TECHNICAL REPORT
ON THE HERBERT GOLD PROPERTY

JUNEAU DISTRICT, SOUTHEAST ALASKA

Prepared for:

Grande Portage Resources Ltd.
Suite 280 – 1090 West Georgia Steet
Vancouver, BC V6E 3V7

Prepared by:

Dave Webb, Ph.D., P. Geol., P.Eng.

DRW Geological Consultants Ltd.

June 15, 2021

Effective Date:
May 12, 2021

Certificate of Qualifications

I, Dave R. Webb, Ph.D., P.Geol., P.Eng. (Lic 601, NAPGEGG), herby certify that:

1) I am a consulting geologist with a business address at 6120 185A St., Surrey, B.C., V3S 7P9

2) I am a graduate of:

1. the University of Toronto (1981) in Geological Engineering. (B.A.Sc. (Engineering))
2. Queen's University (1983) in Geological Sciences. (M.Sc.)
3. The University of Western Ontario (1992) in Geological Sciences. (Ph.D.)

3) I am a registered Professional Geologist in good standing with the Association of Professional Engineers and Geoscientists of the Northwest Territories (NAPEG) (L601) and the Association of Professional Engineers and Geoscientists of the Province of British Columbia (APEGA) (49744) and a registered Professional Engineer in good standing with the Association of Professional Engineers and Geoscientists of the Northwest Territories (NAPEG) (L601).

4) I have worked as a geologist for a total of 40 years since graduation from university. I have work experience in Canada, the United States of America, Mexico, Asia, Europe and Africa. Specific experience with mineralization and resource estimation in lode gold deposits has been:

1. From 1981 to 1986 I was employed part time by Cominco at the Con Mine in Yellowknife (a lode gold deposit) as a research geologist and production geologist. In this capacity I did reconciliation and reserve forecasts (resource estimation).

2. My education (item 2 (above) included an M.Sc. on structural and stratigraphic controls on gold mineralization at the Con Mine (an orogenic gold deposit, and a Ph.D. on controls on gold mineralization in Yellowknife (an orogenic gold camp with over 14 million ounces of past production.

3. I staked and vended the Nicholas Lake property and participated in its development to be the largest granite-hosted gold orogenic deposit in the Northwest Territories.

4. I purchased the Mon Property from Cominco Ltd in 1988 and discovered the down-dip extension of the high-grade A-Zone, completed the ore reserves and with financial and mining support, brought the mine into production. It operated profitably for seven years.

5. I staked and vended the Discovery Project, and then lead the team as a director and then CEO to the discovery and development of the Ormsby Zone.

6. As a consultant, I completed the ore reserve portion of a Feasibility Study (with Cominco Engineering Ltd.) on the orogenic Bumbat Gold Mine in Mongolia.

7. As CEO, I targeted and then developed with my team, the Clan Lake Main Zone, an orogenic gold deposit in the Yellowknife Gold Belt.

8. As owner, I completed a re-evaluation of the past-producing Mon Gold Mine and identified additional potential. I obtained all permits and licenses needed to recommence mining on a limited basis, making this the most recently permitted orogenic gold deposit in the Northwest Territories.

9. I completed a Mineral Resource Estimate for clients on orogenic gold deposits in Tanzania and the USA.

10. I completed earlier Mineral Resource estimates for Grande Portage on the Herbert Gold Project, the topic of this report.

5) I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirement to be a "qualified person" for the purposes of NI 43-101.

6) I am responsible for the technical report "TECHNICAL REPORT ON THE HERBERT GOLD PROPERTY" and dated June 15, 2021, prepared for Grande Portage Resources Ltd. (the "Technical Report"). I visited the core shack and property in February 26-28, 2018.

7) I was coauthor of a previous technical report on this property in 2013, and authored the previous report on this property in 2019.

8) I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9) I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

10) I consent to the filing of the Technical Report with any stock exchange or other regulatory Authority and any publication by them, including electronic publication in the public company files on their websites accessible to the public, provided that I am given the opportunity to read the written disclose before filed to ensure its authenticity.

11) I have read this the document entitled "TECHNICAL REPORT ON THE HERBERT GOLD PROPERTY" and dated June 15, 2021.

Dated this 15th Day of June, 2021

Dr. D.R. Webb, Ph.D., P.Geol. P. Eng.

"signed"

PROFESSIONAL
PROVINCE OF
D. R. WEBB
49744
BRITISH COLUMBIA
GEOSCIENTIST

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1 SUMMARY (Item 1)

Grande Portage Resources Ltd. (GPR) has retained DRW Geological Consultants Ltd. to prepare a technical report (the Report) on the Herbert Gold Property (the Property) in accordance with National Instrument 43-101 (NI 43-101) and Form 43-101F. Grande Portage Resources Ltd. is a publicly traded mineral exploration company focused primarily on precious metals in Alaska. This Report is an update on the last report filed in May 2019. The changes in this Report are the results of the 2020 drilling program.

The Herbert Gold Property consists of 91 federal mining claims covering approximately 1,881 acres located 32 kilometers north of Juneau, Alaska. The infrastructure is well developed in this area. The Property is 6 km from a paved highway, 10 kilometers from a power line and 10 kilometers from tidewater.

The Property is wholly-owned by GPR. An annual advance royalty payment is payable on the property.

The Property is located within the historic, 160 kilometer long Juneau Mining District (JMD) which hosts over 200 gold-quartz-vein deposits with production nearing 7,000,000 ounces of gold since 1880. More than three-quarters of Alaska's lode gold was mined from the Juneau gold belt. Most of the prospects and mines within the JMD are in close proximity to the Coastal Range Megalineament – a major crustal structure defined by northwest – striking, moderately to steeply dipping, penetrative foliation. This structure is parallel to the boundary between the Gravina Belt to the west and the Taku terrane to the east. Regional metamorphism and deformation, including the Coastal Range Megalineament, are linked to the emplacement of multiple intrusive bodies of varied composition.

Historic production from the Juneau Mining District was mainly from mesothermal quartz veins and stringers hosted by greenschist to amphibolite – facies metasedimentary rocks and relatively competent igneous bodies. Many of the mineralized veins in the Juneau District extend over significant distances along strike and down-dip. The Juneau gold belt has been Alaska's largest lode gold producer, yielding approximately 6.8 million ounces of gold, largely from the Alaska-Juneau and Treadwell mines. The Kensington Mine, owned by Coeur Mining Inc. operates within this belt approximately 45 km north of the Herbert Gold Property.

The empirical relationship between orogeny and gold- vein formation in the Juneau gold belt is well established. A belt of tonalitic plutons intruded approximately 5 km east of the megalineament between 68-61 Ma (Barker et al., 1986; and Wood et al., 1991). Eocene granodiorites intruded 10 km east of the gold belt, and are coeval with the gold mineralization (48 to 55 Ma.) (Miller et al., 1995). The granodiorites are believed to have been the primary source of heat that drove prograde metamorphic reactions devolatizing rocks of the Wrangelia terrane to producethe gold deposits.

The resource estimation was prepared D.R. Webb P. Geol., P.Eng who is the Qualified Person for this report within the meaning of NI 43-101 and is responsible for all aspects of the Technical Report Quality.

Bulk density for the Herbert Property mineralized rock is 2.757 g/cc (average of 30 mineralized samples).

The results are from a total of 175 diamond drill holes, 36 trenches with sawn channel cuts or continuous chip samples on the Herbert Property. Four thousand two hundred sixty two (4,262) ICP gold assays, 130 gold assays with gravimetric finish, 1,083 screened metallic gold assays and 3,301 ICP multi-element (33 element) analyses comprised the digital database for this study. This resource estimate is updated from the Mineral Resource reported in 2019. Several exploratory drill holes also encountered other targets. Utilizing a base case cut-off of 3.0 gpt, the nine veins on the property host an Indicated Mineral Resource of 3,637,000 tonnes at a grade of 10.23 gpt (1,196,800 ounces of gold and 686,700 ounces of silver) and an Inferred Mineral Resource of 1,138,000 tonnes at a grade of 8.91 gpt (325,900 ounces of gold and 169,300 ounces of silver) using a 125 gpt top cut.

In Table 1 and Table 2 mineral resources are highlighted above a 3.0 gpt cut off, assuming an average gold price of $1,400 per ounce. This cut-off reflects the potential economic, marketing and other issues relevant to an underground shrinkage stope mining scenario based on a conventional mill operation.

Table 1. Sensitivity Table showing Indicated Mineral Resource by cut-off with 125 gpt cap.

Cut-off	Tonnes	Grade Au gpt	Grade Ag gpt	Ounces Au	Ounces Ag
3.0 gpt	**3,637,000**	**10.23**	**5.87**	**1,196,800**	**686,700**
2.5 gpt	4,290,000	9.10	5.22	1,255,600	719,700
2.0 gpt	5,239,000	7.86	4.67	1,324,400	786,000

Table 2. Sensitivity Table showing Inferred Mineral Resource by cut-off with 125 gpt cap.

Cut-off	Tonnes	Grade Au	Grade Ag	Ounces Au	Ounces Ag
3.0 gpt	**1,138,000**	**8.91**	**4.63**	**325,900**	**169,300**
2.5 gpt	1,255,000	8.33	4.33	336,000	174,500
2.0 gpt	1,474,000	7.44	4.00	352,300	189,700

Metallic or screened assays were used in all instances where they were available (1,083 samples). All other assays are standard one assay ton results reported using ICP finish or where over limit (>10 gpt) are reported using gravimetric finish. All unsampled drill hole intervals were assigned -9 grade to facilitate resource calculations.

A series of cross sections were developed for each of nine different zones where correlations in gold assays, alteration zones, and multi-element data appear to exist down-dip on section and between sections. These correlations were corrected and modified as supported by surface mapping and geology.

MapInfo's 3D solid generation routine was used to construct three dimensional models from the sections. These were examined to conform to geology and all analytical data and adjusted where necessary.

Some areas of the Main Vein provided multiple options for correlations that were permissive by geology and sample geochemistry. The correlation that best matched surface geology was selected. The Deep Trench vein was remarkable in the simplicity and consistency of a very planar orientation of the correlations.

Block model parameters are based on geostatistical applications. Based on numerous iterations, it was decided that the Inverse Distance Squared (ID^2) method was appropriate. It was determined that a block model using tabular-shaped blocks 1.5m thick, and 8m x 8m rotated into the plane of the vein provided suitable detail without creating an unnecessarily large database. This was applied to all veins. The raw and composited assay data for the veins display a single population or a dominant population with <1% secondary populations on the lognormal probability plots. These can be modeled smoothly without any obvious outliers that can over-influence the estimation and to account for the nugget effect. Statistical studies showed that capping could be supported a 125 gpt gold. This was applied to all veins. The resource remains open in multiple directions along these defined veins.

The long axis of the blocks is aligned with the strike of the structural domain, and the shorter dimension is aligned perpendicular to the strike direction. Interpolation parameters are defined based on a combination of geology, drill hole spacing and geostatistical analysis of the data. Individual structural zones, interpreted in the various deposit areas, are segregated for modeling purposes and isotropic search orientations are utilized which retain vein geometry of the gold mineralization in the resource model.

A graphical validation was done on the block model where cross sections, plans, and a 3D examination were conducted, testing intersections, solids and surface boundaries, and geology. Each block appears to be well represented by the immediately adjoining composites as would be expected using the ID^2 method. A minimum of 2 and maximum of 8 composites were used to create each block, except for the Goat Main Vein where a minimum of 3 and a maximum of 8 composites were used to create each block. Meaningful variograms could not be generated, likely due to a paucity of data points within individual veins.

The resources are classified according to their proximity to the sample locations and are reported, as required by NI 43-101, according to the CIM Definition Standards for Mineral Resources and Mineral Reserves. Indicated resources comprise blocks that are situated within 60 meters of assays derived from drill holes or trenches. No Measured Resource was determined at this time.

2 INTRODUCTION (Item 2)

2.1 Terms of Reference and Purpose of the Report

This technical report was commissioned by Mr. Ian Klassen, President, Grande Portage Resources Ltd. (GPG) to update a mineral resource for the Herbert Property in Southeast Alaska. The new mineral resource estimate described in this report was prepared in accordance the with Canada National Instrument 43-101, Standards of Disclosure for Mineral Projects (NI 43-101) and Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Best Practices and Reporting Guidelines,

This report makes use of all relevant information provided by GPG and other information gathered by the author. The purpose of this report is to summarize and present applicable information regarding GPG's Herbert Gold Project and provide an estimate of mineral resources contained within the property. The mandate also called for the author to recommend specific areas and methodologies (if warranted) for further exploration. The identification of these areas would be based on their observations and interpretations.

This report has been prepared to support public disclosure of the updated mineral resources and, as such, does not include information normally disclosed in items 15 through 22 of NI 43-101F1. The intended users of this report are GPG and its agents, as well as members of the general public via their company website or the SEDAR information filing system. SEDAR is the official site for public access to most securities documents and information filed with the Canadian Securities Administrator by public companies and investment funds.

2.2 Qualifications of Consultant

The author is familiar with the exploration techniques being applied by GPG on the Herbert Gold Property having been involved in previous technical reports and providing some specific advisory services to GPG in the past. As well, the author has participated in the Resource Estimation of other orogenic gold projects (see Certificate of Qualifications).

Dr. David Webb P.Geol., P.Eng. is a Qualified Person as described by NI 43-101. Dr. Webb completed all sections in this report.

2.3 Details of Site Inspection

Dr. Webb visited the Herbert Property from February 26 to 28, 2018. While on site, he conducted a low-level helicopter overflight (high snow pack at this time of year) seeing the general physical environment and observing two quartz veins with alteration. He also reviewed selected core and evaluated sampling methods and security protocols. A slabbed sample of the Goat vein was collected for assay.

2.4 Effective Date

Data used for the resource estimate were taken from drilling at the Herbert Property through October 2020. GPG provided a drill hole database update with the results of the 2020 exploration activities which were added to the database of previous results in the author’s possession. The effective date of this report is June 15, 2021.

2.5 Sources of Information

This report is based upon data and information compiled by the author from a personal site inspection, published geological assessments and maps, raw data and technical reports by geologists and/or engineers (some independent and some in the employ of GPG). These sources of information are presented throughout this report. The Author has no reason to doubt the reliability of the information provided by GPG.

A rock sample was collected by the author and analyzed by Bureau Veritas Laboratories in Vancouver. The analyses were consistent with previous analytical results for the sample location.

2.6 Units of Measure

Unless otherwise stated, all measurements reported in this report are in metric units and currencies are expressed in 2019 US dollars.

3 RELIANCE ON OTHER EXPERTS (Item 3)

This report is based upon personal examination by the Author of all available reports and maps on the Herbert property, as well the site examination carried out on February 2018 to appraise the geological setting and assess its precious metal potential.

The qualified person is not relying on any other experts for technical information material to this report. The Author is not aware of any material fact or material change with respect to the subject matter of this technical report that is not presented in this report, which the omission to disclose would make this report misleading.

All information regarding property ownership and permitting available on the Alaska Government Website is consistent with GPG's records. The author has not made any attempt to verify the legal status and ownership agreements of the Herbert Property, nor are they qualified to do so and have not made any attempt to verify the permitting status of the property. The author has relied upon the Alaska Government Website for information on the status of property title, agreements, permit status and other pertinent conditions.

The author conducted an on-line search of the Herbert Property status by utilizing the Alaska Mapper Program. (http://dnr.alaska.gov/mapper/controller?gsid=AC1E2337E2485E92A31339115284C31D.tomcat-90) results of this search are presented in Item 4. Political, financial or other similar issues are all deemed to be outside the scope of this report for a property at this level of development.

4 PROPERTY LOCATION AND DESCRIPTION (Item 4)

4.1 Area and Location

The Herbert Property is situated in UTM Zone 8 between 516,600m and 521,000 East, 6,485,200m and 6,488,700m North (NAD 83 Alaska) in southeastern Alaska approximately 32 kilometers north of Juneau (Fig. 1). The project lies entirely within the Juneau 1:250,000 map sheet, and within the Juneau C-3 and C-2 1:63,000 quadrangles.

Elevations on the property range from 40m to 1,200m above mean sea level. The property comprises 91 Federal claims registered under the legal names listed in Table 1. The aggregate area of the claims is 761.5 hectares (1881 acres). The claims are situated within Townships 38 and 39S and Range 65E of the Copper River Meridian.

Annual fees of $13,000 are payable to the Alaska Bureau of Lands for claim fees. This amount was paid in August 2018 and GPG intends to pay these fees in the coming years.

4.2 Claims and Agreements

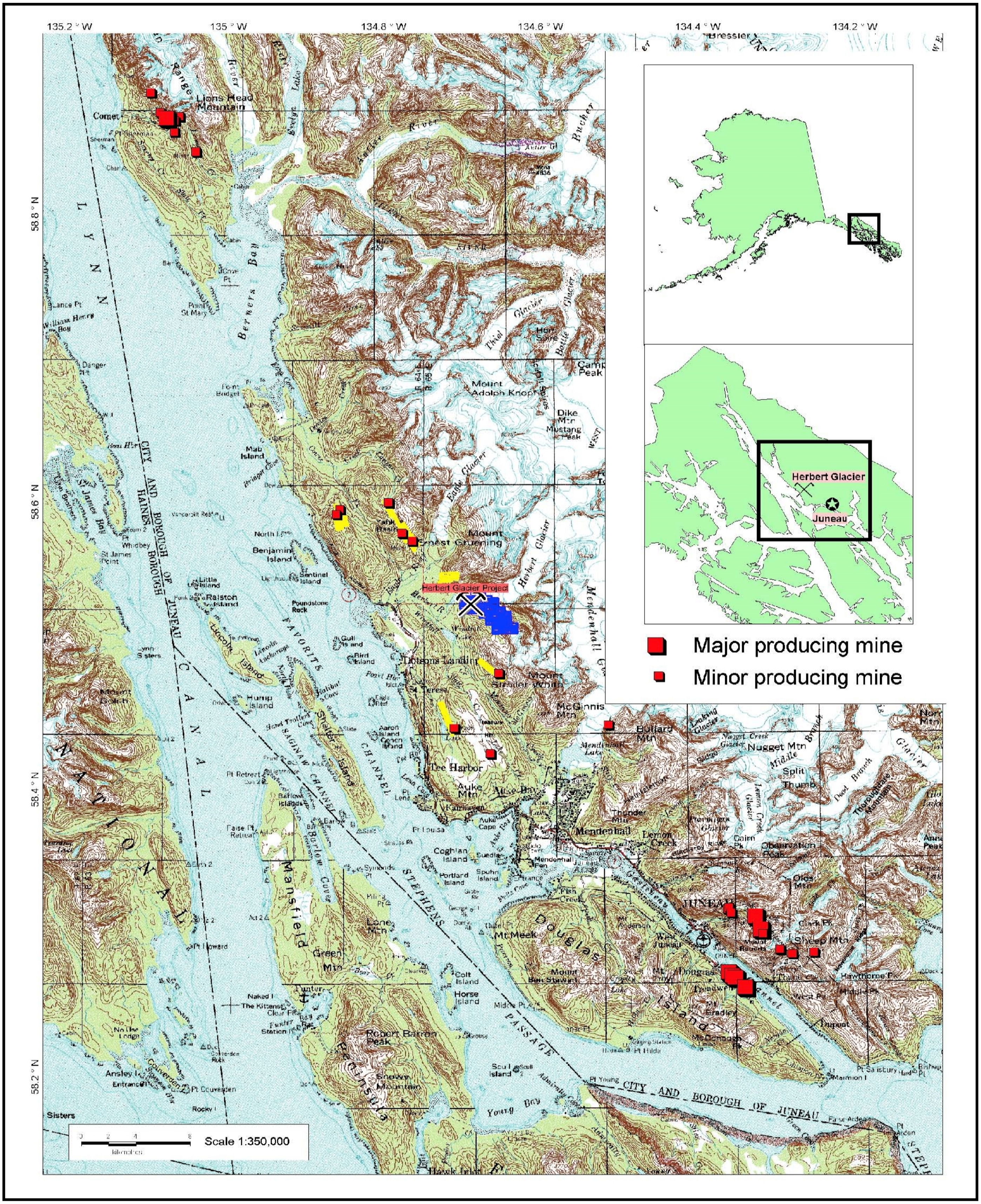

Figure 1. Location of Herbert Gold Project.

4.3 Claims and Ownership

The Herbert Gold Property consists of three groups of claims. Figure 2 lists the currently active claims at the effective date. The central 17 claims, shown in yellow, were the original claims acquired by Juneau Exploration and Development Inc. ("JEDI") from Echo Bay Exploration Inc. in 1997. Quaterra Resources Ltd. (QR) and JEDI signed a mining lease agreement in April 2007, at which time 67 additional claims were staked and an area of interest around the 17 core claims agreed upon. A final set of 7 claims were added by QR in February 2008, bringing the current total to 91 active claims. There is no distinction between the claims within the agreements and all claims lie within the proscribed area of interest.

