. At the Report effective date this program was still in process.

In February 2021, for the seventh consecutive year, Nusantara was awarded the Socially Responsible Company (ESR) designation by the Mexican Center for Philanthropy (CEMEFI).

1.13. Capital and Operating Costs

The LOM plan includes estimates for sustaining capital expenditures for the planned mining and processing activities.

Sustaining capital expenditures will mostly be allocated for on-going development in waste, infill drilling, mine equipment rebuilding, equipment overhauls or replacements, plant maintenance and on-going refurbishing, and for tailings management facilities expansion as needed. Table 1-4 shows the capital costs for the major components.

Table 1-4: Santa Elena Mine Capital Costs Summary (Sustaining Capital)

Type	Units	Total	2021	2022	2023	2024	2025	2026	2027
Shared Capital (Surface)	*$ M*	$23.7	$1.1	$22.4	$0.2	-	-	-	-
Mining Development	*$ M*	$70.0	$18.0	$28.4	$19.8	$3.4	$0.4	-	-
Property, Plant & Equipment	*$ M*	$100.8	$20.6	$27.6	$21.4	$8.5	$10.3	$11.1	$1.3
Total Capital Costs	***$ M***	**$194.5**	**$39.7**	**$78.3**	**$41.5**	**$12.0**	**$10.7**	**$11.1**	**$1.3**

Operating costs for Santa Elena have been estimated for the underground mining, processing costs, operations indirect, and general and administrative costs. First Majestic currently estimates operating costs at an average of $105.10 per tonne of ore processed based on current and projected costs. Table 1-5 lists the annual operating costs.

Table 1-5: Santa Elena and Ermitaño Projected Operating Costs

Type	Units	Total	2021	2022	2023	2024	2025	2026	2027
Mining Cost	*$ M*	$287.6	$29.5	$67.5	$55.4	$44.5	$36.6	$35.0	$19.2
Processing Costs	*$ M*	$194.7	$15.9	$33.2	$33.1	$33.9	$31.2	$29.3	$18.0
Indirect Costs	*$ M*	$14.1	$1.1	$2.3	$2.3	$2.3	$2.3	$2.3	$1.5
Total Production Cost	*$ M*	**$496.3**	**$46.6**	**$102.9**	**$90.8**	**$80.6**	**$70.1**	**$66.6**	**$38.7**
Refining, Selling Costs	*$ M*	$4.0	$0.3	$0.8	$0.7	$0.8	$0.7	$0.5	$0.2
Royalties	*$ M*	$24.5	$0.6	$3.7	$6.9	$5.9	$3.4	$2.5	$1.5
Total Cash Cost	*$ M*	**$524.9**	**$47.6**	**$107.5**	**$98.3**	**$87.3**	**$74.2**	**$69.6**	**$40.4**

1.14. Economic Analysis

The financial analysis of Santa Elena considers only revenue from Proven and Probable Mineral Reserves. The analysis considers current and projected costs incurred at the Santa Elena mine, processing plant, plus existing contractor quotes for estimating costs for development in the Santa Elena mine and at the Ermitaño project.

A general financial summary for Santa Elena, which includes the Santa Elena mine, the Ermitaño project, and reclaiming of the remaining leach pad material is provided in Table 1-6.

Table 1-6: Santa Elena Financial Summary

Item	Units	Total
Net Revenue	$M	884.6
Total Costs (excluding taxes)	$M	(719.4)
Net Profit Before Tax	$M	165.2
Net Profit After Tax (37.5%)	$M	85.0
NPV Before Tax (DCFBT @ 5%)	$M	133.7
NPV After Tax (DCFAT @ 5%) (37.5%)	$M	64.8
IRR Before Tax	%	54%
IRR After Tax (37.5%)	%	34%
Maximum Cash Outlay	$M	(60.4)
Payback (discounted, after tax from June 2021)	months	44

Notes: Metal prices assumptions used to calculate the economic parameters above were $22.50/oz for silver and $1,700/oz for gold. Royalties, streaming, payable and refining terms have been included as stated in table 22-1 of the Report.

The sensitivity analyses completed shows the relative strength of the project under changes to commodity prices, which along with metallurgical recoveries, impact the financial performance of the mine complex more so than changes to operating or capital cost estimates.

Table 1-7 summarise the sensitivity to the after-tax net present value due to changes in metal prices and different discount rates.

Table 1-7: Project Sensitivity to Metal Prices - NPV @ 5% (After Tax)

NPV ($M) After Tax	Gold Price ($/oz Au) and Silver Price ($/oz Ag)						
Discount	**1,550 Au**	**1,600 Au**	**1,650 Au**	**1,700 Au**	**1,750 Au**	**1,800 Au**	**1,850 Au**
Rate	**19.50 Ag**	**20.50 Ag**	**21.50 Ag**	**22.50 Ag**	**23.50 Ag**	**24.50 Ag**	**25.50 Ag**
% Change	(9.9%)	(6.6%)	(3.3%)	**Base Case**	3.3%	6.6%	9.9%
3%	22.5	39.2	55.9	**72.3**	88.8	105.3	121.8
5%	**17.4**	**33.3**	**49.2**	**64.8**	**80.5**	**96.2**	**111.8**
7%	12.7	28.0	43.1	**58.0**	72.9	87.8	102.7
10%	6.4	20.8	34.9	**48.8**	62.7	76.7	90.6

The impact to the after-tax internal rate of return (IRR) for each of the revenue scenarios are also summarised in Table 1-8. The sensitivity demonstrates that even at the lower commodity prices scenario, Santa Elena demonstrates positive IRR.

Table 1-8: IRR Project Sensitivity to Metal Prices (After Tax)

IRR (%) After Tax	Gold Price ($/oz Au) and Silver Price ($/oz Ag)						
	1,550 Au	**1,600 Au**	**1,650 Au**	**1,700 Au**	**1,750 Au**	**1,800 Au**	**1,850 Au**
	19.50 Ag	**20.50 Ag**	**21.50 Ag**	**22.50 Ag**	**23.50 Ag**	**24.50 Ag**	**25.50 Ag**
IRR	13%	20%	27%	**34%**	41%	48%	55%

1.15. Exploration, Development and Production

1.15.1. Exploration

The following general annual exploration drill programs were planned and ongoing for 2021:

- 4,000 m infill sustaining drill program at the Santa Elena mine
- 15,000 m near-mine drill program at the Santa Elena mine
- 15,000 m near-mine drill program at the Ermitaño project
- 15,000 m brownfield surface drill program regionally.

This amount of drilling is expected to continue on an annual basis while production continues, with amounts required will be reviewed annually. In addition, an annual prospect generation program consisting of prospecting, soil and rock geochemical surveys, mapping, or geophysical surveys is being implemented.

1.15.2. Development and Production

In the first half of 2021, the Company continued mining the Main Vein, the Alejandras veins, the Americas veins, the Tortuga vein and reprocessing spent-ore material from the leach-pad. During the first half of 2021, 420,000 tonnes of mineralized material were processed with an average grade of 82 g/t Ag and 1.15 g/t Au.

Development continues in the Santa Elena mine preparing extraction levels below the elevation 460 m for the Alejandra vein and developing the Americas veins.

In Ermitaño, test mining block at elevations 793 m and 818 m has been completed and production test blasts are planned for the Q4-2021, development of the access ramp has reached the sublevels 846, 821, 796 and 771, plans for the rest of 2021 include development to access ramps to reach elevations 871 and 746. The goal of the test-mining program is to provide material to run an industrial scale test of the Ermitaño mineralized material in the Santa Elena processing plant.

2. INTRODUCTION

Mr. Ramón Mendoza Reyes, Mr. Phillip Spurgeon, Ms. María Elena Vázquez, and Mr. Persio P. Rosario prepared this technical report (the Report) on the Santa Elena Silver/Gold Mine (Santa Elena or Santa Elena mine), located in the state of Sonora, Mexico.

The mine is owned and operated by Nusantara de Mexico S.A. de C.V. (Nusantara), which is an indirectly wholly-owned subsidiary of First Majestic Silver Corp. (First Majestic). First Majestic acquired the Santa Elena mine from SilverCrest Mines Inc. (SilverCrest) in October 2015.

This Report provides information on Mineral Resource and Mineral Reserve estimates, and mine and process operations and planning for the Santa Elena mine. The Mineral Resource and Mineral Reserve estimates are reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves, May 2014; (the 2014 CIM Definition Standards). The Mineral Resource and Mineral Reserve estimates for all areas of Santa Elena were prepared by First Majestic.

For the purposes of this Report, the following naming convention was adopted:

- “Santa Elena Silver/Gold Mine” (Santa Elena or Santa Elena mine) is used to refer to the property where the underground mine operation, the processing plant and the associated infrastructure is located, Santa Elena also refers to the limits of all the consolidated mining concessions.
- “Santa Elena deposits” is used to refer to the deposits located within the currently operating underground mine.
- “Ermitaño project” is used to refer to the mineral deposits in this area and the underground mine currently under development.

2.1. Technical Report Issuer

Santa Elena is owned and operated by Nusantara de Mexico S.A. de C.V. (Nusantara), which is a 100% owned Mexican subsidiary of First Majestic.

2.2. Cut-off and Effective Dates

The effective date of the Mineral Resource and Mineral Reserve estimates included in this Report is June 30, 2021, which represents the cut-off date for the most relevant scientific and technical information used in the Report, including mineral tenure and permitting, drilling and assaying data, depletion, and operating costs. Some data on metallurgical recoveries resulting from the metallurgical testwork program was received after the cut-off date and incorporated into the Mineral Reserves estimation process and the economic analysis.

The Qualified Persons for this report have reviewed the latest information available from the effective date of the report to the signature date of the report and there are no material changes to the information reported here.

2.3. Sources of Information

For the purposes of the Report, all information, data, and figures contained or used in its integration have been provided by First Majestic unless otherwise stated. Information sources are listed in Section 27 of this Report.

The Qualified Persons reviewed the latest information available from the effective date of the Report to the signature date of the Report and there are no material changes to the information provided in this Report.

2.4. Previously-Filed Technical Reports

First Majestic filed a technical report on the Santa Elena mine in March of 2021, and prior to First Majestic's acquisition of Santa Elena, there were several technical reports filed on the Santa Elena property:

- NI 43-101 Technical Report on Mineral Resource and Mineral Reserve Estimates, dated March 17, 2021. Prepared by First Majestic Silver Corp by Mendoza, R., Kulla, G., Spurgeon, P., Vázquez, M., and Rosario, P.
- Update to Santa Elena Pre-Feasibility Study Sonora, México, dated December 31, 2014 and re-addressed to First Majestic Silver Corp. on October 1, 2015. Prepared for First Majestic Silver Corp by N. Eric Fier, CPG., P.Eng., Chief Operating Officer of SilverCrest Metals Inc.
- Santa Elena Expansion Pre-Feasibility Study and Open Pit Reserve Update, Sonora, México, dated April 30, 2013. Prepared for SilverCrest Mines Inc. by Fier, E.N., Barr, J., Tansey, M., Fox, J., Chaparro, C. and Michael, N.
- Technical Report on the Santa Elena Property, Sonora Mexico, dated February 15, 2009. Prepared for SilverCrest Mines Inc. by Nathan Eric Fier, CPG., P.Eng.
- Technical Report on the Pre-Feasibility Study for the Santa Elena Project, Sonora, Mexico, dated August 11, 2008. Prepared for SilverCrest Mines Inc. by Clow, G.G., Rennie, D.W., Wallis, C.S., Allard, G., McDonald, E.J.

Exploration and infill drilling activities at the Santa Elena mine and Ermitaño project are ongoing as of the effective date of the Report. Where applicable, results received to date from this recent drilling activity have generally corroborated the resource models.

2.5. Qualified Persons

This Report has been prepared by employees of First Majestic under the supervision of Ramon Mendoza Reyes, P.Eng., Vice President of Technical Services, Phillip Spurgeon, P.Geo., Senior Resource Geologist, Maria E. Vazquez Jaimes, P.Geo., Geological Database Manager, and Persio P. Rosario, P.Eng. Vice President of Processing, Metallurgy, and Innovation.

2.6. Site Visits and Scope of Personal Inspection

Mr. Ramon Mendoza has visited Santa Elena on several occasions from 2015 to 2021, with the most recent site visit being September 6–10, 2021. During these visits he coordinated the integration of information for Mineral Reserves estimates and he inspected the performance of the applied mining methods, mine productivity, the compilation of mine plans and participated in discussions with mine staff regarding operating and capital costs performance. During the most recent visit he inspected the performance of the mining operations at the Santa Elena mine, depletion surveys, estimates of the main operating areas of the Santa Elena mine and reviewed the implementation of the mining practices in the Alejandras and Americas veins, he inspected as well the Ermitaño project to expedite the infrastructure construction and the mine development, and carried out an assessment of the operation readiness of the project.

Ms. Maria Elena Vazquez visited the Santa Elena mine on several occasions from 2016 to 2021, with the most recent site visit being August 9-14, 2021. During these visits, she conducted database audits and inspected exploration practices to support Mineral Resource estimates. During the most recent visit, she carried out validation and verification of the resource estimation database, assessment of the quality assurance and quality control (QAQC) data, and validation of core logging, sampling, and specific gravity (SG) measurement procedures.

Mr. Phillip Spurgeon visited the Santa Elena mine on three occasions, from March 25–28, 2019, from September 4–9, 2019 and most recently from August 12-14, 2021. During these visits he inspected the underground workings at Santa Elena mine with mine geology staff and also visited the Ermitaño project to review surface geology and drilling activities. Santa Elena and Ermitaño drill-core, core logging and handling facilities were reviewed. On his most recent visit he inspected the underground workings at both Santa Elena and Ermitaño mines with mine geology staff.

Mr. Persio Rosario visited the Santa Elena mine during May 8–10 and June 26–27 of 2018, and his most recent site visit was September 6–10, 2021. During his visits he inspected the processing plant, the tailings management facility, and the site infrastructure to assess processing performance and general operating conditions.

2.7. Units and Currency and Abbreviations

Units of measurement are metric unless otherwise noted. All costs are expressed in United States dollars unless otherwise noted. Common and standard abbreviations are used wherever possible. Table 2-1 shows the list of abbreviations used in this Report.

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Table 2-1: List of Abbreviations and Units

Distances:	mm – millimetre	Other:	tpd – tonnes per day
	cm – centimetre		ktpd – 1,000 tonnes per day
	m – metre		Mtpa - 1,000,000 tonnes per year
	km – kilometre		kW – kilowatt
	masl – metres above sea level		
	ft - feet		MW – megawatt
Areas:	m^2 – square metre		kVA – kilovolt-ampere
	ha – hectare		MVA – Megavolt-ampere
	km^2 – square kilometre		kWh – kilowatt hour
Weights:	oz – troy ounces		MWh – megawatt hour
	k oz – 1,000 troy ounces		°C – degrees Celsius
	lb - pound		Ag – silver
	g – grams		Au – gold
	kg – kilograms		Pb – lead
	t – tonne (1,000 kg)		Zn – zinc
	kt – 1,000 tonnes		Cu – copper
	Mt – 1,000,000 tonnes		Mn - manganese
Time:	min – minute		Ag-Eq – silver equivalent
	hr – hour	Assay/Grade:	g/t – grams per tonne
	op hr – operating hour		g/L – grams per litre
	d – day		ppm – parts per million
	yr – year		ppb – parts per billion
			$ – United States dollar
			k – thousand
Volume/Flow:	m^3– cubic metre	Currency:	M – million
	m^3/hr – cubic metres per hour		
	cu yd – cubic yards		

3. RELIANCE ON OTHER EXPERTS

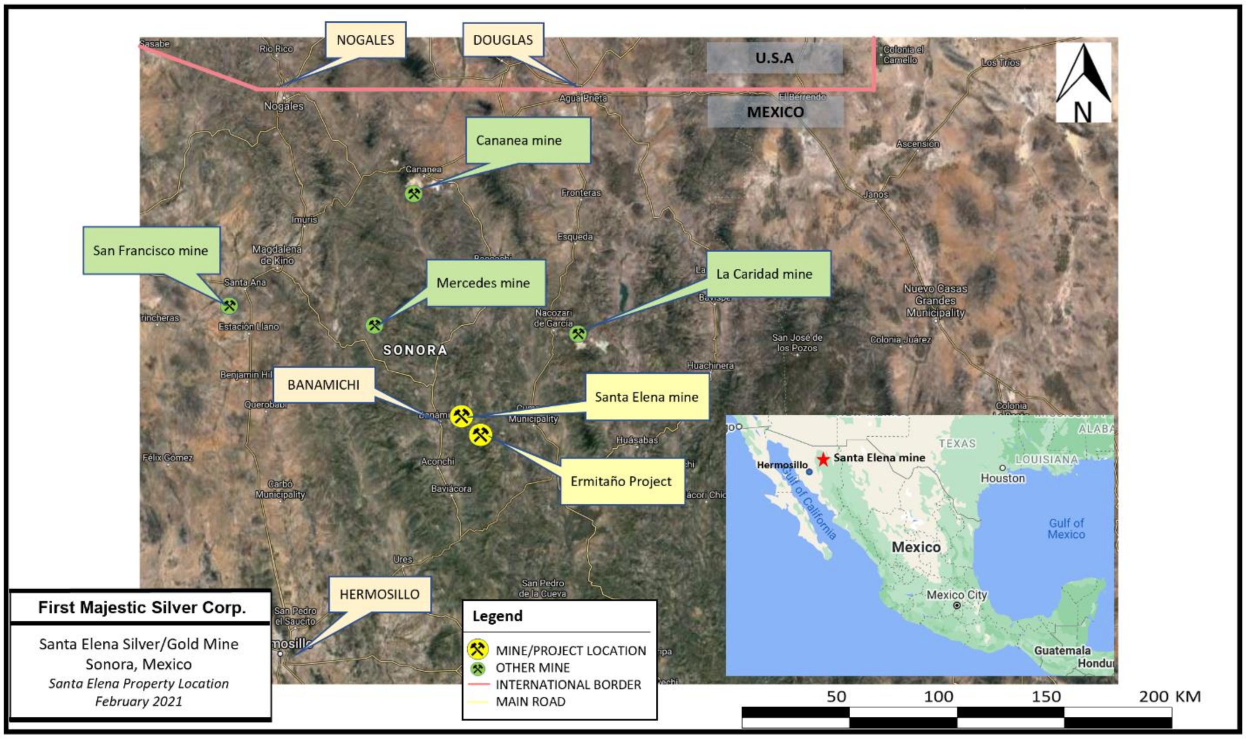
This section is not relevant to this Report. Information pertaining to mineral tenure, surface rights, royalties, environment, permitting and social considerations, marketing and taxation were sourced from First Majestic experts in those fields as required.

4. PROPERTY DESCRIPTION AND LOCATION

4.1. Property Location

The Santa Elena mine is an actively producing mining complex located in the municipality of Banámichi, State of Sonora, Mexico, approximately 150 km northeast of the state capital city of Hermosillo (Figure 4-1). The community of Banámichi is located 7 km west of the mining complex.

Figure 4-1: Location of Santa Elena Mine



Note: Figure prepared by First Majestic, February 2021.

4.2. Ownership and Royalties

On December 8, 2005, Nusantara had the right to acquire a 100% interest in the Santa Elena mine from Tungsteno de Mexico S.A. de C.V. On August 14, 2009, Nusantara exercised the option to acquire 100% of the Santa Elena mine.

On January 30, 2014, Nusantara signed an option agreement with Evrim Resources Corp. (Evrim) whereby Nusantara can acquire a 100% interest in the Ermitaño property. In addition, on November 7, 2014, Nusantara signed a five-year option agreement with Evrim whereby Nusantara can acquire a 100% interest in the Cumobabi property.

On October 1, 2015, First Majestic completed the acquisition of SilverCrest Mines Inc. (SilverCrest), then owner of both Nusantara and the Santa Elena mine.

On December 26, 2016, First Majestic signed an option agreement with Pan American Silver Corp. (PanAm) whereby First Majestic can acquire a 100% interest in the Los Hernandez property.

On March 28, 2017, First Majestic expanded the Santa Elena property by purchasing the El Gachi property from Santacruz Silver Mining Ltd. (Santacruz) which Santacruz had optioned from Minera Hochschild Mexico S.A. de C.V in 2014.

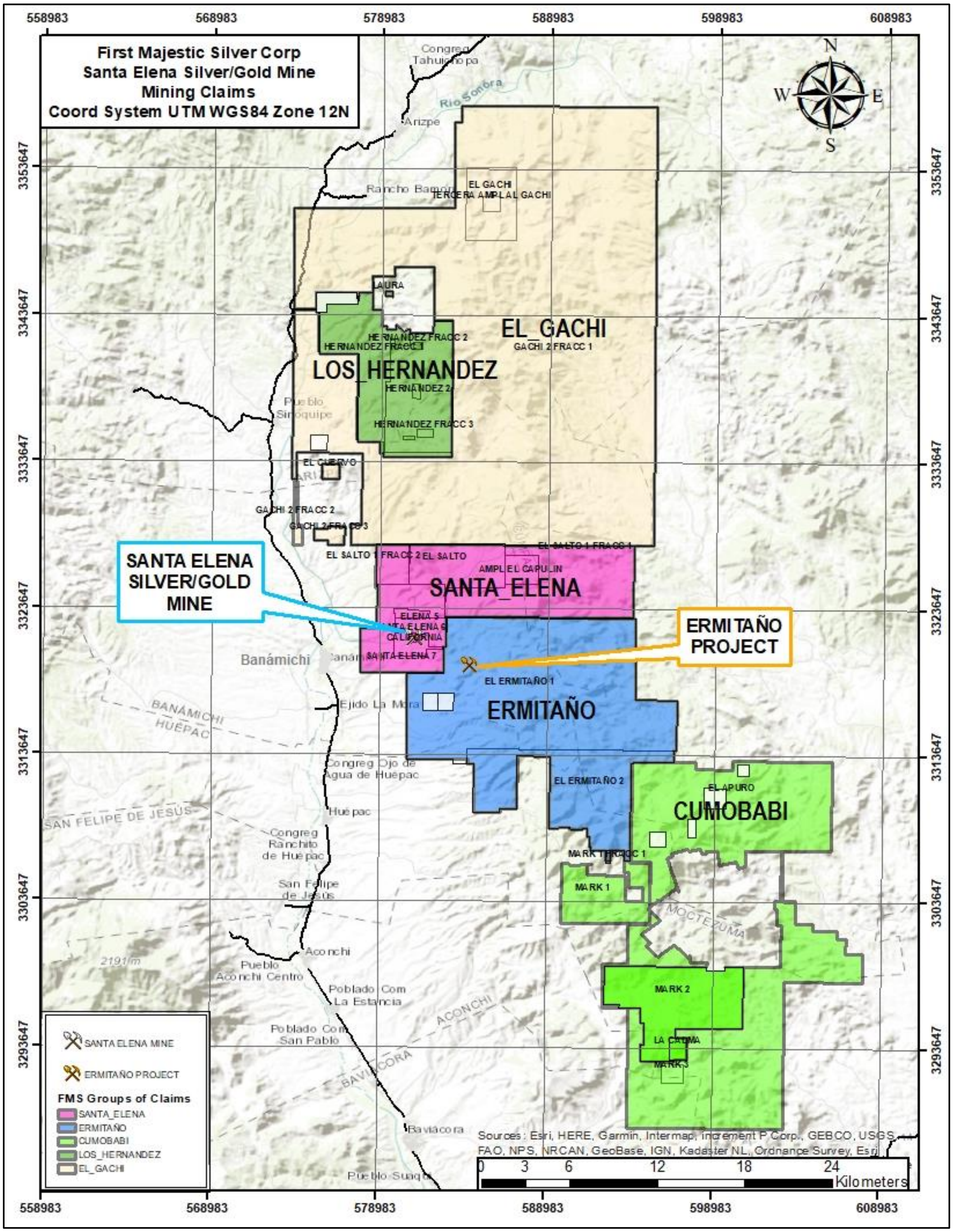
On September 10, 2018, First Majestic further expanded the Santa Elena property by completing the acquisition of a 100% interest in the Ermitaño and Cumobabi properties from Evrim. Upon completion of the exercise, Evrim retained a 2% net smelter returns (NSR) royalty from the sale of mineral products extracted from the Ermitaño property and retained a 1.5% NSR from the sale of mineral products extracted from the Cumobabi property. In addition, there is an underlying NSR royalty where Mining Royalties Mexico, S.A de C.V. retains a 2% NSR from the sale of mineral products extracted from the Ermitaño and Cumobabi properties.

In December 2020, First Majestic completed all option payments and work commitments and acquired a 100% interest in the Los Hernandez property from PanAm. Upon completion of the exercise, PanAm retained a 2.5% NSR from the sale of mineral products derived from the Los Hernandez property.

4.3. Mineral Tenure

In Mexico, mineral rights can be held by private entities in the form of mining concessions granted by the federal government through the Mines Directorate of the Ministry of Economy. The Santa Elena mine consists of 32 individual concessions covering 102,172 ha and four concessions applications in process which cover 72 ha, for a total of 102,244 ha. These concessions were organized into five groups to facilitate land management. The five concession groups are: Santa Elena, Ermitaño, Cumobabi, Los Hernandez and El Gachi. Figure 4-2 shows the five different concessions groups. Table 4-1 lists the consolidated Santa Elena concessions.

Figure 4-2: Santa Elena Mine Concessions Map



Note: Figure prepared by First Majestic, February 2021.

Table 4-1: Mining Concessions for Santa Elena and Surrounding Properties

No.	Group	Concession Name	Concession Number	Date Granted	Expire Date	Surface (ha)
1	Santa Elena	Santa Elena	192174	19-Dec-1991	18-Dec-2041	24.19
2	Santa Elena	Santa Elena No 4 Fraccion SE	178094	11-Jul-1986	10-Jul-2036	0.06
3	Santa Elena	Santa Elena No 3 Fraccion SW	180494	13-Jul-1987	12-Jul-2037	0.06
4	Santa Elena	California	176544	6-Jan-1986	15-Dec-2035	18.00
5	Santa Elena	Elena 5	221460	13-Feb-2004	12-Feb-2054	399.87
6	Santa Elena	Elena 6	223533	13-Jan-2005	12-Jan-2055	416.02
7	Santa Elena	Santa Elena 7	227239	26-May-2006	25-May-2056	1,868.34
8	Santa Elena	El Salto	243669	4-Nov-2014	3-Nov-2064	1,645.39
9	Santa Elena	El Salto 1 Fracc. 1	244393	25-Aug-2015	24-Aug-2065	4,120.22
10	Santa Elena	El Salto 1 Fracc. 2	244394	25-Aug-2015	24-Aug-2065	534.52
11	Santa Elena	Ampl. El Capulin	229411	17-Apr-2007	16-Apr-2057	400.00
	Subtotal Santa Elena Group					**9,426.67**
12	Ermitaño	El Ermitaño 1	230421	24-Aug-2007	23-Aug-2057	12,267.55
13	Ermitaño	El Ermitaño 2	235605	22-Jan-2010	21-Jan-2060	4,259.23
	Subtotal Ermitaño Group					**16,526.78**
14	Cumobabi	El Apuro	228838	19-Feb-2004	18-Feb-2054	16,721.46
15	Cumobabi	Mark 1	232857	30-Oct-2008	29-Oct-2058	1,713.55
16	Cumobabi	Mark 1 Fracción 1	232858	30-Oct-2008	29-Oct-2058	5.71
17	Cumobabi	Mark 2	232856	30-Oct-2008	29-Oct-2058	3,499.14
18	Cumobabi	Mark 3	232855	30-Oct-2008	29-Oct-2058	169.00
19	Cumobabi	La Calma	221119	2-Dec-2003	1-Dec-2053	150.00
	Subtotal Cumobabi Group					**22,258.86**
20	Los Hernandez	Hernandez Fracc. I	235296	6-Nov-2009	5-Nov-2059	2,613.65
21	Los Hernandez	Hernandez Fracc. 2	235297	6-Nov-2009	5-Nov-2059	25.00
22	Los Hernandez	Hernandez Fracc. 3	235298	6-Nov-2009	5-Nov-2059	60.00
23	Los Hernandez	Hernandez Fracc. 4	235299	6-Nov-2009	5-Nov-2059	14.00
24	Los Hernandez	Hernandez Fracc. 5	235300	6-Nov-2009	5-Nov-2059	50.00
25	Los Hernandez	Hernandez 2	235303	6-Nov-2009	5-Nov-2059	3,027.01
26	Los Hernandez	Laura	235370	18-Nov-2009	17-Nov-2059	12.80
	Subtotal Los Hernandez Group					**5,802.46**
27	El Gachi	El Gachi	182543	27-Jul-1988	26-Jul-2038	100.00
28	El Gachi	Tercera Ampl. Al Gachi	228333	8-Nov-2006	7-Nov-2056	1,400.00
29	El Gachi	El Cuervo	230189	27-Jul-2007	26-Jul-2057	100.00
30	El Gachi	Gachi 2 Fracc. 1	235256	4-Nov-2009	3-Nov-2059	46,222.35
31	El Gachi	Gachi 2 Fracc. 2	235257	4-Nov-2009	3-Nov-2059	141.86
32	El Gachi	Gachi 2 Fracc.3	235258	4-Nov-2009	3-Nov-2059	193.12
	Subtotal El Gachi Group					**48,157.33**
	Total Concessions Titled					**102,172.09**
No.	**Group**	**Concession Name**	**Aplication No.**	**Filing Date**	**Status**	**Surface (ha)**
33	Cumobabi	Bavi 1	82/40733	9-Apr-2019	In process	14.04
34	Cumobabi	Bavi 2	82/40734	9-Apr-2019	In process	39.74
35	Cumobabi	Bavi 3	82/40735	9-Apr-2019	In process	17.92
36	Cumobabi	Bavi 4	82/40736	9-Apr-2019	In process	0.51
	Total Concessions Applications					**72.21**
	Total Surface					**102,244.30**

The Santa Elena group consists of 11 contiguous mining concessions covering 9,427 ha that are located near the intersection of 30° 01' north latitude, and 110° 10' west longitude. The concessions group is covered by the INEGI “Banámichi” 1:50,000 topographic map H12-B83.

The Ermitaño group consists of two contiguous mining concessions, Ermitaño I and Ermitaño II, which are contiguous with the Santa Elena group, and cover 16,527 ha. The concessions group is located 12 km west of Banámichi near the intersection of 30° 00' north latitude, and 110° 07' west longitude. The Ermitaño concessions group is covered by the INEGI “Agua Caliente” H12-B84, “Aconchi” H12-D13 and “Cumpas” H12-D14, 1:50,000 topographic maps.

The Cumobabi group consists of six contiguous mining concessions covering 22,259 ha and are located near intersection 29° 45´ north latitude and 110° 00´ west longitude. The Cumobabi concessions are contiguous with the Ermitaño group. The community of Baviácora is located 19 km southwest of the concessions group. The concessions group is covered by the INEGI maps “Aconchi” H12-D13, “Cumpas” H12-D14, “Baviácora” H12-D23 and “Rodeo” H12-D24, 1:50,000 topographic maps.

The Los Hernandez group consists of seven contiguous mining concessions covering 5,802 ha, located near intersection 30° 13´ north latitude and 110° 11´ west longitude. The concessions group is contiguous with the Santa Elena group to the south. The Los Hernandez concessions group is located 9 km northeast of the community of Sinoquipe. The concessions group is covered by the INEGI map “Banamichi” H12-B83, 1:50,000 topographic map.

The El Gachi group consists of six contiguous mining concessions covering 48,157 ha, located near the intersection 30° 15´ north latitude and 110° 02´ west longitude. The concessions group is contiguous to the north with the Santa Elena group. El Gachi property is located 13 km south-east of the community of Arizpe. This area is covered by the INEGI maps “Banamichi” H12-B83 and “Arizpe” H12-B73, 1:50,000 topographic maps.

There are four applications in the Cumobabi group covering 72 ha. The concession title for these applications was in progress at the Report effective date.

All concessions were ground surveyed by a registered land surveyor at the time of staking and at the time of writing of this report are in compliance with the obligations set by the Mexican mining code.

The mining code in Mexico provides that all concessions are valid for a period of 50 years. Holding taxes, known as Mining Rights, are calculated based on the surface area of each mining concession, the age of the concession in years, and are due in January and July of each year. The annual Mining Rights cost for 2021 is estimated at $1.72 M. By the Report effective date all Mining Rights payments have been paid by First Majestic.

4.4. Surface Rights

On November 12, 2007, Nusantara signed an agreement with Bienes Comunales de Banámichi (the community of Banámichi) for a 20-year lease on surface rights for a maximum of 841 ha with respect to exploration and exploitation activities. At the Report effective date, 500 ha were under lease for exploitation and exploration purposes, and the lease obligations were met.

On September 6, 2017, Nusantara signed an agreement with Mr. Francisco Maldonado for a 20-year lease for surface rights over the Ermitaño property area for a maximum of 380 ha with respect to exploration activities and a minimum of 230 ha for exploitation activities. At the Report effective date, all obligations were met.

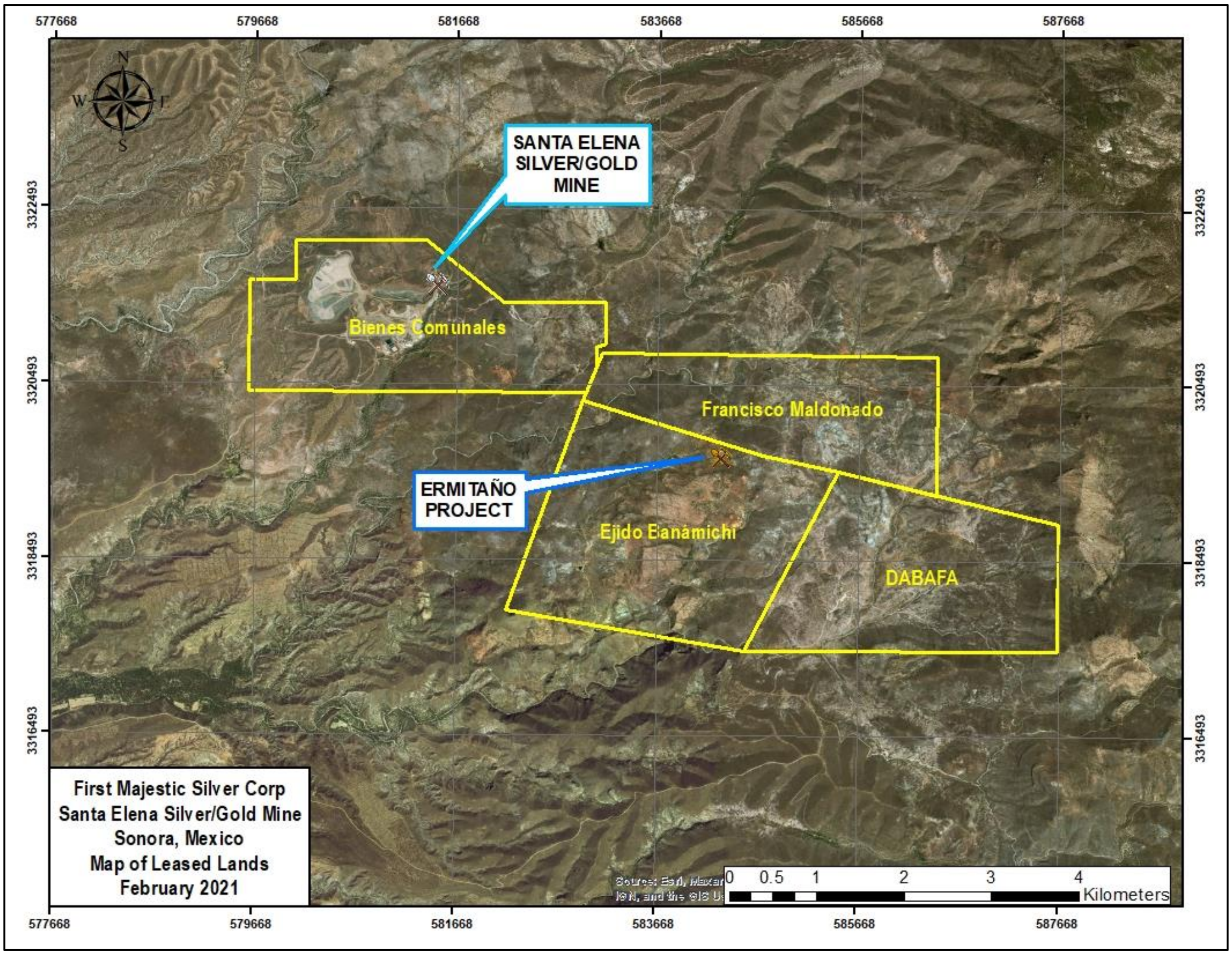
On January 3, 2018, Nusantara signed an agreement with Dabafa S.P.R. de R.L. (Dabafa) for a 20-year lease for surface rights over the Ermitaño property area for a maximum of 312 ha with respect to exploration activities and a minimum of 100 ha for exploitation activities. At the Report effective date, all obligations were met.

On June, 2018, Nusantara reached an agreement with the Ejido Banamichi for a 25 year lease on surface rights on the Ermitaño property area for 600 ha with respect to exploration and exploitation activities. At the Report effective date, all obligations were met.

On December 2020, Nusantara signed an agreement with the Community of Banámichi for a 20-year right-of-way between the Santa Elena mine and the Ermitaño project. The agreement included the right to deposit tailings from any future mining activity within the Ermitaño project in the Community of Banámichi lands leased by Nusantara. All obligations under this agreement were met at the Report effective date.

Figure 4-3 shows the areas covered under these various surface rights agreements.

Figure 4-3: Surface Rights Leased Lands



Note: Figure prepared by First Majestic, February 2021.

4.5. Permitting Considerations

The Santa Elena mine and the Ermitaño project hold all of the necessary permits to operate, such as the Environmental License, water rights concessions, and federal land occupation concessions. Details of the permits held in support of operations are discussed in Section 20 of this Report.

4.6. Environmental Considerations

Environmental considerations are discussed in Section 20 of this Report.

4.7. Existing Environmental Liabilities

Environmental liabilities for the operation are typical of those that would be expected to be associated with an operating underground precious metals mine, including the future closure and reclamation of mine portals and ventilation infrastructure, access roads, processing facilities, power lines, filtered tailings and all surface infrastructure that supports the operations.

Additional information on the environmental considerations for the Santa Elena mine is provided in Section 20.

4.8. Significant Factors and Risks

To the extent known to the QPs, there are no other significant factors and risks that may affect access, title, or the legal right or ability to perform work on the Santa Elena mine that are not discussed in this Report.

5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1. Accessibility

The Santa Elena mine can be easily accessed year-round by paved highways 90 km east from Hermosillo to Ures, then 50 km north along a paved secondary road to the community of Banámichi, then by a maintained gravel road that runs for 7 km to the mine site. The Ermitaño project can be accessed by a 10-km gravel road that runs from the Santa Elena mine.

Mining activities are performed by a combination of First Majestic personnel and contract workers. Mining operations are conducted year-round.

5.2. Physiography

The Santa Elena mine is located on the western edge of the north-trending Sierra Madre Occidental (SMO) mountain range geographically adjacent to the Sonora River valley. Elevation ranges from 800 masl to 1,000 masl. The property is located on the range front at a low elevation in relation to the mountains immediately east and west respectively. Vegetation is scarce during the dry season, limited primarily to juvenile and mature mesquite trees and cactus plants. During the wet season, various blooming cactus, trees, and grasses are abundant in drainage areas.

5.3. Climate

The climate at the Santa Elena mine is typical of the Sonoran Desert, with a dry season from October to May. Average rainfall is estimated at 300 mm per annum. There are two wet seasons, one in the summer (July to September) and another in the winter (December). The summer rains are short with heavy thunderstorms whereas the winter rains are longer and lighter. Seasonal temperatures vary from 0°C to 40°C. Summer afternoon thunderstorms are common and can temporarily impact the local electrical service. Flash flooding is common in the area.

5.4. Local Resources and Infrastructure

5.4.1. Water Supply

The main supply well currently used at the mine site, PSA-1, was installed and tested in September 2009, and a pump installed at approximately 109 m depth. Pumping tests indicated the well was located in a confined aquifer with a potential association with geothermal sources, and an estimated sustained supply of 25 L/s, sufficient to support the mining operation (Breckenridge, 2010). Well PSA-2 was constructed in the summer of 2011 as a back-up well to support the primary water supply. The Santa Elena mine has a water supply sufficient for operations and the life-of-mine (LOM) plan.

The Ermitaño project requires a limited amount of water for drilling and dust mitigation purposes. The current volume of groundwater being pumped and clarified at the settling ponds is sufficient to support the Ermitaño operation.

5.4.2. Power

A minor amount of electrical power is available from the adjacent national grid currently supplying municipalities and agricultural activities. Still that source is insufficient for the Santa Elena mine. Power for current operations is provided by a liquified natural gas (LNG) generation plant commissioned by First Majestic in Q2-2021, replacing diesel generators. This facility has contributed to reducing operating costs, improving reliability, and reducing greenhouse emissions. Details of this facility are presented in Section 18 of this Report.

5.4.3. Community Services

The Santa Elena mine is located near the village of Banámichi which provides accommodation and local food services. The mining centre of Cananea is the closest sizable urban area (pop. est. 30,000) and is located approximately 100 km north by road from the Santa Elena mine. Most services and supplies are available in Cananea. Sonora’s capital city, Hermosillo, is located approximately 150 km southwest of the property, and is regarded as the main industrial hub for the majority of the local mining operations. Services are available for heavy machine purchase and repair, materials fabrication, and engineering services. Alternatively, Tucson, Arizona is approximately a four-hour drive north across the international Mexico–USA border from the Santa Elena mine. Northern Mexico has numerous precious and base metal mines and there is a significant workforce of trained mining and processing personnel. The nearby Cananea and La Caridad mines are amongst the largest mines in North America.

5.4.4. Existing Infrastructure

The Santa Elena mine processing facility was initially constructed between 2009 and 2010, and was further expanded between 2013 and 2014. The site infrastructure is described in further detail in Section 18. The following operational infrastructure is in place or under ongoing construction at the Santa Elena mine:

- A main underground decline access and mine development;
- A ventilation shaft with ventilation fans;
- A secondary decline which acts as fresh air intake and an escape way;
- Underground water recirculation facilities;
- Underground electrical distribution system;
- Underground maintenance facilities;
- A crushing and grinding facility, including a high-intensity vertical grinding mill (HIG-Mill);
- A counter-current decantation (CCD) and Merrill-Crowe processing facility;
- An LNG power generation facility with capacity of 12.6 MW;

- Filtered tailings storage facility, incorporated onto an existing waste rock storage facility;
- Additional surface facilities such as mine dry and maintenance shops for the underground mine;
- Warehouse for storage and inventory;
- On-site analytical laboratory;
- Exploration drill-core storage facility.

The Ermitaño project is an exploration and development project that has the following infrastructure:

- A 4-km access road from Santa Elena to Ermitaño under construction;
- Access roads and drilling pads for exploration drilling;
- A twin decline to access the mineralized zones;
- A test-mine area to investigate geotechnical conditions and assess structural characteristics of the mineralized structures;
- Underground electrical distribution system;
- A ventilation raise;
- A waste dump to hold rock from development of the access declines;
- Temporary surface facilities;
- Water management ponds;
- Mine equipment repair shop under construction;
- Mine operations facilities;
- A diesel-powered generation facility with capacity of 2.4 MW;
- A communications tower to link to Santa Elena data and voice systems.

5.4.5. Surface Rights

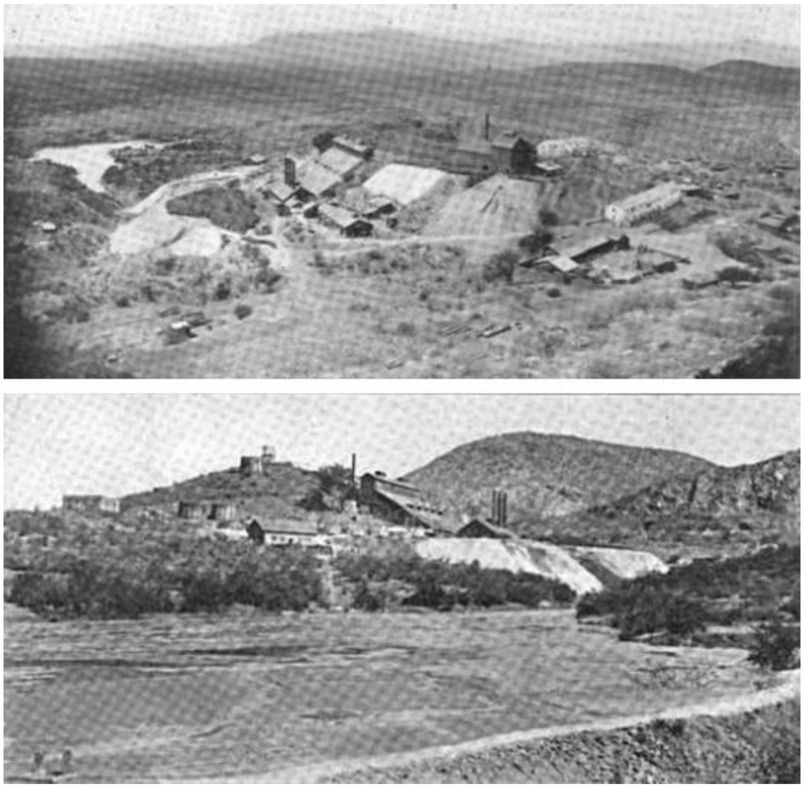
The sufficiency of surface rights to support the LOM plan is discussed in Section 4.4.

6. HISTORY

Dawe (1928) and Montague (1932) report that the Santa Elena mine was discovered and worked by the Spaniards, and then abandoned until 1856 when Jacinto Padilla acquired the property and later transferred it to General Ignacio Pesqueira. The mine was resold in 1883 to the Santa Elena Mining Company of New York. The Santa Elena Mining Company erected a 60-stamp mill with pan amalgamation, a 400-horsepower steam plant, sunk a three-compartment shaft to 170 m, and later introduced a cyanide plant to treat their tailings. There is no known documentation of daily or annual production during this period of operations.

Poisson (1899) reported that London-based Consolidated Goldfields of Mexico Limited owned the Santa Elena property in 1899 and that it had surface workings several hundred yards long, 70 ft wide and 120 ft deep, and underground workings totaling 8,000 ft, including a 420 ft shaft with cross cuts at the 250 ft and 350 ft level. Figure 6-1 is an image of the mine property from that period. Development on the vein included 1,235 ft at the 250 level, 850 ft at the D level 67 feet above the 250 level, and 1,035 feet at the San Juan level 70 ft above the D level. Development widths ranged from 7 feet to 20 feet. Consolidated Gold Fields operated at Santa Elena until the onset of the Mexican Revolution around 1910.

Figure 6-1: Santa Elena mine Circa 1899



Note: Figure prepared by First Majestic, February 2021. Photograph taken from The Engineering and Mining Journal September 1899.

Dawe (1928) reported that Jesus Maria Estrada and his brother were extracting gold from the historical Santa Elena mine in 1928. There is no indication of any further significant mining or exploration at Santa Elena until the 1960s when Industrias Peñoles S.A de C.V. drilled two or three holes on the property. No records are available for this drilling.

During the early 1980s, Tungsteno de Baviacora (Tungsteno) owned the property and mined 45,000 t grading 3.5 g/t Au and 60 g/t Ag from an open cut. This material was shipped for processing to the company's flotation mill near Baviacora, approximately 30 km southwest of Santa Elena. Tungsteno periodically surface mined high silica/low fluorine material from Santa Elena and shipped it to the Grupo Mexico smelter in El Tajo near Nacozari, approximately 60 km to the northeast. In 2003, Tungsteno collected 117 surface and underground samples. There is limited documentation regarding this result of this sampling.

In 2003, Nevada Pacific Gold Inc. of Vancouver, BC completed a brief surface and underground sampling program with the collection of 119 samples. There is limited documentation regarding this result of this sampling.

In 2004, Fronteer Development Group of Vancouver, BC, completed a surface and underground mapping and sampling program. A total of 145 channel samples (89 underground and 56 surface) were collected and analyzed by ALS-Chemex of Hermosillo, Mexico.

The property remained under control of Tungsteno until 2009, when SilverCrest acquired 100% of the Santa Elena property. SilverCrest started production of gold and silver in July 2011 and by 2015 was producing gold and silver from a 3,000 tpd open pit, underground mine, and reprocessing of heap leaching material using a CCD/Merrill Crowe processing facility. Commercial production for the 3,000 tpd mill and plant facility was declared on August 1, 2014. Underground development has been ongoing since January 2013.

First Majestic acquired the Santa Elena property through its acquisition of SilverCrest on October 1, 2015. On March 28, 2017 First Majestic expanded the Santa Elena property by purchasing the El Gachi property from Santacruz Silver Mining Ltd. (Santacruz). Santacruz had optioned the property from Minera Hochschild Mexico S.A. de C.V. (Hochschild) in 2014. The El Gachi property includes the past-producing El Gachi mine, a high-grade manto and vein mineralized system located 30 km north of the Santa Elena mine. Anaconda Mining Company and Peñoles operated the mine in the 1960s and 1970s. During the 1980s, Minera Serrana shipped high grade ore from El Gachi to its nearby San Felipe mill. Boliden Limited completed a 100 m spaced helicopter airborne magnetic, electromagnetic (EM), and radiometric survey in 1989. Hochschild completed a 50 m by 100 m 30 line-km ground magnetic survey in 2007, a 6,496 ha Quickbird multispectral and panchromatic imagery survey in 2007, and a 30-hole 5,400 m drill program in 2008. Santacruz completed no significant work on the project before First Majestic purchased the property.

On September 10, 2018 First Majestic further expanded the Santa Elena property by completing the acquisition of a 100% interest in the Ermitaño and Cumobabi property from Evrim. Work by Evrim included an airborne Z-axis tipper electromagnetic (ZTEM) and magnetic survey in 2011, 114 line-km of induced polarization (IP) surveys, approximately 700 rock chip samples, 684 soil samples, nearly 40 km^2 of regional mapping and a five-hole 2,950 m drill program. Figure 6-2 is a location map for the Santa Elena historical exploration areas.

In December 2020 First Majestic completed all option payments and work commitments and acquired 100% interests in the Los Hernandez property from Pan American Silver Corp (PanAm). The Los Hernandez property hosts the past-producing El Carmen mine and several other historical adits and shafts. There was no modern exploration work completed within the Los Hernandez group of concessions until First Majestic began exploring the property in 2018.

6.1. Production History

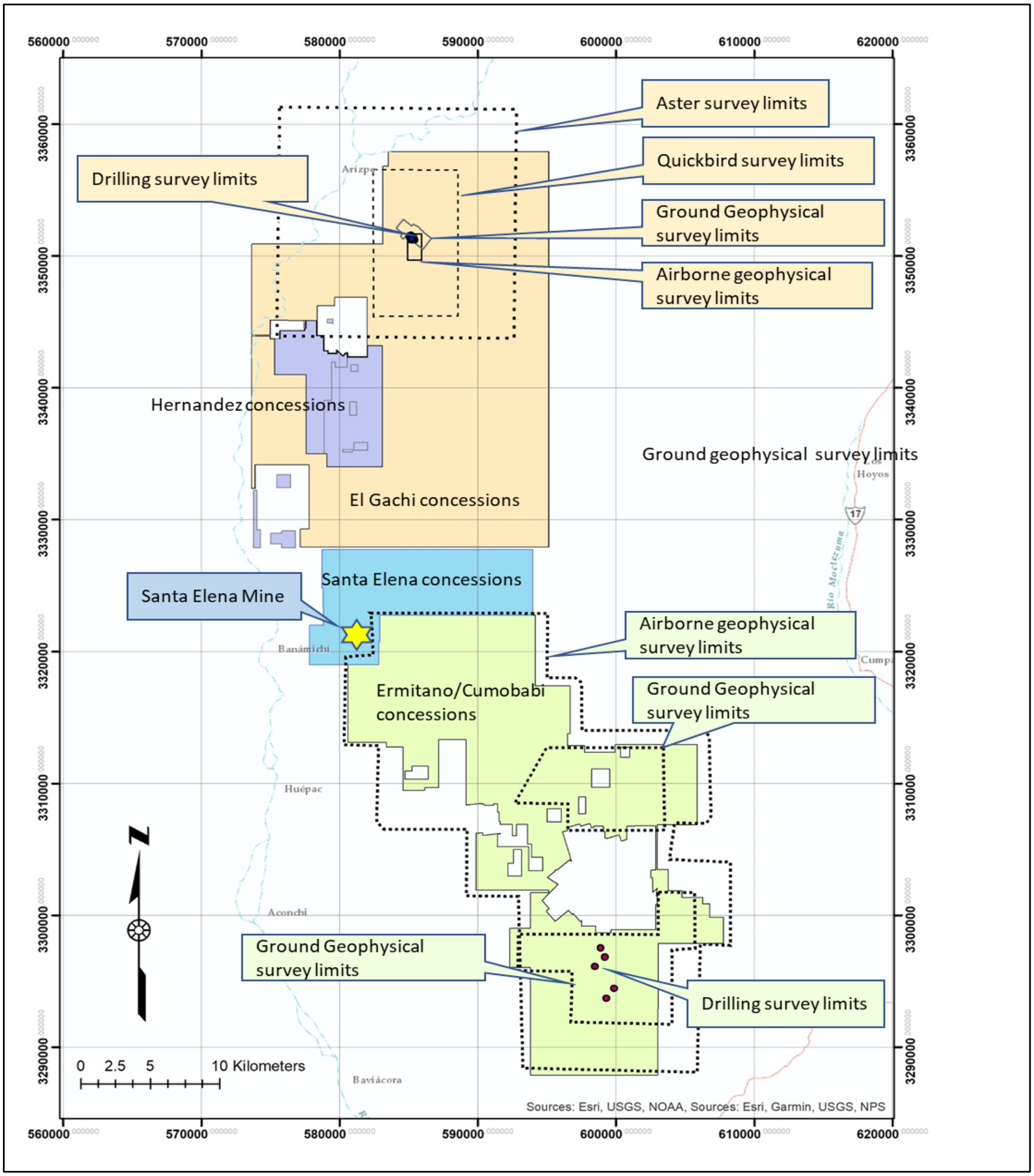
SilverCrest commenced production from the Santa Elena open pit in October 2010 and by year end 2014 produced 3.7 Mt at an average grade of 53 g/t Ag and 1.47 g/t Au.

First Majestic acquired the property in 2015 and by June 30, 2021 produced 3.34 Mt at 125 g/t Ag and 2.20 g/t Au from underground and reprocessed 2.42 Mt at 41 g/t Ag and 0.69 g/t Au from the leach pad. The 2015 to June 2021 production history is summarized in Table 6-1.

Table 6-1: Santa Elena Production 2015 to June 2021

Concept	Units	2015	2016	2017	2018	2019	2020	2021-H1	Total
Underground ROM Production	k t	433	571	554	531	542	422	289	**3,342**
Silver Grade	g/t Ag	151	127	115	123	131	116	103	**125**
Gold Grade	g/t Au	2.35	2.24	2.43	2.44	2.31	1.84	1.38	**2.20**
Leach-Pad Material Production	k t	574	417	374	368	333	218	130	**2,415**
Silver Grade	g/t Ag	46	45	42	35	37	34	34	**41**
Gold Grade	g/t Au	0.69	0.77	0.71	0.63	0.66	0.64	0.61	**0.69**
Total Plant Feed	k t	1,069	988	928	899	875	640	420	**5,820**
Silver Grade	g/t Ag	94	92	86	88	96	88	82	**90**
Gold Grade	g/t Au	1.51	1.62	1.73	1.71	1.68	1.43	1.15	**1.59**
Contained Silver Metal	k oz Ag	3,246	2,928	2,552	2,533	2,689	1,814	1,100	**16,861**
Contained Gold Metal	k oz Au	52.0	51.5	51.7	49.4	47.4	29.4	15.5	**296.8**
Metallurgical Recovery Silver	%	75.5%	88.8%	89.4%	87.8%	90.4%	93.1%	92.7%	**87.3%**
Metallurgical Recovery Gold	%	92.6%	94.6%	95.2%	94.9%	95.2%	95.7%	95.7%	**94.7%**
Silver Metal Produced	k oz Ag	2,450	2,599	2,282	2,223	2,435	1,692	1,019	**14,700**
Gold Metal Produced	k oz Au	48.1	48.7	49.2	46.9	45.1	28.2	14.8	**280.9**

Figure 6-2: Map of Santa Elena Historical Exploration Areas



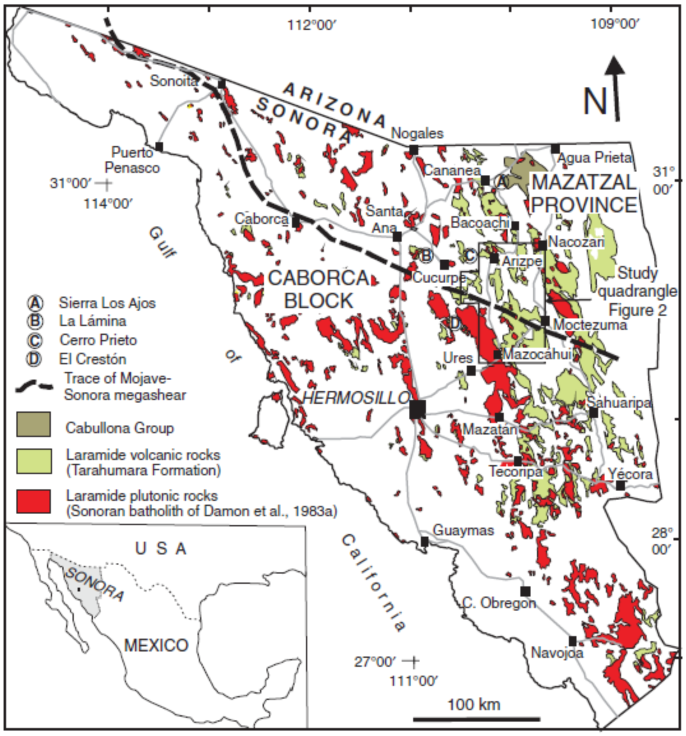
Note: Figure prepared by First Majestic, February 2021.

7. GEOLOGICAL SETTING AND MINERALIZATION

7.1. Regional Geological Setting

The Santa Elena deposits are hosted in rocks of the SMO, an igneous province that extends from the USA–Mexican border south to Guadalajara, Mexico; a distance of over 1,200 km. Montoya (2019) and Ortega (2018) describe the SMO geological province as consisting of Late Cretaceous to early Miocene volcanic and sedimentary rocks formed during two main periods of continental magmatic activity. The first period, concurrent with the Laramide orogeny, produced an intermediate intrusive suite and its volcanic counterpart, associated with a magmatic arc active between 100 Ma and 50 Ma. These rocks, traditionally named the Lower Volcanic Complex (LVC), include the Late Cretaceous to Paleocene volcanic succession of the Tarahumara Formation and are intruded by the Sonora batholiths. Continental conglomerates and sandstones filled intermontane basins during a transitional period that lasted until the late Eocene when volcanism became dominated by rhyolitic ignimbrites. Defined as the Upper Volcanic Supergroup (UVS), these volcanic rocks were emplaced mostly in two episodes at 35 Ma and 29 Ma. Extensional basins and associated continental sedimentary deposits formed between 27 Ma and 15 Ma in a north–northwest-trending belt along the western half of the SMO. A map of plutonic and volcanic rocks of the Laramide magmatic arc in Sonora is shown in Figure 7-1.

Figure 7-1: Plutonic and Volcanic Rocks of the Laramide Magmatic Arc in Sonora



Note: Figure prepared by First Majestic, February 2021. Figure from González-León (2011).

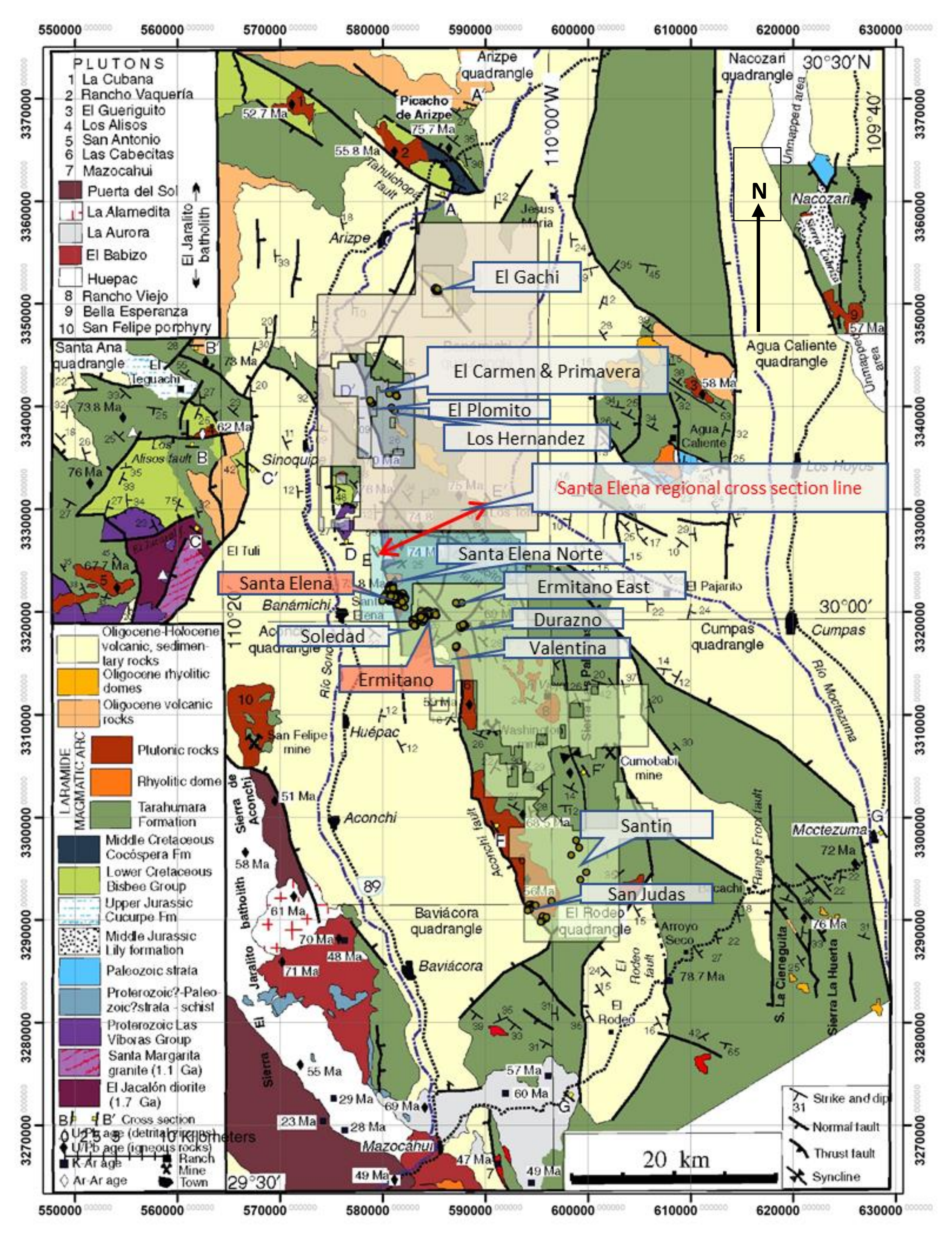
The pre-Mesozoic basement underlying the SMO consists of strongly folded metasedimentary and meta-volcanic rocks and deformed granitoids with ages spanning from Jurassic to Early Cretaceous. These in turn lie on late Paleoproterozoic to the latest Paleozoic rocks that have recorded a protracted evolution, including continent–continent collisions, and intra-oceanic and arc-continent accretionary orogenic processes. The Cenozoic extensional and magmatic processes, as well as the Laramide batholiths have dispersed or obscured the Paleoproterozoic orogenic systems that now occupy the cores of isolated north–northwest-trending narrow mountain ranges.

Many significant porphyry deposits of the SMO occur in the LVC rocks and are correlated with the various Middle Jurassic- to Tertiary-aged intrusions. Northwest-trending shear and fault zones associated with early Eocene east–west and east–northeast–west–southwest directed extension, appear to be an important control on epithermal mineralization in the Sonora region. The faults served as conduits for mineral bearing solutions possibly sourced from Cenozoic intrusions. The Santa Elena Main Vein has an orientation similar to this extensional trend.

7.2. Local Geological Setting

The Santa Elena concessions lie within the Arizpe-Mazocahui quadrangle of north–central Sonora, Mexico. González-León (2011) describes this region as being composed of volcanic rocks assigned to the Tarahumara Formation and several granitic plutons that intrude it. A basal conglomerate of the >4 km thick Tarahumara Formation overlies deformed Proterozoic igneous rocks and Neoproterozoic to Early Cretaceous strata. The lower part of the Tarahumara Formation is composed of rhyolitic ignimbrite and ash-fall tuffs, andesite flows, and interbedded volcaniclastic strata, and its upper part consists of rhyolitic to dacitic ignimbrites, ash-fall tuffs, and volcaniclastic rocks. The local geology is summarized in Figure 7-2.

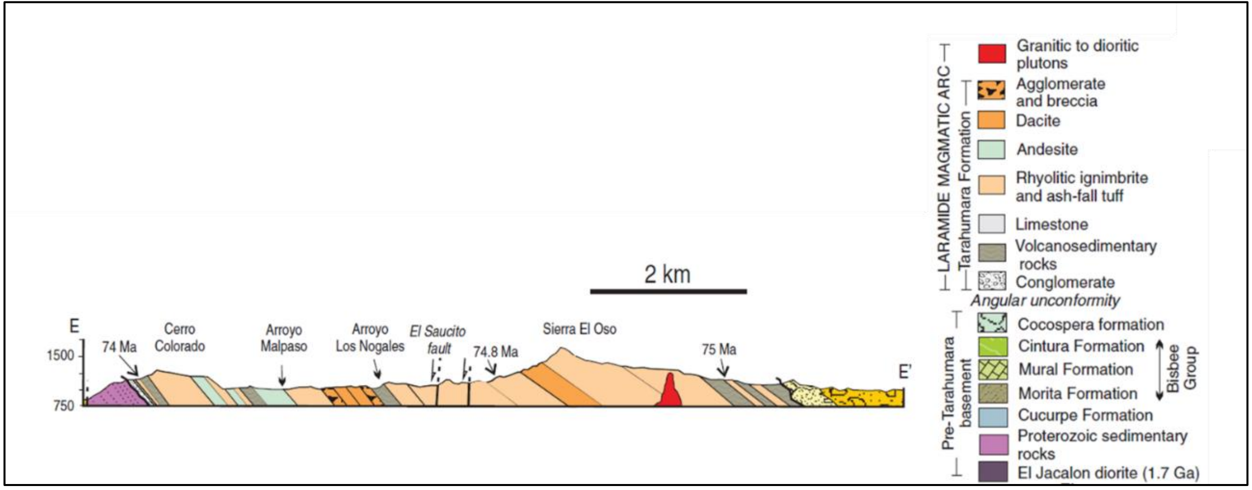
Figure 7-2: Geological Map of the Arizpe-Mazocahui quadrangle of north-central Sonora



Note: Figure prepared by First Majestic, February 2021. Modified from González-León (2011), showing drill prospects and deposits, and First Majestic's concession boundaries.

A northeast-trending regional geological cross section prepared by González-León (2011), included as Figure 7-3, shows the homoclinal-dipping Tarahumara Formation unconformably overlying the Proterozoic Las Víboras Group and offset by the northwest–southeast-trending El Saucito normal fault that dips steeply to the southwest.

Figure 7-3: Santa Elena Area Regional Geology Cross Section



Note: Figure prepared by First Majestic, February 2021. From González-León (2011)

Ausenco (2021) report the rocks hosting the nearby Las Chispas deposit form a gentle syncline and anticline complex indicating greater local structural complexity in these lower volcanic rocks than implied in this cross section. Near the eastern margin, the Tarahumara Formation is unconformably overlain by conglomerate and rhyolite of the Báucarit Formation. The lower portion of the Tarahumara Formation, between the cross-section line and the Santa Elena mine, is intruded by a quartz phenocryst–bearing rhyolite dome dated as 73.56 ± 1.3 Ma (González-León, 2011).

The Santa Elena and the Ermitaño deposits are the most significant zones of gold and silver mineralization known within the Santa Elena concessions. The location of these and several other drilled prospects are shown in Figure 7-2.

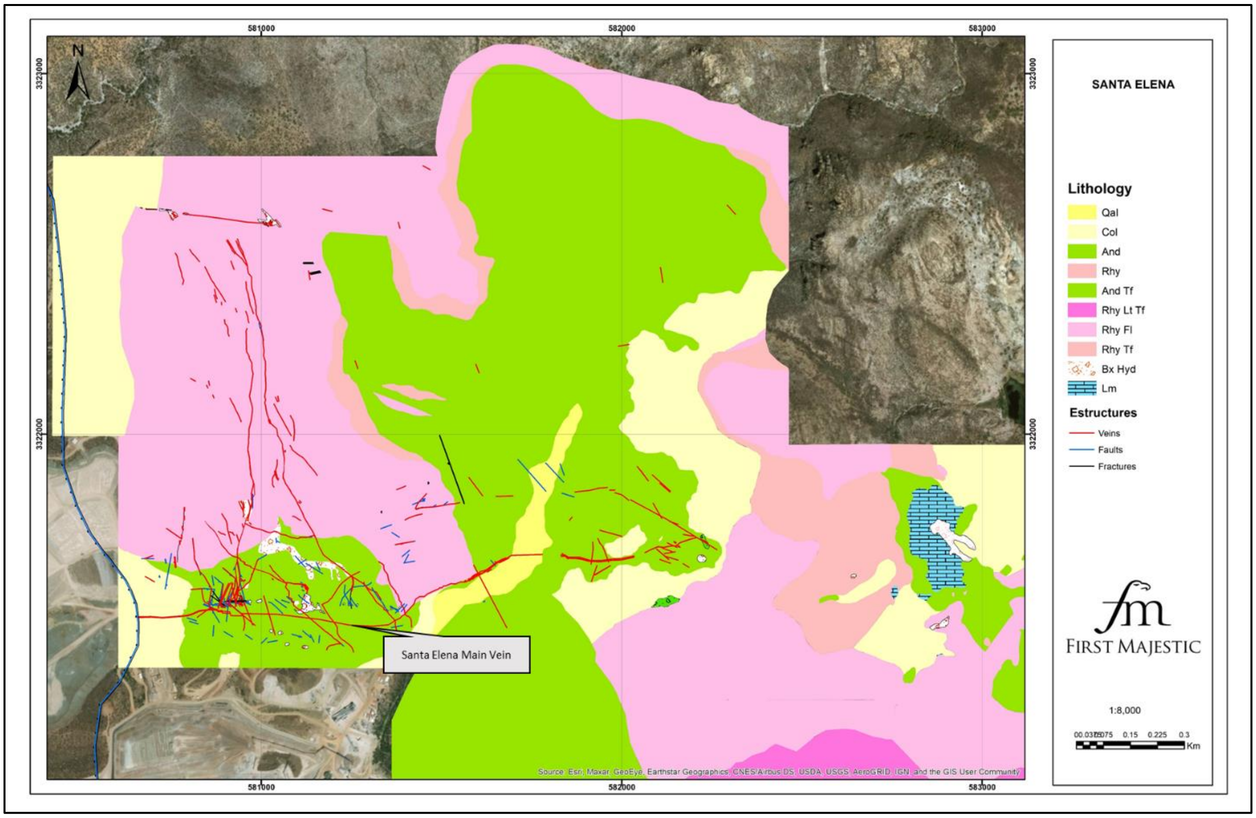
7.3. Santa Elena Mine Geology and Mineralization

7.3.1. Geology

The current geological interpretation for the Santa Elena mine is based on surface and underground mapping and drill hole logging that has delineated a package of rhyolite and andesite volcanic rocks that are currently interpreted to belonging to the LVC. A rhyolite outcrop forms a prominent topographic high in the immediate hanging wall to the north and andesite is present in the immediate hanging wall to the south of the main Santa Elena structures.

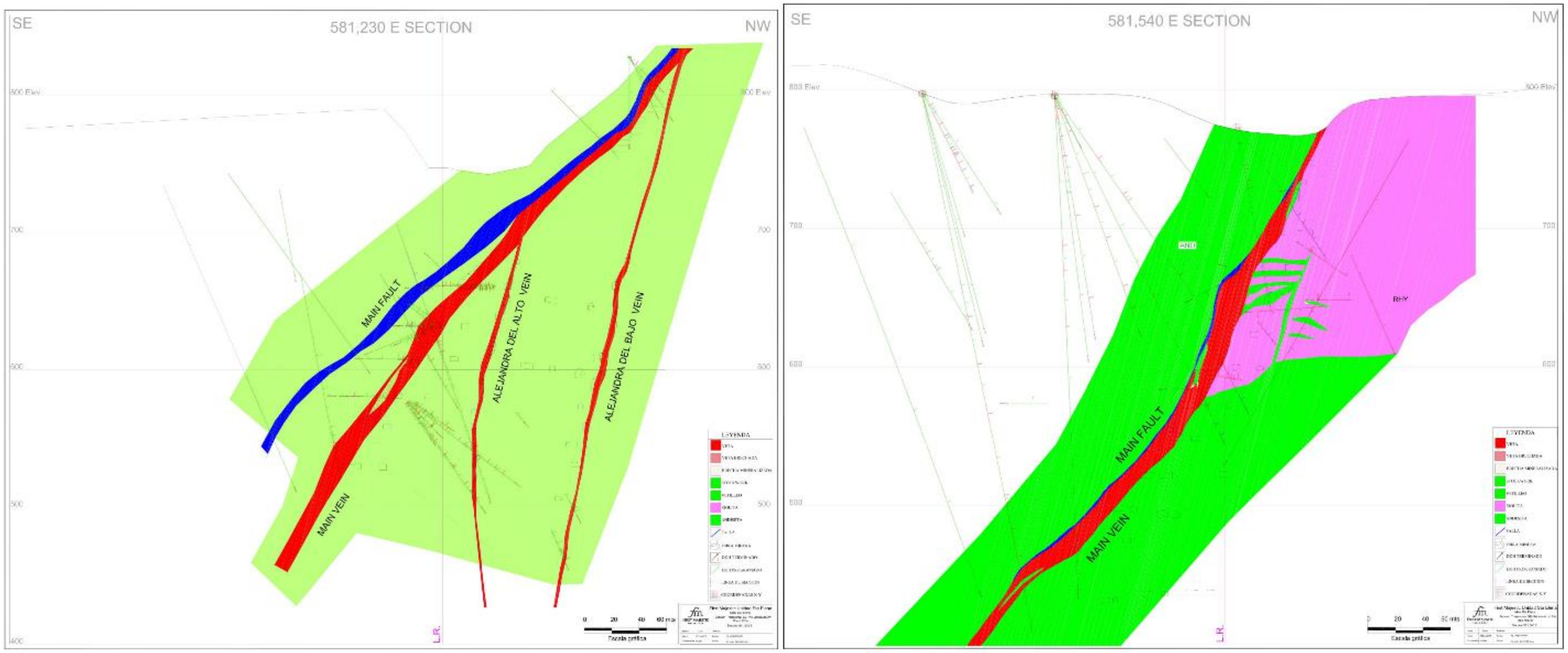
Drilling at the Santa Elena mine has delineated three primary structures occupied by veins. The Main Vein occupies the most prominent structure. It strikes east, dips at approximately 55–45° to the south, and has been delineated for 1,950 m along strike and 750 m down dip. The Alejandra Vein is a splay of the Main Vein, strikes east–southeast and dips at approximately 60–80° to the south–southwest. Drilling has delineated the vein over nearly 1,000 m along strike and over a vertical extent of nearly 600 m. The America Vein is also a splay of the Main Vein that strikes nearly east and dips at 80° to the south. Drilling has delineated the vein over 500 m along strike and 450 m down dip. Andesite and granodiorite dykes have been identified at the Santa Elena mine that are adjacent and sub- parallel to the Main vein. The current Santa Elena mine geology is shown in plan and section views in Figure 7-4 and Figure 7-5.

Figure 7-4: Santa Elena Mine Geology Map



Note: Figure prepared by First Majestic, February 2021.

Figure 7-5: Santa Elena Mine Geology Cross Sections



Note: Figure prepared by First Majestic, February 2021.

7.3.2. Structure

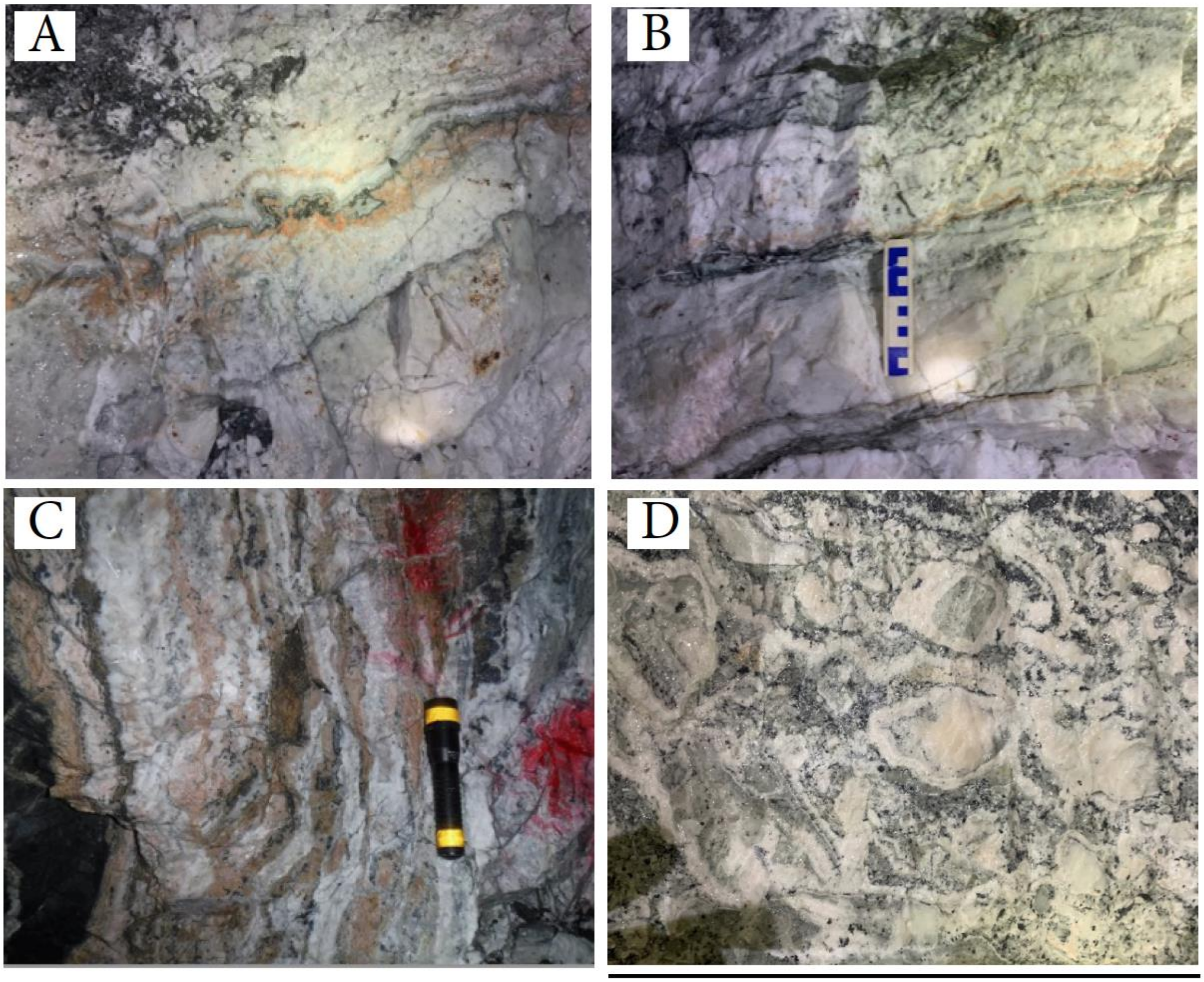
Surface, open pit and underground mapping, and drilling has delineated one primary fault and several secondary faults at the Santa Elena mine. The primary Main Fault is located in the hanging wall of the Main Vein and runs parallel to it. The fault is mapped locally in direct contact with the Main Vein and at distances of greater than 30 m from the vein. The Main Fault tends to diverge from the vein at depth. The fault has evidence of reactivation affecting the Main Vein.

Northwest-trending secondary splay and cross-cutting structures appear to influence mineralization at intersections with the Main Vein and along a northwest–southeast trend in the footwall of the vein. These narrow quartz and calcite filled planar brittle structures appear to crosscut and postdate the emplacement of the Main Vein.

7.3.3. Mineralization

Silver and gold mineralization at the Santa Elena mine is hosted in quartz veins and stockworks displaying typical epithermal textures, including banded quartz, vuggy quartz, and brown–black bladed calcite (pseudomorph to quartz) with many of these textures intermixed with hydrothermal breccia (Figure 7-6).

Figure 7-6: Typical Vein Textures Observed Underground at Santa Elena mine



Note: Figure prepared by First Majestic, February 2021.

Other gangue minerals include calcite, adularia, chlorite, and fluorite. Rhodonite has been noted at approximately 530 m vertical depth.

Bonanza ore shoots appear to be locally present but have not been delineated in detail. A trend of higher grades and thicker veining is apparent with a plunge of approximately 25° to the east. Up to 200 m of a pyrite and calcite matrix breccia in the hanging wall andesite proximal to the Main Vein has been intersected.

Sulphide abundance is generally low within the veins but can be as much as 5–30%. The sulphides are dominantly pyrite and pyrrhotite with minor galena, sphalerite, and chalcopyrite. Gold occurs typically as native gold, electrum, and silver occurs as electrum, minor acanthite, and rare native silver.

7.3.4. Alteration

Alteration within the Santa Elena mine deposit is widespread. The volcanic units in the immediate vicinity of the veins exhibit pervasive propylitic to silicic alteration. Widespread argillic alteration and silicification proximal to quartz veining is common. Chloritic alteration increases away from the mineralized zones.

The permeable nature of the fractured zones has allowed partial oxidation to occur to depths of 400 m below the surface in selective fractured zones. Limonite within the oxide zone is brick-red in colour and is associated with brown goethite and local yellow jarosite. Manganese occurs locally as pyrolusite and minor psilomelane near the surface. Kaolin and alunite occur primarily along deeply weathered and oxidized structures and along the fractured contacts.

7.3.5. Zonation

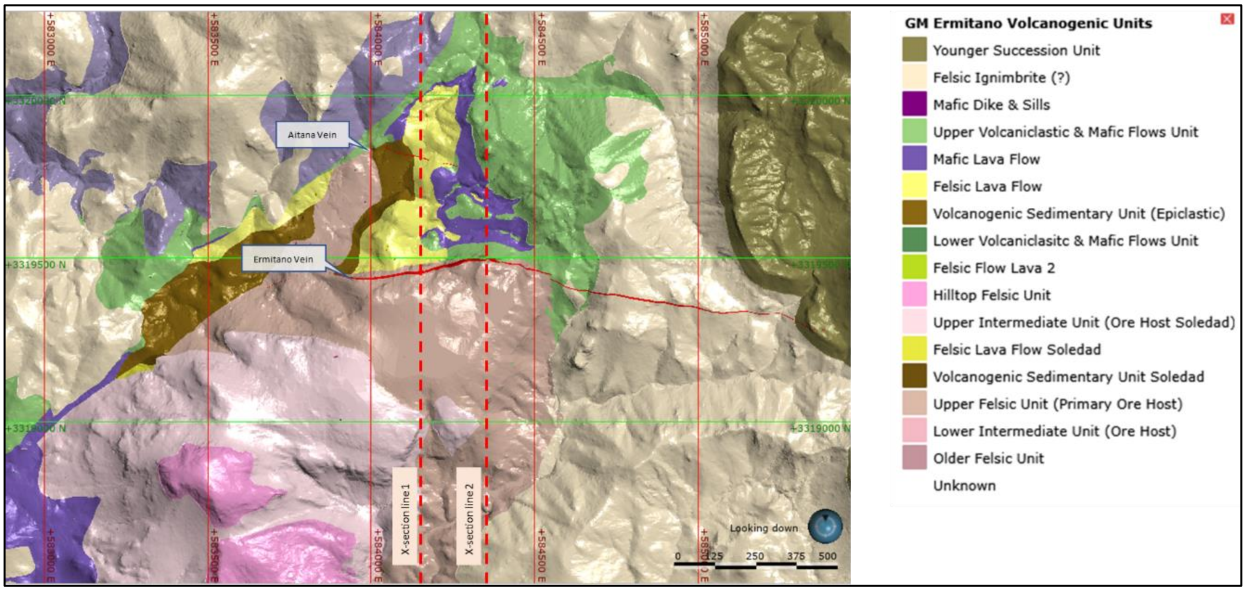
Metal zonation appears to correspond to northwest-trending structures that crosscut the Main Vein forming high-grade gold and silver mineral shoots. Vertical zonation shows gold content consistent with depth and silver content increasing.

7.4. Ermitaño Project Geology and Mineralization

7.4.1. Geology

The current geological interpretation for the Ermitaño project area is based on logging of volcanogenic textures and has allowed the delineation of a host rock volcanogenic sequence that consists of an older compact brittle volcanic sequence or rhyolitic rocks overlain by less brittle felsic lava flows and an alluvial fan environment of volcanogenic sedimentary rocks, volcaniclastic rocks, and mafic lava flows. The current Ermitaño geology model is shown in plan and section views in Figure 7-7 to Figure 7-8.

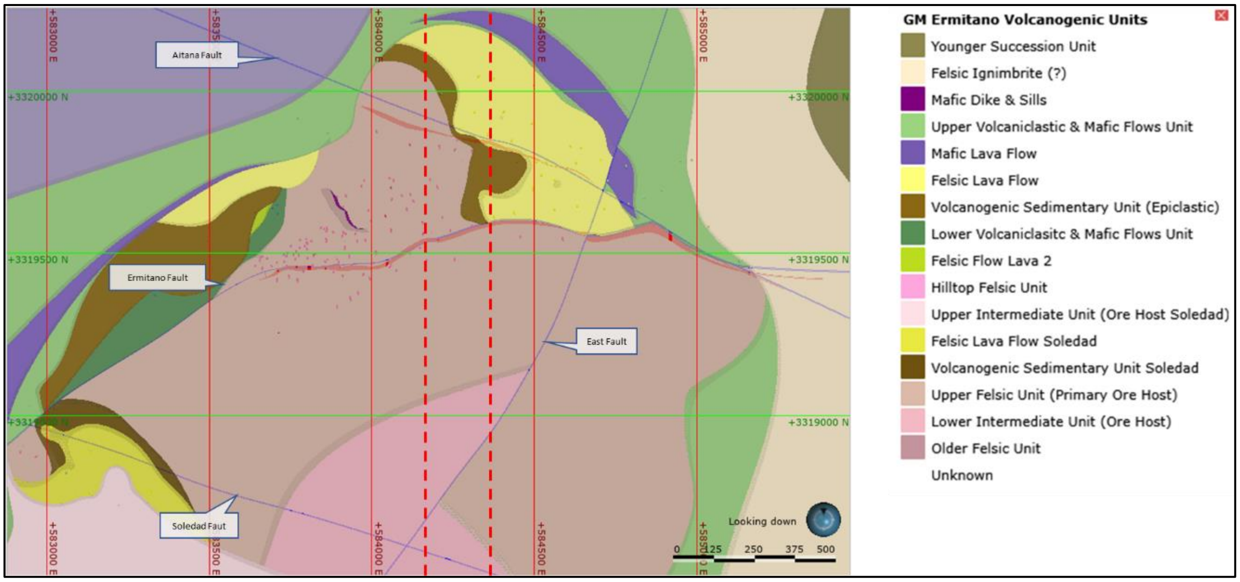
Figure 7-7: Ermitaño Deposit Local Geology Map



Note: Figure prepared by First Majestic, February 2021.

Note: When used for plan maps and figures, this compass symbol is a graphical representation of grid north, with the black triangle marking north. All map scales are in meters.

Figure 7-8: Ermitaño Local Geology Level Plan View, 800 masl.



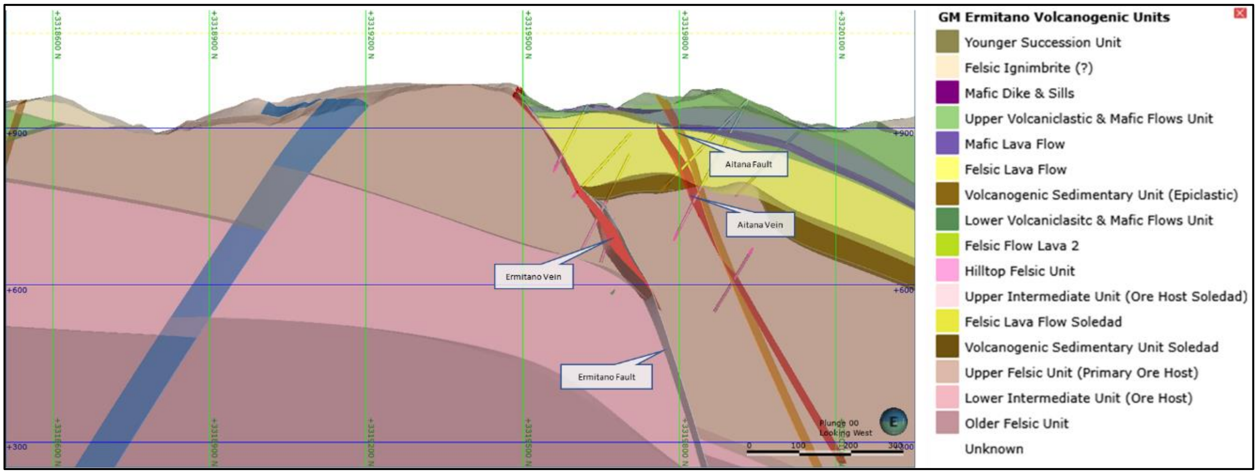
Note: Figure prepared by First Majestic, February 2021.

Drilling at the Ermitaño project has delineated one primary vein, one secondary vein and several tertiary veins. The Ermitaño Vein is the most prominent and strikes east and dips approximately 80° north in the west where the bulk of current gold and silver mineralization occurs, and approximately 60° north in the eastern area. The Ermitaño Vein is mostly defined as a formal vein with an enclosing hanging wall and footwall breccia and stockwork zone. Drilling has delineated the Ermitaño structure for 1,800 m along strike and 550 m down dip. The Ermitaño Vein width varies from 0.2–20.1 m and averages 5.9 m. The Aitana Vein, the second most prominent structure, strikes northwest and dips at approximated 55° to the northeast. Drilling has delineated the Aitana Vein 500 m along strike and 300 m down dip. The Aitana vein width is generally <2 m wide. The tertiary veins range in strike length from 200–800 m and in down dip length from 250–500 m and are generally narrower and discontinuous compared to the Ermitaño and Aitana Veins. Widths are variable from <1–4 m.

