NI 43-101 Technical Report

Mercedes Gold-Silver Mine

Sonora State, Mexico

Prepared for:
Bear Creek Mining Corporation

Prepared by the following Qualified Persons:

- Colin Hardie, P.Eng. — BBA Engineering Inc.
- David Willock, P.Eng. — BBA Engineering Inc.
- Shane Ghouralal, P.Eng. — BBA Engineering Inc.
- Pierre-Luc Richard, P.Geo. — PLR Resources Inc.

Effective Date: December 31, 2021

Signature Date: July 4, 2022

FORWARD-LOOKING INFORMATION

The results of this technical report represent forward-looking information that is subject to numerous known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those presented here. Forward-looking statements in this report include, but are not limited to, statements with respect to cash flow forecasts, projected capital, operating and exploration expenditures, targeted cost reductions, mine life and production rates, potential mineralization and metal or mineral recoveries, and information pertaining to potential improvements to financial and operating performance and mine life at the Mercedes Mine that may result from the ongoing development of the mine or other initiatives. All forward-looking statements in this report are necessarily based on opinions and estimates made as of the date such statements are made and are subject to important risk factors and uncertainties, many of which cannot be controlled or predicted.

In December 2021, Bear Creek Mining Corporation (Bear Creek or the Company), announced the intention to acquire Mercedes Mine through a transaction with Equinox Gold Corporation (Equinox). Bear Creek retained BBA Engineering Inc. (BBA) to carry out an independent audit of the Mineral Reserves and Mineral Resources and to prepare an updated independent technical report on the Mercedes Gold-Silver Mine (Mercedes or the Mine) of the Company's wholly-owned subsidiary Minera Meridian Minerales S. de R.L. de C.V. (MMM), located in Sonora State, Mexico.

Material assumptions regarding forward-looking statements are discussed in this report, where applicable. In addition to such assumptions, the forward-looking statements are inherently subject to significant business, economic and competitive uncertainties and contingencies. Known and unknown factors could cause actual results to differ materially from those projected in the forward-looking statements. Such factors include, but are not limited to: fluctuations in the spot and forward price of commodities (including gold, silver, diesel fuel, natural gas and electricity); the speculative nature of mineral exploration and development; changes in mineral production performance, exploitation and exploration successes; diminishing quantities or grades of reserves; increased costs, delays, suspensions, and technical challenges associated with the construction of capital projects; operating or technical difficulties in connection with mining or development activities, including disruptions in the maintenance or provision of required infrastructure and information technology systems; damage to Bear Creek or Mercedes Mine's reputation due to the actual or perceived occurrence of any number of events, including negative publicity with respect to the handling of environmental matters or dealings with community groups, whether true or not; risk of loss due to acts of war, terrorism, sabotage and civil disturbances; uncertainty whether the Mercedes Mine will meet Bear Creek's capital allocation objectives; the impact of global liquidity and credit availability on the timing of cash flows and the values of assets and liabilities based on projected future cash flows; the impact of inflation; fluctuations in the currency markets (USD vs MXN); changes in interest rates; changes in national and local government legislation, taxation, controls or regulations and/or changes in the administration of laws, policies and practices, expropriation or nationalization of property and political or economic developments in Mexico; failure to comply with environmental and health and safety laws and regulations; timing of receipt of, or failure to comply with, necessary permits and approvals; litigation; contests over title to properties or over access to water, power and other required infrastructure; increased costs and physical risks including extreme weather events and resource shortages, related to climate change; and availability and increased costs associated with mining inputs and labor. In addition, there are risks and hazards associated with the business of mineral exploration, development and mining, including environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins, flooding and gold bullion or gold concentrate losses (and the risk of inadequate insurance, or inability to obtain insurance, to cover these risks).

Many of these uncertainties and contingencies can affect Bear Creek's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, Bear Creek. All of the forward-looking statements made in this report are qualified by these cautionary statements. Bear Creek, BBA and the Qualified Persons who authored this report undertake no obligation to update publicly or otherwise revise any forward-looking statements, whether as a result of new information or future events or otherwise, except as may be required by law.

DATE AND SIGNATURE PAGE

This technical report is effective as of the 31st day of December 2021.

"Original signed and sealed on file" — July 4, 2022

Colin Hardie, P.Eng.
BBA Inc. — Date

"Original signed and sealed on file" — July 4, 2022

David Willock, P.Eng.
BBA Inc. — Date

"Original signed and sealed on file" — July 4, 2022

Shane Ghouralal, P.Eng., MBA
BBA Inc. — Date

"Original signed and sealed on file" — July 4, 2022

Pierre-Luc Richard, P.Geo.
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CERTIFICATE OF QUALIFIED PERSON

Colin Hardie, P. Eng.

This certificate applies to the NI 43-101 Technical Report entitled "NI 43-101 Technical Report on the Mercedes Gold-Silver Mine, Sonora State, Mexico" prepared for Bear Creek Mining Corporation, dated July 4, 2022 (the "Technical Report"), with an effective date of December 31, 2021.

I, Colin Hardie, P. Eng., as a co-author of the Technical Report, do hereby certify that:

I am the National Director, Mining and Metals Business Line with the firm BBA Engineering Ltd., located at 2020 Robert-Bourassa Blvd., Suite 300, Montréal, Québec, H3A 2A5, Canada.

I graduated from the University of Toronto, Ontario Canada, in 1996 with a BASc in Geological and
1. Mineral Engineering. In 1999, I graduated from McGill University of Montréal, Québec Canada, with an
M. Eng. in Metallurgical Engineering and in 2008 obtained a Master of Business Administration (MBA)
2. degree from the University of Montréal (HEC), Québec Canada.

I am a member in good standing of the Professional Engineers of Ontario (PEO No: 90512500) since
August 2000. I am also a member of the Canadian Institute of Mining, Metallurgy, and Petroleum
3. (Member No. 140556).

I have been employed in mining operations, consulting engineering and applied metallurgical research
4. for over 20 years. My relevant project experience includes metallurgical testwork analysis, flowsheet development, cost estimation and financial modeling. Since joining BBA in 2008, I have worked as a senior process engineer and/or lead study integrator for numerous North American iron ore, precious metal, industrial mineral, and base metal projects.

5.
I have read the definition of "Qualified Person" set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101), and past relevant work experience, I fulfill the
6. requirements to be a Qualified Person for the purposes of NI 43-101.

7.
8. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.

I am responsible for Chapters 1, 3, 13, 17, 19, 20, 21, 22, 24, 25, 26, and 27 of the Technical Report.

9. I have visited the Mercedes Mine property that is the subject of the Technical Report on June 10 and 11,
10. 2022.

I have had prior involvement with the property that is the subject of the Technical Report, having
11. co-authored a NI 43-101 report for Equinox Gold in 2021.

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

As at 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 portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 4th day of July 2022.

Original signed and sealed on file

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CERTIFICATE OF QUALIFIED PERSON

David Willock, P. Eng.

This certificate applies to the NI 43-101 Technical Report entitled "NI 43-101 Technical Report on the Mercedes Gold-Silver Mine, Sonora State, Mexico" prepared for Bear Creek Mining Corporation, dated July 4, 2022 (the "Technical Report"), with an effective date of December 31, 2021.

I, David Willock, P. Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a Mining Engineer with the firm BBA Engineering Ltd., located at 1010 Lorne Street, Unit 101, Sudbury, ON, P3C 4R9, Canada.
2. I graduated from the Laurentian University in 2000 with a Bachelor of Engineering.
3. I am a member in good standing of the Professional Engineers of Ontario (No: 100113931).
4. I have been employed in mining engineering, operations and projects for over 20 years. My relevant experience includes underground hard-rock production planning, mine studies, operations supervision and project execution. I have worked as a senior project engineer for numerous North American base metal projects.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101), and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am responsible for Chapters 15 and 16. I am also responsible for contributions to Chapters 1, 2, 25, 26, and 27 of the Technical Report.
8. I have not visited the Mercedes Mine property that is the subject of the Technical Report.
9. I have had prior involvement with the property that is the subject of the Technical Report having coauthored a report for Equinox Gold in 2021.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at 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 portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 4th day of July 2022.

Original signed and sealed on file

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CERTIFICATE OF QUALIFIED PERSON

Shane Ghouralal, P. Eng., MBA

This certificate applies to the NI 43-101 Technical Report entitled "NI 43-101 Technical Report on the Mercedes Gold-Silver Mine, Sonora State, Mexico" prepared for Bear Creek Mining Corporation, dated July 4, 2022 (the "Technical Report"), with an effective of December 31, 2021.

I, Shane Ghouralal, P. Eng., MBA,, as a co-author of the Technical Report, do hereby certify that:

1. I am the Regional Director, Mining and Metals Studies with the firm BBA Engineering Ltd., located at 10 Carlson Court, Suite 420, Toronto, Ontario, M9W 6L2, Canada.
2. I am a graduate of University of Waterloo and Norwich University.
3. I am a member in good standing with the Professional Engineers Ontario (PEO Registration No. 100523537) and Professional Engineers and Geoscientist of Newfoundland and Labrador (PEGNL Registration No. 10197). I transferred to PEO as a in member in good standing from Engineers and Geoscientists Manitoba (EGM Registration No.: 35169).
4. My relevant experience includes 12+ years of mining engineering and financial assessments. I am a "Qualified Person" for the purposes of National Instrument 43-101.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101), and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am responsible for Chapters 2, 4, 5 and 18. I am also responsible for contributions to Chapters 1, 25, 26, and 27 of the Technical Report.
8. I have visited the Mercedes Gold-Silver Mine Property that is the subject of the Technical Report on February 23-25, 2022.
9. I have had no prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at 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 portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 4th day of July 2022.

Original signed and sealed on file

Shane Ghouralal, P. Eng., MBA
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CERTIFICATE OF QUALIFIED PERSON

Pierre-Luc Richard, P.Geo., M.Sc.

This certificate applies to the NI 43-101 Technical Report entitled "NI 43-101 Technical Report on the Mercedes Gold-Silver Mine, Sonora State, Mexico" prepared for Bear Creek Mining Corporation, dated July 4, 2022 (the "Technical Report"), with an effective date as of December 31, 2021.

I, Pierre-Luc Richard, P.Geo., M.Sc., as a co-author of the Technical Report, do hereby certify that:

1. I am the President of PLR Resources Inc., located at 2000 McGill College Avenue, 6th Floor, Montreal, Quebec, Canada, H3A 3H3. I was contracted on this mandate by BBA Engineering Ltd.
2. I am a graduate of Université du Québec à Montréal in Resource Geology in 2004. I also obtained a M.Sc. from Université du Québec à Chicoutimi in Earth Sciences in 2012.
3. I am a member in good standing of the Ordre des Géologues du Québec (OGQ Member No. 1119), the Association of Professional Geoscientists of Ontario (APGO Member No. 1714), and the Northwest Territories Association of Professional Engineers and Geoscientists (NAPEG Member No. L2465).
4. I have worked in the mining industry for more than 20 years. My exploration expertise has been acquired with Richmont Mines Inc., the Ministry of Natural Resources of Québec (Geology Branch), and numerous companies through my career as a consultant. My mining expertise was acquired at the Beaufor mine and several other producers through my career. I managed numerous technical reports, mineral resource estimates and audits as a consultant for InnovExplo from February 2007 to March 2018, for BBA from March 2018 to May 2022 and for PLR Resources since.
5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101), and past relevant work experience, I fulfill the requirements to be a Qualified Person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am responsible for Chapters 6 to 12, 14, and 23. I am also responsible for contributions to Chapters 1, 2, 25, 26 and 27 of the Technical Report.
8. I visited the Mercedes Mine property that is the subject of the Technical Report on June 10 and 11, 2022.
9. I have had no prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at 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 portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 4th day of July 2022.

Original signed and sealed on file

Pierre-Luc Richard, P.Geo., M.Sc.
PLR Resources Inc.

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TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
2SD	Two standard deviations
3D	Three dimensional
3SD	Three standard deviations
AA	Atomic absorption
Ag	Silver
Ag-DAT	4-acid digestion
AID	Aida deposit
AISC	All-in sustaining cost
ALS	ALS-Chemex
Au	Gold
AuEq	Gold equivalent
BBA	BBA Engineering Inc.
BCA	Barrancas deposit
BCMC	Bear Creek Mining Corporation
BHI	Broken Hill deposit
BM	Block model
Bureau Veritas	Bureau Veritas Commodities Canada Ltd.
CAF	Cut and fill
CAPEX	Capital expenditure
CBA	Casa Blanca deposit
CCD	Counter current decantation
CDN Labs	CDN Resource Laboratories Ltd.
CDO	Corona de Oro deposit
CEMEFI	Centro Mexicano para la Filantropía
CHN	Channel
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CN	Cyanide
COG	Cut-off grade
COVID-19	Coronavirus disease of 2019
CRM	Certified reference materials
CSAMT	Controlled-source Audio-frequency Magnetotellurics
DDH	Diamond drill hole
DH	Drill hole
DIL	Diluvio deposit
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
EOY	End of year
Equinox or EGC	Equinox Gold Corporation
ESR	Excellence in Social Responsibility
FA	Fire assay
FAR	Fresh air raise
Fischer-Watt	Fischer-Watt Corporation
GAP	Gap deposit
Golder	Golder Associates Inc.
Hg	Mercury
ID3	Inverse Distance Cube
INCO	International Nickel Company
IRR	Internal rate of return
JV	Joint venture
KLN	Klondike deposit
KNA	Kriging neighbourhood analysis
LAG	Laguna deposit
LHD	Load haul dump
LOM	Life of mine
LOMP	Life of mine plan
LUP	Lupita deposit
MAR	Marianas deposit
MASL	Metres above sea level
Max	Maximum
Mercedes	Mercedes Gold-Silver Mine
Meridian	Meridian Gold Inc.
Min	Minimum
Minera Sortula	Campbell Chibougamau Mines Limited
MLI	McClelland Laboratoires, Inc.
MMM	Minera Meridian Minerales S. de R.L. de C.V.
Mogul Mining	Mogul Mining Ltd.
MRE	Mineral resource estimate
MSO	Mine stope optimization
MXN	Mexican peso
$Na_2S_2O_5$	Sodium metabisulphite
NAD	North American Datum

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
NI	National Instrument
NN	Nearest neighbour
NPV	Net present value
NSR	Net smelter return
OCN	Cyanate
OK	Ordinary kriging
OP	Open pit
OPEX	Operational expenditure
PEA	Preliminary economic assessment
PPE	Personal protective equipment
Premier	Premier Gold Mines Limited
QA/QC	Quality Assurance / Quality Control
QP	Qualified person
QS	Quartz + Sericite
RAR	Return air raise
RC	Reverse circulation
RDO	Rey de Oro deposit
Rio Sonora	Gerle Gold Ltd.
ROM	Run of mine
RQD	Rock quality designation
SD	Standard deviation
SE	Search ellipsoid
SLR	SLR International Corporation (former Roscoe Postle Associates Inc. (RPA))
SO_2	Sulphur dioxide
TSF	Tailings storage facility
TSX	Toronto Stock Exchange
UG	Underground
US$ / USD / $	United States dollar
UTM	Universal Transverse Mercator
vs	Versus
VG	Visible gold
WAD	Weak acid dissociable
Yamana	Yamana Gold Inc.

TABLE OF ABBREVIATIONS – UNITS OF MEASUREMENT	
Unit	**Description**
°C	Degrees Celsius
°F	Degrees Fahrenheit
µm	micrometre / micron
A	ampere
cfm	cubic feet per minute
cm	centimetre
d	day (24 hours)
deg. or °	angular degree
dia	diameter
G	giga (billion)
g	gram
gpt	grams per tonne
h	hour (60 minutes)
ha	hectare
hp	horsepower
Hz	hertz
in.	inch
k	kilo (thousand)
kg	kilogram
km	kilometre
km^2	square kilometre
kV	kilovolt
kVA	kilovolt-amperes
kW	kilowatt
kWh	kilowatt hour
L	litre
L/s	litres per second
M	mega (million); molar
m	metre
m^3	cubic metre
m^3/s	cubic metres per second
mm	millimetre
mpd	metres per day
Mt	million tonne

TABLE OF ABBREVIATIONS – UNITS OF MEASUREMENT	
Unit	**Description**
mt	milled tonnage
mtpy	milled tonnage per year
MW	megawatt
oz	troy ounce (31.1035g)
ppm	parts per million
psi	pound per square inch
s	second
t	tonne (metric ton)
tpd	tonne per day
tph	tonne per hour
tpy	tonnes per year
V	volt
W	watt
wt%	weight percent
y	year (365 days)
yd	yard

1. Summary

1.1 Introduction

In December 2021, Bear Creek Mining Corporation (Bear Creek or the Company), following its agreement to acquire the Mercedes Mine from Equinox Gold Corporation (Equinox), retained BBA Engineering Inc. (BBA) to carry out an independent audit of the Mineral Reserves and Mineral Resources and to prepare an updated independent technical report on the Mercedes Gold-Silver Mine (Mercedes or the Mine) of the Company's wholly-owned subsidiary Minera Meridian Minerales S. de R.L. de C.V. (MMM), located in Sonora State, Mexico.

The purpose of this independent technical report is to support the disclosure of Mineral Reserves and Mineral Resources at the Mine as of December 31, 2021. This technical report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

Bear Creek Mining Corporation is a Canadian-based company that is a leading Peru-focused silver exploration and development company. Bear Creek operates entirely in the Americas, with properties in Peru, and Mexico.

The Qualified Persons (QPs) are not aware of any mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve and Mineral Resource estimate.

1.2 Qualified Persons

The following individuals have served as QPs as set out in NI 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101):

Table 1-1: Qualified persons

Qualified Person	Chapters / Sections	Site Visit
Colin Hardie, P. Eng.	1, 3, 13, 17, 19, 20, 21, 22, 24, 25, 26, 27	Yes
David Willock, P. Eng.	15, 16	No
Shane Ghouralal, P.Eng.	2, 4, 5, 18	Yes
Pierre-Luc Richard, P. Geo.	6, 7, 8, 9, 10, 11,12, 14, 23	Yes

All QPs contributed to Chapters 1, 2, 25, 26 and 27, based upon their respective scope of work and the chapters/sections under their responsibility.

Pierre-Luc Richard and Colin Hardie visited the Mercedes Mine on June 10 and 11, 2022. The site visit included a visit of the core shack and sample preparation room, a surface field tour across the property, an underground tour where typical Lupita and Diluvio mineralizations were observed, a visit of the process plant, tailings facilities, and mine laboratory. Multiple discussions were also held on site to cover additional needs in regard to the 3D modelling, block modelling, database validation, and QA/QC. The site visit also included a review of sampling and assaying procedures, the QA/QC program, downhole survey methodologies, and the descriptions of lithologies, alterations and structures with on-site personnel.

Shane Ghouralal, visited the site between February 23 and 25, 2022. The site visit included a walkthrough of the site's facilities. The site visit also verified the underground mining methods and the equipment used. The testing of old waste stockpiles was observed. A review of the changes in mineral reserves was discussed with the teams and site information was provided to confirm site costs.

1.3 Property Description and Location

The Mercedes mining operation is located in the state of Sonora, northwest Mexico, within the Cucurpe municipality (30°19'47" N latitude and 110°29'02" W longitude). The Mine is located 250 km northeast of Hermosillo, Sonora's capital city, and 300 km south of Tucson, Arizona, United States.

1.4 Land Tenure

The Mercedes property consists of approximately 69,285 ha of mineral concessions under lease from the government of Mexico. The area is covered by 43 mineral concessions, all of which have been titled as Mining Concessions, according to Mexican mining law. The titles are valid for 50 years from the date titled. All of the concessions are owned by MMM, a wholly owned subsidiary of Bear Creek. All of the concessions are in good standing with mining law obligations through semi-annual tax payments and required assessment work.

The areas of interest at Mercedes are located on private land. A surface access agreement has been in place with the owner of the private land surrounding the Mine since 2000.

Production from the Mercedes property is subject to a 1% net smelter return royalty payable to an independent third party commencing on the earlier of 450,000 ounces of gold production or July 28, 2022. Equinox will hold a 2% net smelter return on gold equivalent ounces produced by the Mercedes Mine. Silver and gold production from the Mercedes property are also subject to a purchase and sale agreement whereby 100% (until 3.75 million silver ounces have been delivered, then dropping to 30%) of the silver production from the Mercedes property is sold at a price equal to 20% of the prevailing market silver price with minimum annual deliveries of 300,000 ounces of silver until 2,100,000 ounces of silver have been delivered. Further, 1,000 ounces of gold production per quarter, subject to adjustment based on the prevailing market gold price (and plus an additional 6.5% of such adjusted amount), must be delivered at a price of 0% of the prevailing market gold price until 9,000 ounces of gold have been delivered. Table 1-2 shows the remaining ounces to be delivered as of December 31, 2021.

Table 1-2: Remaining ounces to be delivered as of Dec 31, 2021 as per sale agreement

Payee	Commodity	Requirement (oz)	Delivered (oz)	Pending (oz)
Nomad	Ag	3.75M	1,052,810	2,697,190
Nomad	Au	10,300	4,000	6,300

MMM has all required permits to conduct work on the property. The QPs are not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform work on the property.

1.5 History

The Mercedes district has been the focus of mining activities since at least the late 1880s. The Mercedes, Tucabe, Saucito, Anita, Klondike, Rey de Oro, Reina, and Poncheña veins were all the focus of exploration and development work on a limited scale in the late 19th and early 20th centuries.

No precise production totals are available from historic mining operations. Some 20,000 to 30,000 ounces of gold were probably produced during the years 1937 to 1939, by Minera Oro Chico, which mined the material outlined by Anaconda at Mercedes. Cumulative past district production, in the order of 150,000 tonnes and approximately 73,000 gold equivalent (AuEq) ounces, is estimated, considering the scale of historic mining observed at Klondike, Rey de Oro, Tucabe or Saucito, and the known high-grades in the exploited veins.

Production by MMM at Mercedes is listed in Table 1-3.

Table 1-3: Gold production history from 2011 to December 31, 2021

Year	Ore Processed (000)	Gold Grade (gpt Au)	Silver Grade (gpt Ag)	Gold Ounces (000)	Silver Ounces (000)
2011	48	7.60	114.5	8	39
2012	603	6.43	78.4	116	490
2013	671	6.16	79.4	129	615
2014	682	5.09	55.9	105	398
2015	713	3.96	43.3	84	383
2016	513	4.52	48.4	93	425
2017	684	3.93	37.6	83	338
2018	699	3.39	37.6	69	309
2019	668	2.91	26.2	60	191
2020	399	2.87	33.1	35	168
2021	512	2.69	21.2	42	123
Total	**6,191**	**4.24**	**47.4**	**824**	**3,479**

Early Exploration 1900s to mid-1990s

The Tucabe vein was mined in the early 1900s. A cyanide mill was constructed on the site and the vein was accessed through a series of tunnels and shafts, covering over 600 m of strike length and over 150 m of vertical range. No production data is available from this time period.

The Saucito zone has been investigated by local prospectors. Workings exposed highly sheared veins that are crosscut by east-west trending post-mineral structures.

The Mercedes vein was discovered in 1936. Anaconda Copper Company optioned the property in 1937 and spent two years exploring underground. The work included sinking a 50 m shaft and excavating a series of tunnels and internal raises for sampling.

The Klondike Mine shows little available historical data. A cross section from the 1930s indicates that the Klondike Mine was mined around 1900, with the main stope being approximately 120 m by 80 m in size, but the workings have been inaccessible since the 1930s. Despite all the reports mentioning the vein continuing at depth, high inflows of water eventually stopped the mining operation.

Meridian Gold Inc. 1993-2007

Meridian completed surface and underground mapping and sampling in 1999 and 2000, leading to the identification of 11 separate target areas, of which, five had historic mining activity and were the focus of the first phase of an RC drilling program. Veins or stockwork zones were encountered in all five areas by drilling. Mercedes, Klondike, and Tucabe all had at least one drill intercept assaying greater than 10 gpt Au.

A second phase of RC drilling program for testing the target zones, both down dip and along strike, was launched in January 2001, focusing on the Klondike and Mercedes zones. This program was successful in discovering a narrow, vein-hosted mineralized zone at Mercedes and significant mineralization at Klondike.

In 2002, with gold prices dropping to less than $300 per ounce, Meridian entered into a joint venture (JV) with Fischer-Watt Corporation (Fischer-Watt), to continue exploration at Mercedes. With Fischer-Watt's focus being the Mercedes vein zone, the Klondike and Rey de Oro concessions were dropped from the JV. Fischer-Watt carried out limited metallurgical testing and developed a preliminary design for underground development on the Mercedes vein area south of Corona de Oro, yet the JV was terminated in the fall of 2004 and the property returned to Meridian.

An exploration program conducted in 2005 resulted in the discovery of a significant high-grade intersection at Corona de Oro shoot in the Mercedes vein. Drilling continued in 2006-2007, focusing on the Mercedes, Klondike, and Lupita veins.

Yamana Gold Inc. 2007-2016

In October 2007, Yamana took control over the property and subsequently carried out surface mapping, geochemical exploration, and drilling. An aggressive exploration program was initiated to assess the potential of the property and bring it to a feasibility study stage. Drilling from 2009 to 2016, focusing on district exploration outside of the Mercedes-Klondike systems, resulted in the discovery of the Barrancas zone, the Diluvio zone at Lupita, and the expansion of the Rey de Oro vein system. Commercial production at the Mine started in 2011.

Premier Gold Mines 2016-2021

In September 2016, Premier Gold Mines purchased the Mercedes Mine from Yamana Gold. Drilling from 2016 to 2021 focused on underground delineation of the various zones, particularly at Diluvio.

Equinox Gold 2021-2022

In April 2021, Equinox acquired the Mercedes Mine through the purchased of all outstanding shares of Premier Gold Mines. The mine continued to operate during this time. Equinox continued exploration and definition drilling in 2021.

Bear Creek 2022

In December 2021, Equinox agreed to sell the Mercedes Mine to Bear Creek Mining Corp. The mine continued to operate during this time.

1.6 Geology and Mineralization

Regional Geology

The Mine is located in the northwestern edge of the epithermal (Au-Ag) deposits belt of Mexico and is surrounded by world class deposits like Cananea and Nacozari. Mercedes is one of the most accessible mining projects in Mexico, located approximately 250 km from both Hermosillo, Sonora and Tucson, Arizona.

The Mine lies in the Basin and Range physiographic province, approximately 80 km inboard from the Late Proterozoic rifted continental margin of the North American plate and northeast of the inferred "Sonora-Mojave Mega-shear."

The area is underlain by a thick succession of shallow-marine shelf carbonate and siliciclastic rocks ranging in age from Jurassic to Cretaceous, which have been moderately to strongly faulted and folded, related to thin-skinned, northeast directed thrusting during the Late Cretaceous Laramide Orogeny.

Property Geology and Mineralization

The geology of the Mercedes area is dominated by two northwest trending arches, cut by numerous northwest trending high-angle structures, which have exposed older marine sediments and overlying interbedded volcaniclastic sediments and lithic to quartz crystal lithic tuff units.

Andesitic flows and flow breccias (with local coeval andesite dikes) have been deposited and preserved in at least three west-northwest thickening basins, on the margins of the northwest trending arches. This andesite package, locally over 500 m thick, and the contact zone with the underlying tuff, host all known economic epithermal vein deposits in the district (Figure 7-3).

Some of the local faults have been intruded by at least three stages of dikes and small stocks, ranging in composition from andesite to latite and rhyolite. Dikes generally crosscut and destroy vein mineralization. Vitrophyre is locally preserved on both latite dike and flow margins.

A total of 16.5 km of gold-silver bearing epithermal low sulphidation veins have been identified within or along the margins of the andesite-filled basins, which constitute the primary exploration target on the property. Major veins, like those of the Mercedes vein system, typically trend N30° - 70°W at 60° to 90° dips northwest, following the major regional structural pattern. Other veins trend variably from east-west to north-south, or even northeast. Veins typically dip at greater than 60°, but locally range as low as 25°.

The major exception in the district is in the Lupita-Diluvio basin. The Lupita vein system is localized along a N70°E, 15° to 55° northwest dipping listric fault zone. Diluvio consists of a stockwork and vein system hosted within older lithic tuff and volcaniclastic units below the andesite package.

1.7 Exploration, Drilling and Sampling

Up to the effective date of this technical report (December 31, 2021), a total of 556,569 m in 21,554 drill holes and 107,374 m in 21,554 channels had been completed on the property.

The primary target areas and objectives in recent years have been:

- Mineralization proximal to the main Mercedes/Barrancas/Lagunas trend;
- Expanding and confirming resource/reserve potential at Diluvio-Lupita;
- Defining underground opportunity at Rey de Oro;
- Defining the underground opportunity and potential at Aida and Marianas;
- Pursuing surface exploration to explore for new target areas on the property.

Mineralized zones at Mercedes, Klondike, Barrancas, Diluvio, Lupita, Marianas and Rey de Oro were drilled on approximately 20 m to 30 m centres, using a combination of diamond drilling with a small amount of RC drilling. Delineation drilling, aimed to convert Inferred Resources up to the Indicated category, was also conducted at San Martin, Marianas, and Lupita Extension.

Mineralized zones at Aida, Barrancas, Brecha Hill, Casa Blanca, Corona de Oro, Lagunas, Klondike, Rey de Oro, Diluvio, Lupita, Marianas, and Gap have been sampled (channels) as the mine development progressed. Channel samples constitute an important part of the dataset used for both the geomodelling and the mineral estimation process, as well as for grade control purposes.

1.8 Mineral Resources

The QP has reviewed the Mineral Resource estimates of the various deposits at the Mine as of December 31, 2021. As part of this review, the QP carried out a series of visual and statistical reviews such as: Review of the database, the geological solids, capping and other key parameters, composites, the interpolation procedures and methodology, depletion, and the block models. Multiple discussions with on-site staff were held during the course of this mandate.

The Mercedes Mine block models were validated using several methods, including a visual review of the grades in relation to the underlying drill hole and statistical methods statistical comparisons, review of the reconciliation, and comparison between a block model derived from drill holes and channels versus a block model derived only from drill holes.

The QP reviewed the EOY2021 reconciliation analysis documented by MMM. From these reconciliation results, it appears that the block model might possibly be slightly underestimated, yet within an overall 1% margin (tonnage) and 8% margin (grade) from the production figures, the QP concluded that the Mineral Resource block model is performing well.

The Measured Mineral Resources, inclusive of Mineral Reserves, amount to 865,000 tonnes with average grades of 4.55 gpt Au and 33.73 gpt Ag, containing approximately 127,000 ounces of gold and 938,000 ounces of silver. The Indicated Mineral Resources, inclusive of Mineral Reserves, amount to 2,914,000 tonnes with average grades of 4.79 gpt Au and 44.93 gpt Ag, containing approximately 449,000 ounces of gold and 4,209,000 ounces of silver. The Inferred Mineral Resources amount to 884,000 tonnes with average grades of 4.50 gpt Au and 41.02 gpt Ag, containing approximately 128,000 ounces of gold and 1,167,000 ounces of silver.

The Mineral Resource Estimate, inclusive of Mineral Reserves, is tabulated in Table 1-4. The Mineral Resource Estimate, exclusive of Mineral Reserves, is tabulated in Table 1-5. The Mineral Resource estimate is based upon a cut-off grade of 2.1 gpt Au for all deposits, except for Diluvio which has a cut-off grade of 2.0 gpt Au, Diluvio's mining cost being lower than the other deposits.

Table 1-4: Mercedes Mine Mineral Resource Estimate inclusive of Mineral Reserves

	Tonne	Grade		Contained Metal	
Classification	**(000)**	**Au (gpt)**	**Ag (gpt)**	**Au oz (000)**	**Ag oz (000)**
Measured	865	4.55	33.73	127	938
Indicated	2,914	4.79	44.93	449	4,209
Total M+I	**3,779**	**4.73**	**42.37**	**575**	**5,147**
Inferred	884	4.50	41.02	128	1,167

1. The independent qualified person for the MRE, as defined by National Instrument ("NI") 43-101 guidelines, is Pierre-Luc Richard, P.Geo. The effective date is December 31, 2021.
2. These Mineral Resources are not Mineral Reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred Mineral Resources in this MRE are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as Indicated or Measured; however, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
3. Mineral resources are presented as undiluted and in situ for an underground scenario and are considered to have reasonable prospects for economic extraction. Mineral resources show sufficient continuity and isolated blocks were discarded; therefore, the herein MRE meets the CIM Guidelines published in November 2019.
4. The MRE was prepared using VulcanTM v.2020.1 and is based on 2,894 drill holes and 21,554 channels.
5. The MRE encompasses 13 deposits each defined by individual wireframes.
6. High-grade capping was done on the raw assay data and established on a per zone basis for gold and silver.
7. Density values were calculated based on 999 density measurements.

8. Grade model Mineral Resource estimation was calculated from drill hole data using an Ordinary Kriging and ID3 interpolation methods.
9. The estimate is reported using a cut-off grade varying from 2.0 to 2.1 gpt Au. The cut-off grade was calculated using a gold price of USD1,350/oz. The cut-off grade will be re-evaluated in light of future prevailing market conditions and costs.
10. The MRE presented herein is categorized as Inferred, Indicated, and Measured Mineral Resources. The Inferred Mineral Resource category is constrained to areas where the drill spacing is around or less than 15 m, the Indicated Mineral Resource category is constrained to areas where drill spacing is around or less than 25 m, and the Inferred Mineral Resource category is constrained to areas where drill spacing is around or less than 45 m. In all cases, reasonable geological and grade continuity were also a criteria during the classification process.
11. Calculations used metric units (metre, tonne). Metric tonnages were rounded and any discrepancies in total amounts are due to rounding errors.
12. CIM definitions and guidelines for Mineral Resource Estimates have been followed.
13. The QP is not aware of any known environmental, permitting, legal, title-related, taxation, sociopolitical or marketing issues, or any other relevant issues that could materially affect this MRE.

Table 1-5: Mercedes Mine Mineral Resource Estimate exclusive of Mineral Reserves

	Tonne	Grade		Contained Metal	
Classification	**(000)**	**Au (gpt)**	**Ag (gpt)**	**Au oz (000)**	**Ag oz (000)**
Measured	539	3.60	27.49	62	476
Indicated	2,012	3.86	40.15	250	2,597
Total M+I	2,551	3.81	37.47	312	3,073
Inferred	884	4.50	41.02	128	1,167

1. See notes from Table 1-4.

1.9 Mineral Reserves

The Mercedes Mine has been in continuous operation since 2011. The Mineral Reserves are entirely underground Mineral Reserves.

Mineral Reserves are estimated by the application of mining shapes, governed by a minimum mining width of 3.5 m, to the Mineral Resource shapes. Appropriate factors for planned dilution, unplanned dilution and ore recovery have been included as part of the estimate.

The Mineral Reserves for the Mercedes Mine are shown in Table 1-6 and total 2.2 million tonnes at an average grade of 3.75 gpt Au and 29.0 gpt Ag, containing approximately 267 K ounces of gold and 2.07 million ounces of silver in the Proven and Probable categories.

David Willock (QP) has reviewed the work by Mercedes Mine personnel, related to the estimation of the Mineral Reserves, and is of the opinion that the Mineral Reserves have been estimated in an appropriate manner.

Table 1-6: Mineral Reserve statement

Mineral Reserve Class	Tonne	Grade		Contained Metal	
	(000)	Au (gpt)	Ag (gpt)	Au oz (000)	Ag oz (000)
Proven Underground	344	5.65	40.7	62.5	449
Probable Underground	1,873	3.40	26.9	204.5	1,620
Proven & Probable	**2,217**	**3.75**	**29.0**	**267.0**	**2,069**

1. CIM Definitions Standards on Mineral Resource and Reserves (2014) have been followed.
2. The effective date of the 2021 Reserve Statement is December 31, 2021.
3. Mineral Reserves are minable tonnes and grades; the reference point is the mill feed at the primary crusher.
4. Mineral Reserves are estimated at a cut-off of 2.1 gpt Au, except Diluvio, which is estimated at 2.0 gpt Au.
5. Cut-off grade assumes a price of gold of US$1,350 per ounce, a 95.5% gold metallurgical recovery; US$38.41/t (Diluvio) and US$43.26 (other deposits) mining cost, US$19.75/t processing costs, US$15.61/t G&A, and US$8.48/oz refining costs.
6. A minimum mining width of 3.5 m was used in the creation of all reserve blocks.
7. Bulk density for ore varies by deposit from 2.22 t/m^3 to 2.57 t/m^3 and 2.40 t/m^3 for waste.
8. Numbers may not add due to rounding.
9. David Willock, P. Eng., is the qualified person for the mineral reserve statement as defined by NI 43-101.

1.10 Mining Methods

Mercedes is a fully mechanized, ramp-access, underground mine with five underground mining areas; Mercedes, Barrancas, Lupita, Diluvio and Rey de Oro. The main ramps are driven at a nominal grade of 15% and are 4.5 m wide by 4.3 m high. The main ramps are generally located approximately 136 m from the main mineralized zone in the footwall.

The average production rate over the 5-year mine life is approximately 1,518 tpd with the highest year averaging 1,872 tpd. Ore is hauled to surface via the main ramps and stockpiled on surface near the individual portals. Ore from the Barrancas, Lupita, Diluvio, and Rey de Oro mines is subsequently hauled to a common stockpile area near the jaw crusher.

The Reserve Estimate has most areas being mined by mechanized cut and fill methods with long-hole stoping (uppers) employed in Diluvio and Diluvio West where ground conditions and ore volume permit to improve economics within portions of these deposits.

The Rey de Oro Superior deposit, previously planned as an open pit, will now be mined as an underground operation with production beginning the fourth quarter of 2023.

David Willock (QP) is of the opinion that the selected mining methods are appropriate for the deposits.

1.11 Mineral Processing

The process plant at Mercedes has a capacity of approximately 2,000 tpd and is based upon conventional milling with Merrill-Crowe recovery of gold and silver. The main components are listed below:

- Three-stage crushing circuit;
- Ball mill operated in closed circuit with cyclones;
- Gravity concentration;
- Agitated leach;
- Counter current decantation;
- Merrill-Crowe zinc precipitation;
- Smelting;
- Cyanide detoxification of tailings;
- Tailings disposal.

1.12 Environmental, Permitting, and Social Considerations

The Mercedes operation is in production and operating within the environmental framework put in place by Premier Gold and Equinox, the former mine owners. The site operates under a corporate responsibility program that includes corporate responsibility, community relations, environment, and health and safety.

MMM has a comprehensive and strong community program in the community of Cucurpe, Sonora, approximately 22 km west of the Mine. Although the site is located within private land purchased from a local rancher, different social and economic programs have been established at the community of Cucurpe.

An updated closure plan and schedule was developed by Golder (Golder, 2021) based upon assumed closure activities beginning in 2026. The costs of the closure of the existing facilities at the Mine are mostly concentrated in the first four years, with most closure activities being completed by 2031. The post-closure period begins in 2032 and will continue for 20 years until 2052.

The total direct and indirect cost of closure and post-closure of the Mine was estimated at US$16.17 million including contingency.

1.13 Existing Infrastructure

The Mercedes Mine is comprised of all surface and underground infrastructure necessary to operate the site, including:

- A 2,000 tpd three-stage crushing and process plant. This facility processes ore from the different mining areas and stockpiles;
- Mine infrastructure: administrative office facilities, two camp facilities (exploration and mine personnel), mine operation and maintenance facilities (surface and underground), core storage and exploration offices, personnel change room facilities (mine dry), a lamp room and safety room are also in place;
- Tailings management infrastructure for surface disposal; two existing and a third one to be designed and constructed;
- A paste plant for underground backfill. A portion of the tailings are mixed with cement, yielding a nominal output rate of 94 tph of paste backfill at 55 wt% solids content current as mixer trucks transfer the backfill material to the current mining areas further away. The paste plant in general is designed for 78 wt% solids content;
- Two on-site batch plants for the preparation of shotcrete and for concrete as required;
- Water supply and Water Treatment Plant;
- Electrical infrastructure and substation to meet site load requirements of approximately 14 MW;
- Access roads connecting the site with public roads as well as internal roads connecting the different mine areas to the plant and to the other major infrastructure. There are security gates and security post at mine entries;
- Ore and waste stockpiles areas.

1.14 Capital and Operating Cost Estimates

Mercedes is currently operating, and the capital cost estimate covers the ongoing operations. The LOM sustaining capital expenditures total US$45.5 million as summarized in Table 1-7 as per the MMM 2022 budget.

Table 1-7: Forecast LOM capital costs (2022 to 2025)

Cost/Category	Unit	2022F	2023F	2024F	2025F	Total
Buildings & Infrastructure	US$ 000	1,760	424	129	0	**2,313**
Hardware & Software	US$ 000	562	0	0	0	**562**
Machinery & Equipment	US$ 000	3,307	1,959	0	0	**5,267**
Vehicles	US$ 000	612	0	0	0	**612**
Underground Mine Development	US$ 000	15,404	7,857	2,332	0	**25,593**
Technical Studies	US$ 000	100	0	0	0	**100**
Delineation Drilling- Sustaining	US$ 000	2,129	2,129	0	0	**4,258**
Subtotal Sustaining Capital Cost	**US$ 000**	**23,874**	**12,370**	**2,461**	**0**	**38,704**
Expansionary Mine Development	US$ 000	0	0	0	0	**0**
Tailings Dam Expansion -TSF2	US$ 000	540	0	0	0	**540**
Tailings Dam Construction - TSF3	US$ 000	0	1,882	627	627	**3,137**
Subtotal Expansionary Capital Cost	**US$ 000**	**540**	**1,882**	**627**	**627**	**3,676**
Exploration Drilling	US$ 000	1,538	1,538	0	0	**3,077**
Total	**US$ 000**	**25,952**	**15,790**	**3,088**	**627**	**45,457**

The capital plan is based upon continued development and further exploration of Mine areas as well as the construction of a new tailings storage facility (TSF3).

The unit operating costs ($/t milled) for the life of mine (LOM) are summarized in Table 1-8 as per the MMM 2022 budget. Forecast LOM operating costs are the result of initially focusing mining activities on two production areas, Diluvio and Lupita, bringing additional mining zones into production, and closely managing the skills and numbers of employees needed to support the LOM mine plan.

Table 1-8: Forecast unit operating costs ($/t milled) (2022 to 2025)

Production / Cost Metric	Unit	2022F	2023F	2024F	2025F	Average/Total (2022 to 2025)
Production						
Processed Tonnes	t	582,370	683,192	521,335	429,739	2,216,635
Operating Costs ($/t milled)						
Mine Administration and Underground	US$/t	43.49	42.31	43.74	54.45	45.31
Process Plant	US$/t	21.52	20.16	22.19	28.84	22.68
Site Overhead	US$/t	10.40	8.64	10.25	23.57	12.38
General and Administration	US$/t	3.22	2.73	3.24	7.74	3.95
Transport and Inventory Adjustments	US$/t	-	-	-	-	-
Overall	**US$/t**	**78.63**	**73.83**	**79.41**	**114.61**	**84.31**

1.15 Financial Analysis

An economic analysis of the Mercedes Mine has been completed using the actual mine costs, current LOM plan, scaled actual costs, and estimates presented in this report. The mine is cash flow positive throughout its operation at a gold and silver price of US$1700/oz and US$21/oz, respectively.

The current LOM is stated for four years with the current mining reserves. The undiscounted pre-tax cash flow is US$122M and after-tax cash flow is US$61M. At a base case discount rate of 5%, the pre-tax NPV is US$108M, and the after-tax NPV is US$55M.

The mine economics are most sensitive to the gold price and operating costs.

Table 1-9 shows the Mercedes Mine Financial Summary.

Table 1-9: Project summary and financial criteria ($US)

Parameter	Unit	Value
Production		
Mine Life	year	4
Total Potential Mill Feed Tonnage	kt	2,217
Average Feed Grade, Au	gpt	3.75
Average Feed Grade, Ag	gpt	29.03
Mill recoveries (Avg), Au	%	95.5%
Mill recoveries (Avg), Ag	%	40.0%
Recovered Gold Ounces	koz	255
Recovered Silver Ounces	koz	828
Commodity Prices		
Au	US$/oz	1,700
Ag	US$/oz	21
Exchange Rate		
US$	Pesos	19
Operating Costs		
Mine Administration and Underground	$/t milled	45.31
Plant	$/t milled	22.68
Site Overhead	$/t milled	12.38
General & Administration	$/t milled	3.95
Total Operating Cost	$/t milled	84.31
Project Economics		
Gross Revenue	$M	433.49
Total Selling Cost Estimate	$M	80.97
Total Operating Cost Estimate	$M	186.89
Total Sustaining Capital Cost Estimate	$M	45.46
Total Closure and Reclamation Estimate	$M	16.17
Total Salvage Estimate	$M	14.50
Pre-Tax Cash Flow	$M	121.6
Net Present Value (Pre-Tax)		
PRE-TAX NPV @ 0%	$M	122
PRE-TAX NPV @ 5%	**$M**	**108**
PRE-TAX NPV @ 7%	$M	103
PRE-TAX NPV @ 10%	$M	96
PRE-TAX NPV @ 12%	$M	92

Parameter	Unit	Value
Net Present Value (After-Tax)		
AFTER-TAX NPV @ 0%	$M	61
AFTER-TAX NPV @ 5%	**$M**	**55**
AFTER-TAX NPV @ 7%	$M	52
AFTER-TAX NPV @ 10%	$M	49
AFTER-TAX NPV @ 12%	$M	47

Notes:

1. Total Selling Costs includes, government royalty, royalties, gold streams and silver by-product as it includes the silver streams.
2. Sustaining Capital Costs includes Tailings Dam Expansion, Tailings Dam 3 and Exploration Costs.

1.16 Conclusions and Recommendations

The Mercedes Mine has been successfully developed into a viable mining operation with 11 years of continuous operation history by its various owners. Based on the findings of this technical report, the QPs believe the Mercedes Mine and milling operation is capable of sustaining production through the depletion of the current mineral reserve. Relevant geological, geotechnical, mining, metallurgical and environmental data from the Mercedes Mine has been reviewed by the QPs to obtain an acceptable level of understanding in assessing the current state of the operation. The Mineral Resource and Mineral Reserve estimates have been performed to industry best practices (CIM, 2003) and conform to the requirements of CIM Definition Standards (CIM, 2014).

MMM holds all required mining concessions, surface rights, and rights of way to support mining operations for the life-of-mine plan developed using the December 31, 2021 Mineral Reserves estimates. Permits held by MMM are sufficient to ensure that mining activities within the Mercedes Mine are carried out within the regulatory framework required by the Mexican Government, local and regional agencies. No risk associated with permit extensions is anticipated. Annual and periodic land use and compliance reports have been filed as required.

The Qualified Persons (QPs) have the following recommendations:

1.16.1 Geology and Mineral Resources

- The use of analytical method Ag-DAT (4-acid digestion) instead of the FA-gravimetric finish method for silver assaying at the Mine Laboratory is recommended. From the QA/QC control plots, it appears that the Ag-DAT method produces better results. Silver assays definitely need to be scrutinized for the next few years making sure results are acceptable in terms of QA/QC.

- Although this would not have a material impact on the Mineral Resource Estimate, and given that QA/QC improves, silver could be introduced in a gold equivalent cut-off grade (AuEq). This might marginally improve the block model.
- Multiple tests, such as introducing dynamic anisotropy, or comparing ID3 to ID2 and OK, should be conducted in order to improve the block models.
- The QP recommends the use of a reasonable minimum width during modelling for future updates in order to better meet the reasonable prospects for economic extraction requirement.

1.16.2 Mineral Reserves and Life of Mine Planning

- Enhance the scheduling process to align with project execution.
- Monitor metal price fluctuations and trends and adapt the LOM plan as required to maximize value.
- Optimize MSO variables to suit the mining method selected to enhance the project economics.
- Integrate short term planning process to improve the production profile.
- Develop a waste balance on an annual basis to optimize the production profile.
- Ensure that ventilation models are updated regularly to reflect the current state of the vent system.
- Create and maintain airflow allocation tables in accordance with NOM-023.
- Maintain adequate air velocities for effective gas clearing and heat mitigation.

1.16.3 Metallurgy and Mineral Processing

- Implement a metallurgical testing program on the historical low-grade stockpiles to help define the optimal operating conditions and improve production forecasting.
- Include the stockpile tonnage and grades within the monthly production KPI report.
- Complete an evaluation of available data to determine whether gold and silver recovery is a function of head grade, deposit type or other parameters. If so, the correlations may be used to provide more accurate estimates for budgeting purposes.

1.16.4 Infrastructure

- Track and update the site wide water balance on a regular basis to support ongoing operations. The water balance is an important tool to track trends and conduct short-term predictions through simulation of variable operating and/or climatic scenarios to support decision making associated with pond operation, e.g., understanding pond volumes and water availability for ore processing and maintaining adequate freeboard in the TSFs at all times.
- The project site and infrastructure should be assessed annually so that the viability of the basis for the closure plan can continually be checked and the plans can be changed, if necessary, long before closure actually commences. Cost estimates for closure should continue to be updated as the concepts continue to be refined and the design of closure components advances.

2. Introduction

In December 2021, Bear Creek Mining Corporation (Bear Creek or the Company), announced plans to acquire the Mercedes Mine from Equinox Gold Corporation (Equinox), retained BBA Engineering Inc. (BBA) to carry out an independent audit of the Mineral Reserves and Mineral Resources and to prepare an updated independent technical report on the Mercedes Gold-Silver Mine (Mercedes or the Mine) of the Company's wholly-owned subsidiary Minera Meridian Minerales S. de R.L. de C.V. (MMM), located in Sonora State, Mexico.

BBA is an independent engineering consulting firm headquartered in Mont-Saint-Hilaire, Québec with mining teams based in Montréal, Québec City, Toronto, Sudbury and Vancouver.

The purpose of this independent amended technical report is to support the disclosure of Mineral Reserves and Mineral Resources at the Mine in accordance with the guidelines of the Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1.

2.1 Bear Creek Mining Corporation (Bear Creek)

Bear Creek Mining is a Canadian-based company that is a leading Peru-focused silver exploration and development company. Bear Creek operates entirely in the Americas, with properties in Peru, and Mexico.

Currently, the major assets and facilities associated with Bear Creek's Mercedes Gold-Silver Mine in Mexico are:

- Mineral Reserves and Mineral Resources in 13 underground deposits on the property. In 2021 Mercedes produced approximately 42,000 ounces of gold and 123,000 ounces of silver;
- Grinding and gravity circuit ahead of an agitated leach with counter current decantation (CCD) wash circuit and Merrill-Crowe circuit, followed by an INCO SO_2/air cyanide destruction circuit. The processing plant has a production capacity of 2,000 tpd and produces gold silver doré;
- Mine and mill infrastructure, including camps, office buildings, shops, paste plant, two cement plants, a water treatment plant, and equipment;
- Two existing tailings storage facilities (TSF) and a third planned TSF with sufficient capacity until 2025.

2.2 Basis of Technical Report

The following technical report presents the results of an audit of the Mineral Reserves and Mineral Resources for Mercedes Gold-Silver Mine located in Sonora State, Mexico. As of the date of this technical report, Bear Creek's common shares are listed on the TSX Venture Exchange (TSXV:BCM), the OTCQX (OTCQX:BCEKF) and the Lima Stock Exchange (BVL:BCM). Bear Creek's head office is located at:

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This technical report, titled "Technical Report on the Mercedes Gold-Silver Mine, Sonora State, Mexico", was prepared by Qualified Persons (QPs) following the guidelines of the NI 43-101 and in conformity with the guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Reserves.

2.3 Report Responsibility and Qualified Persons

The following individuals, by virtue of their education, experience and professional association, are considered QPs as defined in the NI 43-101, and are members in good standing of appropriate professional institutions:

- Colin Hardie, P.Eng. — BBA Engineering Inc.
- David Willock, P.Eng. — BBA Engineering Inc.
- Shane Ghouralal, P.Eng. — BBA Engineering Inc.
- Pierre-Luc Richard, P.Geo. — PLR Resources Inc.

The preceding QPs have contributed to the writing of this technical report and have provided QP certificates, included at the beginning of this technical report. The information contained in the certificates outlines the sections in this technical report for which each QP is responsible. Each QP has also contributed figures, tables and portions of Chapters 1 (Summary), 2 (Introduction), 25 (Interpretation and Conclusions), 26 (Recommendations), and 27 (References). Table 2-1 outlines the responsibilities for the various sections of the technical report and the name of the corresponding Qualified Person.

Table 2-1: Qualified persons and areas of report responsibility

Chapter	Description	Qualified Person	Comments and exceptions
1.	Executive Summary	C. Hardie	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
2.	Introduction	S. Ghouralal	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
3.	Reliance on other Experts	C. Hardie	All Chapter 3
4.	Project Property Description and Location	S. Ghouralal	All Chapter 4
5.	Accessibility, Climate, Local Resource, Infrastructure and Physiography	S. Ghouralal	All Chapter 5
6.	History	P.L. Richard	All Chapter 6
7.	Geological Setting and Mineralization	P.L. Richard	All Chapter 7
8.	Deposit Types	P.L. Richard	All Chapter 8
9.	Exploration	P.L. Richard	All Chapter 9
10.	Drilling	P.L. Richard	All Chapter 10
11.	Sample Preparation, Analyses and Security	P.L. Richard	All Chapter 11
12.	Data Verification	P.L. Richard	All Chapter 12
13.	Mineral Processing and Metallurgical Testing	C. Hardie	All Chapter 13
14.	Mineral Resource Estimate	P.L. Richard	All Chapter 14
15.	Mineral Reserve Estimate	D. Willock	All Chapter 15
16.	Mining Methods	D. Willock	All Chapter 16
17.	Recovery Methods	C. Hardie	All Chapter 17
18.	Project Infrastructure	S. Ghouralal	All Chapter 18
19.	Market Studies and Contracts	C. Hardie	All Chapter 19
20.	Environmental Studies, Permitting, and Social or Community Impact	C. Hardie	All Chapter 20
21.	Capital and Operating Costs	C. Hardie	All Chapter 21
22.	Economic Analysis	C. Hardie	All Chapter 22
23.	Adjacent Properties	P.L. Richard	All Chapter 23

Chapter	Description	Qualified Person	Comments and exceptions
24.	Other Relevant Data and Information	C. Hardie	All Chapter 24
25.	Interpretation and Conclusions	C. Hardie	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
26.	Recommendations	C. Hardie	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
27.	References	C. Hardie	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.

2.4 Effective Dates and Declarations

The effective date of the technical report is December 31, 2021.

This technical report was prepared as a National Instrument 43-101 Technical Report for Bear Creek by independent Qualified Persons collectively known as the "Report Authors". The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in the Report Authors' services, based upon the following: 1) information available at the time of preparation; 2) data supplied by outside sources; and 3) the assumptions, conditions, and qualifications set forth in this technical report. This technical report is intended for use by Bear Creek, subject to the terms and conditions of its respective contracts with the Report Authors. Except for the purposes legislated under Canadian provincial and territorial securities law, any other use of this technical report by any third party is at the sole risk of that party.

As of the effective date of this technical report, the QPs are not aware of any known litigation potentially affecting the project. The QPs did not verify the legality or terms of any underlying agreement(s) that may exist concerning the ownership of Mercedes, permits, off-take agreements, license agreements, royalties or other agreement(s) between Bear Creek and any third parties.

The results of this technical report are not dependent upon prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings with Bear Creek and the QPs. The QPs are being paid a fee for their work in accordance with the normal professional consulting practice.

The opinions contained herein are based upon information collected throughout the course of the investigations by the QPs, which in turn reflect various technical and economic conditions at the time of writing. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results can be significantly more or less favourable.

2.5 Sources of Information

2.5.1 General

This technical report is based in part upon internal company reports, maps, published government reports, company letters and memoranda, as well as public information, as listed in Chapter 27 (References) of this technical report. Sections from reports authored by other consultants may have been directly quoted or summarized in this technical report and are so indicated, where appropriate.

This technical report has been completed using available information contained in, but not limited to, the following reports, documents and discussions:

- Technical discussions with Bear Creek Corporate and Mercedes Mine personnel including:
  - Eric Caba, Bear Creek Chief Operating Officer;
  - Paul Tweedle, Bear Creek Chief Finance Officer;
  - Eduard Roux, Bear Creek Project Director;
  - Jesus Eloy Fierro Deras, Mercedes Mine General Manager;
  - Jan Larsen Guzman, Mercedes Mine Controller;
  - Omar Martinez Garcia, Mercedes Mine Technical Services Sr Superintendent;
  - Benjamin Riviera, Mercedes Mine Environmental, HSE Manager;
  - Valentin Herrera Jacobo, Mercedes Mine Processing Plant Manager;
  - Luis Gustavo Zuñiga, Mercedes Mine Manager of Geology.
- Recent site visits by Shane Ghouralal, Colin Hardie and Pierre-Luc Richard;
- Various Mercedes operations cost and budget reports;
- Additional information from public domain sources.

The QPs have no known reason to believe that any of the information used to prepare this technical report and evaluate the mineral resources and reserves presented herein is invalid or contains misrepresentations. The authors have sourced the information for this technical report from the collection of documents listed in Chapter 27 (References).

Many elements of this technical report are based upon relevant information from the previous NI 43-101 Technical Reports on the Property (Hardie et al., 2021, Altman et al., 2018) issued for Premier Gold Mines and Equinox Gold Corp., the former owners of the property. This statement is made in various sections and chapters of this technical report, where applicable.

2.6 Site Visits

The following bulleted list describes which Qualified Persons visited the site(s), the date of the visit, and the general objective of the visit:

- Shane Ghouralal, MBA., P.Eng., visited the site between February 23-25, 2022. The site visit included a walkthrough of the site's facilities. These facilities were the mill and processing plant, laboratory, power station, office facilities, camp, tailings facilities, water treatment plant and core shack. The site visit also verified the underground mining methods and the equipment used. The testing of old waste stockpiles was observed. A review of the changes in mineral reserves was discussed with the teams and site information was provided to confirm site costs.
- Pierre-Luc Richard, P.Geo., visited the Mercedes Mine on June 10 and 11, 2022. The site visit included a visit of the core shack and sample preparation room, a surface field tour across the property, an underground tour where typical Lupita and Diluvio mineralizations were observed, a visit of the process plant, tailings facilities, and mine laboratory. Multiple discussions were also held on site to cover additional needs in regard to the 3D modelling, block modelling, database validation, and QA/QC. The site visit also included a review of sampling and assaying procedures, the QA/QC program, downhole survey methodologies, and the descriptions of lithologies, alterations and structures with on-site personnel.
- Colin Hardie, P.Eng., visited the Mercedes Mine on June 10 and 11, 2022. The site visit included a visit of the core shack and sample preparation room, a surface field tour across the property, an underground mine tour to see typical Lupita and Diluvio mineralizations, a visit of the process plant, tailings facilities, and mine laboratory. Discussions were held with Mercedes staff regarding the operations and maintenance of the process plant.

The following QP did not visit the site as part of the preparation of this technical report:

- David Willock.

A site visit was not deemed necessary as Shane Ghouralal was able to have discussions with site personnel and gather the required information and data on his behalf.

2.7 Currency, Units of Measure, and Calculations

Unless otherwise specified or noted, the units used in this technical report are metric. Every effort has been made to clearly display the appropriate units being used throughout this technical report.

- Currency is in United States dollars (US$, USD or $);
- All ounce units are reported in troy ounces, unless otherwise stated; 1 oz (troy) = 31.10348 g = 1.1 oz (Imperial);
- All metal prices are expressed in US dollars (USD);
- A Mexican Peso (MXN) to United States dollar (USD) exchange rate of 19.0 MXN for 1.00 USD was used, unless otherwise stated;
- All cost estimates have a base date of the fourth quarter (Q4) of 2021.

This technical report includes technical information that required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the QPs consider them immaterial.

2.8 Acknowledgements

The authors of the technical report would like to acknowledge these experts for their technical contributions, insights, assessments and reviews. These experts are:

- Julia-Anais Dubreil, P.Geo., PhD.;
- Jesus Eloy Fierro Deras, P.Eng., Mercedes Mine General Manager;
- Luis Zúñiga, Geo., M.Sc. Geology Manager;
- Omar Martinez, P.Eng., Technical Services Manager;
- Valentin Herrera, Met., M.Sc., Process Plant Manager;
- Erika Gonzalez Leyva, B.Sc. IS., Database Administrator.

3. Reliance on Other Experts

3.1 Introduction

The Qualified Persons (QPs) have relied upon reports, information sources and opinions provided by Bear Creek Mining Corporation (BCMC) and outside experts related to the Mercedes mineral rights, permits, surface rights, property agreements, royalties, and fiscal situation.

A draft copy of the technical report has been reviewed for factual errors by BCMC. Any changes made as a result of these reviews did not involve any alteration to the conclusions made. Hence, the statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are neither false nor misleading at the date of this technical report.

3.2 Ownership, Agreements and Permits

BCMC supplied information about project ownership, option agreements, environmental liabilities and permits. For the purpose of this report, the QPs have relied upon ownership information provided by Mr. Eric Caba, Chief Operating Officer and General Manager with BCMC. BCMC has relied upon an opinion of mining concession ownership, duties and rights by RB Abogados (www.rbmexicolaw.com) dated December 13, 2021 and this opinion is relied upon in Chapter 4 (Property Description and Location) of the technical report. The QPs have not researched property title or mineral rights for the Mine and express no opinion as to the ownership status of the property.

3.3 Royalties and Taxation

Colin Hardie (QP) has relied upon BCMC for guidance on applicable taxes, streaming agreements, royalties, and other government levies or interests, applicable to revenue or income from the Mine. This information is used in Chapter 19 (Market Studies and Contracts) and Chapter 22 (Economic Analysis) of the technical report.

4. Property Description and Location

The Mercedes Mine is located in the state of Sonora, northwest Mexico, within the Cucurpe municipality. The Mine is located 250 km northeast of Hermosillo, Sonora's capital city, and 300 km south of Tucson, Arizona (Figure 4-1).

Mercedes is located at 30° 19' 47" N latitude and 110° 29' 02" W longitude. The UTM coordinates are NAD 27, Zone 12, 549,452 m E, 3,355,473 m N.

4.1 Land Tenure & Mineral Rights

The Mercedes property consists of approximately 69,285 ha of mineral concessions under lease from the government of Mexico (Figure 4-2). The area is covered by 43 mineral concessions, all of which have been titled as Mining Concessions, according to Mexican mining law.

The titles are valid for 50 years from the date titled and can be renewed for another 50 years. All of the concessions are owned by MMM, a wholly-owned subsidiary of Bear Creek.

Survey control of the mining concessions is based upon concrete control points called "Mojonera." The Mojoneras and perimeters of the claims are certified by an authorized surveyor, Perito Minero, and validated by the Dirección de Minas.

The areas of interest at Mercedes are located on private land. Bear Creek currently has leases with four local ranches totalling 13,306 hectares. The total monthly payment of these leases is US$10,500. Renewal dates are between November 2022 and October 2023 for 3-4 year terms.

MMM controls 100% of the concessions, either through staking mining claims or finalizing option contracts with the buyout of the claims. All of the concessions are in good standing with mining law obligations through semi-annual tax payments and required assessment work.

All concession taxes are paid on a semi-annual basis by MMM. Table 4-2 lists the mining concessions.

Production from the Mercedes property is subject to a 1% net smelter return royalty payable to Elemental Royalties Corp. from the earlier of 450,000 ounces of gold produced or July 28, 2022. Equinox will hold a 2% net smelter return on gold equivalent ounces produced by the Mercedes Mine. Silver and gold production from the Mercedes property are also subject to a purchase and sale agreement whereby 100% (until 3.75 million silver ounces have been delivered, then dropping to 30%) of the silver production from the Mercedes property is sold at a price equal to 20% of the prevailing market silver price with minimum annual deliveries of 300,000 ounces of silver until 2,100,000 ounces of silver have been delivered. Further, 1,000 ounces of gold production per quarter, subject to adjustment based on the prevailing market gold price (and plus an additional 6.5% of such adjusted amount), must be delivered at a price of 0% of the prevailing market gold price until 9,000 ounces of gold have been delivered. Table 4-1 shows the remaining ounces to be delivered as of December 31, 2021.

Table 4-1: Remaining ounces to be delivered as of Dec 31, 2021 as per sale agreement

Payee	Commodity	Requirement (oz)	Delivered (oz)	Pending (oz)
Nomad	Ag	3.75M	1,052,810	2,697,190
Nomad	Au	10,300	4,000	6,300

The effective date that the status of the claims was confirmed is December 31, 2021.