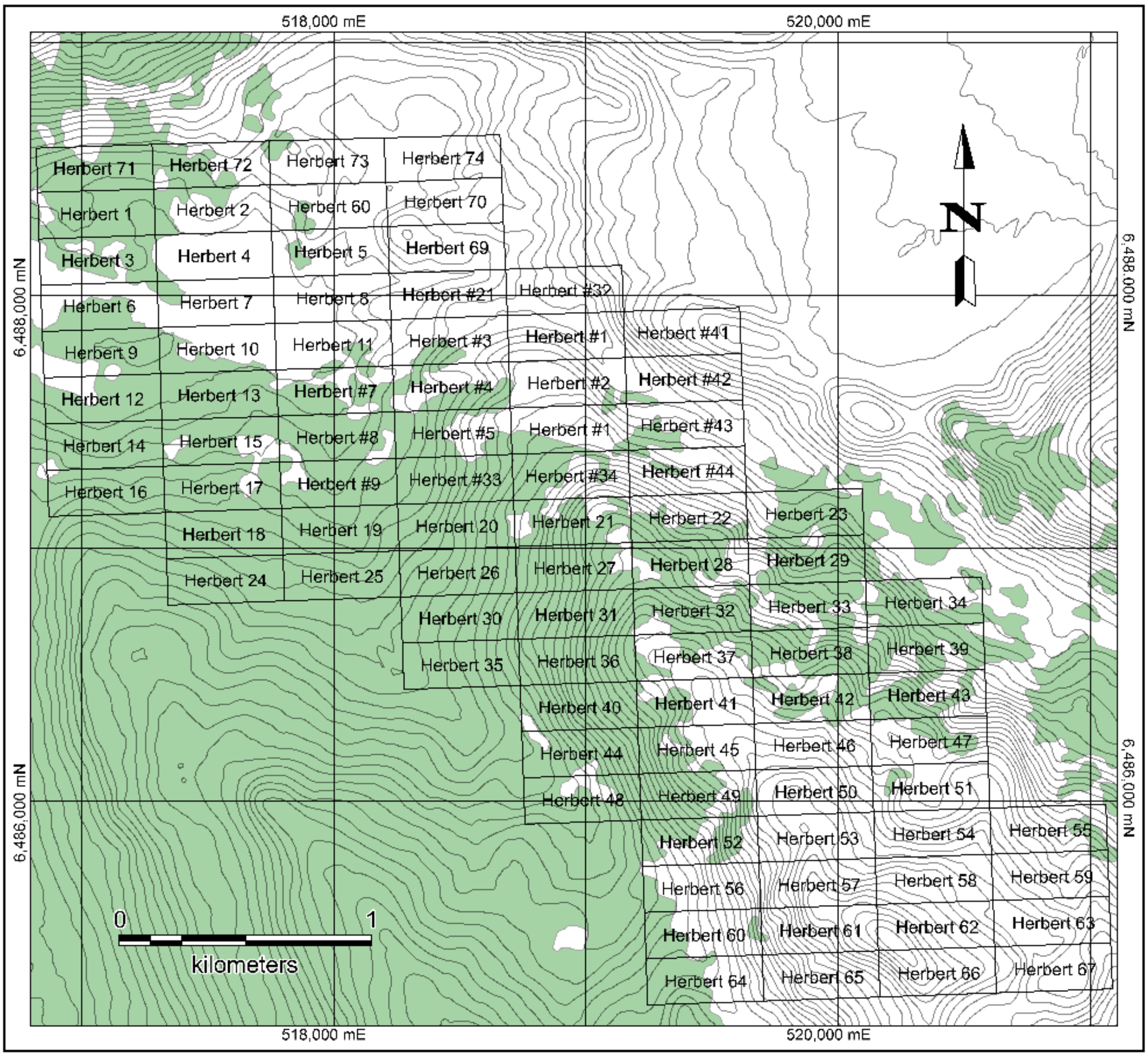

Figure 2. Herbert Property Claim Map

Table 3. Herbert Property Claim Status (May 15, 2021)

Claim Name	Claim Number	Claimant	Refresh Date	Status
HERBERT # 1	AKAA 059363	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT # 2	AKAA 059364	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT # 3	AKAA 059365	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT # 4	AKAA 059366	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT # 5	AKAA 059367	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT # 7	AKAA 059369	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT # 8	AKAA 059370	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT # 9	AKAA 059371	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT # 21 WITNESS	AKAA 059383	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT # 32	AKAA 059394	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT #33	AKAA 059981	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT #34	AKAA 059982	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT #35	AKAA 059983	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT #41	AKAA 059989	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT #42	AKAA 059990	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT #43	AKAA 059991	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT #44	AKAA 059992	JUNEAU EXPLORATION AND DEVELOPMENT INC	05/02/2021	RECORDED
HERBERT 1	AKAA 087165	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 2	AKAA 087166	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 3	AKAA 087167	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 4	AKAA 087168	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 5	AKAA 087169	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 6	AKAA 087170	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 7	AKAA 087171	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 8	AKAA 087172	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 9	AKAA 087173	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 10	AKAA 087174	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 11	AKAA 087175	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 12	AKAA 087176	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 13	AKAA 087177	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 14	AKAA 087178	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 15	AKAA 087179	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 16	AKAA 087180	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 17	AKAA 087181	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 18	AKAA 087182	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 19	AKAA 087183	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
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HERBERT 32	AKAA 087196	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED

HERBERT 33	AKAA	087197	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 34	AKAA	087198	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
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HERBERT 47	AKAA	087211	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
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HERBERT 49	AKAA	087213	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 50	AKAA	087214	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
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HERBERT 52	AKAA	087216	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
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HERBERT 55	AKAA	087219	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
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HERBERT 57	AKAA	087221	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
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HERBERT 61	AKAA	087225	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 62	AKAA	087226	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 63	AKAA	087227	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 64	AKAA	087228	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
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HERBERT 73	AKAA	087880	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED
HERBERT 74	AKAA	087881	GPG ALASKA RESOURCES INC	05/02/2021	RECORDED

The original 17 claims by Echo Bay makes no mention of an underlying royalty interest in these claims and they were sold unencumbered to a JEDI.

The Mining Lease signed by JEDI and QR has an effective date of November 1, 2007. The lease includes a sliding scale Net Smelter Return on production up to five percent (5%) when the price of gold exceeds $601 per troy ounce, and a minimum annual advance production royalty of up to a maximum of $30,000 payable to a JEDI after the tenth anniversary of the effective date.

On June 16, 2010 GPG optioned the property from a QR. The option agreement granted the right to earn 65% of the Herbert Property if:

- GPR spent at least $750,000 before June 15, 2011 to earn 51%
- GPR spent and additional $500,000 before June 15, 2012 to earn the full 65% interest

GPR has fulfilled both of these obligations and is fully vested at the 65% ownership interest.

On October 24, 2011 GPR and the QR signed a Joint Venture Agreement outlining the collective responsibilities between the JV participants. Funding is on a pro-rata basis, with standard dilution applying in the event either partner declines to participate.

On July 14, 2016 GPG announced an Acquisition Agreement had been signed whereby the Company issued to QR 1,182,331 common shares and pay QR the sum of US$250,000 upon either: (a) delivery of a feasibility report establishing that the Property can be profitably placed into commercial production, or (b) the change of control of the Company or the sale of the Property. The Acquisition Agreement also includes anti-dilution provisions, whereby QR will be issued additional common shares for no additional consideration, upon the Company's completion of equity financings to raise up to the next $1.0 million only, so that QR's equity interest in the Company will not be less than 9% of the then total issued common shares on a non-diluted basis. Finally, QR had been granted a right to participate in any future equity financings of the Company over the next $1.0 million, in order to maintain its equity interest in the Company at its then current equity interest in the Company on a non-diluted basis. This right has expired.

4.4 Environmental Liabilities

There are no known environmental liabilities associated with this property.

4.5 Other Significant Risks and Factors

The author knows of no other significant risks or factors that may affect title, access or the right or ability to perform work on the Herbert Property.

4.6 Permits

The property is entirely on Federal lands administered by the U.S. Forest Service. The area has a land use designation as semi-remote recreation with a minerals overlay. Forest lands within this designation are open to minerals exploration and development, and guidelines allow reasonable access according to the provisions of an approved Plan of Operations. Exploration on the property has proceeded under approved Plan of Operations since 2009; although at present the project likely will be impacted by the *Sequoia Forestkeeper v. Tidwell* lawsuit requiring all permits nationwide to undergo NEPA review including public notice, comment, and administrative appeals provisions. At the effective date of this report, the 2021 U.S. Forest Service Plan of Operations has been approved.

A baseline water sampling program by Admiralty Environmental started at the project site in 2012, concluding 2014. The purpose of the program was to assess baseline water quality at the Herbert project site prior to any major operations taking place. Admiralty Environmental, in consultation with some of the resource management agencies that would be part of the future permitting process, had selected ten surface sampling sites both above and below the proposed mining area. These locations have been analyzed for a wide range of materials including trace metals, solids, mineral content, cyanide and explosion residues such as nitrate and ammonia. Additional sampling in 2012 included groundwater sampling locations. The government agencies will eventually use the data collected to draft permits and establish monitoring regimes based on potential environmental impacts to the site.

A City/Borough of Juneau exploration permit had been submitted has been approved as of the date of this report.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPY (Item 5)

Note: Much of this material is excerpted from Van Wyck and Burnett, 2012 Technical Report on the Herbert Property.

The Herbert Property is located within the Juneau Recording District, approximately 32 km northwest of Juneau, Alaska – along the eastern shore of Lynn Canal (**Error! Reference source not found.**). Juneau is not directly accessible by road, although there are road connections to several areas immediately adjacent to the city. Primary access to the city is by air and sea. Cars and trucks are transported to and from Juneau by barge or the Alaska Marine Highway ferry system. There are also several taxicab companies, and tour buses used mainly for cruise ship visitors.

The City and Borough of Juneau is a unified municipality located on the Gastineau Channel in the panhandle of the U.S. state of Alaska and the 2nd largest city in the United States by area. It has been the capital of Alaska since 1906, when the government of the then-District of Alaska was moved from Sitka as dictated by the U.S. Congress in 1900. Juneau International Airport serves the city and borough of Juneau. Delta Airlines and Alaska Airlines are commercial jet passenger operators servicing Juneau. Seattle is a common destination for Juneau residents. Wings of Alaska, Alaska Seaplanes, and Air Excursions offer scheduled flights on smaller aircraft to villages in Southeast Alaska. Some air carriers provide U.S. mail service.

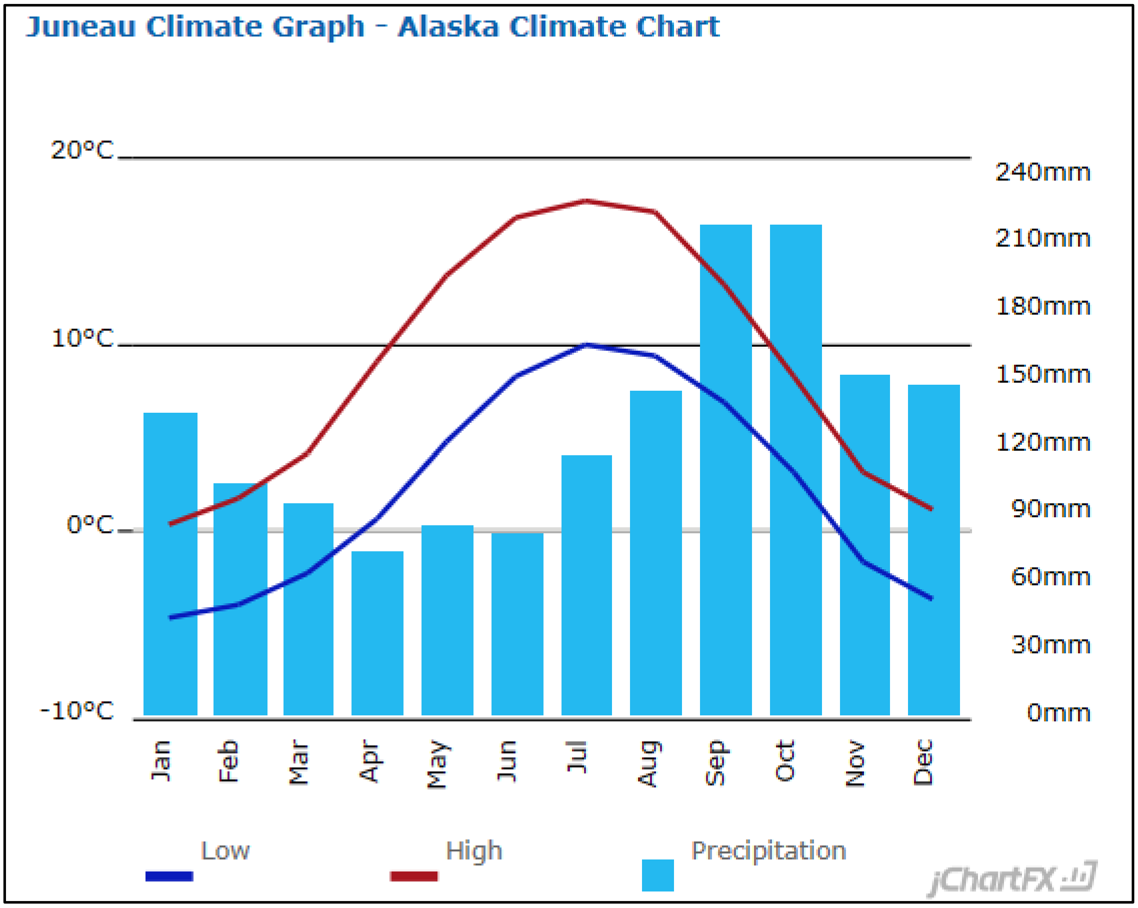
Juneau is a regional mining center supporting active mining operations at Greens Creek and Kensington. It is well provided with qualified support personnel. Other nearby communities including Haines and Skagway add to the potential employment base.

Access to the property is currently by helicopter from Juneau but the main public paved highway (Glacier Highway or Route 7) from Juneau to Berners Bay passes 5.5 km west of the property where it crosses the Herbert River. Physiographically, there is no obvious impediment for road access from the highway to the property along a route following the Herbert River. The most likely hurdle for direct access to the property from the public highway will be permitting, as this route is likely to include wetlands. The Herbert property lies on the western flank of the Coast Range Mountains. Terrain varies from moderate to rugged within the project area (Photo 1), ranging in elevation from 40m to 1200 meters above sea level. Vegetation ranges from dense alder brush to bare rock. The Herbert Glacier terminates at the eastern edge of the claim block. Its rapid retreat in the past 30 years is responsible for the recent exposure of large areas of bare rock at low elevations. Bedrock exposure

produced by this retreat is transitory, as rapid vegetation growth is advancing at a similar rate.

Photo 1. Photograph of Herbert Property

Juneau features a humid continental climate though just short of being subarctic. The city has a climate that is milder than its latitude may suggest, due to the influence of the Pacific Ocean. Winters are moist and long, but only slightly cold by Alaskan standards: the average low temperature is 23 °F (−5 °C) in January, and highs are frequently above freezing. Spring, summer, and fall are cool to mild, with highs peaking in July at 65 °F (18.3 °C). Snowfall averages 86.8 inches (220 cm) and occurs chiefly from November to March. Precipitation falls on an average 230 days per year, averaging 62.5 inches (1,590 mm) at the airport (1981–2010 normals), but ranging from 55 to 90 inches (1,400 to 2,290 mm), depending on location.[9] The spring months are the driest while September and October are the wettest months.



6 HISTORY (Item 6) (THIS SECTION HAS LARGELY BEEN EXCERPTED FROM Van Wyck and Burnett, 2012).

Early exploration of the property was hampered by the previous cover of the Herbert Glacier for the much of the last century. Glacial retreat has exposed additionl bedrock exposure during the past century. Two named prospects (St. Louis and Summit) and a 22 foot shaft at high elevations were identified in 1889 (Barnett and Miller, 2003). The Juneau Gold Belt hosts numerous high grade gold deposits that were active from 1883 until 1943 and is likely that the project area was prospected at that time. Current interest in the project area began in 1986 when claims were staked to cover several obvious quartz veins. At this time Houston Oil and Minerals discovered the main gold bearing quartz veins in outcrops recently exposed by the retreating ice. They drill tested these prospects with 8 holes (BQ size) totaling 1,100 m. Some of the historical data is somewhat vague as there was additional shallow "Winky" drilling with as much as 230 m completed from 11 holes. Although encouraging assay results from 19 dill holes were received, Echo Bay abandoned the property as part of their divestiture of its Alaskan proprterties.

In 1997, a group of three local prospectors (d.b.a. JEDI) purchased the core Herbert claims. In 2006 the property was brought to the attention of a previous owner who signed a mining lease with JEDI effective November 1,

2007. A field program in 2007 resulted in the collection of 299 rock ship, soil, and stream sediment samples and the initiation of a property wide geology map.

7 GEOLOGICAL SETTING AND MINERALIZATION (Item 7)

7.1 Regional Geology

The Herbert Property is situated in close proximity to the Coastal Shear Zone – a major crustal dislocation defined by northwest striking penetrative foliation. This structure parallels the boundary between the Gravina belt to the west and the Taku terrane to the east (Figure 3).

The Gravina belt comprises Upper Jurassic to Mid-Cretaceous marine argillite and greywacke, interbedded andesite to basaltic volcanic and volcaniclastic rocks, and plutons ranging from quartz diorite to peridotite (Gehrels and Berg, 1992 and 1994). The Taku terrane differs from the Gravina belt by having an older Permian to Triassic aged basement consisting of marbles, phyllites, pillowed basalts, and flysch-related rocks, which are overlain by Upper Jurassic to Mid-Cretaceous greywackes and, likely, related to similar aged rocks in the Gravina belt. Metamorphic grade ranges from greenschist to amphibolite facies and generally increases from west to east. Regional metamorphism and deformation, including the Coastal Shear Zone, are broadly linked to emplacement of multiple intrusive rocks in the Coast Mountains with isotopic ages ranging from 10 to 55 Ma (Gehrels and Berg, 1994).

7.2 Property Geology (excerpted from Van Wyck and Burnett, 2011)

Published regional geologic mapping (Figure 3) indicates that Herbert Gold project is largely hosted in units KPsv and TKt. To date the majority of the mapping and drilling has been within a quartz diorite stock or sill that hosts the mineralized veins. Although there is no independent mapping or geochronology evidence in support, it seems reasonable to correlate the quartz-diorite stock with regional map unit TKt and a belt of deformed metasedimentary rocks on the western edge of the claim block with map unit KPsv. Many drill holes from the western-most drill pads exited the diorite into strongly foliated metasedimentary rocks confirming the strongly tectonized contact between the two units. Herbert Gold Project consists of, at present, three principal and parallel sets of east-northeast- trending quartz veins hosted in quartz-diorite. The veins consistently dip steeply to the north with a minor NE trending vein set splaying off or intersecting the main vein set. Vein thicknesses range from several meters to decimeters and within the host structures occasionally several generations of veining can be observed. This leads to variable mineralized thicknesses noted both at the surface and in drill intercepts with mineralized widths up to 8 m true thickness occasionally encountered, but importantly even if vein thicknesses are variable, drilling at present shows consistent down-dip continuity of the host structures. Descriptions of closely adjacent prospects suggest that the quartz-diorite host is a unique feature to the Herbert Gold Project as the other prospects are all metasedimentary-hosted.

The mineralogy of the veins is dominantly quartz with lesser carbonate, arsenopyrite, pyrite, galena, sphalerite, scheelite and occasionally visible gold. Visible gold tends to occur associated with galena in the veins. Vein textures commonly show shearing, grain-size reduction and structural offsets indicating mineralization was continuous with deformation Alteration extends as much as several meters into the wallrock adjacent to the veining consisting of sericite, chlorite and carbonate-altered quartz diorite. As a result of the preferential erosion of the alteration selvages, steep walled canyons typically mark the locations of the veins on the project. These gullies are easily visible on aerial photos and provide a convenient prospecting tool.

Mineralization

Gold mineralization is associated with sulphide-bearing quartz veins that are constrained to structures transecting lithologies, including the predominant host rock, quartz diorite. Minor gold values have been obtained in schistose rocks, generally adjacent to quartz diorite units. These quartz veins are generally east-west +/- striking and occupy recessively weathering domains within the quartz diorite.

