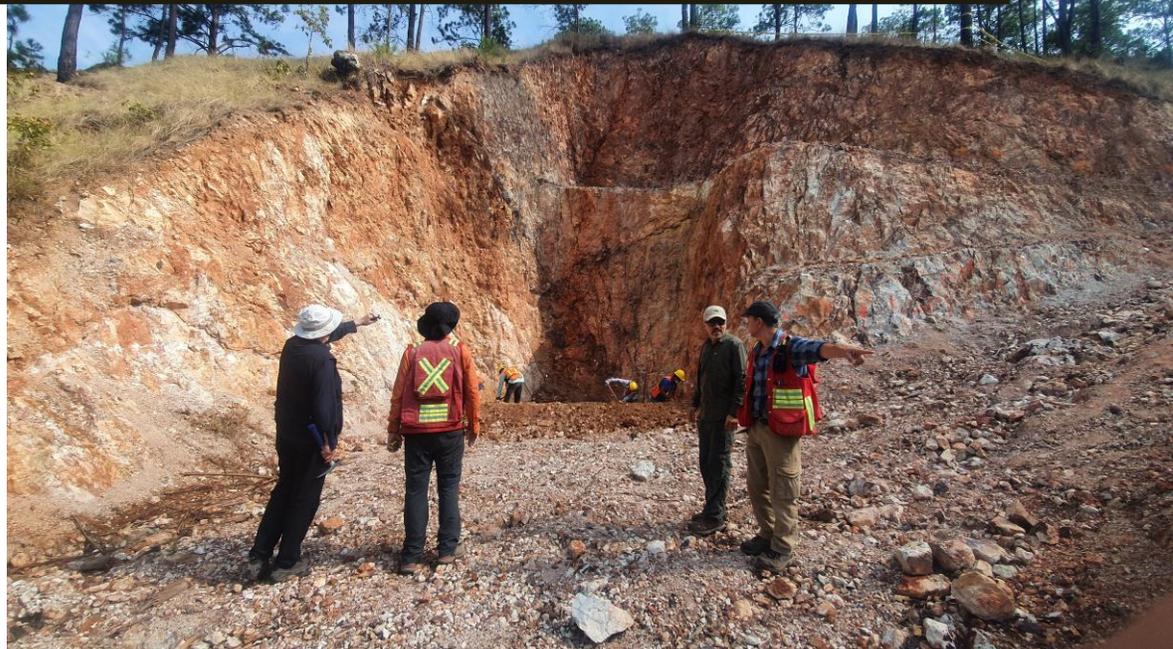




National Instrument 43-101 Technical Report for the Holly Gold-Silver Project Mineral Resource Estimate Southeastern Guatemala



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EFFECTIVE DATE: June 7, 2022

REPORT DATE: July 20, 2022

CERTIFICATE OF QUALIFIED PERSON & DATE AND SIGNATURE PAGE

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I, John Arthur, with the address as listed above, do hereby certify that:

- I have read National Instrument 43-101 (“NI 43-101”), its Companion Policy 43-101CP, and Form 43-101F1; this report titled “National Instrument 43-101 Technical Report for the Holly Gold-Silver Project Mineral Resource Estimate Southeastern Guatemala” dated effective June 7, 2022 (the “Technical Report”) has been prepared in compliance with these documents;
- I have read the definition of “qualified person” set out in NI 43-101. By reasons of my education, membership in a recognized professional association, and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101:
 - I graduated from the University of Newcastle upon Tyne, UK, with a BSc Degree in Geology (1987) and MSc in Exploration and Mining Geology from Leicester University, UK (1989). I subsequently achieved PhD from Cardiff University (1994) for research in Mineral Resource Estimation in Aggregate deposits;
 - I am a Fellow of the Geological Society of London (1005744) and a Chartered Geologist (CGeol);
 - I have worked or carried out research as a Geologist for a total of 34 years. My experience covers exploration for gold, iron ore and base metals through to estimation, reporting and classification of Mineral Resources at Scoping, pre and full feasibility level and includes time spent on producing operations;
 - I am independent of Volcanic Gold Mines Inc. as the term is set out in section 1.5 of NI 43-101;
- I have not had prior involvement with the Holly Property that is the subject of this Technical Report;
- I am responsible for sections 14, 25, and 26 of the Technical Report;
- As of the effective date of this Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make it not misleading.



Dr. John Arthur, CGeol FGS.

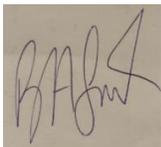
The effective date of this report is June 7, 2022. The date of signing is July 20, 2022.

CERTIFICATE OF QUALIFIED PERSON & DATE AND SIGNATURE PAGE

Bruce A. Smith, MAIG.
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I, Bruce A. Smith, with business address as listed above, do hereby certify that:

- I have read National Instrument 43-101 (“NI 43-101”), its Companion Policy 43-101CP, and Form 43-101F1; this report titled “National Instrument 43-101 Technical Report on the Holly-Banderas Gold-Silver Project Mineral Resource Estimate Southeastern Guatemala” dated effective June 7, 2022 (the “Technical Report”) has been prepared in compliance with these documents;
- I have read the definition of “qualified person” set out in NI 43-101. By reasons of my education, membership in a recognized professional association, and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101:
 - I graduated from Otago University, New Zealand with a B.Sc. and MSc Honors (Major) in Geology (1993);
 - I am a member in good standing of the Australian Institute of Geoscientists (member # 6848);
 - I have worked in the fields of geology and mineral exploration since 1993 including consulting and work for both major and junior mining and exploration companies. I have experience in epithermal Ag-Au- (Pb-Zn) deposits, Cu-Au-Mo porphyry deposits, orogenic gold deposits, archean hosted deposits, skarns, VMS deposits, spanning Canada, Mexico, Central America, South America, Europe, Asia, Australasia and Africa;
 - I have more than 25 years of experience in mineral exploration that is relevant to my area of practice, and I have relevant experience to the subject matter of the Technical Report;
- I am not independent of the Property, Volcanic Gold Mines Inc. and the vendor Radius Gold Inc. as the term is set out in section 1.5 of NI 43- 101; in that I am a consultant to Radius Gold Inc, and technical advisor to Volcanic Gold Mines Inc.
- I have been involved with the exploration of Property that is the subject of this Technical Report during the period 2017 - 2022, and I have visited the Property area several times, most recently during October and November, 2021;
- I am responsible for sections 1,2, 8, and 24 of the Technical Report;
- As of the effective date of this Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make it not misleading.



Bruce A Smith MAIG no6848.

The effective date of this report is June 7, 2022. The date of signing is July 20, 2022

CERTIFICATE OF QUALIFIED PERSON & DATE AND SIGNATURE PAGE

Shawn Rastad, P.Geo.
Geophysicist, Pivot Geoscience Ltd.
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I, Shawn Rastad, with business address as listed above, do hereby certify that:

- I have read National Instrument (NI 43-101), its companion policy 43-101CP, and Form 43-101F1. I have contributed to and reviewed this report titled “National Instrument 43-101 Technical Report for the Holly Gold-Silver Project Mineral Resource Estimate Southeastern Guatemala” (Technical Report) dated effective June 7, 2022. This report has been prepared in compliance with the above documents.
- I have read the definition of “qualified person” set out in NI 43-101. Based on my active membership with a recognized professional organization, educational background, and past relevant work experience, I fulfill the requirements to be a qualified person for the purpose of NI 43-101.
 - I am an active member of Engineers and Geoscientists BC (Licence #50853).
 - I graduated from University of British Columbia with a B.Sc. in Geophysics.
 - I have worked in exploration (Oil&Gas and Mineral) since 1997, with a focus on minerals since 2003. I have worked for geophysical service companies performing ground geophysical surveys. I have been involved in all aspects of the surveys from start to finish. Recent years have been focused on the backend, modeling and interpreting geophysical data sets, conducting project compilations, and providing data management support. Geophysical surveys were conducted over a variety of deposits such as epithermal, porphyry, orogenic gold, skarns, and VMS deposits, spanning North America, Central America, South America, Europe, and Australasia.
 - I have over 20 years working with data and assuring its utmost quality.
- I have over 20 years working with data and assuring its utmost quality
- I am not independent of Volcanic Gold Mines Inc. as defined by the terms set out in section 1.5 of NI 43- 101. I am a consultant to Volcanic Gold Mines Inc. focused on their data management and quality control of their data.
- I have been involved with the management of Volcanic Gold Mines Inc's data since 2020 and have personally worked on and reviewed the data associated with the Holly Project and the data presented in this technical report.
- I have not visited the Holly Property.
- I am responsible for sections 6, 9, 10, 11, 12 and 27 of the Technical Report.
- As of the effective date of this Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make it not misleading.



Shawn Rastad, P.Geo.
Pivot Geoscience Permit to Practice #1002391

The effective date of this report is June 7, 2022. The date of signing is July 20, 2022.

CERTIFICATE OF QUALIFIED PERSON & DATE AND SIGNATURE PAGE

Ludving L Monroy, AIPG.
Residenciales Campollano Premier
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I, Ludving L Monroy, with business address as listed above, do hereby certify that:

- I have read National Instrument 43-101 (“NI 43-101”), its Companion Policy 43-101CP, and Form 43-101F1; this report titled “National Instrument 43-101 Technical Report on the Holly Gold-Silver Project Mineral Resource Estimate Southeastern Guatemala” dated effective June 7, 2022 (the “Technical Report”) has been prepared in compliance with these documents;
- I have read the definition of “qualified person” set out in NI 43-101. By reasons of my education, membership in a recognized professional association, and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101:
 - I graduated from The University of Louisiana at Lafayette, United States with a B.Sc. (Major) in Geology (2001);
 - I am a member in good standing of the American Institute of Professional Geologists (CPG # 12091);
 - I have worked in the fields of geology and mineral exploration since 2002 including consulting and work for junior mining and exploration companies. I have experience in epithermal Ag-Cu-Au- (Pb-Zn) deposits, orogenic gold deposits, VMS deposits, spanning Canada, Mexico, Guatemala, El Salvador, Honduras, Dominican Republic, Ecuador and Paraguay,
 - I have more than 20 years of experience in mineral exploration that is relevant to my area of practice, and I have relevant experience to the subject matter of the Technical Report;
- I am not independent of Volcanic Gold Mines Inc. as the term is set out in section 1.5 of NI 43- 101; in that I am a consultant to Volcanic Gold Inc.;
- I have been involved with the exploration of Property that is the subject of this Technical Report during the period 2021 - 2022, and I have visited the Property area on a daily basis;
- I am responsible for chapters 3, 4, 5, 7 and 23 of the Technical Report;
- As of the effective date of this Technical Report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make it not misleading.



Ludving L Monroy AIPG CPG No.12091.

The effective date of this report is June 7, 2022. The date of signing is July 20, 2022

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1.0 Summary

This National Instrument 43-101 (“NI 43-101”) Technical Report for the Holly Gold-Silver Project Mineral Resource Estimate, Southeastern Guatemala, was prepared for and on behalf of Volcanic Gold Mines Inc., (“Volcanic”) to support and detail technical aspects of the mineral resource estimate with an effective date of June 7, 2022.

Volcanic Gold Mines Inc. has an exclusive option with Radius Gold Inc. (“Radius”) to earn a 60% interest in Radius’s Holly Gold-Silver Project (“Holly” or “the Project”) in southeastern Guatemala.

The Holly mineralized zone is covered by one active exploration licence, named El Dorado, covering an area of 95.29 km².

The Project is located in the volcanic highland terrane of southeastern Guatemala, a region of sharply contrasting valleys and rolling to rugged topography, with elevations in the project area ranging from ~450 metres above sea level (“masl”) to ~1425 masl. The climate is sub-tropical, with a dry and wet season. The closest major population centre is the town of Chiquimula, population approximately 110,000, located 15 kilometres to the north. Some parts of the Project are directly road accessible, and others are accessed on foot through local footpaths or narrow tracks.

The first modern mineral exploration reconnaissance on the license took place in the early 2000s, with stream sediment sampling and follow-up soil geochemistry surveys and rock prospecting programs being completed by Radius Explorations Ltd. Mineralized zones were identified, with the most notable being the Holly prospect in the northern portion of the tenement. Prior to the option by Volcanic, only approximately 1,991 metres of drilling had been completed on the Holly prospect.

Holly is located at the suture zone between the North American and Caribbean tectonic plates, a complex zone of wrench fault deformation that presents various styles of brittle faulting and extension. The Project is underlain primarily by Cenozoic to Quaternary volcanic and sedimentary rocks.

The Holly mineralized zone displays compositional, textural, alteration, and rock association characteristics consistent with a low sulphidation epithermal Au-Ag mineralized environment, and some characteristics consistent with an intermediate sulphidation epithermal environment.

Gold and silver mineralization are hosted by the NNW-SSE trending Peña lode/vein structure which cross-cuts all lithologic units. The principal host rocks are the silicified and clay-altered polymictic (metamorphic and volcanic clasts) breccia of the Jocotan fault and the silicified Tertiary Volcano-clastic units south of the Jocotan.

The Holly mineralized zone has been traced for 1.2 kilometres in length, averaging between one and six metres in width. The zone remains open along strike and to depth. To date, drilling has defined the La Peña lode/vein over a strike length of approximately 250 metres and to 250 metres depth from the surface. It is still open in all directions.

Since optioning the Holly Project in 2020, Volcanic Gold Mines Inc. has undertaken surface prospecting, geological mapping, and surface sampling as well as an extensive drill program that started in 2021. Quality assurance/quality control (“QA/QC”) procedures have been in place on the Project since its beginnings, and effective QA/QC procedures were maintained, including the regular insertion of reference materials, blanks, and limited field duplicates. In addition, continuity has been maintained with much of Radius’ Guatemalan staff (now associated with Volcanic) since the project’s inception, ensuring consistency of drilling, sampling, and logging procedures on site.

Volcanics' first drilling phase was completed during 2021 with 29 holes totaling 4,784 m of drilling. A second phase was initiated in early 2022, with approximately 476 metres drilled. Drilling targeted multiple targets, with the primary focus on the La Peña zone. Assayed results were promising, with 25 of the 30 completed holes intercepting significant mineralization.

The first mineral resource estimate was completed at Holly for the La Peña mineralized zone, as summarized in Table 1.1 below.

Mineral Resources which are not Mineral Reserves have not demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues. The mineral resources in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum standards on mineral resources and reserves, definitions, and guidelines prepared by the CIM standing committee on reserve definitions and adopted by the CIM council. Notwithstanding, to meet the requirement that the reported Mineral Resources show "reasonable prospects for eventual economic extraction".

The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Resources as an Indicated or Measured Mineral Resource. It is uncertain if further exploration will result in upgrading them to an Indicated or Measured Mineral Resource category.

**Table 1.1: Holly, La Peña Vein Resource Estimate Summary
(Effective date June 7th, 2022)**

Category	Cut-off grade AuEq ⁽²⁾ (g/t)	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold (Moz)	Silver (Moz)	Gold Equivalent ⁽²⁾ (g/t)	Gold Equivalent ⁽²⁾ (Moz)
Inferred	3.00	1.32	6.46	256	0.27	10.91	9.57	0.41
Notes:								
1. Resources estimated using a 3.0 g/t Gold equivalent cut-off grade and a top cap grade of 100 g/t Gold and 2,000 g/t Silver and presented on a 100%-basis								
2. Gold Equivalent AuEq values based on Au US\$1800 and Ag US\$22 using formula (Au g/t + (Ag g/t*0.01222))								
3. Contained metal and tonnes figures in totals may differ due to rounding.								

The Mineral Resource Estimate is underpinned by data from 21 diamond drillholes totalling 3,707 m of drilling. Drill spacing ranges between 20 and 100m. All sample data was composited to a 2D dataset (linear grade and true thickness values) prior to analysis and estimation. The sample database and the topographic survey were reviewed and validated by Bruce Smith, Ludving Monroy and Shawn Rastad prior to being supplied to Dr. John Arthur, an independent UK based Resource Consultant. Such review and validation help to support the reliability of the estimate. Geological domain modelling was completed by Bruce Smith. Mineral Resource domain modelling, grade interpolation, Mineral Resource classification and reporting of the Mineral Resource statement, was performed by Dr John Arthur. Dr Arthur, Mr Smith, Mr Monroy and Mr Rastad are "qualified persons" within the meaning of National Instrument 43-101 Standards of Disclosure for Mineral Projects. Block modelling was carried out using cell dimensions of 32mE by 32mN by 8 mRL and was coded to reflect the surface topography and mineralised zones. Density values were globally assigned into two zones, an upper zone approximately 100m from surface had an average density of 2.33t/m³ and below this an average density of 2.52t/m³ was applied. The Mineral Resource Estimate has

been classified based on data density, data quality, confidence in the geological interpretation and confidence in the robustness of the grade interpolation.

The QP's believe that the current data presented is an accurate and reasonable representation of the Holly Project, with no known risks or uncertainties that could reasonably be expected to affect the reliability of or confidence in the exploration information presented in this report.

The QP's conclude that the database and mineralization interpretation are of suitable quality to provide guidance for continued exploration of the Holly project, and that continued exploration drilling has the potential to expand the currently defined resources at both the La Peña vein target and other veins and targets at the Holly project. The following is a summary of the recommended program, with a budget of US\$1,500,000:

- Continue with programmed initial studies required to convert the current exploration licence to an exploitation license, which include water, environmental, metallurgical and mining scoping studies.
- Conduct additional drilling in phases to upgrade the resource classification and to expand the currently defined resources at both the La Peña vein target and other veins and targets at the Holly property.

2.0 Purpose and Terms of Reference

Volcanic Gold Mines Inc. is an exploration company based in Vancouver, Canada, and publicly listed on the TSX Venture Exchange under the symbol VG. Volcanic's registered office is located at Suite 650, 200 Burrard Street, Vancouver, BC, Canada, V6C 3L6, its telephone number is +1 604 801 5432, fax number is +1 604 662 8829, and Email: info@volgold.com.

This NI 43-101 Technical Report for the Holly Gold-Silver Project Mineral Resource Estimate, Southeastern Guatemala, was prepared for and on behalf of Volcanic Gold Mines Inc, to support and detail technical aspects of the Holly mineral resource estimate filed June 9, 2022 with an effective date of June 7, 2022. The mineral resource estimate is reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Definition Standards (2014) incorporated by reference in National Instrument 43-101 - Standards of Disclosure for Mineral Projects.

2.1 Qualified Persons

This technical report was prepared by the following Qualified Persons ("QP's") as defined by National Instrument 43-101:

Dr. John Arthur was commissioned to independently calculate the mineral resource estimate in compliance with NI 43-101 and CIM standards and is the primary author of this report. Dr. Arthur (CGeol FGS, membership ID 1005744, UK) is an independent Mining Consultant with 27 years experience as an Exploration and Mineral Resource geologist working extensively throughout Africa, CIS, Central Asia and South America and is a qualified person under the guidelines set out by the JORC and CIM for reporting of Mineral Resources. Dr. Arthur did not visit the project site.

Co-author of this report Bruce A Smith MAIG (Australia) is not independent as defined by National Instrument 43-101, in that he is a consultant to Radius Gold Inc and technical advisor to Volcanic Gold Mines Inc. Mr. Smith has conducted multiple site visits to the Holly property since March 2019 including visits to the property to supervise diamond drilling during September and October 2021. Bruce has worked extensively in Guatemala from 1998 until 2002, and 2019 until 2022 and speaks Spanish. Since 1998, he has worked with the majority of the geological team that conducted the exploration of the Property and has followed the Property closely since its initial discovery. He has visited all the main locations described in this report.

Co-author of this report Ludving Monroy CPG (USA) is a geologist and is not independent as defined by National Instrument 43-101, in that he is a consultant and principal project geologist at the Holly project and employed by Volcanic Gold Mines Inc. Ludving supervised, logged and sampled all diamond core drilling at the Holly property from 2019 until July 2022. Ludving lives in the municipality where the Holly Project is located and has visited all the main locations described in this report.

Co-author of this report Shawn Rastad, PGeo (BC) is a geophysicist, database manager and is not independent as defined by National Instrument 43-101, in that he is a consultant to Volcanic Gold Mines Inc. Shawn has not conducted a site visit to the Property. Shawn has managed all aspects of the digital database including quality control, validation and integration of the field data and certified laboratory geochemical analysis, since 2020.

The authors are responsible for the chapters detailed in Table 2.1.

Table 2.1: Author Responsibilities by Chapter

Chapter	Title	Author(s)
1	Summary	Smith
2	Purpose and Terms of Reference	Smith
3	Reliance on other experts	Monroy
4	Property Description and Location	Monroy
5	Accessibility, Climate, Local Resources, Infrastructure and Physiography	Monroy
6	History	Rastad
7	Geological Setting and Mineralization	Monroy
8	Deposit Types	Smith
9	Exploration	Rastad
10	Drilling	Rastad
11	Sample Preparation, Analyses, and Security	Rastad
12	Data Verification	Rastad
14	Mineral Resources Estimates	Arthur
23	Adjacent Properties	Monroy
24	Other Relevant Data and Information	Smith
25	Interpretations and Conclusions	Arthur
26	Recommendations	Arthur
27	References	Rastad

2.2 Sources of Information

Information presented in this technical report was derived from multiple sources including:

- Direct observations from the principal author(s).
- GIS compilation of geological, geochemical, and geophysical data sets, current and historic, gathered over the property.
- Previous technical reports:
 - Technical Report on the Guatemalan Properties: Gold Field Joint Venture, Marimba Joint Venture, Eastern Guatemala Projects (Smith, 2003)
 - Geological Report on the Holly-Banderas Gold-Silver Project, Southeastern Guatemala, (Clark, 2012)
 - NI 43-101 Technical Report on the Holly-Banderas Gold-Silver Project, Southeastern Guatemala. (Smith & Smith, 2020).
- Additional internal and external reports prepared for Radius Gold/Volcanic Gold Mines as cited in Chapter 27 of this report.
- Discussions with Volcanic personnel on topics such as geology, finances, and legal position.

2.3 Units of Measure, Abbreviations and Symbols

Location coordinates are given throughout this report using the WGS84 datum, and reported in UTM projection, zone 16N. Measurements given in the report use the metric system. Element concentrations for silver and gold are given in grams / tonne ("g/t"), which is exactly equivalent to parts per million (i.e. 1 ppm

= 1 g/t). The attitudes of planes are given in the form “xxx°/yy°”, where “xxx” is the strike (using the right hand rule convention), and “yy” is the dip. Abbreviations used in the report are given in Table 2.2.

Table 2.2: Abbreviations and Symbols

Name	Abbreviation	Name	Abbreviation
ALS Minerals	ALS	Millimetres/year	mm/yr
Antimony	Sb	Million(s)	M
Aqua regia	AR	Mineral Resource Estimate	MRE
Arsenic	As	Minerales Sierra Pacifico S.A.	MSP
Atomic absorption spectrometry	AA	Ministerio de Ambiente y Recursos Naturales	MARN
Atomic emission spectroscopy	AES	Ministerio de Energía y Minas	MEM
Billion(s)	B	Molybdenum	Mo
BSI Inspectorate	BSI	Motagua Suture Zone	MSZ
Bureau Veritas	BV	National Instrument 43-101	NI 43-101
Celsius	C	North-northeast	NNE
Centimetre(s)	cm	North-northwest	NNW
Coefficient of Variation	CV	Parts per million	ppm
Copper	Cu	Percent	%
Degree	°	Plus or minus	±
Diamond drilling	DDH	Qualified Person	QP
Exploraciones Mineras de Guatemala, S.A.	Exmingua	Quality assurance / quality control	QA/QC
Fire assay	FA	Quantitative Kriging Neighbourhood Analysis	QKNA
Gold	Au	Radius Gold Inc.	Radius
Gold Equivalent	AuEq	Reverse circulation	RC
Gram(s)	g	Rocky Mountain Geochemical	RMG
Gram(s) per tonne	g/t	Silver	Ag
Global positioning system	GPS	Simple Kriging	SK
Holly Gold Silver Project	Holly, the Project, or the Property	Slope of Regression	SoR
Induced Polarization	IP	South-southeast	SSE
Inductively coupled plasma	ICP	Square kilometres	km ²
International Electrotechnical Commission	IEC	Thousand(s)	k
International Organization for Standardization	ISO	Three dimensional	3D
Kilogram(s)	kg	Ton(s) (1 ton = 907.185 kg)	ton
Kilometre(s)	km	Tonne(s) (1 tonne = 1000 kg)	t
Kriging Efficiency	KE	Troy ounce(s)	oz
Less than	<		
Megaannum	Ma	Universal Transverse Mercator	UTM
Mercury	Hg	Volcanic Gold Mines Inc	Volcanic or Volcanic Gold
Metre(s)	m	World Geodetic System 1984	WGS84
Metres above sea level	masl	X-ray Fluorescence	XRF
Micron	µm	Zinc	Zn
Millimetre	mm		

3.0 Reliance on Other Experts

The authors are relying on reports, opinions, and statements from experts who are not QPs for matters relating to legal, environmental, political and social issues.