4.2 Environmental Liabilities

There are no known environmental concerns with respect to the Mercedes property.

The tailings are considered pH neutral to alkaline and are not acid-generating. Rehabilitation of the tailings facility and the remainder of the mining areas on-site at the end of mine life have been accounted for.

4.3 Permitting

MMM has all required permits to conduct work on the property. Mercedes Mine is currently in the permitting process for the construction of TSF#3.

4.4 Other Significant Factors and Risks

The QP is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform work on the property.

Table 4-2: Mercedes mineral concessions (as of December 31, 2021)

Concession	Area (ha)	Title	Title Date	Expiry Date
El Principe	18.0000	172217	27-Oct-1983	26-Oct-2033
La Reina	12.0369	172418	15-Dec-1983	14-Dec-2033
Klondike	15.5275	174794	14-Jun-1985	13-Jun-2035
El Rey de Oro	18.6164	175490	31-Jul-1985	30-Jul-2035
El Rey de Oro 2	18.4000	175511	31-Jul-1985	30-Jul-2035
Corona de Oro	10.0000	175671	6-Aug-1985	5-Aug-2035
Klondike 2	9.8487	175672	6-Aug-1985	5-Aug-2035
Pragedia	20.0000	186251	22-Mar-1990	21-Mar-2040
La Bartola	10.0000	187085	30-May-1990	29-May-2040
Fraccion El Nuevo Tucabe	8.8492	208553	24-Nov-1998	23-Nov-2048
El Tucabe	38.4590	210794	26-Nov-1999	25-Nov-2049
El Sol	200.7300	210898	27-Jan-2000	26-Jan-2050
Argonauta	7.7061	212480	24-Oct-2000	23-Oct-2050
Argonauta	390.7005	213646	5-Jun-2001	4-Jun-2051
El Oro Real Fraccion I	497.3410	213718	12-Jun-2001	11-Jun-2051
El Oro Real Fraccion II	3.6784	213719	12-Jun-2001	11-Jun-2051
El Oro Real Fraccion III	4.1211	213720	12-Jun-2001	11-Jun-2051
El Real 1	125.8333	215243	14-Feb-2002	13-Feb-2052
El Real 2	487.6264	215244	14-Feb-2002	13-Feb-2052
El Tucabe 3	109.2250	215246	14-Feb-2002	13-Feb-2052
Gato 2	50.0000	215596	5-Mar-2002	4-Mar-2052
El Nuevo Tucabe	42.3052	216522	17-May-2002	16-May-2052
Gato	337.1108	221761	19-Mar-2004	18-Mar-2054
El Hipo Fraccion I	45.8914	221763	19-Mar-2004	18-Mar-2054
El Hipo Fraccion II	11.7569	221764	19-Mar-2004	18-Mar-2054
El Hipo Fraccion III	31.4375	221765	19-Mar-2004	18-Mar-2054
San Francisco	98.9169	221919	14-Apr-2004	13-Apr-2054
El Hipo Fracc II	3.0941	221920	14-Apr-2004	13-Apr-2054
El Hipo Fracc I	123.1961	221921	14-Apr-2004	13-Apr-2054
Rey V	1,597.2124	224150	12-Apr-2005	11-Apr-2055
Tragedia 2	20.0000	226071	16-Nov-2005	15-Nov-2055

Concession	Area (ha)	Title	Title Date	Expiry Date
Argonauta 2 Fracc 1	4.9663	226859	14-Mar-2006	13-Mar-2056
Argonauta 2 Fracc 2	13.8788	226860	14-Mar-2006	13-Mar-2056
Argonauta 2 Fracc 3	141.8638	226861	14-Mar-2006	13-Mar-2056
Argonauta 3	81.0000	226862	14-Mar-2006	13-Mar-2056
Argonauta 4	2,127.0216	229005	27-Feb-2007	26-Feb-2057
Argonauta 5 Fracc 1	56,298.1556	236193	16-Mar-2007	15-Mar-2057
Argonauta 8	1,173.3752	238166	9-Aug-2011	8-Aug-2061
Argonauta 9 F-1	338.2361	238167	9-Aug-2011	8-Aug-2061
Argonauta 9 F-2	66.6451	238168	9-Aug-2011	8-Aug-2061
Tucaba 2	1,398.6047	243253	29-Aug-2014	28-Aug-2064
Tucaba	99.0807	244214	30-Jun-2015	29-Jun-2065
Tucaba 1	3,174.2856	244258	14-Jul-2015	13-Jul-2065
Total	**69,284.7343**			

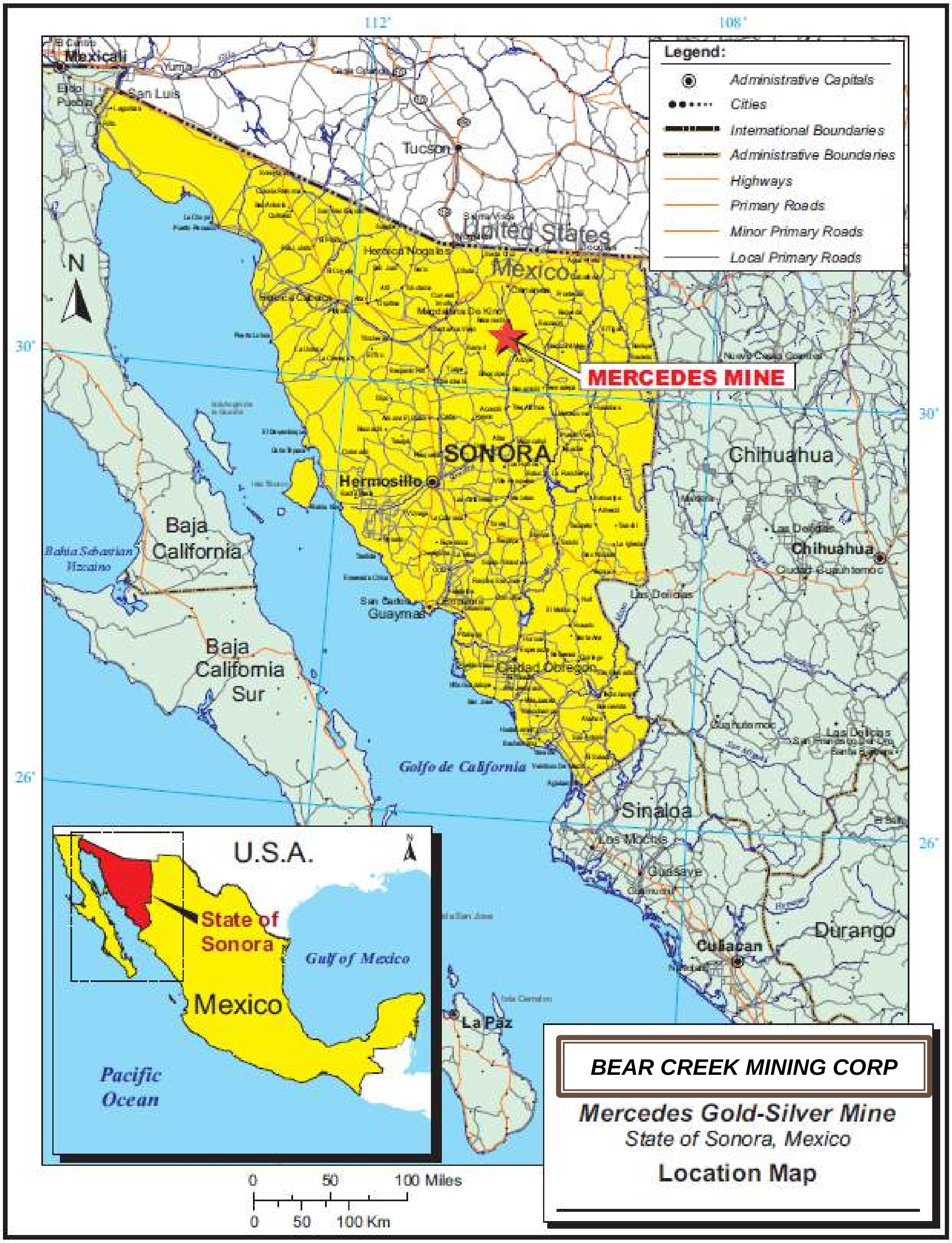

Figure 4-1: Mercedes Gold-Silver Mine – Location map (source: Altman, K.A., et al., 2018)

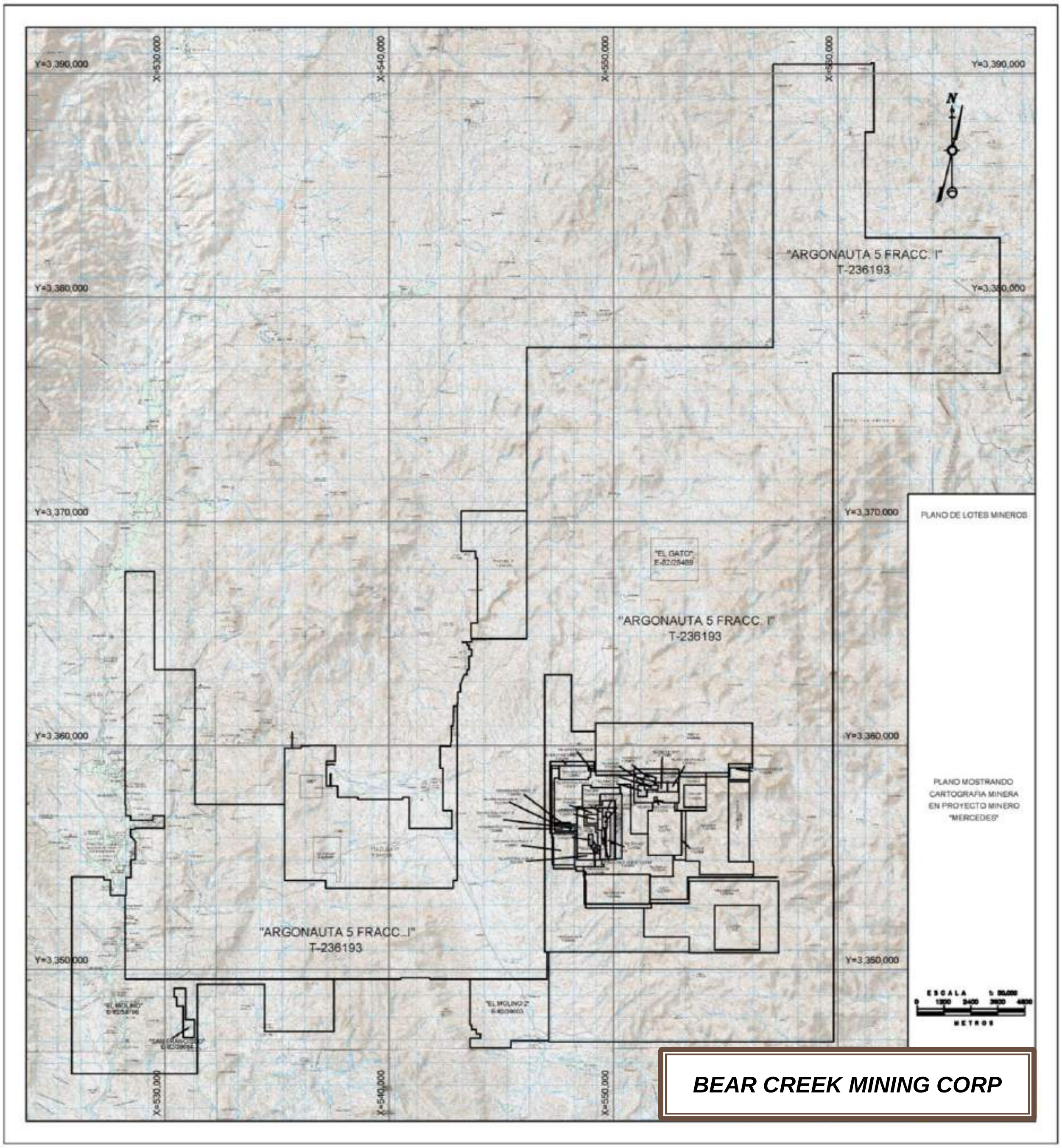

Figure 4-2: Mercedes Gold-Silver Mine – Concession boundary map (source: Premier Gold Mines, 2020)

5. Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Mine is accessed using Highway 54 via Magdalena de Kino, located approximately 180 km from both Tucson, Arizona, and Hermosillo, Mexico. From Magdalena de Kino, the property is accessed using Highway 15 for 67 km, passing through the community of Cucurpe, to the Rancho Los Pinos entrance, from where the site can then be reached via a 10-km improved gravel road.

5.2 Climate

The climate in the Mercedes area is typical of the high Sonora desert. The maximum recorded temperature is 41.6°C and the lowest is -15°C, with freezing temperatures common at night between December and March. Rainfall is sparse outside of the monsoon season (~mid-June to early October) with annual precipitation averaging 506 mm. Rain and rare snow occasionally fall between late January and February.

5.3 Local Resources

Magdalena de Kino is the closest commercial centre with a population of approximately 30,500. It is a well-established community with a variety of services available, including a small airport, lodging, fuel and groceries, limited medical care, schools, and police. Cananea, Sonora, located approximately 170 km from the site, is a major Mexican mining centre. Hermosillo and Tucson are the main suppliers for mining activity within the area. Hermosillo has a population of 900,000 people and is known as the mining hub for the Sonora region (Macrotrends, 2022). The site staff and mining personnel live in Hermosillo and Magdalena de Kino. The Mercedes Mine provides transport for the site and mining personnel from Hermosillo and Magdalena de Kino on a weekly basis.

5.4 Infrastructure

Mercedes is exploiting the Diluvio, Lupita and Lupita Extension zones and has all of the required mining infrastructure, including:

- Declines and a series of ramp-connected levels;
- A 2,000 tpd crushing plant and mill;
- Tailings storage facilities (TSF);

- Associated administrative building, laboratory, shops, and warehouse;
- Sufficient water supply using mine dewatering, water treatment plant and purchased water rights;
- Power supply provided by a 65 km, 110 kV power line, from the town of Magdalena de Kino.

5.5 Physiography and Vegetation

The Mercedes property is located in an area of moderate to rugged topography, with numerous arroyos and canyons incised through volcanic stratigraphy, where streams flow intermittently following rainfalls, or more extensively during the rainy period.

Vegetation is typical of the high Sonora desert, including mesquite, desert oak, grasses, and numerous species of cacti, junipers, and cottonwood trees.

Elevation in the property area ranges from 950 MASL to 1,400 MASL.

6. History

Some of the information presented below has been derived from previous technical reports on the property (i.e., Hardie et al., 2021, Altman et al., 2018) and other historical documentation.

The Mercedes district has been the focus of mining activities since at least the late 1880s. Much of the historic data, including ownership information, was lost during the Mexican revolution of 1910. Concessions that are now part of the property have been owned by a number of private individuals, who have leased the holdings to various Canadian and Australian companies (Table 6-2).

Table 6-1: Ownership and/or operatorship over the years

Year	Ore Processed (000)
1907-1935	Anaconda Copper Mining Company (Tucabe Gold mine)
1935-1942	Minera Oro Chico (Mina Las Mercedes)
1993-2002	Meridian Gold Co. (as FMC Oro Company)
2002-2004	Fischer-Watt Corp.
2004-2007	Minera Meridian Gold
2007-2016	Yamana Gold
2016-2021	Premier Gold Mines
2021-2022	Equinox Gold Corp.
2022-Present	Bear Creek Mining Corp.

The Mercedes, Tucabe, Saucito, Anita, Klondike, Rey de Oro, Reina, and Poncheña veins were all the focus of exploration and development work on a limited scale in the late 19th and early 20th centuries. No data remains of these programs, with the exception of selected reports on the Mercedes, Klondike, and Tucabe mines.

6.1 Historical Work on the Property

6.1.1 Early Exploration 1900s to mid-1990s

The Tucabe vein was mined in the early 1900s. A cyanide mill was constructed on the site and the vein was accessed through a series of tunnels and shafts, covering over 600 m of strike length and over 150 m of vertical range. No production data is available from this time period. In 1994, the Fomento Minero, an agency of the Mexican government, conducted surface and underground sampling at the Tucabe vein to evaluate the potential for an open pit with heap leach operation. In 1996, Minera Sierra Madre evaluated the area and completed 800 m of reverse circulation (RC) drilling to depths of 75 m, yet these holes, collared within 20 m of the outcropping structure, did not encounter the vein. None of the results from these programs are available.

The Mercedes vein was discovered in 1936. Anaconda Copper Company optioned the property in 1937 and spent two years exploring underground. The work included sinking a 50 m shaft and excavating a series of tunnels and internal raises for sampling.

The Saucito zone, located about 1 km northwest of the Tucabe area, has been investigated by local prospectors. Workings exposed highly sheared veins that are crosscut by east-west trending post-mineral structures. Sampling of the underground workings by Rio Sonora (Gerle Gold Ltd.) indicated that the mineralization was very erratic, yet, several samples returned results greater than 10 gpt Au. Rio Sonora then drilled 10 shallow holes, testing the area for near surface, open pit potential. Drilling returned low-grade values and failed to equal the grade from the underground sampling.

The Klondike Mine shows little available historical data. A cross section from the 1930s indicates that the Klondike Mine was mined around 1900, with the main stope being approximately 120 m by 80 m in size, but the workings have been inaccessible since the 1930s. Despite all the reports mentioning the vein continuing at depth, high inflows of water eventually stopped the mining operation. In the mid-1990s, Mogul Mining Ltd. (Mogul Mining) acquired the property and reported assay results from several hand-dug surface trenches excavated near the main shaft area. A four drill holes program was then conducted by Minera Sortula (Campbell Chibougamau Mines Limited).

6.1.2 Meridian Gold Inc. 1993-2007

The Mercedes and Klondike Mine areas were explored by Meridian Gold Inc.'s predecessor, FMC Gold Company, in 1993 as part of a regional exploration program in Mexico. No further work was recommended at the time as the restricted nature of mineralization precluded obvious open pit development opportunities (Moore, C.M., and Bergen, R.D., 2014).

The Mercedes district was re-visited in 1999 as part of a program focusing on high-grade, low sulphidation vein systems. Based upon the district's identified potential, an acquisition was recommended, and field work initiated. Meridian geologists completed surface and underground mapping and sampling in 1999 and 2000, leading to the identification of 11 separate target areas, of which, five had historic mining activity and were the focus of the first phase of an RC drilling program. Veins or stockwork zones were encountered in all five areas by drilling. Mercedes, Klondike, and Tucabe all had at least one drill intercept assaying greater than 10 gpt Au.

A second phase of RC drilling program for testing the target zones, both down dip and along strike, was launched in January 2001, focusing on the Klondike and Mercedes zones. This program was successful in discovering a narrow, vein-hosted mineralized zone at Mercedes and significant mineralization at Klondike.

In 2002, with gold prices dropping to less than $300 per ounce, Meridian entered into a joint venture (JV) with Fischer-Watt Corporation (Fischer-Watt), to continue exploration at Mercedes. With Fischer-Watt's focus being the Mercedes vein zone, the Klondike and Rey de Oro concessions were dropped from the JV. Fischer-Watt carried out limited metallurgical testing and developed a preliminary design for underground development on the Mercedes vein area south of Corona de Oro, yet the JV was terminated in the fall of 2004 and the property returned to Meridian.

An exploration program conducted in 2005 resulted in the discovery of a significant high-grade intersection at Corona de Oro shoot in the Mercedes vein. Drilling continued in 2006-2007, focusing on the Mercedes, Klondike, and Lupita veins.

6.1.3 Yamana Gold Inc. 2007-2016

In October 2007, Yamana took control over the property and subsequently carried out surface mapping, geochemical exploration, and drilling. An aggressive exploration program was initiated to assess the potential of the property and bring it to a feasibility study stage. Drilling from 2009 to 2016, focusing on district exploration outside of the Mercedes-Klondike systems, resulted in the discovery of the Barrancas zone, the Diluvio zone at Lupita, and the expansion of the Rey de Oro vein system. Commercial production at the Mine started in 2011.

6.1.4 Premier Gold Mines 2016-2021

In September 2016, Premier Gold Mines purchased the Mercedes Mine from Yamana Gold. Drilling from 2016 to 2021 focused on underground delineation of the various zones, particularly at Diluvio. Additional details of the drilling completed by Premier Gold is disclosed in Section 10.2 of this report.

6.1.4.1 Surface Rock Sampling

Geochemical sampling focused on rock chip samples from outcropping veins. The abundance of outcrop in the property area, combined with limited vegetation, allowed this sampling method, along with samples from the historic mine workings, to define general grades within veins. Surface mapping identified three major basins filled with andesitic volcanic rocks on the Mercedes property, as well as areas in which significant extensions of andesite basins may be covered by shallow post-mineral deposits. The mapping also identified over 16.5 km of low sulphidation epithermal veins in the Mine area.

Although not recognized as a high priority exploration target, some skarn-hosted copper-silver mineralization has been recognized on the property on the southwest side of the Klondike basin and on the internal concession controlled by Penoles.

6.1.4.2 Soil Sampling

Premier Gold began a systematic soil program at the end of 2019 and continued in 2020 (Figure 6-1). Samples were collected on a 200-m grid spacing with a total of 846 samples collected (Vargas and Blanco, 2020). The samples were analyzed for gold, silver, lead, zinc, antimony, mercury, and arsenic, all of which are path finder elements in an epithermal system.

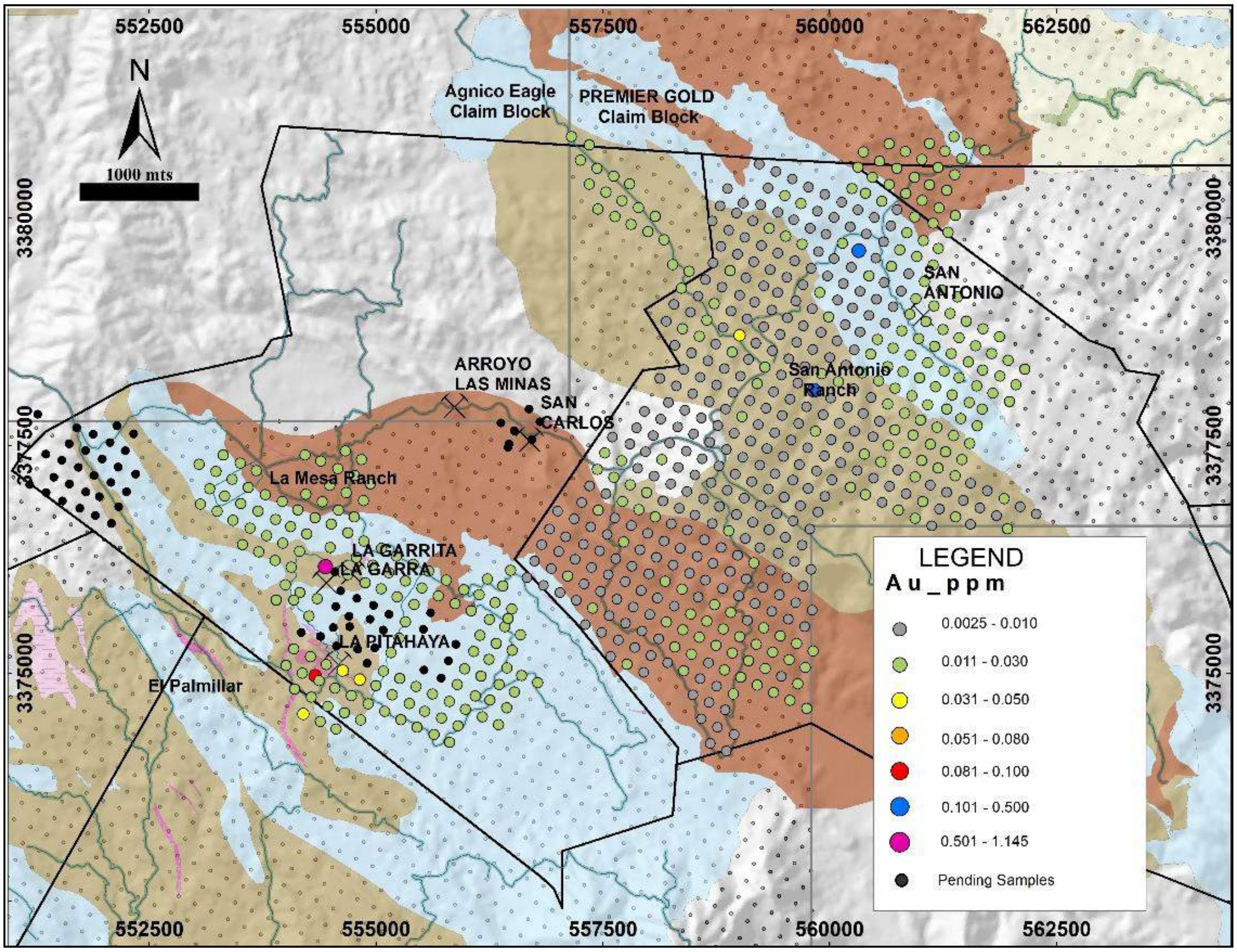

Figure 6-1: Geological map and soil sample results from La Mesa and San Antonio areas (Vargas and Blanco, 2020)

6.1.5 Equinox Gold 2021-2022

In April 2021, Equinox acquired the Mercedes Mine through the purchased of all outstanding shares of Premier Gold Mines. The mine continued to operate during this time.

Equinox continued exploration and definition drilling in 2021. Additional details of the drilling completed by Equinox is disclosed in Chapter 10 (Drilling).

In December 2021, Equinox agreed to sell the Mercedes Mine to Bear Creek Mining Corp.

6.2 Drilling Until 2015

Between 2000 and the end of 2015, a total of 399,673 m in 1,494 drill holes and 19,625 m in 132 RC holes have been completed on the property (Table 6-2). Drilling since 2016 is discussed in Chapter 10 (Drilling).

Table 6-2: Mercedes Mine – Drilling summary – 2000 to 2021

Year	RC Holes	RC Metres	Diamond Drill Holes	Diamond Drill Metres
2000-2001	55	10,868		
2002-2004				
2005	9	2,257	6	990
2006	64	5,694	11	3,064
2007			161	43,363
2008	4	806	318	82,805
2009			98	32,856
2010			151	45,805
2011			114	43,325
2012			149	37,903
2013			61	18,656
2014			199	49,706
2015			226	41,200

6.3 Past Production

No precise production totals are available from historic mining operations. Some 20,000 to 30,000 ounces of gold were probably produced during the years 1937 to 1939, by Minera Oro Chico, which mined the material outlined by Anaconda at Mercedes. Cumulative past district production, in the order of 150,000 tonnes and approximately 73,000 gold equivalent (AuEq) ounces, is estimated, considering the scale of historic mining observed at Klondike, Rey de Oro, Tucabe or Saucito, and the known high-grades in the exploited veins (Moore and Bergen, 2014).

Production by MMM at Mercedes is listed in Table 6-2.

Table 6-2: Gold production history from 2011 to December 31, 2021

Year	Ore Processed (000)	Gold Grade (gpt Au)	Silver Grade (gpt Ag)	Gold Ounces (000)	Silver Ounces (000)
2011	48	7.60	114.5	8	39
2012	603	6.43	78.4	116	490
2013	671	6.16	79.4	129	615
2014	682	5.09	55.9	105	398
2015	713	3.96	43.3	84	383
2016	513	4.52	48.4	93	425
2017	684	3.93	37.6	83	338
2018	699	3.39	37.6	69	309
2019	668	2.91	26.2	60	191
2020	399	2.87	33.1	35	168
2021	512	2.69	21.2	42	123
Total	**6,191**	**4.24**	**47.4**	**824**	**3,479**

6.4 Historical Mineral Resource and Mineral Reserve Estimates

The following tables summarize the historic mineral resources and mineral reserves statements published by previous operators (Table 6-3 and Table 6-4). The historical mineral resources and minerals reserves statements disclosed below are historical in nature. The QP has read the documents pertaining to the description of the different methods used in the historical evaluation of the mineral resources. The QP has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves. The QP and Bear Creek are not treating these historical estimates as current mineral resources or mineral reserves as defined by NI 43-101 and such historical estimates should not be relied upon.

Table 6-3: Historical Mineral Resources

Year	Classification	Cut-off Grade (AuEq)	Inclusive or Exclusive of Mineral Reserves	Tonnes (000)	Grade (gpt Au)	Grade (gpt Ag)	Company
2016	Measured	2.0 gpt (UG) 0.4 gpt (OP)	Inclusive	864	6.6	69.0	Premier Gold
	Indicated			4,133	4.5	44.0	
	Inferred		N/A	1,220	4.6	33.0	
2017	Measured	2.0 gpt (UG) 0.4 gpt (OP)	Exclusive	1,085	5.7	60.7	Premier Gold
	Indicated			2,599	3.7	36.7	
	Inferred		N/A	1,630	4.2	34.0	
2020	Measured	2.0 gpt (UG)	Inclusive	726	5.1	40.2	Premier Gold / Equinox Gold
	Indicated			3,467	3.9	35.9	
	Inferred		N/A	1,507	4.4	44.9	

Table 6-4: Historical Mineral Reserves

Year	Classification	Cut-off Grade (AuEq gpt)	Tonnes (000)	Gold Grade (gpt Au)	Silver Grade (gpt Ag)	Company
2016	Proven	3.0 gpt (UG) 1.55 gpt (OP)	509	6.0	51.5	Premier Gold
	Probable		2,404	4.0	32.3	
2017	Proven	2.0-2.5 gpt (UG) 1.50 gpt (OP)	241	5.1	26.1	Premier Gold
	Probable		3,049	3.9	24.0	
2020	Proven	2.0-2.1 gpt (UG)	381	5.5	41.3	Premier Gold / Equinox Gold
	Probable		2,224	3.6	27.2	

7. Geological Setting and Mineralization

Some of the information presented below has been borrowed from previous NI 43-101 technical reports (i.e., Hardie et al., 2021; Altman et al., 2018).

7.1 Regional Geology

The Mine is located in the northwestern edge of the epithermal (Au-Ag) deposits belt of Mexico and is surrounded by world class deposits like Cananea and Nacozari. Mercedes is one of the most accessible mining projects in Mexico, located approximately 250 km from both Hermosillo, Sonora and Tucson, Arizona.

The Mine lies in the Basin and Range physiographic province, approximately 80 km inboard from the Late Proterozoic rifted continental margin of the North American plate and northeast of the inferred "Sonora-Mojave Mega-shear."

The area is underlain by a thick succession of shallow-marine shelf carbonate and siliciclastic rocks ranging in age from Jurassic to Cretaceous, which have been moderately to strongly faulted and folded, related to thin-skinned, northeast directed thrusting during the Late Cretaceous Laramide Orogeny.

In late Cretaceous to middle Tertiary time, the Jurassic-Cretaceous sediments were overlain by intermediate to felsic volcanic rocks of the Sierra Madre continental volcanic arc. The andesitic volcanics within this sequence host the quartz-adularia epithermal veins of the Mercedes area.

The most extensive intrusive rocks in the region are stocks, plutons, and plugs of Tertiary granodiorite to diorite, which intrude the Jurassic metasedimentary sequence. The Miocene was dominated by extension, erosion, and limited volcanic activity. Thick and regionally extensive sequences of polymictic conglomerate and arenite, which are locally intercalated with felsic volcanic units, fill fault-bound extensional basins throughout northcentral Sonora. Figure 7-1 shows a geological map of the region with the legend in Figure 7-2.

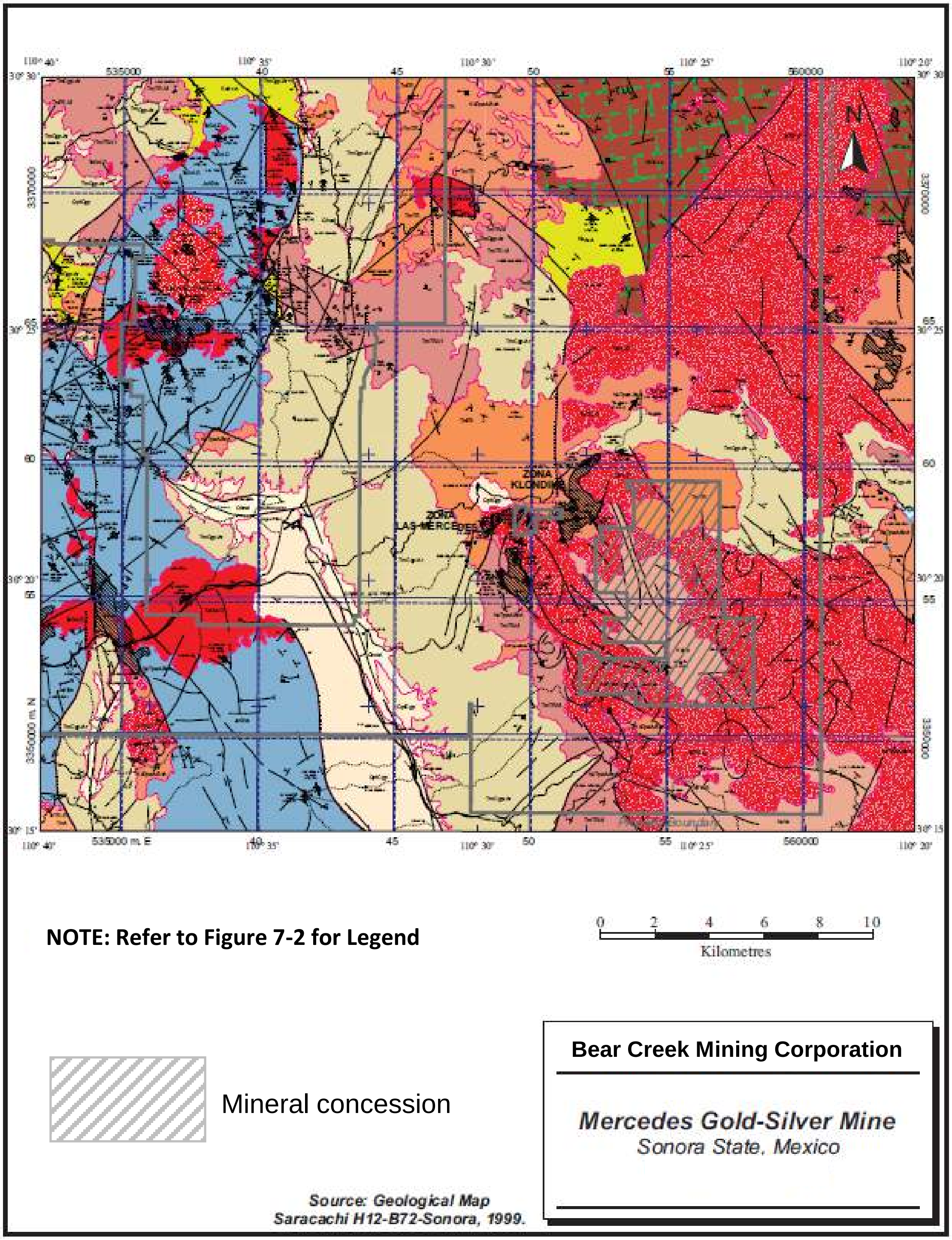

Figure 7-1: Mercedes Gold-Silver Mine – Regional geology

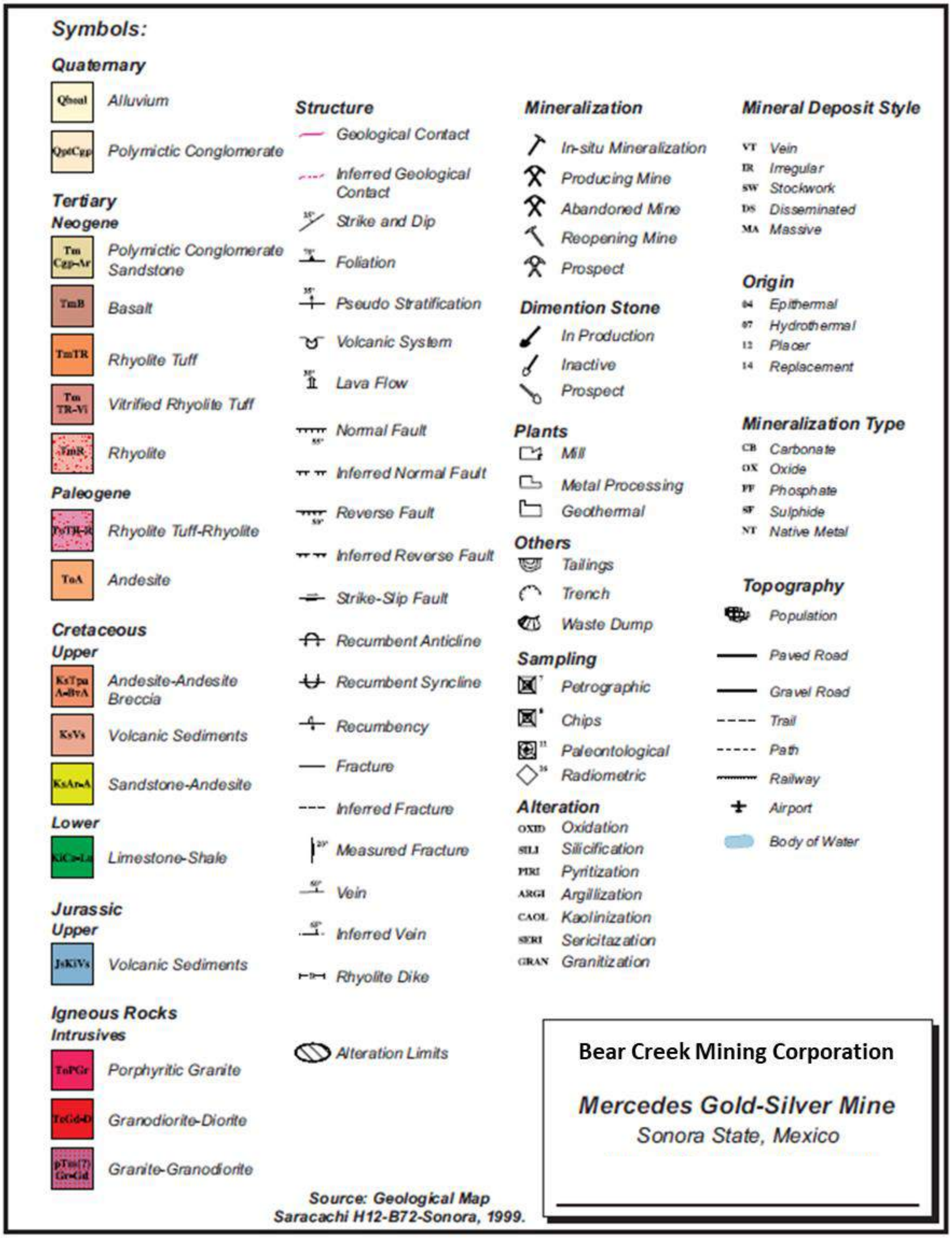

Figure 7-2: Mercedes Gold-Silver Mine – Regional geology legend

7.2 Property Geology

The geology of the Mercedes area is dominated by two northwest trending arches, cut by numerous northwest trending high-angle structures, which have exposed older marine sediments and overlying interbedded volcaniclastic sediments and lithic to quartz crystal lithic tuff units.

Andesitic flows and flow breccias (with local coeval andesite dikes) have been deposited and preserved in at least three west-northwest thickening basins, on the margins of the northwest trending arches. This andesite package, locally over 500 m thick, and the contact zone with the underlying tuff, host all known economic epithermal vein deposits in the district (Figure 7-3).

Some of the local faults have been intruded by at least three stages of dikes and small stocks, ranging in composition from andesite to latite and rhyolite. Dikes generally crosscut and destroy vein mineralization. Vitrophyre is locally preserved on both latite dike and flow margins.

Post-mineral plagioclase-biotite latite porphyry dikes fill some of the same northwest trending structures that host veins in the Mercedes/Barrancas corridor, venting to the surface in flow domes and extensive latite porphyry flows ranging from 10.0 m to +190.0 m thick. The latite flow/dome field covers an area of at least 6 km^2 to the southwest of the Mercedes fault zone.

The stratigraphy is overlain locally by more than 200 m of post-mineral conglomerate and volcaniclastic units of the Miocene Baucarit Formation, as well as local intercalated ash tuff/ignimbrite, highly magnetic andesite flows, and overlying bimodal rhyolite and basalt flows.

A total of 16.5 km of gold-silver bearing epithermal low sulphidation veins have been identified within or along the margins of the andesite-filled basins, which constitute the primary exploration target on the property. Major veins, like those of the Mercedes vein system, typically trend N30° - 70°W at 60° to 90° dips northwest, following the major regional structural pattern. Other veins trend variably from east-west to north-south, or even northeast. Veins typically dip at greater than 60°, but locally range as low as 25°.

The major exception in the district is in the Lupita-Diluvio basin. The Lupita vein system is localized along a N70°E, 15° to 55° northwest dipping listric fault zone. Diluvio consists of a stockwork and vein system hosted within older lithic tuff and volcaniclastic units below the andesite package.

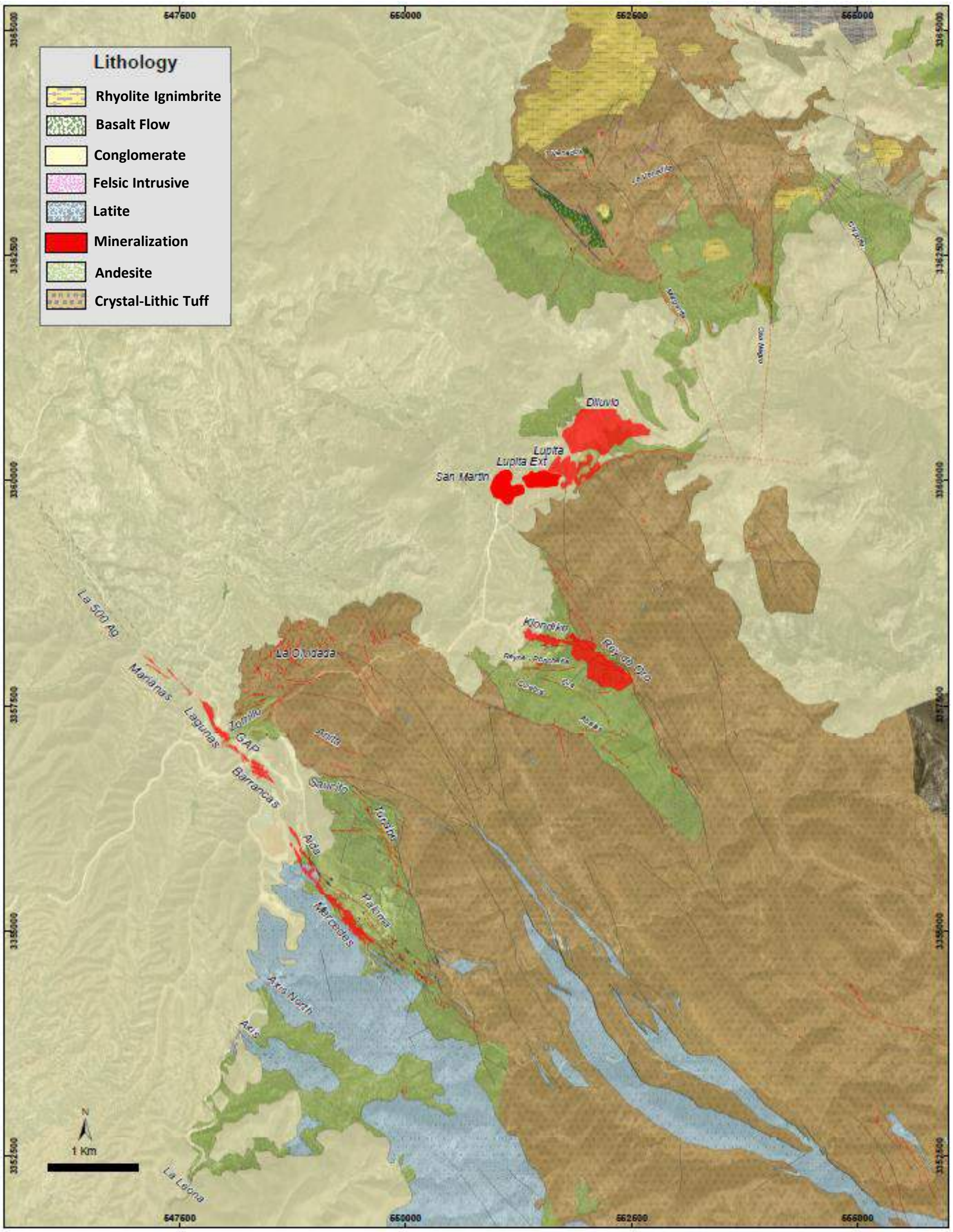

Figure 7-3: Local geology and principal vein systems

7.2.1 Vein Mineralogy and Paragenesis

The epithermal veins on the Mercedes property display multiple stages of quartz, carbonate, and adularia. Paragenesis is greatly complicated by hydrothermal brecciation and the multiple stages of pre-, syn-, and post-mineral tectonic brecciation and faulting. Boiling (lattice and froth) textures are locally observed in all vein zones. Textures range from chalcedonic to sugary, granular, and coarsely crystalline.

Earlier mineralized quartz and other quartz pulses are often highly brecciated and cemented by multiple stages of green quartz and 15% to 80% later multiple stages of rhodochrosite, siderite, and barren massive grey calcite. Quartz types cover the spectrum from clear to grey, yellow, tan, green, grey, and purple. Greenish quartz is always associated with gold values and the presence of disseminated hematite specks and cubes after oxidized pyrite is often a key guide to bonanza gold grades in all veins. Native gold is also found as specks within quartz or on late fracture with copper oxides (Klondike).

It is believed that gold and silver were locally deposited with some rhodochrosite and siderite pulses. Adularia is present as erratic breccia fillings and in bands within veins primarily in the Barrancas and Lupita-Diluvio vein systems.

7.2.2 Alteration

The dominant alteration types observed at Mercedes consist of silicification, propylitization, potassium and sericite-clay alterations.

Silicification is the most prominent alteration associated with the Mercedes area veins, although the distribution and intensity vary within and proximal to the different vein/structural zones. Wide zones of silicification and stockwork veining, up to 70 m, have been noted in the Corona de Oro, Klondike, and Rey de Oro shoots and are associated with zones of intense fracturing within the host structure. Conversely, many of the same shoots contain wide vein zones with less than 0.5 m of silicified andesite peripheral to the structure.

Variable levels of propylitization affect the main intrusive and extrusive igneous rock packages at Mercedes, resulting from a regional alteration event not considered to be directly related to vein mineralization. The andesite flow and flow breccia host rocks, as well as the massive latite intrusion, range from nearly fresh to strongly-altered, containing variable amounts of chlorite-calcite and local epidote.

Potassic alteration, in the form of adularia, is widely disseminated in veins and adjacent host rocks at Mercedes, notably in the Barrancas veins and Diluvio zone, which contain locally abundant visible adularia, both within veins and in adjacent wall rocks. Adularia, although commonly seen in thin sections, is otherwise difficult to see in hand samples.

Argillic alteration (sericite-clay) is generally present near veins on the property, though bleached rock is typically not a prominent feature. No detailed analyses have been completed to define clay mineralogy or zoning within the system.

Oxidation

Oxidation of the veins and wall rock is intense and pervasive, with the exception of isolated nooks and grains. Oxidation is observed in all areas to drilled depths suggesting vertical reach of 440 m at Mercedes, 280 m at Klondike, 140 m at Rey de Oro, 300 m at Barrancas, and 450 m at Lupita. Goethite is more common in the wall rock at Mercedes and Klondike, whereas at Rey de Oro, hematite is most abundant. Unoxidized, disseminated pyrite was observed in association with propylitic or sericite alteration adjacent to vein zones in only a few deep holes below Corona de Oro and Klondike area.

Vein Alteration

Along the Mercedes and Barrancas vein system, the veins are hosted in highly variable zones of altered andesite, ranging from nearly fresh to chlorite-calcite-quartz pyrite (chlorite) with calcite stockwork; quartz-adularia-chlorite-pyrite (silica); and quartz-adularia ± sericite-pyrite (QS) with quartz stockwork increasing in intensity as the veins are approached. In some places, however, veins are encountered with only minor chlorite ± adularia alteration directly adjacent to the vein contact. Manganese oxides in the wall rock are generally absent or present in very small amounts, compared to the Klondike system.

The alteration zone at Klondike occurs as a southwest dipping shear zone with strong hematite manganese oxide alteration, silicification, and quartz stockwork. Little narrowing of the alteration package has been noted at depth, even though the gold and silver values drop significantly below the 1,000 m elevation.

At Rey de Oro, the alteration zone occurs as a broad area of hematite oxidation and variable silicification, which envelope zones of quartz stockwork veining. Manganese oxides are generally absent or present in very small amounts, compared to the Klondike system. Deeper core holes show the silica-hematite alteration zones are increasingly restricted at depth.

7.2.3 Mineralization

Gold-silver mineralization on the Mercedes property is hosted within epithermal, low-sulphidation (adularia-sericite) veins, stockwork, and breccia zones. Over 16.5 km of veins have been identified within or marginal to the andesite-filled basins, which constitute a primary exploration target on the property.

A total of 16 low-sulphidation, epithermal vein/stockwork/breccia zones, have been identified on the Mercedes property and have been divided into three sub-district areas:

- Mercedes Area (Mercedes-Barrancas);
- Klondike Area (Klondike-Rey de Oro);
- Diluvio Area (Lupita-Diluvio).

Most of the veins are found hosted within the andesite package, or locally at the fault contact between andesite and the underlying lithic tuffs. Only in the Diluvio zone at Lupita and the Anita veins is economic grade mineralization found hosted in the lower tuff package. Basic data for all the veins is summarized in Table 7-1.

Table 7-1: Principal vein descriptions

Vein	Host	Morphology	Strike (°)	Dip (°)	Length (m)	Width (m)	Elevation (m)
Mercedes Area							
Mercedes	Andesite	Vein/Stwk/Bx	315	80SW-65NE	3,500	1.0-2.0	680-1,160
Saucito	Andesite	Vein	315	90	250	1.0-3.0	950-1,150
Derrama	Andesite	Vein	310	80	250	1.0-4.0	870-1,050
Paloma/EZ Zone	Andesite	Stwk/Vein	315	90	1,500	0.8-8.0	950-1,165
Tucabe/Saucito	Andesite	Vein/Stwk	340	65 SW	1,400	1.0-5.0	950-1,200
Barrancas/Lagunas	Andesite	Vein/Stwk	315	80-90	1,900	1.0-15.0	800-1,050
Anita/Venado	Lithic Tuff	Stwk	285	90	700	1.0-2.0	1,120-1,280
Sub-total					**9,500**		
Klondike Area							
Klondike	Andesite	Vein/Bx/Stwk	290	70 SW	800	1.0-55.0	960-1,200
Rey de Oro	Andesite	Stwk/Vein	320	50 SW	400	1.0-70.0	1,150-1,300
Reina	Andesite	Vein	320	90	150	1.0-2.0	1,100-1,200
Ponchena	Andesite	Vein	290	70 NE	300	1.0-2.0	1,075-1,125
Culebra	Andesite	Vein	270	45 N	600	1.0-2.0	1,100-1,200
Sub-total					**2,250**		

Vein	Host	Morphology	Strike (°)	Dip (°)	Length (m)	Width (m)	Elevation (m)
Diluvio Area							
Lupita/Diluvio	Andesite/ Lithic Tuff	Vein/Stwk	275	25-60 N	1,800	1.0-100.0	1,180-1,325
Oso Negro	Andesite	Vein/Stwk	0	90	500	1.0-6.0	1,150-1,350
Margarita	Andesite	Vein/Stwk	170	25	700	0.5-2.0	1,180-1,250
Chipotle	Lithic Tuff	Vein/Stwk	340	70 SW	600	1.0-3.0	1,220-1,300
Sub-total					**3,600**		
El Molina Area							
Belen	Andesite	Vein	310	75 SW	650	2.0-5.0	950-1,100
Meche	Andesite	Vein	60	60-70 SW	550	1.0-3.0	950-1,100
Sub-total					**1,200**		
Grand Total					**16,500**		

Vein Morphology

Major veins typically trend N30°-70°W at 60° to 90° dips following the major regional structural pattern. Veins typically dip at greater than 60°, but locally range as low as 25°. Post-mineral latite dikes fill some of the same northwest trending structures that host some of the veins, locally destroying mineralization as emplaced.

The mineralized zones display a combination of fissure vein, stockwork, and breccia morphologies that change rapidly on strike and dip. The zones range in width from less than one metre to composite vein/stockwork/breccia zones up to 15 m wide. In the Diluvio zone, gold-silver bearing vein/stockwork zones locally attain thicknesses in excess of 100 m. The length of individual veins varies from 100 m to over three kilometres. Property-wide, gold-silver bearing veins occur over a vertical range of 700 m (600 m to 1,300 m).

The most favorable zones are in outcropping andesite host rock. Andesite host rock continues to the northwest but is covered by progressively thicker post-mineral cover (conglomerate). Barrancas, Lagunas, Marianas and Diluvio were blind discoveries.

A left-lateral strike-slip setting was noted, where NW-trending faults like Mercedes and Rey de Oro occur. Other large areas remain untested, with high potential to identify parallel structures.

Mercedes Vein System

The Mercedes vein system is the most prominent and continuous mineralized zone identified on the property, consisting of multiple quartz-carbonate veining, traced almost continuously on strike for nearly 3.5 km. The Mercedes fault system consists of numerous anastomosing strands within a zone over 50 m wide, where complex, multi-stage, anastomosing vein/breccia/stockwork zones 1 m to 15 m wide are emplaced in extensional open areas.

The vein mineralogy (multiple quartz and carbonate stages) and morphology is quite variable along strike and down dip, where highly brecciated mineralized green-grey sugary to chalcedonic quartz is found cemented by 15% to 80% late stage grey calcite, rhodochrosite, and/or brown-black manganese-iron carbonates.

Klondike Vein System

The Klondike vein system differs from that at Mercedes, in that it forms as a tectonic breccia zone rather than fissure fill vein. The Klondike vein system trends N70°W, dipping 65° to 80° southwest and is approximately 800 m long, with a maximum vertical range of nearly 300 m and width ranging from 0.5 m to over 50 m.

Within the breccia zone, fissure filling veins over 0.5 m wide are rare, while variable lenses of brecciated white to green or grey quartz and abundant manganese carbonates and calcite are found. The overall zone of crackle brecciation and stockwork veining with silicification and strong manganese-iron oxides may be up to 50 m in width.

Lupita-Diluvio Vein System

The Lupita vein zone outcrops on the surface for 1,800 m, ranging from 1 m to 5 m in thickness. The vein zone, consisting of multi-stage quartz-carbonate ± adularia veining, follows a contact between the overlying andesite package and underlying felsic package, and extends continuously down dip in places more than 450 m along most of the west half of the surface outcrop, and recent discoveries seem to suggest an extension up to 1 km east of the outcrop.

Most importantly, at depths of 200 m to 300 m, the Diluvio zone reveals an extensive zone of multistage quartz-carbonate ± adularia vein breccias, stockwork, and hydrothermal breccia up to 150 m thick that is primarily hosted in the lithic tuff-volcaniclastic sequence.

Based on geologic interpretation, it is proposed that mineralized fluid that circulated along the Lupita Fault infiltrated the tuff/volcaniclastic sequence due to its porosity and structural control, creating a large scale stockwork deposit. Diluvio therefore is the only mineral deposit in the district with the lower lithic tuff/volcaniclastic sequence as the primary host.

Mineralogy and Geochemistry

Mineralogical studies have identified opaque minerals, including iron oxides, pyrite, gold, electrum, stibnite, and rare pyrargyrite, within a gangue of substantial chalcedony, quartz, and carbonate. In addition to hematite, manganese oxides are an important component in some mineralized zones, possibly remnant after dissolution of manganese carbonates. Due to the depth of oxidation, sulphides are rarely observed. The few exceptions include one hole at depth in Klondike (visible galena and sphalerite) and hole L11-133D at Diluvio, which had an unoxidized vein interval containing widely disseminated pyrite, galena, sphalerite, and silver sulphosalts with greater than 500 gpt Ag.

Metallurgical studies have identified the presence of very small quantities of native gold, native silver, electrum, pyrargyrite, stibnite, galena, sphalerite, and chalcopyrite in heavy mineral concentrates. Copper minerals such as malachite and chrysocolla are most common as fracture fillings in breccias at Klondike, although rare specks are also seen in the Mercedes and Lupita-Diluvio veins.

The vein mineralogy exhibits:

- Multiple stages of quartz-carbonate and adularia/cemented by quartz pulses, as well as multiple stages of rhodochrosite and siderite pulses and barren calcite;
- A complex paragenesis: hydrothermal brecciation, multiple stages pre-syn and post-mineral tectonic brecciation and faulting;
- Quartz types: cover spectrum in colors, and occurring as chalcedony, sugary, granular and/or coarsely crystalline;
- Textures: crustiform, colloform, banded, lattice etc. (during the boiling);
- Rare specks of visible gold (VG) reported, associated locally to copper carbonates, green quartz, hematite.

The deposit geochemistry reveals that:

- There is no statistical correlation between Au and Ag distribution;
- The Ag:Au ratio is low in all veins, ranging from 5-13:1;
- No lateral or vertical Ag:Au zonation has been identified in any of the veins due to complex multi-stage vein deposition and repeated brecciation, which has juxtaposed events;
- The dominant alteration consists of oxidation + chlorite + silicification, with pronounced depth of oxidation, from surface down to 500-600 m, where the veins still appear strongly oxidized;
- There is no evidence of refractory behavior in any of the deposits.

8. Deposit Types

Gold-silver mineralization on the Mercedes property is hosted within epithermal, low-sulphidation (adularia-sericite) veins, stockwork, and breccia zones (Buchanan, 1981). These deposits form on predominately felsic subaerial volcanic complexes in extensional and strike-slip structural regimes. Near-surface hydrothermal systems, including surface hot springs and deeper hydrothermal fluid-flow zones, are the sites of mineralization. Mineral deposition takes place as the fluids undergo cooling by fluid mixing, boiling and decompression. A typical system is shown in Figure 8-1.

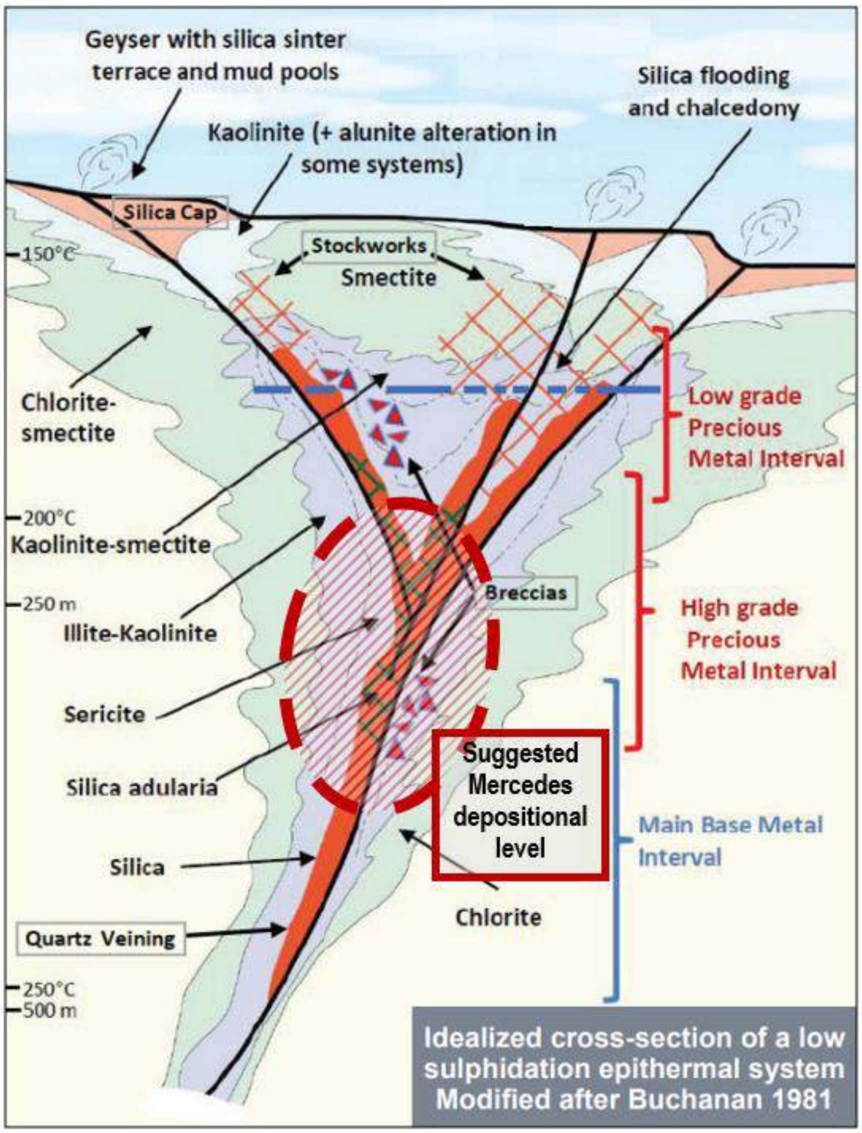

Figure 8-1: Idealized cross-section of a low-sulphidation epithermal system (modified after Buchanan 1981)

The veins at Mercedes are typical of most other epithermal silver-gold vein deposits in Mexico in that they are primarily hosted in the Tertiary Lower Volcanic series of andesite flows, pyroclastics and epiclastics, overlain by the Upper Volcanic series of rhyolite pyroclastics and ignimbrites.

Low sulphidation epithermal veins in Mexico typically have well-defined mineralized horizons about 300 m to 500 m in vertical extent where the Bonanza grade shoots have been deposited due to boiling of the hydrothermal fluids.

Low sulphidation deposits are formed by the circulation of hydrothermal solutions that are near neutral in pH, resulting in very little acidic alteration with the host rock units. The characteristic alteration assemblages include illite, sericite and adularia that are typically hosted by either the veins themselves or in the vein wall rocks. The hydrothermal fluid can travel either along discrete fractures where it may create vein deposits or it can travel through permeable lithology such as a poorly welded ignimbrite flow, where it may deposit its load of precious metals in a disseminated deposit. In general terms, this style of mineralization is found at some distance from the heat source. Figure 8-1 illustrates the spatial distribution of the alteration and veining found in a hypothetical low sulphidation hydrothermal system.

In 2000, a fluid inclusion study was carried out by J. Reynolds from Fluid Inc. on vein samples from the Mercedes, Saucito/Tucabe, and Klondike veins. This study confirmed that the sampled material was typical of those from a low sulphidation system. Reynolds noted samples from the Mercedes vein contain quartz that formed at temperatures above 200°C, although some minor quartz formed at temperatures as high as 240°C to 250°C, with evidence for minor boiling. At Klondike, only quartz that formed at temperatures less than 200°C is present in the samples. At Saucito, vein samples contain mostly quartz that formed at temperatures as high as 260°C to 270°C, and as low as 160°C. Boiling evidence is common.

9. Exploration

9.1 Bear Creek Mining Corp.

Bear Creek has not conducted any surface exploration work on the project since the project acquisition. The reader is referred to Chapter 6 (History) for historical exploration work conducted on the property.

10. Drilling

In December 2021, Equinox Gold agreed to sell the Mercedes Mine to Bear Creek (the issuer) less than one year after Equinox acquired the project from Premier Gold Mines. Since the issuer has not conducted any drilling prior to the effective date of this technical report, and two different companies recently owned the project, the last six years of previous operators drilling programs are reported in this Chapter to inform the reader about recent drilling practices.

During that period, Premier Gold Mines was the operator from 2016 to 2021 and Equinox Gold from 2021 to 2022. Both operators used the same protocols and discussions held with Bear Creek confirmed that said protocols are maintained since the recent acquisition.

10.1 Drilling Methodology

The process of selecting drill hole locations at Mercedes is carried out by the on-site geological team. Drill holes tested extensions of the known vein systems in addition to exploration to discover new mineralized horizons.

Mineralized zones at Mercedes, Klondike, Barrancas, Diluvio, Lupita, Marianas and Rey de Oro were drilled on approximately 20 m to 30 m centres, using a combination of diamond drilling with a small amount of RC drilling.

10.1.1 Drill Hole Location and Set-up

Drill hole collars were marked up by surveyors prior to the drill set-up and again after completion of the hole. A Reflex instrument was used to provide directional information at 30 m intervals in each hole.

10.1.2 Drilling and Core Handling

Core is deposited into plastic core trays at the drill rig by the drillers after completion of each drill run. Core trays are numbered by the drillers with a permanent marker, indicating the drill hole number and the sequential box number, starting with box 1 after collaring the casing into the bedrock.