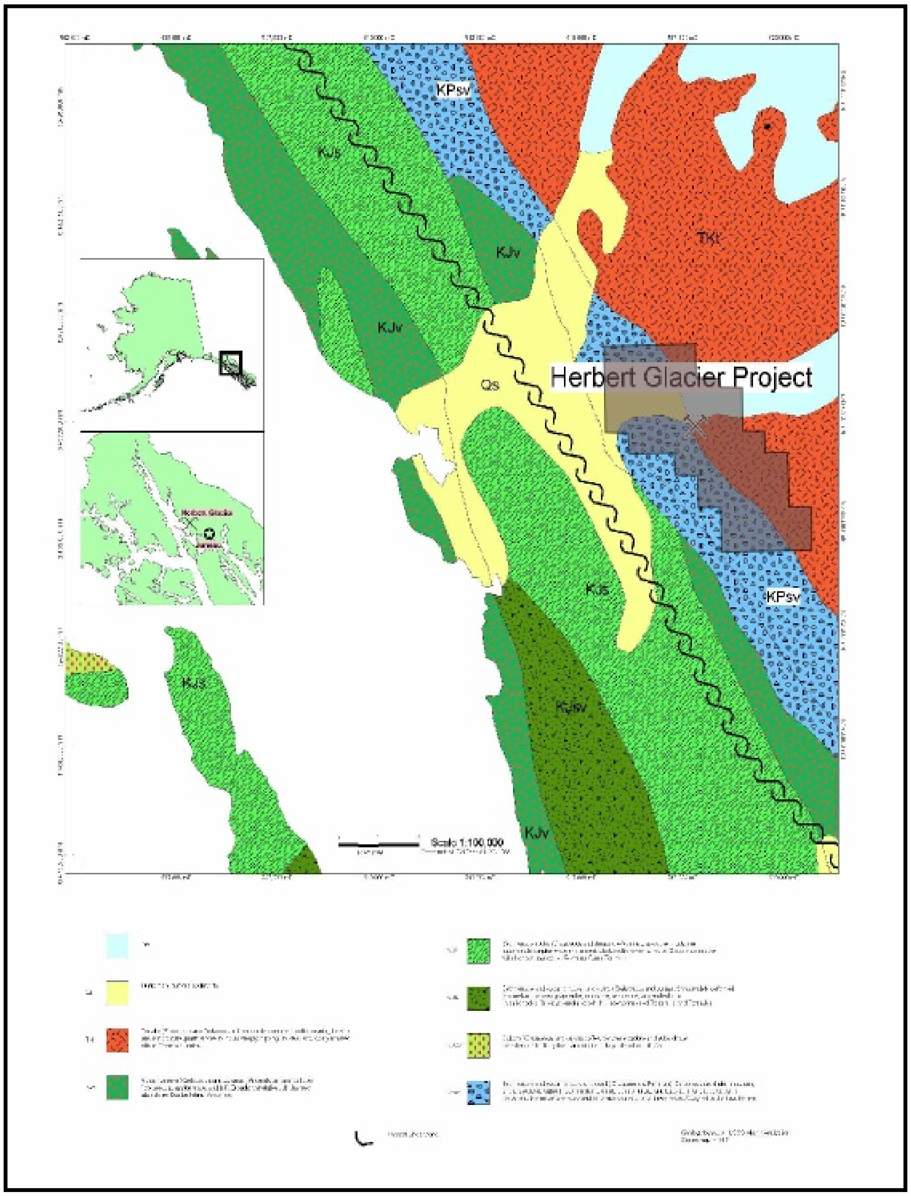


Figure 3 Local Geology of Herbert Property Area

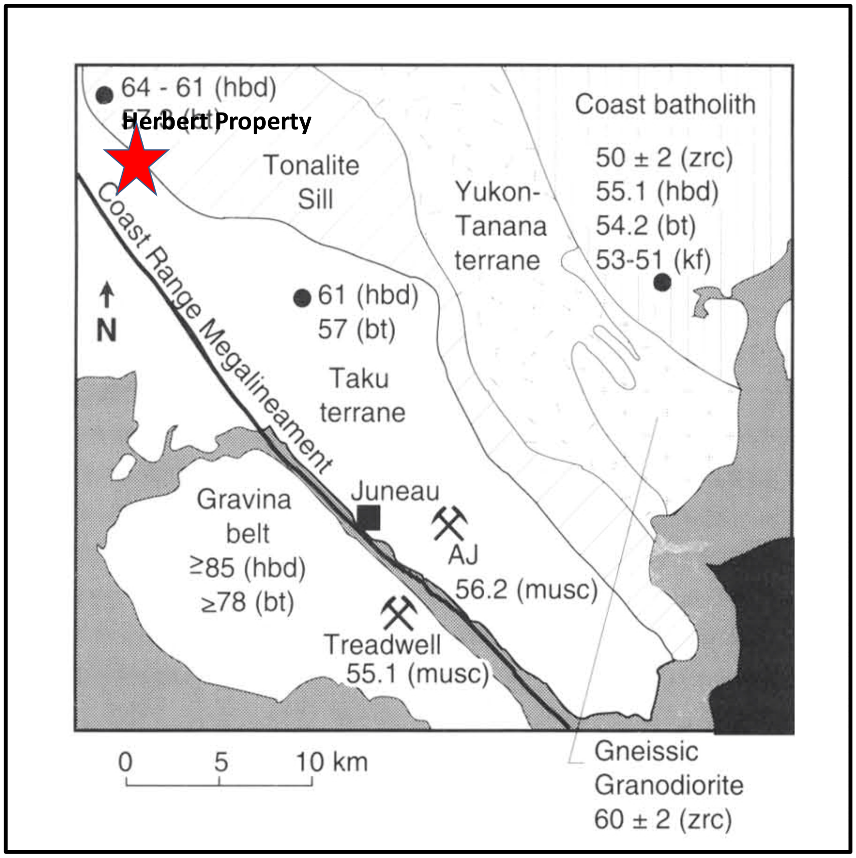
Photo 2. Photo of the Goat Vein structure (purple line), viewed to the east (C. Hale, 2018).

Photo 3. Crew cutting a conventional channel sample on the Goat Vein. (C. Hale, 2018).

8 Deposit Types (Item 8)

The Juneau District hosts a variety of mesothermal gold deposits hosted within metamorphosed sedimentary rocks (schists) and associated intrusions within structurally controlled settings. These appear to be related to the large Coast Range Megalineament.

The Juneau Gold Belt (JGB) has been Alaska's largest lode gold producer, yielding approximately 7.0 million ounces of gold, largely from the Alaska-Juneau and Treadwell mines. An equal amount of gold reserves are estimated to be still present within the Alaska-Juneau and Kensington mines (Swainbank *et al*., 1991. Deposits of the JGB are located on either side and within a few kilometers of a major crustal structure termed the Coast Range Megalineament (Figure 3). Auriferous veins show a strong spatial association with the relatively competent igneous bodies of varied composition: These rocks are, however, much older than the veining (Goldfarb *et al*, 1993). The veins are also associated with greenschist facies rocks of an inverted metamorphic gradient of up to 8 km in thickness (Himmelberg *et al*., 1991).



Gold- veins along 200 km of the Coast Range Megalineament were emplaced between 56 – 55 Ma, near the end of a 60 m.y. period of orogenic activity (Goldfarb *et al*, 1991*b*). Relaxation along this shear zone, during a shift from orthogonal to more oblique convergence and resulting strike-slip motion, is hypothesized as having led to increased permeability and widespread fluid migration. A belt of tonalitic plutons were intruded approximately 5 km east of the megalineament between 68-61 Ma (Barker et al., 1986; WOOD ET AL., 1991).

9 EXPLORATION (Item 9)

Exploration on the property consists of a property-scale rock chip, stream silt, and soil sampling program started in 2007 and continued to a lesser degree during the 2010 and 2011 drilling programs. Two hundred and ninety-nine (299) samples collected and assayed in 2007 are recorded in the property database. Samples have been collected from 50% of the project area. There has been no systematic grid sampling program, which is appropriate based on the exposure level and the narrow, high-grade targets sought. A high-resolution aerial photograph covers the entire claim block and a detailed 5 m spacing contour map has been prepared in a digital format over 12.5% of the claim area.

A hand-drafted geologic map centered on the drill targets at an approximate scale of 1:10,000 has been compiled onto the 5 m spacing contour map. The high-resolution aerial photograph is particularly useful on account of the large areas of rock exposure and the association of veining with pronounced linear features, making it a valuable prospecting tool.

The 2007 sampling results show that all the major vein structures have been covered by multiple surface samples on the claim block. The majority of the anomalous gold samples are located on the northern portion of the claim block on the Main, Deep Trench, and Goat veins. South of this area the number of anomalous gold samples decreases, where only a single sample out of a population of 112 returned a measured value above 5 ppm Au. This area with low surface gold values correspond to that portion of the claim block south of the 6487400 Northing, comprising approximately half the area of the claim block.

The rock chip program was successful in identifying veins with anomalous gold values. Exposure limitations results in non-uniform sampling making it difficult to apply the results to quantitative resource modeling. In 2011 a small channel sampling program was started across surface exposed veins. Four trenches (A through D) totaling 19.72 m across the Deep Trench Vein were collected using a portable rock saw. The method consisted two parallel cuts approximately 3 cm deep and 6 cm wide and sample lengths on the order of 0.5 to 1.5 m long. The samples collected approximated a drill core rock volume and typical sample length. This is a valuable exploration tool precisely because it standardizes the sampling process and was incorporated into the solid resource model. It was because of this standardized sampling of the trenches that it was decided by DRW to incorporate the trench results into the resource model.

During the 2012 site visit by a coauthor to the author's previous report and all check assay samples collected from the property provided excellent agreement with reported assay values, testifying to the repeatability of this sampling method.

Substantially all work completed in 2012 consisted of diamond drilling with minor field mapping and sampling.

In 2018 a LiDAR survey was completed by Quantum Spatial covering 1,826 hectares (4,512 acres) delivering 1 m Bare Earth (DEM) Highest Hit Surface Model (DSM), and Intensity images. Deliverables included 0.5m contours, DSM and a DTM.

10 DRILLING (Item 10)

In **2010** Grande Portage commenced a drilling campaign on the previously identified targets. The 2010 drilling program comprised 16 NQ diamond drill holes totalling 2,600 meters. The best intercept was from hole DS 10C-1 from 119.29 to 120.9 grading 12.9 gpt gold.

In **2011** an additional 30 NQ diamond drill holes totaling 5,181 m were drilled. Results were encouraging and are highlighted by:

- DDH 11E-2 from 137.1 – 152.37m returned 35.52 gpt gold over a width of 15.93m (true width of 8.76m)
- DDH 11E-1 from 107.0 – 115.82 graded 12.8 gpt gold over a trued width of 6.97m

In addtion a total of 19.72m of hand-held rock saw channel samples from four trenches across the Deep Trench Vein outcrop trace were collected. The highest value returned (Trench A) a weighted average of 6.48 gpt gold over 6.13 meters.

During the 2012 exploration campaign, 62 holes totaling 8805.03 meters were completed. That does not include three failed holes with the small drill which total up to 29.87 meters. The large drill recovered NQTW diameter core and the small obtained BQTW diameter core. In addition, 23 BQ holes (300 series) were drilled.

Many high-grade intersections were obtained from several of the veins. These results are highlighted by hole 326B2, drilled on the western Deep Trench vein, intersected rich mineralization consisting of 11.58 metres (6.14 metres true thickness) of 24.37 grams per tonne gold (0.712 ounces per ton)

In **2017** a drill program consisted of 12 NQ diamond drillholes totaling 3,709 metres from four drill pads. A total of 493 core assays were collected. Core was flown either to the nearby road for truck transport to the logging facility, or to the airport where it was picked up and trucked to the logging facility.

In **2018** a drill program consisted of 15 NQ drillholes totaling 4751.1 m and 2 PQ drillholes totaling 121.0m from two drill pads and two sawn channel cuts totaling 2.1 m.

All drillhole information is shown on the Table 4 below.

Table 4. All drill hole location in NAD 83 Z.8, azimuth, dip and total depth (in metres).

dh_id	Easting	Northing	Elev__m	az	dip	td__m
88H-19	518061.3	6487876	49	170	-75	112.78
88H-18	518111	6487880	65	170	-85	144.48
88H-17	518164	6487911	93	170	-70	144.17
88H-16	518236	6487880	111	170	-45	60.4
88H-15	518298	6487892	135	170	-80	138.99
88H-14	518366.1	6487932	130	170	-75	138.99
88H-13	518443.2	6487906	181	170	-75	96.93
88H-12	518550	6487891	198	170	-80	60.05
88H-11	518468.8	6487906	189	170	-65	114.91
88H-10	518494.8	6487900	191	170	-75	92.05
88H-9	517934.2	6487803	43	170	-45	56.69
88H-8	517989.1	6487836	43	170	-45	60.05
88H-7	518055	6487832	45	170	-45	34.75
88H-6	518083	6487861	47	170	-45	65.23
88H-5	518145	6487875	70	170	-45	88.09
88H-4	518211.6	6487871	92	170	-45	59.44
88H-3	518264.9	6487861	123	170	-45	42.67
88H-2	518332	6487876	133	170	-45	53.34
88H-1	518391	6487878	143	170	-45	42.98
326D	518157.5	6487688	124.44	222	-57	92.35
326C	518158.5	6487687	124.7	190.5	-45	92.35
326B2	518158.7	6487688	124.71	162	-61.5	117.04
326B	518159.3	6487688	124.85	162.5	-61	91.44

326A	518159.6	6487687	124.63	161	-41	73.76
315F	518093.9	6487678	69.82	335	-44	46.63
315E	518094.4	6487678	69.77	302	-62	88.39
315D	518094.1	6487678	69.59	303	-42	61.87
315C	518093.2	6487676	69.9	211	-45	95.4
315B	518095	6487675	69.92	175	-43	114
315A	518096.2	6487677	70.26	127	-44	100.58
312B	518213.9	6487685	127.22	204	-45	73.15
312A	518214	6487685	127.19	180	-45	60.96
311D	518279.9	6487683	129.79	154	-63	76.81
311C	518280.2	6487683	129.84	155	-42	55.17
311B	518277.2	6487684	130.19	206	-60	74.37
311A	518277.3	6487684	130.46	206	-41	54.86
310B	518246.7	6487677	122.73	188	-59	77.42
310A	518246.6	6487677	122.84	186	-44	61.87
309D	518312	6487685	146.11	140	-45	54.86
309C	518311.1	6487684	146.22	183	-70	94.18
309B	518311.1	6487684	146.22	182	-63	83.21
309A	518311.5	6487683	145.84	180	-42.5	67.06
12O-9	518456	6487941	183.53	203	-54	145.69
12O-8	518455.9	6487941	183.5	201	-43	200.25
12O-7	518457.8	6487941	183.62	146	-67	136.86
12O-6	518457.9	6487941	183.61	147	-58	142.95
12O-5	518458	6487941	183.64	147	-43	173.13
12O-4	518457.4	6487941	183.55	177	-81	231.34
12O-3	518457.4	6487941	183.54	175	-68	174.96
12O-2	518457.4	6487941	183.53	173	-58	127.73
12O-11	518456.1	6487941	183.38	203	-70	179.53
12O-10	518456	6487941	183.53	202	-63	167.34
12O-1	518457.5	6487941	183.58	173	-47	352.96
12J-7	518115.7	6488102	60.52	219	-64	152.4
12J-6	518115.3	6488102	60.47	224	-43	154.53
12J-5	518117.1	6488101	60.66	131	-71.5	182.58
12J-4	518117.4	6488101	60.65	122	-43	121.01
12J-3	518117.2	6488101	60.66	135	-63	152.1
12J-2	518117	6488101	60.64	180	-74.5	142.95
12J-1	518117	6488100	60.69	180	-63	118.87
12H-1	518440.2	6487732	227.48	181	-42	303.89
12G-6	518330.5	6487736	150	150	-68	202.39
12G-5	518330.7	6487735	149.98	158	-60	148.74
12G-4	518330.9	6487735	149.98	158	-47	138.07
12G-3	518330.1	6487736	150	182	-57	371.75
12G-2	518329.9	6487736	149.99	213	-63	213.06
12G-1	518329.5	6487735	149.99	213	-55	185.32
12F-5	518088.4	6487703	67.27	220	-43	128.93
12F-4	518091.2	6487703	66.94	178	-62	160.93

12F-3	518091.3	6487702	66.82	177	-53	157.37
12F-2	518092.4	6487704	67.35	133	-68	197.91
12F-1	518092.6	6487703	67.48	132	-56	158.19
11J-1	518117.2	6488101	60.55	170	-45	121.62
11I-7	518007	6487878	44.2	208	-80	243.84
11I-6	518007.9	6487879	44.2	115	-70	210.01
11I-5	518007.3	6487879	44.2	115	-45	161.24
11I-4	518005.8	6487877	44.24	208	-65	171.3
11I-3	518005	6487877	44.24	208	-45	131.06
11I-2	518006.3	6487878	44.24	170	-75	182.88
11I-1	518006.3	6487876	44.8	170	-45	388.95
11G-8	518332	6487736	150.5	125	-61	197.82
11G-7	518332.2	6487736	150.5	125	-45	164.9
11G-6	518331.2	6487736	150.26	180	-73	231.65
11G-5	518331.3	6487736	150.27	180	-63	155.45
11G-4	518331.3	6487734	150.72	180	-45	121.92
11G-3	518330.1	6487735	151.17	210	-69	145.69
11G-2	518329.4	6487735	149.93	210	-45	152.4
11G-1	518329.4	6487735	149.97	227	-57	261.82
11F-3	518090	6487702	67	180	-70	179.53
11F-2	518090	6487701	67	180	-45	72.85
11F-1	518091.5	6487702	67	145	-45	124.66
11D-3	518530.7	6487933	184.52	135	-52	116.74
11D-2	518527.5	6487932	184.58	234	-69	173.13
11D-1	518527.1	6487932	184.58	235	-45	160.63
11C-3	518186	6487920	102.38	143	-52	175.56
11C-2	518184.9	6487920	102.38	178	-63.5	189.89
11C-1	518183.7	6487921	102.11	226	-54	197.51
10D-3	518527.5	6487932	184.58	233	-67	99.36
10D-2	518529.5	6487933	186	170	-82	158.5
10D-1	518529	6487932	184.55	170	-73	135.94
10C-2	518184.2	6487921	102.2	220	-54	101.19
10C-1	518185.2	6487920	102.2	170	-45	134.11
10B-3	518781.3	6487675	333.63	150	-45	98.7
10B-2	518779.5	6487675	334.21	210	-75	231.34
10B-1	518779	6487673	332.87	210	-45	228.6
10A-7	518358.5	6487951	126.3	200	-70	198.4
10A-6	518357.9	6487950	126.3	200	-50	173.7
10A-5	518359.4	6487951	126.29	170	-65	183.5
10A-4	518359.4	6487950	126.39	170	-45	341.38
10A-3	518359.8	6487952	126.3	140	-85	45.72
10A-2	518360.6	6487951	126.3	140	-65	200.25
10A-1	518360.9	6487951	126.3	140	-45	152.25
12E-1	518203	6487728	135.59	180	-51	153.62
11E-1	518203.5	6487728	135.69	185	-46	164.28
10E-1	518204.6	6487729	135.68	210	-45	117.04

12E-2	518203	6487728	135.66	182	-65	216.16
11E-2	518203.5	6487728	136.2	185	-62	161.24
12E-3	518201.8	6487728	135.59	215	-40	189.89
11E-3	518203.5	6487728	136.2	190	-72	231.34
12E-4	518202	6487728	135.57	215	-52	189.89
11E-4	518201.6	6487728	136.2	220	-49	152.4
12E-5	518202.2	6487728	135.58	204	-49	167.03
11E-5	518204.6	6487729	135.68	150	-49	138.68
12E-6	518202.2	6487728	135.55	206	-60	197.51
12E-7	518202.4	6487728	135.57	163	-41	157.58
12E-8	518202.3	6487728	135.57	163	-56	166.09
12E-9	518202.2	6487728	135.59	163	-69	203.91
17K-1	518019	6488115	73	215	-45	173.736
17K-2	518019	6488115	73	215	-73	257.4341
17K-3	518019	6488115	73	165	-45	180.594
17K-4	518019	6488115	73	165	-75	214.5792
17L-1	518180	6488150	70	130	-45	192.024
17L-2	518180	6488150	70	130	-75	272.1864
17L-3	518180	6488150	70	170	-45	429.1584
17L-4	518180	6488150	70	170	-80	232.5624
17U-1	518421	6488011	132	165	-50	502.4628
17U-2	518421	6488011	132	165	-78	288.036
17Y-1	518265	6487893	115	180	-55	449.58
17Y-2	518265	6487893	115	145	-63	516.636
18S-1	518273	6487682	141	155	-50	54.6
18S-2	518273	6487682	141	155	-65	66.4
18M-1	518130	6488262	85	335	-45	193.5
18M-2	518130	6488262	85	21	-45	199.3
18M-3	518130	6488262	85	116	-49	327.7
18M-4	518130	6488262	85	116	-70	356.6
18M-5	518130	6488262	85	116	-81	418.8
18M-6	518130	6488262	85	127	-45	286.1
18M-7	518130	6488262	85	127	-61	327.1
18M-8	518130	6488262	85	171	-45	546.5
18M-9	518130	6488262	85	171	-61	297.8
18M-10	518130	6488262	85	171	-77	388.9
18M-11	518130	6488262	85	171	-82	428.2
18M-12	518130	6488262	85	200	-55	454.2
18M-13	518130	6488262	85	200	-67	405.4
20T-1	518363.0	6488196.0	145.0	168.0	-45	5.2
20T-2	518363.0	6488196.0	145.0	168.0	-63	83.5
20T-2B	518363.0	6488196.0	145.0	168.0	-53	406.9
20T-3	518363.0	6488196.0	145.0	168.0	-70	538.9
20T-4	518363.0	6488196.0	145.0	168.0	-87	373.7
20T-5	518363.0	6488196.0	145.0	122.0	-45	231.3
20T-6	518363.0	6488196.0	145.0	134.0	-41	468.8

20T-7	518363.0	6488196.0	145.0	134.0	-58	513.3
20T-8	518363.0	6488196.0	145.0	191.0	-55	510.5
20T-9	518363.0	6488196.0	145.0	191.0	-42	463.0
20T-10	518363.0	6488196.0	145.0	338.0	-45	314.9
20T-11	518363.0	6488196.0	145.0	134.0	-74	557.3
20T-12	518363.0	6488196.0	145.0	156.0	-58	488.1
20U-1	518418.0	6488009.0	128.0	184.0	-43	491.6
20U-2	518418.0	6488009.0	128.0	166.0	-57	598.6
20U-3	518418.0	6488009.0	128.0	166.0	-64	311.8
20U-4	518418.0	6488009.0	128.0	112.0	-49	311.5
20H-1	518441.0	6487736.0	228.0	130.0	-45	192.6
20H-2	518441.0	6487736.0	228.0	130.0	-67	223.7
20H-3	518441.0	6487736.0	228.0	170.0	-45	494.4
20Y-1	518262.0	6487898.0	122.0	173.0	-45	357.2
20Y-2	518262.0	6487898.0	122.0	160.0	-62	460.9

In addition, a series of short channel samples have been cut across the veins where possible. These have been treated as horizonal drill holes in this report and include:

Table 5. Location of surface channel samples

dh_id	easting	northing	elev__m	az	dip	td__m
GC1	518266	6488064	76	175	0	2
GC2	518261	6488063	76	175	0	2
DTV1	518415	6487656	186	175	0	1
DTV2	518415	6487655	186	175	0	2
DTV3	518415	6487657	186	175	0	1
DTV4	518415	6487658	186	175	0	1
MVHW1	518312	6487858	76	175	0	1
MVHW2	518312	6487857	76	175	0	1
MVHW3	518312	6487859	76	175	0	1
MV1	518517	6487864	110	175	0	2
MV2	518517	6487865	110	175	0	1
MV3	518517	6487864	110	175	0	1
MV4	518517	6487865	110	175	0	2
MVHW4	518172	6487832	74	175	0	2
MVHW5	518172	6487833	74	175	0	1
MV5	518175	6487817	85	175	0	1
MV6	518175	6487816	85	175	0	1
MV7	518175	6487816	85	175	0	2
MV8	518251	6487824	85	175	0	2
MV9	518251	6487825	85	175	0	2
DTV5	518150	6487643	94	175	0	2
NV1	518157	6488350	90.9	175	0	1
NV2	518157	6488350	90.9	175	0	1
NV3	518174	6488347	90.9	175	0	1

NV4	518174	6488347	90.9	175	0	1
EV1	518563	6487379	292	175	0	1
EV2	518563	6487379	292	175	0	1
EV3	518563	6487379	292	175	0	1
EV4	518563	6487379	292	175	0	1
EV5	518563	6487379	292	175	0	1
EV6	518563	6487379	292	175	0	1
Trnch_D	518190	6487651	111	170	-3	4.51
Trnch_C	518174	6487650	105	170	-1	4.58
Trnch_B	518160	6487649	99	170	-3	4.5
Trnch_A	518149.5	6487648	91.6	170	-3	6.13

All drill holes were designed to intersect the quartz veins as close to perpendicular as possible but given the fan-nature of the drilling as constrained by pad locations, these intercepts ranged from close to 90 degrees to as shallow as 30 degrees.