3.1 Mineral Tenure

The authors have not independently verified the legal status of Radius's mineral tenure, and has fully relied on the following independent legal opinions for this information prepared for Radius Gold Inc. by Central Law, a Central American- based legal firm:

- “Minerales Sierra Pacifico, Sociedad Anónima - Mining License Information”. Legal opinion on Radius's mineral tenure status (Carrasco de Groote, 2020a)
- “Minerales Sierra Pacifico, Corporate and Title Opinion”. Legal opinion on El Dorado Exploration Tenement and derived exploitation applications La Luz, Aurora and El Dorado II, which comprise the Holly – Banderas Gold – Silver Deposits (Carrasco de Groote, 2020b)

3.2 Environmental Baseline Studies

The authors have relied upon a series of environmental baseline reports prepared for Radius' 100% held subsidiary Minerales Sierra Pacifico (“MSP”):

- “Plan de Gestión Ambiental. Proyecto de exploración minera El Dorado LEXR-813, área El Dorado Sur” (Everlife Sustainable Development, 2012a).
- “Plan de Gestión Ambiental. Proyecto minero El Dorado LEXR-813” (Everlife Sustainable Development, 2012b).
- “Línea Base Ambiental y de Biología. Proyecto La Luz” (Everlife Sustainable Development, 2012c).
- “Línea Base Ambiental y Biología. Proyecto El Dorado II” (Everlife Sustainable Development, 2012d).

In addition, the status of permits for the Project are supported by reports completed by independent consulting company Geoambiente, including:

- Environmental Impact Study completed for Radius Gold (Geoambiente, 2019)
- Environmental Management Plan completed for Volcanic Gold Mines (Geoambiente, 2020)

4.0 Property Description and Location

Volcanic Gold Mines Inc. signed an exclusive option with Radius Gold Inc. to earn a 60% interest in Radius's Holly gold/silver property located in southeastern Guatemala.

Under the terms of the option Volcanic can earn a 60% interest in Radius's Holly and Banderas projects by spending US\$7.0 million on exploration of the properties within 48 months from March 2021, being the date drilling permits were granted for the Holly property. Following the completion of a minimum C\$3 million financing in July 2020, Volcanic made a cash payment to Radius of C\$100,000 to initiate the option. Subsequently, in accordance with the option terms, Volcanic spent an initial US\$1.0 million on exploration within 12 months of the permit date, which included a required minimum 3,000 metres of drilling.

Upon completion of the exercise of the option, Volcanic will enter into a standard 60/40 joint venture with Radius in order to further develop the Properties. Volcanic also has the exclusive right for 24 months following the execution of the option to evaluate the other property interests of Radius in eastern Guatemala and to enter into an agreement to acquire an interest in any of such other properties on reasonable mutually agreed upon terms.

4.1 Types of Mineral Tenure

The Guatemalan Mining Law (Decree number 48-97) establishes three types of mineral tenure granted by the Ministry of Energy and Mines (Ministerio de Energía y Minas; "MEM"): reconnaissance, exploration, and exploitation. Reconnaissance licences are granted for areas of between 500 and 3000 km² and are valid for up to six months, with an option to extend them for an additional six months. Exploration licences are granted for areas no greater than 100 km² and are valid for an initial period of three years which can then be twice extended for additional two-year periods, for a total of seven years, with each time extension accompanied by a 50% reduction in the area covered by the licence. Once the allowed extensions have been used, to maintain the subsurface rights an application must be filed for an exploitation licence. These are granted for areal extents of no greater than 20 km² and are valid for a period of 25 years which can then be extended for an equal period of time.

There are no defined work requirements to keep licences in good standing, although exploration activities are expected, and reports must be filed with MEM annually.

4.2 Recent Status of Mineral Licences and Changes to Mining Law

It is expected that during the current presidential period (2020-2024), Congress will present a new Mining Law bill to be analyzed and approved by Congress. New mining applications have been accepted by the Ministry of Energy and Mines and existing licensee holders are free to continue exploration activities under the current law.

Since August 2017, the Constitutional Court requires a Public Consultation which must be conducted in accordance with ILO Convention 169 for the granting of exploitation mining licences. This Public Consultation is organized by the Vice-Ministry of Sustainable Development of the Ministry of Energy and Mines.

4.3 Project Location

The Project is located in southeastern Guatemala, centred approximately 15 km southwest of the town of Chiquimula at UTM coordinates 217,400E, 1,626,900N (WGS84, UTM zone 16N). The location of the Project is shown on in Figure 4.1.

Figure 4.1: Project location map (Volcanic, 2022)



4.4 Mineral Rights

The Project consists of the Holly mineralized zone, which is covered by one active exploration licence named “El Dorado” and assigned file number LEXR- 813. The licence covers an area of 95.29 km² (Figure 4.2).

Table 4.1: Granted El Dorado Licence.

Licence	Type	Area (km ²)	Status	MEM file #	Grant date
El Dorado	Exploration	95.29	Active	LEXR 813	2004-02-13

The El Dorado licence was originally granted to Exploraciones Mineras de Guatemala, S.A. (“Exmingua”), as established in MEM resolution #64, on February 13, 2004. At that time Exmingua was a wholly owned subsidiary of Radius Explorations Ltd. (now Radius Gold Inc.).

The first two-year extension was requested May 30, 2007, and was granted on December 4, 2007, as established in MEM resolution #262. The licence was formally transferred to Minerales Sierra Pacifico, S.A. on July 24, 2009, as established in MEM resolution #161. A second two-year extension was granted by MEM resolution #244 on October 29, 2009, with validity until on July 5, 2011. An application to extend the area of the licence was requested on October 8, 2009 and was granted by MEM resolution #76 on March 8, 2010.

Applications were filed with MEM on June 21, 2011 to convert a subset of the existing El Dorado exploration concession into three exploitation concessions: El Dorado II (MEM file number SEXT-013-11), Aurora

(MEM file number SEXT-014-11), and La Luz (MEM file number SEXT-012-11). Together, these represent 59.5 km², or ~63% of the existing El Dorado concession area and include all zones of known mineralization. The applications are pending resolution. Figure 4.3 shows the portion of the El Dorado licence that is currently under application to convert to three separate exploitation licences.

Article 25 of the Guatemalan Mining Law provides for the automatic extension of the validity of an exploration licence when applications to convert the same into an exploitation licence are made while the exploration licence is in good standing. As such, the El Dorado exploration licence remains in good standing until the exploitation applications are granted.

Throughout this report, the term “Property” shall include the Holly Project’s granted El Dorado licence only and shall not include the pending exploitation license applications.

Figure 4.2: Exploration and reconnaissance mineral licence grant and applications (Volcanic, 2022)

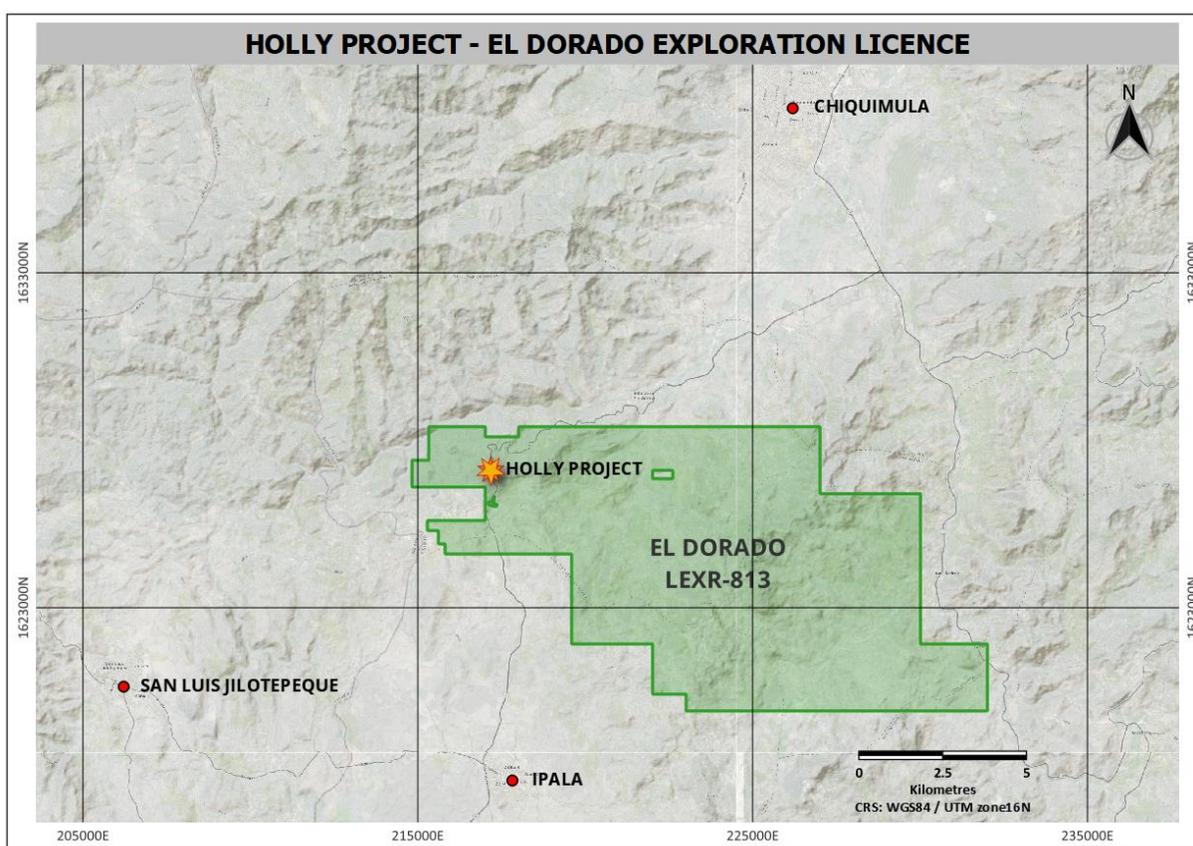
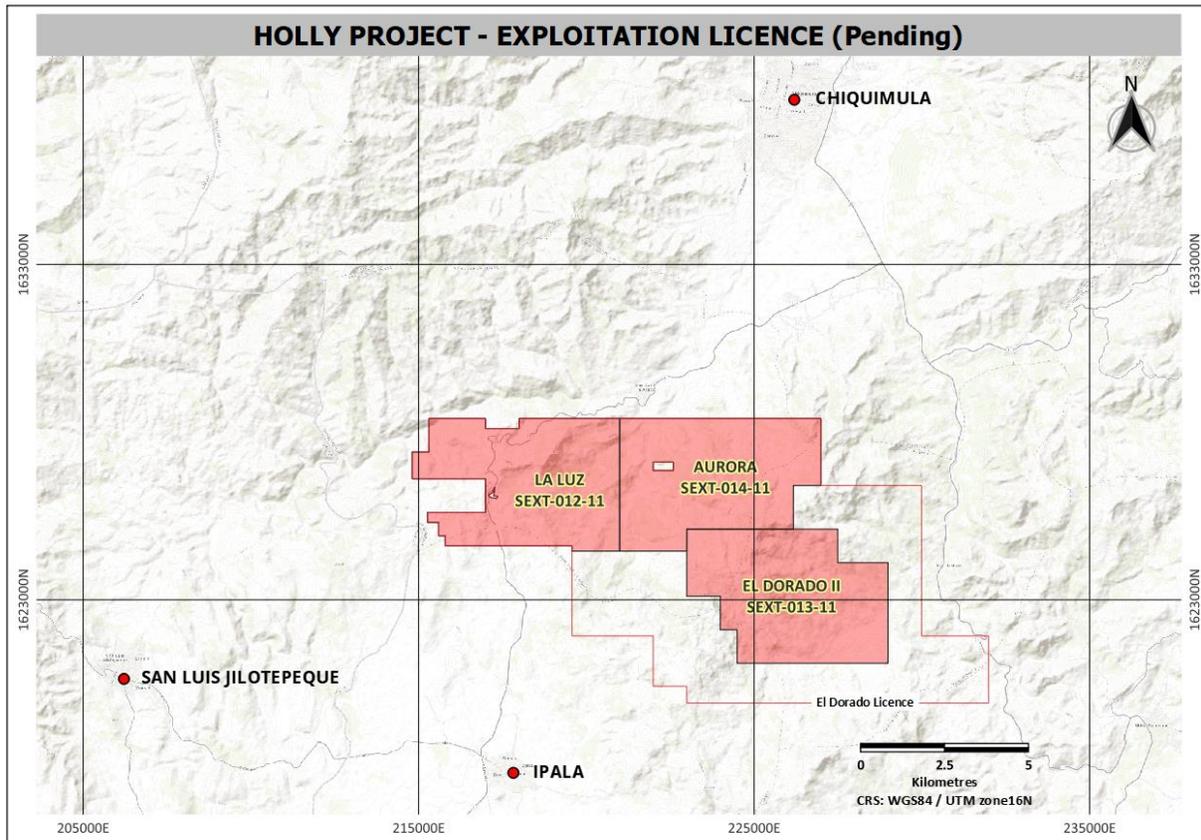


Figure 4.3: El Dorado exploration licence with exploitation licence applications (Volcanic, 2022)



4.5 Surface Rights

Exploration and mining licenses in Guatemala are separate from surface rights. Access must be negotiated directly with the relevant surface rights owners. The surface rights on the El Dorado exploration licence are owned by both private owners and by local municipalities. Permission to enter private land is negotiated on an ad hoc basis with local landowners prior to exploration activities, and obtaining permission typically involves land rental fees, local hiring commitments, reclamation and improvement of land after exploration activities cease, and financial participation in local projects and initiatives, depending on the level of exploration required.

Radius generally enjoyed positive working relationships with the various municipalities and landowners and was previously successful in obtaining surface access, including for drilling programs in 2002 through 2011. Since becoming operator, Volcanic has continued these good relationships and currently holds 8 surface rights agreements for the Holly project, allowing access for exploration and drilling. Renewed negotiations for surface access with the relevant surface rights owners will be conducted on an on-going basis as required.

4.6 Baseline Studies and Permits

4.6.1 Baseline Environmental and Social Assessments

On December 4, 2019, the Environmental Impact Assessment Study, Category A (EIA-0199-2019) for the operation phase of the La Luz Project (SEXT-012-11) of the Holly project, (Geoambiente, 2019) was

presented to the Ministry of Environment and Natural Resources (MARN). This study includes documenting of key metrics on both the environmental and social aspects of mineral exploration projects.

4.6.2 Diamond Drilling Permits

The most recent diamond drilling permit application was made on November 11, 2020. This included an Environmental Management Plan (Geoambiente, 2020) as required by the Ministry of the Environment and Natural Resources (Ministerio de Ambiente y Recursos Naturales; "MARN"). The permit was approved on March 11, 2021 and it is valid until March 10, 2026.

4.7 Social and Political Issues

4.7.1 Current Geopolitical Risks for Mineral Exploration in Guatemala

The political and social landscape in Guatemala regarding mining has been influenced by external environmental and non-governmental organizations. Their campaigns have resulted in protests and illegal activities, such as blockades, to prevent mining and exploration activities. Occasionally, work at Holly has been delayed as a result of these types of actions. To counter this, the Company has a very active social program underway, presenting the local communities with the benefits of having local employment and the low impact of underground mining.

Over the many years Radius has held the mineral rights to the area of the Holly property the company has retained a good working relationship with local communities by maintaining good communication with the community authorities, "Cocodes" and with the mayors of the municipalities that correspond to the project area.

Since acquiring the option on the Holly property, Volcanic has continued with the methods established by Radius to maintain communication channels and endeavor to have a positive impact on the communities. These methods include rotating the work force to ensure the Company employs the maximum number of people, distributing that work force throughout the communities in the area and staying in touch with the community Cocodes.

The current President Alejandro Giammanttei, within his general policy of government 2020 - 2024, plans to advance the economic and social development of Guatemala, giving impetus to all economic activities, including mining. A new draft Mines Law which will be submitted to Congress for its respective approval is currently being prepared by the executive.

4.8 Royalties and Encumbrances

Guatemala's current Mining Law stipulates that mining royalties for metals are 1% on sales (0.5% to be paid to the state and 0.5% to be paid proportionately to the municipalities in which a project is located). In addition, while a new Mining Law is being passed, there is a policy of making a "Voluntary Contribution Convention" which is a (voluntary) royalty that is agreed between the company and the State and goes from 2% to 4% on sale.

The Property of Volcanic as of the date of preparation of this report, is otherwise free of royalties, payments, other agreements or levies, and is 100% owned by Radius Gold Inc. through its subsidiary Minerales Sierra Pacifico S.A..

5.0 Accessibility, Climate, Local Resources, Infrastructure & Physiography

5.1 Accessibility

The Project is located in the municipality of San Jacinto, department of Chiquimula, in southeastern Guatemala, approximately 100 km east of Guatemala City. The international airport in Guatemala City serves daily flights to such convenient transit hub cities as Mexico City, Houston, Miami, and Los Angeles, as well as other locations in Central America.

Access to the Project is gained via national paved highway either via the towns of El Progreso and Zacapa, or via the towns of Jalapa and San Luis Jilotepeque, to the town of Chiquimula (Figure 5.1). The journey takes approximately 3 hours. The Project is accessed from Chiquimula by four-wheel drive vehicles via variably maintained secondary paved and unpaved roads. Some parts of the Project are directly road accessible, and others are accessed on foot through local footpaths or narrow tracks.

Figure 5.1: Property accessibility in relation to Guatemala City

[El Dorado exploration licence in yellow, package of pending licences in black] (Volcanic, 2022)



5.2 Physiography and Climate

The Project is located in the volcanic highland terrane of southeastern Guatemala. This is a region of sharply contrasting valleys and rolling to rugged topography, with elevations in the project area ranging from ~450 masl to ~1425 masl. The project area is located in the Rio Shutaque drainage basin, which drains into the Rio Grande Zacapa basin.

The climate in the Project area is characterized as sub-tropical, with a dry season from November to April, and a wet season from May to October. Average annual temperature in Esquipulas, the closest meteorological station to the Project area, is 23.8 °C, with an average daily range from 17.5 °C to 32.7°C. The Project area is generally hotter than Esquipulas.

Temperatures vary primarily as a function of altitude, with higher locations in the Project area enjoying cooler temperatures and lower areas being hotter. Precipitation as measured in Esquipulas ranges between 840 mm/yr and 2100 mm/yr, with an average of 141 rainy days per year.

Exploration can be completed on the Holly Project on a year-round basis.

5.3 Vegetation

Lower altitude areas largely consist of cleared land for farming of beans and corn, with scrub- brush and shrubs, and both wild and cultivated lime, mango, cashew, avocado and nance trees, among others. Higher elevations which are not actively farmed tend to be dominated by pine and red oak trees.

5.4 Infrastructure

The Project is located ~15 km south of the town of Chiquimula, population, according to the 2018 Population Census, of 111,505. Logistics can easily be carried out from this regional hub, capital of the same-named department. Local labour in the Project area is easily sourced, most commonly from the closest village or town to particular project activities. MSP maintains an exploration office near Chiquimula, as well as a corporate office in Guatemala City.

The Holly Project is an exploration stage project and to the extent relevant there has been sufficient surface rights for exploration activities, as well as sufficient availability and sources of power, water, and personnel, needed to support exploration and drilling activities.

6.0 History

The earliest known scientific descriptions of the geology of Guatemala were those of Dollfus & de Montserrat (1869). Later work included that of Sapper (1899) and Roberts & Irving (1957). Burkart (1965) completed a doctoral thesis on the geology of southeastern Guatemala. These and other works contributed to a series of 1:50,000 and 1:250,000 maps published by the Instituto Geografico Nacional.

There is no known history of commercial or artisanal mining for metals in the project area, although there are local quarries for non-metallic minerals.

Radius Explorations Ltd., a precursor company to Radius Gold, held a large package of mineral exploration concessions across central and eastern Guatemala. The properties were either acquired through third party acquisition or filing for mineral concessions with the Guatemalan Ministry of Energy and Mines.

In late 2001, Radius Explorations shifted its focus to the eastern portions of its property holdings, expanding its reconnaissance rock and stream sediment sampling program. This led to the discovery of multiple prospects, including Holly, where two styles of gold mineralization were found to be present. The first had the potential for bulk tonnage disseminated mineralization, based on an exposed road cut where sampling returned 1.3 g/t Au over 55 metres. The second style of mineralization is associated with bonanza-type vein swarms with wall rock silicification. Multiple vein swarms were detected and mapped at the surface. The vein swarms occur in 25 to 100 metre wide intervals. Chip sampling of individual veins within the swarms returned values of 132.1 g/t Au over 0.75 m and 24.7 g/t Au over 0.7 m. Individual samples returned values as high as 7,500 g/t Ag and 950 g/t Au. (Radius Explorations, 2002a).

Follow-up surface prospecting during the first half of 2002 consisted of geological mapping, and surface and trench sampling. Such prospecting confirmed the presence of mineralization at the Holly zone (Radius Explorations, 2002b). Also included was a soil sampling program with over 1100 samples taken. The soil grid, 100 m spaced lines and 200 m cross lines, was centred on the east-west trending Jocotan fault breccia zone. The survey extended to the south with 200 m spaced lines. Many of the samples were analyzed only for gold.

Results from the trenching are summarized in Table 6.1.

Table 6.1: Holly Zone Trenching Results, 2002

ZONE / TRENCH	HOST ROCK	Au (g/t)	Ag (g/t)	WIDTH (m)
Holly Ridge / HHT-03	Volcanics	25.4	176	3.8
Holly Ridge / Sample 18275	Volcanics	34.0	332	3.0
Holly Ridge / HHT-02	Volcanics	5.5	47	8.0
Including Sample 16131	Volcanics	20.3	163	1.3
Trail Zone - HTZ-01	Sedimentary	5.3	60	19.0
Including	Sedimentary	9.2	95	9.0
Trench Ridge – HRT-02	Volcanics	25.5	122	6.0
Amber / Construction Road	Volcanics	1.69	5	40.0

Work continued on the property with the execution of a gradient and Realsection Induced Polarization (“IP”) geophysical survey starting in early August 2002. A total of 34.5 linear kilometres was covered. The gradient

survey covered approximately 1.28 km² and included approximately the same region as the soil survey. Six lines were acquired with the Realsection approach, providing a cross sectional view of the subsurface (Ploeger & Warne, 2002).

The survey was followed-up with a seven-hole drill program over the Holly zone, starting in September 2002. The program, totaling 977.8 m of drilling, tested multiple areas based on geological, geochemical, and geophysical features. Results of this initial drill program included highlights of 6.0 m assaying 43.56 g/t Au and 1618 g/t Ag in HDD-004 (Radius Explorations, 2002c).

During this period the concession was briefly optioned to Lalo Ventures Ltd. This agreement was terminated when Lalo Ventures was unable to secure the financing to fund the program. The following year, the Holly Project was optioned to Pillar Resources Inc., and a second phase of drilling at Holly was conducted in May 2003. This program consisted of a reverse circulation (“RC”) drill program of eight holes totaling 1,013.5 m of drilling.