7.4.2. Structure

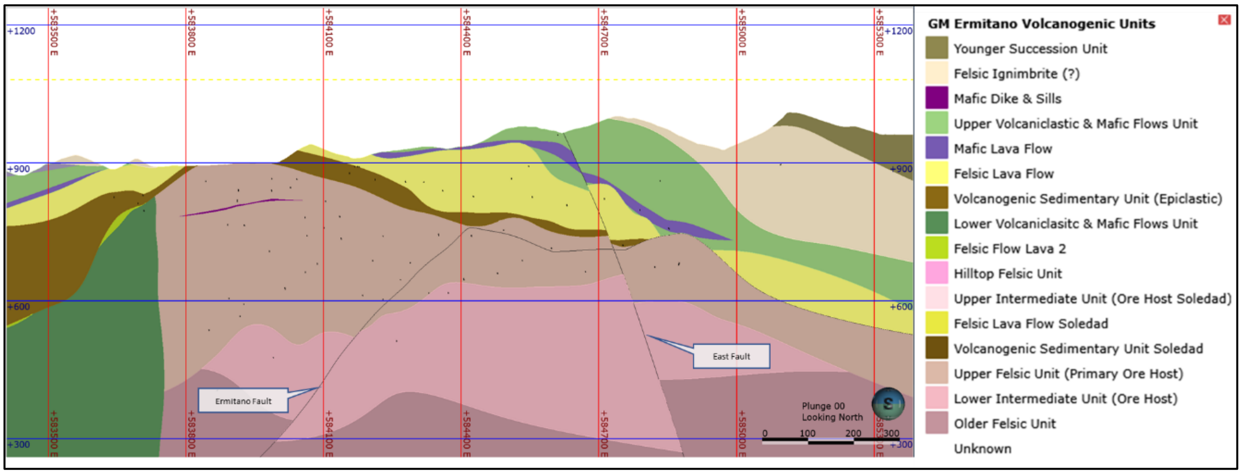
Four major faults dissect the volcanic rocks. The Ermitaño Fault strikes roughly east, dips steeply to the north and has normal down to the north displacement. Drilling has shown this fault juxtaposes the older compact brittle volcanic rocks with the younger less brittle volcanic and volcaniclastic rocks. The Aitana Fault strikes northwest, dips northeast, and has apparent down to the northeast normal displacement. This fault is not as well defined as the Ermitaño Fault. The East Fault strikes northeast, dips steeply to the east and has an apparent down to the southeast normal displacement. This fault is inferred from limited drilling and surface mapping. The Soledad Fault strikes southeast, dips steeply to the southwest and has apparent down to the southwest normal displacement and is also inferred from limited drilling and surface mapping. These structures constrain an uplifted horst-like fault block of the older more competent volcanic rocks surrounded by the younger basin-filling volcanic and epiclastic rocks. These structures are shown in Figure 7-9 to Figure 7-10.

Figure 7-9: Ermitaño Local Geology Cross Section 1



Note: Figure prepared by First Majestic, February 2021. Looking to the west.

Figure 7-10: Ermitaño Local Geology Cross Section 2



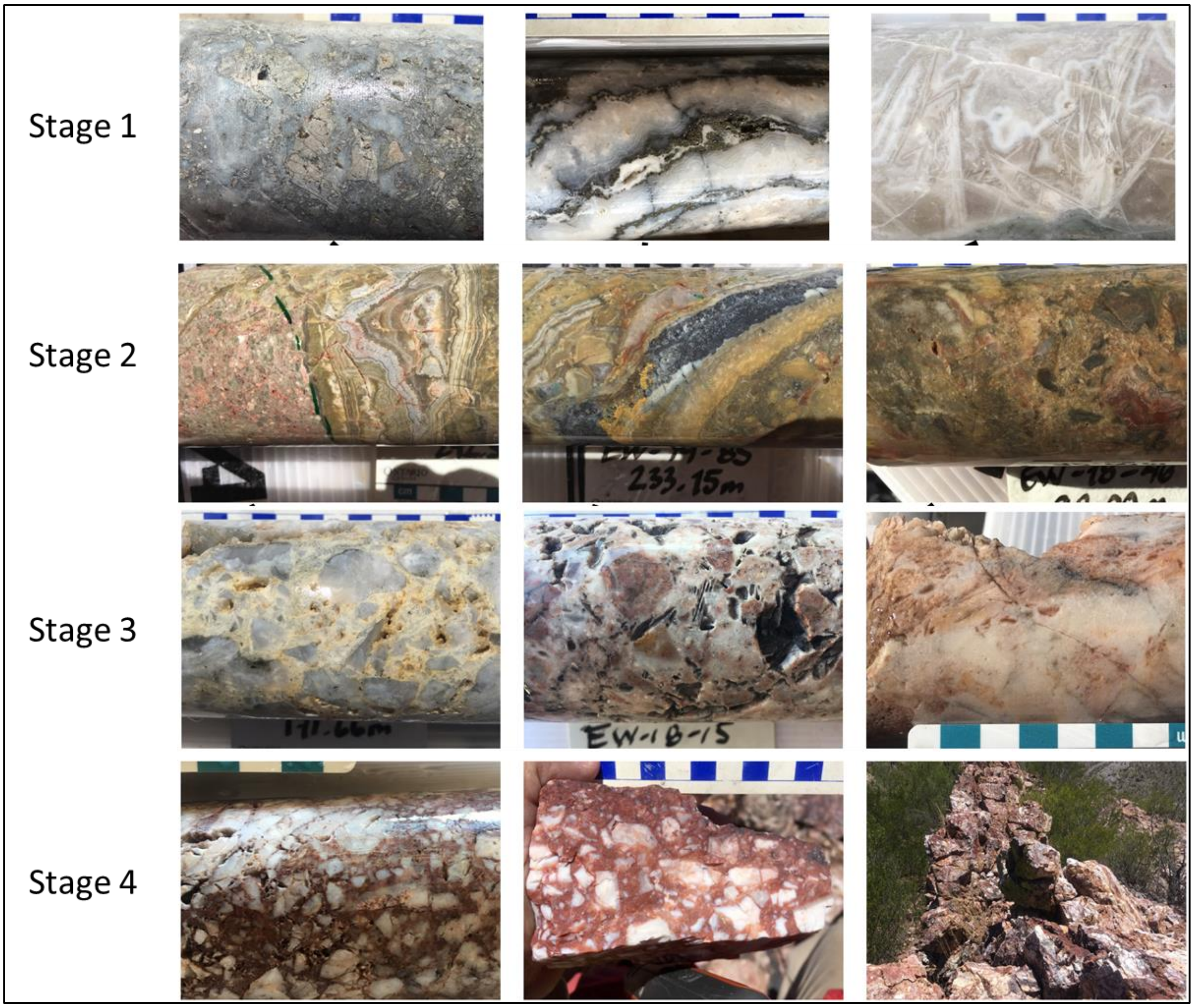
Note: Figure prepared by First Majestic, February 2021. Looking to the west.

7.4.3. Mineralization

Mineralizing fluids are interpreted to have used the Ermitaño Fault as a conduit to form the Ermitaño Vein and sub-parallel tertiary veins which drilling has delineated over 1,800 m along strike and 550 m down dip. The vein is best developed where the structure cuts the older brittle volcanic rocks, where the older volcanic rocks are juxtaposed with younger brittle volcanic rocks, and where the structure shows deflection.

A four-stage vein paragenesis is observed for the Ermitaño Vein. Stage 1 consists of grey quartz, normally cementing breccias, well banded white quartz + pyrite, and calcite pseudomorphs. Stage 2 is dominantly banded and crustiform textured green veins and typically hosts the highest grades of gold and silver. Stage 3 consists of several hydrothermal/tectonic breccia facies with some calcite pseudomorphs, tensile veins, and crack and seal textures. Stage 4 is dominated by white quartz fragments in a hematite + silica cement. The vein assemblage also includes minor adularia, and rarely fluorite and barite. Vein textures are shown in Figure 7-11.

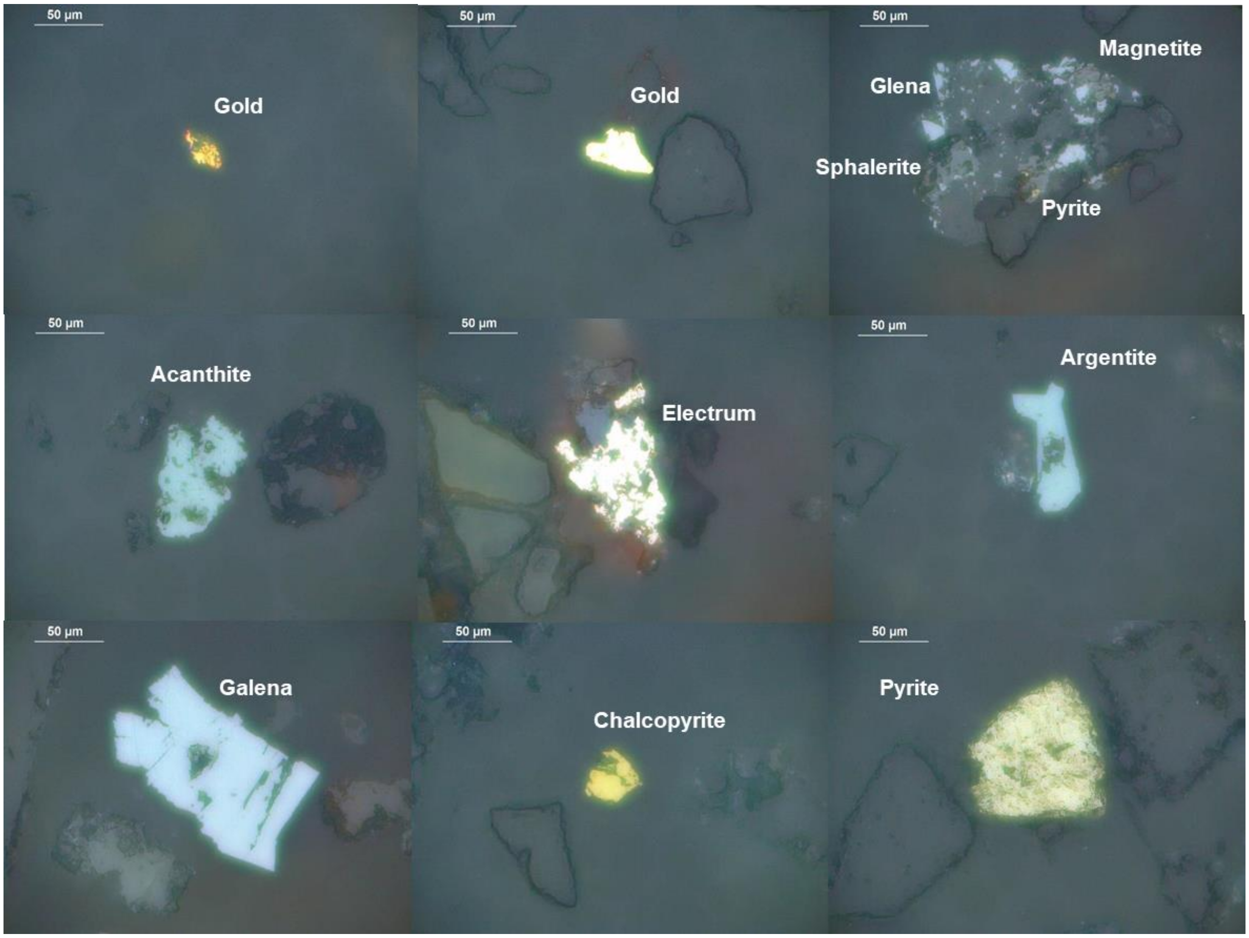
Figure 7-11: Ermitaño Vein Textures



Note: Figure prepared by First Majestic, February 2021.

Sulphide abundance within the Ermitaño Vein, stockwork, and surrounding veins is typically <1–2%, dominated by pyrite with minor galena, sphalerite, pyrrhotite, and chalcopyrite. Gold occurs as native gold or electrum, and silver occurs as electrum, acanthite, and argentite as shown in Figure 7-12.

Figure 7-12: Photomicrographs from the Ermitaño Vein. Native gold, electrum, and sulphide minerals are visible



Note: Figure prepared by First Majestic, February 2021. Revised from Saad (2020).

7.4.4. Alteration

Sericite is common in host rocks immediately surrounding the Ermitaño Vein and stockwork veins. Carbonate veins are present but are typically minor and late.

7.4.5. Zonation

Gold and silver mineral zonation shows silver grades increasing with depth and gold grades typically decreasing with depth. Arsenic, antimony, copper, lead, and zinc grades are generally very low and no apparent zonation is evident yet.

7.5. Regional Exploration Targets

The Santa Elena concessions have high potential to host additional epithermal deposits. There are several drilled prospects within the concessions, each of which hosts mineralized veins. None have been drilled adequately to allow delineation of significant continuity of the structures. The locations of these prospects are shown in Figure 7-2. The drilling results are discussed in Section 10 of this Report.

8. DEPOSIT TYPES

The Santa Elena and Ermitaño deposits are examples of epithermal low to intermediate sulphidation gold–silver vein deposits. The following description of epithermal and specifically low sulfidation epithermal deposits is summarized from Hedenquist (2000, 2003) and, Simmons (2005).

Epithermal deposits are variable in form resulting from near surface lithological, structural, and hydrothermal controls. Deposits and districts, comprising one or more orebodies, can cover areas from <10 to ~200 km^2. Gold and silver deposits of both vein and bulk-tonnage styles may be broadly grouped into high-, intermediate-, and low-sulfidation types based on the sulfidation states of their hypogene sulfide assemblages. The high- and low-sulfidation types may be subdivided using additional parameters, particularly related igneous rock types and metal content. Most low-sulfidation deposits, including nearly 60% of the world's bonanza veins, are associated with basalt-rhyolite volcanic suites in a broad spectrum of extensional tectonic settings.

Low-sulfidation deposits vary from vein through stockwork to disseminated forms with gold–silver, silver–gold, or silver–lead–zinc and are commonly associated with quartz ± calcite ± adularia ± illite. Electrum, acanthite, silver sulfosalts, silver selenides, and gold–silver tellurides are the main gold- and silver bearing minerals, with minor sphalerite, galena, and chalcopyrite. Quartz is the principal gangue mineral accompanied by variable amounts of chalcedony, adularia, illite, pyrite, calcite, and/or rhodochrosite, the latter in more silver- and base metal-rich deposits.

Low sulphidation veins commonly extend 500–2,000 m along strike, and 200–400 m vertically. In some districts such as Pachuca-Real del Monte and Fresnillo, these dimensions are as much as 5,000 m horizontally and 500 m or more vertically. The top level of mineralization can range from tens to hundreds of meters below surface.

Banded crustiform-colloform textures, and lattice textures comprising aggregates of platy calcite and their quartz pseudomorphs are common. In low to intermediate sulfidation deposits, the deep regional alteration is propylitic. Upward through the mineralized horizon, the hydrothermal clay and carbonate abundance increases, except in the vicinity of ores, where quartz, adularia, illite, and pyrite form alteration envelopes. The alteration halos may be two orders of magnitude larger than the actual ore deposit.

Simmons (2005) notes that epithermal mineralization can lie concealed beneath blankets of clay alteration or unaltered volcanic deposits therefore exploration requires integration of all geological, geochemical, and geophysical data, from regional to deposit scale. Vein mineralogy and texture, patterns of hydrothermal alteration, patterns of geochemical dispersion, and three-dimensional interpretation of related geophysical signatures are important guides. Willingness to drill is crucial, as surface features may not reliably indicate what is present at depth.

The Santa Elena mine and Ermitaño project gold and silver deposits form as prominent east–west-trending veins and associated breccias in sub-aerial felsic volcanic rocks. The Santa Elena Main Vein is delineated by drilling along a 1,950 m strike length and 750 m down dip. The Ermitaño Vein is delineated by drilling along an 1,850 m strike length and vertically over 550 m, starting at surface.

The regional geology and the form, textures, alteration, and mineralization observed to date within the Santa Elena and Ermitaño deposits are diagnostic of low-sulphidation epithermal mineralization. The Santa Elena veins display classic epithermal minerals and textures comprising quartz, lattice quartz (and calcite), adularia, and localized crustiform banding with widespread development of strong hydrothermal alteration comprising variable amounts of quartz, calcite, illite, chlorite, pyrite, adularia, and epidote in the host sequence of volcanic lavas and tuffs. The Ermitaño Vein is also hosted in a sequence of volcanic lavas and tuffs and displays epithermal minerals and textures.

Exploration programs that use a low-sulphidation epithermal model are considered appropriate for the Santa Elena and Ermitaño areas.

First Majestic is using geochemical and geophysical surveys, and field X-ray fluorescence analyzers and spectrometers as part of its ongoing regional exploration program. Mapping, rock chip sampling and drilling of vein outcrops remain the primary exploration tools at Santa Elena and the Ermitaño project.

9. EXPLORATION

There have been several surface and airborne exploration surveys and studies completed within the Santa Elena mineral concessions since 2006 including prospecting, mapping, rock and soil geochemical sampling, petrographic and spectrographic studies, magnetic, EM, and IP surveys. Most of this work has focused on the Santa Elena mine and Ermitaño project areas. The regional satellite and airborne surveys have been useful for developing a conceptual geological framework and local mapping and geochemical soil and rock sampling have been useful for identifying prospective drill targets. It is uncertain if further exploration will result in the prospective exploration targets being delineated as a Mineral Resource.

Exploration work completed since 2006 is summarized in Table 9-1.

Drilling remains the best and most widely used exploration tool within the Santa Elena property and is described in Section 10 of this Report.

Table 9-1: Santa Elena Property Exploration Summary

Year	Study	Service Provider	Dimensions	Company
2006-2007	Santa Elena surface and underground mapping and sampling	Santa Elena geologists		Silvercrest
2007	Santa Elena Induce Polarization survey	Pacífic Geoscience Ltd.	Santa Elena Main Vein	Silvercrest
2007	Mineral graphic-petrographic study	Dr. Efrén Pérez Segura	1 rock	Silvercrest
2009	Petrographic study	Dr. Efrén Pérez Segura	12 rocks	Silvercrest
2011	Airborne ZTEM and magnetic survey	Geotech Ltd.	1,324 line km, 400m line spacing, 540 km^2	Evrim
2012	Structural geological analysis of the Santa Elena district	Dr. Eric P. Nelson	Santa Elena Main Vein	Silvercrest
2012	Dipole Dipole IP survey	Zonge Geophysics Ltd.	76.7 line km, 800m x 300m spacing	Evrim
2012 to present	Santa Elena surface and underground mapping and sampling	Silvercrest and Santa Elena geologists		Silvercrest/First Majestic
2013	Dipole Dipole IP survey	Zonge Geophysics Ltd.	38.3 line km, 1,200m x 300m spacing	Evrim
2013	Petrographic study of Santa Elena samples	Dr. W.W. Atkinson Jr.	Santa Elena Main Vein	Silvercrest
2014	Ermitaño surface rock chip sampling	Santa Elena geologists	924 samples	Silvercrest
2014	Santa Elena regional exploration	Dr. Joe Zamudio	Aster, Landsat and NASA Shuttle Radar Topographic Mission	Silvercrest
2014	Airborne ZTEM and magnetic survey reprocessing	Sean Scrivens		Evrim
2014-2015	Alteration, vein textures and mineral zonation study	Stuart F. Simmons	Santa Elena Main Vein, Ermitaño and others	Silvercrest
2016	Spot digital elevation model	PhotoSat	2m resolution, 523km^2	First Majestic
2016	Spot 1.5 m orthophoto	PhotoSat	1.5m resolution, 762km^2	First Majestic
2016	Santa Elena Norte Terraspec rock sampling	Santa Elena geologists	75 samples, 24.7 line km, 50m x 25m spacing	First Majestic
2017	Santin Terraspec and geochemical rock sampling	Santa Elena geologists	120 samples, 5.6 line km, 50m x 50m	First Majestic
2018	El Gachi underground mapping and sampling	Santa Elena geologists	144 channel samples	First Majestic
2019	Airborne magnetic and radiometric survey	New-Sense Geophysics Ltd.	6,300 line km, 100m line spacing, 453km^2	First Majestic
2019	Carmen/Primavera mapping and rock and soil sampling	Santa Elena Geologist	189 soil samples, 164 chip samples in 3.2 line km, 100m x 25m spacing, 4.15km^2 mapping	First Majestic
2019	Hernandez mapping and rock sampling	Santa Elena geologists	330 chip samples, 7.35km^2 mapping	First Majestic
2019-2020	El Plomito mapping and rock and soil sampling	Santa Elena geologists	352 soil samples, 214 chip samples in 13.8 line km, 50m x 50m spacing, 5.80km^2 mapping	First Majestic
2019	El Gachi surface and underground mapping and sampling	Santa Elena geologists	37 chip samples, 1.19km^2 mapping	First Majestic
2020-2021	Colmillo geochemical soil and spectral scan rock survey	Santa Elena geologists	496 soil samples, 366 chip samples in 38 line km, 200m x 200m spacing, 7.2km, 22.15 km^2 mapping.	First Majestic
2020-present	Ermitaño underground mapping and sampling	Santa Elena and Ermitaño geologists		First Majestic
2021	El Gachi geochemical soil and spectral scan rock survey	Resources Geosciences de Mexico	602 soil samples, 22 chip samples in 8 line km, 50m x 100m spacing.	First Majestic
2021	Worldview-3 alteration mineral mapping	PhotoSat	115km^2, Santa Elena Main Vein, Ermitaño and others	First Majestic
2021	Rancho Viejo mapping and rock sampling	Santa Elena geologists	134 chip samples in 20km^2 mapping	First Majestic

10. DRILLING

The Santa Elena mine Mineral Resource estimate is based on logging and sampling of NQ (47.6 mm) and HQ (63.5 mm) diameter core collared from surface and underground at the Santa Elena mine and collared from surface at the Ermitaño project. The Ermitaño project Mineral Resource estimate is based on logging and sampling of HQ diameter core collared from surface and BQ (36.5 mm) collared from underground at the Ermitaño project (One NQ hole was drilled from underground).

Between 2006 and June 30, 2021, 990 drill holes totalling 186,317 m were drilled at the Santa Elena mine, including 797 core holes and 76 reverse circulation (RC) and reverse circulation collared drill holes finished with core drill tail holes (RCDD). Reverse circulation drilling was completed as condemnation drilling in the proposed waste rock facility and leach pad areas and as pre-collars for some core drilling. Reverse circulation chips were collected but were not normally assayed. Assays from RCDD holes are generally from the core portion of the hole. Core sampling ranges from 1–100% of the drilled hole length and averages 44%. Sampling intervals range from 0.1–7.0 m, and average 1.2 m in length. Nineteen pre-2020 core drill holes were not assayed. Twenty-three core drill holes from the 2021 drill program were not assayed as of June 30, 2021. The drill hole database also includes 117 holes totalling 1,220 m of hollow core helical leach pad drilling results. The Santa Elena mine drilling is summarized in Table 10-1.

Between 2016 and June 30, 2021, 288 core drill holes totalling 88,056 m were drilled at the Ermitaño project, including six metallurgical holes and four geotechnical holes. Drill hole sampling ranges from 11–100% of the drilled hole length and averages 53%. Sample lengths range from 0.15–4.95 m, averaging approximately 1 m. The metallurgical and geotechnical holes were not assayed for resource estimation and fourteen holes from the 2021 drill program had not been assayed as of June 30, 2021. Ermitaño drilling is summarized in Table 10-2.

Between 2011 and June 30, 2021, 155 core drill holes totalling 39,875 m of drilling have been completed in 11 regional target areas. These holes were drilled using the same approach described for the Santa Elena mine and the Ermitaño project. Starting in 2019, the First Majestic guidance was modified to sample the entire hole length for early-stage exploration drill holes. The Santa Elena regional drilling is summarized in Table 10-3. The location for these prospects was shown in Figure 7-2.

Major Drilling, Cabo Drilling, Intercore Perforaciones, Guardian Drilling, Grupo Drilcor, Globexplore Drilling and Versa Perforaciones (Versa) have been used as drill contractors since 2006. Versa is currently the primary exploration drill contractor and has been so since 2016.

As-drilled underground drill hole collar locations are surveyed by mine surveyors using a Total Station tool, and as-drilled surface drill hole locations are surveyed by mine surveyors using a differential global positioning system (GPS) tool.

Table 10-1: Santa Elena mine Drilling Summary by Category

	Year	**Surface Diamond Drilling**		**Underground Diamond Drilling**		**Reverse Circulation/Diamond Drill Tails**		**Leachpad Drilling**	
		No. of Holes	**Metres**	**No. of Holes**	**Metres**	**No. of Holes**	**Metres**	**No. of Holes**	**Metres**
Santa Elena	2006	19	2,580						
	2007	50	5,826						
	2008	34	10,980			21	4,164		
	2009					20	1,461		
	2010								
	2011	6	1,306						
	2012	77	23,977			35	8,979		
	2013	71	25,541	21	1,591				
	2014	22	9,393	25	2,856				
	2015	4	2,125	66	2,111				
	2016	6	1,688	43	5,915				
	2017	7	1,686	83	10,467			117	1,220
	2018			83	16,961				
	2019			74	18,929				
	2020			74	16,520				
	Mid 2021			32	10,041				
	Grand Total	**296**	**85,102**	**501**	**85,391**	**76**	**14,604**	**117**	**1,220**

Table 10-2: Ermitaño project Drilling Summary by Category

	Year	**Surface Diamond Drilling**		**Underground Diamond Drilling**		**Metallurgical Diamond Drilling**		**Geotechnical Diamond Drilling**	
		No. of Holes	**Metres**	**No. of Holes**	**Metres**	**No. of Holes**	**Metres**	**No. of Holes**	**Metres**
Ermitaño	2016	7	1,951						
	2017	4	1,758						
	2018	41	17,540						
	2019	88	29,372			3	821		
	2020	56	19,162			2	288	4	1,164
	Mid 2021	44	14,225	39	1,776				
	Grand Total	**240**	**84,008**	**39**	**1,776**	**5**	**1,109**	**4**	**1,164**

Table 10-3: Santa Elena Regional Drilling Summary

Target	No. of Holes	Metres	Drilled By
El Carmen	20	6,140	First Majestic
El Colmillo	1	75	First Majestic
El Durazno	9	2,656	SilverCrest
Ermitaño Este	3	792	SilverCrest
Hernandez	6	1,932	First Majestic
Plomito	9	2,892	First Majestic
Primavera	9	2,174	First Majestic
San Judas	36	8,580	First Majestic
Santa Elena Norte	37	5,929	First Majestic
Santin	5	2,943	Evrim
Soledad	13	4,673	First Majestic
Valentina	7	1,089	SilverCrest
Total	**155**	**39,875**	

Core drill holes are surveyed down hole using a variety of Devico and Reflex magnetic tools which collect azimuth relative to magnetic north, inclination, and magnetic field. Magnetic declination corrections are applied during entry to the database. Down hole measurement intervals range from 1–400 m and averages 37 m. The average down hole interval decreased from 115 m in 2008 to 28 m in 2021.

Core recovery information has been collected at the Santa Elena mine since 2012 and at the Ermitaño project since 2016. Drill core recovery is measured by drilled run length and is recorded for 88% of the metres drilled at the Santa Elena mine and 75% of the metres drilled at the Ermitaño project. Core recovery averaged 96% at the Santa Elena mine and 94% at the Ermitaño project, and in both cases more than 95% of the measurements returned greater than 80% recovery. There is no apparent correlation between decreasing core recovery and grade greater than 100 ppm Ag-Eq grade at Santa Elena mine and Ermitaño project across the range of recoveries. Rock quality designation (RQD) has been collected since 2012 and measured by drilled run length. RQD averages 60% and 66% at Santa Elena mine and Ermitaño project, respectively.

Since 2016, First Majestic geologists have collected SG measurements from 15 cm long whole HQ core selected from mineralized zones and from wall rocks on either side of mineralized zones. From 2016 to 2018, SG was determined using a wax-sealed water displacement method. From 2018 SG is estimated using a wax-sealed water immersion method. There is no significant difference in the SG values estimated by either method. Control samples such as duplicates, checks and standards are included. In the wax-sealed water immersion method the samples are dried first in air, weighed, coated with wax, and weighed again. The wax coated sample is then suspended in water and weighed again. The SG is estimated using the following formula:

$$\frac{Wdry}{(Wwc\ air - Wwc\ water) - \frac{Wwc\ air - W\ dry}{Wdensity}}$$

Where:

Wdry: Sample weight in dry in air
Wwc air: Wax Coat sample weight in air
Wwc water: Wax Coat sample weight immersed in water
Wdensity: Density of wax

From 2016 to June 30, 2021, a total of 4,687 SG measurements were collected from the Ermitaño project and 3,561 SG measurements were collected from the Santa Elena mine.

The entire length of drill core is photographed and logged for lithology, mineralization, structure, and alteration. Logging observations were originally collected on paper and recorded in Excel. Starting in 2014 observations were entered directly into a database using Geospark, and since 2016 using LogChief.

Sampling intervals are currently based on First Majestic's guidance to respect lithology and mineralization boundaries and for 0.3 m minimum and 1.5 m maximum sample lengths. Shorter and longer lengths rarely occur and are usually related to drilling in 2006 to 2008, or to obvious grade boundaries, poor recovery, or longer sampling in the barren zones.

The 2006 to 2008 drill core was split in half with a hydraulic hand splitter. Since 2012 all drill core except for Ermitaño underground diamond drilling is cut in half with a diamond blade saw. After splitting or sawing half of the core is placed in a plastic bag with a unique sample number tag and a matching sample number tag is placed with the matching half core in the core box at the start of each sample interval. Ermitaño underground diamond core is full core sampled with core placed in a plastic bag with a unique sample tag.

Sample quality control is monitored using certified reference materials (CRMs), blanks, and quarter core field, coarse reject, and pulp duplicates. Coarse reject and pulp samples are prepared and inserted by the laboratory during sample preparation. Pulp duplicates are also periodically submitted to a secondary laboratory to assess between-laboratory bias. Quality control results are discussed in Section 11.

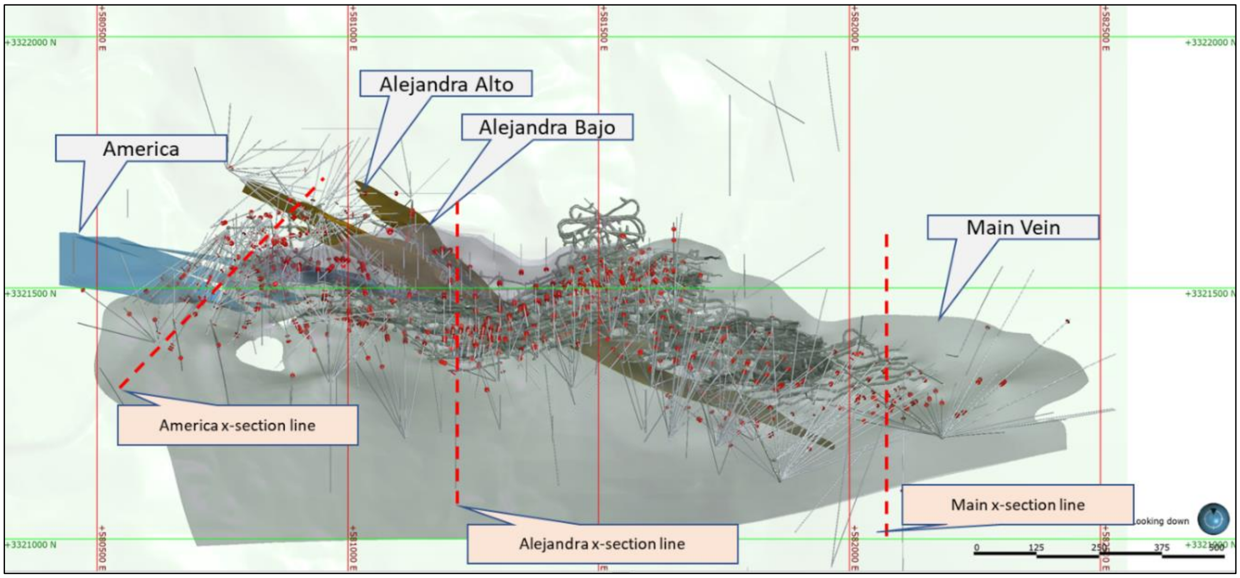
No other sample preparation is done before shipping to the laboratory. Before 2016, samples were dispatched to ALS in Hermosillo or Chihuahua, Mexico and Bureau Veritas in Hermosillo, Mexico. Since 2016, samples from the Ermitaño project are dispatched to SGS in Durango or Hermosillo, Mexico, and from 2016 until April 2021 samples from the Santa Elena mine underground drill holes were dispatched to First Majestic's Central Laboratory in San Jose de La Parrilla, Durango, Mexico (Central Laboratory). Since May 2021 samples from the Santa Elena mine underground drill holes are dispatched to SGS in Durango or Hermosillo. All Ermitaño underground diamond drilling core is sent to First Majestic's Santa Elena mine laboratory.

Production channel samples are collected to support the geological modeling, resource estimation, and grade control during production. Channel samples are collected by chipping a channel by hammer and chisel along a line or by cutting a channel line with a saw and chipping out the sample with a hammer and chisel. Channel samples collected at approximately 3 m intervals are used for grade control. Sample intervals from 0.30–1.20 m are marked with a line across each face, respecting vein/wall contacts and textural or mineralogical features. Channel samples are taken within a 20 cm wide swath along the line using a hammer and hand chisel and are collected on a tarpaulin. Fragments larger than 2 cm are broken into small pieces. A 1.5 kg sub-sample is bagged and labelled with sample number and location details. Sketches are collected of the sampled face, showing the location and length of each sample. The location coordinates from each sample line are surveyed from a referenced survey peg. Samples are dispatched to the Santa Elena mine laboratory. Since 2019 production channel samples taken every 10 m are also submitted to the Central Laboratory. The sampling procedure for production channel samples has some risk of introducing sampling bias but this possible bias has not been fully assessed. While production channel sampling continued in 2021, no production channels from this year were used in resource estimation.

From 2016 to 2017, 25 m spaced sawn underground channel samples were also collected to support resource estimation. Two lines 8–10 cm apart and approximately 3 cm deep were cut with a diamond blade saw. Chips were made within the sawn channel using a pneumatic chisel and were collected on tarpaulins. These samples were sent to ALS in Hermosillo or to the Central Laboratory. Sawn channel sampling was stopped in 2019.

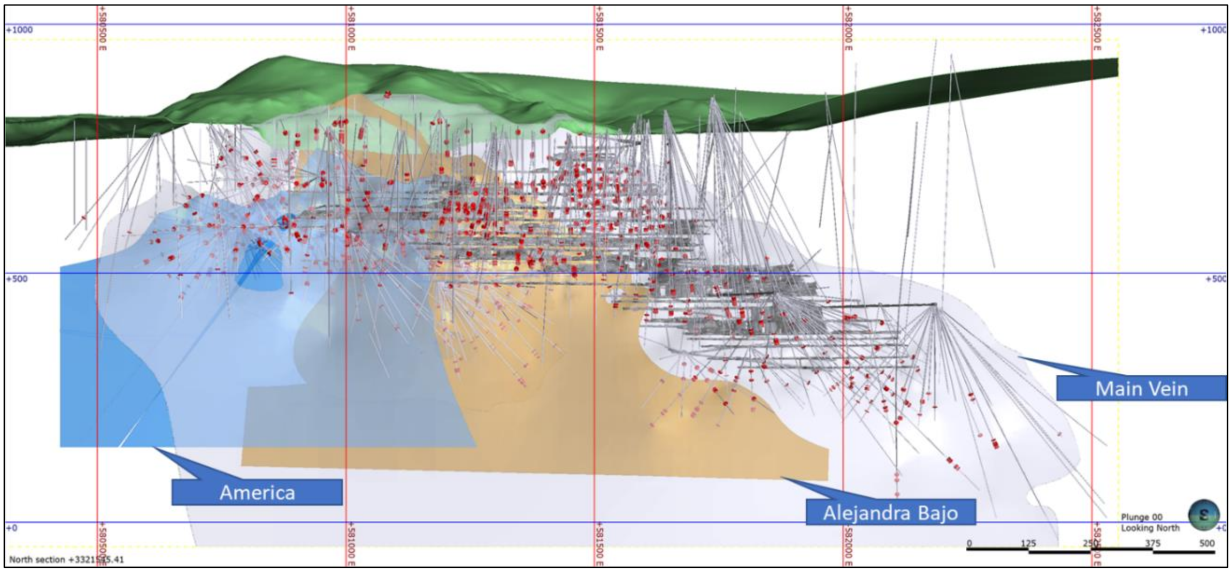
Drilling in 2020 and 2021 has revealed that mineralization in the Alejandra and America Veins remains open at depth. Mineralization is narrowing at depth in the Main Vein, and current drilling has limited the potential local down dip extent. Generalized drill plans, long sections, and cross sections of the Santa Elena Main, Alejandra, and America Veins are shown in Figure 10-1 to Figure 10-8.

Figure 10-1: Santa Elena Mine Drill Plan



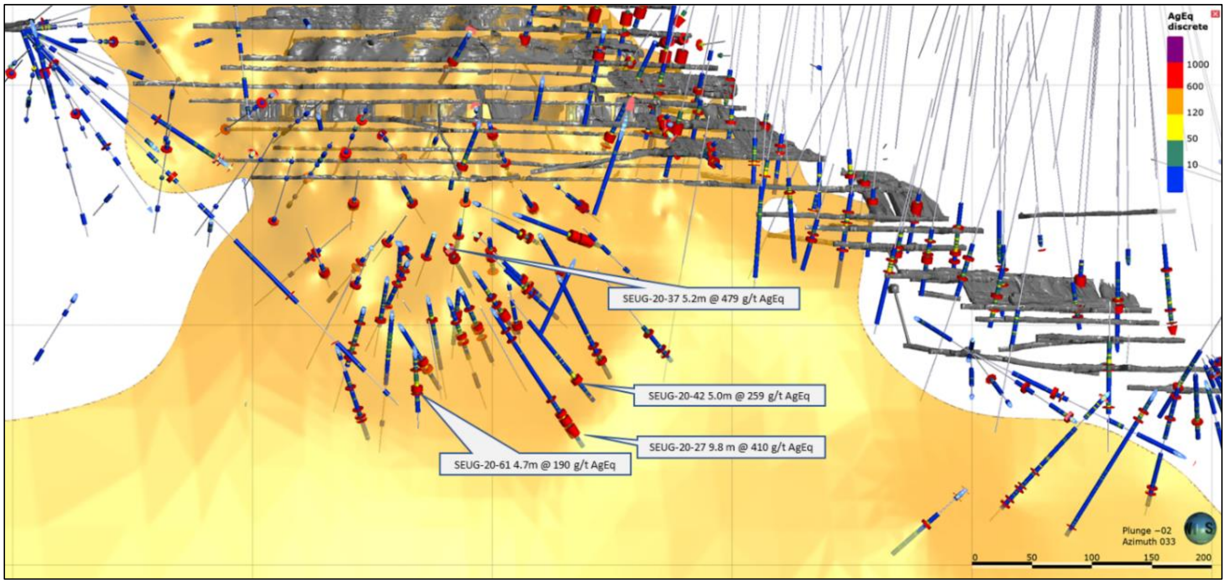
*Note: Figure prepared by First Majestic, February 2021. Section looks down; red dots- exploration composites >120 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*92.7).*

Figure 10-2: Santa Elena Mine Drill Hole Long Section



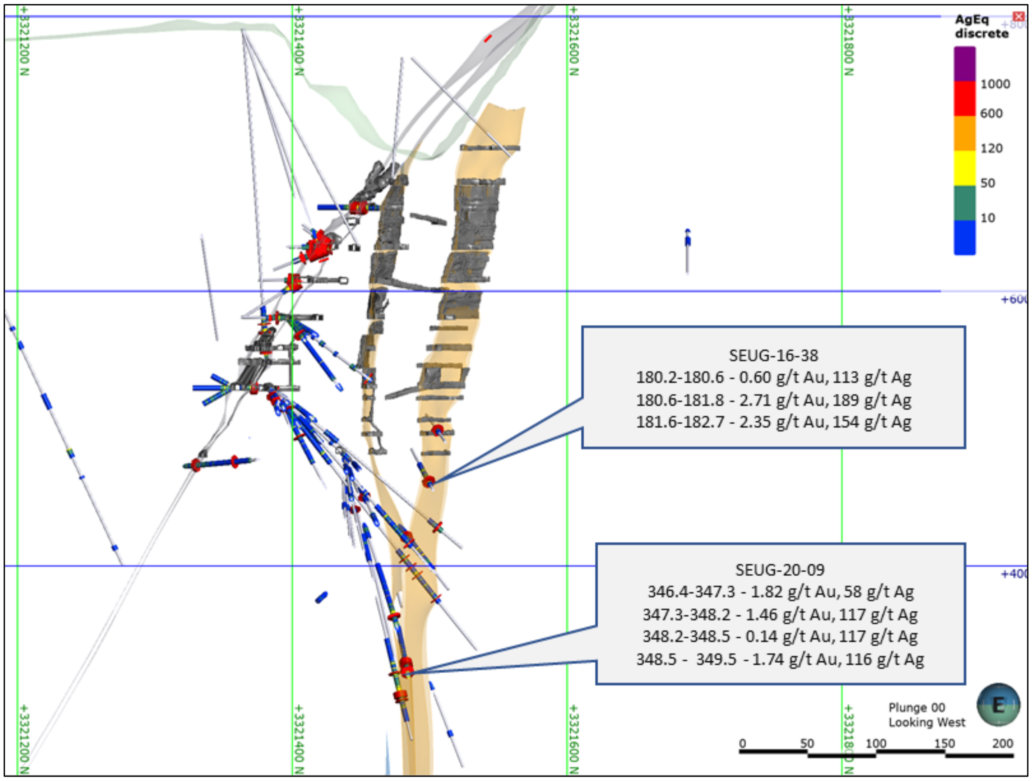
*Note: Figure prepared by First Majestic, February 2021. Section Looks north; red dots- exploration composites >120 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*92.7).*

Figure 10-3: Alejandra Drill Hole Long Section



*Note: Figure prepared by First Majestic, February 2021. Section looks north; red dots- exploration composites >120 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*92.7); drilled intersections reported; true widths are 20% to 30% less.*

Figure 10-4: Alejandra Drill Hole Cross Section

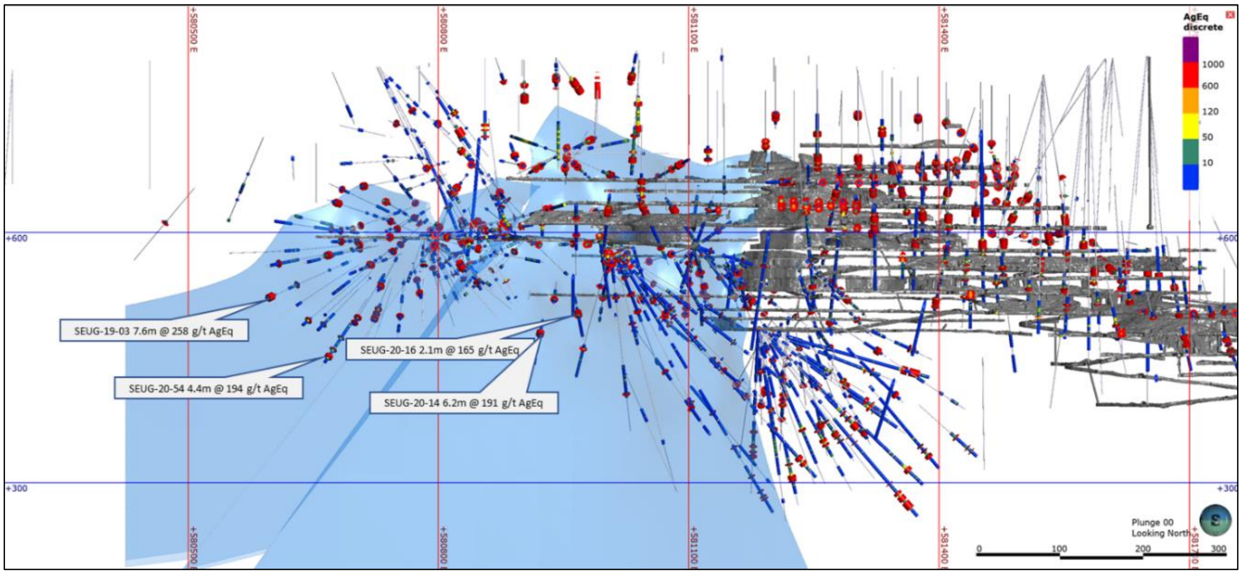


SEUG-16-38
180.2-180.6 - 0.60 g/t Au, 113 g/t Ag
180.6-181.8 - 2.71 g/t Au, 189 g/t Ag
181.6-182.7 - 2.35 g/t Au, 154 g/t Ag

SEUG-20-09
346.4-347.3 - 1.82 g/t Au, 58 g/t Ag
347.3-348.2 - 1.46 g/t Au, 117 g/t Ag
348.2-348.5 - 0.14 g/t Au, 117 g/t Ag
348.5 - 349.5 - 1.74 g/t Au, 116 g/t Ag

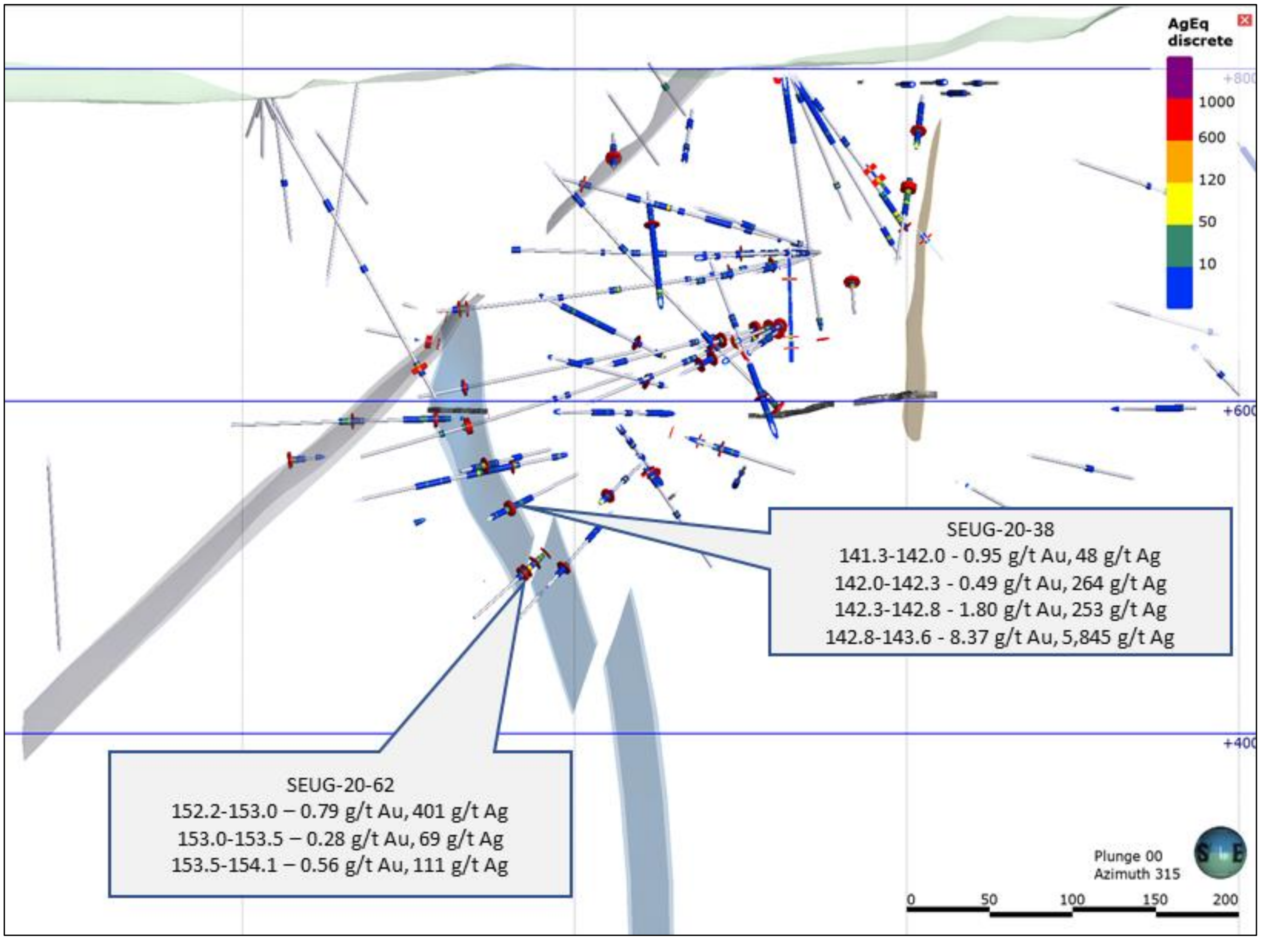
*Note: Figure prepared by First Majestic, February 2021. Section looks west; red dots- exploration composites >120 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*92.7); from-to intersections reported; true widths are 20% to 30% less.*

Figure 10-5: America Drill Hole Long Section



*Note: Figure prepared by First Majestic, February 2021. Section looks north; red dots- exploration composites >120 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*92.7); from–to intersections reported; true widths are 20% to 30% less.*

Figure 10-6: America Drill Hole Cross Section

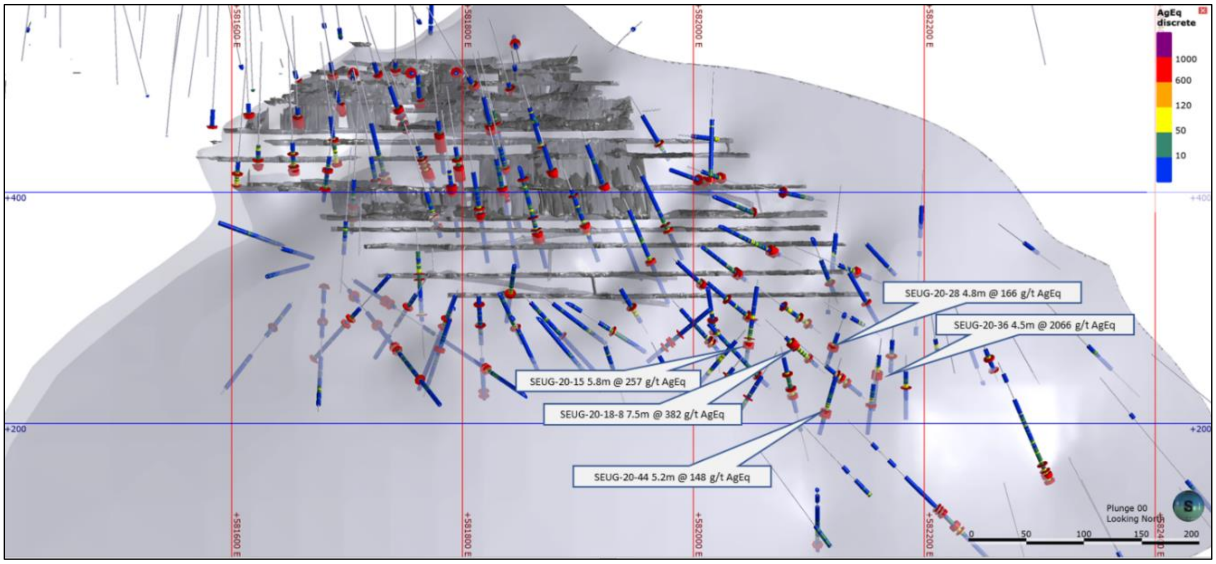


SEUG-20-38
141.3-142.0 - 0.95 g/t Au, 48 g/t Ag
142.0-142.3 - 0.49 g/t Au, 264 g/t Ag
142.3-142.8 - 1.80 g/t Au, 253 g/t Ag
142.8-143.6 - 8.37 g/t Au, 5,845 g/t Ag

SEUG-20-62
152.2-153.0 – 0.79 g/t Au, 401 g/t Ag
153.0-153.5 – 0.28 g/t Au, 69 g/t Ag
153.5-154.1 – 0.56 g/t Au, 111 g/t Ag

*Note: Figure prepared by First Majestic, February 2021. Section looks west; red dots- exploration composites >120 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*92.7); from–to intersections reported; true widths are 20% to 30% less.*

Figure 10-7: Main Vein Drill Hole Long Section



SEUG-20-28 4.8m @ 166 g/t AgEq

SEUG-20-36 4.5m @ 2066 g/t AgEq

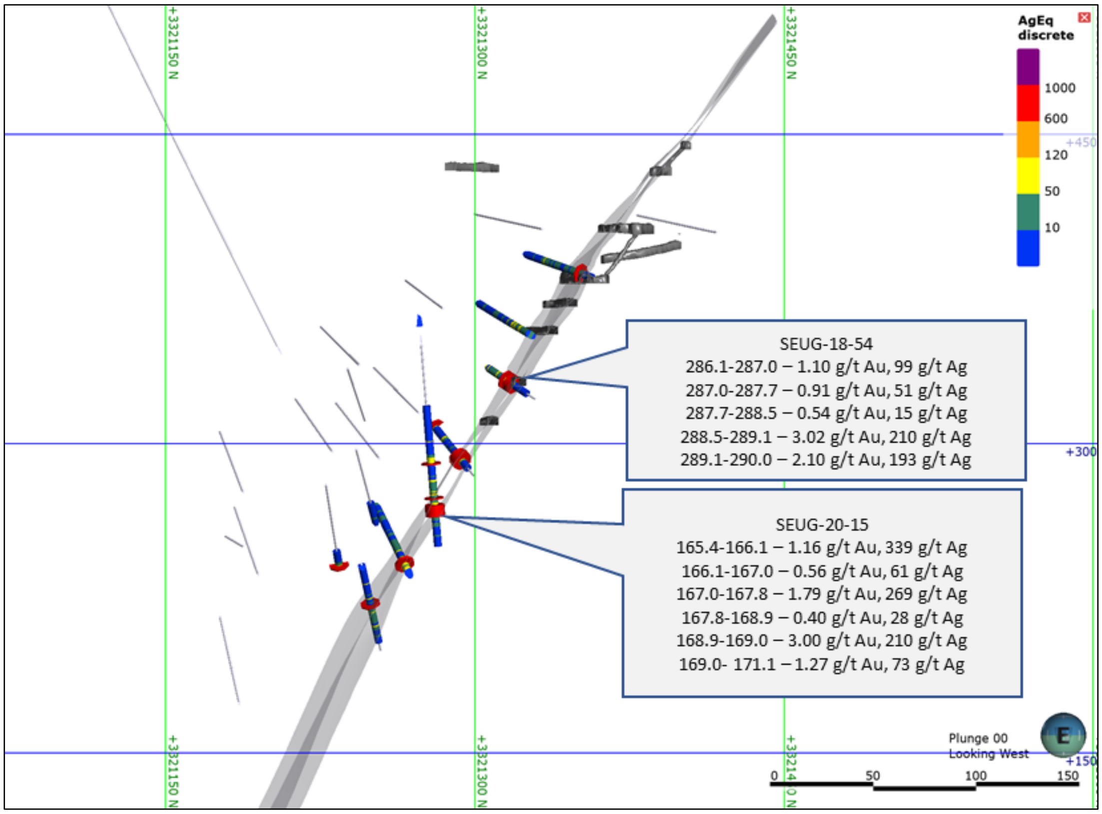
SEUG-20-15 5.8m @ 257 g/t AgEq

SEUG-20-18-8 7.5m @ 382 g/t AgEq

SEUG-20-44 5.2m @ 148 g/t AgEq

*Note: Figure prepared by First Majestic, February 2021. Section looks north; red dots - exploration composites >120 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*92.7); from–to intersections reported; true widths are 20% to 30% less.*

Figure 10-8: Santa Elena Main Vein Cross Section



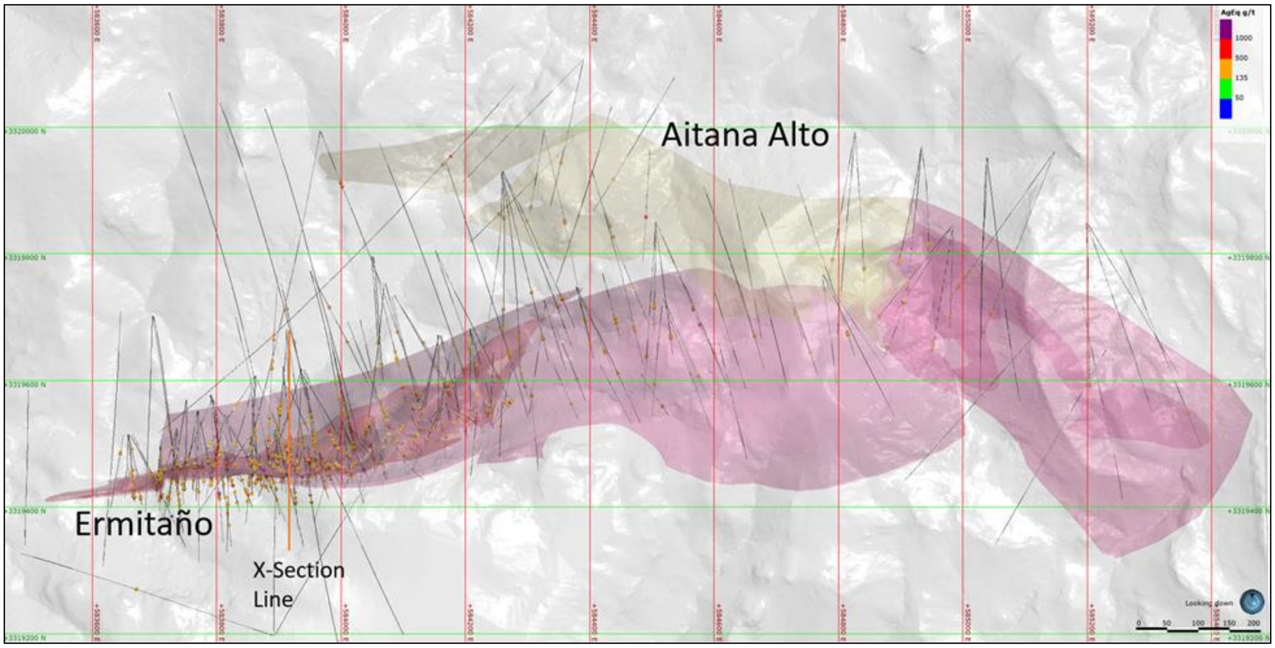
SEUG-18-54
286.1-287.0 – 1.10 g/t Au, 99 g/t Ag
287.0-287.7 – 0.91 g/t Au, 51 g/t Ag
287.7-288.5 – 0.54 g/t Au, 15 g/t Ag
288.5-289.1 – 3.02 g/t Au, 210 g/t Ag
289.1-290.0 – 2.10 g/t Au, 193 g/t Ag

SEUG-20-15
165.4-166.1 – 1.16 g/t Au, 339 g/t Ag
166.1-167.0 – 0.56 g/t Au, 61 g/t Ag
167.0-167.8 – 1.79 g/t Au, 269 g/t Ag
167.8-168.9 – 0.40 g/t Au, 28 g/t Ag
168.9-169.0 – 3.00 g/t Au, 210 g/t Ag
169.0- 171.1 – 1.27 g/t Au, 73 g/t Ag

*Note: Figure prepared by First Majestic, February 2021. Section looks west; red dots - exploration composites >120 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*92.7); from–to intersections reported; true widths are 20% to 30% less.*

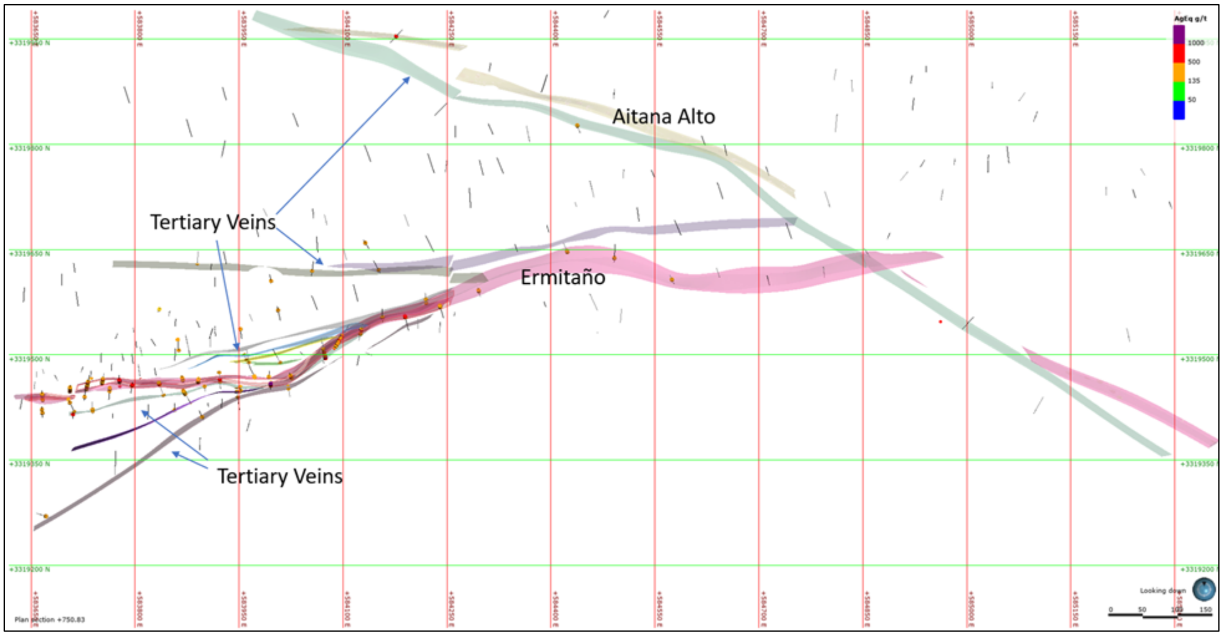
Widely spaced drilling in 2020 and 2021 on the Ermitaño project has shown that gold and silver mineralization in the Ermitaño Vein remains open at depth to the east. The western end of the Ermitaño Vein rapidly decreases in thickness and may be offset by a yet to be recognized fault. Generalized drill plans, long sections, and cross sections of the Ermitaño and Aitana Veins, are shown in Figure 10-9 to Figure 10-13.

Figure 10-9: Ermitaño Project Drill Plan



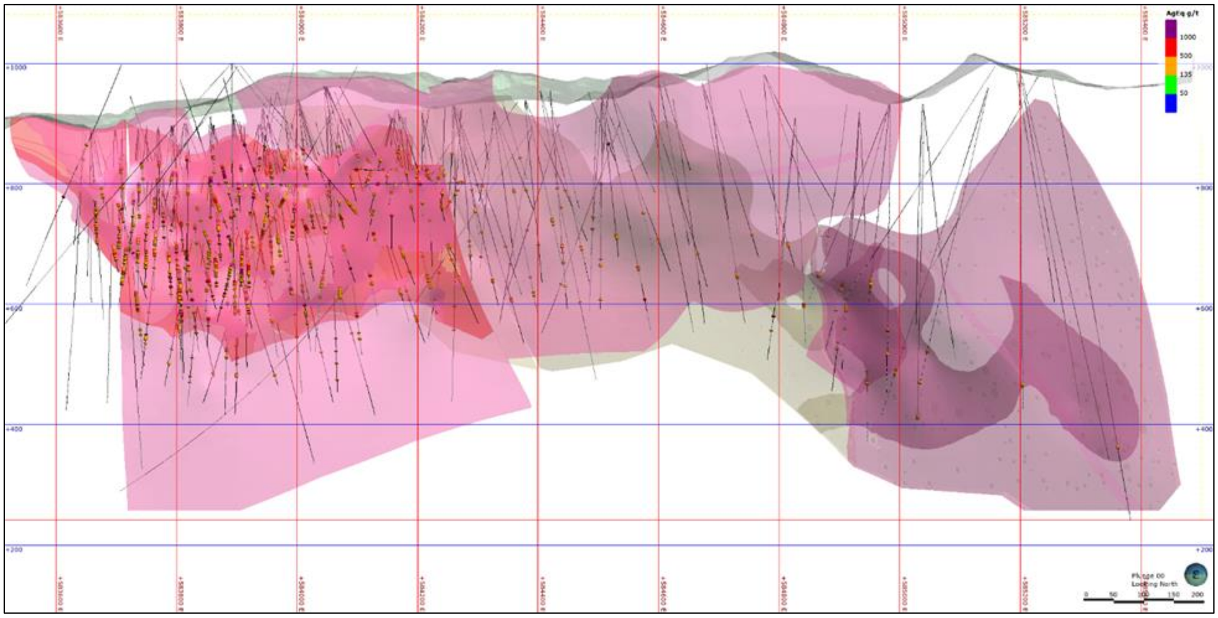
*Note: Figure prepared by First Majestic, September 2021. Section looks down; red dots - exploration composites >135 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*96.8); excludes tertiary veins.*

Figure 10-10: Ermitaño 750 Level Plan Showing Tertiary Veins Relative to the Ermitaño Vein and Aitana Veins



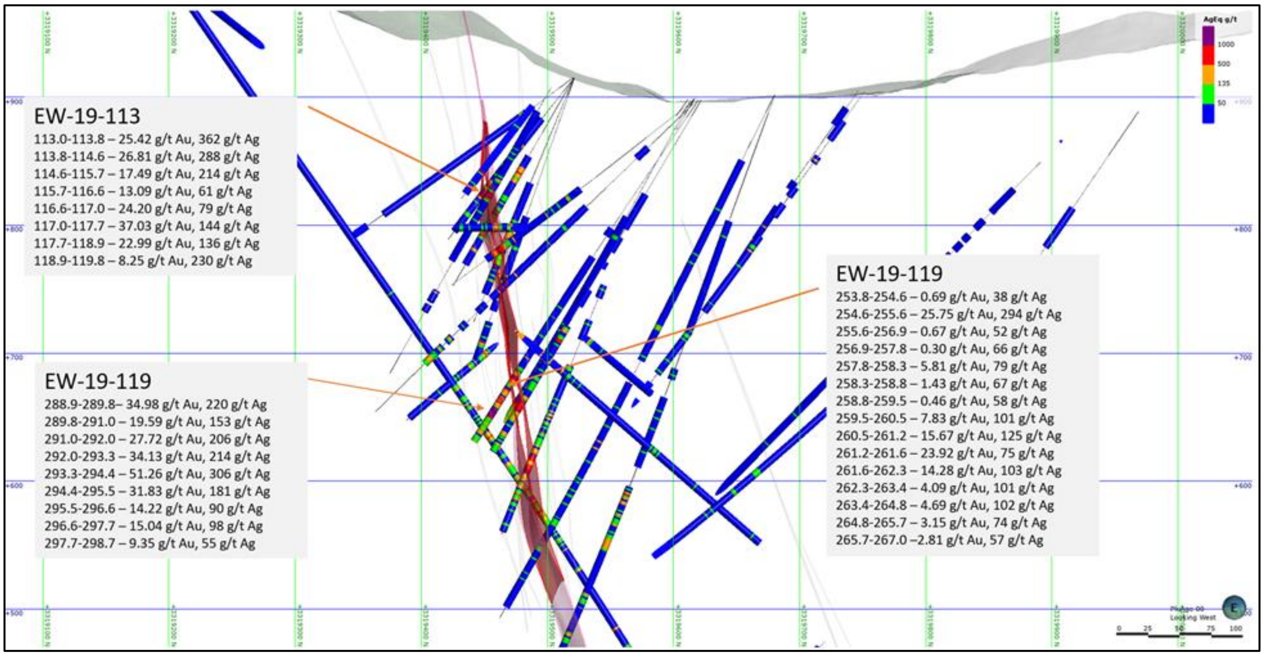
Note: Figure prepared by First Majestic, September 2021.

Figure 10-11: Ermitaño Drill Hole Long Section



*Note: Figure prepared by First Majestic, September 2021. Section looks north; exploration composites >135 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*96.8).*

Figure 10-12: Ermitaño Vein Drill Hole Example Intersections, Cross Section



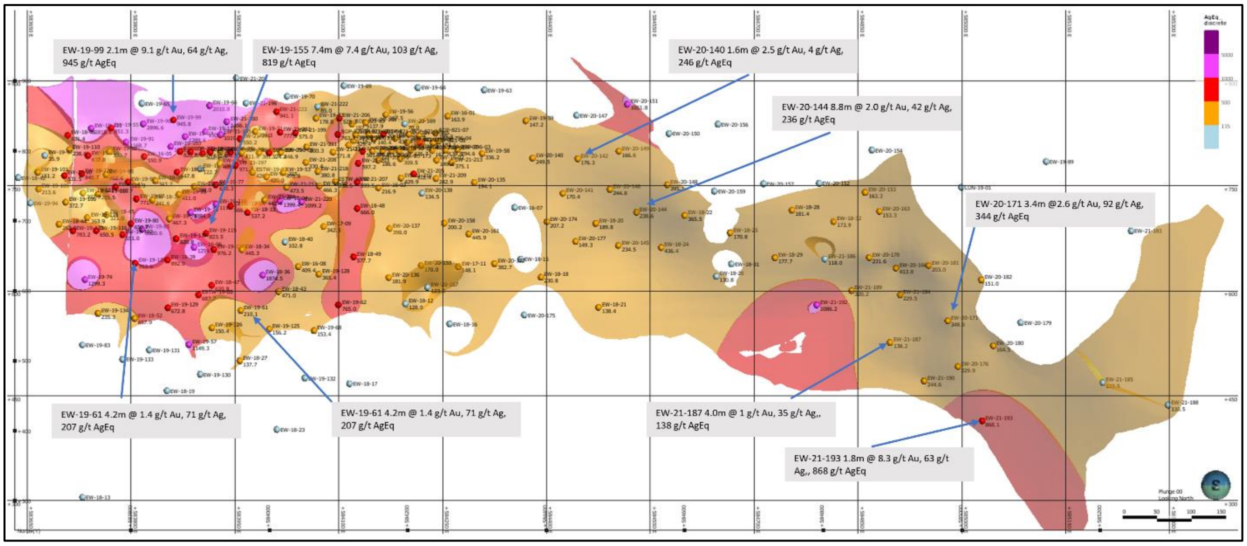
EW-19-113
113.0-113.8 – 25.42 g/t Au, 362 g/t Ag
113.8-114.6 – 26.81 g/t Au, 288 g/t Ag
114.6-115.7 – 17.49 g/t Au, 214 g/t Ag
115.7-116.6 – 13.09 g/t Au, 61 g/t Ag
116.6-117.0 – 24.20 g/t Au, 79 g/t Ag
117.0-117.7 – 37.03 g/t Au, 144 g/t Ag
117.7-118.9 – 22.99 g/t Au, 136 g/t Ag
118.9-119.8 – 8.25 g/t Au, 230 g/t Ag

EW-19-119
253.8-254.6 – 0.69 g/t Au, 38 g/t Ag
254.6-255.6 – 25.75 g/t Au, 294 g/t Ag
255.6-256.9 – 0.67 g/t Au, 52 g/t Ag
256.9-257.8 – 0.30 g/t Au, 66 g/t Ag
257.8-258.3 – 5.81 g/t Au, 79 g/t Ag
258.3-258.8 – 1.43 g/t Au, 67 g/t Ag
258.8-259.5 – 0.46 g/t Au, 58 g/t Ag
259.5-260.5 – 7.83 g/t Au, 101 g/t Ag
260.5-261.2 – 15.67 g/t Au, 125 g/t Ag
261.2-261.6 – 23.92 g/t Au, 75 g/t Ag
261.6-262.3 – 14.28 g/t Au, 103 g/t Ag
262.3-263.4 – 4.09 g/t Au, 101 g/t Ag
263.4-264.8 – 4.69 g/t Au, 102 g/t Ag
264.8-265.7 – 3.15 g/t Au, 74 g/t Ag
265.7-267.0 –2.81 g/t Au, 57 g/t Ag

EW-19-119
288.9-289.8– 34.98 g/t Au, 220 g/t Ag
289.8-291.0 – 19.59 g/t Au, 153 g/t Ag
291.0-292.0 – 27.72 g/t Au, 206 g/t Ag
292.0-293.3 – 34.13 g/t Au, 214 g/t Ag
293.3-294.4 – 51.26 g/t Au, 306 g/t Ag
294.4-295.5 – 31.83 g/t Au, 181 g/t Ag
295.5-296.6 – 14.22 g/t Au, 90 g/t Ag
296.6-297.7 – 15.04 g/t Au, 98 g/t Ag
297.7-298.7 – 9.35 g/t Au, 55 g/t Ag

Note: Figure prepared by First Majestic, September 2021. Section looks west; from–to intersections reported; true widths are 20% to 30% less.

Figure 10-13: Ermitaño Vein Drill Hole Intercepts, Grade in Long Section



EW-19-99 2.1m @ 9.1 g/t Au, 64 g/t Ag, 945 g/t AgEq

EW-19-155 7.4m @ 7.4 g/t Au, 103 g/t Ag, 819 g/t AgEq

EW-20-140 1.6m @ 2.5 g/t Au, 4 g/t Ag, 246 g/t AgEq

EW-20-144 8.8m @ 2.0 g/t Au, 42 g/t Ag, 236 g/t AgEq

EW-20-171 3.4m @2.6 g/t Au, 92 g/t Ag, 344 g/t AgEq

EW-19-61 4.2m @ 1.4 g/t Au, 71 g/t Ag, 207 g/t AgEq

EW-19-61 4.2m @ 1.4 g/t Au, 71 g/t Ag, 207 g/t AgEq

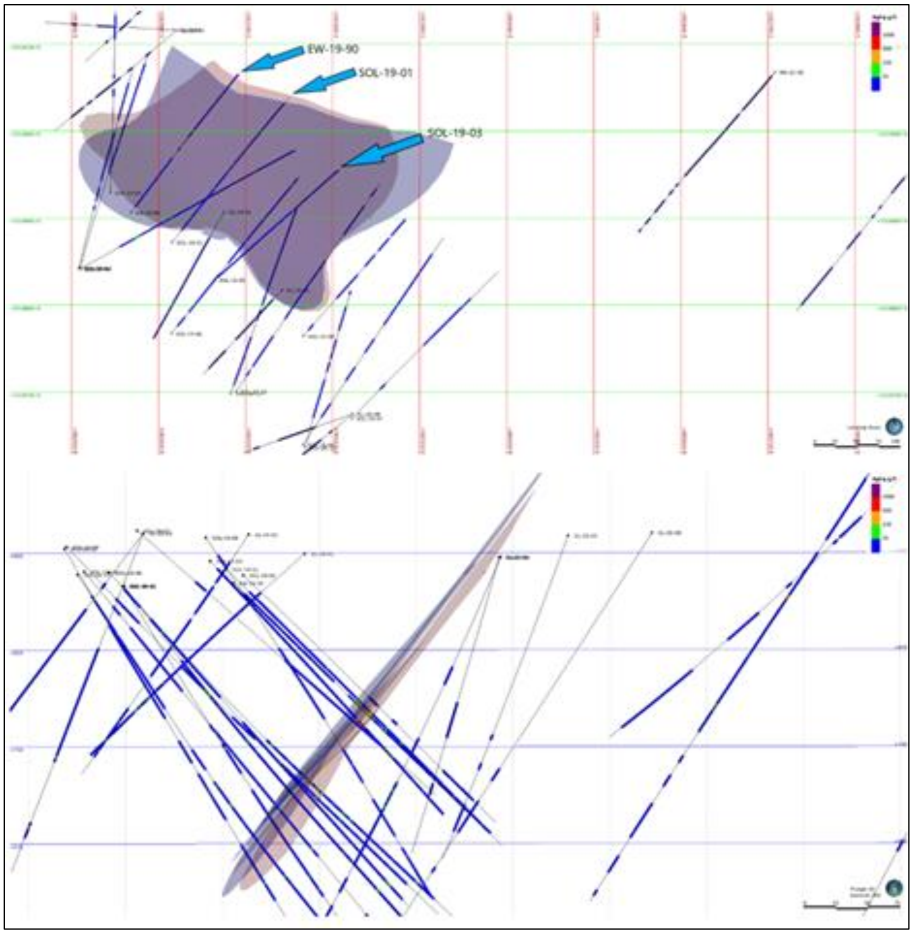
EW-21-187 4.0m @ 1 g/t Au, 35 g/t Ag,, 138 g/t AgEq

EW-21-193 1.8m @ 8.3 g/t Au, 63 g/t Ag,, 868 g/t AgEq

*Note: Figure prepared by First Majestic, September 2021. Section looks north; exploration composites >135 g/t Ag-Eq and > 0.75 m; Ag-Eq=Ag+(Au*96.8); true widths reported.*

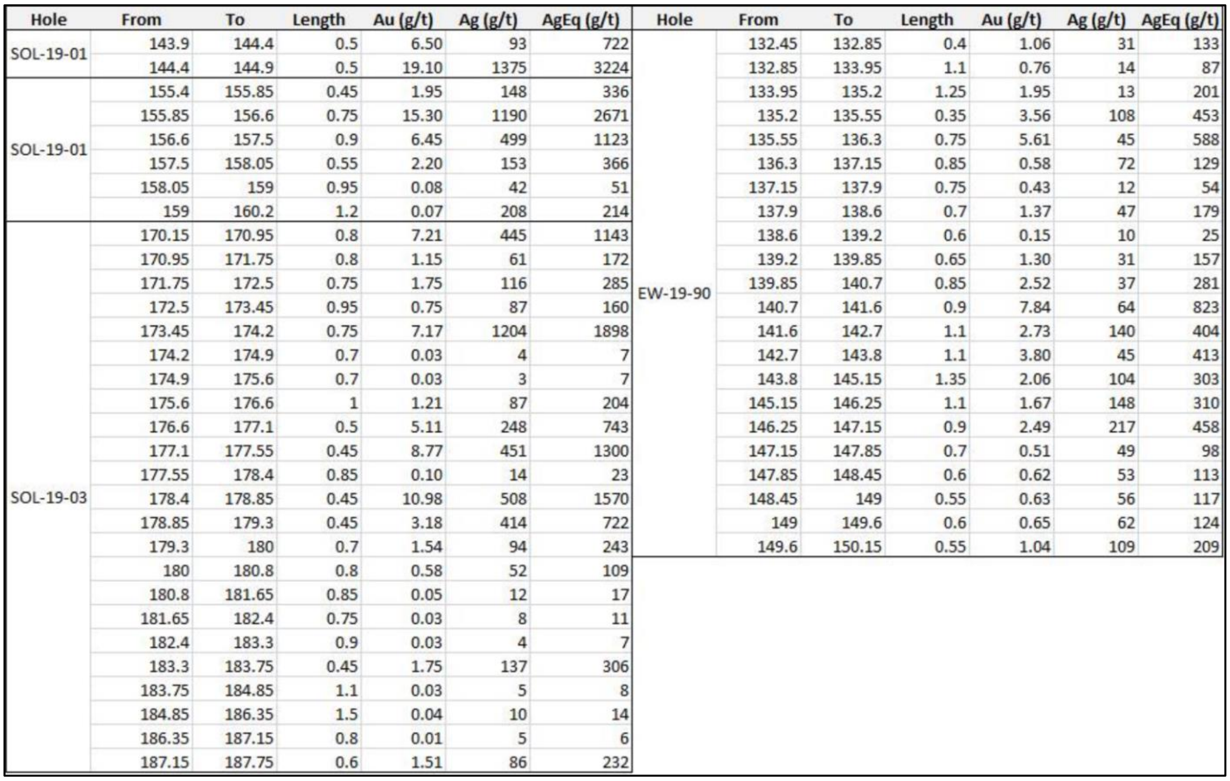
Wide spaced drilling in 2019 intersected epithermal vein mineralization approximately one kilometre southwest of the Ermitaño vein in the Soledad area. Mineralization has been delineated in two subparallel veins approximately 300 m along strike and 300 m down dip starting from surface. These veins vary from 10 cm to 5 m in thickness, and the thickest and highest-grade intersections occur near 750 masl. Step-out drilling down dip and along strike have not yet returned significant mineralization, but there is potential to delineate additional structures in the area. A drill plan and cross section for the Soledad veins are shown in Figure 10-14. Assay results of the most significant intersections are shown in Table 10-4.

Figure 10-14: Drill Hole Plan Map and Vertical Section of the Soledad Veins.



Note: Figure prepared by First Majestic, September 2021. Section looks southeast.

Table 10-4: Significant Santa Elena Regional Drill Results Collected by First Majestic



Hole	From	To	Length	Au (g/t)	Ag (g/t)	AgEq (g/t)
SOL-19-01	143.9	144.4	0.5	6.50	93	722
	144.4	144.9	0.5	19.10	1375	3224
SOL-19-01	155.4	155.85	0.45	1.95	148	336
	155.85	156.6	0.75	15.30	1190	2671
	156.6	157.5	0.9	6.45	499	1123
	157.5	158.05	0.55	2.20	153	366
	158.05	159	0.95	0.08	42	51
	159	160.2	1.2	0.07	208	214
SOL-19-03	170.15	170.95	0.8	7.21	445	1143
	170.95	171.75	0.8	1.15	61	172
	171.75	172.5	0.75	1.75	116	285
	172.5	173.45	0.95	0.75	87	160
	173.45	174.2	0.75	7.17	1204	1898
	174.2	174.9	0.7	0.03	4	7
	174.9	175.6	0.7	0.03	3	7
	175.6	176.6	1	1.21	87	204
	176.6	177.1	0.5	5.11	248	743
	177.1	177.55	0.45	8.77	451	1300
	177.55	178.4	0.85	0.10	14	23
	178.4	178.85	0.45	10.98	508	1570
	178.85	179.3	0.45	3.18	414	722
	179.3	180	0.7	1.54	94	243
	180	180.8	0.8	0.58	52	109
	180.8	181.65	0.85	0.05	12	17
	181.65	182.4	0.75	0.03	8	11
	182.4	183.3	0.9	0.03	4	7
	183.3	183.75	0.45	1.75	137	306
	183.75	184.85	1.1	0.03	5	8
	184.85	186.35	1.5	0.04	10	14
	186.35	187.15	0.8	0.01	5	6
	187.15	187.75	0.6	1.51	86	232
EW-19-90	132.45	132.85	0.4	1.06	31	133
	132.85	133.95	1.1	0.76	14	87
	133.95	135.2	1.25	1.95	13	201
	135.2	135.55	0.35	3.56	108	453
	135.55	136.3	0.75	5.61	45	588
	136.3	137.15	0.85	0.58	72	129
	137.15	137.9	0.75	0.43	12	54
	137.9	138.6	0.7	1.37	47	179
	138.6	139.2	0.6	0.15	10	25
	139.2	139.85	0.65	1.30	31	157
	139.85	140.7	0.85	2.52	37	281
	140.7	141.6	0.9	7.84	64	823
	141.6	142.7	1.1	2.73	140	404
	142.7	143.8	1.1	3.80	45	413
	143.8	145.15	1.35	2.06	104	303
	145.15	146.25	1.1	1.67	148	310
	146.25	147.15	0.9	2.49	217	458
	147.15	147.85	0.7	0.51	49	98
	147.85	148.45	0.6	0.62	53	113
	148.45	149	0.55	0.63	56	117
	149	149.6	0.6	0.65	62	124
	149.6	150.15	0.55	1.04	109	209

11. SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1. Sample Preparation Methods before Dispatch to Laboratories

Sample preparation methods and quality control measures employed before dispatch of samples to analytical laboratories are described in Section 10.

11.2. Analytical Laboratories

The laboratories used for sample preparation and analysis are summarized in Table 11-1.

Table 11-1: Laboratories Summary

Laboratory	Drilling Period	Certification	Independent	Comments
ALS	2006-2008, 2012-2013, 2015	ISO 9001, ISO/IEC 17025	Yes	Primary laboratory for underground drill core. Sample preparation at Hermosillo or Chihuahaua, Mexico laboratory. Sample analysis at the Vancouver laboratory in Canada.
Bureau Veritas Minerals Laboratories (BV)	2014-2015, 2020 check program	ISO 9001, ISO/IEC 17025	Yes	Primary laboratory for underground drill core and check samples. Sample preparation at the Hermosillo, Mexico laboratory. Sample analysis at the Bureau Veritas Vancouver, Canada laboratory.
Santa Elena Laboratory (Formerly Nusantara Laboratory)	2012-2013, 2015, 2016-2021	ISO 9001-2015	No	Primary laboratory for underground delineation drill core, ore control and production chip and channel samples. Located at Santa Elena mine. Sample preparation and analysis.
SGS	2016-2021	ISO/IEC 17025, ISO 9001	Yes	Primary laboratory for surface drill core. Sample preparation at the Durango or Hermosillo, Mexico laboratory. Analysis at the Durango laboratory.
First Majestic Central Laboratory (Central Laboratory)	2016-April 2021	ISO 9001-2015	No	Primary laboratory for underground drill core, underground chip channel and sawn-channel samples used for Resource Estimation. Located at La Parrilla mine in San Jose La Parrilla, Durango, Mexico. Sample preparation and analysis.

ALS Limited Vancouver (ALS) received ISO 9001 certification in 2005 and received accreditation of ISO/IEC 17025 from Standards Council of Canada in 2005 and 2020. ALS is independent of First Majestic.

ACME Laboratories Ltd. (now Bureau Veritas Commodities Canada Ltd or Bureau Veritas) received ISO 9001 certification in 1996 and received accreditation of ISO/IEC 17025 from Standards Council of Canada in 2011 and 2020. Bureau Veritas is independent of First Majestic.

SGS laboratories conform to the ISO/IEC 17025 standard and most regional facilities have been ISO 9001 certified since 2008. SGS is independent of First Majestic.

The Central Laboratory received ISO 9001:2008 certification in June 2015 and ISO 9001:2015 certification in June 2018. Central Laboratory is not independent of First Majestic.

The Santa Elena Laboratory received ISO 9001:2015 certification in August 2021. The Santa Elena Laboratory is not independent of First Majestic and has been managed by the Central Laboratory since 2016.

11.3. Laboratory Sample Preparation and Analysis

11.3.1. ALS

Drill core samples were dried, weighed, then crushed 70% passing 2mm, split to a 250 g subsample which was pulverized to 85% passing 75 µm.

Samples were analyzed for 35 elements by trace level aqua-regia digestion with an inductively-coupled plasma atomic emission spectroscopy (ICP-AES) finish (package ME ICP41). Samples returning >100 g/t Ag were reanalysed for silver by ore grade aqua regia digestion with an ICP-AES finish (package Ag-OG46). Samples returning >1,500 g/t Ag were reanalyzed for silver by 30 g fire assay with a gravimetric finish (package Ag-GRA21).

Gold was analyzed by 30 g fire assay with an atomic absorption spectroscopy (AAS) finish (package Au-AA23). Samples returning >10 g/t Au were reanalyzed for gold by 30 g fire assay with a gravimetric finish (Package Au-GRA21).

11.3.2. Bureau Veritas

Drill core samples were dried, weighed, then crushed 70% passing 2 mm, and split to a 250 g subsample that was pulverized to 85% passing 75 µm.

Samples were analyzed for 33 elements by aqua regia digestion with an inductively-coupled plasma emission spectroscopy (ICP-ES) finish (package AQ300/AR330). Samples returning >100 g/t Ag were reanalyzed for silver by 30 g fire assay with a gravimetric finish (package FA630). Since 2018, samples are also analyzed for silver by four-acid digestion with an atomic absorption (AA) finish (package MA402).

Gold was analyzed by 30 g fire assay with an AA finish (package FA430). Samples returning >10 g/t Au were reanalyzed for gold by 30 g fire assay with a gravimetric finish (package FA530).

11.3.3. SGS

Drill core samples are dried at 105°C, then crushed 75% passing 2 mm and split to a 250 g subsample that was pulverized to 85% passing 75 µm.

Samples are analyzed for 34 elements using aqua regia digestion with an ICP-AES finish (package GE_ICP14B). Samples are also analyzed for silver by three-acid digestion with an AAS finish (package GE_AAS21E).

Samples returning >300 g/t Ag from GE_AAS21E are reanalyzed for silver by 30 g fire assay with a gravimetric method (package GE_FAG313). In 2018, the GE_AAS21E re-assay threshold was reduced to 100 g/t Ag.

Gold is analyzed by a 30 g fire assay with an AA finish (package GE_FAA313). Samples returning >10 g/t Au are reanalyzed for gold by a 30 g fire assay with a gravimetric finish (package GE_FAG303).

11.3.4. Central Laboratory

From 2016 to 2018, underground drill core and sawn-channel samples were dried at 105 °C ± 5°C, then crushed to 80% passing 2 mm, split to a 250 g subsample, and pulverized to 80% passing 75 µm. Since 2019, underground drill core and sawn-channel samples are dried at 105 °C ± 5°C and then crushed to 85% passing 2 mm, split to a 250 g subsample, and pulverized to 85% passing 75 µm.

Samples are analyzed for 34 elements by two-acid digestion with an ICP finish (package ICP34BM). All samples are also analyzed for silver by three-acid digestion with an AA finish (package AAG-13). Samples returning >300 g/t Ag from AAG-13 are reanalyzed for silver by 20 g fire assay with a gravimetric finish (package ASAG-14).

Gold is analyzed by 20 g fire assay with an AAS finish (package AUAA-13). Samples returning >10 g/t Au were reanalyzed for gold by 20 g fire assay with a gravimetric finish (package ASAG-14).

11.3.5. Santa Elena Laboratory

There is limited information regarding sample preparation before 2015. From 2012 to 2015, drill core and production channel samples were dried, weighed, crushed and pulverized to 90% passing 106 µm (150 mesh).

Gold was analyzed using fire assay fusion with an AA finish and by gravimetric methods. Silver was analyzed using an aqua regia digestion and AA finish.

Since 2016, production channel samples and core samples are dried at 105 °C, weighed, then crushed to 80% passing 2 mm, split to a 300 g subsample, and pulverized to 80% passing 75 µm.

For production channels and underground core samples, silver is analyzed by 30 g fire assay with a gravimetric finish. Gold is analyzed by 30 g fire assay with an AA finish. Samples with gold values > 10 g/t Au are analyzed by a 30 g fire assay with a gravimetric method finish.

11.4. Quality Control and Quality Assurance Procedures for Assays

11.4.1. Quality Control and Quality Assurance Materials and Insertion Rates

Pre-2012

There is no information to suggest that any QAQC program was in place prior to 2012.

2012–2015

From 2012 to 2015, the QAQC program for ALS and Bureau Veritas included insertion of CRMs and coarse blanks. In 2014, Nusantara began inserting field duplicates in the sample stream.

From 2012 to 2013 and 2015, the QAQC program for the Santa Elena mine laboratory included insertion by Nusantara of CRMs and coarse blanks.

2016–2021

From 2016 to present, the QAQC program for SGS included insertion of CRMs, coarse and pulp blanks and field, coarse and pulp duplicates in the sample stream. In 2018 and 2020 check samples were submitted to Bureau Veritas. Since April 2021, checks samples have been collected and submitted to ALS laboratory in Hermosillo.

From 2018 to April 2019, the QAQC program for Bureau Veritas included insertion of CRMs, coarse and pulp blanks and field, coarse and pulp duplicates in the sample stream. During this period check samples were submitted to SGS.

From 2016 to April 2021, the QAQC program for the Central Laboratory included insertion of CRMs and blanks. The CRMs and blanks were inserted in the core, production channel and sawn-channel sample streams. In 2018, field, coarse and pulp duplicates were added to the sample stream. In 2019, checks samples previously analyzed at Central laboratory from 2016 to 2019 were submitted to SGS.

In 2019, First Majestic initiated a QAQC program by including CRMs, blanks and duplicates in the production channel samples submitted to the Santa Elena Laboratory. Since February 2021, CRMs, blanks, coarse and pulp duplicates were included with core samples from underground drill holes submitted to the Santa Elena Laboratory.

The CRMs were purchased from CDN Resource Laboratories Ltd. There is no documentation describing the origin of the blank material used before 2014. Between 2014 to 2020, the blank material was obtained from a light red quartzite collected from a quarry approximately 9 km north of the Santa Elena mine. Pulp blanks were purchased from Casa Valdivia a provider of laboratory material in Hermosillo. Since 2020, the blank material inserted in the core sample stream from the underground and surface drilling is obtained from Prolabo, a provider of laboratory material in Hermosillo.

Actual control sample insertion rates from all laboratories are shown in Table 11-2.

Table 11-2: Quality Control Samples Insertion Rates

Laboratory	QAQC Type	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
ALS	Standards	3%	3%	--	3%	--	--	--	--	--	--
	Blanks	2%	2%	--	3%	8%	--	--	--	--	--
	Duplicates	--	--	--	4%	--	--	--	--	--	--
	Checks					--	--	--	--	--	--
ACME/BV	Standards	--	--	4%	3%	--	--	9%	11%	--	--
	Blanks	--	--	4%	3%	--	--	10%	6%	--	--
	Duplicates	--	--	3%	2%	--	--	10%	8%	--	--
	Checks	--	--	--	--	--	--	3%	--	--	--
SGS	Standards	--	--	--	--	10%	10%	11%	4%	4%	6%
	Blanks	--	--	--	--	10%	10%	11%	4%	4%	6%
	Duplicates	--	--	--	--	8%	10%	11%	4%	4%	6%
	Checks	--	--	--	--	--	--	10%	4%	2%	--
Central Laboratory	Standards	--	--	--	--	9%	10%	10%	3%	4%	6%
	Blanks	--	--	--	--	10%	10%	9%	4%	4%	6%
	Duplicates	--	--	--	--	9%	10%	9%	5%	4%	6%
	Checks	--	--	--	--	--	--	3%	--	--	--
Santa Elena Laboratory	Standards	3%	4%	--	6%	--	--	--	--	--	2%
	Blanks	1%	2%	--	6%	--	--	--	--	--	9%
	Duplicates	--	--	--	--	--	--	--	--	--	8%
	Checks	--	--	--	--	--	--	--	--	--	--

11.4.2. Accuracy Assessment (Standards)

First Majestic assesses accuracy in terms of bias of the mean values returned for CRMs relative to the CRM expected value. Bias between ± 5% is considered acceptable. Gold and silver results from the CRMs are plotted on time sequence performance charts. Sample swaps and transcription errors are removed before assessing bias. CRMs results that are greater than the CRM mean ± three times the standard deviation are re-assayed.