11 SAMPLE PREPARATION, ANALYSIS AND SECURITY (Item 11)

11.1 Sample Preparation

- **Transportation:** Core was slung by helicopter in supersacks to either the secure Coastal Helicopter hanger area where it was received or to a staging area beside the highway 5 km west of the Project.
- Core was laid out on logging tables in the warehouse by crew or when the tables were full, stored on pallets in the front open area inside.
- **Initial Processing:** Geotech crew converted all marker blocks in boxes into metric numbers, straightened and arranged the core to approximate original bedrock alignment and cleaned the core in preparation for photographing.
- Geotechnical information was gathered at this point. Core recovery, RQD measurements and rock competency determinations were noted.
- Geologists marked the core and boxes for intervals that were sampled and placed the numbered sample tag at the start of the interval. The tags were stapled at the start of the interval to be sampled so the number is clearly visible in the photographs. Tags were reserved and removed from the sequence in the boxes at this point and blanks and standards were inserted. Sample tickets have two tear-off tags; one was placed in the corebox and one was placed inside the sample bag.
  - Standards were inserted at the rate of 5% or one for every 20 samples.
  - Blanks were used at the same rate in general except that they were inserted after high grade intercepts were expected or noted.
- **Photographing:** Photos of each box were taken by the geotechnician with the label board clearly and accurately marked for hole number, box number and footage. Photos were given to the project geologist on SD card for renaming files and storing in master computer.
- The core was logged by geologist after photographing.

- **Sampling:** After the geologist confirmed that the hole or part of the hole was through being logged, the geotech crew saws/splits the sample intervals.
  - The splitter determines how best to cut the core so both halves are equally mineralized and also maintain the structural integrity of the remaining half so future inspection is most meaningful.
  - The sample intervals are sawn and bagged with plastic bags used inside of cloth bags for highly broken, powdered, gougey, crumbly, or clay-rich samples or just canvas bags for competent intervals. Sample tags for that interval are placed inside the bag with the sample and the sample number was written on the outside of the bag in permanent marker.
  - The sample saw was kept clean with care taken after cutting samples from a known high grade mineralized zone.
- **Bagging and Shipping:** Samples were placed inside the secure warehouse in the area reserved for shipment preparation.
- After the hole was finished being sampled, the sample transmittal forms were filled out and the individual samples were aggregated in larger rice bags, labeled for shipment and delivered to Bureau Veritas Laboratories for preparation. The prepared samples were shipped by commercial carrier to Bureau Veritas's analytical facilities in Richmond, B.C. BVI is independent of the company and is ISO 9001:2015 certified.

The author's opinion is that the sample preparation, security and analytical procedures are appropriate for this project.

11.2 Security

Core logging facilities and core storage containers were locked at all times when not under direct supervision and observation by Company employees. Special care was taken to keep core in order so that no mistakes made in number recordation, notes, sequences, bag labeling, photographing, etc. Communication between Coastal Helicopters, drillers, and Company personnel were maintained during transport. Time for core storage at Coastal Helicopters hanger was kept to a minimum.

Sample shipments to the BVI prep lab in Juneau were made for each hole as soon as the samples are cut and bagged.

11.3 Sample Analyses

Preparation Procedures

The samples are entered into the Laboratory Information Management System (LIMS), weighed, dried and crushed to ensure that greater than 70% pass a 2mm sieve. A 250g split of the crushed material is then pulverized to greater than 85% passing a 75µm sieve. At random intervals and at the start of each shift QC testing is completed on both crushed and pulverized material to ensure that the above specifications are met.

Analytical Procedures

AQ370 - Aqua regia digestion Ore Grade ICP analysis:
1g sample split is digested with a modified Aqua Regia solution of equal parts concentrated HCl, HNO3 and DI H2O for one hour in a hot water bath. Sample is made up to volume with dilute HCl in class A volumetric flasks.

MA300 - HF-HNO3-HClO4 acid digestion:
Prepared sample is digested to complete dryness with an acid solution of (2:2:1:1) H2O-HF-HClO4-HNO3. 50% HCl is added to the residue and heated using a mixing hot block. After cooling the solutions are transferred to test-tubes and brought to volume using dilute HCl. Sample splits of 0.25g are analyzed.

FA430 - Precious Metals by Lead Collection Fire Assay
30 or 50g of prepared sample is custom-blended with fire-assay fluxes, PbO litharge and a silver inquart. Firing the charge at 050ºC liberates Ag, Au and PGEs that report to the molten Pb-metal phase. After cooling the Pb button is recovered, placed in a cupel and fired at 950ºC to render a Ag, Au and PGEs dore bead. The bead is then either digested with nitric and hydrochloric acids for instrumentation determination or weighed and parted with nitric acid to dissolve Ag leaving gold which is weighed directly. Ag is determined by difference of the dore bead from the gold in gravimetric analysis.

FS600 - Metallic Screen Fire Assay
Prepared samples of 500g samples are screened through 150 mesh (106 µm) screens producing 2 sample fractions for analysis. The plus fraction is analyzed in its entirety by fire assay with gravimetric finish and reported as +Au. The minus fraction is analyzed by fire assay with AA or ICP finish either once or in duplicate at 30 or 50g charge weight depending on client request and reported as –Au. If values exceed 10ppm in the minus fraction the minus fraction may also need to be analyzed with gravimetric finish. Gold values of both fractions are reported along with a total gold content of the sample. (Alternative screen sizes / weights available upon request) Fire assay is performed by custom-blending samples with fire-assay fluxes, PbO litharge and a Ag inquart. Firing the charge at 1050^{o}C liberates Ag ± Au ± PGEs that report to the molten Pb-metal phase. After cooling the Pb button is recovered, placed in a cupel and fired at 950^{o}C to render a Ag ± Au ± PGEs dore bead. The bead is digested for ICP analysis or weighed and parted in ACS grade HNO3 to dissolve Ag leaving a Au sponge. Au is weighed for Gravimetric determination; ACS grade HCl is added dissolving the Au ± PGE sponge for Instrument determination.

LF100 - Lithogeochemical Whole Rock Fusion
Prepared sample is mixed with LiBO2/Li2B4O7 flux. Crucibles are fused in a furnace. The cooled bead is dissolved in ACS grade nitric acid and analyzed by ICP and/or ICP-MS. Loss on ignition (LOI) is determined by igniting a sample split then measuring the weight loss. Total Carbon and Sulphur may be included and is determined by the Leco method (TC000). The LF202 package includes an additional 14 elements from an aqua regia digestion AQ200 to provide Au and volatile elements which do not report as part of the LF200 package.

12 DATA VERIFICATION (Item 12)

The author reviewed all analytical data collected by the Company, including the standards and blanks that were submitted. The Company uses marble chips from Home Depot for its blank material.

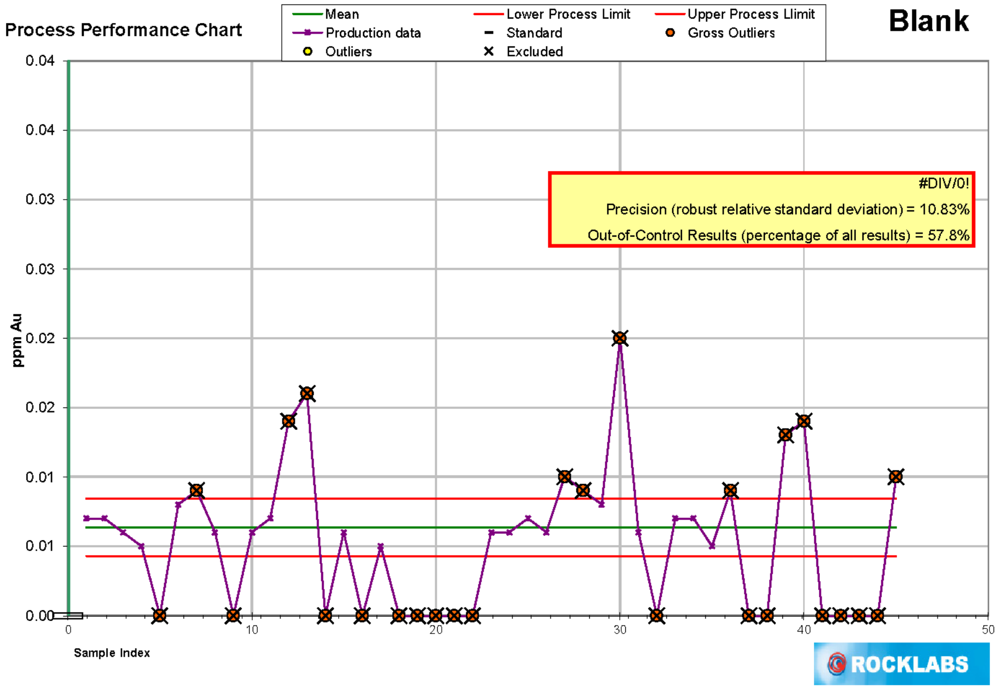


Figure 4. 2020 Assays of blanks

Forty-eight blank samples were inserted into the sample stream. All yielded acceptable results except for one anomalous value at 0.020 gpt obtained. This is acceptable for a blank value as it is low enough value to not be of material concern in the author's opinion. The Company should however consider using certified blanks in the future.

Seven sets of commercial standards were inserted into the sample stream over the past 3 years which combined with the series of blanks provides for a robust quality assurance and quality control program. All standards reported within expected values.

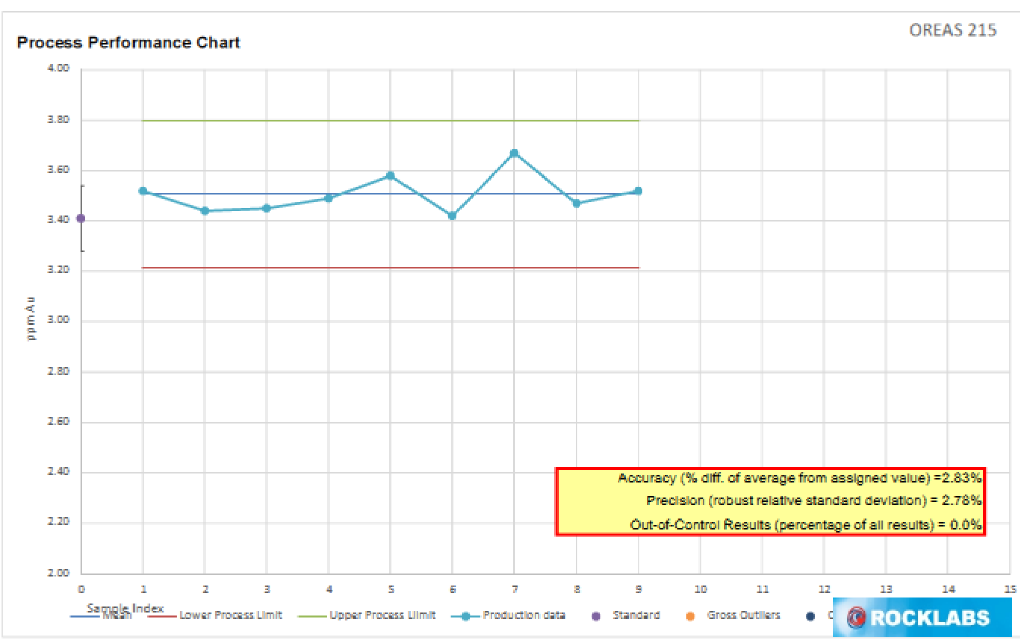


Figure 5. Assays of OREAS 215 standard

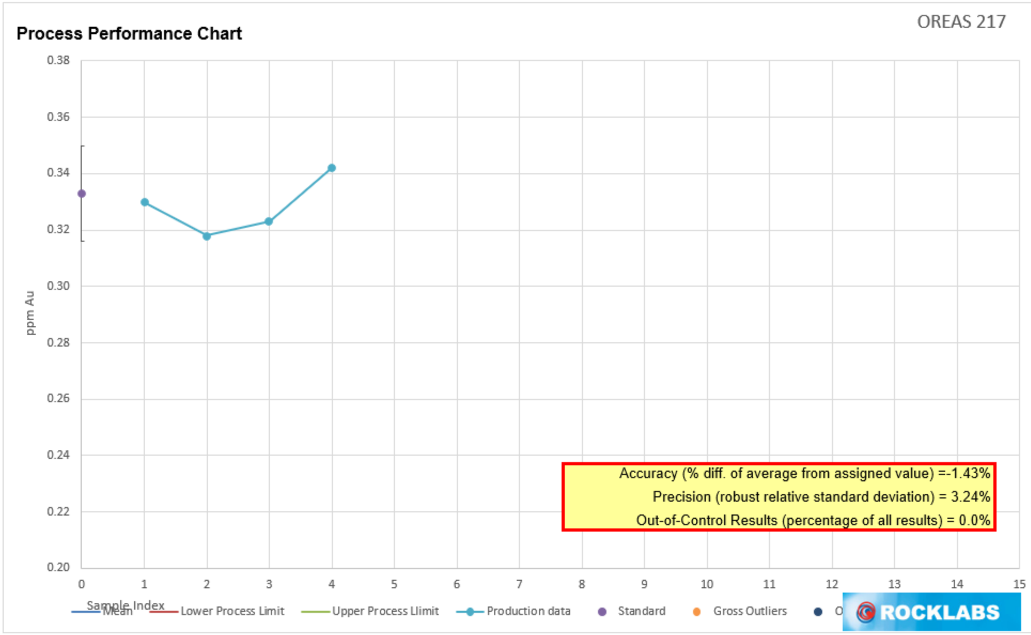


Figure 6. Historic Assays of OREAS 217 standard

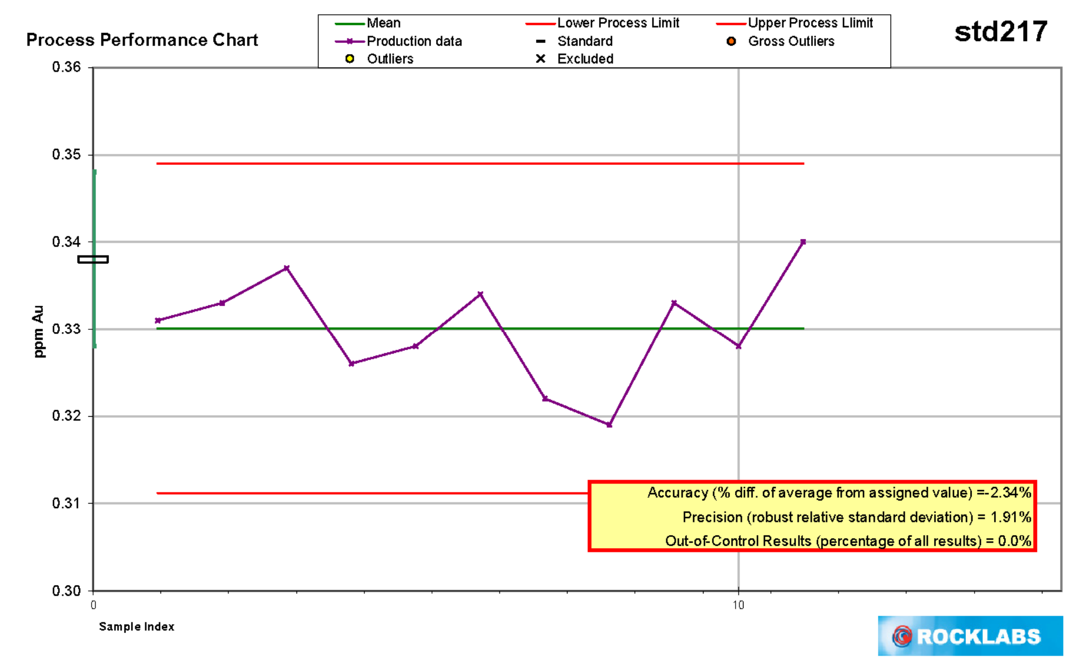


Figure 7. 2020 Assays of OREAS 217 standard

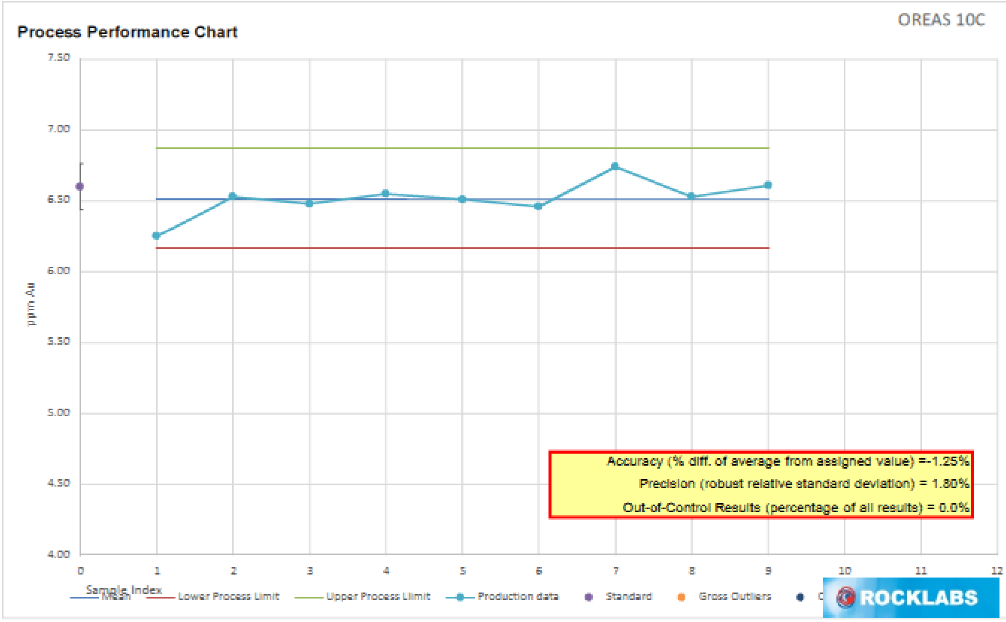


Figure 8. Assays of ORAES 10C standard.

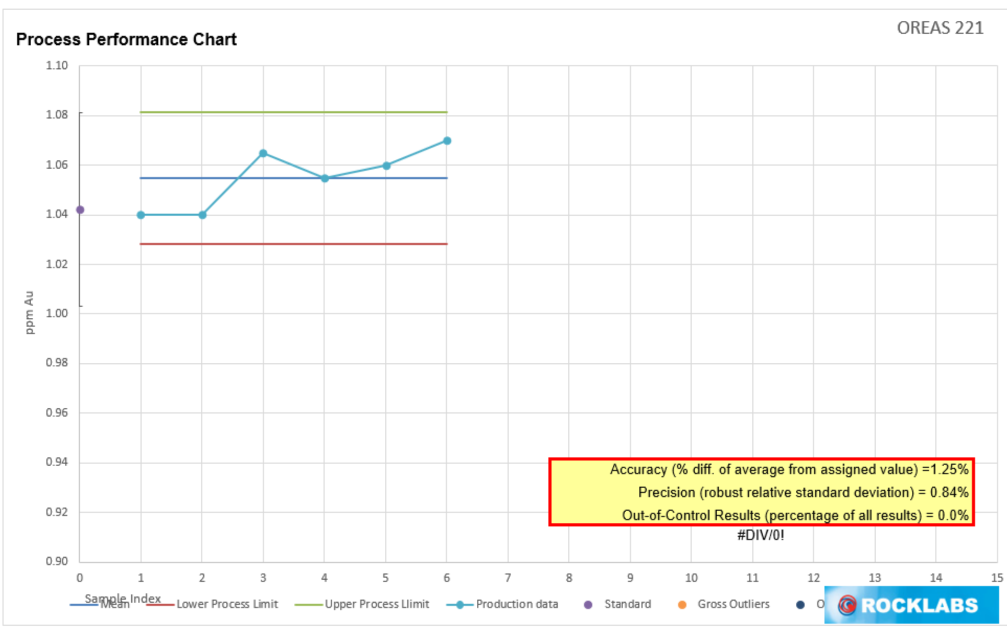


Figure 9. Assays of OREAS 221 standard

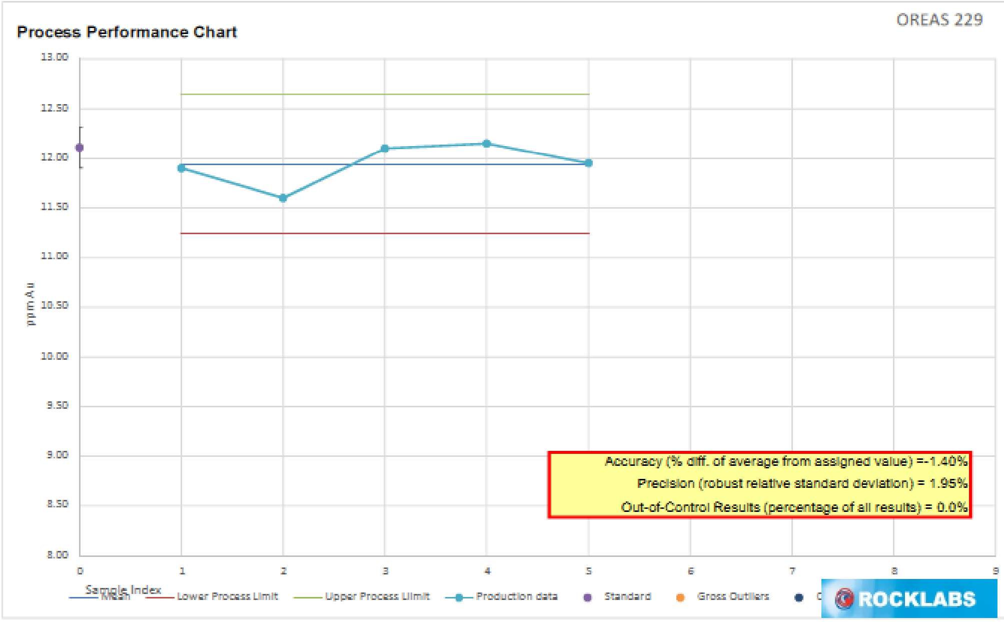


Figure 10. Assays of OREAS 229 standard.