The drillers insert a meterage tag (wooden block) at the downhole end of the last piece of core taken from the core tube. The block identifies the exact depth at the end of each drill run, measured from the collar of the drill.

The wooden depth markers are clearly marked in metres in clean and legible writing. Additional notations can be provided on additional wooden blocks indicating if bad ground, cavities in the bedrock, or changing water conditions are encountered resulting in core loss. Once the core tray is filled, it is secured shut using a specifically designed plastic lid. It is then carefully stacked for transport to the core shack upon completion of the hole.

10.1.3 Receiving Core at the Core Shack

Securely boxed drill core is transported daily to the core logging facility. Care is exercised to ensure that the lids are securely attached to minimize core disturbance, breakage, and loss during transport from the drill site.

All core trays are verified in the logging facility, checking the wooden marker blocks before logging is initiated.

10.1.4 Geological Logging Procedure

Core and RC logging procedures were written by MMM staff.

Geologists collected information on standard log forms and the information collected typically included main lithological units with brief lithological descriptions, vein type, zone, hydrothermal alteration minerals, and geotechnical information such as rock quality designation (RQD), as well as standard header information such as collar coordinates and hole inclination. Structural measurements were recorded, and high-quality photos were taken of the washed core in recent years.

The drill hole database comprises the following data for each mineralized zones at Mercedes:

- Collar coordinates, total depth/length and survey data;
- Intervals detailing assays (uncut and cut values) for Au, Ag, and AuEq, as well as the zone/shell they relate to;
- Lithological codes;
- Geotechnical information on core recovery, RQD measurements, fracture type and fill, weathering and a numerical rock code;
- Structural measurements, detailing the angle to core axis, the type of structures and a qualification on intensity;
- Vein interval percent estimate.

10.1.5 Assay Sample Selection

Assay samples are broken at major rock code contacts to represent homogeneous units. The minimum interval of the assay sample in the hole will typically not be less than 30 cm, except in unique circumstances. The maximum sample interval will not exceed 150 cm. Geologists try to have no sample crossing a major rock boundary, alteration boundary or mineralization boundary.

Sampling intervals are determined by the geologist during logging and are marked on the core boxes or on the core itself using coloured lumber pencils with a line drawn at right angles to the core axis. Samples are numbered in consecutive order using two-way sample tag books. The sample sequence includes QC samples (blank samples, duplicate samples, and Standard Reference Materials or "SRM"s) that are inserted into the sample stream using sample numbers that are in sequence with the core samples.

The logging geologist fixes a tag containing the sample number and sample interval onto the box. This is a permanent sample reference that will remain on the plastic core tray.

Sample intervals, sample numbers, and QC samples are noted in the "Assay" tab of the "Descriptions" section in the logging software.

10.1.6 Core Sampling (Core Saw Splitting)

A geotechnician trained in core cutting procedures executes the core cutting at the core shack. The geotechnician follows intervals clearly marked out by the logging geologist.

The core is cut with a core cutter and one half of the core sample is placed in a sample bag and the remaining half is returned to the core box.

The bag will then be closed using a zip tie and stored in sequence prior to sample dispatch preparation.

For quality assurance purposes, "duplicate" samples are generated by putting two tags in one bag; the QP recommends that the ½ core sample be cut again in half lengthwise to produce two ¼ individual duplicate core samples.

A "standard" sample consisting of material of known metal content and internationally recognized and verified (Standard Reference Material or "SRM") is included in the sample sequence by the core sampler. Multiple SRMs are used as standards for the QA/QC program in order to test the laboratory's reporting for select key elements (Au and Ag) at various concentrations.

Similarly, "blanks" are included in the sequence as part of the QA/QC process. Blank material is technically devoid of any metals. MMM staff also include another type of blank they call "sterile material"; this material is rock chips from a regional barren dike.

Blanks and standards are stored in a designated area in the core shack. The Standard names are removed from the sample bags, sample tags, and documentation sent to the laboratory.

10.1.7 Sample Shipment Preparation

Assay sample bags are packed in large "rice" bags. The rice bag is sealed. A unique number is assigned to each rice bag.

The rice bags are stored in the core shack until shipped to the laboratory in Hermosillo. A digital copy of the sample submission form as well as the sample dispatch list is emailed to the laboratory manager once the samples have left the site.

10.1.8 Core Storage

Following sampling, the core trays are stored either in a permanent storage facility on-site beside the core shack or on pallets beside the storage facility.

10.2 Drill Programs

Between 2016 and the effective date of this technical report (December 31, 2021), a total of 226,135 m in 1,467 drill holes had been completed on the property (Table 10-1).

Table 10-1: Mercedes Mine – Drilling summary – 2016 to the end of 2021

Year	Diamond Drill Holes	Diamond Drill Metres
2016	135	27,443
2017	350	45,676
2018	280	40,720
2019	314	52,957
2020	177	25,545
2021	211	33,794

The primary target areas and objectives in recent years have been:

- Mineralization proximal to the main Mercedes/Barrancas/Lagunas trend;
- Expanding and confirming resource/reserve potential at Diluvio-Lupita;
- Defining underground opportunity at Rey de Oro;
- Defining the underground opportunity and potential at Aida and Marianas;
- Pursuing surface exploration to explore for new target areas on the property.

Mineralized zones at Mercedes, Klondike, Barrancas, Diluvio, Lupita, Marianas and Rey de Oro were drilled on approximately 20 m to 30 m centres, using a combination of diamond drilling with a small amount of RC drilling. Delineation drilling, aimed to convert Inferred Resources up to the Indicated category, was also conducted at San Martin, Marianas, and Lupita Extension.

Figure 10-1 to Figure 10-4 show the locations of all collars on the project.

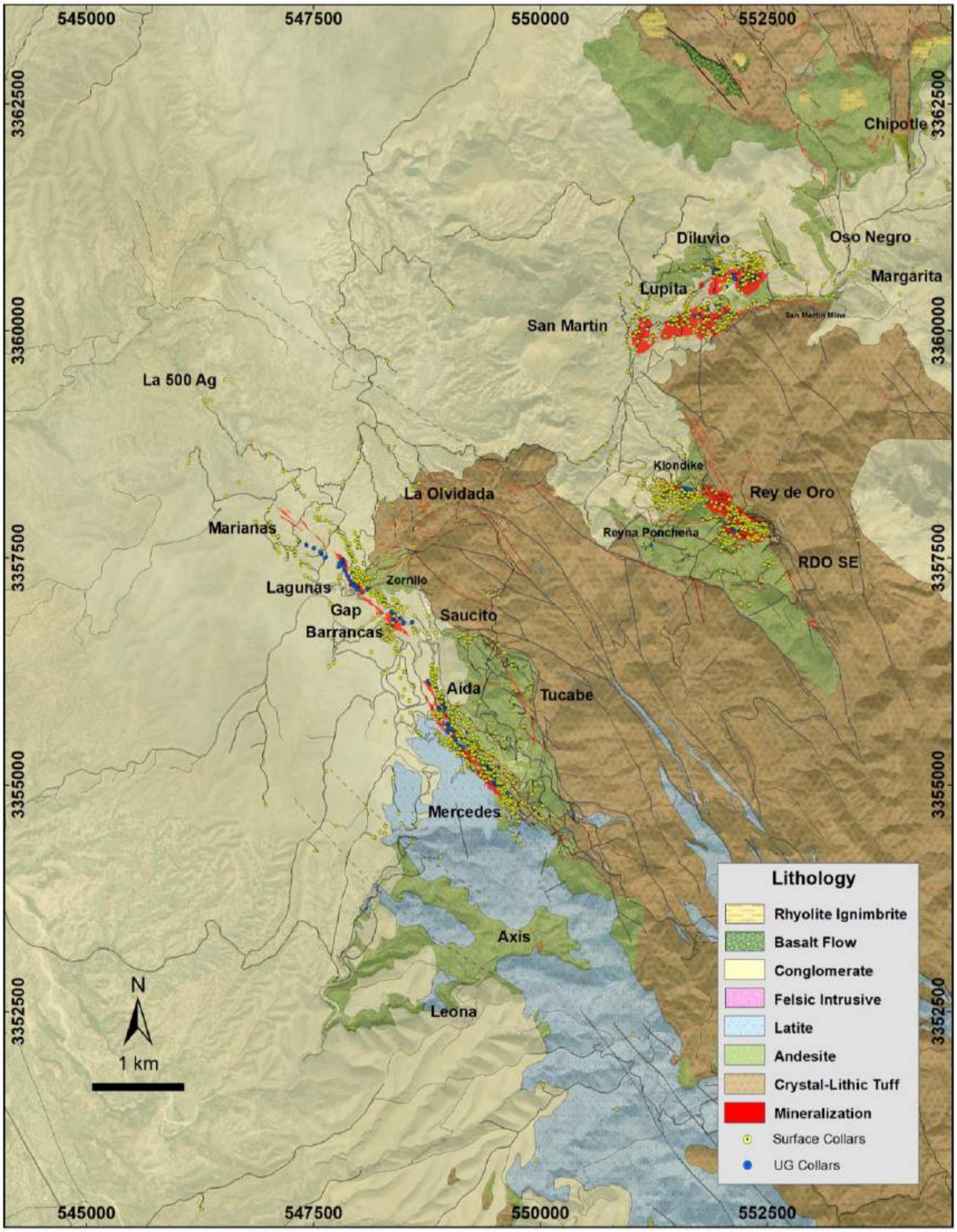

Figure 10-1: Location of drill hole collars on the property (see next figures for more details)

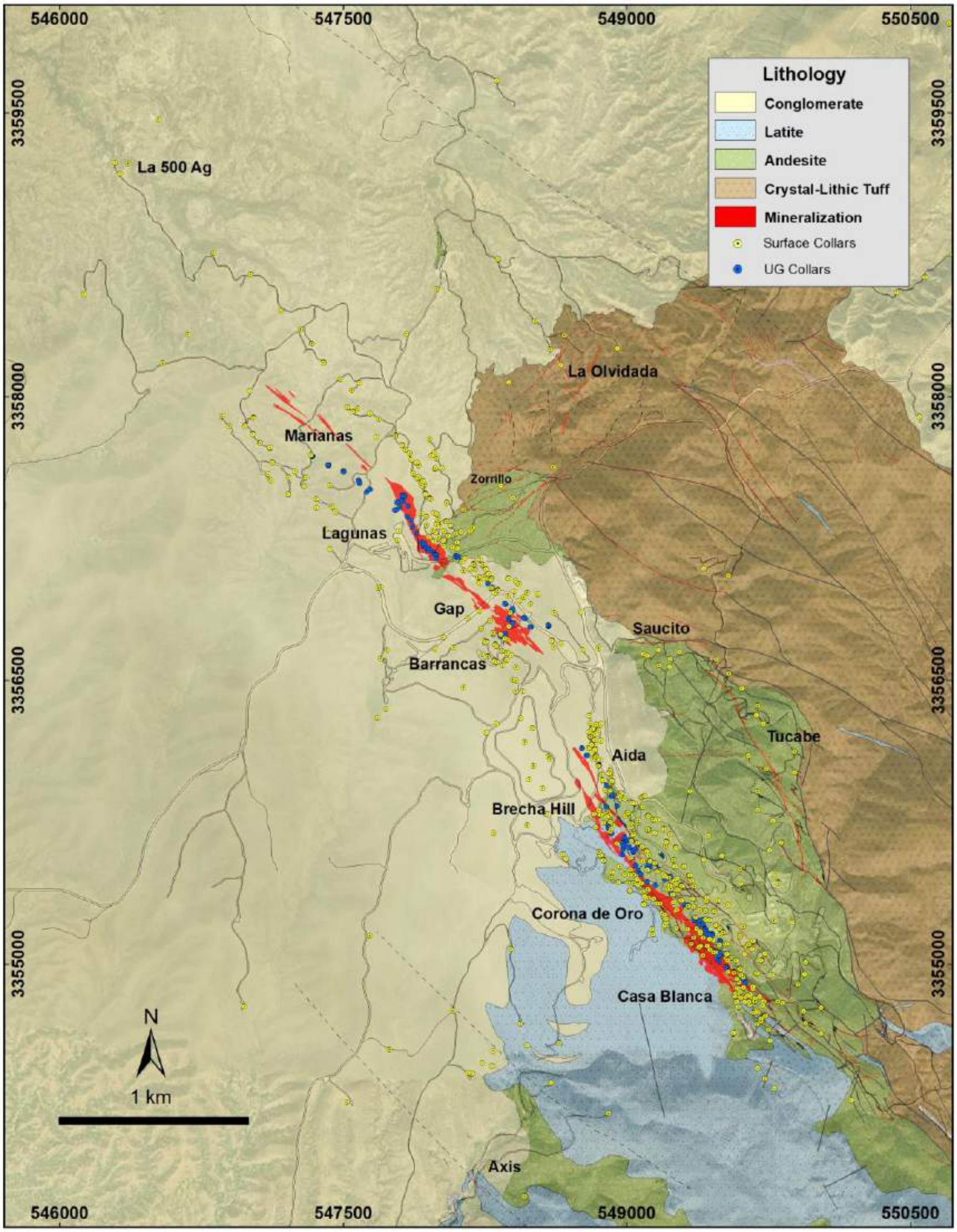

Figure 10-2: Location of drill hole collars for the Mercedes trend

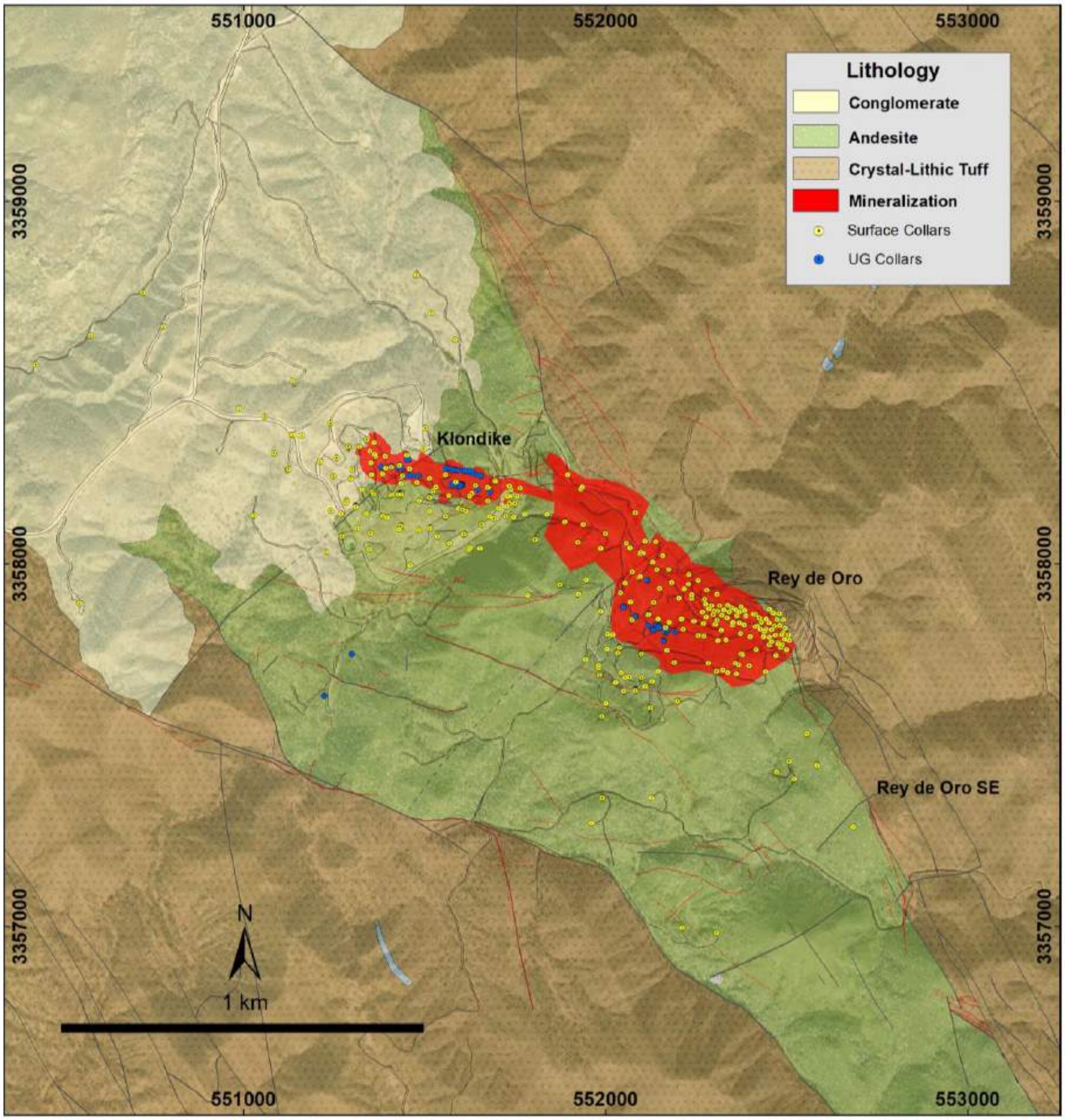

Figure 10-3: Location of drill hole collars for the Klondike and Rey de Ore areas

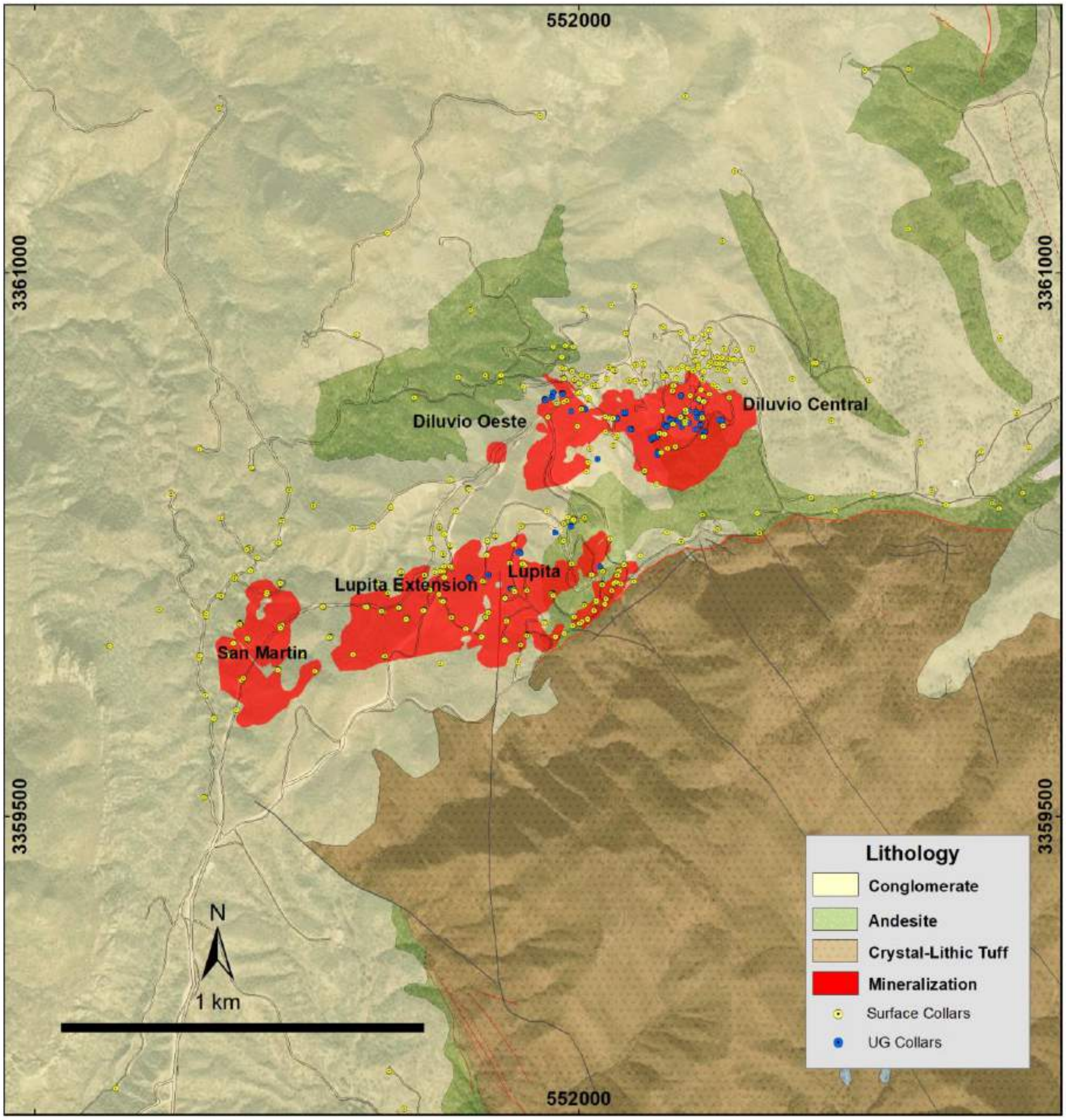

Figure 10-4: Location of drill hole collars for the Diluvio and Lupita areas

10.3 Mine Channel Sampling

As of the effective date of this technical report (December 31, 2021), a total of 21,554 channel samples were collected underground totalling 107,374 m (Table 10-2). Mineralized zones at Aida, Barrancas, Brecha Hill, Casa Blanca, Corona de Oro, Lagunas, Klondike, Rey de Oro, Diluvio, Lupita, Marianas, and Gap have been sampled punctually, if not regularly, as the mine development progressed.

Table 10-2: Channel dataset in the Mercedes database

Zone	Number of Channels	Total Length	Number of Channel Assays
Aida	521	2,214	2,573
Barrancas	2,339	11,413	14,861
Brecha Hill	1,490	6,676	8,463
Casa Blanca	2,544	11,940	14,472
Corona de Oro	3,489	16,534	19,828
Diluvio	2,721	15,627	17,402
Gap	222	1,121	1,404
Klondike	1,732	7,131	9,044
Lagunas	2,473	11,667	14,709
Lupita	1,601	6,470	6,897
Marianas	37	158	203
Rey de Oro	753	4,017	4,498
Total	**21,554**	**107,374**	**125,049**

Channel samples constitute an important part of the dataset used for both the geomodelling and the mineral estimation process, as well as for grade control purposes.

The channel sample datasets consist of:

- Collar coordinates, length and survey data;
- Intervals detailing assays for Au and Ag;
- Description of the zone/shell they relate to;
- Lithological codes.

Samples are collected across veins or mineralized structures exposed at the faces of headings being developed underground. Since these headings are regularly surveyed, the location of these channel samples is relatively precise, being measured with a measuring tape from the nearest surveyed front.

Sampling is done manually, by technician-samplers chiselling the rock faces, and collecting the chips and fragments in a basket. Samples are then transferred to sample bags, in which numerated tags are inserted. Samples are then transported out of the Mine and delivered to the mine assay laboratory for preparation and analysis at the end of each working shift.

A detailed sampling protocol was developed to standardize sampling operations, ensure a proper chain of custody, minimize sample mishandling and expedite sample preparation and assay result turnaround from the Mine lab. Standards and blanks are inserted in every batch at a rate of one of each per shift. Assay results are reviewed and are made available within 12 hours for use in planning.

The faces are photographed, the traces of the samples, their widths/lengths and approximate azimuths are sketched in to be correlated with the detailed mapping of the same headings.

All the information collected is entered on a Mapping Sheet template or in a Pocket PC or Tablet PC, if available. Once on the surface, all geological information is transferred in the "Sampling Report" data system, which should contain the following information:

- Sector ID;
- Level ID;
- Camera;
- Date;
- Heading ID;
- Name of the technician;
- Channel number;
- Mooring topographic point;
- Distance to the face;
- Azimuth;
- Channel sample length;
- Channel sampling inclination;
- Channel sampling azimuth;
- Requested section and observations;
- Correlative number of samples;
- Sampled structures (code);
- Split blasting width.

11. Sample Preparation, Analyses and Security

In December 2021, Equinox Gold agreed to sell the Mercedes Mine to Bear Creek (the issuer) less than one year after Equinox acquired the project from Premier Gold. Since the issuer has not conducted any drilling prior to the effective date of this technical report, and two different companies recently owned the project, the last three years of previous operators drilling programs are reported in this Chapter to inform the reader about recent sample preparation, analyses, and security procedures.

During that period, Premier Gold was the operator from 2019 to 2021 and Equinox Gold from 2021 to 2022. Both operators used the same protocols and discussions held with Bear Creek confirmed that said protocols are maintained since the recent acquisition.

11.1. Drill Holes

Drill hole core samples are sent to external laboratories.

11.1.1. Assay Samples

In general, only mineralized intervals are sampled. To create representative and homogenous samples, sampling honours lithological contacts, i.e., no sample crossed a major lithological boundary, alteration boundary or mineralization boundary.

The sample length for most intervals collected varies from 0.30 m to 1.5 m.

The core was cut in half with a rock splitter along its length. One half was put into a plastic sample bag and the other half was retained and kept in the core box for later reference. A sample assay tag was placed in the plastic sample bag and the bag tied off.

11.1.2. Lab Methods of Preparation, Processing and Analysis

Core samples were shipped to ALS laboratory (ISO 17025:2017 certified) in Hermosillo for analysis in 2019 and 2020. Due to extreme sample volumes, some sample preparations in 2019 and 2020 were done by ALS at preparation facilities in Chihuahua, Zacatecas, and Guadalajara, Mexico. Since 2021, due to the delays in turnaround time combined with economic reasons, samples were sent to Bureau Veritas Commodities (ISO/IEC 17025:2005 certified and ISO 9001:2008 certified) also in Hermosillo. Both ALS and Bureau Veritas are independent from the issuer.

11.1.2.1. 2019-2020 Sample Analysis Procedure - ALS

At the laboratory, the sample is logged in the tracking system, weighed, dried at 120°C, and finely crushed to better than 70% passing a 2 mm screen. A split of up to 250 g is taken and pulverized to plus 85% passing a 200-mesh screen.

In 2019, gold analyses were completed using a FA-AA finish, with all samples over 5.0 gpt Au re-analyzed by the FA-gravimetric finish method. In 2020, that threshold was brought to 10 gpt Au.

11.1.2.2. 2021 Sample Analysis Procedure – Bureau Veritas

At the laboratory, the sample is logged in the tracking system, weighed, dried at 120°C, and finely crushed to better than 70% passing a 2 mm screen. A split of up to 250 g is taken and pulverized to plus 85% passing a 200-mesh screen.

Gold analyses were completed using a FA-AA finish, with all samples over 5.0 gpt Au re-analyzed by the FA-gravimetric finish method.

11.1.3. Sample Shipping and Security

Individual cut samples are placed in poly bags with a unique bar-coded assay tag and samples are place in rice bags. Samples are then picked up approximately once a week by Mine staff and brought to the Hermosillo Laboratory by truck.

Results were received by email in secure PDF files and QA/QC data was evaluated before the samples were moved into a master database.

11.1.3.1. Chain of Custody

The following procedures are applied to ensure a safe and secure management of materials and data as it pertains to core samples:

- All core samples submitted for preparation and analysis to the laboratory are secured in rice bags and are picked up approximately once a week by Mine staff and brought to the Hermosillo Laboratory by truck;
- The sample shipment contains a sample submittal form as well as a sample dispatch list detailing the rice bag# and samples contained in each rice bag;
- The sample submittal form and sample dispatch list are electronically transmitted to the laboratory once the shipment has left core shack. The Bill of Lading for the shipment is also emailed to the laboratory at this time;

11.1.4. Quality Assurance and Quality Control (QA/QC)

Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects requires mining companies reporting results in Canada to follow CIM Best Practice Guidelines.

QA/QC programs have two components. Quality Assurance (“QA”) deals with the prevention of problems using established procedures while Quality Control (“QC”) aims to detect problems, assess them and take corrective actions. QA/QC programs are implemented, overseen, and reported on by a Qualified Person as defined by NI-43-101.

QA programs should be rigorous, applied to all types and stages of data acquisition and include written protocols for: sample location, logging and core handling; sampling procedures; laboratories and analysis; data management and reporting.

QC programs are designed to assess the quality of analytical results for accuracy, precision and bias. This is accomplished through the regular submission of standards, blanks and duplicates with regular batches of samples submitted to the lab, and the submission of batches of samples to a second laboratory for check assays.

Definitions of these materials are presented hereunder:

- Standards are samples of known composition that are inserted into sample batches to independently test the accuracy of an analytical procedure. They are acquired from a known and trusted commercial source. Standards are selected to fit the grade distribution identified in the mineralization.
- Blanks consist of material that is predetermined to be free of elements of economic interest to monitor for potential sample contamination during analytical procedures at the laboratory.
- Duplicate samples are submitted to assess both assay precision (repeatability) and to assess the homogeneity of mineralization. Duplicates can be submitted from all stages of sample preparation with the expectation that better precision is demonstrated by duplicates further along in the preparation process.
- Check Assays consist of a selection of original pulps that are submitted to a second analytical laboratory for the same analysis as at the primary laboratory. The purpose is to assess the assay accuracy of the primary laboratory relative to the secondary laboratory.

At the Mercedes Mine Project, quality control samples were inserted into the sample batches sent to the laboratory. Inserts included duplicate samples, blank samples and standards.

11.1.4.1. Duplicates

Duplicate samples are submitted to assess both assay precision (repeatability) and to assess the homogeneity of mineralization.

Several duplicates are used in the mineral industry these being core duplicates (½ core or ¼ core), coarse duplicates (rejects and preparation duplicates), pulp duplicates (2nd split of final pulp prior to analysis) and field duplicates (double samples collected in field – where applicable).

Core Duplicates

Mercedes Mine produces coarse duplicates by adding an additional tag in a sample bag to let the laboratory know they need to process two analysis from that sample. One duplicate sample was inserted for every 30 to 40 samples. The systematic use of core (field) duplicates was implemented to monitor the grade variability in the core. These duplicates are splits of drill core that were inserted approximately every 30 samples and taken randomly from outside the mineralization. The QP recommends continuing this practice but making sure that most core duplicate be taken inside the mineralization rather than outside. Due to the low-grade samples being duplicated, most of them reportedly below 1.0 gpt Au and 15.0 gpt Ag, the reproducibility is commonly difficult to obtain as shown for gold in Table 11-1.

Table 11-1: Core duplicate sample analyses – Exploration yearly tabulation

Year	Duplicates Inserted	Correlation (Gold)	Correlation (Silver)
2019	**286**	0.87	0.95
2020	**125**	0.74	0.92
2021	**121**	0.74	0.97

Pulp Duplicates

Since 2008, a protocol for pulp checking was implemented at Mercedes. Every laboratory order that was submitted to ALS included a request for at least one sub-sample of pulp to be sent to ACME Labs, acting as a secondary laboratory, with the purpose of checking the reproducibility of the analyses. These checks were selected at random, approximately every 30 to 40 samples, by the person responsible for the sample shipments.

In 2019, a total of 744 pulps were sent to Bureau Veritas in. Some 23 standards and 19 blanks were added to these samples. Results were excellent, with a slight negative bias for high-grade silver analyses at Bureau Veritas. Figure 11-1 to Figure 11-3 show the results for 2019, 2020, and 2021, respectively.

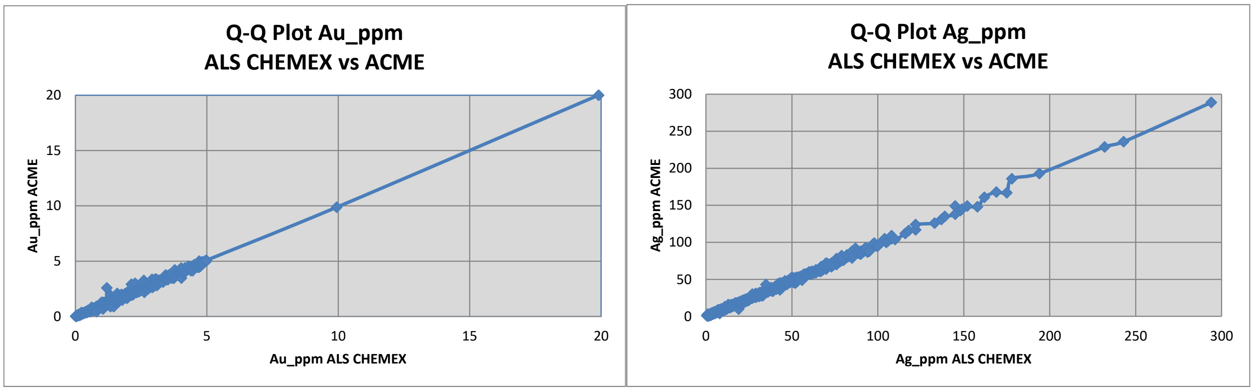

Figure 11-1: Pulp duplicates reproducibility in 2019; ALS versus Bureau Veritas

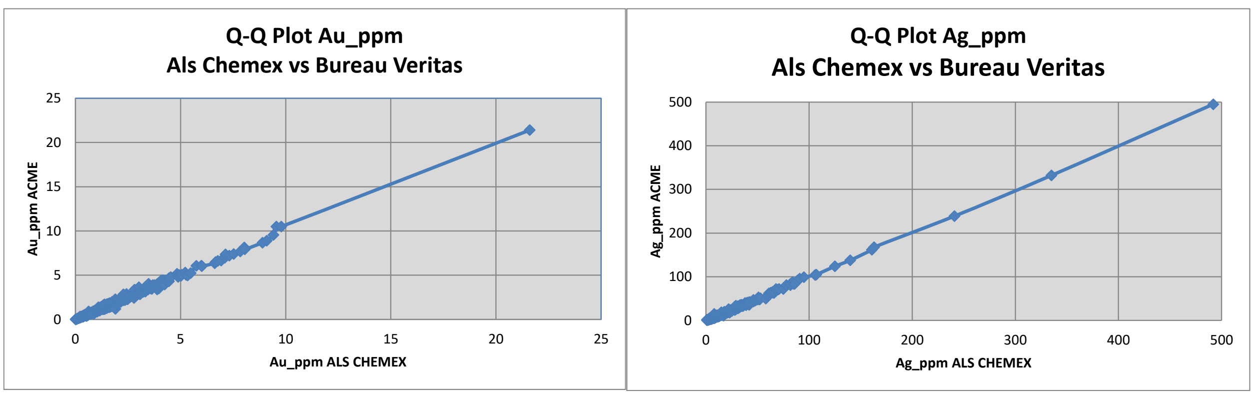

Figure 11-2: Pulp duplicates reproducibility in 2020; ALS versus Bureau Veritas

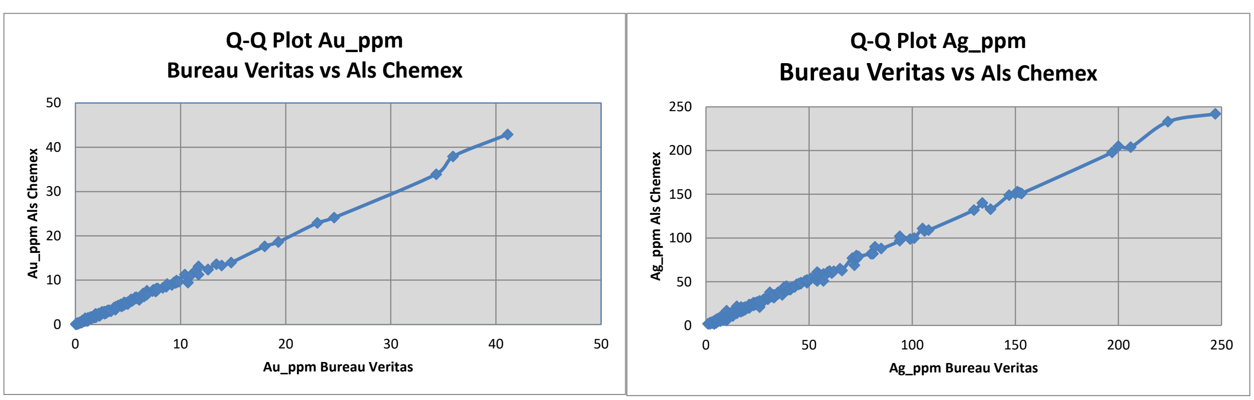

Figure 11-3: Pulp duplicates reproducibility in 2021; ALS versus Bureau Veritas

11.1.4.2. Blanks

Blanks are used to monitor for potential sample contamination that may take place during sample preparation and/or assaying procedures at the primary laboratory. There are three types of blanks commonly used in a QC programs, these being "Coarse Blanks", "Fine Blanks" and "Pulp Blanks".

Two types of Blanks are used at the Mercedes Mine:

- Tested blank material, selected due to its depleted metal signature (sterile rock);
- Commercial standardized blanks (sterile pulp).

At least two blanks (one rock and one pulp) were inserted in every work order that was submitted to the laboratory. The QP recommends having at least one blank per 20 samples.

Samples returning values over the 0.03 gpt Au limit are considered failures. Analytical failures for gold and silver for the blanks are listed in Table 11-2 and Table 11-2. Overall, the results of the sterile analyses are considered acceptable in terms of control of contamination in the analytical procedure. In 2021 (Bureau Veritas), the precision for silver is lower than expected; the decision was made to leave Bureau Veritas and go back to ALS Laboratory.

Table 11-2: Blank samples analysis (Sterile rock)

Year	Blanks Inserted	Failures (Au)		Failures (Ag)	
		Number	%	Number	%
2019	**281**	7	2.5%	2	0.7%
2020	**142**	3	2.1%	2	1.4%
2021	**148**	1	0.7%	12	8.1%

Table 11-3: Blank samples analysis (Sterile pulp)

Year	Blanks Inserted	Failures (Au)		Failures (Ag)	
		Number	%	Number	%
2019	**347**	0	0.0%	0	0.0%
2020	**158**	0	0.0%	1	0.6%
2021	**164**	0	0.0%	22	13.4%

11.1.4.3. Standard Reference Materials (Standards)

A suite of commercially available Standard Reference Materials ("SRMs") is used at Mercedes. The selection of the SRMs was based on anticipated gold and silver grades ranging from low-grade samples to average grade mineralized material and higher-grade samples.

All SRM's were bought from CDN Labs. At least one standard was inserted at random, in every work order that was submitted to the laboratory. The QP recommends having at least one SRM per 20 samples. Table 11-4 shows the overall failure rates for the last three years.

Table 11-4: Certified standard sample reproducibility analysis – Exploration yearly tabulation

Year	Standards (Au) Inserted	Failures (Au) >3SD		Standards (Ag) Inserted	Failures (Ag) >3SD	
		Number	%		Number	%
2019	**383**	**4**	1.0%	**345**	**5**	1.4%
2020	**210**	**4**	1.9%	**202**	**2**	1.0%
2021	**195**	**3**	1.5%	**195**	**17**	8.7%

Each failure of a standard was investigated, and the standard and adjacent samples were analyzed again, where necessary and according to established protocols. Table 11-5 to Table 11-7 show the results of the SRM's in 2019, 2020, and 2021 respectively.

Table 11-5: Results of the SRM's submitted to the ALS laboratory in Hermosillo, 2019

Au						
SRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
MX_MER_LG	0.71	0.70	-0.01	170	4	2.4%
MX_MER_CG	2.36	2.33	-0.03	172	0	0.0%
MX_MER_MG	5.71	5.55	-0.16	3	0	0.0%
MX_CDN_GS_P7E	0.76	0.78	0.02	5	0	0.0%
MX_CDN_GS_1P5F	1.40	1.40	0.00	10	0	0.0%
MX_CDN_GS-4D	3.81	3.65	-0.16	23	0	0.0%
			Total	**383**	**4**	**1.0%**

Ag						
SRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
MX_MER_LG	48.0	47.3	-0.71	170	1	0.6%
MX_MER_CG	66.0	66.1	0.10	172	2	1.2%
MX_MER_MG	92.5	88.7	-3.84	3	2	66.7%
			Total	**345**	**5**	**1.5%**

Table 11-6: Results of the SRM's submitted to the ALS laboratory in Hermosillo, 2020

Au						
SRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
MX_MER_LG	0.71	0.70	-0.01	88	3	3.4%
MX_MER_CG	2.36	2.33	-0.03	102	1	1.0%
MX_MER_MG	5.71	5.71	0.00	12	0	0.0%
MX_CDN_GS_4D	3.81	3.79	-0.02	7	0	0.0%
MX_CDN_GS_7E	7.32	7.57	0.25	1	0	0.0%
			Total	**210**	**4**	**1.9%**

Ag						
SRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
MX_MER_LG	48.0	46.9	-1.09	88	1	1.1%
MX_MER_CG	66.0	65.2	-0.80	102	1	1.0%
MX_MER_MG	92.5	93.4	0.90	12	0	0.0%
			Total	**202**	**2**	**1.0%**

Table 11-7: Results of the SRM's submitted to the Bureau Veritas laboratory in Hermosillo, 2021

Au						
CRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
MX_MER_LG	0.71	0.7	-0.01	58	1	1.72%
MX_MER_CG	2.36	2.34	-0.02	75	0	0.00%
MX_MER_MG	5.71	5.67	-0.04	37	0	0.00%
MX_CDN_GS_P6C	0.76	0.79	0.03	25	2	8.00%
			Total	**195**	**3**	**1.54%**

Ag						
CRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
MX_MER_LG	48.0	45.8	-2.21	58	6	10.34%
MX_MER_CG	66.0	63.7	-2.27	75	3	4.00%
MX_MER_MG	92.5	90.8	-1.69	37	6	16.22%
MX_CDN_GS_P6C	66.0	65.3	-0.72	25	2	8.00%
			Total	**195**	**17**	**8.72%**

Overall, the results of the SRM's are considered acceptable in terms of monitoring the accuracy of the analytical procedure, yet:

- The failure rates for the certified silver reference standard MX_MER_MG is noted in 2019; it is likely due to a mismatch in the preparation procedures given the unlikely high failure rate on such a low count of samples;
- The failure rate for the certified silver reference standards are noted in 2021. The increase of failures observed for silver in 2021 seems to be related to the change of laboratory. Following the quality control review from the mine, discussions with the laboratory led to the conclusion that the increase of failures in 2021 is due to the detection limit used at Bureau Veritas. Equinox decided to send the samples back to ALS in September 2021. All core samples are now analyzed at ALS since then.

11.2. Channels

Channel samples are sent to the Mine site Laboratory.

Channel samples are collected daily at the active fronts, where mine development takes place. After the face has been cleared of muck, scaled off and secured, the advance is measured, a sketch is drawn, and markings placed to identify, geo-reference and summarily describe the mineralized structures from the host-rock.

Samplers proceed to collect chips of rock over what constitute linear channels across the mineralized structures and do so, separately, for the surrounding rocks. The chips of a sample, collected in a pail, are bagged with a numbered sample tag and sealed for transportation to the Mine laboratory. On average, some 20 channel samples per shift are collected and sent for analysis.

11.2.1. Assay Samples

In general, only mineralized intervals are sampled. To create representative and homogenous samples, sampling honours lithological contacts, i.e., no sample crossed a major lithological boundary, alteration boundary or mineralization boundary.

The sample length for most intervals collected varies from 0.50 m to 1.5 m.

The channel is entirely put into a plastic sample bag. A sample assay tag was placed in the plastic sample bag and the bag tied off.

11.2.2. Lab Methods of Preparation, Processing and Analysis

Channel samples were sent to the on-site Mine Laboratory for analysis.

At the laboratory, the sample is logged in the tracking system, dried, weighted, and follows the protocol presented in Figure 11-4.

For gold, samples are analyzed by FA with an AA finish, and if the results are greater than 5.0 gpt Au, the samples are re-analyzed by FA and gravimetric finish, with both procedures using a 30 g pulp sample.

For silver, samples are assayed by FA with a total digestion using four acids.

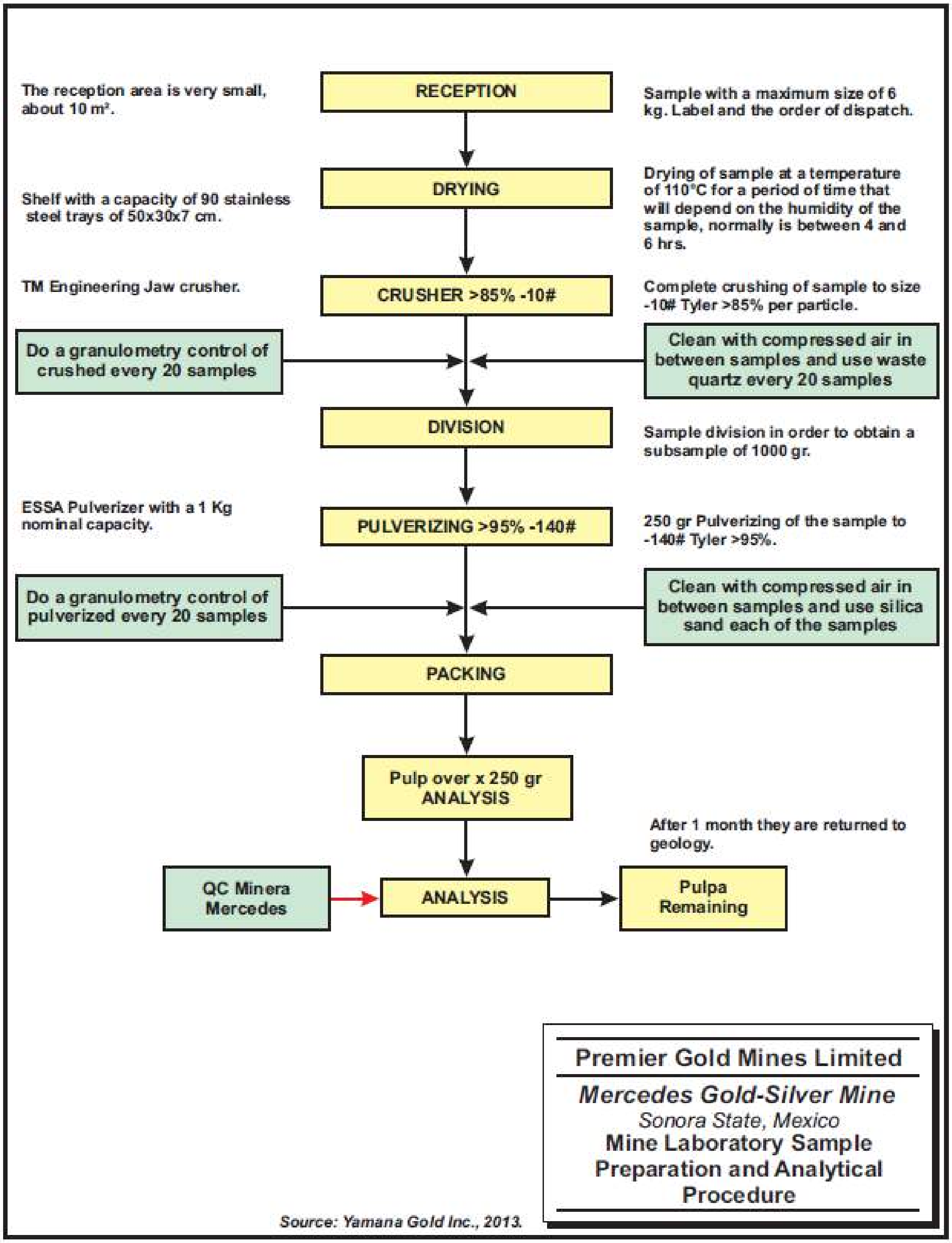

Figure 11-4: Sample preparation and analysis procedure at the on-site Mine Laboratory

11.2.3. Sample Shipping and Security

Individual samples are placed in poly bags with a unique bar-coded assay tag and samples are place in rice bags. Samples are delivered to the Mine Laboratory by Mine staff.

Results are received via the internal system.

11.2.4. Quality Assurance and Quality Control (QA/QC)

11.2.4.1. Duplicates

Field Duplicates

For the Mine sampling programs of 2019, 2020 and 2021, a total of 699, 340 and 623 field duplicate samples were respectively collected and analyzed by the Mine laboratory. Due to the suspected presence of coarse erratic free gold, field duplicates at best only show fair precision in almost all concentrations for the two monitored elements.

It is possible that the suspected erratic free gold presence and the nature of the mineralization at Mercedes only permit marginal improvement of the sampling process and analytic results.

Pulp Duplicates

No pulp samples were sent to a secondary laboratory for analysis from the Mine lab between 2019 and 2021. The QP recommends sending at least 5% of pulps for checks in a third-party laboratory.

11.2.4.2. Blanks

Two types of Blanks are used at the Mercedes Mine:

- Tested blank material, selected due to its depleted metal signature (sterile rock);
- Commercial standardized blanks (sterile pulp).

At least two blanks (one rock and one pulp) were inserted in every work order that was submitted to the laboratory (one work order per shift). The QP recommends having at least one blank per 20 samples.

Samples returning values over the 0.03 gpt Au limit are considered failures. Analytical failures for gold and silver for the blanks are listed in Table 11-8 and Table 11-9. Overall, the results of the blank analyses are considered high, but acceptable in terms of control of contamination in the analytical procedure considering the fact that re-assays were conducted when necessary.

Table 11-8: Blank samples analysis (Sterile rock)

Year	Blanks Inserted	Failures (Au)		Failures (Ag)	
		Number	%	Number	%
2019	**356**	10	2.8%	23	6.5%
2020	**212**	16	7.6%	12	5.6%
2021	**388**	13	3.4%	14	3.6%

Table 11-9: Blank samples analysis (Sterile pulp)

Year	Blanks Inserted	Failures (Au)		Failures (Ag)	
		Number	%	Number	%
2019	**356**	16	4.5%	14	3.9%
2020	**210**	6	2.9%	1	1.2%
2021	**416**	6	1.4%	6	1.4%

11.2.4.3. Standard Reference Materials (Standards)

A suite of commercially available Standard Reference Materials ("SRMs") is used at Mercedes. The selection of the SRMs was based on anticipated gold and silver grades ranging from low-grade samples to average grade mineralized material and higher-grade samples.

One standard is inserted in every work order that was submitted to the laboratory (one work order per shift). The QP recommends having at least one SRM per 20 samples. Table 11-10 shows the overall failure rates for the last three years.

Table 11-10: Certified standard sample reproducibility analysis at the Mine Laboratory

Year	Standards (Au) Inserted	Failures (Au) >3SD		Standards (Ag) Inserted	Failures (Ag) >3SD	
		Number	%		Number	%
2019	**714**	**70**	9,8	**599**	**227**	37.9
2020	**380**	**48**	12.6	**344**	**74**	21.51
2021	**734**	**38**	5.18	**726**	**29**	3.99

Each failure of a standard was investigated, and the standard and adjacent samples were analyzed again, where necessary and according to established protocols. Table 11-11 to Table 11-13 show the results of the SRM's in 2019, 2020, and 2021 respectively.

Table 11-11: Results of the SRM's submitted to the Mine site Laboratory, 2019

Au						
SRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
CDN-ME-1311	0.84	1.05	0.21	127	33	29.0%
CDN-ME-1304	1.80	1.88	0.08	111	4	3.6%
CDN-ME-1308	1.40	1.45	0.03	130	13	10.0%
CDN-ME-1705	3.66	3.62	-0.01	185	13	7.0%
CDN-ME-1402	13.90	13.90	0.01	46	0	0.0%
CDN-GS-6F	6.79	6.87	0.08	115	7	6.1%
			Total	**714**	**70**	**9.8%**

Ag						
SRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
CDN-ME-1311	44.9	47.9	3.00	127	104	81.9%
CDN-ME-1304	34.0	34.2	0.18	111	23	20.7%
CDN-ME-1308	45.7	45.4	-0.10	130	40	30.8%
CDN-ME-1705	78.3	79.1	1.60	185	49	26.5%
CDN-ME-1402	131.0	124.4	8.90	46	11	23.9%
			Total	**599**	**227**	**37.9%**

Table 11-12: Results of the SRM's submitted to the Mine site Laboratory, 2020

Au						
SRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
CDN-ME-1308	1.40	1.41	0.01	69	5	7.3%
CDN-ME-1705	3.66	3.63	-0.03	8	0	0.0%
CDN-ME-1803	1.30	1.36	0.06	100	26	26.0%
CDN-ME-1702	3.24	3.20	-0.04	145	13	9.0%
CDN-ME-1402	13.90	13.50	-0.40	22	1	4.6%
CDN-GS-6F	6.79	6.81	0.02	36	3	8.3%
			Total	**380**	**48**	**12.6%**

Ag						
SRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD	
					Out of Range	%Out of Range
CDN-ME-1308	45.7	51.5	5.8	69	28	40.58%
CDN-ME-1402	131.0	130.7	-0.3	22	1	4.55%
CDN-ME-1702	47.4	48.8	1.4	145	31	21.38%
CDN-ME-1705	78.3	73.5	-4.8	8	2	25.00%
CDN-ME-1803	46.0	44.9	-1.1	100	12	12.00%
			Total	**344**	**74**	**21.51%**

Table 11-13: Results of the SRM's submitted to the Mine site Laboratory, 2021

Au						
CRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD Out of Range	≥3SD %Out of Range
CDN-ME-1803	1.3	1.33	0.03	91	6	6.59%
CDN-ME-1702	3.24	3.25	0.01	42	1	2.38%
CDN-ME-1312	1.27	1.22	-0.05	201	3	1.49%
CDN-ME-1705	3.62	3.55	-0.07	200	18	9.00%
CDN-ME-1708	6.85	6.9	0.05	151	6	3.97%
CDN-ME-1402	13.9	13.5	-0.4	16	0	0.00%
CDN-GS-6F	6.79	6.78	-0.01	8	0	0.00%
CDN-CN-40	1.31	1.26	-0.05	17	3	17.65%
CDN-GS-3X	3.23	3.37	0.14	8	1	12.50%
			Total	**734**	**38**	**5.18%**

Ag						
CRM	RR Value (gpt)	LAB Value (gpt)	Diff. (gpt)	Count	≥3SD Out of Range	≥3SD %Out of Range
CDN-ME-1803	46	47.2	1.15	91	0	0.00%
CDN-ME-1702	47.4	46	-1.43	42	1	2.38%
CDN-ME-1312	22.3	23.1	0.83	201	11	5.47%
CDN-ME-1705	78.3	74.8	-3.52	200	5	2.65%
CDN-ME-1708	53.9	53.2	-0.72	151	4	2.65%
CDN-ME-1402	131	127.4	-3.6	16	0	0.00%
CDN-CM-40	18	19	1.26	17	7	41.18%
CDN-GS-3X	85	83.7	-1.28	8	1	12.50%
			Total	**726**	**29**	**3.99%**

MMM mentioned to the QP that inaccuracies were thought to arise due to the encapsulated nature of the silver-bearing minerals and, from time to time, result from the incomplete digestion of the samples during analysis. This should not be a problem with an analytical gravimetric finish, and yet, it persisted. There doesn't seem to be a bias in the 2019-2020 silver analytical results, rather poor accuracy.

The results of the SRM's are considered acceptable in 2021 in terms of monitoring the analytical procedure accuracy and the QP recommends that changes brought to the procedures in 2021 be adopted, yet:

- The failure rates for the certified silver reference standard MX_MER_MG is noted in 2019; it is likely due to a mismatch in the preparation procedures given the unlikely high failure rate on such a low count of samples;
- The failure rate for the certified silver reference standards are noted in 2021. The increase of failures observed for silver in 2021 seems to be related to the change of laboratory. Following the quality control review from the mine, discussions with the laboratory led to the conclusion that the increase of failures in 2021 is due to the detection limit used at Bureau Veritas. Equinox decided to send the samples back to ALS in September 2021. All core samples are now analyzed at ALS since then.

11.3. Conclusion

The QP reviewed the sample preparation, analytical and security procedures, as well as insertion rates and the performance of blanks, standards, and duplicates for the drilling and channeling programs.

The QP concluded that the observed QA/QC failure rates are within expected ranges for the drill hole data and that no significant biases are present. The QP also concluded that although significant issues with QA/QC failure rates are observed with the channel data, particularly for silver, the impact on the entire database and Mineral Resource Estimate are minimal. The reader is invited to see Chapter 12 for more validation on this topic.

The QP is of the opinion that the drilling and sampling protocols in place are adequate, although some recommendations are presented this chapter and should be implemented for future programs.

In the QP's opinion, the sample preparation, analytical and security procedures, and the performance of blanks, standards, and duplicates (as a whole) for the 2019, 2020, and 2021 drilling and channelling programs are deemed adequate, and the assay database is acceptable for use in a Mineral Resource Estimate.

12. Data Verification

For the purpose of this MRE, the QP performed a basic validation on the entire database with more energy put towards data being produced since the effective date of the Technical Report titled "NI 43-101 Technical Report on the Mercedes Gold-Silver Mine" prepared for Premier Gold Mines (Hardie et al., 2021).

The entire database, up to December 31, 2021, contains 2,894 diamond drill holes, and 21,554 underground channel samples.

12.1 Site Visits

Pierre-Luc Richard visited the Mercedes Mine on June 10 and 11, 2022, during the course of this mandate. The site visit included a visit of the core shack and sample preparation room (Figure 12-1), a surface field tour across the property, an underground tour where typical Lupita and Diluvio mineralization were observed (Figure 12-2), a visit of the process plant (Figure 12-3), tailings facilities (Figure 12-4), and mine laboratory (Figure 12-5).

Multiple discussions were also held either during virtual meetings or, in some cases, in person to cover additional needs in regard to the 3D modelling, block modelling, database validation, and QA/QC.

The site visit also included a review of sampling and assays procedures, the QA/QC program, downhole survey methodologies, and the descriptions of lithologies, alteration and structures with on-site personnel. Information was also gathered to support reconciliation studies.

Figure 12-1: Core shack and sample preparation room

Figure 12-2: The Diluvio portal (up), Lupita (down left), and Diluvio (down right) mineralization observed underground during the QP site visit

Figure 12-3: General view of the crushing facility and process plant

Figure 12-4: Tailings facilities

Figure 12-5: Mine laboratory: crusher (upper left), pulveriser (upper right), oven (down left), and ICP-AES (down right)

12.2 Drilling and Sampling Procedure

Mercedes Mine procedures are described in Chapters 10 and 11 of the current report. Discussions held with on-site geologists allowed to confirm said procedures were adequately applied.

The QP reviewed several sections of mineralized core while visiting the Project. Core from the following deposits were reviewed: Diluvio, Klondike, Marianas, Mercedes, Barrancas, Rey de Oro, San Martin, Lupita, Lupita Extension; and some exploration holes distributed over the property. All core boxes were labelled and properly stored either inside or outside (Figure 12-6). Sample tags were present in the boxes and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones (Figure 12-7).

On-site personnel explained the entire path of the drill core, from the drill rig to the logging and sampling facility and finally to the laboratory. The QP was also able to see the sample preparation area and confirm that samples are well identified for the laboratory (Figure 12-8).

Figure 12-6: Core storage facility (left), review of one of the core box for description, tags and sampling (up right), and pulp storage facility (down right)

Figure 12-7: Core and sampling review during the site visit. Diluvio (up) and Rey de Oro (down)

Figure 12-8: Sample preparation room and samples ready for shipment to the laboratory

12.3 Drill Hole Database

12.3.1 Assays

The QP was granted access to the assay certificates for all holes drilled in 2020 and 2021. Assays of Au and Ag were verified for 10% of the database. The assays recorded in the database were compared to the certificates from the different laboratories and no significant discrepancies were detected.

A standard database validation for overlapping samples returned no errors, with only occasional insignificant discrepancies arising from the rounding of figures.

12.3.2 Drill Hole Location

For drilling conducted since 2016, all drill collars were marked up by surveyors prior to the drill set-up and again after completion of the hole.

Drill holes were examined and reviewed on screen. No drill hole collars were found to have location issues, or extreme lengths, and odd hole deviations were found to be apparent.

12.3.3 Downhole Survey

Since 2016, downhole orientation measurements are taken every 30 m within the hole using a Reflex downhole survey instrument. Spurious measurements are removed from the database.

12.3.4 QA/QC

QA/QC reports were reviewed and although no significant issues were observed for gold, these reports revealed issues with silver QA/QC for underground channel samples where the failure rate of the silver standard has generally been high over the last six years; only in 2021 did it show acceptable results. This QA/QC issue only affects underground channel samples; QA/QC for both gold and silver samples from drill core is acceptable.

The QP reviewed the QA/QC reports for the underground channel samples for gold and silver and concluded that, while issues appear to be impressive at first sight (multiple certified standard failures), they do not have a material impact on the Mineral Resource Estimate when put into perspective for these reasons:

- QA/QC issues only affect samples analyzed at the mine site laboratory and samples analyzed at an independent laboratory show acceptable failure rates. Therefore, only channel samples are affected; not drill core samples;

- The QP geostatistically compared silver values from exploration drill holes (which proved to have an acceptable QA/QC failure rate) to the mine samples (issues with silver standard failure rate) and confirmed that although silver grades are likely to differ slightly locally, silver grades are accurate when looked at globally (Figure 12-8);
- Silver is only presented as a sub-product and not included in the cut-off grade calculation.
- Silver only represents a low contribution to the AuEq (and therefore block value); overall silver only contributes 4% to the project;
- Overall reconciliation numbers are good (within 10%; see Chapter 14).
- A block model using both dataset (drillholes and channels) was compared to a block model using only drillholes and results showed no material impact on grade when using channel samples (see Chapter 14).

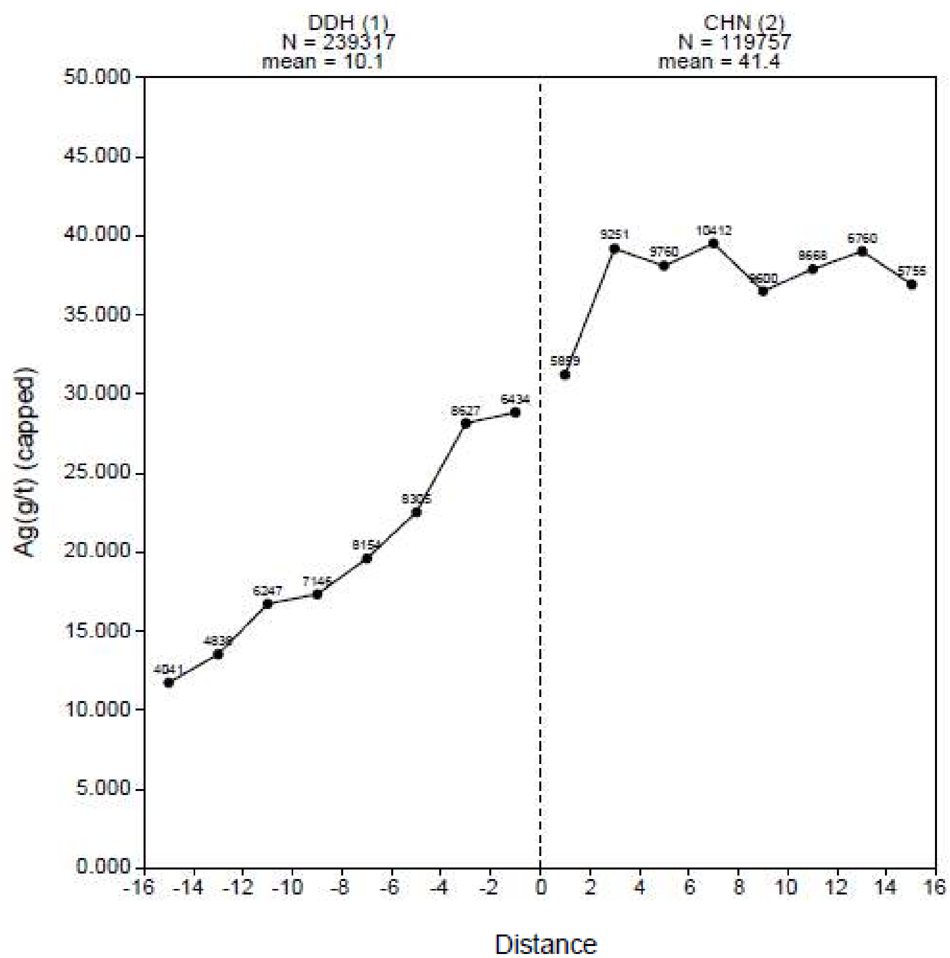

Figure 12-8: Geostatistical distance-weighted chart comparing channel silver values to drill holes silver values Note the close grade similarity within 2 m of distance between pairs (31 gpt Ag vs 29 gpt Ag) showing that no bias is being observed between the two sample populations. It is normal to see higher average grade in the channels population as they are all taken inside the mineralization whereas DDH samples are not.

More details are available in Chapter 11 of this report.