ALS

There is no information supporting accuracy assessments before 2012. Between 2012 and 2015, six different CRMs were summitted to ALS. No significant bias for silver and gold results is observed and no significant sample handling issues are apparent.

Bureau Veritas

Between 2014 and 2015, three different CRMs were submitted to Bureau Veritas. Two indicate no significant bias and two indicate a marginal but acceptable bias for silver and gold. Results from six different CRMs submitted between 2018 to 2020 indicate no significant bias for silver and gold. No significant sample handling or transcription issues are apparent.

SGS

Between 2016 and 2021, seven different CRMs were submitted to SGS. The results indicate no significant bias for silver or gold, except for two CRMs that indicate a marginal but acceptable bias for gold and for two CRMs with a marginal but acceptable bias for silver. No significant sample handling or transcription issues are apparent.

Central Laboratory

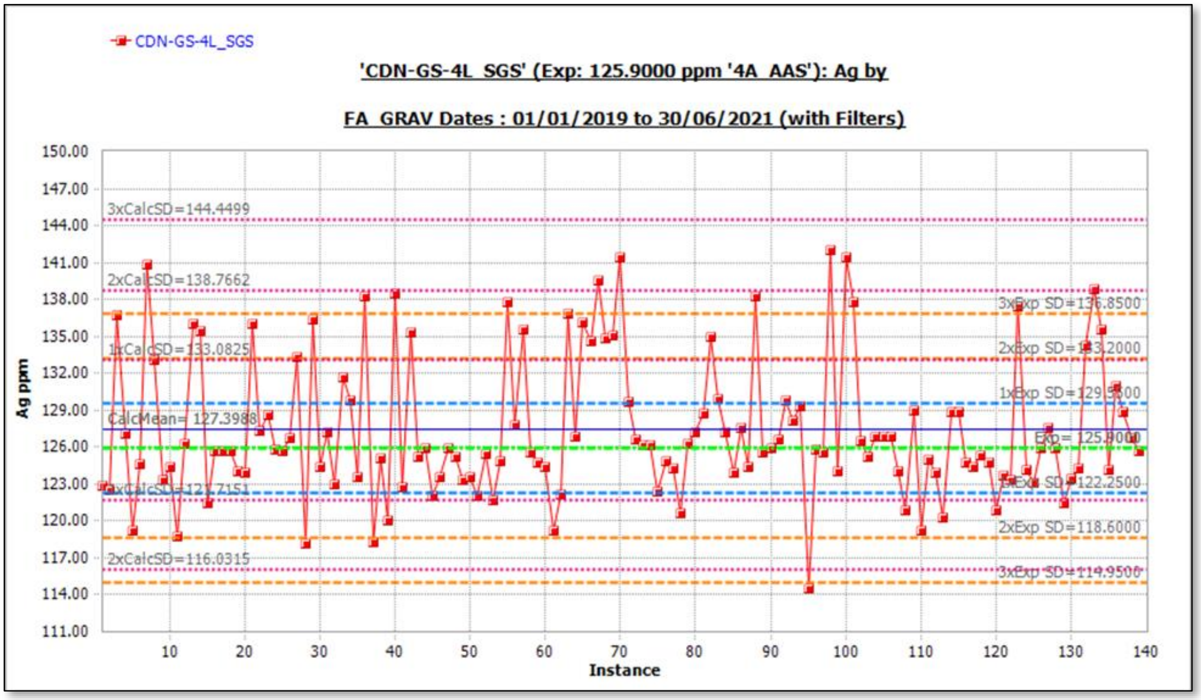
Between 2016 and April 2021, six different CRMs were submitted to the Central Laboratory. The results indicate no significant bias for silver and gold except for two CRMs that indicate a marginal but acceptable bias for gold. No significant sample handling or transcription issues are apparent.

Santa Elena Laboratory

The CRM results from 2012 to 2013, 2015 and 2021 indicate no significant bias for silver and gold. No significant sample handling or transcription issues are evident.

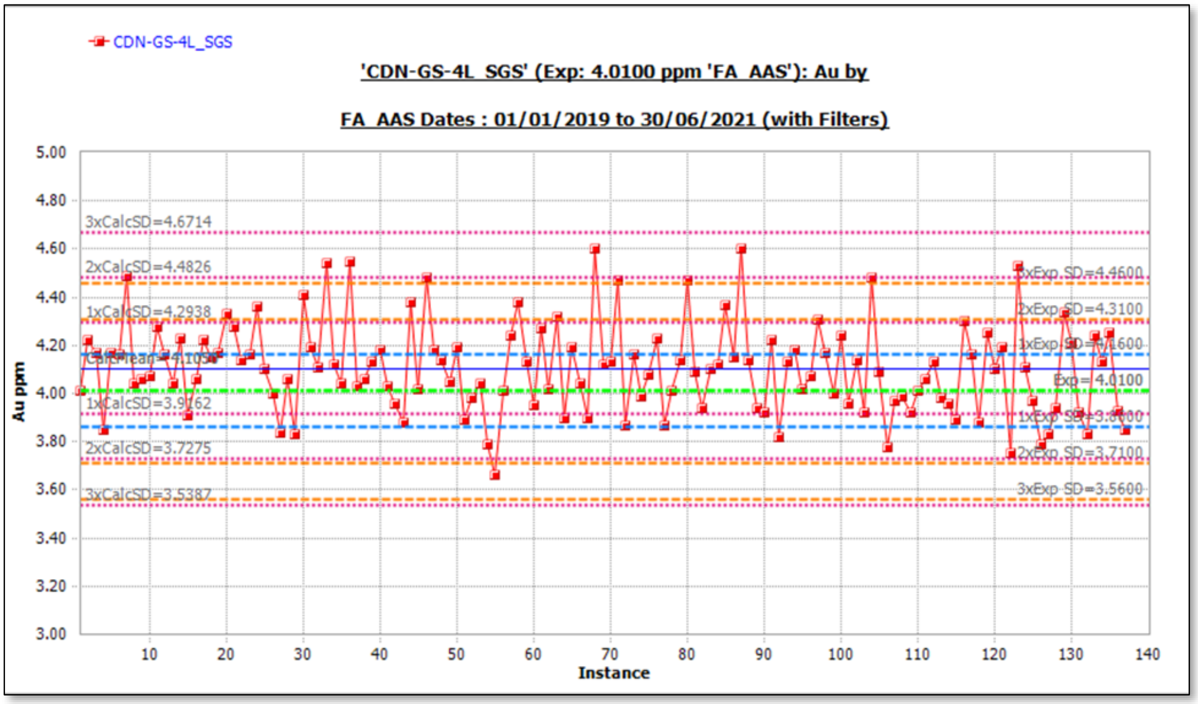
An example of the time sequence plots for the 2019-2021 standard assessment from SGS is shown in Figure 11-1 and Figure 11-2.

Figure 11-1: Time Sequence Performance Silver Chart 2021, SGS



Note: Figure prepared by First Majestic, September 2021.

Figure 11-2: Time Sequence Performance Gold Chart 2021, SGS



Note: Figure prepared by First Majestic, September 2021.

11.4.3. Contamination Assessment (Blanks)

First Majestic assesses contamination in terms of the values of blank control samples. Coarse blank values less than twice the detection limit value for 80% of the time, and pulp blank values less than twice the detection limit value 90% of the time are considered acceptable. Gold and silver blank results are plotted on a time-sequence blank performance chart. Outliers related to sample swaps or transcription errors are removed before calculating the frequency. Batches with excessive blank failure rates were re-assayed.

ALS

From 2012 to 2013 and 2015, greater than 90% of the coarse blank silver and gold values were less than two times detection limit. The results indicate no significant contamination. There are insufficient pulp blanks to assess contamination in 2016.

Bureau Veritas

From 2014–2015 and from 2018–2019, 98% or more of the coarse blank gold and silver values were less than two times the detection limit. From 2019–2020 100% of the pulp blank gold and silver values were less than two times the detection limit. The results indicate no significant contamination.

SGS

From 2016– June 2021, 98% or more of the coarse blank gold and silver values were less than two times the detection limit. 100% of the pulp blank gold and silver result were less than two times the detection limit. The results indicate no significant contamination.

Central Laboratory

From 2016–June 2021, 91% or more of the coarse blank gold and silver values were less than two times the detection limit. A total of 98% or more of the pulp blank gold and silver result were less than two times the detection limit. The results indicate no significant contamination.

Santa Elena Laboratory

There are no documented laboratory procedures from the Santa Elena Laboratory providing the lower detection limits for gold and silver results before 2016. Therefore, First Majestic could not assess contamination using the blank frequency. However, from 2012 to 2013 and 2015, Santa Elena Laboratory returned silver blank results around 3 g/t Ag average and gold blank results around average 0.04 g/t Au. These results indicate the blank material used to assess contamination may have contained traces of those elements. From January to June 2021, 88% of the coarse and pulp blank gold values were less than two times the detection limit and 98% of the coarse and pulp blank silver values were less than two times the detection limit. The failure rate from blanks with gold results indicate some handling or transcription issues but no significant contamination during the sample analysis.

11.4.4. Precision Assessment (Duplicates)

First Majestic assesses precision in terms of the frequency of the absolute relative difference (ARD) of paired duplicate values. A 90% frequency of ARD less than 30%, 20% and 10% for field, coarse and pulp duplicates, respectively, is the target precision. Sample swaps and transcription errors are removed before assessing the ARD sample frequency. Paired duplicate gold and silver results, excluding outliers are plotted on ARD versus frequency charts to visually inspect that the sample frequency is meeting the precision target. Duplicate precision is continually monitored. If the precision targets are not met, the laboratories are consulted.

<u>ALS</u>

There is an insufficient number of duplicate results to allow meaningful assessment of precision from ALS.

<u>Bureau Veritas</u>

From 2014 to 2015 and 2018, field duplicate paired silver and gold results were below the precision target. The precision for silver paired results improved in 2019 where the sample frequency meeting the target reached 80%.

In 2018, coarse duplicate paired silver and gold results are below target. The precision improved in 2019 for paired silver and gold results.

In 2018, pulp duplicate paired silver and gold results are below or close to the precision target. The precision improved in 2019 for paired silver results.

<u>SGS</u>

From 2016 to the present, field, coarse and pulp duplicate paired silver results, and coarse duplicate paired gold results meet the precision targets.

From 2016 to the present, field and pulp duplicate paired gold results are below targets.

<u>Central Laboratory</u>

From 2016 to the present, field duplicate results for silver and gold are below the precision target. From 2018 to the present, the precision improved.

From 2016 to the present, coarse duplicate paired results for silver and gold meet the precision target. Pulp duplicate silver and gold paired results are below target.

<u>Santa Elena Laboratory</u>

From February 2021 to the present, coarse and pulp duplicate paired results for gold meet the precision target. Coarse and pulp duplicate paired results for silver are slightly below to target.

11.4.5. Between-Laboratory Bias Assessment (Checks)

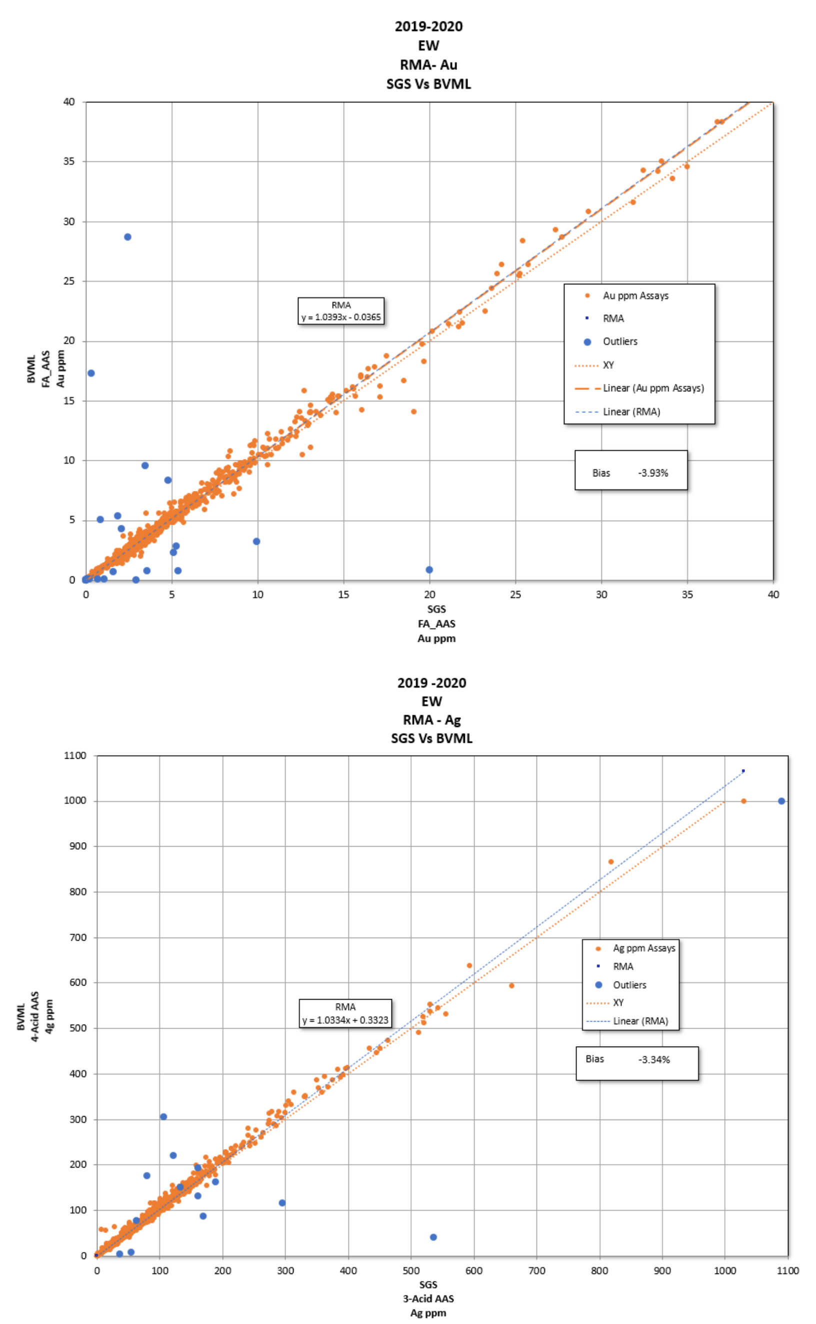
First Majestic assesses between-laboratory bias in terms of the slope of a reduced major axis (RMA) line. A slope between 0.95 and 1.05 is considered an acceptable bias. The RMA slope is calculated from the standard deviations of the primary and check paired results. Paired results below the laboratory low detection limit and paired results with significant absolute differences were removed before calculating the final bias. Paired primary and check sample gold and silver results, excluding outliers and the RMA line are plotted on x-y graphs to visually analyse data trends and for identification and rejection of outliers.

The RMA analysis from the Ermitaño project samples in 2018 indicate no significant bias between the primary laboratory (Bureau Veritas) and the secondary laboratory (SGS) for silver and gold. Control samples submitted with checks samples showed no material precision, accuracy, or contamination issues. The RMA analysis from the Ermitaño project samples from 2019 to 2020 indicate no significant bias between the primary laboratory (SGS) and the secondary laboratory (Bureau Veritas) for silver and gold results.

The RMA analysis from the Santa Elena, Tortugas and America samples from 2018 to 2019, indicate no significant bias between the primary laboratory (Central Laboratory) and the secondary laboratory (SGS) for silver and gold.

An example of laboratory bias charts between SGS and Bureau Veritas for the Ermitaño project check results from 2019 to 2020 is shown in Figure 11-3.

Figure 11-3: RMA Plots. Ermitaño Check Program 2019–2020



Note: Figure prepared by First Majestic, September 2021.

11.5. Databases

The Santa Elena resource database is stored in a secured SQL database. The SQL database is based on the Maxwell GeoServices database scheme and contains drilling and channel sample data. Assay data were received from the laboratories via emails containing comma-separated value (CSV) data files. These files are compiled and imported using DataShed™, a database management software provided by Maxwell GeoServices. The DataShed™ import process includes a series of built-in checks for errors at all stages, from headers to individual tables. After data were imported, visual checks are done to ensure that data were properly imported.

11.6. Sample Security

11.6.1. Production Channel Samples

Three-metre spaced production channel samples are used to support the construction of the geological models, for grade control, and to support Mineral Resource estimation. Throughout historical and current mine operations, channel samples were transported from the sampling areas to the Santa Elena Laboratory using First Majestic vehicles. Since 2017, channel samples were transported by a commercial transport company from the sampling areas to the Central Laboratory.

The Santa Elena Laboratory and the Central Laboratory keep the channel samples in a secured and fenced area during analysis. After analysis at the Santa Elena Laboratory, the channel samples are disposed of in the processing plant. After analysis at the Central Laboratory, First Majestic's personnel take pulps and rejects from channel samples to a secure storage facility at Villa Union, Durango, Mexico.

All samples are securely sealed, and chain-of-custody documents are issued for all shipments.

The analytical results from channel samples are received by authorized First Majestic personnel using secure digital transfer transmissions, and access is restricted to these results.

11.6.2. Core Samples

The drill core and drill core samples are stored in a secure core processing and storage warehouse at the Santa Elena mine prior to their shipment to the sample processing laboratories. All samples are securely sealed, and chain-of-custody documents are issued for all shipments.

Core samples from Ermitaño surface drilling are transported from the sampling areas to SGS by SGS vehicles. Core samples from underground drill holes in the Santa Elena mine are transported from sampling areas to the Central Laboratory or SGS by commercial transport companies. Core samples from Ermitaño underground drill holes are transported from sampling areas to the Santa Elena Laboratory by First Majestic Trucks operated by First Majestic personnel.

After analysis; pulp and coarse reject samples were kept in a secured area at the Central Laboratory. SGS and Bureau Veritas retained pulp and rejects for a few months before returning them to First Majestic. First Majestic stores pulps and coarse rejects at the Santa Elena mine or at a secure storage facility at Villa Union, Durango, Mexico. Coarse reject samples analyzed by the Santa Elena Laboratory are retained for seven days at the Santa Elena Laboratory. After seven days, the coarse reject samples are disposed at the Santa Elena processing plant. Pulp samples are kept in a secured place at the laboratory facilities until selected checks are sent to the secondary laboratory.

The analytical results from core samples are received by authorized First Majestic personnel using secure digital transfer transmissions, and access is restricted to these results.

11.7. Author's Opinion

Sample preparation, analysis and quality control measures used at the primary and secondary laboratories meet current industry standards and are providing reliable silver and gold results for channel and core samples.

The wax-sealed water immersion method to determine SG at Santa Elena is appropriate. The quality control procedures applied to the SG measurements provided reliable density results.

Sample security procedures used for shipping and receiving drill core and samples between the drill core shed and laboratories and procedures used for shipping and receiving chip samples between the underground working areas and laboratories are in accordance with industry standards. The database management procedure used to receive and record results is providing reliable integrity to the samples results.

There is no QAQC program supporting results before 2012. Pre-2012 data represents 2% of the database, mitigating concerns with its reliability.

The assessment of the quality control sample results from ALS, Bureau Veritas, SGS, and Central Laboratories identified no significant errors, biases or contamination in the silver and gold results. The quality control sample results from Santa Elena Laboratory indicate no significant errors or biases in the silver and gold results. The failures from blanks submitted in 2021 related to handling or transcription issues are being investigated and corrections in the sampling procedures will be applied.

The marginal high bias relative to the expected values for gold results from SGS in the early sampling programs (2017), is considered acceptable. After 2018, the laboratory accuracy performance improved as noted from less than 5% bias from most of the CRMs.

Field duplicate pairs with silver and gold results did not achieve the precision thresholds. The low precision from field duplicates is most likely attributable to the natural heterogeneity of the distribution of mineralization within the deposits. Precision from gold results from all duplicates is usually equal to or lower than the precision from silver results. The coarse duplicates with silver and gold results from the Bureau Veritas, SGS and Central Laboratory show better precision than do the pulp duplicates. These laboratories use the same sample preparation procedure. However, the low precision from pulp duplicates indicates an issue with the pulp preparation at the three laboratories. In September 2019, to improve precision, Central Laboratory changed the sample preparation procedure for the crushing and pulverizing stage and conducted sieve checks during the sample preparation. However, precision remained the same after this change. To ensure appropriate quality and consistency in pulp grind size, a revision of the pulp preparation procedure is being evaluated.

The low precision from pulp duplicates with silver results indicates an issue with the pulp preparation at Santa Elena laboratory for the fire assay gravimetric method. A revision of the pulp preparation procedure is being evaluated.

The pulp check results indicate that there is an agreement between the SGS and Bureau Veritas laboratory results.

In general, there were no significant bias or contamination issues from the channel samples submitted to the Central Laboratory.

Production channel samples used to support grade estimation were assessed for laboratory accuracy and laboratory precision. The field sampling procedure for production channel samples has some risk of introducing sampling bias and this possible bias has not yet been fully assessed.

12. DATA VERIFICATION

The data verification included data entry error checks, visual inspections of key data, and a review of QAQC assay results for data collected between 2012 and June 2021 from the Ermitaño surface and underground areas; Santa Elena Main, Alejandra, America, and Tortugas Veins (the verification dataset). Site visits were completed as part of the data verification process.

12.1. Data Entry Error Checks

The data entry error checks consisted of comparing data recorded in the database with original collar survey reports, lithology logs and assay reports, and investigation of gaps, overlaps and duplicate intervals in the sample and lithology tables.

No significant data entry errors were observed in a 5% random selection of the drill collar locations of the verification dataset. The error check consisted of a comparison of the verification dataset collar locations with survey reports issued by First Majestic's technical services staff.

No data entry error checks were made on down hole survey data but all downhole survey records in the verification dataset were inspected mathematically for angular deviation tolerance greater than 5°/50m. No significant deviations were observed.

No significant data entry errors were observed in a 5% random selection of the lithology records of the verification dataset. The error check consisted of a comparison of the verification dataset lithology records with records exported from the logging software.

No significant data entry errors were observed in a 5% random selection of the gold and silver assay results of the verification dataset. The error check consisted of a comparison of the verification dataset assays with original electronic copies and final laboratory certificates issued by Central, SGS, Bureau Veritas and Santa Elena Laboratories.

The inspection for gaps, overlap, and duplicates for all lithology and sample records identified no issues.

No significant data entry errors were observed in a 5% random selection of the SG weight measurements of the verification dataset. The error check consisted of a comparison of the verification dataset with original SG logs. SG calculations were also verified.

12.2. Visual Inspection of Key Data

The visual inspection consisted of verifying the position of collars, down-hole survey deviations relative to the underground workings and the three-dimensional (3D) geological models. The visual inspection also included comparison of lithology and assay intervals with core photos.

A 5% random selection of drill hole collar and channel locations in the verification dataset indicated no significant position errors.

A 5% random selection of drill hole traces revealed no unusual kinks or bends.

A 5% random selection of lithology intervals of the verification datasets were visually inspected using core photos. Observed lithology, mineralogy, sample lengths and sample numbers were compared to the logged data. No significant differences were observed.

12.3. Review QAQC Assay Results

Verification of assay accuracy and contamination is provided in Section 11 of this Report.

12.4. Site Visits

Ms. Maria Elena Vazquez visited the Santa Elena mine on several occasions since 2016 and most recently between August 9-14, 2021. During these visits, Ms. Vazquez observed current drill core and channel logging and sampling procedures; inspected drill core, core photos, core logs and QAQC reports.

12.5. Author's Opinion

The data verification conducted by the QP such as data entry error checks, visual inspections, review of QAQC assay results, field inspections of the core and review of the drilling, logging and sampling procedures identified no significant issues with data entry, grade accuracy, precision and contamination and no issues with drill holes and sample locations. The database is considered suitable to support Mineral Resource estimation.

Data verification was not completed on pre-2012 data due to limited or missing original supporting data. The pre-2012 data represents less than 5% of the sample database. Less than 3% of the pre-2012 drill holes were used to support the current resource estimate. The absence of verification of the pre-2012 dataset is mitigated by the relatively small contribution to the current resource estimate.

13. METALLURGICAL TESTING

13.1. Introduction

Santa Elena is an operating mine and the metallurgical test data supporting the initial plant design has proven adequate and validated by plant operating results through years of operation, combined with more recent metallurgical studies.

Metallurgical testing, together with mineralogical investigations are periodically performed. Metallurgists at the plant are continually testing to optimize metal recoveries and to reduce operating costs, even when the results are within the expected processing performance. Metallurgical testing assists in several ways such as; the fine tuning of reagents dosage, controlling optimum particle size, variations in the backwash circuit, and testing of new reagents.

Composite samples are analyzed monthly to determine the metallurgical performance of the mineralized material fed to the processing plant. In addition, geometallurgical studies are commonly performed to investigate the similarities and variabilities related to future ore zones to be mined and processed in the mid- and long-term. This metallurgical testing is carried out by the Central Laboratory and occasionally by third party laboratories.

Mineralized material processed at the existing Santa Elena processing plant will include material from the Ermitaño mine deposit. A comprehensive metallurgical testwork program was conducted on Ermitaño ore at the Central Laboratory and at the SGS Mineral Services lab in Lakefield, ON, Canada.

The next sections describe the typical mineralogy of Santa Elena and Ermitaño ores as well as the testwork carried out for the Santa Elena and Ermitaño ore types.

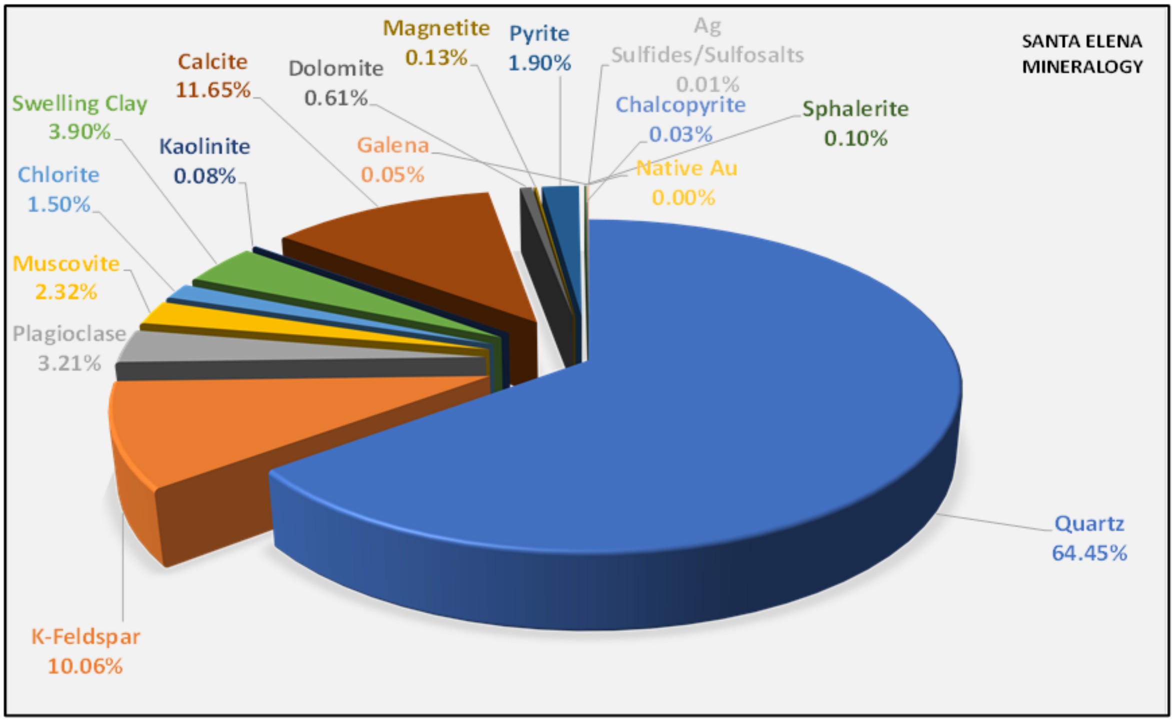
13.2. Mineralogy

The most abundant mineralogical species within the Santa Elena mine deposits, both metallic and non-metallic include:

- Metallic minerals (in order of abundance): pyrite (FeS_2), magnetite (Fe_3O_4), sphalerite ($(Zn,Fe)S$), galena (PbS), chalcopyrite ($CuFeS_2$), stromeyerite $(Ag,Cu)_2S$, freibergite/tetrahedrite ($Cu_{12}Sb_4S_2/Ag$), argentite (Ag_2S), native gold;
- Non-metallic minerals (in order of abundance): quartz (SiO_2), calcite ($CaCO_3$), K-feldspar ($KAlSi_3O_8$–$NaAlSi_3O_8$–$CaAl_2Si_2O_8$), swelling clay, plagioclase $(Na,Ca)(Si,Al)_3O_8$, muscovite $KAl_2(AlSi_3O_{10})(OH)_2$, chlorite ($(Mg,Fe)_3(Si,Al)_4O_{10}(OH)_2$–$(Mg,Fe)_3(OH)_6$), dolomite $[CaMg(CO_3)_2]$ and kaolinite ($Al_2Si_2O_5(OH)_4$).

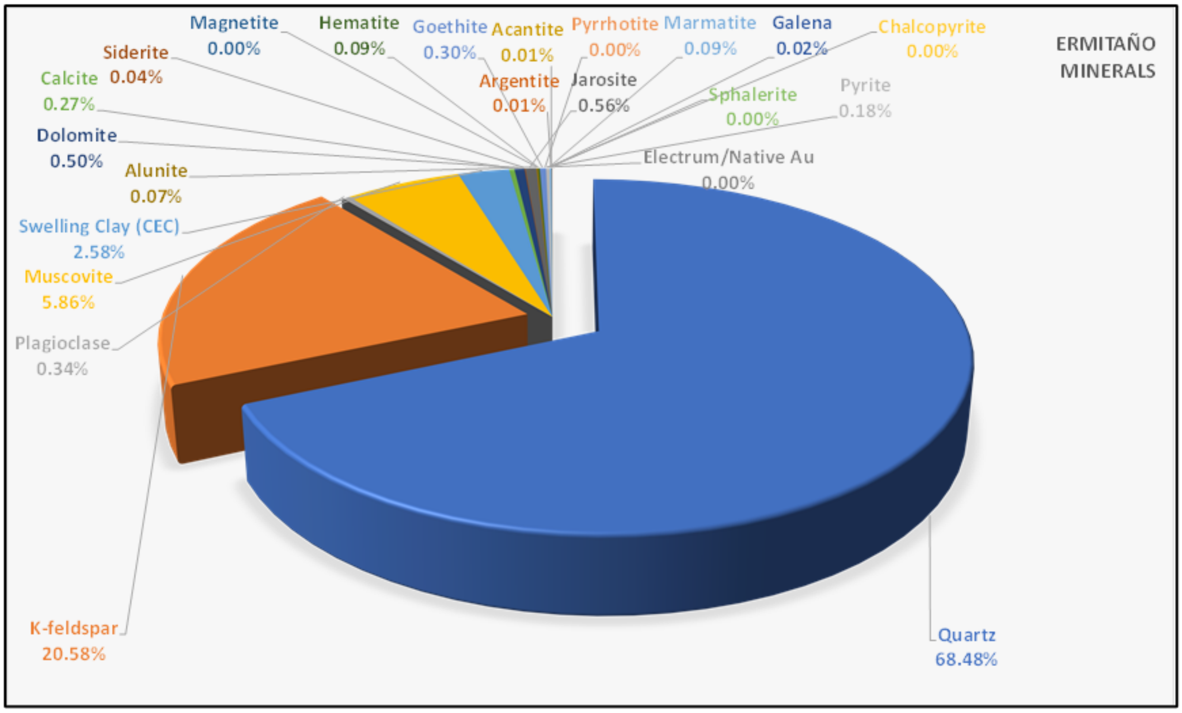
The typical mineralogy of the Santa Elena deposits is provided in Figure 13-1. The Ermitaño project has a similar mineralogy as shown in Figure 13-2.

Figure 13-1: Typical Distribution of Minerals – Santa Elena Deposits



Note: Figure prepared by First Majestic, February 2021.

Figure 13-2: Typical Distribution of Minerals – Ermitaño Project



Note: Figure prepared by First Majestic, February 2021.

13.3. Santa Elena Metallurgical Testwork

13.3.1. Monthly Composite Samples

A sample is taken from the material fed into the mill on a daily and a per-shift basis based on the tonnage milled. A representative quantity from each sample is taken and a monthly composite is accumulated.

The monthly composite sample is prepared by the plant metallurgist, with the support of the Santa Elena Laboratory staff, and is either sent to the Central Laboratory for analysis or, as in the first half of 2021, the work is conducted at the Santa Elena Laboratory.

One of the objectives of this program is the compilation of a database comparing the relationship between the results of the metallurgical tests at the laboratory scale and the actual performance of the cyanidation plant.

13.3.2. Comminution Evaluations

First Majestic has been running tests to estimate the Bond Ball Mill Work Index (BWi) of the monthly composite samples since May 2017.

Table 13-1 shows the results of the BWi tests for the period from September 2017 to June 2021 performed at 150, 200 and 270 mesh closing screen. The BWi were carried out with three sample types: heap leach material, underground mineralized material, and heap leach-underground composites. The BWi results demonstrate a relative low level of variability with 80% of the values ranging from 14.9–17.6 kWh/t, and an average value of 16.2 kWh/t.

Table 13-1: Grindability Test Results (BWi), Santa Elena Mine

Sample ID			kWh/t	Feed µm	Discharge µm
				F80	P80
270 mesh	2017	September Composite	18.30	2367	42
		December Composite	16.60	2208	41
	2018	January Composite	16.70	2368	42
		May - UG Composite 1	17.37	2320	39
		May - UG Composite 2	17.61	2380	40
		June - UG low grade Composite 1	16.60	2385	40
		June - UG low grade Composite 2	16.20	2275	41
		50% UG/ 50% HL June Composite	16.75	2620	39
200 mesh	2017	September Composite	16.10	2367	57
	2018	June - Heap Leach Composite	15.00	2309	54
		August - Heap Leach Composite 1	14.80	2238	50
		August - Underground Composite 2	15.60	2018	53
		September - Heap Leach Composite	12.90	2328	54
		September - Underground Composite	15.50	2315	53
		October - Underground Composite	15.60	2154	54
		October - Heap Leach Composite	14.90	2309	53
		November - Heap Leach Composite	15.00	2301	54
		November - Underground Composite	16.90	2101	58
		December - Heap Leach Composite	14.80	2324	53
		December - Underground Composite	15.50	2140	53
	2019	January - Heap Leach Composite	14.50	2201	52
		January - Underground Composite	16.20	2195	55
		February - Heap Leach Composite	17.60	2430	49
		February - Underground Composite	16.60	2170	56
		March - Heap Leach Composite	15.60	2154	54
		March - Underground Composite	15.30	2214	54
		April - Heap Leach Composite	15.90	2053	59
		April - Underground Composite	14.70	2168	52
		May - Heap Leach Composite	15.30	2248	53
		May - Underground Composite	15.70	2225	54
		June - Heap Leach Composite	15.20	2040	54
		June - Underground Composite	15.20	2040	54
		July - Heap Leach Composite	16.40	2238	55
		October - Heap Leach Composite	17.61	2424	61
		November - Heap Leach Composite	16.74	2494	57
	2020	February - Underground Composite	16.92	2564	55
		March - Heap Leach Composite	15.96	2677	54
		October Composite	17.61	2424	61
		November - Underground Composite	17.74	2587	62
150 mesh	2021	March - Mix Composite	17.49	2085	76
		March - Heap Leach Composite	18.10	2267	79
		April - Mix Composite	16.70	2204	73
		April - Heap Leach Composite	15.85	2329	80
		May - Mix Composite	17.22	2537	71
		May - Heap Leach Composite	15.31	2312	93
		June - Mix Composite	17.39	2096	70
		June - Heap Leach Composite	18.01	2338	78
		Average	**16.2**		
		Standard Deviation	1.2		
		Minimum	12.9		
		10th Percentile	14.9		
		Median	**16.2**		
		90th Percentile	17.6		
		Maximum	18.3		

13.3.3. Cyanidation, Reagent and Grind Size Evaluations

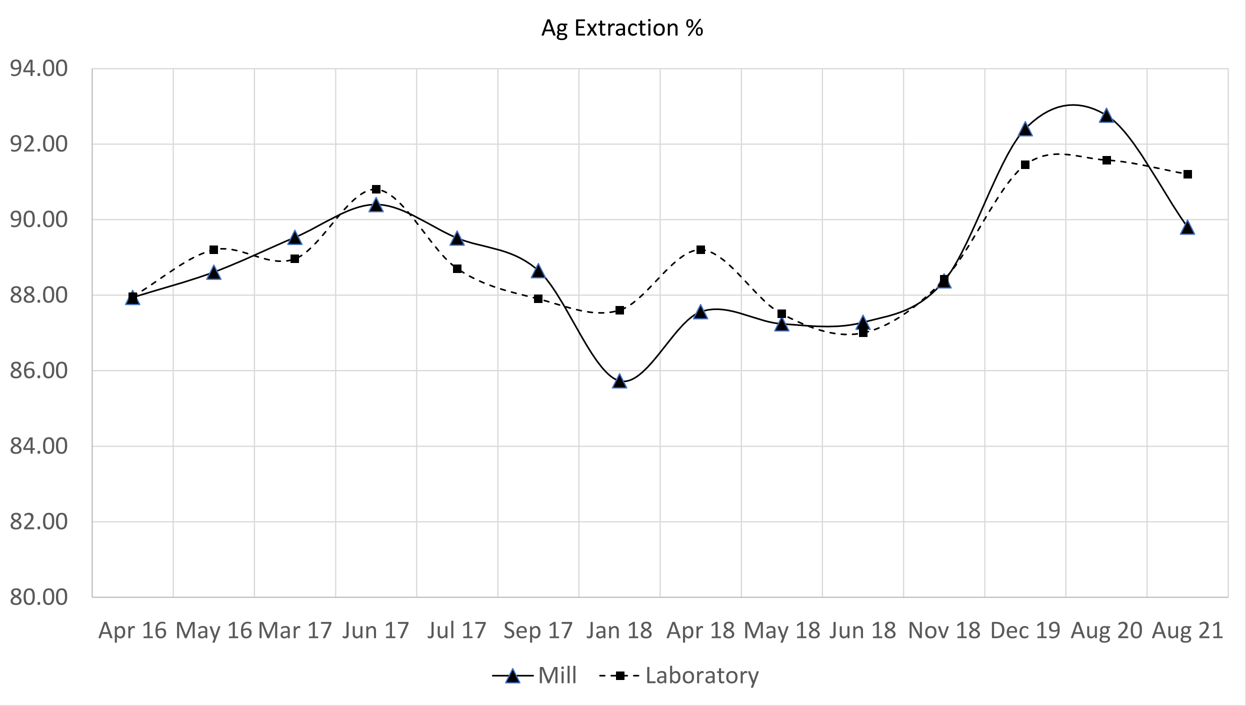
In addition to the analysis of repeatability for the metallurgical recovery of gold and silver for each monthly composite, and depending on specific processing results or plan deviations experienced during the months prior to the monthly sample being collected, a series of tests may include the following:

- Standard cyanidation (under similar conditions to those in the plant: grinding size, addition of reagents and cyanidation times),
- Testing with different reagents,
- Testing with different grinding sizes.

Results are shared with the plant operation personnel to facilitate continuous improvement initiatives.

As an example of the continuous monitoring of plant performance through the work conducted by the Central Laboratory, Figure 13-3 shows a comparison between the monthly mill performance and the Central Laboratory monthly composites results, in terms of metallurgical recovery for silver. During the months plotted in the graph, the plant performed similarly to the Central Laboratory test results, and the recovery differences are mostly within a 2% difference.

Figure 13-3: Comparison of Ag Extraction Between Mill and Laboratory Performances



Note: Figure prepared by First Majestic, October 2021.

13.3.4. Oxidant Studies

As part of the effort to continuously optimize plant performance, oxidant addition tests are performed. Oxygen is fundamental in the gold and silver leaching reaction, and the addition of some oxidants favour sulphide oxidation, particularly argentite and silver sulfosalts. The oxidants that have been tested in late 2020 include:

- Lead (II) nitrate ($Pb(NO_3)_2$),
- Liquid oxygen variation,
- GoldiLOX (sold by Gekko).

Table 13-2 illustrates the general tendency of better sulphur oxidation and improved metal recoveries, when oxidizing reagents are added. All tests used P80 of 32 µm and a leach time of 72 hours.

Table 13-2: Comparative Results at Bench Scale: Plant Conditions Versus Different Variants

Sample	Month	Test ID	Test Conditions							Extraction (%)		Reagent Consumption (kg/t)	
			P_{80} microns	NaCN ppm	O2 ppm	Pb(NO3)2 (g/t)	H2O2 ppm	GoldiLOX	Leach Time (h)	Au	Ag	NaCN	CaO
Ball-mill Cyclone Fines Sample for Oxidants Variation	Dec-20	Actual conditions.	32	3500	30	160	-	-	72	95.89	91.45	3.83	0.60
		Increase in the concentration of Sodium Cyanide/No O_2 added.	32	4500	-	160	-	-	72	96.22	91.65	3.68	1.00
		Standard Parameters + Lead Nitrate / No O_2 added.	32	3500	-	170	-	-	72	96.66	91.01	2.95	2.14
		Standard Parameters + Goldilox /No O_2 added.	32	3500	-	-	-	120	72	96.17	89.39	3.00	0.50
		Standard Parameters + Hydrogen Peroxide /No O_2 added.	32	3500	-	-	15	-	72	96.06	89.95	2.90	0.24
		Increase in the concentration of Sodium Cyanide/15 ppm O_2	32	4500	15	160	-	-	72	96.18	93.59	3.73	0.60
		Standard Parameters + Lead Nitrate and 15 ppm O_2	32	3500	15	170	-	-	72	95.79	91.92	3.26	0.60
		Standard Parameters + Goldilox and 15 ppm O_2	32	3500	15	-	-	120	72	95.56	91.52	3.33	0.60
		Standard Parameters + Hydrogen Peroxide and 15 ppm O_2	32	3500	15	-	15	-	72	95.50	91.26	3.33	0.64

13.3.5. Geometallurgical Samples

Samples collected from some of the planned mine stopes, are sent to the Central Laboratory for testing to assess the metallurgical behavior of the mineralized material that will be processed in the existing Santa Elena plant for the upcoming years. The parameters commonly used in the plant are simulated in the testwork programs. Table 13-3 shows examples of such testwork conducted with mineralized material from Santa Elena mine stopes.

Table 13-3: Example of Geometallurgy Testwork from Different Stopes, Santa Elena Mine

Test Date	Domain	Project	ID	Description	Leaching Conditions							Head Grade		Partial Extraction Dual		Global Extraction Dual	
					Solids %	P80 µm	NaCN ppm	pH	Oxygen ppm	$Pb(NO_3)_2$ g/t	Residence Time h	Au g/t	Ag g/t	Au %	Ag %	Au %	Ag %
July 2020	Santa Elena (Main Vein)	Geometallurgy III	Stope 45-line 75 Level 400 - Sulfides Vein	Primary Grinding	48	114	4000	11-11.5	~ 25-30	160	72	0.98	164.8	97	85	-	-
				Dual Circuit +20µm Regrinding 45µm	48	44	4000	11-11.5	~ 25-30	160	72	1.08	138.6	98	94	98.4	94.1
				Dual Circuit -20µm	40	18	4000	11-11.5	~ 25-30	160	72	1.11	229.3	99	95		
			Stope 47-line 166 Level 425 - Sulfides Vein	Primary Grinding	48	115	4000	11-11.5	~ 25-30	160	72	0.32	21.2	88	87	-	-
				Dual Circuit +20µm Regrinding 45µm	48	46	4000	11-11.5	~ 25-30	160	72	0.32	18.1	88	93	89.8	92.6
				Dual Circuit -20µm	40	18	4000	11-11.5	~ 25-30	160	72	0.43	37.8	96	93		
			Stope 51-line 56 Level 308 - Sulfides Vein	Molienda Primaria	48	115	4000	11-11.5	~ 25-30	160	72	0.34	33.7	91	89	-	-
				Dual Circuit +20µm Regrinding 45µm	48	44	4000	11-11.5	~ 25-30	160	72	0.25	26.5	92	93	92.8	93.8
				Dual Circuit -20µm	40	17	4000	11-11.5	~ 25-30	160	72	0.42	58.8	95	95		
August 2021	Santa Elena (Main Vein)	Geometallurgy IV	Stope 46	Base	48	96	4.0	11-11.5	30	160	72	1.78	61.9	-	-	96.7	90.6
				Actual	48	38	4.0	11-11.5	30	160	72	1.78	61.9	-	-	98.1	94.7
			Stope 53	Base	48	100	4.0	11-11.5	30	160	72	1.13	93.5	-	-	97.2	87.2
				Actual	48	40	4.0	11-11.5	30	160	72	1.13	93.5	-	-	99.0	88.1
			Stope 43	Base	48	96	4.0	11-11.5	30	160	72	1.64	104.6	-	-	97.1	72.0
				Actual	48	39	4.0	11-11.5	30	160	72	1.64	104.6	-	-	96.7	85.7
			Stope 47	Base	48	100	4.0	11-11.5	30	160	72	1.86	83.7	-	-	98.5	84.1
				Actual	48	39	4.0	11-11.5	30	160	72	1.86	83.7	-	-	98.5	89.6
			Stope 48	Base	48	100	4.0	11-11.5	30	160	72	1.70	387.1	-	-	98.6	84.3
				Actual	48	41	4.0	11-11.5	30	160	72	1.70	387.1	-	-	99.4	92.2
			Stope 52	Base	48	97	4.0	11-11.5	30	160	72	1.29	132.1	-	-	97.1	77.8
				Actual	48	39	4.0	11-11.5	30	160	72	1.29	132.1	-	-	94.8	87.9

13.3.6. Leach Pad Material

Metallurgical testwork and ongoing operations performance data show that material previously processed by heap-leaching, which was crushed but not ground, is amenable to dynamic leaching reprocessing. This material is blended with crushed Santa Elena fresh ore prior to grinding, and then follows the normal process flow to doré bars production.

13.3.7. Metallurgical Recoveries Records

Typical metal recoveries for the Santa Elena mine plant-feed are provided in Table 13-4. This table summarizes realized monthly recoveries for gold and silver for 2020 and 2021.

Table 13-4: Metallurgical Recoveries 2020-2021

Metal Recoveries 2020		
Month	**Au %**	**Ag %**
January	96.13	93.97
February	96.01	94.26
March	96.67	93.98
April	97.00	94.07
May	94.27	90.14
June	94.79	92.33
July	94.49	92.41
August	95.55	92.79
September	95.52	92.56
October	95.41	93.54
November	95.92	92.19
December	95.70	92.85
Average	**95.6**	**92.9**
Standard Dev.	0.8	1.2
Minimum	94.3	90.1
10th Percentile	94.5	92.2
Median	**95.6**	**92.8**
90th Percentile	96.6	94.1
Maximum	97.0	94.3

Metal Recoveries 2021		
Month	**Au %**	**Ag %**
January	93.86	91.33
February	93.54	92.25
March	93.62	92.30
April	94.02	92.53
May	94.30	92.50
June	94.45	92.69
July	94.46	92.92
August	96.20	90.44
September	95.50	90.90
October	96.19	91.98
Average	**94.6**	**92.0**
Standard Dev.	1.0	0.8
Minimum	93.5	90.4
10th Percentile	93.6	90.9
Median	**94.4**	**92.3**
90th Percentile	96.2	92.7
Maximum	96.2	92.9

Typical metal recoveries for the Santa Elena mineralized material ranged from 90.1% to 94.3% for silver and 93.5% to 97.0% for gold from the combination of run-of-mine (ROM) production from the underground mine and the leach pad material.

13.4. Ermitaño Preliminary Metallurgical Testwork conducted at the Central Laboratory

To determine the metallurgical behavior of the Ermitaño mineralized material that will be fed to the Santa Elena processing plant, metallugical testing started in 2019 at the Central Laboratory using limited drill core material prior to the development of a comprehensive sampling and testwork program which was conducted at SGS Mineral Services, Lakefield, ON, Canada in 2020 and 2021.

At the Central Laboratory, a master composite was prepared using 12 quarter-core sections from the Ermitaño deposit as shown in Table 13-5. The composite was prepared based mainly on sample assay results due its smaller size, 42.9 kg.

Table 13-5: Weight and Assay Results for the Ermitaño samples.

Geological Domain	Drill-hole number	From - to (m)	Total Weigth (kg)	Composite Weight (kg)	Silver Grade (g/t)	Gold Grade (g/t)
Ermitaño	EW-19-53	216.35 - 222.7	8.03	8.03	72	4.78
Ermitaño	EW-18-39	283.7 - 290.5	8.05	5.64	171	6.60
Ermitaño	EW-18-44	202.15 - 211.8	8.98	8.98	43	2.41
Ermitaño Splay Stockwork	EW-18-44	225.85 - 231.8	7.92	2.77	8	2.22
Ermitaño Splay Stockwork	EW-19-53	223.05 - 227.3	5.59	1.96	31	1.52
Ermitaño (East Zone)	EW-18-22	323.6 - 328.4	5.20	3.12	20	1.13
Ermitaño (East Zone)	EW-18-18	438.9 - 441.4	3.59	2.15	39	1.40
North Splay	EW-19-66	49.2 - 52.95	7.26	1.45	8	2.25
North Splay	EW-19-71	112.9 - 120	9.87	1.97	14	3.67
North Splay	EW-19-71	120 - 127.1	9.14	1.83	3	1.35
Ermitaño Splay Footwall (Intermedia 2)	EW-18-35	206.7 - 209.3	3.88	1.94	73	2.25
Ermitaño South	EW-19-78	335 - 340.3	6.20	3.10	11	2.45

13.4.1. Leaching Tests

The 2019 and 2020 metallurgical research programs focused on the cyanide leaching process as it was anticipated that Ermitaño ore would be processed at the Santa Elena cyanidation plant. The head grade analysis of the composite sample used is shown in Table 13-6.

Table 13-6: Composite Sample ICP-Assay – FMS Central Lab

Au g/t	Ag g/t	Pb %	Zn %	Cu %	Fe %	Mn %	As %	C %	S (t) %	S (-) %	Cd ppm
3.15	46.3	0.002	0.003	0.002	0.905	0.041	0.002	0.067	0.027	0.017	<2
Be ppm	Bi ppm	Ca %	Co ppm	Cr ppm	Li ppm	Mg %	Mo ppm	Ni ppm	Sb ppm	Se ppm	Sr ppm
<2	<10	0.13	3.9	511	1.12	0.03	60.8	134.4	21.22	<10	7
V ppm	Al %	Ba ppm	La ppm	Na %	Sc ppm	Sn ppm	Ti %	W ppm	Y ppm	Zr ppm	
2.03	0.09	51.7	6.59	<0.01	<2	<2	<0.01	<10	<2	<2	

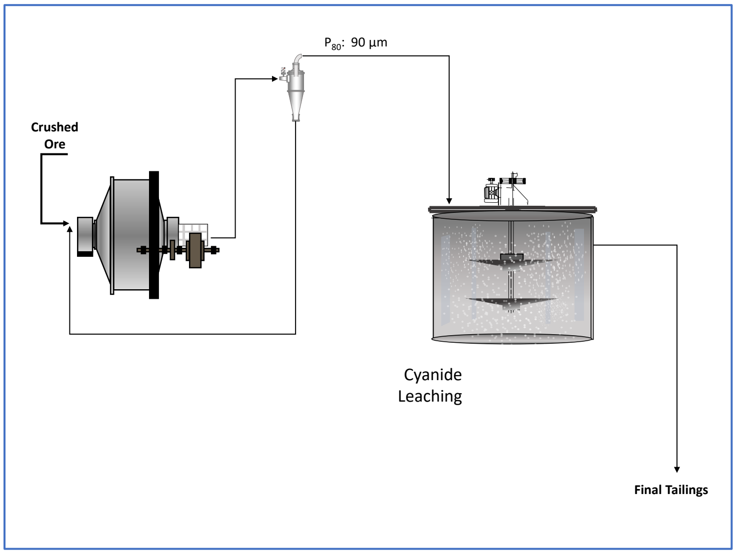
The metallurgical testing works focused on two circuits: the Grinding-Leaching; and the Grinding/Regrinding/Paralell Leaching circuits (Dual Circuit).

The first circuit was selected as it reproduces the original circuit of the Santa Elena plant that operated until the third quarter of 2019. In the fourth quarter of 2019, a second stage classification circuit (2-stage hydrocycloning) and a vertical grinding mill (Outotec High Intensity Grinding - HIG) were added to the circuit and started to deliver enhanced leaching circuit performance as it ramped up.

1) Grinding-Leaching

Tests were initially carried out without regrinding, using a P_{80} = 90 microns to follow the conditions which the plant had been operarting until the HIG-Mill installation and a schematic of the flowsheet is shown in Figure 13-4.

Figure 13-4: Flowsheet used to develop the metallurgical testing program without regrinding



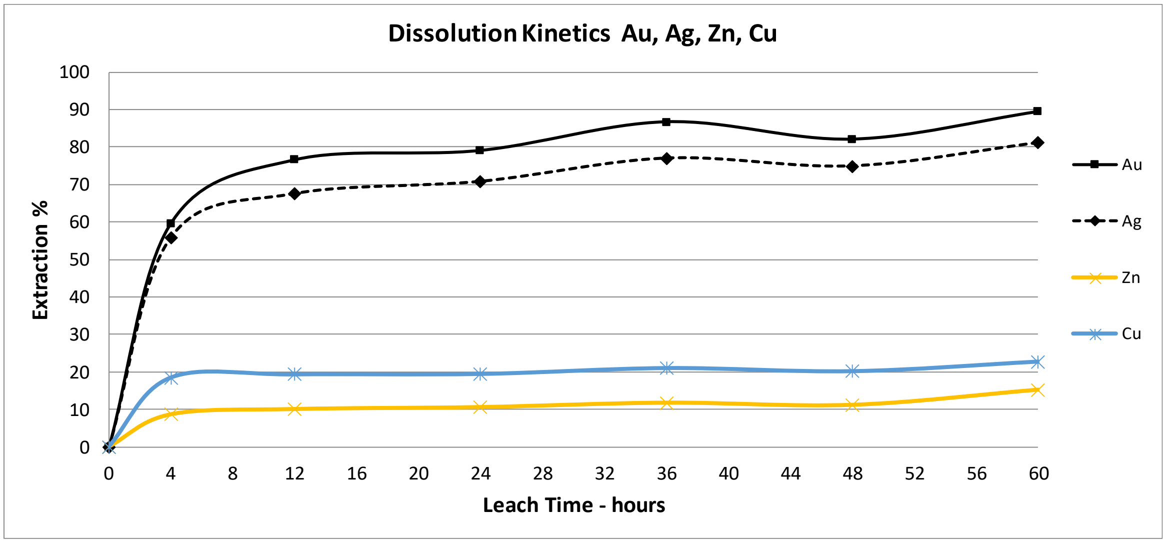
Note: Figure prepared by First Majestic, October 2021.

The test was carried out under the following conditions:

P80 = 90 µm	pH: 11.0 to 11.5
Sample Weight: 500 grams	Leach time: 60 hours
% Solids: 48	Dissolved Oxygen: 30 mg/L
Sodium cyanide concentration: 3000 ppm	Lead Nitrate: 200 g/t

Figure 13-5 shows the leaching dissolution kinects for Au, Ag, Zn, and Cu.

Figure 13-5 Dissolution kinetics grinding-leach test



Note: Figure prepared by First Majestic, October 2021.

Table 13-7 lists the extraction results after 60 hours of leaching.

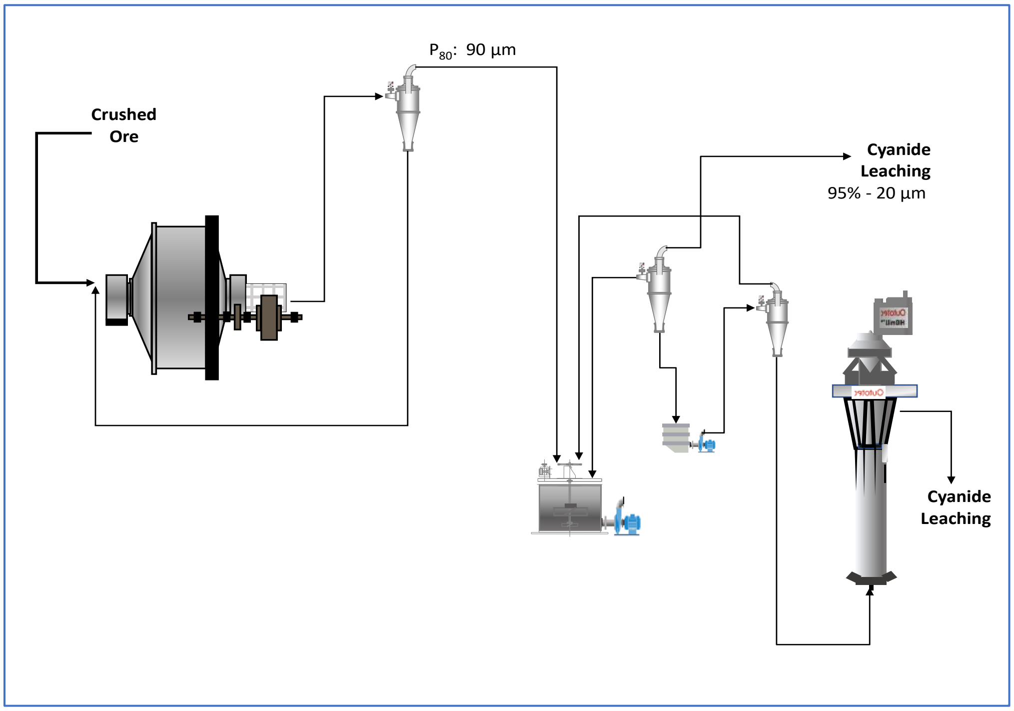
Table 13-7 - Dissolution kinetics and cyanide consumption at 90 microns

Time hours	Extraction %			
	Au	Ag	Zn	Cu
0	0.0	0.0	0.0	0.0
4	59.6	55.9	8.6	18.5
12	76.5	67.5	10.0	19.3
24	79.0	70.8	10.6	19.4
36	86.6	76.9	11.7	21.0
48	82.0	74.9	11.2	20.2
60	91.6	82.3	15.2	22.7
	Au	Ag		
Residue g/t:	0.263	8.207		
NaCN Consumption:		2.46 kg/t		

2) Two-stage Grinding /Leaching ("Dual Circuit")

The circuit utilized at bench scale followed the Dual Circuit flowsheet as illustrated in Figure 13-6.

Figure 13-6 – Dual Circuit Flowsheet used for test 2



Note: Figure prepared by First Majestic, October 2021.

According to the diagram, first the sample was ground to a P_{80} of 90 µm, and then classified to a cut-off mesh of 20 microns. Three samples were prepared and analyzed. Table 13-8 lists the assay results for the three produced sub-samples.

Table 13-8 - Sample Head Grade Analysis

Sample ID	Au g/t	Ag g/t	Pb %	Zn %	Cu %	Fe %	Mn %	As %	C %	St %	S-%
Head Samples	3.15	46.3	0.002	0.003	0.002	0.905	0.041	0.002	0.067	0.027	0.017
Dual Circuit (+20 µm)	2.76	38.8	0.001	0.002	0.002	0.721	0.021	0.001	0.048	0.013	0.012
Dual Circuit (-20 µm)	4.64	59.8	0.002	0.004	0.006	2.447	0.067	0.003	0.095	0.015	0.021

The fraction at +20 microns was re-ground with a bench Vertical-Mill at 60, 30 and 15 microns. Separate leaching tests were carried out with each of them and the sample at -20 microns. All the samples were subjected to particle size analysis in Mastersizer.

The test conditions were the same for all the leaching tests and were based on the usual parameters utilized at the Santa Elena processing plant. In addition, copper and zinc head gardes and extraction were also assessed.

The bottle-roll leaching tests were carried out under the following conditions:

P80 = 60, 30, and 15 µm	pH: 11.0 to 11.5
Sample Weight: 500 grams	Leach time: 60 hours
% Solids: 48	Dissolved Oxygen: 30 mg/L
Sodium cyanide concentration: 3000 ppm	Lead Nitrate: 200 g/t

The resulting dissolution kinetics and sodium cyanide consumption for the four samples (at particle sizes of 60, 30, 15 microns P80, and -20 microns) are shown in Table 13-9. Table 13-10 summarizes the recoveries after 60 hours of leaching and lists the expected combined (global) recoveries for the dual circuit complete process.

Table 13-9 - Dissolution kinetics and cyanide consumption

P_{80}: 60 µm HIG Product

Time hours	Extraction %			
	Au	Ag	Zn	Cu
0	0.0	0.0	0.0	0.0
4	87.9	75.4	13.9	23.4
12	94.0	77.9	16.8	26.2
24	93.2	77.7	15.6	25.6
36	92.6	77.6	18.0	26.0
48	92.8	81.0	17.6	27.4
60	94.9	83.1	26.3	28.9
	Au	Ag		
Residue g/t:	0.14	6.6		
NaCN Consumption:		3.03 kg/t		

P_{80}: 30 µm HIG Product

Time hours	Extraction %			
	Au	Ag	Zn	Cu
0	0.0	0.0	0.0	0.0
4	84.5	77.0	16.0	24.8
12	87.5	82.6	17.7	26.4
24	93.7	87.9	17.2	27.6
36	90.0	83.9	18.5	26.5
48	90.7	84.3	19.2	27.1
60	93.5	85.3	28.3	28.7
	Au	Ag		
Residue g/t:	0.18	5.7		
NaCN Consumption:		3.06 kg/t		

P_{80}: 15 µm HIG Product

Time hours	Extraction %			
	Au	Ag	Zn	Cu
0	0.0	0.0	0.0	0.0
4	64.7	54.3	2.7	25.0
12	74.7	68.2	3.2	27.1
24	78.4	73.3	3.4	27.1
36	95.1	82.1	3.8	29.1
48	93.9	82.4	4.0	28.7
60	95.2	85.1	6.0	31.3
	Au	Ag		
Residue g/t:	0.133	5.8		
NaCN Consumption:		2.19 kg/t		

P_{80}: -20 µm Rougher Product

Time hours	Extraction %			
	Au	Ag	Zn	Cu
0	0.0	0.0	0.0	0.0
4	98.0	78.4	5.9	17.8
12	98.8	85.2	5.9	19.0
24	101.2	88.7	5.6	19.4
36	97.6	86.3	5.7	19.1
48	97.3	85.8	5.8	18.8
60	98.6	89.6	12.4	20.4
	Au	Ag		
Residue g/t:	0.064	6.194		
NaCN Consumption:		2.83 kg/t		

Table 13-10 - Dual Circuit Recoveries.

Description		Recovery (%)		Total Recovery (%) Dual Circuit	
		Au	Ag	Au	Ag
Ball Mill Circuit 90 µm	Primary grinding only / not including regrind	91.6	82.3	-	-
Dual Circuit +20 µm reground to 60 µm	Blending of fines from the Rougher + Product from the HIG Mill at 60 µm	94.9	83.1	96.1	85.2
Dual Circuit +20 µm reground to 30 µm	Blending of fines from the Rougher + Product from the HIG Mill at 30 µm	93.5	85.3	95.2	86.7
Dual Circuit +20 µm reground to 15 µm	Blending of fines from the Rougher + Product from the HIG Mill at 15 µm	95.2	85.1	96.3	86.6
Dual Circuit -20 µm	Only Rougher Overflow	98.6	89.6	-	-

The preliminary tests demonstrated that the use of the Dual Circuit brings higher recovery levels when compared to the original one-stage grind and single-train tank leaching. However, it was not possible to generate proper grinding vs. recovery curves as test results were inconclusive in terms of metal extraction at the different size fractions. For instance, gold extraction was higher at the finest grind tested (15 microns); still, the trend was inverted when comparing the results from 30 and 60 microns. Based on these results, a decision was made to continue these tests at an external laboratory.

13.5. Ermitaño Metallurgical Tests conducted at SGS, Lakefield

13.5.1. Sample Origin and Preparation

Two wooden crates of drill core from the Ermitaño deposit were received for metallurgical testing at the SGS Lakefield site on September 1, 2020. Each wooden crate contained multiple core boxes of full PQ core, which were identified by hole ID and depth, as well as the box number. In all, 121 samples from 5 core holes were received. An inventory of the received material, detailing hole ID and depths, is shown in Table 13-11.

Table 13-11 - Ermitaño Material Received at SGS

Hole ID	Depth (m)	
	From	To
EWM-19-02	268.05	289.80
EWM-19-03	217.70	235.20
EWM-19-04	210.70	234.75
EWM-20-05	115.70	151.75
EWM-20-06	84.10	96.50

The two crates were immediately shipped to SGS Garson for core scanning using the Minalyzer. Here, the entire lengths of received core were analysed by XRF to determine the composition of the core in a non-destructive manner. The core boxes were then returned to SGS Lakefield for the sample preparation process.

Based on the results of the Minalyzer analysis, First Majestic was able to confirm that four material types were represented by the core; Core (vein), Marginal (vein), Stockwork, and Waste.

The sample quantity received at SGS totaled 1575 kg. From this, a 200 kg master composite sample was prepared, composed of Core, Marginal and Stockwork to reflect the expected LOM mineralized material from Ermitaño. The waste inclusion in the LOM breakdown is based on the dilution of 1 meter total of waste which comes out to about 10% for the LOM. In Table 13-12 details on the contents of the Master Composite are given and Table 13-13 provides the assay results of the composite.

Table 13-12 - Master Composite Configuration

Composite ID	Total Composite Weight (kg)	Master Composite Contribution (kg)
ORE:		
EWM-19-03-CORE	114	20.3
EWM-19-04-CORE	142	20.5
EWM-19-05-CORE	172	20.2
EWM-19-02-STOCKWORK	227	9
EWM-20-03/05/06 STOCKWORK	103	24
EWM-19-4 STOCKWORK	91	25
EWM-19-02/03/04/06 MARGINAL	129	30
EWM-20-05 MARGINAL	161	30
WASTE:		
EWM-20-02/03/05 WASTE	265	10
EWM-20-04/06 WASTE	172	10

Master Composite	%
Core	31
Marginal	30
Stockwork	29
Waste	10
Total:	100

Table 13-13 - Master Composite Sample ICP-Assay – SGS

Au g/t	Ag g/t	Pb ppm	Zn ppm	Cu ppm	Fe %	Mn %	As ppm	C %	S (t) %	S (-) %	Cd ppm
4.07	41	<20	55	28.2	0.684	0.031	<30	0.03	0.02	<0.05	<8
Be ppm	Bi ppm	Ca %	Co ppm	Cr ppm	Li ppm	Mg %	Mo ppm	Ni ppm	Sb ppm	Se ppm	Sr ppm
3.68	<20	0.066	8	177	61	0.058	<5	<20	124	<30	38.7
V ppm	Al %	Ba ppm	K %	Na %	P ppm	Sn ppm	Ti %	Tl	Y ppm	U ppm	
9	2.33	229	2.1	0.042	<30	<20	0.052	<30	4.8	<30	

13.5.2. Leach Tests

Similar to the testing completed at the Central Laboratory, the SGS Lakefield testing procedure was based on the Dual Circuit flowsheet, i.e. with the use of fine grinding and parallel leaching circuits, to replicate the current Santa Elena flowsheet and to obtain the dissolution of the metals of interest in accordance with the anticipated operation process.

A series of almost 100 cyanidation tests were performed using a master composite. Tests were conducted separately for slimes and HIG-Mill product at different particle sizes. During the test work; particle size, sodium cyanide concentration, concentration in ppm of dissolved oxygen, and addition of oxidants (lead nitrate: from 50 to 300 g/t) were varied. The results of the leaching tests conducted with the master composite are summarized in three tables. Table 13-14 provides the main results for tests conducted with the slimes (-20 microns).

Table 13-14 Leach results for Slimes portion

Sample	CN Test No.	Pulp Density % (w/w)	Retention Time h	[NaCN] g/L	Dissolved Oxygen ppm	Lead Nitrate g/t	Reagent Cons. kg/t of CN Feed		Au Extraction, %				Au Residue g/t	Ag Extraction, %							Residue
							NaCN	CaO	24 h	48 h	72 h	96 h		4 h	8 h	24 h	48 h	**60 h**			Ag, g/t
Base Parameters																					
MC-90 µm	2	35	60	4	30	150	0.83	2.72	100	**98.7**			0.04	82	83	85	88	**83.6**			7.4
MC-150 µm	5	35	60	4	30	150	0.68	2.77	98	**98.0**			0.08	86	88	89	88	**83.9**			6.6
NaCN Concentration Series																					
MC-2021 (150 µm)	7	35	60	0.25	8.0	---	0.07	2.81	99	**97.4**			0.10	47	55	63	68	**67.7**			14.8
	8			0.5	9.5		0.13	2.73	99	**97.9**			0.08	61	66	75	79	**79.2**			9.5
	9			1	8.0		0.20	2.76	99	**98.0**			0.08	71	76	83	83	**82.7**			7.3
	10			2	7.9		0.36	2.77	98	**97.4**			0.10	78	83	82	81	**84.7**			7.2
	11			3	7.9		0.46	2.75	99	**98.1**			0.07	86	87	88	88	**86.1**			6.4
	12			4	7.9		0.73	2.73	98	**98.0**			0.08	88	87	88	86	**84.4**			6.4
Dissolved Oxygen Series																					
MC-2021 (150 µm)	43	35	48	**0.5**	**30**	---	0.13	2.87	**97.7**				0.08	66	62	67	**71.2**				13.0
	44			**4**	**20**		1.20	3.31	**98.0**				0.07	72	75	79	**77.4**				10.2
	45			**4**	**30**		0.65	3.08	**98.0**				0.07	70	76	76	**76.3**				11.0
Lead Nitrate Series																					
MC-2021 (150 µm)	56	35	48	**4**	9.2	**150**	0.91	2.61	**97.9**				0.08	78	80	84	**77.3**				10.6
	57				30	**50**	0.95	2.74	**98.1**				0.07	81	80	80	**77.5**				10.4
	58					**100**	1.16	2.68	**98.1**				0.07	77	78	75	**76.8**				11.0
	59					**200**	1.11	2.80	**98.1**				0.07	77	79	79	**76.5**				11.0
	60					**300**	0.99	2.55	**98.0**				0.08	72	75	74	**75.9**				11.6
Retention Time Series																					
MC-2021 (150 µm)	32	35	12	4	8.4	---	0.58	1.72					0.07	67	70	**69.4**					15.6
	33		24		9.3		0.82	1.93	**98.3**				0.06	68	71	71	**70.7**				15.0
	34		48		9.2		0.66	2.17	100	**98.1**			0.07	79	81	81	81	**78.7**			9.4
	35		72		9.4		0.84	2.77	100	100	**98.2**		0.07	78	79	79	80	82.3	**80.5**		9.2
	36		96		9.4		1.10	3.28	100	100	100	**97.9**	0.08	83	84	84	84	85.4	78.4	**79.4**	9.2

Table 13-15 shows the results for the different HIG-mill products, and Table 13-16 provides the estimated final dual circuit extraction using the optimum parameters observed from the series of tests (e.g. 30 microns P80 HIG-Mill product).

Table 13-15 Leach results for HIG-Mill discharge

Sample	CN Test No.	Pulp Density % (w/w)	Retention Time h	[NaCN] g/L	Feed Size P_{80}, µm		Dissolved Oxygen ppm	Lead Nitrate g/t	Reagent Add'n kg/t of CN Feed		Reagent Cons. kg/t of CN Feed		Au Extraction, %			Au Residue g/t	Ag Extraction, %			Ag Residue g/t
					Target	**Actual**			NaCN	CaO	NaCN	CaO	24 h	48 h	**60 h**		24 h	48 h	**60 h**	
Baseline Parameters																				
Master Comp	1	48	60	4	150	**145**	30	150	4.95	0.83	0.54	0.72	83	85	**85.3**	0.58	50	52	**50.1**	27.3
Master Comp	4				90	**95**	30		4.96	0.92	0.65	0.80	89	90	**89.6**	0.44	53	53	**51.6**	25.3
MC-90 µm	3				60	**62.7**	30		4.69	0.71	0.62	0.65	88	87	**85.9**	0.47	59	66	**60.7**	14.6
MC-150 µm	6				60	**65.4**	30		4.53	0.76	0.63	0.70	87	87	**85.5**	0.46	48	49	**49.3**	24.8
Grind Series																				
MC-2021 (150 µm) HIG Product	13	48	60	4	**15**	**15.8**	10.0	---	4.73	1.05	0.71	0.95	98	97	**94.8**	0.16	77	77	**74.0**	11.2
	14				**30**	**34.5**	9.8		4.28	0.95	0.69	0.88	89	88	**89.3**	0.35	64	70	**68.5**	12.8
	15				**45**	**44.1**	9.9		4.60	0.95	0.61	0.88	91	90	**88.7**	0.35	67	67	**67.2**	12.8
	16				**60**	**62.7**	10.1		4.52	0.88	0.60	0.81	88	87	**86.6**	0.45	67	65	**65.6**	13.0
	17				**80**	**84.6**	9.8		4.78	0.85	0.54	0.77	86	84	**84.1**	0.42	68	66	**64.7**	11.2
NaCN Concentration Series																				
MC-2021 (150 µm) HIG Product	13	48	60	**4**	**15**	**15.8**	10	---	4.73	1.05	0.71	0.95	98	97	**94.8**	0.16	77	77	**74.0**	11.2
	18			**2**			9.9		2.74	1.14	0.51	1.08	99	99	**94.6**	0.17	72	70	**73.1**	13.0
	19			**1**			10.1		1.26	1.30	0.26	1.25	95	96	**94.7**	0.17	59	77	**66.0**	15.4
	16			**4**	**60**	**62.7**	10.1		4.52	0.88	0.60	0.81	88	87	**86.6**	0.45	67	65	**65.6**	13.0
	20			**2**			10.2		2.28	0.81	0.33	0.76	88	89	**87.3**	0.49	64	65	**66.0**	14.9
	21			**1**			10.1		1.19	0.79	0.15	0.73	84	86	**86.6**	0.50	57	62	**61.1**	15.3

Table 13-16 Calculated Global Extraction based on master composite leaching tests

Sample	Description	Leaching Conditions					Head Grade		Tailings Grade		Extraction Dual Circuit		Global Extraction	
		Solids %	P80 µm	NaCN ppm	Oxygen ppm	Residence Time h	Au g/t	Ag g/t	Au g/t	Ag g/t	Au %	Ag %	Au %	Ag %
Ermitaño	HIG PRODUCT	48	30	2.5	30	60	1.59	37.78	0.11	13.60	93.1	64	95.6%	68.9%
	SLIMES	35	20	4	9.2	48	3.68	44.13	0.07	9.40	98.1	78.7		

The global extraction was calculated based on the optimum parameters observed from the series of tests and considering 70% being the product of the HIG-Mill and 30% of slimes, which is based on the current split observed in the classification system of the existing HIG-Mill circuit.

Based on the application of the Dual Circuit and with 30 microns P80 for the mill product, the recoveries achieved with the master composite sample were 95.6% for Au and 68.9% for Ag.

13.5.3. Metallurgical Variability

Variability leaching testwork was conducted on several individual Ermitaño drill hole samples, representing the different geological domains within the mineralized orebody that are included in the LOM. The variability test results are shown in Table 13-17 and variability result statistics shown in Table 13-18.

Table 13-17 - Ermitaño variability leaching testwork results

Sample ID	D_{80},		Dissolved Oxygen	Reagent Cons. kg/t of CN Feed		Au Extraction, %	Head, Au, g/t	Ag Extraction, %	Head, Ag, g/t
			ppm	NaCN	CaO	**60 h**	Calc.	**60 h**	Calc.
EWM-19-03-CORE	SLIMES	11	8.6	0.51	2.68	**98.4**	2.85	**66.5**	35.2
EWM-19-04-CORE		13	8.5	0.40	2.79	**98.7**	3.13	**86.4**	83.3
EWM-20-05-CORE		9	8.8	0.63	3.20	**98.5**	15.4	**92.6**	102
EWM-19-02-STOCKWORK		9	8.7	0.42	3.17	**99.1**	3.35	**95.2**	95.8
EWM-20-03/05/06 STOCKWORK		9	9.5	0.31	2.96	**97.1**	0.70	**79.9**	14.9
EWM-19-04 STOCKWORK		9	9.3	0.29	3.32	**94.7**	0.38	**69.2**	71.6
EWM-19-02/03/04/06 MARGINAL		11	9.7	0.55	2.68	**97.9**	4.28	**88.9**	73.7
EWM-20-05-MARGINAL		13	8.8	0.47	2.67	**97.9**	5.27	**55.8**	50.2
EWM-20-02/03/05 WASTE		10	8.5	0.54	2.79	**98.7**	1.95	**71.6**	39.9
EVM-20-04/06 WASTE		9	9.5	0.19	3.26	**93.0**	0.29	**64.4**	8.7
EWM-19-03-CORE	50 microns	50	44.2	0.20	0.67	**82.5**	2.29	**30.7**	32.0
EWM-19-04-CORE		49	33.3	0.30	0.64	**91.4**	2.21	**56.8**	75.7
EWM-19-05-CORE		54	39.9	0.20	0.67	**81.0**	11.4	**40.7**	77.2
EWM-19-02-STOCKWORK		44	41.1	0.47	1.10	**97.0**	9.37	**73.8**	134
EWM-20-03/05/06 STOCKWORK		52	39.9	0.12	1.13	**94.2**	1.21	**58.1**	14.8
EWM-19-04 STOCKWORK		47	37.3	0.17	0.93	**97.2**	1.07	**78.0**	68.1
EWM-19-02/03/04/06 MARGINAL		47	28.8	0.29	0.66	**92.5**	4.50	**62.8**	65.1
EWM-20-05-MARGINAL		44	37.3	0.01	1.10	**91.0**	3.56	**38.3**	38.6
EWM-20-02/03/05 WASTE		50	38.3	0.30	0.70	**98.1**	3.43	**79.2**	42.8
EVM-20-04/06 WASTE		53	35.0	0.16	0.60	**96.9**	0.64	**58.3**	11.8
EWM-19-03-CORE	30 microns	25	20.0	0.38	0.59	**85.1**	2.14	**33.0**	40.3
EWM-19-04-CORE		27	26.9	0.92	0.88	**92.6**	2.02	**51.7**	80.1
EWM-19-05-CORE		34	36.4	0.42	0.65	**86.3**	10.3	**47.2**	77.1
EWM-19-02-STOCKWORK		31	27.3	0.16	0.64	**97.6**	6.61	**77.4**	122
EWM-20-03/05/06 STOCKWORK		28	36.5	0.43	1.02	**95.6**	1.14	**60.0**	18.0
EWM-19-04 STOCKWORK		32	36.5	0.40	0.98	**97.7**	0.85	**77.4**	64.7
EWM-19-02/03/04/06 MARGINAL		32	35.4	0.74	0.62	**94.0**	5.22	**71.1**	73.3
EWM-20-05-MARGINAL		29	36.5	0.23	0.69	**93.1**	3.60	**43.8**	39.0
EWM-20-02/03/05 WASTE		32	36.6	0.49	0.75	**98.4**	2.81	**78.3**	42.0
EVM-20-04/06 WASTE		29	34.8	0.72	0.73	**96.5**	0.56	**56.7**	13.4

Pulp densities were 35% (w/w) for the slimes and 48% (w/w) for the mill products (i.e. 30 and 50 microns)
The reported values for Au and Ag extractions are based on 60 hours leaching retention time

Table 13-18 Variability Results Statistics

Variability Statistics	Metal Extractions (%)		
	Slimes	**50 microns**	**30 microns**
Gold - Average	97.4	92.2	93.7
Au -10th percentile	94.5	82.4	86.2
Au - 90th percentile	98.7	97.3	97.8
Silver -Average	77.1	57.7	59.7
Ag - 10th percentile	63.5	31.5	34.1
Ag - 90th percentile	92.9	78.1	77.5
Au -Global 70/30 Averg.		93.7	94.8
Au - Global 10th perc.		86.0	88.7
Au - Global 90th perc.		97.7	98.1
Ag -Global 70/30 Averg.		63.5	64.9
Ag - Global 10th perc.		41.1	42.9
Ag - Global 90th perc.		82.5	82.1

As can be observed in Table 13-18, the global 70/30 average Au extraction for the total circuit product was 93.7% for 50 µm and 94.8% for 30 µm grind P80s and 80% of the values were within the range of 86% to 97.7%, and 88.7% to 98.1% for 50 µm and 30µm, respectively. For Ag, the average global 70/30 extraction was 63.5% for 50 µm and 64.9% for 30 µm grind P80s and 80% of the values were within the range of 41.1% to 82.5%, and 42.9% to 82.1% for 50 µm and 30µm, respectively. These results indicate the higher sensitivity of Au extraction to grind size when compared to Ag extraction as well as the higher variability in Ag extractions.

13.5.4. Bond Ball Work Index

The testwork to determine the grindability of the Ermitaño ore focused on the determination of Bond Ball mill work index as this is the parameter currently used for grind power calculations and grinding simulations at Santa Elena processing plant. The testwork was carried out with several individual samples and at different closing screen mesh sizes. The test results are shown in Table 13-19.

Table 13-19 Grindability Test Results for Different Samples of Ermitaño Mine

Sample ID	Mesh	BWI kWh/t
EWM-19-03 Core	80	21.5
	120	22.4
EWM-19-04 Core	80	22.1
	120	23.6
EWM-19-04 Stockwork	80	20.7
	120	21.0
EWM-19-02/03/04/06 Marginal	80	21.0
	120	22.2
EWM-19-04/06 Waste	120	19.0

The test results demonstrate that the mineralized material from the Ermitaño mine are on the very hard scale, typically exceeding 20 kWh/t, and are harder than the mineralized material from Santa Elena mine.

13.5.5. Merrill-Crowe Tests

Using samples of the pregnant solution from the leaching tests, a series of zinc precipitation tests (Merrill-Crowe process) was completed. Different stoichiometric ratios Zn versus Ag-Au were used, as can be seen in Table 13-20, and using stoichiometric ratios of 5 to 1, satisfactory efficiencies were achieved.

Table 13-20: Merrill-Crowe Test Results

Pregnant Solution Grades: Au: 2.5 mg/L
Ag: 28.4 mg/L

Test No.	Stoich.	Zn	Precipitate Weight g	Barren Solution		Precipitation Efficiency	
	Factor			Au mg/L	Ag mg/L	Au %	Ag %
MC1-A	1.5	0.027	0.036	1.14	12.5	54.4%	56.0%
MC1-B	2	0.036	0.048	0.97	10	61.2%	64.8%
MC1-C	2.5	0.045	0.085	0.79	7.46	68.4%	73.7%
MC1-D	5	0.189	0.039	0.72	6.55	71.2%	76.9%
MC1-E	5	0.189	0.026	0.21	1.64	91.6%	94.2%
MC1-F	2.5	0.158	0.044	0.42	2.54	83.2%	91.1%

13.5.6. Solid-Liquid Separation Tests

As part of the test program, two cyanide leached samples were subjected to solid-liquid separation and rheology testing. Table 13-21 lists the characterization of the samples used in the program.

Table 13-21 Solid-Liquid Separation Sample Characterization

Sample I.D	Particle Sizing			SG of Dried Solids	Testing pH	Liquor Density, kg/L
	[1]d_{80}, µm	[1]<20 µm % vol	[1]<1 µm % vol			
CN-97 Pulp	35	63.1	4.7	2.65	10.5	1.00
CM-98 Pulp	15	85.9	9.4	2.70	10.5	1.00

[1]Determined using laser diffraction (Malvern).

Flocculant Screening and Static Settling Tests

Flocculant screening tests were performed using a range of anionic, non-ionic, and cationic flocculants produced by BASF, as well as Solenis DREWFLOC 277. The tests indicated that both samples achieved the best response using Magnafloc 10, which is a very high molecular weight, slightly anionic polyacrylamide flocculant.

Static settling tests were performed in 2 L graduated cylinders fitted with a rotating "picket-style" rake. The static settling test results were used as preliminary starting conditions for subsequent dynamic (continuous) thickening tests.

Dynamic (Continuous) Thickening Tests

The results from the dynamic thickening tests are presented in Table 13-22 and Table 13-23 for samples CN-97 and CN-98, respectively. The overflow samples from the dynamic thickening tests were submitted to Turbidity (NTU) measurements in addition to total suspended solid content (TSS) determinations. NTU and TSS results are included in the test result summary tables for each sample.

Table 13-22 Summary of Thickening Results by Unit Area – CN-97 Pulp

Dosage flocc't, g/t	Unit Area, $m^2/(t/d)$	Solids Loading, $t/m^2/h$	Net Rise Rate $m^3/m^2/d$	Underflow, %w/w solids	Overflow TSS, mg/L	Turbidity, NTU	Residence Time, h	U/F Yield Stress, Pa
50	0.15	0.28	123.3	60.0	89	26	1.43	51
50	0.13	0.32	142.3	59.7	173	22	1.24	41
50	0.11	0.38	168.2	58.2	174	27	1.05	27
50	0.10	0.42	185.0	56.7	246	25	0.95	28
50	0.09	0.46	205.6	56.8	338	26	0.86	60
Underflow extended for 30 minutes:				61.8				76

Bed height was maintained around 150 mm

The thickener unit areas which were examined ranged from 0.15 to 0.09 m^2/(t/d). The underflow density was 60.0% w/w solids at 0.15 m^2/(t/d) and decreased to 56.8% w/w solids at 0.09 m^2/(t/d). Overflow TSS increased from 89 mg/L to 338 mg/L over the range of tested unit areas.

A thirty-minute period of extended thickening, without feed or raking, slightly increased the underflow density from 60.0% w/w solids to 61.8% w/w solids when operating at 0.15 m^2/(t/d) unit area. The corresponding yield stress increased from 51 Pa at 60.0% w/w solids to 76 Pa at 61.8% w/w solids after the thirty-minute extended period of thickening.

Table 13-23 - Summary of Thickening Results by Unit Area – CN-98 Pulp

Dosage flocc't, g/t	Unit Area, m^2/(t/d)	Solids Loading, t/m^2/h	Net Rise Rate m^3/m^2/d	Underflow, %w/w solids	Overflow TSS, mg/L	Turbidity, NTU	Residence Time, h	U/F Yield Stress, Pa
100	0.30	0.14	60.0	43.7	54	11	2.92	106
100	0.26	0.16	69.2	41.6	184	4	2.53	60
100	0.23	0.18	78.3	40.2	359	23	2.24	53
100	0.20	0.21	90.0	36.4	481	47	1.94	21
100	0.18	0.23	100.0	33.7	899	47	1.75	No Yield
Underflow extended for 30 minutes:				43.8				88

Bed height was maintained around 150 mm

The dynamic thickening test of CN-98 Pulp was initially conducted using a 100 g/t dosage of BASF Magnafloc 10 flocculant at 5%w/w solids and 0.30 m^2/(t/d) unit area. The resulting TSS was 96 mg/L. Switching the flocculant to Magnafloc 333 reduced the TSS to 59 mg/L.

The dynamic thickening test was then restarted using Magnafloc 333 flocculant. A dosage of 100 g/t Magnafloc 333 flocculant produced an overflow TSS of 54 mg/L. Decreasing the dosage to 90 g/t increased the overflow TSS to 133 mg/L. Subsequent dynamic thickening tests were conducted using a constant dosage of 100 g/t Magnafloc 333 and was tested over a range of thickener unit areas to observe the effect of unit area.

The thickener unit areas which were examined ranged from 0.30 to 0.18 m2/(t/d). The underflow density was 43.7% w/w solids at 0.30 m2/(t/d) and decreased to 33.7% w/w solids at 0.18 m2/(t/d). Overflow TSS increased from 54 mg/L to 899 mg/L over the range of tested unit areas.

A thirty-minute period of extended thickening, without feed or raking, slightly increased the underflow density from 43.7% w/w solids to 43.8% w/w solids when operating at 0.30 m2/(t/d) unit area. The corresponding yield stress did not increase after the thirty-minute extended period of thickening.

For a throughput of 2350 t/d, there would be 1645 t/d as a product of the HIG-Mill, for the unit area obtained in the settling tests, the thickeners of 60 feet in diameter would have more than sufficient area. In addition, the existing thickener will also have enough settling area for the treatment of the slimes.

13.5.7. Vacuum Filtration Tests

Vacuum filtration tests were conducted at 20 inches mercury (0.68 bar) of vacuum for both test samples.

Vacuum filtration tests were conducted on the CN-97 Pulp underflow sample at 60% w/w solids based on the results of the dynamic thickening tests. Cloth scoping tests were conducted using a range of filter cloths. Testori P4408 TC polypropylene cloth was selected for the vacuum filtration test.

Tested cake thicknesses ranged from 15 to 35 mm. The resulting solids output (i.e. dry solids capacity) ranged from 264 to 754 kg/m^2·h. The discharge cake residual moisture content ranged from 24.6% to 26.1% w/w moisture. Cake surface texture ranged from wet to sticky. Vacuum filtration results of CN-97 Pulp underflow are summarized in Table 13-24.

Table 13-24 - Vacuum Filtration Results Summary – CN-97 Pulp Underflow

Sample I.D.	Filter Cloth	Operating Conditions					Filter Outputs				
		Feed Solids %w/w	Vacuum Level, Inch Hg	Form Time, s	Dry Time, s	Form/Dry Time Ratio	Cake Thickness, mm	[1]Throughput, dry solid kg/m^2•h	Cake Moisture % w/w	Filtrate TSS, mg/L	Cake Texture
CN-97 Pulp Underflow	Testori P 4408 TC	60.0	20	232	23	10.18	35	689	26.1	61	Wet
				139	28	4.94	25	754	26.0	113	Wet
				137	69	1.98	25	616	25.2	111	Wet
				138	138	1.00	25	460	24.9	116	Wet
				139	278	0.50	25	304	24.6	114	Sticky
				48	240	0.20	15	264	24.8	181	Sticky
				236	187	1.26	34	417	25.1	93	Sticky

[1] Throughputs are calculated using cycle time which includes form and dry times only.

[2] Indicates that the cake surface was dry-to-touch.

Vacuum filtration tests were conducted on the CN-98 Pulp underflow sample at 40% w/w solids based on the results of the dynamic thickening. Cloth scoping tests were conducted using a range of filter cloths. Testori P4408 TC polypropylene cloth was selected for the vacuum filtration test.

Tested cake thicknesses ranged from 5 to 16 mm. The resulting solids output (i.e. dry solids capacity) ranged from 39 to 96 kg/m^2·h. The discharge cake residual moisture content ranged from 33.3% to 39.0% w/w moisture. Cake surface texture ranged from wet to sticky. Vacuum filtration results of CN-98 Pulp underflow are summarized in Table 13-25.

Table 13-25 - Vacuum Filtration Results Summary – CN-98 Pulp Underflow

Sample I.D.	Filter Cloth	Operating Conditions					Filter Outputs				
		Feed Solids %w/w	Vacuum Level, Inch Hg	Form Time, s	Dry Time, s	Form/Dry Time Ratio	Cake Thickness, mm	[1]Throughput, dry solid kg/m^2•h	Cake Moisture % w/w	Filtrate TSS, mg/L	Cake Texture
CN-98 Pulp Underflow	Testori P 4408 TC	40.0	20	810	81	10.00	16	68	39.0	38	Wet
				343	69	4.97	10	96	37.9	65	Wet
				342	171	2.00	10	78	36.1	71	Wet
				343	343	1.00	10	58	34.6	64	Sticky
				343	686	0.50	10	39	33.3	53	Sticky
				101	303	0.33	5	52	35.5	100	Sticky
				782	388	2.01	15	52	35.0	46	Wet

[1] Throughputs are calculated using cycle time which includes form and dry times only.

[2] Indicates that the cake surface was dry-to-touch.

13.5.8. Pressure Filtration Tests

Pressure filtration tests were conducted at a range of pressure levels as detailed in the summarized results for each sample.