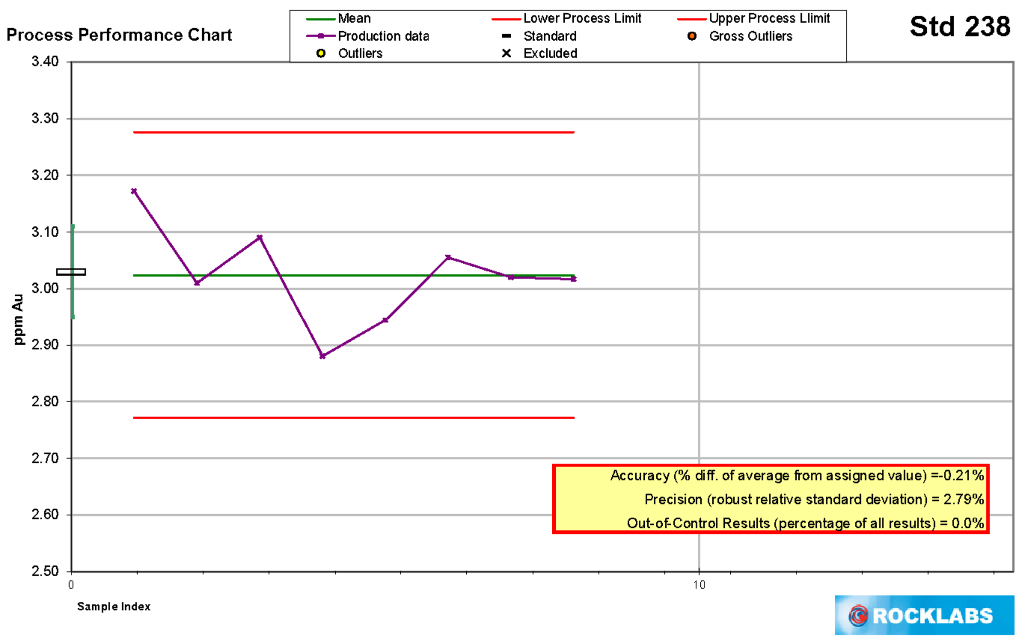


Figure 11. 2020 Assays of OREAS 238 standard

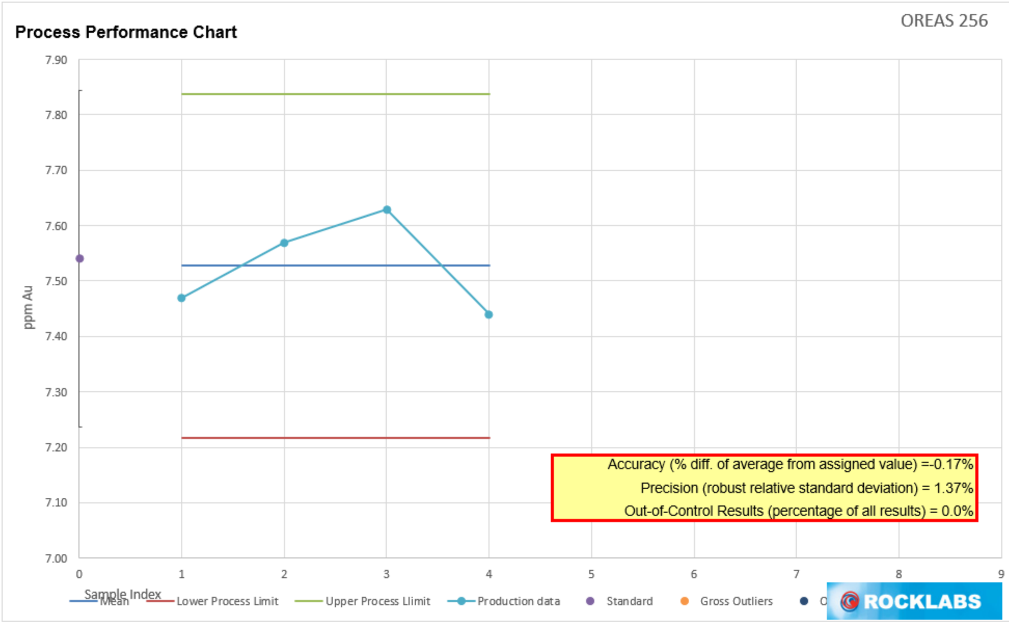


Figure 12. Historic Assays of OREAS 256 standard

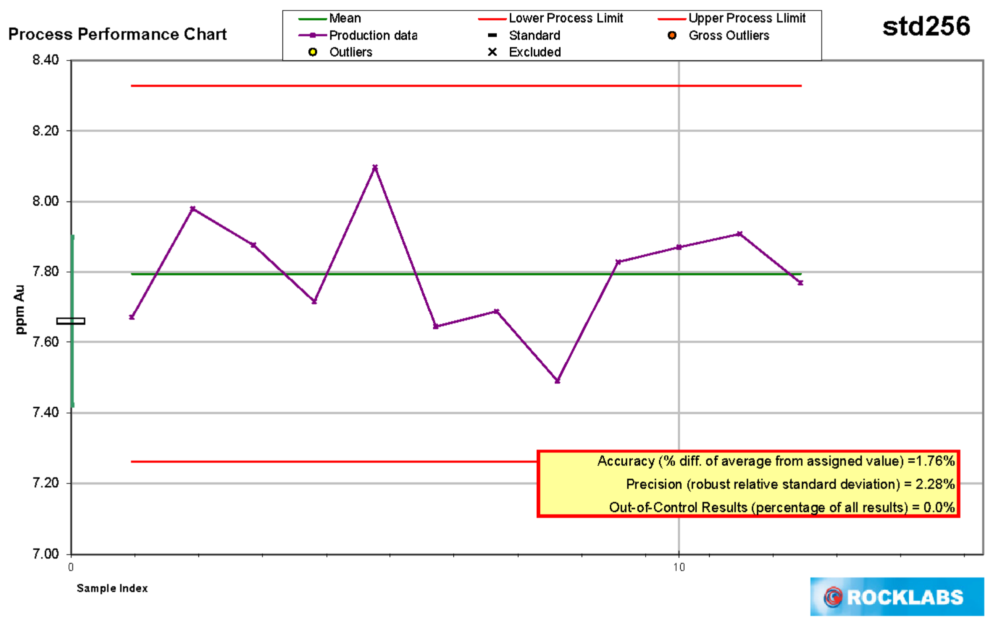


Figure 13. 2020 Assays of OREAS 256 standard

The standards run by the Company all returned acceptable values from two certified independent laboratories and confirm that their QA/QC work in appropriate for this project in the author's opinion. Some high-grade standard should be considered for future work.

The author believes that the data is accurate for the purposes of this report.

13 MINERAL PROCESSING AND METALLURGICAL TESTING (Item 13)

In 2010 a sample prepared from cannibalized drill core was tested for “Bond Ball Grindability” and gold recoveries. The results cite a value of 15.7 kw/hr/tonne for work index (WI) and combined gold and silver recoveries of 91% and 78% respectively using gravity concentration and cyanidation of the concentrate and tails (G&T Metallurgical Services Ltd, 2011). The report recommends further metallurgical testing to understand the large consumption of sodium cyanide in the process. Though the metallurgical study consisted of representative material from the core, the material collected was uniformly from relatively low-grade material recovered from the 2010 drilling campaign and did not include the high-grade with visible gold drilled during the 2011 season.

In 2018, two samples were selected to determine the recoverability of gold using either whole-ore cyanidation as well as gravity plus flotation of the gravity tails at Bureau Veritas Commodities Canada Ltd’s Metallurgical Division in Richmond B.C. (“BVI”). BVI is an ISO/IEC 17025:2005 accredited laboratory and is independent of the Company.

The presence of coarse free gold caused persistent scatters in gold head assay on the two test samples. Gold grades from direct fire-assay varied in a wide range from 92.6 to 167g/t in sample 54524, and from 19.5 to 34.1 in sample 339807.

Comminution Bond ball mill work index testing of representative splits from the two test samples indicated moderately hard characteristics of the test samples with respect to breakage in ball mills.

Preliminary metallurgical testing showed that both test samples responded well to whole-ore cyanidation and gravity+flotation process options. The response to each process option at a grind size of P80 105 µm are presented in the table below.

Sample ID	Whole-ore Cyanidation		Gravity+Flotation	
	Au Recovery, %	Ag Recovery, %	Au Recovery, %	Ag Recovery, %
54524	99.6	94.4	99.5	98.7
339807	98.4	81.5	97.7	90.6
Average	99.0	87.9	98.6	94.7

Figure 14. Summary of Gold Recoveries

The samples were collected from the Goat Vein in sawn channel cuts and the Deep Trench Vein by PQ drilling in areas where high-grade gold values had been obtained in previous sampling.

Analyte	Unit	54524		339807	
		Cut 1	Cut 2	Cut 1	Cut 2
Au	g/mt	115.42	140.99	34.14	19.50
Au	g/mt	167.06	92.60	-	-
Au average	g/mt	129.02		26.82	
Ag	PPM	68	-	33	-
Stot	%	1.11	-	0.73	-
Hg	ppm	1.34	-	2.27	-

Figure 15. Assay Head Grades of metallurgical test samples.

Sample ID	Bond ball mill work index, kWh/tonne
54524	14.3
339807	14.7

Figure 16. Bond Work Index of two metallurgical samples

Test No	Sample ID	Grind P80 µm	NaCN g/L	Measured Head		Calculated Head		72 hours Recovery		Residue		Consumption (kg/t)	
				Au (g/t)	Ag (g/t)	Au (g/t)	Ag (g/t)	Au (%)	Ag (%)	Au (g/t)	Ag (g/t)	NaCN	Lime
C1	54524	101	2.0	129.02	68	125.24	71.2	99.6	94.4	0.49	4.0	2.38	0.18
C2	339807	104	2.0	26.82	33	21.93	37.8	98.4	81.5	0.35	7.0	3.08	0.44

Figure 17. Whole ore cyanidation performance

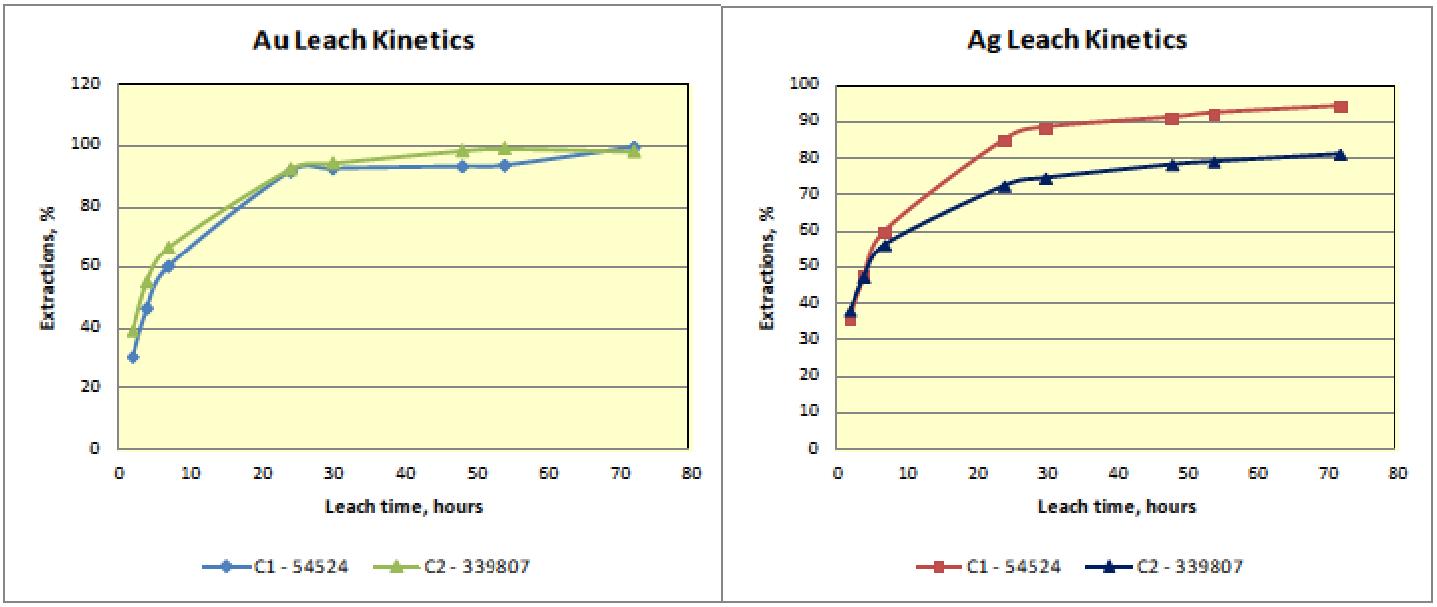


Figure 18. Gold and silver leach kinetics.

Sample ID	Test No	P80 Size (µm)	Gold Grade, g/t Au				Gold Recovery, %		Overall Recovery	
			Meas. Head	Calc. Head	Gravity Conc.	Flotation Conc.	Gravity Conc.	Flotation Conc.	Mass, %	Au, %
58524	GF1	150	129.02	105.07	66057	321.8	58.3	40.6	13.3	98.9
	GF2	105	129.02	105.05	45458	318.0	55.9	43.7	14.5	99.5
339807	GF3	150	26.82	24.76	5839	159.0	30.2	67.2	10.6	97.4
	GF4	105	26.82	21.65	5516	144.4	27.6	70.2	10.6	97.7

Summary for Silver

Sample ID	Test No	P80 Size (µm)	Silver Grade, g/t Ag				Silver Recovery, %		Overall Recovery	
			Meas. Head	Calc. Head	Gravity Conc.	Flotation Conc.	Gravity Conc.	Flotation Conc.	Mass, %	Ag, %
58524	GF1	150	68	69	40691	225	54.5	43.0	13.3	97.5
	GF2	105	68	66	26515	217	51.5	47.2	14.5	98.7
339807	GF3	150	33	42	4397	321	13.4	80.1	10.6	93.6
	GF4	105	33	38	4205	284	12.0	78.6	10.6	90.6

Figure 19. Gravity and flotation response

Analyte	Unit	54524		339807	
		GF 1 Conc	GF 2 Conc	GF 3 Conc	GF 4 Conc
Au	g/t	321.8	318.0	159.0	144.4
Ag	ppm	225	217	321	284
Stot	%	8.44	8.08	6.19	5.61
As	%	11.1	10.8	10.6	9.9
Hg	ppm	10.6	10.1	17.8	15.3

Figure 20. Selected analysis of flotation concentrate.

The samples show that excellent recoveries can be obtained by whole ore cyanidation or gravity plus flotation methods. The mineralization where tested was very high-grade and may not represent average characteristics of the deposit. It is a moderately hard rock and contains high lead, zinc, silver, arsenic and mercury in flotation concentrates.

Further work should be completed on more average composites to determine what deleterious elements may be present in each vein system, and what each individual vein systems' recoveries might be.

14 MINERAL RESOURCE ESTIMATES (Item 14)

14.1 Resource Estimation Procedures

All reference to distance, tonnes, and grade are in SI units of metres (m), tonnes (t), and grams per tonne (gpt). All references to ounces will be troy ounces which are 31.1035 grams. North on the accompanying diagrams will be UTM grid north which is 0.38^o east of true north at Juneau, Alaska.

A total of 175 diamond drill holes, 36 trenches with sawn channel cuts or continuous chip samples on the Herbert Property. Four thousand two hundred sixty two (4,262) ICP gold assays, 130 gold assays with gravimetric finish, 1,083 screened metallic gold assays and 3,301 ICP multi-element (33 element) analyses were considered. The author reviewed the data with the view to produce an updated resource estimate. A resource has been published for this property dated May 28, 2011, completed by Garth D Kirkham, P.Geo of Kirkham Geosystems Ltd. and later in April 2013 an updated resource was published by Dupre, D.G., and Webb, D.R. In July 12, 2018 an updated Mineral Resource was published by Webb, D.R. This work builds on the latest report.

All quartz vein intercepts were sampled, as well as the wall rock on either side of each vein. A total of 4,106 assay intervals for gold with values greater than detection limits have been obtained.

The nineteen 1986 - 1988 diamond drill holes were assessed statistically by ANOVA techniques as no core exists for direct validation. The drillholes constitute 12% of the drill hole (plus four trench) database and 5% of the total meters included. Other pertinent statistics are shown below in Table 6

Table 6. Selected statistics for 1988 drill holes.

	1988 DDH	Full Data
Assays >0	223	3,301

Range	0 – 142.7	0-432.9
Mean	2.05	2.87
Median	0.29	0.25
Standard Dev	10.56	17.96

Student T tests (2 sided, T=0.127) and Fisher F tests, two ANOVA tests used to consider whether sample populations are similar confirm that the 1988 drilling is part of the overall population at the >99th percentile. The author has no reason to suspect that the data is other than presented.

The database was validated and corrected as needed. The following sections detail the procedures, methods and strategies employed in creating the resource estimate for the Herbert Project.

Solid Model Construction

A series of cross sections generally spaced 20 m apart were developed for each of nine different zones where correlations between trends identified in gold assays, alteration zones, and multi-element data appears to exist down-dip on section and between sections. These correlations were corrected and modified as supported by surface mapping and geology.

MapInfo's 3D solid generation routine was used to construct three dimensional models from the sections. These were examined to conform to geology and all analytical data and adjusted where necessary.

Some areas provided multiple options for correlations that were permissive by geology and sample geochemistry. The correlation that best matched surface geology was selected. The Deep Trench vein was remarkable in the extreme simplicity and consistency in a very planar orientation of the correlations.

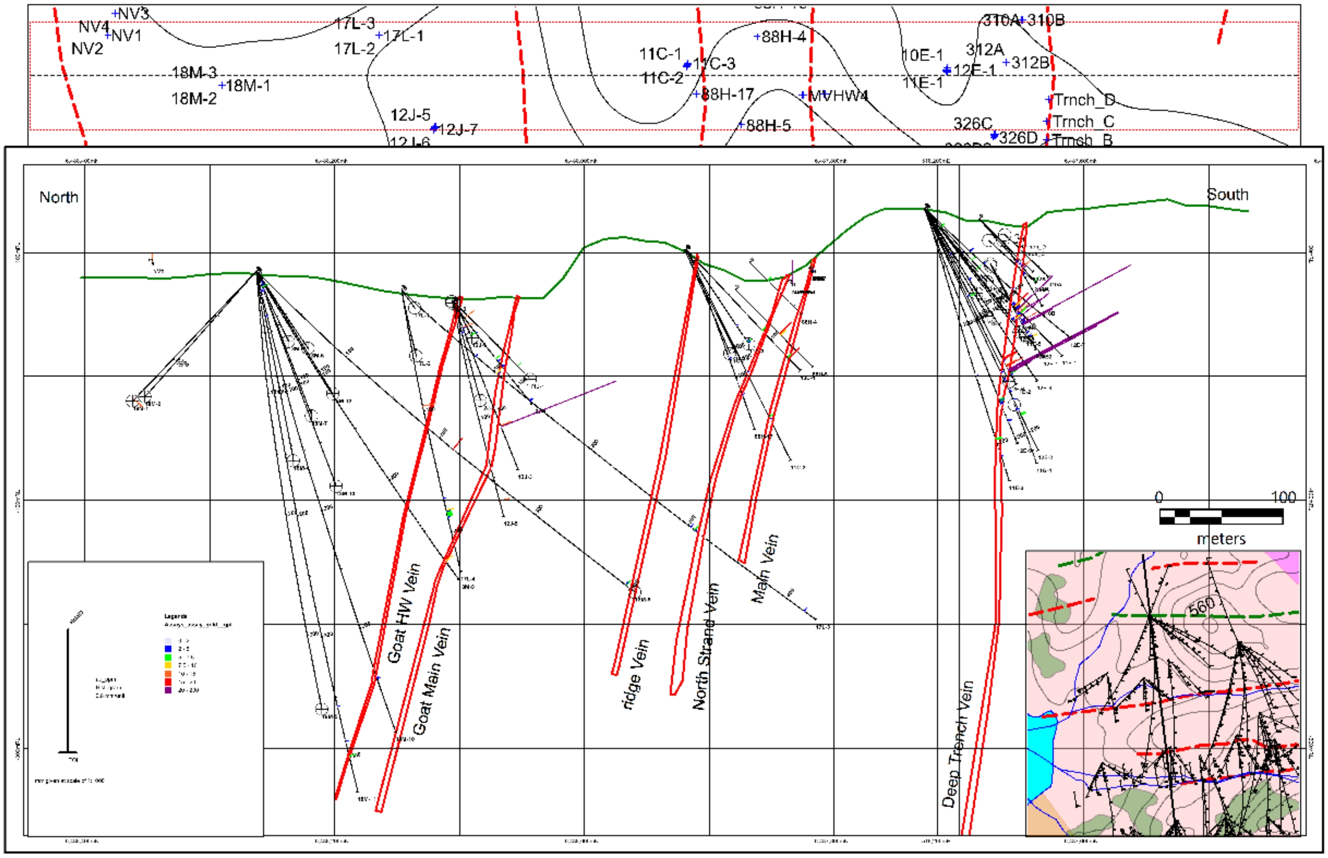


Figure 21. Typical east facing cross section showing vein correlations with drill hole traces on a 100 m grid.