12.4 Conclusion

The database for the Mercedes Mine Project is of good overall quality. Minor variations have been noted during the validation process but have no material impact on the current MRE. In the QP's opinion, the Mercedes Mine database is appropriate to be used for a Mineral Resource Estimate.

The QP did not encounter any limitations or failures to conduct verification of the data during his mandate.

13. Mineral Processing and Metallurgical Testing

The following chapter presents the results of metallurgical testing conducted for Mercedes. The original test work for Mercedes was conducted by McClelland Laboratories, Inc. (MLI), in Sparks, Nevada, from February 2007 to November 2010. The Mercedes plant was built and achieved commercial production by February 1, 2012 and continues to operate. Results of the initial testing were reported in previous technical reports (Altman et al., 2018). These results are not repeated here, nor were they reviewed.

13.1 Metallurgical Testing

The metallurgical department at Mercedes conducts on-going test work to ensure that the plant is performing optimally, to improve efficiency and recovery, and to reduce costs.

The Mercedes plant has an established track record of meeting its metallurgical performance objectives and all of the forecast LOM mineralized zones have previously been processed. The current ore feed comes primarily from the Diluvio, Lupita, and Lupita Extension zones. These have been processed successfully since 2018 and the new Aida zone was processed without issue in 2020.

In 2021 to potentially take advantage of unused process plant capacity, batch laboratory leaching tests were performed on material from low-grade waste stockpiles from the Diluvio (DIL), Klondike (KLN) and Corona de Oro (CDO) deposits to determine whether this material could be economically processed. Table 13-1 summarizes the results of the test work based on the typical process plant operating parameters (P_{80} = 40 um and 500 ppm NaCn).

Table 13-1: Low-grade waste stockpile metallurgical tests

Parameter	Unit	DIL	KLN	CDO
Gold Grade	gpt	0.99	1.22	0.95
Silver Grade	gpt	15.24	57.27	25
Gold Recovery	%	92.8	93.5	94.6
Silver Recovery	%	34.6	31.7	31.5

The results from the laboratory testing were sufficiently positive that Mercedes decided to process approximately 28,000 t of low-grade waste material (1.1 gpt Au and 20.6 gpt Ag) between October and December 2021.

13.2 Plant Operating Data

The Mercedes Mine mill has been operating for ten years and for the last three years has been processing the same mineralized zones that are planned through to the remaining LOM. Plant data should provide a more reliable gauge of plant performance than the metallurgical test data.

Gold and silver recovery estimates at Mercedes are based on past historical performance. Table 13-2 summarizes the actual plant operating performance (tonnage, feed grades and metal recoveries) on an annual basis versus budget since 2012. The data presented in Table 13-2 is plotted in Figure 13-1, Figure 13-2 and Figure 13-3.

Table 13-2: Actual plant operating performance versus budget (plan)

Year	Milled Tonnage (mt)			Gold Grade (g/mt)			Silver Grade (g/mt)			Gold Recovery (%)			Silver Recovery (%)		
	Actual	Budget	Act. vs Bud.	Actual	Budget	Act. vs Bud.	Actual	Budget	Act. vs Bud.	Actual	Budget	Act. vs Bud.	Actual	Budget	Act. vs Bud.
2012	603,187	566,938	36,249	6.43	6.45	-0.02	78.5	71.7	6.8	95.1	93.9	1.2	32.2	30.0	2.2
2013	670,867	664,827	6,040	6.16	6.39	-0.23	79.4	73.1	6.3	94.5	95.0	-0.5	34.4	30.0	4.4
2014	681,833	695,061	-13,228	5.08	5.69	-0.61	55.9	57.8	-1.9	94.5	95.0	-0.5	32.9	33.0	-0.1
2015	713,475	630,965	82,510	3.96	5.67	-1.71	43.3	52.3	-9.0	93.1	95.0	-1.9	38.6	30.0	8.6
2016	688,396	760,722	-72,326	4.46	3.93	0.53	47.4	45.2	2.2	94.4	93.8	0.6	40.3	33.3	7.0
2017	683,574	629,431	54,143	3.93	4.74	-0.81	37.6	43.0	-5.4	95.5	95.0	0.5	40.8	40.0	0.8
2018	665,522	767,889	-102,367	3.39	3.75	-0.36	35.3	33.5	1.8	96.0	95.0	1.0	41.0	40.0	1.0
2019	667,723	692,270	-24,547	2.91	3.90	-0.99	26.2	28.0	-1.9	95.8	95.5	0.3	34.0	40.0	-6.0
2020	398,922	692,996	-294,074	2.87	3.66	-0.80	33.1	22.3	10.8	95.1	95.5	-0.4	39.6	35.0	4.6
2021	511,711	480,220	31,491	2.69	3.49	-0.80	21.2	32.1	-11.0	95.8	95.5	0.3	35.3	40.0	-4.7
Minimum	**398,922**			**2.69**			**21.2**			**93.1**			**32**		
Average	**628,521**			**4.19**			**45.8**			**95.0**			**36.9**		
Maximum	**713,475**			**6.43**			**79.4**			**96.0**			**41.0**		

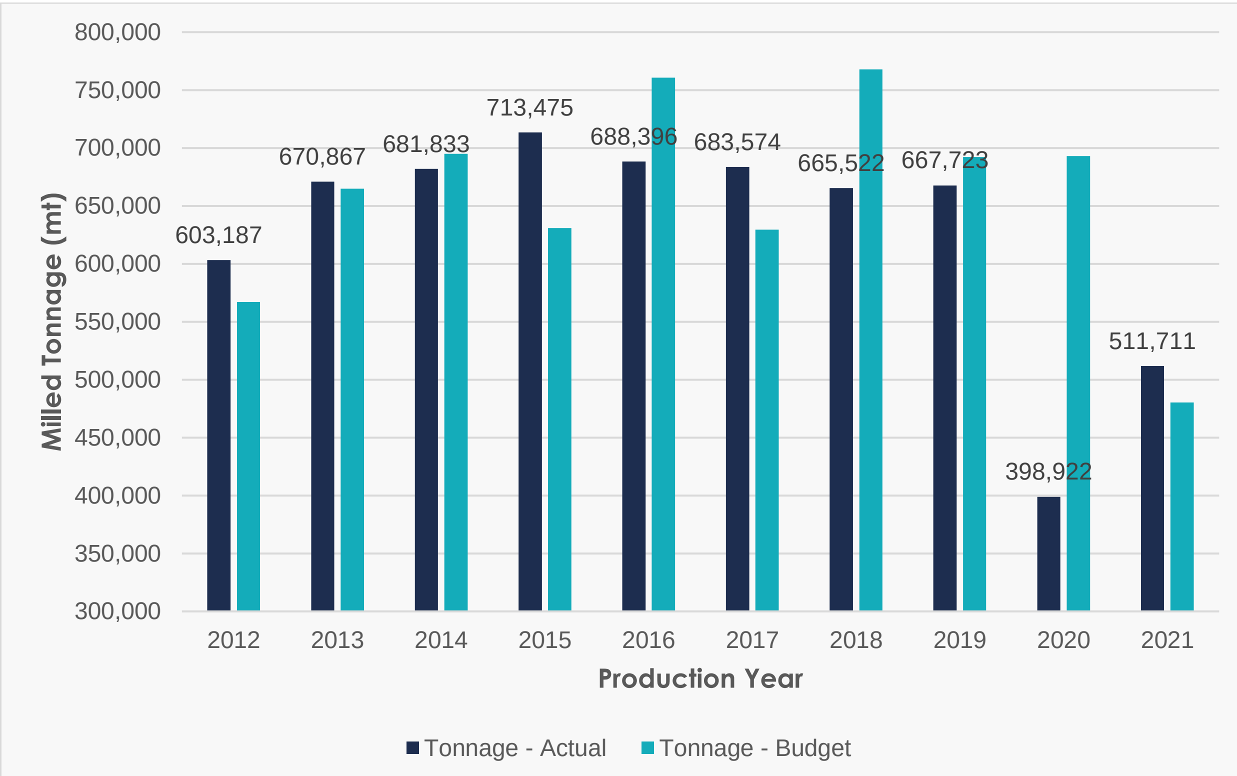

Figure 13-1: Actual versus budgeted milled tonnage (mtpy)

In 2020, Mercedes operated for only 163 days due to the implementation of COVID-19 pandemic safety measures. This resulted in an actual milled annual tonnage of 398,000 mt much lower than planned (693,000 mt). In 2021, 511,711 mt were actually processed versus a budgeted tonnage of 480,000 mt. The forecast and actual tonnage for 2021 was lower than historical figures due to Mercedes focusing on the Duluvio and Lupita deposits as part of their cost reduction and efficiency plan as well as due to the limited capacity of the underground mines to deliver ore to the process plant.

The process plant appears capable of processing the planned average annual tonnage of 554,000 mtpy for the LOM based on the average tonnage actually processed between 2012 and 2019 of 672,000 mtpy. On this basis, the plant should easily achieve the forecast tonnage target.

Over the 10 years of operations, the actual gold grade has declined from approximately 6.5 gpt to approximately 3 gpt in the last 3 years. The actual gold grade was lower than the grade for 2013, 2014, 2015, 2017, 2018 and 2019. On average the actual gold grade has been approximately 0.6 gpt (-13%) lower than planned. Gold recovery has been over 95% since 2016, despite the down trend in gold grades as previously noted.

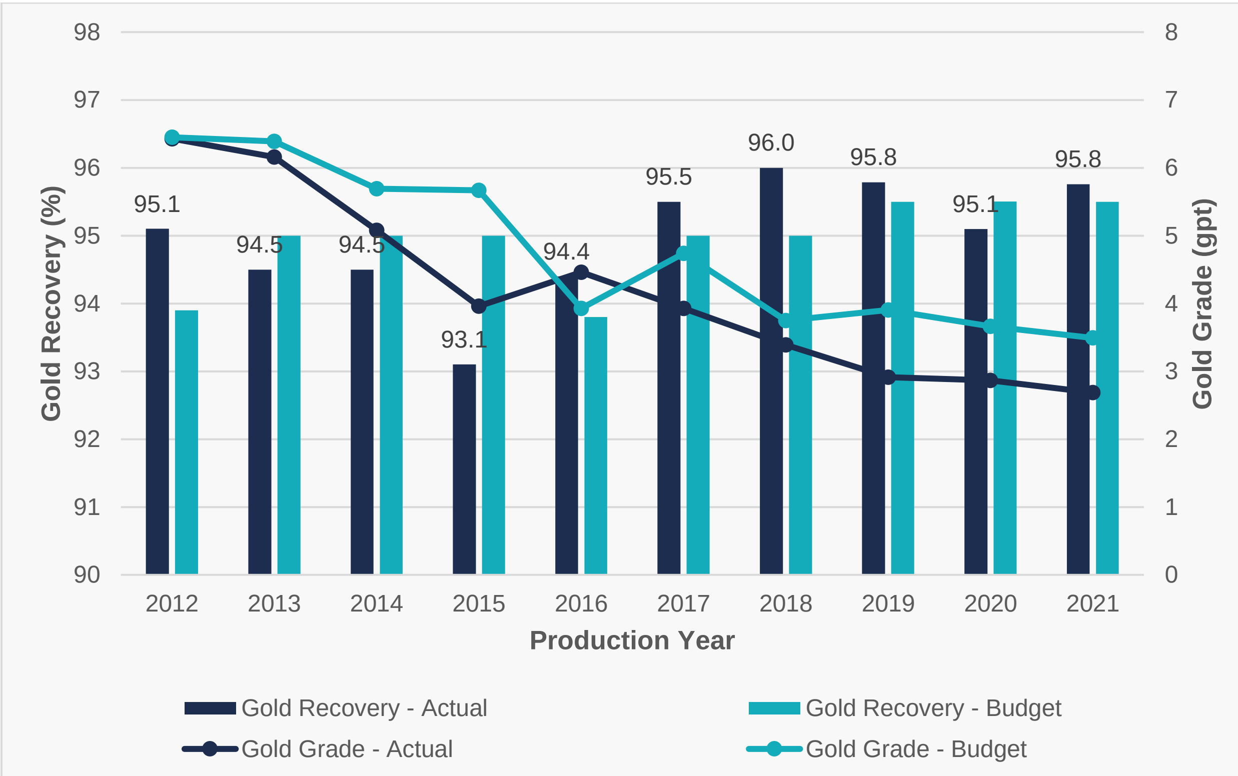

Figure 13-2: Actual versus budgeted gold grade (gpt) and recovery (%)

Over the 10 years of operations, the actual silver grade has declined in a similar trend as gold from approximately 80 gpt in 2012 and 2013 to approximately 25 gpt in the last 3 years. The actual silver feed grade was approximately equal to or higher than the budgeted feed grade in 2012, 2013, 2014, 2016, 2018 and 2020. The actual silver feed grade was lower than the budgeted feed grade in 2015, 2017, 2019 and 2021. The realized silver recovery was higher than the budgeted recovery from 2012 through 2018 and in 2020. The actual silver recovery for 2019 and 2021 was lower than budgeted. Silver recovery has typically averaged between 35 and 40% despite the down trend in silver grades as previously noted.

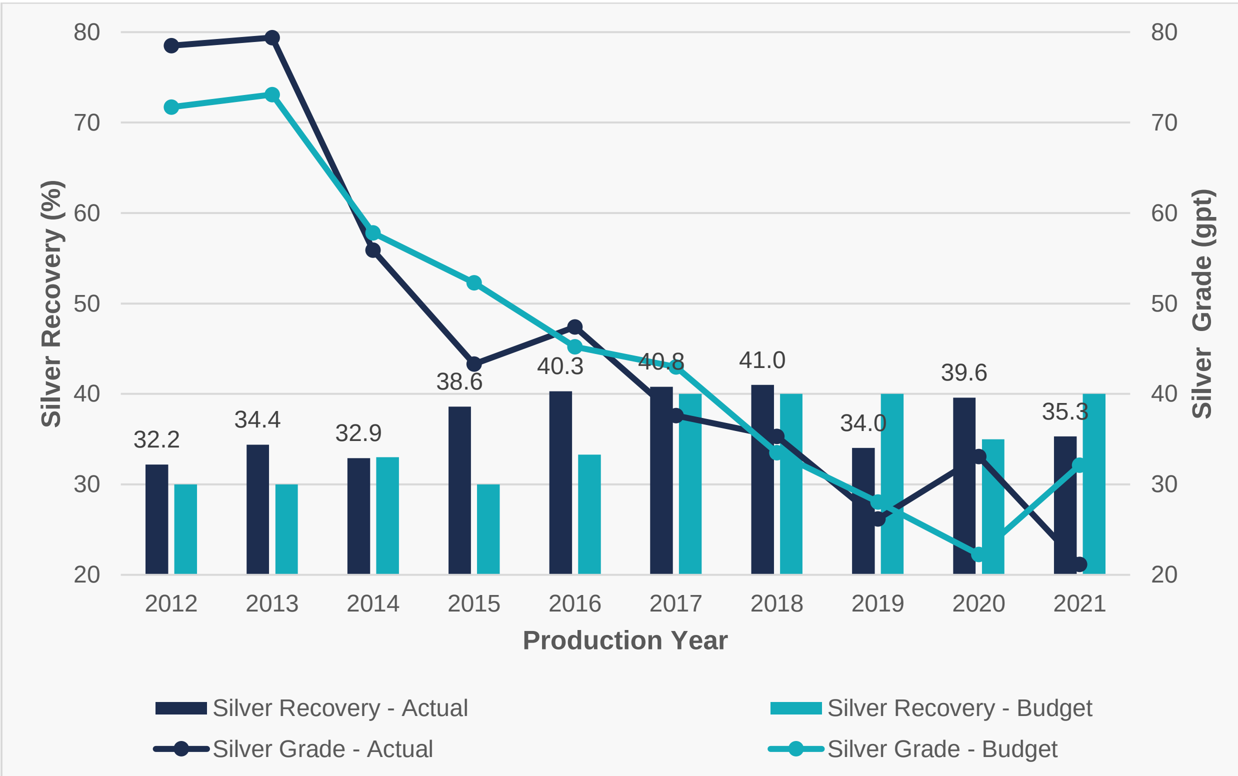

Figure 13-3: Actual versus budgeted silver grade (gpt) and recovery (%)

Figure 13-4 plots the annualized actual gold recovery versus feed grade. In general, there does not seem to be a statistically significant trend (R^2 of 0.15), which might support a correlation between gold feed grade and recovery.

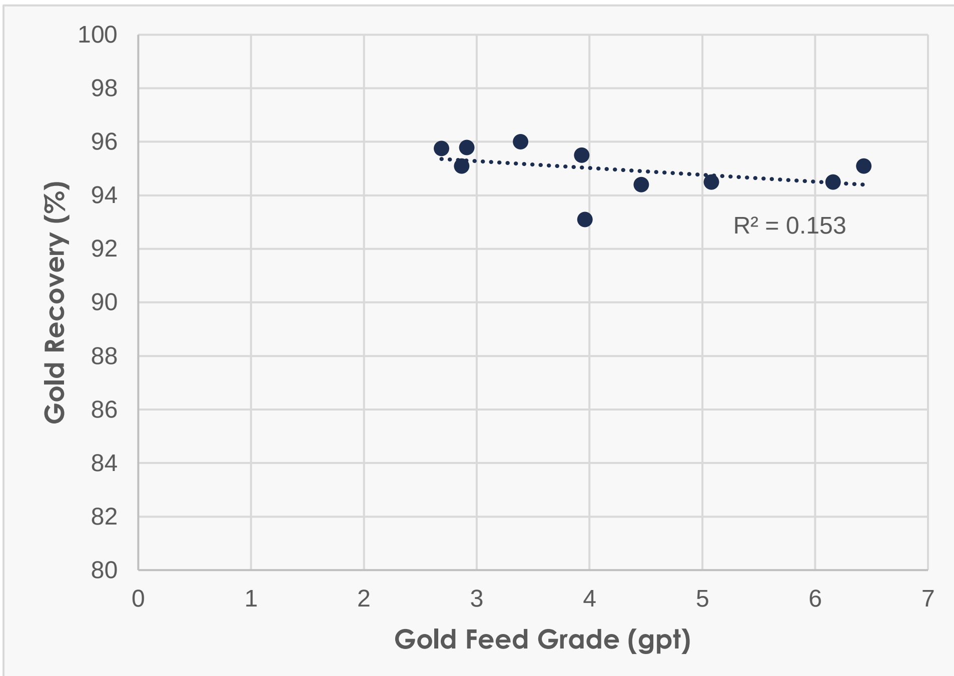

Figure 13-4: Actual gold recovery (%) versus feed grade (gpt)

Figure 13-5 plots the annualized actual silver recovery versus feed grade. In general, there seems to be an inverse relationship between silver grade and recovery, as feed grade increases silver recovery decreases. However, the scatter in the data does not support a statistically strong correlation (R^2 of 0.21) between silver grade and recovery.

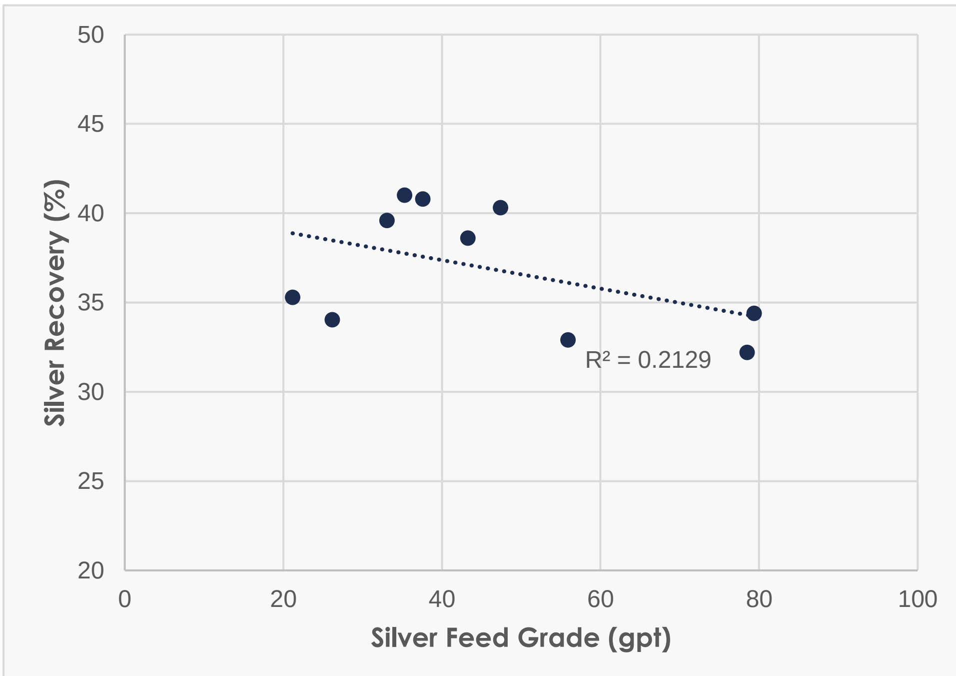

Figure 13-5: Actual silver recovery (%) versus feed grade (gpt)

13.3 Qualified Person Opinion

Colin Hardie (QP) is of the opinion that the existing process plant operating data is not suggestive of any processing factors or deleterious elements that could have a significant effect on potential economic extraction (throughput or metal recovery) at Mercedes.

It is recommended that Mercedes conducts more detailed evaluations to determine whether it is possible to improve the accuracy on the measured metal feed grade versus plan. An evaluation of various operating parameters including feed grade and material source (deposit/zone/level) should be performed to develop better gold and silver recovery estimates for planning purposes. Silver recovery for the low-grade stockpiles should be investigated to see if it can be improved.

14. Mineral Resource Estimates

The QP was retained by Bear Creek to audit and review the Mineral Resource Estimate (MRE) for the Mercedes Mine Project.

Deposits for which Mineral Resources are declared are Aida, Barrancas, Brecha Hill, Casa Blanca, Corona de Oro, Diluvio, Gap, Klondike, Lagunas, Lupita, Marianas, San Martin and Rey de Oro. Figure 14-1 locates the different mineralized zones. Drill hole and channel information up to December 31, 2021 was considered for this estimate.

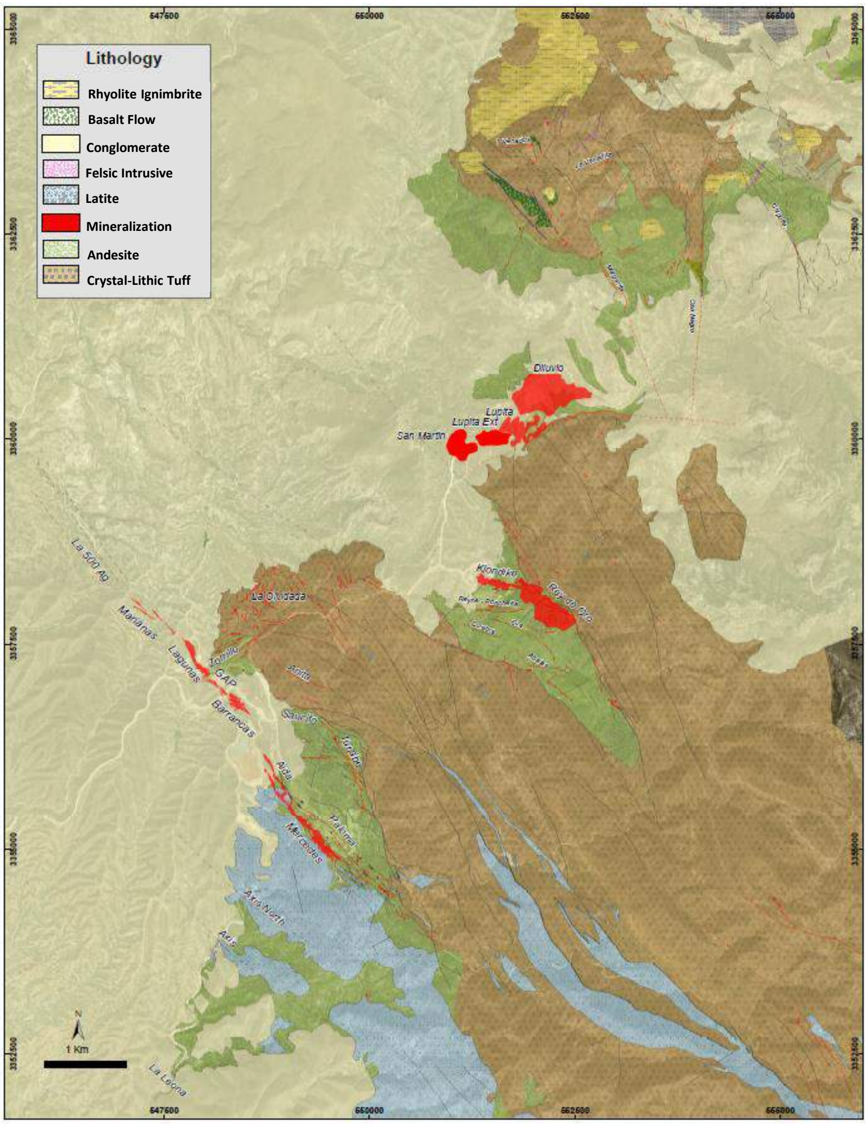

Figure 14-1: Main mineralized zones/deposits on the Mercedes Mine

MMM staff provided the QP with the data and native data files pertaining to the estimations. Multiple documents and reports detailing the procedures and quality assurance assessments that were periodically compiled outlining the project's geological modelling, block modelling, and grade estimation procedures were also provided.

As part of this review, the QP carried out a series of visual and statistical reviews such as:

- Review of the database;
- Review of the geological solids;
- Review of the capping and other key parameters;
- Review of the composite databases;
- Review of the procedures and methodology;
- Review of the block models;
- Multiple discussions with on-site staff were held during the course of this mandate.

The QP takes responsibility of this Mineral Resource Estimate.

14.1 Mineral Resource Estimate Methodology

Leapfrog Geo™ (multiple versions) was used for the modelling of mineralized zones and for the generation of the drill hole intercepts for each solid. Vulcan™ v.2020.1 was used for the compositing, the geostatistical study, the 3D block modelling, the interpolation, and the reporting.

The methodology for the estimation of the Mineral Resources involved the following steps:

- Database verification;
- 3D modelling of the mineralized zones;
- Drill hole intercept generation for each mineralized zone;
- Capping;
- Composite generation for each mineralized zone;
- Basic statistics
- Geostatistical analysis including variography;
- Block modelling and grade interpolation;
- Mineral resource classification;
- Block model validation;
- Cut-off grade calculation;
- Validation that the blocks meet the reasonable prospects for economic extraction;
- Preparation of the Mineral Resource statement.

14.2 Resource Database

The resource database for the project, as of December 31, 2021, consisted of 2,894 drill holes with a cumulative length of 556,569 m and 21,554 channels with a cumulative length of 107,374 m. The database was validated as part of the current mandate.

The individual deposit database cut-off dates for the resource estimate are presented in Table 14-1.

The QP has reviewed all the new information that has occurred since the cut-off date on the technical report up to the finalization of the report and is of the opinion that had this new information been used in the preparation of the herein Mineral Resource Estimate, this new information would not have had a material impact on the conclusions.

Table 14-1: Assay database per zone and datasets per sample media close-out dates as per MMM

Zones	Date Analyses	DB CHN	DB DDH
AID	20/05/2020	22/03/2020	07/05/2020
BCA	1/06/2020	02/02/2020	07/05/2020
BHI	26/11/2019	31/12/2019	24/11/2019
CBA	01/06/2020	31/12/2019	24/11/2019
CDO	30/11/2019	31/12/2019	24/11/2019
DIL	07/01/2022	07/01/2022	07/01/2022
GAP	10/11/2019	31/03/2020	24/11/2019
KLN	1/12/2019	31/12/2018	31/05/2020
LAG	4/06/2020	31/03/2020	07/05/2020
LUP	07/01/2022	07/01/2022	07/01/2022
MAR	07/01/2022	07/01/2022	07/01/2022
RDO	5/12/2020	31/03/2019	25/09/2020

14.2.1 Drill Hole Samples

The database received from MMM comprises drill holes and channel sampling data for each of the 13 mineralized zones at Mercedes. The drill hole datasets consist of:

- Collar coordinates;
- Length and downhole survey data;
- Assays for Au and Ag, as well as the zone they relate to;
- Lithological codes;

- Geotechnical information on core recovery, RQD measurements, fracture type, etc.;
- Structural measurements detailing the type of structures, a qualification on intensity, and core angle;
- Vein interval.

As of the effective date of this technical report (December 31, 2021), a total of 2,894 drill holes were drilled on the project totalling 556,569m (Table 14-2).

Table 14-2: Drill hole dataset in the Mercedes database

Zone	Number of Drill holes	Total length	Number of Drill hole Assays
Aida	89	20,386	4,923
Barrancas	132	29,322	9,015
Brecha Hill	193	42,750	7,497
Casa Blanca	310	42,282	13,237
Corona de Oro	429	70,913	15,828
Diluvio	446	92,519	37,702
Gap	58	15,623	4,527
Klondike	195	30,493	7,705
Lagunas	163	38,332	12,627
Lupita	321	55,245	7,492
Marianas	169	50,577	11,588
Rey de Oro	281	42,606	17,739
San Martin	108	25,521	4,714
Total	**2,894**	**556,569**	**154,594**

14.2.2 Channel Samples

Channel samples constitute an important part of the dataset used for both the geomodelling and the mineral estimation process, as well as for grade control purposes.

The channel sample datasets consist of:

- Collar coordinates, length and survey data;
- Intervals detailing assays for Au and Ag;
- Description of the zone/shell they relate to;
- Lithological codes.

Mineralized zones at Aida, Barrancas, Brecha Hill, Casa Blanca, Corona de Oro, Lagunas, Klondike, Rey de Oro, Diluvio, Lupita, Marianas, and Gap have been sampled punctually, if not regularly, as the mine development progressed.

As of the effective date of this technical report (December 31, 2021), a total of 21,554 channel samples were collected underground (UG) totalling 107,374m (Table 14-3).

Table 14-3: Channel dataset in the Mercedes database

Zone	Number of Channels	Total Length	Number of Channel Assays
Aida	521	2,214	2,573
Barrancas	2,339	11,413	14,861
Brecha Hill	1,490	6,676	8,463
Casa Blanca	2,544	11,940	14,472
Corona de Oro	3,489	16,534	19,828
Diluvio	2,721	15,627	17,402
Gap	222	1,121	1,404
Klondike	1,732	7,131	9,044
Lagunas	2,473	11,667	14,709
Lupita	1,601	6,470	6,897
Marianas	37	158	203
Rey de Oro	753	4,017	4,498
Total	**21,554**	**107,374**	**125,049**

Given the weight that channel samples are being given in the resource estimation process, one channel composite having as much influence as a drill hole composite, the QP judged pertinent to look for any bias between drill hole and channel databases. The QP geostatistically compared gold and silver values from drill holes to channels and confirmed that no bias is observed between the two datasets (Figure 14-2 and Figure 14-3).

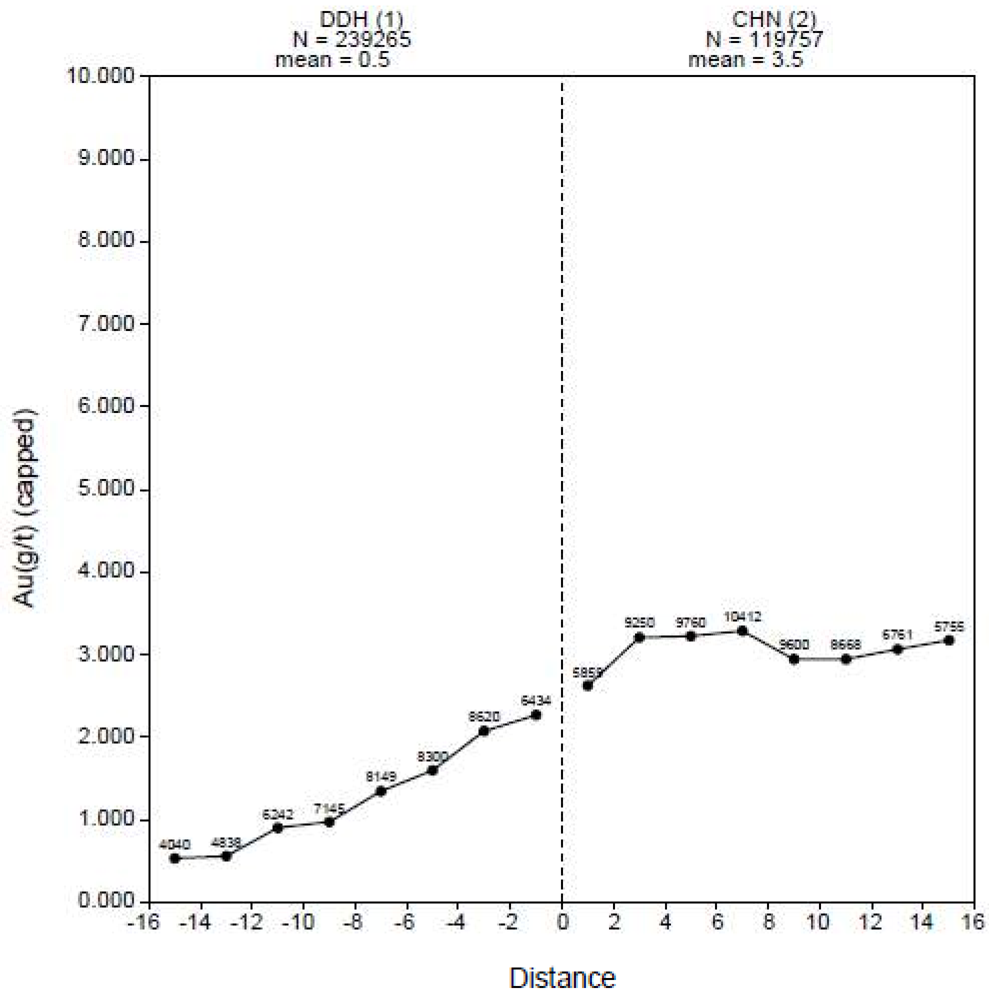

Figure 14-2: Geostatistical distance-weighted charts comparing channel silver values to drill holes silver values Note the close grade similarity within 2 m of distance between pairs (2.75 gpt Au vs 2.45 gpt Au) showing that no bias is being observed between the two sample populations. It is normal to see higher average grade in the channels population as distance between pairs increases as they are all taken inside the mineralization whereas DDH samples are not.

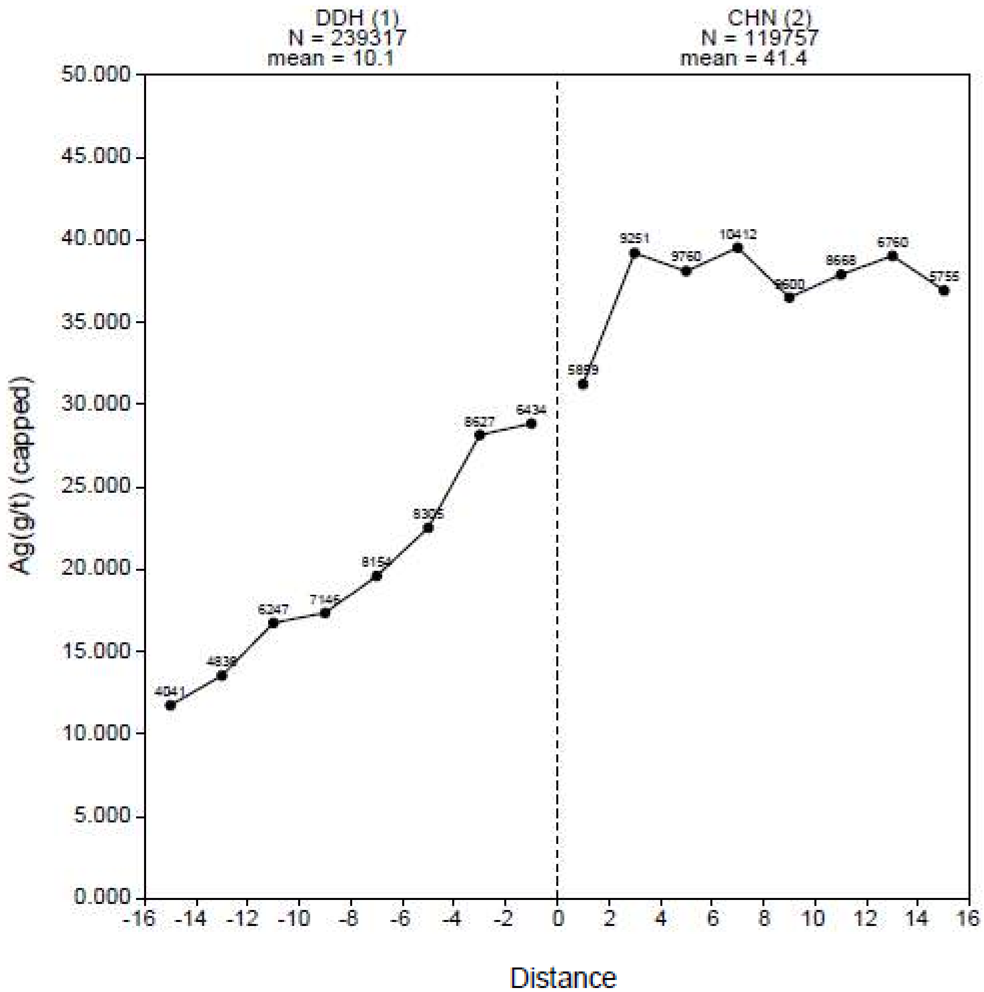

Figure 14-3: Geostatistical distance-weighted charts comparing channel silver values to drill holes silver values Note the close grade similarity within 2 m of distance between pairs (31 gpt Ag vs 29 gpt Ag) showing that no bias is being observed between the two sample populations. It is normal to see higher average grade in the channels population as distance between pairs increases as they are all taken inside the mineralization whereas DDH samples are not.

14.3 Geological Interpretation and Modelling

14.3.1 Geological Models

Geological interpretation is based on lithological, structural data and observations, and using all available validated drilling (surface and UG) and channel sampling data (UG). Delineation of the veins and individual bodies of mineralization was based upon geological evidence from mapping, log descriptions, vectorizing of 2D interpretation on plans and sections or directly in 3D, either discretely or implicitly, using Leapfrog Geo™ and Vulcan™ as modelling platforms.

A cut-off of 0.5 gpt Au is typically used to guide this contouring for Diluvio and a 2.0 gpt Au is used on all the other deposits. The mid-distance rule between drill hole intercepts is respected. No minimum width was applied when interpreting the veins. The QP recommends the use of a minimum reasonable width for future updates as this practice is likely to have localised impacts on the mineral resource estimate.

Country rock domains were implicitly generated to capture marginal grade mineralization surrounding the mineralized vein solids.

Geological solid models for the Rey de Oro and Klondike deposits are presented in Figure 14-4. The Lupita, Aida, and Diluvio deposits are presented in Figure 14-5 to Figure 14-7.

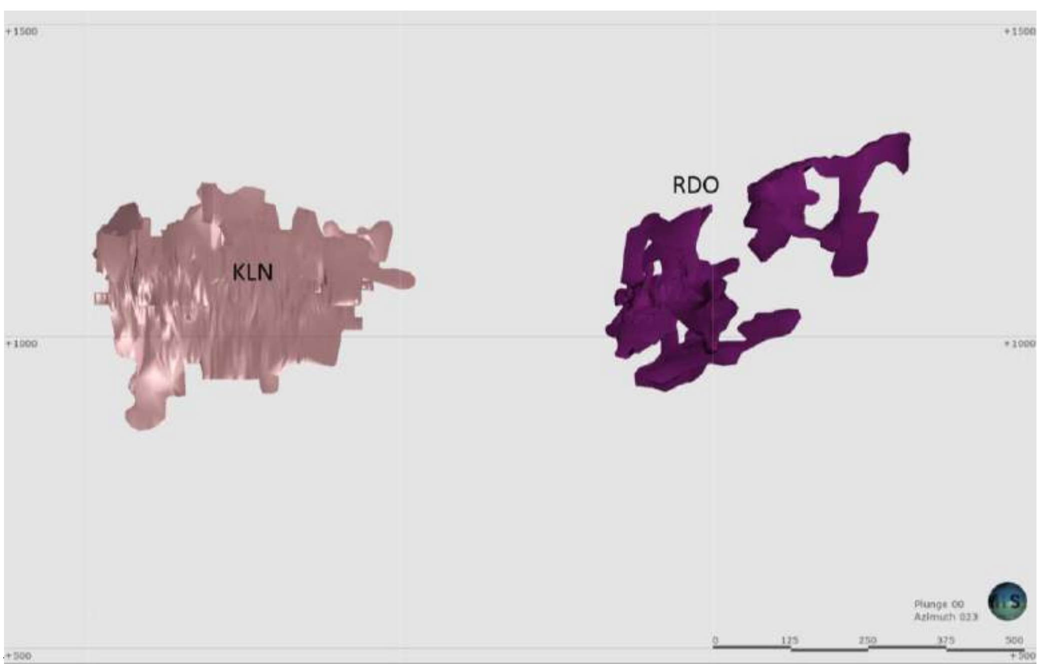

Figure 14-4: Main trends of mineralization for the Rey de Oro (right) and the Klondike (left) deposits (pseudo-longitudinal view)

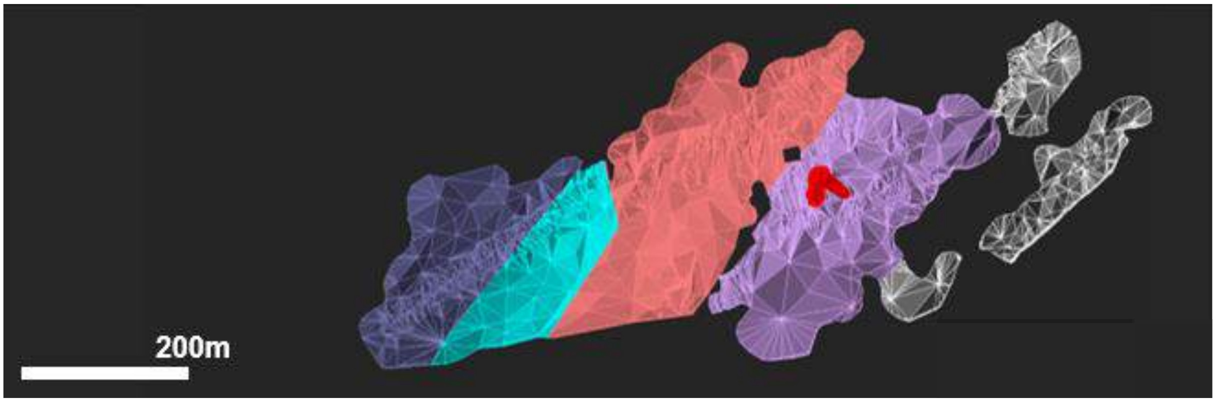

Figure 14-5: Lupita deposit (pseudo plan view)

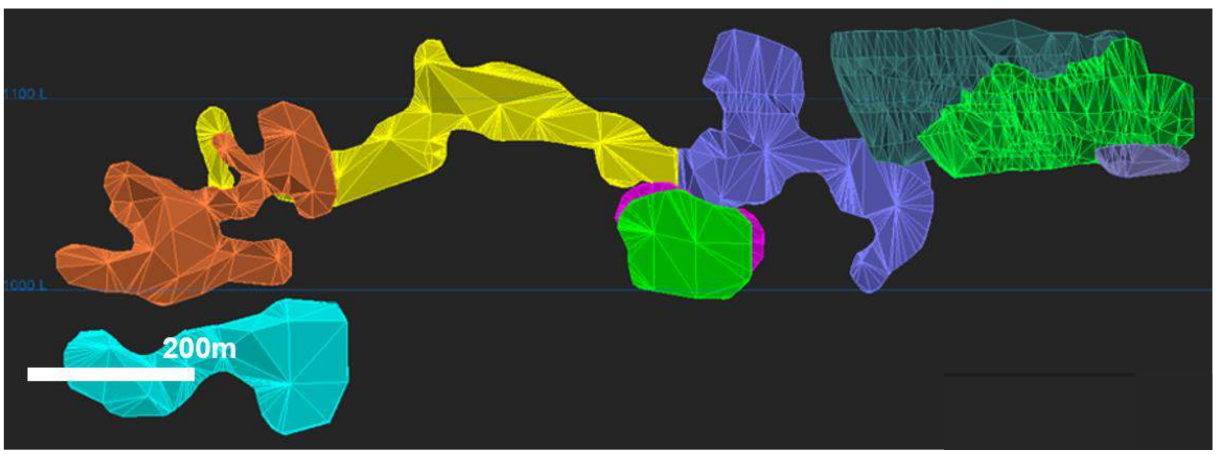

Figure 14-6: Aida deposit (pseudo plan view)

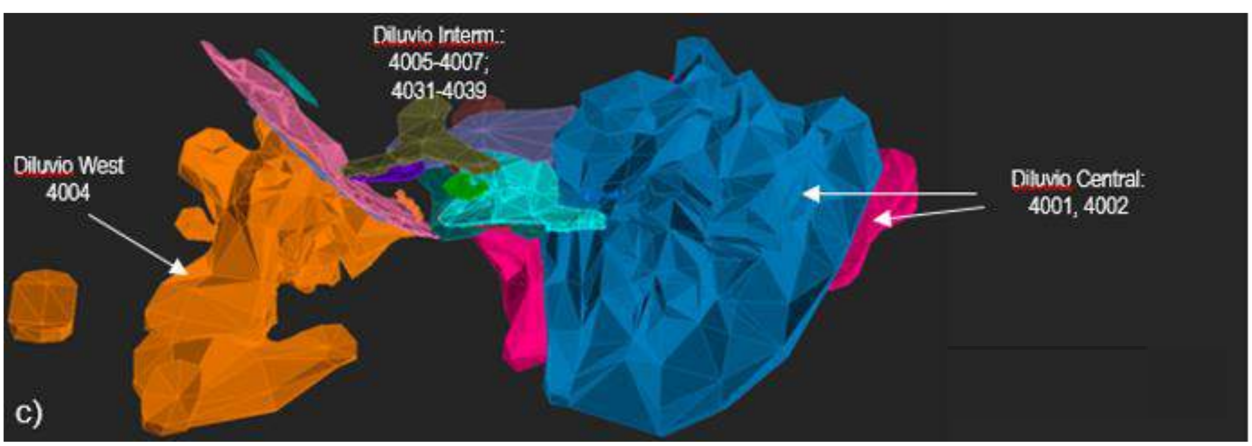

Figure 14-7: Diluvio mineralized veins system (pseudo plan view)

14.3.1.1 Structural Analysis

MMM staff worked on structural analysis in recent years on multiple deposits. The correlation of the interpretation to match structural observations in core permits an orientation, connecting the vein intercepts together for improved geo-models. The new Marianas structural model is summarized in Figure 14-8.

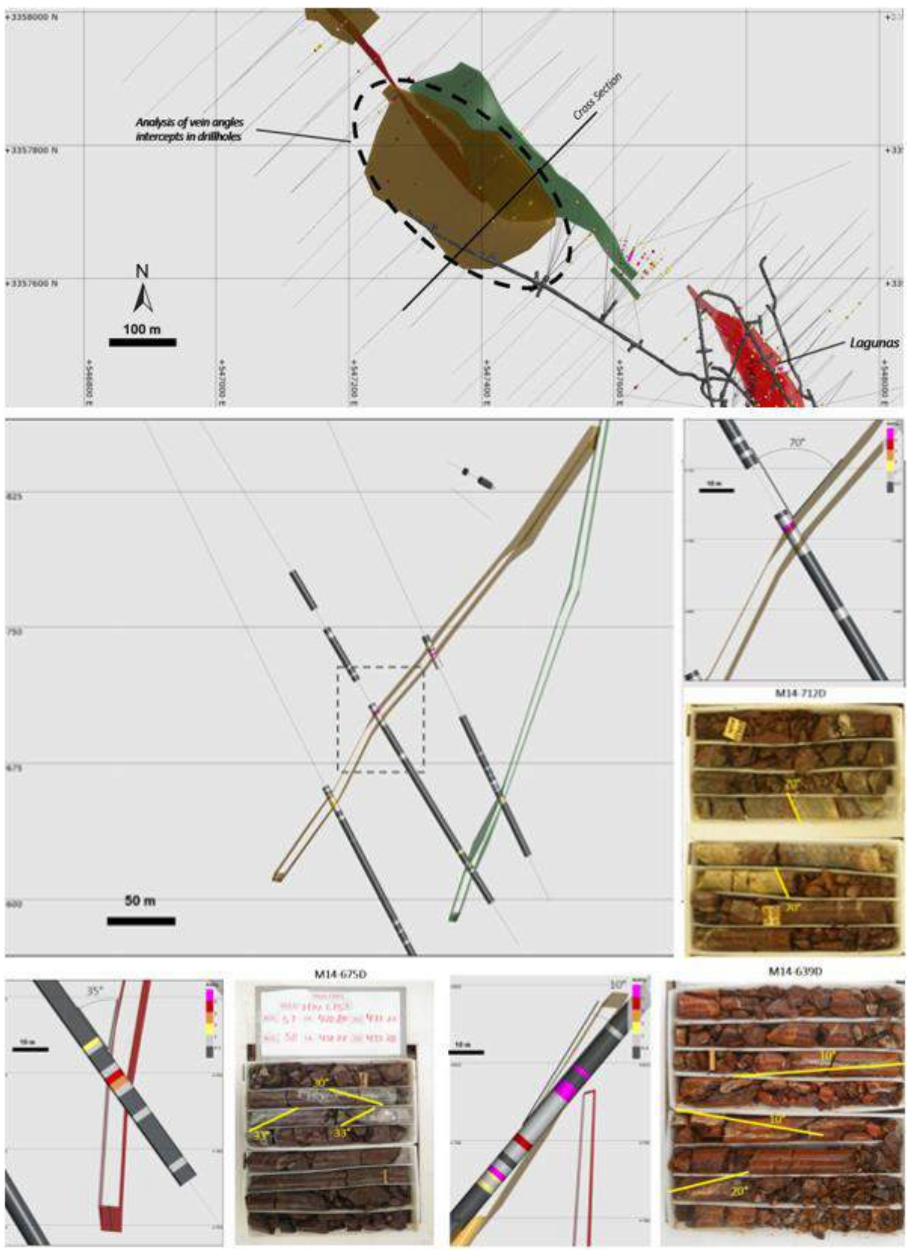

Figure 14-8: Plan and sub-section views showing Marianas vein system reinterpretation using structural data

14.3.2 Overburden and Topography

The overburden-rock interface was created in Vulcan™, where needed for mine planning, and is based on the drill hole collars, mine survey, lidar, and/or the national survey grid. The overburden varies in thickness from nil to a few metres (typically less than 10 m).

14.3.3 Underground Workings

Underground workings were added to the models and properly depleted from the Mineral Resource Estimate.

14.4 Data Analysis

14.4.1 Raw Assays Statistics

Rock codes were assigned to all assay data that intersected mineralized zones and basic statistics were derived from the coded intercepts. A total of 75,567 samples fall within mineralized zones of the 13 deposits under consideration. Summary statistics on raw assays from the combined drill hole and channel sampling for each deposit are presented in Table 14-4.

Table 14-4: Summary of sample statistics

Statistics on raw assays					
Name	Count	Mean (gpt)	Std.Dev	Minimum (gpt)	Maximum (gpt)
AID	**1,534**				
Au		5.84	22.55	0.03	736.76
Ag		29.76	27.86	0.30	227.60
Interval (m)		1.14	0.97	0.20	9.90
BCA	**7,002**				
Au		9.44	27.29	0.00	1,332.87
Ag		109.12	407.25	0.30	20,181.30
Interval (m)		0.95	0.87	0.10	15.00
BHI	**3,685**				
Au		9.46	26.46	0.01	963.71
Ag		72.18	77.81	0.70	1,475.00
Interval (m)		1.05	1.30	0.20	15.25

Statistics on raw assays					
Name	**Count**	**Mean (gpt)**	**Std.Dev**	**Minimum (gpt)**	**Maximum (gpt)**
CBA	**5,209**				
Au		7.96	29.29	0.01	888.33
Ag		102.42	220.37	0.50	1,0951.70
Interval (m)		0.93	0.30	0.17	4.20
CDO	**9,630**				
Au		11.86	48.85	0.00	2784
Ag		132.99	252.33	0.10	12936
Interval (m)		0.95	0.90	0.10	17.35
DIL	**23,692**				
Au		2.31	6.75	0.007	323.49
Ag		16.91	65.89	1.00	6275.70
Interval (m)		1.16	0.40	0.05	10.67
GAP	**252**				
Au		6.45	13.67	0.08	164.93
Ag		118.49	153.72	2.50	2,102.50
Interval (m)		0.97	0.31	0.25	1.53
KLN	**3,623**				
Au		8.75	20.58	0.03	782.33
Ag		47.51	48.27	1.00	697.50
Interval (m)		0.84	0.27	0.10	3.05
LAG	**6,442**				
Au		11.75	26.92	0.02	624.82
Ag		73.90	117.33	0.30	4,758.10
Interval (m)		0.87	0.25	0.15	3.35
LUP	**11,293**				
Au		4.14	17.96	0.007	995.85
Ag		31.74	89.79	0.10	6,710.00
Interval (m)		0.96	0.28	0.20	2.60
MAR	**379**				
Au		7.05	11.84	0.02	134.60
Ag		96.83	364.90	1.00	5,420.00
Interval (m)		1.22	0.43	0.16	3.05

Statistics on raw assays					
Name	Count	Mean (gpt)	Std.Dev	Minimum (gpt)	Maximum (gpt)
RDO	**2,791**				
Au		10.23	38.89	0.03	824.86
Ag		117.86	507.74	2.00	35,280.60
Interval (m)		1.18	0.77	0.27	9.15
SAN	**35**				
Au		6.51	5.81	0.31	26.40
Ag		46.33	41.85	8.00	199.00
Interval (m)		1.12	0.28	0.40	1.50

14.4.2 Compositing

Compositing of drill hole samples was conducted in order to homogenize the database for the statistical analysis and remove any bias associated to the sample length that may exist in the original database. The composite length was determined using original sample length statistics and the thickness of the mineralized zones.

Studies of sample lengths have determined that one metre was the most common length at the various deposits at Mercedes. Channels at Diluvio were given less weight over drill holes by increasing their length. As a result, composites were generated with a length of 5 m for channels and 1.5 m for drill holes in Diluvio bulk deposit and 1.0 m for channels and 1.5 m for drill holes for discrete veins at Diluvio and all other deposits.

For drill holes, the tails were merged with the previous composite if less than 0.5 m. For channels, the tails were merged with the previous composite if less than 0.25 m. Grades of 0 gpt Au and 0 gpt Ag were assigned to missing samples. Missing intervals due to poor recovery were ignored during the compositing process.

14.4.3 Capping

It is common practice to statistically examine the higher grades within a population and to trim them to a lower grade value based on the results of a statistical study. Capping is performed on high-grade values considered to be outliers. High-grade capping was done on the raw assay data and established on a per deposit basis with different capping values for drill holes and channels.

The capping values were defined by checking for abnormal breaks or change of slope on the grade distribution probability plots, while ensuring that the coefficient of variation of the capped data is lowered to ideally less than 2.0. Summary statistics on composited and capped assay data were compiled for each deposit.

MMM staff also used the Parrish method, which consists of assessing the metal content within deciles and percentiles of assay distribution, and to cap the data if the highest percentiles have more than 10% of the total metal content. As per Parrish, a capping threshold is selected by reducing all assays from the high metal content percentiles to the percentile, below which the metal content does not exceed 10% of the total.

The capping parameters established by MMM for both gold and silver composited datasets produced for the 13 mineral zones at Mercedes are presented Table 14-5.

Table 14-5: Capping statistics per deposit

Deposit	Metal	Count	Min (gpt)	Max (gpt)	Mean (gpt)	Capped Max (gpt)	Capped Mean (gpt)	Capping Value(s)	# Comp Capped
AID	Ag	1,380	0.30	216.20	29.00	153	28.80	DH:140 /CHN:153	17
	Au		0.03	591.07	**5.63**	**58**	**4.79**	DH:58 /CHN:53	16
BCA	Ag	5,789	0.00	16,160.30	108.20	3,600	95.60	DH:150-300 /CHN:324-3600	74
	Au		0.00	1,200.50	**9.41**	**145**	**8.61**	DH:40 /CHN:145	57
BHI	Ag	3,168	0.00	1,475.00	70.70	400	69.50	DH:400 /CHN:350	28
	Au		0.00	701.87	**8.56**	**130**	**7.96**	DH:65 /CHN:130	28
CBA	Ag	4,736	1.00	8,830.70	100.40	1,000	95.70	DH:630 /CHN:1000	42
	Au		0.01	622.16	**7.77**	**175**	**7.04**	DH:140 /CHN:175	37
CDO	Ag	8,259	0.00	9,106.50	129.50	700	119.90	DH:700 /CHN:700	135
	Au		0.00	2,040.75	**11.48**	**150**	**9.92**	DH:150 /CHN:150	111
DIL	Ag	28,986	0.50	5,538.00	17.50	1,300	16.80	DH: 700 /CHN: 1300	170
	Au		0.01	323.49	**2.37**	**36**	**2.22**	DH:27 /CHN:36	249
GAP	Ag	210	6.84	2,102.50	121.60	400	102.10	DH:400 /CHN:250	17
	Au		0.08	149.94	**6.27**	**25**	**5.10**	DH:25 /CHN:24	17
KLN	Ag	3,031	0.00	677.60	48.50	300	47.70	DH:200 /CHN:300	25
	Au		0.03	338.70	**8.79**	**140**	**8.43**	DH:64 /CHN:140	21
LAG	Ag	5,459	1.50	4,478.90	73.70	930	71.10	DH:340 /CHN:930	55
	Au		0.02	511.35	**11.72**	**215**	**11.10**	DH:50 /CHN:215	66

Deposit	Metal	Count	Min (gpt)	Max (gpt)	Mean (gpt)	Capped Max (gpt)	Capped Mean (gpt)	Capping Value(s)	# Comp Capped
LUP	Ag	4,697	0.00	3,299.35	50.20	500	47.60	DH:225 /CHN:500	49
	Au		0.00	648.25	**7.54**	**120**	**6.85**	DH:45 /CHN:120	37
MAR	Ag	345	1.47	5003.30	94.40	400	71.50	DH:400 /CHN:400	13
	Au		0.01	134.60	**6.81**	**40**	**6.31**	DH:40 /CHN:40	14
RDO	Ag	2,611	2.50	14,811.20	119.40	900	108.20	DH:500 /CHN:900	35
	Au		0.05	824.86	**10.47**	**145**	**8.45**	DH:90 /CHN:145	62
SAN	Ag	26	8.00	199.00	46.30	199	46.30	DH: none /CHN: none	0
	Au		0.35	19.95	**6.51**	**19.95**	**6.51**	DH: none /CHN: none	0

14.4.4 Density

Due to the variable composition and commonly high degree of oxidation observed in the mineralization and the host rock, some 999 bulk density measurements were taken to determine tonnage. The measurements were conducted by the MMM staff and by McClelland Laboratories in Sparks, Nevada. The density values were averaged by deposit and the resulting averages are listed in Table 14-6.

Table 14-6: Density values for the various deposits

Deposit	Count	Density	Max. Value	Min. Value
Aida	64	2.26	4.12	1.94
Barrancas	34	2.34	2.51	2.15
Diluvio Central	69	2.57	2.64	2.33
Diluvio Interm.	20	2.52	2.60	2.43
Diluvio West	109	2.56	2.68	2.12
Lagunas	20	2.40	2.54	2.26
Lupita	65	2.44	2.68	2.06
Lupita Extension	284	2.46	2.72	2.14
Margarita	3	2.31	2.45	2.11
San Martin	36	2.57	2.70	2.41
Marianas	176	2.21	2.57	1.66
Rey de Oro	114	2.49	2.67	2.23
Neo	5	2.43	2.58	2.28

Overburden was not assigned a density value in the block models as no overburden affect the Mineral Resource Estimate.

14.5 Block Models

Separate block models were generated for each of the 13 deposits. This was meant to lighten the manipulation of the individual models, reduce interpolation computing time and allow for a better discrimination between zones.

The block models provided were constructed using the Vulcan™ modelling platform.

All models have a rotated origin to represent the general northwest to southeast trend of the mineralization. Individual parent block cells within the mineralized structures have dimensions of 3 m long (x-axis) by 3 m wide (y-axis) by 3 m vertical (z-axis), with sub-blocks of 0.5 m x 0.5 m x 0.5 m. The country rock outside of the mineralized structures has dimensions of 12 m long (x-axis) by 12 m wide (y-axis) by 12 m vertical (z-axis), with sub-blocks of 0.5 m x 0.5 m x 0.5 m.

Rock codes were assigned to the blocks inside the vein/solid defined as "shell", where denominations of 1000s identify the zone/deposit and numerical increments identify the main mineralized structures, starting at "1", and increasing for secondary structures. "Shell" codes 5, 10 and 99 were retained for flagging the country rock outside and immediately surrounding the mineralized structures or for identifying implicitly generated solids carrying marginal grades that were interpolated as separate domains. Grades were otherwise set to nil or to (minus) 99 outside of mineralized structures.

A class numerical tag, the number of holes and composites interrogated, and the average distance to the samples used in the block estimated were assigned to each block as the passes were run sequentially.

A summary of the block models coordinates, and parameters is tabulated in Table 14-7. All models are built similarly and comprise the attributes listed in Table 14-8.

Table 14-7: Block models coordinates and summary parameters

BM	BM Origin Coordinates (UTM)			Bearing	Plunge	Dip	Model Dimensions (m)		Parent Cell in mineralization (m)		SubBlock (m)
Zone	x	y	z	x about z	x about y	y about x	x	y	z	XxYxZ	XxYxZ
AID	548918	3355283	856	53.0	0.0	0.0	600.0	900.0	384.0	3.0x3.0x3.0	0.5x0.5x0.5
BCA	548493	3356484	828	45.0	0.0	0.0	288.0	504.0	432.0	3.0x3.0x3.0	0.5x0.5x0.5
BHI	549039	3355297	551	45.0	0.0	0.0	408.0	816.0	600.0	3.0x3.0x3.0	0.5x0.5x0.5
CBA	549603	3354483	619	45.0	0.0	0.0	600.0	912.0	636.0	3.0x3.0x3.0	0.5x0.5x0.5
CDO	549257	3354921	287	45.0	0.0	0.0	480.0	720.0	1284.0	3.0x3.0x3.0	0.5x0.5x0.5
DIL	551636	3360346	842	90.0	0.0	0.0	1,080.0	456.0	504.0	3.0x3.0x3.0	0.5x0.5x0.5
GAP	548212	3356739	730	53.0	0.0	0.0	228.0	432.0	480.0	3.0x3.0x3.0	0.5x0.5x0.5
KLN	551765	3357916	791	24.0	0.0	0.0	396.0	684.0	612.0	3.0x3.0x3.0	0.5x0.5x0.5
LAG	547993	3356941	756	53.0	0.0	0.0	288.0	744.0	444.0	3.0x3.0x3.0	0.5x0.5x0.5
LUP	551390	3359300	925	45.0	0.0	0.0	1248.0	912.0	372.0	3.0x3.0x3.0	0.5x0.5x0.5
MAR	547397	3357170	495	53.0	0.0	0.0	744.0	1,104.0	648.0	3.0x3.0x3.0	0.5x0.5x0.5
RDO	552505	3357542	853	24.0	0.0	0.0	396.0	684.0	528.0	3.0x3.0x3.0	0.5x0.5x0.5
SAN	550754	3359310	931	45.0	0.0	0.0	1,510.0	1,510.0	360.0	3.0x3.0x3.0	0.5x0.5x0.5

Table 14-8: Block model attributes

	Variable	Data Type		Default Value	Description
1	shell	Integer (Integer * 4)		99	Vein code area defined by solids -
2	density	Float (Real * 4)		999	Assigned density as per zone specific gravity
3	au	Double (Real * 8)		0	Estimated gold grade in ppm
4	ag	Double (Real * 8)		0	Estimated silver grade in ppm
5	aueq	Double (Real * 8)		0	Calculated AuEq
6	nholes	Integer (Integer * 4)		0	Number of holes in estimate
7	nsamp	Integer (Integer * 4)		0	Number of composites in estimate
8	avdist	Double (Real * 8)		999	Avg composite distance to block centre
9	pass	Integer (Integer * 4)		0	Grade estimation pass flag
10	class	Integer (Integer * 4)		99	1=meas 2=ind 3=inf 4=expl 99=default/unest
11	aunn	Double (Real * 8)		0	Nearest neighbour gold grade
12	agnn	Double (Real * 8)		0	Nearest neighbour silver grade
13	mined	Float (Real * 4)		0	1=air 0=rock
14	avdst2	Double (Real * 8)		999	Average distance to nearest 2 drill holes
15	avdst3	Double (Real * 8)		999	Average distance to nearest 3 drill holes
16	junk	Float (Real * 4)		-99	Miscellaneous

14.5.1 Variography Analysis and Search Ellipsoids

Semi-variograms are used to assess the spatial continuity of sample assay grades within a mineralized zone. In principle, the spatial variability within a zone would be expected to augment between samples taken further apart. A variogram thus gives a measure of how much two samples taken from the same mineralized zone will vary in grade depending upon the distance and orientation between those samples, and therefore allowing to establish search ellipsoids parameters and kriging weights to be used during interpolation.