Radius and Pilagold (Pillar changed its name to Pilagold Inc. in September 2003) announced their intentions to merge in March 2004 to form Radius Gold Inc., the current concession holder of Holly (Radius Explorations, 2004). Limited work was completed during 2004 and 2005, while the focus moved to other neighbouring prospects in Central America. This slow-down on Holly extended through to 2010 largely due to poor market conditions.

During 2010, the first resource estimate of the nearby Tahoe Resources Inc.’s Escobal epithermal Ag-Au-Pb-Zn deposit along with higher precious metal prices prompted reactivation of the Holly Project. The Project saw another round of surface exploration, rock chip and stream sediment sampling. This led to the extension of the soil grid to the north and west. Portions of the initial soil grid, covering the Jocotan fault, was resampled and analyzed with a multi-element analysis method, as well as resampled for gold.

This was followed up by a 2-dimensional IP geophysical survey, conducted over a grid consisting of 23 lines, spaced at 50 m intervals, and extending 1500 m in length. An additional six orthogonal lines were also surveyed.

The Holly project became dormant for a second time, though care and maintenance of the property continued. The property was reactivated in 2020, when it was optioned to Volcanic Gold Mines Inc.

Historic surface sampling and drill core samples is summarized in Table 6.2.

Table 6.2: 2001-2003, 2010-2011 Historic Sampling

Period	Rocks	Stream Sediments	Soils	Drill Core
2001 - 2003	818	50	1147	1096
2010 - 2011	372	32	1087	-

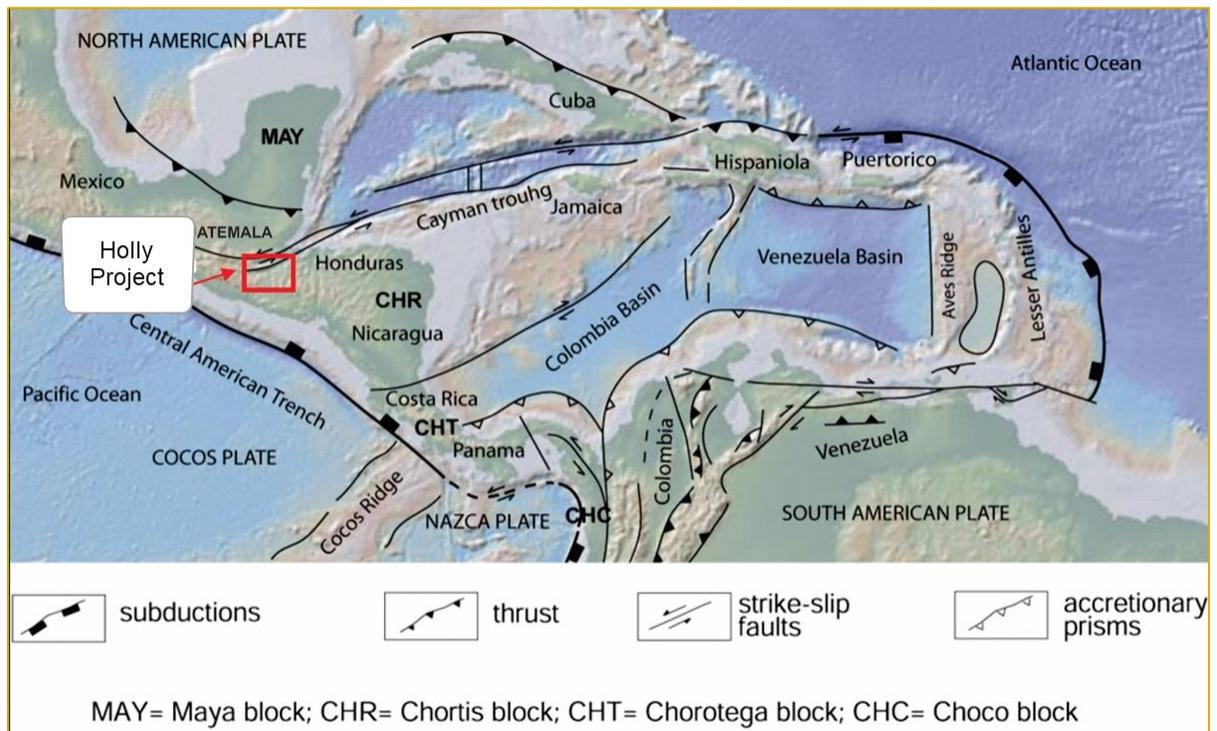
7.0 Geologic Setting and Mineralization

7.1 Regional Geology

The geology of Guatemala consists of two major crustal blocks, the Maya and the Chortís Blocks, parts of the North American and Caribbean tectonic plates, respectively. These are separated by the Motagua Suture Zone (“MSZ”) a composite suture zone some 400 km long and up to 80 km wide that links the Cayman trough pull-apart basin in the Caribbean Sea to the subduction zone of the Cocos plate (Ratschbacher et al., 2009). Figure 7.1 shows the geometry the Caribbean, and Cocos plates in relation to Guatemala and the Project.

Figure 7.1: Tectonic map; Caribbean and Central America

(From: Giuseppe Giunta and Silvia Orioli)



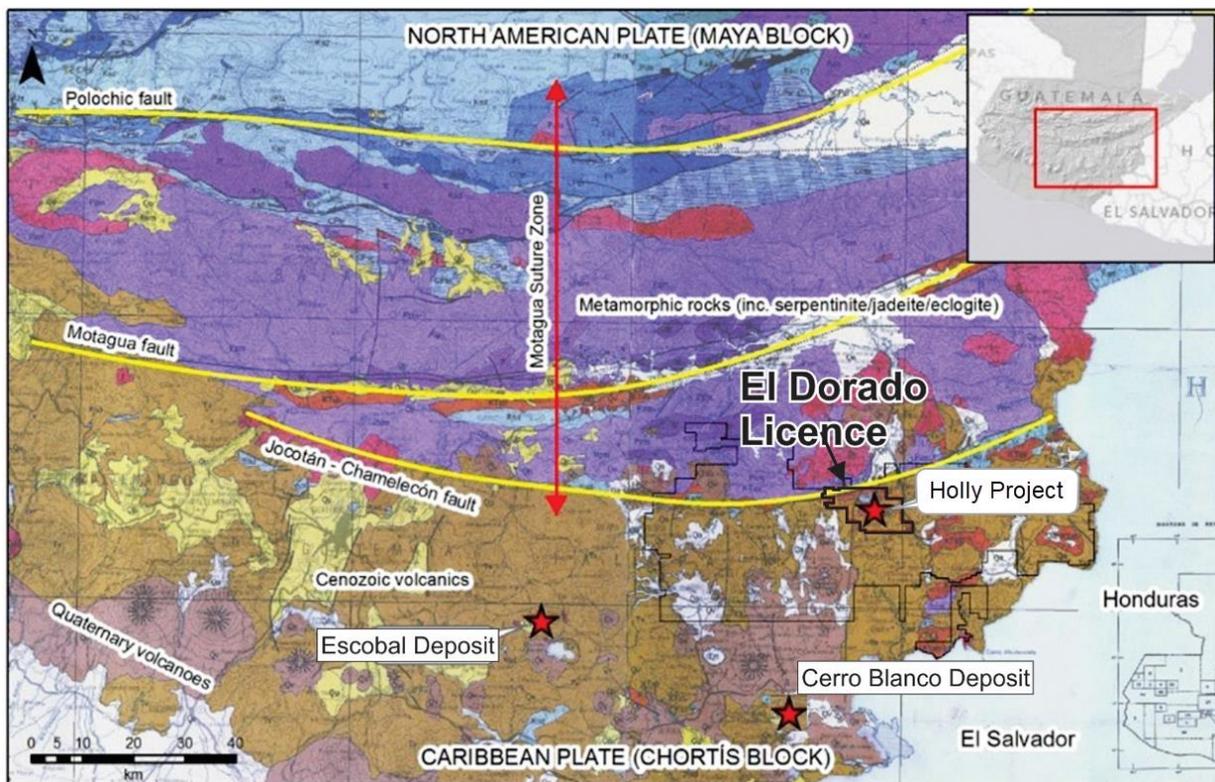
The Chortís block, which encompasses much of northern Central America including all of Guatemala south of the MSZ, consists of a basement of Precambrian to Paleozoic continental metamorphic rocks. The Maya block to the north of the MSZ similarly consists of basement metamorphic rocks of continental origin. The two blocks contain different suites of high-pressure assemblage rocks of different ages (Harlow et al., 2004), and are generally interpreted as representing the collision of the North American and proto-Caribbean plates along a subduction zone during the Cretaceous (Ratschbacher et al., 2009). The generalized geology of the southeastern part of Guatemala is shown in Figure 7.2.

The MSZ developed as a sinistral wrench fault zone from the Late Cretaceous to Early Cenozoic due to differing velocities of the Caribbean and North American plates, and movement on the suture is on-going to the present. The MSZ encompasses three major fault systems representing the time-evolution of the suture (from north to south the Polochic, Motagua, and Jocotán–Chamelecón faults), as well as ophiolitic serpentinite, jadeite, and eclogite representing relics of Cenozoic ocean crust preserved in the collision zone. In Guatemala the Chortís block metamorphic rocks are largely covered by Cenozoic volcanic and volcano-sedimentary rocks and Quaternary bimodal volcanic rocks.

Recent plate tectonic reconstructions (Rogers & Mann, 2007) suggest that the Jocotán – Chamelecón fault was active from the Early Miocene (20 Ma) to the Late Miocene (8 Ma), at which point the plate boundary shifted northwards to the Polochic fault. The Polochic was the main plate boundary until the early Pliocene (4 Ma), after which movement began on the Motagua fault. Recent work suggests the possibility that the plate boundary today encompasses more than simply the MSZ, as evidence suggests that neither the Polochic nor the Motagua fault extend all the way to the Cocos plate subduction zone (Guzmán-Speziale, 2010). Instead, it is proposed that the Ixcán fault, located in Guatemala north of the Polochic, and the Concordia fault located in southeast Mexico, are both also part of the plate boundary deformation zone, indicating that it is probably more complex than previously imagined. The Motagua, Polochic, Ixcán and Concordia faults are all historically and recently active (Lyon-Caen et al., 2006, Guzmán-Speziale, 2010). Estimates from the Cayman trough indicate total Cenozoic displacements of the plate boundary zone of over 1000 km (Rosencrantz et al., 1988), but there is controversy as to how much displacement was accommodated by the faults of the MSZ (e.g. Donnelly et al., 1990).

Figure 7.2: Generalized geology of SE Guatemala with simplified traces of faults in the MSZ

(Geological map from the Instituto Geográfico Nacional de Guatemala, 1970)



South of the MSZ, extensional deformation presents a variety of structural orientations and types: both fault-perpendicular and -parallel grabens and normal faults have been described. The crustal domains separated by fault-perpendicular normal faults had been previously interpreted as crustal blocks rotating around the bend formed by the MSZ at the southern edge of the North American plate (Burkart & Self, 1985). More recently, the styles of extension seen south of the MSZ have been interpreted to be functions of the divergence angle between plate movement vectors and azimuth of the plate margin fault (Rogers & Mann, 2007). As these vary spatially and temporally due to fault geometry and shifting of the principal plate boundary fault from the Jocotán to the Motagua, multiple and overlapping expressions of extension are to be expected.

7.2 Property Geology

The Property, near its northern boundary, straddles the Jocotán fault, and extends southwards into the Cenozoic and Quaternary volcanic and volcano-sedimentary rocks of the Chortís block, Caribbean plate (Figure 7.3). Nomenclature interpretation of lithologies encountered on the Property and their geological context has varied between workers and companies over the time period the property has been explored.

7.2.1 Lithologies

The Project area lithologies are well-described in a regional context by Donnelly et al. (1990), and the generic descriptions given below are largely taken from this work. As encountered in the Project area roughly from north to south (see Figure 7.3), they are summarily described as follows:

Santa Rosa Group Paleozoic (Pennsylvanian)

The oldest rocks at Holly Gold Silver Project are composed mostly of grey silty phyllite and lesser graphitic phyllite with local prominent sections of quartzite. Though these rocks are strongly foliated, bedding is locally discernable.

Jocotán fault breccia

The Santa Rosa Group is in contact with the Jocotán fault marked by a ridge approximately 100 metres thick comprised of polymictic material from breccias of the Santa Rosa group. To the northwest side of the fault system (hanging wall), this fault breccia is characterized by clasts up to 150 mm diameter, poorly sorted, angular to subrounded, made up of approximately 60% dark grey foliated phyllite, 10% grey banded quartzite, 3% metamorphic vein quartz, and a clast-rich, silicified matrix. To the southeast side of the fault system (footwall), the fault breccia is dominated by clasts up to 50 mm in diameter, moderately well sorted, subangular-subrounded, including approximately 30% dark grey foliated phyllite, 10% metamorphic vein quartz, 3% hornfels, 1% quartz-phyric andesite/dacite, supported by a fine-grained clastic, kaolinite matrix.

Subinal Formation. Tertiary (Miocene-Pliocene)

In this formation, the regional Jocotán fault is in contact with white, fine grained and sandy tuff underlain by brown, grey and green mudstones, with minor dirty sandstones that are slightly calcareous. Thin bedded, grey, limey mudstones host evaporite gypsum.

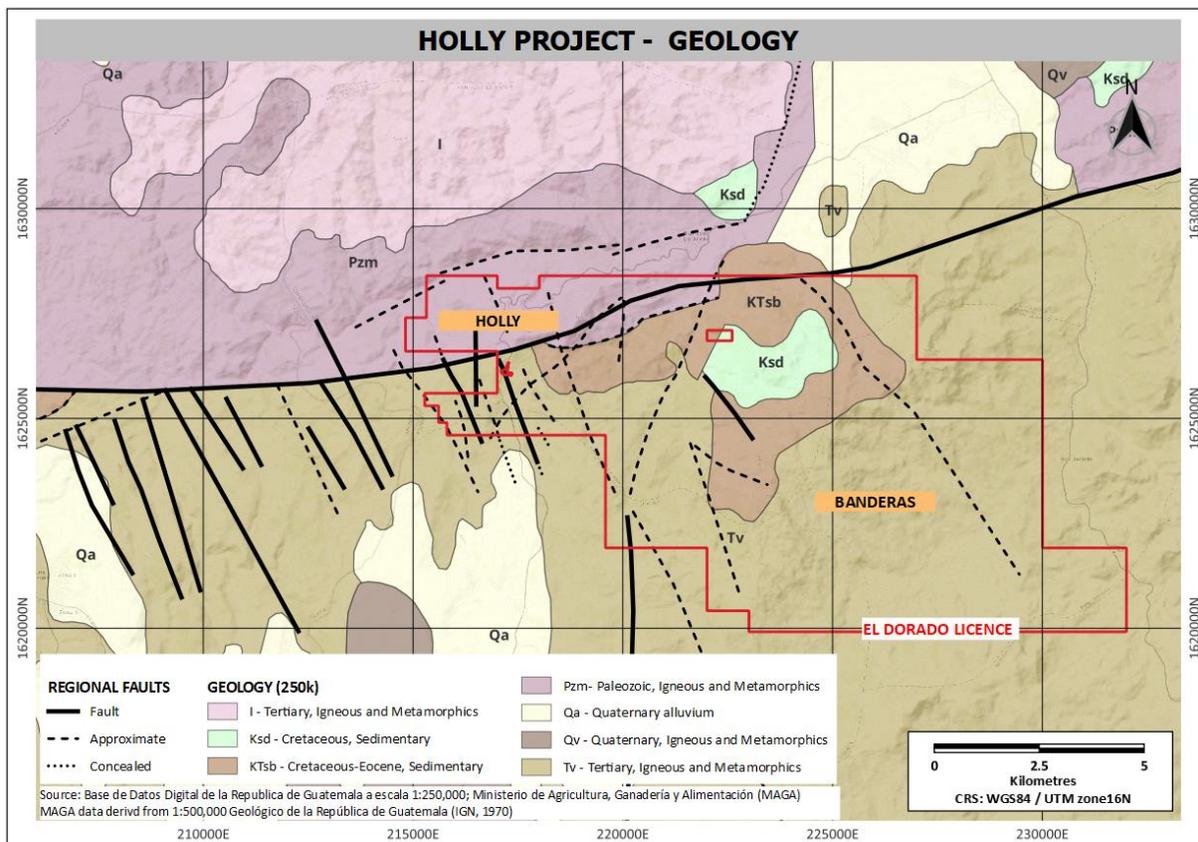
Padre Miguel Group volcanics. Tertiary (Miocene-Pliocene)

This group is dominated by felsic tuffs and well laminated flow rhyolite. Strongly altered basalt flows are locally interbedded with the rhyolite. The most recent Padre Miguel Group volcanic rocks in southeastern Guatemala have been assigned the name San Jacinto formation (Reynolds, 1980), and most workers on the Property have assigned to it the volcanic rocks.

Quaternary volcanics.

Basalt flows cap the Padre Miguel Group. On government maps, these are all interpreted as Quaternary, although there is some evidence that some of these are as old as 13 Ma, while others are as recent as Holocene. Volcanic morphology is generally well preserved in all cases, and it is difficult to distinguish on the basis of morphology alone.

Figure 7.3: Property geology from available government mapping (Volcanic, 2022)



7.2.2 Structures

The major structure on the Project is the East-West trending regional Jocotán fault which separates Paleozoic phyllites to the North from Tertiary volcanics and sediments to the south. The Jocotán fault is expressed as the large Jocotán fault breccia unit, which can be up to 100m thick and dips moderately to the South. The Holly project is located at the approximate intersection of the Jocotán fault and the NNE-trending Ipala Graben.

On the Property, several NNW-trending normal faults cross-cut the Jocotán fault, many of which host gold and silver mineralized veins. Most notable is the La Peña lode/vein structure, striking NNW and moderately-dipping 60 degrees to the northeast, which has been the target of the majority of the exploration work completed at the Holly property. The structure trends NNW-SSE which corresponds to normal extensional brittle faults mapped on the property. The lode/vein cross-cuts all lithologic units and has a highly oxidized colour anomaly.

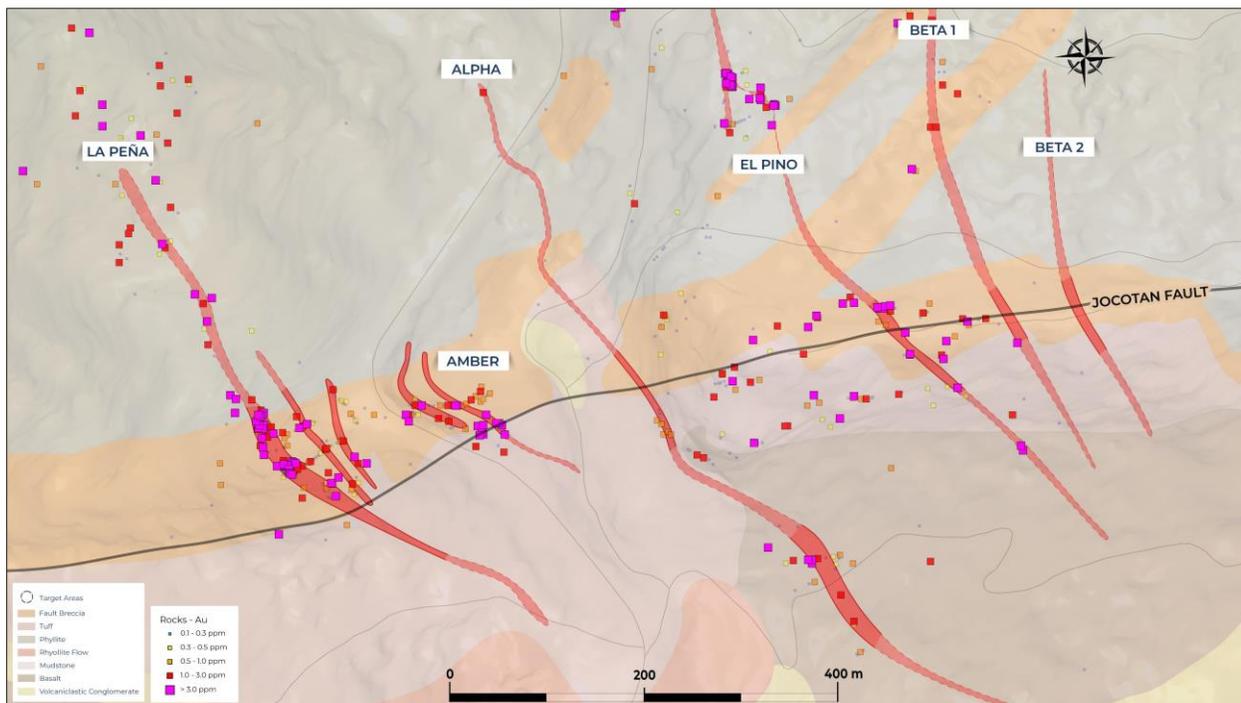
7.3 Geology of Mineralized Zones

Significant gold and silver mineralization at the Project has been defined in the La Peña lode structure.

The principal host rocks are the silicified and clay-altered polymictic (metamorphic and volcanic clasts) breccia of the Jocotán fault, and to a lesser extent, the Subinal Formation mudstones and Padre Miguel Group of volcanics to the south.

To-date, drilling has defined the La Peña lode/vein over a strike length of approximately 250 metres and to depth 250 metres from the surface. It is still open in all directions.

Figure 7.4: Geology of the Holly zone (Volcanic, 2022)



Mineralization at the Holly zone has been defined for 1.2 kilometres along the Jocotan fault and variable distances up to 600 metres along the NNW veins. These NNW veins average between one and six metres in width, and currently drill tested to various depths with the deepest drill hole being completed on the La Peña to an approximately depth of 250 metres . The zone remains open along strike and to depth.

7.4 Mineralization

Argentite, native gold and electrum are the primary mineralization minerals at the La Peña lode/vein. (Ebert, et al., 2003) (ASPAR, 2021). These minerals along with ultra fine-grained pyrites are associated with distinctively banded textured quartz.

Within the Santa Rosa group, the vein strikes 320 degrees and dips 60 to 85 degrees to the east-northeast. The quartz vein ranges from less than 1 m to locally over 5 m in true width. Higher grade precious metal zones in the La Peña vein range up to 289.50 g/t Au, 18,329 g/t Ag.

Figures 7.5 through 7.9 demonstrate the mineralization trend from NNW-SSE.

**Figure 7.5: Au-Ag quartz-hematite-argentite banded vein hosted within silicified phyllite
[HDD-21-015, 111.95-113.5 m grading 50 g/t Au, 1,877 g/t Ag]**



**Figure 7.6: Au-Ag oxidized, massive quartz vein with disseminated and banded argentite hosted within
Jocotan polymictic breccia.**

[HDD-21-004, 131.15-132.67 m grading 12.3 g/t Au, 1571 g/t Ag]



Figure 7.7: Au-Ag banded-chalcedonic quartz vein showing veinlets and disseminated argentite
[HDD-21-017, 134.25-135.40 m grading 12.3 g/t Au, 1571 g/t Ag]



Figure 7.8: Au-Ag banded quartz vein showing massive sulphide accumulation of silver-rich electrum hosted within silicified mudstone
[HDD-21-023, 204.45-205.7 m grading 289.50 g/t Au, 18329 g/t Ag]



Figure 7.9: Surface expression of the La Peña vein in Santa Rosa Group phyllites
[WGS 84 zone 16 216947E-1626852N looking SW; Red lines shows around 3.60 m width]



8.0 Deposit Types

The Holly zone displays compositional, textural, alteration, and rock association characteristics consistent with a low sulphidation epithermal Au-Ag mineralized environment, and some characteristics consistent with an intermediate sulphidation epithermal environment. A summary of the key characteristics of each type is presented in the following sections.