Pressure filtration tests were conducted on the CN-97 Pulp underflow sample at 60% w/w solids. Pressure filtration was conducted at 5.5 bar (80 PSI) and 6.9 bar (100 PSI) pressure levels. Scoping tests were conducted using a range of filter cloths. Testori P 4408 TC polypropylene cloth was selected for pressure filtration test. Pressure filtration results of CN-97 Pulp underflow are summarized in Table 13-26.

Table 13-26 - Pressure Filtration Results Summary – CN-97 Pulp Underflow

Sample I.D.	Filter Cloth	Operating Conditions			Filter Outputs					
		Feed Solids %w/w	Pressure Level bar	Filtration Time s	[1]Cake Thickness mm	[2]Filtration Time Cycle Throughput, dry solid kg/m^2•h	[3]Estimated Full Cycle Throughput, dry solid kg/m^2•h	Cake Moisture % w/w	Filtrate TSS mg/L	Cake Texture
CN-97 Pulp Underflow	Testori P 4408 TC	60.0	5.5	192	44	1195	290	17.4	122	[4]DTT
				120	34	1420	237	16.8	117	DTT
				78	24	1639	189	15.9	181	DTT
				49	14	1451	110	14.0	283	DTT
			6.9	147	45	1586	313	18.3	147	DTT
				119	35	1515	251	16.6	180	DTT
				80	25	1569	186	15.2	200	DTT
				52	15	1396	111	11.7	271	DTT

[1] Cake thickness represents half of the chamber thickness.

[2] Throughput calculated using cycle time which includes filtration time only.

[3] Estimated pressure filter throughput, calculated using a full cycle time which includes filtration time plus 10 minutes of miscellaneous cycle time which includes filter loading, cake discharge, cloth washing, and filter assembly.

[4] Indicates that the cake surface was dry-to-touch.

Pressure filtration tests were conducted on the CN-98 Pulp underflow sample at 40% w/w solids. Pressure filtration was conducted at 6.9 bar (100 PSI) and 9.9 bar (144 PSI) pressure levels. Scoping tests were conducted using a range of filter cloths. Testori P 4408 TC polypropylene cloth was selected for pressure filtration test. Pressure filtration results of CN-97 Pulp underflow are summarized in Table 13-27.

Table 13-27 - Pressure Filtration Results Summary – CN-98 Pulp Underflow

Sample I.D.	Filter Cloth	Operating Conditions			Filter Outputs					
		Feed Solids %w/w	Pressure Level bar	Filtration Time s	[1]Cake Thickness mm	[2]Filtration Time Cycle Throughput, dry solid kg/m^2•h	[3]Estimated Full Cycle Throughput, dry solid kg/m^2•h	Cake Moisture % w/w	Filtrate TSS mg/L	Cake Texture
CN-98 Pulp Underflow	Testori P 4408 TC	40.0	6.9	1214	32	117	78	29.4	40	[4]DTT
				823	25	135	78	27.7	108	DTT
				545	20	166	79	29.5	213	DTT
				318	15	214	74	29.2	123	DTT
			9.9	1004	30	139	87	28.5	44	DTT
				699	25	163	88	27.6	69	DTT
				448	20	203	87	27.8	64	DTT
				257	15	269	81	28.7	168	DTT

[1] Cake thickness represents half of the chamber thickness.

[2] Throughput calculated using cycle time which includes filtration time only.

[3] Estimated pressure filter throughput, calculated using a full cycle time which includes filtration time plus 10 minutes of miscellaneous cycle time which includes filter loading, cake discharge, cloth washing, and filter assembly.

[4] Indicates that the cake surface was dry-to-touch.

13.6. LOM Recovery Predictions

The recovery projections assumed in the LOM plan for the Santa Elena mineral deposits are also supported by the observed similarities between the future mineralized material and the mineralized material that has been mined and processed for the last three years. The recently identified mineralized zones in the Santa Elena mine, the Alejandra and America Veins, are mineralized splays of the Main Vein.

Gold and Silver recoveries for the Ermitaño deposit, were forecast for the LOM based on the results from the SGS testwork program and the mine and processing plans. From Q1 to Q3 2022, throughputs will be managed to target 50 microns P80 for the HIG-Mill product at a range of total throughput from 2,200 to 2,400 tpd, with projected gold and silver recoveries of 92.6% and 66.0%, respectively. In the last quarter of 2022, when the new Tailings Press Filter and additional equipment will be added and operating at the processing plant; the grind size target will be changed to 30 microns P80, and the plant will be operating at throughput of approximately 2,200 to 2,250 tpd, improving expected gold recovery to 94.5%. As higher variability in silver recovery has been observed, a conservative approach was applied forecasting 66.0% Ag recovery for both 50 and 30 microns for LOM recoveries. Estimated recoveries based on testwork are shown in Table 13-28.

Table 13-28: Metallurgical Recovery Estimates for Ermitaño Mineralized Material

Sample			2022 Dist. %	Gold Au				Silver Ag			
				Head, g/t Domain	Residue, g/t Domain	Recovery, % Domain	Recovery, % Overall	Head, g/t Domain	Residue, g/t Domain	Recovery, % Domain	Recovery, % Overall
COMBINED BY DOMAIN	Combined @ 50 microns	EWM-19-03-CORE	40	5.56	0.68	87%	92.63%	72	27	62%	67%
		EWM-19-04-CORE									
		EWM-19-05-CORE									
		EWM-19-02-STOCKWORK	32	3.15	0.10	97%		72	16	78%	
		EWM-20-03/05/06 STOCKWORK									
		EWM-19-04 STOCKWORK									
		EWM-19-02/03/04/06 MARGINAL	13	4.44	0.26	94%		57	21	62%	
		EWM-20-05-MARGINAL									
		EWM-20-02/03/05 WASTE	15	1.64	0.04	98%		25	10	60%	
		EVM-20-04/06 WASTE									
	Combined @ 30 microns	EWM-19-03-CORE	40	5.39	0.47	90%	94.48%	74	31	58%	66%
		EWM-19-04-CORE									
		EWM-19-05-CORE									
		EWM-19-02-STOCKWORK	32	2.80	0.06	98%		70	14	80%	
		EWM-20-03/05/06 STOCKWORK									
		EWM-19-04 STOCKWORK									
		EWM-19-02/03/04/06 MARGINAL	13	4.57	0.23	95%		58	20	66%	
		EWM-20-05-MARGINAL									
		EWM-20-02/03/05 WASTE	15	1.52	0.03	98%		25	10	59%	
		EVM-20-04/06 WASTE									

13.7. Deleterious Elements

A treatment charge is applied by the refineries for the treatment of the doré bars produced by the Santa Elena processing plant. The value charged is reasonable and is included in the cut-off grade calculation and in the economic evaluations. An additional treatment charge can be levied on the doré bars produced based on the presence of heavy metals, including lead, copper, cadmium, and bismuth.

Due to the purity of the Santa Elena doré (>98% silver and gold), no penalties are applied by the refineries for the trace presence of heavy metals. The doré produced from both mines (Santa Elena and Ermitaño) will be sent to the same refinery, which has never applied any penalties to the Santa Elena product. Given the similar levels of deleterious elements encountered in Ermitaño mineralized material for these elements (e.g., As, Bi, Sb, Cd, Hg, Se, Pb, Cu, and Ni) penalties for deleterious elements are not expected for the doré bar produced from either mine during the LOM.

14. MINERAL RESOURCE ESTIMATES

14.1. Introduction

This section describes the resource estimation methodology and summarizes key assumptions considered by First Majestic for the Mineral Resource estimates for the Santa Elena mine and Ermitaño project. The Mineral Resource estimates are prepared in accordance with CIM Estimation of Mineral Resource and Mineral Reserve Best Practice Guidelines (November 2019) and follow the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014), that are incorporated by reference in NI 43-101.

The geological modelling, data analysis, and block model resource estimates for the Santa Elena mine were completed by David Sauceda Saldivar, Jose Jorge Estrella Vercini, and Reynaldo Hernandez Tinoco under the supervision of Phillip Spurgeon, P. Geo., all First Majestic employees.

The geological modelling for the Ermitaño project was completed by Reynaldo Hernandez Tinoco under the supervision of Phillip Spurgeon, and Mr. Spurgeon prepared the Ermitaño Mineral Resource estimate.

14.2. Mineral Resource Estimation Process

The block model Mineral Resource estimates are based on the database of exploration drill holes and production channel samples, underground level geological mapping, geological interpretations and models, as well as surface topography and underground mining development wireframes available as of the June 30, 2021 cut-off date for scientific and technical data supporting the estimates.

Geostatistical analysis, analysis of semi-variograms, and validation of the model blocks were completed with Leapfrog EDGE. Stope analysis to determine reasonable prospects for eventual economic extraction was completed with Deswik Stope Optimizer.

The process followed for the estimation of Mineral Resources included:

- Database compilation and verification;
- Review of data quality for primary and interpreted data and QAQC;
- Setup of the resource project with sample database, surface topography, and mining depletion wireframes and inspection in 3D space;
- Three-dimensional geological interpretation, modelling, and definition of the Mineral Resource estimation domains;
- Exploratory data and boundary analysis of the resource estimation domains;
- Sample data preparation (compositing and capping) for variography and block model estimation;
- Trend and spatial analysis: variography;
- Bulk density review;
- Block model resource estimation;
- Validation and classification of the block model resource estimates;

- Depletion of the Mineral Resource estimates due to mining;
- Development of appropriate economic parameters and assessment of reasonable prospects for eventual economic extraction;
- Summary compilation of the Mineral Resource estimates.

14.3. Mineral Resource Estimate, Santa Elena Mine

14.3.1. Sample Database

The combined drill hole and channel sample database for the Santa Elena mine was reviewed and verified by the resource geologists and support that the QAQC program was reasonable. The sample data used in the Mineral Resource estimate has an effective date of June 30, 2021 and consists of exploration drill holes, production channel and sawn channel samples. Table 14-1, Table 14-2 and Table 14-3 summarize the drill hole, production sawn channel and production channel sample data used in the estimates. Figure 14-1 shows the relative location of the data with respect to the mine zones in section and plan view.

Table 14-1: Core Drill Hole Sample Data Used in Mineral Resource Estimation, Santa Elena Mine

Mine	Year	Company	Drill Holes	Samples	Interval Length (m)	Percentage of Total
Santa Elena	2006	Silver Crest	18	383	754	2%
	2007	Silver Crest	48	675	1,562	6%
	2008	Silver Crest	34	616	1,397	4%
	2011	Silver Crest	5	255	405	1%
	2012	Silver Crest	75	3,829	5,058	10%
	2013	Silver Crest	92	6,614	8,243	12%
	2014	Silver Crest	46	1,736	2,690	6%
	2015	First Majestic	68	1,417	1,611	9%
	2016	First Majestic	49	2,815	2,366	6%
	2017	First Majestic	90	3,363	3,110	12%
	2018	First Majestic	83	3,661	3,814	11%
	2019	First Majestic	74	6,697	6,352	10%
	2020	First Majestic	73	8,984	7,694	10%
	June 30 2021	First Majestic	9	1,115	930	1%
		Grand Total	**764**	**42,160**	**45,986**	**100%**

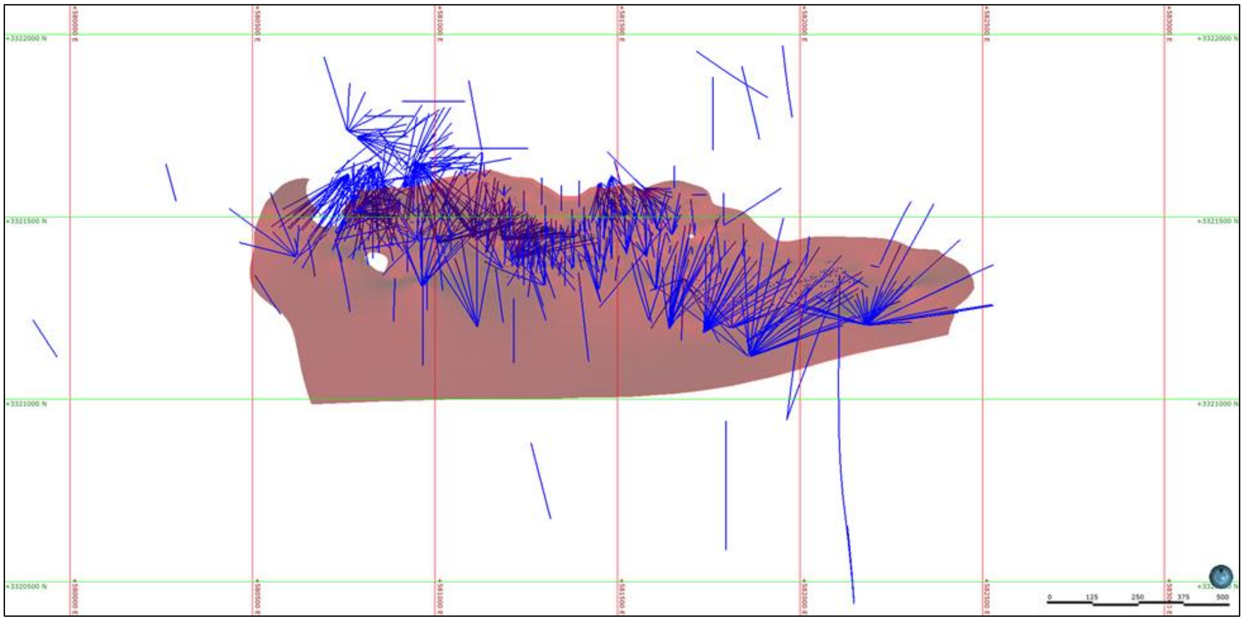
Table 14-2: Production Sawn Channel Sample Data Used in Mineral Resource Estimation, Santa Elena Mine

Mine	Year	Company	Channels	Samples	Interval Length (m)	Percentage of Total
Santa Elena	2016	First Majestic	37	162	110	26%
	2017	First Majestic	106	395	249	74%
		Grand Total	**143**	**557**	**359**	**100%**

Table 14-3: Production Channel Sample Data Used in Mineral Resource Estimation, Santa Elena Mine

Mine	Year	Company	Channels	Samples	Interval Length (m)	Percentage of Total
Santa Elena	2019	First Majestic	165	793	492	68%
	2020	First Majestic	77	417	255	32%
		Grand Total	**242**	**1,210**	**747**	**100%**

Figure 14-1: Santa Elena Mine Drill Hole and Sample Data Location Plan View.



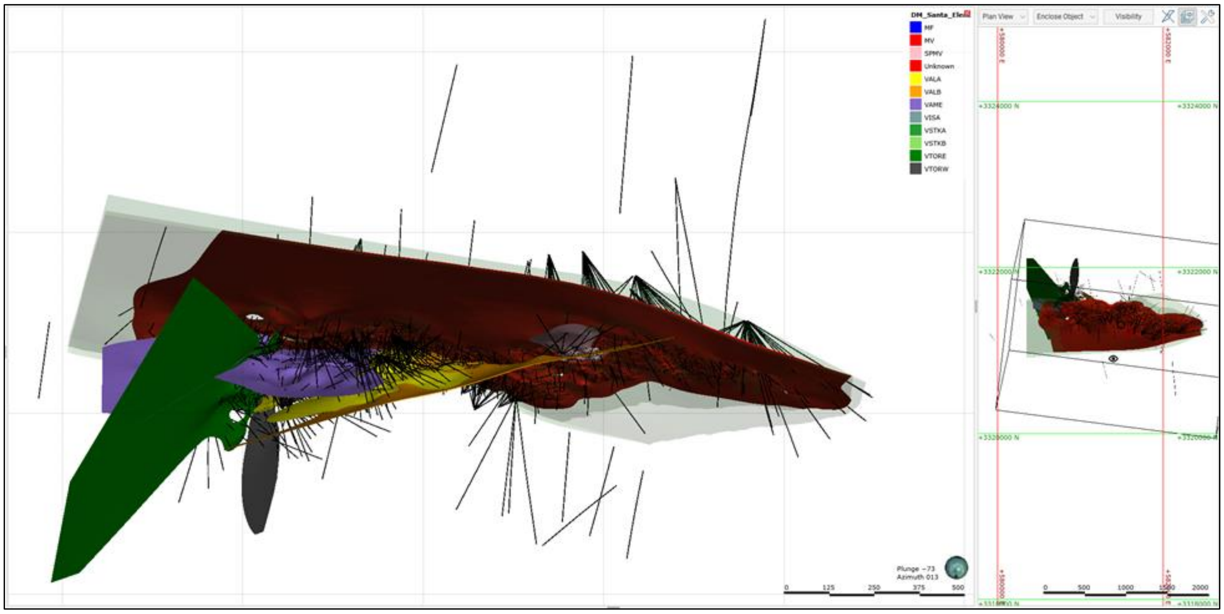
Note: Figure prepared by First Majestic, September 2021. Main Vein shown in red.

The exploration data were collected with a logger system that captured collar, survey, lithology, and assay information. Integrated validation tools were used to check for gaps, errors, overlapping intervals and total lengths prior to geological modelling and estimation of Mineral Resources.

14.3.2. Geological Interpretation and Modelling

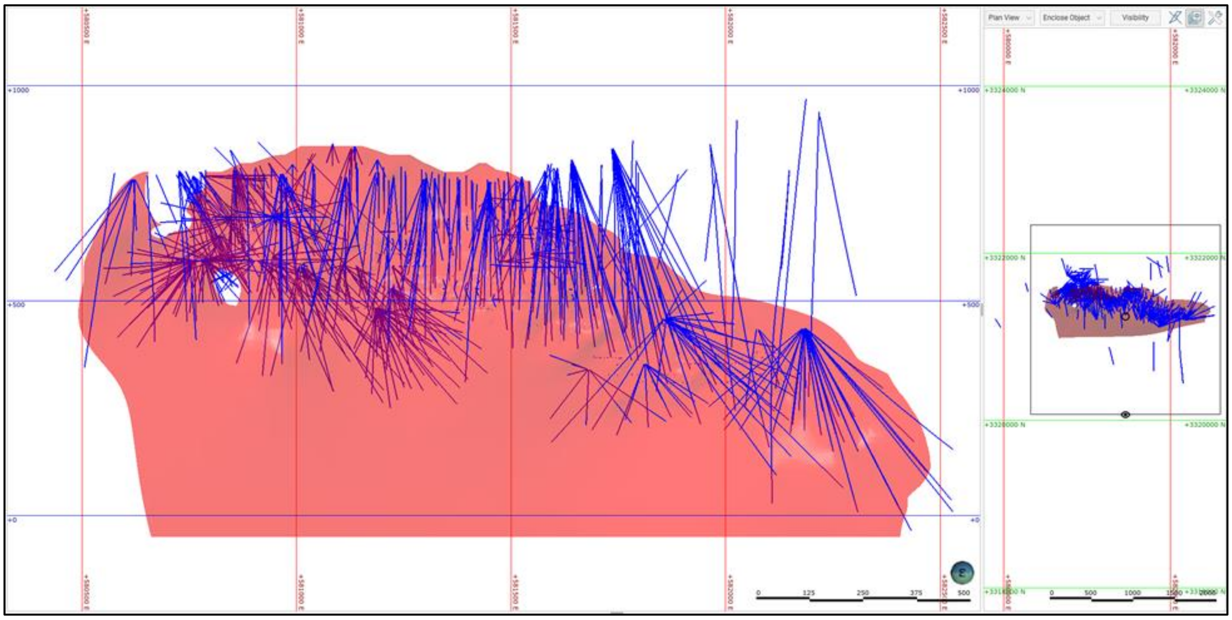
The Mineral Resource estimates are constrained by the 3D geological interpretation and modelled domains of vein-hosted mineral deposits. The silver and gold mineralization is restricted to epithermal quartz–calcite veins and stockwork veining. The modelled vein and stockwork domains are constructed from drill hole core logs, drill hole and production channel sample assay intervals, and contacts incorporated from underground geological maps produced by the mine geology staff (Figure 14-2 and Figure 14-3).

Figure 14-2: Inclined Section and Plan-View Location of the Resource Domains, Santa Elena Mine



Note: Figure prepared by First Majestic, September 2021.

Figure 14-3: Geological Model for the Main Vein, Vertical and Plan Views



Note: Figure prepared by First Majestic, September 2021.

The boundaries of the domain models strictly adhere to the contacts of the veins and stockwork with the surrounding country rock to produce reasonable representations of the mineral deposit locations and volumes. The Mineral Resource domains also incorporate some faulted sub-domains that are identified by the underground mine development. Table 14-4 lists the nine resource domains and associated codes.

Table 14-4: Santa Elena Mine Domain Names and Codes

Domain Name	Domain Code
Main Vein	MV
Main Vein Splay	SPMV
Main Vein Stockwork A	VSTKA
Main Vein Stockwork B	VSTKB
Tortuga East	VTORE
Tortuga West	VTORW
America	VAME
Alejandra Alto	VALA
Alejandra Bajo	VALB

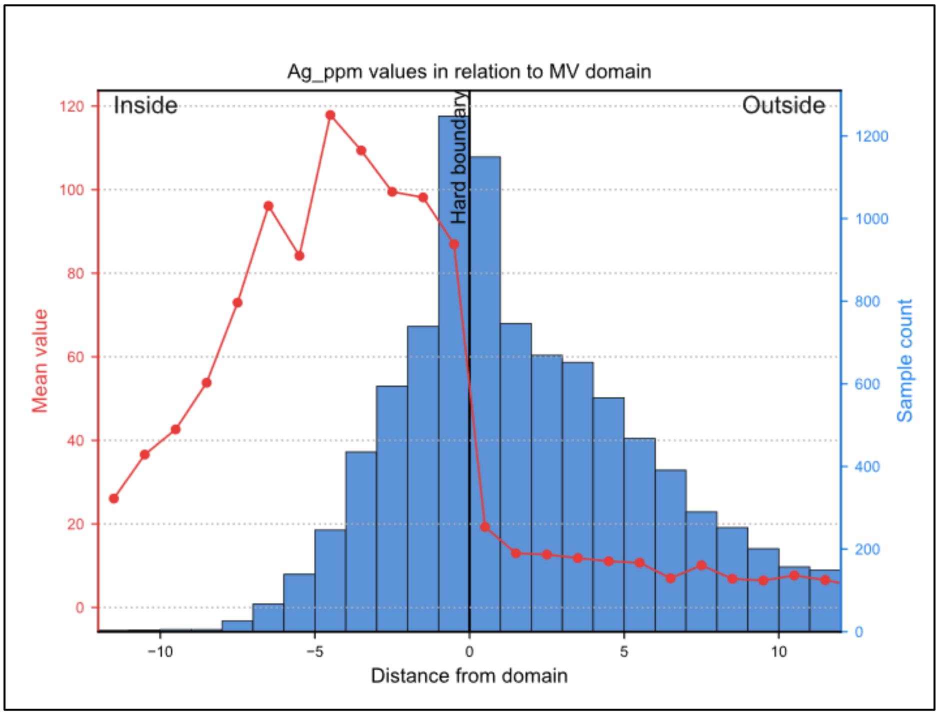
14.3.3. Exploratory Sample Data Analysis

Exploratory data analysis was completed for gold and silver assay sample values for each of the estimation domains to assess the statistical and spatial character of the sample data. The sample data were examined in 3D to understand the spatial distribution of mineralized intervals within the deposits. The sample assay data statistics were analyzed within each domain to look for possible mixed sample populations.

14.3.4. Boundary Analysis

Boundary analysis was completed for each of the domains to review the change in metal grade across the domain contacts using boundary plots. There is a sharp grade change across the contact and hard boundary conditions are observed in all domains. Hard boundaries were used during the construction of sample composite samples and during Mineral Resource estimation. Composite samples were restricted to their respective resource domain (Figure 14-4).

Figure 14-4: Example of Silver Boundary Analysis for the Main Vein Showing Hard Boundary Conditions



Note: *Figure prepared by First Majestic, September 2021.*

14.3.5. Compositing

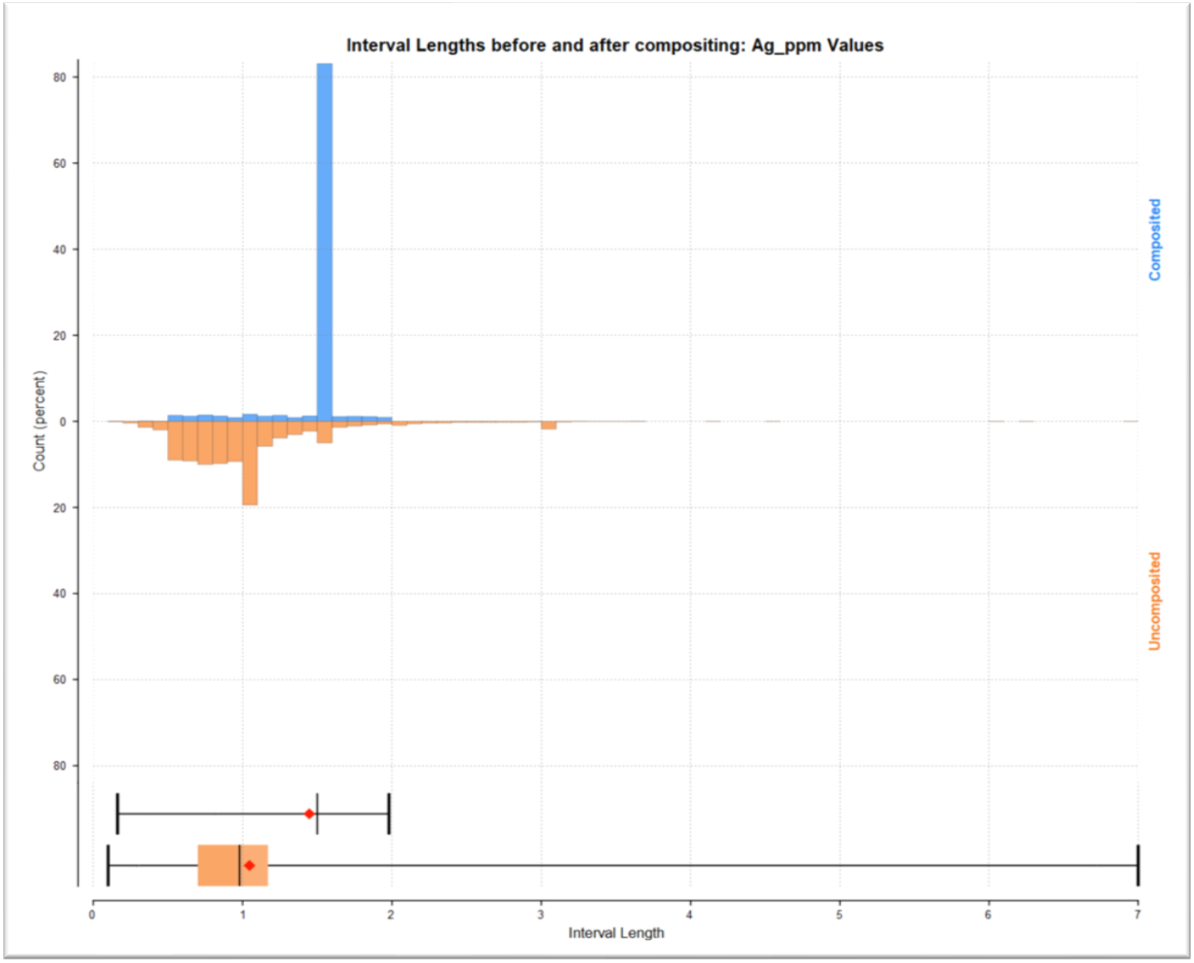
To select an appropriate composite sample length, the assay sample intervals were reviewed for each domain. The composite length selected varies from one domain to another, with short residual composite samples left at the end of the vein intersection added to the previous interval. Composite sample lengths are detailed in Table 14-5.

Table 14-5: Composite sample Lengths

Project	Domain	Composite Length (m)	Residual End Length Treatment
Santa Elena	MV	1.5	Add to previous interval
	SPMV	1.5	Add to previous interval
	VSTKA and VSTKB	1.5	Add to previous interval
	VTORE	1.0	Add to previous interval
	VTORW	0.7	Add to previous interval
	VAME	0.7	Add to previous interval
	VALA	0.9	Add to previous interval
	VALB	0.7	Add to previous interval

Figure 14-5 shows the sample interval lengths before and after compositing for the Main Vein domain.

Figure 14-5: Sample Interval Lengths, Composited vs. Uncomposited – Main Vein Domain



Note: Figure prepared by First Majestic, September 2021.

14.3.6. Evaluation of Composite Sample Outlier Values

Drill hole and channel composite samples were evaluated for high-grade outliers and those outliers were capped to values considered appropriate for the estimation. Outlier values at the high end of the grade distributions were identified for both gold and silver from inflection points of cumulative probability plots and analysis of histogram plots. The spatial distribution of such outliers was also investigated. To quantify the impact of capping, the resource was evaluated to assess the change in metal content for the estimation due to capping.

Capping of assay values was limited to a select few extreme values. To reduce bias from a larger set of high-grade samples, those outlier values were range restricted. Samples above a specified high-grade threshold value were used at full value out to a specified distance from the sample. Beyond the specified distance the samples were reduced in value to a stated high-grade threshold value. Table 14-6 and Table 14-7 show the percentage of the outlier values that were capped and/or range-restricted.

Table 14-6: Composite Sample Ag Capping and Range-Restriction by Domain

Estimation Domain	Number of Composites	Capping g/t Ag	Number Capped	% Capped	Range Restriction g/t Ag	Number Range Restricted	% Range Restricted
MV	3511	-	none	-	720	41	1.17%
VSTKA	4108	-	none	-	270	7	0.17%
VSTKB	2657	400	1	0.04%	100	17	0.64%
VTORE	161	440	2	1.24%	-	none	
VTORW	94	-	none		400	6	6.38%
VAME	396	1200	9	2.27%	-	none	
VALA	280	520	3	1.07%	-	none	
VALB	679	1220	8	1.18%	-	none	
ALL	**11,886**		**23**	**0.19%**		**71**	**0.60%**

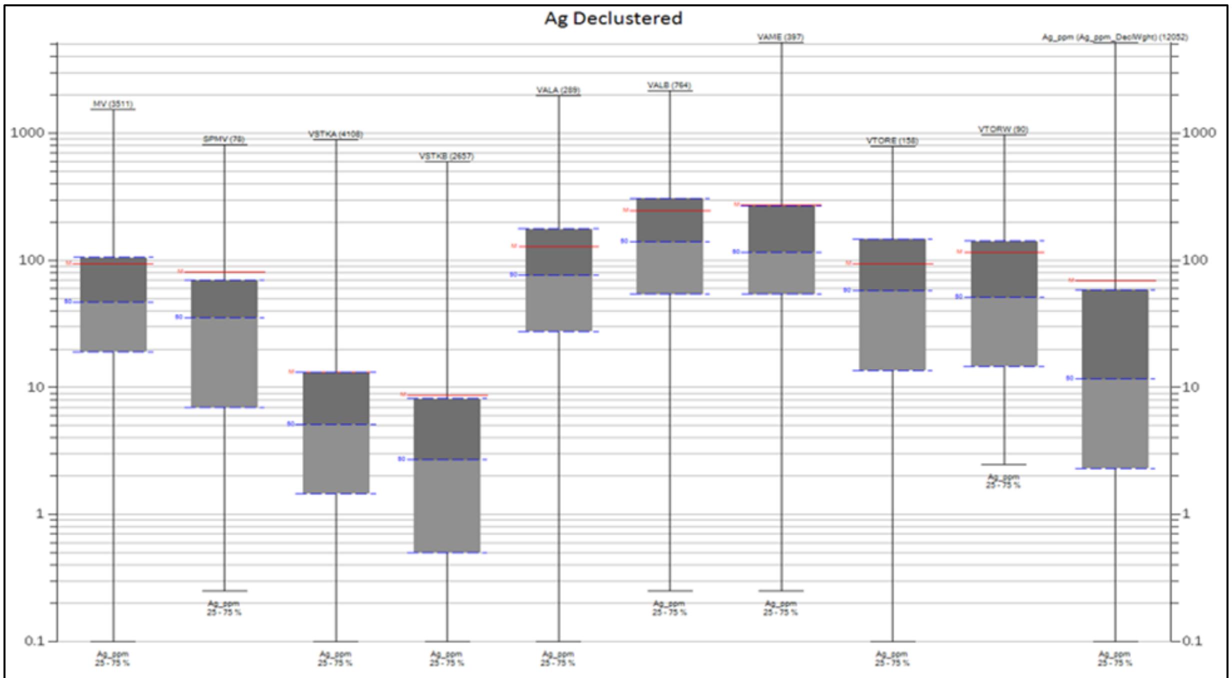
Table 14-7: Composite Sample Au Capping and Range-Restriction by Domain.

Estimation Domain	Number of Composites	Capping g/t Au	Number Capped	% Capped	Range Restriction g/t Au	Number Range Restricted	% Range Restricted
MV	3511	40	4	0.11%	-	none	-
VSTKA	4108	4.5	4	0.10%	-	none	-
VSTKB	2657	4	2	0.08%	-	none	-
VTORE	161	24	2	1.24%	12.6	5	3.11%
VTORW	94	none	-		9	4	4.26%
VAME	396	16	4	1.01%	-	none	
VALA	280	11	2	0.71%	-	none	
VALB	679	28	4	0.59%	15	12	1.77%
ALL	**11,886**		**22**	**0.19%**		**21**	**0.18%**

14.3.7. Composite Sample Statistics

To assess the statistical character of the composite samples within each of the domains, the data were declustered by a cell declustering method. The silver and gold declustered statistics of composite samples for all estimation domains are presented in Figure 14-6 and Figure 14-7.

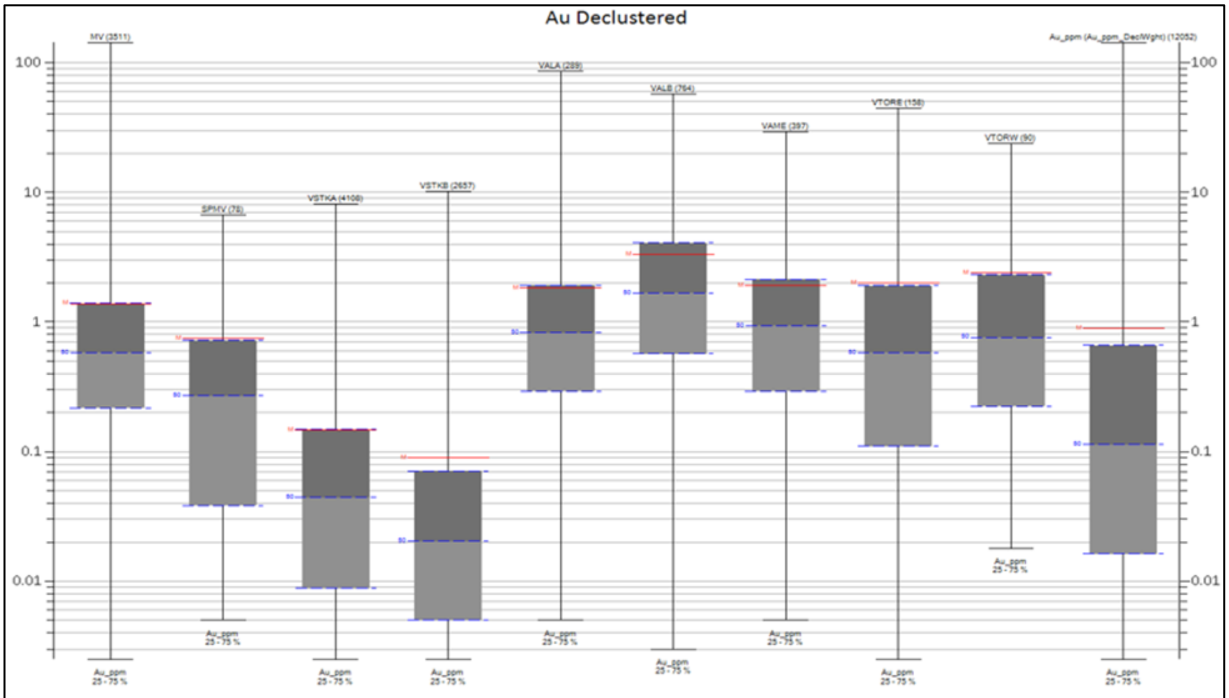
Figure 14-6: Ag Box Plot and Declustered Composite Sample Statistics by Domain



Domain	MV	SPMV	VSTKA	VSTKB	VALA	VALB	VAME	VTORE	VTORW	ALL
Samples	3511	78	4108	2657	289	764	397	158	90	12052
Minimum	0.100	0.25	0.100	0.100	0.100	0.250	0.250	0.100	2.479	0.100
Maximum	1547	815.2	894.5	597.5	1985	2163	5187	795	974.1	5187
Mean	93.83	80.80	13.09	8.70	129.0	244.8	272.4	93.9	114.9	69.1
Std Dev	146.0	153.3	29.1	21.9	200.9	304.6	537.0	112.3	173.8	191.4
CV	1.556	1.897	2.227	2.518	1.558	1.244	1.971	1.195	1.513	2.771

Note: Figure prepared by First Majestic, September 2021.

Figure 14-7: Au Box Plot and Declustered Composite Sample Statistics by Domain



Domain	MV	SPMV	VSTKA	VSTKB	VALA	VALB	VAME	VTORE	VTORW	ALL
Samples	3511	78	4108	2657	289	764	397	158	90	12052
Minimum	0.003	0.005	0.003	0.003	0.005	0.003	0.005	0.003	0.018	0.003
Maximum	143.24	6.71	8.09	10.19	85.90	57.19	29.44	44.32	23.91	143.24
Mean	1.39	0.75	0.15	0.09	1.83	3.31	1.91	2.01	2.38	0.90
Std Dev	3.59	1.32	0.36	0.32	5.93	5.33	3.29	4.85	4.31	3.07
CV	3.586	1.765	2.460	3.575	3.244	1.608	1.727	2.411	1.815	3.428

Note: Figure prepared by First Majestic, September 2021.

14.3.8. Metal Trend and Spatial Analysis: Variography

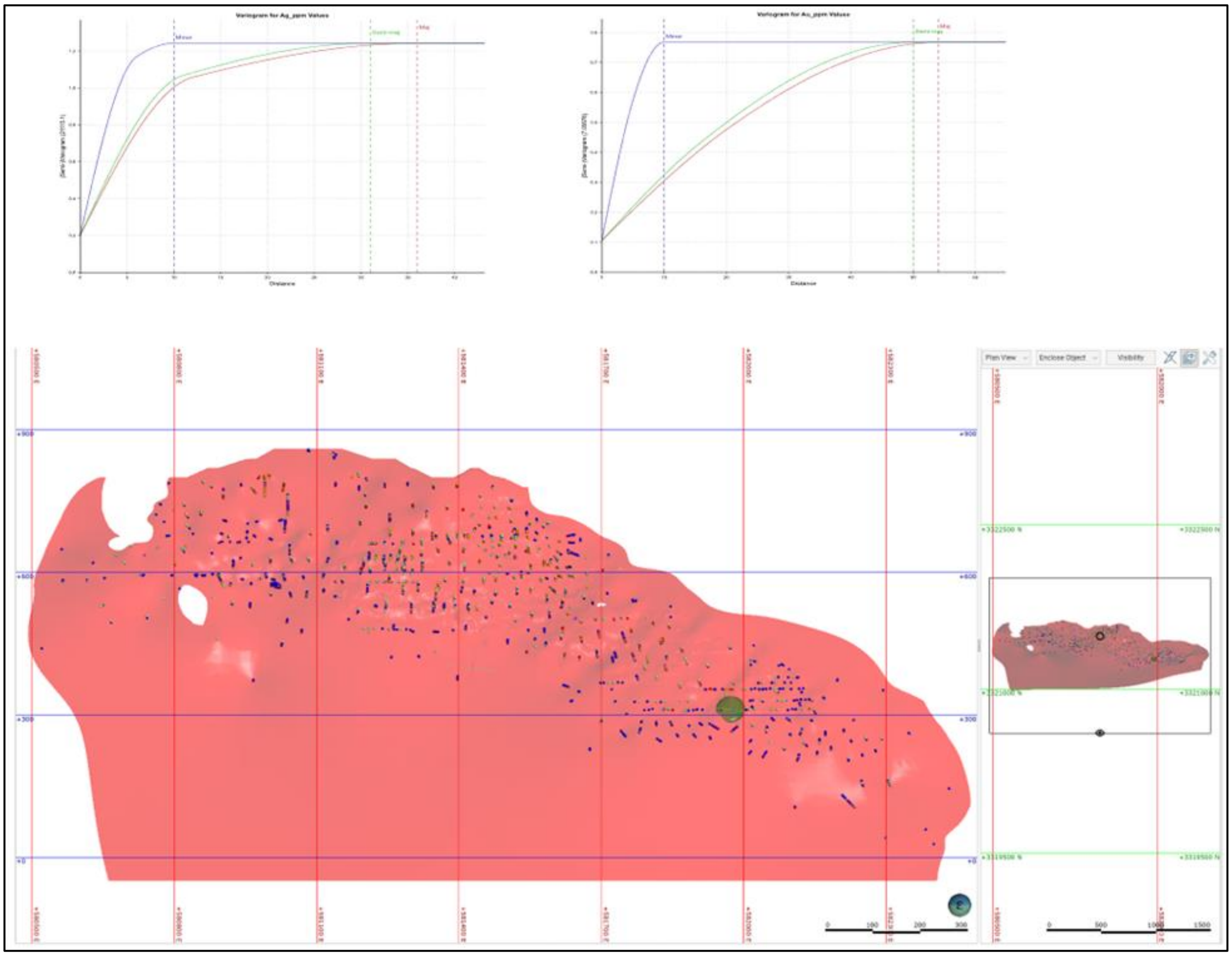
The dominant trends for gold and silver mineralization were identified based on the 3D numerical models for the metal in each domain. Model variograms for gold and silver composite values were developed along the trends identified, and the nugget values were established from downhole variograms.

The Table 14-8 shows the model variogram parameters for the Main Vein domain, and Figure 14-8 displays the model variogram plots for silver and gold and trend ellipsoid for the domain.

Table 14-8: Variogram Model Parameters for the Main Vein Domain

Estimation Domain	Leapfrog Trend			Nugget C_0	Sill C_1 and C_2	Range (m)	Model
	Dip	Dip Az	Pitch				
Main Vein Ag	49	180	99	0.20	0.69	12	Spherical
					0.36	36	Spherical
Main Vein Au	49	180	99	0.11	0.04	20	Spherical
					0.62	54	Spherical

Figure 14-8: Silver and Gold Variogram Models for the Main Vein with Trend Ellipsoid

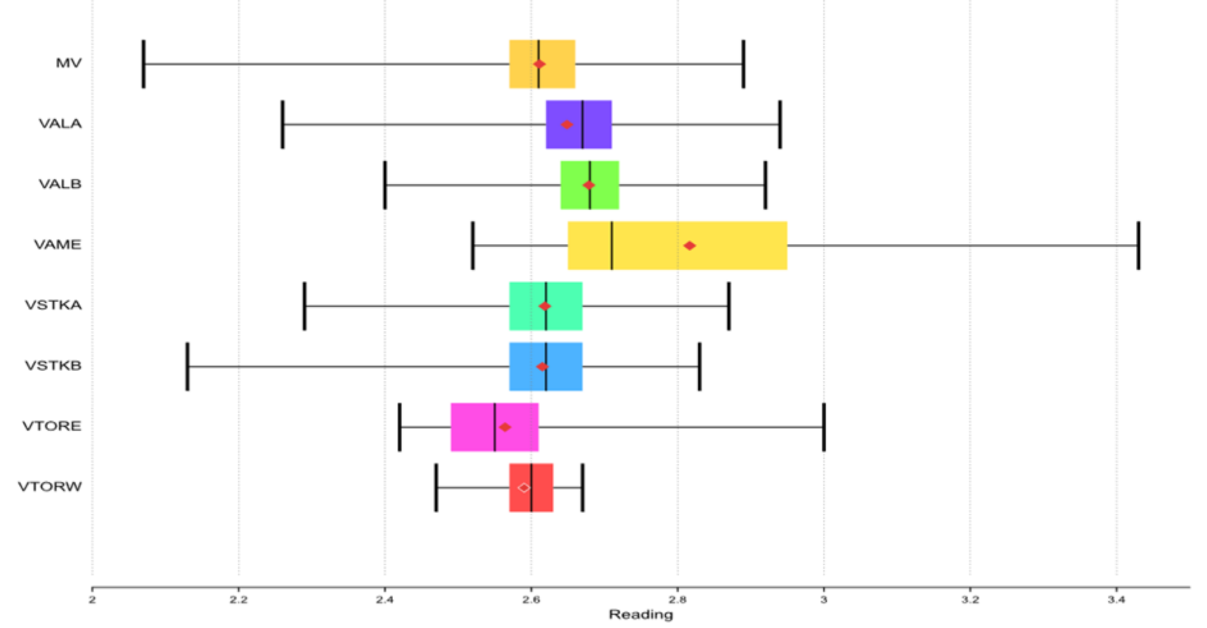


Note: Figure prepared by First Majestic, September 2021.

14.3.9. Bulk Density

First Majestic has measured SG values for 2,013 drill core samples from the Santa Elena deposits. The SG sampling program was designed to collect representative specimens from all rock types hosting the mineral deposits. The SG values range from 2.07–3.00 across the deposits with a mean value of 2.62. The SG statistics for the domains are displayed in Figure 14-9.

Figure 14-9: Specific Gravity Box Plot and Statistics, Santa Elena Mine



Domain		Count	Mean	Standard deviation	Coefficient of variation	Variance	Minimum	Lower quartile	Median	Upper quartile	Maximum
MV	SG	976	2.61	0.08	0.03	0.01	2.07	2.57	2.61	2.66	2.89
VALA	SG	54	2.65	0.11	0.04	0.01	2.26	2.62	2.67	2.71	2.94
VALB	SG	84	2.68	0.08	0.03	0.01	2.4	2.64	2.68	2.72	2.92
VAME	SG	31	2.82	0.24	0.09	0.06	2.52	2.65	2.71	2.95	3.43
VSTKA	SG	453	2.62	0.07	0.03	0.01	2.29	2.57	2.62	2.67	2.87
VSTKB	SG	379	2.62	0.09	0.03	0.01	2.13	2.57	2.62	2.67	2.83
VTORE	SG	22	2.56	0.12	0.05	0.02	2.42	2.49	2.55	2.61	3
VTORW	SG	14	2.59	0.06	0.02	0.00	2.47	2.57	2.6	2.63	2.67

Note: Figure prepared by First Majestic, September 2021.

SG was estimated in domains using an inverse distance cubed (ID^3) method, with blocks outside the estimation radius being assigned the mean value of all the deposits. Some domains with a small number of SG samples were not estimated and were therefore assigned the mean SG value of all the deposits.

14.3.10. Block Model Setup

Block model resource estimates were prepared for each of the domains at the Santa Elena mine. The block models were rotated so that the x and y axes lie parallel to the domains and the minimum-z direction is perpendicular to the trend of the domain. A sub-blocked model type was created that consists of primary parent blocks that are sub-divided into smaller sub-blocks whenever triggering surfaces intersect the parent blocks. For the Santa Elena block models, the domain boundaries served as triggers. The size of the parent block considered the drill hole sample spacing and the mining methods. Block models typically used 10 m (x) x 10 m (y) x 2 m (z) parent blocks that are sub-blocked to 1 m (x) x 1 m (y) x a variable height (z) in m. For the Main Vein sub-blocking is 2.5 m (x) x 2.5 m (y) x a variable height (z) in m. Gold and silver grades were estimated into the parent blocks and domains were evaluated into the sub-blocks.

14.3.11. Resource Estimation Procedure

Block model estimates were completed for gold and silver. All block grades were estimated from composite samples captured within the respective domains. Following contact analysis, all domain contacts were treated as hard boundaries. The Alejandra domains were set to soft in the estimation software, but the boundary effectively was hard.

Block grades were estimated primarily by inverse distance squared (ID^2) and less commonly by ordinary kriging (OK). After inspection of the estimated gold and silver grades, many of the block models were judged to perform better with ID^2 than with OK. The method selected in each case considered the characteristics of the domain, data spacing, variogram quality, and which method produced the best representation of grade continuity.

All channel samples that were used during construction of the geological models were reviewed. Only those channels that completely cross the deposit were used during grade estimation. Channel samples that cross only a portion of the deposit were excluded as non-representative samples.

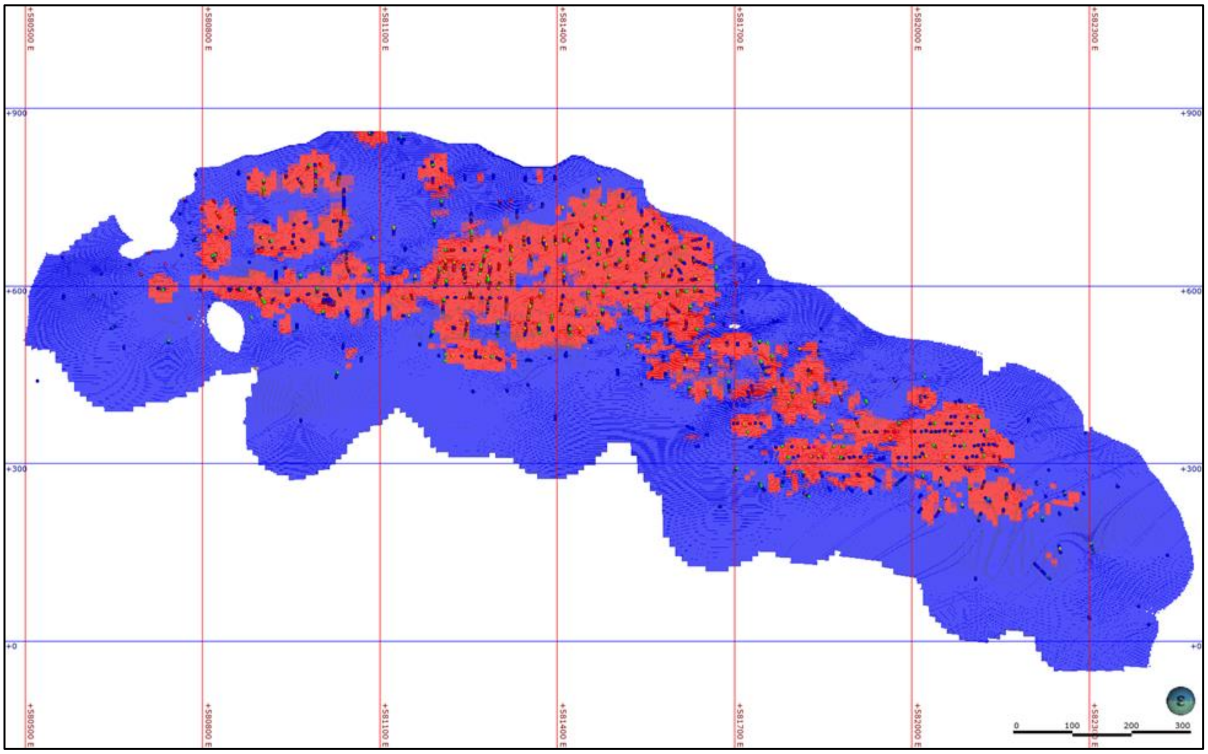
The production channel sampling method has some risk of non-representative sampling that could produce local grade bias. However, the large number of samples collected and used in the estimation may compensate for this issue and provide accurate results. There remains a risk that the channel samples could suffer from a systematic sampling issue that could also result in poor accuracy. These risks are recognized and addressed during resource grade estimation by eliminating the undue influence of channel samples over drill hole samples for blocks estimated at longer distances. The grade estimation process was run in two successive passes whenever production channel samples were present. The first pass used all composites, including production channel samples, and only estimated blocks within a restricted short distance from the channel samples. Pass two applied less restrictive criteria using drill hole composites and sawn channel composites only.

Examples of the gold–silver estimation parameters for each of the estimation domains are included in Table 14-9. Figure 14-10 shows the blocks estimated by each of the passes in Main Vein.

Table 14-9: Summary of Ag-Au Estimation Parameters for the Santa Elena Mine Block Models

Estimation Domain	Metal	Blocks		Composites							Search Ellipsoid and Orientation						
		Interpolation Method	Boundary	Composite Length	Number used		Max per hole	Clip	Clamp	Clamp percentage of search distance?	Variable Orientation Used?	Dip	Dip Azimuth	Pitch	Range (m)		
					Min	Max									X	Y	Z
MV	Ag All, Pass 1	OK	Hard	1.5	10	25	5	-	720	25%	Yes	49	180	99	30	30	30
	Ag DDH, Pass 2				2	25	-								130	100	50
	Au All, Pass 1	OK	Hard	1.5	10	25	5	40			Yes	49	180	99	30	30	30
	Au DDH, Pass 2				2	25	-								130	100	50
SPMV	Ag	ID2	Hard	1.5	3	20	4	400	200	30%	No	50	185	88	100	100	50
	Au	ID2	Hard	1.5	3	20	4	4	2	30%	No	50	185	88	100	100	50
VSTKA	Ag	ID2	Hard	1.5	4	20	3	-	270	25%	Yes	49	180	118	120	120	50
	Au	ID2	Hard	1.5	4	20	3	4.5			Yes	49	180	50	120	120	50
VSTKB	Ag	ID2	Hard	1.5	4	20	3	400	100	25%	Yes	49	180	65	120	120	50
	Au	ID2	Hard	1.5	4	20	3	4			Yes	49	180	65	120	120	50
VTORE	Ag	ID2	Hard	1.0	4	20	3	440			Yes	59	247	74	120	120	50
	Au	ID2	Hard	1.0	4	20	3	24	12.6	25%	Yes	59	247	74	120	120	50
VTORW	Ag	ID2	Hard	0.7	4	20	3	-	400	25%	Yes	61	266	103	120	120	50
	Au	ID2	Hard	0.7	4	20	3	-	9	25%	Yes	61	266	110	120	120	50
VAME	Ag Pass 1	ID2	Hard	0.7	5	20	3	1200			Yes	83	183	141	30	30	10
	Ag Pass 2				5	20	3								150	150	50
	Au Pass 1	ID2	Hard	0.7	5	20	3	16			Yes	84	188	115	30	30	10
	Au Pass 2				5	20	3								150	150	50
VALA	Ag Pass 1	ID2	Soft	0.9	7	25	3	520			Yes	83	200	89	30	30	30
	Ag Pass 2				4	20	3								120	120	50
	Au Pass 1	ID2	Soft	0.9	7	25	3	11			Yes	83	200	122	30	30	30
	Au Pass 2				4	20	3								120	120	50
VALB	Ag Pass 1	ID2	Soft	0.7	7	25	3	1220			Yes	90	29	60	30	30	30
	Ag Pass 2				4	20	3								120	120	50
	Au Pass 1	ID2	Soft	0.7	7	25	3	28	15	25	Yes	90	29	69	30	30	30
	Au Pass 2				4	20	3								120	120	50

Figure 14-10: Estimation Passes for the Main Vein Domain



Note: Figure prepared by First Majestic, September 2021. Long section facing north. Pass 1 = red, Pass 2 = blue

The heap leach pad was drilled with 117 hollow core helical holes in 2017 and a block model was constructed using a single domain. The block model used 10 m (x) x 10 m (y) x 5 m (z) parent blocks that were sub-blocked to 2 m (x) x 2 m (y) x a variable height (z) in m with a minimum of 0.2 m. Gold and silver grades were estimated into the parent blocks.

Silver and gold were estimated by OK. One-metre composites were created from samples with an average length of 1.2 m. Outlier restriction was used for silver composites but was not applied to gold composites. A mine call factor was applied to the Mineral Resource, reducing estimated silver and gold grades based on mill reconciliations.

The SG assigned was 1.99. The volume of material remaining was estimated from the volume between the survey of the June 30, 2021 topography and the original heap leach pad base topography.

14.3.12. Block Model Validation

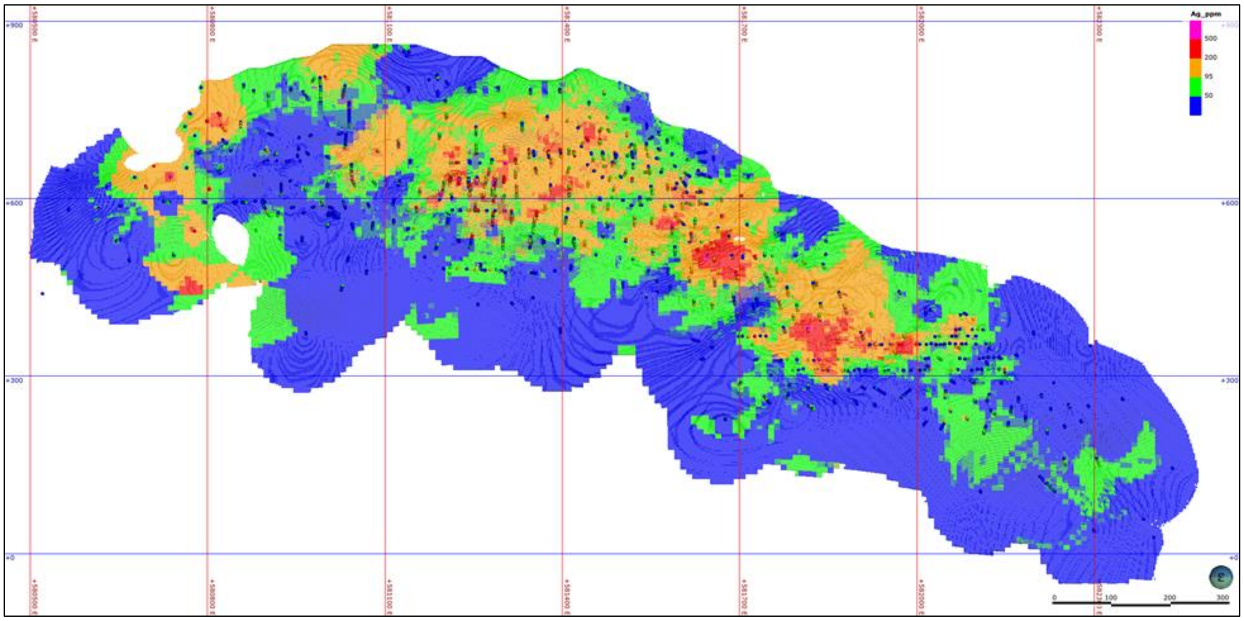
Validation of the silver and gold grade estimations was completed for each of the domains. The procedure was conducted as follows:

- Comparison of wireframe domain volumes to block model volumes for the domains;

- Visual inspection comparing the composite sample silver and gold grades to the estimated block values;
- Comparison of the gold and silver grades in "well-informed" parental blocks to the average sample values of the composited samples contained within those blocks using scatter plots;
- Comparison of the global mean declustered composite grades to the block model mean grade for each resource domain;
- Comparison of local block grade trends to composited sample grades along the three block model axes (i.e., easting, northing, and elevation) with swath grade trend plots.

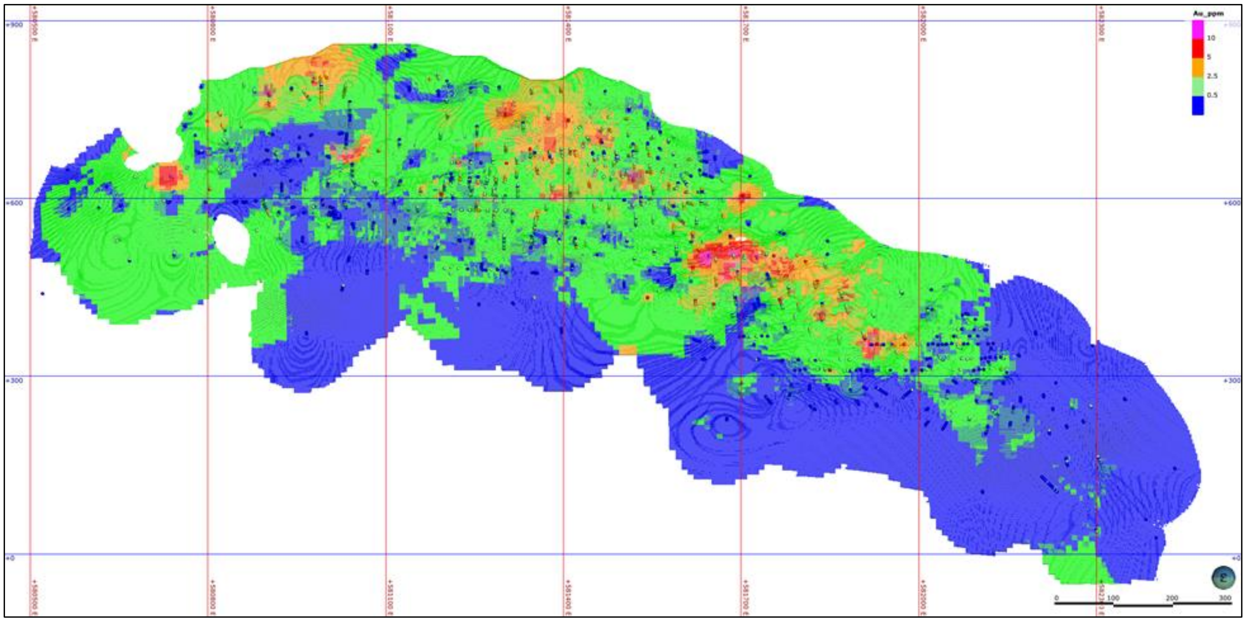
The silver and gold estimated block grades were visually inspected in vertical sections. This review showed that the supporting composite sample grades closely match the estimated block values. Figure 14-11 and Figure 14-12 show the estimated block model silver and gold grades and the composite sample grades used in the estimation for the Main Vein.

Figure 14-11: Main Vein Ag Block Model Estimate and Composite Sample Values



Note: Figure prepared by First Majestic, September 2021. Longitudinal section, looking north

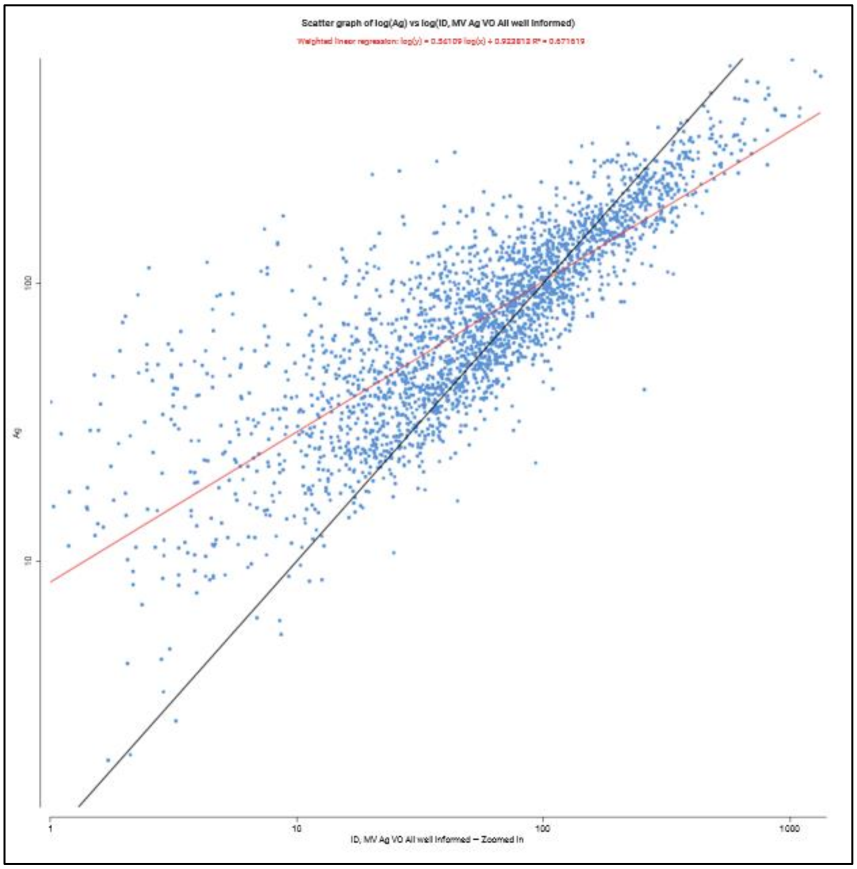
Figure 14-12: Main Vein Au Block Model Estimate and Composite Sample Values



Note: Figure prepared by First Majestic, September 2021. Longitudinal section, looking north

Estimated blocks display conditional bias with higher grades underestimated, lower grades over-estimated, and estimated extreme grades tend to be smoother. Scatterplot comparison of the estimated grades in "well-informed" parent blocks to the average composite sample values contained within those blocks illustrates the conditional bias for the estimate. The scatterplot in Figure 14-13 demonstrates that the estimated block grades correlate well with the composite sample grades, and that the estimated grades are variable and not overly smooth.

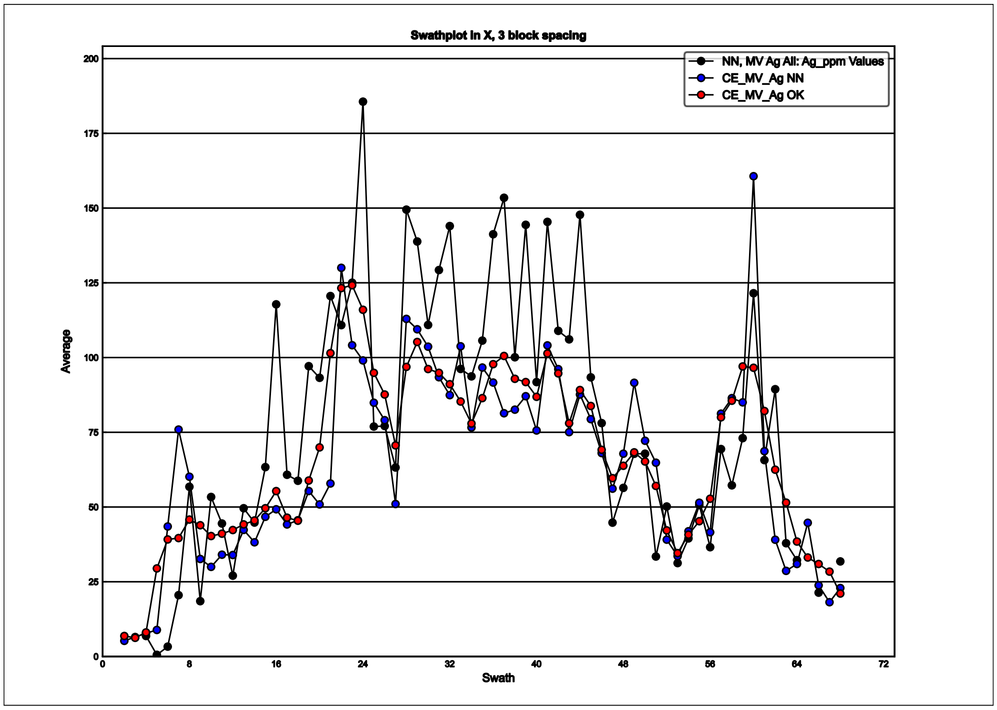
Figure 14-13: Scatterplot of Ag Composite Values with Estimated Ag Block Grades for Main Vein



Note: Figure prepared by First Majestic, February 2021.

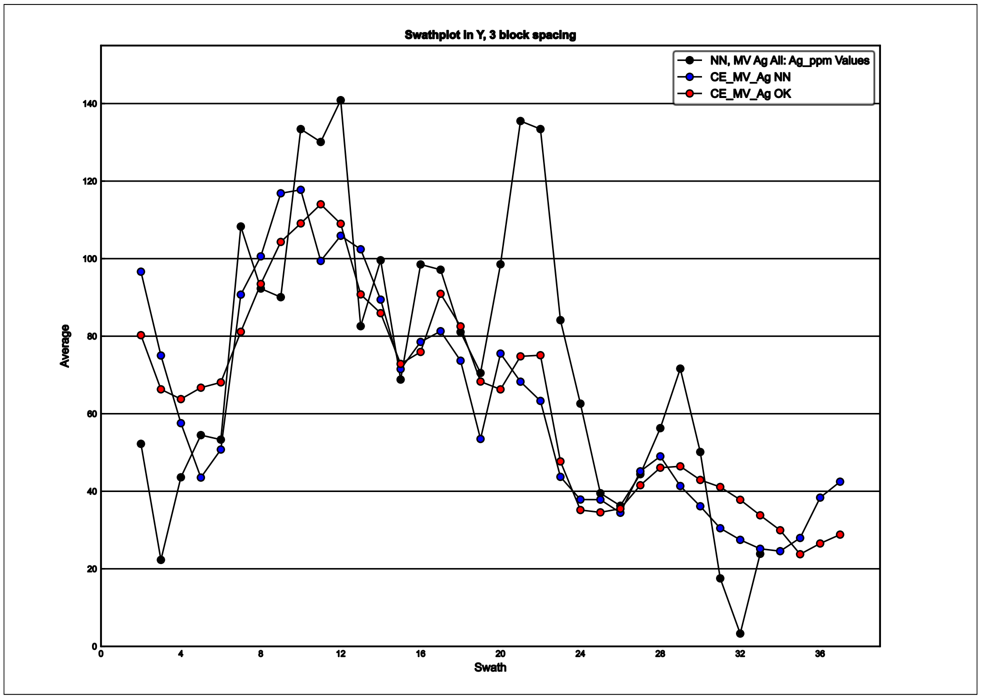
The block model estimates were also validated by comparing the estimated block grades for gold and silver to nearest neighbor (NN) block estimates and to the composite sample values in swath plots oriented in three directions. The estimated block grades, NN grades, and composite sample grade trends are similar in all directions for all resource domains. Figure 14-14, Figure 14-15 and Figure 14-16 show swath plots for Main Vein silver grades estimated by OK and NN methods along the x, y, and z axes.

Figure 14-14: Swath Plot in X across the Main Vein, Ag Values



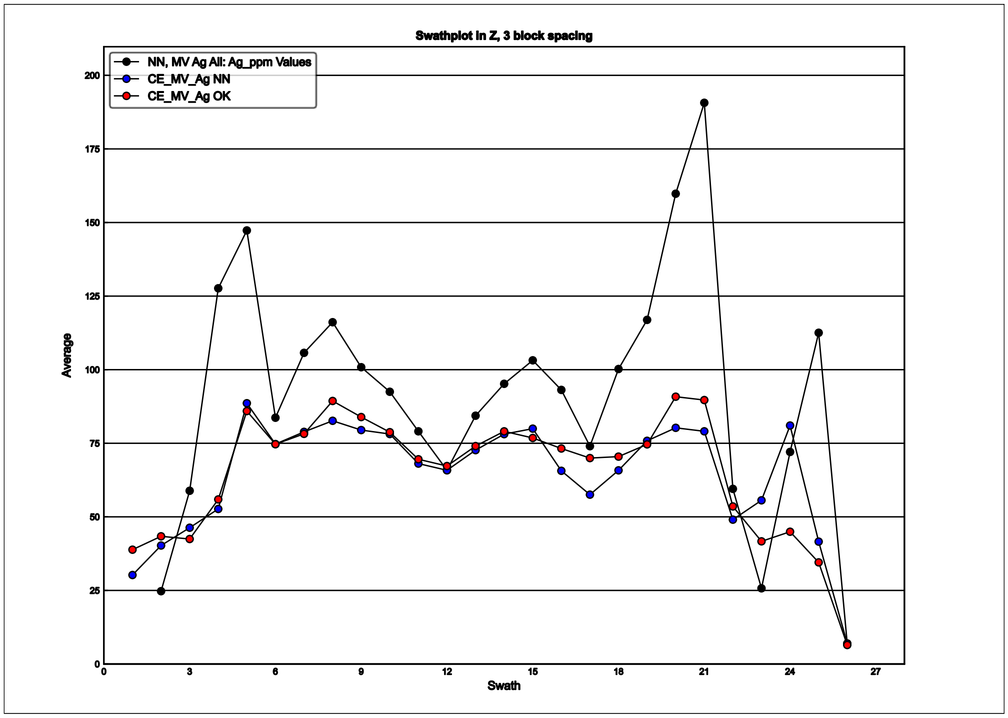
Note: Figure prepared by First Majestic, September 2021.

Figure 14-15: Swath Plot in Y across the Main Vein, Ag Values



Note: Figure prepared by First Majestic, September 2021.

Figure 14-16: Swath Plot in Z across the Main Vein, Ag Values



Note: Figure prepared by First Majestic, September 2021.

Overall, the validation demonstrates that the current resource estimates are a reasonable representation of the input sample data.

Since the June 30, 2021 cut-off date for sample data used in the Mineral Resource estimates, additional drilling and sampling from new mine developments has been completed and reviewed. This new data supports both the geological model and the mineral resource estimates. Overall, the validation supports that the current resource estimates are a reasonable representation of the input sample data.

14.3.13. Mineral Resource Classification

Block model resource estimates were classified according to the 2014 "CIM Definition Standards for Mineral Resources & Mineral Reserves" using industry best practices as outlined in the 2019 "CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines". Best practices in the industry recommend that the classification of resources should consider the resource geologist's confidence in the geological interpretation and model; confidence in the grade continuity for the mineralized domains; and the measure of sample support along with the quality of the sample data. Appropriate classification strategy integrates these concepts to delineate areas of similar confidence and risk.

The Mineral Resources were classified into Measured, Indicated, or Inferred confidence categories based on the following factors:

- Confidence in the geological interpretation and models;
- Confidence in the continuity of metal grades;
- The sample support for the estimation and reliability of the sample data;
- Areas that were mined producing reliable production channel samples and detailed geological control.

The method used to measure the sample support used for the Mineral Resource classification was the nominal drill hole spacing. The nominal drill hole spacing was produced by an estimation pass for each block in the model that used three composite samples with a maximum of one sample per drill hole, which requires three separate drill holes. The average distance for each block to the three closest drill holes was estimated, and then the nominal drill hole spacing was estimated by dividing the average distance to drill holes by 0.7.

Blocks for all domains at were flagged to be considered for the Measured category if the nominal drill hole spacing was <30 m and the blocks were within 15 m of the nearest drill hole.

Blocks for all Main Vein domains were flagged to be considered for the Indicated category if the nominal drill hole spacing was <50 m, and the blocks were within 25 m of the nearest drill hole. For all other domains, flagging of the nominal drill hole spacing for the Indicated category was <45 m, and the blocks were within 25 m of the nearest drill hole.

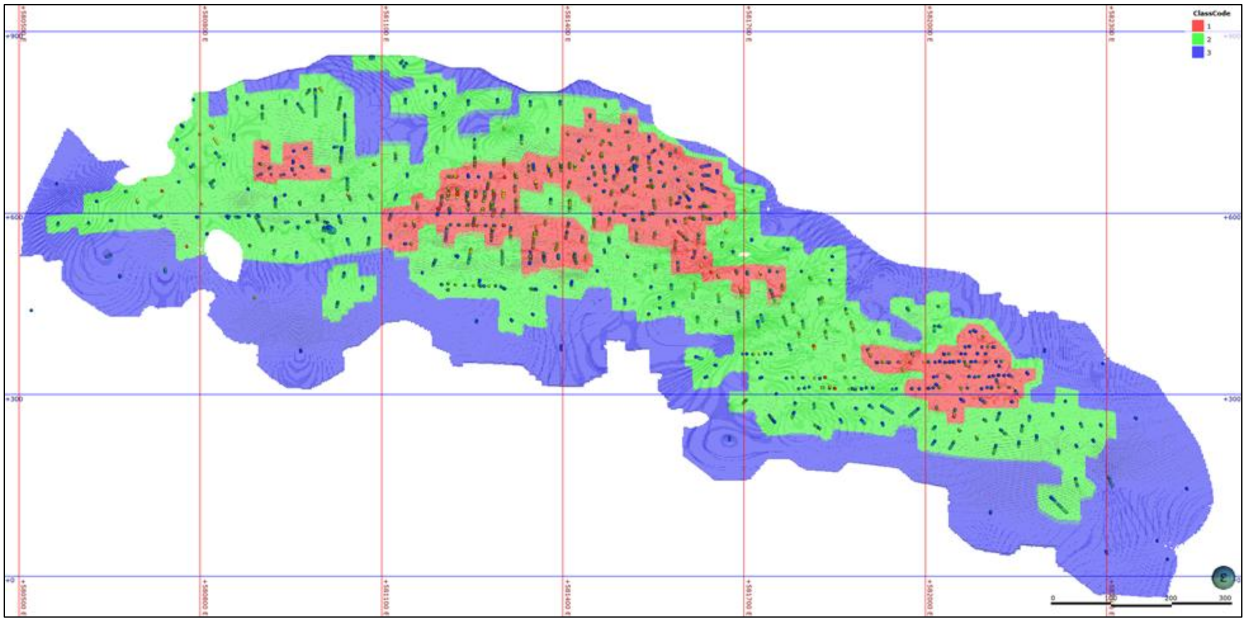
Blocks for all Main Vein domains were flagged to be considered for the Inferred category if the nominal drill hole spacing was <80 m, and the blocks were within 80 m of the nearest drill hole. For all other domains, the flagging of the nominal drill hole spacing for the Inferred category was <70 m, and the blocks were within 70 m of the nearest drill hole.

For the blocks flagged by the classification criteria developed, wireframes were constructed to encompass block model zones for Measured, Indicated, and Inferred categories. This process allowed for review of the geological confidence for the deposit together with drill hole support and expanded certain areas but excluded others from the classification. Blocks were finally assigned to a classification category by the respective wireframe if the centroid of the block fell inside the wireframe.

Figure 14-17 is a long section showing the Measured, Indicated and Inferred Mineral Resource categories for the Main Vein resource estimation domain.

Additional sample and underground mapping data collected since June 30, 2021 has been reviewed and supports the mineral resource classifications presented here.

Figure 14-17: Mineral Resource Categories – Main Vein.



Note: Figure prepared by First Majestic, September 2021. Measured (Red=Classcode 1), Indicated (Green=Classcode 2), and Inferred (Blue=Classcode 3)

Drill hole spacing within the Heap Leach Pad is generally <40 m and the Mineral Resource estimate is assigned to the Indicated confidence category.

14.3.14. Reasonable Prospects for Eventual Economic Extraction

The Mineral Resource estimates were evaluated for reasonable prospects for eventual economic extraction by application of input parameters based on mining and processing information from the last 17 months of mining operations. Economic parameters including operating costs, metallurgical recovery, metal prices and other parameters are as follows:

- Direct mining cost: dependent on mining method (cut-and-fill or long hole) and on vein width (wide or narrow); between $61.37/t and $73.36/t;

G&A and indirect mining cost	$18.49/t;
Sustaining cost	$15.12/t;
Ag metallurgical recovery	92.7%;
Au metallurgical recovery	95.5%;
Ag payable	99.85%;
Au payable	99.80%;
Ag metal price	$26 /oz;
Au metal price	$1,850 /oz.

These economic parameters resulted in an Ag-Eq cut-off grade of 95 g/t for all veins. The Ag-Eq metal grades for the Mineral Resource estimates were calculated as follows:

- Ag-Eq g/t = Ag g/t + (Au g/t * Au Factor);
- Au Factor = Au Revenue / Ag Revenue;
- Au Revenue = (Au Metal Price / 31.1035) x Au Recovery x Au Payable;
- Ag Revenue = (Ag Metal Price / 31.1035) x Ag Recovery x Ag Payable.

Seswik Stope Optimizer software was used to identify the blocks that represent mineable volumes that exceed the cut-off value while complying with the aggregate of economic parameters. This tool allows blocks to be aggregated into the minimum stope dimensions and eliminate outliers that do not comply with these conditions.

The economic factors used for the heap leach pad reprocessing are:

Direct mining cost:	$39.57/t;
G&A and indirect mining cost	$15.00/t;
Sustaining cost	$1.35/t;
Ag metallurgical recovery	92.7%;
Au metallurgical recovery	95.5%;
Ag payable	99.85%;
Au payable	99.80%;
Ag metal price	$26/oz;
Au metal price	$1,850/oz.

These economic parameters result in Ag-Eq cut-off grade of 70 g/t using the same Ag-Eq calculation as for the Santa Elena deposits.

14.4. Mineral Resource Estimate, Ermitaño Project

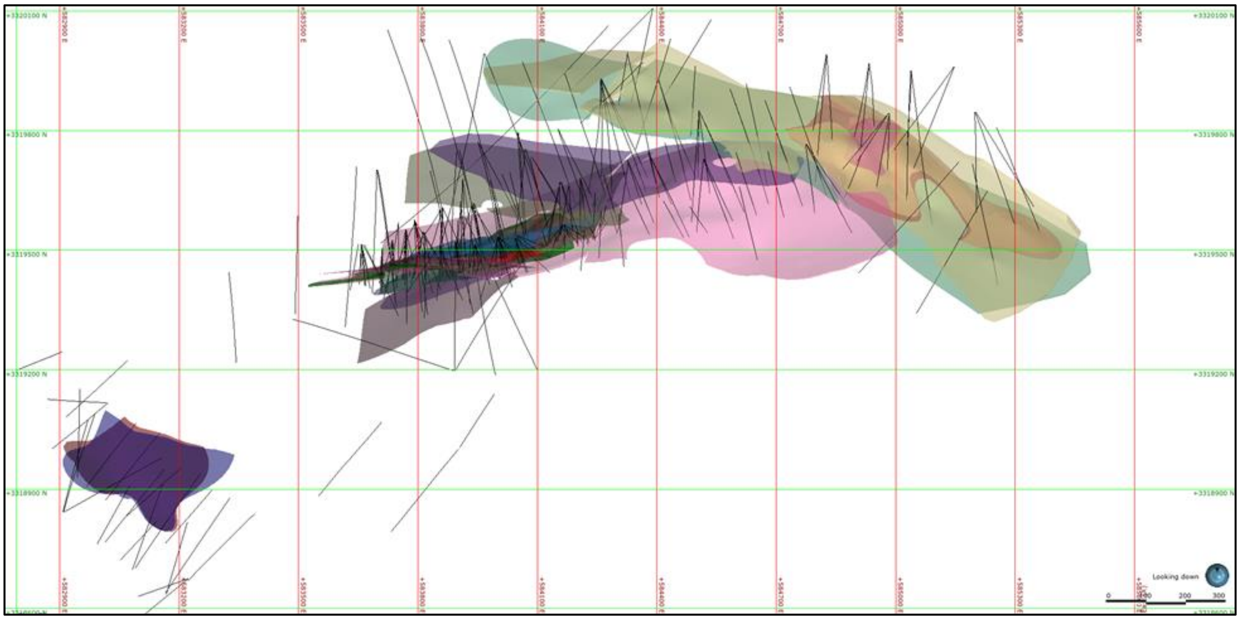
14.4.1. Sample Database, Ermitaño

The drill hole database for the Ermitaño project was reviewed and verified by the resource geologist and supports that the QAQC program was reasonable. The sample data used in the estimate has an effective date of June 30, 2021 and consists of exploration core drill holes. Table 14-10 summarizes the drill hole sample data used in the estimates, and Figure 14-18 shows the location of the data with respect to the mineral deposit zones in plan view.

Table 14-10: Drill Hole Sample Data Used in the Mineral Resource Estimation, Ermitaño

Project	Year	Company	Drill Holes	Samples	Interval Length (m)	Percentage of Total
Ermitaño	2016	First Majestic	8	1,368	1,421	3%
	2017	First Majestic	3	1,012	952	1%
	2018	First Majestic	41	8,609	9,059	15%
	2019	First Majestic	101	18,909	18,219	36%
	2020	First Majestic	56	9,611	8,290	20%
	Mid 2021	First Majestic	69	7,248	6,304	25%
		Grand Total	**278**	**46,757**	**44,245**	**100%**

Figure 14-18: Plan View, Ermitaño Drill Hole and Sample Data Locations with Respect to Resource Domains



Note: Figure prepared by First Majestic, September 2021.

The exploration data were collected with a logger system that captured collar, survey, lithology, and assay information. Integrated validation tools were used to check for gaps, errors, overlapped intervals and total lengths prior to geological modeling and estimation of Mineral Resources.

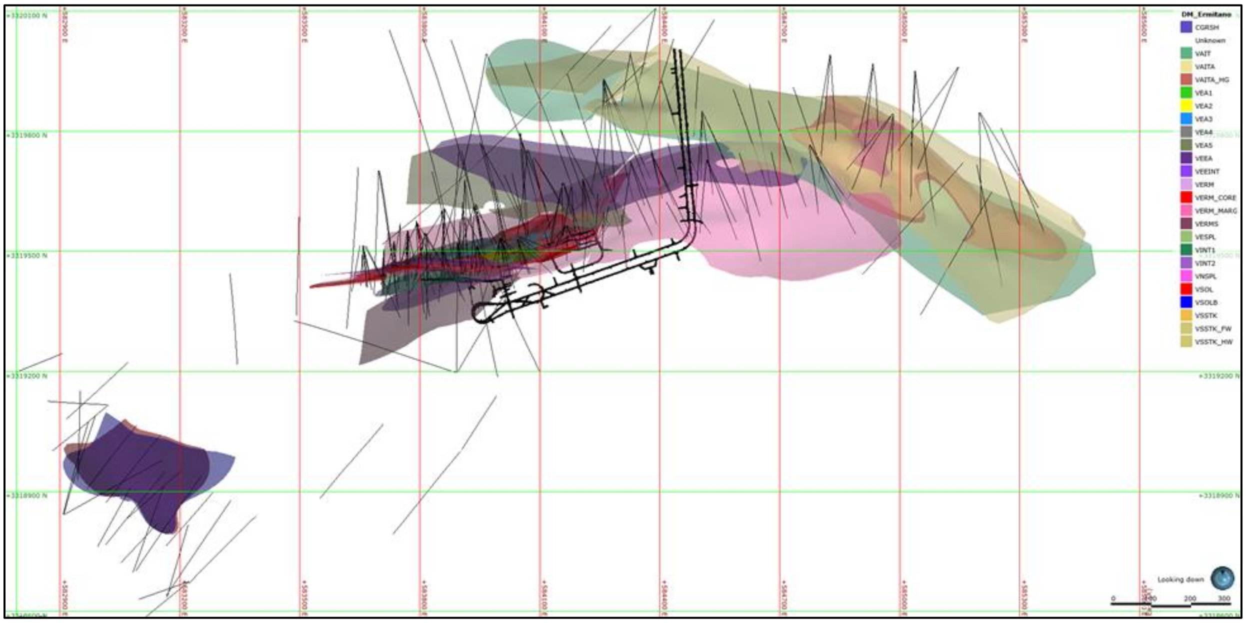
14.4.2. Geological Interpretation and Modeling, Ermitaño

The Mineral Resource estimates are constrained by the 3D geological interpretation and modelled domains of steeply-dipping vein-hosted mineralization. The gold and silver mineralization is restricted to low sulphidation epithermal quartz–calcite–adularia veins and stockwork veining. The modelled vein and stockwork domains are constructed from drill hole core logs, assay intervals and surface geological mapping produced by site exploration staff. The domain model boundaries strictly adhere to the vein and stockwork contacts with the surrounding country rock to produce reasonable representations of the deposit locations and volumes. The domains also incorporate some faulted sub-domains. Table 14-11 lists the 18 domains and associated domain codes. Figure 14-19 to Figure 14-21 display the domain models.

Table 14-11: Ermitaño Domain Names and Codes

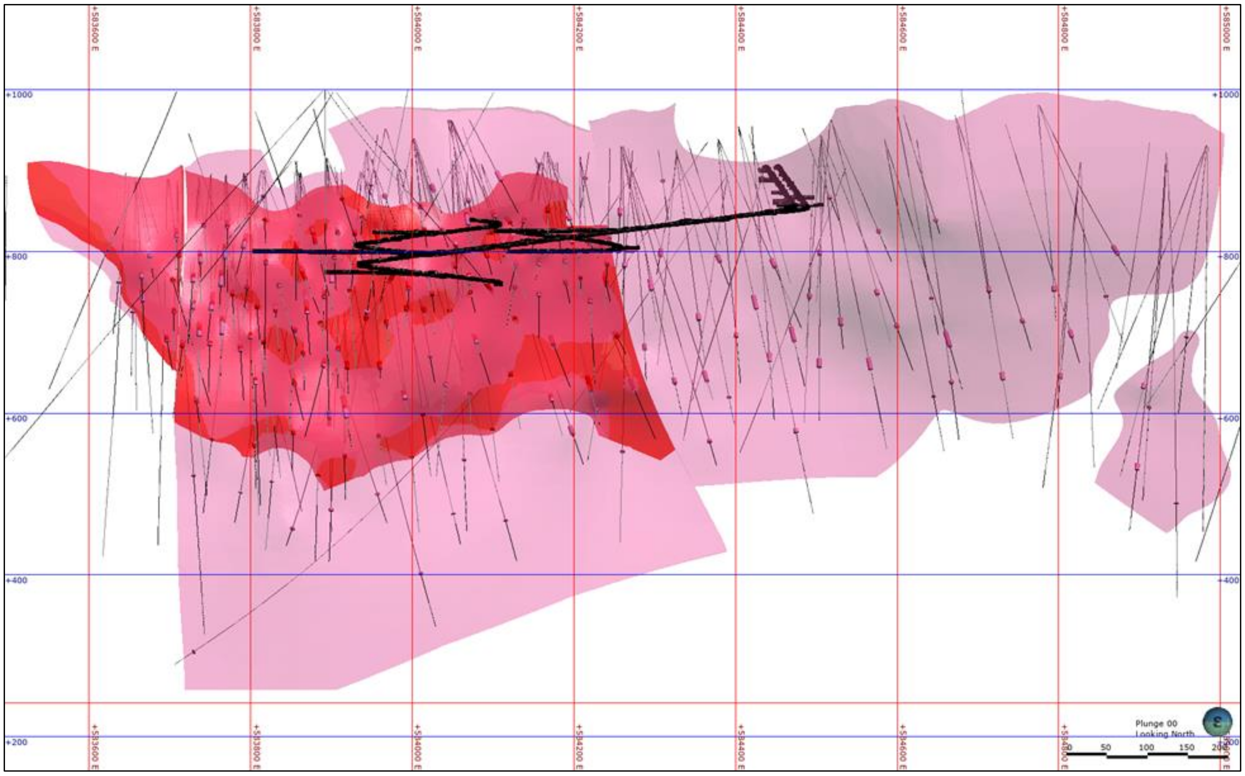
Estimation Domain Name	Estimation Domain Code
Ermitaño Core	VERM_CORE
Ermitaño Marginal	VERM_MARG
Ermitaño Stockwork Footwall	VSSTK_FW
Ermitaño Stockwork Hangingwall	VSSTK_HW
Ermitaño South	VERMS
North Splay	VNSPL
Intermedia 1	VINT1
Intermedia 2	VINT2
Ermitaño East Alto	VEEA
Ermitaño Alto 1	VEA1
Ermitaño Alto 2	VEA2
Ermitaño Alto 3	VEA3
Ermitaño Alto 4	VEA4
Ermitaño Alto 5	VEA5
Aitana	VAIT
Aitana Alto	VAITA
Aitana High Grade	VAITA_HG
Soledad	VSOL
Soledad B	VSOLB

Figure 14-19: Plan View Location of the Domains, Ermitaño



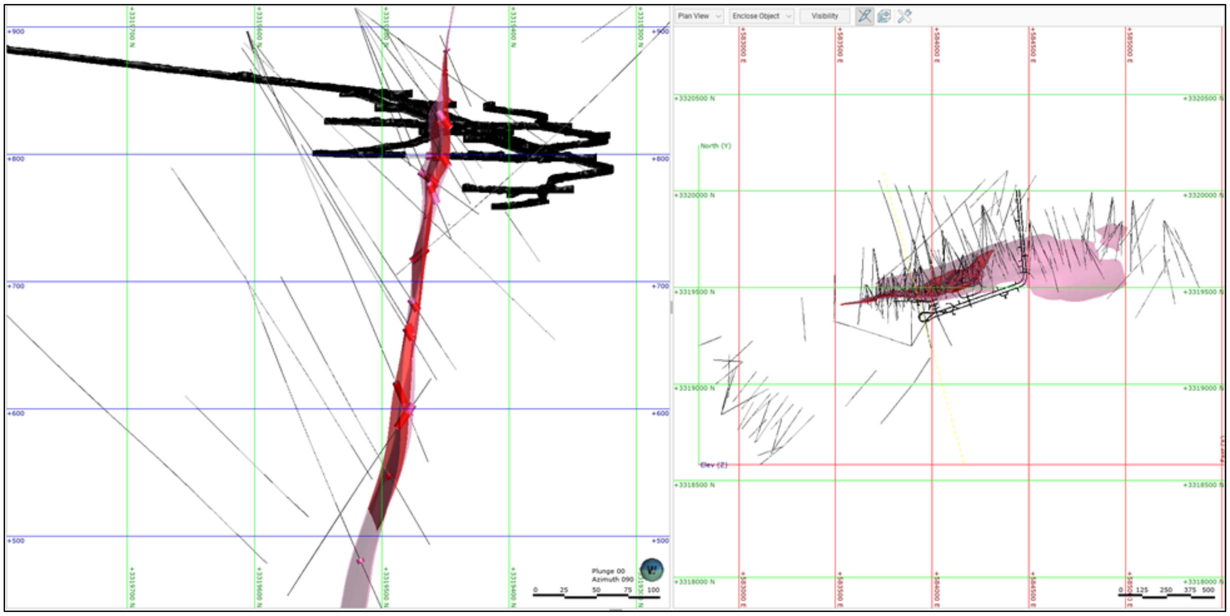
Note: Figure prepared by First Majestic, September 2021.