Variogram studies were conducted using the gold data for the principal veins at Diluvio and were primarily fit to the orientation of the vein deposits. No variography was conducted at the other deposits where ID3 is being used. No variography was conducted for silver on the account that it does not have a material impact on the Mineral Resource Estimate. The interpolation of silver has been based upon the variography and parameters developed for gold.

MMM variography study was developed using Vulcan™.

Mathematical models were interpreted to best fit the shape of the variogram for each direction, Figure 14-9 shows variograms developed for the 4001 vein, while Table 14-9 presents the parameters for the ordinary kriging (OK) interpolation of the principal zones, i.e., 4001, 4002 and 4004, of the Diluvio deposit.

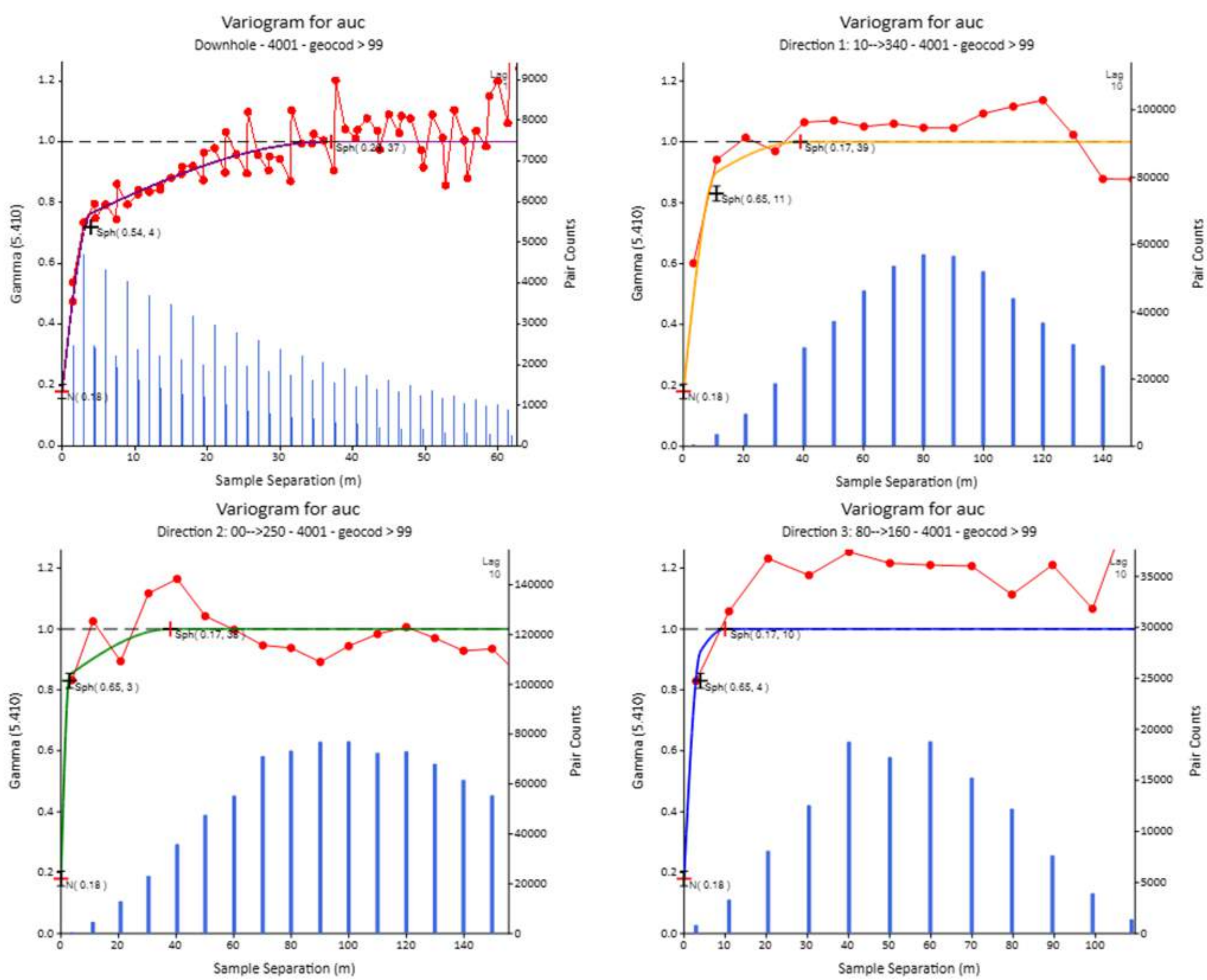

Figure 14-9: Variography analysis related to the Diluvio zone 4001

Table 14-9: Variography parameters for the principal zones at Diluvio

Solid/Zone	Var. Nugget	Str 1 Model Type	Str 1 Sill Differential	Str 1 Major Axis	Str 1 Semi-Major Axis	Str 1 Minor Axis	Str 2 Model Type	Str 2 Sill Differential	Str 2 Major Axis	Str 2 Semi-Major Axis	Str 2 Minor Axis
4001	0.18	Exponential	0.65	5.3	10.6	4.8	Spherical	0.18	44.5	50	39.4
4002	0.18	Exponential	0.78	7.8	7.2	6.8	Spherical	0.02	56.3	49.7	35.8
4004	0.18	Exponential	0.79	17.0	15	6.7	Spherical	0.03	41.5	60	80

14.5.2 Interpolation Method and Parameters

Grade estimations for gold and silver were run in three passes with progressively greater search dimensions. All interpolations were carried out assuming hard boundaries to prevent smearing of grades across estimation domains. Grades for gold and silver were estimated separately using inverse distance cubed (ID3) for most deposits/ sectors, except for Diluvio's larger bodies of mineralization (4001, 4002 and 4004) for which OK was used.

For Diluvio's main zones, OK was favoured on account of the recognized nature of the lower grade, bulky, stockwork style of mineralization, whereas ID3 is believed to better restrain smearing of high-grade values in those generally narrower zones. Nearest neighbour estimates were performed routinely for validation purposes.

The ranges of the ellipsoids used for the interpolation were established using the variography study and, in the case of the principal veins of the Diluvio deposit, correspond to the range of the first structure for the first pass and to the second structure for the second pass.

Table 14-10 lists the parameters used for the Diluvio deposit, as an example.

Table 14-10: Search ellipsoid and interpolation parameters used for grade interpolation for the Diluvio deposit

Solid/Pass	Estim. Method	Bearing (Z)	Plunge (Y)	Dip (X)	Major Axis range	Semi-Major Axis range	Minor Axis range	Min smpl/Est	Max smpl/Est	Max smpl/dh	Min dh/Est	Max dh/Est
4001p1	OK	305.0	10.0	-74.0	15	10	7.5	10	21	3	4	7
4001p2	OK	305.0	10.0	-74.0	25	15	10	7	18	3	3	6
4001p3	OK	305.0	10.0	-74.0	40	25	20	4	15	3	2	5
4001p4	OK	305.0	10.0	-74.0	80	60	40	1	12	3	1	4
4002p1	OK	283.0	-10.0	-30.0	15	10	7.5	10	21	3	4	7
4002p2	OK	283.0	-10.0	-30.0	30	20	15	7	18	3	3	6
4002p3	OK	283.0	-10.0	-30.0	50	35	20	4	15	3	2	5
4002p4	OK	283.0	-10.0	-30.0	80	60	40	1	12	3	1	4
4004p1	OK	265.0	9.0	-35.0	15	10	7.5	10	21	3	4	7
4004p2	OK	265.0	9.0	-35.0	30	25	15	7	18	3	3	6
4004p3	OK	265.0	9.0	-35.0	45	40	20	4	15	3	2	5
4004p4	OK	265.0	9.0	-35.0	60	60	30	1	12	3	1	4
4005p1	ID3	309.5	12.9	-81.5	15	10	7.5	10	21	3	4	7
4005p2	ID3	309.5	12.9	-81.5	30	25	15	7	18	3	3	6
4005p3	ID3	309.5	12.9	-81.5	50	40	25	4	15	3	2	5
4005p4	ID3	309.5	12.9	-81.5	80	65	40	1	12	3	1	4
4006p1	ID3	312.4	3.3	-88.0	15	10	7.5	10	21	3	4	7
4006p2	ID3	312.4	3.3	-88.0	30	25	15	7	18	3	3	6
4006p3	ID3	312.4	3.3	-88.0	50	40	25	4	15	3	2	5
4006p4	ID3	312.4	3.3	-88.0	80	65	40	1	12	3	1	4

Solid/Pass	Estim. Method	Bearing (Z)	Plunge (Y)	Dip (X)	Major Axis range	Semi-Major Axis range	Minor Axis range	Min smpl/Est	Max smpl/Est	Max smpl/dh	Min dh/Est	Max dh/Est
4007p1	ID3	312.4	3.3	-81.1	15	10	7.5	10	21	3	4	7
4007p2	ID3	312.4	3.3	-81.1	30	25	15	7	18	3	3	6
4007p3	ID3	312.4	3.3	-81.1	50	40	25	4	15	3	2	5
4007p4	ID3	312.4	3.3	-81.1	80	65	40	1	12	3	1	4
4031p1	ID3	259.8	3.1	-65.9	15	10	7.5	10	21	3	4	7
4031p2	ID3	259.8	3.1	-65.9	30	25	15	7	18	3	3	6
4031p3	ID3	259.8	3.1	-65.9	50	40	25	4	15	3	2	5
4031p4	ID3	259.8	3.1	-65.9	80	65	40	1	12	3	1	4
4032p1	ID3	246.2	8.7	-55.7	15	10	7.5	10	21	3	4	7
4032p2	ID3	246.2	8.7	-55.7	30	25	15	7	18	3	3	6
4032p3	ID3	246.2	8.7	-55.7	50	40	25	4	15	3	2	5
4032p4	ID3	246.2	8.7	-55.7	80	65	40	1	12	3	1	4
4033p1	ID3	261.7	0.5	-53.4	15	10	7.5	10	21	3	4	7
4033p2	ID3	261.7	0.5	-53.4	30	25	15	7	18	3	3	6
4033p3	ID3	261.7	0.5	-53.4	50	40	25	4	15	3	2	5
4033p4	ID3	261.7	0.5	-53.4	80	65	40	1	12	3	1	4
4034p1	ID3	316.1	4.2	-76.9	15	10	7.5	10	21	3	4	7
4034p2	ID3	316.1	4.2	-76.9	30	25	15	7	18	3	3	6
4034p3	ID3	316.1	4.2	-76.9	50	40	25	4	15	3	2	5
4034p4	ID3	316.1	4.2	-76.9	80	65	40	1	12	3	1	4

Solid/Pass	Estim. Method	Bearing (Z)	Plunge (Y)	Dip (X)	Major Axis range	Semi-Major Axis range	Minor Axis range	Min smpl/Est	Max smpl/Est	Max smpl/dh	Min dh/Est	Max dh/Est
4035p1	ID3	268.7	-2.1	-59.5	15	10	7.5	10	21	3	4	7
4035p2	ID3	268.7	-2.1	-59.5	30	25	15	7	18	3	3	6
4035p3	ID3	268.7	-2.1	-59.5	50	40	25	4	15	3	2	5
4035p4	ID3	268.7	-2.1	-59.5	80	65	40	1	12	3	1	4
4036p1	ID3	250.0	-0.3	-65.9	15	10	7.5	10	21	3	4	7
4036p2	ID3	250.0	-0.3	-65.9	30	25	15	7	18	3	3	6
4036p3	ID3	250.0	-0.3	-65.9	50	40	25	4	15	3	2	5
4036p4	ID3	250.0	-0.3	-65.9	80	65	40	1	12	3	1	4
4037p1	ID3	278.3	-16.3	-57.4	15	10	7.5	10	21	3	4	7
4037p2	ID3	278.3	-16.3	-57.4	30	25	15	7	18	3	3	6
4037p3	ID3	278.3	-16.3	-57.4	50	40	25	4	15	3	2	5
4037p4	ID3	278.3	-16.3	-57.4	80	65	40	1	12	3	1	4
4038p1	ID3	266.6	0.9	-57.4	15	10	7.5	10	21	3	4	7
4038p2	ID3	266.6	0.9	-57.4	30	25	15	7	18	3	3	6
4038p3	ID3	266.6	0.9	-57.4	50	40	25	4	15	3	2	5
4038p4	ID3	266.6	0.9	-57.4	80	65	40	1	12	3	1	4
4039p1	ID3	253.5	-8.7	-48.2	15	10	7.5	10	21	3	4	7
4039p2	ID3	253.5	-8.7	-48.2	30	25	15	7	18	3	3	6
4039p3	ID3	253.5	-8.7	-48.2	50	40	25	4	15	3	2	5
4039p4	ID3	253.5	-8.7	-48.2	80	65	40	1	12	3	1	4
99p4	ID3	99.0	99.0	99.0	99	99	99	1	18	1	1	10
99n4	NN	99.0	99.0	99.0	99	99	99	1	1	1	1	10
4000n4	NN	99.0	99.0	99.0	99	99	99	1	1	1	1	10

Solid/Pass	Estim. Method	Bearing (Z)	Plunge (Y)	Dip (X)	Major Axis range	Semi-Major Axis range	Minor Axis range	Min smpl/Est	Max smpl/Est	Max smpl/dh	Min dh/Est	Max dh/Est
avdst2	ID3	0.0	0.0	0.0	180	180	180	2	2	1	2	2
avdst3	ID3	0.0	0.0	0.0	90	90	90	3	3	1	3	3
9905p4	ID3	99.0	99.0	99.0	99	99	99	4	15	3	1	5
9910p4	ID3	99.0	99.0	99.0	99	99	99	4	15	3	1	5

14.6 Block Model Validation

The Mercedes Mine block models were validated using several methods, including a visual review of the grades in relation to the underlying drill hole and statistical methods statistical comparisons, review of the reconciliation, and comparison between a block model derived from drill holes and channels versus a block model derived only from drill holes.

14.6.1 Visual Validation

Block model grades were visually compared against drill hole composite grades and raw assays in cross-section, plan, longitudinal and 3D views, to ensure that the estimation honoured the raw data at a local scale.

The values of the block estimates were compared to composite sample data in sections and 3D views to ensure that the estimation respects the raw data at a local scale. Without excessive smoothing, the visual comparison shows a generally good correlation between the values. The block models reflect a grade distribution that looks naturally fluid enough, emulating grade shoots and the style of mineralization, while comparing well enough to drill hole and sampling data. Figure 14-10 and Figure 14-11 show the Marianas and Rey de Oro deposits, in cross- section and plan views, respectively.

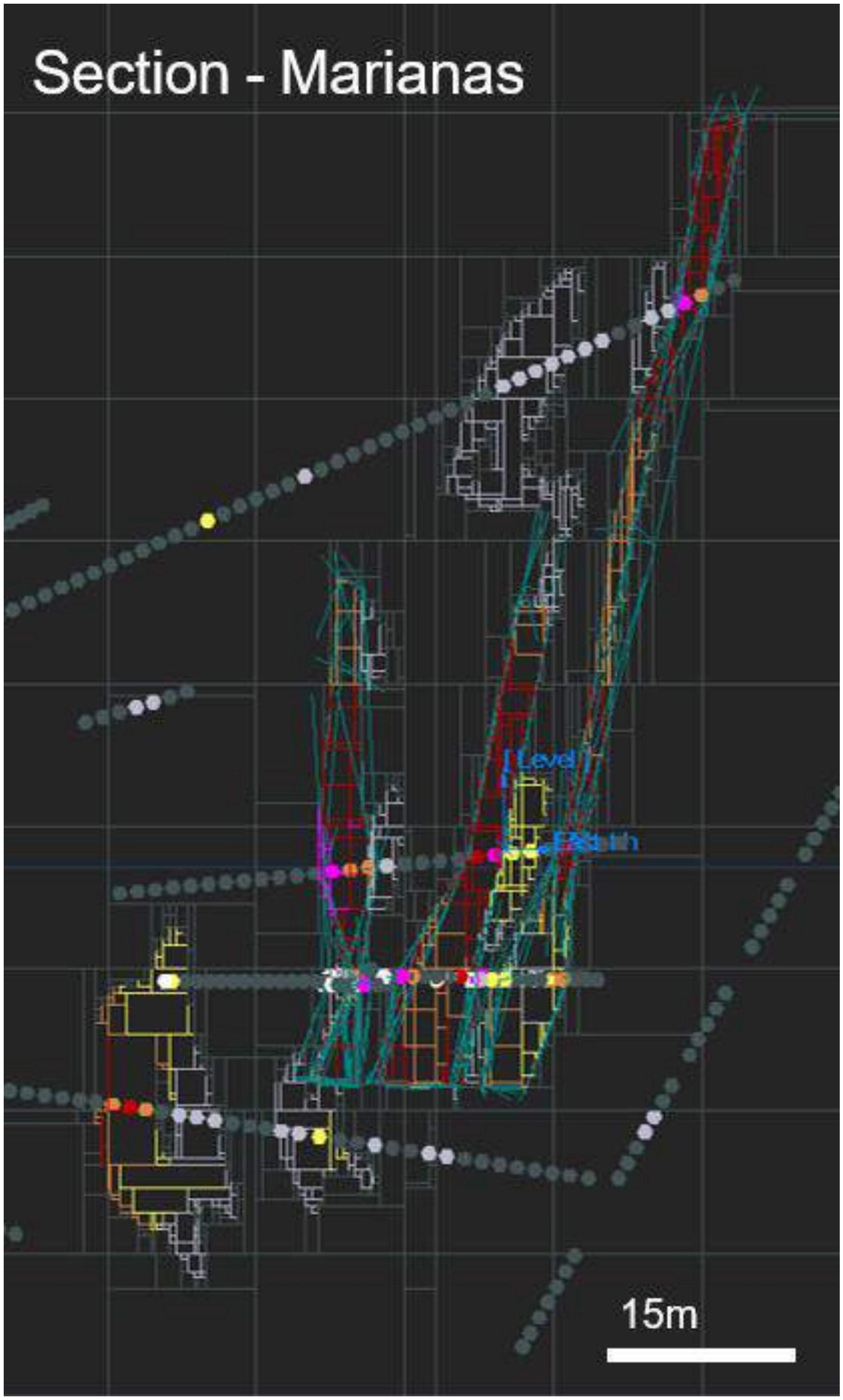

Figure 14-10: Example of visual validation on a typical cross-section of the Marianas vein system

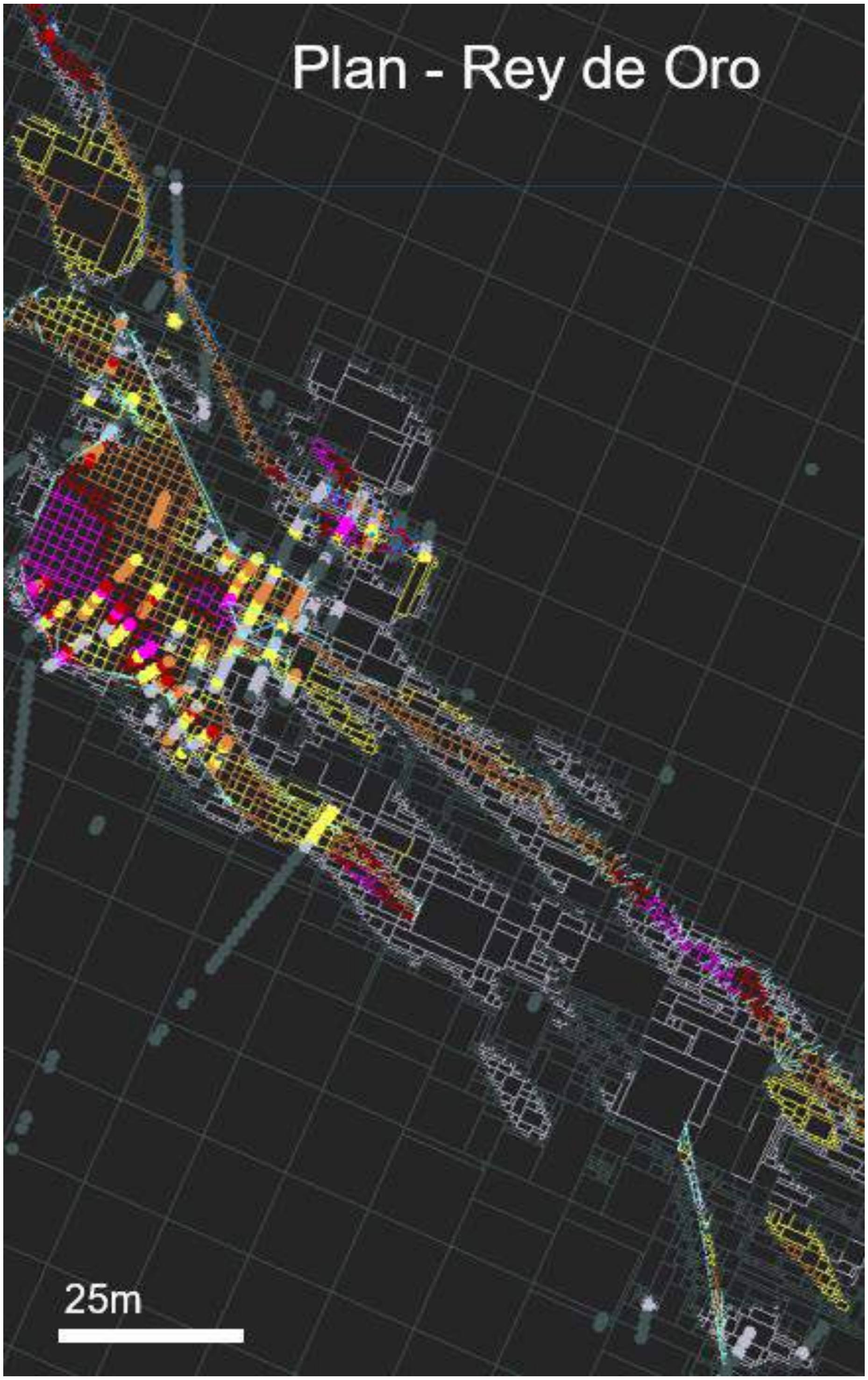

Figure 14-11: Example of visual validation on a typical plan view of the Rey de Oro vein system

14.6.2 Statistical Validation

The QP compared block grade estimates with composite grades via summary statistics for the Mercedes Mine deposits, with emphasis on the Diluvio, Lupita, Barrancas, Lagunas, Klondike, and Rey de Oro deposits. Table 14-11 tabulates a summary of the 13 block models' statistics versus capped composite statistics. Block model mean grades for gold are largely comparable or slightly below capped composite mean grades, which is what is expected.

Table 14-11: Block model vs composite statistics for gold and silver

Zone	Metal	Comp Count	Block Count	Comp Min (gpt)	Block Min (gpt)	Block Max (gpt)	CapCmp Mean (gpt)	Block Mean (gpt)
AID	Ag	1380	58555	0.30	0.30	150.40	28.80	33.20
	Au			0.03	0.05	53.87	4.79	4.66
BCA	Ag	5789	378420	0.00	0.00	3,248.00	95.60	70.10
	Au			0.00	0.00	143.70	8.61	6.48
BHI	Ag	3168	284960	0.00	0.00	394.60	69.50	61.40
	Au			0.00	0.00	127.79	7.96	6.42
CBA	Ag	4736	431163	1.00	0.90	989.20	95.70	74.20
	Au			0.01	0.01	173.00	7.04	5.32
CDO	Ag	8259	559196	0.00	0.10	700.00	119.90	88.80
	Au			0.00	0.00	149.95	9.92	7.69
DIL	Ag	28986	2767000	0.50	0.00	1,204.00	16.80	27.70
	Au			0.01	0.00	36.00	2.20	1.90
GAP	Ag	210	89053	6.80	0.00	400.00	102.10	78.20
	Au			0.08	0.11	24.96	5.10	4.10
KLN	Ag	3031	353698	0.00	0.00	299.90	47.70	46.10
	Au			0.03	0.00	139.84	8.43	7.24
LAG	Ag	5459	221380	1.50	1.90	883.00	71.10	56.30
	Au			0.02	0.05	176.70	11.10	8.13
LUP	Ag	4697	1783413	0.00	0.00	497.60	47.60	43.40
	Au			0.00	0.00	119.70	6.90	5.90
MAR	Ag	345	285783	1.50	0.80	400.00	71.50	36.10
	Au			0.01	0.01	39.40	6.30	5.10
RDO	Ag	2611	473858	2.50	0.00	847.00	108.20	63.30
	Au			0.05	0.00	143.39	8.45	4.90
SAN	Ag	26	147997	5.20	0.20	317.50	46.30	44.10
	Au			0.35	0.02	24.60	6.51	5.89

14.6.3 Swath Plots Validation

Swath plots were routinely generated as part of MMM block model validation. A swath plot is a graphical display of the mean grade distribution derived from a series of sectional slices (or swaths), generated in several directions throughout the deposit, and associated block models. The QP reviewed the plots derived from comparative block models generated from using either channel and drill hole data (blue line) or drill hole data only (yellow line). These are plotted against the Nearest neighbour (NN) swath curve (grey), analogous to declustered composite data, and/or against the assay composites (orange).

The swath plots review reveals a generally conciliant correlation between estimated block grades from the CHN+DDH (channel + drill hole) BM data (in blue) and the DDH-only BM data (in yellow or green) against the NN curve (in grey) and that of the assay composites (in orange).

The Diluvio swath plot (Figure 14-12) along the x-axis reveals peaking grades in the intermediate section, where narrow high-grade veins have been interpreted from fewer drill intercepts, bordered to the west by the Diluvio-west 4004 vein and to the east by the Diluvio central bulky stockwork zone (4001 and 4002 solids), where lower grades are rather consistent along that particular direction.

Swath plots on the Lagunas deposit (Figure 14-13), also show an overall good correlation between various data supports.

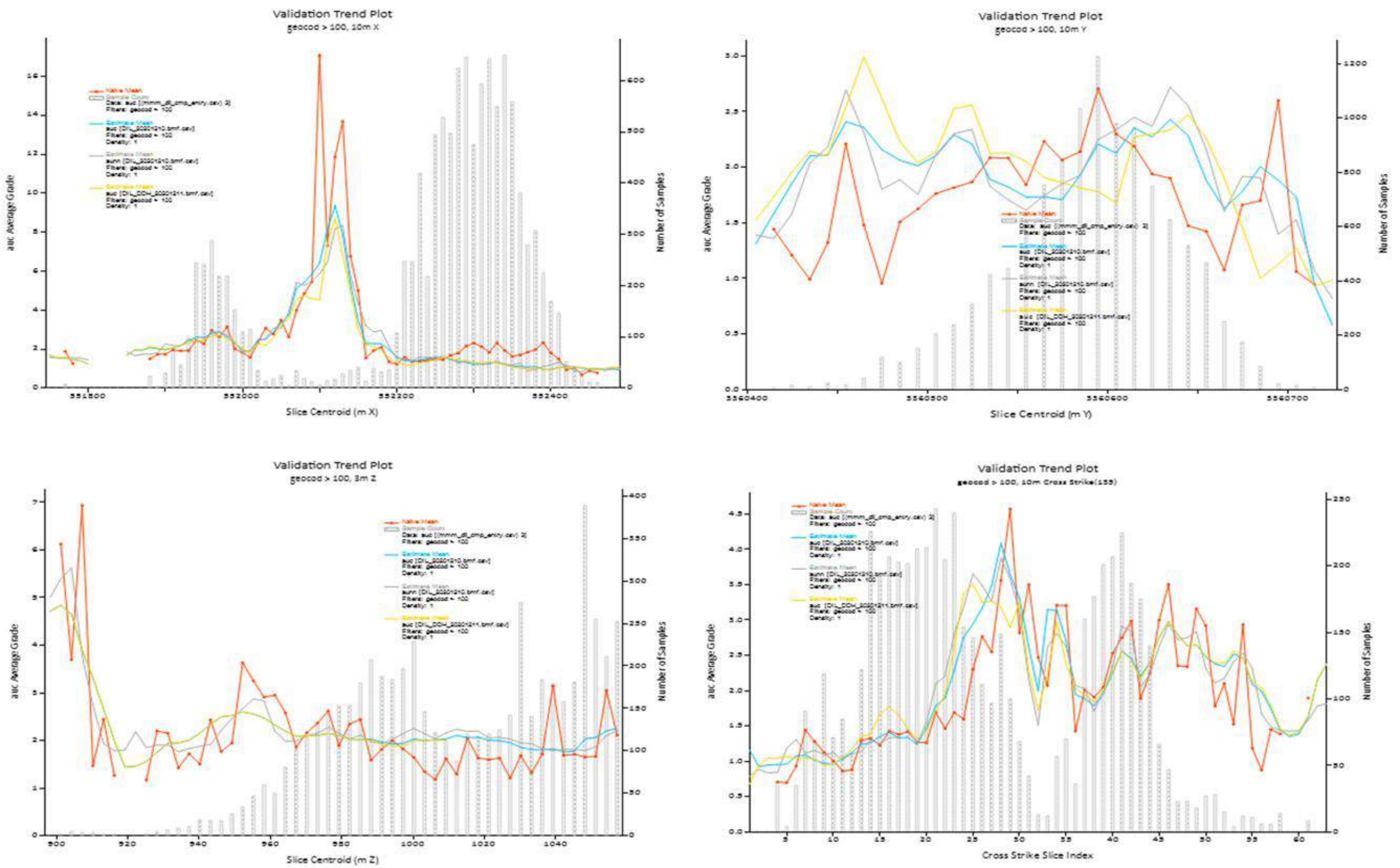

Figure 14-12: Swath plots of the Diluvio deposit, with composites (orange), CHN+DDH BM (blue), DDH only BM (yellow) and the NN BM (grey)

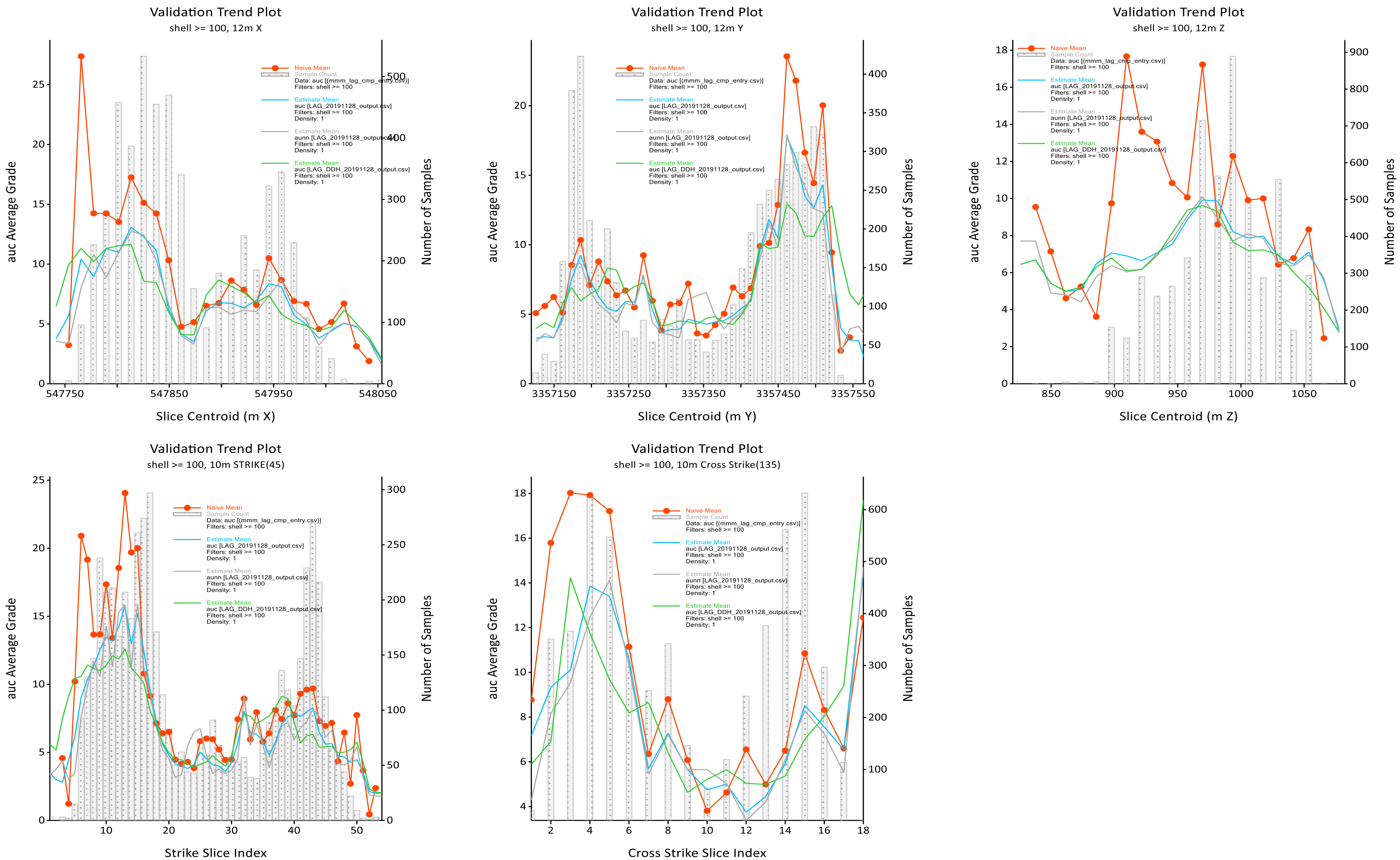

Figure 14-13: Swath plots of the Lagunas deposit, with the composite (orange), CHN+DDH BM (blue), DDH only BM (green) and NN BM (grey)

14.6.4 Drill Hole versus Channels Block Models Comparison

The QP reviewed the grade of resources block models estimated by MMM from channel and drill hole data, versus block models based on drill hole data only, which provide an indication of how sensitive resources estimation can be to the sample support.

The results shown in Table 14-12 were compiled for the 13 deposits at a cut-off grade of 2.0 gpt Au. To avoid a bias due to the fact that channels are concentrated within workings where drill holes are throughout the deposits, only grade for the Measured and Indicated categories are reported; tonnage is not reported.

Table 14-12: Grade comparison between block models using drill holes only vs block models using drill holes and channels

Zone/Block Model-ID	Classes	Au	Ag	AuEq
AID_20201211.bmf	**M+I**	**4.87**	**36.40**	**5.08**
AID_ddh only_20201211.bmf	*M+I*	*4.75*	*42.38*	*5.00*
CHN+DDH vs ddh only		3%	-14%	2%
BCA_20201210.bmf	**M+I**	**6.91**	**75.80**	**7.35**
BCA_ddh only_20201210.bmf	*M+I*	*5.31*	*66.14*	*5.69*
CHN+DDH vs ddh only		30%	15%	29%
BHI_20201210.bmf	**M+I**	**7.67**	**65.86**	**8.06**
BHI_ddh only_20201210.bmf	*M+I*	*7.17*	*67.18*	*7.56*
CHN+DDH vs ddh only		7%	-2%	7%
CBA_20201211.bmf	**M+I**	**6.49**	**91.13**	**7.02**
CBA_ddh only_20201211.bmf	*M+I*	*6.30*	*87.93*	*6.81*
CHN+DDH vs ddh only		3%	4%	3%
CDO_20201212.bmf	**M+I**	**8.96**	**105.26**	**9.56**
CDO_ddh only_20201212.bmf	*M+I*	*8.71*	*100.31*	*9.29*
CHN+DDH vs ddh only		3%	5%	3%
DIL_20201210.bmf	**M+I**	**3.05**	**19.92**	**3.17**
DIL_ddh only_20201211.bmf	*M+I*	*3.00*	*19.07*	*3.11*
CHN+DDH vs ddh only		2%	4%	2%
GAP_20201211.bmf	**M+I**	**4.21**	**88.56**	**4.73**
GAP_ddh only_20201211.bmf	*M+I*	*4.62*	*97.53*	*5.19*
CHN+DDH vs ddh only		-9%	-9%	-9%
KLN_20201214.bmf	**M+I**	**7.61**	**46.37**	**7.88**
KLN_ddh only_20201214.bmf	*M+I*	*5.54*	*40.60*	*5.78*
CHN+DDH vs ddh only		37%	14%	36%
LAG_20201212.bmf	**M+I**	**9.01**	**60.66**	**9.37**
LAG_ddh only_20201212.bmf	*M+I*	*8.50*	*60.92*	*8.86*
CHN+DDH vs ddh only		6%	0%	6%
LUP_20201207.bmf	**M+I**	**6.04**	**41.64**	**6.28**
LUP_ddh only_20201207.bmf	*M+I*	*5.96*	*43.40*	*6.21*
CHN+DDH vs ddh only		1%	-4%	1%
MAR_20201204.bmf	**M+I**	**6.86**	**76.47**	**7.30**
MAR_ddh only_20201205.bmf	*M+I*	*7.54*	*81.31*	*8.01*
CHN+DDH vs ddh only		-9%	-6%	-9%
RDO_20201205.bmf	**M+I**	**5.47**	**70.58**	**5.88**
RDO_ddh only_20201205.bmf	*M+I*	*5.59*	*73.94*	*6.02*
CHN+DDH vs ddh only		-2%	-5%	-2%
All 12 Zones	**M+I**	**5.97**	**56.27**	**6.29**
All 12 Zones-ddh only	***M+I***	***5.68***	***55.93***	***6.01***
CHN+DDH vs ddh only		**6%**	**3%**	**6%**

Table 14-12 suggests that the channel samples do not have a bias for most deposits except for Barrancas and Klondike, where an increase is notable. In both Barrancas and Klondike, significantly higher grade than typically found at other deposits of the property explain this increase in grade. Additionally, very few drill holes were drilled at Klondike where development was mostly carried out on visual guidance, hence an increased number of channels versus drill hole intercepts in the high-grade mineralization.

The QP concluded that the inclusion of channel samples is judged adequate for a Mineral Resource Estimate. This exercise also helped the QP conclude that the QA/QC issues with the channels' silver assays at the Mine laboratory do not have a significant impact on the Mineral Resource Estimate.

14.6.5 Reconciliation

MMM staff track progress and conduct periodic reconciliation exercises to assess the relative precision of the resource estimation process, comparing it to the grade control database, the mine plan, and mill production figures obtained over a given period.

Such reconciliation exercises are crucial KPIs to the mine planners and mineral resource estimators. Successful reconciliation hinges on the adequacy of the sampling and grade control reporting, timely and accurate surveying of headings, documented material handling and tracking, and interdepartmental transparency and communications.

The QP reviewed the EOY2021 reconciliation analysis documented by MMM. Figure 14-14 shows the good performance of the resource block model.

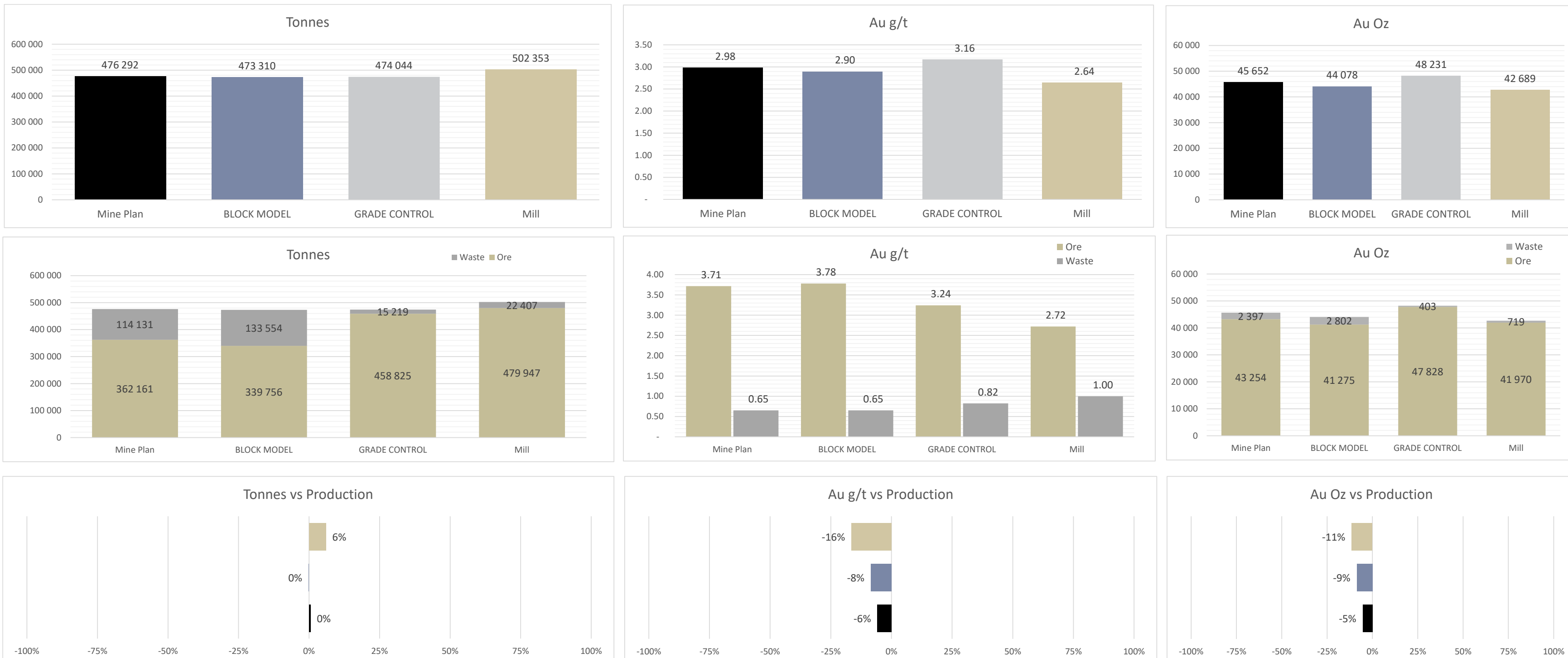

Figure 14-14: Reconciliation analysis for gold comparing the block model to the mine plan, grade control database, and mill output (EOY2021)

During 2021, mine plan and grade control grades were found to surpass the block model predicted grades. Yet, the block model grades have shown closer reconciliation with the plant.

From these reconciliation results, it appears that the block model might possibly be slightly underestimated, yet within an overall 1% margin (tonnage) and 8% margin (grade) from the production figures, the QP concluded that the Mineral Resource block model is performing well.

14.7 Mineral Resource Classification

The Mineral Resources for the Mercedes Mine Project were classified in accordance with CIM Standards.

14.7.1 Mineral Resource Definition

The "CIM Definition Standards for Mineral Resources and Reserves" published by the Canadian Institute of Mining, Metallurgy and Petroleum for the resource classification clarifies the following:

> *"Inferred Mineral Resource:*
>
> *An **Inferred Mineral Resource** is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.*
>
> *An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.*
>
> *Indicated Mineral Resource:*
>
> *An **Indicated Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.*
>
> *Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.*
>
> *An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.*

Measured Mineral Resource:

*A **Measured Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.*

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve."

14.7.2 Mineral Resource Classification for the Mercedes Mine

The estimated blocks were classified into either Inferred, Indicated, or Measured Mineral Resource category using drill spacing, geological continuity of mineralization, grade continuity, and overall level of confidence.

Inferred Mineral Resources were defined for blocks within the mineralized zones that have been informed by a minimum of two drill holes or channels within an average estimation distance no greater than 45 to 60m depending on the deposit.

Indicated Mineral Resources were defined for blocks within the mineralized zones that have been informed by a minimum of three drill holes or channels within an average estimation distance no greater than 20 to 30m depending on the deposit.

Measured Mineral Resources were defined for blocks within the mineralized zones that have been informed by a minimum of four drill holes or channels within an average estimation distance no greater than 15 m, and a minimum of 10 composites within Pass 1.

When needed, a series of clipping boundaries were created manually in longitudinal views to either upgrade or downgrade classification to avoid issues due to automatically generated classification. All remaining estimated but unclassified blocks were not reported.

14.8 Mining Depletion

A series of depletion volumetric solids were overlaid onto the block models, where mining extraction and development has taken place. Material inside the depletion solids are excluded from the Mineral Resource statement.

The depleted solids were updated as of December 31, 2021, the same date as the database cut-off date.

14.8.1 Reasonable Prospect for Eventual Economic Extraction

By definition, a Mineral Resource must have "reasonable prospects for eventual economic extraction". This requirement implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade that takes into account extraction scenarios and processing recoveries.

The factors and parameters used to determine the Mineral Resource at Mercedes are based on the actual factors and parameters applied to the material being extracted at the Mercedes Mine.

The cut-off grade used for the Mineral Resource Estimate varies from 2.0 gpt Au (Diluvio) to 2.1 gpt Au (all others), Diluvio's mining cost being lower. These cut-off grades are based on the same mining costs and metallurgical recoveries used to prepare the Mineral Reserves in Chapter 15. Table 14-13 shows the parameters used for the mineral resource estimate cut-off grades.

Any "orphan" blocks located too far from the existing mining fronts or blocks in the model with no prospect for eventual economic extraction were removed. Blocks are undiluted.

Table 14-13: Cut-off grade parameters

Cost	Unit	Diluvio	All Others
Mining	USD/t ore	38.4	43.3
Processing	USD/t ore	19.8	19.8
G&A	USD/t ore	15.6	15.6
Gold Price	USD/oz	1,350	1,350
Recovery	%	95.5	95.5
Refinery	USD/oz	8.5	8.5
Break-even Grade	gpt	1.8	1.9
Cut-off Grade Applied	gpt	2.0	2.1

14.9 Mercedes Mine Mineral Resource Estimate

The Mineral Resource Estimate presented herein is presented as underground Mineral Resources using appropriate cut-off grades.

The QP has reviewed all the new information that has occurred since the cut-off date on the technical report up to the finalization of the report and is of the opinion that had this new information been used in the preparation of the herein Mineral Resource Estimate, this new information would not have had a material impact on the conclusions.

A summary of the Mineral Resource Estimate inclusive of Mineral Reserves is presented in Table 14-14. The Mineral Resources exclusive of Mineral Reserves is presented in Table 14-15.

Table 14-14: Mercedes Mine Mineral Resource Estimate inclusive of Mineral Reserves

	Tonne	Grade		Contained Metal	
Classification	**(000)**	**Au (gpt)**	**Ag (gpt)**	**Au oz (000)**	**Ag oz (000)**
Measured	865	4.55	33.73	127	938
Indicated	2,914	4.79	44.93	449	4,209
Total M+I	**3,779**	**4.73**	**42.37**	**575**	**5,147**
Inferred	884	4.50	41.02	128	1,167

1. The independent qualified person for the MRE, as defined by National Instrument ("NI") 43-101 guidelines, is Pierre-Luc Richard, P.Geo. The effective date is December 31, 2021. These are inclusive of Mineral Reserves.
2. These Mineral Resources are not Mineral Reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred Mineral Resources in this MRE are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as Indicated or Measured; however, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
3. Mineral resources are presented as undiluted and in situ for an underground scenario and are considered to have reasonable prospects for economic extraction. Mineral resources show sufficient continuity and isolated blocks were discarded; therefore, the herein MRE meets the CIM Guidelines published in November 2019.
4. The MRE was prepared using VulcanTM v.2020.1 and is based on 2,894 drill holes and 21,554 channels.
5. The MRE encompasses 13 deposits each defined by individual wireframes.
6. High-grade capping was done on the raw assay data and established on a per zone basis for gold and silver.
7. Density values were calculated based on 999 density measurements.
8. Grade model Mineral Resource estimation was calculated from drill hole data using an Ordinary Kriging and ID3 interpolation methods.
9. The estimate is reported using a cut-off grade varying from 2.0 to 2.1 gpt Au. The cut-off grade was calculated using a gold price of USD1,350/oz. The cut-off grade will be re-evaluated in light of future prevailing market conditions and costs.
10. The MRE presented herein is categorized as Inferred, Indicated, and Measured Mineral Resources. The Inferred Mineral Resource category is constrained to areas where the drill spacing is around or less than 15 m, the Indicated Mineral Resource category is constrained to areas where drill spacing is around or less than 25 m, and the Inferred Mineral Resource category is constrained to areas where drill spacing is around or less than 45 m. In all cases, reasonable geological and grade continuity were also a criteria during the classification process.
11. Calculations used metric units (metre, tonne). Metric tonnages were rounded and any discrepancies in total amounts are due to rounding errors.
12. CIM definitions and guidelines for Mineral Resource Estimates have been followed.
13. The QP is not aware of any known environmental, permitting, legal, title-related, taxation, sociopolitical or marketing issues, or any other relevant issues that could materially affect this MRE.

Table 14-15: Mercedes Mine Mineral Resource Estimate exclusive of Mineral Reserves

	Tonne	Grade		Contained Metal	
Classification	**(000)**	**Au (gpt)**	**Ag (gpt)**	**Au oz (000)**	**Ag oz (000)**
Measured	539	3.60	27.49	62	476
Indicated	2,012	3.86	40.15	250	2,597
Total M+I	2,551	3.81	37.47	312	3,073
Inferred	884	4.50	41.02	128	1,167

1. The independent qualified person for the MRE, as defined by National Instrument ("NI") 43-101 guidelines, is Pierre-Luc Richard, P.Geo. The effective date is December 31, 2021. These are exclusive of Mineral Reserves.
2. These Mineral Resources are not Mineral Reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred Mineral Resources in this MRE are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as Indicated or Measured; however, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
3. Mineral resources are presented as undiluted and in situ for an underground scenario and are considered to have reasonable prospects for economic extraction. Mineral resources show sufficient continuity and isolated blocks were discarded; therefore, the herein MRE meets the CIM Guidelines published in November 2019.
4. The MRE was prepared using VulcanTM v.2020.1 and is based on 2,894 drill holes and 21,554 channels.
5. The MRE encompasses 13 deposits each defined by individual wireframes.
6. High-grade capping was done on the raw assay data and established on a per zone basis for gold and silver.
7. Density values were calculated based on 999 density measurements.
8. Grade model Mineral Resource estimation was calculated from drill hole data using an Ordinary Kriging and ID3 interpolation methods.
9. The estimate is reported using a cut-off grade varying from 2.0 to 2.1 gpt Au. The cut-off grade was calculated using a gold price of USD1,350/oz. The cut-off grade will be re-evaluated in light of future prevailing market conditions and costs.
10. The MRE presented herein is categorized as Inferred, Indicated, and Measured Mineral Resources. The Inferred Mineral Resource category is constrained to areas where the drill spacing is around or less than 15 m, the Indicated Mineral Resource category is constrained to areas where drill spacing is around or less than 25 m, and the Inferred Mineral Resource category is constrained to areas where drill spacing is around or less than 45 m. In all cases, reasonable geological and grade continuity were also a criteria during the classification process.
11. Calculations used metric units (metre, tonne). Metric tonnages were rounded and any discrepancies in total amounts are due to rounding errors.
12. CIM definitions and guidelines for Mineral Resource Estimates have been followed.
13. The QP is not aware of any known environmental, permitting, legal, title-related, taxation, sociopolitical or marketing issues, or any other relevant issues that could materially affect this MRE.

14.9.1 Inclusive Measured and Indicated Mineral Resources

The Measured and Indicated Mineral Resource Estimates, inclusive of Mineral Reserves, are tabulated by deposit and resource classification in Table 14-16 to Table 14-18.

The inclusive Mineral Resources are disclosed without the Mineral Reserves being removed from the Mineral Resource block model.

Table 14-16: Measured Mineral Resources inclusive of Mineral Reserves

Sector	Tonne ('000)	Au (gpt)	Ag (gpt)	Au Oz. ('000)	Ag Oz. ('000)
CDO	22	7.95	96.14	6	68
CBA	7	4.42	70.68	1	17
BHI	2	4.90	83.15	0	5
AID	23	4.79	30.31	4	22
KLN	1	6.37	42.31	0	2
LAG	9	8.84	55.26	2	15
GAP	3	6.98	128.78	1	12
BCA	125	6.63	63.40	27	255
MAR	17	7.50	97.50	4	54
DIL	539	3.20	17.01	56	295
LUP	90	6.71	44.58	20	130
SAN	-	-	-	-	-
RDO	26	8.20	76.16	7	63
Total	**865**	**4.55**	**33.73**	**127**	**938**

Table 14-17: Indicated Mineral Resources inclusive of Mineral Reserves

Sector	Tonne ('000)	Au (gpt)	Ag (gpt)	Au Oz. ('000)	Ag Oz. ('000)
CDO	127	5.02	51.63	21	211
CBA	49	4.37	70.10	7	109
BHI	38	6.33	55.25	8	67
AID	79	5.51	45.84	14	117
KLN	56	6.2	42.19	11	76
LAG	66	4.94	39.68	10	84
GAP	104	4.54	85.09	15	285
BCA	78	4.78	52.35	12	132
MAR	230	6.99	70.82	52	525
DIL	983	3.05	27.85	97	880
LUP	385	5.85	42.36	72	525
SAN	289	6.6	49.33	61	459
RDO	428	4.98	53.68	69	739
Total	**2,914**	**4.79**	**44.93**	**449**	**4,209**

Table 14-18: Measured and Indicated Mineral Resources inclusive of Mineral Reserves

Sector	Tonne ('000)	Au (gpt)	Ag (gpt)	Au Oz. ('000)	Ag Oz. ('000)
CDO	149	5.45	58.19	26	279
CBA	56	4.38	70.18	8	126
BHI	40	6.26	56.67	8	72
AID	102	5.35	42.36	18	139
KLN	57	6.20	42.19	11	78
LAG	75	5.39	41.49	13	100
GAP	107	4.61	86.31	16	298
BCA	203	5.92	59.14	39	387
MAR	248	7.03	72.66	56	578
DIL	1523	3.11	24.01	152	1175
LUP	476	6.01	42.78	92	654
SAN	289	6.60	49.33	61	459
RDO	454	5.16	54.95	75	802
Total	**3,779**	**4.73**	**42.37**	**575**	**5,147**

14.9.2 Exclusive Measured and Indicated Mineral Resources

The Measured and Indicated Mineral Resource Estimates, exclusive of Mineral Reserves, are tabulated by deposit and resource classification in Table 14-19 to Table 14-21.

The exclusive Mineral Resources are disclosed with the Mineral Reserves removed from the Mineral Resource block model. Only blocks located outside the Mineral Reserve solids are herein reported.

Table 14-19: Measured Mineral Resources exclusive of Mineral Reserves

Sector	Tonne ('000)	Au (gpt)	Ag (gpt)	Au Oz. ('000)	Ag Oz. ('000)
CDO	22	7.95	96.14	6	68
CBA	7	3.56	64.99	1	14
BHI	2	4.91	74.80	0	4
AID	12	4.33	28.27	2	11
KLN	1	6.37	42.31	0	2
LAG	3	3.66	30.75	0	3
GAP	1	6.87	121.59	0	4
BCA	49	3.17	49.55	5	77
MAR	8	7.32	100.34	2	27
DIL	376	3.00	15.75	36	191
LUP	47	6.12	40.54	9	61
SAN	-	-	-	-	-
RDO	11	2.47	42.61	1	15
Total	539	3.60	27.49	62	476

Table 14-20: Indicated Mineral Resources exclusive of Mineral Reserves

Sector	Tonne ('000)	Au (gpt)	Ag (gpt)	Au Oz. ('000)	Ag Oz. ('000)
CDO	127	5.02	51.63	21	211
CBA	45	3.97	68.04	6	98
BHI	24	5.29	45.18	4	35
AID	69	4.52	49.14	10	108
KLN	56	6.20	42.19	11	76
LAG	52	4.27	37.69	7	63
GAP	73	3.74	83.50	9	196
BCA	52	3.62	47.43	6	80
MAR	115	5.88	69.04	22	254
DIL	844	2.87	26.20	78	711
LUP	199	4.77	35.01	30	224
SAN	80	4.68	39.04	12	100
RDO	277	3.87	49.51	34	441
Total	2 012	3.86	40.15	250	2 597

Table 14-21: Measured and Indicated Mineral Resources exclusive of Mineral Reserves

Sector	Tonne ('000)	Au (gpt)	Ag (gpt)	Au Oz. ('000)	Ag Oz. ('000)
CDO	149	5.45	58.19	26	279
CBA	51	3.91	67.65	6	111
BHI	26	5.27	47.10	4	39
AID	81	4.49	45.99	12	119
KLN	57	6.20	42.19	11	78
LAG	55	4.24	37.28	8	66
GAP	74	3.78	83.96	9	199
BCA	101	3.41	48.45	11	157
MAR	123	5.98	71.18	24	281
DIL	1 220	2.91	22.98	114	902
LUP	245	5.03	36.06	40	285
SAN	80	4.68	39.04	12	100
RDO	288	3.81	49.25	35	456
Total	2 551	3.81	37.47	312	3 073

14.9.3 Inferred Mineral Resources

The Inferred Mineral Resources are tabulated by deposit in Table 14-22.

Table 14-22: Inferred Mineral Resources

Sector	Tonne ('000)	Au (gpt)	Ag (gpt)	Au Oz. ('000)	Ag Oz. ('000)
CDO	8	5.03	72.05	1	18
CBA	13	4.90	64.17	2	27
BHI	28	3.91	54.12	4	49
AID	17	3.69	66.32	2	36
KLN	3	2.91	51.22	0	5
LAG	17	5.73	27.61	3	15
GAP	92	4.55	68.87	13	203
BCA	14	5.23	32.98	2	14
MAR	289	5.40	15.44	50	144
DIL	204	3.36	53.64	22	352
LUP	57	4.99	44.54	9	81
SAN	16	7.39	54.57	4	29
RDO	127	3.58	47.57	15	194
Total	**884**	**4.50**	**41.02**	**128**	**1,167**

15. Mineral Reserve Estimate

David Willock (QP) has reviewed the Mineral Reserve estimates at the Mine as reported by MMM, effective December 31, 2021. The mining geometry, reserve shapes and numerical calculations used in the Mine reserve estimates have been reviewed for compliance with CIM guidelines.

The verification of MMM's reserve classification began with the provision of the following sources of information:

- The resource block models for each deposit at the Mine, containing material density, gold grades, block volumes, and resource confidence classes. The resource models were provided in Vulcan BMF format;
- Mine as-built solids dated for the planned reserve declaration date of December 31, 2021;
- Mineable stope shape outputs and associated parameters;
- Economic analysis methodology of reserve blocks with consideration for mine design.

The Mineral Reserve estimate for the Mine is summarized in Table 15-1.

Table 15-1: Mineral Reserve statement

Mineral Reserve Class	Tonne	Grade		Contained Metal	
	(000)	Au (gpt)	Ag (gpt)	Au oz (000)	Ag oz (000)
Proven Underground	344	5.65	40.65	63	449
Probable Underground	1,873	3.40	26.90	204	1,620
Proven & Probable	**2,217**	**3.75**	**29.03**	**267**	**2,069**

Notes:

1. CIM Definitions Standards on Mineral Resource and Reserves (2014) have been followed.
2. The effective date of the 2021 Reserve Statement is December 31, 2021.
3. Mineral Reserves are minable tonnes and grades; the reference point is the mill feed at the primary crusher.
4. Mineral Reserves are estimated at a cut-off of 2.1 gpt Au, except Diluvio, which is estimated at 2.0 gpt Au.
5. Cut-off grade assumes a price of gold of US$1,350 per ounce, a 95.5% gold metallurgical recovery; US$38.41/t (Diluvio) and US$43.26 (Other Deposits) mining cost, US$19.75/t processing costs, US$15.61/t G&A and US$8.48/oz refining costs.
6. A minimum mining width of 3.5 m was used in the creation of all reserve shapes.
7. Bulk density for ore varies by deposit from 2.22 t/m^3 to 2.57 t/m^3 and 2.40 t/m^3 for waste.
8. Numbers may not add due to rounding.
9. David Willock, P. Eng., is the qualified person for the mineral reserve statement as defined by NI 43-101.

The QP is not aware of any other mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve estimate.

Metal commodity prices used for the Mineral Reserve estimate are based upon the lesser of the three-year trailing average and the spot price, as recommended in the CIM guidelines.

Table 15-2: Mineral Reserve estimate broken down by deposit as of December 31, 2021

	Proven					Probable					P&P				
Mine/Area	Tonne (000)	Gold Grade (gpt)	Silver Grade (gpt)	Gold Ounces (000)	Silver Ounces (000)	Tonne (000)	Gold Grade (gpt)	Silver Grade (gpt)	Gold Ounces (000)	Silver Ounces (000)	Tonne (000)	Gold Grade (gpt)	Silver Grade (gpt)	Gold Ounces (000)	Silver Ounces (000)
Casa Blanca	1	9.28	96.9	0	3	14	2.83	27.7	1	12	15	3.29	32.6	2	15
Brecha Hill	0	3.73	109.6	0	1	23	4.85	42.5	4	31	23	4.83	43.5	4	32
Aida	12	4.82	29.6	2	11	28	4.61	10.2	4	9	40	4.67	15.8	6	20
Total Mercedes	13	5.15	37.2	2	15	65	4.32	25.3	9	52	77	4.45	27.3	11	68
Barrancas	80	8.19	66.9	21	172	98	2.08	17.5	7	55	178	4.82	39.7	28	228
GAP	3	5.71	106.3	0	9	72	2.84	37.4	7	87	75	2.93	39.7	7	95
Lagunas	6	10.78	63.0	2	12	31	3.46	21.7	3	22	37	4.61	28.2	6	34
Marianas	10	7.03	87.4	2	27	258	3.63	32.6	30	271	268	3.76	34.6	32	298
Total Barrancas	98	8.16	69.7	26	220	460	3.16	29.4	47	435	558	4.04	36.5	73	655
Lupita	28	6.09	38.0	5	34	182	3.28	23.1	19	135	210	3.65	25.1	25	169
Lupita Ext.	22	6.51	45.9	5	33	220	3.50	23.7	25	167	242	3.78	25.7	29	200
Total Lupita	50	6.27	41.5	10	67	402	3.40	23.4	44	303	452	3.72	25.4	54	370
Diluvio West	148	3.49	14.5	17	69	182	2.16	12.4	13	73	330	2.75	13.3	29	141
Diluvio	18	3.82	55.7	2	33	85	2.62	36.6	7	100	103	2.83	40.0	9	133
Total Diluvio	166	3.52	19.0	19	102	267	2.31	20.1	20	172	433	2.77	19.7	39	274
Rey de Oro Sup	-	-	-	-	-	116	3.99	22.2	15	83	116	3.99	22.2	15	83
Rey de Oro	16	10.76	86.3	6	46	184	3.45	36.5	20	216	200	4.05	40.6	26	262
Total Rey de Oro	16	10.76	86.3	6	46	300	3.66	31.0	35	299	316	4.03	33.9	41	344
San Martin	-	-	-	-	-	379	4.08	29.4	50	358	379	4.08	29.4	50	358
Total Reserves	**344**	**5.65**	**40.7**	**63**	**449**	**1,873**	**3.40**	**26.9**	**204**	**1,620**	**2,217**	**3.75**	**29.0**	**267**	**2,069**

Notes:

1. CIM Definitions Standards on Mineral Resource and Reserves (2014) have been followed.
2. The effective date of the 2021 Reserve Statement is December 31, 2021.
3. Mineral Reserves are minable tonnes and grades; the reference point is the mill feed at the primary crusher.
4. Mineral Reserves are estimated at a cut-off of 2.1 gpt Au, except Diluvio, which is estimated at 2.0 gpt Au.
5. Cut-off grade assumes a price of gold of US$1,350 per ounce, a 95.5% gold metallurgical recovery; US$38.41/t (Diluvio) and US$43.26 (Other Deposits) mining cost, US$19.75/t processing costs, US$15.61/t G&A and US$8.48/oz refining costs.
6. A minimum mining width of 3.5 m was used in the creation of all reserve shapes.
7. Bulk density for ore varies by deposit from 2.22 t/m^3 to 2.56 t/m^3 and 2.40 t/m^3 for waste.
8. Numbers may not add due to rounding.
9. David Willock, P. Eng., is the qualified person for the mineral reserve statement as defined by NI 43-101.