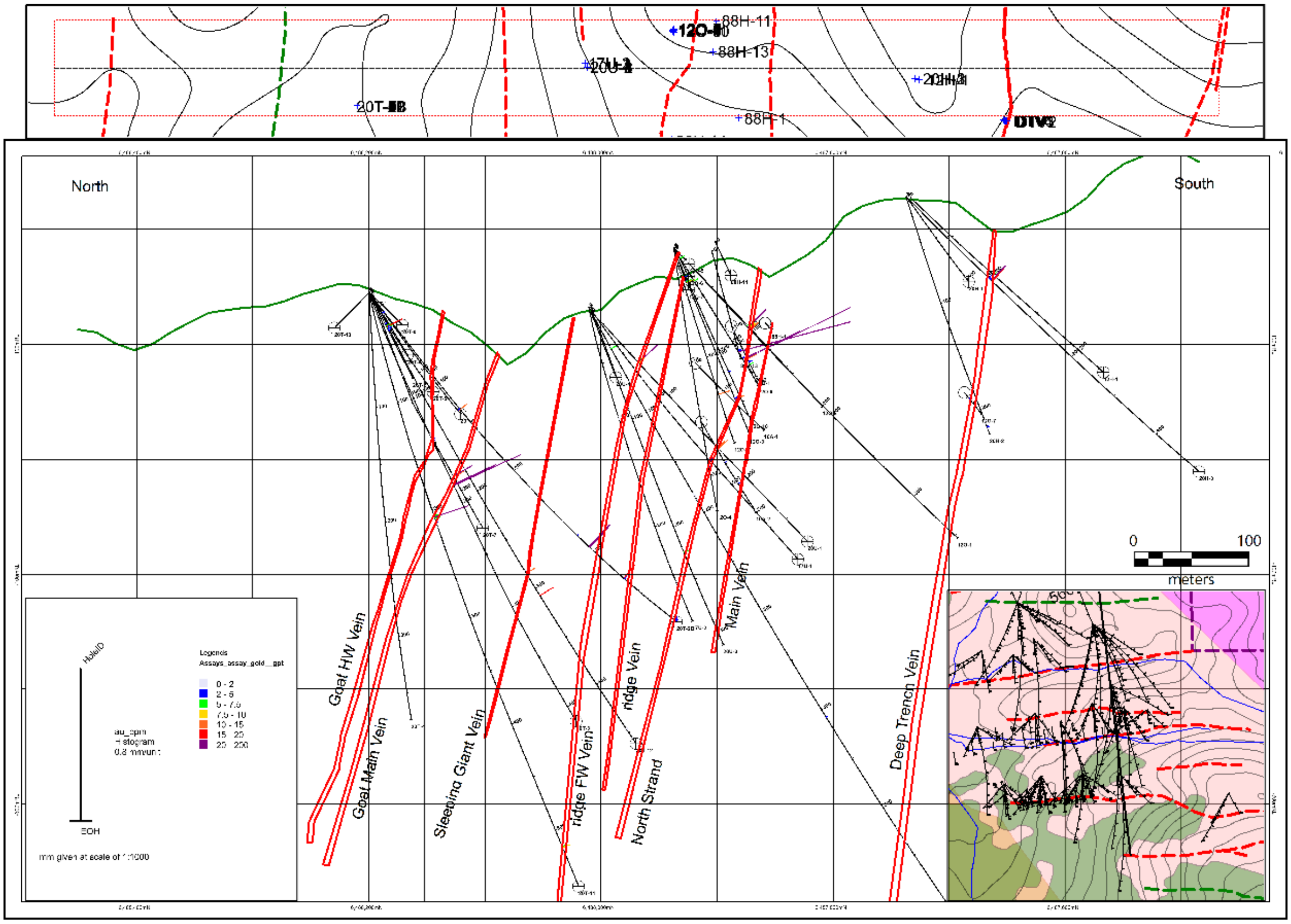


Figure 22. Typical east facing cross section showing vein correlations with drill hole traces on a 100 m grid.

Assay Database

The database consists of 175 diamond drillholes and 36 trenches and sawn channel cuts (total 35,283.8 m). Nineteen diamond drillholes were completed by a previous operator in 1986 and 1988 (total 1,607.0m) (Van Wyck and Burnett, 2012). In 2010 and 2011 forty-six additional diamond drillholes were completed with collar and downhole surveys. Thirty-nine drillholes were completed in 2012. This and the four trenches (total 19.7m) provided the database for the previous resource estimate which only used the 2010 and 2011 drillholes due to uncertainty in the location of the collars and data quality (Van Wyck and Burnett, 2012). Twelve diamond drill-holes totaling 3,709 m were completed in 2017. Surveys were not completed on all drill holes, however these were the shorter holes (<100m). An additional 13 drill holes and two sawn channel cuts were completed in 2018 with survey data. Twenty-two drill holes in 2020 add another 8,397.9 m of core. All data are considered by the author accurate for the purposes of this report

The logs were reviewed and selected assays compared to the raw data sheets. Minor from/to errors had been previously identified by the author, largely due to imperial/metric conversions. The author corrected these. Some survey data was found to be corrupted, and traced back to a bad survey instrument. These were corrected by applying a constant drift of +3 degrees azimuth and +3 degrees inclination as determined from the balance of the surveyed data. The collars, survey, and assay database has been verified and is considered appropriate for the purposes of this report.

All unsampled drill hole intervals were assigned -9 grade to facilitate resource calculations. Metallic or screened assays were used in all instances where they were available (1,083 samples). All other assays are standard one assay ton results reported using ICP finish or where over limit (>10 gpt) are reported using gravimetric finish.

14.1.1.1 Univariate Statistics

The univariate statistics for the entire database is shown on Table 7

Table 7. Univariate statistics for the entire database.

Field	Au gpt	Ag gpt	As ppm	Pb ppm	Zn ppm	W ppm
CountValid	4106	3266	4092	3882	3808	3609
Minimum	0.0005	0.2	2.5	0.33	1	2
Maximum	432.88	4010	153000	31800	31200	6020
Mean	2.769	3.635	4460	165.4	134.4	75.6
Median	0.23	0.25	1423	15	103	20
Range	433	4010	152998	31799.67	31199	6018
Mode	0.002	0.2	15000	15	104	10
Variance	303.6	5067.52	70481432	1156616	373059	93644
SD	17.42	71.19	8395	1075	611	306

The data was composited into 1.0 m lengths down hole with all unassayed, trace, or less than detection level samples given a negative value and treated as zero grade during the compositing procedure.

Table 8. Univariate statistics for 1.0 m composites as described.

Field	Au gpt	Ag gpt	As ppm	Pb ppm	Zn ppm	W ppm
CountValid	4765	3850	4706	4595	4556	4347
Minimum	0.002	0.002	0.090	0.030	0.350	0.040
Maximum	290	2866	100001	22841	21986	4423
Mean	1.729	2.574	2952	102	97	48
Median	0.146	0.250	883	12.000	83.364	12.0
Range	290.0	2865.5	100000.9	22840.5	21985.2	4423.3
Mode	0.001	0.2	15000	13	106	10
Variance	125	2435	32227184	440089	163896	34483
SD	11.16	49.35	5677	663	405	186

The log probability plot of the raw assay data shows a single population with a mean of 0.25 gpt gold, a high standard deviation of 200. The upper 0.13% of the population or assays greater than 316 gpt appears to be truncated as does the part of the lower-grade samples less than 0.10 gpt.

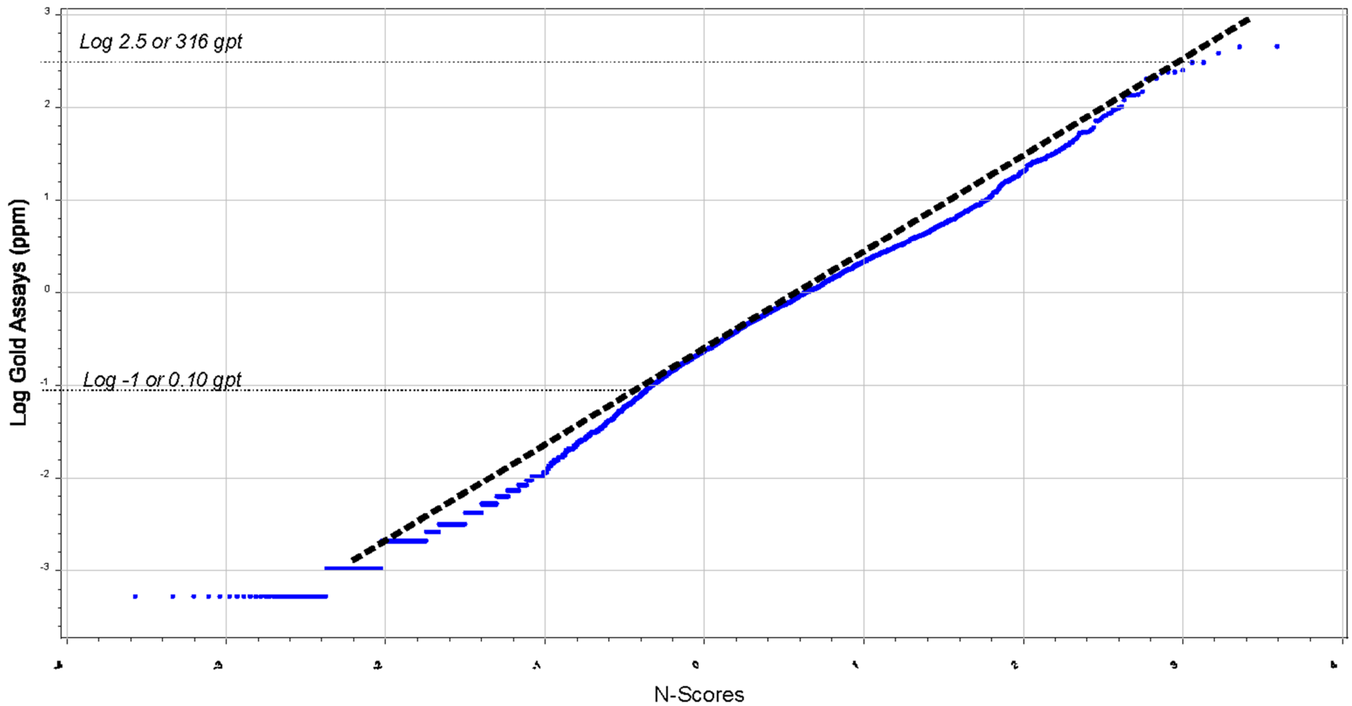


Figure 23. Log normal probability plot of the raw gold sample data.

The raw silver data shows a more complex distribution, characteristic of a large population of samples up to 140 gpt silver, mixed with a small population of higher-grade samples. A very high-grade sample (4,010 gpt) is clearly an outlier.

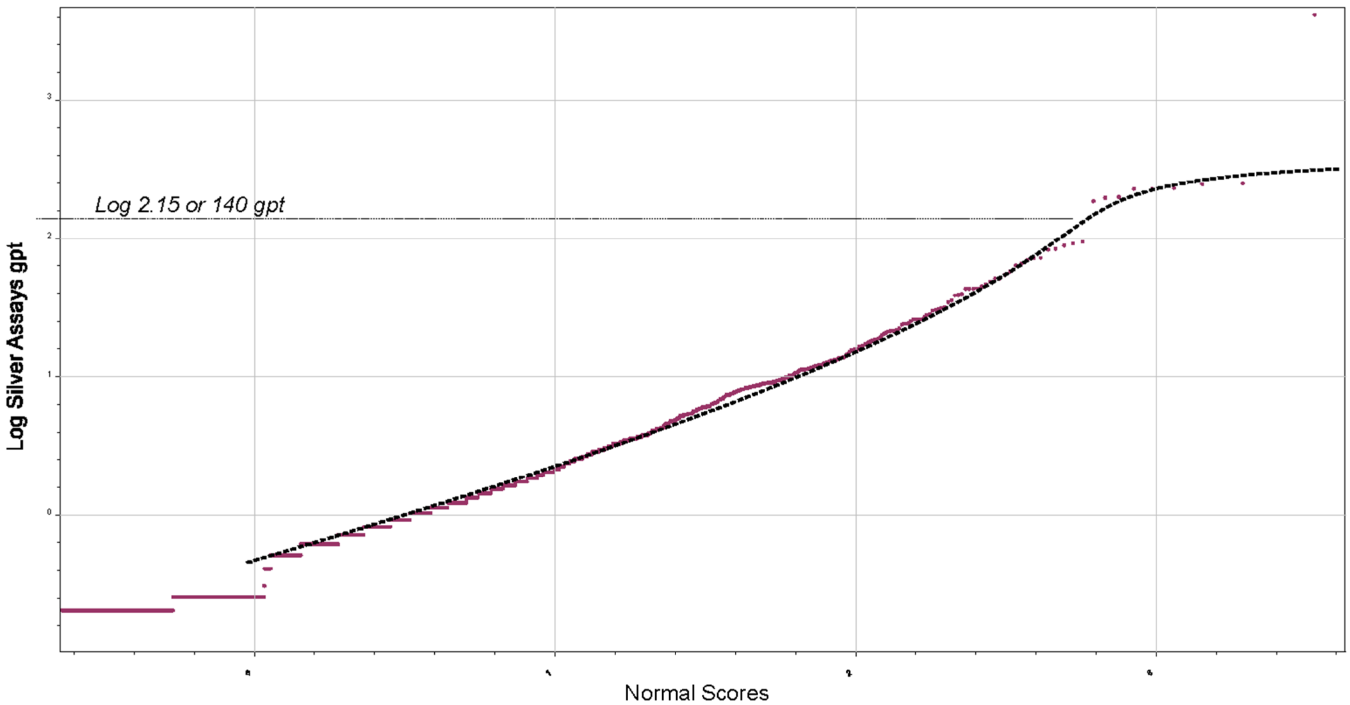


Figure 24. Log Probability of the raw silver sample data

Topography

The topographic relief is fairly steep with valleys incised east-west across a generally rising trend from 40m AMSL to 340m AMSL to the east and then more rapidly rising to >600m AMSL to the southeast. Mapping has shown that mineralization extends to surface in places and that in places these outcropping zones are constrained to topographic lows. A LiDAR survey completed in 2018 complete with DEM was used to create contours for presentation.

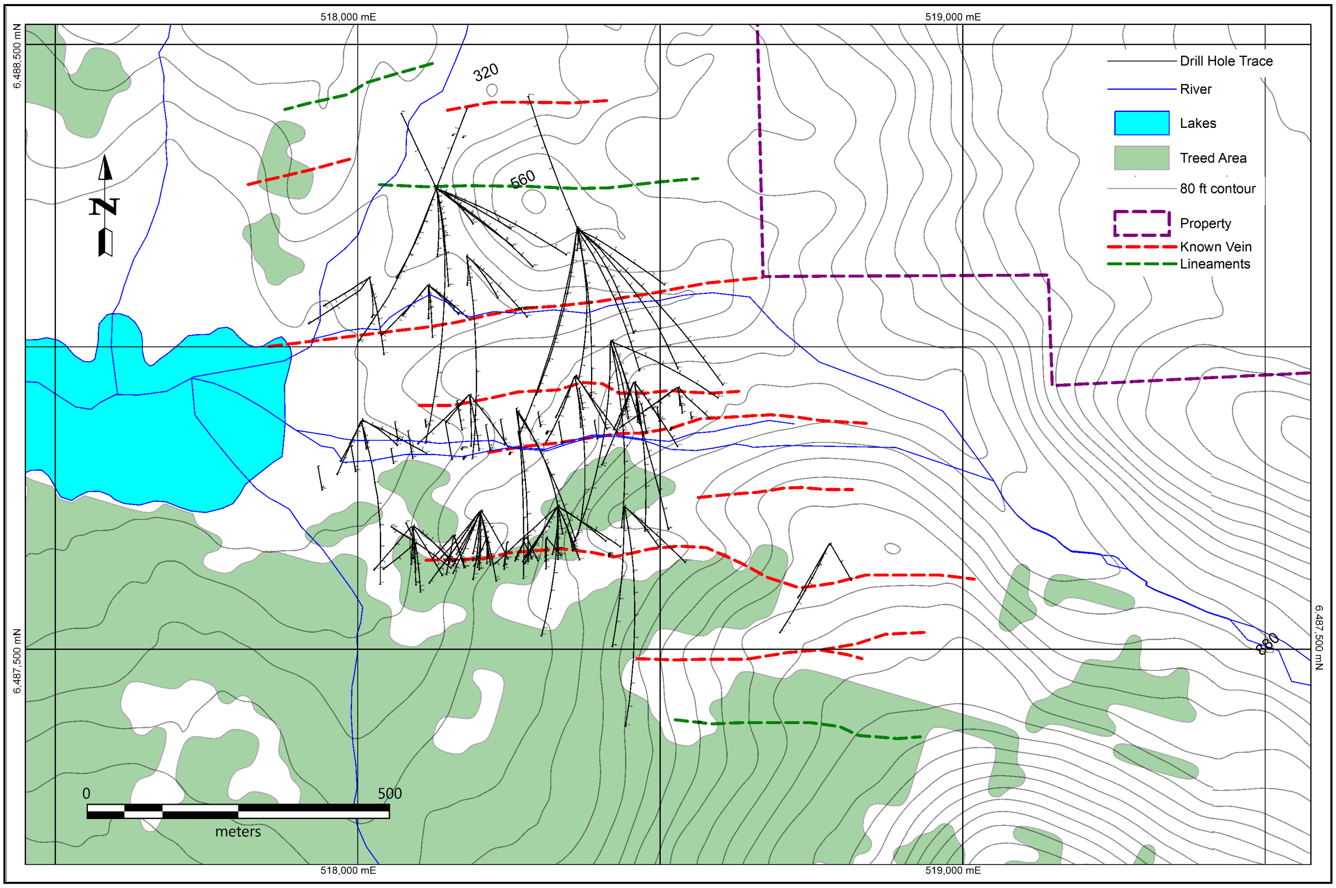


Figure 25. Topography over drill area with known veins and LiDAR lineaments.

Density

A total of 30 mineralized samples from diamond drilling in 2012 were submitted for bulk density measurements (Table 9) to ALS for their determination using water immersion protocols (ALS OA-GRA09). The average density of 2.757 gm/cm^3 is used in all calculations.

Table 9. Bulk density measurements on 30 mineralized intersections from the 2012 diamond drilling.

SAMPLE DESCRIPTION	Recvd Wt. Kg	B.D. g/cm3
1023405	1.42	2.76
1023406	1.26	2.76
1023407	0.58	2.66
1023408	1.95	2.83
1023409	2.34	2.78
1023410	1.07	2.85
1023411	2.22	2.82
1023412	1.09	2.73
1023413	0.84	2.63
1023414	1.68	2.78

1023415	0.92	2.80
1023416	1.58	2.71
1023417	2.05	2.79
1023418	0.93	2.83
1023419	0.58	2.73
1023420	1.78	2.78
1023421	0.51	2.70
1023422	1.13	2.77
1023423	1.03	2.76
1023424	0.71	2.74
1023425	1.38	2.75
1023426	0.63	2.75
1023427	0.56	2.63
1023428	0.55	2.78
1023429	0.58	2.78
1023430	1.17	2.75
1023431	1.08	2.71
1023432	0.56	2.72
1023433	0.82	2.74
1023434	0.57	2.89
Average		**2.757**

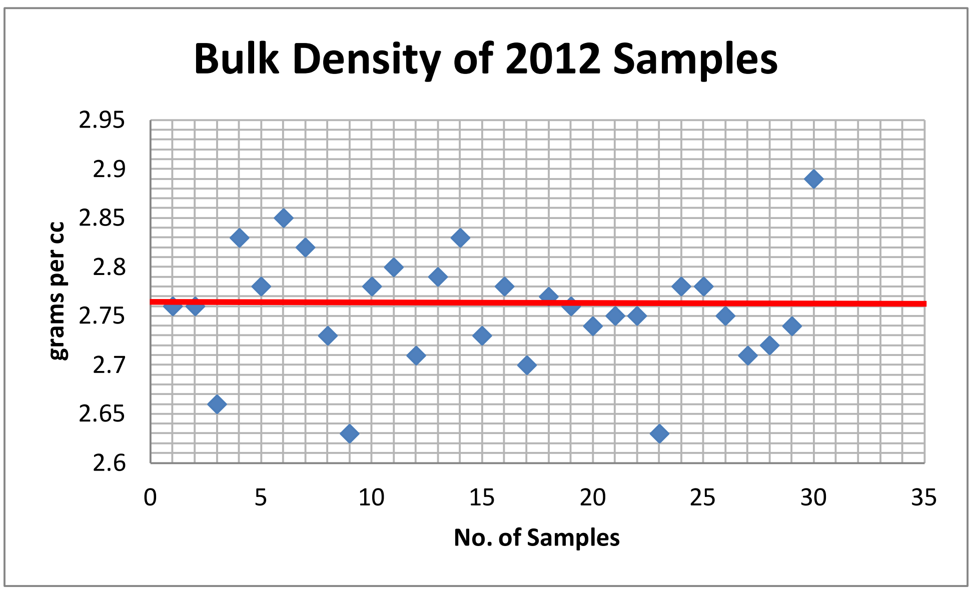


Figure 26. Density measurements on samples from Herbert Gold Project.

Bulk density samples are consistent with what the author expects to see on this project.

Compositing

For compositing and resource purposes, metallic assay data were used whenever they existed. All other data used the 1 assay ton values (1 AT). Composites over the length of the drillholes were calculated to a maximum of 1.0m in order to provide interval-independent grades over lengths that compromise between grade delineation and dilution.

Treatment of High-grade outliers

High-grade outliers are defined as ones that appear to deviate markedly from other members of the sample in which it occurs (Grubbs, F.E., 1969).

A lognormal probability plot of the 1.0m composite data within the vein data shows a single population with no deviation from a uniform population until Log 2.5 or 316 gpt where the probability plot shows a truncated population. This occurs at N-Score 3 meaning it only affects the upper 0.13% of the population. Similar to the raw assay data, the composite data shows a truncation of the lower assay population at about N-Score of -1.2 meaning the lowest 11.5% of the composites which grade less than 0.06 gpt are also under represented.