Figure 14-20: Geological Model for the Ermitaño Vein (Core Domain in red and Marginal Vein Domains in pink)



Note: Figure prepared by First Majestic, September 2021. Long section looking north. Drill hole vein intersections shown.

Figure 14-21: Geological Model of the Ermitaño Vein



Note Figure prepared by First Majestic, September 2021. Cross section looking east and plan view.

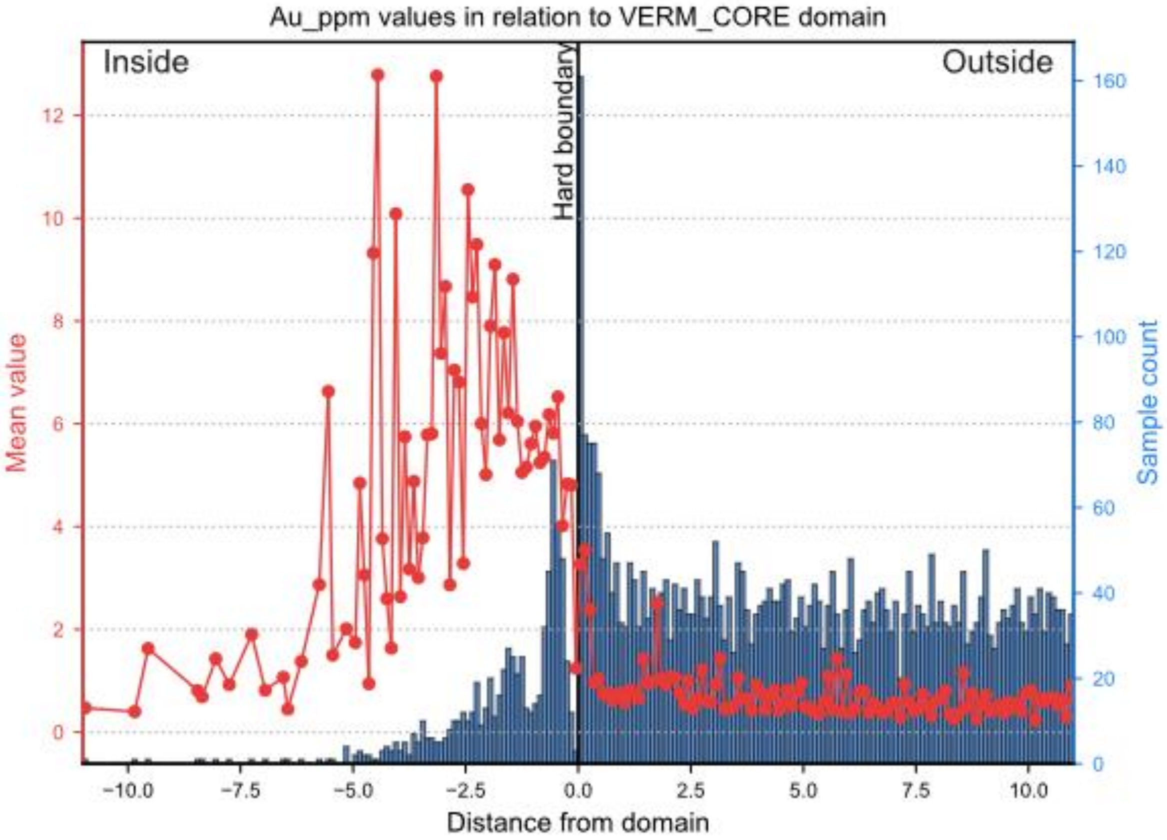
14.4.3. Exploratory Sample Data Analysis

Exploratory data analysis was completed for gold and silver sample values for each of the domains to assess the statistical and spatial character of the sample data. The sample data were examined in 3D to understand the spatial distribution of mineralized intervals. The sample assay data statistics were analyzed within each domain to look for possible mixed sample populations.

14.4.4. Boundary Analysis, Ermitaño

Boundary contact analysis was completed for each domain to review the change in metal grade across the domain contacts using boundary plots. There is a sharp grade change across the contact and hard boundary conditions were observed for all domains as shown in Figure 14-22.

Figure 14-22: Example of Gold Boundary Analysis for the Ermitaño Vein Core Domain.



Note: Figure prepared by First Majestic, September 2021.

Hard boundaries were used during the construction of sample composite samples and during Mineral Resource estimation. Composite samples were restricted to their respective resource domain.

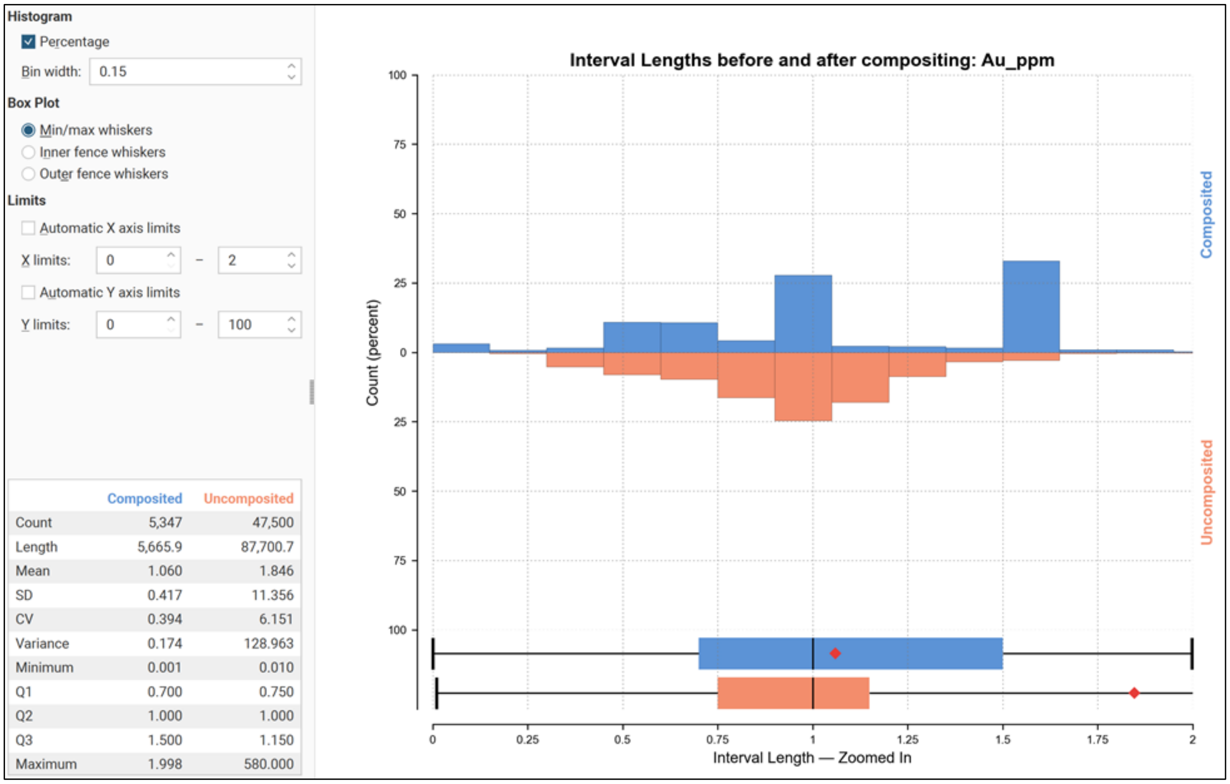
14.4.5. Composite Sample Preparation

To select an appropriate composite sample length, the assay sample intervals were reviewed for each resource domain. The selected composite length varies from one domain to another, with short residual composite samples left at the end of the vein intersection added to the previous interval. Composite lengths are detailed in Table 14-12, and Figure 14-23 shows the sample interval lengths before and after compositing for all domains.

Table 14-12: Composite Length, Ermitaño

Project	Domain	Composite Length (m)
Ermitaño	VERM_CORE	1.5
	VERM_MARG	1.0
	VSSTK_FW and VSSTK_HW	1.5
	VERMS	0.6
	VNSPL	1.5
	VINT1 and VINT2	0.6
	VEA1-VEA5	0.6
	VEEA	1.0
	VAIT, VAITA and VAITA_HG	1.0
	VSOL and VSOLB	0.7

Figure 14-23: Sample Interval Lengths, Composited vs. Uncomposited – All Domains, Ermitaño



Histogram

☑ Percentage

Bin width: 0.15

Box Plot

● Min/max whiskers
○ Inner fence whiskers
○ Outer fence whiskers

Limits

☐ Automatic X axis limits

X limits: 0 – 2

☐ Automatic Y axis limits

Y limits: 0 – 100

	Composited	Uncomposited
Count	5,347	47,500
Length	5,665.9	87,700.7
Mean	1.060	1.846
SD	0.417	11.356
CV	0.394	6.151
Variance	0.174	128.963
Minimum	0.001	0.010
Q1	0.700	0.750
Q2	1.000	1.000
Q3	1.500	1.150
Maximum	1.998	580.000

Note: Figure prepared by First Majestic, September 2021.

14.4.6. Evaluation of Composite Sample Outlier Values

Drill hole and channel composite samples were evaluated for high-grade outliers and those outliers were capped to values considered appropriate for the estimation. Outlier values at the high end of the grade distributions were identified for both gold and silver from inflection points of cumulative probability plots and analysis of histogram plots. The spatial distribution of such outliers was also investigated. To quantify the impact of capping, the resource was evaluated to assess the change in metal content for the estimation due to capping.

Capping of assay values was limited to a select few extreme values. To reduce bias from a larger set of high-grade samples, those outlier values were range-restricted. Table 14-13 and Table 14-14 show the percentage of the outlier values that were capped and range-restricted.

Table 14-13: Composite Sample Ag capping and Range-Restriction by Domain, Ermitaño

Estimation Domain	Number of Composites	Capping g/t Ag	Number Capped	% Capped	Range Restriction g/t Ag	Number Range Restricted	% Range Restricted
VERM_CORE	721	800	3	0.4%	400	15	2.1%
VERM_MARG	1139	200	12	1.1%		none	
VSSTK_FW	971	300	4	0.4%		none	
VSSTK_HW	507	100	3	0.6%		none	
VERMS	111	90	2	1.8%		none	
VNSPL	222	100	2	0.9%		none	
VINT1	342	460	3	0.9%		none	
VINT2	206	220	2	1.0%		none	
VEEA	68		none			none	
VEA1	59		none		80	2	3.4%
VEA2	71		none			none	
VEA3	91		none			none	
VEA4	131	140	5	3.8%		none	
VEA5	79		none			none	
VAIT	174	150	2	1.1%		none	
VAITA	296		none		80	3	1.0%
VAITA_HG	88	140	1	1.1%		none	
VSOL	47	630	1	2.1%		none	
VSOLB	24	630	2	8.3%		none	
ALL	**5,347**		**42**	**0.8%**		**20**	**0.4%**

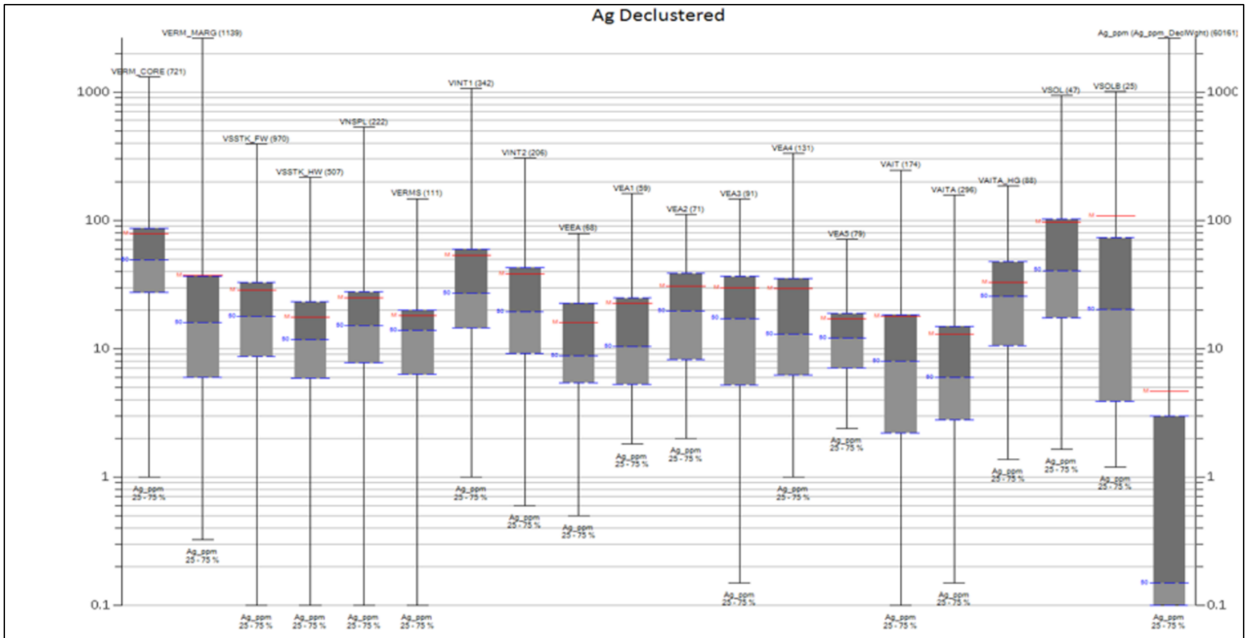
Table 14-14: Composite Sample Au Capping and Range-Restriction by Domain, Ermitaño

Estimation Domain	Number of Composites	Capping g/t Au	Number Capped	% Capped	Range Restriction g/t Au	Number Range Restricted	% Range Restricted
VERM_CORE	721	42	2	0.3%	27	17	2.4%
VERM_MARG	1139	26	3	0.3%		none	
VSSTK_FW	971	10	10	1.0%		none	
VSSTK_HW	507	4	5	1.0%		none	
VERMS	111	5	3	2.7%		none	
VNSPL	222	7.1	10	4.5%		none	
VINT1	342	16	4	1.2%		none	
VINT2	206	30	7	3.4%	10	21	10.2%
VEEA	68	3.1	2	2.9%		none	
VEA1	59	5	1	1.7%		none	
VEA2	71	5.2	2	2.8%		none	
VEA3	91	10	2	2.2%	5.2	3	3.3%
VEA4	131	-	none			none	
VEA5	79	-	none			none	
VAIT	174	6	3	1.7%		none	
VAITA	296	4.5	2	0.7%		none	
VAITA_HG	88	6	1	1.1%		none	
VSOL	47	-	none			none	
VSOLB	24	15	1	4.2%		none	
ALL	**5,347**		**58**	**1.1%**		**41**	**0.77%**

14.4.7. Composite Sample Statistics

Data were declustered using a cell declustering method. The silver and gold declustered statistics of composite samples for all estimation domains are presented in Figure 14-24 and Figure 14-25.

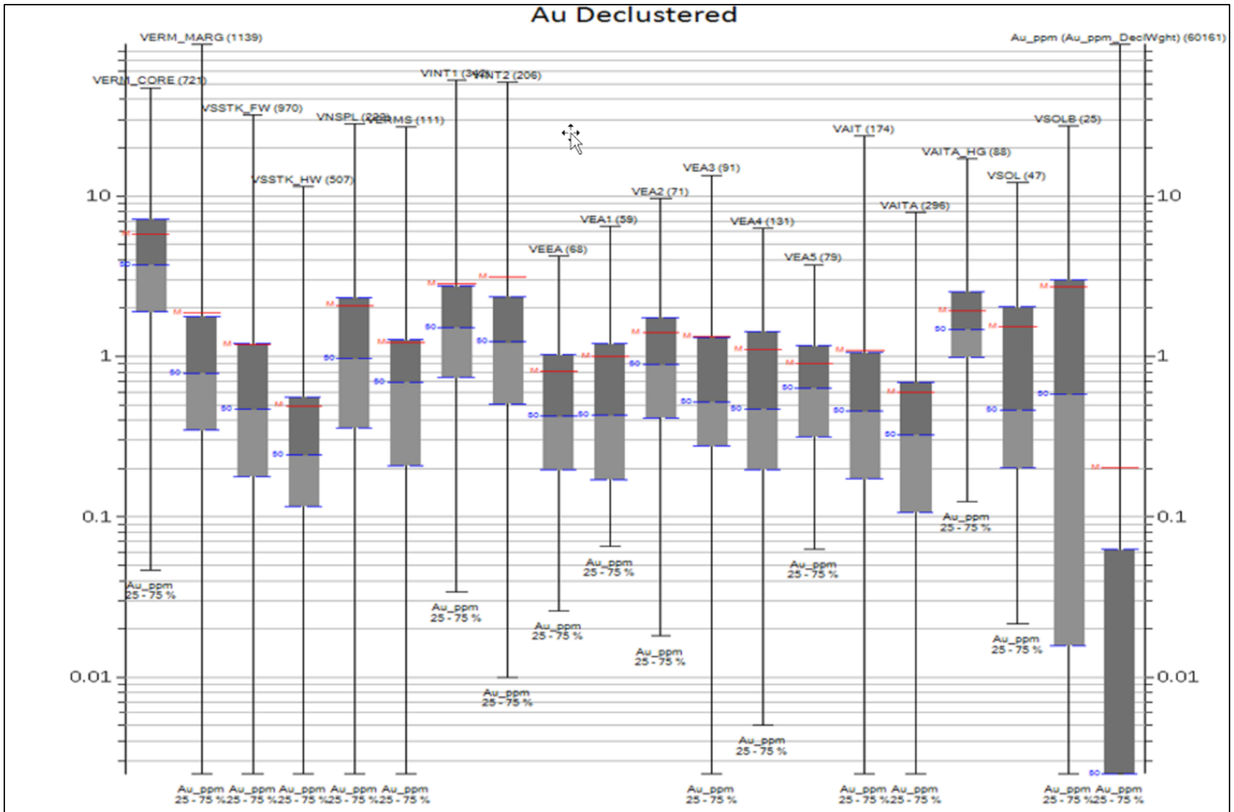
Figure 14-24: Ag Box Plot and Composite Sample Declustered Statistics by Domain, Ermitaño



Domain	CORE	MARGINAL	VSSTK_FW	VSSTK_HW	VNSPL	VERMS	VINT1	VINT2	VEEA	VEA1	VEA2	VEA3	VEA4	VEA5	VAIT	VAITA	VAITA_HG	VSOL	VSOLB
Samples	721	1139	970	507	222	111	342	206	68	59	71	91	131	79	174	296	88	47	25
Minimum	1.00	0.32	0.10	0.10	0.10	0.10	1.00	0.60	0.50	1.80	2.00	0.15	1.00	2.40	0.10	0.15	1.38	1.65	1.20
Maximum	1319	2630	391.7	217.1	535.3	147.8	1063	305.6	79.2	161.7	111.3	146.3	331.5	71	246.8	158	184.8	941.4	1014
Mean	78.88	37.11	28.75	17.53	24.75	17.96	53.15	38.49	16.04	25.55	30.68	29.73	29.25	17.19	17.86	13.03	32.85	96.53	107.8
Std Dev	109.3	121.3	39.3	19.2	49.5	19.9	91.4	48.9	16.0	31.3	31.0	36.6	50.2	14.9	30.1	21.1	30.9	159.3	212.3
CV	1.386	3.268	1.366	1.093	2.001	1.106	1.720	1.271	0.996	1.390	1.009	1.232	1.715	0.864	1.854	1.618	0.940	1.650	1.97

Note: Figure prepared by First Majestic, September 2021.

Figure 14-25: Au Box Plot and Composite Sample Declustered Statistics by Domain, Ermitaño



Domain	CORE	MARGINAL	VSSTK_FW	VSSTK_HW	VNSPL	VERMS	VINT1	VINT2	VEEA	VEA1	VEA2	VEA3	VEA4	VEA5	VAIT	VAITA	VAITA_HG	VSOL	VSOLB
Samples	721	1139	970	507	222	111	342	206	68	59	71	91	131	79	174	296	88	47	25
Minimum	0.047	0.003	0.003	0.003	0.003	0.003	0.034	0.010	0.026	0.065	0.018	0.003	0.005	0.063	0.003	0.003	0.124	0.021	0.003
Maximum	47.37	88.4	31.86	11.50	28.09	26.82	52.46	51.26	4.20	6.51	9.68	13.50	6.26	3.74	23.64	7.87	17.12	12.11	27.20
Mean	5.77	1.88	1.18	0.49	2.08	1.22	2.84	3.14	0.80	1.00	1.40	1.34	1.10	0.91	1.09	0.60	1.92	1.55	2.70
Std Dev	6.24	5.06	2.34	0.88	3.63	2.32	5.12	6.34	0.92	1.31	1.63	2.24	1.41	0.83	2.48	0.92	1.95	2.37	5.15
CV	1.081	2.690	1.979	1.781	1.741	1.897	1.801	2.019	1.148	1.318	1.163	1.677	1.283	0.916	2.280	1.535	3.804	1.544	1.907

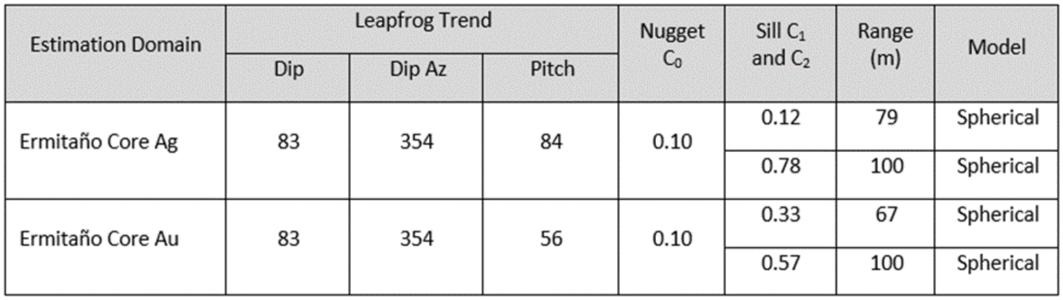
Note: Figure prepared by First Majestic, September 2021.

14.4.8. Metal Trend and Spatial Analysis: Variography

The dominant trends for gold and silver mineralization were identified based on the 3D numerical models for the metal in each domain. Model variograms for gold and silver composite values were developed along the trends identified, and the nugget values were established from downhole variograms.

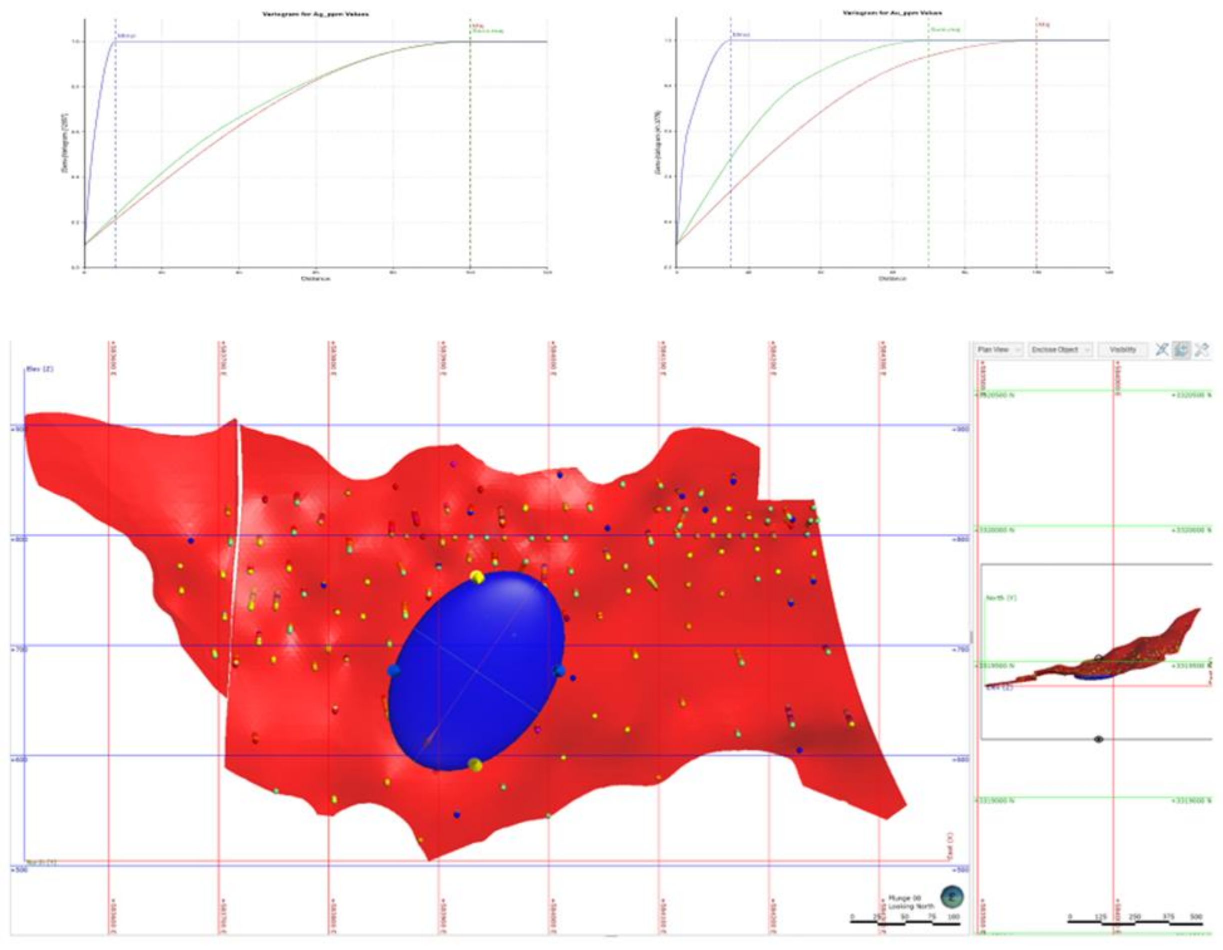
Table 14-15 shows the model variogram parameters for the Ermitaño Vein Core domain, and Figure 14-26 shows the combined variogram plots for silver and gold along with the variogram trend ellipsoid.

Table 14-15: Variogram Model Parameters for Ermitaño Core Domain



Estimation Domain	Leapfrog Trend			Nugget C_0	Sill C_1 and C_2	Range (m)	Model
	Dip	Dip Az	Pitch				
Ermitaño Core Ag	83	354	84	0.10	0.12	79	Spherical
					0.78	100	Spherical
Ermitaño Core Au	83	354	56	0.10	0.33	67	Spherical
					0.57	100	Spherical

Figure 14-26: Ag and Au Variogram Models for the Ermitaño Vein Core Domain with Au Trend Ellipsoid

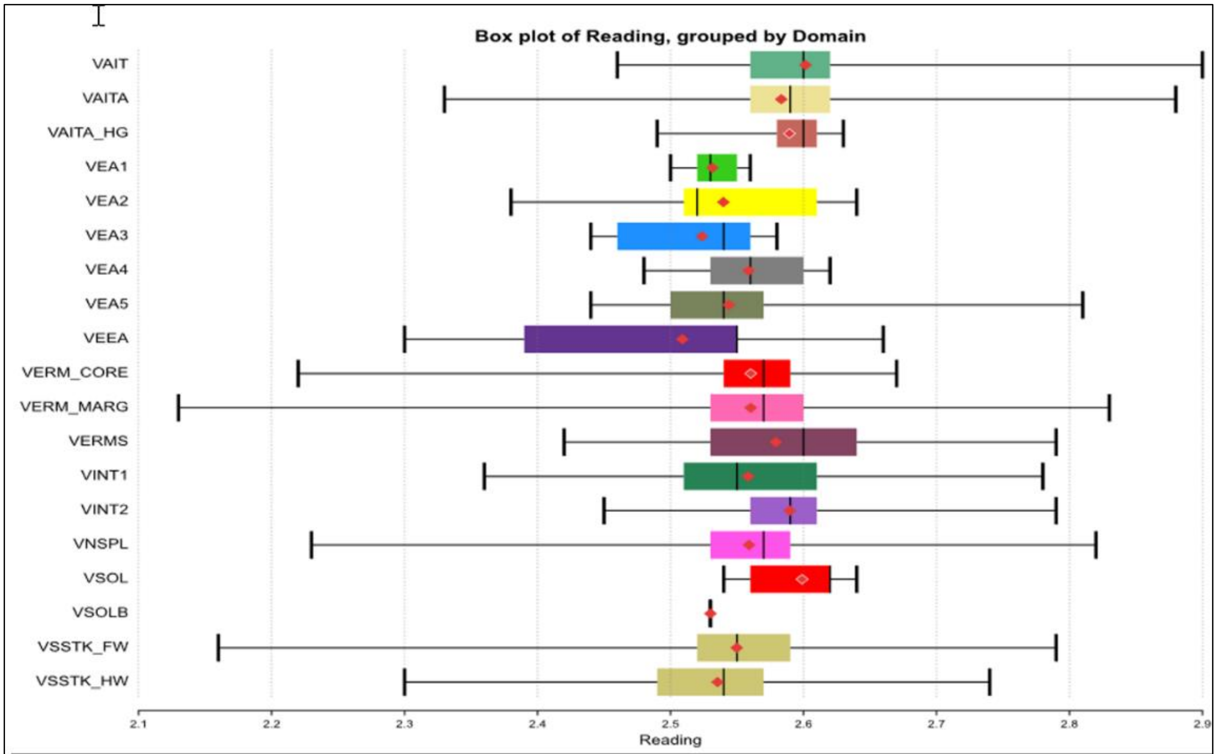


Note: Figure prepared by First Majestic, September 2021. Section looking north.

14.4.9. Bulk Density

First Majestic has measured SG values for 4,708 drill core samples from the Ermitaño deposits. The SG sampling program was designed to collect representative specimens from all rock types. The SG values range from 2.06–3.30, with a mean value of 2.54. The SG statistics for the domains are displayed in Figure 14-27.

Figure 14-27: Specific Gravity Box Plot and Statistics, Ermitaño



Domain		Count	Mean	Standard deviation	Coefficient of variation	Variance	Minimum	Lower quartile	Median	Upper quartile	Maximum
VAIT	SG	52	2.60	0.08	0.03	0.01	2.46	2.56	2.6	2.62	2.9
VAITA	SG	73	2.58	0.08	0.03	0.01	2.33	2.56	2.59	2.62	2.88
VAITA_HG	SG	14	2.59	0.04	0.01	0.00	2.49	2.58	2.59	2.61	2.63
VEA1	SG	5	2.53	0.02	0.01	0.00	2.5	2.52	2.53	2.55	2.56
VEA2	SG	12	2.55	0.07	0.03	0.01	2.38	2.51	2.52	2.61	2.64
VEA3	SG	12	2.53	0.05	0.02	0.00	2.44	2.46	2.54	2.56	2.58
VEA4	SG	23	2.56	0.04	0.02	0.00	2.48	2.53	2.56	2.6	2.62
VEA5	SG	21	2.55	0.08	0.03	0.01	2.44	2.5	2.54	2.57	2.81
VEEA	SG	12	2.52	0.11	0.05	0.01	2.3	2.39	2.55	2.55	2.66
VERM_CORE	SG	339	2.56	0.05	0.02	0.00	2.22	2.54	2.57	2.59	2.67
VERM_MARG	SG	390	2.56	0.08	0.03	0.01	2.13	2.53	2.57	2.6	2.83
VERMS	SG	19	2.58	0.10	0.04	0.01	2.42	2.48	2.6	2.64	2.79
VINT1	SG	53	2.56	0.07	0.03	0.01	2.36	2.52	2.55	2.61	2.78
VINT2	SG	24	2.59	0.06	0.02	0.00	2.45	2.56	2.59	2.61	2.79
VNSPL	SG	122	2.56	0.07	0.03	0.01	2.23	2.53	2.57	2.59	2.82
VSOL	SG	6	2.60	0.04	0.02	0.00	2.54	2.56	2.61	2.62	2.64
VSOLB	SG	1	2.53				2.53	2.53	2.53	2.53	2.53
VSSTK_FW	SG	302	2.55	0.06	0.02	0.00	2.16	2.52	2.56	2.59	2.79
VSSTK_HW	SG	151	2.54	0.07	0.03	0.00	2.3	2.49	2.54	2.58	2.74

Note: Figure prepared by First Majestic, September 2021.

SG was estimated in domains using an ID3 method, with blocks outside the estimation radius either assigned the mean value of all the deposits or the mean value of the domain. Some domains with a small amount of SG samples were not estimated and were assigned the mean SG value.

14.4.10. Block Model Setup

Block model resource estimates were prepared for each of the estimation domains at Ermitaño. The block models were rotated so that the x and y axes lie parallel to the domains and the z direction is perpendicular to the trend of the domain. A sub-blocked model type was created that consists of primary parent blocks which are sub-divided into smaller sub-blocks whenever triggering surfaces intersect the parent blocks. For the Ermitaño block models, the domain boundaries served as triggers. The size of the parental block considered the drill hole sample spacing and the mining methods. Block models used 10 m (x) x 10 m (y) x 2 m (z) parent blocks that are sub-blocked to 2 m (x) x 2 m (y) x a variable height (z) in m with a minimum of 0.1 m. Gold and silver grades were estimated into the parent blocks.

14.4.11. Resource Estimation Procedure

Block model estimates for Ermitaño domains were completed for gold and silver. All block grades were estimated from composite samples captured within the respective resource domains. Following contact analysis, all domain contacts were treated as hard boundaries.

Block grades were estimated by either ID^2 or OK, with ID^2 selected as the final estimation method for all domains after inspection of the estimated gold and silver grades were judged to perform better with ID^2. The method chosen in each case considered the characteristics of the domain, data spacing, variogram quality, and which method produced the best representation of grade continuity.

Examples of the gold–silver estimation parameters for each of the domains are included in Table 14-16.

Table 14-16: Summary of Ag-Au Estimation Parameters for the Ermitaño Models

Estimation Domain	Metal	Blocks		Composites							Search Ellipsoid and Orientation						
		Interpolation Method	Boundary	Composite Length	Number used		Max per hole	Clip	Clamp	Clamp percentage of search distance?	Variable Orientation Used?	Dip	Dip Azimuth	Pitch	Range (m)		
					Min	Max									X	Y	Z
VERM_CORE	**Ag**	ID2	Hard	1.5	1	20	5	800	400	30%	Yes				120	90	40
	Au	ID2	Hard	1.5	1	20	5	42	27	30%	Yes				120	90	40
VERM_MARG	**Ag**	ID2	Hard	1	1	20	5	200	none		Yes				120	90	40
	Au	ID2	Hard	1	1	20	5	26	none		Yes				120	90	40
VSSTK FW	**Ag**	ID2	Hard	1.5	1	20	5	300	none		Yes				150	150	50
	Au	ID2	Hard	1.5	1	20	5	10	none		Yes				150	150	50
VSSTK HW	**Ag**	ID2	Hard	1.5	1	20	5	100	none		Yes				150	150	50
	Au	ID2	Hard	1.5	1	20	5	4	none		Yes				150	150	50
VERMS	**Ag**	ID2	Hard	0.6	1	20	5	90	none		Yes				150	150	40
	Au	ID2	Hard	0.6	1	20	5	5	none		Yes				150	150	40
VNSPL	**Ag**	ID2	Hard	1.5	1	20	5	100	none		Yes				150	150	40
	Au	ID2	Hard	1.5	1	20	5	7.1	none		Yes				150	150	40
VINT1	**Ag**	ID2	Hard	0.6	1	20	5	460	none		Yes				150	125	40
	Au	ID2	Hard	0.6	1	20	5	16	none		Yes				150	125	40
VINT2	**Ag**	ID2	Hard	0.6	1	20	5	220	none		Yes				110	110	40
	Au	ID2	Hard	0.6	1	20	5	30	10	30%	Yes				110	110	40
VAIT	**Ag**	ID2	Hard	1	1	20	5	150	none		Yes				125	125	40
	Au	ID2	Hard	1	1	20	5	6	none		Yes				125	125	40
VAITA	**Ag**	ID2	Hard	1	1	20	5	none	80	40%	Yes				150	150	40
	Au	ID2	Hard	1	1	20	5	4.5	none		Yes				150	150	40
VAITA_HG	**Ag**	ID2	Hard	1	1	20	5	140	none		Yes				150	150	40
	Au	ID2	Hard	1	1	20	5	6	none		Yes				150	150	40
VEEA	**Ag**	ID2	Hard	1	1	20	5	none	none		No	68	355	13.1	150	150	50
	Au	ID2	Hard	1	1	20	5	3.1	none		No	68	355	13.1	150	150	50
VEA1	**Ag**	ID2	Hard	0.6	1	20	5	none	80	30%	No	80	352	59.87	150	150	20
	Au	ID2	Hard	0.6	1	20	5	5	none		No	84	352	59.87	150	150	20
VEA2	**Ag**	ID2	Hard	0.6	1	20	5	none	none		No	83	347	59.49	150	150	20
	Au	ID2	Hard	0.6	1	20	5	5.2	none		No	83	347	59.49	150	150	20
VEA3	**Ag**	ID2	Hard	0.6	1	20	5	none	none		No	83	347	20.61	150	150	20
	Au	ID2	Hard	0.6	1	20	5	10	5.2	30%	No	83	347	20.61	150	150	20
VEA4	**Ag**	ID2	Hard	0.6	1	20	5	140	none		No	84	346	67.47	150	150	30
	Au	ID2	Hard	0.6	1	20	5	none	none		No	84	346	67.47	150	150	30
VEA5	**Ag**	ID2	Hard	0.6	1	20	5	none	none		No	70	2	67.82	150	150	20
	Au	ID2	Hard	0.6	1	20	5	none	none		No	70	2	67.82	150	150	20
VSOL	**Ag**	ID2	Hard	0.7	1	20	5	630	none		No	52	214	1.4	120	120	20
	Au	ID2	Hard	0.7	1	20	5	none	none		No	52	214	162	120	120	20
VSOLB	**Ag**	ID2	Hard	0.7	1	20	5	630	none		No	52	214	90.2	120	120	20
	Au	ID2	Hard	0.7	1	20	5	15	none		No	52	214	162	120	120	20

14.4.12. Block Model Validation

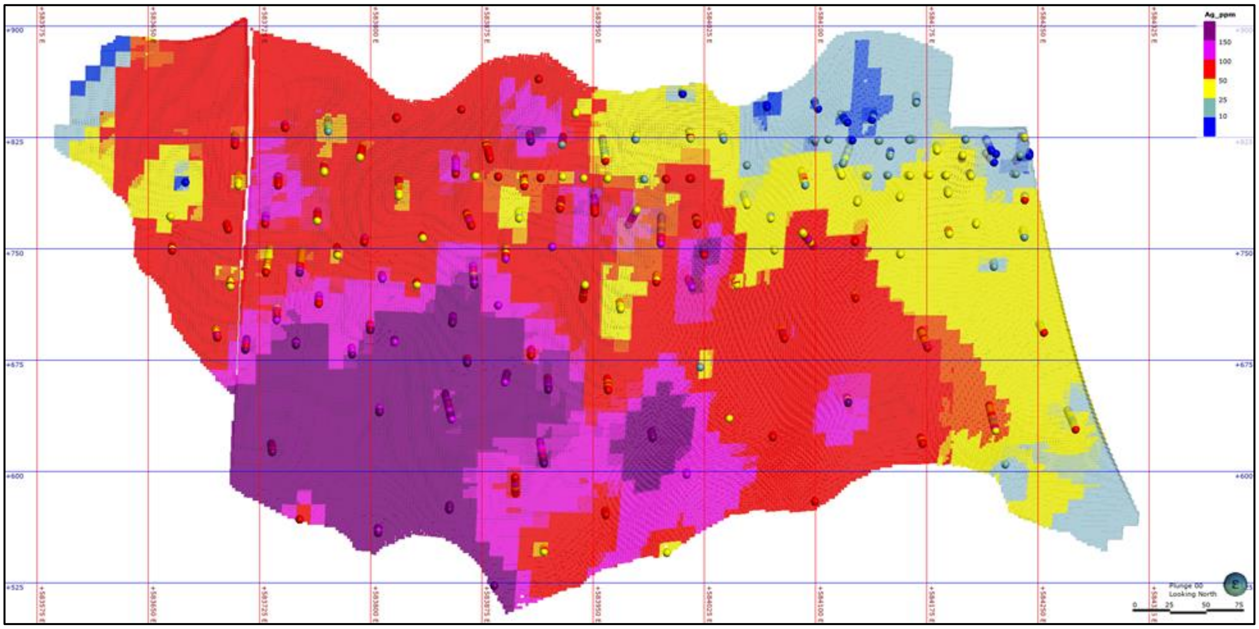
Validation of the silver and gold grade estimations in the Ermitaño block models was completed for each of the domains. The procedure was conducted as follows:

- Comparison of wireframe domain volumes to block model volumes for the domains;
- Visual inspection comparing the composite sample silver and gold grades to the estimated block values;
- Comparison of the gold and silver grades in "well-informed" parental blocks with the average sample values of the composited samples contained within those blocks using scatter plots.
- Comparison of the global mean composite grades to the block model mean grade for each resource domain;
- Comparison of local block grade trends to composited sample grades along the three block model axes (i.e., easting, northing, and elevation) with swath grade trend plots.

The silver and gold estimated block grades were visually inspected in vertical sections. This review showed that the supporting composite sample grades closely match the estimated block values.

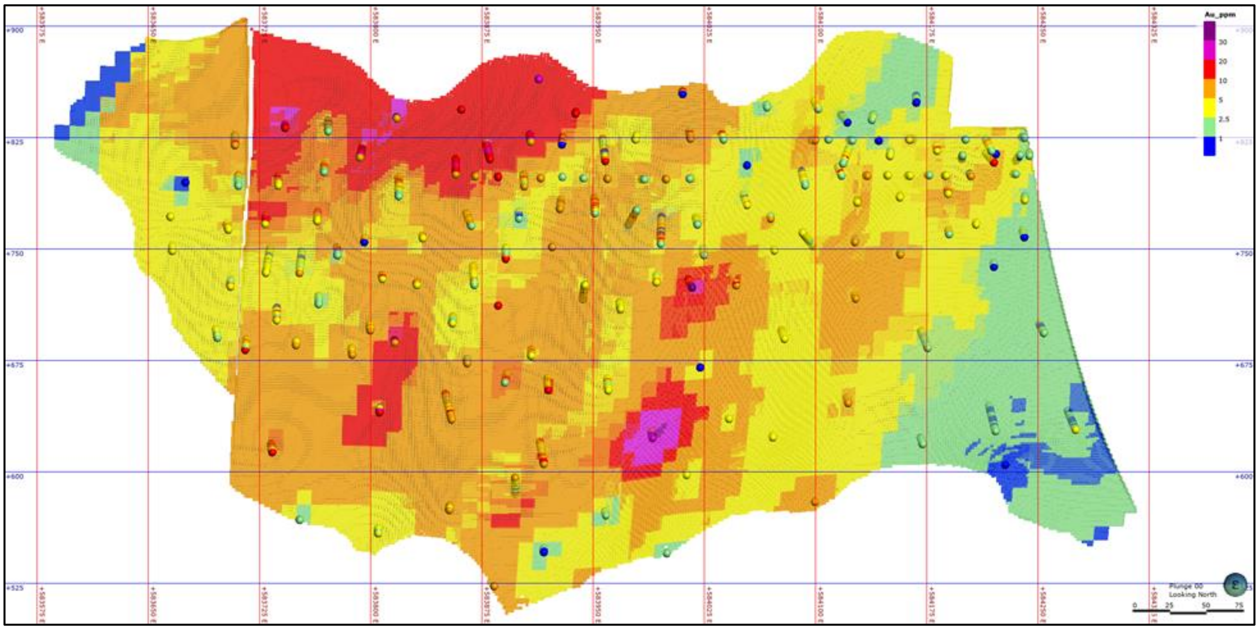
Figure 14-28 and Figure 14-29 show the estimated block model silver and gold grades and the composite sample grades used in the estimation for the Ermitaño Core domain.

Figure 14-28: Ermitaño Vein Core Domain Ag Block Model Estimate and Composite Sample Values



Note: Figure prepared by First Majestic, September 2021. Vertical section, looking north.

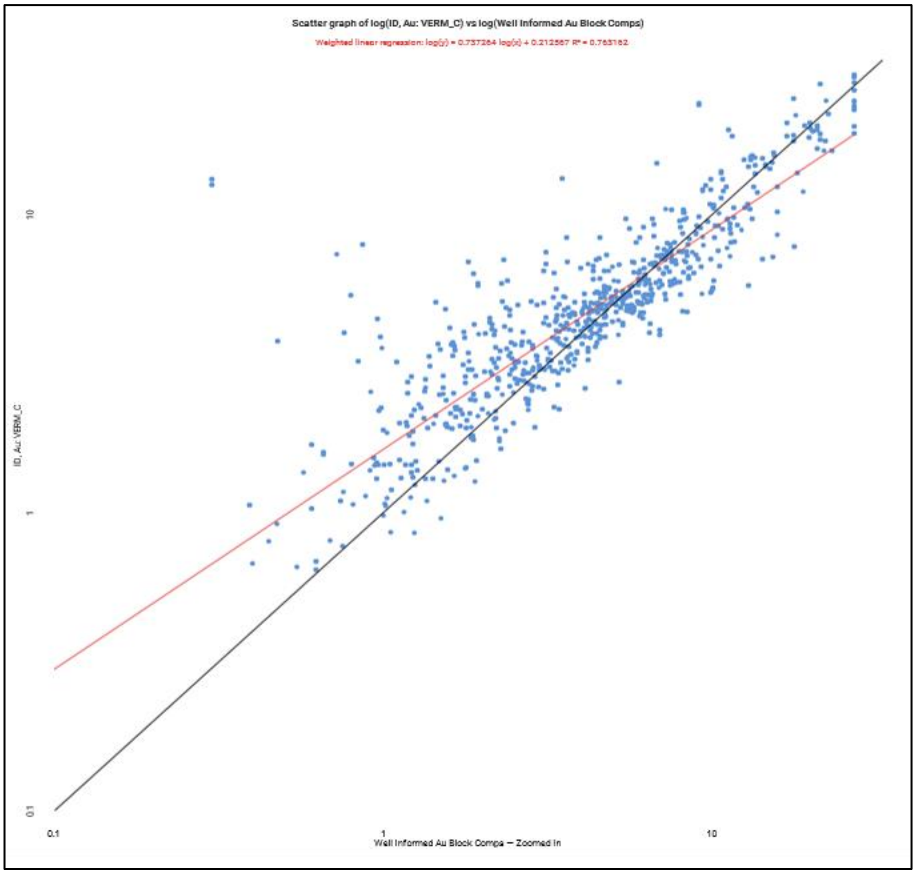
Figure 14-29: Ermitaño Core Domain Au Block Model Estimate and Composite Sample Values.



Note: Figure prepared by First Majestic, September 2021. Vertical section, looking north.

Estimated blocks display conditional bias with higher grades underestimated and lower grades over-estimated. Figure 14-30 is a scatterplot comparing estimated bock grades with sample composite values using the average of samples contained within each block. The scatterplot demonstrates that the estimated block grades correlate well with the composite sample, and that the estimated grades are variable and not overly smooth.

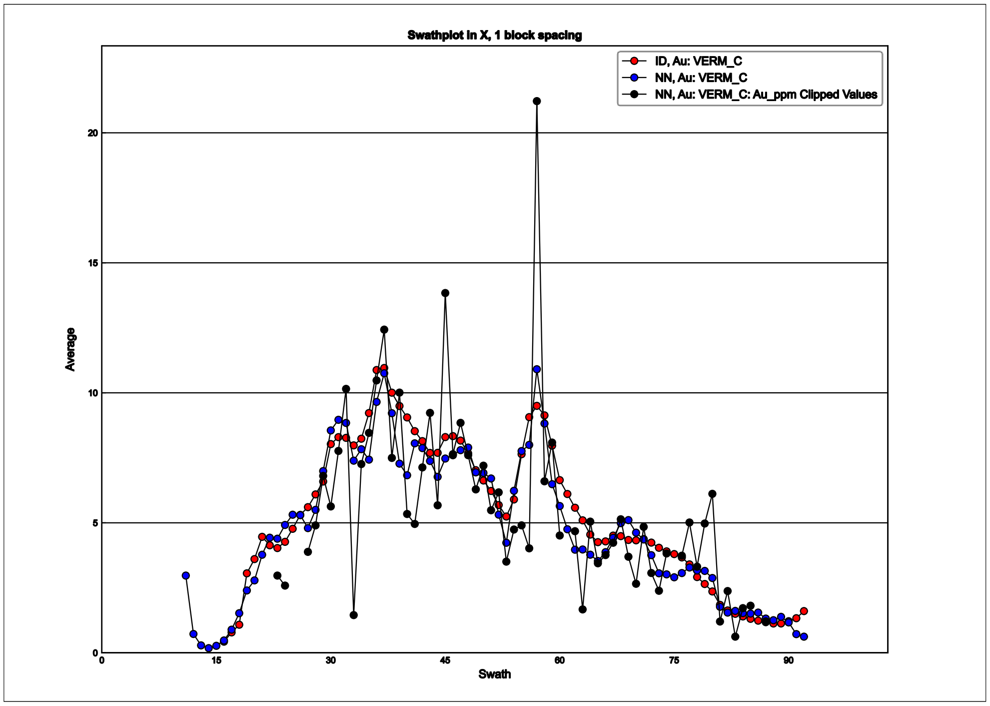
Figure 14-30: Scatter Plot of Gold Composites with Estimated Block Grades (Ermitaño Core Domain)



Note: Figure prepared by First Majestic, September 2021.

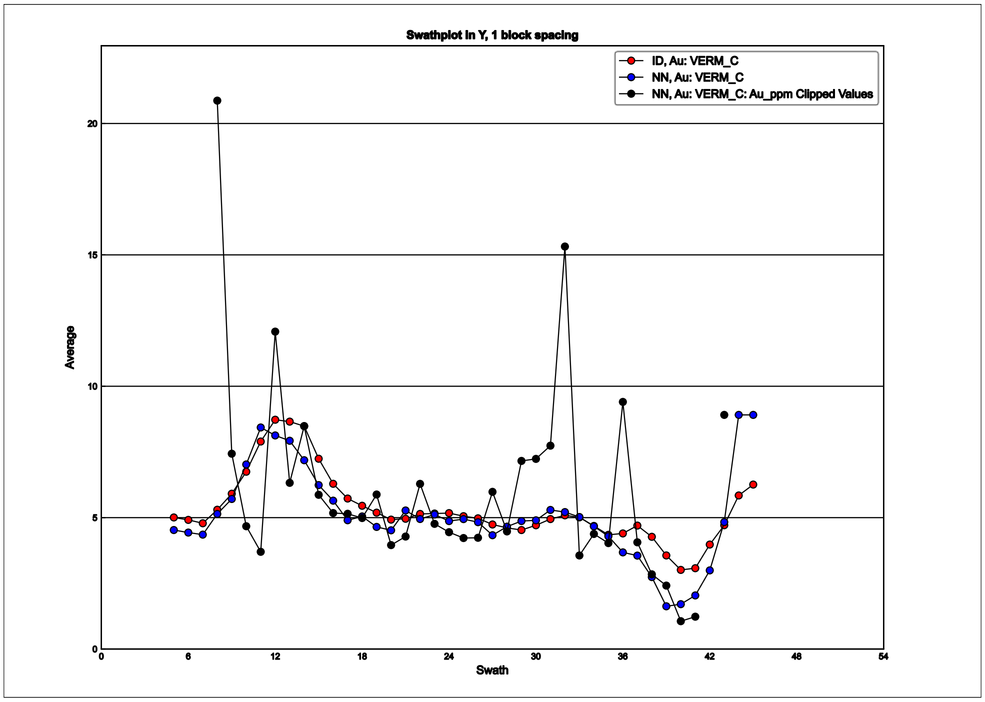
The block model estimates were validated by comparing the estimated block grades for gold and silver to NN block estimates and to the composite sample values in swath plots oriented in three directions. The estimated block grades, NN grades, and composite sample grade trends are similar in all directions for all resource domains. Figure 14-31, Figure 14-32, and Figure 14-33, show swath plots for Ermitaño Core domain gold grades estimated by ID^2 and NN along with composite sample values along the x, y, and z axes.

Figure 14-31: Swath Plot in X across the Ermitaño Core Domain, Au Values



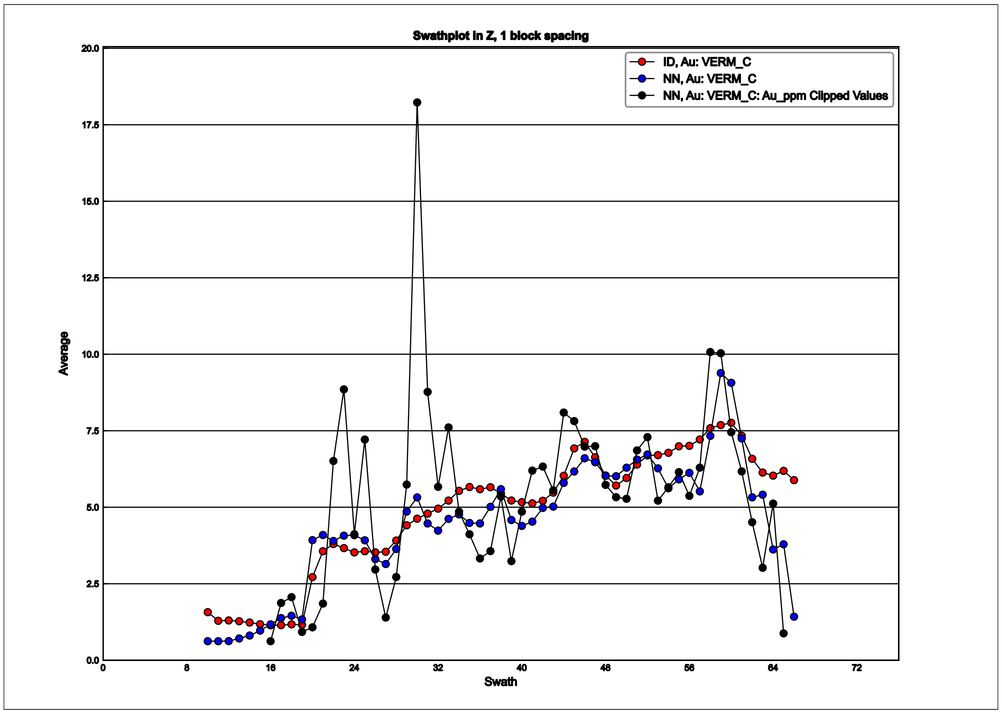
Note: Figure prepared by First Majestic, September 2021.

Figure 14-32: Swath Plot in Y across the Ermitaño Core Domain, Au Values



Note: Figure prepared by First Majestic, September 2021.

Figure 14-33: Swath Plot in Z across the Ermitaño Core Domain, Au Values



Note: Figure prepared by First Majestic, September 2021.

Overall, the validation demonstrates that the current resource estimates are a reasonable representation of the input sample data.

Since the June 30, 2021 cut-off date for sample data used in the Mineral Resource estimates, additional drilling and sampling from new mine developments has been completed and reviewed. This new data supports both the geological model and the mineral resource estimates. Overall, the validation supports that the current resource estimates are a reasonable representation of the input sample data.

14.4.13. Mineral Resource Classification

Block model Mineral Resource estimates were classified according to the 2014 "CIM Definition Standards for Mineral Resources & Mineral Reserves" using industry best practices as outlined in the 2019 "CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines". Best practices in the industry advise that the classification of resources should consider the resource geologist's confidence in the geological interpretation and model; confidence in the grade continuity for the mineralized domains; and the measure of sample support along with the quality of the sample data. Appropriate classification strategy integrates these concepts to delineate areas of similar confidence and risk.

At Ermitaño, the Mineral Resources were classified into Measured, Indicated or Inferred confidence categories based on the following factors:

- Confidence in the geological interpretation and models;
- Confidence in the continuity of metal grades;
- The sample support for the estimation and reliability of the sample data.

The method used to measure the sample support used for the Mineral Resource classification was the nominal drill hole spacing. The nominal drill hole spacing was produced by an estimation pass for each block in the model that used three composite samples with a maximum of one sample per drill hole, which requires three separate drill holes. The average distance for each block to the three closest drill holes was estimated, and then the nominal drill hole spacing was estimated by dividing the average distance to the drill holes by 0.7.

The blocks for all of the Ermitaño domains were flagged to be considered for the Indicated category if the nominal drill hole spacing was <40 m, and the block was within 20 m of composites on the edge of these zones (i.e. extrapolated to half of the drill spacing distance). For Measured categorization, zones were manually selected where blocks were flagged as Indicated category and had level development above and below as well as delineation diamond drilling. The delineation drilling was also required to be at a 15m nominal spacing with holes at the elevation of the levels and halfway between the levels.

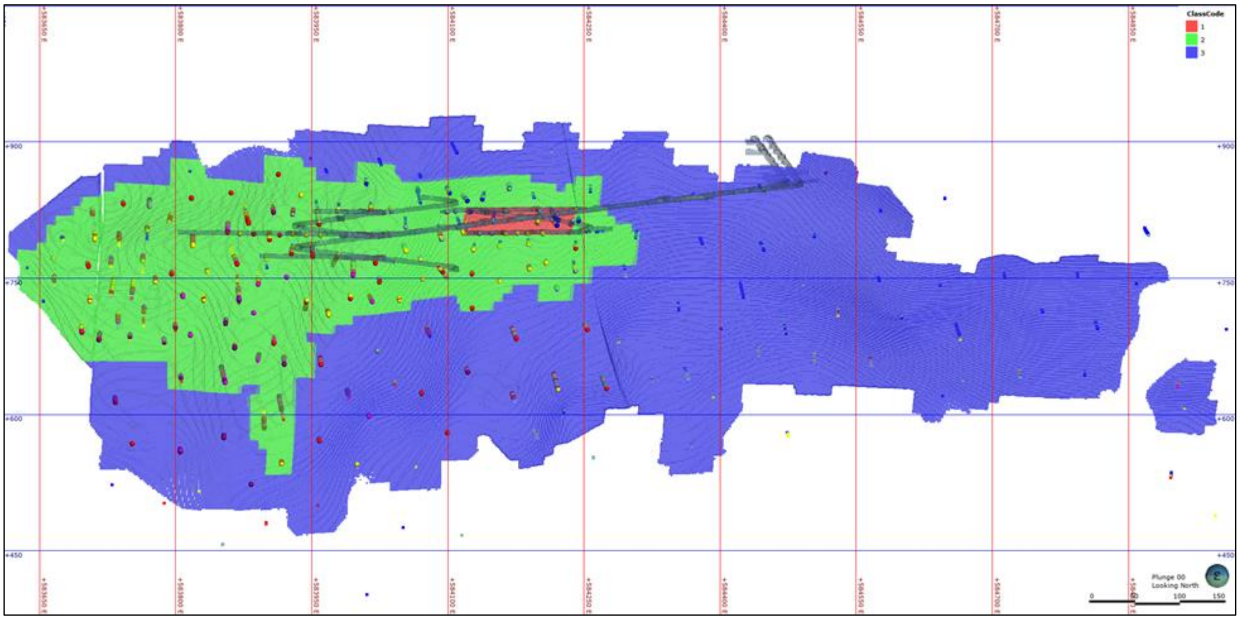
The blocks for all Ermitaño domains, except for Soledad and Soledad B, were flagged to be considered for the Inferred category if the nominal drill hole spacing was <70 m, and the block was within 35 m of composites on the edge of these zones. Soledad and Soledad B were flagged to be considered for the Inferred category if the nominal drill hole spacing was <80 m, and the block was within 40 m of composites on the edge of these zones.

Wireframes were constructed to encompass block model zones for Measured, Indicated, and Inferred categories. This process allowed for review of the geological confidence for the deposit together with drill hole support and expanded certain areas but excluded others from the classification. Blocks were finally assigned to a classification category by the respective wireframe if the centroid of the block fell inside the wireframe.

Figure 14-34 is a long section showing the Measured, Indicated, and Inferred Mineral Resource classification categories for the Ermitaño Vein resource domain.

Additional sample and underground mapping data collected since June 30, 2021 has been reviewed and supports the mineral resource classifications presented here.

Figure 14-34 Mineral Resource Categories – Ermitaño.



Note: Figure prepared by First Majestic, September 2021. Red= Measured, Green= Indicated, Blue= Inferred. Section looking north. Composite samples are displayed.

14.4.14. Reasonable Prospects for Eventual Economic Extraction

The Mineral Resource estimates were evaluated for reasonable prospects for eventual economic extraction by application of input parameters based on expected mining costs and metallurgical recoveries based on the preliminary metallurgical testwork conducted at the Central Laboratory. Economic parameters including operating costs, metallurgical recovery, metal prices and other parameters were used as follows:

Direct mining cost:	\$51.93/t;
G&A and indirect mining cost	\$18.49/t;
Sustaining cost	\$10.59/t;
Ag metallurgical recovery	72.0%;
Au metallurgical recovery	98.0%;
Ag payable	99.85%;
Au payable	99.80%;
Ag metal price	\$26/oz;
Au metal price	\$1,850/oz.

These economic parameters result in an Ag-Eq cut-off grade of 135 g/t. The Ag-Eq metal grades for the Mineral Resource estimates were calculated as follows:

Ag-Eq g/t = Ag g/t + (Au g/t * Au Factor);
Au Factor = Au Revenue / Ag Revenue;
Au Revenue = (Au Metal Price / 31.1035) x Au Recovery x Au Payable;
Ag Revenue = (Ag Metal Price / 31.1035) x Ag Recovery x Ag Payable.

Deswik Stope Optimizer software was used to identify the blocks that represent mineable volumes that exceed the cut-off value while complying with the aggregate of economic parameters. This process was undertaken for all domains. The tool allows blocks to be aggregated into the minimum stope dimensions and eliminate outliers that do not comply with these conditions.

14.5. Mineral Resource Estimate Statement

The QP for the Mineral Resource estimates at Santa Elena is Mr. Phillip Spurgeon, P. Geo., who is an employee of First Majestic.

The Mineral Resources estimated for the Santa Elena mine are reported assuming underground mining methods, and a cut-off grade of 95 g/t Ag-Eq, depending on the domain. The Mineral Resources on the heap leach pad are reported based on the reprocessing of previously partially heap leached material with a cut-off grade of 70 g/t Ag-Eq. The Mineral Resources for the Ermitaño project are reported assuming underground mining methods and a cut-off grade of 135 g/t Ag-Eq.

All Mineral Resources are reported using the 2014 CIM Definition Standards with an effective date of June 30, 2021.

The consolidated Measured and Indicated Mineral Resource Estimates for the Santa Elena Silver/Gold Mine are provided in Table 14-17 and Inferred Mineral Resource estimates are included in Table 14-18. Measured and Indicated Mineral Resources are reported inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

Table 14-17: Santa Elena Silver/Gold Mine Mineral Resource Estimates, Measured and Indicated Category (Effective date June 30, 2021)

Project	Domain	Category	Mineral Type	Tonnage	Grades			Metal Content		
				k tonnes	Ag (g/t)	Au (g/t)	Ag-Eq (g/t)	Ag (k Oz)	Au (k Oz)	Ag-Eq (k Oz)
Santa Elena	Main Vein	Measured	Sulphides	485	102	1.51	212	1,590	24	3,310
	Alejandras	Measured	Sulphides	225	233	2.55	420	1,690	19	3,040
	America	Measured	Sulphides	139	244	1.73	370	1,090	8	1,660
Ermitaño	Ermitaño	Measured	Sulphides	58	21	4.00	408	40	8	770
ALL	**Total Measured**		**Sulphides**	**907**	**151**	**1.96**	**300**	**4,410**	**57**	**8,780**
Santa Elena	Main Vein	Indicated	Sulphides	1,340	92	1.37	193	3,980	59	8,310
	Alejandra	Indicated	Sulphides	270	207	2.10	361	1,800	18	3,130
	Americas	Indicated	Sulphides	252	281	1.22	371	2,280	10	3,010
	Tortuga	Indicated	Sulphides	110	118	2.52	303	420	9	1,070
Heap Leach	Heap Leach Pad	Indicated	Oxides Spent Ore	283	31	0.56	66	280	5	600
Ermitaño	Ermitaño and N. Splay	Indicated	Sulphides	1,936	69	5.10	563	4,310	318	35,060
	Ermitaño Stockwork	Indicated	Sulphides	653	42	1.86	222	880	39	4,660
	Intermedias	Indicated	Sulphides	273	57	4.49	491	500	39	4,300
	Other Minor Veins	Indicated	Sulphides	39	17	1.85	199	20	2	250
ALL	**Total Indicated**		**All Mineral Types**	**5,157**	**87**	**3.01**	**364**	**14,470**	**499**	**60,390**
ALL	**Total Measured & Indicated**		**All Mineral Types**	**6,064**	**97**	**2.85**	**355**	**18,880**	**557**	**69,170**

Table 14-18: Santa Elena Silver/Gold Mine Mineral Resource Estimates, Inferred Category (Effective date June 30, 2021)

Project	Domain	Category	Mineral Type	Tonnage	Grades			Metal Content		
				k tonnes	Ag (g/t)	Au (g/t)	Ag-Eq (g/t)	Ag (k Oz)	Au (k Oz)	Ag-Eq (k Oz)
Santa Elena	Main Vein	Inferred	Sulphides	569	68	1.08	148	1,250	20	2,700
	Alejandras	Inferred	Sulphides	372	185	1.84	320	2,210	22	3,820
	America	Inferred	Sulphides	213	304	1.02	379	2,080	7	2,600
	Tortuga	Inferred	Sulphides	28	74	0.94	143	70	1	130
Ermitaño	Ermitaño and N. Splay	Inferred	Sulphides	2,837	55	2.82	328	5,060	257	29,950
	Ermitaño Stockwork	Inferred	Sulphides	660	53	1.77	224	1,120	38	4,760
	Intermedias	Inferred	Sulphides	465	74	3.44	407	1,110	51	6,090
	Other Minor Veins	Inferred	Sulphides	666	35	1.90	219	750	41	4,680
	Soledad	Inferred	Sulphides	444	176	3.73	538	2,520	53	7,670
ALL	**Total Inferred**		**Sulphides**	**6,254**	**80**	**2.43**	**310**	**16,170**	**490**	**62,400**

(1) Mineral Resource estimates are classified in accordance with the CIM Definition Standards on Mineral Resources and Mineral Reserves, whose definitions are incorporated by reference into NI 43-101.
(2) The Mineral Resource estimates are based on internal estimates prepared as of June 30, 2021. The information provided was reviewed and prepared by Phillip Spurgeon, P.Geo., a First Majestic employee.
(3) Silver-equivalent grade is estimated considering metal price assumptions, metallurgical recovery, and the metal payable terms.
Ag-Eq = Ag Grade + (Au Grade x Au Recovery x Au Payable x Au Price) / (Ag Recovery x Ag Payable x Ag Price).
(4) Metal prices used in the Mineral Resources estimates were $26.00/oz Ag and $1,850/oz Au.
(5) Metallurgical recovery was 92.7% for silver and 95.5% for gold for Santa Elena and the heap leach pad. For Ermitaño, the metallurgical recovery used was 72.0% for silver and 98.0% for gold.
(6) Metal payable used was 99.85% for silver and 99.80% gold.
(7) The cut-off grade used to constrain the Mineral Resource estimate was 95 g/t Ag-Eq for all Santa Elena mine domains and 70 g/t Ag-Eq for the heap leach pad. The cut-off grade used for the Ermitaño zone domains was 135 g/t Ag-Eq. The cut-offs used were based on actual and budgeted operating and sustaining costs.
(8) Tonnage is expressed in thousands of tonnes; metal content is expressed in thousands of ounces.
(9) Totals may not add up due to rounding.
(10) Measured and Indicated Mineral Resources are reported inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

14.6. Factors that May Affect the Mineral Resource Estimates

Factors that may materially impact the Mineral Resource estimates include:

- Metal price and exchange rate assumptions;
- Changes to the assumptions used to generate the silver-equivalent grade cut-off grade;
- Changes in local interpretations of mineralization geometry and continuity of mineralized zones;
- Changes to geological and mineralization shape and geological and grade continuity assumptions;
- Changes to geotechnical, mining, and metallurgical recovery assumptions;
- Assumptions as to the continued ability to access the site, retain mineral and surface rights titles, maintain environment and other regulatory permits, and maintain the social license to operate.
- The production channel sampling method has some risk of non-representative sampling that could result in poor accuracy locally. In addition, there is potential for the large number of channel samples to overwhelm samples from the drill holes in some areas. This is recognized and addressed during resource estimation by restricting the area of influence related to these samples to very short ranges.

14.7. Comment on Section 14

The QP is of the opinion that the Mineral Resource estimates for the Santa Elena mine and Ermitaño project were estimated using industry best practices and conform to the 2014 CIM Definition Standards for Mineral Resources. To the extent currently known, there are no environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other factors or risks that could materially affect the development of the mineral resources. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

15. MINERAL RESERVE ESTIMATES

This section summarizes the methods, assumptions, parameters, and modifying factors used by First Majestic in the preparation of the Mineral Reserve estimates for the Santa Elena mine.

The mine design and scheduling work supporting the compilation of the Mineral Reserve estimates was prepared by Claudio A. Villamizar, First Majestic's Director of Mine Engineering, Haydee B. Olvera Prado, First Majestic's Mine Engineering Manager, Entech Mining Ltd., and other staff members whose work was performed under the direct supervision of Mr. Ramón Mendoza Reyes, P.Eng., Mr. Mendoza Reyes is the QP responsible for these estimates.

15.1. Methodology

The Mineral Reserve estimation process consists of converting Measured and Indicated Mineral Resources to Proven and Probable Mineral Reserves by identifying material that exceeds the mining cut-off grades (COG) or cut-off values (COV), while conforming to specified geometrical constraints determined by the applicable mining method, then applying modifying factors such as mining dilution and mining recovery factors. Other factors considered for the conversion of Mineral Resources into Mineral Reserves included the review of the following:

- Status of the mining concessions and surface land agreements for access and operation;
- Environmental aspects and permits in place that enable mining and processing of the mineralized material;
- Condition and availavility of the existing infrastructure and logistics for supply, delivery and transportation of products and goods;
- Status of the selling contract(s) of the doré produced;
- Status of the social license and community relations that enable the continuity of the operation;
- Assessment of the relations with local and state governments in support of the continuity of the operation.

If the Measured and Indicated Mineral Resources comply with the previous constraints and criteria, Measured Mineral Resources could be converted to Proven Mineral Reserves and Mineral Indicated Resources could be converted to Probable Mineral Reserves In some instances, Measured Mineral Resources could be converted to Probable Mineral Reserves, if any of the modifying factors reduced the confidence of the estimates.

The conversion of Measured and Indicated Mineral Resources to Proven and Probable Mineral Reserves estimates involves the following procedures:

- Selection of a viable mining method for each geological domain, considering geometry of the deposit, geotechnical and geohydrological conditions, metal grade distribution as observed during the examination of the block model and other mine design criteria;

- Review metal price assumptions approved by First Majestic's management for Mineral Resource and Mineral Reserve estimates to be considered reasonable and following the "2020 CIM Guidance on Commodity Pricing and Other Issues related to Mineral Resource and Mineral Reserve Estimation and Reporting";
- Calculate Ag-Eq cut-off grades (COG), NSR and cut-off values (COV), based on the assumed metal price guidance, assumed cost data, metallurgical recoveries, and smelting and refining terms as per the selling contracts;
- Prepare the block models by adding Ag-Eq and NSR fields, which is used during stope optimization and ensure Inferred Mineral Resources will not be considered in the Mineral Reserves constraining process;
- Compile relevant mine design parameters such as stope dimensions, minimum mining widths and pillar dimensions;
- Compile modifying factors such as dilution from blasting overbreak, poor geotechnical conditions, mining of backfill that is sent to processing, as well as mining loss factors benchmarked from actual surveys and underground observations;
- Outline potentially-mineable shapes from the block model based on Measured and Indicated Mineral Resources that exceed the COG or COV (cut-offs or the cut-offs);
- Screen potentially-mineable shapes using stope optimization mining software to account for vein widths, minimum mining widths, dilution assumptions and economic factors;
- Refine potentially-mineable shapes by removing permanent sill and rib pillars, and removing areas identified as inaccessible due to geotechnical or stability conditions;
- Design mine development and mine infrastructure required to access the potentially-mineable shapes;
- Carry out an economic analysis for groups of potentially-mineable shapes, such as sublevels or contiguous groups of shapes, removing areas isolated from contiguous mining areas if the cost of development to reach those areas exceeds the expected revenue;
- Set the mining sequence and define the production rates for each relevant area for the production schedule;
- Estimate capital and operating costs required to extract this material and produce a saleable product;
- Estimate expected revenue after considering the assumed metallurgical recoveries, processing costs, indirect and sustaining costs, and discounting selling costs;
- Validate the economic viability of the overall plan with a discounted cash flow model;

Once these steps were completed and a positive cash flow was determined, the Mineral Reserve statement was prepared.

15.2. Cut-off Grade, NSR and Cut-off Value

Cut-offs are used to segregate material from Measured and Indicated Mineral Resources by whether revenue generated exceeds the costs of extraction and processing for a block. Three types of cut-offs were used for each mining method: Fully Costed, Incremental, and Marginal. This allowed the operation to accurately assess the economic value of material and the ability to maximise the extraction of such economic material.

The fully costed cut-off represents the calculated value that mineralized material must meet to cover all related operating and sustaining costs of extraction and processing.

The incremental cut-off can be used when the operation has previously invested in development and access infrastructure and no further investment in development is required to access the material on existing designs. At this stage the cut-off can exclude the costs of development and partially exclude the costs of sustaining capital. The incremental cut-off would only require that the revenue from the material above cut-off grade exceed the costs of the incremental surface handling, processing, general and administrative (G&A) and mining costs, as well as a partial allocation of the sustaining capital.

The marginal cut-off can be used when the operation has committed to mining and treatment of mineralized material and this process will not generate additional mining costs. At this stage the cut-off can exclude all mining costs, as these costs will occur whether the material is treated as ore or waste, and only includes the costs of haulage, incremental processing and (G&A) costs. Due to the significant difference in haulage costs of waste and mineralized material, this cannot be excluded from the marginal cut-off.

The cost components considered for each cut-off are provided in Table 15-1.

Table 15-1: Cut-Off Grade Cost Components

Cut-Off Grade Components	Processing	Haulage	Admin	Treatment	Stoping	Development	Sustaining Capital
Fully Costed	Y	Y	Y	Y	Y	Y	Y[1]
Incremental	Y	Y	Y[2]	Y	Y	-	-
Marginal	Y	Y	Y[2]	-	-	-	-

[1] High-level assessments only. [2] If material adds to mine life

15.2.1. Santa Elena

The COG at Santa Elena was applied to the Ag-Eq grade which is a quantitative expression of the silver and gold grades of the mineralized material, and is calculated using the following equation:

$$Ag\text{-}Eq = Ag + Au \times \left(\frac{Au_{Rec.} \times Au_{Pay.} \times Au_{Price}}{Ag_{Rec.} \times Ag_{Pay.} \times Ag_{Price}}\right)$$

Ag-Eq - Silver Equivalent Grade (grams per tonne)
Ag - Silver Grade (grams per tonne)
Au - Gold Grade (grams per tonne)
$Ag_{Rec.}$ - Metallurgical Recovery of Silver (%)
$Ag_{Pay.}$ - Amount of Silver Payable by Refineries (%)
Ag_{Price} - Metal price of Silver ($/unit)
$Au_{Rec.}$ - Metallurgical Recovery of Gold (%)
$Au_{Pay.}$ - Amount of Gold Payable by Refineries (%)
Au_{Price} - Metal price of Gold ($/unit)

The Ag-Eq grade was calculated into the block model and used to assess mining activities in the plan. There are two metal price cases assumed for calculating the Ag-Eq at Santa Elena, the General and the Incremental metal price cases. The General metal price, that considers the streaming, was used to calculate the revenue for material against the Fully Costed COG for the mine plan, while the Incremental metal price case was used to assess material against the Incremental COG in the mine plan.

The Ag-Eq calculation parameters for Santa Elena mine can be seen in Table 15-2, for both the General and Incremental metal price cases.

Table 15-2: Silver Equivalent Calculation Parameters for Santa Elena Mine

Input	**Unit**	**Silver**	**Gold**
Metal Price – Fully Costed	$ / oz	24.00	1,454
Metal Price – Incremental	$ / oz	24.00	1,700
Processing Recovery	%	92.7	95.5
Payable Metal	%	99.85	99.80
Royalties	%	0	0
Transportation, Loading, Insurance	$ / oz Dore	0.05	0.05
Refining and Selling Expense	$ / oz	0.24	0.75
Ag Equivalent Ratio – Fully Costed	Ag-Eq g	1	62.40
Ag Equivalent Ratio – Incremental	Ag-Eq g	1	72.95
Value – Fully Costed	$ / g Ag	0.71	44.55
Value – Incremental	$ / g	0.71	52.07

The average all-in-sustaining mining cost estimated for the Santa Elena mine was approximately $96/t, which includes sustaining development and sustaining capital. This estimate was based on actual costs from 2019 through Q2-2021 for each of the mining methods. The cost components and summary unit costs for the various COGs for the Santa Elena mine are shown in Table 15-3.

Table 15-3: Cost Estimates for Cut-Off Grade calculation in Santa Elena Mine

Costs	**Unit**	**Longhole - Wide**	**Longhole - Narrow**	**Cut & Fill - Wide**	**Cut & Fill - Narrow**
Surface Haulage [1]	$ / t ore	0	0	0	0
Direct Milling	$ / t ore	21.39	21.39	21.39	21.39
Indirect Mining and G&A	$ / t ore	22.40	22.40	22.40	22.40
Marginal Cost [2]	**$ / t ore**	**43.79**	**43.79**	**43.79**	**43.79**
Direct Mining	$ / t ore	21.11	30.1	25.32	24.61
Sustaining Cost – Partial Allocation	$ / t ore	9.06	2.85	2.85	2.85
Incremental Cost [3]	**$ / t ore**	**73.96**	**76.74**	**71.96**	**71.25**
Development	$ / t ore	7.04	10.04	8.44	8.21
Indirect Milling	$ / t ore	7.92	7.92	7.92	7.92
Sustaining Cost – Full Allocation	$ / t ore	6.06	12.27	12.27	12.27
Fully Costed	**$ / t ore**	**94.98**	**106.97**	**100.59**	**99.65**

1 Surface haulage costs for Santa Elena are included in the mining costs.
2 Marginal mining costs do not carry stoping or sustaining costs.
3 Incremental mining costs do not carry sustaining costs.

The various COGs assumed in the Mineral Reserves estimation process for each of the applicable mining methods used in the Santa Elena mine are shown in Table 15-4.

Table 15-4: Cut-Off Grades by Mining Method for Santa Elena Deposits.

Cut-Off Grade[1]	**Unit**	**Longhole - Wide**	**Longhole - Narrow**	**Cut & Fill - Wide**	**Cut & Fill - Narrow**
Cut-Off Grade: Marginal	Ag-Eq g/t	60	60	60	60
Cut-Off Grade: Incremental	Ag-Eq g/t	105	110	100	100
Cut-Off Grade: Fully Costed	Ag-Eq g/t	135	150	145	140

1 Cut-off Grade of the diluted mining shape required for economic extraction of the material.

15.2.2. Ermitaño

A Net Smelter Return (NSR) was used for Ermitaño. NSR is a quantitative expression of the net revenue obtained from the realized revenue from gold and silver contents in the mineralized material. The gold and silver NSR calculations used to estimate the value of mineralisation are summarised in Table 15-5.

Table 15-5: Net Smelter Return Calculation Parameters for Ermitaño

Input	Unit	Silver	Gold
Metal Price	$ / oz	24.00	1,700
Processing Recovery	%	66.0	94.5
Payable Metal	%	99.85	99.8
Royalties	%	4.0	4.0
Transportation, Loading, Insurance	$ / oz Dore	0.05	0.05
Refining and Selling Expense	$ / oz	0.24	0.75
NSR Factor	**$ / g NSR**	**0.48**	**49.46**

The cost components that inform the COVs, for each of the cut-off criteria (fully costed, incremental, and marginal) are summarised in Table 15-6, and the COV for Ermitano is shown in Table 15-7.

Table 15-6: Cost Estimates for Cut-Off Value estimation for Santa Elena

Costs	Unit	Avoca
Surface Haulage	$ / t ore	2.50
Direct Milling	$ / t ore	27.81
Indirect Mining and G&A	$ / t ore	18.49
Marginal Cost	**$ / t ore**	**48.80**
Direct Mining	$ / t ore	28.03
Sustaining Cost – Partial Allocation	$ / t ore	10.59
Incremental Cost	**$ / t ore**	**87.43**
Development	$ / t ore	7.04
Indirect Milling	$ / t ore	10.29
Sustaining Cost – Full Allocation	$ / t ore	7.60
Fully Costed	**$ / t ore**	**112.36**

Table 15-7: Cut-Off Value estimate for Ermitaño

Cut-Off Value[1]	Unit	Avoca
Cut-Off Value: Fully Costed	$ / t NSR	110
Cut-Off Value: Incremental	$ / t NSR	85
Cut-Off Value: Marginal	$ / t NSR	50

1 Cut-off Value of the diluted mining shape required for economic extraction of the material.

The average all-in-sustaining mining cost assumed for the Ermitaño mine is $109.60/t, which includes sustaining development and sustaining capital.

15.3. Modifying Factors, Dilution, and Mining Loss

Modifying factors are used to account for the combination of dilution and recovery that affects the material quality and quantity of a mining operation. Dilution is waste material that enters the material movement stream and often has two negative impacts:

- Increased cost (mining, processing, treatment and increasing the storage of tailings); and,
- Increased mined material loss (through processing and impact on mining recoveries).

There are multiple sources of dilution, which can be grouped in the following two categories:

- Planned dilution; and,
- Unplanned dilution.

Planned dilution is additional waste that is deliberately mined concurrently with the target mineralised material, allowing the mineralised material to be fully recovered albeit at an overall lower grade.

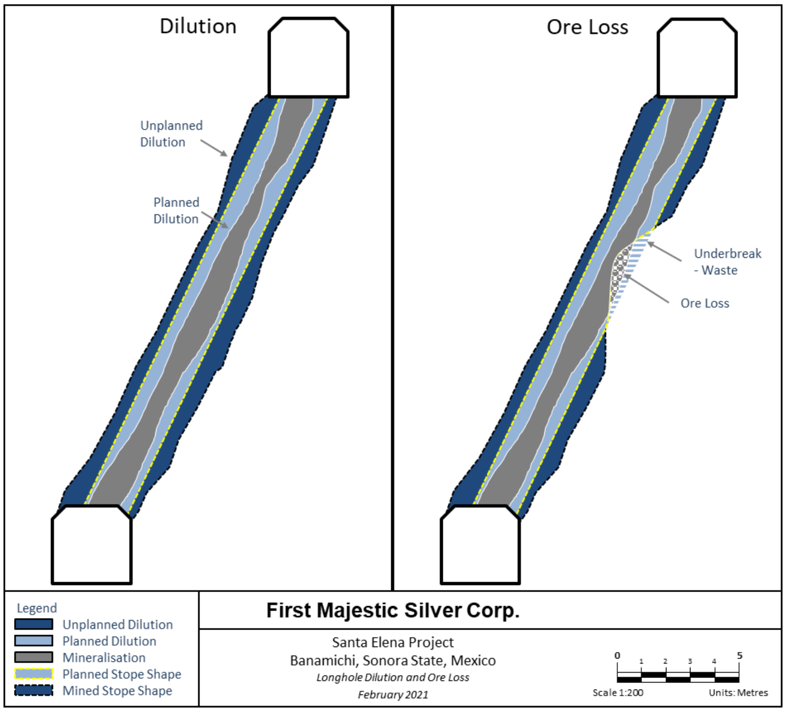
Unplanned dilution is waste material that unintentionally finds its way into the plant-feed during extraction and can be from a variety of sources including:

- Over-break during mining;
- Backfill dilution from adjacent stopes;
- Mucking of waste material (or backfill or road base material) during the mucking of mineralised material;
- Misrouting and dumping of waste material on the plant-feed stockpile; and,
- Misrouting and dumping of waste in ore locations (stockpiles, ore-passes) leading to a mixing of mineralised material and waste rock.

Mining loss has a significant impact on the mining business, with a reduction of revenue through the loss of mineralised material. Mining loss can occur in a variety of different ways such as improper classification of ore vs. waste, poor blasting, poor recovery of blasted muck, and weak ground conditions impacting on the access to the mineralised material, among others. Mining loss was considered as an allowance for a reduction in production and revenue.

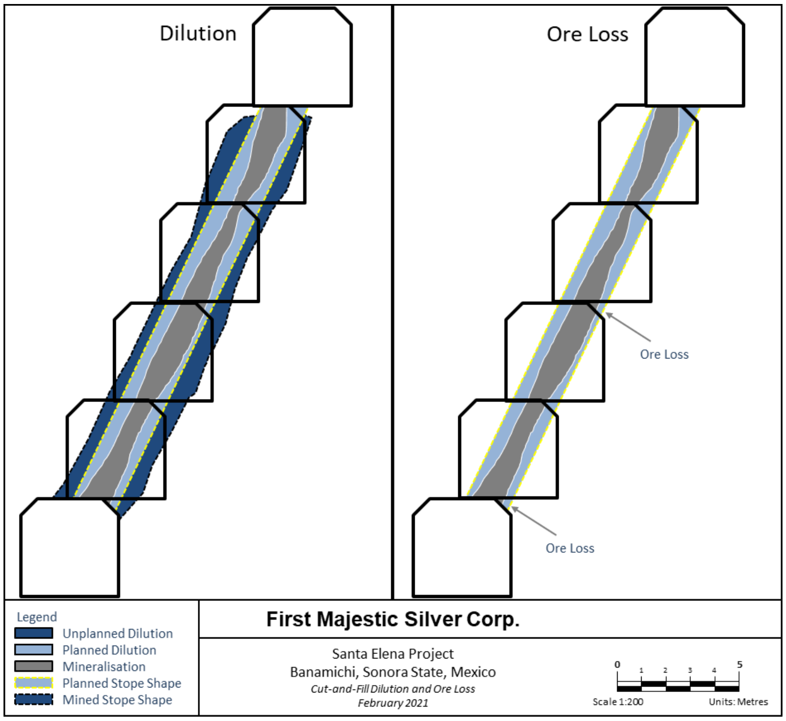
An example of dilution and underbreak, which impacts mining loss, due to blasting performance is illustrated in Figure 15-1 and in Figure 15-2. Underbreak in waste is an economic benefit; however, it also reflects that the operation is not achieving the target mining shape.

Figure 15-1: Dilution and Mining Loss - Longhole and Avoca



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Figure 15-2: Dilution and Mining Loss - Cut-and-fill



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

15.3.1. Santa Elena

Table 15-8 summarises the unplanned dilution and mining loss by mining method and equipment for Santa Elena.

Table 15-8: Dilution and Mining Loss Modifying Factors for Santa Elena mine

Mining Method	Equipment	ELOS[1] (m)	Unplanned Dilution[2] (%)	Mining Loss (%)
Development	Jumbo	0.4	10	5
Development	Jackleg	0.4	9	5
Cut-and-Fill	Jumbo	0.4	10	5
Cut-and-Fill	Jackleg	0.4	9	5
Avoca	Longhole	0.4	10	5
Longhole Stoping	Longhole	0.4	10	5

[1] Equivalent Linear Overbreak Sloughing – Sum of Footwall and Hanging wall Dilution, accounted for in the mineable shapes

[2] Inclusive of mining and fill dilution, outside of hangingwall and footwall dilution.

15.3.2. Ermitaño

Table 15-9 summarises the unplanned dilution and mining loss by mining method and characteristics of adjacent stopes for Ermitaño.

Table 15-9: Dilution and Mining Loss Modifying Factors for Ermitaño mine

Mining Method	Far Wall (Contact)	Floor (Contact)	Back (Contact)	ELOS[1] (m)	Fill Dilution (%)	Mining Loss (%)
Avoca	CRF	Solid Rock	Solid Rock	1.0	3	5
Avoca	RF	CRF	Solid Rock	1.0	3	7
Avoca	RF	RF	Solid Rock	1.0	9	7
Avoca	RF	Solid Rock	Solid Rock	1.0	3	5
Longhole with Pillars	Solid Rock	RF	Solid Rock	1.0	3	28 [2]
Longhole with Pillars	Solid Rock	RF	CRF	1.0	6	28 [2]

[1] Equivalent Linear Overbreak Sloughing – Sum of Footwall and Hanging wall Dilution, accounted for in the mineable shapes

[2] Mining loss in Longhole with Pillars mining method includes rib pillars used for stope stability

15.4. Potentially-Mineable Shapes

The mine planning software used for identifying potentially-mineable shapes is Mineable Shape Optimizer (MSO). MSO is used to discretize the mineralized regions by generating stope shapes following the assigned mining method geometry and the geological domains for material that exceeds the cut-offs.

Stope shapes were generated with MSO after defining the properties for the stopes including the general shape and orientation, cut-off, minimum pillar between adjacent stopes, minimum mining width, dilution, and mining limits.

The next step consisted of introducing the remainder of the modifying mining factors into the model, which are used to estimate diluted grades by adding external dilution assumptions and the mining loss factor.

Mineable zones were first identified by the general cut-off and classification criteria. MSO was then used to create shapes that are diluted to the minimum mining width. Stopes shapes that met the cut-off criteria were then considered for mine planning purposes. A second pass was carried out to identify adjacent shapes in each mineralized domain that met the incremental cut-off grade.

The stope design methodology is further discussed in Sections 16.1.4.1, 16.1.4.2 and 16.1.4.3 for Santa Elena or Sections 16.2.4.1, 16.2.4.2 and 16.2.4.3 for Ermitaño.

15.5. Mineral Reserve Estimate

Mineral Reserve estimates were based on modifying mining factors gathered from actual operations data as well as from estimates that followed industry best practices.

Modifying factors for mining were applied to the Measured and Indicated Mineral Resources, considered suitable for conversion to Mineral Reserves, using a stope-by-stope evaluation. To convert from Mineral Resources to Mineral Reserves, the resource blocks were interrogated by applying economic criteria as well as geometric constraints based on the mining method envisioned. Mineable blocks or stopes were defined by following this process.

The consolidated Mineral Reserve estimates are provided in Table 15-13 for the Santa Elena Silver/Gold Mine, which includes material to be extracted from the underground mines at Santa Elena and Ermitaño, as well as material from the heap-leach pad to be reprocessed.

15.5.1. Santa Elena Deposits

The Mineral Reserves estimates for Santa Elena deposits are summarised in Table 15-10.