15.1 Mineral Reserve Calculation Methodology

Underground mineral reserves for the Mine have been estimated by site personnel, applying mining considerations to the Mineral Resource block model. Vulcan's stope optimizer was utilized as a first pass to determine economic zones for extraction. Site personnel then verified the output of the optimizer and removed areas that would be deemed uneconomical based upon other mining considerations. Stope designs were prepared in Vulcan™ software, together with the required development for access to the stopes. The shapes were created using a minimum mining width of 3.5 m for cut and fill. In the past, mining widths of 2.0 m have been extracted using the split-blasting technique to minimize dilution. The split-blasting technique is discussed further in Chapter 16 – Mining Method. Unplanned dilution is estimated by the expansion of the mining shape to include material expected to be mined in excess of the planned drift profile. External unplanned dilution was assigned a grade based upon the average grade of the Measured and Indicated material outside of the ore shell. Upon finalizing the diluted tonnes and grade of the mining shapes, site personnel reviewed the extraction likelihood of the blocks and assigned mineability and recovery factors based upon previous production data in the area. Stope economics were then calculated with consideration for capital development requirements by zone to ensure profitability. The stope shapes that have reasonable expectation for economic extraction were then tabulated to form the Mineral Reserve estimate.

15.2 Dilution

Factors for both planned and unplanned dilution have been estimated for each deposit at the Mine. Material classified as planned dilution is material that must be excavated for minimum mining widths, geomechanical constraints, or geometrical constraints. In the case of the Mine, planned dilution generally occurs where the ore vein is narrower than the minimum mining width of 3.5 m. In deposits outside of Lupita & Diluvio, the split-blasting mining method may be employed to significantly reduce the amount of dilution sent to the mill, however this mining method was not factored into the current Mineral Reserve estimate.

The total expected dilution for each deposit has been calculated by adding the expected planned and unplanned dilution quantities. Development in vein widths less than the minimum mining width of 3.5 m consider the additional material to meet the widths as planned dilution. Unplanned dilution for each deposit was estimated by MMM by reconciling historical dilution performance. The factors for planned and unplanned dilution used for each deposit are listed in Table 15-3. Measured and Indicated material outside of the vein ore shells was considered to be representative of the in-situ grade for the unplanned dilution tonnage.

Further factored into the unplanned dilution calculation is backfill dilution. Due to the nature of the cut & fill (CAF) mining method, backfill dilution will occur as a result of mucking from cemented paste fill floors along the length of each CAF cut. It is estimated that the average depth of over-digging the floor will be approximately 0.25 m.

In areas where the full face (3.5 m width) does not meet the cut-off grade criteria, split blasting is considered. With split blasting, the round is taken with two blasts. First, the mineralized zone is blasted and mucked, followed by a waste cut being blasted and mucked to meet the minimum mining width of 3.5 m. This allows narrow zones to be mined with reduced dilution. The mineralized cut for split blasting has a minimum width of two metres and any non-vein material included in the cut is assumed at zero grade. Split blasting is only assumed in select areas where there is a history of successfully implementing this technique. The reserves tabulated in this Mineral Reserve estimate do not include any provisions for split-blasting, but it is acknowledged that the technique will be implemented, where applicable.

Table 15-3: Estimated dilution & recovery factors by deposit

Mine Area	Deposit	Planned Dilution (%)	Unplanned Dilution (%)	Total Dilution (%)	Ore Recovery Factor (%)
Mercedes	Casa Blanca	63	16	79	97
	Brecha Hill	28	25	53	97
	Aida	42	11	53	97
Barrancas-Lagunas	Barrancas	40	8	48	97
	Lagunas	43	11	54	97
	Gap	46	24	70	97
	Marianas	50	10	60	97
Lupita	Lupita	38	18	59	97
	Lupita Extension	45	18	59	97
Diluvio	Diluvio	47	5	52	97
	Diluvio West	23	5	28	97
San Martin	San Martin	38	15	53	97
Rey De Oro	Rey De Oro	46	15	56	97
	Rey De Oro Superior	32	15	56	97
Mine-wide Weighted Average (%)		**65%**	**12%**	**77%**	**97%**

15.2.1 Mining Recovery

The mining recoveries used in estimating the Mineral Reserves were determined based upon the mining methods in use. Expected losses considered in the recovery ore losses are:

- Drilling and blasting inefficiencies;
- Loss of ore from block corners and edges or abandoning stopes due to excessive waste slough.

Table 15-4: Recovery factor used for each mining method considered in the Mineral Reserves estimate

Mining Method	Mining Recovery (%)
Long-hole Stoping	97%
Cut & Fill	97%

For the purposed of the Mineral Reserve estimate an ore recovery factor of 97% has been applied for all mining methods.

15.3 Cut-off Grade

The MMM technical services team have estimated the cut-off grade (COG) using the 2021 actual values as well as budgeted for 2022 through 2025 broken down by deposit. The metal pricing used for the COG analysis was determined by the MMM team. COGs are estimated on both a fully-costed basis and an incremental basis. The COG calculations are shown in Table 15-5 and do not include the silver revenue credit. Silver revenue credits are excluded from the COG calculation as they do not present a significant magnitude of value to the COG due to the low mill recovery.

Table 15-5: Cut-off grade split by Diluvio and the other deposits

Cost	Unit	Diluvio	All Other Deposits
Mining Cost	US$/t ore	38.4	43.3
Processing Cost	US$/t ore	19.8	19.8
General and Administration	US$/t ore	15.6	15.6
Gold Price	US$/oz	1,350	1,350
Gold Recovery	%	95.5	95.5
Refinery cost	US$/oz	8.5	8.5
Break-even feed grade	gpt Au	1.8	1.9
Cut-off Grade Used	**gpt Au**	**2.0**	**2.1**

The Mine has opted to select a standard COG of 2.1 gpt Au for all the Mine areas, except Diluvio, for which a COG of 2.0 gpt Au has been selected. The Mine's explanation for this decision is that the Diluvio mine has the following advantages:

- Ground conditions are better, reducing support costs;
- The area of mineralization is significantly wider than other deposits, reducing access costs;
- The drifts are larger, producing more tonnes per round and further spreading out fixed costs;
- Wider mineralized zones represent more bulk tonnage mining methods to be used, where applicable.

Table 15-6: Parameters for Mineral Reserve estimate

Parameter	Unit	Diluvio	All Other Deposits
Mining OPEX Cost	US$/t	73.8	78.7
Operating Development Cost	US$/m	2,385	2,385
Capital Development Cost	US$/m	2,385	2,385
Refining Cost	US$/t	8.5	8.5

15.4 Classification

Measured Mineral Resources are converted to Proven Mineral Reserves, and Indicated Mineral Resources are converted to Probable Mineral Reserves.

The QP is of the opinion that the Mineral Reserves are being estimated in an appropriate manner using current mining software and procedures consistent with industry best practice.

16. Mining Methods

The Mine consists of seven separate underground mines:

1. Mercedes Mine area composed of Corona de Oro (no current reserves), Casa Blanca, Brecha Hill, Brecha Hill Norte, Aida, and Aida Norte;
2. Barrancas-Lagunas mine area composed of the Lagunas, Barrancas Centro, Barrancas Norte, Marianas, and Gap zone;
3. Lupita & Lupita Extension mine area;
4. Diluvio & Diluvio West mine areas;
5. Klondike mine area composed of the Rey de Oro and Rey de Oro Superior (Klondike deposit has no current reserves) and;
6. San Martin mine area.

While each of these deposits has ore remaining, Mercedes and Barrancas-Lagunas are nearing depletion with mostly remnant mining taking place. The bulk of the tonnage for the LOM is expected to be mined from Lupita, Diluvio, and Rey de Oro.

Each of the deposits are accessed through surface portals with some underground connections between deposits where possible.

Figure 16-1 is a plan map of the Mine areas and significant infrastructure. Longitudinal section and schematic views of the individual mine area layouts are shown in Figure 16-2 to Figure 16-6.

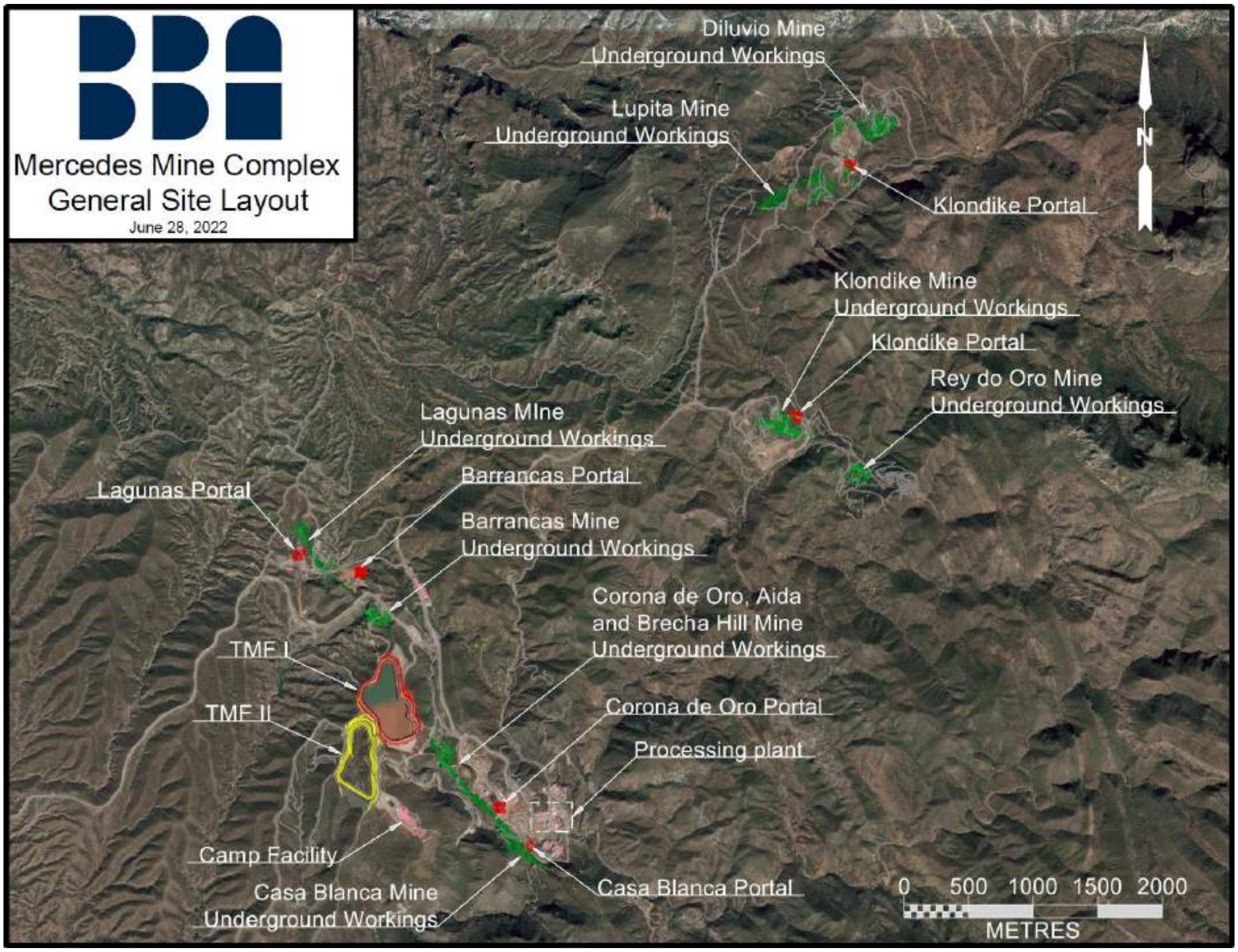

Figure 16-1: Plan view of the Mercedes Gold-Silver Mine site layout (Source: Google Earth, 2014)

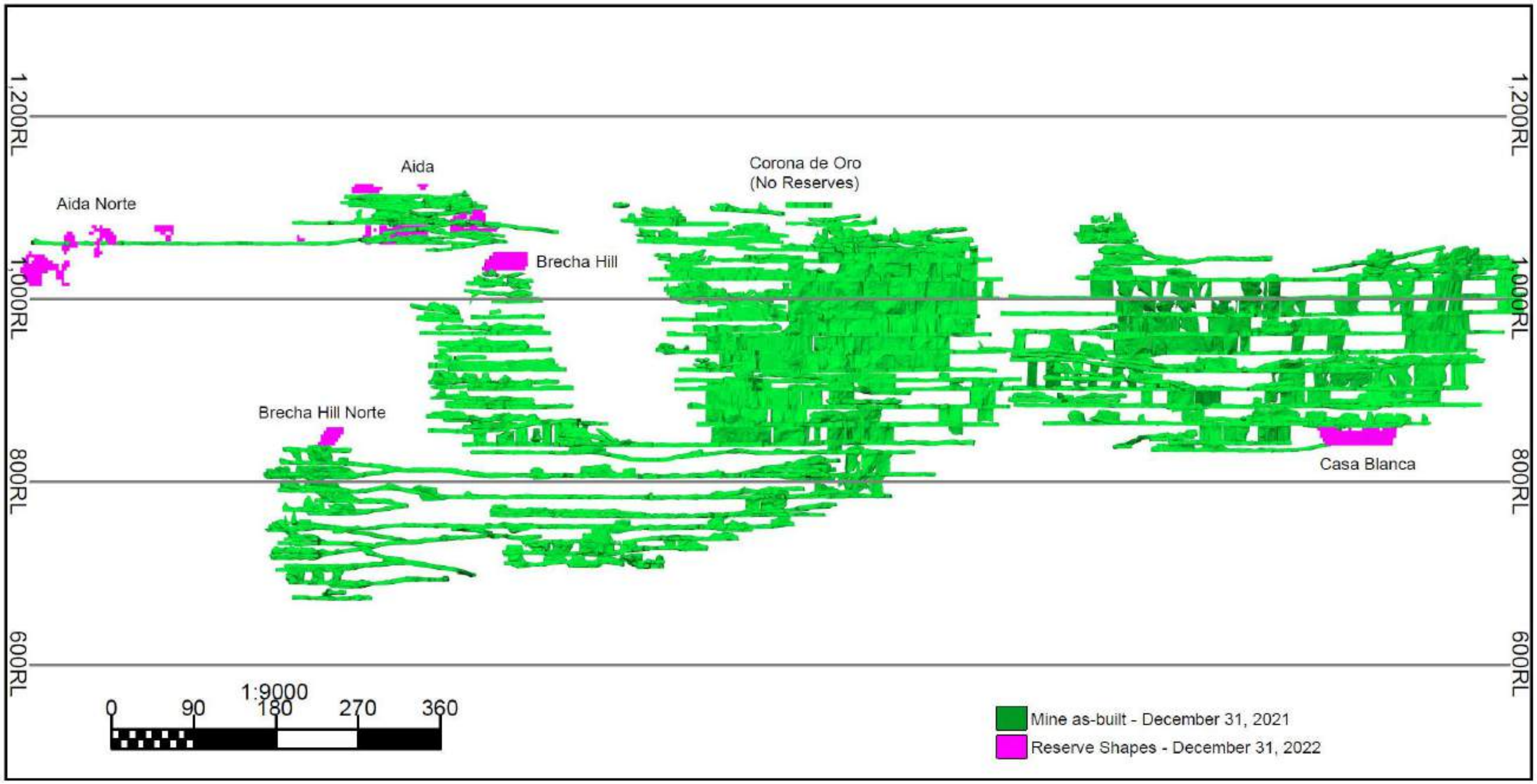

Figure 16-2: Isometric long section looking north-east showing the Mercedes deposit as-builts and reserve locations

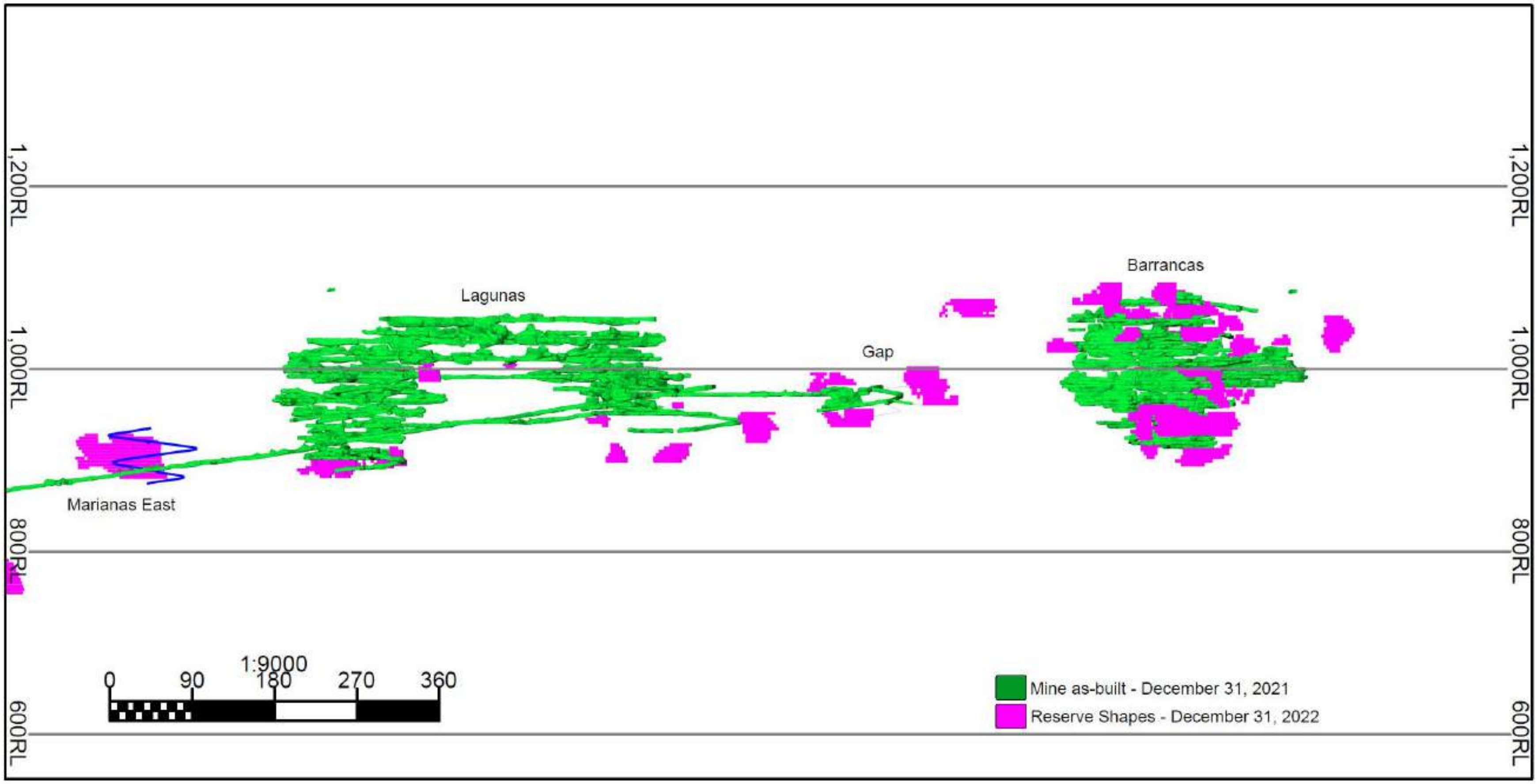

Figure 16-3: Isometric long section looking north-east showing the Lagunas/Barrancas deposit as-builts and reserve locations

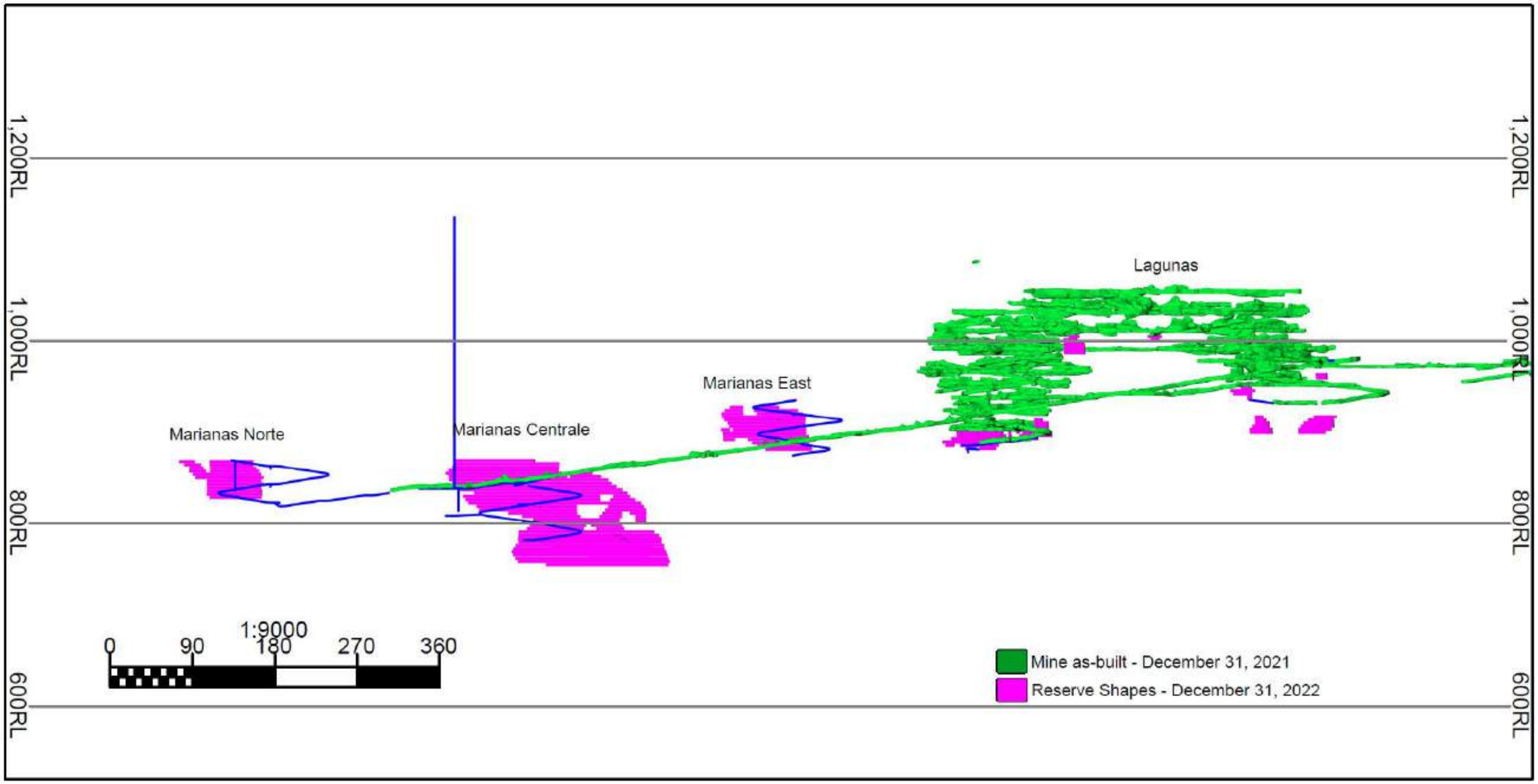

Figure 16-4: Isometric long section looking north-east showing the Marianas/Lagunas deposit as-builts and reserve locations

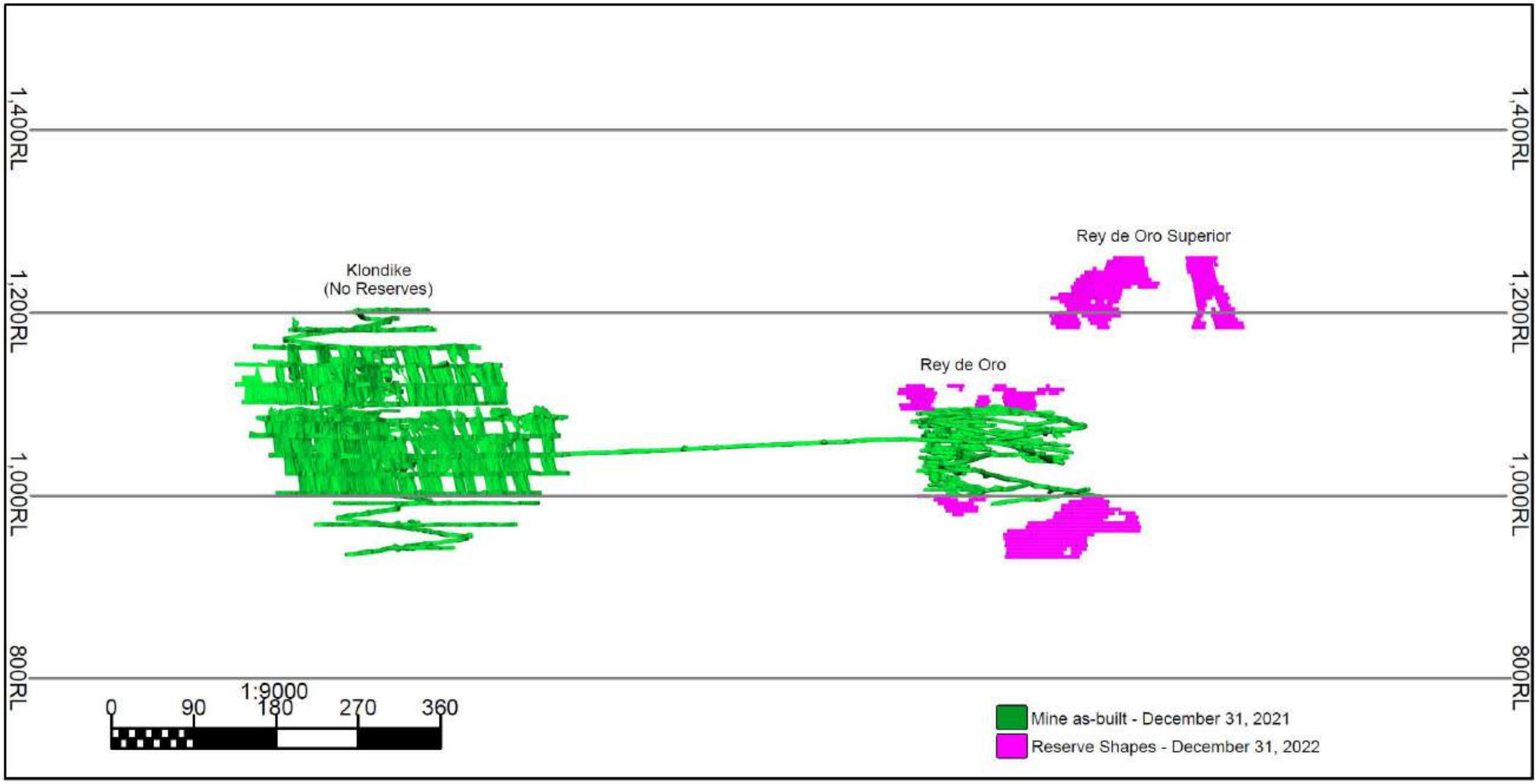

Figure 16-5: Isometric long section looking north-east showing the Klondike/Rey de Oro deposit as-builts and reserve locations

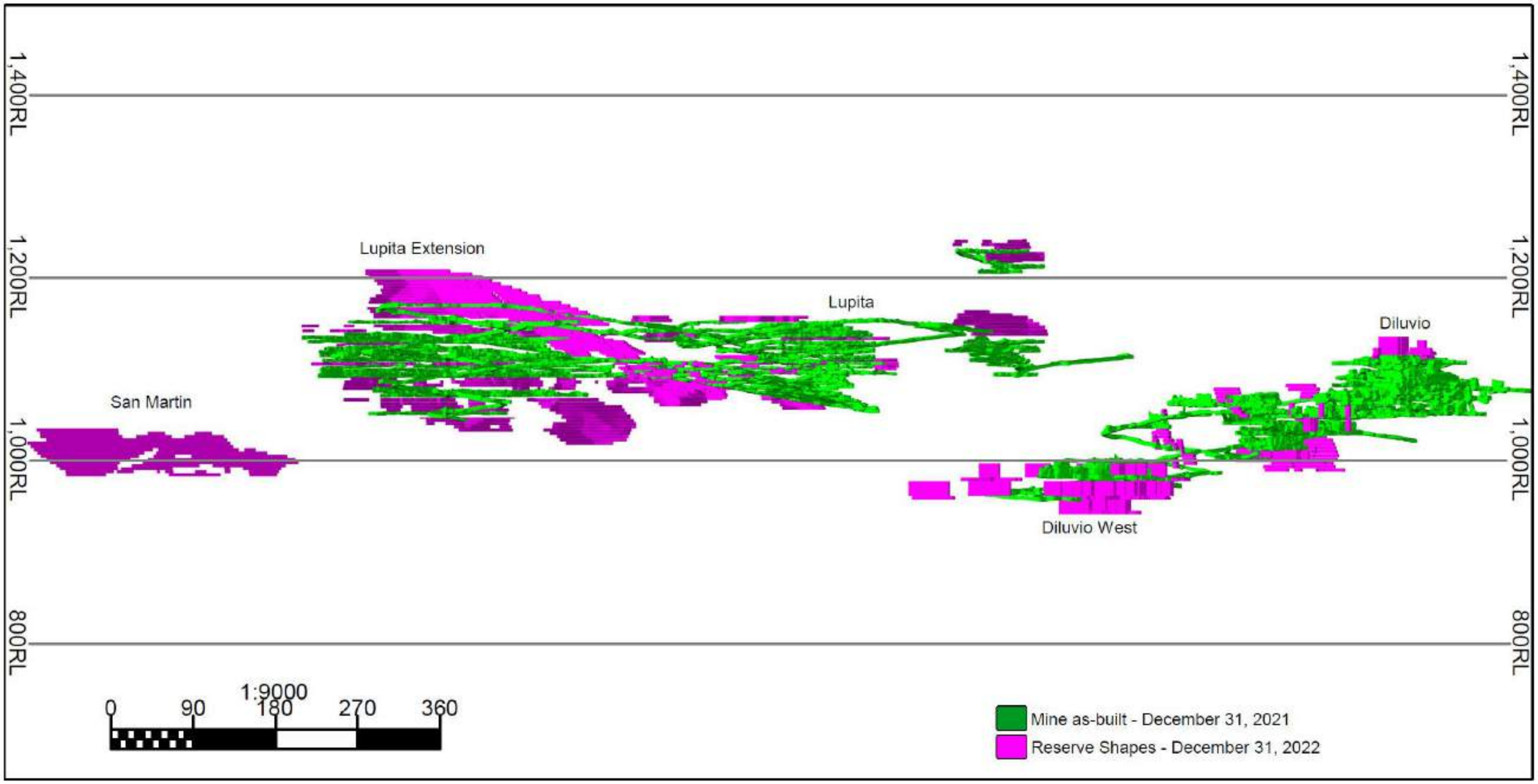

Figure 16-6: Isometric long section looking north-west showing the Diluvio/Lupita/Lupita Extension/San Martin deposit as-builts and reserve locations

16.1 Mine Design

The Mine deposits are all near-surface ramp access mines. Each deposit is currently accessible to be mined aside from the Rey-de-Oro superior deposit, currently planned for portal development in late 2024. The level layouts and design are variable according to the deposit to be mined, with standard cut & fill mining applying to all deposits aside from Diluvio & Diluvio West, where the mining method represents a hybrid of both cut & fill and bulk long-hole stoping.

Underground ramps connecting levels and nearby deposits are used as haulage routes for the 16 t haul trucks utilized at the Mine. These haul trucks are responsible for hauling from underground at each respective deposit and dumping at the ore stockpile located at the Mercedes section of the mine site. Infrastructure to support the three separate mining areas is located at the Mercedes Mine section of the site, including the mill, camp, and paste fill plant.

The Mine normally operates on a rotational basis with employees following a 5 days on and 2 days off roster, 12 hours per shift, 365 days per year. Mining production rates are scheduled assuming 9 hours of productive time per shift to cover breaks, meetings, maintenance, and travel time. The expected productivity of the mine is covered in the life of mine plan, but is expected to average approximately 1,500 tpd (ore) over 4 years. The mine is the expected bottleneck of the operation with a mill capacity of 2,000 tpd.

Table 16-1: Typical underground development dimensions for the Mercedes Mine deposits

Development Type	Dimensions	Typical Length	Typical Distance to Mineralized Zone
Units	(W x H, m)	(m)	(m)
Main Ramp	4.5 x 4.3	N/A	136
Main Access (ramp to sill)	4.5 x 4.3	136	136
Ventilation Raise Access Drifts	4.0 x 4.0	20	40
Escapeway/RAR Accesses	4.0 x 4.0	17	40
Sumps	4.0 x 4.0	9	48
Electrical Substations	4.0 x 4.0	13	In ramp
Ore sills (varies by deposit)	3.0 x 4.0 & 4.0 x 4.0	200	N/A
Cut & Fill Access Ramps	4.0 x 4.0	40 (15% Gradient)	40

Notes:

- RAR - Return Air Raise
- W x H - Width x Height

16.2 Mining Methods

The Mine currently plans the majority of mining to be completed using the mechanized cut & fill mining method. In Diluvio and Diluvio West the Mine utilizes a longitudinal longhole open stoping mining method where the ground conditions and ore geometry allow for bulk mining methods.

The mechanized cut & fill mining method employed at the Mine is typically planned as an overhand mining method with multiple available mining horizons to increase the overall productivity of the method. A mining horizon is a block of three level accesses, with production able to progress upwards every third level. The typical sequence for a given reserve block is:

1. Ramp down three total level accesses;
2. Develop the 2nd and 3rd level accesses & infrastructure in unison, typically located central to the ore sill on that elevation;
3. Begin the first cut on the 3rd access utilizing a -15% cut & fill ramp;
4. Complete the ore sill on both sides of the cut & fill ramp;
5. Barricade & paste fill the 1st cut, and re-establish access after curing to begin the next cut at level grade.

This sequence continues for three full cuts per level at -15%, 0%, and +15%. It is understood that there are multiple available mining horizons to facilitate multiple ore faces available each shift. The typical mining sequence as described is visualized in Figure 16-7 and Figure 16-8 on the following pages.

A modification to the method has been successfully applied in some of the deposits called split-blasting. The technique is used to minimize dilution when mining in narrow vein cut & fill areas and provide further selectivity to economically extract vein material. Split-blasting splits a round blast into two blasts, first drilling and blasting the vein material at a minimum width of 2.0 m, with a secondary blast to take the remainder of the face. Excavators are used underground to pull the material out of the two-metre cuts to be mucked with a scoop. While none of the current mine reserves have been assumed to be mined as split-blasting, it is recognized that the method has been used in the past and will continue to be used where beneficial.

Longitudinal long-hole stoping is planned as uppers stopes with a height of 16m, a length of 10 m and widths varying between 4 m and 7 m.

David Willock (QP) is of the opinion that the selected mining methods are appropriate for the deposits, but further planning should be considered for the implementation of bulk mining methods in deposits such as Diluvio & Diluvio West.

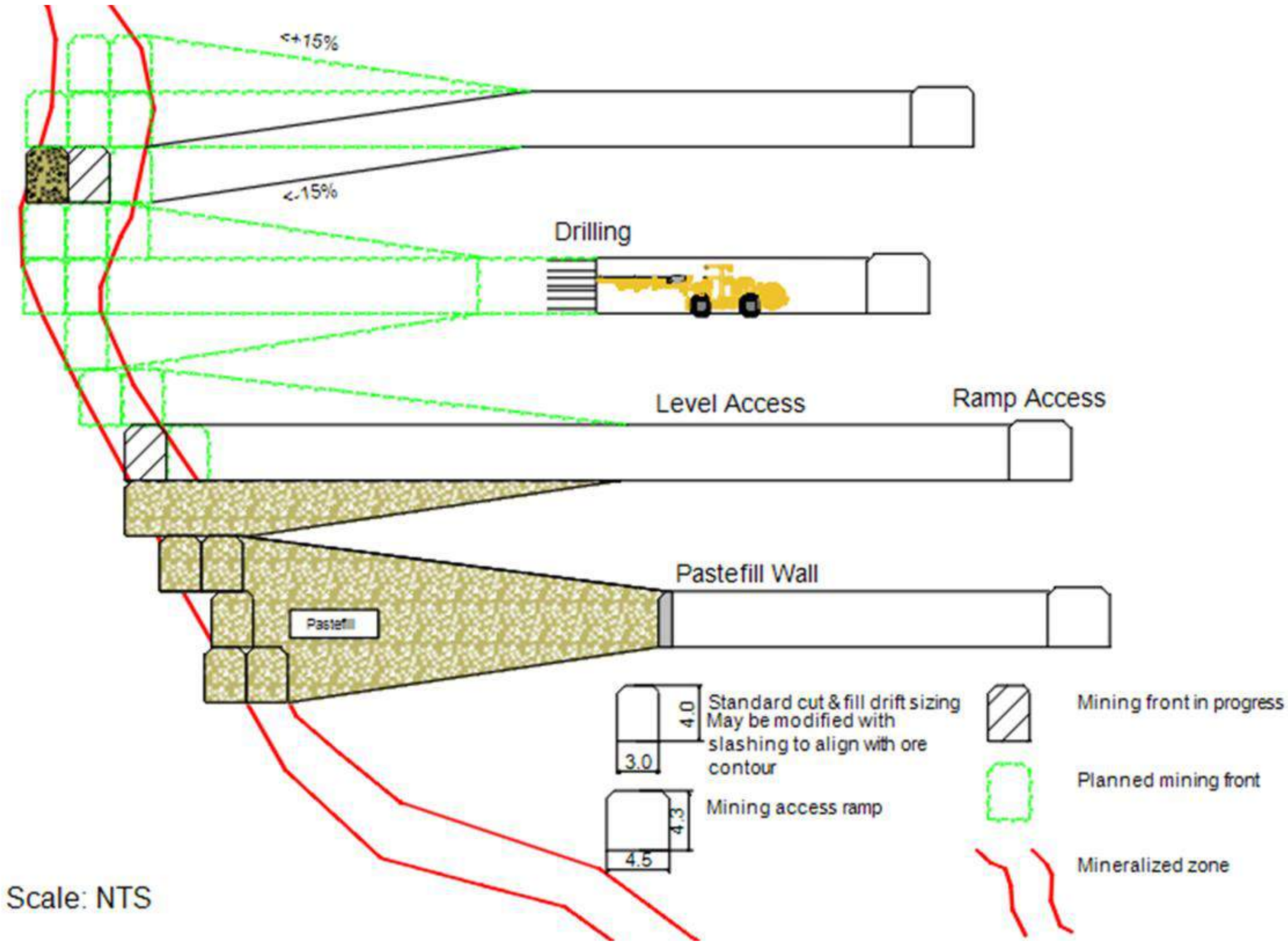

Figure 16-7: Long section view cut perpendicular to the strike of the orebody, showing the typical arrangement of the cut & fill method

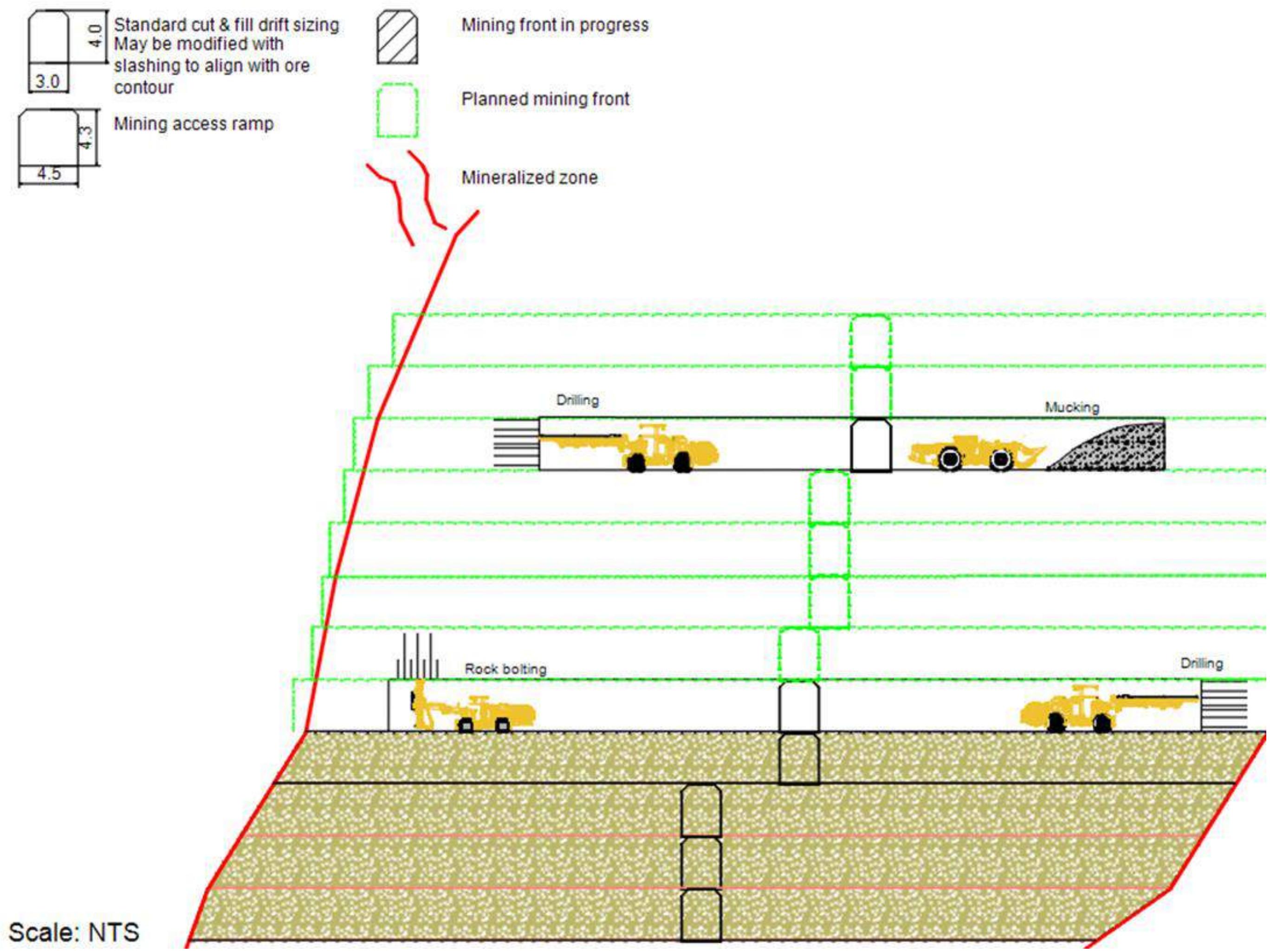

Figure 16-8: Alternate long section cut along strike of the orebody to simulate the cut & fill mining method

16.3 Geomechanics, Ground Support

Geotechnical characterization of the deposit(s) and surrounding rock mass has been carried out by MMM, Golder & Associates and Pakalnis & Associates using available drill hole data, laboratory testing data, geological models, underground mapping, and experience excavating in the area over the life of mine. Geotechnical models of the Mercedes, Barrancas-Lagunas, Lupita, Diluvio, Klondike, and Rey de Oro mine areas were developed based on these characterization studies. Observations of ground performance in the underground ramp, and vein crosscuts have been used by the Mine technical services team to confirm and revise the geotechnical model where appropriate.

The ground conditions at all the mine areas were analyzed by Golder. The results of the study break down the rock mass characteristics present at each respective deposit.

The Mercedes Mine area rock mass quality is characterized as poor to very poor and will require significant support and reinforcement. These ground constraints imply that bulk mining methods will not be applicable in the Mercedes Mine area. This area consists mostly of remnant mining areas and therefore the ground conditions are less representative of the overall rock quality of the deposit.

Required ground support includes a combination of bolting, shotcrete, steel sets, and mesh. The use of shotcrete arches (lattice girders) is prevalent in most areas of the mines, especially in areas of especially weak ground and/or to advance through zones of faulted ground. Arches and girders (steel sets) are also used as part of the standard support recommendations. Where used, corresponding bolting and shotcrete requirements are optimized.

For Barrancas-Lagunas, Golder recommended that in-ore development should be limited to a maximum span of 7 m, and intersections should be designed to limit spans to 9 m. Where benching is planned, newly exposed walls are supported in accordance with the defined wall support requirements and total wall heights should be limited to 8 m. Further, benched stopes are backfilled to original (4 m) heights, shortly after completion.

Since the completion of the Golder feasibility study, the Mine has expanded to more deposits than originally considered. The geomechanics of the Lupita, Diluvio, and Rey de Oro deposits were not covered in the scope of the Golder report, and were therefore later evaluated by Pakalnis & Associates and Mercedes technical services. The Mercedes Mine technical services team worked with Pakalnis & Associates created a series of ground support standards for the typically encountered underground scenarios. Considerations for intersection span support, permanent infrastructure ground support, and cut & fill support have been established and successfully implemented by the technical services team.

16.3.1 Rock Strength & Rock Quality

Mercedes

The vein material at Mercedes is primarily quartz with lesser proportions of carbonates and calcite. On average, the vein can be described as a strong to very strong, moderate to highly fractured rock mass, however, some areas have been heavily altered to near soil-like conditions.

The primary host rock quality at Mercedes is a highly variable collection of medium strong, moderate to highly fractured, or faulted andesite rock mass. The immediate wall rock has generally been qualitatively estimated as strong, but there are zones of weak rock strength that are most prevalent in the west wall. The mined-out upper Corona de Oro area contains the most extensive area of weak rock in the west wall.

Rock quality is low in both walls near surface, above an approximate elevation of 1,150 m. There is a general increase in quality with depth in the east wall, but the trend is not followed with the west wall where areas of low quality are randomly distributed throughout the vein. Fracture intensity and rock quality appear to improve approximately 20 m outside of the vein.

Rock quality in the vein at the Mercedes deposit is variable, with the lowest quality areas located in the upper areas of Corona de Oro and Brecha Hill. There is no apparent correlation between rock quality and depth, as zones of weaker rock are apparent throughout the vein.

Barrancas, Lagunas, and Gap

The vein material at Barrancas-Lagunas is primarily quartz with lesser proportions of carbonates and calcite. On average, the vein can be described as a strong to very strong, moderate to highly fractured rock mass, however, some areas have been heavily altered to near soil-like conditions.

The rock quality in the immediate walls of the Barrancas-Lagunas area is highly variable and is comparable to the quality of the Mercedes deposit. At the Barrancas deposit the lower rock quality attributed to Barrancas Centro is related to geological structures such as the latite dike parallel to the vein, and multiple faults crossing the veins. The rock quality increases as the dike moves away from the vein towards Barrancas Norte. In other areas of the vein, weak rock is generally not continuous in the walls over a significant area, and it appears randomly distributed along the vein. A wide range of rock strength variability exists across the Barrancas and Lagunas areas.

Waste rock at the Lagunas and Gap (between Barrancas and Lagunas) deposits are comprised of approximately 40% weak rock (average intact strength of 5 MPa) and 60% strong rock (average intact strength of 46 MPa). The respective percentages are 50% and 50% at the Barrancas deposit.

Waste rock mass quality at all deposits is expected to be highly variable. Average quality is expected to be very poor with a majority being highly fractured or rubblized. Q values estimated from underground mapping suggest a range of average values between 0.3 and 1.0 is likely.

Orebody rock mass material at the Lagunas and Gap deposits is comprised of approximately 30% weak rock (average intact strength of 5 MPa) and 70% strong rock (average intact strength of 46 MPa). These respective percentages are 60% and 40% at the Barrancas deposit.

Orebody rock mass quality at all deposits is highly variable with the average quality being poor. Although slightly better than the quality of waste rock, the orebody rock mass quality is also highly fractured or rubblized. Underground mapping has estimated that Q values range between 1.5 and 2.5.

Lupita and Diluvio

Waste rock at the Lupita deposit is comprised of approximately 20% weak rock (average intact strength of 5 MPa) and 80% of strong rock (average intact strength of 46 MPa). Similarly, the Diluvio deposit is comprised of 10% weak rock and 90% strong rock. Waste rock mass quality at all deposits is expected to be relatively consistent.

Average quality is fair with a majority being moderately to highly fractured. The orebody rock mass at the Lupita deposit consists of mostly strong (average intact strength of 46 MPa), moderate to highly fractured rock. Orebody rock mass quality at the Diluvio deposit is strong and less heavily fractured than the Lupita deposit.

In comparison to the other deposits, the rock mass characteristics of Lupita and Diluvio represent a much higher quality orebody with a simplified extraction sequence. The Lupita deposit geometry is not conducive to bulk mining, but it is recognized that the quality of the rock simplifies the ground support for extraction. Diluvio geometry and rock quality will be conducive to bulk mining methods and further geomechanical work should be completed to optimize stope sizing with the mining methods.

The lack of identifiable spatial trends in rock mass quality within either deposit precluded the designation of specific geotechnical domains at any scale smaller than the level of deposit and ore zone (ore or waste).

Rey de Oro Superior

Rey de Oro rock quality is similar to the mined-out Klondike deposit, where the lowest rock quality in the vein is near surface, above an approximate elevation of 1,100 m. Below 1,100 m, the rock quality is generally higher, consisting of strong, moderate to highly fractured rock.

16.3.2 Stability Analysis

Base case stope sizes used in analyses were based on 20 m sub-level spacing (floor-to-floor), resulting in 24 m wall height exposures and with 15 m stope length. For average rock quality conditions, some flexibility was allowed for shortening or lengthening stopes in varying rock quality.

Stability analyses were then performed using the Mathews method to estimate average stable stope sizes for each domain. Where the empirical approach indicated that strike lengths should be limited to less than 10 m for the average rock quality conditions, open stoping is not considered practical and cut & fill mining is used. These areas are mainly near surface in the Corona de Oro area of the Mercedes vein. In most cases, the sizes of the stopes are limited by the rib (sidewall) rock quality.

The use of bulk mining methods should be used in conjunction with the cut & fill mining method where rock quality allows.

16.4 Mine Infrastructure

16.4.1 Mercedes Mine Access

Primary access to the Mercedes Mine is centrally located above the Corona de Oro zone. This portal provides access to the main decline designed nominally at 12% grade and 4.5 m wide by 4.3 m high to accommodate the ore haulage trucks. The decline is located approximately 60 m laterally from the orebody to minimize the level access drift lengths while still providing adequate length for level infrastructure. This decline also provides access to numerous internal declines for access to the other Mercedes Mine deposits - Brecha Hill, Aida, and Casa Blanca.

The main decline is designed with a flat area at each level access to provide a location for truck loading in the main ramp. This design reduces the amount of maneuvering a truck driver must perform in order to be loaded. The Mercedes Mine also develops re-muck bays and electrical substations at each main level intersection, these are present approximately every 60 m vertically.

The Mercedes Mine has a second portal access to the Casa Blanca zone from surface. This excavation provides an additional source of fresh air to the mine, secondary egress, and an alternative traffic route to reduce delays in the main haulage ramp.

The Aida and Aida Norte deposits are located north-west of the Corona de Oro portal and are accessed via internal ramp at the upper end of the deposit. The remaining reserves in Aida and Aida Norte are scheduled to be mined between March 2023 and January 2024.

16.4.2 Barrancas, Lagunas, Marianas, and Gap Mine Access

The Barrancas and Lagunas mine deposits are accessed via two surface portals with declines to each respective zone. Each of these deposits has been mined with the same design parameters of the Mercedes deposit. The main declines for each deposit have been developed to the same dimensions of 4.5 m wide by 4.3 m high. The two deposits are connected underground with an internal ramp to facilitate easy equipment and material management between the zones. The Gap zone is accessed through the internal ramp between Barrancas and Lagunas and is planned to resume production in late 2024.

The Marianas deposit development has begun with the main decline being developed from the lower levels of the Barrancas decline. Further ramp development is required for each lens of the deposit along with the development of a new ventilation raise to surface to support mining operations. The most recent life of mine plan has the Marianas deposit beginning production in 2022.

The deposits are also served by a 2.4-m diameter return air raise (RAR) and escapeway raise for secondary egress. A 127 mm diameter paste fill borehole, drilled from surface, also accesses each level of the Barrancas deposit for the distribution of paste fill to the mined stopes.

16.4.3 Diluvio, Diluvio West, Lupita, Lupita Extension and San Martin Mine Access

The Diluvio and Lupita deposits share a surface access portal and main decline ramp. The decline is developed at 12% grade and is 4.5 m wide by 4.3 m high. The Diluvio mine design parameters were modelled after the Mercedes design, but were adjusted to reflect the difference in rock quality. Diluvio ore sills can be driven wider where necessary and reduce the overall operating cost of the cut & fill method. Vertical development for the Diluvio deposit consists of a 3.1 m diameter RAR to service both Diluvio and Diluvio West.

The Diluvio West deposit is accessed through an internal ramp from mid-way through the Diluvio deposit. Main decline development is progressing, and the deposit is expected to start production in 2021. Vertical development for Diluvio West consists of a 2.4 m diameter FAR located at the top of the deposit ramp to service both Diluvio and Diluvio West.

The Lupita deposit is accessed from the Diluvio main ramp and is internally connected to the Lupita Extension deposit. The Lupita and Lupita Extension deposits are currently being mined using the cut & fill method each with their own main internal ramping systems to minimize the required operating development. Vertical development for the deposit currently includes one 3.1 m diameter RAR.

The required development for access and mining of the San Martin deposit is not in place. Production from this deposit is scheduled to begin in the fourth quarter of 2023.

A 127 mm diameter paste fill borehole, drilled from surface, also accesses each level of the Diluvio deposit for the distribution of paste fill to the mined stopes. Where boreholes cannot be used, the paste is distributed using the mine fleet's cement mixing trucks.

16.4.4 Klondike and Rey de Oro Mine Access

The Klondike deposit is accessed through a surface portal connected to a 4.5 m wide by 4.3 m high decline at 12% grade. Toward the bottom of the deposit, an internal ramp has been developed to access the Rey de Oro deposit, located approximately 1,200 m south-east of Klondike. The Klondike deposit is nearing depletion with minimal reserves left over but serves as the main access to Rey de Oro. Based on their relative proximity and geological domains, design patterns for opening sizes are similar to those found at the Klondike deposit, which is described below.

The 4.5 m wide by 4.3 m high decline is nominally 12% grade and accesses levels every 20 vertical metres. Each level is accessed by a 4.0 m wide by 4.0 m high crosscut driven at -2% grade from the ramp for approximately 10 m to a sump and then driven at +2% grade towards the ore sill access drifts. A 4.0 m by 4.0 m truck loading bay is developed at each level-ramp intersection, opposite to the main level crosscut. The level access drift infrastructure also includes paste line access, electrical sub-stations, escapeway accesses, and sumps. Unlike Klondike, Rey de Oro does not have truck loading bays located at every level and instead utilizes the re-muck system & ramp loading similar to the Mercedes Mine.

Vertical development for the Rey de Oro deposit includes a 2.4 m diameter RAR and escapeway raise for secondary egress. The fresh air supply for both Klondike and Rey de Oro is provided from a 2.4 m diameter fresh air raise with subsequent drop raised legs to reach the bottom of the deposit. A 127 mm diameter paste fill borehole, drilled from surface, also accesses each level of the Klondike deposit for the distribution of paste fill to the mined stopes.

16.4.5 Rey de Oro Superior Mine Access

The Rey de Oro Superior deposit is not currently accessible from surface or underground. The satellite deposit was formerly planned to be mined as an open pit but has since been modified to be extracted with underground cut & fill methods. The current life of mine plan has production in the fourth quarter of 2023. The main decline is planned to be developed at 4.5 m wide and 4.3 m high with a nominal grade of 12%.

16.4.6 Internal Ramps

The Mercedes Mine deposit utilizes several internal ramps between the main truck loading levels located at 60 m vertical intervals. These smaller ramps are a nominal 4.0 m wide by 4.0 m high and can be used by all mobile equipment other than the ore haulage trucks. These ramps are limited to the Mercedes deposit and have not since been developed or planned with the most recent life of mine plan. Where reasonable, internal ramps connect the deposits to improve traveling time, and to allow equipment to be more easily transported and shared between deposits. The standard design for the underground decline grades at 15% and is either 4.5 m by 4.3 m or 4.0 m by 4.0 m depending on whether truck access is required.

16.4.7 Level Drives and Stope Access

The average drift size for waste development is 4.0 m wide by 4.0 m high. The minimum ore drift size is 3.0 m wide by 4.0 m high. The ore drift sizing is modified according to width of the mineralized material in order to reduce dilution where the zone is narrow and increase recovery where the zone is wide. Often multiple cut & fill drift passes are required to fully extract the level.

Ore sills are driven under geological control to closely follow the economic veins. Geologists and development crews must work closely together to ensure that the ore sills are developed to maximize recovery and minimize dilution from material outside of the vein. Geological control methods require that the vein contact be exposed in the upper shoulder or back of the sills. The production geologist will map the face and provide instruction to the development crew for the direction of the next round. Close control and training of development crews and geologists is required to reduce dilution and re-work.

16.4.8 Mine Ventilation

The ventilation design for the Mercedes Mine deposits were modelled using VentSim Visual software.

The airflow requirements are based on "NORMA Oficial Mexicana NOM-023-STPS-2012, Underground *mines and opencast mines - Conditions of security and health at work*", specifically, section 8.4.4. The ventilation system in underground mines must comply with at least the following characteristics:

a) *Supply the interior of the mine with an air volume of:*
   1) *1.50 cubic meters per minute for each worker; and*
   2) *2.13 cubic meters of air per minute per horsepower (0.0476 m3/s/kw) of the driven machinery by diesel combustion engines, located inside the mine.*

b) *Maintain a minimum air speed of 15.24 meters / minute, when on any front or gallery has machinery driven by diesel combustion engines;*

c) *Keep the end of the ducts at a distance less than 30 meters from the top of the front of excavation, when it is necessary to use ducts to achieve the ventilation required in the fronts, galleries or drifts in development.*

Equipment lists for individual mining areas were not available therefore air volume requirement per mining area as stated in the next paragraph could not be verified.

Based upon 100% diesel equipment utilization and the assumed diesel equipment fleet, the ventilation requirement is 203 m^3/s of total airflow for the Mercedes and was 108 m^3/s of total airflow for the Klondike mine area.

Based on Figure 16-9 through Figure 16-12; A total of ten (150 hp and 250 hp) surface fans with variable speed drives are required. These fan requirements are shown in Table 16-2.

Table 16-2: Summary of surface and auxiliary fan requirements and provided airflow per mining area

Mining Area	Total Airflow Provided (cfm)	Total Airflow Provided (m^3/s)	Total Fan Motor Power (hp)	Total Fan Motor Power (kW)	Estimated Number of Auxiliary Fans
MERCEDES					
Brecha Hill	153,000	72.2	250	186	4
Corona de Oro No.1	156,200	73.7	250	186	4
Corona de Oro No.2	80,000	37.8	150	112	4
Casa Blanca	111,892	52.8	150	112	3
LAGUNAS-BARRANCAS					
Lagunas Centro	94,000	44.4	150	112	2
Barrancas	129,000	60.9	200	149	2
DILUVIO/LUPITA					
Diluvio Centrale	250,000	118.0	150	112	
Diluvio West	87,500	41.3	200	149	
Lupita West	134,800	63.6	150	112	4
Lupita Centrale	73,600	34.7	150	112	2
KLONDIKE- REY DE ORO					
Klondike-Rey de Oro	69,000	32.6	200	149	3

The Mercedes Mine area has three sources of fresh air; they are: Corona de Oro portal; Casa Blanca (CBA) portal; and a fresh air raise (FAR) located on the northern edge of the Corona ramp. The FAR is connected to the Corona ramp at two locations both fitted with ventilation control bulkheads. The bulkheads allow variable openings to control the flow of fresh air depending on which of the four sections has the main mining activity. The FAR has a velocity restriction placed on it past the 860 level, after which it operates mainly as an escapeway for the Lower Corona section.

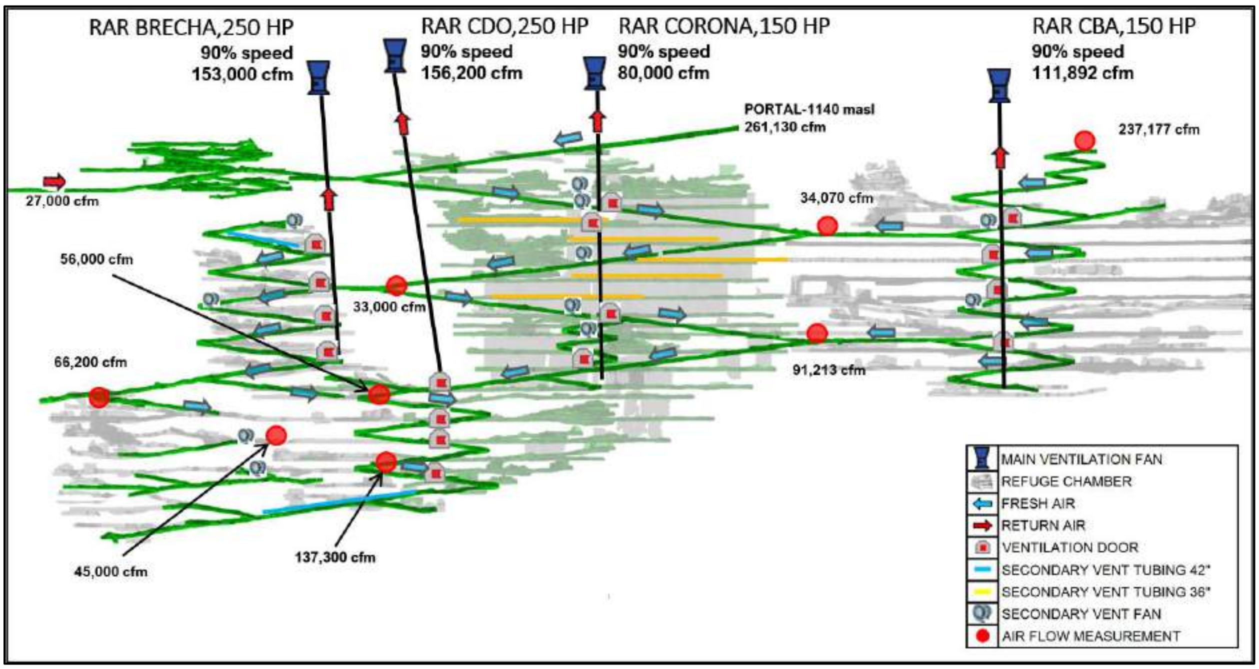

Figure 16-9: Mercedes Mine area ventilation layout

The Barrancas mine area is supplied with fresh air through the Barrancas and Lagunas portals. This mine area has two exhaust fans to expel the used air. Bulkheads installed where the raises connect to the ramps allow variable openings to control the flow of fresh air depending on which of the four sections has the main mining activity.

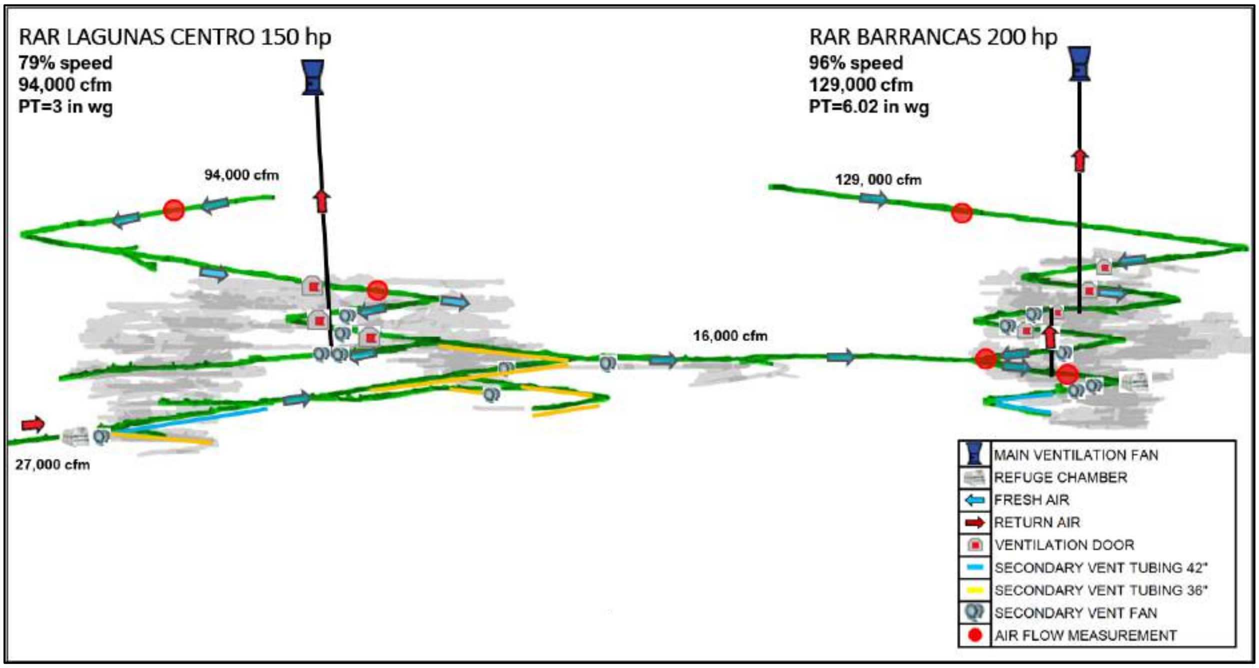

Figure 16-10: Lagunas-Barrancas mining area ventilation layout

The Diluvio/Lupita mining area is supplied with fresh air through three sources: two fresh air raises (FAR) and the shared portal. Exhaust air is expelled through two exhaust raises.