The raw assay data is overlain this figure for comparison.

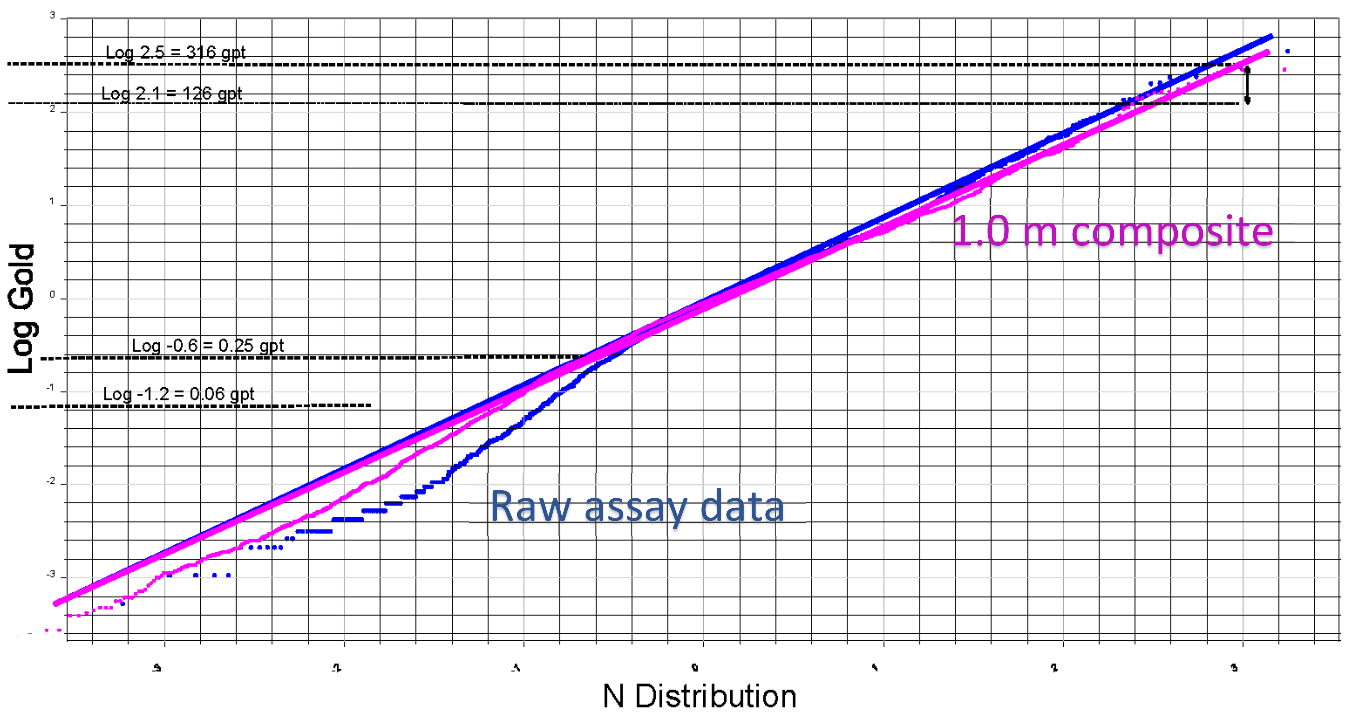


Figure 27. The uncut composite data (blue) was cut to 125 gpt (green) to estimate the block grades (purple)

Variography

The low number of sample points provides no meaningful results from variography. Covariation plots on the two solids with the highest number of data points (Main Vein and Deep Trench Vein) reveal results consistent with the data trends.

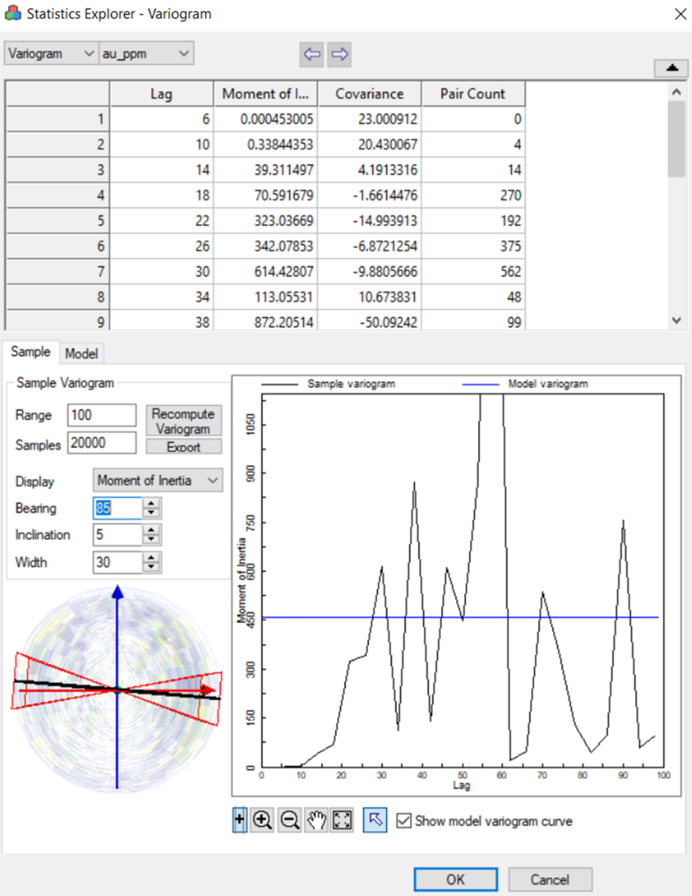


Figure 28. Variography of Deep Trench Vein.

Block Model Estimate

A series of tabular blocks 1.5 m x 8m x 8m were rotated into the plan of the vein for each of the nine veins.

Only composites whose center lies within the solid were used in the estimation. Sub-blocking was not applied due to the small size of the blocks relative to the solids model.

Blocks were constrained to surface topography, and by geology. Blocks west of the inclined sedimentary contact on the western side of the Main Vein and Deep Trench Vein were permitted in this year's estimation as details on the intersections showed distinct correlatable vein intercepts within the metasediments.

Interpolation Method

The grades of each block were estimated using inverse distance squared methods. It was determined that there was insufficient data to estimate using variography. Estimation ranges of between 75 and 150m were tested and it was determined that 100m provided reasonable results. This is consistent with previous estimates.

Estimation Plans

A single pass search strategy was employed using the maximum supported ellipsoid size. The search ellipsoid was oriented to each solid to lie within the structure. A minimum of 2 and a maximum of 8 composites were allowed for each block, with no restrictions on the maximum from each drillhole due to the oblique nature of many of the intercepts.

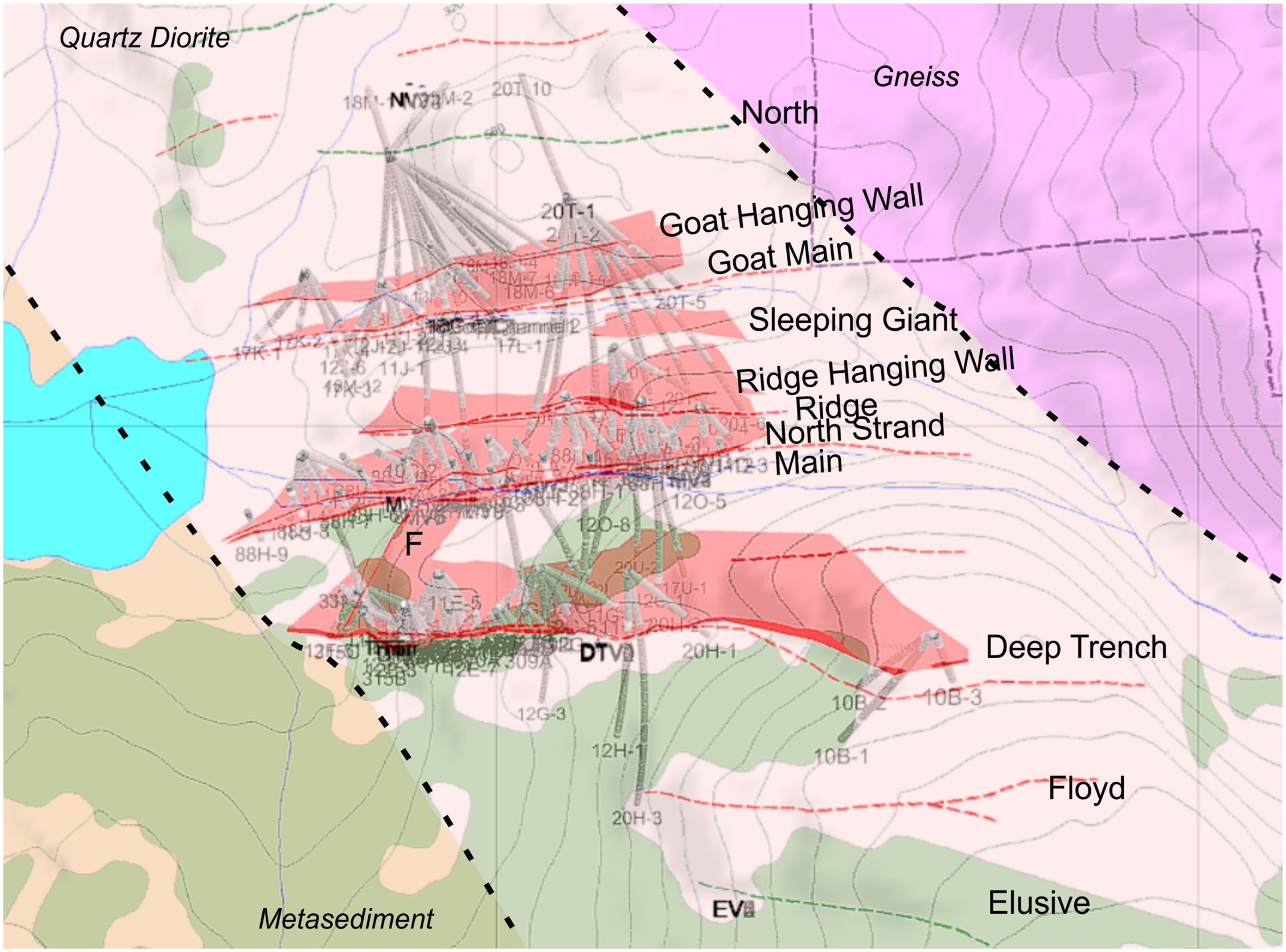


Figure 29. View of all of the vein solids, on general geology draped over topography. North to the top, quartz diorite is 900m across.

Validation of the Block Model

A graphical validation was done on the block model where cross sections, plans, and a 3D examination were conducted, testing intersections, solids and surface boundaries, and geology. Additional models were constructed removing selected drillholes to test for the robustness of the model. Each block appears to be well represented by the immediately adjoining composites as would be expected using the ID^2 method. An Ordinary Kriged estimate using the same parameters and an automatically generated default isotropic nugget with an anisotropic variogram was run on the Deep Trench Vein and Main Vein as tests, providing similar results to ID^2.

Longitudinal cross sections and cross section populated with the resource blocks for the Deep Trench Vein are shown below with 50 m grids (red) and drill hole traces are shown.

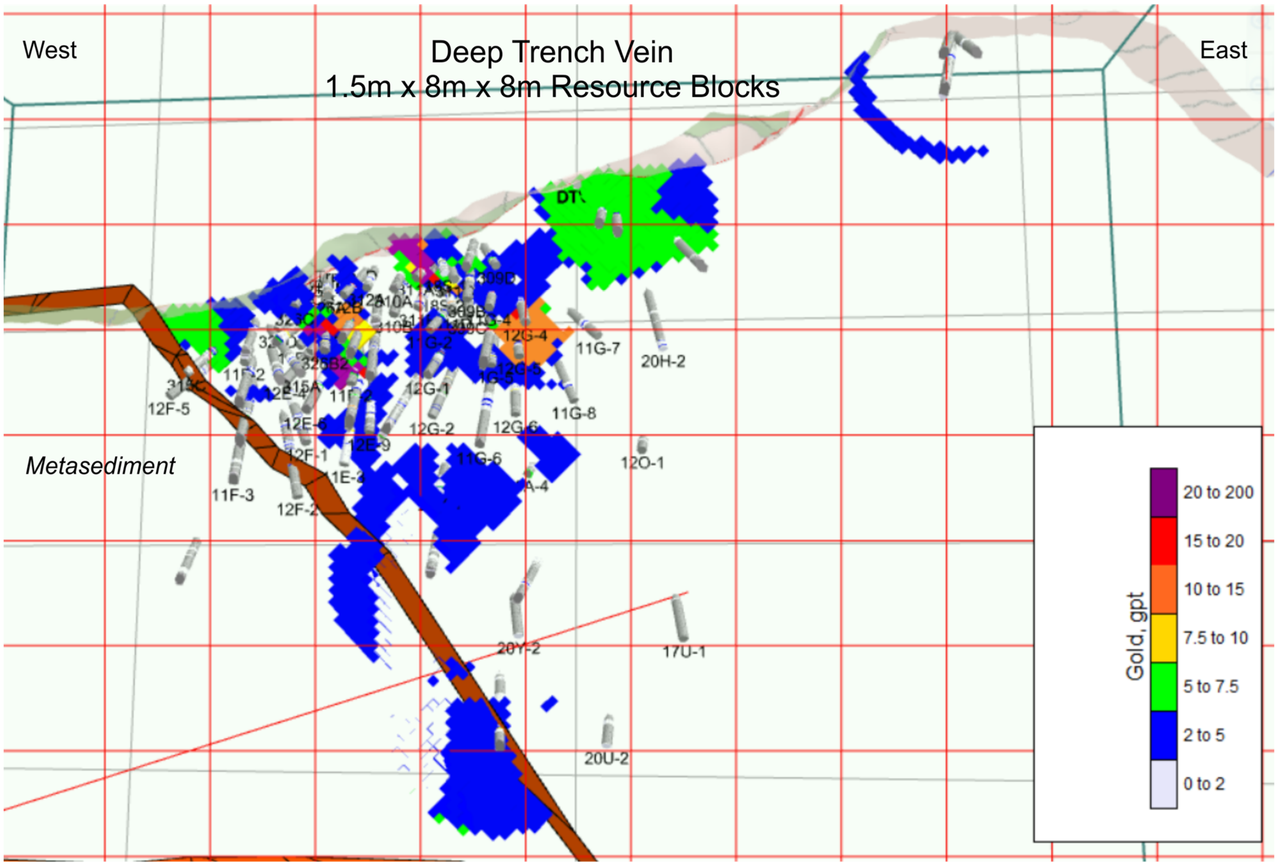


Figure 30. North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments on 100m grid (red lines).

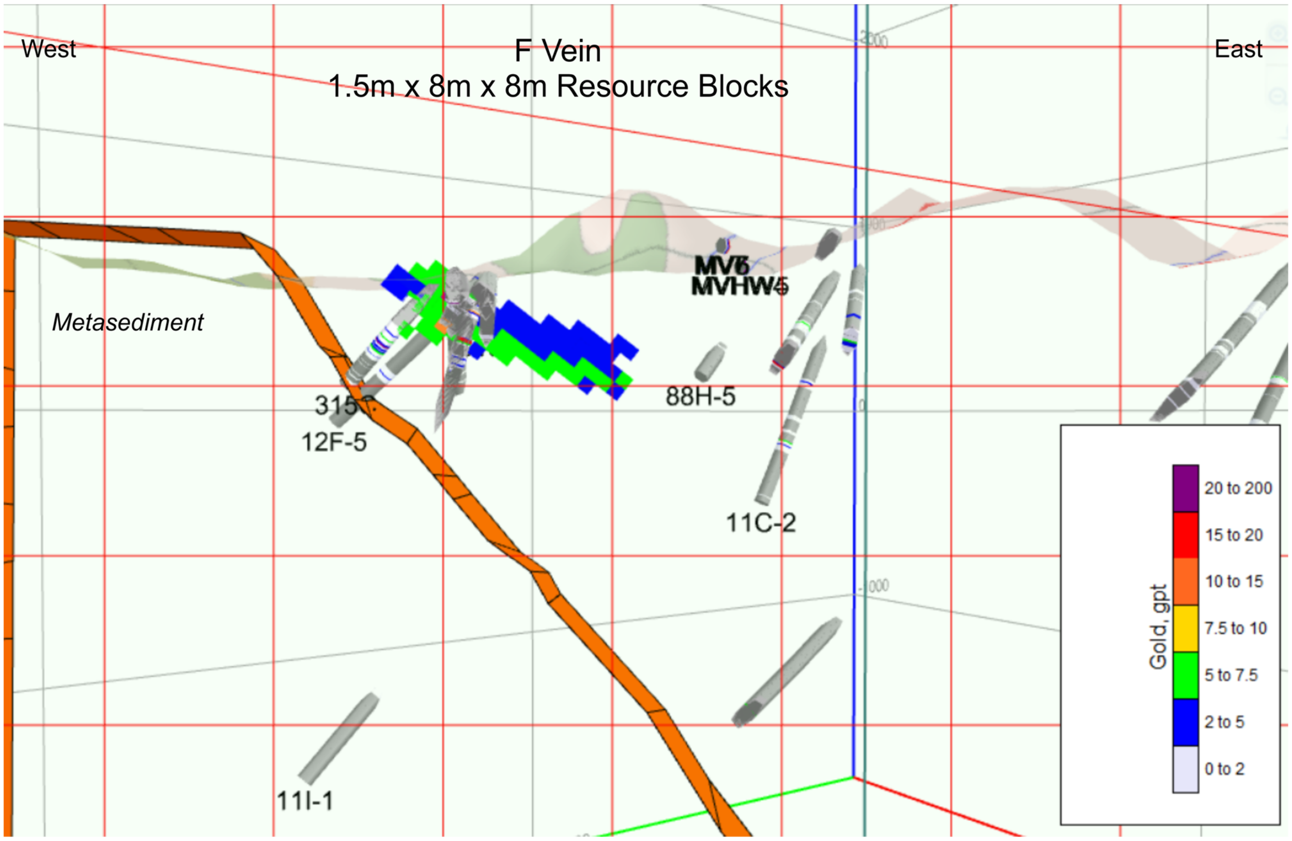


Figure 31. North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments on 100m grid (red lines).

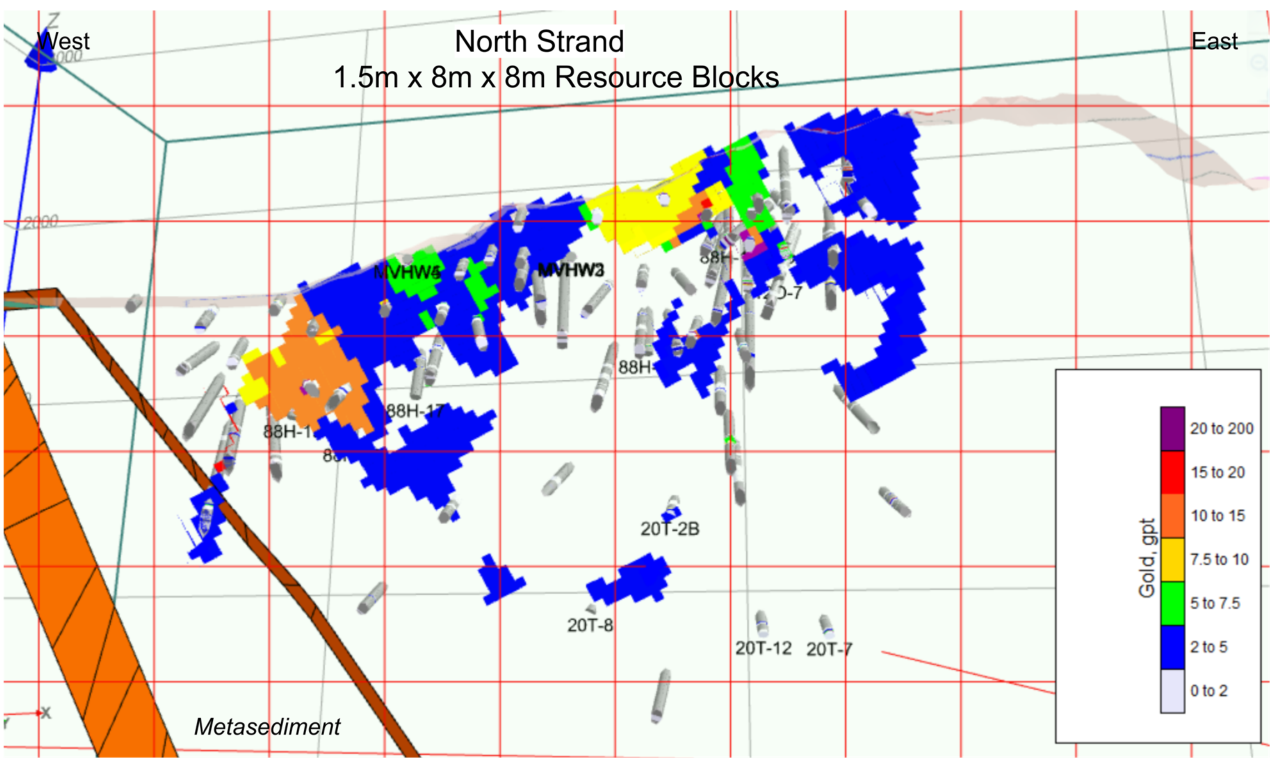


Figure 32. North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments on 100m grid (red lines).