8.1 Low Sulphidation Epithermal Deposits

Low sulphidation epithermal deposit types are typically associated with subaerial bi-modal volcanic suites in extensional settings, and result from the boiling of hydrothermal waters and metal deposition in veins along fluid conduits, typically brittle faults and permeable lithologies. They are not usually proximal to intrusive magmatism, although a distal heat source is usually posited. Deposits present vein-filling crustiform and colloform quartz and chalcedony, and carbonate- replacement textures (bladed quartz after calcite). Open-space veins, banded veins, and vein breccias dominate, but stockwork ore is common. Most deposits show complex histories as fluid conduits open, deposit quartz and metals, seal, brecciate and re-open, re-deposit, etc.

Sulphides are typically on the order of < 1-2 volume %, with Au ± Ag as the main metals, with minor Zn, Pb, Cu, Mo, As, Sb, and Hg. Mineralogy of sulphides is pyrite ± arsenopyrite plus minor base metals minerals. The Ag:Au ratio in low sulphidation deposits is typically <15.

Alteration assemblages associated with the fluid conduits are typically zoned outwards, with quartz-adularia associated with mineralization, an alteration halo in the host rock that includes smectite and illite-smectite at shallow levels and illite-adularia at deeper, more metal- favourable levels. More distal propylitic alteration assemblages are common. Nearer to paleo- surfaces, more acidic phases such as alunite, kaolinite, and opaline silica are often present at the sinter level. The fluids which give rise to these types of deposits are of near-neutral pH and meteoric or mixed meteoric-magmatic in origin, at fairly low temperatures (<250°C).

The metal productive zone is generally considered to be from more than 200 m to up to 700 m below the paleo-water table, depths that correlate with illite alteration in the wall rock and banded quartz to quartz vein textures. Most known low-sulphidation epithermal deposits are Cretaceous in age or younger, although examples as old as Archean are known. This is most likely due to preservation, as due to their high levels of emplacement relative to paleo-topography, older epithermal deposits are more likely to be eroded away than younger.

8.2 Intermediate Sulphidation Epithermal Deposits

Intermediate sulphidation epithermal deposits are texturally very similar to low sulphidation deposits, with many of the same characteristics: crustiform and colloform quartz, vein breccias and stockworks, etc. Typically, these deposits have Ag:Au ratios in the hundreds to thousands, sulphides on the order of 5 to 20 volume % and contain between 0 and 5% lead and zinc. The hydrothermal systems giving rise to these types of epithermal deposits are frequently interpreted as having a more important magmatic component than in the case of low sulphidation deposits.

9.0 Exploration

The Holly Project has seen multiple phases of exploration during its history, as discussed in Chapter 6. Since optioning the Holly Project in 2020, Volcanic Gold Mines Inc. has undertaken surface prospecting, geological mapping, and surface sampling as well as an extensive drill program that started in 2021.

In addition to conducting its own field work, Volcanic compiled the data acquired during the first two phases of exploration (2001-2003, 2010-2011) to create a unified GIS database. A focus of the compilation was to ensure the completeness and accuracy of the historic drilling and surface geochemistry results. This involved tracking down the original deliverable files and integrating the data into a single database. Most of the original digital assay certificates (surface sampling and drilling) were located; cross referencing the original deliverable product with historic databases validated the data to be complete, and accurate.

The two geophysical programs were also re-evaluated. Although the 2002 data set was acquired with a 2D method, it was determined the data was spaced tightly enough to allow for a 3D inversion to be completed, extracting additional value from the data set.

The GIS compilation was utilized to help direct the new exploration and drilling program. Incorporating information from the surface prospecting and geological mapping, led to a revised geological map as presented in Chapter 7.

9.1 Surface Sampling

Throughout 2021, Volcanic Gold Mines collected numerous surface samples over the property. This included approximately 31 stream sediments, 73 soils and 866 (including 28 QC) rock samples. Of these 800+ rock samples, 88 assayed (~10%) greater than 1 g/t Au, and 20 assayed greater than 100 g/t Ag. This included a single sample (VGS000003) assayed at 77.2 g/t Au and 2298 g/t Ag in the vicinity of the La Peña vein. Figures 9.1 and 9.2 below show the compiled sampling results over the Holly project.

Figure 9.1: Gold results in rocks (Volcanic, 2022)

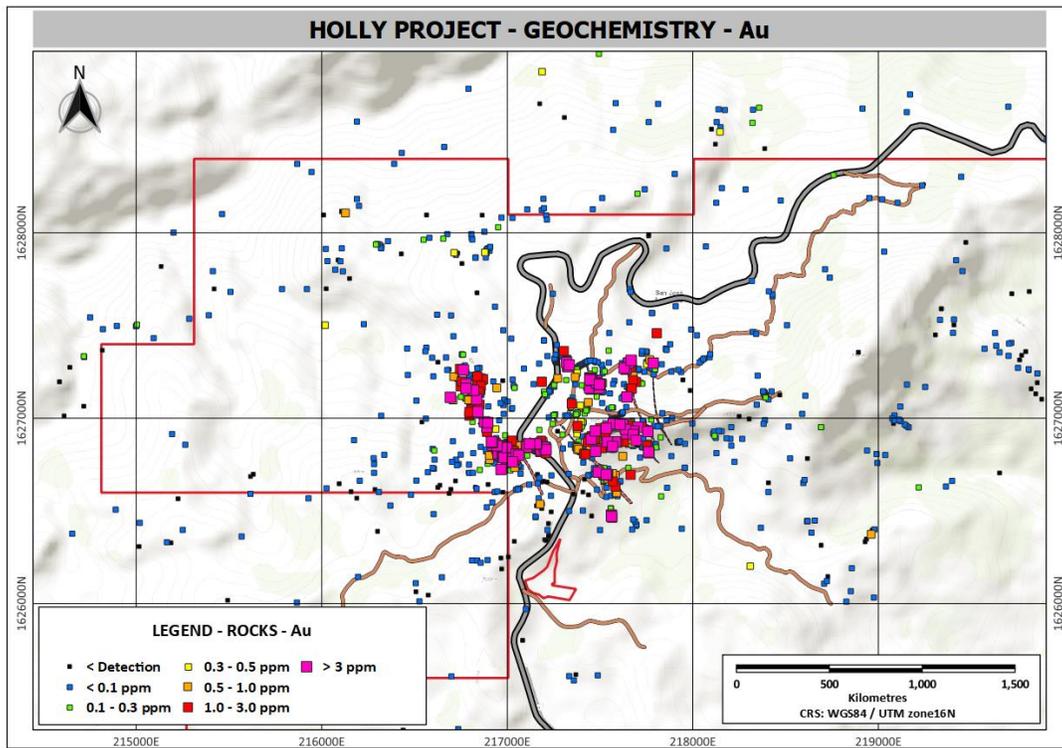
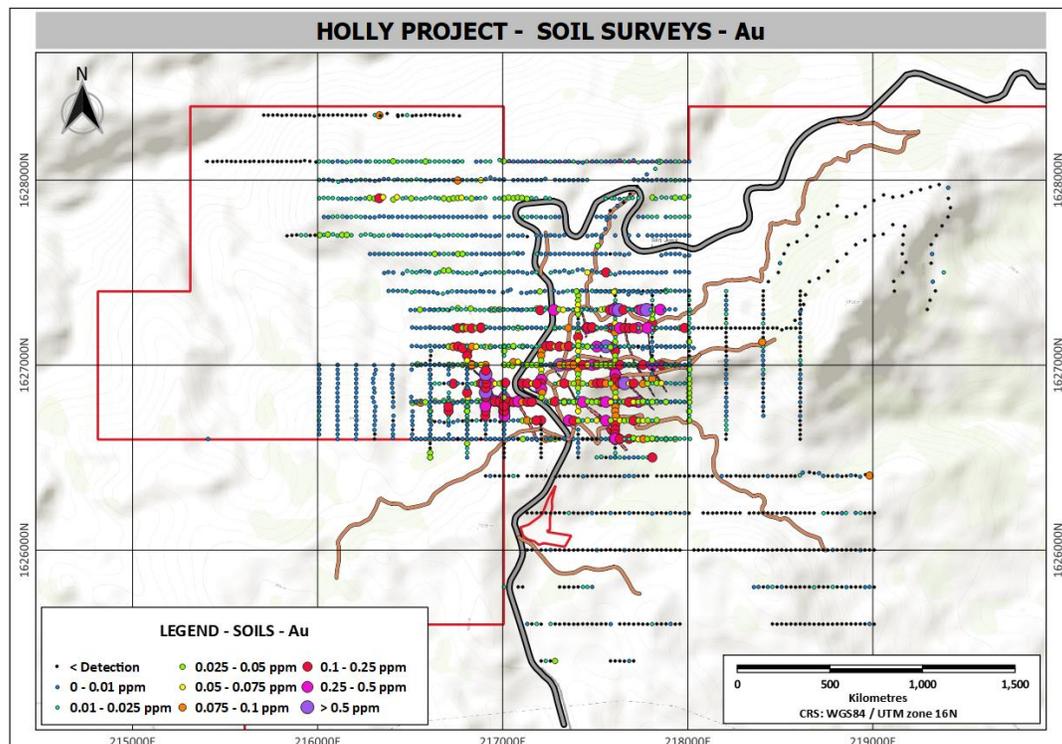


Figure 9.2: Gold results in soils (Volcanic, 2022)



Stream sediment samples were collected from active drainages, sieving the available material with plastic sieves to collect the finer fractions. The total volume of material used for individual samples varied depending on the general size characteristics and distribution of the sample material. Samples were placed in sealed and labeled individual bags for transport to the lab. The sampling methods and sample quality for the stream sediment samples met industry standards and the samples are representative. No factors were identified that may have resulted in sample biases within the stream sediment samples.

Soil samples were generally collected from the B horizon using hand dug pits and/or handheld augers. The total volume of material used for individual samples varied depending on the general size characteristics and distribution of the sample material. Samples were placed in sealed and labeled individual bags for transport to the lab. The sampling methods and sample quality for the soil samples met industry standards and the samples are considered to be representative. No factors were identified that may have resulted in sample biases within the soil samples.

The rock sampling field work was completed by qualified personnel following industry standard practices. Samples were collected from float, subcrop, and outcrop as grab samples or chip samples. For each sample, a geological description was completed in the field and its location recorded. Samples were placed in individual sealed and labeled bags for transport to the lab. The sampling methods and sample quality for the rock samples met industry standards and the samples are representative for those individual locations. No factors identified that may have resulted in sample biases within the rock samples.

The core component of the exploration work completed on the Holly Project during 2021 was the drill program, described in Chapter 10.

10.0 Drilling

Volcanics' first drilling phase was completed during 2021 with 29 holes totaling 4,784 m of drilling. A second phase was initiated in early 2022. The initial hole HDD-22-030 was completed to a depth of 224 m. The second hole, HDD-22-031, was abandoned after the rods got stuck around 100 m. The hole was twinned, as HDD-22-031A, and was subsequently abandoned due to an incident involving the drill equipment and an anti-mining group (Volcanic press release: February 24, 2022).

Holly's 2021 and 2022 drilling was executed by an independent contractor, Kluane Drilling Ltd., and consisted entirely of diamond drilling ("DDH"). All drilling occurred under the supervision of qualified professional geologists. Drill collar locations were surveyed (using a handheld Garmin GPS) upon completion of the drill hole and a marker left to note the location of each drill hole. Collar locations up to HDD-21-026 have been re-visited and surveyed with a Trimble GPS unit to achieve better precision for the x,y and z position.

Diamond drilling was completed using a man-portable diamond drill rig to reduce the need for road building and disturbances caused in the construction of drill pads. All drill sites were rehabilitated following completion of the drill holes including leveling and revegetation.

Driller logs were filled out each shift recording the type of work completed and time taken for tasks such as rig shifts, pulling rods, changing the bit, drilling, breakdowns and downhole survey. Each core was taken from the core tube and placed directly into labeled core trays/boxes. The field technicians were responsible for receipt of the core from the drillers. The hole depth and amount of core loss (if any) was recorded for each core block. Each box was numbered on site with the hole number and box number. At the end of each shift personnel transported all full core trays back for core logging and sampling in a secure facility (core shack). At the core shack, the core was then photographed, logged, and sampled. Details of the sampling process will be discussed in the following section. All photos are uploaded to Imago, an online core photo database app (a Seequent solution). Copies of the core photos, along with the geologist's logs were copied to a secured internal server. All relevant data is extracted from the logs and integrated into the Holly GIS database.

Drilling targeted multiple targets, with the primary focus on the La Peña zone. The list below shows the holes drilled at each target zone.

- La Peña (incl. Amber zone): HDD-21-001 to HDD-21-004; HDD-21-014 to HDD-21-028; HDD-22-030
- El Pino: HDD-21-005 to HDD-21-008; HDD-21-013
- La Joya: HDD-21-009 to HDD-21-010; HDD-21-012
- Alpha: HDD-21-011; HDD-21-029

Assayed results were promising, with 25 of the 30 completed holes intercepting significant gold and silver mineralization, as detailed in Table 10.4. Table 10.1 summarizes key high-grade mineralized intercepts.

Table 10.1: Select Mineralized Intercepts

DRILL HOLE ID	TARGET ZONE	INTERVAL (m)	Au (g/t)	Ag (g/t)
HDD-21-004	La Peña	14.80	3.96	1097
Incl. sample VGD000271		1.27	12.30	1571
Incl. sample VGD000277		0.60	5.40	5654
HDD-21-023	La Peña	4.58	79.84	5053
Incl. sample VGD000577		1.25	289.50	18329
HDD-21-027	La Peña	4.57	54.24	3925
Incl. sample VGD002313		1.70	144.50	10479

There were no known drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results. DDH drilling resulted in the collection of material sufficient for sampling to accurately reflect the true characteristic of the mineralization.

Based on 3D Leapfrog Geo modeling of the mineralized La Peña vein, an estimate has been made for the relationship between sample length and true thickness of the mineralization.

10.1 Drilling Summary

A summary of each drilling phase is provided in Table 10.2 and hole location data is provided in Table 10.3.

Table 10.2: Holly Drilling Phases

YEAR	HOLE ID RANGE	OPERATOR	# HOLES	TOTAL (m)	TYPE
2002	HDD-001 to HDD-007	Radius Explorations	7	977.8	DDH
2003	HRC-001 to HRC-008	Pillar Resources	8	1013.5	RC
2021	HDD-21-001 to HDD-21-029	Volcanic Gold Mines	29	4784.6	DDH
2022	HDD-22-030 to HDD-22-031A	Volcanic Gold Mines	3	475.8	DDH

Table 10.3: Holly Drill Hole Location Information

ZONE	HOLE ID	EASTING (m)	NORTHING (m)	ELEV. (m)	DEPTH (m)	DIP	AZIMUTH
Holly, 2002							
La Peña	HDD-001	217024	1626816	991	90.5	-45	243
Geophysics Target	HDD-002	218001	1626659	872	267.6	-45	245
Pino SE	HDD-003	217747	1626781	956	112.6	-45	30
Alpha	HDD-004	217499	1626669	976	133.6	-45	53
Holly Ridge	HDD-005	217639	1626948	1086	61.5	-45	270
Amber	HDD-006	217208	1626893	1019	166.5	-45	250
La Peña	HDD-007	217072	1626845	991	145.5	-45	243

(Table 10.3 Continued) Holly, 2003							
ZONE	HOLE ID	EASTING (m)	NORTHING (m)	ELEV. (m)	DEPTH (m)	DIP	AZIMUTH
Trail Zone	HRC-001	217495	1626668	976	91.44	-45	53
Trail Zone	HRC-002	217494	1626668	976	128.02	-60	53
Trail Zone	HRC-003	217500	1626704	985	85.34	-45	53
Trail Zone	HRC-004	217498	1626703	984	88.4	-60	53
Trail Zone	HRC-005	217477	1626656	978	169.2	-60	53
Trail Zone	HRC-006	217576	1626700	962	243.84	-90	0
Pino SE	HRC-007	217791	1626793	949	91.44	-45	307
La Peña	HRC-008	217101	1626688	947	115.82	-45	250

(Table 10.3 Continued) Holly, 2021							
ZONE	HOLE ID	EASTING (m)	NORTHING (m)	ELEV. (m)	DEPTH (m)	DIP	AZIMUTH
La Peña	HDD-21-001	217026	1626818	992	99.13	-45	267
La Peña	HDD-21-002	217059	1626842	993	149.45	-45	255
La Peña	HDD-21-003	217039	1626887	983	199.77	-50	225
La Peña	HDD-21-004	217039	1626887	983	176.9	-70	225
El Pino	HDD-21-005	217425	1627178	1029	109.8	-45	45
Holly Ridge	HDD-21-006	217642	1626945	1087	111.32	-45	300
Holly Ridge	HDD-21-007	217642	1626945	1087	99.12	-75	300
Holly Ridge	HDD-21-008	217642	1626945	1087	122	-90	0
Trail	HDD-21-009	217620	1626672	947	280.6	-45	245
Trail	HDD-21-010	217620	1626672	947	134.2	-57	245
Alpha	HDD-21-011	217423	1627063	1054	256.2	-45	208
Trail	HDD-21-012	217590	1626717	960	105.22	-45	245
El Pino	HDD-21-013	217465	1627242	1002	45.75	-45	207
La Peña	HDD-21-014	216989	1626871	980	79.3	-60	225
La Peña	HDD-21-015	217039	1626885	984	134.2	-60	260
La Peña	HDD-21-016	217061	1626842	992	169.27	-60	215
La Peña	HDD-21-017	217063	1626841	991	172.32	-70	190
La Peña	HDD-21-018	216989	1626873	978	106.47	-63	290

(Table 10.3 Continued) Holly, 2021							
ZONE	HOLE ID	EASTING (m)	NORTHING (m)	ELEV. (m)	DEPTH (m)	DIP	AZIMUTH
La Peña	HDD-21-019	217114	1626887	1013	233.32	-63	240
La Peña	HDD-21-020	217134	1626797	975	152.5	-55	255
La Peña	HDD-21-021	217155	1626741	961	166.22	-70	263
La Peña	HDD-21-022	217116	1626887	1013	248.57	-54	278
La Peña	HDD-21-023	217289	1626766	1004	234.85	-53	265
La Peña	HDD-21-024	216929	1626997	868	155.55	-45	230
La Peña	HDD-21-025	216862	1626922	903	80.82	-45	55
La Peña	HDD-21-026	217039	1626884	984	215.02	-70	275
La Peña	HDD-21-027	217141	1626892	1020	242.47	-66	256
La Peña	HDD-21-028	217211	1626892	1018	311.1	-63	250
Alpha	HDD-21-029	217525	1626821	1022	192.15	-45	40
Holly, 2022							
La Peña	HDD-22-030	217153	1626859	1012	224.17	-60	240
La Peña	HDD-22-031	217227	1626824	995	109.8	-55	250
La Peña	HDD-22-031A	217226	1626824	995	141.82	-55	250

10.2 Significant Drill Intercepts

A summary of each recent hole and highlights from historic holes is provided in Table 10.4 below, showing reported intercepted mineralization of interest. Significant intercepts were calculated using a 0.5 g/t Au or 100 g/t Ag cutoff. Thicker zones spanning multiple samples, may have the occasional internal samples that drops below the above cutoff.

Table 10.4: Summary of Significant Drill Intercepts

DRILLHOLE	FROM (m)	TO (m)	INTERVAL (m)	EST TRUE. True Width (m)	GOLD (g/t)	SILVER (g/t)
HISTORIC 2002/2003 DRILL PROGRAM						
HDD-001	34.80	49.00	14.20	13.43	4.14	151
HDD-004	39.10	46.60	7.50	6.03	3.47	220
HDD-004	54.10	60.10	6.00	4.82	43.56	1618
HDD-005	19.10	22.70	3.60	2.93	22.03	697
HDD-007	88.50	97.50	9.00	8.38	1.84	45
HRC-001	50.29	60.96	10.67	8.76	4.91	272
HRC-001	76.20	79.30	3.05	1.99	2.26	124

(Table 10.4 Continued) VOLCANIC 2021/2022 DRILL PROGRAM						
DRILLHOLE	FROM (m)	TO (m)	INTERVAL (m)	EST TRUE. True Width (m)	GOLD (g/t)	SILVER (g/t)
HDD-21-002	95.15	106.27	11.12	10.78	6.29	282
including	95.15	98.00	2.85	2.76	15.50	342
including	102.35	105.22	2.87	2.78	8.08	633
HDD-21-003	101.85	112.50	10.65	9.85	5.29	256
HDD-21-004	119.50	143.5	23.55	17.66	3.10	694
including	131.40	133.67	2.00	1.68	9.79	2035
including	136.00	137.85	2.00	1.37	5.60	2801
HDD-21-004	154.02	163.17	9.15	6.79		380
HDD-21-005	no significant intercepts					
HDD-21-006	35.07	39.30	4.23	3.39	4.00	136
HDD-21-007	42.05	45.22	3.17	1.36	2.93	284
HDD-21-008	no significant intercepts					
HDD-21-009	80.82	82.35	1.53	1.23	2.19	150
HDD-21-010	no significant intercepts					
HDD-21-011	209.20	210.05	0.85	0.65	0.55	65
HDD-21-012	60.00	62.00	2.00	1.63	2.82	141
HDD-21-012	71.80	74.82	3.02	2.45	1.73	109
HDD-21-013	no significant intercepts					
HDD-21-014	52.22	59.80	7.58	6.35	2.02	66
including	52.22	54.75	2.53	2.12	2.90	108
including	57.70	59.80	2.10	1.76	3.60	92
HDD-21-015	108.65	124.20	15.55	13.13	7.67	615
including	108.65	115.90	7.25	6.12	16.20	848
HDD-21-016	77.00	79.00	2.00	1.67	4.15	154
HDD-21-016	106.75	113.96	7.21	5.23	1.80	45
HDD-21-017	134.25	143.08	8.83	6.82	8.81	355
HDD-21-018	71.67	73.20	1.53	1.37	1.81	57
HDD-21-019	28.97	30.50	1.53	1.39	191.80	539
HDD-21-019	171.90	178.42	6.52	5.91	11.72	340
including	172.90	176.60	3.70	3.36	20.36	576
HDD-21-020	61.70	67.10	5.40	5.09	4.38	350

(Table 10.4 Continued) VOLCANIC 2021/2022 DRILL PROGRAM						
DRILLHOLE	FROM (m)	TO (m)	INTERVAL (m)	EST TRUE. True Width (m)	GOLD (g/t)	SILVER (g/t)
including	63.00	64.00	1.00	0.94	20.70	1616
HDD-21-020	131.00	134.2	3.20	2.98		255
HDD-21-021	53.37	54.55	1.18	0.97	0.19	40
HDD-21-022	21.35	22.87	1.52	1.38	7.00	48
HDD-21-022	27.45	32.02	4.57	4.14	1.05	14
including	28.97	30.90	1.93	1.75	1.86	12
HDD-21-022	50.32	51.85	1.53	1.39	5.34	5
HDD-21-022	199.77	201.3	1.53	1.39	11.20	522
HDD-21-023	196.72	198.25	1.53	1.31	1.93	171
HDD-21-023	202.82	207.40	4.58	3.93	79.84	5053
including	204.45	205.70	1.25	1.07	289.50	18329
HDD-21-024	56.42	57.95	1.53		0.01	207
HDD-21-025	no significant intercepts					
HDD-21-026	115.00	116.50	1.50	1.17	0.65	3
HDD-21-026	127.00	130.00	3.00	2.33	0.41	23
HDD-21-027	210.45	215.02	4.57	3.70	54.24	3925
including	212.30	214.00	1.70	1.38	144.50	10479
HDD-21-028	55.60	57.95	2.35		2.14	97
HDD-21-028	247.70	248.75	1.05	0.85	2.75	112
HDD-21-029	7.62	10.67	3.05		1.17	344
HDD-22-030	7.62	14.30	6.68		1.92	3
Including	9.15	12.60	3.45		3.54	3
HDD-22-030	28.80	29.80	1.00	0.71	8.64	10
HDD-22-030	160.12	170.80	10.68	9.81	2.07	389
including	160.12	164.70	4.58	4.21	4.64	464
including	161.65	163.17	1.52	1.40	11.40	1150
HDD-22-031	abandoned @ 109.8m					
HDD-22-031A	no significant intercepts - progress halted at 141.82m					

10.3 Drill Plan Map and Cross Section

The location of drilling is presented in the plan view in Figure 10.1 below, illustrating the surface trace of all the holes to date. A cross section of La Peña is presented in Figure 10.2.