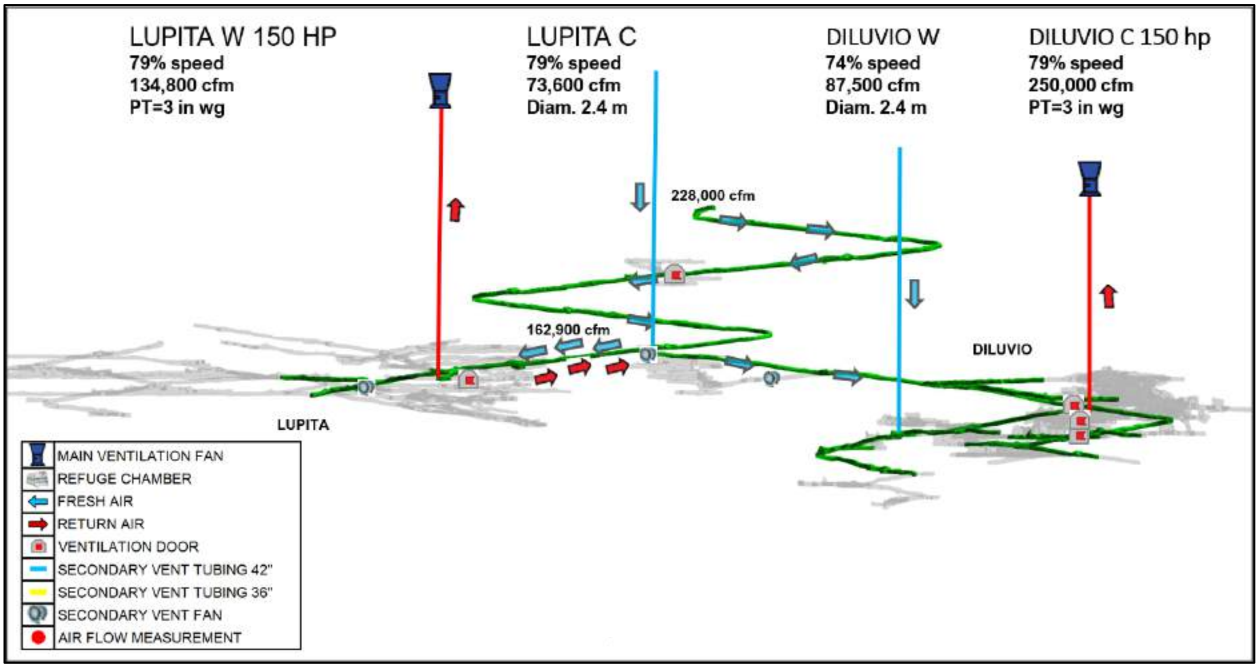

Figure 16-11: Diluvio Lupita mining area ventilation layout

The Klondike/Rey de Oro mining area is supplied through two sources: a fresh air raise and the portal. Exhaust air is expelled through a single return air raise.

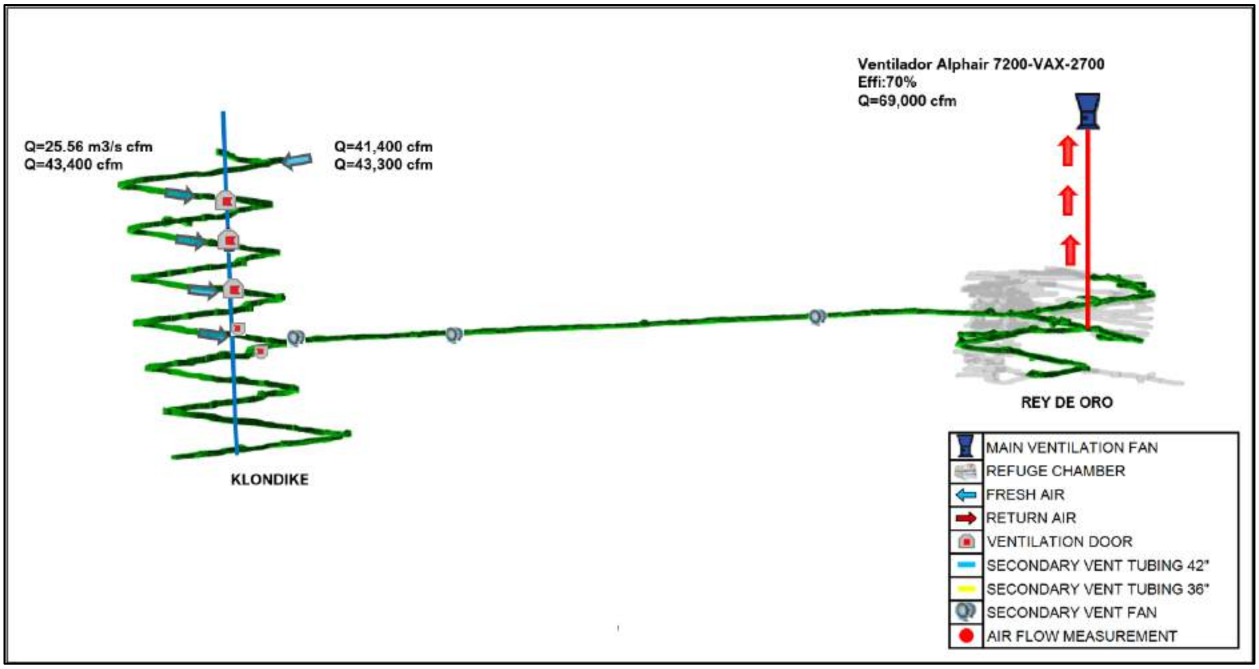

Figure 16-12: Klondike – Rey de Oro mining area ventilation layout

Each of the Casa Blanca, Corona, and Brecha Hill areas have a dedicated escapeway to surface. These escapeway raises are not considered fresh air raises, but are designed to maintain adequate flow of fresh air to ensure safe use of the egress.

The Mine uses a combination of push-pull and pull-systems. Where practical, ventilation raises are installed to create a flow-through system, eliminating issues associated with air recirculation & fresh-air dilution. The flow-through system is accomplished by adjusting associated bulkhead controls where mining activity is occurring.

Auxiliary ventilation is required on each of the active levels, where production mining is occurring outside of the main ventilation circuit. Typical ventilation ducting ranges from 91 cm (36 in.) to 107 cm (42 in.) diameter, with the required airflow provided by an appropriately sized auxiliary fan.

Table 16-3: Diesel equipment airflow requirements

Equipment Type	hp	kW	m³/s/kW	(m³/s)	(cfm)
Scoop Tram (3.5 yd)	193	144	0.0476	6.85	14,516
Scoop Tram (8 yd)	250	186	0.0476	11.78	24,947
Scoop Tram	295	220	0.0476	13.89	29,437
Hauling Truck	330	246	0.0476	15.54	32,929
Water Tank Truck	200	149	0.0476	9.42	19,957
Diesel Truck (Pipa)	200	149	0.0476	9.42	19,957
Trompo (Mixer)	330	246	0.0476	15.54	32,929
Alpha	140	104	0.0476	6.59	13,970
Backhoe	97	72	0.0476	4.57	9,679
Jumbo Boomer L1C	160	119	0.0476	7.54	15,966
Jumbo Boomer S1D	74	55	0.0476	3.49	7,384
Boltec Anclador MC	173	129	0.0476	8.15	17,263
Boltec Anclador MD	161	120	0.0476	7.58	16,066
Anclador	161	120	0.0476	7.58	16,066
Telehandler	99	74	0.0476	4.66	9,879
Scissor Lift	170	127	0.0476	8.01	16,964
Boom Truck	170	127	0.0476	8.01	16,964
Hanger	170	127	0.0476	8.01	16,964
Anfoloader	170	127	0.0476	8.01	16,964
Mitsubishi L200	126	94	0.0476	5.93	12,573
Nissan	152	113	0.0476	7.16	15,167
Tonelada	330	246	0.0476	15.54	32,929

16.4.9 Mine Dewatering

Each of the main areas within the Mercedes Mine complex has its own independent dewatering system that pumps directly to surface.

Corona de Oro has four secondary sumps, equipped with 15-60 hp submersible pumps, which deliver water to four main pumping stations on 740L, 850L 920L and 1,038L. The main pumping stations are equipped with a combination of 50 hp and 100 hp centrifugal pumps and cascade water upwards to surface (1,185L) at a maximum rate of 52L/sec. Once on surface, the water is stored in ponds that supply the water treatment plant, which provides process water to the operation.

Rey de Oro/Klondike complex has two secondary sumps on 1,024L and 1,020L that are both fitted with 60 hp submersible pumps. There are two main pumping stations on 1,080L and 1,138L that are equipped with a combination of 50 hp and 200 hp pumps. Water from the secondary sumps cascades upwards through the two pumping stations to surface (1,265L) at a maximum rate of 41L/s.

Lagunas complex has three secondary sumps equipped with 15 hp, 35 hp and 40 hp submersible pumps. From the secondary sumps all water is sent to the main sump on 990L. The main sump is equipped with one 140 hp pump capable of delivering 15L/s to surface.

Diluvio has three interconnected pumping systems that consist of the original cascading system and two newer high-pressure pumping stations. The two newer pumping stations are equipped with 250 hp and 400 hp high pressure pumps that can pump a combined 142L/s to surface. Water is delivered to the main pumping stations from a series of secondary sumps equipped with 15-50 hp submersible pumps.

As a result of ongoing underground mining activity at this site, it is not anticipated that water inflows will exceed the capability of the existing infrastructure as mining progresses.

16.4.10 Compressed Air

Compressed air is required underground for various underground equipment, including handheld drilling equipment (jacklegs and stopers) as well as utility requirements. The location and size of the current compressors are as follows:

- Diluvio Area
  - Supplies compressed air to Diluvio, Diluvio West, Lupita, Lupita Extension and San Martin;
  - Two – 1,000 CFM, 150 hp compressors each with a 5,800 L air receiver.
- Mercedes Area
  - Supplies compressed air to Aida, Brecha Hill, Corona de Oro and Casa Blanca;
  - One – 1,000 CFM, 150 hp compressor with a 5,800 L air receiver;
    - Not currently operating, maintained in good state of repair.
- Lagunas Area
  - One – 1,000 CFM, 150 hp compressor with a 5,800 L air receiver;
    - Not currently operating, maintained in good state of repair.
- Rey de Oro Area
  - One – 1,000 CFM, 150 hp compressor with a 5,800 L air receiver;
    - Not currently operating, maintained in good state of repair.

Compressed air is delivered underground via 6 in. diameter piping down the main ramps and/or though service boreholes. Distribution on the levels uses a combination of 4 in. and 2 in. diameter piping.

16.4.11 Electrical

The underground electrical power requirements for the Mine are met by two 13.8 kV circuits, named Mercedes Circuit and Klondike Circuit, fed from the main substation on surface.

The electrical system breakdown is as follows:

- The Mercedes Circuit
  - Total capacity of approximately 10 MW;
  - Surface Loads: paste backfill plant, water treatment plant, camp, workshops, fuel station and guard shed;
  - Underground Loads: Corona de Oro and Lagunas-Barrancas areas;
  - In Corona de Oro there are three 1,000 kVA underground mobile substations located on 1038L, 920L and 740L that feed six 480 V electrical bays in Aida, Corona de Oro (3) and Brecha Hill (2);
  - In Lagunas there are two 1,000 kVA mobile substations located on 1070L and 936L as well as one 750 kVA substation on surface that feed five low voltage electrical bays Lagunas (4) and Marianas.
- The Klondike Circuit
  - Total capacity of approximately 10.5 MW;
  - Underground loads: Diluvio and Klondike areas;
  - In the Diluvio area there are three 1,000 kVA underground mobile substations on 1106L in Lupita, 1065L in Diluvio and 1078L Diluvio West that feed a total of eleven 480 V electrical bays throughout Diluvio, Diluvio West and Lupita. Three additional 480 V electrical bays in Diluvio are fed from a skid mounted transformer on surface;
  - In the Klondike area there are two 1,000 kVA underground mobile substations located on 1000L in Klondike and 1064L in Rey de Oro that feed a total of six 480 V electrical bays in Klondike (3), Rey de Oro (3).

16.4.12 Communications

A leaky feeder communications system is installed in Mercedes, Barrancas, Lagunas, Diluvio, Lupita, and Klondike-Rey de Oro. This system ensures communication between the underground workforce and surface. It is an important part of managing safe development and extraction in the mine operation.

16.4.13 Mine Maintenance

The majority of mobile equipment maintenance is done in surface equipment shops located near the Mercedes portal. Small repairs at Barrancas and Diluvio are done in a small surface area near their respective portals. In addition to these repair facilities, the Mine has a haul truck repair shop located in the Diluvio mining area for major repairs.

16.4.14 Refuge Stations and Escapeways

There are currently eight portable refuge stations at the Mine. Each unit is designed to accommodate 12 to 16 individuals, and is equipped with steel doors and an air-lock chamber. As mining progresses the chambers are relocated to best protect workers in case of an emergency.

The quantities and locations are as follows:

- 2 – Lagunas;
- 1 – Barrancas;
- 2 – Lupita/Diluvio;
- 1 – Klondike/Rey de Oro.

16.4.15 Mine Equipment

The major mine mobile equipment is listed in Table 16-4. The equipment is generally new and is appropriate for the scale of operations and the mine headings. The production metrics for the key production equipment are located in Table 16-5.

Table 16-4: Major fixed and mobile equipment to support mine operations

Equipment Type	Manufacturer	Model	Size	No. of Units
LHD	Epiroc	ST-7	3.5 yd^3	3
LHD	Epiroc	ST-1030	8 yd^3	4
LHD	Sandvik	LH307	3.5 yd^3	2
LHD	Sandvik	LH410	6 yd^3	1
Backhoe	Case	Super N - 580N	3,195 kg	7
Haul truck	Kenworth	T800B	16 tonnes	11
Jumbo	Epiroc	L1C	16'	1
Jumbo	Epiroc	S1D	14'	1
Jumbo	Sandvik	DD311		2
Bolter	Epiroc	Boltec MD	N/A	1
Bolter	Sandvik	DS-311	N/A	4
Longhole Drill	Epiroc	Simba M7C	25.5	2
Scissor lift	Getman	A-64 Scissor		4
Underground boom truck	Getman	A-64 Crane		1
ANFO loader	Getman	A-64 ANFO		3
Scaler	Getman	CSS- Scaler		3
Diamond Drill	Epiroc	Diamec U4 PHC		1
Diamond Drill	Epiroc	Diamec U6 PHC		1
Diamond Drill	Hydracore	Hydracore 2000		1
Tractor trailer	Kenworth	T660	N/A	2
Mixer truck	Kenworth	T800B	8 m^3	7
Fire Truck	Kenworth	T300	N/A	1
Warehouse & Utility truck	Kenworth	T300	N/A	1
Piping Truck	Kenworth	T800B	16 tonnes	1
Piping Truck	Kenworth	T300	N/A	1
Surface boom truck	Kenworth	BT28106 Terex	25 tonnes	1
Telehandler	Caterpillar	TL943	4,082 kg	2
Telehandler	JCB	540-140	4,000 kg	2
Wheel loader	Caterpillar	IT 38H		1
Wheel loader	Caterpillar	242B		1
Wheel loader	Komatsu	WA470		1
Wheel loader	JCB	467 ZX		1
Wheel loader	Case	921 F		1

Equipment Type	Manufacturer	Model	Size	No. of Units
Bulldozer	Caterpillar	D6K		2
Generator	Cummins	DGBB-1209742	23.5-35 kVA	1
Generator	Cummins	DQDAA-1026048	167-250 kVA	1
Generator	Cummins	C2000D6	2,000 kW	1
Compressor	Atlas Copco	G-160	989 cfm	3
Compressor	Atlas Copco	G-161	989 cfm	1

Table 16-5: Key performance metrics for the major mobile equipment at the Mercedes Mine

Mercedes Mine Equipment	Units	2018	2019	2020
Trucks				
Availability	%	82%	83%	87%
Utilization	%	62%	64%	55%
Productivity (Annual Average)	tpd	190	161	117
Jumbo Drills				
Availability	%	85%	78%	79%
Utilization	%	19%	28%	24%
Productivity (Annual Average)	mpd	4	6	7
Scooptram (3.5yd)				
Availability	%	77%	87%	80%
Utilization	%	53%	18%	13%
Productivity (Annual Average)	tpd	132	115	78
Scooptram (6yd)				
Availability	%	78%	81%	69%
Utilization	%	55%	49%	43%
Productivity (Annual Average)	tpd	408	390	251
Longhole drills				
Availability	%	84%	81%	73%
Utilization	%	23%	24%	12%
Productivity (Annual Average)	mpd	93	146	106
Bolter				
Availability	%	82%	85%	81%
Utilization	%	17%	18%	17%
Productivity (Annual Average)	mpd	N/A	N/A	N/A

16.5 Mine Production

16.5.1 Production History

The Mine commenced commercial production in November 2011. Mine production since that time is shown in Table 16-6.

Table 16-6: Mine production history until December 31, 2021

Year	Processed Tonnes (000)	Processed Au Grade (gpt)	Processed Ag Grade (gpt)	Produced Au Oz (000)	Produced Ag Oz (000)	Waste Produced (000)	Capital Development (m)
2011	48	7.55	114.5	8	39	23	257
2012	603	6.43	78.4	116	490	83	5,344
2013	671	6.16	79.4	129	615	158	4,687
2014	682	5.09	55.9	105	398	161	4,373
2015	713	3.96	43.3	84	383	182	3,190
2016	513	4.52	48.4	93	425	94	2,355
2017	684	3.93	37.6	83	338	269	1,859
2018	699	3.39	37.6	69	309	195	1,444
2019	668	2.91	26.2	60	191	270	2,192
2020	399	2.87	33.1	35	168	155	2,731
2021	512	2.69	21.2	42	123	140	2,798
Total	**6,191**	**4.28**	**47.4**	**824**	**3,479**	**1,730**	**31,230**

Notes:
Produced Au and Ag values are as reported by the processing plant.

16.5.2 2021 Mine vs. Mill Production Reconciliation

The QP has reconciled the mining & milling production data for 2021 to determine the delta in tonnes and grades reported from each department. A reconciliation from mine to mill ensures that geological models and underground production reporting are in line with expected tolerances.

The tonnage and gold grade by month for 2021 for the mine compared to the processed grade is shown in Figure 16-13. For the year 2021, the tonnage milled is 5.8% higher than the mined tonnage, the average milled grade was 1.4% lower than the mined grade, and the ounces processed are approximately 4.5% higher than what the mine reported. The difference between tonnes mined and tonnes milled is due to 28,237 tonnes of stockpiled material being milled in the fourth quarter.

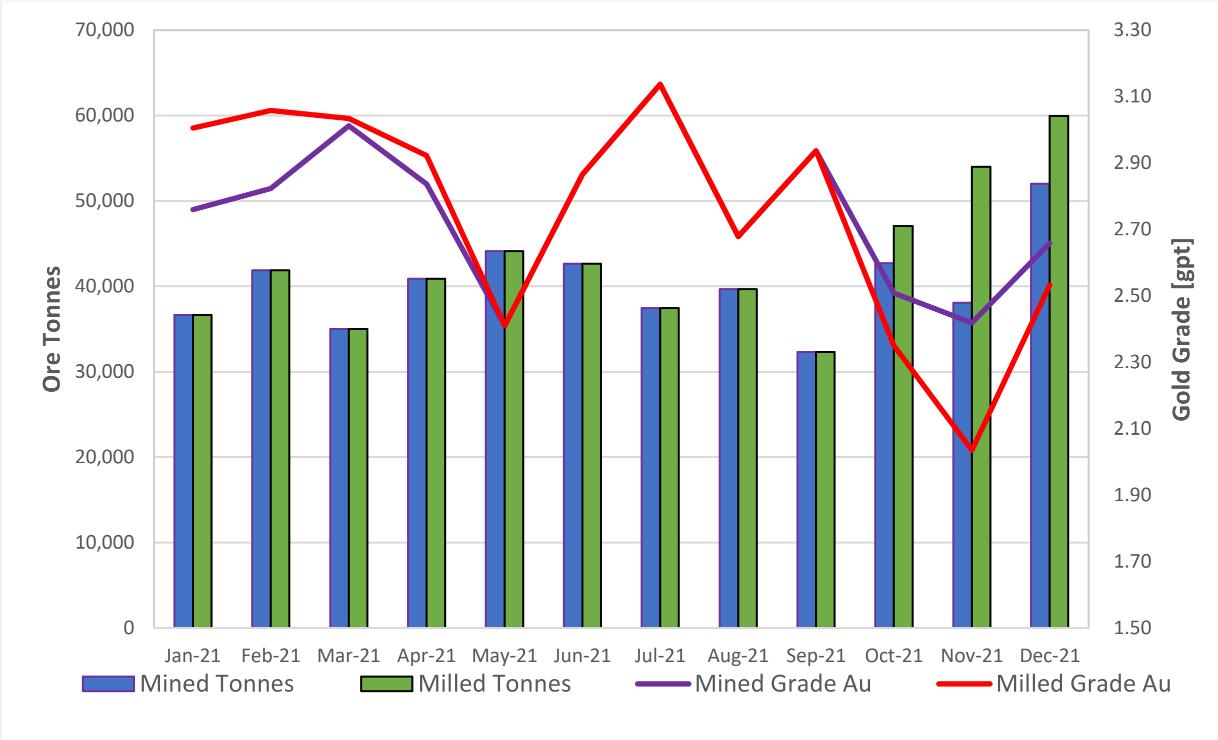

Figure 16-13: 2021 Mine versus Mill tonnes and grade

16.5.3 Life of Mine Production Schedule

The Mine prepares a life of mine plan (LOMP) on an annual basis for reforecasting and budget optimization. David Willock (QP) reviewed the 2022 LOMP supplied by the Mine technical services department. The plan prepared by MMM considers only the material included in the Mineral Reserve statement. All mined ore is expected to be delivered directly to the mill with minimum stockpiling required.

The LOMP was prepared in early 2022, following the completion of the Mineral Reserve estimation. Each deposit was considered individually on a monthly basis to produce a unique LOM profile, feeding the overall LOMP. The LOMP for the mine is summarized in Table 16-7.

Table 16-7: 2021 Life of mine production plan

Category	Units	Year				Total/ Average
		2022	2023	2024	2025	
Ore Tonnes	t 000	582	683	521	430	2,216
Waste Tonnes	t 000	351	240	143	3	595
Au Grade	gpt	3.22	3.60	4.09	4.28	3.75
Ag Grade	gpt	26.3	27.3	32.6	31.1	29.0
Au Contained Oz	oz 000	60	79	69	59	267
Ag Contained Oz	oz 000	492	600	547	430	2,069
Au Recovery	%	95.5	95.5	95.5	95.5	95.5
Ag Recovery	%	40.0	40.0	40.0	40.0	40.0
Au Recovered Oz	oz 000	58	76	65	56	255
Ag Recovered Oz	oz 000	197	240	219	172	828
Development OPEX	m 000	5.7	5.2	4.3	0.5	15.8
Development CAPEX Hz	m 000	4.4	3.2	1.5	0.0	9.1

17. Recovery Methods

The Mine recovery methods were reviewed by Colin Hardie (QP). The processing facilities at the Mine use conventional milling with Merrill-Crowe recovery of precious metals as shown in Figure 17-1 and the flowsheet in Figure 17-2. The plant is capable of processing approximately 2,000 tpd and is comprised of:

- Three-stage crushing;
- Single stage grinding and classification with cyclones;
- Gravity concentration (available but not normally required or used);
- Agitated cyanide leaching;
- Counter current decantation (CCD) thickener wash circuit;
- Merrill-Crowe precious metal recovery circuit;
- Cyanide detoxification of tailings;
- Refinery.

Figure 17-1: Mercedes Mine – Process plant

In 2021, a minor modification was made to the mill flowsheet to optimise and reduce the consumption of cyanide. This change was made to process plant piping to recirculate cyanide containing solution from the CCD circuit to the grinding circuit.

17.1 Crushing

Run of mine (ROM) stockpiles ahead of the crusher are used to blend different grades of ore. ROM ore is transported to the primary jaw crusher dump hopper. From the dump hopper, the ore discharges onto a vibrating grizzly feeder that feeds the ore into the primary jaw crusher. The jaw crusher product discharges onto the crusher discharge belt feeder and then onto a transfer conveyor that transports the crushed ore to the coarse ore bin.

A hydraulic rock breaker, mounted on a mobile backhoe, is used at the crusher dump pocket to break oversize ROM ore.

17.2 Fine Crushing and Conveying

A reclaim feeder transfers crushed ore from the coarse ore bin to the reclaim conveyor. The reclaim conveyer transports the primary crushed ore to the secondary screen. Secondary screen undersize material (final product) discharges to the screen undersize conveyor, which transports it to the fine ore bin. Oversize material from the secondary screen is crushed in the secondary cone crusher. The discharge from the secondary crusher is routed to the tertiary screen.

Oversize material from the tertiary screen discharges into the tertiary cone crusher surge bin and is crushed in the tertiary cone crusher. Tertiary screen undersize (final product) discharges onto the screen undersize collection conveyor. Undersize material from the secondary and tertiary screens are combined and conveyed to the fine ore bin.

The fine ore bin is a 3,500 tonnes live and 5,275 tonnes total capacity bin measuring 16 m in diameter and 16 m high. Ore is withdrawn from the bin by two 1,220 mm wide fine ore bin reclaim belt feeders.

A transfer chute, belt feeder and additional conveyor were added in 2020 to provide an option to bypass the fine ore bin and feed directly to the grinding (ball) mill.

17.3 Grinding and Classification

The grinding circuit reduces the crushed ore from a particle size of 80% passing (F_{80}) 9.5 mm (3/8 in.) to a nominal P_{80} of 45 µm.

A single ball mill measuring 5.03 m in diameter and 8.84 m long, powered by a 3,430 kW motor, is operated in closed circuit with hydrocyclones. The reclaim belt feeders from the fine ore bin discharge crushed ore to the ball mill feed. The ball mill discharges to the cyclone feed sump. Slurry is pumped from the sump using variable speed horizontal centrifugal slurry pumps to a bank of seven (five operating) 254 mm (10 in.) hydrocyclones. A portion of the cyclone underflow flows by gravity to the gravity concentration circuit when it is in use. The remainder of the slurry from the cyclone underflow is combined with the tailings from the gravity concentration circuit when it is in use and returned to the ball mill for further grinding. Overflow from the cyclones is the final product from the grinding circuit. The slurry flows by gravity to the pre-leach thickener.

Pebble lime is added to the ball mill feed conveyor to adjust the pH of the slurry. Sodium cyanide containing barren solution is added into the cyclone feed sump. The primary leaching of gold and silver starts inside the grinding circuit with 70-80% of the leaching happening there.

17.4 Gravity Concentration

Approximately 25% of the hydrocyclone underflow is directed to a 762 mm diameter bowl style gravity concentrator when it is in use. Tailings from the gravity concentrator are returned to the ball mill circuit. Gravity concentrate flows by gravity to a magnetic separator and shaking table circuit. Non-magnetic concentrate material is further upgraded on a shaking table. Middlings from the shaking table are recirculated to the table feed, while the tailings are pumped back to the ball mill circuit. The table concentrate is dried in an electric oven prior to smelting. The concentrate is direct smelted to produce a final doré product.

17.5 Pre-leach Thickener

Flocculant is added to a 16.4 m diameter high-rate thickener feed to aid in settling the solids and promote liquid/solids separation. A variable speed thickener underflow pump is adjusted to either the thickener underflow density or thickener solids loading. Underflow from the pre-leach thickener is pumped at approximately 54% solids to the leach circuit. Overflow from the pre-leach thickener is pumped to the clarification circuit.

17.6 Leach Circuit and Counter Current Decantation

The leach circuit consists of a series of four 9.3 m diameter by 9.9 m high agitated tanks. Each tank has a working volume of 581 m^3. The slurry is leached in cyanide solution to extract gold and silver from the ore. The four leach tanks provide approximately 24 hours of retention time at 50% solids. Cyanide solution may be added to the first, third, or fourth tanks. Low pressure air is piped to all tanks. Slurry advances by gravity from leach tank to leach tank, starting at leach tank 1 and exiting leach tank 4.

After leaching, the slurry continues to flow by gravity and reports to a series of four, high-capacity, 16.4 m diameter CCD thickeners, for washing of the leach tailings to remove soluble gold and silver. CCD thickener underflow slurry is advanced by pumping from thickener to thickener, starting in CCD 1 and exiting from CCD 4. The slurry density in the CCD thickeners is maintained at 55 % solids by weight. From CCD 4, the underflow slurry flows by gravity to the cyanide recovery thickener. Overflow from the cyanide recovery thickener, along with barren solution from the Merrill-Crowe plant, are pumped to the last CCD thickener dilution box, where it combines with barren solution to be used as wash water. CCD thickener overflow flows by gravity in a flow pattern that is counter current to the underflow slurry, starting at CCD 4 and ending at CCD 1. From CCD 1, the overflow solution is pumped to the Merrill-Crowe circuit.

17.7 Cyanide Recovery Thickener

Underflow from CCD 4 reports to a high-capacity, 16.4 m diameter cyanide recovery thickener. Flocculant and dilution water are added to the thickener feed to aid in settling. The withdrawal rate of settled solids is controlled by a variable speed thickener underflow pump, to maintain either the thickener underflow density or thickener solids loading. The thickener underflow pump sends the cyanide recovery slurry to the detoxification circuit, while overflow from the cyanide recovery thickener is pumped back to the CCD circuit as wash water.

17.8 Tailings Detoxification

In the tailings detoxification circuit, weak acid dissociable (WAD) residual cyanide (CN^-) is oxidized to relatively non-toxic cyanate (OCN^-) using sodium metabisulphite ($Na_2S_2O_5$), coper sulphate and air, a variant of the INCO SO_2-air process, which is referred to in this manner in other parts of this technical report. Copper sulphate is added as a catalyst for the reaction. The stable iron cyanide complexes are precipitated from the solution as insoluble ferro-cyanide complexes. Cyanide levels are reduced to environmentally acceptable, non-toxic levels.

Two 7.5 m diameter by 8.5 m high agitated tanks serve as the detoxification reactors. Each tank provides a residence time of approximately 1.5 hours. Underflow from the cyanide recovery thickener is diluted to approximately 25% solids by weight in the cyanide detoxification tank using fresh water or reclaimed water from the TMF. Slurry discharging from the detoxification circuit flows by gravity to a high-capacity, 16.4 m diameter tailings thickener. Flocculant and dilution water are added to the thickener feed to aid in settling.

The tailings thickener underflow is the final tailings from the plant. The slurry is pumped to the tailings management facility or pumped to the paste fill plant and used as backfill to fill voids in the underground mine. Overflow from the tailings thickener is pumped back to the detoxification circuit for dilution water or to the reclaim water tank.

17.9 Merrill-Crowe

Gold and silver are recovered from the pregnant solution by the Merrill-Crowe process, which utilizes zinc dust cementation and comprises:

- Clarification and filtering of pregnant solution to remove suspended solids;
- De-aeration of pregnant solution to reduce the dissolved oxygen concentration;
- Recovering gold and silver from the solution by zinc dust cementation;
- Filtering and drying of the precious metals cementation product.

A portion of the pregnant solution from CCD 1 is returned to the grinding circuit for use as dilution water. This enriches the pregnant solution to achieve higher concentrations of precious metals, which improves the performance of the Merrill-Crowe circuit. The precious metal recovery circuit has the capacity to process approximately 155,000 ounces of gold and 595,000 ounces of silver annually. Barren solution exiting the Merrill-Crowe circuit flows into a barren solution tank and is recycled to the process.

17.9.1 Refinery

The zinc dust cementation product and gravity concentrate are independently batch processed in retort furnaces to volatilize and recover mercury (Hg), which may be present. There are two Hg retorts. The dried cementation product and/or the gravity concentrate are mixed with fluxing agents and charged to an indirectly-heated, diesel-fired crucible melting furnace for smelting. The doré metal, containing the gold, silver and minor impurities, is poured into bar molds. The doré is shipped off site for further refining. The impurities are collected in slag that rises to the top of the molten metal and separated from the precious metal. The slag is returned to the grinding circuit for re-processing.

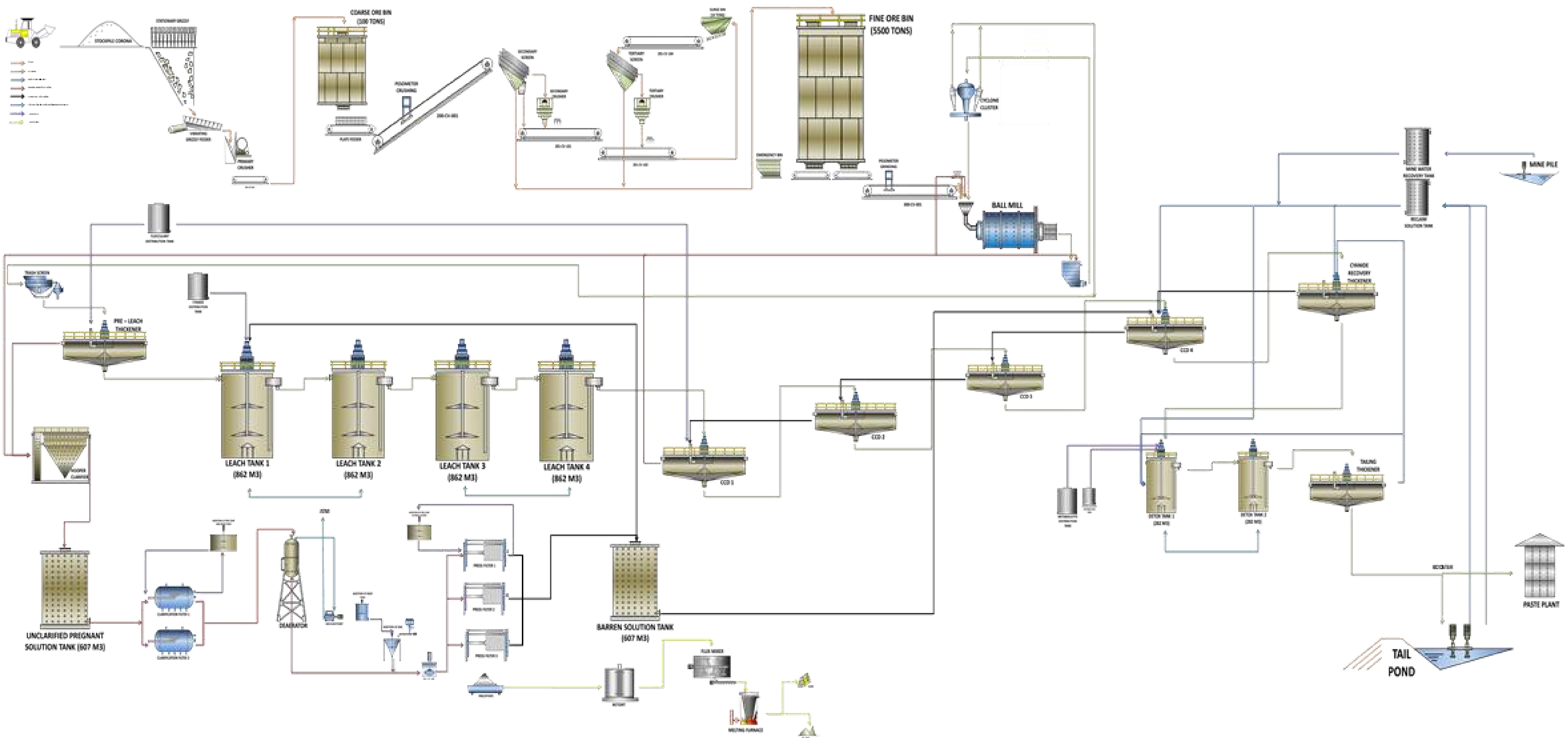

Figure 17-2: Mercedes Mine – Process plant flow sheet

18. Project Infrastructure

18.1 Overview

The Mercedes Mine is comprised of all surface and underground infrastructure necessary to operate the site, including:

- A process plant with a maximum installed capacity of 2,000 tpd. This facility manages ore from the different mining areas and stockpiles;
- Mine infrastructure: administrative office facilities, two camp facilities (exploration and mine personnel), mine operation and maintenance facilities (surface and underground), core storage and exploration offices, personnel change room facilities (mine dry), a lamp room and safety room are also in place;
- Three-stage crushing plant;
- Tailings management infrastructure for surface disposal; two existing and a third one to be designed and constructed;
- A paste plant for underground backfill. A portion of the tailings are mixed with cement, yielding a nominal output rate of 94 tph of paste backfill at 55 wt% solids content current as mixer trucks transfer the backfill material to the current mining areas further away. The paste plant in general is designed for 78 wt% solids content;
- Two on-site batch plants for the preparation of shotcrete and for concrete as required;
- Water supply and Water Treatment Plant;
- Electrical energy supply with an installed capacity of approximately 14 MW;
- Access roads connecting the site with public roads as well as internal roads connecting the different mine areas to the plant and to the other major infrastructure. There are security gates and security post at mine entries;
- Ore and waste stockpiles areas.

The overall site plan infrastructure layout of the Mercedes site is shown in Figure 18-1 and Figure 18-10.

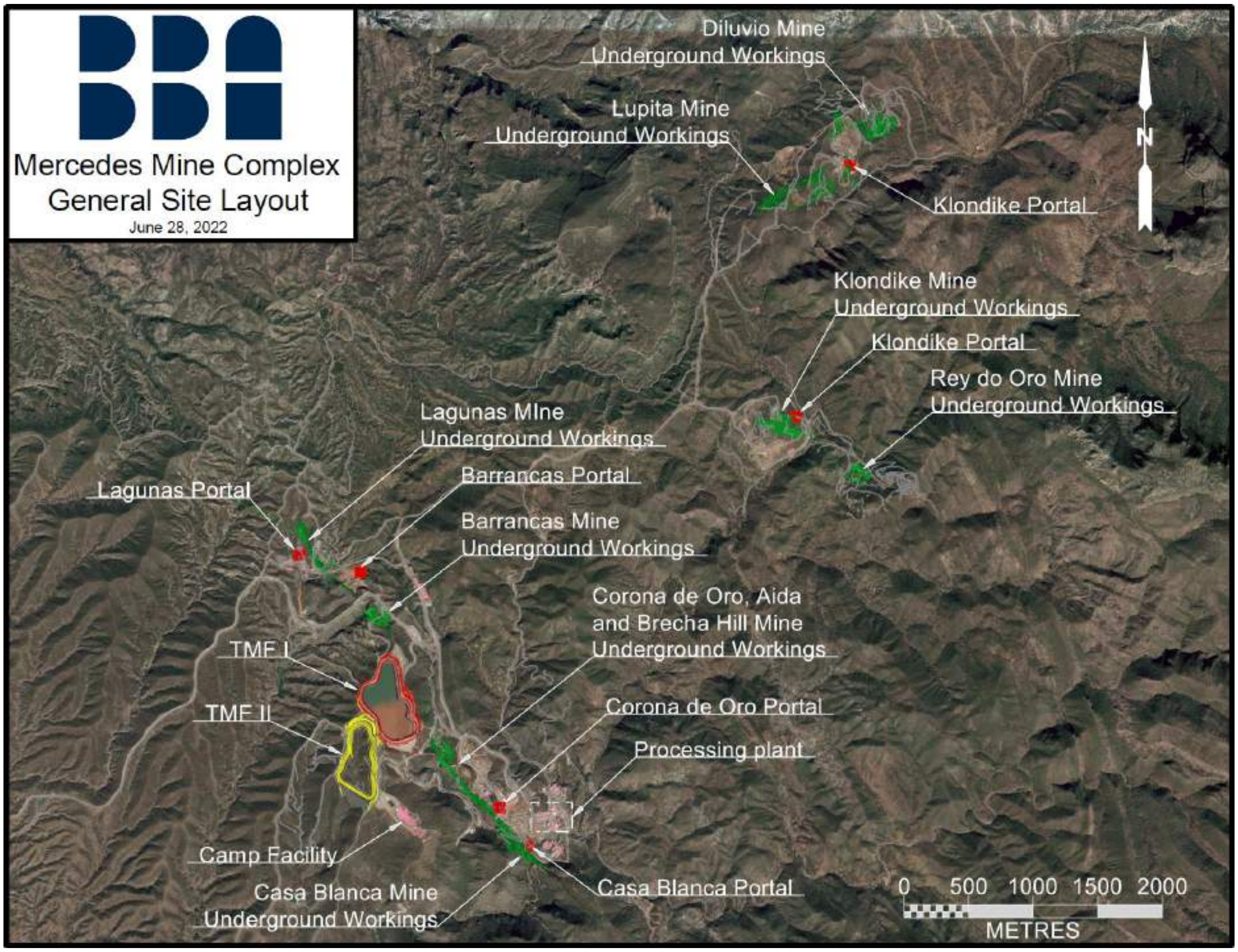

Figure 18-1: Mercedes Mine infrastructure
(source: Google Earth, 2014)

Over the last few years, exploration activities at Mercedes have resulted in the life of mine (LOM) being extended to 2025. To support the longer mine life, a number of infrastructure improvements and additions are required. The principal changes foreseen at this stage of the project are:

- Development of a new tailings storage facility (TSF3), including extension of deposition pipelines;
- Additional access and hauling roads;
- Extension of electrical lines;
- Development of new ore and waste rock stockpile areas.

The following sections summarize the tailings management facility infrastructure to be updated as planned and reported by MMM.

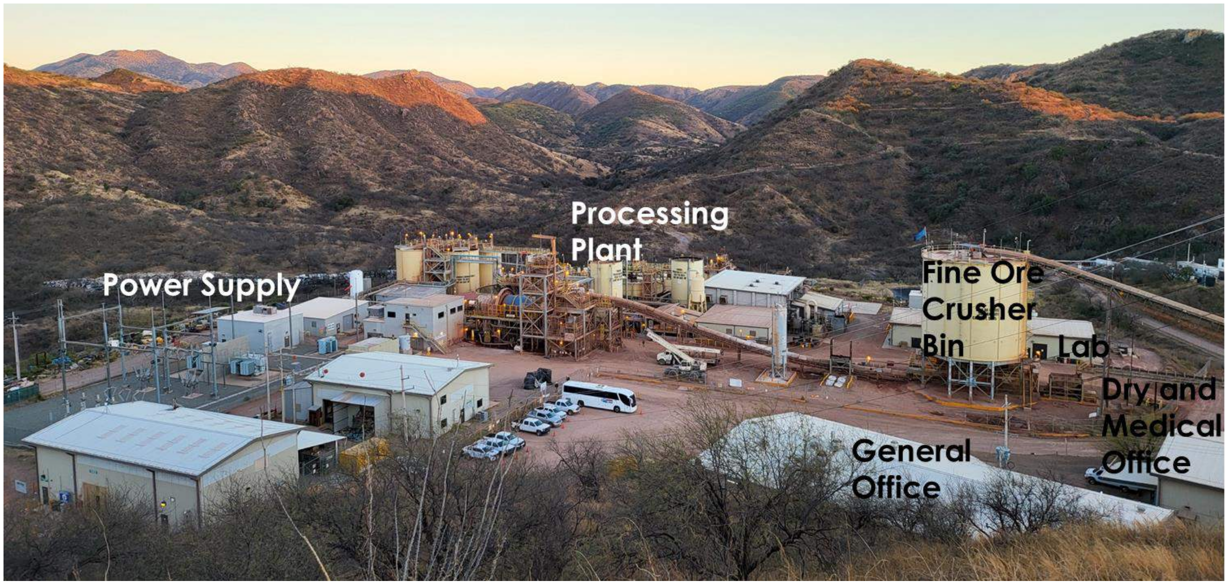

Figure 18-2: Site overview, site visit Feb 25, 2022
Photo taken by Shane Ghouralal

Figure 18-3: Site overview, site visit Feb 25, 2022
Photo taken by Shane Ghouralal

18.2 Power

Power is provided to the site via a federal 115 kV transmission line from Magdalena de Kino 65 km away. Two 115 kV – 13.2 kV step-down transformers are provided to feed all the facilities. Both transformers are sized so that each can carry the full load to ensure full redundancy. There is a separate transformer for the mill. The system uses capacitor banks to maintain the power factor correction at a minimum of 98%. The 2 kVA backup diesel generators feed the emergency mine and site services. The site also uses the diesel generator for maintenance shutdowns. The pictures below show the facilities described.

Figure 18-4: Power supply - Step down to 13.2 kVA

Figure 18-5: Site switchgear with two reserves

Figure 18-6: Diesel backup generator

18.3 Water Use and Water Treatment Plant

The water treatment plant treats water from the mine and provides the capability of recycling water on site. The water is stored in sedimentation ponds that decants the water to the water treatment plant. The water is treated with chlorine and cleaned through a series of filters followed by an arsenic removal stage. The final treated water is produced at 3 liters per second. Between 100–110 cubic metres of mine site water are processed per day. The process plant water is recycled from the tailings facility and can provide the process plant with 12 days of process water with the recycled water from the tailings. The pictures below show the water treatment facility.

Figure 18-7: Water treatment plant

Figure 18-8: Filtration systems

Figure 18-9: Arsenic removal tanks

18.4 Tailings Storage Facility

Tailings management at the Mercedes site is based upon using both conventional surface hydraulic deposition and underground paste backfill approaches. Slurry tailings at the process plant are detoxified by a sulphur dioxide-air (SO_2-air) cyanide destruction circuit, prior to being pumped via pipelines to the tailings storage areas. Geochemical characterization test work indicates that the leaching potential of the tailings is generally low and meets the requirements of NOM-052.

Currently, two surface facilities to store tailings exist at Mercedes, TSF1 and TSF2. Hydrotechnical, geotechnical and civil engineering design for these facilities has been performed according to Mexican regulations (Golder, 2021). The impoundment areas are lined with synthetic geomembranes.

Production records indicate that TSF1 reached its maximum capacity in 2018; TSF2 started operations in November 2018 and its design and construction were planned and executed in two phases. According to Golder (2021), the first phase of TSF2 was projected to reach maximum capacity in 2020. Due to the modified mine plan that was implemented after the suspension of operations in March 2020 by order of the health authority to mitigate the spread of the virus COVID-19, the life of TSF2 (Phase 1) was extended until Q3 2023. The second phase of TSF2 is operational. Both storage areas, TSF1 and TSF2, are shown in Figure 18-10.

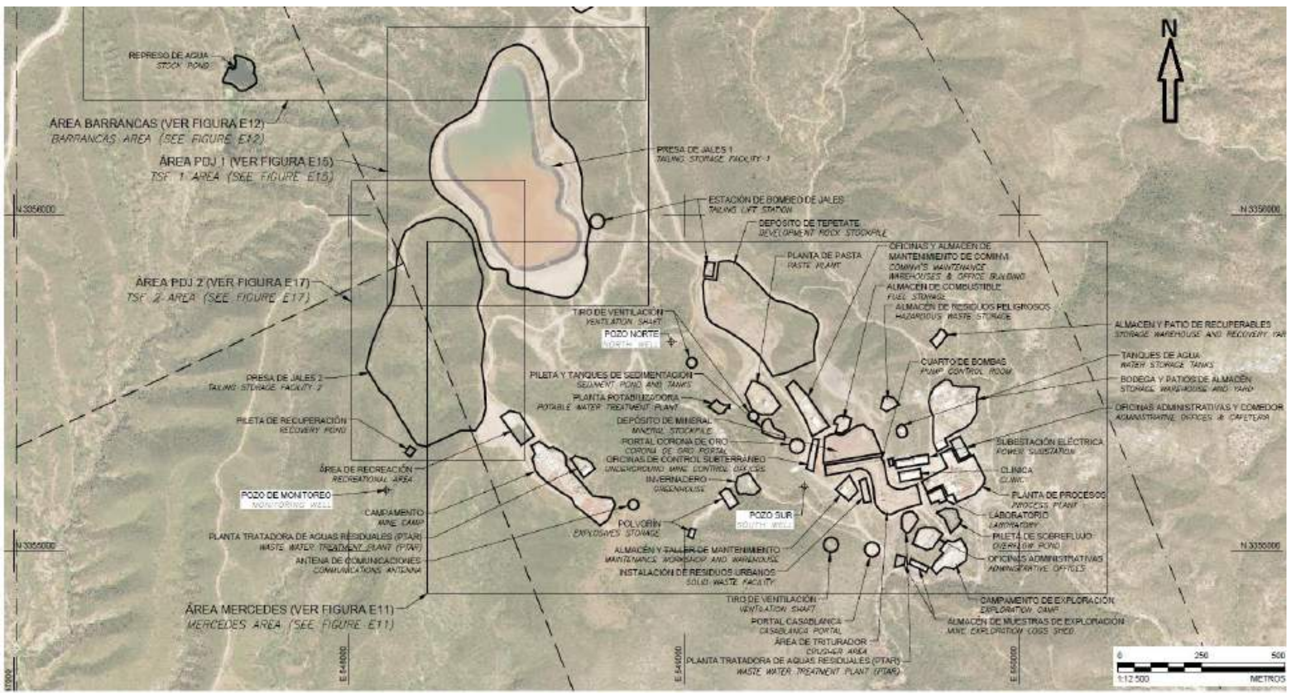

Figure 18-10: Mercedes Mine tailings storage areas TSF1 and TSF2 (source: Golder, 2021)

Figure 18-11: TSF1 requires closure plans for land reclamation

Figure 18-12: TSF2 currently in use

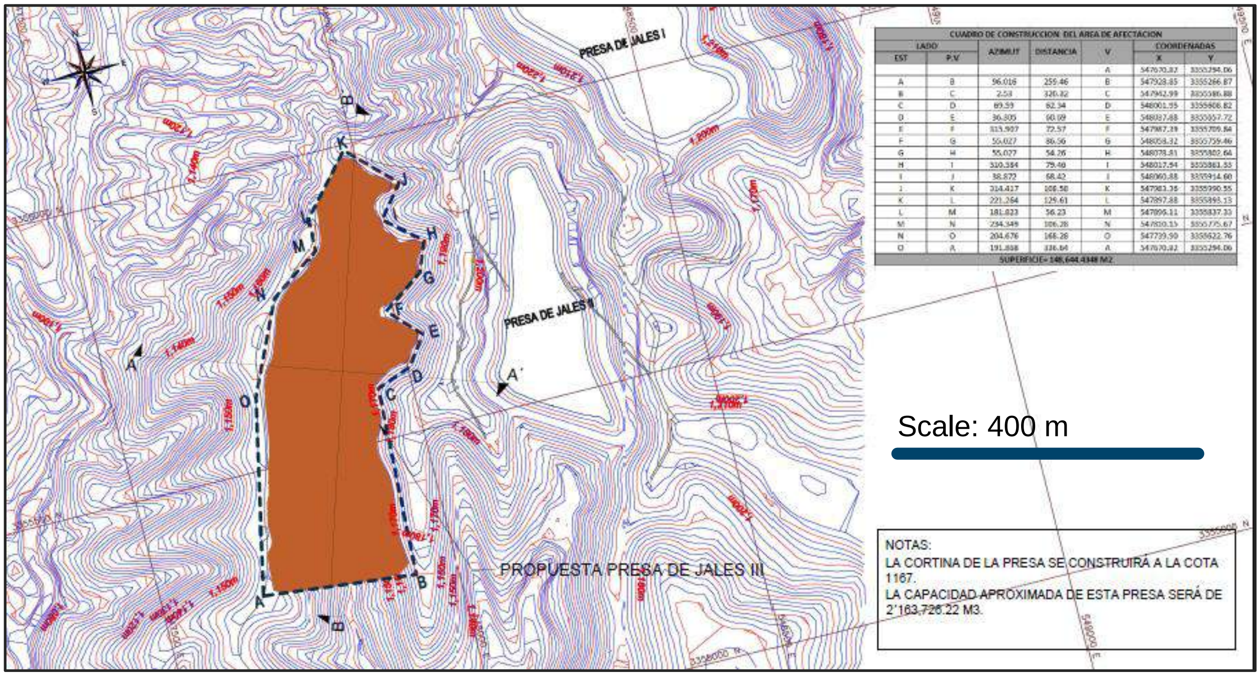

Figure 18-13: TSF3 Plan by Mine general services

18.4.1 Tailings Storage Capacity

The total capacity of TSF2 is evaluated at 1,798,000 m³ (Golder, 2021). Based upon the current LOM forecast and maximizing the quantity of tailings used underground as paste backfill, TSF2 will reach full capacity in Q2 2025. To accommodate all of the tailings produced as per the LOM plan, the development of a third tailings storage facility (TSF3) is currently being permitted to initially store approximately 500,000 m³. Preliminary plans are to build TSF3 to the southwest of TSF2. TSF3 is designed to have a capacity of 850,000 m³. TSF3 is required by August 2023. At this stage of the project it is assumed that the facility design, construction, development stages and project components will be similar to those of the previous two constructed facilities. Table 18-1 shows the TSF2 current filling schedule and the TSF3 staged requirement schedule based on the LOM. Capital costs have been estimated by MMM within the LOM budget and are presented in Chapter 21.

Table 18-1: TSF2 filling schedule and TSF3 requirement schedule

Projection of filling of TSF2 with Stage 2 & TSF3 schedule							
Date	LOM mat. to mil (ton)	100% pulp sent to dam (m³)	30% pulp sent to dam (m³)	70% pulp sent paste fill (m³)	free capacity 100% sent to dam (m³)	free capacity 30% sent to dam (m³)	Comments (2 m free board 1,194.2 MS+D4:I18NM) 1,108, 052 m³
Jan-22	51,572	27,959			898,915	898,915	Real data per month with topography
Dec-22	56,174	44,232	13,269	30,962	479,857	773,198	
Jan-23	58,566	46,115	13,834	32,280	433,742	759,363	
Sep-23	59,692	47,002	14,101	32,901	61,201	647,601	Should be built Phase 1, TSF3
Oct-23	62,481	49,198	14,759	34,439	12,003	632,842	Phase 02 TSF2 is filled, sending 100%
Nov-23	64,095	50,468	15,140	35,328	811,535	617,701	Capacity TSF3: 850, 000 m³
Dec-23	65,233	51,364	15,409	35,955	760,171	602,292	
Jan-24	54,239	42,708	12,812	29,896	717,463	589,479	
Dec-24	47,461	37,371	11,211	26,160	262,313	452,935	
Jan-25	47,381	37,308	11,192	26,116	225,005	441,742	
Dec-25	10,735	8,453	2,536	5,917	57,801	391,581	TSF3 capacity for the LOM 100%

18.5 Site Water Balance

In 2021, approximately 300,000 m³ of fresh water was consumed on-site. The major consumers of water at the Mercedes site are the plant (57%), the mines (30%), the mine camp (8%) and site offices (4%). The mine site consumes approximately 25,000 m³ per month.

The water sources are the operating tailings storage area and wells, supplemented by dewatering from the mining areas. Operations reported that although the Mercedes site is located in a relatively arid climate, site water sources have been able to provide sufficient water to the operations to date.

There are two on-site water treatment plants, one at the camp and the other at the office. Yearly treated water, discharged from the site, was reported as 25,400 m³. On average, approximately 2,100 m³ of water is discharged to the environment every month.

In 2021, the reported processed ore was approximately 512,000 tonnes. Considering a tailings slurry density of 55% of solids by weight, it was estimated that 467,600 m³ of water were required during processing. As water consumption for the process was reported as 268,000 m³, it assumed that the remaining 200,000 m³ was recirculated from the tailings storage area. This represents 47% of the total water needs. According to Mine personnel, the recirculation rate target in a normal production year is around 60%, with 30% of slurry water trapped in tailings voids and 10% through other losses.

As the future LOM processing rates are expected to be similar to historic production figures, it is assumed that the site will have sufficient water availability.

19. Market Studies and Contracts

19.1 Markets

No market studies have been conducted by Bear Creek Mining Corporation nor its consultants on the gold and silver produced at Mercedes. Gold and silver are freely traded commodities on the world market for which there is a steady demand from numerous buyers. Doré is produced at the Mine and refined at Asahi Refining's Salt Lake City, Utah refinery. The refined metals are then delivered to an offtake partner, streaming counterparties, with any remaining balance sold through Asahi Refining.

19.2 Gold and Silver Price Projections

Figure 19-1 and Figure 19-2 show the gold and silver spot prices on a monthly since March 2019. As of the end of February 2022, the trailing three-year gold monthly price average was US$1,683/oz and the trailing three-year silver monthly price average was US$21/oz.

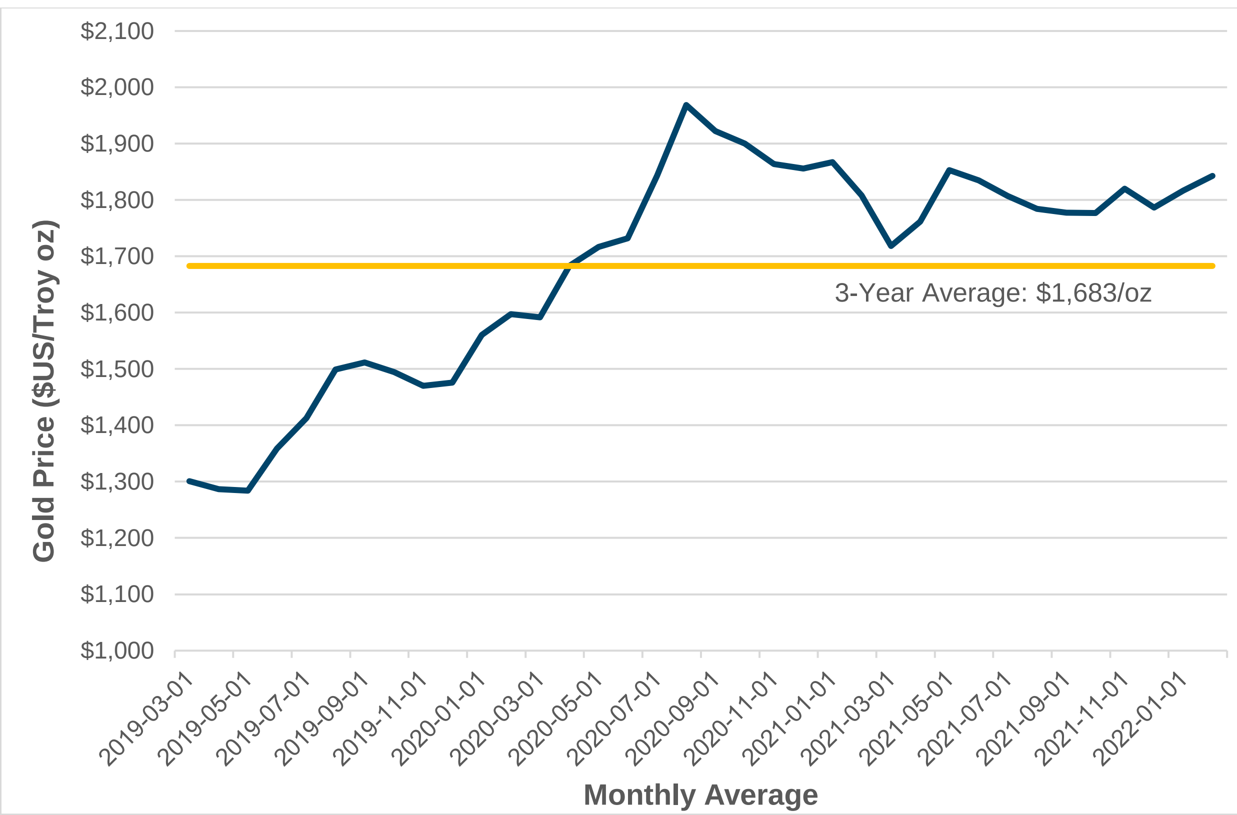

Figure 19-1: Gold spot price on a monthly basis since March 2019

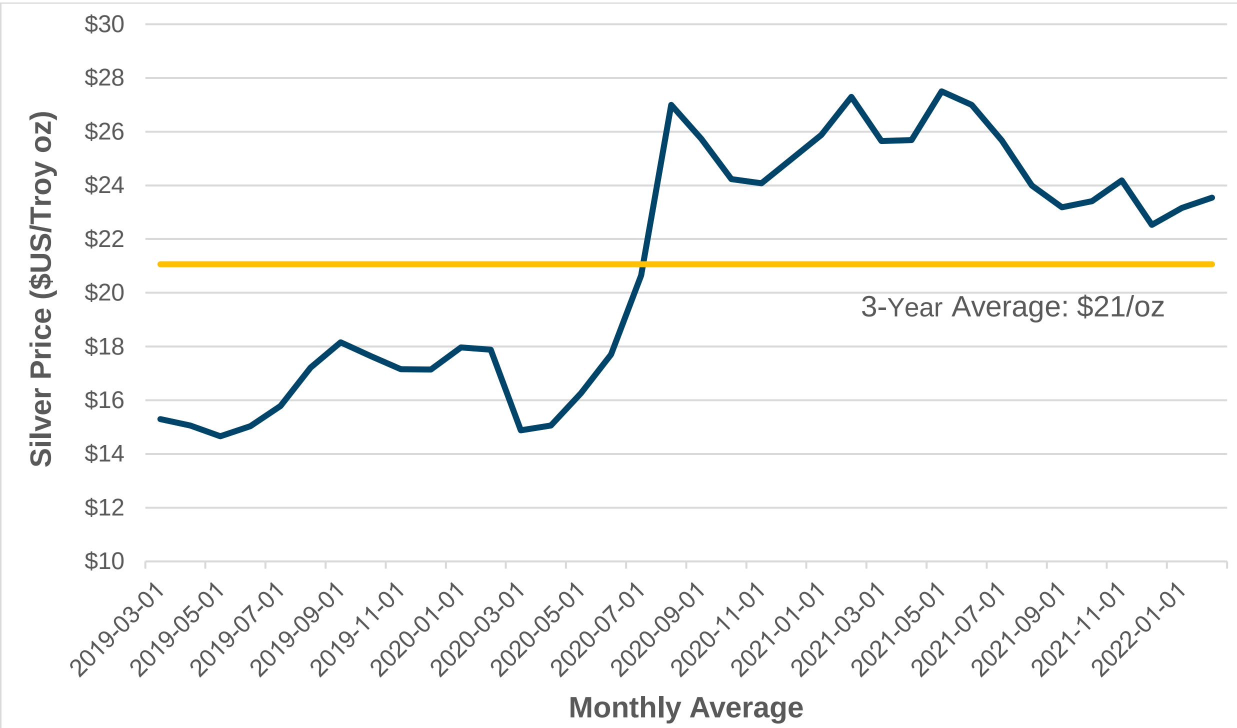

Figure 19-2: Silver spot price on a monthly basis since March 2019

For this report, a gold price of US$1,700/oz, a silver price of US$21/oz and an exchange rate of 19 Mexican Peso to US dollar (base case) were assumed within the financial model (Chapter 22) to estimate costs and revenues from the project. The forecasted gold and silver prices are kept constant and is meant to reflect the average metal price expectation over the life of the project. It should be noted that metal prices can be volatile and that there is the potential for deviation from the LOM forecasts.

19.3 Contracts

19.3.1 Metal Streaming Contracts

Mercedes has gold and silver stream contracts with Nomad Royalty Company (Nomad) and Sandstorm Gold Royalties (Sandstorm). Both stream contracts are described in Section 22.1 of the Economic Analysis chapter.

19.3.2 NSR Contracts

Mercedes has NSR contracts with Elemental Royalties and Equinox Gold Corp. Both stream contracts are described in Section 22.1 of the Economic Analysis chapter.