Table 15-10: Santa Elena Deposits Mineral Reserves Estimates (Effective Date June 30, 2021)

Category	Mineral Type	Tonnage (kt)	Grade			Metal Content		
			Ag (g/t)	Au (g/t)	Ag-Eq (g/t)	Ag (k Oz)	Au (k Oz)	Ag-Eq (k Oz)
Proven Main Vein (UG)	Sulphides	202	86	1.30	181	560	8.4	1,170
Proven Alejandras (UG)	Sulphides	266	132	1.38	233	1,130	11.8	2,000
Proven America (UG)	Sulphides	172	140	0.95	209	780	5.2	1,160
Total Proven	**Oxides + Sulphides**	**640**	**120**	**1.24**	**210**	**2,470**	**25.4**	**4,330**
Probable Main Vein (UG)	Sulphides	607	84	1.34	182	1,630	26.2	3,550
Probable Alejandras (UG)	Sulphides	268	129	1.20	217	1,120	10.3	1,870
Probable America (UG)	Sulphides	305	195	0.75	250	1,910	7.4	2,450
Probable Tortuga (UG)	Sulphides	110	87	2.07	239	310	7.3	840
Total Probable	**Oxides + Sulphides**	**1,289**	**120**	**1.24**	**210**	**4,970**	**51.2**	**8,710**
P&P Main Vein (UG)	Sulphides	808	84	1.33	182	2,190	34.6	4,720
P&P Alejandras (UG)	Sulphides	534	131	1.29	225	2,240	22.1	3,870
P&P America (UG)	Sulphides	477	175	0.82	235	2,680	12.6	3,600
P&P Tortuga (UG)	Sulphides	110	87	2.07	239	310	7.3	840
Total Proven & Probable	**Oxides + Sulphides**	**1,929**	**120**	**1.24**	**210**	**7,420**	**76.6**	**13,030**

(1) Mineral Reserves have been classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards on Mineral Resources and Mineral Reserves, whose definitions are incorporated by reference into NI 43-101.

(2) The Mineral Reserves statement provided in the table above is based on internal estimates prepared as of June 30, 2021. The information provided was prepared and reviewed under the supervision of Ramon Mendoza Reyes, PEng, and a Qualified Person ("QP") for the purposes of NI 43-101.

(3) Silver-equivalent grade (Ag-Eq) is estimated considering metal price assumptions, metallurgical recovery for the corresponding mineral type/mineral process and the metal payable of the selling contract.

a) The Ag-Eq grade formula used was:

*Ag-Eq Grade = Ag Grade + Au Grade * (Au Recovery * Au Payable * Au Price) / (Ag Recovery * Ag Payable * Ag Price).*

b) Metal prices considered for Mineral Reserves estimates were $24.00 /oz Ag and $1,700.00 /oz Au.

c) Other key assumptions and parameters include: Metallurgical recoveries of 92.70% for silver, 95.50% for gold; metal payable of 99.85% for silver and 99.80% for gold; direct mining and haulage costs of $32.06-46.11 /t ore (dependent on mining method), mill feed, process and treatment costs of $29.31 /t mill feed, sustaining costs of $15.12 /t mill feed and indirect costs including general and administration of $18.49 /t mill feed.

(4) A two-step constraining approach has been implemented to estimate reserves for each mining method in use: A General Cut-Off Grade (GC) was used to delimit new mining areas that will require development of access, infrastructure, and all sustaining costs. A second Incremental Cut-Off Grade (IC) was considered to include adjacent mineralized material which recoverable value pays for all associated costs, including but not limited to the variable cost of mining and processing, indirect costs, treatment, administration costs and plant sustaining costs but excludes the access development assumed to be covered by the block above the GC grade.

(5) Modifying factors for conversion of resources to reserves include consideration for planned dilution due to geometric aspects of the designed stopes and economic zones, and additional dilution consideration due to unplanned events, materials handling and other operating aspects. Mineable shapes were used as geometric constraints.

(6) Tonnage is expressed in thousands of tonnes; metal content is expressed in thousands of ounces. Metal prices and costs expressed in USD.

(7) Numbers have been rounded as required by reporting guidelines. Totals may not sum due to rounding.

15.5.2. Ermitaño Project

The Mineral Reserves estimates for the Ermitaño underground mine project are summarised in Table 15-11.

Table 15-11: Ermitaño Underground Mine Project Mineral Reserves Estimates (Effective Date June 30, 2021)

Category	Mineral Type	Tonnage (kt)	Grade			Metal Content		
			Ag (g/t)	Au (g/t)	Ag-Eq (g/t)	Ag (k Oz)	Au (k Oz)	Ag-Eq (k Oz)
Total Proven	Sulphides	59	16	3.11	314	30	5.9	600
Total Probable	Sulphides	2,775	54	3.71	412	4,850	330.9	36,750
Total Proven & Probable	**Sulphides**	**2,834**	**54**	**3.69**	**410**	**4,880**	**336.8**	**37,350**

(1) Mineral Reserves have been classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards on Mineral Resources and Mineral Reserves, whose definitions are incorporated by reference into NI 43-101.

(2) The Mineral Reserves statement provided in the table above is based on internal estimates prepared as of June 30, 2021. The information provided was prepared and reviewed under the supervision of Ramon Mendoza Reyes, PEng, and a Qualified Person ("QP") for the purposes of NI 43-101.

(3) Net Smelter Return (NSR) is estimated considering metal price assumptions, metallurgical recovery for the corresponding mineral type/mineral process and the metal payable of the selling contract.

a) The NSR grade formula used was:

*NSR Grade = Ag Grade * 0.481 + Au Grade *49.462.*

b) Metal prices considered for Mineral Reserves estimates were $24.00 /oz Ag and $1,700.00 /oz Au.

c) Other key assumptions and parameters include: Metallurgical recoveries of 66.00% for silver, 94.50% for gold; metal payable of 99.85% for silver and 99.80% for gold; royalties of 4% for silver and gold; direct mining and haulage costs of $37.57 /t ore, mill feed, process and treatment costs of $38.10 /t mill feed, sustaining costs of $18.19 /t mill feed and general and administration (indirect costs) of $18.49 /t mill feed.

(4) A two-step constraining approach has been implemented to estimate reserves for each mining method in use: A General Cut-Off Grade (GC) was used to delimit new mining areas that will require development of access, infrastructure, and all sustaining costs. A second Incremental Cut-Off Grade (IC) was considered to include adjacent mineralized material which recoverable value pays for all associated costs, including but not limited to the variable cost of mining and processing, indirect costs, treatment, administration costs and plant sustaining costs but excludes the access development assumed to be covered by the block above the GC grade.

(5) Modifying factors for conversion of resources to reserves include consideration for planned dilution due to geometric aspects of the designed stopes and economic zones, and additional dilution consideration due to unplanned events, materials handling and other operating aspects. Mineable shapes were used as geometric constraints.

(6) Tonnage is expressed in thousands of tonnes; metal content is expressed in thousands of ounces. Metal prices and costs expressed in USD.

(7) Numbers have been rounded as required by reporting guidelines. Totals may not sum due to rounding.

15.5.3. Leach Pad Material

Based on topographic survey and reconciliation with production data, approximately 283 kt of previously processed material remains on the leach pad as of June 30, 2021.

The parameters used to test the economic merit for the heap-leach pad material to be reprocessed are:

• Haulage Cost:	$1.26 /t;
• Processing Cost:	$38.32 /t
• Sustaining cost	$1.35 /t;
• Ag metallurgical recovery	92.0%;
• Au metallurgical recovery	95.0%;
• Ag payable	99.85%;
• Au payable	99.80%;
• Ag metal price	$US 24.00 /oz;
• Au metal price	$US 1,700 /oz.

These parameters result in an Ag-Eq cut-off grade of 58 g/t.

The average grade for the heap-leach pad material is above cut-off grade, therefore all of the material remaining on the pad is classified as Mineral Reserves.

Table 15-12: Leach Pad Mineral Reserves Estimates (Effective Date June 30, 2021)

Category	Mineral Type	Tonnage (kt)	Grade			Metal Content		
			Ag (g/t)	Au (g/t)	Ag-Eq (g/t)	Ag (k Oz)	Au (k Oz)	Ag-Eq (k Oz)
Total Proven	Oxides Spent Ore	-	-	-	-	-	-	-
Total Probable	Oxides Spent Ore	283	31	0.56	72	280	5.1	650
Total Proven & Probable	**Oxides Spent Ore**	**283**	**31**	**0.56**	**72**	**280**	**5.1**	**650**

(1) Mineral Reserves have been classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards on Mineral Resources and Mineral Reserves, whose definitions are incorporated by reference into NI 43-101.

(2) The Mineral Reserves statement provided in the table above is based on internal estimates prepared as of June 30, 2021. The information provided was prepared and reviewed under the supervision of Ramon Mendoza Reyes, PEng, and a Qualified Person ("QP") for the purposes of NI 43-101.

(3) Silver-equivalent grade (Ag-Eq) is estimated considering metal price assumptions, metallurgical recovery for the corresponding mineral type/mineral process and the metal payable of the selling contract.

a) The Ag-Eq grade formula used was:

*Ag-Eq Grade = Ag Grade + Au Grade * (Au Recovery * Au Payable * Au Price) / (Ag Recovery * Ag Payable * Ag Price).*

b) Metal prices considered for Mineral Reserves estimates were $24.00/oz Ag and $1,700.00/oz Au.

c) Other key assumptions and parameters include: Metallurgical recoveries of 92.0% for silver, 95.0% for gold; metal payable of 99.85% for silver and 99.80% for gold; direct mining and haulage costs of $1.26 /t ore, mill feed, process and treatment costs of $38.32 /t mill feed and sustaining costs of $1.35 /t mill feed.

(5) Tonnage is expressed in thousands of tonnes, metal content is expressed in thousands of ounces. Metal prices and costs expressed in USD.

(6) Numbers have been rounded as required by reporting guidelines. Totals may not sum due to rounding.

15.6. Santa Elena Silver/Gold Mine Mineral Reserves Statement

The consolidated Mineral Reserves Statement for the Santa Elena Silver/Gold Mine is shown in Table 15-13.

Table 15-13: Santa Elena Silver/Gold Mine Mineral Reserves Statement (Effective Date June 30, 2021)

Category	**Mineral Type**	**Tonnage (kt)**	**Grade**			**Metal Content**		
			Ag (g/t)	**Au (g/t)**	**Ag-Eq (g/t)**	**Ag (k Oz)**	**Au (k Oz)**	**Ag-Eq (k Oz)**
Santa Elena Proven	Oxides + Sulphides	640	120	1.23	210	2,460	25.4	4,330
Ermitaño Proven	Sulphides	59	16	3.11	314	30	5.9	600
Total Proven	**Oxides + Sulphides**	**699**	**111**	**1.39**	**219**	**2,490**	**31.3**	**4,930**
Santa Elena Probable	Oxides + Sulphides	1,289	120	1.24	210	4,960	51.2	8,710
Ermitaño Probable	Sulphides	2,775	54	3.71	412	4,850	330.9	36,750
Leach Pad Probable	Oxides Spent Ore	283	31	0.56	72	280	5.1	650
Total Probable	**Oxides + Sulphides**	**4,347**	**72**	**2.77**	**330**	**10,090**	**387.2**	**46,110**
Santa Elena P&P	Oxides + Sulphides	1,929	120	1.24	210	7,420	76.6	13,030
Ermitaño P&P	Sulphides	2,835	54	3.69	410	4,880	336.7	37,340
Leach Pad P&P	Oxides Spent Ore	283	31	0.56	72	280	5.1	650
Total Proven & Probable	**Oxides + Sulphides**	**5,047**	**78**	**2.58**	**314**	**12,580**	**418.4**	**51,020**

(1) Mineral Reserves have been classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Definition Standards on Mineral Resources and Mineral Reserves, whose definitions are incorporated by reference into NI 43-101.

(2) The Mineral Reserves statement provided in the table above is based on internal estimates prepared as of June 30, 2021. The information provided was prepared and reviewed under the supervision of Ramon Mendoza Reyes, PEng, and a Qualified Person ("QP") for the purposes of NI 43-101.

(3) The cut-offs were estimated considering metal price assumptions, metallurgical recovery for the corresponding mineral type/mineral process and the metal payable of the selling contract.

a) Silver-equivalent grades were estimated for Santa Elena underground mine and the Leach Pad material.

b) Cut-off value was estimated for the Ermitaño project material.

c) Metal prices considered for Mineral Reserves estimates were $24.00 /oz Ag and $1,700.00 /oz Au.

d) Other key assumptions and parameters include: Metallurgical recoveries; metal payable for silver and gold; direct mining and haulage costs, mill feed, process and treatment costs, sustaining costs and indirect costs including general and administration costs and are different for each deposit as described in tables 15-10, 15-11 and 15-12 above.

(4) A two-step constraining approach has been implemented to estimate reserves for each mining method in use: A General Cut-Off Grade (GC) was used to delimit new mining areas that will require development of access, infrastructure, and all sustaining costs. A second Incremental Cut-Off Grade (IC) was considered to include adjacent mineralized material which recoverable value pays for all associated costs, including but not limited to the variable cost of mining and processing, indirect costs, treatment, administration costs and plant sustaining costs but excludes the access development assumed to be covered by the block above the GC grade.

(5) Modifying factors for conversion of resources to reserves include consideration for planned dilution due to geometric aspects of the designed stopes and economic zones, and additional dilution consideration due to unplanned events, materials handling and other operating aspects. Mineable shapes were used as geometric constraints.

(6) Tonnage is expressed in thousands of tonnes; metal content is expressed in thousands of ounces. Metal prices and costs expressed in USD.

(7) Numbers have been rounded as required by reporting guidelines. Totals may not sum due to rounding.

Factors which may materially affect the Mineral Reserve estimates for the Santa Elena mine include fluctuations in commodity prices and exchange rates assumptions used; higher than anticipated geological variability; material changes in the underground stability due to geotechnical conditions that may increase unplanned dilution and mining loss; unexpected increase in groundwater inflows into the mine workings beyond the ones considered in the geohydrological models; unexpected variations in equipment productivity; material reduction of the capacity to process the mineralized material at the planned throughput and unexpected reduction of the metallurgical recoveries; cost escalation due to external factors; changes in the taxation considerations; the ability to maintain constant access to all working areas; changes to the assumed permitting and regulatory environment under which the mine plan was developed; the ability to maintain mining concessions and/or surface rights; the ability to renew agreements with the different surface owners in Santa Elena; and the ability to obtain and maintain social and environmental license to operate.

The Company is not aware of any known mining, metallurgical, environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the mineral reserve estimates, other than those mentioned in this Report.

15.7. Comment on Section 15

The QP is of the opinion that the Mineral Reserves estimates for the Santa Elena mine and Ermitaño project were estimated using industry best practices and conform to the 2014 CIM Definition Standards for Mineral Reserves. To the extent currently known, there are no environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other factors or risks that could materially affect the development of the mineral reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

16. MINING METHODS

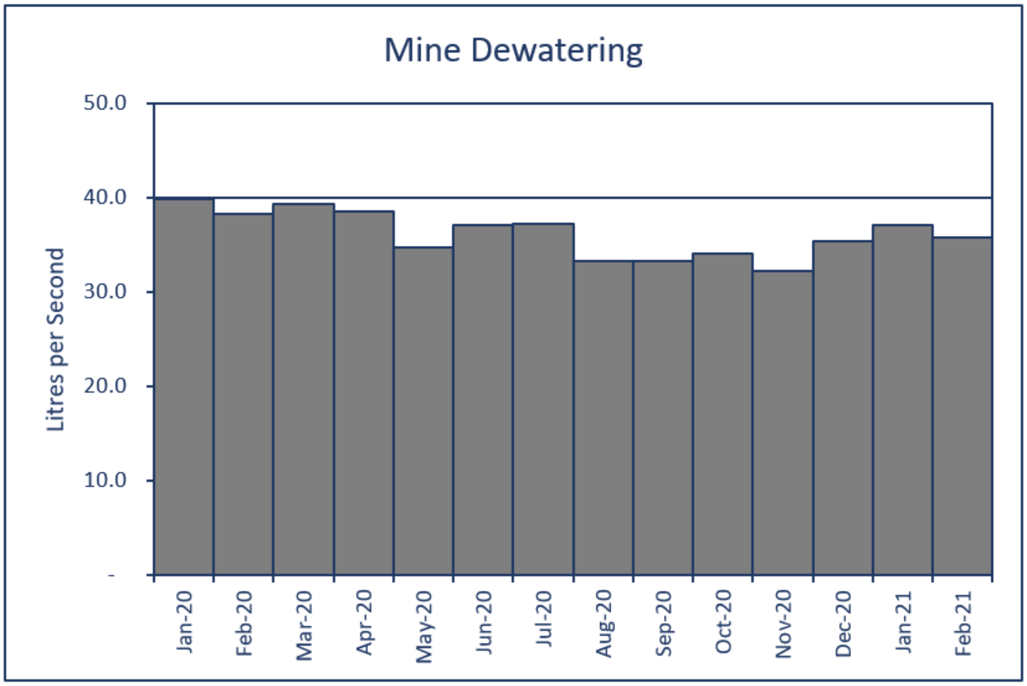
16.1. Santa Elena Mine

16.1.1. Hydrogeological Considerations

A series of borehole packer tests were conducted at the Santa Elena mine to estimate the mine dewatering requirements during advancement of the main decline ramp. A total of 15 tests were completed in 2011 and used to estimate the hydraulic conductivity of the fractured rock, which was estimated to be low. Mine dewatering estimates were made using the Marinelli and Niccoli method as well as the Singh and Atkins method. The maximum expected dewatering rate was estimated to be 1 L/s in the Western decline ramp, and 6 L/s in the Easter decline ramp.

Mine outflow is recorded by the mine with a flowmeter in the discharge pipe to track the daily dewatering volume. The pumped volume, including the ground and services water, ranges from 32–40 L/s pumped from the mine and averaged 36 L/s in 2020. The monthly outflow measurements are illustrated in Figure 16-1.

Figure 16-1: Santa Elena Mine Dewatering Outflow



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

The peak dewatering volumes have typically been associated with pump failures, which result in accumulation of water at the base the ramp. With sufficient backup pumps, mining normally continues unhindered while the main pumps are repaired.

There are currently no indications that additional groundwater will significantly impact the mine dewatering system going forward; however, mapping of any groundwater-bearing structures in level workings and ramps is conducted to determine if additional dewatering will be required.

16.1.2. Geotechnical Considerations

16.1.2.1. Investigation

Geotechnical investigations have been completed by third parties for First Majestic since the acquisition of Santa Elena in 2015. Geotechnical parameters for rock mass classification are regularly collected using two widely-used empirical systems: the Norwegian Geotechnical Institute (NGI) Q-system after Barton et al. (1974) and the rock mass rating (RMR) system after Bieniawski (1973).

16.1.2.2. Structural Geology Assessment

Site geology is dominated by Tertiary andesite and rhyolite rocks. The main mineral deposits are hosted by quartz veins, quartz vein stockworks, and hydrothermal breccias. The deposits mostly follow an east–west trending structure that crosscuts the volcanic host rock. This structure is referred to as the Main Fault and is located in the hanging wall of the Main Vein. The distance of the fault from the Main Vein varies from adjoining to 9 m away.

16.1.2.3. Rock Mass Characterization

Rock mass characterization work was completed during the pre-feasibility stage, and the rock mass quality was estimated using the NGI-Q (Barton, et al, 1974) and RMR systems (Bienawski, 1973) from 16 drill holes. The rock mass was subdivided into five geotechnically distinct zones, described as follows:

1) Zone D1: Mineralized zone. The rock quality of this zone is mainly rated as follows:
    a) “Fair” to “Good” rock based on the RMR rating classification system;
    b) “Fair” to “Extremely Good” rock above elevation 580 m and “Poor” to “Very Good” rock below elevation 580 m using the Q rating classification system;
2) Zone D2: Country rock above the hanging wall, ranging from 5–-6 m to 50–60 m above the upper mineralized zone/country rock interface. The rock quality of this zone is mainly rated as follows:
    a) “Fair” to “Good” rock based on the RMR rating classification system;
    b) “Poor” to “Good” rock using the Q rating classification system;
3) Zone D3: Country rock above the hanging wall, between the upper mineralized zone/country rock interface and approximately 56 m above it. The rock quality of this zone is rated as follows:

   a) “Poor” to “Good” rock above elevation 580 m and “Fair” to “Good” rock below elevation 580 m based on the RMR rating classification system;
   b) “Poor” to “Very Good” rock using the Q rating classification system.
4) Zone D4: Country rock below the footwall, from 5–6 m to 50–60 m below the lower mineralized zone/country rock interface. The rock quality of this zone is rated as follows:
   a) “Fair” to “Good” rock based on the RMR rating classification system and;
   b) “Poor” to “Very Good” rock using the Q rating classification system.
5) Zone D5: Country rock below the footwall, between the lower mineralized zone/country rock interface and about 5–6 m below it. The rock quality of this zone is rated as follows:
   a) “Fair” to “Good” rock based on the RMR rating classification system and;
   b) “Poor” to “Very Good” rock using the Q rating classification system.

Geotechnical parameters were derived from drill hole logging data, with each rock mass assigned representative rock mass classification parameters, with the NGI-Q and RMR values at 50% chosen. Table 16-1 summarises the RMR and NGI-Q values for each zone by elevation.

Table 16-1: Geotechnical Parameters by Geotechnical Zone for Santa Elena Mine

Zone	Elevation	RMR	NGI – Q’
D1	Above 580 masl	75	29
	Below 580 masl	76	11
D2	Above 580 masl	52	4
	Below 580 masl	52	4
D3	Above 580 masl	67	12
	Below 580 masl	52	3
D4	Above 580 masl	70	13
	Below 580 masl	67	13
D5	Above 580 masl	67	7
	Below 580 masl	72	14

16.1.2.4. Mining Method: Geotechnical Considerations

Underground mining has continued successfully since acquisition by First Majestic in 2015. Geotechnical conditions are characterised as “Good” for the footwall, vein structures and immediate hanging wall (RMR of 67-75), with “Fair” conditions in the hanging wall >6 m (RMR of 52).

Due to the configuration of the deposit and the variety of mineralized bodies, three main types of mining methods are considered: cut-and-fill, longhole, and Avoca longhole stoping. Table 16-2 lists the mining methods with respect to the deposit geometry.

Table 16-2: Assumed Mining Methods by Deposit Geometry for Santa Elena Mine

Deposit Dip	Deposit Thickness	Method Employed
> 50°	< 15.0 m	Longitudinal Longhole Stoping + Avoca (where >55°)
> 50°	> 15.0 m	
< 50°	> 0.80 – 15.0 m	Mechanized cut & fill (Typically employed where dip is <45°)

A maximum span of 15 m wide was recommended in current cut-and-fill mining levels, with a 5 m vertical cut, and maximum strike of 100 m. The spans may not require intensive ground support, but still require local support in the immediate backs. Spans vary from level to level and within a single strike length and require assessment on an individual basis.

For areas of the orebody where the dip is favourable (>45°) and the host rock is generally good quality, longhole stoping is suitable. Maximum spans and panel lengths will be determined by local ground conditions and orebody geometry.

16.1.2.5. Ground Support Considerations

Underground development is generally positioned in the footwall where andesitic and rhyolitic rocks are present, and sill drives are positioned in mineralized material. First Majestic technical staff regularly inspect the ground conditions and update the ground support management plan as required. The current ground support standards are summarized in Table 16-3.

Table 16-3: Ground Support Standards for Santa Elena Mine

Ground Type	Ground Conditions	Applicable Span	Ground Support Type	Length	Ring Spacing	Interim Ring Support
Rhyolite / Andersite	Very Good – Minimal fracturing and alterations	< 8.0 m	Rebar and mesh	2.4 m	1.5 m x 1.5 m	Chevron 0.75 m offset – 8 ft rebar
Vein	Good – Quartz, minimal alterations	8.0 – 11.0 m	Split sets with Swellex and mesh	2.4 m	1.2 m x 1.2 m	Chevron 0.6 m offset – 10 ft stabiliser bolt with Swellex
Vein	Poor to Very Poor– Fault contact	4.5 – 8.0 m	Split sets (backs), Rebar (walls), And mesh	2.4 m	1.3 m x 1.3 m	Chevron 0.65 m offset – 8 ft split set
Rhyolite / Andersite without Clay	Medium to Poor – Strong fracturing / Wedges	4.0 – 6.0 m	Mesh + Split sets with Swellex (temporary opening) or Rebar (permanent openings)	2.4 m	1.3 m x 1.3 m	Chevron 0.65 m offset – 8 ft rebar
Rhyolite / Andersite with Clay	Poor to Very Poor – Strong fracturing / Wedges	3.0 – 8.0 m	Mesh + Rebar	2.4 m	1.2 m x 1.2 m	-
Breccia within Quartz Veining	Poor – moderate alterations	All	Mesh + Split sets	2.4 m	1.2 m x 1.2 m	-
Fault Zone – Clay Content	Very Poor	All	Mesh (to 1.0 m from floor) + Rebar	2.4 m	1.2 m x 1.2 m	-

16.1.3. Planned Mining Methods

The Santa Elena mineral deposits vary in dip, thickness, and geotechnical conditions along strike and dip. Multiple underground mining methods are required to achieve efficient extraction of mineralized material. The mining methods commonly used in the Santa Elena mine are sublevel longhole stoping (Longhole), longhole avoca (Avoca) and Cut-and-Fill. The method assigned to a vein depends on the vein characteristics and rock mass characteristics (for example width, dip, and rock competence, among others). Depending on the selected mining method, the production rate is adjusted to reflect the various productivities.

In 2020, the contribution to the ROM production by mining method was 50% Longhole and 35% Cut-and-Fill, with the remaining 15% coming from development in ore.

16.1.3.1. Longitudinal Longhole

Longitudinal longhole mining is suitable where the dip of the orebody is 45° or greater, and the mineralized material is of sufficient width and grade that the estimated dilution does not eliminate the profitable recovery of the ore. Longitudinal longhole mining consists of an undercut level and an overcut level, each accessed from the main ramp or a transportation drift. Each sill is accessed perpendicular from the ramp, and then developed along strike of the vein to the economic extents of the ore.

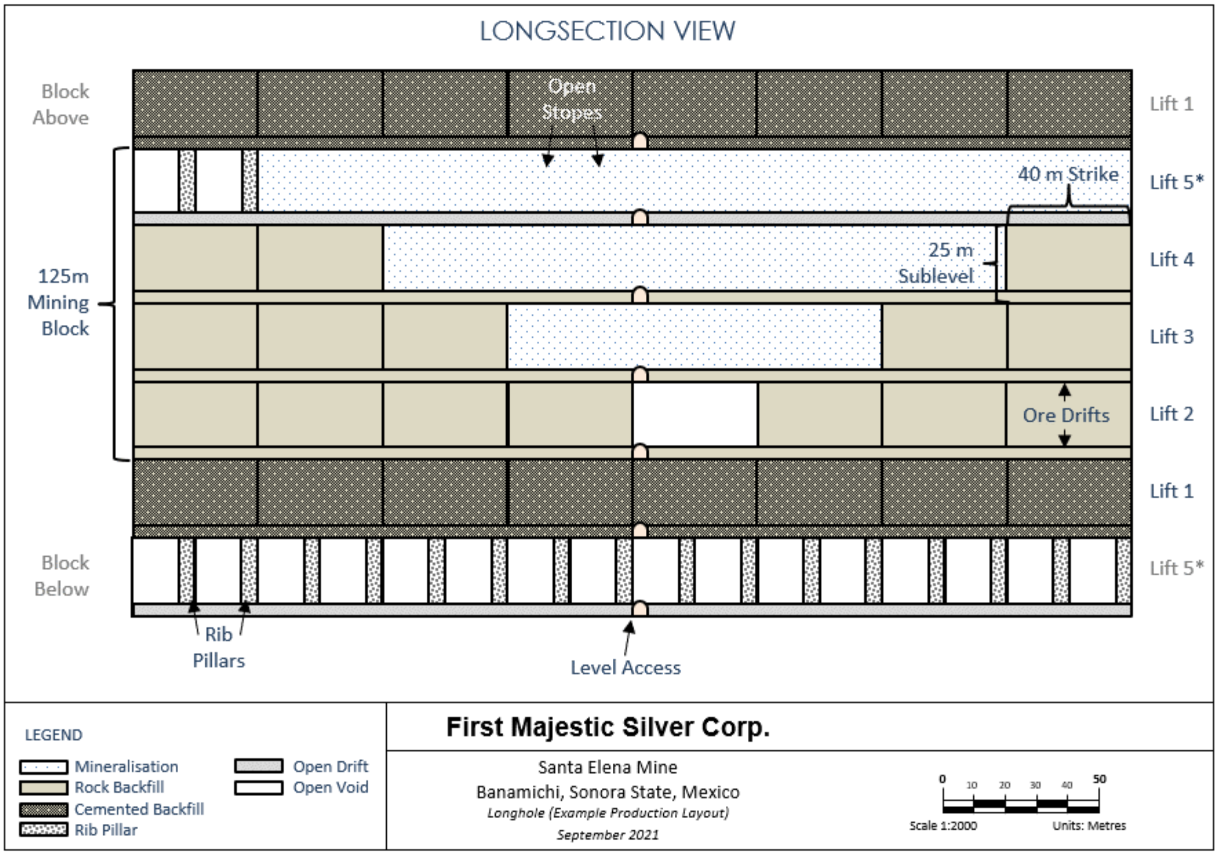
Once sill development is completed on each level, a longhole rig drills production holes between the sills, which are then blasted in retreating vertical slices until the stoping panel is completed. Stope panel lengths are based on a hydraulic radius calculation considering the geotechnical conditions of the area.

Once the maximum panel length is achieved (up to 40m), stability can be maintained by either the placement of unconsolidated backfill or a rib pillar. Once a sufficient stope length has been extracted and backfilled, mining can progress either up-dip for stoping with fill, or down-dip for stoping with pillars.

Stopes are designed between 15–20 m in vertical height (floor of the undercut to the floor of the overcut level) and longitudinal longhole with backfill is the primary method used in the Alejandra Alto, Americas, Tortuga Veins, and Alejandra Bajo, below the 425 Level. Longitudinal longhole with pillars is the primary method used in the Alejandro Bajo, above the 425 Level.

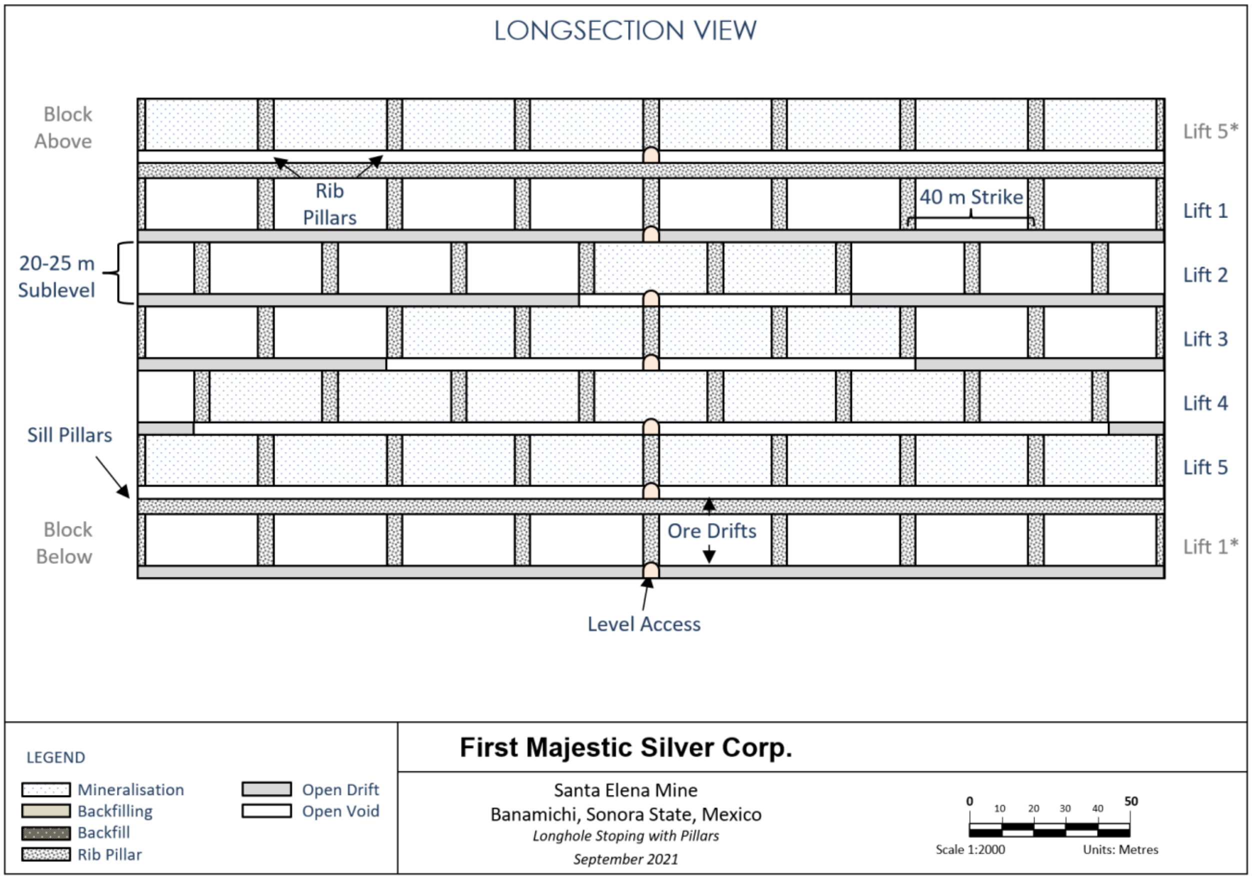
An example production layout of longitudinal longhole with backfill is illustrated in Figure 16-2, and an example of longitudinal longhole with pillars is illustrated in Figure 16-3.

Figure 16-2: Longhole Stoping with Backfill – Example Production Layout for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Figure 16-3: Longhole Stoping with Pillars – Example Production Layout for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.1.3.2. Avoca With Backfill

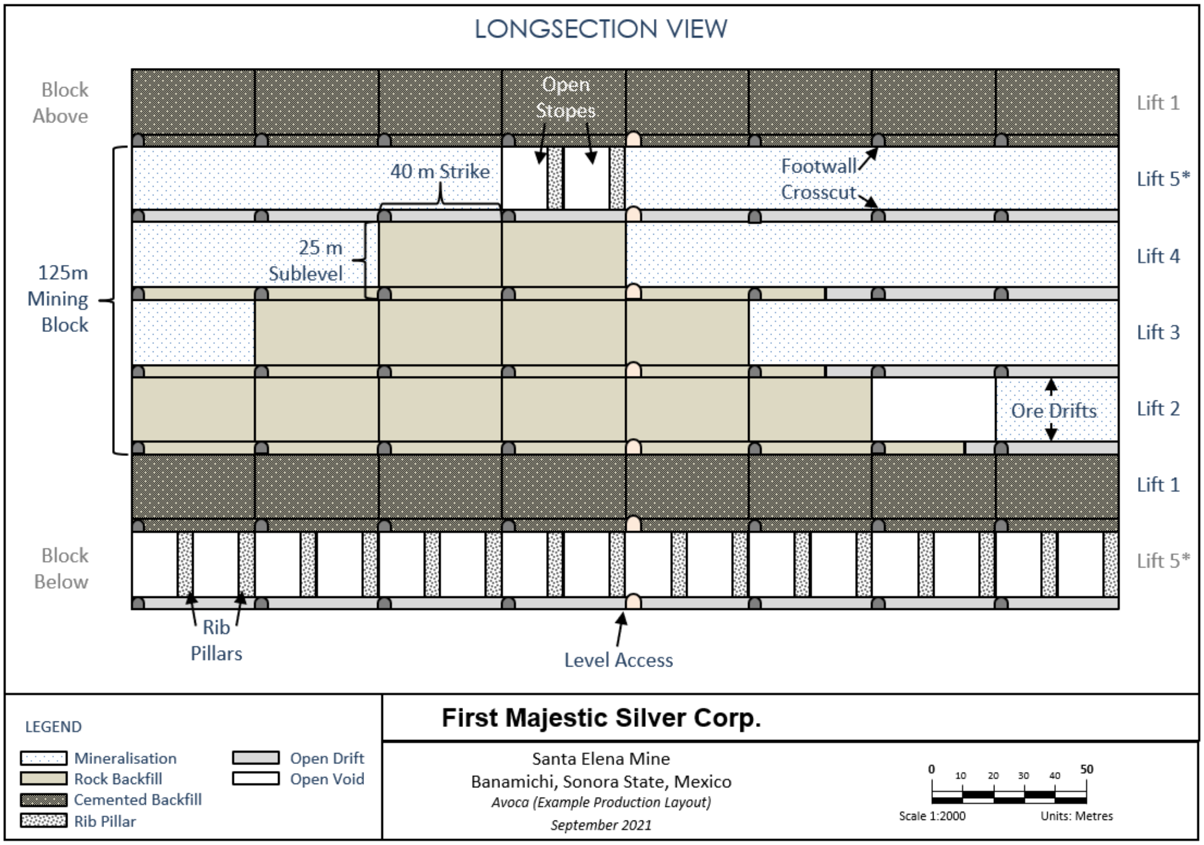
Avoca mining uses longhole stoping techniques to extract the mineralisation. The method is similar to longitudinal longhole stoping, but Avoca also uses a footwall drift that runs parallel to the strike of the orebody offset by 15-20 m (predominately in waste) to access the mineralisation at regular intervals. Secondary crosscuts are then driven into the sill at 40 m intervals, which gives independent access to each stoping panel and allows filling and extraction to occur at different locations along the strike of the mineralisation. The operation at Santa Elena has demonstrated that in favourable conditions, Avoca mining is a safe, flexible, and cost-effective mining method.

The method has been used for the extraction of the Main Vein, where existing footwall development is excavated. Avoca uses a sublevel spacing of 15–25 m between the overcut and undercut levels and uses

76 mm production blastholes. As the deposit width narrows, Avoca will be replaced by longitudinal stoping with unconsolidated backfill.

An example of the Avoca mining method production layout is provided as Figure 16-4.

Figure 16-4: Schematic of Avoca Stoping with Backfill for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.1.3.3. Cut-And-Fill

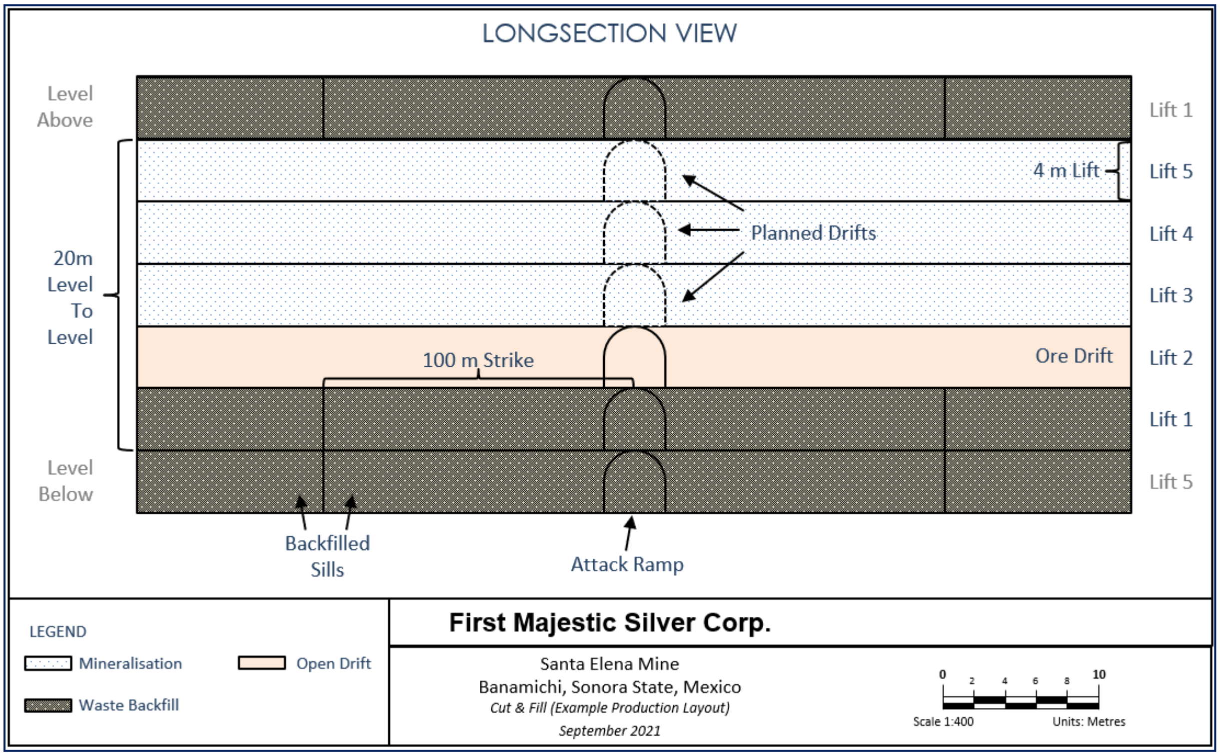
The cut-and-fill mining method is selected for areas where the dip of the orebody is less than 50°, to minimise dilution associated with blasthole deviation and irregular footwall angles, and to minimise mining loss associated with blasted muck not reporting to the extraction drift. Cut-and-fill is mined bottom-up (i.e., up-dip or overhand) with unconsolidated fill placed after the level is completed. Ground support is installed as each round is mined.

The mineralized material is accessed via an attack ramp located in the footwall of the orebody and accesses the orebody perpendicularly. The first lift is driven at minimal grade (elevated only to allow dewatering), then silled out from the hanging wall to the footwall in drifts either 4.0 m high (wide veins) or 2.5 m high (narrow veins). Once the sill is driven to the extents of the orebody, the vein is outlined in the roof of the drift and fired into the open void at either 5.0 m high (wide veins) or 2.5 m high (narrow veins). The mineralized material is then mucked, and the waste is slashed into the open void. Successive lifts are driven on top of the waste pile from the start of the attack ramp, where the brow is then slashed into allowing a ramp to be driven to access the next drift. This process is repeated until the attack ramp is too steep (>15%) to allow for haulage, and then the orebody is accessed from another sublevel.

Where it is not available from underground development, trucks backhaul fill material from waste rock stockpiles on surface, with fill being placed inside the stopes utilizing scoop trams.

Cut-and-fill mining is considered appropriate for portions of the Main Vein and for the Tortugas Vein. An example long-section of the cut-and-fill mining method production layout is illustrated in Figure 16-5.

Figure 16-5: Schematic of Cut-and-Fill Stoping for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.1.4. Underground Mining

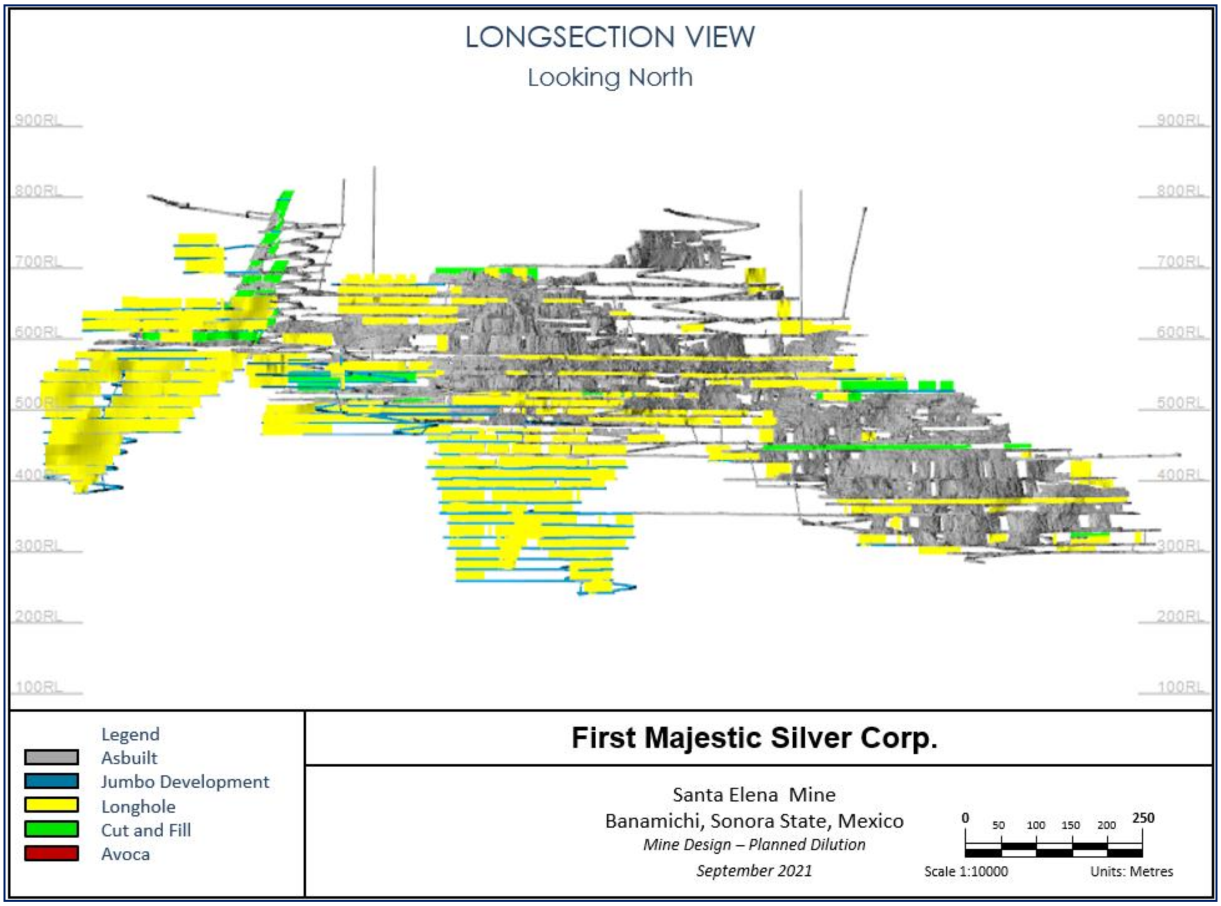
16.1.4.1. Mining Method Selection by Location

The mining methods selected for the different geological domains are:

- Longitudinal longhole stoping (Avoca): Main Vein;
- Longitudinal longhole stoping: Main Vein, Alejandra Bajo, Alejandra Alto, and América veins;
- Mechanized cut-and-fill: Main Vein and Tortuga Vein.

Figure 16-6 illustrates where each mining method will be used.

Figure 16-6: Schematic Design of Santa Elena Mine by Mining Method



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.1.4.2. Stope Design Methodology

A minimum mining width of 1.2 m was designed for all mining methods. This is based on a minimum vein width of 0.8 m, plus an allowance for 0.2 m on the hanging wall and footwall. The 0.2 m of dilution on the hanging wall and footwall are added regardless of the vein width, to ensure that the mineable shapes include a reasonable amount of planned dilution. Where cut-and-fill is employed, the waste surrounding the vein will be slashed out to the width of the drift, creating a floor for the next lift.

Based on an estimate of mining costs, a COG was calculated and then applied to the different portions of the deposit identified for mining. The various COGs used throughout the mine by production design are summarized in Table 16-4.

Table 16-4: Cut-Off Grade by Vein and Mining Method for Santa Elena Mine

Vein	Mining Method	Fully Costed (g/t Ag-Eq)	Incremental (g/t Ag-Eq)	Marginal (g/t Ag-Eq)
Main Vein	Cut-and-Fill (Wide)	145	100	50
Main Vein	Longhole / Avoca (Wide)	135	100	50
Alejandras	Longhole (Narrow)	150	110	50
Alejandras	Cut-and-Fill (Narrow)	140	100	60
America	Cut-and-Fill (Narrow)	140	100	60
Tortugas	Cut-and-Fill (Narrow)	140	100	60

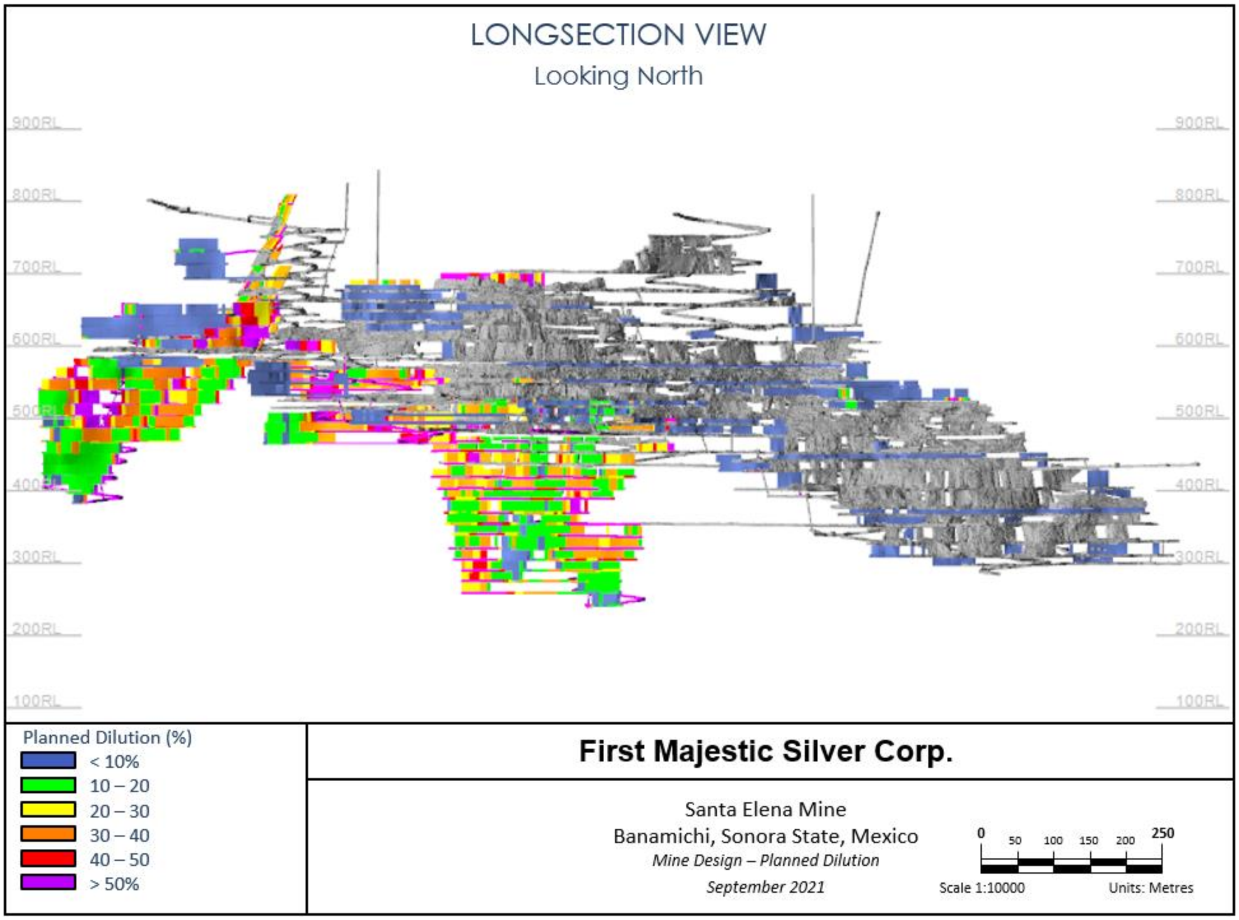
Once the mining locations were identified, an economic analysis of the stope design was completed to identify which mineable shapes supported an operation profit and therefore were to be included in the schedule.

16.1.4.3. Unplanned Dilution and Mining Loss

An unplanned dilution factor of 8% and a mining loss factor of 5% was applied to each production shape, (see discussion in Section 15.3). In addition to these factors, every mineable shape also included planned dilution, which represents the impact of blasting and ground stability in each vein.

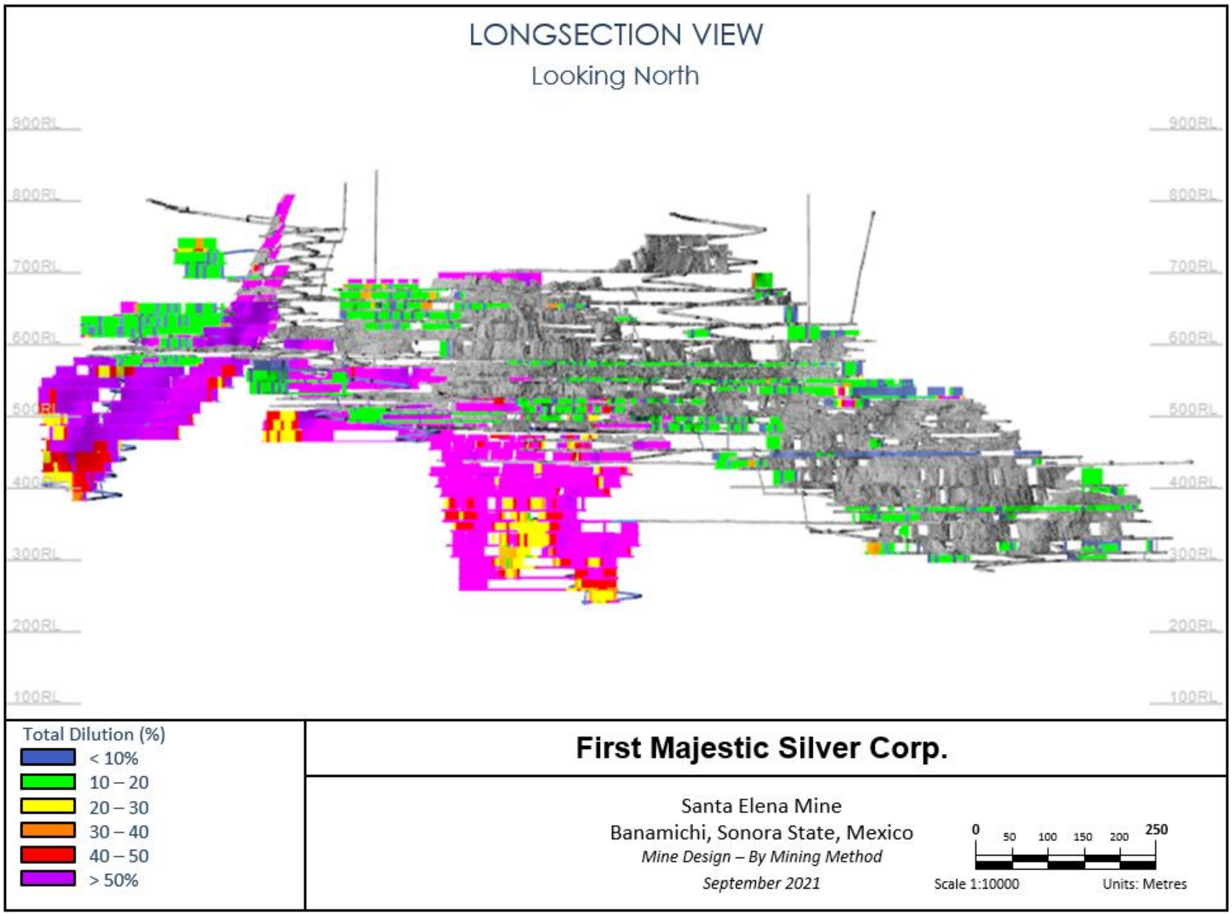
A long section of the mine design showing the planned dilution and total dilution are provided in Figure 16-7 and Figure 16-8 respectively.

Figure 16-7: Estimated Planned Dilution for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Figure 16-8: Estimated Total Dilution for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.1.4.4. Development

The development design incorporates a minimum stand-off distance of approximately 35 m to locate the ramp away from mineralisation. This stand-off is adopted to avoid damage to the ramp due to ground stress changes and blasting from stope extraction. This stand-off distance also allows sufficient space between the ramp and the orebody for the excavation of the level accesses, stockpiles and sumps, and where needed, slashing for cut-and-fill drifts.

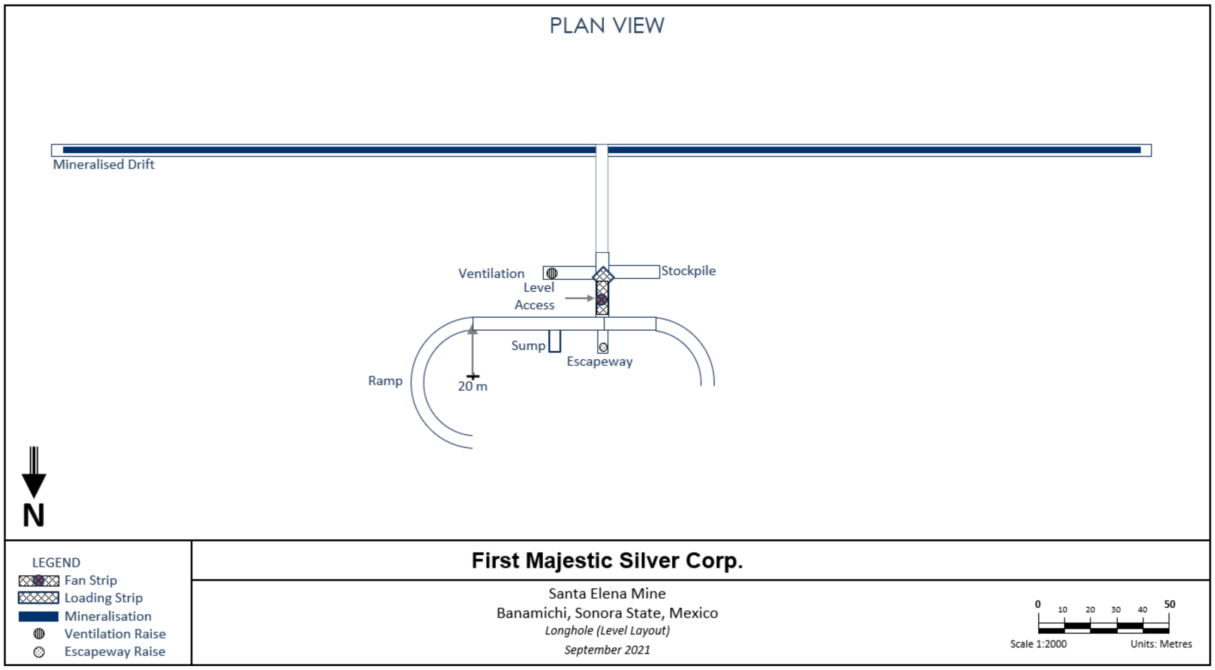
A ramp mined with an arched profile will be excavated to a width of 4.5 m and a height of 4.0 m. This profile allows sufficient room to accommodate current underground fleets as well as secondary ventilation ducting and service piping. Other planned development includes the following:

- Access drifts;
- Sills (development on mineralisation);

- Operating waste development (sills mining material below cut-off);
- Sumps;
- Escapeways and accesses to the escapeways;
- Return airways and accesses to the return airways;
- Stockpiles; and
- Ore-passes and the access to the ore-passes, where required.

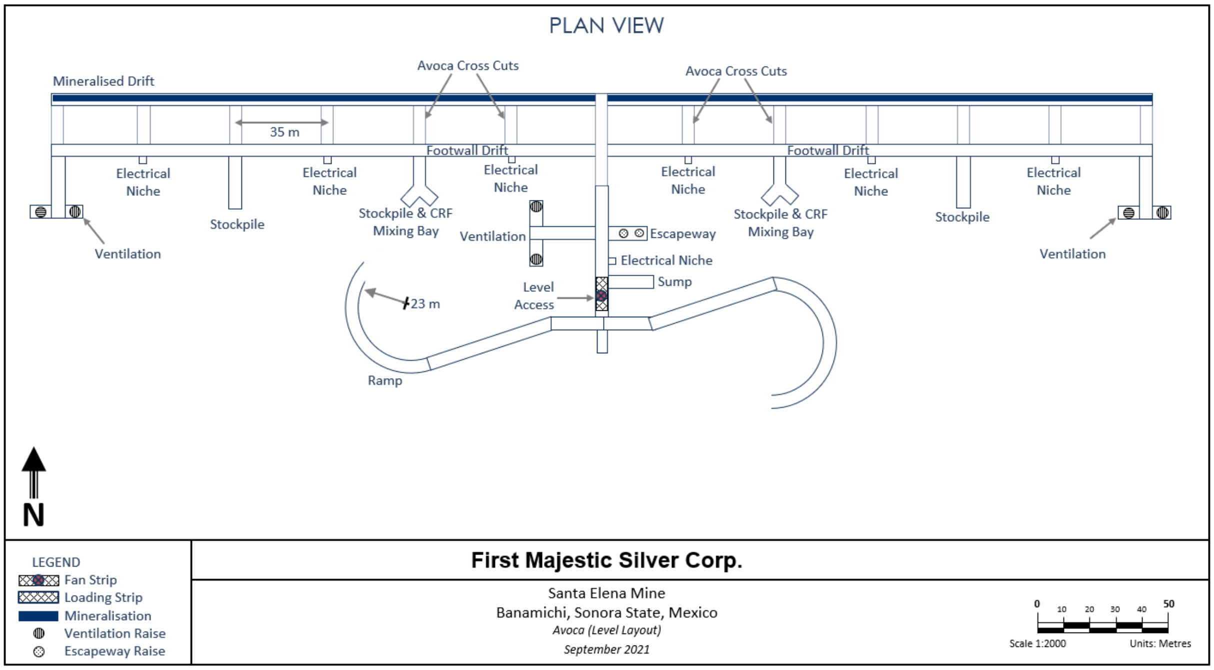
A typical level layout for longitudinal longhole stoping, Avoca longhole stoping and cut-and-fill are provided in Figure 16-9, Figure 16-10 and Figure 16-11. The various development profiles are shown in Table 16-5.

Figure 16-9: Santa Elena Mine Level Layout – Longitudinal Longhole



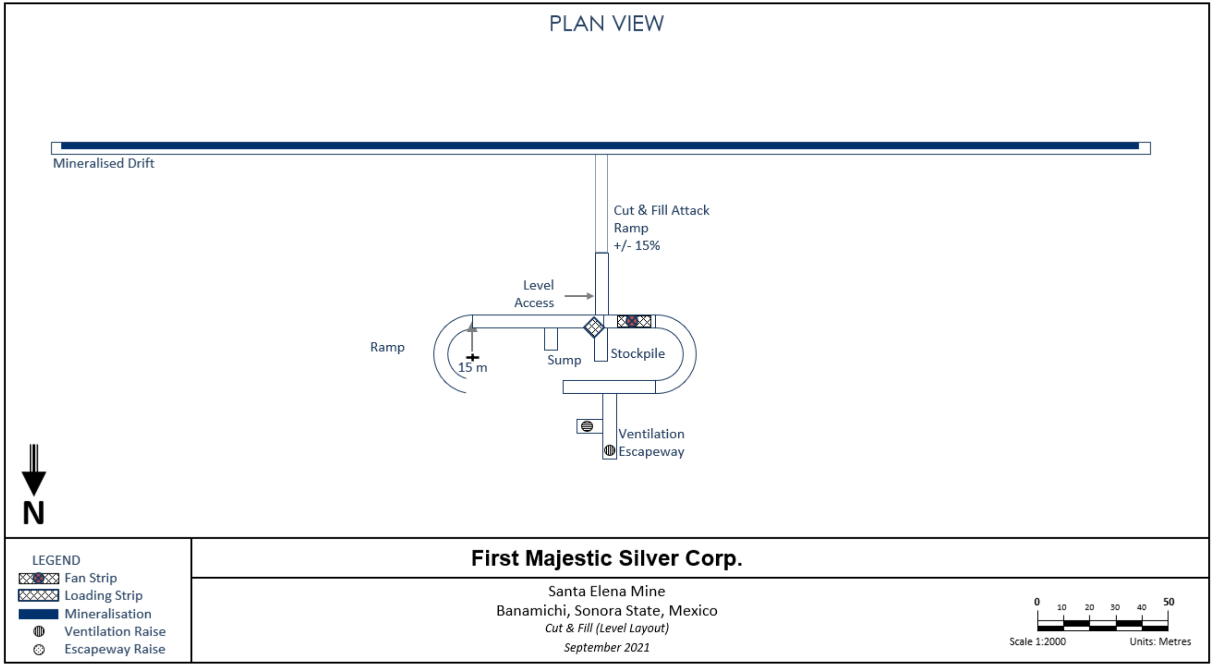
Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Figure 16-10: Santa Elena Mine Level Layout – Avoca



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Figure 16-11: Santa Elena Mine Level Layout – Cut & Fill



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Table 16-5: Development Profiles for Santa Elena Mine

Development Type	Width (m)	Height (m)
Ramp	4.5	4.0
Access	4.5	4.0
Stockpile	4.5	4.0
Ventilation Accesses	4.5	4.0
Escapeway Access	4.5	4.0
Electrical Niche	3.0	3.0
Safety Bay	2.0	2.0
Sump	4.5	4.0
Ore Drifts – Cut & Fill	4.5	4.0
Ore Drifts - Longhole	4.5	4.0
Ore Drifts - Avoca	4.0	4.0
Escapeways	1.5	-
Ventilation Raises	1.8-2.4	-

16.1.4.5. Mine Schedule

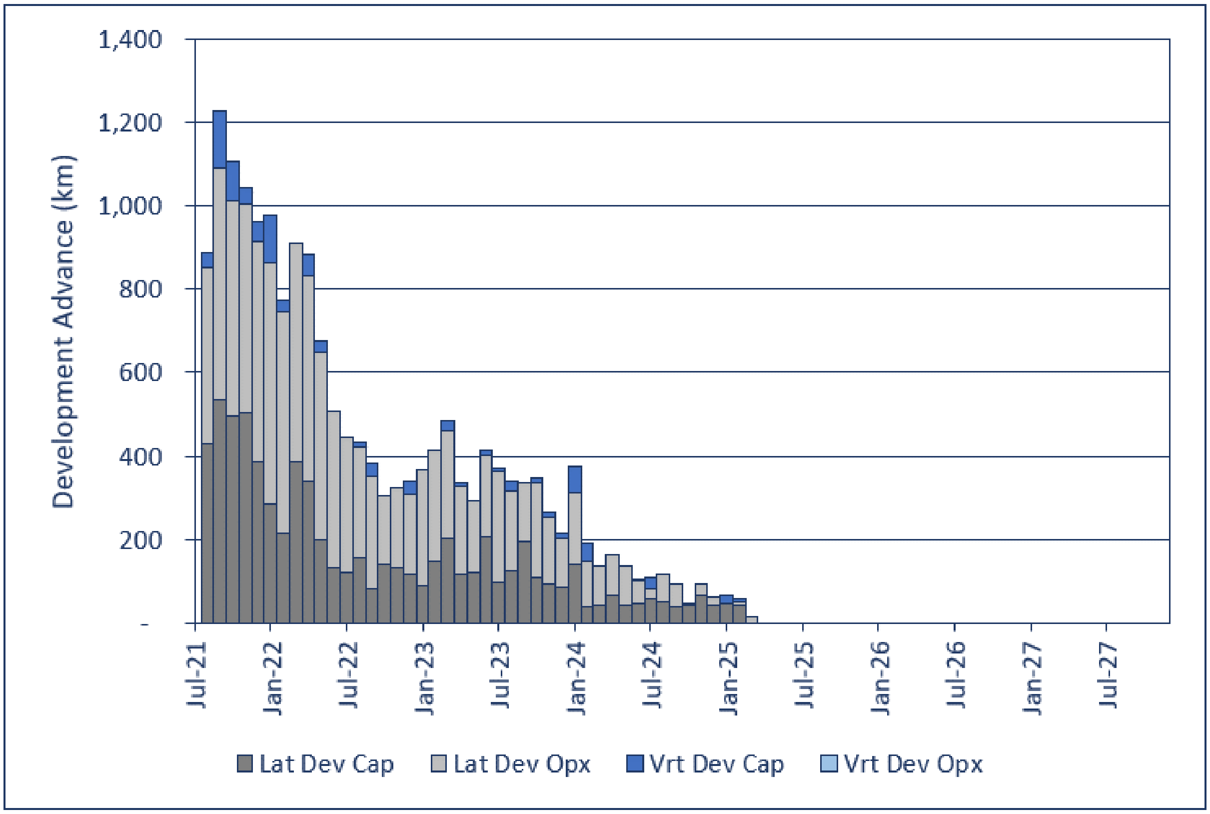
The Santa Elena mine is an established operation with historical development and production activities to guide the schedule rates. For development, a monthly rate is applied, and for production a daily rate is applied. These rates are inclusive of the time taken to drill, blast, muck and install ground support where required, and are summarized in Table 16-6.

Table 16-6: Schedule Productivities for Santa Elena Mine

Item	Units	Rate
Lateral Development	m / month	150
Vertical Development	m / month	40-120
Cut-and-Fill	t / day	80 - 350
Longitudinal Longhole	t / day	250 - 400
Longhole Avoca	t / day	250 - 400

There are seven jumbos available to the mine for development, which are considered sufficient to meet the required development estimated in the LOM plan. The monthly development requirements are illustrated in Figure 16-12, and the annual development is summarized in Table 16-7.

Figure 16-12: Underground Development Requirements for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Table 16-7: Annual Development Requirements for Santa Elena Mine

Lateral Development	Units	Total	2021	2022	2023	2024	2025	2026	2027
Capital	**m**	7,005	2,349	2,304	1,592	669	90	0	0
Ramp	m	4,138	924	1,511	1,147	503	54	0	0
Level Access	m	1,179	493	325	249	93	19	0	0
Other	m	1,687	932	469	196	73	17	0	0
Operating	**m**	10,217	2,523	4,364	2,483	824	22	0	0
Ore Drive	m	10,217	2,523	4,364	2,483	824	22	0	0
Total Lateral Development	**m**	17,221	4,871	6,669	4,076	1,493	112	0	0

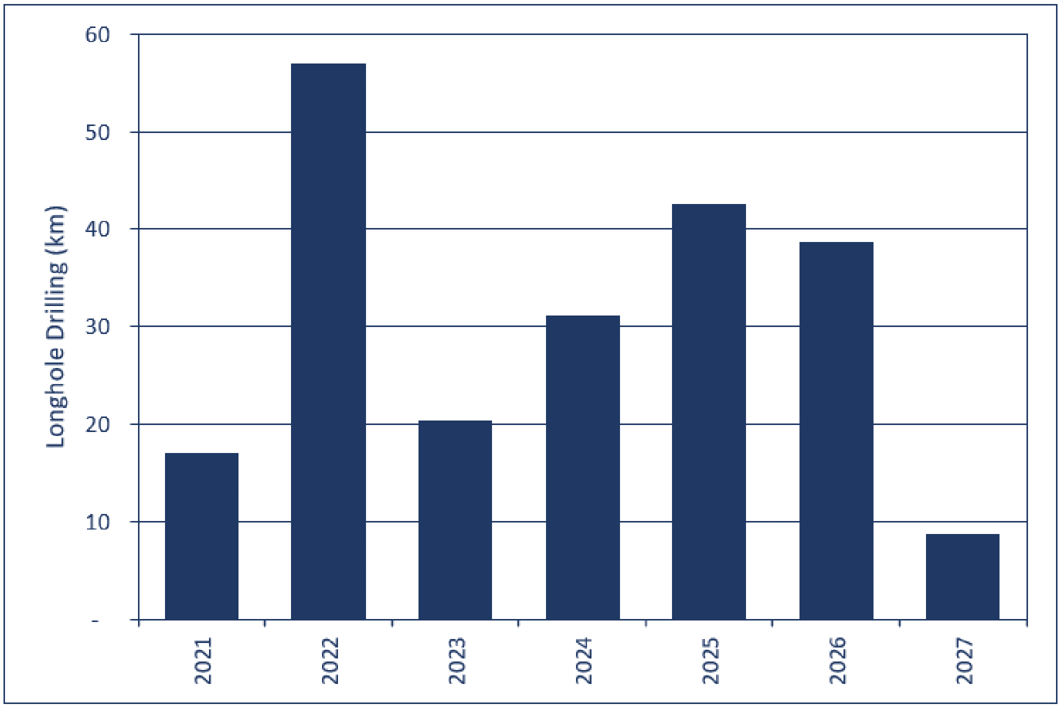
Vertical Development

Vertical development is primarily completed by conventional mining techniques up to a size of 1.5 m by 1.5 m. Large diameter raises will be excavated either by a raisebore machine (contract) or by longhole raising. For scheduling, a development rate of 1.6 m per day was applied to all vertical development.

Longhole Drilling

Longhole drilling productivity is expected to be between 70–100 m per shift based on past operating performance. The mine schedule used an average of 150 m per day (50 km per year), which allows for production drilling (6 t/drill m) and general service holes. For the Santa Elena mine, three longhole drill rigs are used, and will meet the estimated requirements as illustrated in Figure 16-13 and summarized in Table 16-8.

Figure 16-13: Longhole Drilling Requirements for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Table 16-8: Annual Longhole Drilling Requirements for Santa Elena Mine

Longhole Drilling	Units	Total	2021	2022	2023	2024	2025	2026	2027
Production	km	215	17	57	20	31	43	39	9

Material Movement

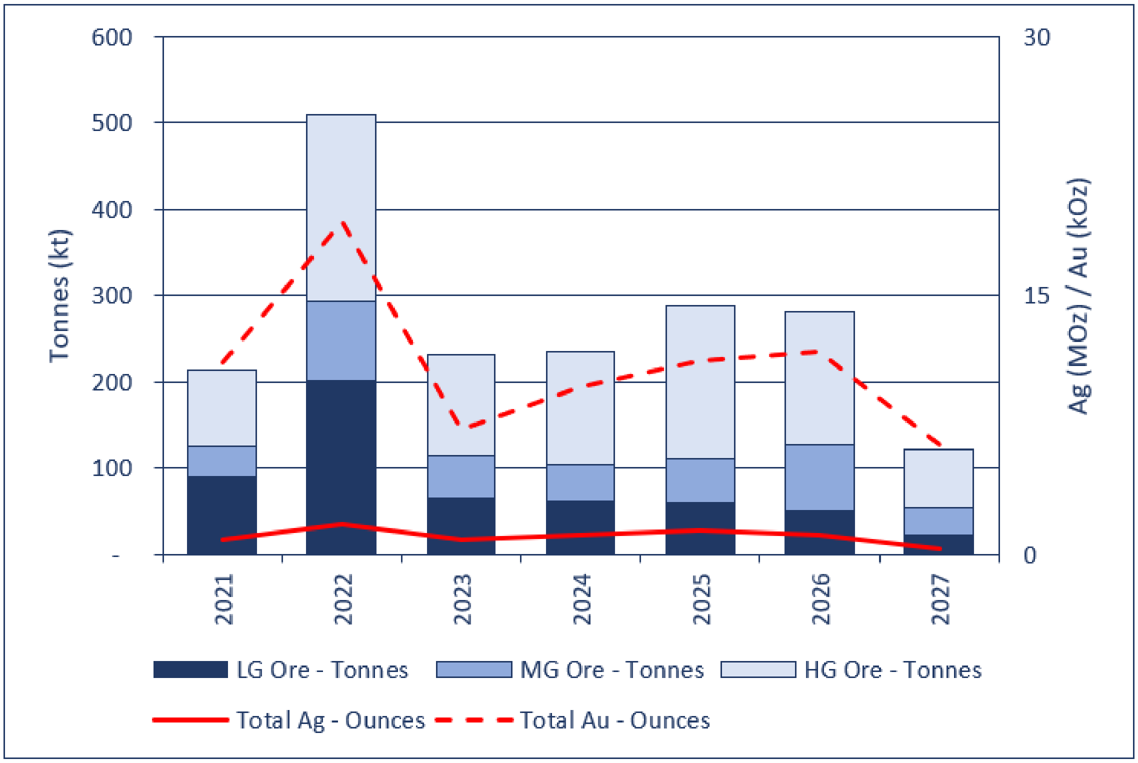
The existing load-and-haul fleet currently handles approximately 1,500 tpd (45 kt per month) from the Santa Elena mine, with additional haulage requirements met by the onsite contractor when required. The load-and-haul fleet used at the Santa Elena mine is summarized in Table 16-9. This mining fleet and equipment is considered sufficient for the operation requirements of the LOM plan presented in this Report.

Table 16-9: Load and Haul Fleet for Santa Elena Mine

Equipment Type	Description	Quantity
Loader	LH-410	6
Loader	LH-203	6
Loader	R-1600H	1
Loader	R-1700G	1
Loader	ST-1030	4
Truck	20-t Truck	14

The overall material production profile is illustrated in Figure 16-14 and summarized in Table 16-10. COGs for the High Grade (HG), Medium Grade (MG) and Low Grade (LG) bins are 200 g/t Ag-Eq, 150 g/t Ag-Eq and 85 g/t Ag-Eq, respectively.

Figure 16-14: Annual Production for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

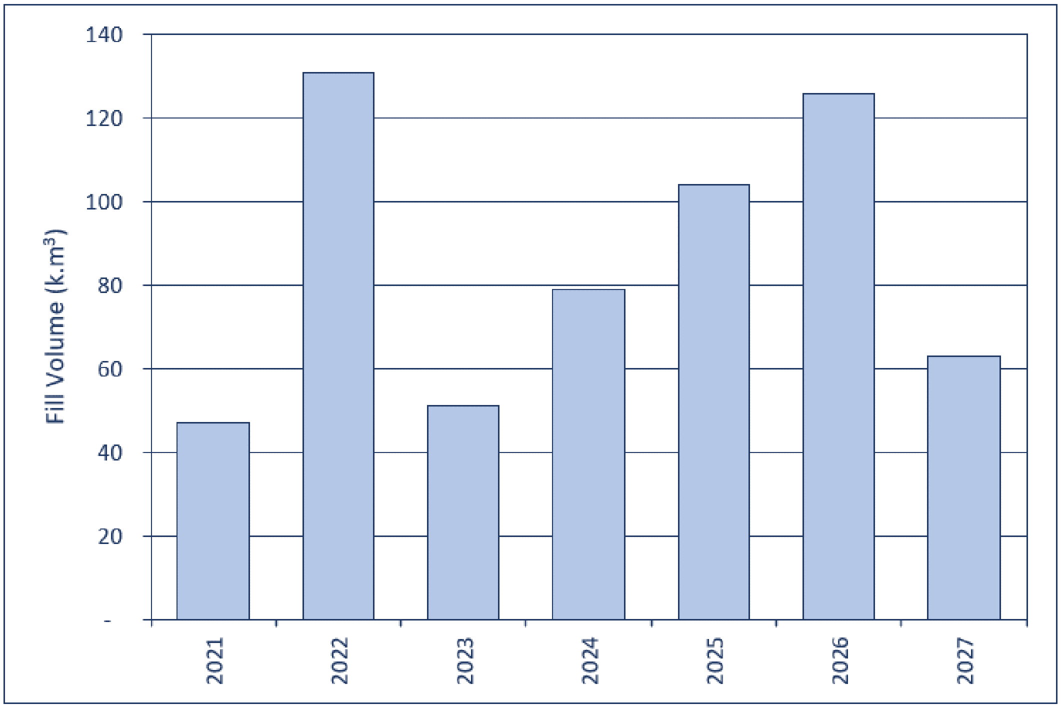
Table 16-10: Annual Material Movement for Santa Elena Mine

Mined Material Movement	Units	Total	2021	2022	2023	2024	2025	2026	2027
Total Ore	**kt**	1,929	263	509	231	235	288	282	121
Development Ore	kt	381	93	162	100	25	1	0	0
Production Ore	kt	1,548	170	347	131	210	288	282	121
Total Waste	kt	349	116	114	80	34	5	0	0
Total Material	**kt**	2,278	380	623	311	269	293	282	121
Silver Mined	MOz	7.4	0.8	1.8	0.8	1.1	1.4	1.1	0.4
Gold Mined	KOz	76.7	11.1	19.3	7.2	9.7	11.2	11.7	6.4

Backfill

All production voids will be backfilled with unconsolidated waste rock where access is available to permit backfilling activities. The backfill will be placed into production voids using the primary stope loaders. The annual backfill requirements for the Santa Elena mine are presented in Figure 16-15 and summarized in Table 16-11.

Figure 16-15: Annual Backfill Requirements for Santa Elena Mine



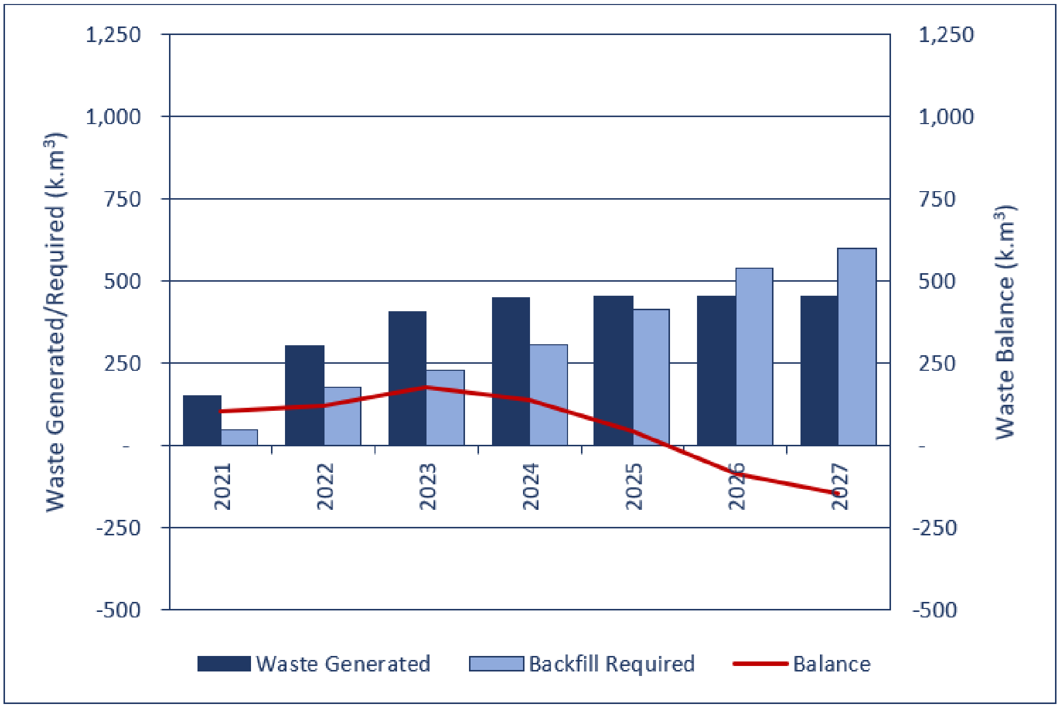
Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Table 16-11: Annual Backfill Requirements

Backfill	Units	Total	2021	2022	2023	2024	2025	2026	2027
Backfill	‘000 m^3	600	47	131	51	79	104	126	63

As there is limited waste rock being generated within the mine, waste rock sourced form the waste rock storage facility will be backhauled from surface. The waste rock balance is illustrated in Figure 16-16 and shows that additional waste rock for backfill is required each year. There is currently a planned waste deficit of 147 k.m^3 over the life of mine at Santa Elena. The additional backfill required for Santa Elena mine will be sourced from waste material deposits from the historical open pit operation and backhauled to fill underground workings.

Figure 16-16: Waste Rock Balance Required for Backfilling for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

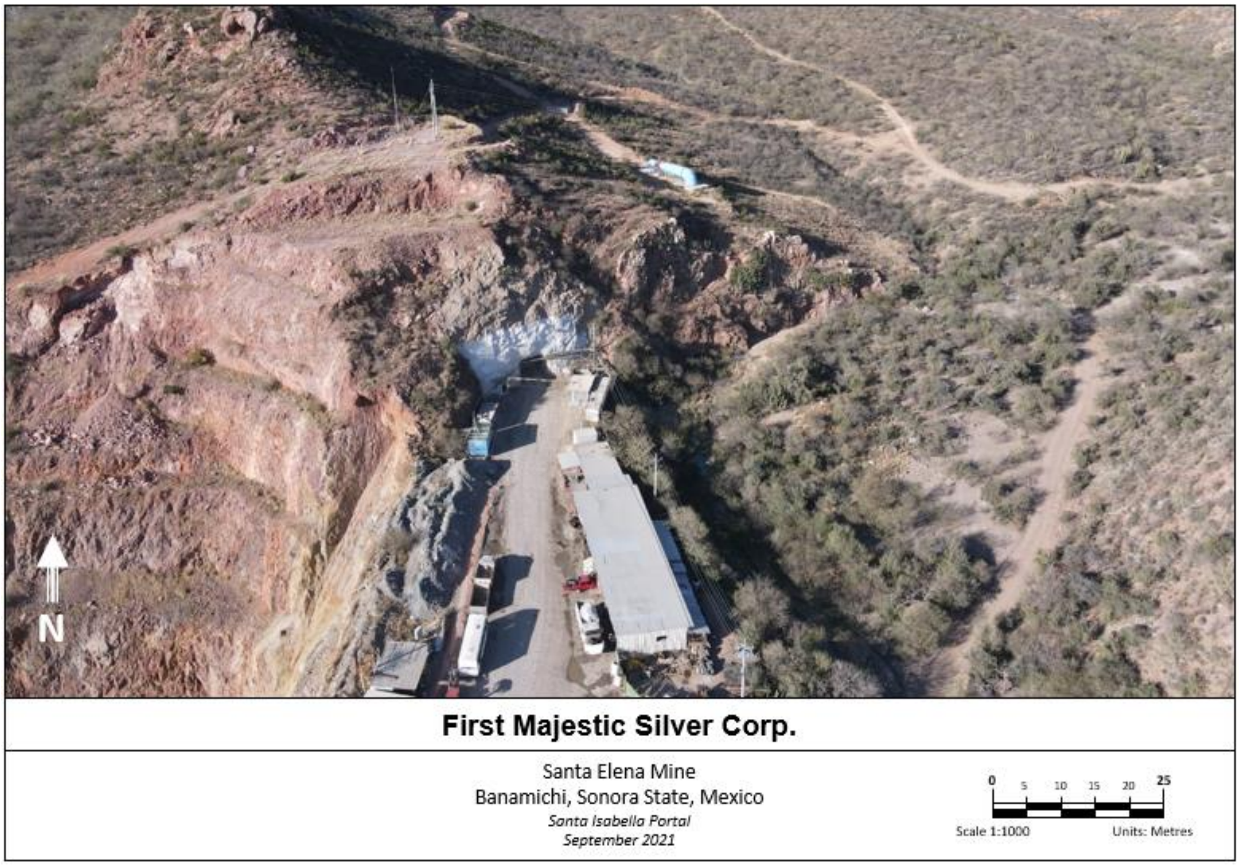
16.1.4.6. Underground Infrastructure and Services

Portals

The Santa Elena mine has two established mine entrances, the Santa Isabel Portal to the southeast and the San Salvador Portal to the northwest. Near the portals is a maintained tag board, general safety information, and signage. The Santa Isabel Portal is also equipped with stench gas in case of an emergency within the mine. The underground equipment maintenance workshop and contractors' offices are located outside the Santa Isabel Portal, which is the main access ramp to the underground mine.

The Santa Isabel portal is shown in Figure 16-17.

Figure 16-17: Santa Isabel Mine Portal, Looking North



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Primary Ventilation

The ventilation system uses a push system with fresh air being forced down the two main raises and exhausting out of the two portals and two raises connected to surface on the west side of the mine.

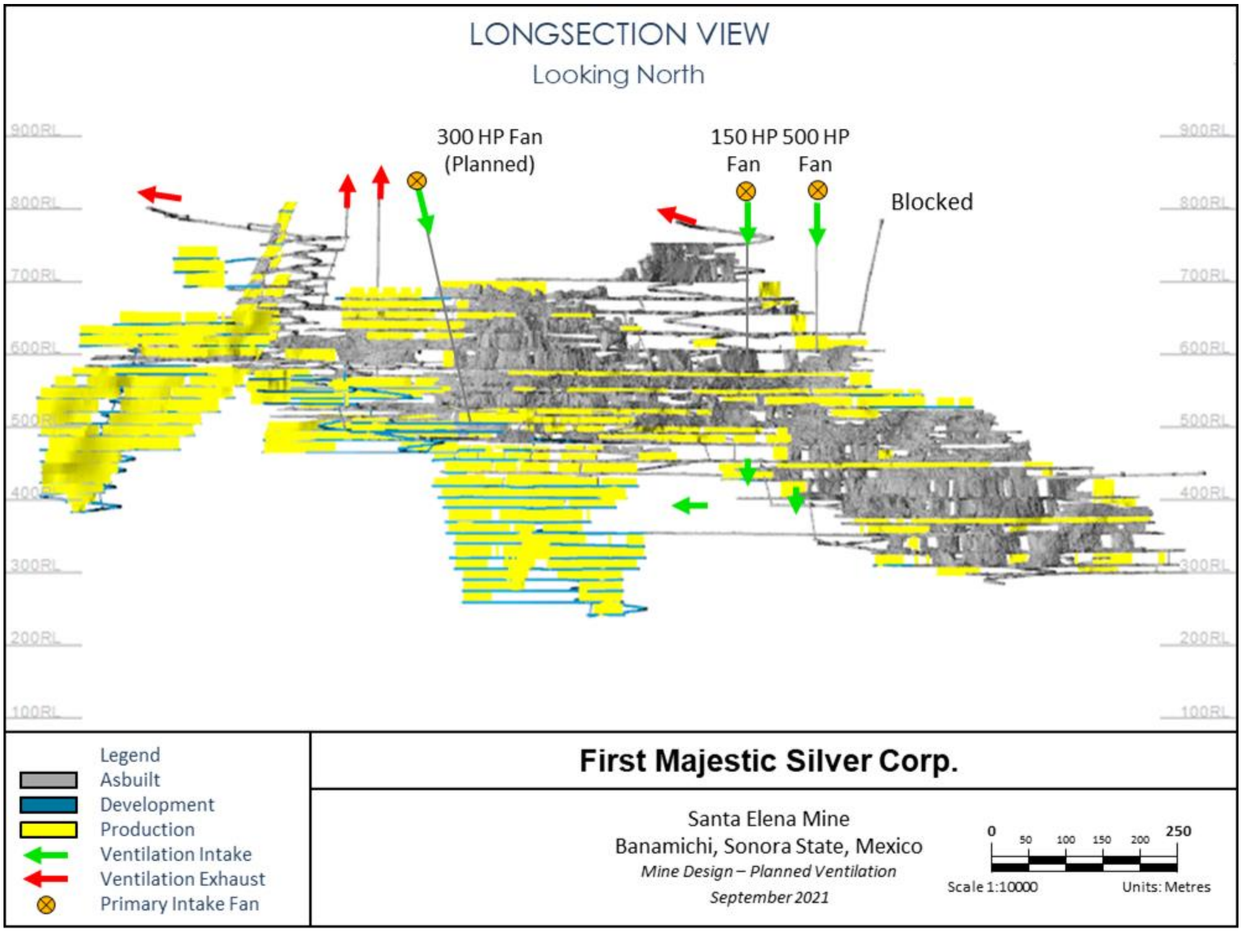
Two primary fans are installed on surface to push the fresh air into the mine, providing a total of 400 kCFM (190 m^3/s) to the mine. The main fan is a 500 HP (370kW) fan located over the top of the East raise, which is the main intake for the mine, providing approximately 255 kCFM (120 m^3/s) to the mine. An additional 150 HP (110 kW) fan is located over the central raise, which also serves as an emergency egress for the mine, providing 145 kCFM (70 m^3/s) to the circuit. An additional 300HP (225kW) primary fan is planned in a central raise to exhaust 252 kCFM (106m^3/s) from the mine, which will be drawn from the current mine intakes.

The ventilation circuit was imported into Ventsim, an industry-standard software used in ventilation modelling to model the flows predicted for the mine. The ventilation demand was estimated based on Mexican regulations that require a minimum ventilation airflow of 75 CFM per HP (0.047m^3/s per kW) of mobile equipment. The estimated primary ventilation demand is shown in Table 16-12 and ventilation circuit illustrated in Figure 16-18.

Table 16-12: Ventilation Demand Estimate for Santa Elena Mine

Equipment / Unit	Model	Quantity (#)	Unit (HP)	Unit (kW)	Utilisation	Requirement (kCFM)	Requirement (m^3/s)
Loader	LH203	6	95	71	25%	10.7	5
Loader	LH410	6	295	220	30%	39.8	18.8
Loader	R1600H	1	280	208	15%	3.2	1.5
Loader	R1700G	1	280	208	45%	9.5	4.5
Loader	ST1030	4	250	186	35%	26.3	12.4
Truck	INTERNATIONAL	7	250	186	40%	52.5	24.8
Truck	ISX400	6	440	328	45%	89.1	42.1
Truck	N14	1	435	324	55%	17.9	8.4
Development Drill	DD311	7	75	56	30%	11.8	5.6
Development Drill	TROIDON 55-XP	1	100	75	40%	3	1.4
Ground Support Drill	DS311	2	125	94	20%	3.8	1.8
Production Drill	DL431	1	150	110	45%	5.1	2.4
Production Drill	RAPTOR	1	115	84	30%	2.6	1.2
Ancillary	310J	1	70	54	10%	0.5	0.2
Ancillary	416 E	1	90	66	20%	1.4	0.7
Ancillary	CSV-11	1	125	93	5%	0.5	0.2
Ancillary	DSH	1	130	96	5%	0.5	0.2
Ancillary	ELF-500	1	170	128	35%	4.5	2.1
Ancillary	INTERNATIONAL	1	330	246	30%	7.4	3.5
Ancillary	KOMATSU	1	85	65	10%	0.6	0.3
Ancillary	TL943	2	110	82	30%	5	2.4
Light Vehicle	F150	2	385	287	40%	23.1	10.9
Light Vehicle	HILUX	4	175	130	30%	15.8	7.5
Light Vehicle	L200	12	135	100	30%	36.5	17.2
Light Vehicle	NP300	2	135	100	10%	2	0.9
Light Vehicle	NP300 2.5	3	160	120	20%	7.2	3.4
Subtotal						**380.3 kCFM**	**179.4 m^3/s**
Mine Leakage/Loss	**5%**					**19.0 kCFM**	**9.0 m^3/s**
Total						**399.3 kCFM**	**188.4 m^3/s**

Figure 16-18: Primary Ventilation Layout for Santa Elena Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Auxiliary Ventilation

Where headings are outside of the primary ventilation circuit, auxiliary fans are required to push the air to the working headings. A variety of secondary fans are installed to deliver the required airflow through flexible ducting to the working headings, with 21 auxiliary fans installed, ranging from 40–150 HP (30 – 112 kW) in size. The overall aim is to deliver approximately 10–17 kCFM (5–8 m^3/s) of airflow to the active headings.