Figure 10.1: Holly Drilling, Plan View (Volcanic, 2022)

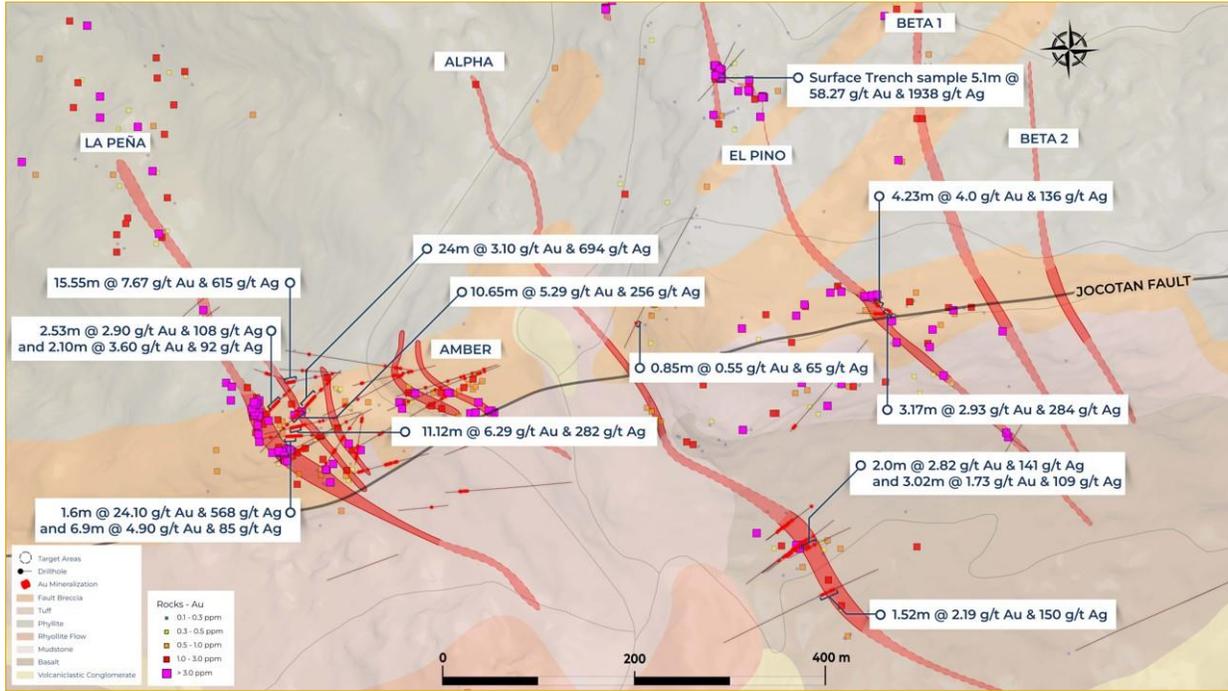
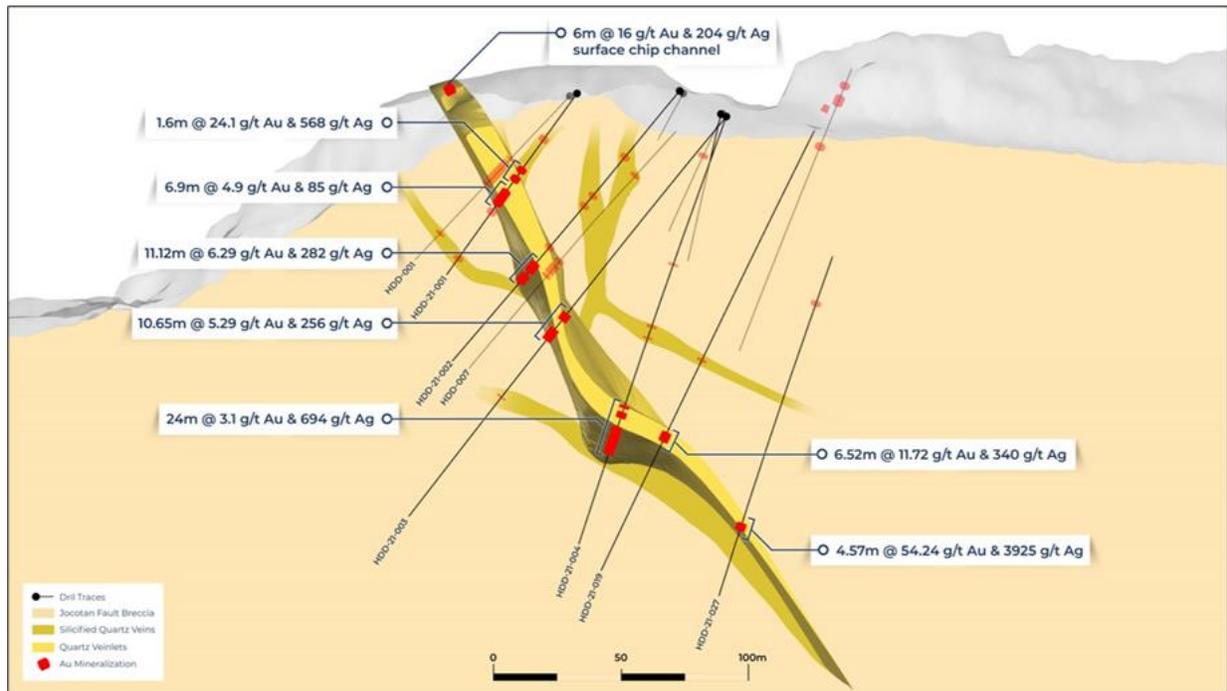


Figure 10.2: La Pena Cross Section (Volcanic, 2022)



11.0 Sample Preparation, Analysis, and Security

Prior to 2022, preparation and analyses of historic and recent stream sediment, soil, and rock samples have been completed by independent commercial laboratories. All samples have been analyzed for gold, with most samples also analyzed for multiple elements by an Induced Coupled Plasma (“ICP”) method. The analyses of gold have been completed by either an industry standard fire assay and/or wet geochemical procedures.

Starting in 2022, Volcanic set up an internal prep facility to conduct the initial crushing and splitting of rock and drill core samples, prior to shipping to a commercial laboratory for further pulverization and analyses. This was implemented to improve turnaround time of results and reduce the cost of shipping large amounts of uncrushed rock samples.

11.1 Surface Sampling

Historic surface sampling was conducted by Radius Explorations/Radius Gold. These samples were organized into shipments at secure facilities and driven by Radius personnel to the laboratory facilities in Guatemala City, Guatemala. Samples were prepared (dried, crushed, pulverized) at the preparation facility in Guatemala City and pulps flown to North America for all analytical work. Pulps and rejects were returned and stored at Radius’ facility in Chiquimula, Guatemala. For work completed in the early 2000’s the samples were submitted to certified assay laboratory Inspectorate Guatemala and Nevada. For the second phase of exploration on Holly, samples collected in 2010 to 2011 were submitted to Inspectorate Guatemala or Acme Analytical Laboratories, Vancouver.

Volcanic’s recent samples were prepared, organized, and shipped to the Bureau Veritas (“BV”) facility in Managua City, Nicaragua. Initial preparation consisted of PRP70-250, including crushing to greater than 70% passing 2mm and pulverizing 250g to greater than 85% 75 µm. The resulting pulps were then shipped to BV’s Vancouver, Canada laboratory for fire assay and ICP analyses. The analytical methods used were Au-FA430 (30g, Fire Assay, AAS) and AQ200 (0.5g, Aqua Regia, 37 element ICP ES/MS). After July 2021, it was decided to ship a second split of pulps to BV’s accredited lab in Hermosillo to improve turnaround times on results. One set of pulps continued to be shipped to Vancouver for ICP analyses, while the second was shipped to Mexico for Au Fire Assay analyses. All multi-element analysis was completed at the Vancouver facility. After significant delays with BV labs, a decision was made to switch to ALS Minerals (“ALS”) facility in Vancouver. Initially, batches of samples continued to be prepared by Bureau Veritas’ facility in Nicaragua. Once Volcanic’s on-site prep facility was set up in 2022, Volcanic began crushing its own samples, riffle splitting between 225 grams and 300 grams to ship to ALS for further preparation (pulverizing, splitting to better than 85% passing 75 microns) and analysis. The ALS analytical methods used for rocks are Au-ICP22 (50g, Fire Assay and ICP-AES) and ME-ICP41 (0.5g, Agua Regia, 36 element ICP-AES). Volcanic splits off another 30 grams for internal testing using a handheld X-Ray Fluorescence (“XRF”) analyzer.

Pulps and rejects are returned and stored at the Chiquimula facility.

11.2 Drill Core

There have been four drill programs at Holly (see Table 10.2). Both historic and recent Volcanic drill core samples were typically 1 or 2m in length, marked by a geologist on geological contacts, cut in half with a diamond saw and the half core sampled under supervision of the company geologists. Most core samples were shipped to a commercial facility for preparation except for HDD-22-031, and a few additional samples submitted later (HDD-21-022, HDD-21-026) which were crushed and riffle split at Volcanic’s on-site preparation facility.

Radius Explorations' drill hole samples (2002) were prepared, organized, and shipped to Inspectorate Rocky Mountain Geochemical (Sparks, Nevada, USA). Detailed lab preparation is unknown. The resulting pulps were then analyzed for Au by fire assay with atomic absorption detection ("FA/AA") and a multi-element suite by Inductively coupled plasma atomic emission spectroscopy with aqua regia digestion ("ICP-AES/AQR") methods.

In the case of Pillar Resources' historic reverse circulation drilling in 2003, the RC chips were collected into large sacks each representing 1.5 m of drill advance. The entire 1.5m sample was passed through a multistage riffle splitter to separate a representative sample between 2 and 5 kg that could be bagged and sent to the laboratory. Company geologists transported the collected samples to BSI Inspectorate ("BSI") in Guatemala City, Guatemala for preparation. The sample pulps were then forwarded to the Rocky Mountain Geochemical ("RMG") laboratory in Sparks, Nevada. (BSI and RMG were subsidiaries of Inspectorate America Corporation which is now part of the Bureau Veritas Group). The resulting pulps were then analyzed for FA/AA and multi-element by ICP/AQR methods.

For the 2021/2022 drill program, core samples were prepared and shipped to the BV facility in Managua City, Nicaragua. Core samples went through the same PRP70-250 preparation to that of surface rock samples. The resulting pulps were then shipped to BV's Vancouver, Canada laboratory for fire assay and ICP analyses. The analytical methods used were Au-FA430 (30g, FA/AA) and AQ200 (0.5g, 37 element ICP/AQR). (Similar to surface rocks, eventually two splits were created during preparation with one shipped to Vancouver for ICP analyses and one to Hermosillo for fire assay analyses. Approximately 10% of samples submitted to the laboratory were QA/QC samples consisting of a mix of field standards and blanks. Certified reference standards from CDN Labs were used as field standards. Blanks were prepared by Radius from barren volcanic material in-country. A review of the results for the internal QC standards and blanks shows that the results for the standards and blanks were within the allowable ranges. The laboratories QA/QC sample results were also reviewed for quality. In addition to the internal QC samples, an assortment of eight samples were re-analyzed where discrepancies existed between the aqua regia and the fire assay values for gold. The fire assay values were found to be consistent measurements within the expected range.

To improve turnaround times for the assay results, samples from HDD-210027 onward were analyzed at ALS Minerals in Vancouver. A similar suite of analyses was selected to maintain consistency in the results between the labs. The analytical methods used were Au-ICP22 (50g, Fire Assay, ICP-AES Finish) and ME-ICP41 (0.5g, Aqua Regia, 36 element ICP-AES Finish).

Table 11.1 summarizes the laboratory responsible for the analyses and the method used.

Table 11.1: Analytical Laboratories used for Drill Core Analysis

YEAR	HOLE RANGE	LAB	METHODS
2002	HDD-001 to HDD-007	Rocky Mountain Geochemical (Inspectorate)	Au-FA/AA ME-ICP/AQR
2003	HRC-001 to HRC-008	Rocky Mountain Geochemical (Inspectorate)	Au-FA/AA ME-ICP/AQR
2021	HDD-21-001 to HDD-21-026	Bureau Veritas (Vancouver)	Au-FA430 AQ200
2021-2022	HDD-21-027 to HDD-22-031A	ALS Minerals (Vancouver)	Au-ICP22 ME-ICP41

11.3 Quality Assurance

In some cases, information on QA/QC protocols is incomplete or no longer exists within the datasets or in the company archives and the author could not independently verify these programs or the effectiveness thereof. It is clear, however, that QA/QC procedures have been in place on the Project since its beginnings, and the author has verified with past project QPs that effective QA/QC procedures were maintained, including the regular insertion of reference materials, blanks, and limited field duplicates. In addition, continuity has been maintained with much of Radius' Guatemalan staff (now associated with Volcanic) since the project's inception, ensuring consistency of drilling, sampling, and logging procedures on site.

Acme Analytical and Inspectorate were acquired and merged into Bureau Veritas in 2015. Both Bureau Veritas and ALS Minerals follow a stringent quality management approach and currently hold ISO/IEC 17025:2017 accreditation for laboratory analysis.

No preparation or analytical issues were noted and there appears to be no bias in the results during any of the drilling programs.

12.0 Data Verification

12.1 Database Verification

All data presented in this report is a mix of recent and historic data. All data prior to Volcanic's optioning of the property is considered historic and any data acquired during Volcanic's tenure will be recent.

Radius Gold's data archives were passed along to Volcanic Gold and a data compilation was completed. Part of this compilation was the determination of the data's completeness and verification of its accuracy. Regular data checks were completed as the data was compiled. Original digital assay certificates were tracked down to ensure that drill and surface sampling results were entered into internal databases accurately. For the few digital certificates that were not located, spot-checks against paper assay certificates were done to verify accuracy. Original digital certificates for Pillar Resources' RC drilling program were not located; however, internal data files containing assay results were spot checked against hard copies and deemed accurate. None of the RC assay results were utilized in the La Peña resource calculation.

Prior to releasing or using historic information, such as reported drill intercepts, and other material from historic press releases, the data was recalculated utilizing the most recent database. This verified that past reported data to be accurate.

The integrity of the database was verified, and it was found to be in good condition. The occasional typographical error was noticed, mostly with sample coordinates; however, none that would influence any decision-making processes.

12.2 Site Visit

Co-Author Ludving Monroy CPG (USA) is a geologist and Qualified Person and has been involved with all aspects of the Holly drilling since 2019. Ludving personally conducted and supervised all core logging and sampling procedures on-site ensuring the work was conducted professionally to current industry standards.

A recent site visit was completed by co-author Bruce Smith MAIG and Qualified Person during October and November 2021. Bruce visited the core processing facility on multiple days, viewing core logging and sampling procedures. Bruce also spent several days on the project site at the main outcrops, trenches and drill pads. All descriptions within this report match geologically with the field occurrences. Bruce met with several landowners and community members during the project visit and found the majority of the community favorable to exploration work to advance the projects.

The drill collars in most locations were found to be well marked and still cemented in place. Co-coordinates matched the co-ordinates given in the databases. The integrity of the databases was verified by Bruce Smith and Shawn Rastad for completeness and errors. The databases were rigorously checked against original paper assay certificates to verify accuracy.

12.3 Surface Sampling

Author, Bruce Smith, has worked with the key personnel responsible for the sampling and geological work at Holly. Bruce has worked with both the Volcanic team, and Radius Gold when they were the operator on the property. Bruce has worked with this group for over 20 years and continues to work with the same team today, thus making him very knowledgeable of their work. The team is a mixture of well-trained professionals, Guatemalan and international geologists who follow current practice in mineral exploration.

Details of each geologists' surface sampling trip is logged via a ledger that contains unique identifier for each sample (SampleID), its location, sample type and a description of the sample. This sampling data is managed through a dedicated data person to ensure all data is properly stored, secured, complete and accurate. This data is then integrated with the geochemistry assay results and stored in a master database. With each new entry into the database, the data goes through a systematic process to assure its accuracy.

Historic data has been integrated with into the master database with the recent data, allowing close comparison of historic and recent data. There have been no obvious discrepancies noted between recent and historic data.

In some cases, information regarding data quality management is incomplete or no longer accessible for the historic datasets and the QP could not independently verify these programs or the effectiveness of the historic work. The data does show the use of sample QC Blanks and Field Standards as part of the QA/QC process. Use of internal field duplicate samples is not as evident, and its use appears to be limited.

All samples are analyzed at certified laboratories with a strong reputation for quality work, following industry standards to ensure quality results. The laboratories internal QA/QC showed very consistent, repeatable results within expected variation for all QC samples (Blanks, Reference Standards and Duplicates).

Upon receiving assay results, field QC samples and additional lab QC standards are verified to be within the expected range. More than 95% of the QC samples are within specification, with the few others falling just outside of the specified range. On a couple occasions, where sample results were not as expected, re-analyses of samples were completed, and similar results were returned maintaining the confidence level in the laboratories' work. It is therefore, the QP's opinion that the data is sound and QA/QC procedures are adequate, with one recommendation to increase the usage of field duplicates in their sample quality management program.

12.4 Drill Programs

12.4.1 Drill Sites

In 2021, a Trimble DGPS unit was used to survey current drill holes up to HDD-21-026 and any historic drill holes that could be located. Approximately half of the 2002/2003 drill collars were relocated and surveyed with better precision. For the historic holes that could not be located, their existing coordinates were verified against original field logs and a historic dedicated survey using a total-station theodolite for the purpose of determining their collar locations.

Downhole survey data providing orientations of drill-hole azimuth and inclination were recorded with a REFLEX ACTIII orientation survey instrument at approximately every 50 m.

12.4.2 Logging, Sampling and Core Storage

The drill contractor transfers drill core to the responsible geologist on site for logging and sampling of the core. The geologist takes high resolution photos of the core (moist and wet), and logs the core for lithology, structure, alteration and mineralization before prepping the core for sampling. The geologist determines and marks the intervals to be sampled, selecting them based on geological and structural logging. Sample lengths are not to exceed 2 m, and are generally 1 m lengths or rarely as geology or core requires 0.5m or less. Splitting of the core is performed by diamond saw. The geologist carefully determines the line of cutting, in such a way that both halves of the core are representative. The core cutting process is performed in a separate building adjacent to the core logging facilities. Water used to cool the saw is not re-circulated but stored in a tank to allow any fines to settle before final disposal. Once the core has been split, half the sample is placed in a sample bag. A sampling card with the appropriate information is inserted with the core.

All bulk density samples have been sourced from drill core relating to drilling conducted from 2001 through 2021. Density tests are performed at the core logging facilities using the Instantaneous Water Immersion methodology. This test starts by measuring the weight of the dried sample in air. Next, the core sample is sealed in plastic film to help prevent ingress of water. Then, suspending the sample in water, the weight is measured again. The specific gravity is calculated using the following equation:

$$\text{Specific Gravity} = \text{weight of sample in air} / (\text{weight of sample in air} - \text{weight of sample in water}).$$

Volcanic Gold Mines routinely makes bulk density measurements at the operation.

All historic drill core and recent core is stored in Guatemala at a secure facility. All historic mineralized intercepts were correlated with historic drill logs and assay results. Historic holes with reported mineralization were re-logged by the geologists in 2021. This provided a consistent evaluation and description of the core matching the current drill program. Remaining pulps and rejects are returned by the analytical laboratories and stored at the same secured facility.

For the most recent drill program, 140 reference standards and 102 blank samples were submitted with the drill core and accounted for ~10% of the total number of samples submitted as part the QA/QC. Three different reference standards were used and are listed in the table below.

Table 12.1: Reference Standards

STANDARD	Au Mean ± SD (g/t)	Ag Mean ± SD (g/t)	Number Submitted
CDN-GS-2F	2.16 ± 0.24	N/A	91
CDN-GS-7B	6.42 ± 0.46	N/A	45
CDN-GS-5G	4.77 ± 0.40	101.8 ± 7.0	4

An assessment of the quality of the reference materials submitted are shown in the two plots below. A third plot shows the results of the QA/QC sample blanks.