19.3.3 Service and Supply Contracts

Mercedes is an operating mine and processing facility and has contracts in place for the provision of various services and supplies. The material contracts in place are:

- Diesel and Fuel – Abastecedora De Combustibles Del Noroeste (Petroil);
- Cement – Mintcsa Minas Y Tramos Carreteros, S.A. De C.V.;
- Mine Development – Cominvi Servicios S.A. de C.V.;
- Catering – Servicios de Catering San Luis S.A. de C.V.;
- Explosives – Explosivos Del Pitic, S.A. De C.V. (Austin);
- Diamond drilling – Major Drilling de Mexico S.A. de C.V.;
- General Mining Supplies – Sandvik Mining and Construction MEXICO, S.A. De C.V.;
- Drilling Supplies – EPIROC MEXICO, S.A. De C.V.;
- Power – Comisión Federal de Electricidad (CFE);
- Shotcrete – RO-K, S.A. De C.V. (RO-K);
- Steel Materials – Larusa, S.A. De C.V.;
- Oils and Lubricants – Circulo Llantero, S.A. De C.V.;
- Contracted Dore Refiner - Asahi Refining;

The QP did not review the details of the various contracts but considers the amount of contracting to be within industry norms compared to similar operations in North and Central America.

20. Environmental Studies, Permitting, and Social or Community Impact

The Mercedes Mine is currently operating within the environmental framework established by the former mine owners; Premier Gold Mines and Equinox Gold. The site operates under a corporate responsibility program that includes corporate responsibility, community relations, environment, and health and safety.

20.1 Project Permitting

Though local and state permits are also required, mine permitting in Mexico is regulated and administered under an integrated regime by the government body, Secretaría de Medio Ambiente y Recursos Naturales ("SEMARNAT"), the federal regulatory agency that establishes the minimum standards for environmental compliance. The federal level environmental protection system is described in the General Law of Ecological Equilibrium and the Protection of the Environment (Ley General de Equilibrio Ecológico y la Protección al Ambiente or "LGEEPA"). Under LGEEPA, numerous regulations and standards for environmental impact assessment, air and water pollution, solid and hazardous waste management and noise have been issued. Article 28 of the LGEEPA specifies that SEMARNAT must issue prior approval to parties intending to develop a mine and mineral processing plant.

The key environmental permits for the Mercedes operation currently in place are listed in Table 20-1.

Table 20-1: Key environmental permits

Permit & Licence Name	Agency	Permit type	Issued Date	Expiry Date
MIA Mercedes	Secretaría del Medio Ambiente y Recursos Naturales	Oficio Resolutivo	Apr-2010	Apr-2026
MIA Ampliación Mercedes	Secretaría del Medio Ambiente y Recursos Naturales	Oficio Resolutivo	Dec-2010	Dec-2026
IA Barrancas	Secretaría del Medio Ambiente y Recursos Naturales	Oficio Resolutivo	Sep-2011	Jan-2027
MIA Diluvio	Secretaría del Medio Ambiente y Recursos Naturales	Oficio Resolutivo	Nov-2012	Nov-2025
MIA LSTE	Secretaría del Medio Ambiente y Recursos Naturales	Oficio Resolutivo	Jul-2010	Jul-2060
MIA Presa de Jales 2	Secretaría del Medio Ambiente y Recursos Naturales	Oficio Resolutivo	Jun-2017	Jun-2027

Permit & Licence Name	Agency	Permit type	Issued Date	Expiry Date
Número de Registro Ambiental (NRA)	Secretaría del Medio Ambiente y Recursos Naturales	NRA: MMMSP2602211	Dec-2010	No
Registro como generador de residuos peligrosos	Secretaría del Medio Ambiente y Recursos Naturales	Registro	Dec-2010	No
Licencia Ambiental Única (LAU)	Secretaría del Medio Ambiente y Recursos Naturales	LAU-26/090-2013	Feb-2013	No
Licencia Ambiental Integral (LAI)	Comisión de Ecología y Desarrollo Sustentable del Estado de Sonora	LAI No. DGGA-LAI-092/14	Sep-2014	No
Permiso de descarga de agua residual	Comisión Nacional del Agua	Permiso	Nov-2012	No
Plan de manejo de gran generador de residuos	Secretaría del Medio Ambiente y Recursos Naturales	Plan	Oct-2017	No
Plan de manejo de residuos mineros	Secretaría del Medio Ambiente y Recursos Naturales	Plan	Sep-2017	No
Cédula de Operación Anual (COA)	Secretaría del Medio Ambiente y Recursos Naturales	Constancia	Jun-2013	Renewed Annually
Permiso de Explosivos	Secretaría de la Defensa Nacional	Permiso: 4344-Son	NA	Dec-2022
Permiso de Seguridad Radiológica	Comisión Nacional de Seguridad Nuclear y Salvaguardias	Licencia	Aug-2011	Aug-2026

20.2 Social or Community Requirements

MMM has a well-developed community program in the community of Cucurpe, Sonora, approximately 22 km west of the Mercedes operation. Although the Mine is located within private land, previously purchased from a local rancher, MMM in 2010/2011 established various social and economic programs at the community of Cucurpe and this engagement has been sustained. In 2020 and 2021; however, many community engagement activities were curtailed or held virtually due to the COVID-19 pandemic.

- Open Doors Program
  - The Open Doors Program was suspended in 2020 due to the pandemic, but this program's objective is to establish, in a clear and transparent manner, better communication between MMM and local communities (Cucurpe and Magdalena). In previous years, employees and their families, students, and community representatives have visited the Mine to learn more about the company's vision, values, safety procedures and environmental management policies.
- Education
  - At Cucurpe, there are three levels of education: Kindergarten, Elementary, and Middle-High School. MMM has direct contact with the three schools and the main support consists of providing school supplies and sports equipment benefiting the children;
  - MMM also supports a scholarship program to benefit the students that attend the elementary school, middle school, and college.
- Community
  - MMM supports the community twice a year with the maintenance of the dirt roads.

In 2021, the most important social programs included:

- Pandemic awareness (COVID-19)
  - Regular and ongoing communication with the communities of Magdalena, Santa Ana and Cucurpe regarding COVID-19 protocols;
  - Donation of medications, PPE, equipment and cleaning supplies to surrounding medical facilities;
  - Regular communication with local and state doctors as well as epidemiological specialists;
  - Epidemiological monitoring and support of local ranchers.
- Breast cancer awareness
  - MMM coordinated the 2021 breast cancer campaign with the community of Cucurpe, which included mammography examinations for the women of Cucurpe.
- Volunteering Program
  - As part of MMM's volunteering efforts, Christmas gifts were donated to the kindergarten of Cucurpe. Mercedes employees and the company participate in this program annually.
- Education
  - MMM continued providing school and cleaning supplies as well as sports equipment to the three local schools. In addition to this MMM provided PPE equipment and made donations of fuel vouchers for the school bus for the community of Cucurpe.

- Corporate Social Responsibility
  - MMM received the ESR badge for the eighth consecutive year from the Centro Mexicano para la Filantropía (CEMEFI), which is a private, non-profit membership association based in Mexico City that seeks to promote a culture of philanthropy and social responsibility in Mexico.

20.3 Mine Closure Requirements

Mexican law requires only a conceptual plan that meets legal guidelines for implementation. The post-closure land uses for the Mercedes property are defined as ranching and wildlife, which correspond to the original land use prior to mining activities in the area. All mine waste facilities, mine openings, plant areas, processing areas, buildings, storm water and water treatment facilities, storage areas, stockpiles, and borrow areas will be closed so that there are no potential safety or health hazards for ranchers, cattle and wildlife. The exit strategy has also been defined as walk-away mine closure to the extent feasible, which is consistent with the current practice of hauling out domestic and hazardous wastes, rather than establishing on-site landfills. The intention is to remove wastes and demolition debris to the extent possible, to minimize the number of facilities requiring long-term care and maintenance. Final reforestation of areas disturbed by infrastructure will be implemented.

Within the context of restoration measures and remediation practices, the following are summarized below:

- Undertaking activities designed to degrade and permanently confine the dumps;
- Reinstating the use and ecological productivity of the land to conditions similar to and prior to the development of the Mine;
- Planting to encourage colonization and generation of organic matter;
- Managing restored areas;
- Re-seeding practices;
- Monitoring.

An updated closure plan and schedule was developed by Golder (Golder, 2021) based upon assumed closure activities beginning in 2026. The costs of the closure of the existing facilities at the Mine are mostly concentrated in the first four years, with most closure activities being completed by 2031. The post-closure period begins in 2032 and will continue for 20 years until 2052.

The total direct and indirect cost of closure and post-closure of the Mine was estimated at US$16.17 million including contingency. The direct cost for closure, calculated using present value methods, was estimated at US$10.59 million. This cost is driven in large part by the earthwork (US$4.27 million) and removal activities (US$2.24 million), which correspond to more than 60% of the direct costs. Indirect costs were estimated at US$2.75 million and include engineering, design and construction, insurance, contractor profit and contract administration. An overall contingency for closure is estimated at US$2.57 million while post closure costs for the period between 2032 to 2052 have been evaluated at US$289,000.

The rehabilitation cost estimates for the Mercedes operation are listed in Table 20-2.

Table 20-2: Closure cost estimate

Category	Cost (US$)
A. Earthwork / Recontouring	$4,273,000
B. Revegetation / Stabilization	$560,000
C. Detoxification / Water Treatment / Disposal of Wastes	$540,000
D. Structure, Equipment and Facility Removal	$2,240,000
E. Ongoing Monitoring	$464,000
F. Construction Management and Support	$2,014,000
G. Closure Planning, G&A, Human Resources	$504,000
Direct cost (Subtotal)	**$10,595,000**
Indirect Cost	**$2,715,000**
Contingency	**$2,567,000**
Post Closure Cost (2032 to 2052)	**$289,000**
Total	**$16,166,000**

(Basis: US$1 = MX$20).

Source: Mina Mercedes- Plan Conceptualde de Cierre – Reporte Rev.B (Borrador), Golder & Associates Inc., dated December 31, 2021 (Ref. 21480395-MI-REP-02-B).

20.4 Summary

As at the effective date of the report, MMM has all the environmental and operating permits and licenses necessary to operate the Mercedes Mine as per local, state and national Mexican regulations. Colin Hardie (QP) confirms that there are no relevant environmental studies or known environmental issues that could materially impact mineral extraction.

21. Capital and Operating Costs

The forecast LOM capital and operating costs described in this chapter were derived from the MMM 2022 LOM budget for the period of 2022 to 2025. All costs are presented in US dollars (US$) and based upon an exchange rate of 1 US dollar = 19.0 Mexican Pesos.

21.1 Capital Costs

21.1.1 Actual Capital Costs

Annual capital costs incurred by the Mine during the period of 2019 to 2021 are shown in Table 21-1. Significant costs over this period covered activities such as underground mine development, construction of TSF2 and the exploration drilling program. The 2020 capital costs were much lower than 2019, due to the impact of the COVID-19 pandemic on mine operations.

Table 21-1: Actual capital costs (2019 to 2021)

Cost/Category	Unit	2019A	2020A	2021A
Buildings & Infrastructure	US$ 000	854	613	718
Hardware & Software	US$ 000	77	0	0
Machinery & Equipment	US$ 000	2,236	286	866
Vehicles	US$ 000	148	0	65
Underground Mine Development	US$ 000	7,199	6,907	6,966
Technical Studies	US$ 000	0	0	0
Delineation Drilling- Sustaining	US$ 000	0	1,639	2,916
Subtotal Sustaining Capital Cost	**US$ 000**	**10,514**	**9,444**	**11,531**
Expansionary Mine Development	US$ 000	2,253	0	96
Tailings Dam Expansion -TSF2	US$ 000	187	348	2,718
Tailings Dam Construction - TSF3	US$ 000	0	0	0
Subtotal Expansionary Capital Cost	**US$ 000**	**2,440**	**348**	**2,814**
Exploration Drilling	US$ 000	5,788	1,000	887
Total	**US$ 000**	**18,742**	**10,792**	**15,232**

21.1.2 LOM Capital Cost Estimates

The capital expenditures in the LOM for ongoing operations total approximately US$64 million as summarized in Table 21-2. This excludes US$16.2 million in funds identified for final and post-closure activities as described in Chapter 20. Capital cost estimates are based upon the LOM plan, operating experience, current costs for mine development and engineering studies.

Major expenditures planned over the LOM include investments in machinery, underground mine development and drilling, continued exploration drilling and tailings storage facility expansions. It is vital for MMM to construct and commission a third TSF to prevent disruptions in the Mine schedule. Engineering and construction of this facility (TSF3) are planned to commence in 2023. Capital costs will be reduced over the period of 2024 to 2025 as is normal for an operation near the end of its planned operational life based on the current LOM reserves.

Table 21-2: Forecast LOM capital costs (2022 to 2025)

Cost/Category	Unit	2022F	2023F	2024F	2025F	Total
Buildings & Infrastructure	US$ 000	1,760	424	129	0	**2,313**
Hardware & Software	US$ 000	562	0	0	0	**562**
Machinery & Equipment	US$ 000	3,307	1,959	0	0	**5,267**
Vehicles	US$ 000	612	0	0	0	**612**
Underground Mine Development	US$ 000	15,404	7,857	2,332	0	**25,593**
Technical Studies	US$ 000	100	0	0	0	**100**
Delineation Drilling- Sustaining	US$ 000	2,129	2,129	0	0	**4,258**
Subtotal Sustaining Capital Cost	**US$ 000**	**23,874**	**12,370**	**2,461**	**0**	**38,704**
Expansionary Mine Development	US$ 000	0	0	0	0	**0**
Tailings Dam Expansion -TSF2	US$ 000	540	0	0	0	**540**
Tailings Dam Construction - TSF3	US$ 000	0	1,882	627	627	**3,137**
Subtotal Expansionary Capital Cost	**US$ 000**	**540**	**1,882**	**627**	**627**	**3,676**
Exploration Drilling	US$ 000	1,538	1,538	0	0	**3,077**
Total	**US$ 000**	**25,952**	**15,790**	**3,088**	**627**	**45,457**

21.2 Operating Costs

21.2.1 Actual Operating Costs

Annual actual production and operating cost data for the Mine during the period of 2019 to 2021 are shown in Table 21-3. The production metrics and operating costs for the 2020 year were lower than previous years due to a temporary closure of the Mine over a two-month in response to the COVID-19 pandemic as well as the implementation of a simplified and lower-cost mine and milling plan.

Table 21-3: Production metrics and operating costs (2019 to 2021)

Cost / Category	Unit	2019A	2020A	2021A
Production Metrics				
Tonnes Mined	t	691,267	394,832	454,352
Tonnes Moved	t	871,588	445,587	482,629
Stockpile Material to Plant	t	-	-	28,237
Processed (Mine and Stockpile)	t	667,723	398,922	511,711
Plant Gold Grade	Au gpt	2.9	2.87	2.7
Plant Silver Grade	Ag gpt	26.2	33.07	21.2
Gold Recovery	%	95.8	95.1	95.8
Silver Recovery	%	34.0	39.6	35.3
Gold Production	Au oz	59,901	34,955	42,337
Silver Production	Ag oz	191,306	167,927	122,876
Operating Costs				
Mine Administration and Underground	US$ 000	40,500	17,344	20,410
Process Plant	US$ 000	15,521	7,625	10,105
Site Overhead	US$ 000	2,043	1,304	6,039
General & Administration	US$ 000	6,324	4,229	1,951
Transport and Inventory Adjustments	US$ 000	(202)	253	(109)
Overall Site OPEX	**US$ 000**	**64,187**	**30,755**	**38,396**
Cash Cost (AISC)	$US/oz	1,240	1,145	1,187

In 2021 during the fourth quarter, 28,000 tonnes of material (1.1 gpt Au and 20.6 gpt Ag) from historic mine waste piles (Stockpile Material) were sent to the process plant during periods of time when the process plant was not operating at full capacity. Approximately 750 oz of gold and 4,100 oz of silver were recovered into doré from the waste pile material.

21.2.2 LOM Operating Cost Estimate

The forecast LOM operating cost estimates are shown in Table 21-4. The LOM operating costs were estimated based upon current site operating costs and escalated as necessary. The operating cost estimate does not include royalties, the Special Mining Duty (7.5% of mine EBITDA) nor the Extraordinary Mining Duty (0.5% of the value of precious metals at the mine gate). Energy unit costs used in the forecast operating costs are US$0.96/l for diesel and US$0.97/kWh for electricity.

Forecast LOM operating costs are the result of initially focusing mining activities on two production areas, Diluvio and Lupita, bringing additional mining zones into production, and closely managing the skills and numbers of employees needed to support the LOM mine plan.

Table 21-4: Forecast LOM operating costs (2022 to 2025)

Cost / Category	Unit	2022F	2023F	2024F	2025F	Total
Mine Administration and Underground	US$ 000	25,327	28,905	22,803	23,400	**100,435**
Process Plant	US$ 000	12,535	13,771	11,566	12,395	**50,267**
Site Overhead	US$ 000	6,054	5,903	5,346	10,129	**27,431**
General & Administration	US$ 000	1,874	1,864	1,687	3,327	**8,752**
Transport and Inventory Adjustments	US$ 000	-	-	-	-	-
Total	**US$ 000**	**45,790**	**50,443**	**41,401**	**49,251**	**186,885**

The actual unit operating costs on a per tonne milled basis for the last three years (2019 to 2021) are summarized in Table 21-5 along with the LOM forecast.

Table 21-5: Actual and forecast operating costs (US$/t processed)

Production / Cost Metric	Unit	2019A	2020A	2021A	2022F	2023F	2024F	2025F	Average (2022 to 2025)
Production									
Processed Tonnes	t	667,723	398,922	511,711	582,370	683,192	521,335	429,739	2,216,635
Operating Costs									
Mine Administration and Underground	US$/t ore	60.65	43.48	39.89	43.49	42.31	43.74	54.45	45.31
Process Plant	US$/t ore	23.24	19.12	19.75	21.52	20.16	22.19	28.84	22.68
Site Overhead	US$/t ore	9.47	10.60	11.80	10.40	8.64	10.25	23.57	12.38
General and Administration	US$/t ore	3.06	3.27	3.81	3.22	2.73	3.24	7.74	3.95
Transport and Inventory Adjustments	US$/t ore	-0.30	0.63	-0.21					
Overall	**US$/t ore**	**96.13**	**77.10**	**75.03**	**78.63**	**73.83**	**79.41**	**114.61**	**84.31**

21.2.3 Site Personnel

A detailed breakdown of MMM site personnel by department is shown in Table 21-6. Currently at Mercedes (December 31, 2021) there are 334 personnel employed by BCMC and 294 contractors for a total of 628 personnel. Mining administration, operations and maintenance is the largest department (367) representing almost 60% of the site personnel.

Recent actual and forecast personnel estimates (staff, labour and contractors) for the Mercedes Mine operation are summarized in Table 21-7. In 2020, a significant reduction in overall site manpower compared to 2019 was made. In 2020, contractor supplied services were dramatically decreased with most mining carried out utilizing company employees, resulting in a significant reduction in overall manpower compared to 2018 and 2019. The estimated site personnel requirements for the LOM will increase to approximately 675 for the period of 2022 to 2024. Contracted services will be reduced in 2025 to be aligned with the mine production objectives resulting in a site personnel total of approximately 400.

Table 21-6: Site personnel by department (December 31, 2021)

Department	Owner	Contractors	Total
Exploration			
Management and Personnel	21	12	**33**
Exploration Subtotal	**21**	**12**	**33**
Mining			
Mine Operations	97	153	**250**
Mine Maintenance and Services	50	20	**70**
Paste Plant	22	0	**22**
Geology	12	0	**12**
Engineering	13	0	**13**
Mining Subtotal	**194**	**173**	**367**
Process Plant			
Plant Operations	48	0	**48**
Plant Maintenance and Services	17	0	**17**
Processing Subtotal	**65**	**0**	**65**
General & Administration			
Management and New Projects	9	15	**24**
Health, Safety, Environmental, & Security	13	41	**54**
Accounting, IT, Human Resources, & Legal	18	53	**71**
Purchasing & Warehouse	14	0	**14**
G&A Subtotal	**54**	**109**	**163**
Mine Site Total	**334**	**294**	**628**

Table 21-7: Current and forecast personnel

Head Count	2019A	2020A	2021A	2022F	2023F	2024F	2025F	Average (2021 to 2025)
Full-Time Employees	480	309	334	393	393	393	253	358
Third-Party Contractors	275	46	182	187	187	187	50	153
Service Contractors	204	96	112	96	96	96	96	96
Total	**959**	**451**	**628**	**676**	**676**	**676**	**399**	**607**

22. Economic Analysis

A financial analysis for the Mercedes Mine was developed by Bear Creek and BBA using a discounted cash flow approach on a pre-tax and after-tax basis using the actual mine costs, current mine plan, scaled actual costs, and estimates presented in this report. The NPV was calculated from the cash flow generated by the project based on a discount rate of 5%. A sensitivity analysis was performed for the after-tax base case to assess the impact of variations of the sustaining capital costs, operating costs, and the gold metal selling price. The internal rate of return (IRR) for Mercedes is not discussed as it would be misleading as the project was already constructed and has been in commercial operations since February 2012.

22.1 Methods, Assumptions and Basis

The economic analysis was performed on the following assumptions and basis:

- The financial analysis was performed on Proven and Probable Mineral Reserves as outlined in this report for the underground mines.
- The LOM NPV was determined on a pre-tax and after-tax basis with discounting to the start of 2022, which marks the first year in the current LOM.
- Annual cash flows used for NPV calculations are assumed to be realized at year-end.
- Base case gold and silver metal selling prices are $1,700/oz and $21/oz, respectively, based on market conditions and the three-year trailing average.
- The exchange rate has been assumed to be 19 Pesos: US$.
- All costs and sales are presented in constant Q4-2021 US$, with no inflation or escalation factors considered.
- All gold and silver sales are assumed to be in the same period as produced.
- All related payments and disbursements incurred prior to year-end 2021 are considered as sunk costs.
- Details of capital and operating costs are provided in Chapter 21 of this report.
- Cash flows shown include payment of royalties and metal streaming agreements.
- Progressive and final closure costs are included in the period incurred, with post closure costs reported in 2025-2032, the final year of closure prior to entering post-closure.
- The financial analysis includes working capital.
- After-tax results and royalty payments were provided by Bear Creek. BBA has not verified taxes.
- After-tax figures assume a combined income tax rate of 30%, a mining tax of 7.5% of taxable mining profits and Worker Profit Share of US$1M for the four-year mine life.

22.2 Streams, Royalties, and NSRs

The Mercedes Mine has outstanding royalties with Elemental Royalties Corp. (Elemental), the Mexican government (government), and streams with the Nomad Royalty Company (Nomad). A stream with Sandstorm Gold Royalties (Sandstorm) and a net smelter return (NSR) with Equinox Gold Corp. (Equinox) will be added upon closing the Bear Creek Mining Corp. acquisition. Nomad and Sandstorm streams are delivered from production according to agreed gold and silver repayment ounces.

Nomad's streams include both gold and silver production. One hundred percent (100%) of the silver produced is streamed until 3.75M ounces of silver are delivered, after which 30% of produced silver ounces will be streamed. Payment for streamed silver ounces is 20% of the market price. The agreement requires a minimum annual delivery requirement of 300,000 silver ounces until 1,878,904 are streamed.

The Nomad gold stream contemplates fixed quarterly gold deliveries of 1,000 ounces of refined gold (subject to certain escalator and de-escalator provisions) until an aggregate of 9,000 ounces of gold have been delivered. The quantity of gold deliverable pursuant to the outstanding Nomad gold stream is 6,300 ounces. An escalator and de-escalator exist depending on the gold price. If gold is greater than $1,650/oz, the quarterly deliveries are reduced by 100 oz (to 900 oz), and if lower than $1,350/oz, the quarterly deliveries are increased by 100 oz (to 1,100 oz). At the current price assumption of $1,700 per oz, quarterly deliveries will be 900 oz, and the balance will be paid off by the third quarter of 2023 (with a 300-ounce final delivery). There is no cash paid to the mine for these ounces. Interest of 6,5% is paid on the outstanding gold ounce balance and will total 234 oz in 2022 and 137 oz for 2023.

The Sandstorm gold stream requires payment of 600 gold ounces of refined gold per month for 42 months (a total of 25,200 ounces) at a price equal to 7.5% of the spot gold price at the time of delivery. Thereafter, the Company will sell Sandstorm 4.4% of gold produced by Mercedes at a price equal to 25% of the spot price at the time of delivery.

Nomad and Sandstorm's streams total US$65.8M, using US$1,700/oz gold and US$21/oz silver.

Equinox will hold a 2% net smelter return on gold equivalent ounces produced by the Mercedes Mine. Elemental currently has a 1% net smelter return on gold equivalent production value on the excess of 450K produced, or production beyond July 28, 2022, whichever comes first. According to historical and future production estimates, net smelter return payments to Equinox and Elemental will total US$13M.

The Mexican government has a 0.5% royalty on the gross gold and silver revenue and will receive US$2.3M.

22.3 Salvage Value

The equipment salvage value was evaluated by Equinox Gold, the previous mine owner, and is valued to be $14.5M. The Mercedes Mine major assets for salvage value includes the process plant, paste plant, power station, 2MW diesel backup generator, two cement plants, water treatment plant and the mobile equipment.

22.4 Taxation

There is a mining royalty tax of 7.5% after EBDITA[1] introduced in 2014. There is also a special mining tax of 0.5% levied towards gold and silver producers (Bnamericas, 2021). The Corporation Tax rate is 30%, which is applied after all costs, including reclamation, depreciation, royalties (Elemental and Equinox) and mining taxes, and Worker Profit Share Tax. Table 22-1 shows the taxes summary.

Table 22-1: Summary of total taxes

Taxes	US$ M	US$/t milled
Worker Profit Share Tax	0.98	0.44
Special Mining Duty	18.54	8.36
Income taxes	41.57	18.75
Total Taxes	**61.09**	**27.56**

22.5 Project Summary

The Mercedes Mine project summary is shown in Table 22-2. The current LOM is stated for four years with the current mining reserves. The undiscounted after-tax cash flow is US$60.6M. Using a discount rate of 5%, the pre-tax NPV is US$108M, and the post-tax NPV is US$55M. Table 22-2 shows the Mercedes Mine Financial Summary.

[1] EBDITA : Earnings before interest, taxes, depreciation and amortization

Table 22-2: Project summary and financial criteria

	Unit	Value
Production		
Mine life	year	4
Total Potential Mill Feed Tonnage	kt	2,217
Average Feed Grade, Au	gpt	3.75
Average Feed Grade, Ag	gpt	29.03
Mill recoveries (Avg), Au	%	95.5%
Mill recoveries (Avg), Ag	%	40.0%
Recovered Gold Ounces	koz	255
Recovered Silver Ounces	koz	828
Commodity Prices		
Au	US$/oz	1,700
Ag	US$/oz	21
Exchange Rate		
US$	Pesos	19
Operating Costs		
Mine Administration and Underground	$/t milled	45.31
Plant	$/t milled	22.68
Site Overhead	$/t milled	12.38
General & Administration	$/t milled	3.95
Project Economics		
Gross Revenue	$M	433.49
Total Selling Cost Estimate[1]	$M	80.97
Total Operating Cost Estimate	$M	186.89
Total Sustaining Capital Cost Estimate	$M	45.46
Total Closure and Reclamation Estimate	$M	16.17
Total Salvage Estimate	$M	14.50
Pre-Tax Cash Flow	$M	121.6
Discount Rate	%	5
Rate		
PRE-TAX NPV @ 0%	$M	122
PRE-TAX NPV @ 5%	**$M**	**108**
PRE-TAX NPV @ 7%	$M	103
PRE-TAX NPV @ 10%	$M	96
PRE-TAX NPV @ 12%	$M	92

	Unit	Value
AFTER-TAX NPV @ 0%	$M	61
AFTER-TAX NPV @ 5%	**$M**	**55**
AFTER-TAX NPV @ 7%	$M	52
PRE-TAX NPV @ 10%	$M	49
PRE-TAX NPV @ 12%	$M	47

Note:

1. Total Selling Costs includes, government royalty, royalties, gold streams and silver by-product as it includes the silver streams.

22.6 Financial Results for All-in Costs

Financial results for the operating mine are shown in Table 22-3.

Table 22-3: Mercedes Mine financial results

	US$ M	US$/t milled
All-In Remaining Capital		
Building & Infrastructure	2.31	1.04
Hardware, Software & Automation	0.56	0.25
Machinery & Equipment	5.27	2.38
Vehicles	0.61	0.28
Underground Mine Development	25.59	11.55
Technical Studies	0.10	0.05
Delineation Continuity	4.26	1.92
Expansionary Development	0.00	-
Tailings Dam Expansion	0.54	0.24
Tailings Dam 3	3.14	1.41
Closure and Reclamation	16.17	7.29
Exploration Costs	3.08	1.39
Total Sustaining CAPEX	**61.62**	**27.80**
OPEX		
Mine Administration and Underground	100.43	45.31
Plant	50.27	22.68
Site Overhead	27.43	12.38
General & Administration	8.75	3.95
Total OPEX	**186.89**	**84.31**

	US$ M	US$/t milled
Selling Costs		
Government Royalty	2.25	1.02
Royalty	12.94	5.84
Silver By-Product	14.19	6.40
Gold Streams	51.59	23.27
Total Selling Costs	**80.97**	**36.53**
All-in Cost **Pre-Tax**	**329.48**	**148.64**
Taxes		
Worker Profit Share Tax	0.98	0.44
Special Mining Duty	18.54	8.36
Income taxes	41.57	18.75
Total Taxes	**61.09**	**27.56**
All-in Cost **After-Tax**	**390.57**	**176.20**

Note:

1. Silver by-product includes the silver streams.

All-in Sustaining Cash Costs is shown in Table 22-4.

Table 22-4: All-in sustaining cash costs

AISC Costs		Totals	2022	2023	2024	2025
Net Operating Cost	US$ M	(186.9)	(45.8)	(50.4)	(41.4)	(49.3)
Silver By-Product	US$ M	(14.2)	(0.9)	0.0	(0.4)	(12.8)
Sustaining Capital Costs	US$ M	(45.5)	(26.0)	(15.8)	(3.1)	(0.6)
Government Royalty	US$ M	(2.3)	(0.5)	(0.7)	(0.6)	(0.5)
Royalty	US$ M	(12.9)	(2.5)	(4.0)	(3.5)	(3.0)
Total AISC Costs	US$ M	(261.7)	(75.6)	(70.9)	(49.0)	(66.2)
All-in Sustaining Costs	**US$ / oz**	(987)	(1,261)	(904)	(719)	(1,130)

Notes:

1. All-In Sustaining Costs (AISC) = Cash Costs (including by-product credits) + Sustaining Capital + Exploration expenses + G & A expenses.
2. Sustaining Capital Costs includes Tailings Dam Expansion, Tailings Dam 3 and Exploration Costs
3. The ounces used are equivalent weighted gold ounces.

22.7 Financial Results Details

Table 22-5 shows the LOMP Financial Details for the Mercedes Mine.

Table 22-5: LOMP Financial details

Description	Units	LOM Total	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
UG Tonnes Ore	(kt)	**2,217**	582	683	521	430								
Gold Grade	(gpt Au)	**3.75**	3.22	3.60	4.09	4.28								
Silver Grade	(gpt Ag)	**29.03**	26.26	27.32	32.62	31.15								
Contained gold	Au oz	**267,009**	60,261	79,065	68,561	59,122								
Contained silver	Ag oz	**2,069,002**	491,637	600,192	546,827	430,346								
Contained gold equivalent	AuEq oz	**292,568**	66,335	86,479	75,316	64,438								
Gold Produced	(oz Au)	**254,994**	57,550	75,507	65,476	56,461								
Silver Produced	(oz Ag)	**827,601**	196,655	240,077	218,731	172,139								
Gold Equivalent	(oz AuEq)	**265,217**	59,979	78,473	68,178	58,588								
Gold Price	(US$ / oz)	**1,700**	1,700	1,700	1,700	1,700								
Silver Price	(US$ / oz)	**21**	21	21	21	21								
Cash Flow														
Revenue														
Gold Revenue	(US$ 000)	**433**	98	128	111	96								
Government Royalty	(US$ 000)	**(2)**	(1)	(1)	(1)	(0)								
Royalty	US$ M	**(13)**	(2)	(4)	(3)	(3)								
Net Revenue	(US$ 000)	**418**	95	124	107	92								
Operating Cost														
Mine Administration and Underground	US$ M	**(100)**	(25)	(29)	(23)	(23)								
Plant	US$ M	**(50)**	(13)	(14)	(12)	(12)								
Site Overhead	US$ M	**(27)**	(6)	(6)	(5)	(10)								
General & Administration	US$ M	**(9)**	(2)	(2)	(2)	(3)								
Net Operating Cost before Inventory Adjustments	US$ M	**(187)**	(46)	(50)	(41)	(49)								
Inventory Adjustments	US$ M	**-**	-	-	-	-								
Net Operating Cost	**US$ M**	**(187)**	**(46)**	**(50)**	**(41)**	**(49)**								
Operating Margin	**US$ M**	**231**	**49**	**73**	**66**	**43**								
Sustaining CAPEX	US$ M	(42.4)	(24.4)	(14.3)	(3.1)	(0.6)	-	-	-	-	-	-	-	-
Exploration Expense	US$ M	**(3.1)**	(1.5)	(1.5)	-	-	-	-	-	-	-	-	-	-
Reclamation and Closure	US$ M	**(16.2)**	-	-	-	-	(3.0)	(2.4)	(1.7)	(4.3)	(2.6)	(0.8)	(0.7)	(0.6)
Salvage	US$ M	**14.5**	-	-	-	-	14.5	-	-	-	-	-	-	-
Silver By-Product	US$ M	**(14.2)**	(0.9)	0.0	(0.4)	(12.8)	-	-	-	-	-	-	-	-

Description	Units	LOM Total	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Gold Streams	US$ M	**(51.6)**	(17.8)	(15.1)	(11.3)	(7.3)	-	-	-	-	-	-	-	-
Worker Profit Share Tax	US$ M	**(1.0)**	(0.3)	(0.3)	(0.3)	(0.2)	-	-	-	-	-	-	-	-
Special Mining Duty	US$ M	**(18.5)**	(3.2)	(5.8)	(5.5)	(4.0)	-	-	-	-	-	-	-	-
Income Taxes	US$ M	**(41.6)**	-	(15.3)	(15.9)	(10.4)	-	-	-	-	-	-	-	-
Net Cash Flow (After-Tax)	**US$ M**	**60.6**	**0.9**	**22.9**	**30.0**	**8.5**	**11.5**	**(2.4)**	**(1.7)**	**(4.3)**	**(2.6)**	**(0.8)**	**(0.7)**	**(0.6)**
Pre-Tax Cash Flow	**US$ M**	**121.6**	**4.4**	**44.2**	**51.6**	**23.1**	**11.5**	**(2.4)**	**(1.7)**	**(4.3)**	**(2.6)**	**(0.8)**	**(0.7)**	**(0.6)**
Cash Cost (Co-product)	(US$/oz)	708	798	702	660	681	-							
AISC (Co-product)	**(US$/oz)**	987	1,261	904	719	1,130	-							
Discount Rate	**Rate**	**5%**												
Discounted Cash Flows	**US$ M**	**-**	**1**	**21**	**26**	**7**	**9**	**(2)**	**(1)**	**(3)**	**(2)**	**(1)**	**(0)**	**(0)**
NPV	**US$ M**	**55**												

Note:

1. Sustaining Capital Costs includes Tailings Dam Expansion, Tailings Dam 3 and excludes Exploration Costs for the cost breakdown.

22.8 Sensitivities

As an operating mine, the gold price has the biggest impact on the mine's NPV followed by the operating costs. Sustaining capital costs are budgeted and identified as marginal increases year on year and have the least impact on project economics of the variable tested. Table 22-6, Table 22-7 and Table 22-8 show the gold price, operating costs, and sustaining capital cost after-tax NPV sensitivities ranging from -15% to +15% and a graph of the NPV outputs at 5% (Figure 22-1).

Table 22-6: Gold price sensitivities

Gold Price	Sensitivities						
Variation	-15%	-10%	-5%	0%	5%	10%	15%
Gold Price	$1,445	$1,530	$1,615	$1,700	$1,785	$1,870	$1,955
Discount Rate	**NPV (US$ M)**						
0%	($2)	$19	$40	$61	$82	$102	$123
5%	($1)	$17	$36	$55	$73	$92	$110
7%	($1)	$17	$35	$52	$70	$88	$106
10%	($1)	$16	$32	$49	$66	$82	$99
12%	($1)	$15	$31	$47	$63	$79	$95

Table 22-7: Operating costs sensitivities

OPEX	Sensitivities						
Variation	15%	10%	5%	0%	-5%	-10%	-15%
Operating Costs (US$ M)	231	221	211	201	191	181	171
Discount Rate	**NPV (US$ M)**						
0%	$33	$42	$51	$61	$70	$79	$89
5%	$30	$38	$46	$55	$63	$71	$79
7%	$29	$37	$44	$52	$60	$68	$76
10%	$27	$34	$42	$49	$56	$64	$71
12%	$26	$33	$40	$47	$54	$61	$68

Table 22-8: Sustaining capital costs sensitivities

Sustaining Costs	Sensitivities						
Variation	15%	10%	5%	0%	-5%	-10%	-15%
Sustaining Costs (US$ M)	52	50	48	45	43	41	39
Discount Rate	**NPV (US$ M)**						
0%	$55	$57	$59	$61	$62	$64	$66
5%	$49	$51	$53	$55	$56	$58	$60
7%	$47	$49	$51	$52	$54	$56	$58
10%	$44	$46	$47	$49	$51	$52	$54
12%	$42	$44	$45	$47	$49	$50	$52

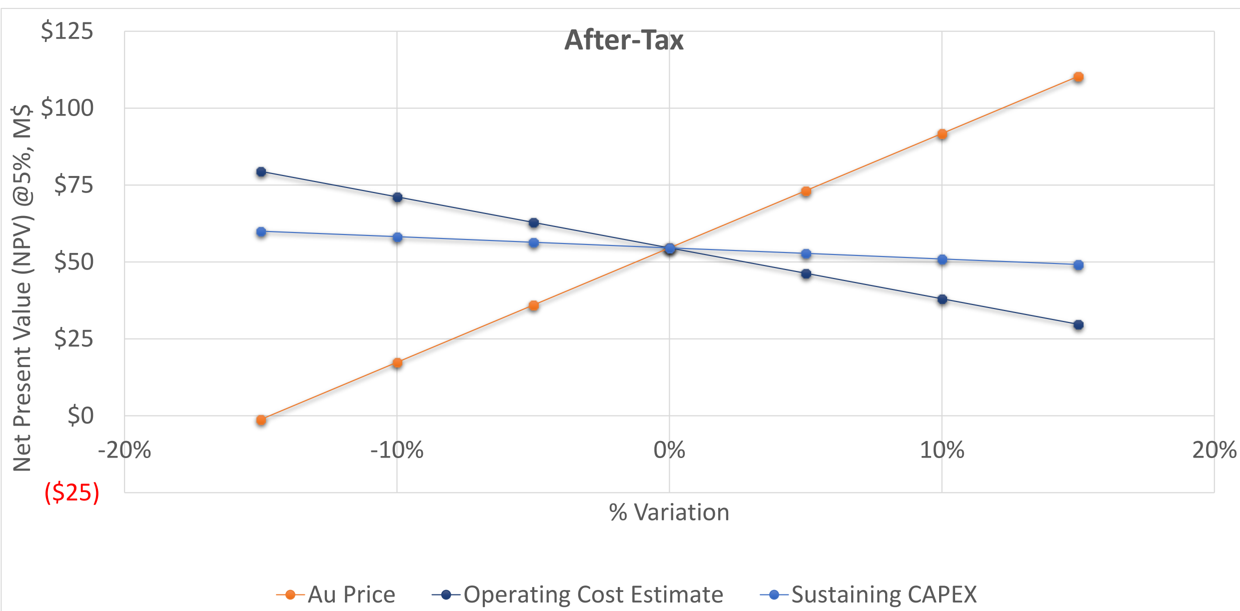

Figure 22-1: NPV Sensitivities (after tax) at 5%, for gold price, OPEX, and sustaining costs

22.9 Conclusions

Colin Hardie, QP has reviewed Bear Creek Mining's LOM financial model using the mineral reserves and metal prices declared in this report of $1,700 per ounce gold and $21 per ounce silver. The pre-tax financial model resulted in an undiscounted cash flow of $122M with an NPV of $108M at a discount rate of 5%. On an after-tax basis, the financial model resulted in an undiscounted cash flow of $60.6M with an NPV of $55M at a discount rate of 5%.

Due to the complexity of the financial model, only the key drivers are varied in the preceding sensitivity analysis, with other costs in the model maintained constant as per the base case (i.e., royalty payments, streaming agreements, refining and freight, etc.). The impact of this does not change the overall interpretation of the analysis.

The QP confirms that the outcome is a positive cash flow that supports the statement of Mineral Reserves.

23. Adjacent Properties

The Mercedes Mine's property concessions are surrounded on the north side by several concessions' holders who are carrying out exploration and development work on their properties (Figure 23-1).

The QP has been unable to verify the information presented below and is unable to validate that all the information is up to date. The information is not necessarily indicative of the mineralization on the Mercedes Mine Project area.

Below are some of the main projects for which the QP was able to find information.

Agnico-Eagle Mines, Santa Gertrudis Exploration Project

The Santa Gertrudis property was the site of historic heap-leach operations that produced approximately 565,000 ounces of gold between 1991 and 2000. Substantial surface infrastructure is already in place on the property including pre-stripped pits, haul roads, water sources and buildings.

Amelia is one of three deposits that comprise the Trinidad Trend and is the site of a previously operating open-pit gold mine. High-grade gold mineralization can be found in multiple parallel structures that commonly correspond to lithological contacts. The Amelia deposit strikes east-west for a length of approximately 900 m and dips steeply to the north. Most of the open pit (oxide) material lies between surface and 140 m depth, while the underground mineral resource below the open-pit mineral resource has been extended to a depth of approximately 700 m.

The Espiritu Santo zone, discovered in 2019 at a location 500 m east-southeast of Amelia, includes high-grade gold and silver mineralized structures at shallow depth.

The Santa Teresa zone contains a small historical pit located 3.2 km southwest of the Amelia deposit. During 2020, Agnico Eagle's drilling campaign at Santa Teresa discovered shallow high-grade oxide mineralization that remains open in all directions.

Agnico-Eagle is currently evaluating a potential production scenario at Santa Gertrudis that utilizes a heap leach for lower-grade mineralization and a small mill facility to process higher-grade ore. (Source: Agnico Eagle website).

Sonoro Gold Corp., Cerro Caliche Mining Project

In September 2018, Sonoro initiated a 10,000-metre drilling program outlining a broadly mineralized low-sulphidation epithermal vein structure and confirming the presence of at least 18 northwest trending gold mineralized zones along trend and near surface. In 2019, a NI 43-101 Technical Report was filed with an estimated Inferred Resource.

In August 2020, Sonoro Gold initiated a drilling campaign to demonstrate a material expansion of the concession's oxide gold mineralization and support Sonoro's vision of a Heap Leach Mining Operation (HLMO) with a proposed operating capacity of 15,000 tons per day (tpd). Four major parallel northwest trending gold zones were identified with drilling results from the northern extensions of two of the four gold mineralized zones suggesting a potential convergence.

Sonoro also investigated potential high-grade targets with the implementation of a core drilling program to test at depth, the area's coalescing of gold enriched stockwork zones,

Sonoro released a Preliminary Economic Assessment (PEA). (Source: Sonoro Gold Corps. website).

Goldgroup Mining, Cerro Prieto Mining Project

On August 30, 2013, Goldgroup Mining completed the acquisition of the Cerro Prieto Project.

Cerro Prieto commenced small-scale trial mining and leaching in December 2013. During the three and nine months, ended September 30, 2014, Cerro Prieto produced 1,076 and 4,174 ounces of gold, respectively.

An updated National Instrument 43-101 Measured and Indicated and Inferred Mineral Resource Estimate for the Cerro Prieto Project was prepared in the first half of 2013. (Source: Goldgroup Mining website).

Riverside Resources, Los Cuarentas Project

Los Cuarentas is a low sulphidation epithermal Au-Ag target characterized by strong argillic and phyllic alteration surrounding low sulphidation epithermal vein systems that host gold and silver mineralization. Several target zones have been identified and most are ready for drilling according to Riverside Resources' website; these are named Santa Rosalia, Santa Rosalia Sur, and El Sombrero. (Source: Riverside Resources website).

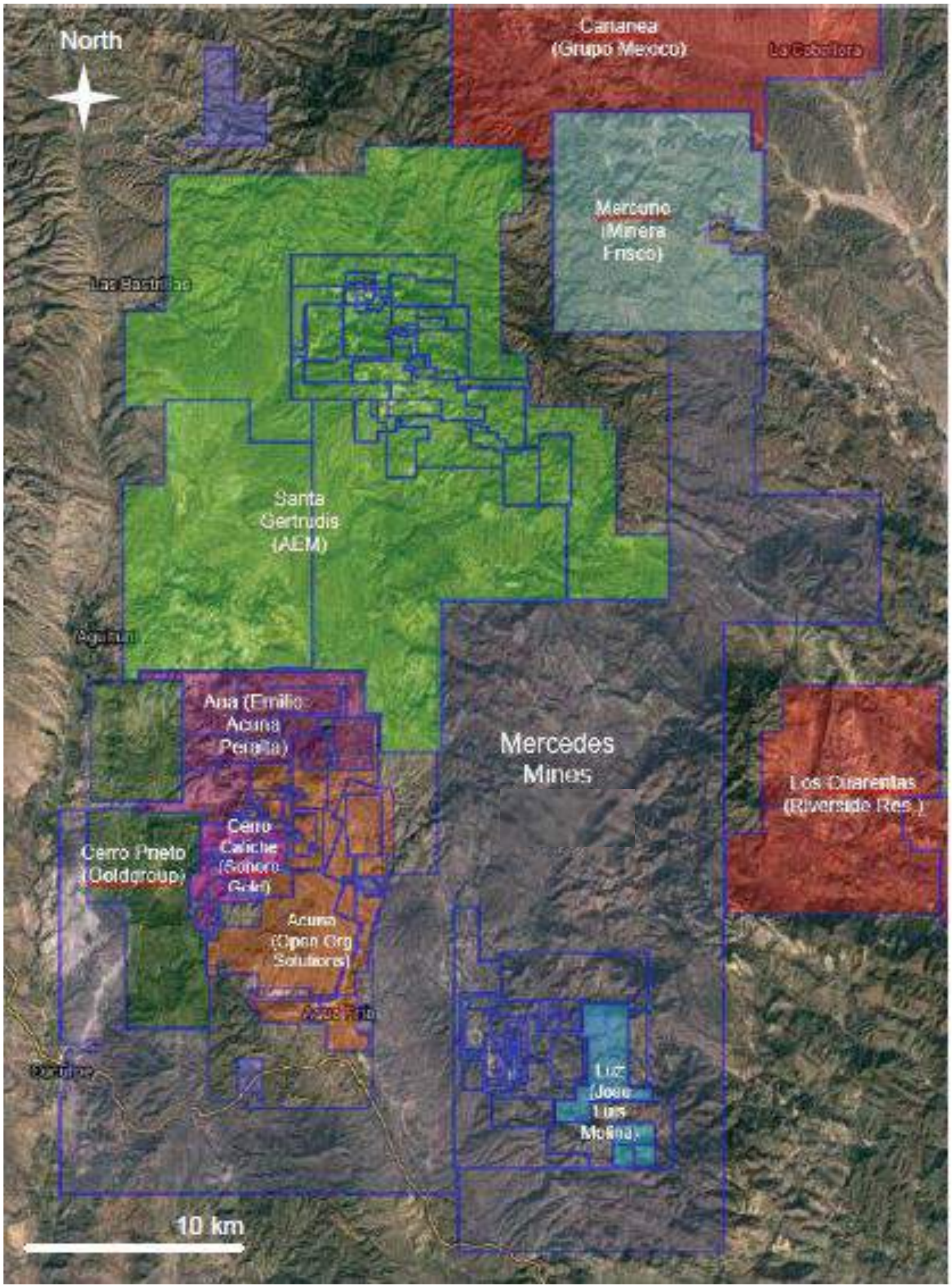

Figure 23-1: Principal concession holders surrounding the Mercedes Mine concessions (modified from Hardie et al., 2021)

24. Other Relevant Data and Information

No additional information or explanation is necessary to make this technical report understandable and not misleading.

25. Interpretation and Conclusions

The Mercedes Mine has been successfully developed into a viable mining operation with 11 years of continuous operation history by its various owners. Based on the findings of this technical report, the QPs believe the Mercedes Mine and milling operation is capable of sustaining production through the depletion of the current Mineral Reserve. Relevant geological, geotechnical, mining, metallurgical and environmental data from the Mercedes Mine has been reviewed by the QPs to obtain an acceptable level of understanding in assessing the current state of the operation. The Mineral Resource and Reserve estimates have been performed to industry best practices (CIM, 2003) and conform to the requirements of CIM Definition Standards (CIM, 2014).

MMM holds all required mining concessions, surface rights, and rights of way to support mining operations for the life of mine plan developed using the December 31, 2021 Mineral Reserves estimates. Permits held by MMM are sufficient to ensure that mining activities within the Mercedes Mine are carried out within the regulatory framework required by the Mexican Government and various state and local agencies. No risk associated with permit extensions is anticipated. Annual and periodic land use and compliance reports have been filed as required.

Based upon the audit findings, discussions with personnel at the Mine, and available information, the Qualified Persons (QPs) offer the following specific interpretations and conclusions:

25.1 Geology and Mineral Resources

- Gold-silver mineralization on the Mercedes property is hosted within epithermal, low sulphidation veins, stockwork and breccia zones. ;
- The geological models employed by MMM geologists are reasonably, well understood, are supported by field observations in both outcrop and drill core, and by years of investigation, sampling and production data;
- Sampling and assaying for gold are adequate and have been carried out using industry standard QA/QC practices. These practices include, but are not limited to, sampling, assaying, chain of custody of the samples, sample storage, use of third-party laboratories, standards, blanks, and duplicates. Some issues were noted on the control charts illustrating poor reproducibility of the silver assays at the Mercedes Mine assay laboratory. The QP demonstrated in this technical report that it does not have a significant impact on the Mineral Resource Estimate;
- The practices and procedures used to generate the Mercedes Mine database are acceptable to support a Mineral Resource Estimate;
- The Mineral Resource Estimates have been prepared using appropriate methodology and assumptions.

The Mineral Resources conform to CIM (2014) definitions and comply with the disclosure requirements for Mineral Resources set out in NI 43-101. The Mineral Resources, inclusive of the Mineral Reserves, are tabulated in Table 25-1. The Mineral Resources, exclusive of the Mineral Reserves, are tabulated in Table 25-2.

Table 25-1: Mineral Resource statement (inclusive of Mineral Reserves)

	Tonne	Grade		Contained Metal	
Classification	**(000)**	**Au (gpt)**	**Ag (gpt)**	**Au oz (000)**	**Ag oz (000)**
Measured	865	4.55	33.73	127	938
Indicated	2,914	4.79	44.93	449	4,209
Total M+I	**3,779**	**4.73**	**42.37**	**575**	**5,147**
Inferred	884	4.50	41.02	128	1,167

1. The independent Qualified Person for the MRE, as defined by National Instrument ("NI") 43-101 guidelines, is Pierre-Luc Richard, P.Geo. The effective date is December 31, 2021.
2. These Mineral Resources are not Mineral Reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred Mineral Resources in this MRE are uncertain in nature and there has been insufficient exploration to define these Inferred Mineral Resources as Indicated or Measured; however, it is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
3. Mineral resources are presented as undiluted and in situ for an underground scenario and are considered to have reasonable prospects for economic extraction. Mineral Resources show sufficient continuity and isolated blocks were discarded; therefore, the herein MRE meets the CIM Guidelines published in November 2019.
4. The MRE was prepared using Vulcan™ v.2020.1 and is based on 2,894 drill holes and 21,554 channels.
5. The MRE encompasses 13 deposits each defined by individual wireframes.
6. High-grade capping was done on the raw assay data and established on a per zone basis for gold and silver.
7. Density values were calculated based on 999 density measurements.
8. Grade model Mineral Resource estimation was calculated from drill hole data using an Ordinary Kriging and ID3 interpolation methods.
9. The estimate is reported using a cut-off grade varying from 2.0 to 2.1 gpt Au. The cut-off grade was calculated using a gold price of USD1,350/oz. The cut-off grade will be re-evaluated in light of future prevailing market conditions and costs.
10. The MRE presented herein is categorized as Inferred, Indicated, and Measured Mineral Resources. The Measured Mineral Resource category is constrained to areas where the drill spacing is around or less than 15 m, the Indicated Mineral Resource category is constrained to areas where drill spacing is around or less than 25 m, and the Inferred Mineral Resource category is constrained to areas where drill spacing is around or less than 45 m. In all cases, reasonable geological and grade continuity were also a criteria during the classification process.
11. Calculations used metric units (metre, tonne). Metric tonnages were rounded and any discrepancies in total amounts are due to rounding errors.
12. CIM definitions and guidelines for Mineral Resource Estimates have been followed.
13. The QP is not aware of any known environmental, permitting, legal, title-related, taxation, sociopolitical or marketing issues, or any other relevant issues that could materially affect this MRE.

Table 25-2: Mineral Resource statement (exclusive of Mineral Reserves)

	Tonne	Grade		Contained Metal	
Classification	**(000)**	**Au (gpt)**	**Ag (gpt)**	**Au oz (000)**	**Ag oz (000)**
Measured	539	3.60	27.49	62	476
Indicated	2,012	3.86	40.15	250	2,597
Total M+I	2,551	3.81	37.47	312	3,073
Inferred	884	4.50	41.02	128	1,167

See notes from Table 25-1.

25.2 Mineral Reserves and Mine Planning

- The Mineral Reserves were estimated in an appropriate manner and consistent with industry standards;
- The Mineral Reserves conform to CIM definitions of a Mineral Reserve;
- The selected mining method of mechanized CAF stoping and the planned mining production rate is appropriate for the deposits;
- The current Mineral Reserves, a total of 2.2 Mt grading 3.75 gpt Au and 29.0 gpt Ag, will be mined over a mine life of 4 years (2021 to 2025).

Table 25-3: Mineral Reserve statement

Mineral Reserve Class	Tonne	Grade		Contained Metal	
	(000)	Au (gpt)	Ag (gpt)	Au oz (000)	Ag oz (000)
Proven Underground	344	5.65	40.7	62.5	449
Probable Underground	1,873	3.40	26.9	204.5	1,620
Proven & Probable	**2,217**	**3.75**	**29.0**	**267.0**	**2,069**

1. CIM Definitions Standards on Mineral Resource and Reserves (2014) have been followed.
2. The effective date of the 2021 Reserve Statement is December 31, 2021.
3. Mineral Reserves are minable tonnes and grades; the reference point is the mill feed at the primary crusher.
4. Mineral Reserves are estimated at a cut-off of 2.1 gpt Au, except Diluvio, which is estimated at 2.0 gpt Au.
5. Cut-off grade assumes a price of gold of US$1,350 per ounce, a 95.5% gold metallurgical recovery; US$38.41/t (Diluvio) and US$43.26 (other deposits) mining cost, US$19.75/t processing costs, US$15.61/t G&A, and US$8.48/oz refining costs.
6. A minimum mining width of 3.5 m was used in the creation of all reserve shapes.
7. Bulk density for ore varies by deposit from 2.22 t/m3 to 2.57 t/m3 and 2.40 t/m3 for waste.
8. Numbers may not add due to rounding.
9. David Willock, P. Eng., is the qualified person for the Mineral Reserve statement as defined by NI 43-101.

25.3 Metallurgy and Mineral Processing

The processing plant realizes respectable recoveries for both gold and silver. The process team is continually improving the plant operation. The actual precious metal recoveries are close to the estimates used for budgeting purposes.

25.4 Infrastructure

The Mine currently has all of the major surface and underground infrastructure necessary to operate the site. No major upgrades or modifications are required except for the tailings storage facility.

TSF2 will reach full capacity in Q2 2025. Preliminary plans are to build TSF3 to the southwest of TSF2. TSF3 is designed to have a capacity of 850,000 m³. TSF3 is required by August 2023. At this stage of the project, it is assumed that the facility design, construction, development stages and project components will be similar to those of the previous two constructed facilities.

Based on the current water balance and historic operating data, the mine and milling facility should have sufficient water for continuing operations.

25.5 Project Economics

An economic analysis of the Mercedes Mine has been completed using the actual mine costs, current LOM plan, scaled actual costs, and estimates presented in this report. BBA confirms that the outcome is a positive cash flow that supports the statement of Mineral Reserves at a gold and silver price of US$1700/oz and US$21/oz respectively.

The current LOM is stated for four years with the current mining reserves. The undiscounted pre-tax cash flow is US$122M and after-tax cash flow is US$61M. At a discount rate of 5%, the pre-tax NPV is US$108M, and the after-tax NPV is US$55M.

The mine economics are most sensitive to the gold price and operating costs.

25.6 Risks and Opportunities

Risks

The QPs, as authors of this Technical Report, have noted the following risks:

- Exchange rates, operating costs (fuel and electricity) and, in particular, metal prices all have the potential to affect the economic results of the mine. Negative variances to assumptions made in the budget forecasts would reduce the profitability of the mine, thereby impacting the mine plan. (General);
- Silver grades from the channel samples sent to the mine laboratory between 2016 to 2020 are likely not precise enough; this could have an impact on local grades, but the QP demonstrated that it did not have an impact globally nor that a grade bias was present in the block model;
- The calculated cut-off grade for all the zones except Diluvio is lower than the minimum grade used for geological modelling. This could result in a loss of potential Mineral Resource material available to be included in the Mineral Resource statement;
- The 2.1 gpt cut-off grade used by the mine operations can sterilize reserve material for areas of lower cut-off grade. Risks associated are to the mine economics and schedule. (Mining and Reserves);
- Stope optimization blocks can be improved. Risks associated are ore sterilization, reserves reduced from creation of a poor mine designs; which is an impact on the mine economics and schedule. (Mining and Reserves);
- Dilution and Ore Loss reassessment for mining methods in different mining areas can adversely impact the mine overall head grade to the mill. Risks associated are the mine economics and schedule. (Mining and Reserves);

- Insufficient metallurgical testwork on new mining areas. Actual process plant performance (throughput and Au & Ag recovery) could be lower than forecast. (Processing);
- Maintenance of on-site infrastructure and equipment (Mobile and fixed) for maintaining the estimated salvage value. Risk associated are to the mine economics and HSE. (Infrastructure, Mining and Processing);
- Mexican regulatory expectations for environmental and social responsibility continue to evolve. This has potential to increase costs for final closure and/or post closure monitoring. (Permitting);
- Inflation costs of consumables and labour costs for estimated CAPEX items for the mine site expansion and reclamation are future mine economics risks. (Economics).

Opportunities

The QPs, as authors of this Technical Report have noted the following opportunities:

- Additional exploration drilling can contribute to the geological understanding of the mine and assist in identifying future exploration targets;
- Additional definition drilling near active mining fronts will minimize the risk of grade fluctuation;
- Cut-Off grade reassessment by mining method by orebody can favourably improve the reserves tonnage. Opportunity associated are to the mine economics and schedule. (Mining and Reserves);
- Detailed stope optimization for local areas of the orebodies can improve mine design. Opportunity associated are to the mine economics and schedule. (Mining and Reserves);
- Detailed block reconciliation throughout the mining engineering process, LOM shape, pre-stope shape, post-probe shape, CMS and the final excavation assessment process. Opportunity associated are to the mine economics. (Mining and Reserves);
- Mapping and characterization of mineralized material within historical waste piles to determine if the material can be processed economically. This material could be used to fill the mill to capacity during periods of reduced ore availability from the mines. (Processing);
- Optimize the tailings deposition and management options currently implemented can increase the storage capacity of the existing TSF postponing the need for additional storage facilities. (Tailings).

26. Recommendations

The Qualified Persons (QPs) have the following recommendations:

26.1 Exploration Budget

The result of this technical report demonstrates that the Mercedes Mine is technically and economically viable as a producer of gold. To continue the operation of the mine, two separate exploration programs are proposed. The successful completion of Phase 1 will have an impact on how Phase 2 is conducted.

26.1.1 Phase 1

Phase 1 to be completed in 2022 with the focus on Mineral Reserve replacement, Mineral Resource growth and greenfield exploration through comprehensive diamond drilling programs with some mapping and sampling. The budget of approximately $4.5 million is estimated to be required to complete the Phase 1 program.

The Mineral Reserve replacement program is designed to collect the required data to support the conversion of existing mineral resources into mineral reserves. The Mineral Resource growth program is designed to collect the required data to expand the existing mineral resource beyond the current boundaries to support the eventual conversion to Mineral Reserves. The greenfield exploration program will target new opportunities on the mineral concession through diamond drilling, mapping, and sampling program. Table 26-1Table 26.1 summarizes the Phase 1 budget.

Table 26-1:Mercedes Mine Phase 1 exploration budget

Program	Budget
Mineral Reserve Replacement	$2,805,000
Mineral Resource Growth	$461,700
Greenfield Exploration	$1,226,000
Phase 1 Total	**$4,492,700**

The budgets include the cost of diamond drilling, assaying, labour, and logistics.

26.1.2 Phase 2

Phase 2 to be completed in 2023 with the continued focus on Mineral Reserve replacement, Mineral Resource growth and greenfield exploration through continued diamond drilling programs. The precise location of the Phase 2 program is dependent on the success of Phase 1. The specific budget splits may be re-prioritized base on the need to replace Mineral Reserves for the operating mine. The budget of approximately $4.0 million is estimated to be required to complete the Phase 2 program. Table 26-2 summarizes the Phase 2 budget.

Table 26-2: Mercedes Mine Phase 2 budget

Program	Budget
Reserve Replacement	$2,500,000
Reserve Growth	$500,000
Greenfield Exploration	$1,000,000
Phase 2 Total	**$4,000,000**

The budgets include the cost of diamond drilling, assaying, labour, and logistics.

26.2 Geology and Mineral Resources

- The use of analytical method Ag-DAT (4-acid digestion) instead of the FA-gravimetric finish method for silver assaying at the Mine Laboratory is recommended. From the QA/QC control plots, it appears that the Ag-DAT method produces better results. Silver assays definitely need to be scrutinized for the next few years making sure results are acceptable in terms of QA/QC
- Although this would not have a material impact on the Mineral Resource Estimate, and given that QA/QC improves, silver could be introduced in a gold equivalent cut-off grade (AuEq). This might marginally improve the block model.
- Multiple tests, such as introducing dynamic anisotropy, or comparing ID3 to ID2 and OK, should be conducted in order to improve the block models.
- The QP recommends the use of a reasonable minimum width during modelling for future updates in order to better meet the reasonable prospects for economic extraction requirement.

26.3 Mineral Reserves and Life of Mine Planning

- Enhance the scheduling process to align with project execution;
- Monitor metal price fluctuations and trends and adapt the LOM plan as required to maximize value;
- Optimize MSO variables to suit the mining method selected to enhance the project economics;
- Integrate short term planning process to improve the production profile;
- Develop a waste balance on an annual basis to optimize the production profile;
- Ensure that ventilation models are updated regularly to reflect the current state of the vent system;
- Create and maintain airflow allocation tables in accordance with NOM-023;
- Maintain adequate air velocities for effective gas clearing and heat mitigation.

26.4 Metallurgy and Mineral Processing

- Implement a metallurgical testing program on the historical low-grade stockpiles to help define the optimal operating conditions and improve production forecasting.
- Include the stockpile tonnage and grades within the monthly production KPI report.
- Complete an evaluation of available data to determine whether gold and silver recovery is a function of head grade, deposit type or other parameters. If so, the correlations may be used to provide more accurate estimates for budgeting purposes.

26.5 Infrastructure

- Track and update the site wide water balance on a regular basis to support ongoing operations. The water balance is an important tool to track trends and conduct short-term predictions through simulation of variable operating and/or climatic scenarios to support decision making associated with pond operation, e.g., understanding pond volumes and water availability for ore processing and maintaining adequate freeboard in the TSFs at all times;
- The project site and infrastructure should be assessed annually so that the viability of the basis for the closure plan can continually be checked and the plans can be changed, if necessary, long before closure actually commences. Cost estimates for closure should continue to be updated as the concepts continue to be refined and the design of closure components advances.

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