Secondary Means of Egress and Refuge Chambers

Refuge chambers are installed in the 425 and 350 Level, each with a 20-person capacity. The mine also has an emergency escapeway system installed in the central fresh air intake raise, which is equipped with steel ladders from the 325 Level up to surface.

In addition to the refuge chambers and escapeway circuit, there is an emergency alarm system to notify personnel of an emergency using stench gas installed in the Santa Isabel Portal and on the 600 Level in the compressed air line.

Water Management

The existing underground dewatering system is capable of pumping 40 L/s from underground. Mine water is transferred from the main dewatering station at the 625 Level to surface through a six-inch pipe installed in the service raise in the ramp.

There are two main sumps located at the 425 and 350 Levels that collect and pump the water to surface for later use. From the lower levels of the mine, a variety of pumps with different capacities are connected in series to move the water to the main sumps. The current list of submersible pumps is summarized in Table 16-13.

Table 16-13: Submersible Pumps Within the Santa Elena Mine

Pump ID	Type	Manufacturer	Active	Motor (HP)	Motor (kW)
MSE-BS-001	Submersible Pump	Tsurumi	5	40	30
MSE-BS-003	Submersible Pump	Tsurumi	1	60	45
MSE-BS-004	Submersible Pump	Tsurumi	2	100	75
MSE-BS-005	Submersible Pump	Tsurumi	6	150	110
MSE-BS-007	Mud Pump	Tsurumi	3	20	15

Compressed Air

The mine has a robust compressed air system that includes different equipment at several locations in the mine. The compressed air is conducted through a single four-inch pipe that is routed via main ramps and service holes between levels. All underground compressors are installed with an air accumulator.

The current list of air compressors within the mine is summarized in Table 16-14.

Table 16-14: Air Compressors Within the Santa Elena Mine

Pump ID	Manufacturer	Level	Active	Motor (HP)	Motor (kW)
MSE-CT-001	Ingersoll Rand	550	Electric	125	95
MSE-CT-002	Ingersoll Rand	600	Electric	200	150
MSE-CT-003	Ingersoll Rand	375	Electric	150	110
MSE-CT-004	Ingersoll Rand	500	Electric	200	150
MSE-CT-005	Ingersoll Rand	450	Electric	200	150
MSE-CT-006	Compressor Doosan	Mobile	Electric	150	110

Electrical Power

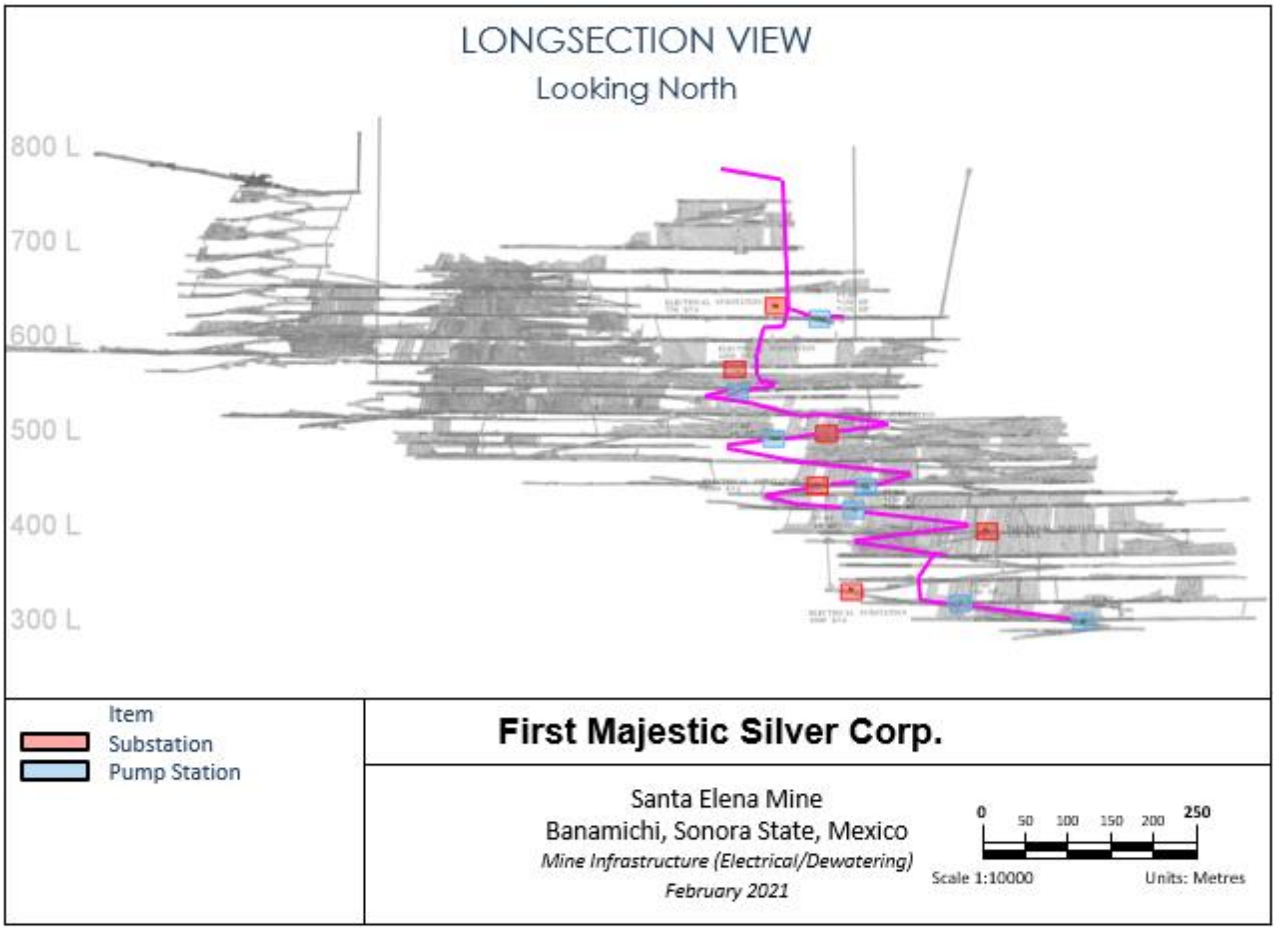
Electrical power is supplied by the site power station located at the processing facility. The power station produces energy at 4,160 V and is routed through the mine to the primary substations. Power is then stepped down via a transformer to 480 V for use by plant and equipment. Several electrical transformers are strategically located underground to provide the necessary power for mining activities. At peak production, it is estimated that the Santa Elena underground will require approximately 1.8 MW of power.

The current list of transformers and their capacity is summarized in Table 16-15. The pump stations and electrical transformers that are currently in use by Santa Elena are illustrated in Figure 16-9.

Table 16-15: Electrical Transformers Within the Santa Elena Mine

Transformer ID	Level	Capacity (kVA)
MSE-TE-001	450	1000
MSE-TE-002	500	1000
MSE-TE-003	575	750
MSE-TE-004	325	1000
MSE-TE-005	625	1000
MSE-TE-006	400	1000

Figure 16-19: Santa Elena Mine Infrastructure – Dewatering and Electrical.



Note: Figure prepared by Entech Mining Ltd. for First Majestic, February 2021.

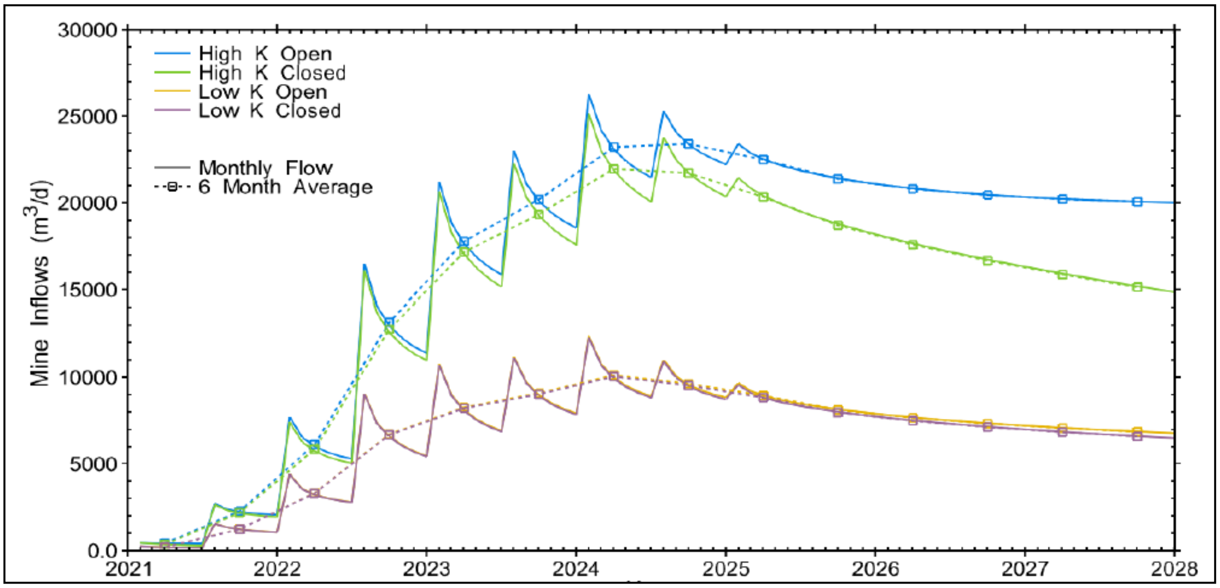
16.2. Ermitaño Project

16.2.1. Hydrogeological Considerations

A small-scale series of borehole packer tests were conducted from surface at the Ermitaño mine to estimate the mine dewatering requirements. A total of 12 tests within 3 boreholes were completed in 2021 and used to estimate the hydraulic conductivity of the fractured rock. A three-dimensional groundwater flow model was created to estimate potential rates of inflow to the Ermitaño mine between 2021 and 2027, as well as estimating the size and scope of the area impacted by drawdown of the groundwater table.

The maximum expected inflow rate was estimated to be between 115 L/s and 275 L/s (10,000 – 24,000 m^3/day) with the maximum rate of inflow occurring in 2024. Due to the limited number of field measurements, groundwater inflow predictions are considered uncertain and may err by overstating expected inflows. The modelled total groundwater inflows are shown in Figure 16-20.

Figure 16-20: Ermitaño Mine – Modelled Total Inflow to Mine.



Note: Figure prepared by Geofirma Engineering Ltd. for First Majestic, August 2021.

16.2.2. Geotechnical Considerations

16.2.2.1. Assessment

A Geotechnical assessment was completed for the Ermitaño mine in 2021. Geotechnical parameters for rock mass classification were collected using two widely-used empirical systems: the Norwegian

Geotechnical Institute (NGI) Q-system after Barton et al. (1974) and the Geological Strength Index (GSI) system after Hoek (1994).

16.2.2.2. Structural Geology Assessment

Site geology at the Ermitaño project consists of Late Cretaceous andesite and rhyolite volcanic rocks dipping 10° to 45° east-northeast with mineralization hosted by major structures. The geology and mineralization are similar to the Santa Elena deposit located 8 km to the northwest. Low sulphidation epithermal gold and silver mineralization is hosted in the steeply dipping, east-trending Ermitaño Fault and other subparallel secondary structures. Vein assemblages consist of massive, banded, bladed, and stockwork quartz, calcite, and adularia. The veins are commonly brecciated and associated with argillic alteration.

16.2.2.3. Rock Mass Characterization

The rock mass characterization work was completed during the pre-feasibility stage, and the rock mass quality was estimated by using the Q' (Barton et al, 1974) and GSI systems (Hook, 1994) from 7 drill holes. Geotechnical parameters were derived from drill hole logging data, with each rock mass assigned representative rock mass classification parameters, with the minimum and maximum Q' and GSI values chosen. Table 16-16 summarises the GSI and Q' values for each geotechnical domain.

Table 16-16: Geotechnical Parameters by Geotechnical Domain for Ermitaño Mine

Lithology Code	Description	GSI		Q'	
		Min	Max	Min	Max
AND	Andesite	58	63	4.5	8.3
AND-TUFF	Andesite tuff	58	61	4.6	6.8
RHY	Rhyolite	56	60	3.6	5.8
RHY-TUFF	Rhyolite tuff	57	59	4.3	5.4
HW	Hanging wall contact	58	62	4.8	7.1
FW	Footwall contact	57	60	4.4	6.0
ORE	Mineralization	56	60	3.9	5.8

16.2.2.4. Mining Method: Geotechnical Considerations

Geotechnical conditions are characterised as "Fair" for the rockmass (Q' values 4-11), with little variability in rock mass quality between spatial domains and lithologies.

Based on the configuration of the deposit, longhole open stoping was selected as the mining method. Three variations of longhole open stoping were considered, driven by economics: Avoca longhole stoping with backfill (cemented and uncemented rockfill), and longhole stoping with pillars. Table 16-17 lists the mining method and its respective location used.

Table 16-17: Assumed Mining Methods for Ermitaño Mine

Method Employed	Relative Location Used
Avoca Longhole with Cemented Rock Fill	Lift 1 - Bottom level of mining block
Avoca Longhole with Rock Fill	Lift 2,3,4 – Central levels of mining block
Longhole with Pillars	Lift 5 – Top level of mining block, or any location with no access above

With a typical 75° dip and 25 m floor to floor spacing, a maximum stope strike length of 17 m with in-stope HW support, or 14m without support was recommended.

16.2.2.5. Ground Support Considerations

Ground support requirements for permanent and temporary drifts have been assessed using industry best practice rules-of-thumb as well as empirical and kinematic design methods. Initial estimates of ground support requirements were made using rules-of-thumb proposed by the U.S. Army Corps of Engineers (Bawden, 2011, after USACE, 1980) and are summarized in Table 16-18.

Table 16-18: Ground Support Standards for Ermitaño Mine

Excavation Type	Profile		Support Type	Back Support		Wall Support	
	Width	Height		Length	Spacing	Length	Spacing
Ramp Development	5.0 m	5.0 m	Bolt	2.4 m	1.2 m	2.4 m	1.2 m
Footwall Drive Development	4.5 m	4.5	Bolt	2.1 m	1.2 m	2.1 m	1.2 m
Ore Development	4.0 m	4.0 m	Bolt	1.8 m	0.9 m	1.8 m	0.9 m
Intersections / Infrastructure	<= 7 m span		Deep Support	Bolt as per excavation type + 3.5 m Secondary Support		N/A	

16.2.3. Planned Mining Methods

The Ermitaño mineral deposits vary in dip, thickness, and geotechnical conditions along strike and dip. Multiple mining methods are required to achieve the maximum efficient extraction of mineralized material.

Depending on the selected mining method, the production rate is adjusted to reflect the various productivities.

16.2.3.1. Longitudinal Longhole with Pillars

Longitudinal longhole mining is suitable where the dip of the orebody is 45° or greater, and the mineralized material is of sufficient width and grade that the estimated dilution does not eliminate the profitable recovery of the ore. Longitudinal longhole mining consists of an undercut level and an overcut level, each accessed from the main ramp or a transportation drift. Each sill is accessed perpendicular from the ramp, and then developed along strike of the vein to the economic extents of the ore.

Once sill development is completed on each level, a longhole rig drills production holes between the sills, which are then blasted in retreating vertical slices until the stoping panel is completed. Stope panel lengths are based on a hydraulic radius calculation considering the geotechnical conditions of the area. Once a sufficient strike length has been extracted, mining can progress up-dip and extraction can recommence by opening another mining location.

Stopes are designed to a 25 m height (floor of the undercut to the floor of the overcut level) and is the method used when there is no top access available to the planned stoping activities, such as at boundaries of economic mineralisation or at the final lift for mining blocks.

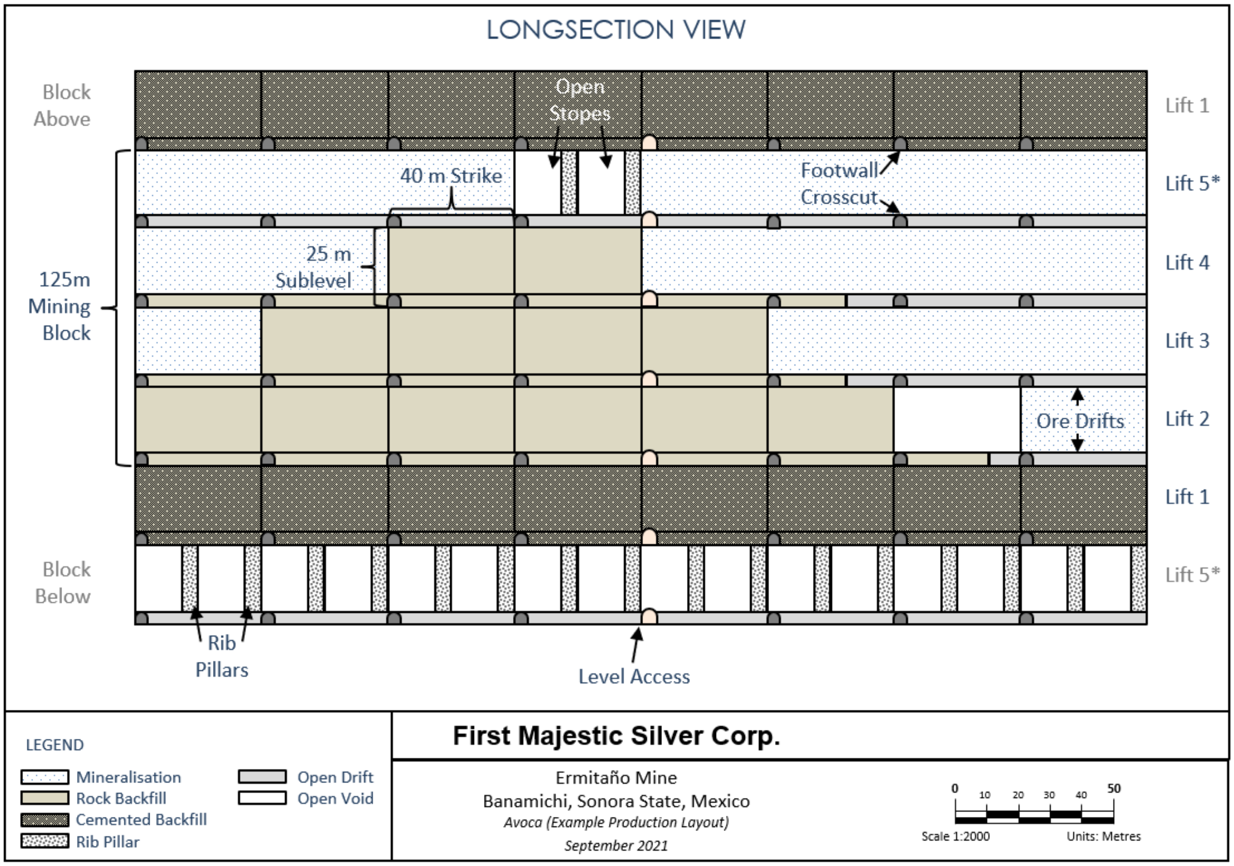
16.2.3.2. Avoca With Backfill

Avoca mining uses longhole stoping techniques to extract the mineralisation. The method is similar to longitudinal longhole stoping, but Avoca also uses a footwall drift that runs parallel to the strike of the orebody offset by 15-20 m (predominately in waste) to access the mineralisation at regular intervals. Secondary crosscuts are then driven into the sill at 35 m intervals, which gives independent access to each stoping panel and allows filling and extraction to occur at different locations along the strike of the mineralisation.

The method is planned to be used for the extraction of the levels within a mining block below the sill pillar (lifts 1-4) and uses a sublevel spacing of 25 m between the overcut and undercut levels and uses 102 mm production blastholes.

An example of the Avoca and Longhole mining methods is provided in Figure 16-21.

Figure 16-21: Schematic of Stoping methods for Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.2.4. Underground Mining

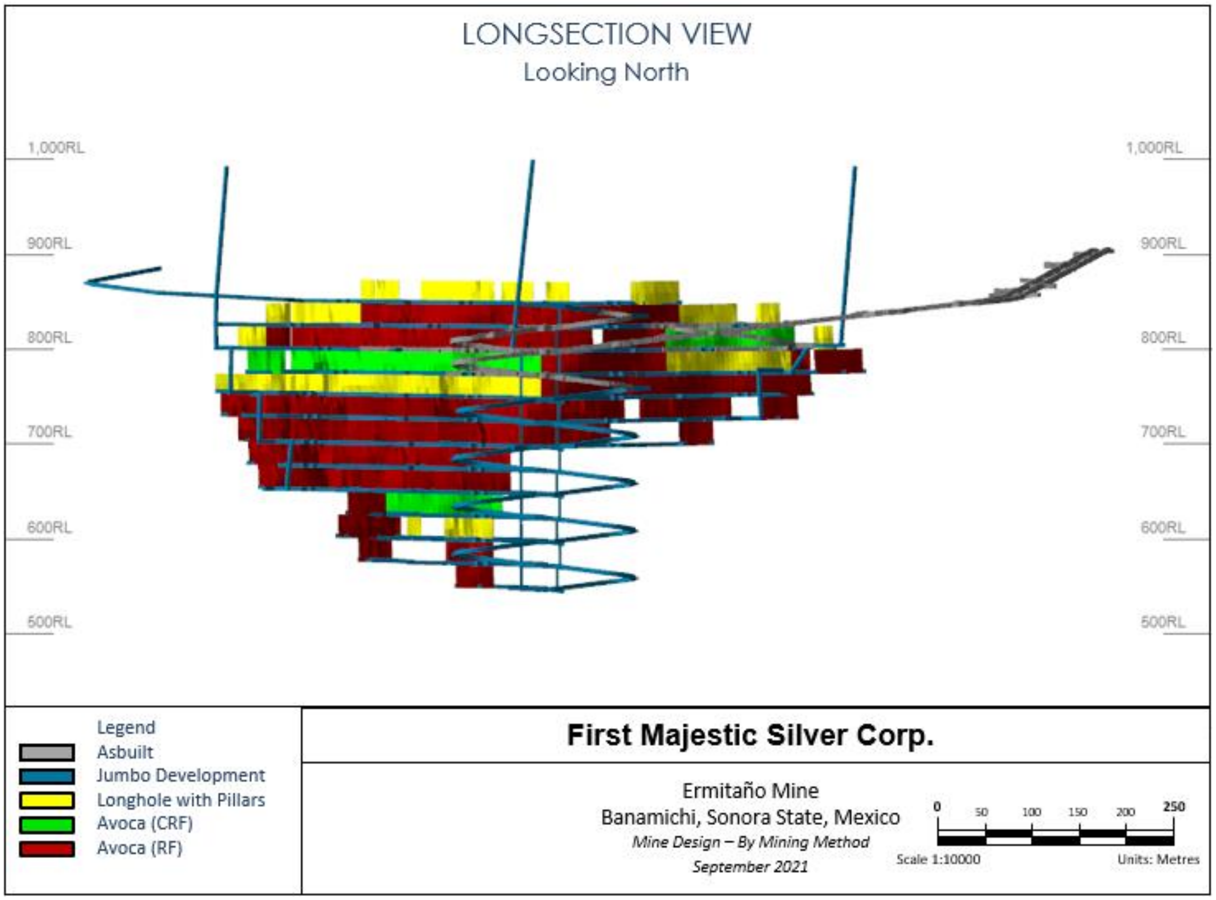
16.2.4.1. Mining Method Selection by Location

The mining methods selected for the different locations within mining blocks are as follows:

- Longitudinal longhole stoping (Avoca with cemented rockfill): Bottom level of mining block (Lift 1) where stopes are present below;
- Longitudinal longhole stoping (Avoca with rockfill): Central levels of mining block (Lift 2, 3, 4); and,
- Longitudinal longhole stoping with pillars: Top level of mining block (Lift 5) or any location with no top access.

Figure 16-22 illustrates where each mining method will be used.

Figure 16-22: Schematic Design by Mining Method for Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.2.4.2. Stope Design Methodology

A minimum mining width of 2.5 m was designed for all mining methods. This is based on a minimum vein width of 1.5 m, plus an allowance for 0.5 m on the hanging wall and footwall. The 0.5 m of dilution on the hanging wall and footwall are added regardless of the vein width, to ensure that the mineable shapes include a reasonable amount of planned dilution.

Based on an estimate of mining costs, a COV was calculated and then applied to the different portions of the deposit identified for mining. The various COVs used throughout the mine for the design of production stopes are summarized in Table 16-19.

Table 16-19: Cut-Off Value by Vein and Mining Method for Ermitaño Mine

Vein	Mining Method	Fully Costed ($ /t NSR)	Incremental ($ /t NSR)	Marginal ($ /t NSR)
All	Avoca	110	85	50

Once the mining locations were identified, an economic analysis of the stope design was completed to identify which mineable shapes supported an operation profit and therefore were to be included in the schedule, which was created using Deswik Interactive Scheduler (Deswik.IS).

16.2.4.3. Unplanned Dilution and Mining Loss

Each production shape was assigned an unplanned backfill dilution and mining loss factor based on the characteristics of adjacent stopes, as summarized in Table 16-20.

Table 16-20 - Unplanned Dilution and Mining Loss Factors

Mining Method	Far Wall (Contact)	Floor (Contact)	Back (Contact)	Fill Dilution (%)	ELOS [1] (m)	Mining Loss (%)
Avoca	CRF	Solid Rock	Solid Rock	3	1.0	5
Avoca	RF	CRF	Solid Rock	3	1.0	7
Avoca	RF	RF	Solid Rock	9	1.0	7
Avoca	RF	Solid Rock	Solid Rock	3	1.0	5
Longhole with Pillars	Solid Rock	RF	Solid Rock	3	1.0	28 [2]
Longhole with Pillars	Solid Rock	RF	CRF	6	1.0	28 [2]

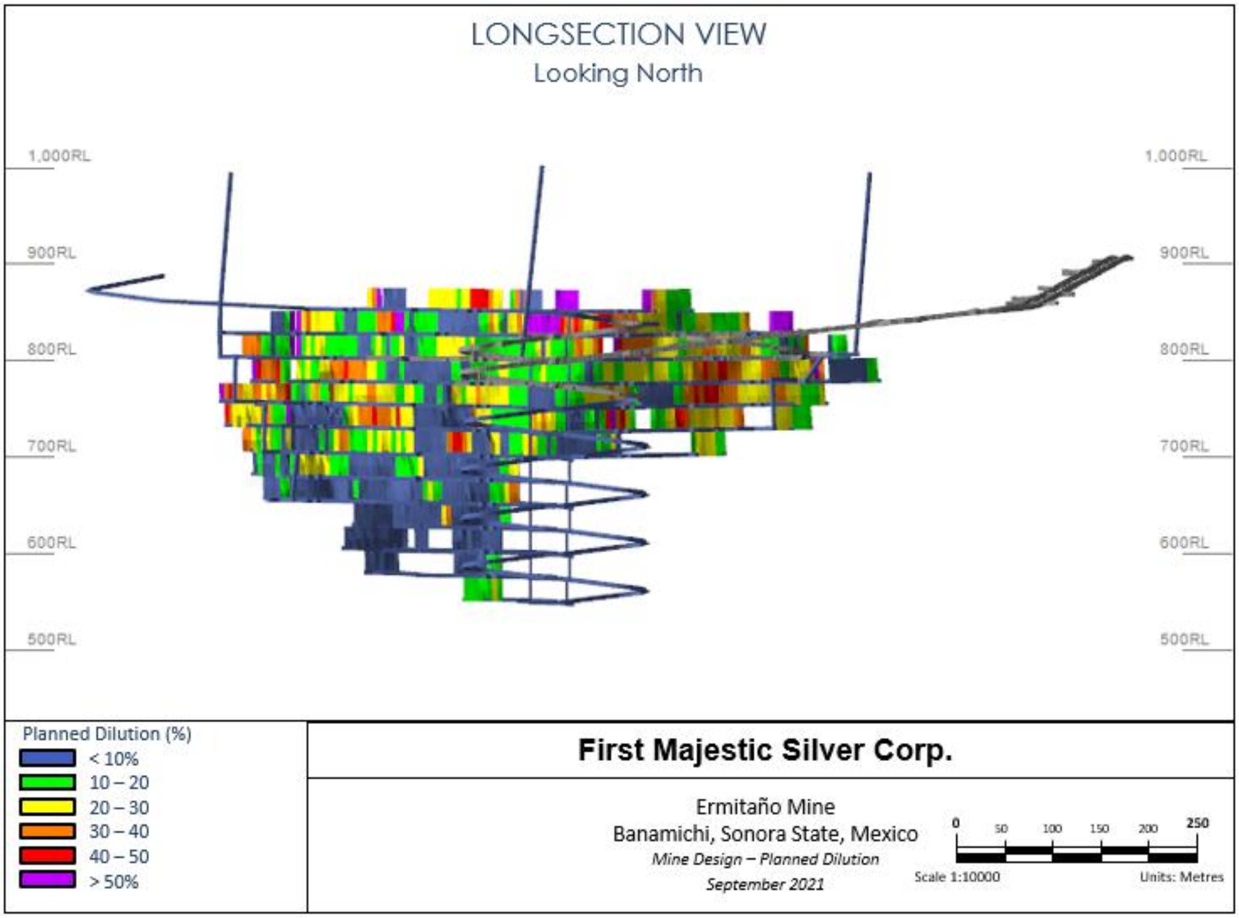
[1] *Equivalent Linear Overbreak Sloughing – Sum of Footwall and Hanging wall Dilution, accounted for in the mineable shapes*

[2] *Mining loss in Longhole with Pillars mining method includes rib pillars used for stope stability*

In addition to these factors, every mineable shape also included planned dilution, which is mineralized material below the cut-off value contained within the designed stope and incorporated for practical operational purposes.

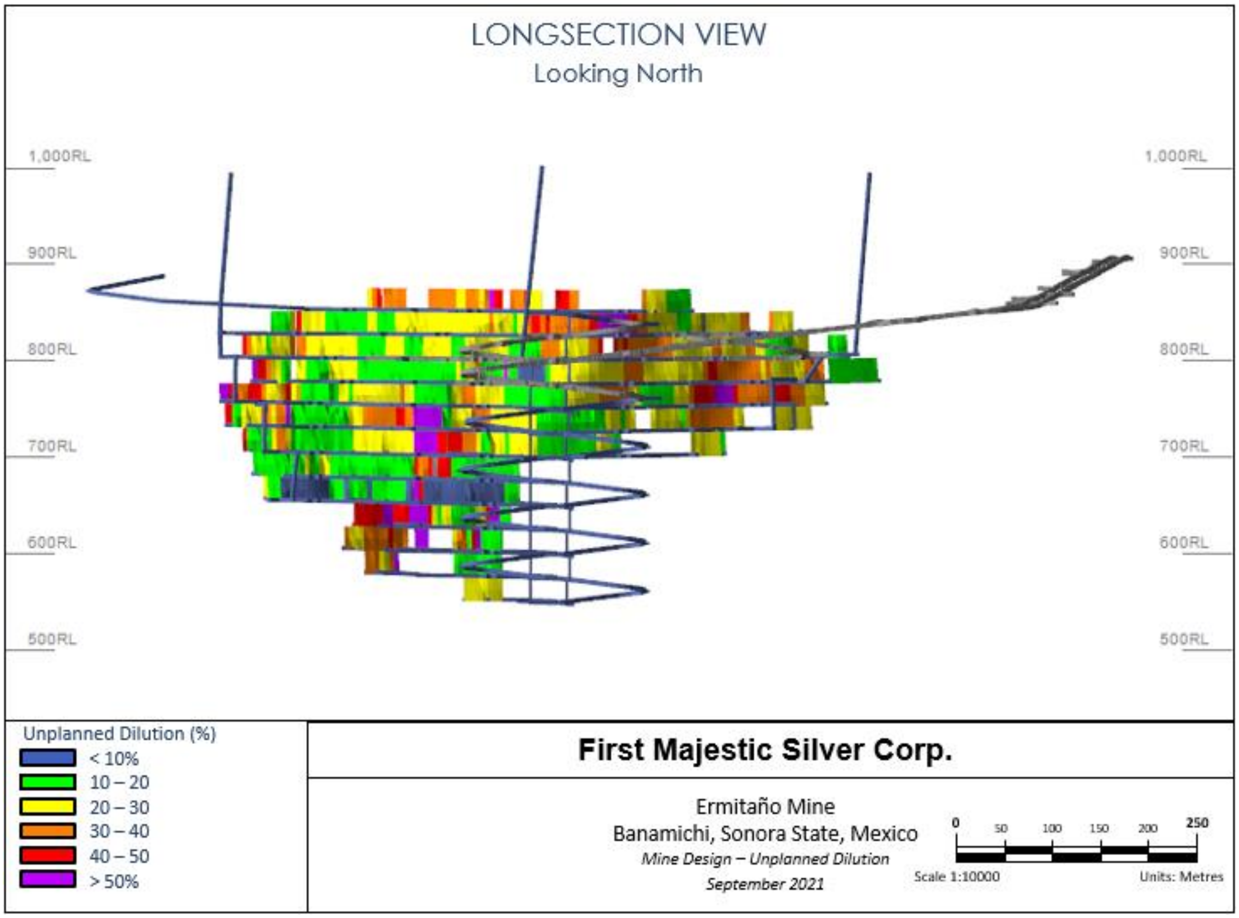
A long section of the mine design showing the planned dilution, unplanned dilution, and total dilution are provided in Figure 16-23, Figure 16-24, and Figure 16-25, respectively.

Figure 16-23: Estimated Planned Dilution for Ermitaño Mine



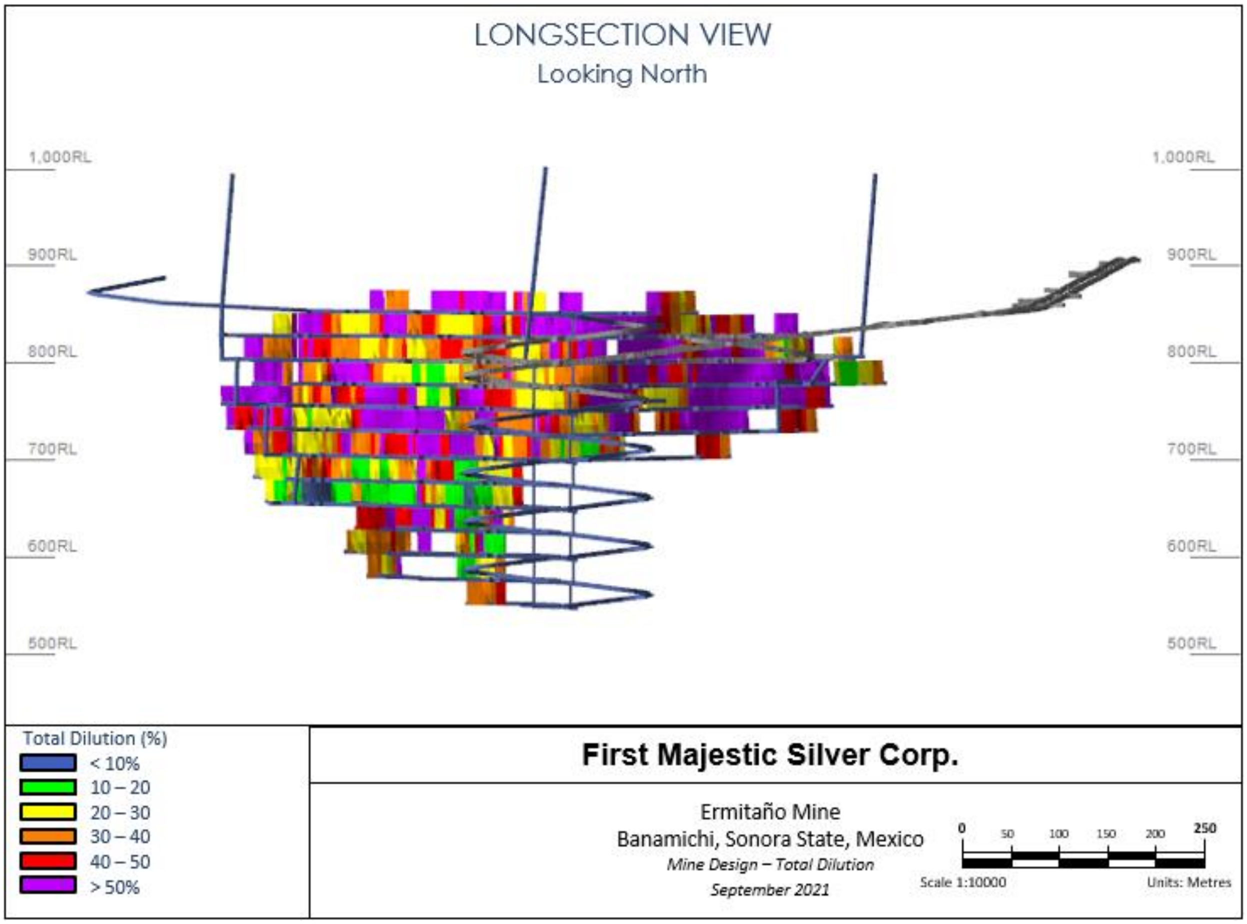
Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Figure 16-24 - Estimated Unplanned Dilution for Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Figure 16-25: Estimated Total Dilution for Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.2.4.4. Development

The development design incorporates a minimum stand-off distance of approximately 50 m to locate the ramp away from mineralisation. This distance is assumed to avoid damage to the ramp due to ground stress changes and blasting from stope extraction. This stand-off distance also allows sufficient space between the ramp and the orebody for the excavation of the level accesses, stockpiles and sumps, and where needed, slashing for cut-and-fill drifts.

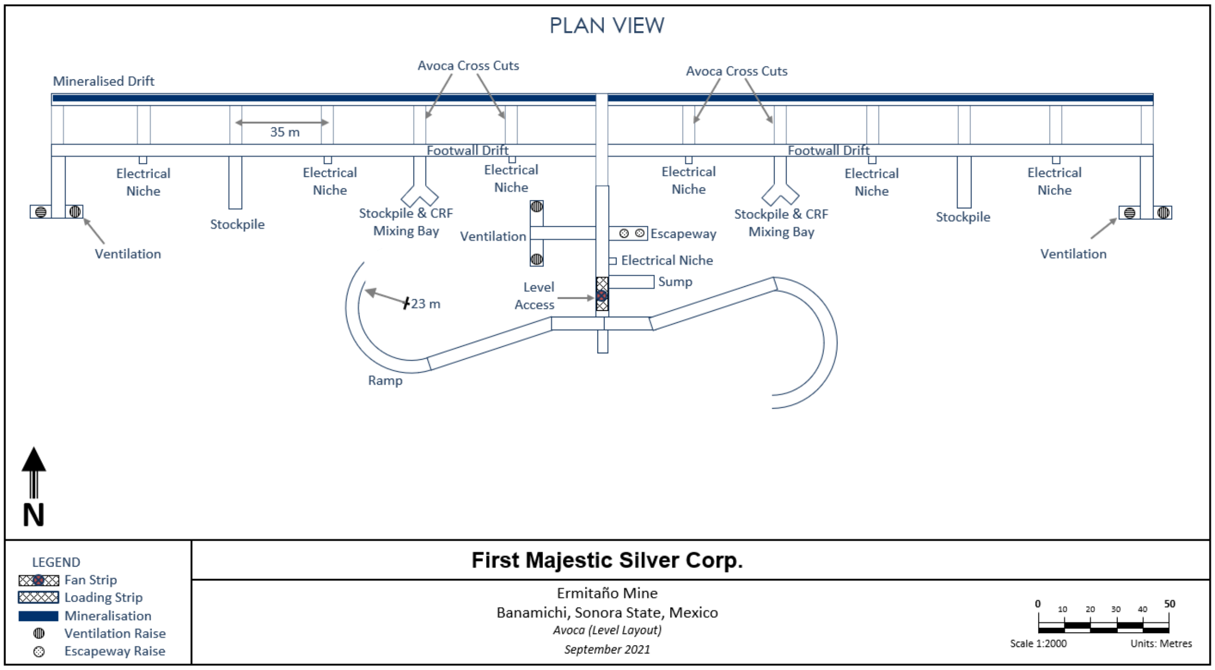
A ramp mined with an arched profile will be excavated to a width of 5.0 m and a height of 5.0 m. This profile allows sufficient room to accommodate current underground fleet as well as secondary ventilation ducting and service piping. Other planned development includes the following:

- Access drifts;
- Sills (development on mineralisation);

- Operating waste development (sills mining material below cut-off);
- Sumps;
- Escapeways and accesses to the escapeways;
- Return airways and accesses to the return airways;
- Stockpiles; and,
- Ore-passes and the access to the ore-passes, where required.

A typical level layout for Avoca longhole stoping is provided in Figure 16-26.

Figure 16-26: Ermitaño Mine Level Layout – Avoca and Longhole



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

The various development profiles are shown in Table 16-21.

Table 16-21: Development Profiles for Ermitaño Mine

Development Type	Width (m)	Height (m)
Ramp	5.0	5.0
Access	5.0	5.0
Stockpile	5.0	5.0
Ventilation Accesses	4.5	4.5
Escapeway Access	4.0	4.0
Electrical Niche	2.5	3.0
Sump	4.0	4.0
Footwall Drive	4.5	4.5
Crosscuts	4.5	4.5
Ore Drifts	4.5	4.0
Escapeways	2.5	2.5
Ventilation Raises	3.0	3.0
Surface Raises	3.0	-

16.2.4.5. Mine Schedule

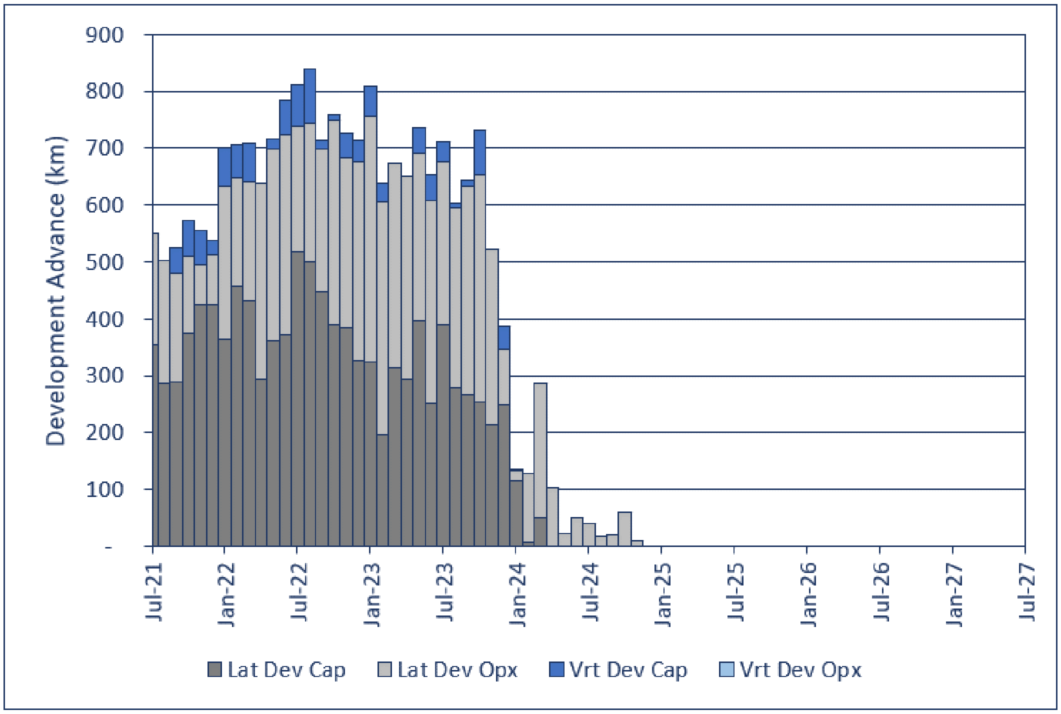
The Ermitaño mine production rates are based on the nearby operating Santa Elena mine, where historical activities guide the schedule rates. Development rates are based on current rates at Ermitaño. For all scheduled activities, a daily rate is applied. These development rates are inclusive of the time taken to drill, blast, muck and install ground support where required, and are summarized in Table 16-22.

Table 16-22: Schedule Productivities for Ermitaño Mine

Item	Units	Rate
Lateral Development	m / day	2 – 4
Vertical Development	m / day	2
Production Drilling	m / day	250
Longitudinal Longhole	t / day	1,000
Longhole Avoca	t / day	1,000
Backfill	m^3 / day	550

There are three jumbos available to the mine for development, which are considered sufficient to meet the required development estimated in the LOM plan. The monthly development requirements are illustrated in Figure 16-27, and the annual development is summarized in Table 16-23.

Figure 16-27: Underground Development Requirements for Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Table 16-23: Annual Development Requirements for Ermitaño Mine

Lateral Development	**Units**	**Total**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Capital	**m**	**10,595**	**2,153**	**4,845**	**3,425**	**173**	**0**	**0**	**0**
Ramp	m	1,956	347	733	875	0	0	0	0
Level Access	m	888	118	281	460	28	0	0	0
Other	m	7,752	1,687	3,830	2,089	145	0	0	0
Operating	**m**	**9,010**	**898**	**3,429**	**3,986**	**698**	**0**	**0**	**0**
Ore Drive	m	6,114	418	2,349	2,826	520	0	0	0
Other	m	2,896	480	1,079	1,159	178	0	0	0
Total Lateral Development	**m**	**19,605**	**3,051**	**8,273**	**7,410**	**871**	**0**	**0**	**0**

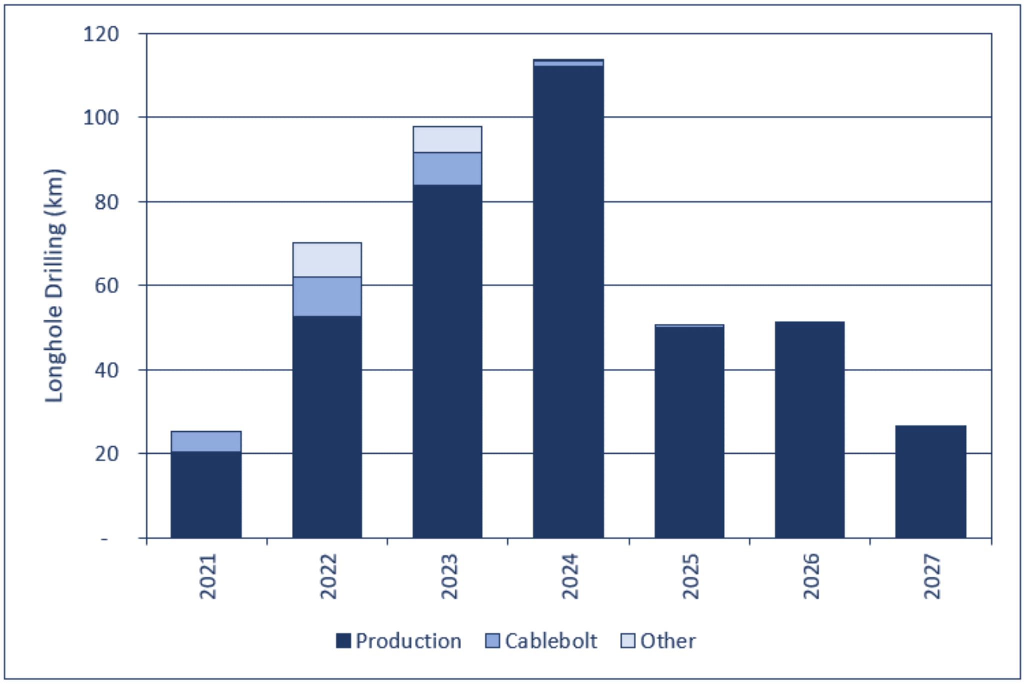
Vertical Development

Vertical development is primarily completed by longhole mining techniques up to a size of 3.0 m by 3.0 m. Large diameter raises will be excavated either by a raisebore machine (contract) or by longhole raising. For scheduling, a development rate of 2 m per day was applied to all vertical development.

Longhole Drilling

Longhole drilling productivity is expected to be 125 – 250 m per day depending on the drilling activity undertaken. The mine schedule used a rate of 250 m per day per drill (average of 68 km per year), which allows for production drilling and general service holes. For the Ermitaño mine, two longhole drill rigs are used, and are considered to meet the estimated requirements as illustrated in Figure 16-28 and summarized in Table 16-24.

Figure 16-28: Longhole Drilling Requirements for Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Table 16-24: Annual Longhole Drilling Requirements for Ermitaño Mine

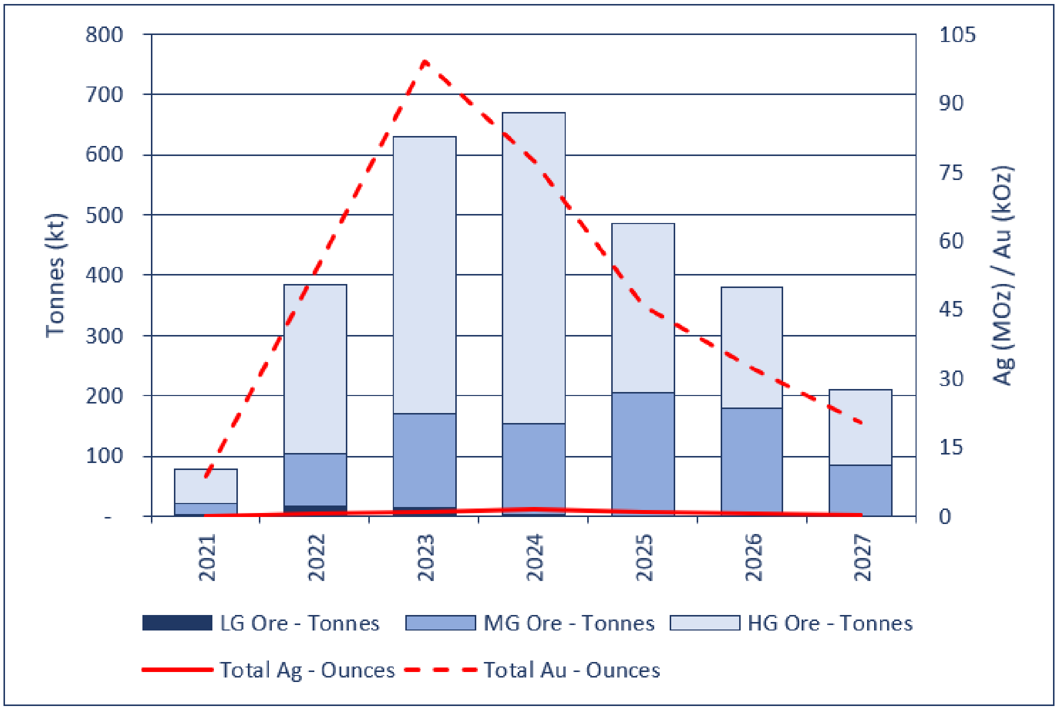
Longhole Drilling	**Units**	**Total**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Production	Km	396	20	53	84	112	50	51	26
Cablebolt	Km	9	1	2	3	1	0	0	0
Other	Km	30	3	15	12	0	0	0	0
Total	**Km**	**435**	**25**	**70**	**98**	**113**	**51**	**51**	**27**

Material Movement

The load-and-haul fleet will be set up to handle approximately 2,750 tpd (45 kt per month) from the mine. The current and planned load-and-haul fleet used at the Ermitaño mine is summarized in Table 16-27, the ventilation requirements table for Ermitaño. This mining fleet and equipment is considered sufficient for the current operational requirements of the LOM plan presented in this Report, with future equipment planned for acquisition to satisfy the requirements of the LOM.

The overall material production profile is illustrated in Figure 16-29 and summarized in Table 16-25. COVs for the High Grade (HG), Medium Grade (MG) and Low Grade (LG) bins are $150 /t NSR, $85 /t NSR and $50 /t NSR, respectively.

Figure 16-29: Annual Production for Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

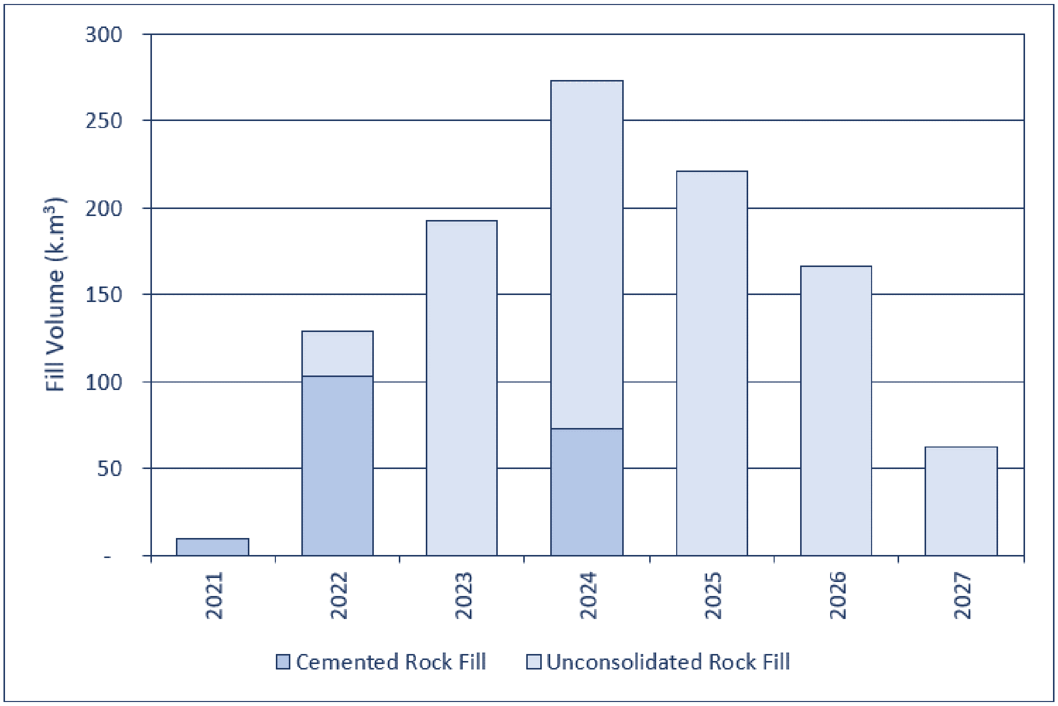
Table 16-25: Annual Material Movement for Ermitaño Mine

Mined Material Movement	Units	Total	2021	2022	2023	2024	2025	2026	2027
Total Ore	**kt**	**2,835**	**77**	**384**	**629**	**669**	**486**	**380**	**210**
Development Ore	kt	288	24	118	132	14	0	0	0
Production Ore	kt	2,546	53	265	497	655	486	380	210
Total Waste	kt	765	143	326	264	32	0	0	0
Total Material	**kt**	**3,600**	**221**	**710**	**893**	**701**	**486**	**380**	**210**
Silver Mined	MOz	4.9	0.1	0.5	0.9	1.5	0.8	0.7	0.3
Gold Mined	kOz	336.7	8.6	53.3	99.1	77.4	45.7	32.2	20.3

Backfill

Production voids with planned overhead mining will be backfilled with unconsolidated waste rock, or cemented rockfill where underhand mining is proposed. Production areas with no backfill will use rib pillars to provide ground stability. The backfill will be placed into production voids using the primary stope loaders. The annual backfill requirements for the Ermitaño mine are presented in Figure 16-30 and summarized in Table 16-26.

Figure 16-30: Annual Backfill Requirements for Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

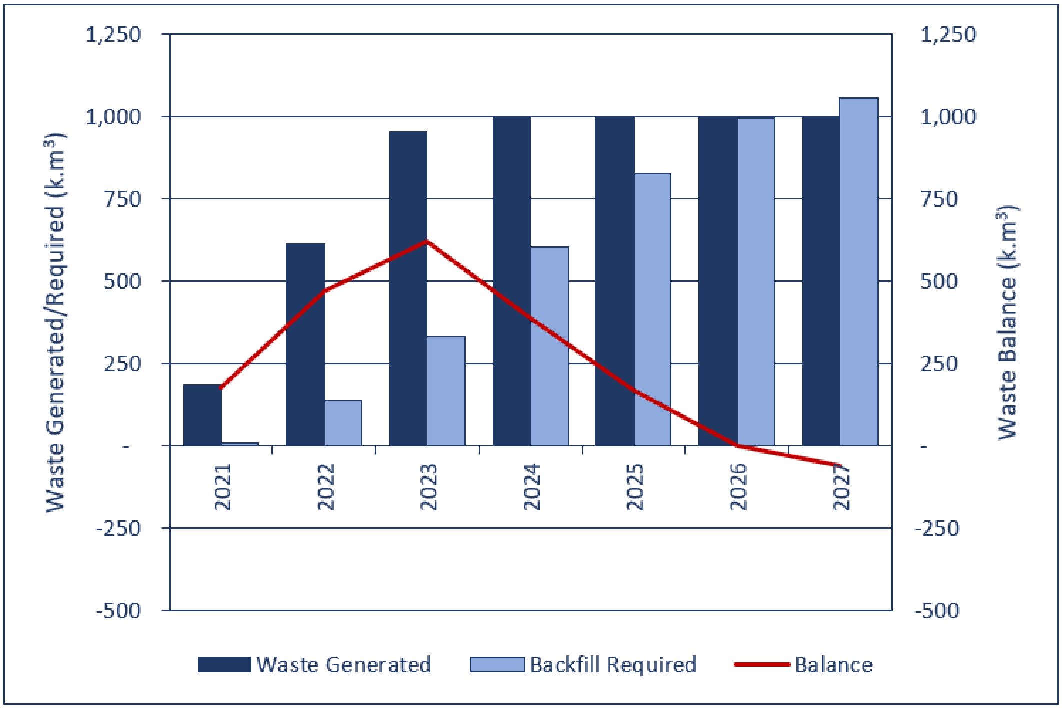
Table 16-26: Annual Backfill Requirements for Ermitaño Mine

Backfill	**Units**	**Total**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Cemented Rock Fill	k.m3	186	10	103	0	73	0	0	0
Unconsolidated Rock Fill	k.m3	869	0	26	193	200	221	167	62
Total Backfill	**k.m3**	**1,055**	**10**	**129**	**193**	**273**	**221**	**167**	**62**

As there is limited waste rock being generated within the mine, waste rock sourced from the waste rock storage facility will be backhauled from surface. The waste rock balance is illustrated in Figure 16-31 and shows that additional waste rock for backfill is required in 2026. The additional backfill required for

Ermitaño mine will be sourced from waste material deposits from the historical open pit operation and backhauled to fill underground workings.

Figure 16-31: Waste Rock Balance Required for Backfilling at Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.2.4.6. Underground Infrastructure and Services

Portals

The Ermitaño mine has two established mine entrances, a twin portal accessing from the north-eastern side of the orebody. Located at the existing portals is a maintained tag board, general safety information, and signage.

There is an additional underground access planned from the north-western side of the orebody, to be completed from underground in 2022. The additional access will serve as a secondary means of egress from the mine and for clean air intake.

The twin access portals are shown in Figure 16-32.

Figure 16-32: Ermitaño Mine Portal

Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Primary Ventilation

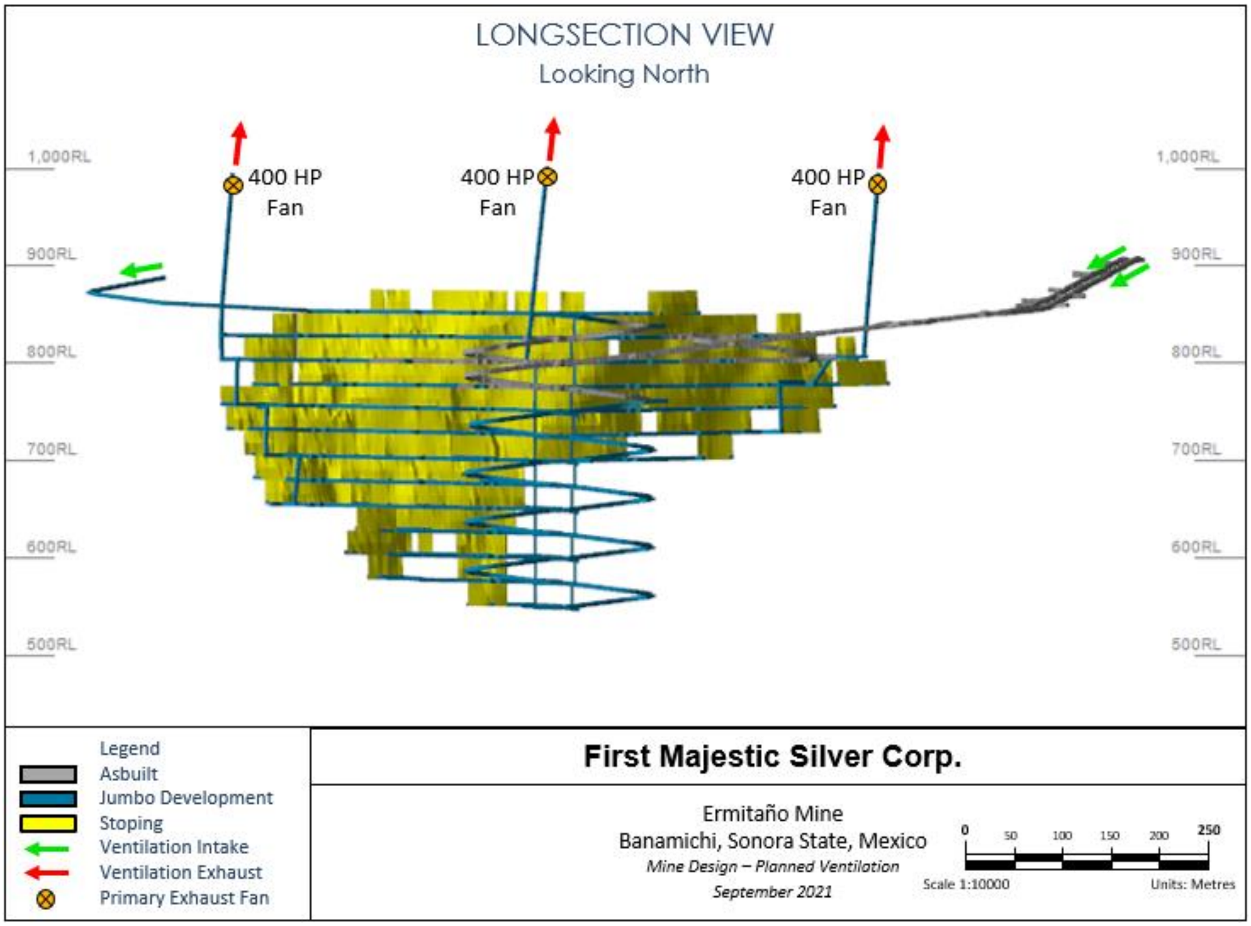
The ventilation system is planned to use a pull system with fresh air being drawn through the main twin ramps, as well as the planned Western Access ramp. Spent air will then exhaust out of the three vent raises to surface at the centre and edges of planned mineralisation. There are three 400 HP (300kW) primary fans proposed to be installed on surface that are estimated to provide a total of 495 kCFM (234 m^3/s) to the mine. To cover surges in area production, the blade pitch can be adjusted to modify the flow into the mine.

The ventilation circuit was modeled in Ventsim, an industry-standard software used to model the airflows predicted for the mine. The ventilation demand was estimated based on Mexican regulations that require a minimum ventilation airflow of 75 CFM per HP (0.047m^3/s per kW) of mobile equipment. The estimated primary ventilation demand is shown in Table 16-27 and ventilation circuit illustrated in Figure 16-33.

Table 16-27: Ventilation Demand Estimate for the Ermitaño Mine

Equipment / Unit	**Model**	**Quantity (#)**	**Unit (HP)**	**Unit (kW)**	**Utilisation**	**Requirement (kCFM)**	**Requirement (m^3/s)**
Development Loader	LH515	2	355	265	100%	53.3	25.1
Production Loader	LH515	2	355	265	100%	53.3	25.1
Backfill Loader	LH515	2	355	265	100%	53.3	25.1
Truckloading Loader	LH517i	1	370	275	100%	27.8	13.1
Truck	TH540	2	545	405	100%	81.8	38.6
Truck	TH545i	2	545	405	100%	81.8	38.6
Development Drill	DD320	3	120	89	50%	13.5	6.4
Production Drill	Solo 411	2	180	134	50%	13.5	6.4
Ground Support Drill	DD311	3	80	59	50%	9.0	4.2
Ancillary	TL943D	2	110	82	25%	4.1	1.9
Ancillary	Partindus Scaler 3	2	135	100	25%	5.1	2.4
Ancillary	Corebail KMB4UP	1	100	74	25%	1.9	0.9
Ancillary	Cannon SV11	1	160	120	25%	3.0	1.4
Light Vehicle	Hilux Single Cab	10	165	122	25%	30.9	14.6
Subtotal						432.0 kCFM	203.9 m^3/s
Mine Leakage/Loss	12%					51.8 kCFM	24.5 m^3/s
Total						483.8 kCFM	228.3 m^3/s

Figure 16-33: Primary Ventilation Layout of the Ermitaño Mine



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Auxiliary Ventilation

Where headings are located outside of the primary ventilation circuit, auxiliary fans are required to push the air to the working headings. A variety of secondary fans, ranging from 75–150 HP (55–110 kW) in size, will be installed to deliver the required airflow through flexible ducting to the working headings. The overall aim is to deliver up to approximately 64 kCFM (30 m^3/s) of airflow to the active headings.

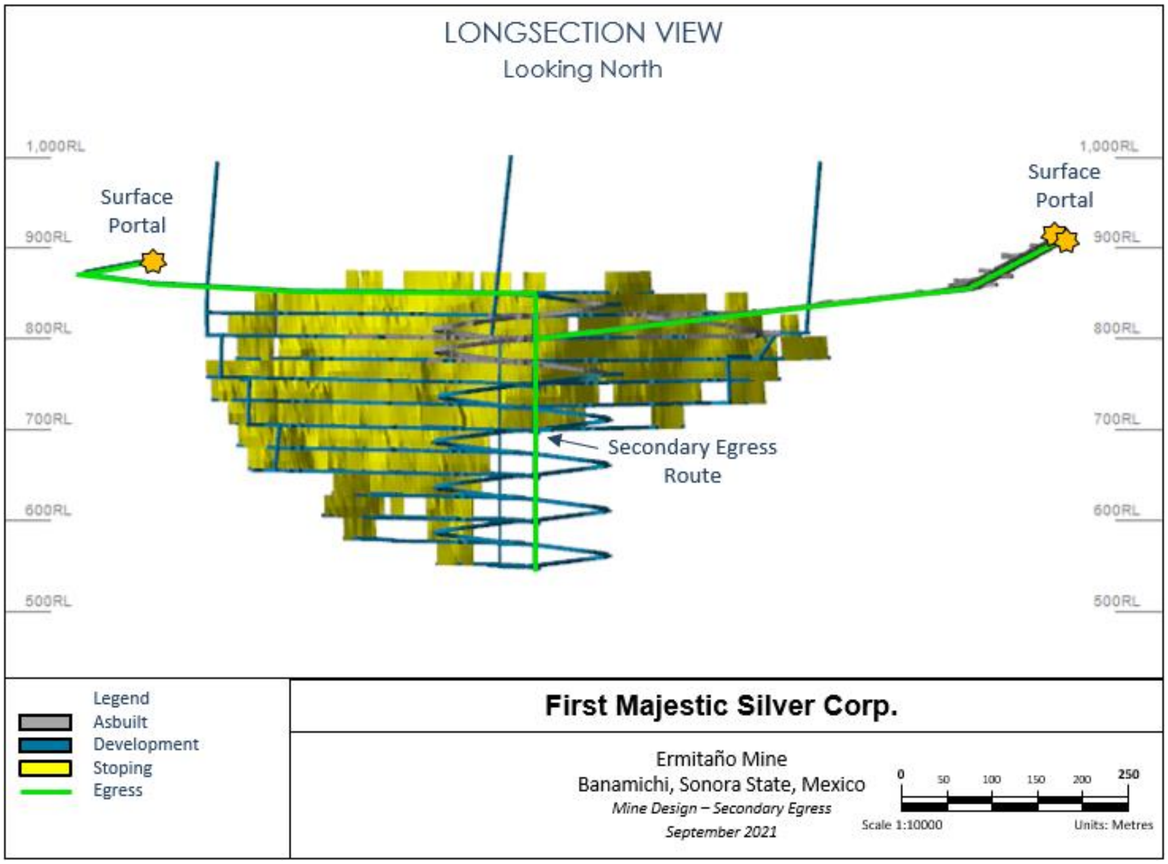
Secondary Means of Egress and Refuge Chambers

A secondary means of egress will be excavated between each level, with main connections to the 796 Level located at the base of the twin ramps to portal, and also to the 846 Level which connects to a third portal on surface. A mobile refuge chamber will also be present, advancing with the ramp where emergency egress and ladders have not been installed.

Egress raises will be developed between levels via drill and blast methods, then outfitted with Safescape emergency egress ladderways and access double doors installed in a wall to reduce entry of smoke and other contaminants.

There is an emergency alarm system to notify personnel of an emergency using stench gas installed on surface at the entrance to the main ramp and in the compressed air line. Additionally, a tracking system is planned to be installed in the miner's head lamps.

Figure 16-34: Ermitaño Mine – Secondary Egress



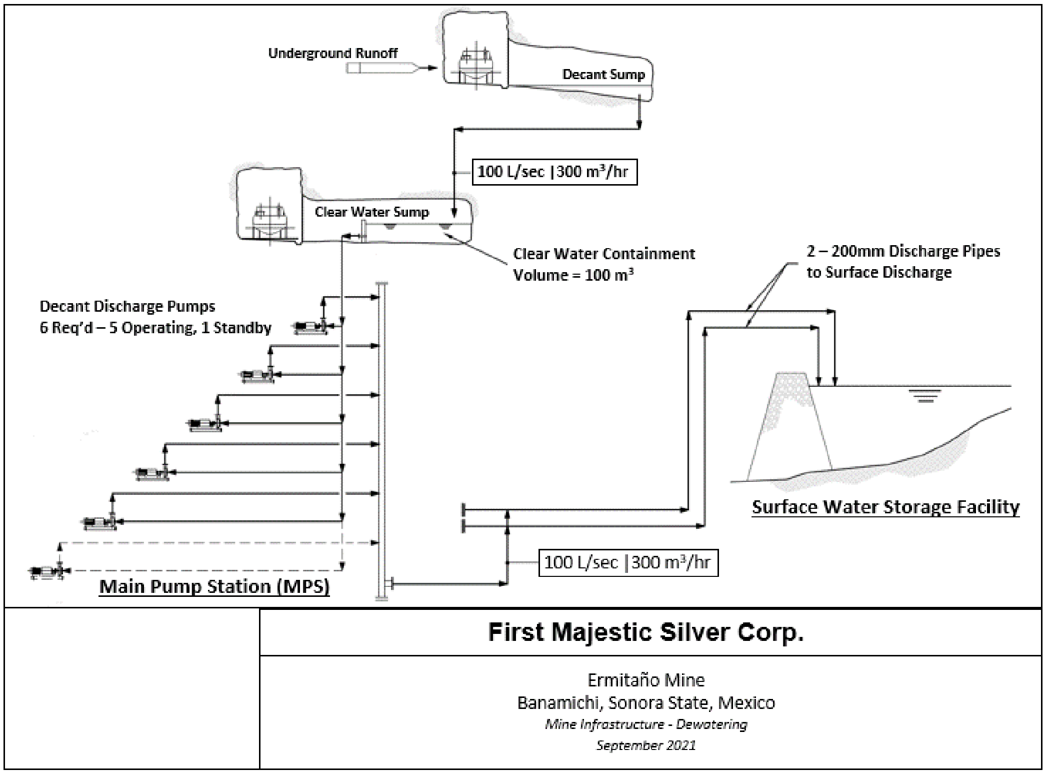
Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Water Management

The proposed underground dewatering system is capable of pumping 100 L/s from underground, with additional capacity of up to 120 L/s (total) used rarely. Mine water is transferred from various decant sumps throughout the mine to a clear water sump. From there, the Main Pumping Station (MPS) at the 695 masl discharges decant water to the surface water storage facility via 2 x 200mm discharge pipes, as illustrated in Figure 16-35.

An additional major pumping station will be required at the 545 masl. Further dewatering activities are planned through using vertical surface wells to lower the water table level in advance of mining activities. It is estimated that flows of up to 150 L/s will be discharged from surface wells to the settling ponds.

Figure 16-35: Ermitaño Mine Infrastructure - Dewatering



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

Compressed Air

As the mine is being established, a single air compressor installed on surface is needed to fulfill the current needs of operations. The compressed air is conducted through a single four-inch pipe that is routed via main ramps and service holes between levels. All compressors will be installed with an air accumulator.

The current list of air compressors within the mine is summarized in Table 16-28.

Table 16-28: Air Compressors Within the Ermitaño Mine

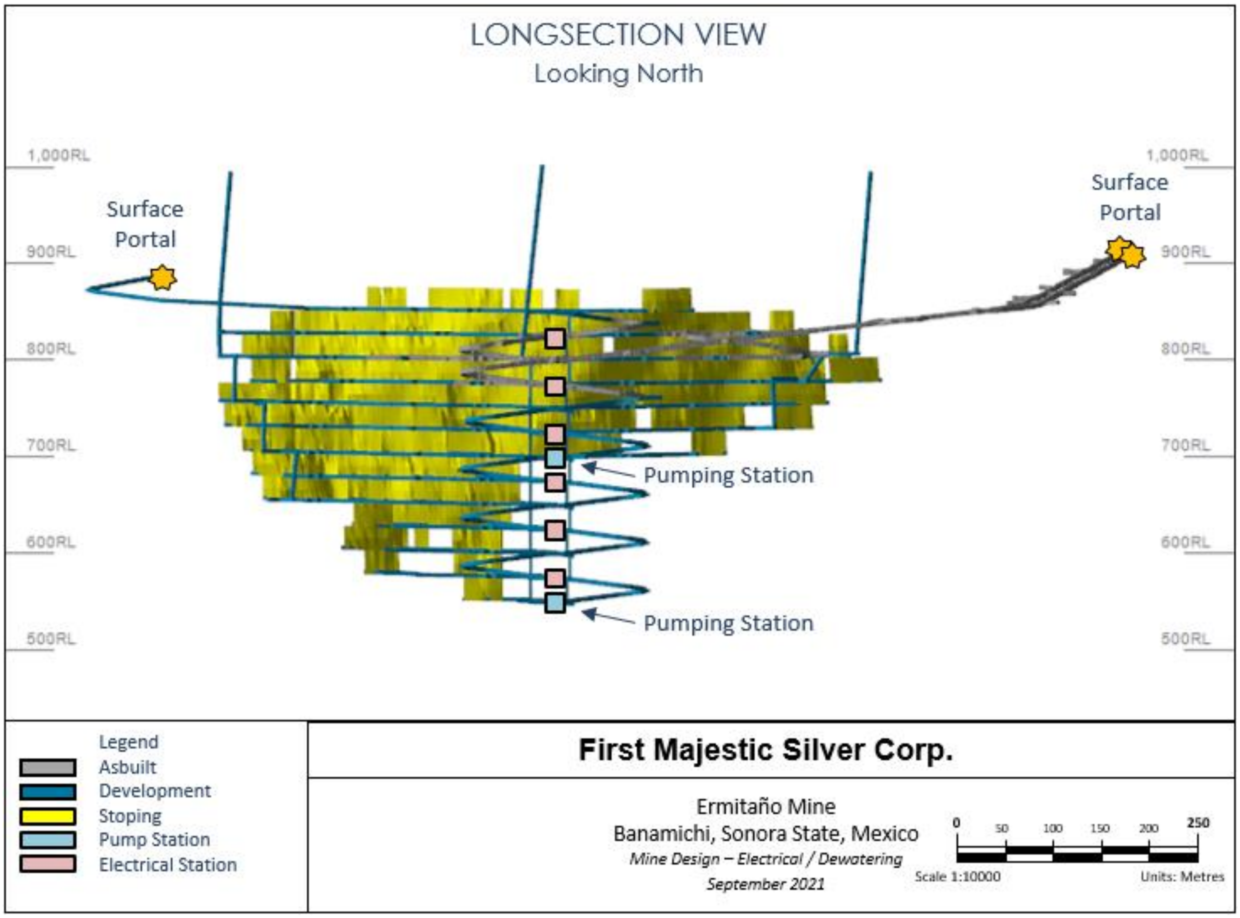
Compressor ID	Manufacturer	Level	Active	Motor (HP)	Motor (kW)
ME-CT-001	Ingersoll Rand	Surface	Electric	220	165

Electrical Power

Electrical power is supplied by the site power station located at the processing facility. The power station produces energy at 4,160 V and is routed through the mine to the primary substations. Power is then stepped down via a transformer to 480 V for use by plant and equipment. Several electrical transformers are strategically located underground to provide the necessary power for mining activities. There is currently a 1000 kVA being utilised by levels above the 800 masl, and future substations will be 500 kVA to service areas below the 800 masl.

The pump stations and electrical transformers that are planned for Ermitaño are illustrated in Figure 16-36.

Figure 16-36: Ermitaño Planned Mine Infrastructure – Dewatering and Electrical.



Note: Figure prepared by Entech Mining Ltd. for First Majestic, September 2021.

16.3. Santa Elena Mine Schedule

The consolidated LOM production schedule for Santa Elena mine, Ermitaño mine and the Leach Pad material is shown in Table *16-29*.

Table 16-29: Consolidated Santa Elena Production Schedule

LOM Production Schedule	**Units**	**Total**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Total Ore	**kt**	**5,047**	**470**	**982**	**924**	**904**	**774**	**662**	**331**
Santa Elena Mine	kt	1,929	263	509	231	235	288	282	121
Ermitaño Mine	kt	2,835	77	384	629	669	486	380	210
Leach Pad	kt	283	130	89	64	-	-	-	-
Silver Grades	**g/t Ag**	**78**	**73**	**76**	**57**	**89**	**88**	**85**	**66**
Santa Elena Mine	g/t Ag	120	95	110	108	146	151	121	103
Ermitaño Mine	g/t Ag	54	40	40	45	70	51	57	44
Leach Pad	g/t Ag	31	48	35	-	-	-	-	-
Gold Grades	**g/t Au**	**2.58**	**1.44**	**2.40**	**3.58**	**3.00**	**2.29**	**2.06**	**2.51**
Santa Elena Mine	g/t Au	1.24	1.31	1.18	0.97	1.28	1.21	1.29	1.65
Ermitaño Mine	g/t Au	3.69	3.47	4.32	4.90	3.60	2.92	2.64	3.01
Leach Pad	g/t Au	0.56	0.48	1.08	-	-	-	-	-
Total Silver Mined	**MOz**	**12.6**	**1.1**	**2.4**	**1.7**	**2.6**	**2.2**	**1.8**	**0.7**
Santa Elena Mine	MOz	7.4	0.8	1.8	0.8	1.1	1.4	1.1	0.4
Ermitaño Mine	MOz	4.9	0.1	0.5	0.9	1.5	0.8	0.7	0.3
Leach Pad	MOz	0.3	0.2	0.1	-	-	-	-	-
Total Gold Mined	**kOz**	**418**	**22**	**76**	**106**	**87**	**57**	**44**	**27**
Santa Elena Mine	kOz	77	11	19	7	10	11	12	6
Ermitaño Mine	kOz	337	9	53	99	77	46	32	20
Leach Pad	kOz	5	2	3	-	-	-	-	-

Numbers have been rounded as required by reporting guidelines. Totals may not sum due to rounding.

17. RECOVERY METHODS

17.1. Introduction

Santa Elena has been processing what is known as the Santa Elena blend which consists of high-grade underground mineralized material blended with spent-ore from the existing heap leach pad. The processing plant has been successfully operating for several years and has continuously improved the metallurgical recoveries for silver and gold. The process is based on cyanide tank leaching and Merrill-Crowe smelting of fine-ground ore to produce silver–gold doré bars.

The nominal plant capacity is for the processing of 3,000 tpd with the possibility of higher throughput rates depending on ore hardness, targeted final grind, and leaching residence time. Plant throughput averaged 2,500, 2,150 and 2,450 tpd in 2019, 2020 and the first half of 2021, respectively. Plant feed head grades averaged 90 g/t Ag and 1.48 g/t Au from January 2019 to June 2021.

With the introduction of mineralized material from Ermitaño, the plant will continue to process the Santa Elena blend in campaigns alternating with fresh material from Ermitaño. As discussed in Section 13, there are significant differences between these two ores in terms of hardness and metallurgical performance at different grinding sizes. For the achievement of optimum levels of metal recoveries and the corresponding maximum metal production, the Santa Elena ore will be processed at higher throughput rates than the Ermitaño ore during their corresponding production campaigns. Average operating throughput targets are 3,350 and 2,350 tpd for Santa Elena and Ermitaño, respectively. The rationale behind the throughput difference is due to the higher hardness, abrasiveness, and particle size sensitivity of the Ermitaño ore when compared to Santa Elena ore. Both campaigns are expected to achieve a final particle size 50 microns P80 at their respective optimum operating conditions until the commissioning of the additional tailings filtration circuit, which is based on pressure filtration. After the commissioning is completed in Q3-2022 the grind size will be reduced to 30 microns P80.

17.2. Processing Plant Configuration

The processing plant is mostly built as a single train with the crushing area split from the remaining areas and connected through a belt conveyor to transfer the crushed product from the screening undersize to the fine stockpiles.

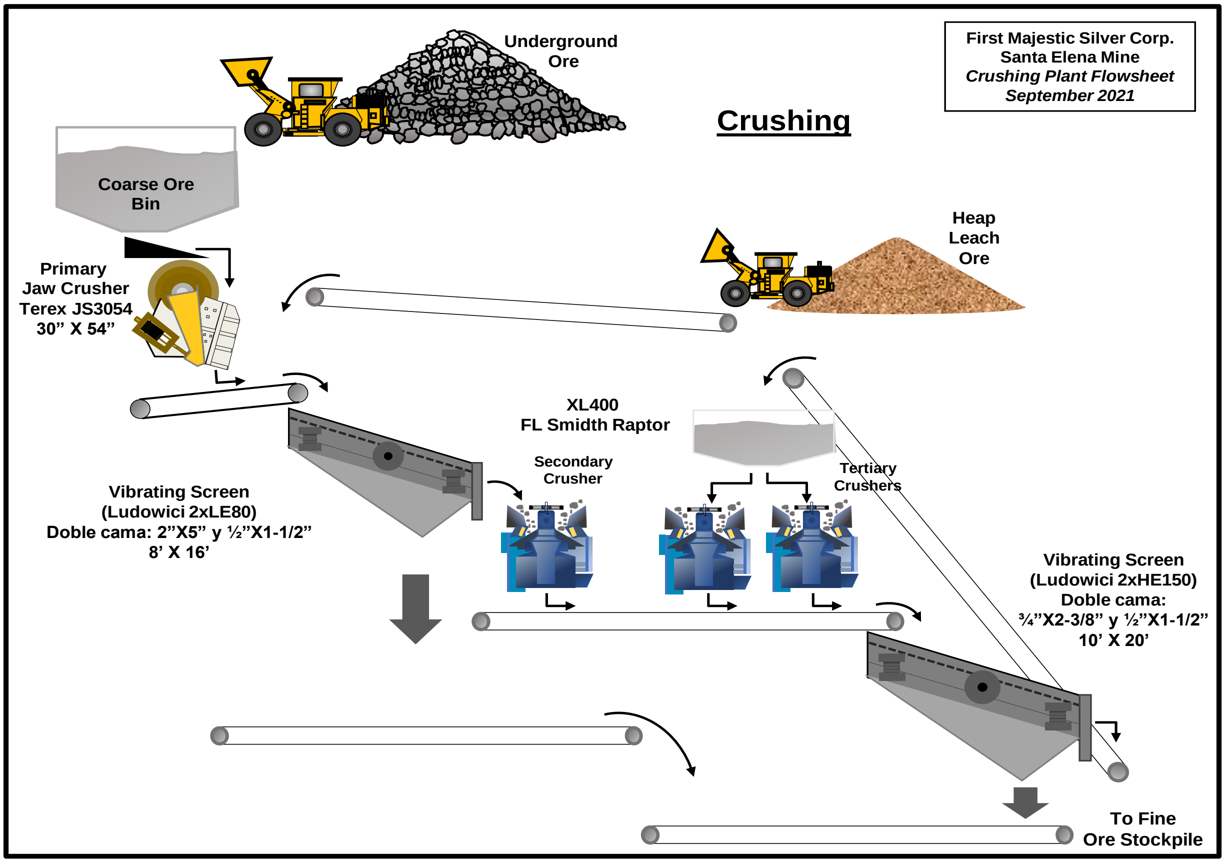
The plant consists of the following operating units:

- Crushing: Three-stage crushing circuit consisting of a primary jaw crusher, followed by a secondary cone crusher and a closed-circuit tertiary crushing with two cone crushers and one dry vibrating screen;
- Two crushed ore stockpiles: One for the Santa Elena blend, and one for the Ermitaño ore;
- Grinding: One ball mill in closed circuit with hydrocyclones working in parallel;
- Regrinding: One Outotec HIG-Mill;

- Cyanide Leaching: Five agitated tanks, with a sixth tank projected to be installed by Q4-2022;
- CCD: Three counter-current decantation thickeners (CCD) working in series, with a fourth CCD projected to be installed in Q3-2022 and commissioned in Q4 2022;
- Merrill-Crowe, precipitate handling and smelting;
- Tailings management: Two belt-filters with cyanide reduction system and tailings handling conveyors. One Outotec Press Filter FFP 3512 fully expanded to 98/98 plates, projected to be installed in Q3-2022 and commissioned by Q4-2022.

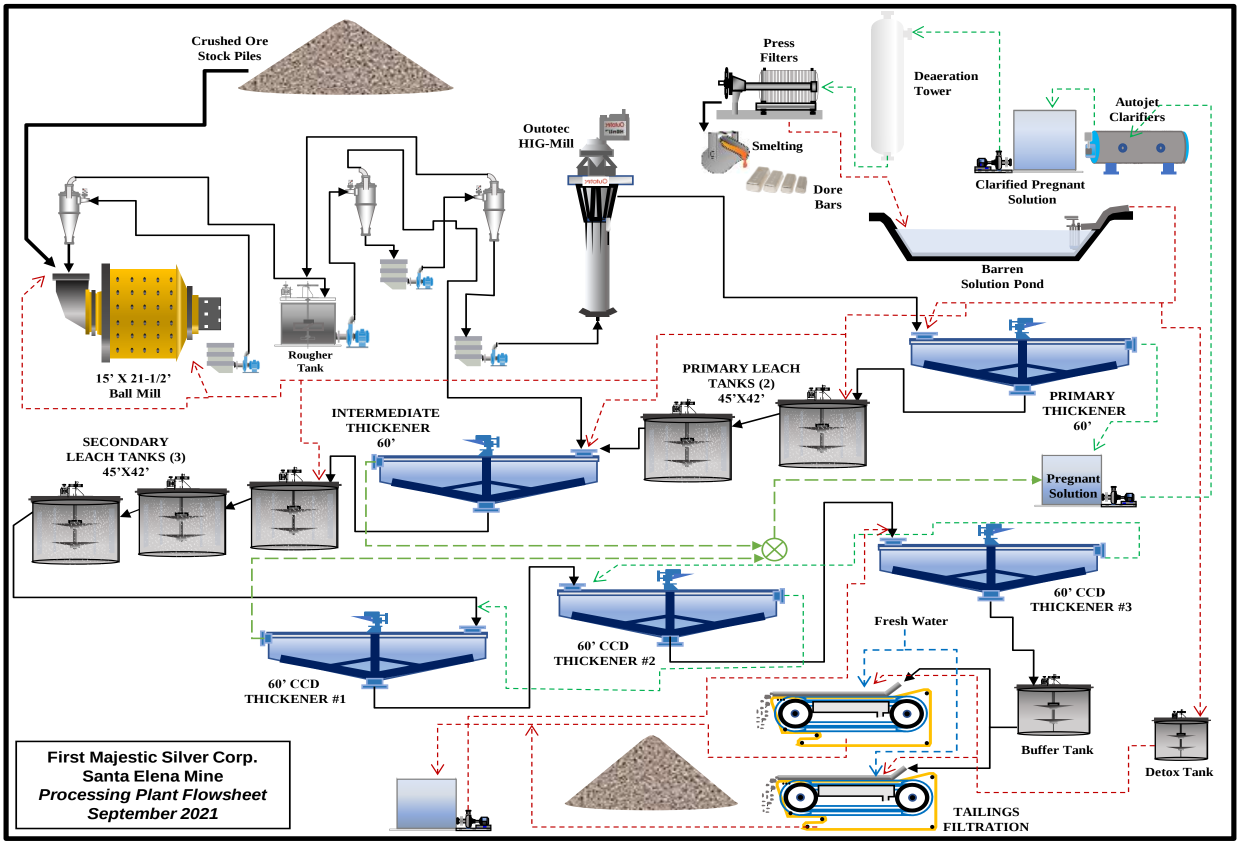
Figure 17-1 shows the comminution flowsheet and Figure 17-2 illustrates the processing flowsheet from the crushed ore bins to the production of doré bars. Figure 17-3 illustrates the projected flowsheet with the inclusion of the new press filter, leaching tank and CCD thickener to be commissioned in Q4-2022.

Figure 17-1: Santa Elena Schematic Crushing Plant Flowsheet



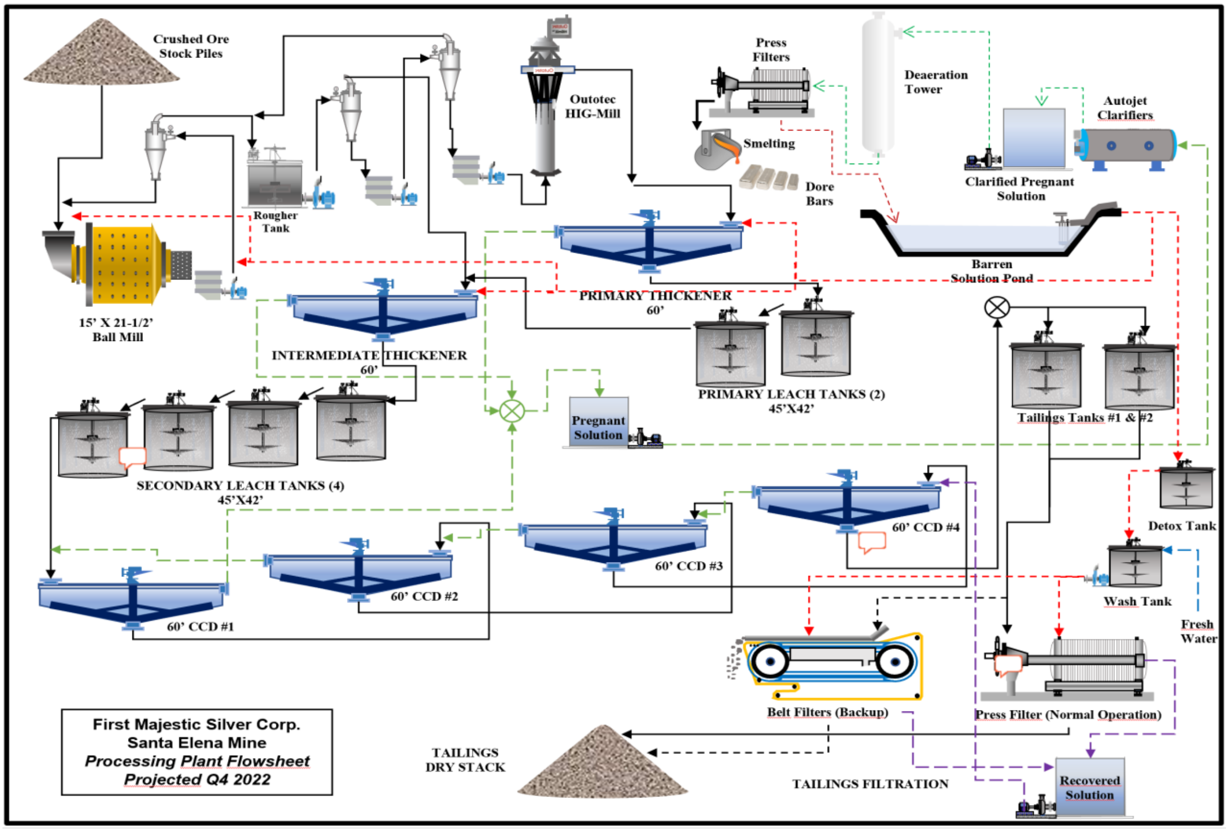
Note: Figure prepared by First Majestic, September 2021.