Figure 12.1: Gold Analyses for Reference Material STD CDN-GS-2F

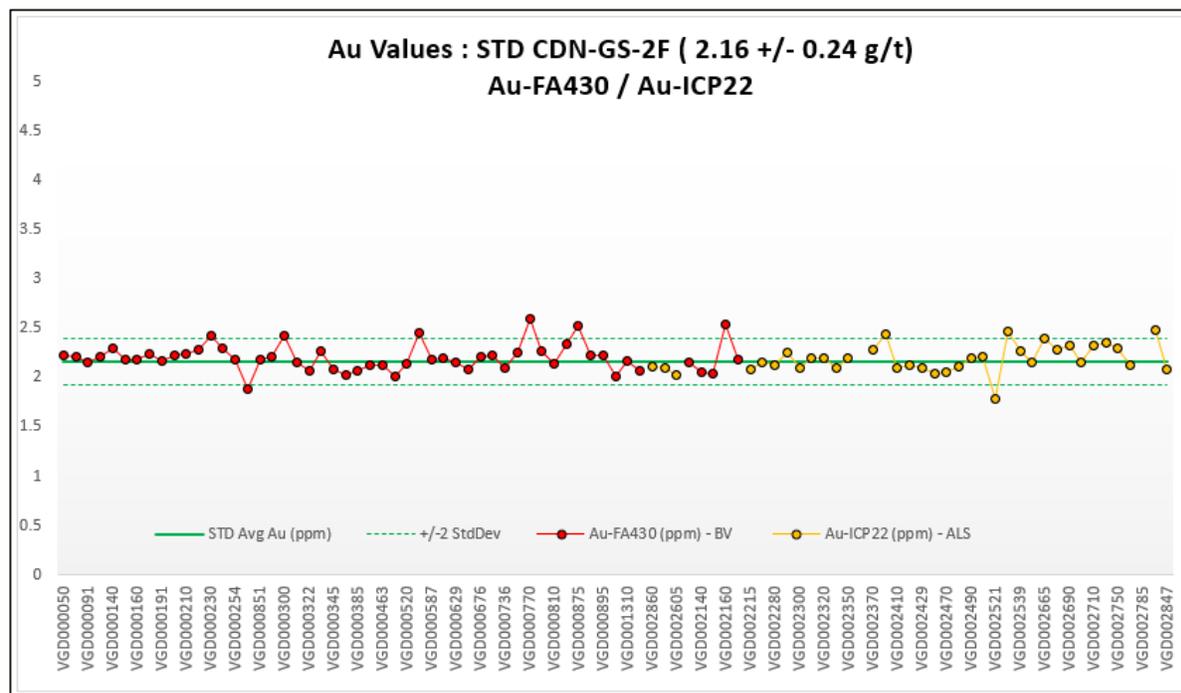


Figure 12.2: Gold Analyses for Reference Material STD CDN-GS-7B

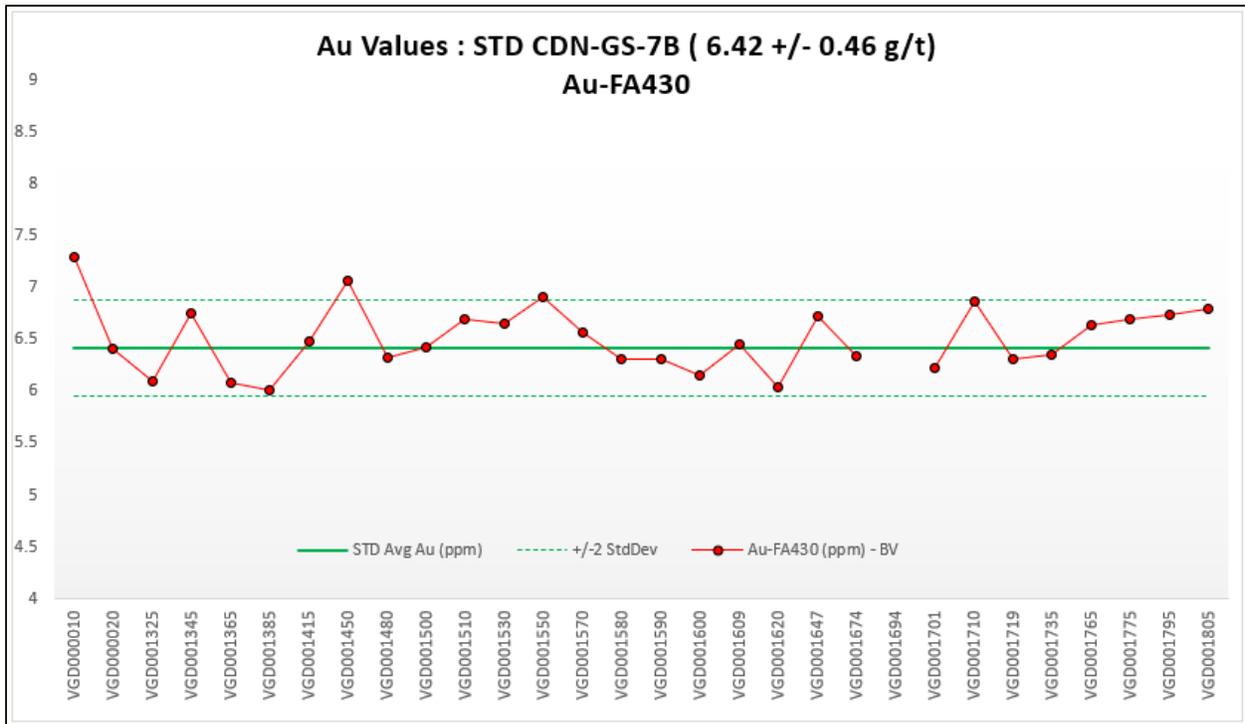
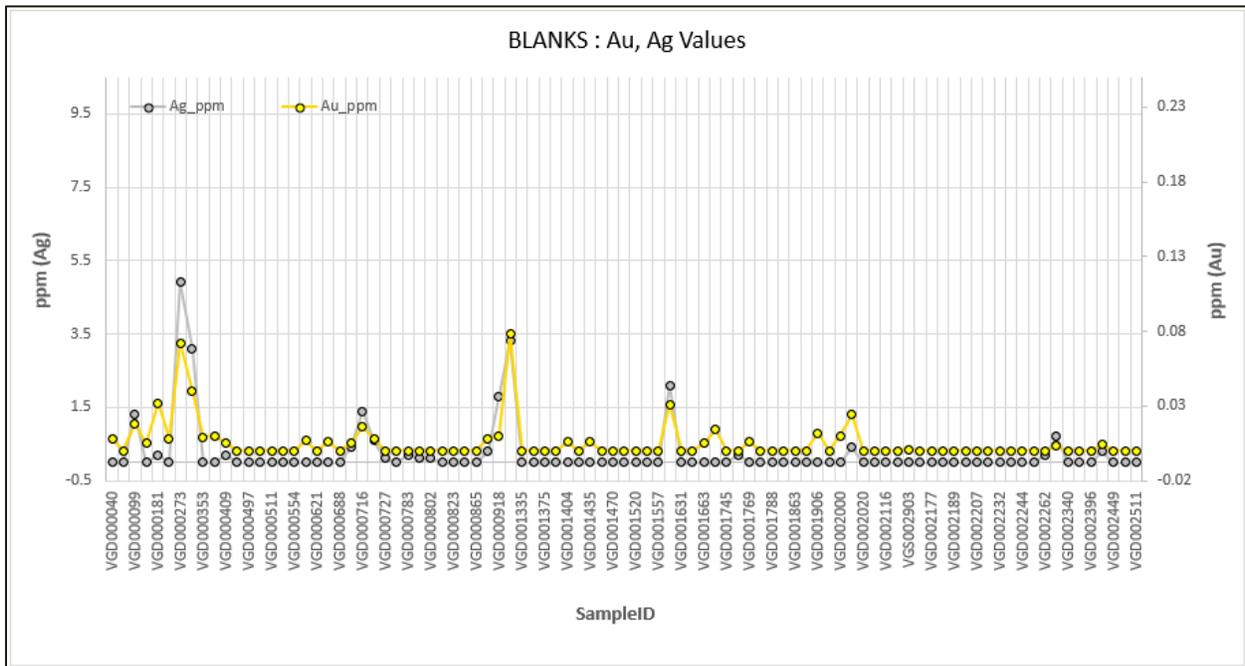


Figure 12.3: Gold and Silver Analyses for Reference Material STD CDN-GS-2F



The author is satisfied that the drilling and associated sampling undertaken by Volcanic's personnel, and project optionees under the supervision of various QPs over the years have been performed to industry-accepted professional standards. It is the opinion of the QPs of this report that drill data collected, analyzed and utilized in calculating the 2022 Mineral Resource estimate, as reported in Section 14 is of suitable quality.

13.0 Mineral Processing and Metallurgical Testing

No mineral processing or metallurgical studies have been carried out on the Property.

14.0 Mineral Resource Estimate

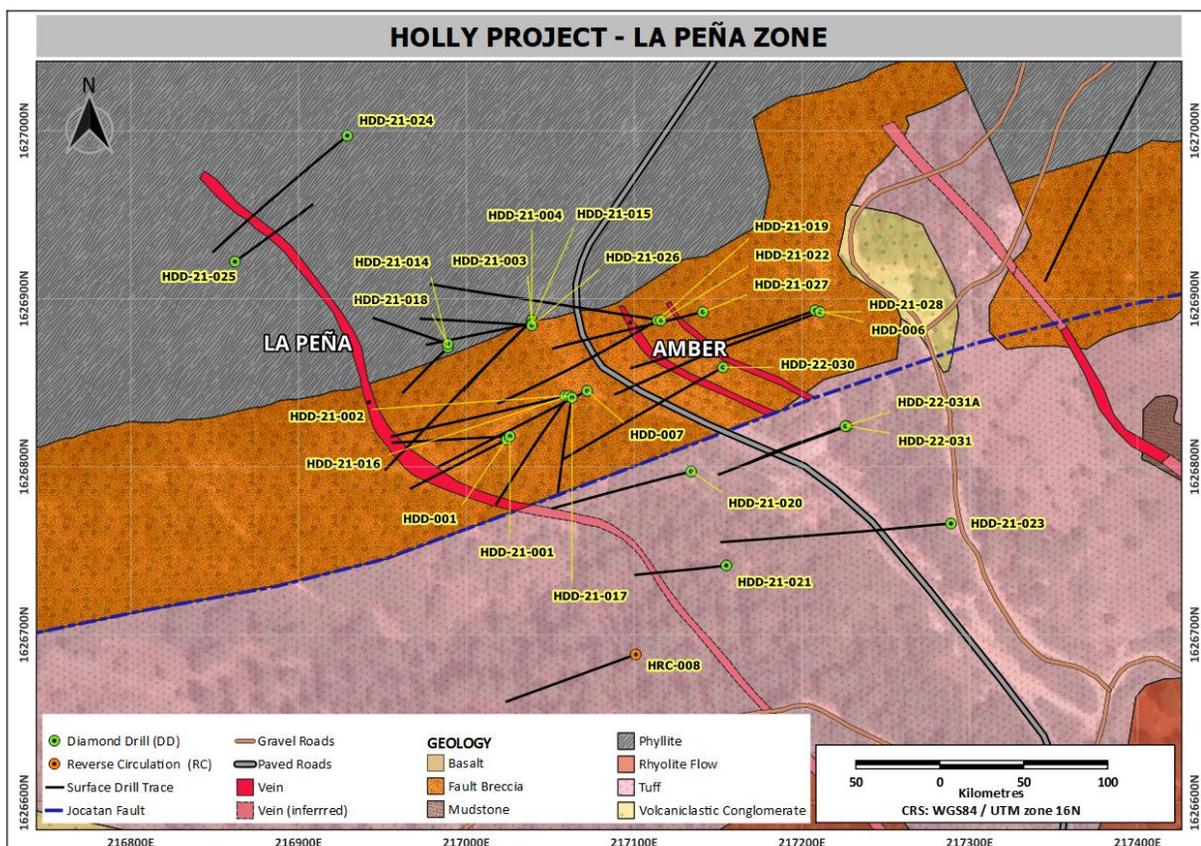
14.1 Introduction

The Mineral Resource Statement presented herein has been reported in accordance with NI-43-101. The Qualified Person who assumes responsibility for reporting of the Mineral Resource is Dr John Arthur. The effective date of the resource statement is June 7, 2022.

The supporting geological models used in the Mineral Resource Estimate (“MRE”) were completed in Seequent Leapfrog Geo® with additional block modelling, reporting and analysis conducted using Snowden Supervisor® and Geovia Surpac.

The MRE reported here only covers the La Peña vein although there are several additional vein systems identified in the immediate locale, some of which have been intersected by diamond drilling as part of the recent work.

Figure 14.1: Plan view showing the hole distribution relative to the local geology and the modelled vein structures (Volcanic, 2022)



14.2 Database Validation

The database consists of a total of 47 holes of which 8 are RC and the remaining 39 are diamond drill holes. The La Peña vein itself is intersected by a total of 24 diamond core holes (no RC) totalling 4039 m of drilling. The hole azimuth is generally directed to the southwest with an average azimuth of 240° and an average dip of 57° (varies from, 70° to 45° inclination).

The QP conducted standard validation checks as part of the data input procedure to Leapfrog Geo and no material issues were identified.

The elevation data for the La Peña hole collars has been collected through various methods:

- 2 holes are historic, drilled in 2002, and the method for establishing the survey collar is unknown
- 16 holes drilled by Volcanic up to and including hole HDD-21-025 have been surveyed using a differential GPS (DGPS) which commonly provides sub-meter accuracy
- The remaining 6 most recent holes have only been surveyed using handheld GPS at this stage, although it is understood that detailed DGPS survey will be completed.

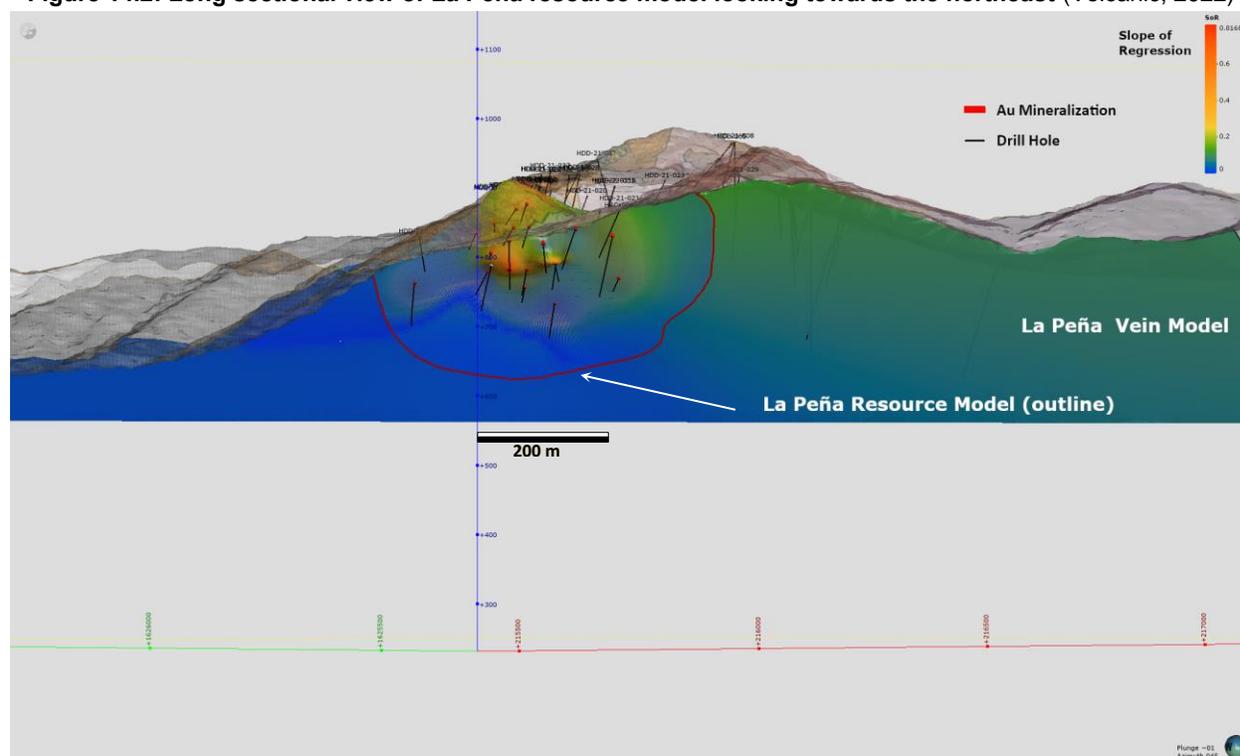
The elevation and collar coordinate data for the holes not confirmed by DGPS do not deviate markedly from the elevations from the detailed survey collars and there is no reason to suppose any material differences in position or elevation will become apparent later in the project.

The database is considered valid and suitable for establishing a Mineral Resource estimate for the La Peña vein going forward.

14.3 Domain Modelling

The geological models which form the basis of the Mineral Resource Statement, were produced by author Bruce Smith and project geologist Carlos Salazar in Leapfrog Geo and were adopted by the MRE QP following a systematic review of the models in conjunction with the drillhole database. Figure 14.2 shows a 3D view of the vein model adopted for the current MRE.

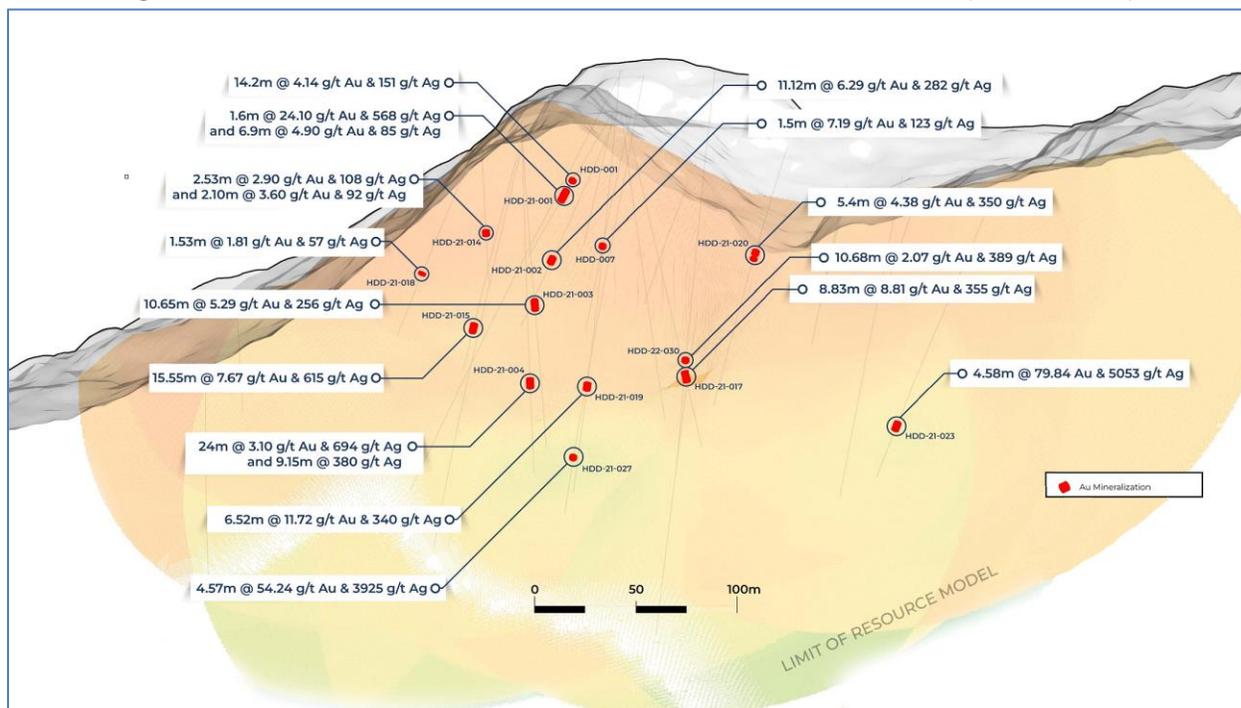
Figure 14.2: Long sectional view of La Peña resource model looking towards the northeast (Volcanic, 2022)



The La Peña vein model has been constructed as a single vein structure cross cutting the regional geology (Figure 14.3). It appears that mineralization is concentrated where the vein intersects the fault breccia of

the regional Jocotán Fault and this relationship is helping to drive the exploration for the additional veins in the area.

Figure 14.3: 3D view of the La Peña resource model, view to the northeast (Volcanic, 2022)



14.4 Bulk Density

A total of 416 bulk density measurements were conducted on the diamond drill core from the Holly project of which 15 were within interpreted mineralized wireframes. A description of the measurement process is provided in section 12.4.2. Density values were assigned in the block model based on an upper zone (from surface to approximately 100m down dip) and lower zone (+100m down dip from surface) contoured from the topographic model and corresponding to visual estimates of more oxidised and fractured material closer to surface.

Upper zone density 2.33 t/m³ (7 samples / low 2.10 / high 2.51 / average 2.33)

Lower zone density 2.52 t/m³ (8 samples / low 2.10 / high 2.70 / average 2.52)

14.5 Compositing

The La Peña vein is generally relatively narrow (<5m) but does display a variable thickness and localized strike and dip variations, in particular in the southeast of the central area covered by the drill intercepts. It was considered that standard uniform length compositing would not be appropriate given the apparent short scale variability of the grade seen in the drill sections. It was therefore decided to adopt a “2D” linear grade composite approach whereby each intersection of the vein was composited from hanging wall to footwall as a single composite to give a drilled thickness value. The average dip and strike of the vein was estimated, and this was used to calculate a “true” thickness value for each intercept. The linear grade for both gold and silver were then estimated separately based on the average grade multiplied by the true thickness. The estimation procedure uses Linear Grade and true thickness as the variables for the estimation of each block. Final block grade is calculated by dividing the final estimated linear grade by the final estimated true thickness for each block.

14.6 Evaluation of Outliers

Both gold and silver typically display a highly skewed data distribution with a strong positive skew, with the majority of data clustered at the lower end of the histogram and a long tail of higher grades created by a relatively small subset of the data. It is common practice in this style of deposit to “cut” or filter out the highest grades, either by excluding them from the dataset entirely or, as is more common, by clipping them to a chosen value which is considered reasonable and allows the data distribution to more closely approximate a normal data distribution. Even severe data caps will still tend to result in a skewed data distribution although not as extreme as the uncapped data.

For both the gold and silver variables at La Peña, the data capping was carried out prior to the linear grade compositing, in order to reduce the impact of “exceptional” high grades in both datasets.

Figure 14.4: Gold variable uncomposited data histogram showing high grade tail and data cap limits

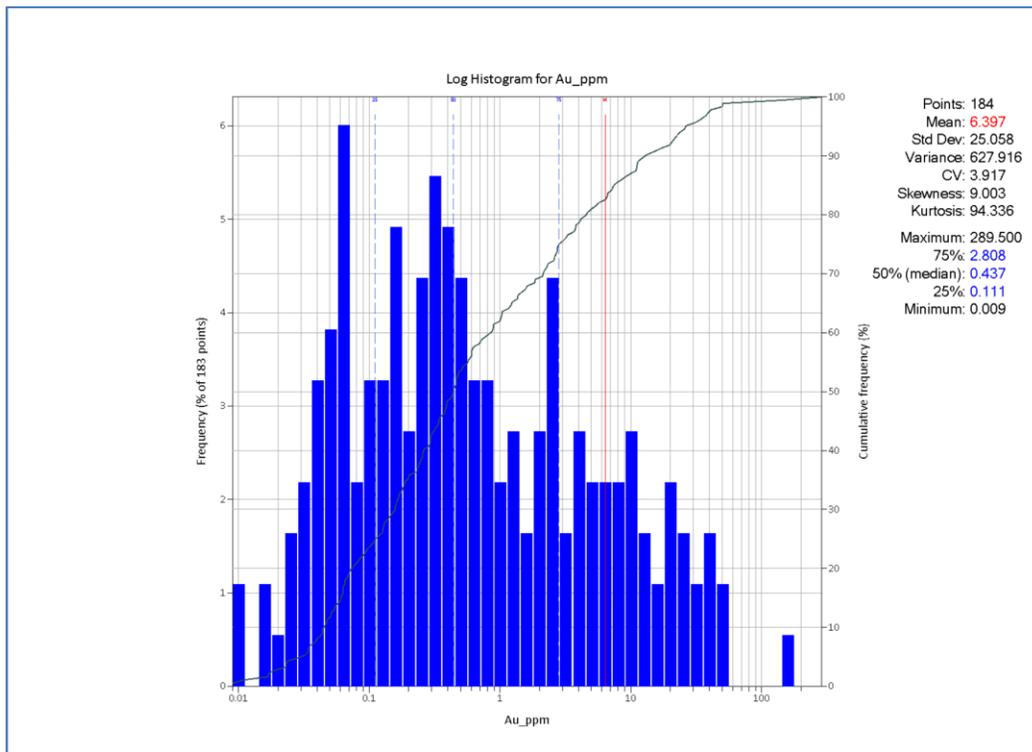


Figure 14.5: Silver variable uncomposited data histogram showing high grade tail and data cap limits

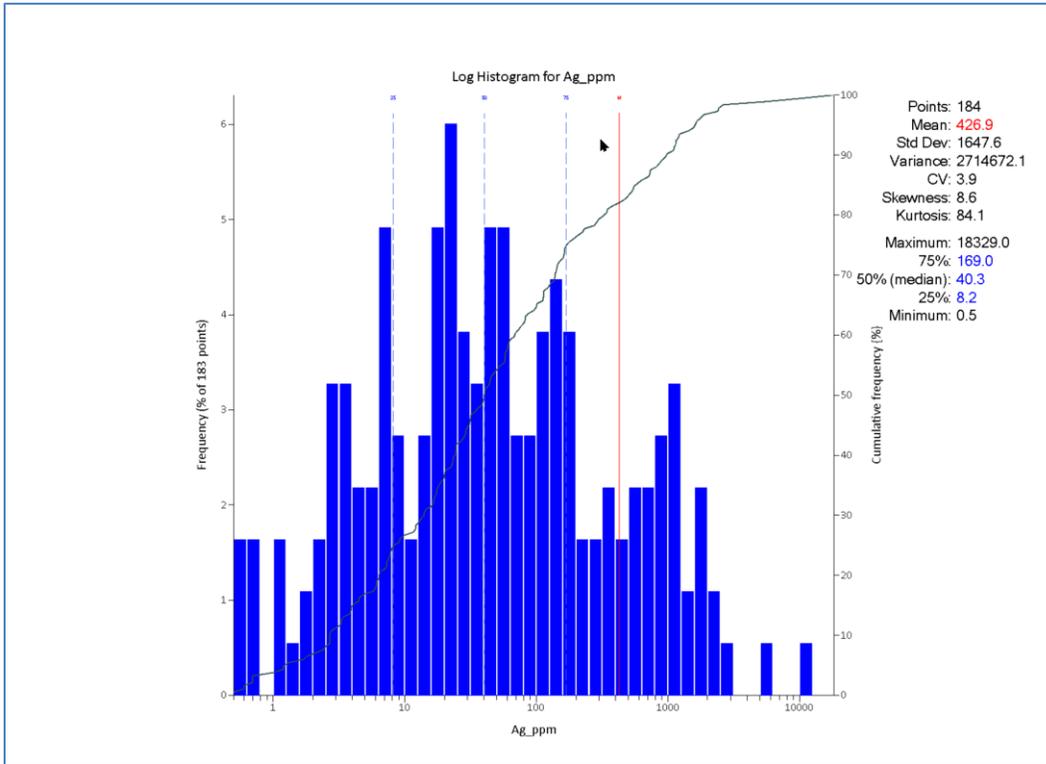


Table 14.1: Effect of data capping on gold and silver variables with chosen caps highlighted

Variable	Assay Cap	Mean (g/t)	Variance	CV
Au	Uncapped	6.4	628	3.9
	100	4.1	81.3	2.2
	50	3.8	69.7	2.2
	20	1.9	12.1	1.8
Ag	Uncapped	427	2714672	3.9
	2000	206	149749	1.9
	1000	119	42907	1.7
	500	66.8	9390	1.5

shows the effect of the various potential caps on the two primary variables. The key function was the changes in the coefficient of variation (“CV”) value and the data variance as these are key drivers to successful semi-variogram analysis and interpretation. There was an observed significant drop in CV between the uncapped and the higher caps values for both Au and Ag. However, reducing the cap assay value further did not lead to a significant drop in CV. It was decided that, going forward, the gold should be capped at 100g/t and the silver be capped at 2000g/t.