Figure 17-2: Current Santa Elena Processing Plant Flowsheet



Note: Figure prepared by First Majestic, September 2021.

Figure 17-3: Projected Santa Elena Processing Plant Flowsheet



Note: Figure prepared by First Majestic, October 2021.

17.2.1. Plant Feed

The plant is currently fed with the Santa Elena blend consisting in a mixture of fresh underground ore and spent-ore from the heap leach.

The ore from the heap leach is fed directly to the primary screen of the crushing circuit, to crush any oversize material (+1/4 inch) prior to feeding the grinding circuit. The underground ROM material delivered from the mine is dumped on an intermediary stockpile and then hauled to feed a coarse ore bin upstream of the crushing circuit.

The coarse ore bin is equipped with a vibrating grizzly screen at the top. The grizzly has openings from 1" to 4", allowing fine material to bypass the primary crusher.

17.2.2. Crushing

The crushing circuit has a nominal capacity of 240 t/hr and the flowsheet consists of three reduction stages: primary, secondary, and tertiary crushing. The ore from the intermediary stockpile is fed into a coarse ore bin, which is fed to a 20” x 36” primary jaw crusher and reduced to -3” to -4”. This product is transported by a conveyor belt to an 8' x 16’ double deck vibrating screen (scalper).

The over size of the vibrating screen flows into the secondary crusher, an XL400 FLSmidth Raptor Crusher, which reduces the size to ~1”. The discharge from this crusher feeds a closed tertiary circuit, which has two XL400 FLSmidth Raptor crushers and a 10 'x 20' double deck vibrating screen.

The upper deck has ¾” x 2⅜” openings, while the lower section has ¼” x 1” openings. The undersize of the screen contains material from 90–97% minus ¼” (6,350 µm). The oversize of the vibrating screen flows back into the tertiary-crushing closed circuit.

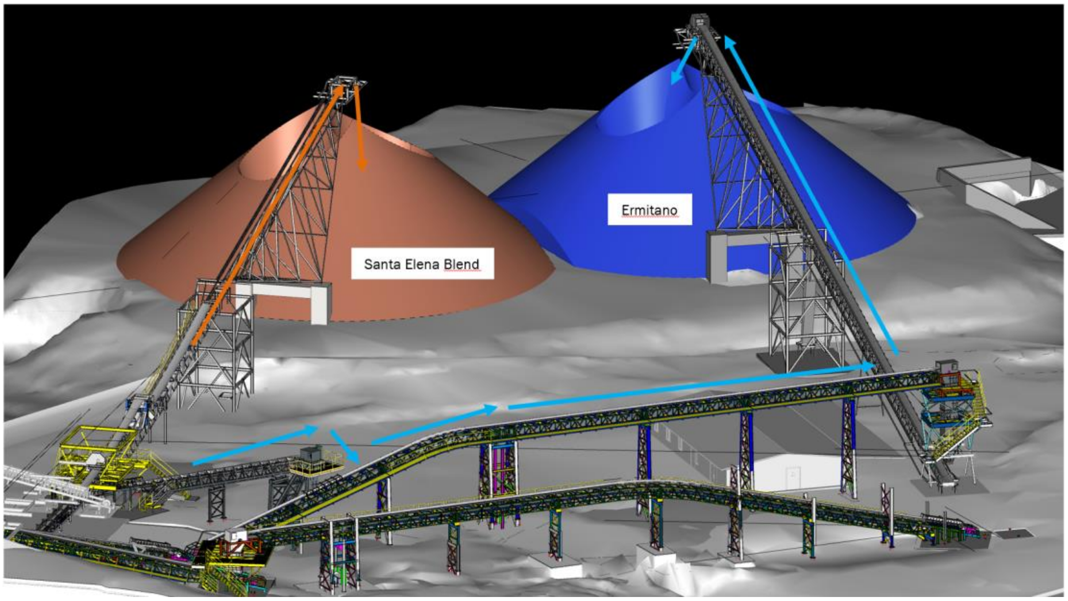
The undersize product from both vibrating screens is transported by a belt conveyor and discharged into the fine ore stockpiles. The particle size in the fine ore stockpiles has approximately 95% minus ¼” and average moisture content of 3–4%.

The existing crushing circuit at the Santa Elena plant will be used for both Ermitaño material and the Santa Elena blend.

17.2.3. Crushed Ore Stockpiles

A diverter chute and a couple of additional conveyor belts will be installed in Q1-2022, providing the ability for the crushed final product conveyor belt to report not only to the Santa Elena blend crushed ore stockpile but also to the Ermitaño crushed ore stockpile as shown in Figure 17-4. This new arrangement will keep the different ores types separate, providing an additional level of flexibility for campaign processing, facilitating the implementation of different grinding and processing settings.

Figure 17-4: Crushed Ore Stockpiles and Diverter Chute Arrangement



Note: Figure prepared by First Majestic, October 2021.

17.2.4. Primary Grinding

The crushed ore from respective stockpiles, is fed through a conveyor belt to a primary grinding circuit equipped with a 15’ D x 21-½’ (diameter by length) FLSmidth ball mill operating in closed circuit with an hydrocyclone classification system and a pair of pumps, one operating and one stand-by. Cyanide solution and lime are added to the primary grinding circuit.

The final ground product contains approximately 65% -200 mesh particles, equivalent to 106 µm P80. The product from the primary grinding circuit is pumped to the secondary grinding circuit.

17.2.5. Secondary Grinding

The secondary grinding circuit consists of an Outotec High Intensity Grinding Mill (HIG-Mill) with a hydrocyclone classification system, and an agitated buffer tank. The product from the ball mill reports into the agitated buffer tank called rougher feed tank. A first stage of classification is fed from this tank, which produces an overflow of 85% -20 µm separating the slimes. The underflow is re-classified in another cyclopack, that operates in closed circuit reporting the overflow back to the rougher tank. The underflow from the second cyclopack reports to a pumpbox which feeds the secondary grinding HIG-Mill, reducing the particle size to a range of 70-75% -45 µm.

The secondary grinding circuit produces two products: slimes (30% by weight) and HIG-Mill product (70% by weight). Both products go to two different thickener tanks which their underflow slurry reports to the leaching circuit.

17.2.6. Sampling

Dry-sample cutting is carried out on the conveyors which feed the separate Santa Elena blend and Ermitaño stockpiles, and also on the feeders that discharge onto the conveyor belt that feeds the ball mill. One composite sample is collected every 12-hour shift. Additional slurry samples are collected along several points of the circuit. The samples are prepared and assayed in the Santa Elena mine laboratory. With this information, a daily metallurgical balance is estimated, which reflects the gold and silver grades and the metal contents of the material fed to the plant, the tailings and the pregnant and barren solutions.

An automatic sample cutter is installed in the conveyor belts that feed both the Santa Elena blend and the Ermitaño crushed-ore stockpiles.

Manual sampling is carried out at the following points:

- Feeders to ball mill;
- Cyclones overflow;
- Grinding & regrinding products;
- Pregnant leach solution (PLS);
- Barren solution;

- Final tailings (belt-filters cake);
- Each of the leach tanks; and,
- Solution recovered from tailings filter system returned to plant.

17.2.7. Cyanide Leaching circuit

The following reagents and dosages are used for leaching:

- Cyanide is added in briquettes at four points of addition: the 1st and the 3rd leaching tanks, the rougher tank feeding the HIG-Mill circuit, and the PLS prior to precipitation.
- Lime in dry form is added only to the conveyor belt that feeds the ball mill.

The two streams of slurry coming from the regrind circuit are sent to different thickeners: the slimes are pumped to the intermediate thickener, and the HIG-Mill product is pumped to the primary thickener. The two thickeners are 60 ft in diameter and both work as primary thickeners.

The primary thickening has two objectives: to adjust the pulp density prior to the agitated leach tanks and to recover PLS in the overflow, which goes to the Merrill-Crowe stage.

The PLS obtained in the overflow, known as supernatant solution, is sent to a storage tank that subsequently feeds the clarifiers. The underflow from the primary thickener is pumped into a series of two 45ft x 42ft leach tanks. The discharge from the second tank mixes with the underflow from the intermediate thickener. The composite from both streams is fed to a series of three 45ft x 42ft leach tanks.

A 6th leaching tank will be installed by Q4 2022, to provide additional residence time and improve overall metallurgical performance.

17.2.8. Counter Current Decantation System

Slurry from the last agitated tank feeds the CCD thickeners. There are three 60-ft thickener tanks; CCD #1, CCD #2 and CCD #3, working in series. Underflow from CCD #3 feeds a final tailings storage tank, before feeding the filtration circuit. A fourth CCD is projected to be installed by Q4-2022, improving overall washing performance of the CCD system.

The overflow from the CCD #3 goes to the CCD #2, mixing with the slurry from CCD #1 underflow. The CCD #3 thickener receives the barren solution that comes from tailings filtration.

The overflow from CCD #2 goes to CCD #1 feed, mixing with the slurry from the last leach tank (#5). Underflow from the CCD #1 goes to the second thickener feed.

The overflow solution from CCD #1 thickener goes to the pregnant solution tank, where is mixed with the overflow solution from the intermediate and primary thickener tanks.

Once the fourth CCD (CCD #4) is installed, the CCD #3 underflow will be mixed in a new pumpbox with CCD #4 overflow, providing an additional stage of washing in the circuit, that will result in an overall improved washing efficiency for optimum recovery of silver and gold. The CCD #4 will then receive the barren solution recovered from filtration for washing, and finally CCD #4 underflow will report to the tailings storage tank prior to filtration.

17.2.9. Merrill Crowe and Precipitate Handling

Pregnant Leach Solution (PLS) is sent to a storage tank, then filtered and clarified through three Autojet pressure clarifiers. Product from the Autojet filters is then pumped through a deaeration tower in order to remove dissolved oxygen from a concentration of 5 ppm to <1 ppm.

After deaeration, zinc dust is added to the solution for the cementation reaction. Once precipitate is formed, solution is then pumped to three 1500 ft^2 FLSmidth press-filters. The production rate of PLS is about 390 m^3/hr.

Precipitate is dried in a liquifies petroleum gas (LPG)-fired oven and then smelted in a 315 kg LPG smelting furnace, producing 20 kg doré bars with a purity of 99% (Au + Ag).

The flux mixture used in smelting is: 50% borax, 4% sodium nitrate and 15% soda ash.

The slag obtained from the smelting, is crushed, sifted, and fed back to the grinding ball mill.

17.2.10. Tailings Management

The tailings are fed to two horizontal belt filters, each with 124 m^2 capacity. The filtered cake, which contains about 30% moisture, is stored in the old leach pad area, and later transported to a dry stack area. The filtered solution is returned to the processing plant into CCD #3 thickener of the CCD system.

As part of the belt filters operation, there is a cyanide reduction system that uses zero, or low cyanide concentration solution, to carry out a cake wash in the belts; this minimizes the cyanide concentration that is left in the final process tailings. Cyanide washing efficiency at filtration can be affected by the rainy season from June to September. During this time of the year, tailings are left in the leach pad area to dry out, until they reach the appropriate level of moisture before being hauled to the tailings dry stack. This situation improves out of the rainy season, providing a higher level of flexibility and efficiency in terms of tailings management.

The main contributer to the current high moisture content is fine grinding generated on the recently acquired HIG-Mill, therefore, an Outotec Press Filter 3512 expanded to its full capacity 98/98 plates, will be installed and commissioned by Q4-2022.

Once the press filter circuit is operational, final moisture is expected in the range from 19 to 21% even at higher throughputs, since the Santa Elena campaign will target a throughput rate of 3,350 tpd at finer particle sizes than the current condition of 50 microns; i.e. 30 microns P80.

A single large-size, newest technology Metso-Outotec press filter will be installed, leaving the belt filters as back up in case of planned or unplanned maintenance.

17.3. Processing Plant Requirements

The most relevant requirements supporting the operation of the processing plant for the LOM production plan presented in this Report have been estimated. The projected consumption is listed in Table 17-1 including: electrical energy, processing water, grinding media, cyanide, lime, oxygen, lead nitrate, flocculant and zinc dust.

Table 17-1: Processing Plant Requirements for the LOM Plan

Santa Elena Processing Plant Consumables estimates	**KPI**	**unit**	**Consumption per year**	**2021 - 2H**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Throuhgput		**k t/year**		471	982	923	904	774	647	347
Power Consumption	49	kWh/t	MWh/yr	23,058	48,114	45,240	44,296	37,911	31,683	16,986
Water total volume	1.54	m3/t	'000 m3/yr	724	1,510	1,420	1,390	1,190	994	533
Water recycled volume	1.16	m3/t	'000 m3/yr	546	1,139	1,071	1,049	897	750	402
Water consumption (fresh water usage)	0.38	m3/t	'000 m3/yr	178	371	349	342	292	244	131
Cyanide	1.42	kg/t	t/yr	668	1,394	1,311	1,284	1,099	918	492
Grinding media (steel balls)	1.57	kg/t	t/yr	739	1,542	1,450	1,419	1,215	1,015	544
Lime	1.85	kg/t	t/yr	871	1,817	1,708	1,672	1,431	1,196	641
Oxygen	1.41	m3/t	'000 m3/yr	664	1,385	1,302	1,275	1,091	912	489
Lead nitrate	170	g/t	t/yr	80	167	157	154	132	110	59
Flocculant	230	g/t	t/yr	108	226	212	208	178	149	80
Zinc dust	2.33	kgZn/kg Dore	t/yr	70	146	104	142	123	100	43

All these consumables are regularly supplied to the Santa Elena mine and purchase agreements are in place at the Report effective date supporting the production plan presented in this Report.

18. INFRASTRUCTURE

The existing infrastructure in Santa Elena can support current mining and mineral processing activities and the operations included in the LOM plan presented in this Report.

18.1. Santa Elena Infrastructure

Most of the Santa Elena's support facilities are located within a 1.5 km radius, facilitating the transportation and logistics of personnel, material, and equipment.

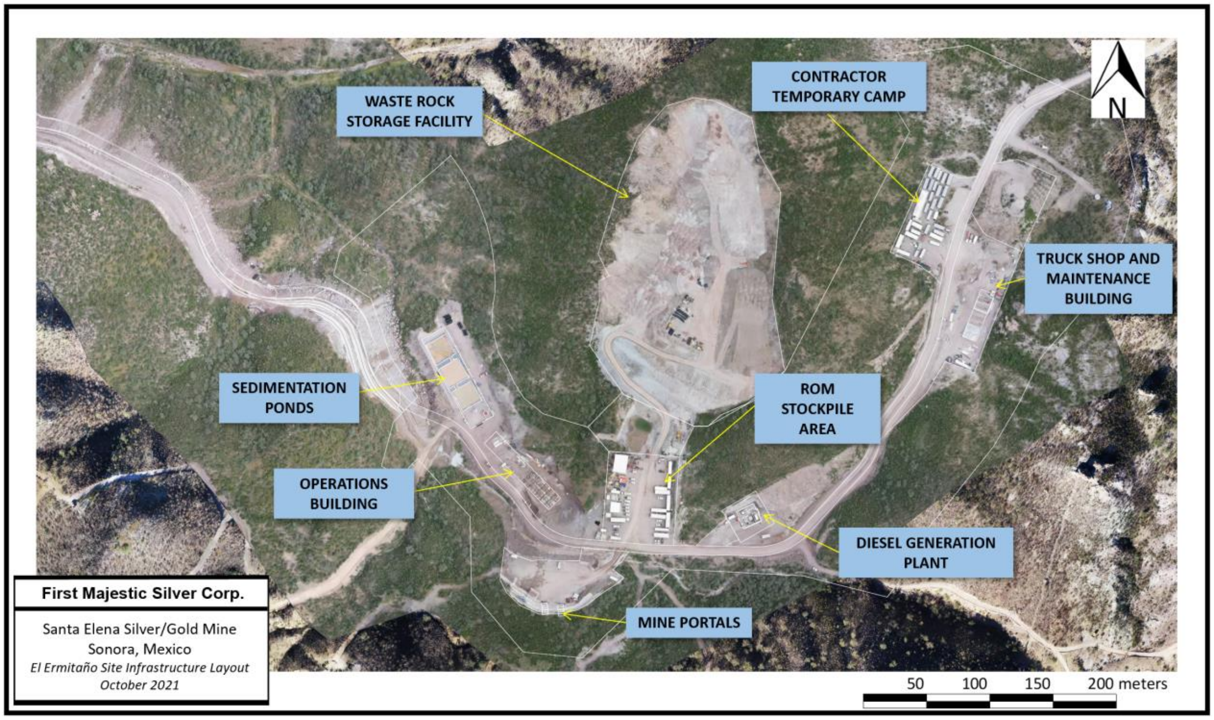
The main infrastructure consists of roads, crushing, grinding and processing facilities, a previously processed leach pad, waste storage facility, FTSF, administrative offices, a first-aid station, warehouse, assay laboratory, liquified natural gas power generation plant, diesel gensets for backup, maintenance shop, water storage tanks, and water supply tank. Figure 18-1 shows the Santa Elena infrastructure layout.

Figure 18-1: Santa Elena Mine Infrastructure

Note: Figure prepared by First Majestic, February 2021.

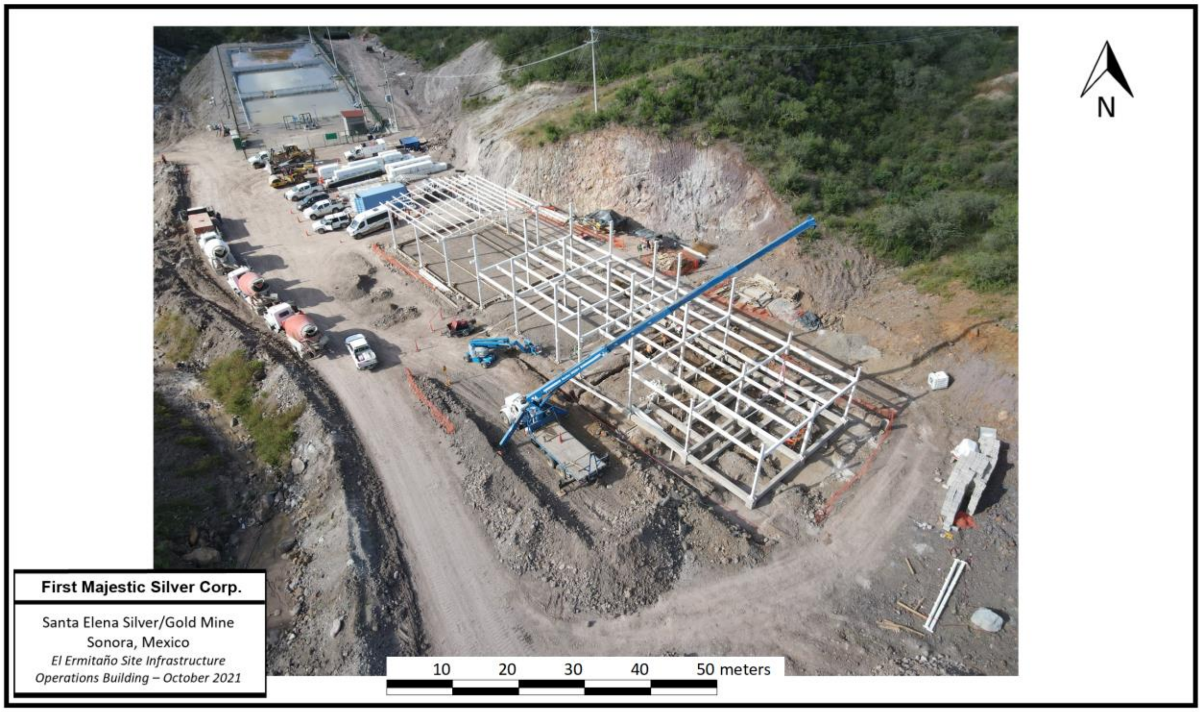
At the report effective date, new infrastructure to support the Ermitaño mine project was being built and is expected to be completed by Q3-2021. The new infrastructure includes an operations building containing the mine-dry, lunchroom, offices and site control rooms. A surface maintenance area is also being erected which includes a truck shop and maintence shop buildings.

Figure 18-2: Surface Infrastructure at the Ermitaño Mine Project



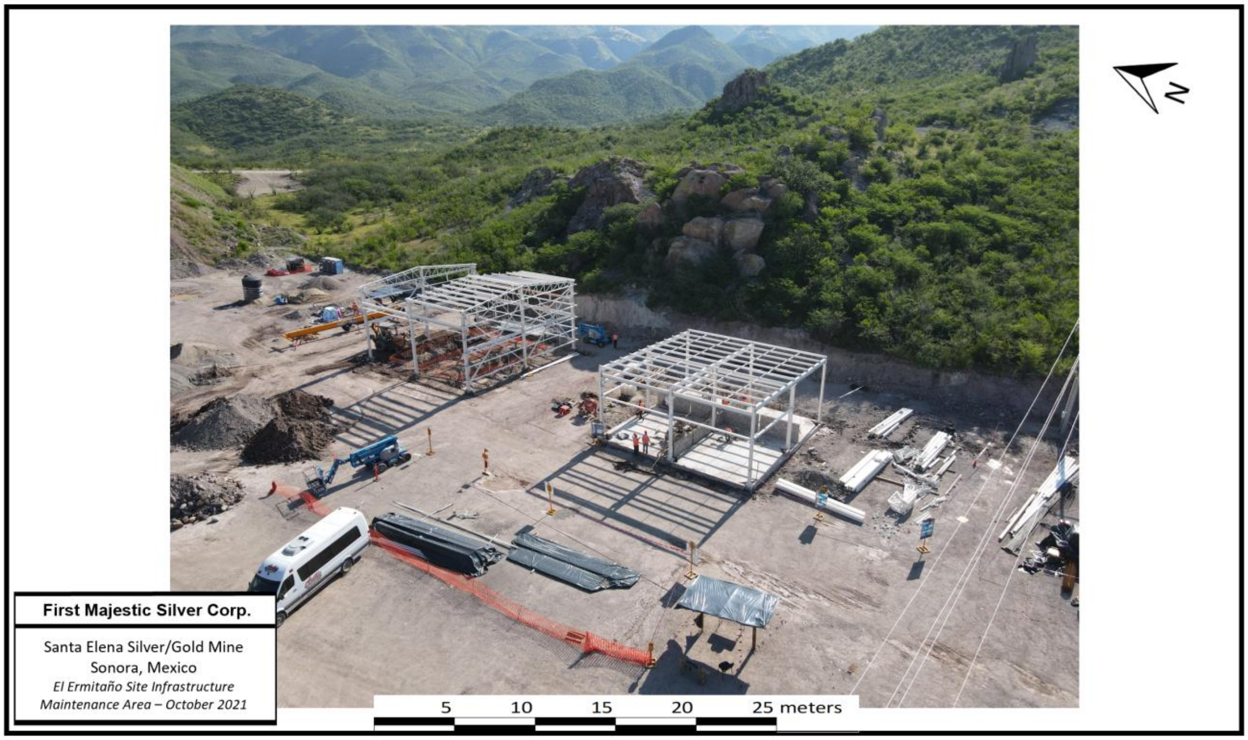
Note: Figure prepared by First Majestic, October 2021.

Figure 18-3: Operations Building at the Ermitaño Mine Project



Note: Figure prepared by First Majestic, October 2021.

Figure 18-4: Maintenance Area at the Ermitaño Mine Project.



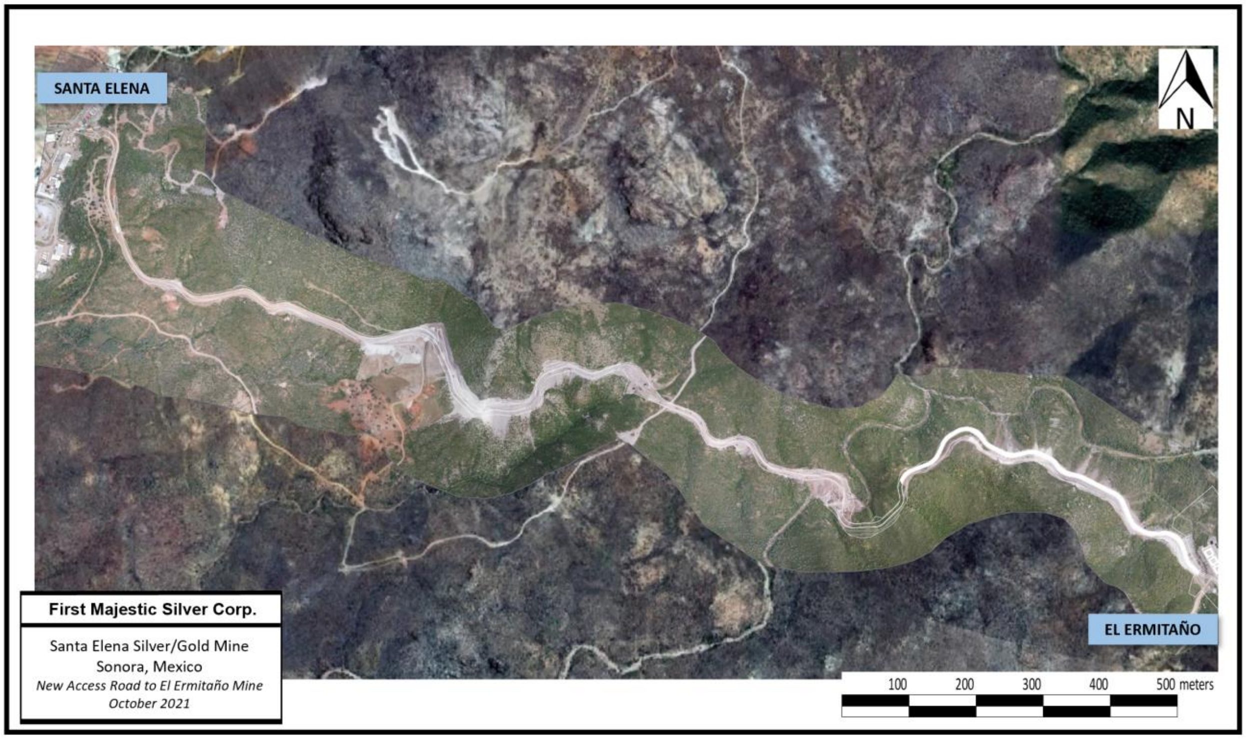
Note: Figure prepared by First Majestic, October 2021.

18.2. Transportation and Logistics

Operations personnel are transported by passenger buses from nearby towns. All equipment, supplies and materials are brought in by road.

A new 4.2 km long, 12-meter-wide access road is being built in 2021 to haul ore from the Ermitaño mine to the Santa Elena plant where the mineral will be processed. The new access road will also improve the transportation of personnel, goods and services between the two sites.

Figure 18-5: New Access Road to the Ermitaño Mine Project.



Note: Figure prepared by First Majestic, October 2021.

18.3. Tailings Storage Facilities

The FTSF was originally developed as a waste rock storage facility designed with a total capacity of 35 Mt; of which 20 Mt was used by the previous operator to store open pit waste rock. The remaining 15 Mt of storage capacity are designated for underground waste rock and filtered tailings with an estimated bulk density of 1.61 t/m^3. In recent years, limited waste rock from underground is deposited at the waste storage site as the majority of the waste rock is used to backfill the underground stopes.

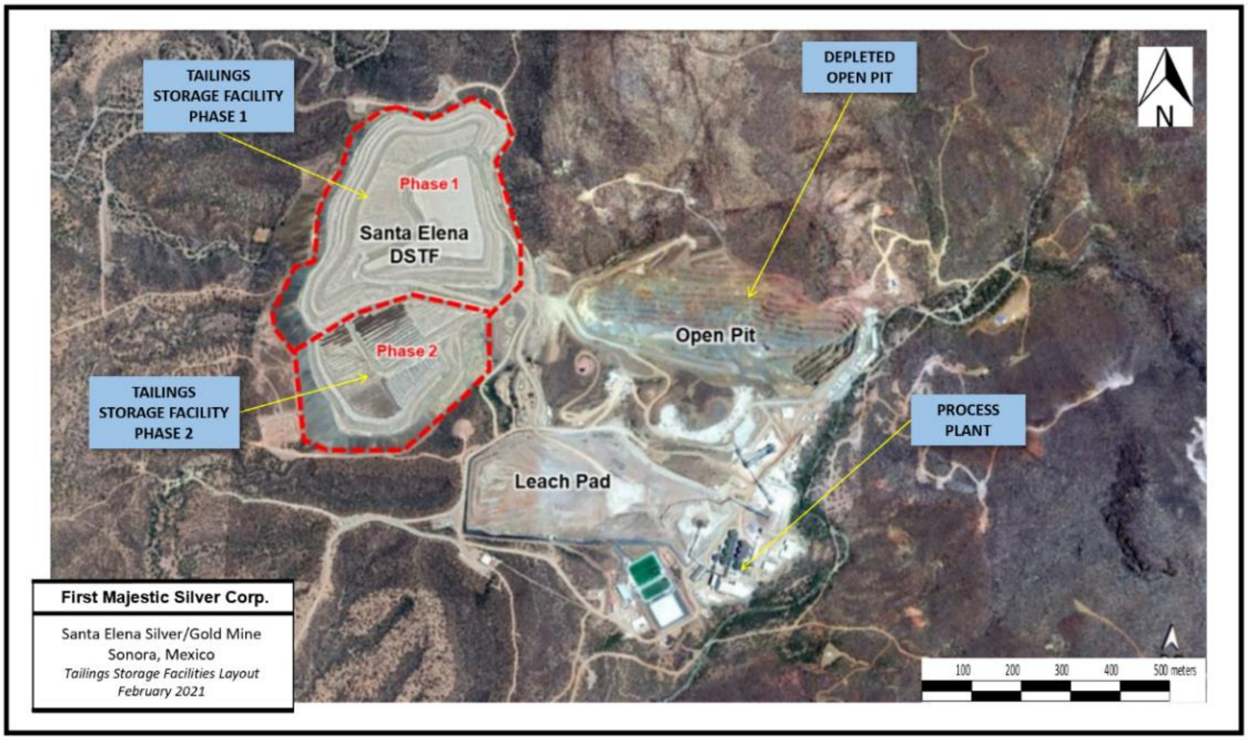
Tailings from the processing facility are washed, filtered to approximately 25% moisture content, drained on an exposed portion of the existing leach pad and hauled for dry stacking on top of the FTSF. The removal and cyanide detoxification of tailings is achieved in combination with multi-phase filtering, a wash cycle and photo-degradation on the leach pad prior to being transported to the waste storage site by articulated trucks.

The Santa Elena FTSF was designed in two-stages, designated as Phases 1 and 2. Each phase consists of 10-m high dry stack raises with 10-m wide benches sloped at 1.5H:1.0V (horizontal: vertical) along the perimeter. The Phase 1 and 2 dry stacks measure approximately 90 and 40 m from crest to toe, respectively; with an overall slope measuring approximately 2H:1V. The final configuration of the Phase 1 dry stack will raise the crown of the prior waste rock facility from an approximate elevation of 820 to 844 masl. Phase 2 will be situated downstream to the south of Phase 1 and its final configuration will raise the ground surface from approximately 790 to 829 masl. The proposed crown of the Phase 1 and 2 FTSF will be graded at a one-degree slope towards the southwest. Figure 18-6 shows the Santa Elena FTSF from an aerial view, and Figure 18-7 displays the FTSF Phase 1 and 2 profiles in cross section.

A Phase 3 lift is proposed above the Phase 1 and 2 areas, raising the FTSF crown to the 876 masl. This proposed lift will provide a remaining useful life of approximately eight years of operation at current throughputs. The storage capacity of the Santa Elena FTSF is sufficient to support the LOM plan presented in this Report.

The depleted open pit excavation also remains as a potential repository of tailings if more storage capacity is needed in the future.

Figure 18-6: Tailings Storage Facilities



Note: Figure prepared by First Majestic, February 2021.

Figure 18-7: Tailings Storage Facilities Phases 1 and 2 Cross Sections

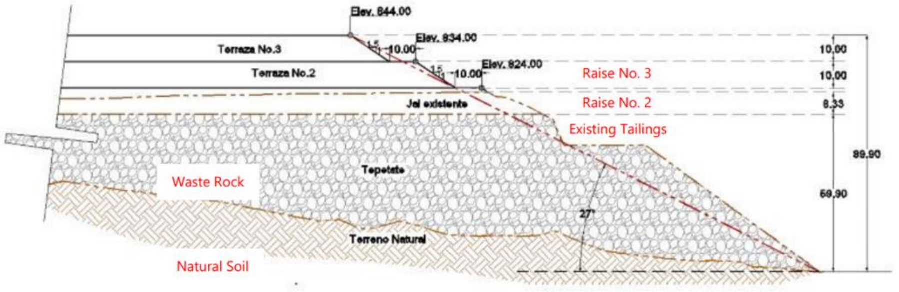


Figure 1: Critical cross-section of Santa Elena FTSF, Phase 1

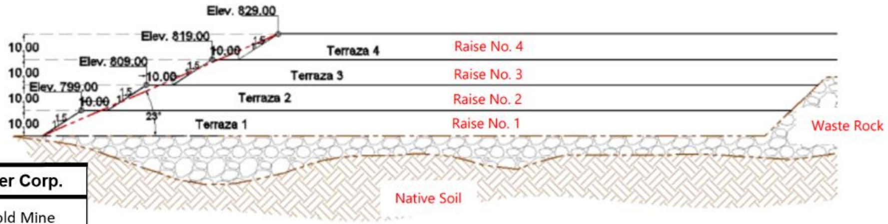


Figure 2: Critical cross-section of Santa Elena FTSF, Phase 2

First Majestic Silver Corp.

Santa Elena Silver/Gold Mine
Sonora, Mexico
Tailings Storage Facilities
Cross- Sections Phases 1 and 2
February 2021

Note: Figure prepared by First Majestic, February 2021.

18.4. Camps and Accommodation

Most non-local staff and contractor personnel stay in rental homes available in the nearby towns of Banámichi, Huepac and Aconchi. There are multiple hotels available in the area for visitors. In 2020, First Majestic constructed a 270-bed temporary camp within the Santa Elena property.

18.5. Power and Electrical

The electric power required for the Santa Elena mine, processing operations and supporting infrastructure is generated on-site. The previous diesel-powered generation site at Santa Elena has now been upgraded to a liquified natural gas (LNG) power generation system with the construction and commissioning of a 12.6 MW power plant. The plant includes seven LNG generators, three LNG storage tanks, a 5 MVA mine substation, a 10 MVA plant substation and an 800 m powerline to connect to the mine and plant grid. There are two additional diesel-powered generators with a capacity of 2.5 MW each that are maintained as emergency backup for a total generation capacity of 19 MW. At the report effective date, the power consumption averaged 13 MW per month.

The Ermitaño project mine power generation infrastructure includes two 1.25 MW diesel generators and a 20,000-litre diesel tank, which capacity is enough for seven-days consumption of diesel at the current average 1 MWhr power consumption rate.

An expansion to the power plant is planned for 2022 to add four 2.5 MW LNG generators for a total generation capacity of 29 MW to support the installation of new equipment at Santa Elena and the supply of LNG generated power to the Ermitaño mine to replace the existing diesel generators. This project includes a 4 km power line to be built in 2022.

18.6. Communications

The Santa Elena mine communication system is interconnected to Telmex's and Metrocarrier's (communication service providers) data and voice networks, then distributed via an internal fiber-optic network. In Santa Elena underground mine a very-high-frequency network (leaky feeder) is installed along tunnels, main ramps and control points for two-way communications. Radio-base system and emergency satellite telephone services are available for instant communication between site personnel.

The Ermitaño mine project is connected to the Santa Elena's communication network through a 42-metre-tall antenna installed at a vantage elevation point close to the mine operations area. Voice and data are then distributed across the mine site via a 1.7-kilometer fiber-optic network circuit, which includes one kilometer of underground fiber-optic along the mine main ramp and access levels.

18.7. Water Supply

Industrial water is supplied primarily from the mine dewatering system. Mine development headings are generally sloped at a 2% gradient towards the ramps to allow for water to drain in a controlled direction. Sumps are developed on each level to collect any inflow water and from there the water will be either recycled and used as drill water or pumped to surface and stored in the water management ponds to be used as process water. Mine sumps are installed at a vertical interval of 60-70 m. Flow rates are expected to be 300-400 gallons per minute over the LOM at the Santa Elena mine and between 1,800-4,000 gallons per minute over the LOM at the Ermitaño mine project.

A licensed water-well is also equipped and regularly pumps water to an elevated tank. The tank has a capacity of 200 m^3 and supplies water for non-process uses.

19. MARKET CONSIDERATION AND CONTRACTS

19.1. Market Considerations

The end product from the Santa Elena mine is in the form of silver–gold doré bars. The physical silver–gold doré bars produced from the Santa Elena ore usually contains greater than 97% silver and 1% gold in weight, once the Ermitaño ore is processed, the same 98% purity is expected with distribution of 90% silver and 8% gold in weight. The silver–gold doré bars are delivered to refineries where these are refined to commercially marketable 99.9% pure silver and gold bars.

Silver and gold are considered global and liquid commodities. Silver and gold are predominantly traded on the London Bullion Market Association (LBMA) and COMEX in New York. The LBMA is the global hub of over-the-counter trading in silver and gold and is these metals' main physical market. ICE Benchmark Administration (IBA) provides the auction platform, methodology, as well as the overall administration and governance for the LBMA. Silver and gold are quoted in US dollars per troy ounce.

19.2. Commodity Price Guidance

First Majestic has established a standard procedure to determine the medium and long-term silver and gold metal price guidance to be used for Mineral Resource and Mineral Reserves estimates. This procedure considers the consensus of future metal price forecasts from different sources including major Canadian and global banks, projections from financial analysts specializing in the mining and metals industry, and metal price forecasts used by other peer mining companies in public disclosures.

Based on the above information, a recommendation as to acceptable consensus pricing is put forward by First Majestic's QP to the company executives, and a decision is made to set the metal price guidance for Mineral Resource and Mineral Reserve estimates. This guidance is updated at least annually, or on an as-required basis.

Metal prices used for the June 2021 Mineral Resource and Mineral Reserve estimates are listed in Table 19-1.

Table 19-1: Metal Prices Used for the June 2021 Mineral Resource and Mineral Reserve Estimates.

Metal	Units	Mineral Resource Estimation	Mineral Reserve Estimation
Silver	$ / oz	26.00	24.00
Gold	$ / oz	1,850	1,700

Foreign exchange rates used in the cost estimates and in the LOM model were USD:CAD 1.30 and USD:MXN 20.00.

19.3. Product and Sales Contracts

Silver and gold produced at Santa Elena is sold by First Majestic using a small number of international metal brokers who act as intermediaries between First Majestic and the LBMA. First Majestic delivers its production to a number of refineries, and once they have refined the silver and gold to commercial grade, the refineries then transfer the silver and gold to the physical market for consumption. First Majestic transfers risk at the time it delivers its doré from the processing plant to the armoured truck services that are under contract to the refineries. First Majestic normally receives up to 97% of the value of its sales of doré on delivery to the refinery, depending on the timing of sales with the metals broker, with final settlements upon out-turn of the refined metals, less processing costs.

Contracts with refining companies as well as metals brokers and traders are tendered periodically and re-negotiated as required. First Majestic continually reviews its cost structures and relationships with refining companies and metal traders to maintain the most competitive pricing possible.

19.4. Streaming Agreement

First Majestic has a purchase agreement with Sandstorm Gold Ltd (Sandstorm). Sandstorm invested $12.0 million in May 2009 and an additional $10.0 million in March 2014 that entitles Sandstorm to receive 20% of the gold produced from the processing of ore sourced from the Santa Elena mining concessions group, covering a surface of 9,426.67 hectares (refer to Figure 4-2 showing the map of the five different concessions groups), in exchange for ongoing payments equal to the lesser of $464/oz Au (as of December 2020 and subject to a 1% annual inflation adjustment) and the prevailing market price, for each gold ounce delivered under the agreement. Gold production sourced from ore extracted from the Ermitaño concessions is not part of the Sandstorm stream.

19.5. Deleterious Elements

The silver–gold doré bars purity is above 98%, based on past performance and current production projections, no relevant impurities have been recorded. Considering the characteristics of the mineralized material and the processing practice, it is reasonable to expect that the Santa Elena mine’s silver–gold doré bars will not carry impurities over the LOM production planned that could be materially penalized by the refineries.

19.6. Supply and Services Contracts

Contracts and agreements are currently in place for the supply of goods and services necessary for the mining operations. These include, but are not limited to, contracts for diamond drilling services, mine development, waste and ore haulage, maintenance service for the mining equipment, specialized maintenance service for plant equipment, supply of LNG and diesel for power generation and generation equipment operation, supply of explosives, supply of consumables and process reagents including grinding media, sodium cyanide, oxygen, and transportation and logistics services including infrastructure maintenance, catering and personnel transportation.

19.7. Comments on Section 19

The doré produced by the mine is readily marketable.

Metal prices are set corporately for Mineral Resource and Mineral Reserve estimation. The QP has reviewed the consensus future metal price forecasts and the internal analysis results and considers them reasonable to support the metal price assumptions used in this Report.

In the opinion of the QP, the terms, rates and charges set in the relevant service contracts and supply agreements for the mining operation are within industry practice in Mexico.

The QP has reviewed commodity pricing assumptions, marketing assumptions and the current major contract areas, and considers the information acceptable for use in estimating Mineral Reserves and in the economic analysis that supports the Mineral Reserves.

20. ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

First Majestic's operating practices are governed by the principles set out in its Health and Safety Policy, Environment and Code of Business Conduct and Ethics. First Majestic's senior management team have committed to the sustainability reporting process with the first stand-alone 2019 sustainability report published in September 2020 and will continue to report on sustainability aspects in the future.

The Santa Elena mine is in the implementation phase of the First Majestic Environmental Management System (EMS), which supports its environmental policy and is applied to standardize tasks and strengthen a culture focused on minimizing environmental impacts. The EMS is based on the requirements of the international standard ISO 14001:2015 and the requirements to obtain the Clean Industry Certification, issued by the Mexican environmental authorities, the Ministry of Environment and Natural Resources (SEMARNAT), through the Federal Attorney for Environmental Protection in Mexico (PROFEPA). The EMS includes an annual compliance program to review all environmental obligations. Additionally, Nusantara has implemented an online risk management platform that contains all the environmental obligations or conditions that must best fulfilled under the environmental permits.

In 2017, the Santa Elena mine started the voluntary process to obtain the Clean Industry Certification. The certification recognizes improvements in environmental management practices, regulatory compliance, and environmental performance. In close coordination with PROFEPA, Santa Elena continues improving its infrastructure, procedures, and targets in areas such as water and energy consumption, as well as efficiencies to reduce environmental impacts.

In February 2021, Nusantara was distinguished as a Socially Responsible Company (ESR) for the seventh consecutive year by the Mexican Center for Philanthropy. The ESR award is given to companies operating in Mexico that achieve high performance and commitment to sustainable economic, social, and environmental positive impact in all areas of corporate life, including business ethics, engagement with the community, and preservation of the environment. Santa Elena was recognized for its social, economic, and environmental performance during 2020.

20.1. Environmental Aspects, Studies and Permits

Environmental and social studies are routinely performed to characterize existing conditions and to support the preparation of Risk Assessments and Accident Prevention Programs for the operation and are documented as part of the EMS.

20.1.1. Summary of relevant environmental obligations

The main environmental obligations Nusantara are:

- Annual Operating Report (COA). Report presented annually containing environmental information on the operation of the mine: water, air, waste disposition, materials, and production.
- Hazardous waste declaration. Official document that controls the transportation of hazardous materials from the mine site to the final disposal site.
- Quarterly payment for water used, and wastewater and groundwater discharge.
- Bimonthly payment on occupation of federal zones.
- Monitoring plan for water, tailings and waste rock storage facilities, emissions to the atmosphere, sediments, waste discharge and noise. Carried out in accordance with the different authorizations and conditions of the official Mexican standards (NOM).
- Those established in the different permits and authorizations and/or the NOM.

At the Report effective date, all these obligations were in compliance.

20.1.2. Current Permits

Santa Elena is an operating mine, as such it already holds all major environmental permits and licenses required by the Mexican authorities to carry out activities of extraction, exploration and beneficiation of minerals.

The environmental permits that are in place at the Report effective date authorize the various works and mining activities that are currently being carried out in the Santa Elena mine, in the surroundings of the site and in the Ermitaño Project. Table 20-1 contains a list of the major permits issued to Nusantara.

Table 20-1: Major Permits Issued to Nusantara.

Permit / License	Number	Date Granted	Expiry
Federal Permits – SEMARNAT			
Updated Environmental Licence (LAU)	LAU-26/087-2012	Jul 2018	Indefinite
Integral Environmental Licence (LAI)	LAI No. DGGA-LAI-082/15	June 2015	10 years
Environmental Impact Assessment (EIA), Santa Elena Mine	DS-SG-UGA-IA-0572-08	Jul 2018	10 years
EIA, Extension Santa Elena Mine	DS-SG-UGA-IA-0474-18	Jul 2018	10 years
EIA, Modification Dry Tailings	DS-SG-UGA-IA-0203-15	Mar 2015	May 2023
EIA, LNG power plant	DS-SG-UGA-098/2020	Feb 2020	Jul 2028
EIA, Ermitaño Infrastructure	DS-SG-UGA-IA-0328/2020	Nov 2020	30 years
Environmental Risk Study (ERA)	26/AR-0193/08/18	Jan 2019	Indefinite
Accident Prevention Program (PPA)	DGGIMAR.710/0009935	Jan 2019	Indefinite
Register as Hazardous Waste Generating Entity	26/HR-0066/03/17	Mar 2017	Indefinite
Mining Waste Management Plan	26-PMM-I-0191-2019	Jun 2019	Indefinite
Change of Land Use and Preventive Reports			
Forest Land change of use (CUSTF), Ermitaño Project	DFS-SGPA/UARRN/012/2021	Jan 2021	3 years
Unified Technical Report (DTU), Ermitaño Project	DFS-SGPA/UARRN/73/2019	May 2019	20 years
Preventive Impact Report, Ermitaño West Exploration	DS-SG-UGA-049/2019	Jan 2019	5 years
Sonora State Permits			
Integral Environmental License	DGGA-826/15	Jun 2015	10 years
Annual Operational Report State (COA)	NUS-MSE-018-JUN/19	Jun 2020	1 year
Water Permits - CONAGUA			
Industrial Water Discharge, Offices and Dining Hall	02SON151279/09EMDA13	Jul 2013	10 years
Industrial Water Discharge, Laboratory	02SON151116/09EMDA14	Apr 2014	Nov 2022
Industrial Water Discharge, Workshop	02SON151117/09EMDA14	Apr 2014	Nov 2022
Mine Groundwater Discharge	02SON151579/09FQDA15	Feb 2015	June 2025
Authorization Mine Groundwater Discharge	BOO.803.02.1.-3211	Oct 2017	Indefinite
Power Generation Permits			
Power Generation Permit	E/867/AUT/2010	Aug 2010	Indefinite
Expansion Power Generation Permit	RES/2389/2018	Feb 2014	Indefinite

20.1.3. Tailings Management

Tailings from the processing facility are washed, filtered to approximately 25% moisture content, drained on an exposed portion of the existing leach pad and conveyed for dry stacking on top of the FTSF.

Cyanide detoxification is achieved in combination with multiple filtering, a wash cycle and photo-degradation on the leach pad prior to be conveyed to the waste dump.

The design of the FTSF includes perimeter diversion channels to prevent runoff water from getting into the facility and increasing the amount of contact water that needs to be treated. Lined emergency ponds are constructed at the toe of the FTSF to capture rainwater that contacts the pasted tailings. Currently there is no water seeping from the FTSF and monitoring wells are installed to monitor for any seepage. At the Report effective date there is no record of seepage or groundwater contamination. The closure plan includes allocation of funds to monitor water seepage and runoff of contact water until the FTSF is contoured, sealed and reclaimed.

20.2. Social and Community Aspects

The Santa Elena mine is located in the Sonoran River Valley in the municipality of Banámichi, a community of approximately 1,600 inhabitants.

The social area of influence is the geographic area in which the mining operation and exploration activities may generate positive or negative social, environmental, or economic impacts. Santa Elena's direct and indirect area of influence includes the municipalities of Banámichi, Huépac, San Felipe, Aconchi, Baviácora and Arizpe, with a total population of about 10,000 inhabitants.

Ranching and agriculture are the primary economic activities in the region, as well as small-scale commerce. Other than First Majestic's activities there is no other large-scale industry in the area of influence. The Company recognizes the impacts of its activities such as increased use of roadways and impacts to public infrastructure from the influx of workforce from outside the area of influence. First Majestic's most significant impacts to local communities include:

- Economic impact through employment generation and consumption of goods and services.
- Increased traffic for communities and properties located along the roadways the Company uses to transport its personnel, equipment, and materials required for the mine operation and exploration activities.
- Environmental disturbance.
- Accommodation and use of local public services by employees and contractors from outside the area of influence.

The Santa Elena mine currently employs more than 950 people, including temporary contractors supporting the ongoing operations and the current projects. In 2020, approximately 40% of all employees and contractors were from local communities.

The company's CSR department engages with local communities and relevant stakeholders to identify local development priorities and plan social investment projects, programs, and initiatives. These include:

- Community Health: The Company built and established a doctor´s office and medical dispensary in La Mora community in Banámichi. In addition to providing medical consultations, the service also provides training for local communities and first responders in first aid and other wellness topics.

- Local Content Program: In 2019 and 2020, Santa Elena established a strategic approach to the local employment and supply chain. Local community training programs are being developed for implementation in 2021, with the aim of increasing local participation in our workforce and procuring contracted services opportunities.
- Annual Safety Fairs: Santa Elena's largest community event, the annual Safety Fair attracts over 3,000 people and engages employees, their families, and broader communities. In addition to general education about mining, the purpose of this event is to build awareness about responsible mining practices in health and safety, environmental stewardship, and social responsibility.
- Education: Collaboration agreement with a local secondary school, through which Santa Elena's staff support educational activities in agricultural subjects. In addition, Fisrt Majestic provides 12 scholarships each year to local university students.
- Support to local infrastructure: Santa Elena contributes on average 357 equipment hours annually to the municipality for road maintenance, waste dump maintenance, and irrigation systems maintenance.

Nusantara has surface rights agreements in place with different landowners which support the operations and exploration activities. The most relevant ones are described in section 4.4.

20.3. Mine Closure Plan

First Majestic's closure plan is intended to comply with policies and terms included in the obligations denominated as asset retirement obligations (ARO), in particular those related to the works and activities to be carried out in closure preparation and post-closure. The Santa Elena closure plan includes the following concepts: post-operation activities, closure of facilities, reclamation of certain areas, monitoring, and site abandonment.

One of the purposes of the plan is to quantify the budget required to support and complete the closing works and mitigation activities relevant to soil quality, surface water, groundwater, and wildlife in the area of influence of the infrastructure used for the mining and processing activities.

First Majestic records a decommissioning liability for the estimated reclamation and closure of the Property, including site rehabilitation and long-term treatment and monitoring costs, discounted to net present value (NPV).

The NPV is determined using the liability-specific risk-free interest rate. The estimated NPV of reclamation and closure cost obligations is re-assessed on an annual basis or when changes in circumstances occur and/or new material information becomes available. Increases or decreases to the obligations arise due to changes in legal or regulatory requirements, the extent of environmental remediation required, cost estimates and the discount rate applied to the obligation. The NPV of the estimated cost of these changes is recorded in the period in which the change is identified and quantifiable. Reclamation and closure cost obligations relating to operating mine and development projects are recorded with a corresponding increase to the carrying amounts of related assets.

The estimation of restoration and closing costs was carried out using the Standardized Reclamation Cost Estimator (SRCE) model. The SRCE model contains best practices for estimating the remediation and restoration costs of areas impacted by industrial processes. First Majestic adapted the model to reflect current regulations in Mexico, and estimates were escalated for inflation.

First Majestic has accrued a decommissioning liability consisting of reclamation and closure costs for the Santa Elena mine, this estimate was $6.19 M as of December 2020 and was based on the following considerations:

- Closure and seal of underground entries and associated surface installations;
- Demobilization of the processing plant and above ground associated installations;
- Demobilization of ancillary service buildings: offices, general service infrastructure, power generation sites and shops; and
- Closure of the tailings management facility.

21. CAPITAL AND OPERATING COST

21.1. Capital Costs

The Santa Elena mine has been under First Majestic operation since October 2015. The sustaining capital expenditures are budgeted on an as-required basis, established on actual conditions at the mine and the processing plant infrastructure. The LOM plan includes estimates for sustaining capital expenditures for the mining and processing activities required.

Sustaining capital expenditures are expected to be allocated for on-going development, infill drilling, mine equipment rebuilding, major equipment overhauls or replacements, plant maintenance and on-going refurbishing, and for tailings management facilities expansion as needed.

Estimated sustaining capital expenditures for the life of mine plan at the Santa Elena mine are assumed to average $7.0 million per annum. The amount of exploration conducted to find new targets, with the objective of replacing and/or expanding the Mineral Resources will be dependent on the success of exploration and diamond drilling programs. Due to the uncertainty of the exploration success, potential new sources of mineralization are not included in the LOM plan.

Sustaining capital is focused on maintaining current operational capacities, plant and equipment, while expansionary capital is focussed on expanding new sources of mineralization. Table 21-1 presents the estimated sustaining and expansionary capital expenditures for the Santa Elena mine.

Table 21-1: Santa Elena Mine Capital Costs Summary (Sustaining Capital)

Type	Units	Total	2021[(1)]	2022	2023	2024	2025	2026	2027
Mining Development	*$ M*	$23.8	$7.4	$7.4	$5.9	$2.8	$0.4	-	-
Property, Plant & Equipment	*$ M*	$21.5	$0.2	$3.5	$8.8	$4.3	$3.0	$1.8	$0.1
Total Capital Costs	***$ M***	**$45.3**	**$7.6**	**$10.9**	**$14.7**	**$7.0**	**$3.3**	**$1.8**	**$0.1**

(1) From July to December 2021

The Ermitaño project continues development towards the western limit of the mineralized zone, which is planned to be mined at the beginning of 2022. The mining activities are being completed by an experienced contractor that also operates at the Santa Elena mine. Estimated expenses for development are based on existing contracts as it is proposed that contractors continue carrying out all mine waste development.

Equipment purchased by First Majestic for stoping activities has been included in the capital estimate. It is based on quotes provided by recognized equipment suppliers. A similar approach has been taken for Ermitaño when estimating capital costs. Continuing exploration for potential expansion is included in the capital estimate due to the nature of the deposit. Table 21-2 presents the summary of the capital expenditures for Ermitaño.

Table 21-2: Ermitaño Capital Costs Summary

Type	Units	Total	2021[(1)]	2022	2023	2024	2025	2026	2027
Shared Capital (Surface)	*$ M*	$23.7	$1.1	$22.4	$0.2	-	-	-	-
Mining Development	*$ M*	$46.2	$10.6	$21.0	$13.9	$0.7	-	-	-
Property, Plant & Equipment	*$ M*	$79.3	$20.4	$24.1	$12.6	$4.3	$7.4	$9.4	$1.2
Total Capital Costs	***$ M***	**$149.1**	**$32.1**	**$67.4**	**$26.8**	**$4.9**	**$7.4**	**$9.4**	**$1.2**

(1) From July to December 2021

For the Leach Pad material, no additional capital is planned for reclaiming purposes.

The capital to be invested in Santa Elena over the next three years, is estimated to average approximately $53 M per year. This investment will allow the establishment of the Ermitaño mine for the production assumed in the life-of-mine plan presented in this Report.

Included in the capital expense is an allocation for infill exploration drilling to support the LOM plan presented in this report. Table 21-3 presents the consolidated summary of the capital expenditures for Santa Elena and Ermitaño. The financial analysis considers $3.5 M for Santa Elena and $5.0 M for Ermitaño for exploration purposes.

Table 21-3: Santa Elena Consolidated Capital Costs Summary

Type	Units	Total	2021[(1)]	2022	2023	2024	2025	2026	2027
Shared Capital (Surface)	*$ M*	$23.7	$1.1	$22.4	$0.2	-	-	-	-
Mining Development	*$ M*	$70.0	$18.0	$28.4	$19.8	$3.4	$0.4	-	-
Property, Plant & Equipment	*$ M*	$100.8	$20.6	$27.6	$21.4	$8.5	$10.3	$11.1	$1.3
Total Capital Costs	***$ M***	**$194.5**	**$39.7**	**$78.3**	**$41.5**	**$12.0**	**$10.7**	**$11.1**	**$1.3**

(1) From July to December 2021

21.2. Operating Costs

Santa Elena has a well-established cost management system and a good understanding of the costs of operation. Although the cost inputs are based on site actuals and contractor quotes, there will be variances from the estimates used for this Report and the actual costs (the majority of cost inputs are priced in Mexican pesos and converted to US dollars for the purposes of this Report, e.g., labour, various supplies, etc.). The total cost of mining based on the current experience at Santa Elena is expected to be within ±15%, which is considered in sufficient detail that Mineral Reserves can be supported.

A summary of the Santa Elena operating costs resulting from the LOM plan and the cost model used for assessing economic viability is presented in Table 21-4.

Table 21-4: Santa Elena Operating Costs

Type	$USD/tonne
Mining Cost	$71.6
Processing Cost	$33.4
Indirect Costs	$2.8
Total Production Cost	**$107.8**
Refining, Selling Costs	$1.2
Royalties	-
Total Cash Cost	**$109.0**

A summary of the estimated annual operating costs for the Santa Elena mine is presented in Table 21-5.

Table 21-5: Santa Elena Estimated Annual Operating Costs

Type	Units	Total	2021(1)	2022	2023	2024	2025	2026	2027
Mining Cost	*$ M*	$138.0	$19.3	$37.4	$20.9	$18.0	$17.4	$16.7	$8.4
Processing Costs	*$ M*	$64.5	$10.0	$15.5	$6.8	$6.7	$9.3	$10.1	$6.1
Indirect Costs	*$ M*	$5.5	$0.6	$1.2	$0.6	$0.6	$0.8	$1.0	$0.6
Total Production Cost	*$ M*	**$208.0**	**$29.9**	**$54.0**	**$28.3**	**$25.3**	**$27.5**	**$27.8**	**$15.1**
Refining, Selling Costs	*$ M*	$2.2	$0.3	$0.5	$0.2	$0.3	$0.4	$0.3	$0.1
Royalties	*$ M*	-	-	-	-	-	-	-	-
Total Cash Cost	*$ M*	**$210.2**	**$30.2**	**$54.6**	**$28.6**	**$25.6**	**$27.9**	**$28.1**	**$15.2**

(1) From July to December 2021

Estimation of the operating expenses for Ermitaño used an approach similar to that used at Santa Elena. Production is proposed to be carried out by Santa Elena personnel while contractors complete development. A summary of the operating expense estimated from the site cost model used for assessing economic viability is presented in Table 21-6.

Table 21-6: Ermitaño Operating Costs

Type	$/tonne
Mining Cost	$52.7
Processing Cost	$44.9
Indirect Costs	$2.8
Total Production Cost	**$100.4**
Refining, Selling Costs	$0.6
Royalties	$8.6
Total Cash Cost	**$109.6**

A summary of the annual operating expense for Ermitaño is presented in Table 21-7.

Table 21-7: Ermitaño Estimated Annual Operating Costs

Type	Units	Total	2021[(1)]	2022	2023	2024	2025	2026	2027
Mining Cost	$ M	$149.3	$10.1	$30.0	$34.5	$26.5	$19.1	$18.4	$10.8
Processing Costs	$ M	$127.1	$4.0	$16.6	$26.3	$27.2	$22.0	$19.2	$11.9
Indirect Costs	$ M	$8.1	$0.2	$0.9	$1.7	$1.7	$1.4	$1.3	$0.9
Total Production Cost	$ M	**$284.5**	**$14.3**	**$47.4**	**$62.4**	**$55.3**	**$42.6**	**$38.9**	**$23.6**
Refining, Selling Costs	$ M	$1.7	$0.1	$0.2	$0.4	$0.5	$0.3	$0.2	$0.1
Royalties	$ M	$24.5	$0.6	$3.7	$6.9	$5.9	$3.4	$2.5	$1.5
Total Cash Cost	$ M	**$310.7**	**$14.9**	**$51.4**	**$69.8**	**$61.6**	**$46.2**	**$41.5**	**$25.2**

(1) From July to December 2021

The leach pad material contains approximately 232 kt of remaining mineralized material, and it will be fed to the processing facility when the opportunity arises. As such, this material is only expected to pay for mining, surface haulage, and the variable cost component for the processing. Due to its low grade, it will not displace higher grade material from the two underground mines.

Total operating cost is estimated to be $4 M and equates to $17/t processed.

The consolidated average cash costs are estimated at $105/tonne, including royalties and selling costs. Operating costs exclude the streaming impacts on the Santa Elena revenue, where approximately 6.3% of the revenue from the Santa Elena mine, including the leach pad, is paid to a third party. Revenue from the Ermitaño mine is subject to a 4% NSR royalty. Estimated royalty payments are included in the operating cost summary as presented in Table 21-8 and Table 21-9.

Table 21-8: Complex Average Unit Operating Costs

Type	$/tonne
Mining Cost	$57.6
Processing Cost	$39.0
Indirect Costs	$2.8
Total Production Cost	**$99.3**
Refining, Selling Costs	$0.8
Royalties	$4.9
Total Cash Cost	**$105.1**

Table 21-9: Santa Elena Consolidated Estimated Annual Operating Costs

Type	Units	Total	2021(1)	2022	2023	2024	2025	2026	2027
Mining Cost	*$ M*	$287.6	$29.5	$67.5	$55.4	$44.5	$36.6	$35.0	$19.2
Processing Costs	*$ M*	$194.7	$15.9	$33.2	$33.1	$33.9	$31.2	$29.3	$18.0
Indirect Costs	*$ M*	$14.1	$1.1	$2.3	$2.3	$2.3	$2.3	$2.3	$1.5
Total Production Cost	*$ M*	**$496.3**	**$46.6**	**$102.9**	**$90.8**	**$80.6**	**$70.1**	**$66.6**	**$38.7**
Refining, Selling Costs	*$ M*	$4.0	$0.3	$0.8	$0.7	$0.8	$0.7	$0.5	$0.2
Royalties	*$ M*	$24.5	$0.6	$3.7	$6.9	$5.9	$3.4	$2.5	$1.5
Total Cash Cost	*$ M*	**$524.9**	**$47.6**	**$107.5**	**$98.3**	**$87.3**	**$74.2**	**$69.6**	**$40.4**

(1) From July to December 2021

22. ECONOMIC ANALYSIS

The financial analysis of Santa Elena considers only revenue from Proven and Probable Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability and were excluded from the economic analysis.

The analysis considers assumptions on costs incurred and projected at the Santa Elena mine, processing plant, plus existing contractor quotes for estimating costs for development in the Santa Elena mine and at the Ermitaño project, which were informed with actual data from January to September 2021. With more than 2 km of lateral development completed at Ermitaño, the development costs are well understood.

The key assumptions and parameters considered for the preparation of the economic analysis of the Santa Elena mine are summarized in Table 22-1.

Table 22-1: Assumptions and Parameters used in the Economic Analysis.

Input	Unit	Silver	Gold
Metal Price – Santa Elena after stream agreement	$ / oz	22.5	1,454
Metal Price – Ermitaño	$ / oz	22.5	1,750
Payable Metal	%	99.85	99.8
Royalties on Ermitaño	%	4.0	4.0
Processing Recovery Santa Elena	%	94.0	96.0
Processing Recovery Ermitaño	%	64.0	95.0
Transportation, Loading, Insurance	$ / oz Dore	0.05	0.05
Refining charges	$ / oz	0.24	0.75
Total Income Tax(1)	%	37.5	37.5
Discount Rate	%	5.0	5.0

(1) Total Income tax assumption includes the income tax on profits, the Mining Royalty Tax and the Precious Metals Royalty Tax.

The income statement for Santa Elena which includes the Santa Elena mine, the Ermitaño project, and reclaiming of the remaining leach pad material is provided in Table 22-2 and a general financial summary in Table 22-3.

Table 22-2: Santa Elena Consolidated Income Statement

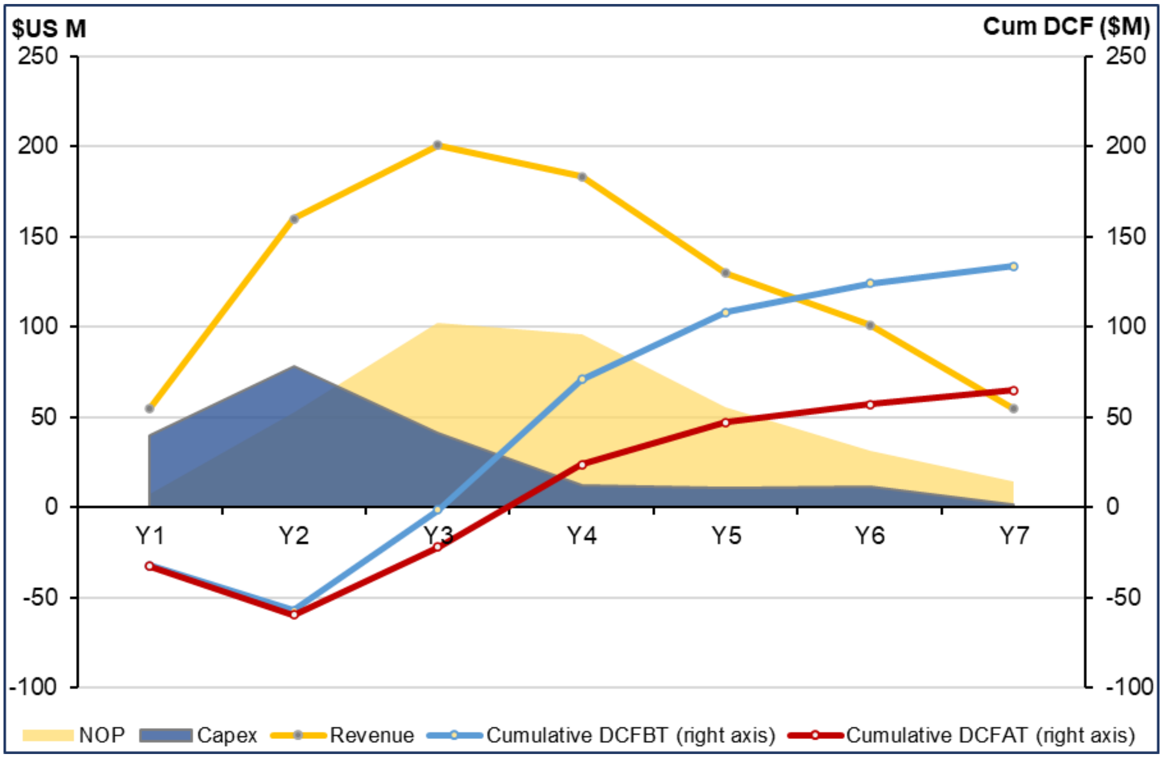
Item	Units	Total
Total Equivalent Value per tonne	$ /t Ore	180.8
(+) Silver Contribution	$ /t Ore	46.4
(+) Gold Contribution	$ /t Ore	134.4
(-) Streaming Impact	$ /t Ore	(3.8)
(-) Royalties	$ /t Ore	(4.9)
(-) Concentrate Transport, Treatment, Refining	$ /t Ore	(0.8)
Value at Mine Gate	$ /t Ore	**171.4**
Operating Costs		
(-) Mining Cost	$ /t Ore	(57.6)
(-) Processing Cost	$ /t Ore	(39.0)
(-) General and Administration Cost	$ /t Ore	(2.8)
Total Operating Cost	$ /t Ore	**(99.3)**
Net Operating Profit (NOP), Subtotal	$ /t Ore	**72.0**
Sustaining Capital Expenses		
(-) Plant, Property and Equipment Capital	$ /t Ore	(20.2)
(-) Development and Exploration	$ /t Ore	(18.8)
Net Profit Before Tax	$ /t Ore	**33.1**

Table 22-3: Santa Elena Consolidated Financial Summary

Item	Units	Total
Net Revenue	$M	884.6
Total Costs (excluding taxes)	$M	(719.4)
Net Profit Before Tax	$M	165.2
Net Profit After Tax (37.5%)	$M	85.0
NPV Before Tax (DCFBT @ 5%)	$M	133.7
NPV After Tax (DCFAT @ 5%) (37.5%)	$M	64.8
IRR Before Tax	%	54%
IRR After Tax (37.5%)	%	34%
Maximum Cash Outlay	$M	(60.4)
Payback (discounted, after tax from June 2021)	months	44

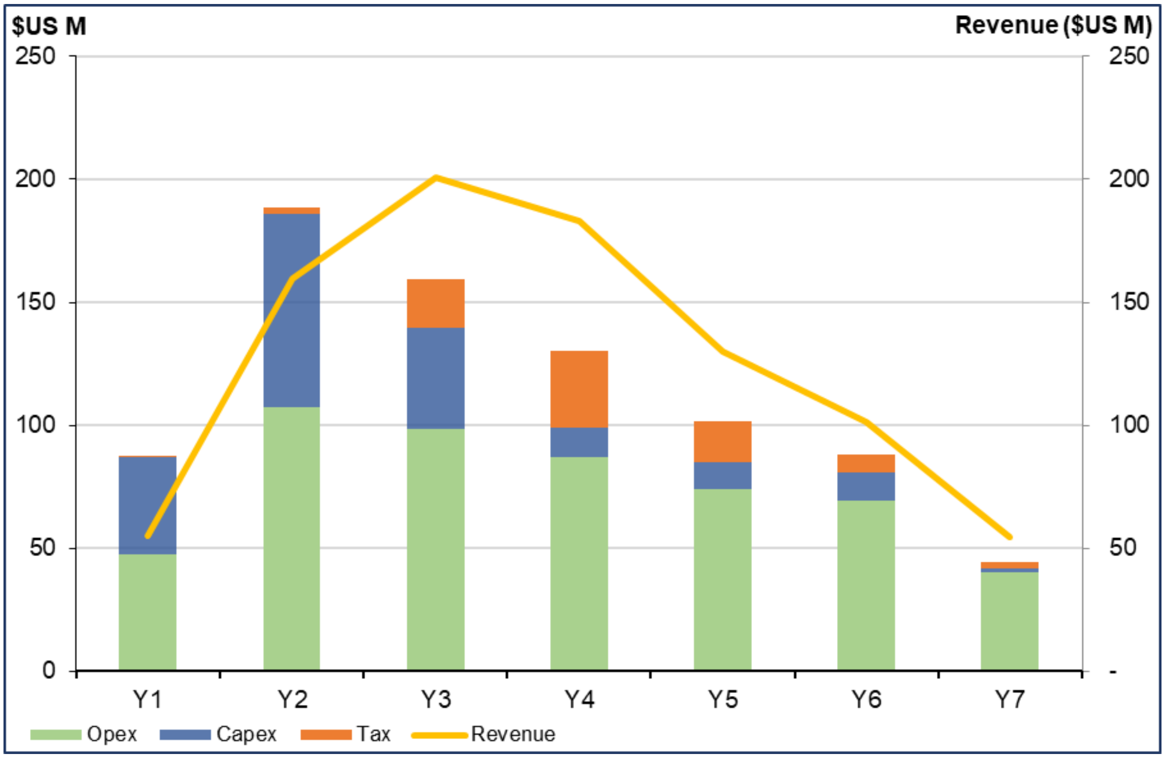
A yearly average of $77M of net operating profit is estimated from 2022 throughout till the end of 2025 (4 years). After a maximum drawdown of approximately $60.4 M in 2022 (Year 2), the project is forecast to reach payback in August of 2024, allowing for relatively quick payback of capital. The financial outcomes for Santa Elena are further illustrated in Figure 22-1 and Figure 22-2.

Figure 22-1: Santa Elena Consolidated Financial Performance



Note: Figure prepared by Entech Mining Ltd. for First Majestic, October 2021.

Figure 22-2: Santa Elena Consolidated Financial Breakdown



Note: Figure prepared by Entech Mining Ltd. for First Majestic, October 2021.

Sensitivity analyses were completed to assess the relative strength of the project under changes to commodity prices, which along with metallurgical recoveries, impact the financial performance of the mine complex more so than changes to operating or capital cost estimates. The metal price adjustments represent an incremental change of approximately 3.3% from the base case metal price inputs of $22.50/oz Ag and $1,700/oz Au.

Table 22-4 (before tax) and Table 22-5 (after tax) summarise the sensitivity to the net present value to changes in revenue.

Table 22-4: Sensitivity to Gold and Silver Price - NPV @ 5% (Before Tax)

NPV ($M) Before Tax	**Gold Price ($/oz Au) and Silver Price ($/oz Ag)**						
Discount	**1,550 Au**	**1,600 Au**	**1,650 Au**	**1,700 Au**	**1,750 Au**	**1,800 Au**	**1,850 Au**
Rate	**19.50 Ag**	**20.50 Ag**	**21.50 Ag**	**22.50 Ag**	**23.50 Ag**	**24.50 Ag**	**25.50 Ag**
% Change	(9.9%)	(6.6%)	(3.3%)	**Base Case**	3.3%	6.6%	9.9%
3%	66.6	92.9	119.1	**145.4**	171.7	198.0	224.3
5%	**58.8**	**83.7**	**108.7**	**133.7**	**158.6**	**183.6**	**208.5**
7%	51.7	75.4	99.2	**122.9**	146.7	170.4	194.2
10%	42.1	64.2	86.3	**108.4**	130.5	152.6	174.8

Table 22-5: Sensitivity to Gold and Silver Price - NPV @ 5% (After Tax)

NPV ($M) After Tax	**Gold Price ($/oz Au) and Silver Price ($/oz Ag)**						
Discount	**1,550 Au**	**1,600 Au**	**1,650 Au**	**1,700 Au**	**1,750 Au**	**1,800 Au**	**1,850 Au**
Rate	**19.50 Ag**	**20.50 Ag**	**21.50 Ag**	**22.50 Ag**	**23.50 Ag**	**24.50 Ag**	**25.50 Ag**
% Change	(9.9%)	(6.6%)	(3.3%)	**Base Case**	3.3%	6.6%	9.9%
3%	22.5	39.2	55.9	**72.3**	88.8	105.3	121.8
5%	**17.4**	**33.3**	**49.2**	**64.8**	**80.5**	**96.2**	**111.8**
7%	12.7	28.0	43.1	**58.0**	72.9	87.8	102.7
10%	6.4	20.8	34.9	**48.8**	62.7	76.7	90.6

The impact to the internal rate of return (IRR) for each of the revenue scenarios are also summarised in Table 22-6 (before tax) and in Table 22-7 (after tax). The sensitivity demonstrates that even at the lower commodity prices scenario, Santa Elena demonstrates positive IRR.

Table 22-6: IRR Project Sensitivity (Before Tax)

IRR (%) Before Tax	**Gold Price ($/oz Au) and Silver Price ($/oz Ag)**						
	1,550 Au	**1,600 Au**	**1,650 Au**	**1,700 Au**	**1,750 Au**	**1,800 Au**	**1,850 Au**
	19.50 Ag	**20.50 Ag**	**21.50 Ag**	**22.50 Ag**	**23.50 Ag**	**24.50 Ag**	**25.50 Ag**
IRR	28%	37%	46%	**54%**	64%	73%	83%

Table 22-7: IRR Project Sensitivity (After Tax)

IRR (%) After Tax	**Gold Price ($/oz Au) and Silver Price ($/oz Ag)**						
	1,550 Au	**1,600 Au**	**1,650 Au**	**1,700 Au**	**1,750 Au**	**1,800 Au**	**1,850 Au**
	19.50 Ag	**20.50 Ag**	**21.50 Ag**	**22.50 Ag**	**23.50 Ag**	**24.50 Ag**	**25.50 Ag**
IRR	13%	20%	27%	**34%**	41%	48%	55%

23. ADJACENT PROPERTIES

This section is not relevant to this Technical Report.

24. OTHER RELEVANT DATA AND INFORMATION

This section is not relevant to this Technical Report.

25. INTERPRETATION AND CONCLUSIONS

The following interpretations and conclusions are a summary of the QPs' opinions based on the information presented in this Report.

25.1. Mineral Tenure, Surface Rights and Agreements

Information provided by First Majestic technical and legal experts supports that the mining tenure held is valid and is sufficient to support declaration of Mineral Resources and Mineral Reserves. Santa Elena has adequate mineral concessions and surface rights to support mining operations over the planned LOM presented in this Report.

For exploration purposes, if new areas of investigation are targeted, it is expected that there will be a need to formalize agreements with surface landowners.

First Majestic has agreements with the landowners in the area and some of these agreements may be subject to renegotiation from time to time. Material changes to the existing agreements may have a significant impact on operations at Santa Elena.

If First Majestic is not able to reach an agreement for the use of the lands with the landowners, then First Majestic may be required to modify its operations or plans for the exploration and development of its mines.

25.2. Geology and Mineralization

The current understanding of mineralization and alteration styles, as well as the structural and lithological controls on mineralization at the Santa Elena mine and the Ermitaño project are sufficient to support the Mineral Resource and Mineral Reserve estimations.

The Santa Elena mine deposits are considered to be examples of epithermal silver- and gold-bearing quartz veins that formed in a low to intermediate sulphidation setting. The Ermitaño project is an example of gold- and silver-bearing epithermal quartz veins that formed in a low sulphidation environment.

25.3. Exploration and Drilling

The exploration programs completed to date are appropriate for the mineralization style. Sampling methods (core drill hole and channel sampling) and data collection are acceptable given the Santa Elena and Ermitaño deposits dimensions, mineralization true widths, and the nature of the deposits. The programs reflect industry-standard practices and can be used in support of Mineral Resource and Mineral Reserve estimation.

The regional satellite and airborne surveys have been useful for developing a conceptual geological framework and local mapping and geochemical soil and rock sampling have been useful for identifying prospective drill targets. It is uncertain if further exploration will result in the prospective exploration targets being delineated as a mineral resource.

25.4. Data Analysis

Drill hole collar, downhole survey, lithology, core recovery, SG and assay data collected are considered suitable to support Mineral Resource and Mineral Reserves estimation. Sample preparation, analysis, and quality-control measures meet current industry standards and provide reliable gold and silver results.

25.5. Metallurgical Testwork

The metallurgical analysis discussed in this Report is based on historical plant operational data, mineralogical investigations, and plant performance monitoring tests performed in the Central Laboratory. The tests performed by the Central Laboratory show good level of repeatability when compared to plant performance.

After performing several comminution tests, based in the BWi approach, a low level of variability in the hardness of the material processed has been observed. Mineralogy characteristics of the mineralized material processed to date is similar to the mineralogy observed, at the macroscopic level, in the drill core samples representing potential plant feed assumed in the LOM plan.

Besides performing laboratory tests using standard plant conditions, metallurgical investigation is conducted on monthly composites to systematically evaluate the effect of key processing variables. The objective of this ongoing program is to explore ways to optimize silver and gold recoveries, and to assist operations in diagnosing production issues and recommending solutions to these issues. Study variables include grind-particle size, cyanide dosage, retention time, reagent type, and oxidizing agents such as pure oxygen and lead nitrate.

The maturity of the processing operation, the established practices in metallurgical monitoring and investigations, and the knowledge of the future mineralized material support the ongoing metallurgical recoveries considered in the LOM plan presented in this Report and in the economic analysis that supports the Mineral Reserves. Recoveries for the Santa Elena mine were assumed at 94% for silver and 96% for gold. There is risk that the assumed recovery levels will not be fully achieved, if future mineralized materials present significant differences to historical mineralized materials.

Recovery forecasts for the Ermitaño mineralization are predicted to be 64% for silver and 95% for gold.

25.6. Mineral Resource Estimates

The Mineral Resource estimates for the Santa Elena mine and the Ermitaño project are prepared in accordance with the CIM Estimation of Mineral Resource and Mineral Reserve Best Practice Guidelines (November 2019) and follow the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014), that are incorporated by reference into NI 43-101. The resource estimates are a reasonable representation of the mineralization found in the Project at the current level of sampling.

The Mineral Resource estimates for the Santa Elena mine are based on the current database of exploration drill holes and production channel samples, underground level geological mapping, the geological interpretation and model, as well as the surface topography and underground mining development wireframes available as the June 30, 2021 cut-off date for scientific and technical data.

The Mineral Resources were classified into Measured, Indicated, or Inferred confidence categories based on the following factors:

- Confidence in the geological interpretation and models;
- Confidence in the continuity of metal grades;
- The sample support for the estimation and reliability of the sample data.
- Areas that were mined producing reliable production channel samples and detailed geological control.

The drill hole database for the Ermitaño project was reviewed and verified by the resource geologist and supports that the QAQC program was reasonable. The sample data used in the estimate has an effective date of June 30, 2021 and consists of surface and underground core drill holes.

The Mineral Resources were classified into Measured, Indicated, or Inferred confidence categories based on the following factors:

- Confidence in the geological interpretation and models;
- Confidence in the continuity of metal grades;
- The sample support for the estimation and reliability of the sample data.

Factors that may materially impact the Mineral Resource estimates include:

- Metal price and exchange rate assumptions;
- Changes to the assumptions used to generate the silver-equivalent grade cut-off grade;
- Changes in local interpretations of mineralization geometry and continuity of mineralized zones;
- Changes to geological and mineralization shape and geological and grade continuity assumptions;
- Changes to geotechnical, mining, and metallurgical recovery assumptions;
- Assumptions as to the continued ability to access the site, retain mineral and surface rights titles, maintain environment and other regulatory permits, and maintain the social license to operate.

- The production channel sampling method used at Santa Elena mine has some risk of non-representative sampling that could result in poor accuracy locally. In addition, there is potential for the large number of channel samples to overwhelm samples from the drill holes in some areas. This is recognized and addressed during resource estimation by restricting the area of influence related to these samples to very short ranges.

25.7. Mineral Reserve Estimates

The Mineral Reserves estimates for the Santa Elena mine and the Ermitaño mine project include considerations for the underground mining methods in use, dilution, mining widths, mining extraction losses, metallurgical recoveries, permitting and infrastructure requirements.

Factors which may materially affect the Mineral Reserve estimates for the Santa Elena mine and the Ermitaño mine project include:

- fluctuations in commodity prices and exchange rates assumptions used;
- material changes in the underground stability due to geotechnical conditions that may increase unplanned dilution and mining loss;
- unexpected variations in equipment productivity;
- material reduction of the capacity to process the mineralized material at the planned throughput and unexpected reduction of the metallurgical recoveries;
- higher than anticipated geological variability;
- unexpected increase in groundwater inflows into the mine workings beyond the ones considered in the geohydrological models;
- cost escalation due to external factors;
- changes in the taxation considerations;
- the ability to maintain constant access to all working areas;
- changes to the assumed permitting and regulatory environment under which the mine plan was developed;
- the ability to maintain mining concessions and/or surface rights;
- the ability to renew agreements with the different surface owners in Santa Elena; and
- the ability to obtain and maintain social and environmental license to operate.

25.8. Mine Plan

Mining operations can be conducted year-round in the Santa Elena mine. The underground mine plan presented in this Report was designed to deliver an achievable plant feed, based on the current knowledge of geological, geotechnical, geohydrological, mining and processing conditions. Production forecasts are based on current equipment and plant productivities.

In the opinion of the QP, it is reasonable to assume that if the sustaining capital expenditures expressed in the LOM plan are executed, the Santa Elena mine and the Ermitaño project will have the means to continue operating as planned.

The current mine life to 2027 is considered achievable based on the projected annual production rate and the estimated Mineral Reserves. There is upside if some of the Inferred Mineral Resources, both from Santa Elena and Ermitaño, can be upgraded to higher confidence Mineral Resource categories.

25.9. Operations Continuity

First Majestic has implemented strong sanitary controls and has been able to maintain operation continuity during the pandemic of 2020 and 2021, with the exception of during the mandatory suspension imposed by the government in the second quarter of 2020. Since the spread of COVID-19 is still ongoing, future temporary suspension of activities may have a temporary impact on the continuity of the operations. In the opinion of the QP, such interruptions do not preclude First Majestic from extracting the Mineral Reserves after those interruptions have been lifted.

25.10. Processing

The Santa Elena processing plant is in good operating condition, with less than 10 operating years. The plant design is based on comminution of ROM material and agitated tank-leaching. The process flow is based on well-established technology. Overall plant availability is high, and the risk of catastrophic failures and consequently unplanned long shutdowns is low.

In recent years, the addition of secondary grinding has added operational flexibility and is supporting high metal recoveries. There is still opportunity for the continued optimization of the operations, for example: ultra-fine grinding, possible addition of automated samplers and the implementation of modern control systems. Such modernization plans are currently being investigated as they may improve the repeatability of high-performance periods, provide better metallurgical accounting, and the corresponding reconciliation of production data.

25.11. Infrastructure

The Santa Elena mine is located in the vicinity of the town of Banámichi with land access year-round through well maintained state roads, as well as access to site using the service road. The Santa Elena mine is well equipped with the basic services required to support the mine and plant operations. The Ermitaño project is equipped with infrastructure and services to support the planned underground operations. The Santa Elena mine has all required infrastructure in place to support operations for the LOM plan presented in this Report.

The capacity of the FTSF is sufficient to hold the compacted filtered paste tailings generated from the production contained in the LOM plan.

25.12. Markets and Contracts

The end product from the Santa Elena mine is in the form of silver–gold doré bars. The physical silver–gold doré bars produced from the Santa Elena ore usually contains greater than 97% silver and 1% gold in weight, once the Ermitaño ore is processed, the same 98% purity is expected with distribution of 90% silver and 8% gold in weight. The silver–gold doré bars are delivered to refineries where these are refined to commercially marketable 99.9% pure silver and gold bars. The terms contained within the existing sales contracts are typical of, and consistent with, standard industry practices.

Selling costs, including freight, insurance, and representation, as well as refining charges, payable terms, deductions, and penalties terms for Santa Elena doré bars, were reviewed by the QP and found to be in line with similar commercial conditions of metal producers in Mexico. All these costs have been incorporated into the long-term economic analysis.

The likelihood of securing ongoing contracts for doré sales is a reasonable assumption; however, in downturn market conditions, there can be no certainty that the Santa Elena mine or First Majestic will always be able to do so or what terms will be available at the time.

25.13. Permitting, Environmental and Social Considerations

Permits held by First Majestic for the Santa Elena mine and the Ermitaño mine project are sufficient to ensure that mining activities are conducted within the regulatory framework required by the Mexican government and that Mineral Resources and Mineral Reserves can be declared.

Closure provisions are appropriately considered in the mine plan and economic analysis.

25.14. Capital and Operating Cost Estimates

The capital and operating cost provisions for the LOM plan that support the Santa Elena Mineral Reserves have been reviewed. The basis for the estimates is appropriate to the known mineralization, mining and production schedules, marketing plans, and equipment replacement and maintenance requirements.

Capital cost estimates include appropriate estimates for sustaining capital.

25.15. Economic Analysis Supporting Mineral Reserve Declaration

An economic analysis to support presentation of Mineral Reserves was conducted. Under the assumptions presented in this Report, the operations show a positive cashflow, and can support Mineral Reserve estimation.

The sensitivity analysis carried out show that Santa Elena is a robust operation with positive cashflow even at the assumed lower metal prices scenarios.

25.16. Conclusions

Under the assumptions used in this Report, the Santa Elena mine has positive economics for the LOM plan, which supports the Mineral Reserve statement.

26. RECOMMENDATIONS

Work or studies recommended by the QPs are presented in two phases.

26.1. Phase 1

The proposed work or studies presented in Phase 1 are not dependent on previous results or the outcome of the different projects or studies. These works or studies can be carried out concurrently. The Phase 2 programs are dependent on the findings of the Phase 1 program.

The total expenditure for the Phase 1 works is estimated at $15.5 M.

26.1.1. Exploration

First Majestic has successfully replaced depleted Mineral Resources through near-mine drilling at the Santa Elena mine since acquiring the property in 2015, and has made a significant new discovery at the Ermitaño project through brownfield drilling. Mineralization remains open down dip in the America and Alejandra Veins at Santa Elena, and good exploration targets remain in the footwall of the Santa Elena Main Vein. Mineralization remains open to the east along the strike of the Ermitaño Vein.

The Santa Elena concessions cover more than 102,000 ha of prospective ground with potential to host additional epithermal gold–silver deposits. Several drilled and undrilled prospects warrant continued exploration. Significant portions of the Santa Elena concessions remain under explored; prospecting, mapping, and geochemical and geophysical surveys are expected to identify new prospects in the under-explored areas.

The following annual drilling programs are recommended.

- At Santa Elena: an annual 4,000 m infill sustaining drill program to support short-term production plans and an annual 15,000 m near-mine drill program to support mid-term production projections;
- At Ermitaño: an annual 5,000 m underground infill drill program to increase confidence in the current Indicated and Inferred Mineral Resources and a 15,000 m near-mine drill program to explore for expansions to the mineralization;
- Regionally: an annual 15,000 m brownfield surface drill program on two or three prospects.

This 55,000 m annual exploration drill program is estimated to costs $6.5 M per year excluding related underground access development costs.

In addition, an annual prospect generation program consisting of prospecting, soil and rock geochemical surveys, mapping, and geophysical surveys is recommended. This prospect generation program is estimated to cost $250,000 per year.

The amounts and estimated cost of these recommended exploration programs should be reviewed annually.

26.1.2. Reconciliation

A reconciliation system for the Santa Elena mine, based on the mine value chain concept, is currently being implemented. The procedures are based on best practices adopted in other reconciliation systems across the mining industry. The reconciliation system compares the estimates of mineral resource, mineral reserves, grade control and mine planning with the measured results from ore/waste transport, processing, and final product. It is recommended that reconciliation monitoring be used to continuously improve the comparison of estimates to measured results all along the mine value chain to highlight opportunities to improve the traceability, identification and control of temporary storage areas, transfers and materials handling practices.

The implementation cost for the integral reconciliation system at Santa Elena is estimated at $200,000.

26.1.3. Santa Elena Hydrogeology Studies

There are currently no indications that groundwater will significantly impact the mine dewatering system going forward, however mapping of groundwater-bearing structures in level workings and ramps should be conducted where encountered to determine if additional dewatering will be required.

It is recommended that a field investigation be completed to assess ground-water conditions at depth of Santa Elena Main Vein and Alejandras. The estimated cost to complete these field investigations and studies is $300,000.

26.1.4. Ermitaño Hydrogeology Studies

A pre-feasibility study for the Ermitaño project was completed and included field investigations in hydrogeology and geotechnical drilling and modeling. The results of the study show the potential to find localized water bodies when reaching levels below the 760 masl elevation, but the amount of data was inadequate to design a detailed dewatering system for deeper levels expected to be mined after two to three years of operation.

It is recommended that field investigations be continued, and a detailed hydrogeological model be constructed to support the design of the dewatering system for the deep portion of the mine which according to the LOM plan will be operated in years 2025-2026. The estimated cost to complete these studies and field investigations is $0.5 M.

26.2. Phase 2

The total expenditure for the Phase 2 works is estimated at $3.5 M.

26.2.1. Groundwater Management Systems

Once the hydrogeological studies of Santa Elena and Ermitaño are completed, a comprehensive groundwater management system needs to be implemented in both operations to facilitate the extraction of mineralized material at depth. Contingent of the results of the detailed hydrogeological investigations, a high-level capital estimate is assumed at $3.5M for the two sites.

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