14.7 Statistical Analysis and Variography

Semi-variogram analysis was carried out on the individual variables for Au and Ag based on the original 1m composite assay. Going forward for block estimation, a single variable length composite model will be

used. However, given the relative lack of available drill intersections, it was deemed more appropriate to use the regular length composites for analysis of the directional variability of the deposit by allowing more sample pairs to be utilised for each lag point on the variogram.

The following figures highlight the very similar properties of the gold and silver variability modelling. Due to the lack of regular data intersections into the deposit it was not possible to model directional anisotropy in detail. However, it was possible to obtain robust semi-variograms for the strike and dip orientations within the perceived plane of the deposit with a horizontal strike towards 310° and a dip of 60° towards 040°.

For both Au and Ag variables, modelled using a pairwise relative transformation, the semi-variograms were modelled using a two-structure spherical model with a nugget variance of between 42-48% of the sill, first structure range at approximately 50m and the longer second range of between 180-200m along strike and 140-170m in the dip orientation.

Figure 14.6: Gold variable regular composited data Semi-variograms

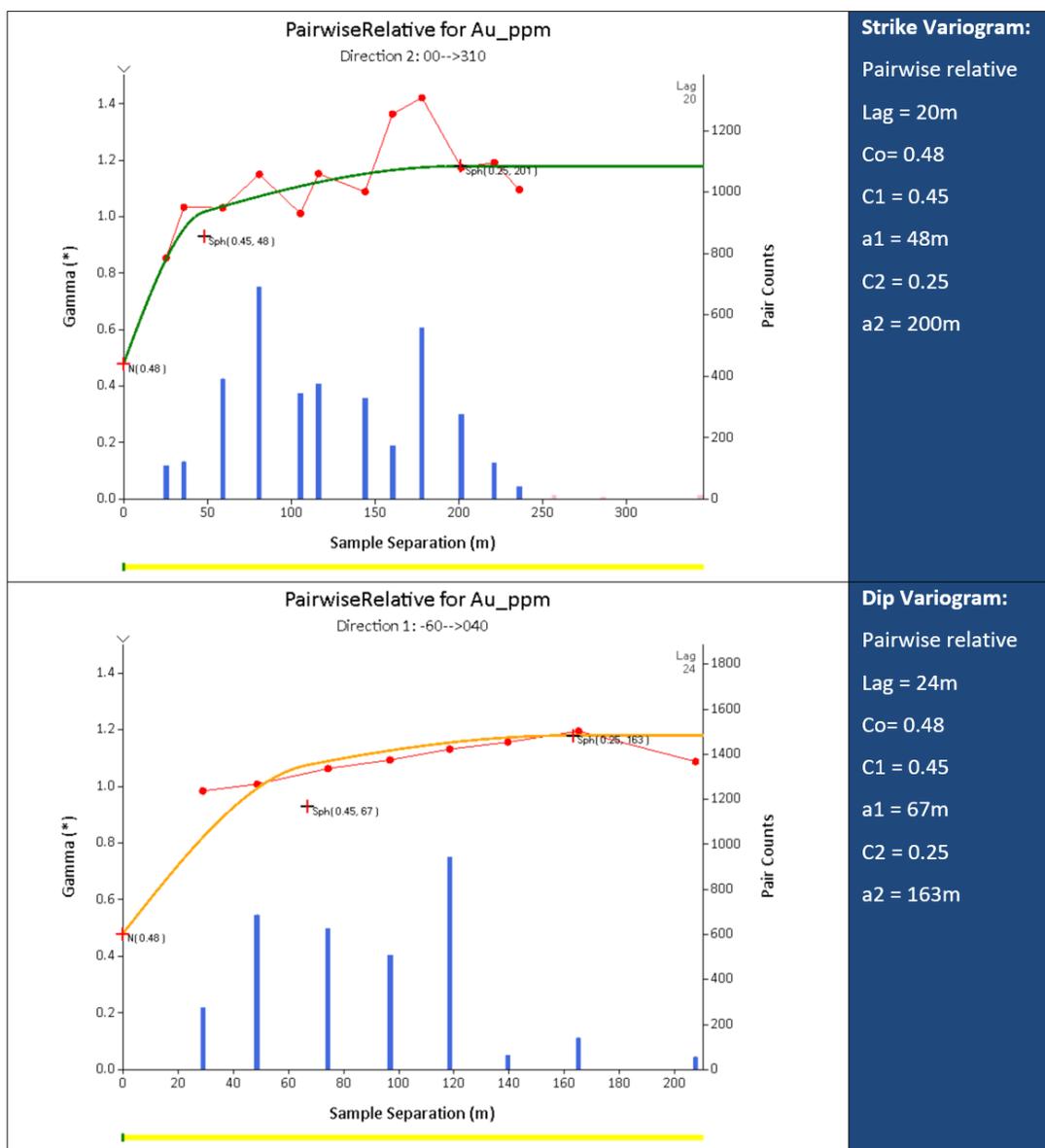
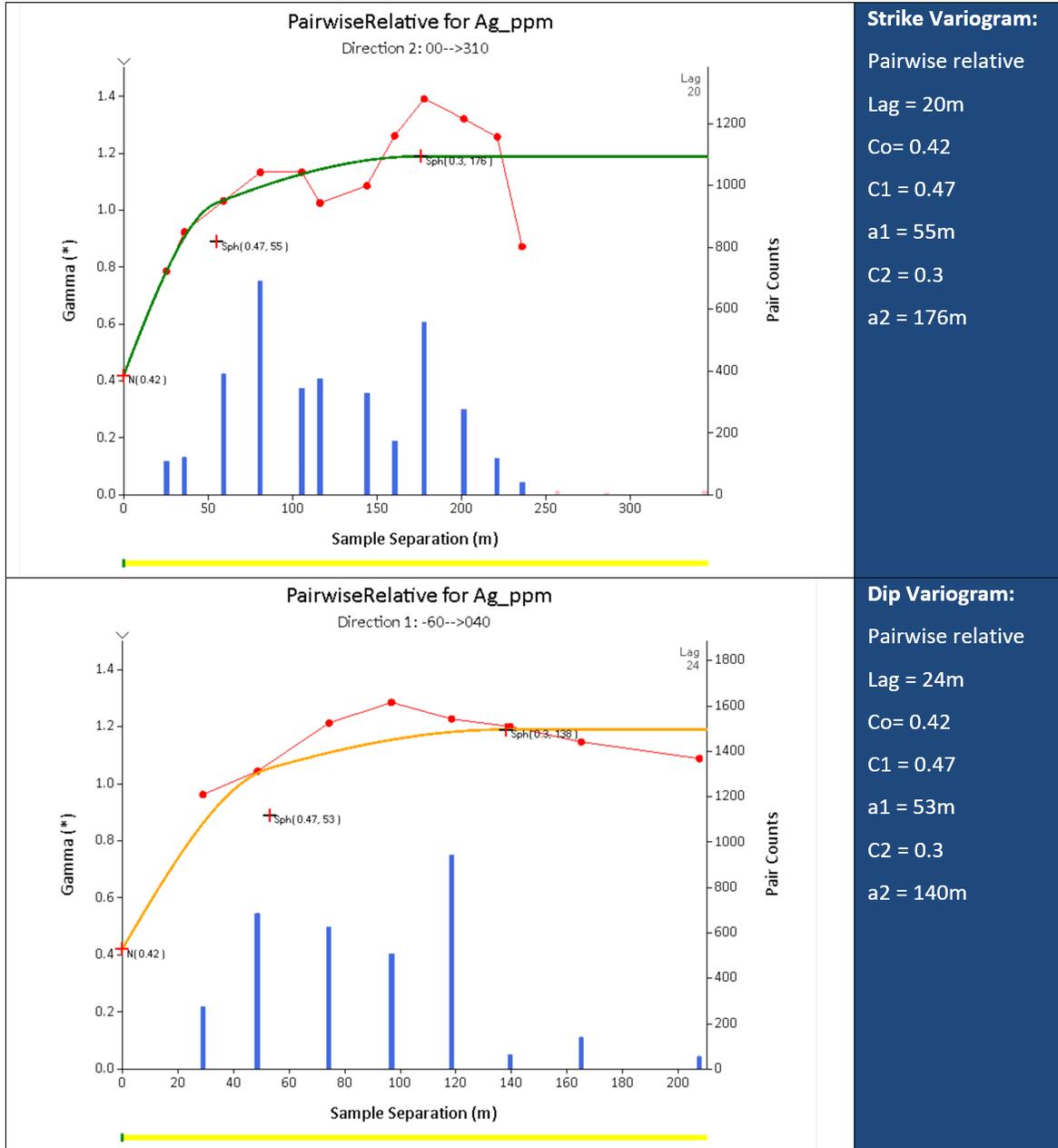


Figure 14.7: Silver variable regular composited data Semi-variograms



14.8 Block Model

14.8.1 QKNA

To better define the ideal search parameters used in the interpolation, Quantitative Kriging Neighbourhood Analysis ("QKNA") was undertaken on the data. This looks at a set of mathematical variables produced from the data and the semi-variogram results which are:

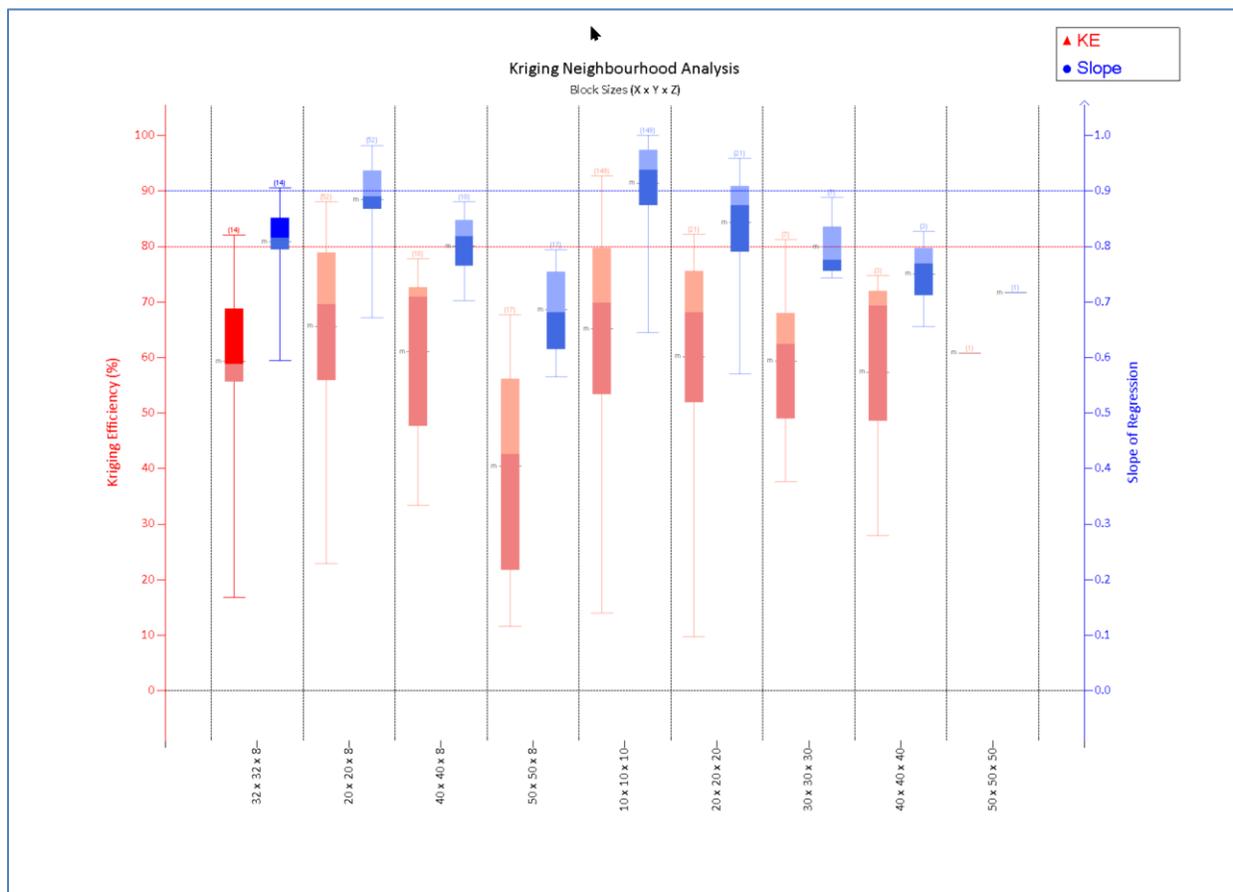
- the slope of regression of the 'true' block grade on the 'estimated' block grade;

- the weight of the mean for a simple kriging;
- the distribution of kriging weights, and proportion of negative weights; and
- the kriging variance.

QKNA is a balancing act between maximising the slope of regression and minimising the weight of the mean for a simple kriging (“SK”) (Vann et al 2003). The margins of an optimised search will contain samples with very small or slightly negative weights. Visual checks of the search area should be made in order to verify this. The proportion of negative weights in the search area should be less than 5% (Vann et al 2003). QKNA provides a useful technique that uses mathematically sound tools to optimise a search area. It is an invaluable step in determining the correct search area for any estimation or simulation exercise.

The following figure shows the results for QKNA on varying block sizes with the chosen block dimension highlighted as the first set of variables. A smaller block size produces an apparent better Slope of Regression (“SoR”) mean, however the kriging efficiency (“KE”) is poor with a wide range of results and from a geological viewpoint it is considered that 20x20 blocks would be too small given the average data sample spacing. Likewise, going to a larger block size (50x50) would lead to a significant drop in kriging efficiency and SoR results.

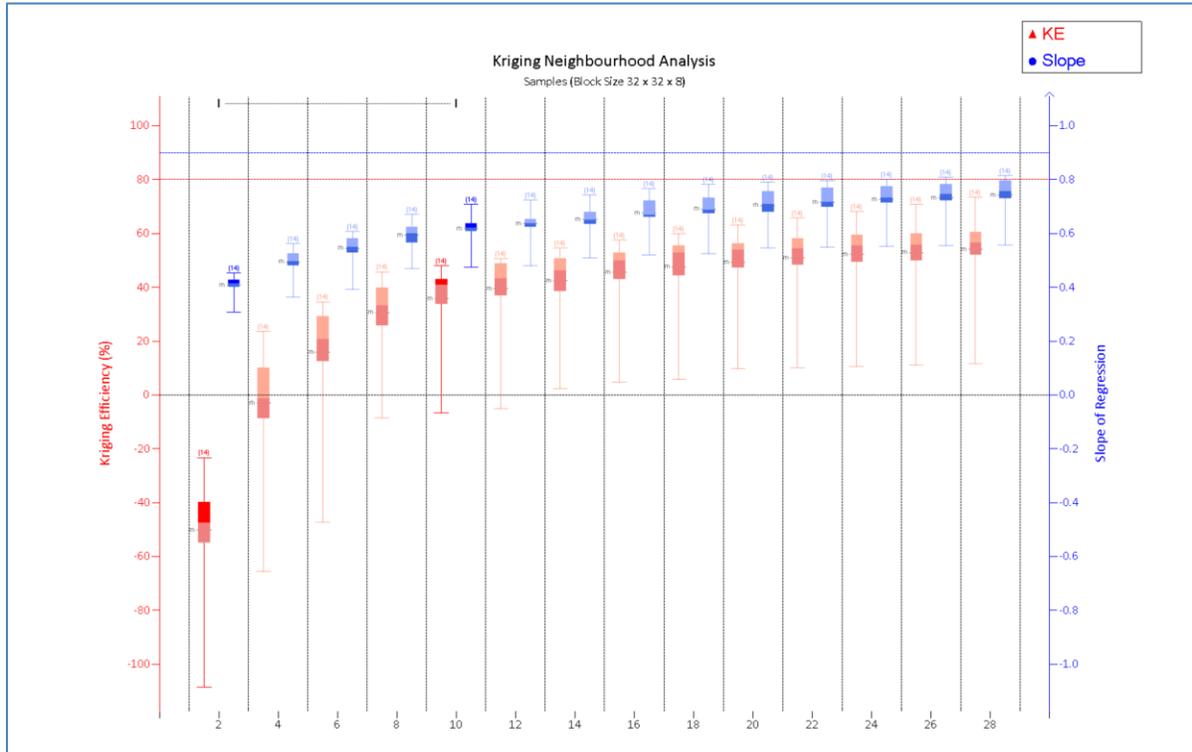
Figure 14.8: Au_(eq) variable kriging efficiency and slope of regression by block size



The following figure shows the effects on KE and SoR for different samples numbers used for interpolating individual blocks. The chosen values of 2 and 10 are highlighted. Going to a larger maximum value of samples would marginally increase the quality of the kriging but this has to be tempered by a realisation

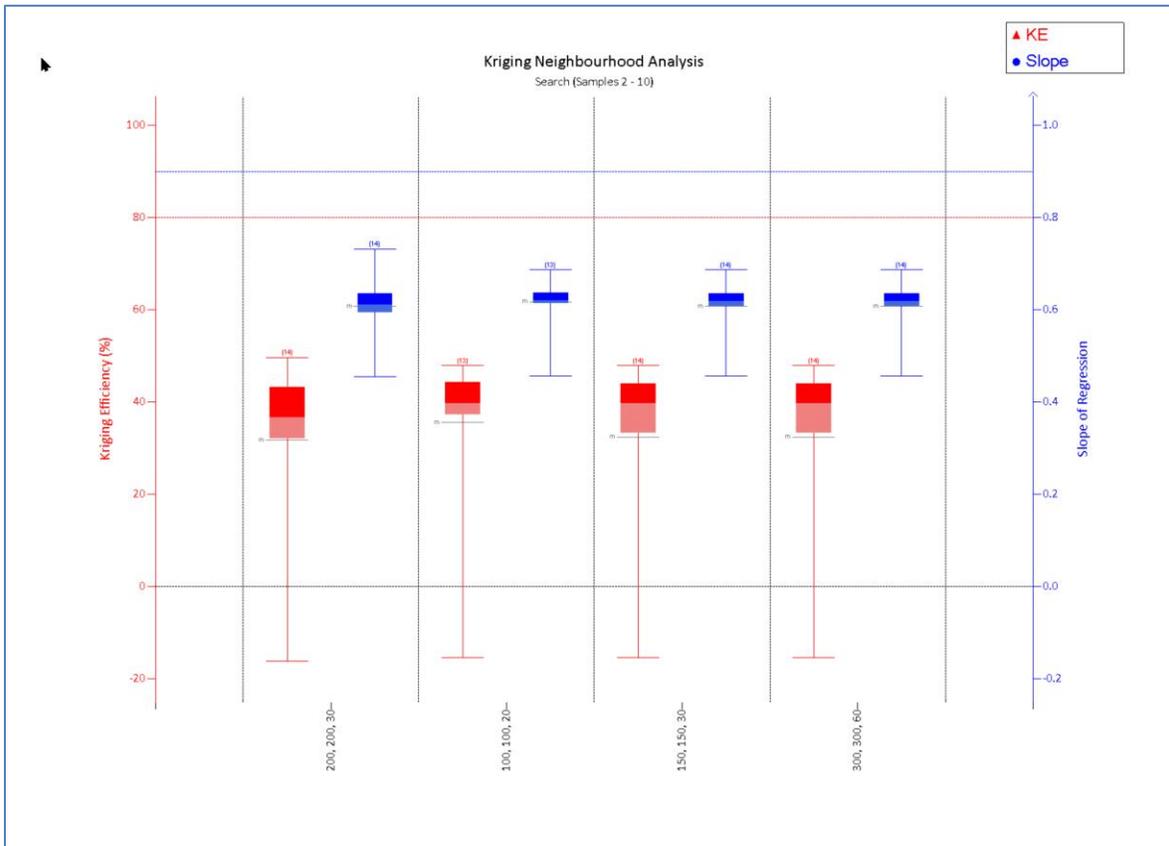
that there are only 24 sample points within the deposit and going to a large maximum would effectively smooth the data to an average value across much of the model and hence the minimum and maximum of 2-10 was chosen.

Figure 14.9: Au_(eq) variable kriging efficiency and slope of regression by min and max sample numbers



The following figure highlights the KE and SoR results for different search ellipses. There is very little variation for different search distances reflecting the small number of samples available and the relatively short strike length of the deposit. The search of 200x200m was chosen as this gives a search just slightly larger than the range of the same-variogram models and, given that this is an Inferred Resource, is not considered material for this stage of the project.

Figure 14.10: Au_(eq) variable kriging efficiency and slope of regression by search distance



14.8.2 Block Model Construction and Interpolation

The block model was constructed within the Seequent Leapfrog® software using the parameters set out in Figure 14.11. The software utilised a sub-blocking routine in order to better reflect the shape and thickness of the vein model. Given the very narrow thickness of the vein at certain points, the current sub-blocking down to 0.5m thickness is a limiting factor.

Figure 14.11: Block Model construction parameters

Blocks	X	Y	Z
Parent block size:	32	32	8
Sub-block count:	64	64	16
Minimum size:	0.5	0.5	0.5
Extents			
Base point:	217300.00	1625300.00	1200.00
Boundary size:	2304.00	2816.00	968.00
Azimuth:	318.00 degrees		Enclose Object
Dip:	0.00 degrees		Set Angles From
Pitch:	0.00 degrees		
Size in blocks:	72 × 88 × 121 = 766,656		

The following table outlines the search parameters derived from the results of the semi-variogram analysis as well as the distribution of the sample locations within the deposit. Given the variable nature of the strike and the dip of the modelled vein structure, it was decided to use the Leapfrog software “variable orientation” sub-routine which applies a dip and strike orientation to the individual search ellipse for each parent block.

Table 14.2: Ordinary Kriging search ellipse parameters

Variable	Parameter value
Search Ellipse (XYZ m)	200 x 200 x 30
Minimum Samples	2
Maximum Samples	10
Max composites per hole (2D)	1
Orientation	variable

The following figures show the data histograms for the final 2D composites used for the kriging of grade values into the block model. The chosen raw data variables from which the 2D composites were estimated, were Ag capped at 2000g/t and Au capped at 100g/t. The kriging variables were the Linear Grade and the true thickness values. These two sub-variables were estimated individually for each of the Ag and Au datasets and once block values had been estimated the final Ag and Au values were calculated by dividing the block kriged linear grade by the block kriged true thickness.

Following the kriging, the final grade estimate was produced using a gold equivalent ($Au_{(eq)}$) based on the parameters listed here:

- Ag price \$22/oz
- Au price \$1800/oz
- Ag factor for $Au_{(eq)} = \frac{22}{1800} = 0.01222$
- Calculation of $Au_{(eq)} = Au + (Ag * 0.01222)$

Figure 14.12: Statistical plots and data for the three primary variables: Ag capped 2000g/t

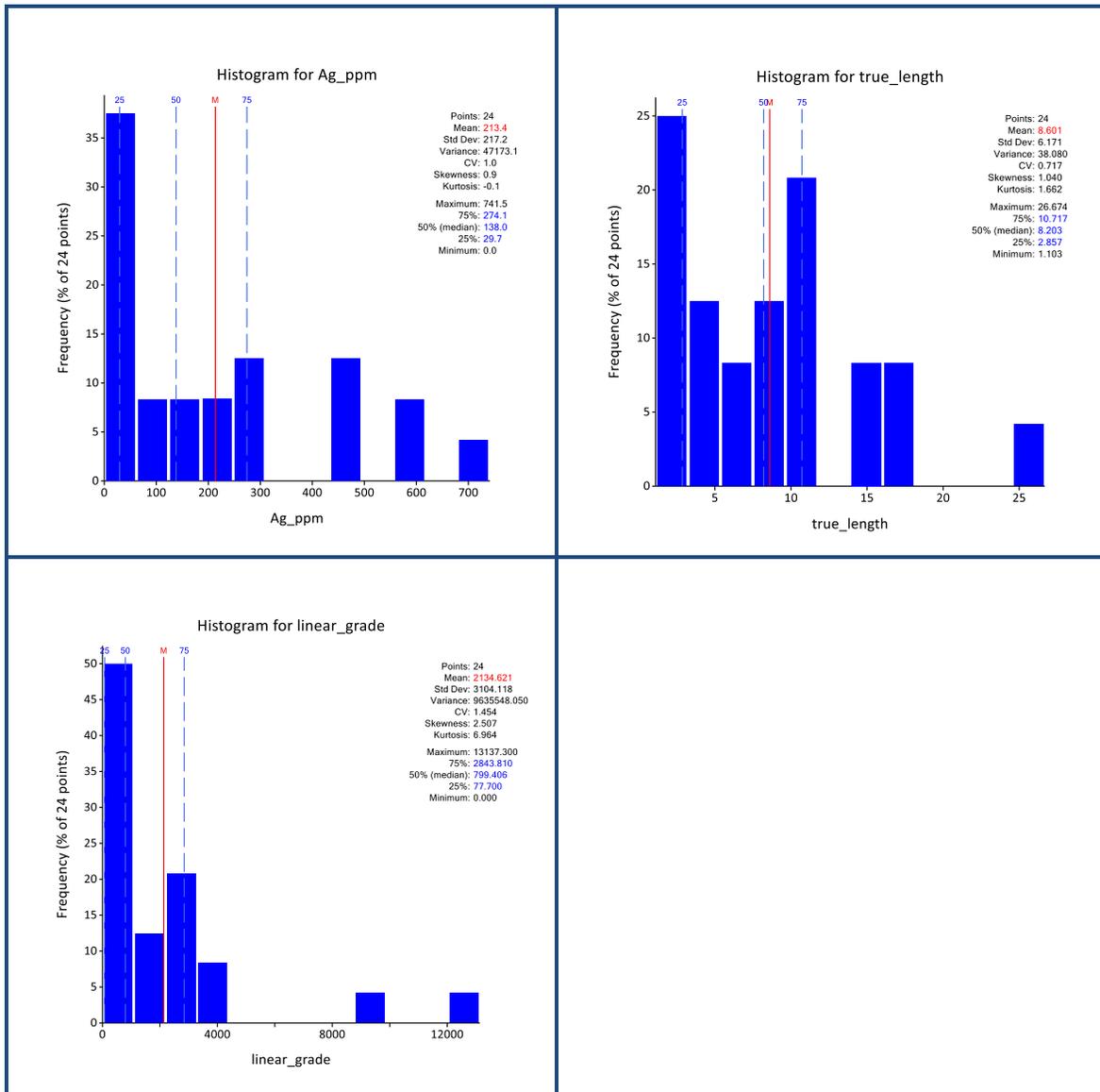
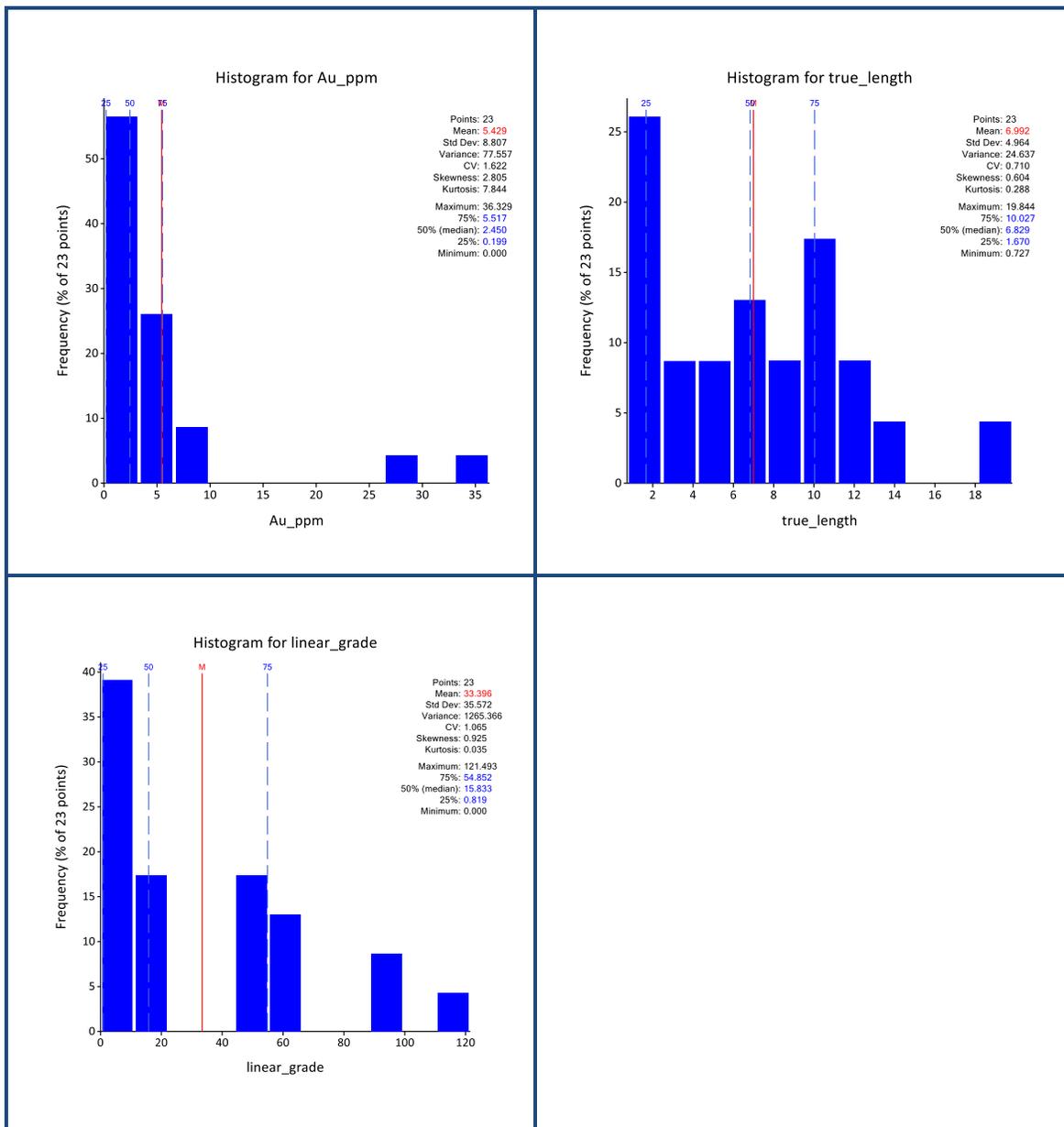


Figure 14.13: Statistical plots and data for the three primary variables: Au capped 100g/t



14.9 Mineral Resource Classification

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

Mineral Resources are subdivided, in order of increasing geological confidence, into the following categories:

- Inferred Mineral Resources;

- Indicated Mineral Resources; and,
- Measured Mineral Resources.

14.10 Mineral Resource Statement

A Mineral Resource is required to be a realistic inventory of mineralization, which, under assumed and justifiable technical and economic conditions, might, in whole or in part, become economically extractable.

The term 'reasonable prospects for eventual economic extraction' is now widely used by most of the major reporting authorities. The term implies a judgement (albeit preliminary) by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction, including the approximate mining and beneficiation parameters. In other words, a Mineral Resource is not an inventory of all mineralization drilled or sampled, and cut-off grades, likely mining dimensions, location or continuity, and the useful constituents of a Mineral Resource that can be recovered with available mineral processing technology should all factor in the final Resource reporting.

The Mineral Resource statement produced herein for the La Peña vein is based on, what are considered, realistic boundaries both along strike and at depth for the deposit. The block model has been extended roughly 130m beyond the limits of the current drill intersections used in the resource interpolation and the vein, as modelled, is considered mineable from underground. At this stage, no detailed underground or open pit optimisation has been conducted and the Mineral Resources stated here are considered undiluted with no modification factors applied.

Table 14.3: Holly, La Peña Vein Mineral Resource Statement, effective date June 7, 2022

Category	Cut-off Grade (Au _(eq))	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Gold (Moz)	Silver (Moz)	Au _(eq) (g/t)	Au _(eq) (Moz)
Measured	3.0	-	-	-	-	-	-	-
Indicated	3.0	-	-	-	-	-	-	-
Meas+Ind	3.0	-	-	-	-	-	-	-
Inferred	3.0	1.32	6.46	256	0.27	10.91	9.57	0.41
Total	3.0	1.32	6.46	256	0.27	10.91	9.57	0.41

Resources estimated using a 3.0 g/t Gold equivalent cut-off grade and a top cap grade of 100 g/t Gold and 2,000 g/t Silver and presented on a 100%-basis

*Gold Equivalent Au_(eq) values based on Au US\$1800 and Ag US\$22 using formula (Au g/t + (Ag g/t*0.01222))*

Mineral Resources which are not Mineral Reserves have not demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues. The mineral resources in this report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum standards on mineral resources and reserves, definitions, and guidelines prepared by the CIM standing committee on reserve definitions and adopted by the CIM council. Notwithstanding, to meet the requirement that the reported Mineral Resources show "reasonable prospects for eventual economic extraction".

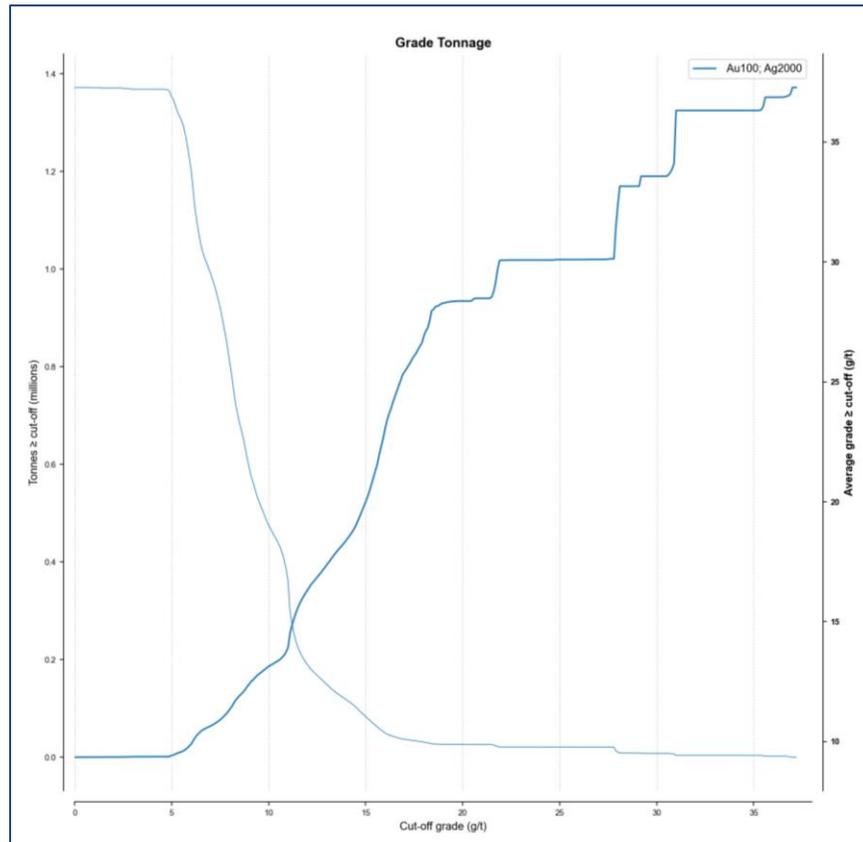
The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Resources as an Indicated or Measured Mineral Resource. It is uncertain if further exploration will result in upgrading them to an Indicated or Measured Mineral Resource category.

Contained metal and tonnes figures in totals may differ due to rounding.

14.11 Grade Sensitivity Analysis

The following figure represents the grade/tonnage curve for the final resource block model defined within the constraints of the La Peña vein model. Up until a cut-off grade of approximately 5g/t ($Au_{(eq)}$) the model is relatively insensitive to grade. However, once the threshold is reached the tonnage starts to drop significantly with a commensurate increase in average grade.

Figure 14.14: Grade tonnage curve for the final Mineral Resource model



14.12 Previous Mineral Resource Estimates

No previous mineral resource estimates are known to the QP.

15.0 Mineral Reserve Estimates

ITEMS 15 – 22 of form 43-101F1 are required for advanced exploration projects only.

16.0 Mining Methods

ITEMS 15 – 22 of form 43-101F1 are required for advanced exploration projects only.

17.0 Recovery Methods

ITEMS 15 – 22 of form 43-101F1 are required for advanced exploration projects only.

18.0 Project Infrastructure

ITEMS 15 – 22 of form 43-101F1 are required for advanced exploration projects only.

19.0 Market Studies and Contracts

ITEMS 15 – 22 of form 43-101F1 are required for advanced exploration projects only.

20.0 Environmental Studies, Permitting and Social or Community Impact

ITEMS 15 – 22 of form 43-101F1 are required for advanced exploration projects only.

21.0 Capital and Operating Costs

ITEMS 15 – 22 of form 43-101F1 are required for advanced exploration projects only.

22.0 Economic Analysis

ITEMS 15 – 22 of form 43-101F1 are required for advanced exploration projects only.

23.0 Adjacent Properties

Information included here on Adjacent Properties is summarized from the public disclosure made by the owner or operator of the adjacent property on their websites or documents filed on www.SEDAR.com. The author has been unable to verify the information, and the information on Adjacent Properties is not necessarily indicative of the mineralization on the Holly Property that is the subject of the technical report.

23.1 Escobal (Pan American Silver)

The Escobal deposit is an intermediate sulphidation Ag-Au-Pb-Zn system discovered in 1997 by Mar-West Resources Ltd. (“Mar-West”) and currently owned by Pan American Silver (“Pan American”). Escobal is located approximately 69 km to the west-southwest of the Holly Property.

Outcrops of gold-bearing quartz veins were discovered by Mar-West during a regional prospecting and sampling program, delineating a mineralized vein with significant strike length. However, the width of the mineralized vein was limited, and the size potential was therefore deemed too small at the time to warrant further interest. Mar-West was subsequently purchased by Glamis Gold Ltd., in 1998, which was in turn purchased by Goldcorp Inc. in 2006. Exploration resumed on the prospect in 2006 by Goldcorp Inc., who undertook the first drilling campaign in 2007. Goldcorp sold the project to Tahoe Resources Inc. in 2010, and Tahoe was acquired by Pan American in February 2019.

The deposit was developed as an underground mine, but operations are currently suspended pending completion of an ILO 169 consultation process, court approval and community engagement efforts to build a social license.

The mineral resources and reserves published by Pan American for Escobal, as of June 30, 2021, are shown in Tables 23.1 and 23.2.

Table 23.1: Escobal Mineral Resource Summary (Source: www.panamericansilver.com)

Resource Category	Tonnes (Mt)	Ag (g/t)	Ag (Moz)	Au (g/t)	Au (koz)	Pb (%)	Zn (%)
Measured	2.3	251	18.6	0.23	16.7	0.31	0.59
Indicated	14.2	201	91.6	0.20	93.0	0.38	0.66
Inferred	1.9	180	10.7	0.90	53.7	0.22	0.42

Notes: Escobal mineral resource estimates were prepared by Pan American Silver under the supervision of, or were reviewed by, Christopher Emerson, FAusIMM, Vice President Business Development and Geology and Martin G. Wafforn, P.Eng., Senior Vice President Technical Services and Process Optimization, each of whom are Qualified Persons as that term is defined in National Instrument 43-101 (“NI 43-101”). The mineral resource is supported by a report relating to the Escobal mine entitled “Escobal Mine Guatemala: NI 43-101 Feasibility Study, Southeastern Guatemala” dated effective November 5, 2014 by M3 Engineering & Technology Corporation, with authors C. Huss, T. Drielick, D. Roth, P. Tietz, M. Blattman, and J. Caldwell, filed on SEDAR.

Table 23.2: Escobal Mineral Reserve Summary (Source: www.panamericansilver.com)

Reserve Category	Tonnes (Mt)	Ag (g/t)	Contained Ag (Moz)	Au (g/t)	Contained Au (koz)	Pb (%)	Contained Pb (kt)	Zn (%)	Contained Zn (kt)
Proven	2.5	486	39.5	0.42	34.2	1.02	25.7	1.75	44.4
Probable	22.1	316	225.0	0.34	243.8	0.77	169.9	1.25	275.5

Notes: Escobal mineral reserve estimates were prepared by Pan American Silver under the supervision of, or were reviewed by, Christopher Emerson, FAusIMM, Vice President Business Development and Geology and Martin G. Wafforn, P.Eng., Senior Vice President Technical Services and Process Optimization, each of whom are Qualified Persons as that term is defined in National Instrument 43-101 (“NI 43-101”). The mineral reserve is supported by a report entitled “Escobal Mine Guatemala: NI 43-101 Feasibility Study, Southeastern Guatemala” dated effective November 5, 2014 by M3 Engineering & Technology Corporation, with authors C. Huss, T. Drielick, D. Roth, P. Tietz, M. Blattman, and J. Caldwell, filed on SEDAR.

23.2 Cerro Blanco (Bluestone Resources Inc.)

Cerro Blanco is a hot springs-related, low-sulphidation epithermal gold-silver deposit comprising both high-grade vein and low-grade disseminated mineralization. Located approximately 36 km SSW of the Project area, Cerro Blanco was discovered by Mar-West in the late 1990s, was acquired by Glamis Gold Ltd. in 1998, and is currently owned by Bluestone Resources Inc. who purchased the property from Goldcorp Inc. subsequent to their acquisition of Glamis.

The Cerro Blanco Gold Project was originally studied and permitted for a high-grade underground operation, however in 2022 Bluestone completed a Feasibility Study for an open-pit development (Gignac et al., 2022). The project is now undergoing construction engineering and permitting.

Mineral resources and reserves at Cerro Blanco as stated by Bluestone Resources are shown in Tables 23.3 and 23.4.

Table 23.3: Cerro Blanco Mineral Resource Statement (www.bluestonerresources.ca)

Resource Category	Tonnage (kt)	Au Grade (g/t)	Ag Grade (g/t)	Contained Gold (kOz)	Contained Silver (kOz)
Measured	40,947	1.8	7.9	2,382	10,387
Indicated	22,595	1.0	4.2	706	3,058
M&I	63,542	1.5	6.6	3,089	13,445
Inferred	1,672	0.6	2.1	31	112

Cerro Blanco mineral resource estimates have an effective date of December 31, 2020. All Mineral Resources have been estimated in accordance with Canadian Institute of Mining and Metallurgy and Petroleum (“CIM”) definitions, as required under NI 43-101. Mineral Resource Statement prepared by Garth Kirkham (Kirkham Geosystems Ltd.) in accordance with NI 43-101. The mineral resource is supported by a report relating to the Cerro Blanco Project entitled “CERRO BLANCO PROJECT District of Jutiapa, Guatemala, N.I. 43-101 Technical Report & Preliminary Economic Assessment” with an effective date of February 28, 2021, prepared by G Mining Services with Qualified persons Mathieu Gignac, P.Eng., Joël Lacelle, P.Eng., Neil Lincoln, P.Eng., & Antoine Champagne, P.Eng., Garth Kirkham, P.Geo. and Carl Burkhalter P.E.

Table 23.4: Cerro Blanco Mineral Reserve Summary (www.bluestonerresources.ca)

Reserve Category	Tonnage (kt)	Gold (g/t)	Gold (koz)	Silver (g/t)	Silver (kOz)
Proven	37,618	1.89	2,286	8.33	10,084
Probable	16,279	1.07	560	4.81	2,518
Proven & Probable	53,896	1.64	2,846	7.27	12,602

Cerro Blanco mineral reserve estimates have an effective date of November 1, 2021. All Mineral Reserves have been estimated in accordance with Canadian Institute of Mining and Metallurgy and Petroleum (“CIM”) definitions, as required under NI 43-101. The mineral reserve estimate was prepared by G Mining Services Inc. The mineral resource is supported by a report entitled “N.I. 43-101 Technical Report & Feasibility Study of the Cerro Blanco Gold Project” with an effective date of February 22, 2022, prepared by G Mining Services with Qualified persons Mathieu Gignac, Joël Lacelle, Neil Lincoln, Carl Burkhalter, Garth Kirkham, Rolf Schmitt, Hong-Chang Liang, Jim B. Finley, and Nolberto Contado.

24.0 Other Relevant Data and Information

All relevant technical data and information to the Project has, to the best of the authors' knowledge, been disclosed in this report.

25.0 Interpretation and Conclusions

25.1 Risks and Uncertainties

There are no known risks or uncertainties that could reasonably be expected to affect the reliability of or confidence in the exploration information presented in this report.

Risk to the project advancing in future include:

- Potential work stoppages caused by anti-mining groups disrupting activities.
- The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred Resources as an Indicated or Measured Mineral Resource. It is uncertain if further exploration will result in upgrading them to an Indicated or Measured Mineral Resource category.
- The Holly project is located on an exploration licence that remains valid while the Guatemalan authorities are processing an exploitation license for the property. Volcanic is working with the authorities to supply all the required information to the government to enable the exploitation license to be granted, part of which includes this mineral resource estimate and associated NI 43-101 report. Although there are no known specific reasons why an exploitation licence would be rejected, it is uncertain whether the exploitation license for the project will be granted.

25.2 Conclusions

The 2022 Inferred Mineral Resource Estimate was completed according to CIM best practice guidelines and is reported in accordance with NI 43-101 regulations. The QP's believes that the current data presented is an accurate and reasonable representation of the Holly Project. The QP's conclude that the database and mineralization interpretation are of suitable quality to provide the basis for the recommendations presented in Section 26 of this report.

26.0 Recommendations

The maiden mineral resource estimate and associated interpreted mineralization provides guidance for continued exploration of the Holly project. Additional drilling at Holly is permitted and that work can commence once a drill rig is mobilized. Consultants to conduct the environmental baseline, community and mining scoping studies have been contacted and estimates for this work are pending.

The Authors recommend the following work to advance the Holly project:

- Continue with the programed initial studies required to convert the current exploration licence to an exploitation license, which include water, environmental, metallurgical and mining scoping studies.
- Complete additional drilling in phases to upgrade the resource classification.
- Continue exploration drilling to potentially expand the currently defined resources at both the La Peña vein target and other veins and targets at the Holly property.

26.1 Proposed Budget

Table 26.1: Proposed expenditures for next phase(s) of Holly project

Description	Units	Unit Cost	Cost
Community Relations & Consultation			\$200,000
Environmental & Water studies			\$100,000
Initial Metallurgical study			\$100,000
Mining scoping study			\$100,000
		Sub-total	\$500,000
Infill and Classification Upgrade Drilling Holly	5000m	\$200/m	\$1,000,000
Assays	2000	\$35/sample	\$70,000
Geology & Consumables			\$130,000
Management			\$150,000
Rehabilitation			\$100,000
		Sub-total	\$1,500,000
Expansion and Exploration Drilling Holly	5000m	\$200/m	\$1,000,000
Assays	2000	\$35/sample	\$70,000
Geology & Consumables			\$130,000
Management			\$150,000
Rehabilitation			\$100,000
		Sub-total	\$1,500,000

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