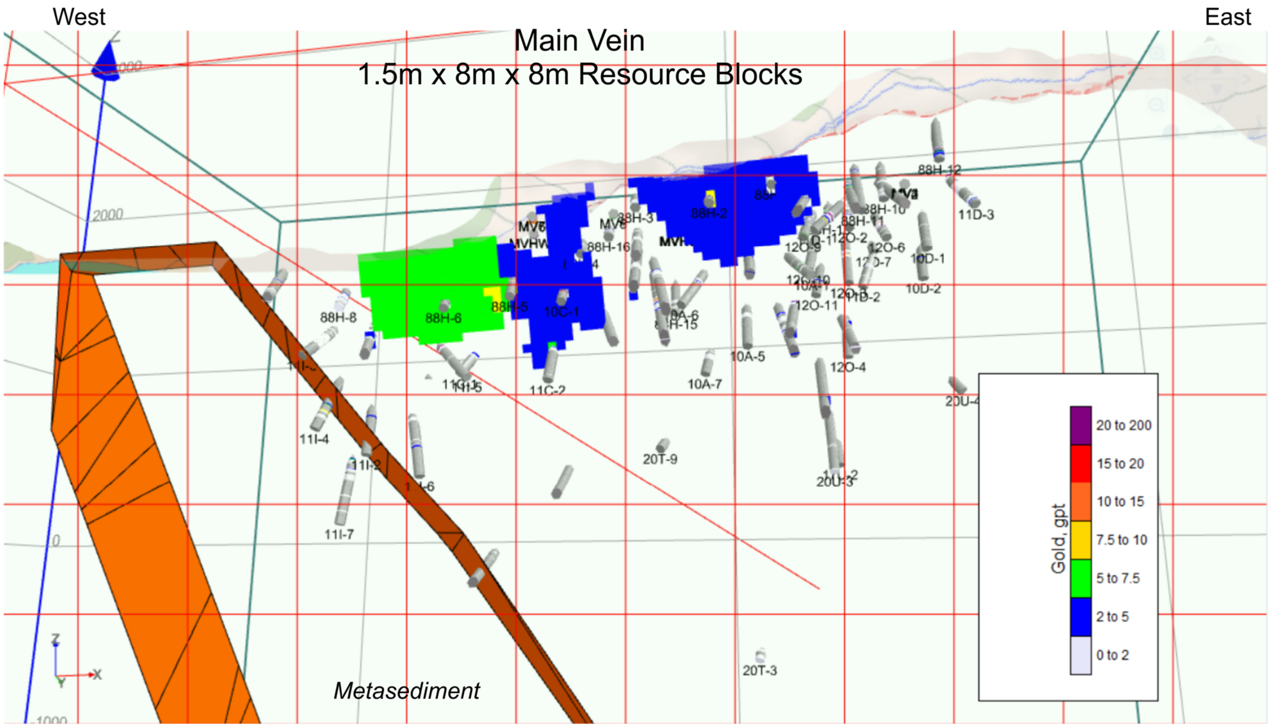


Figure 33. North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments on 100m grid (red lines).

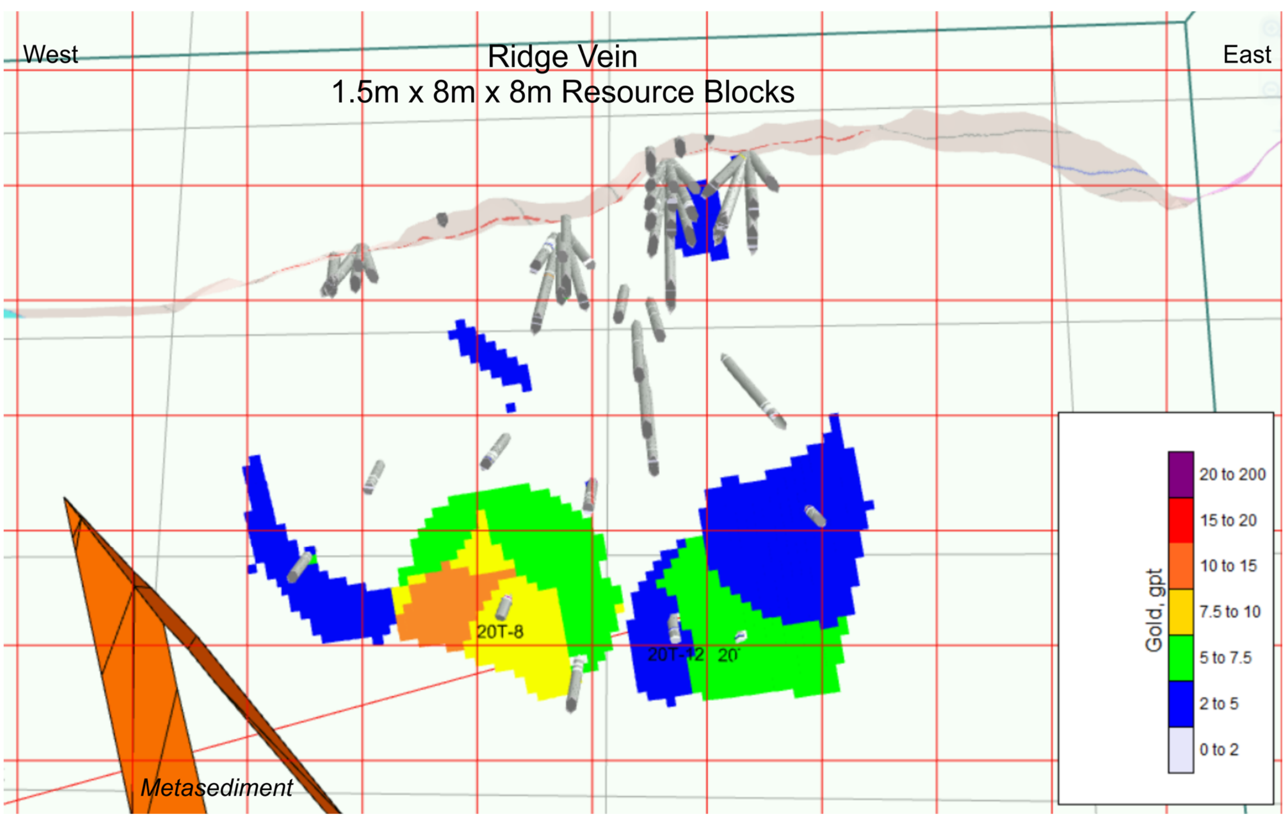


Figure 34. North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments on 100m grid (red lines).

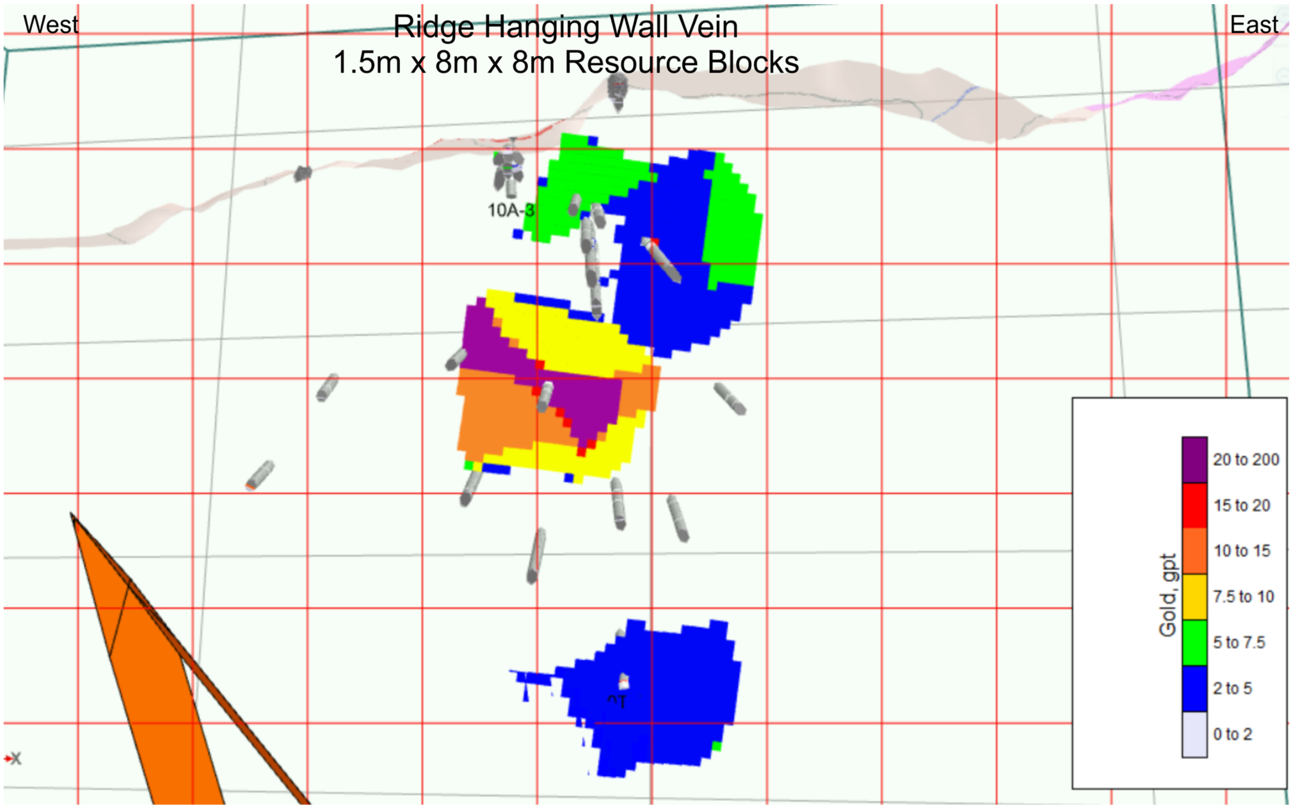


Figure 35. North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments on 100m grid (red lines).

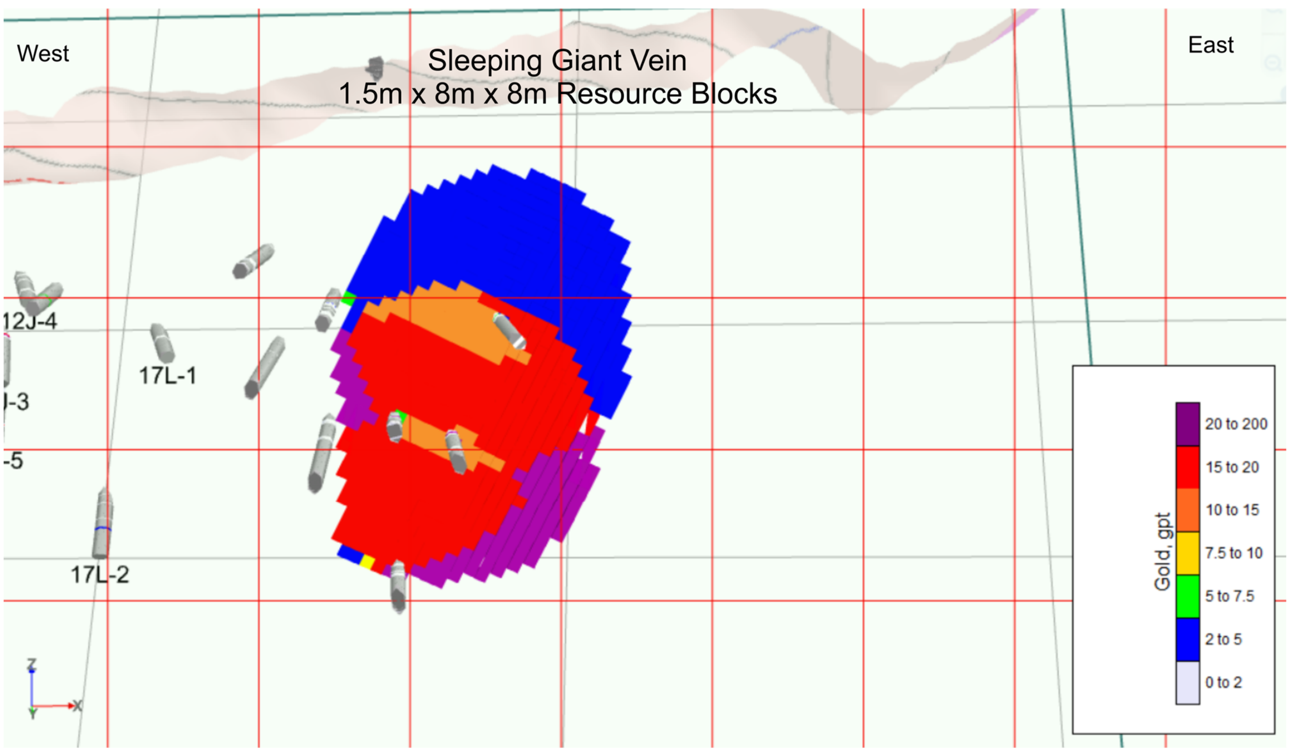


Figure 36. North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments on 100m grid (red lines).

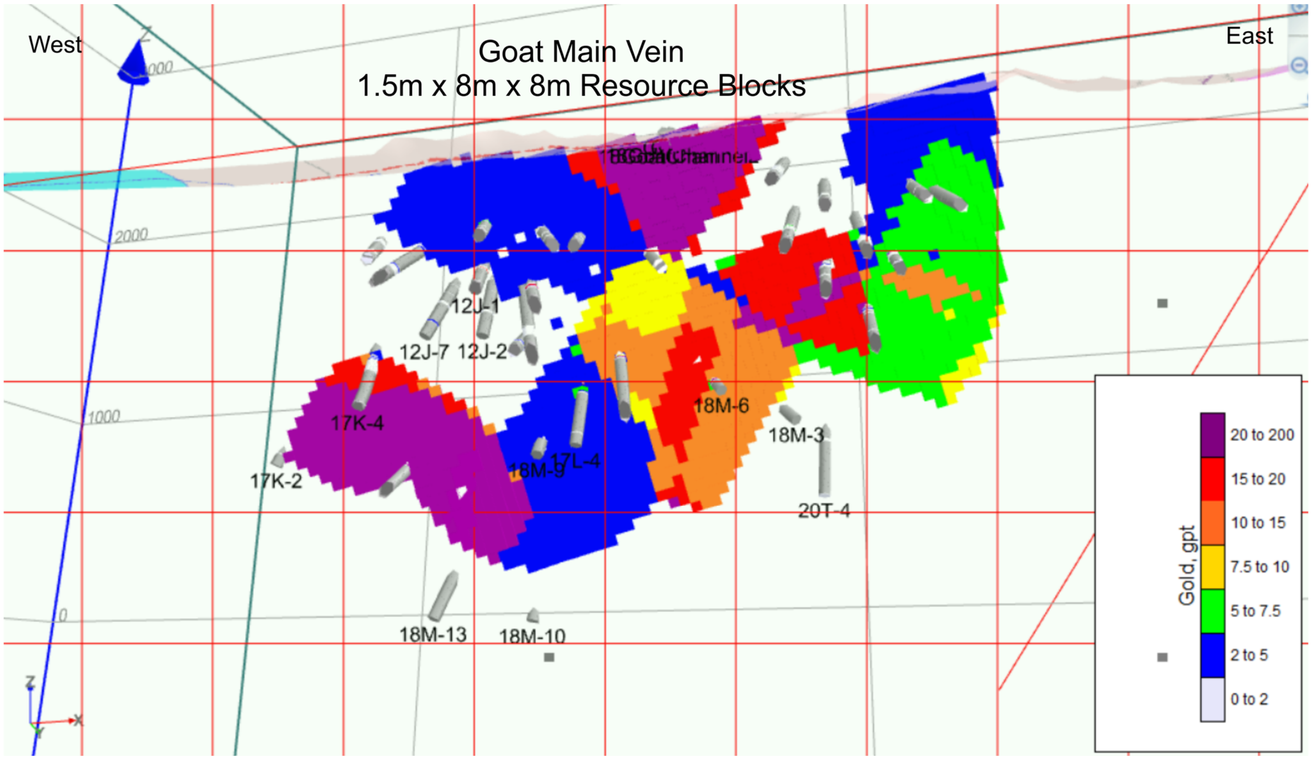


Figure 37. North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments on 100m grid (red lines).

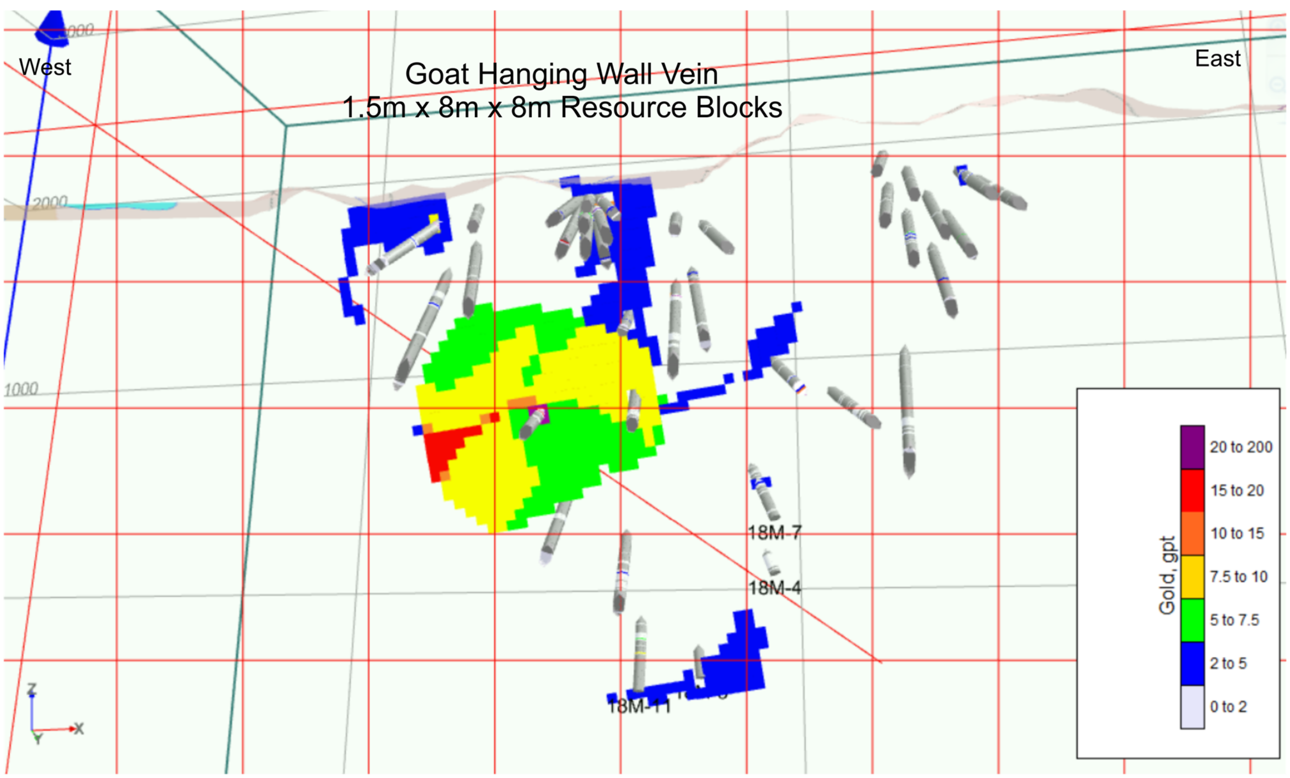


Figure 38. North-facing inclined 40m thick longitudinal section showing resource blocks and drill hole segments on 100m grid (red lines).

14.2 Resource Statement

Surface mapping, trenching and diamond drilling demonstrates continuity of mineralization on sections and between sections and enables three dimensional solids models to be constructed. Further modeling of the diamond drill and trench information within the solids enables the grade distribution to be estimated. An analysis of the resource blocks in the Main Vein and Deep Trench Vein reveals that many of the blocks are within 60m of composites, and these form cohesive, well defined domains. It was decided to classify these blocks as Indicated Mineral Resources and the balance as Inferred Mineral Resources. The decision to use a 60 m cut off between Indicated and Inferred Mineral Resources is based upon a break in composite density near this point. All except less than 10% of these resource blocks classified as Indicate Mineral Resource achieve the maximum number of composites in their estimation. A US$1,300 gold price is assumed to be reasonable for these estimation purposes.

The resource classification is presented on Table 10 and Table 11, **Error! Reference source not found.** (below) at various cut-offs. It is believed that for the location, geometry and grade distribution, it is reasonable to report the resource at the 3.0 gpt cut-off. All figures use a specific gravity of 2.757, tonnes are rounded to the nearest thousand and ounces are rounded to the nearest hundred.

Table 10. Sensitivity Table showing Indicated Mineral Resource by cut-off with 125 gpt cap.

Cut-off	Tonnes	Grade Au gpt	Grade Ag gpt	Ounces Au	Ounces Ag
3.0 gpt	3,637,000	10.23	5.87	1,196,800	686,700
2.5 gpt	4,290,000	9.10	5.22	1,255,600	719,700
2.0 gpt	5,239,000	7.86	4.67	1,324,400	786,000

Table 11. Sensitivity Table showing Inferred Mineral Resource by cut-off with 125 gpt cap.

Cut-off	Tonnes	Grade Au	Grade Ag	Ounces Au	Ounces Ag
3.0 gpt	1,138,000	8.91	4.63	325,900	169,300
2.5 gpt	1,255,000	8.33	4.33	336,000	174,500
2.0 gpt	1,474,000	7.44	4.00	352,300	189,700

Table 12. Indicated Mineral Resource at 3.00 gpt cut-0ff, 125 gpt cap, by vein

Vein	Tonnes	Grade Au gpt	Grade Ag gpt	Ounces Au	Ounces Ag
Goat Vein North	249,000	7.80	1.00	62,500	8,000
Goat Vein	841,000	17.10	11.11	462,300	300,200
Sleeping Giant	187,000	16.43	9.78	98,600	58,700
Ridge Hanging Wall	363,000	10.40	2.04	121,300	23,800
Ridge Vein	530,000	5.88	3.76	100,200	64,100
North Strand Vein	517,000	8.55	8.47	142,300	141,000
Main Vein	240,000	4.70	1.75	36,200	13,500
F-Vein	21,000	6.70	1.81	4,500	1,200
Deep Trench Vein	690,000	7.62	3.43	169,000	76,200
Summary	**3,637,000**	**10.23**	**5.87**	**1,196,800**	**686,700**

Table 13. Inferred Mineral Resource at 3.00 gpt cut-0ff, 125 gpt cap, by vein

Vein	Tonnes	Grade Au gpt	Grade Ag gpt	Ounces Au	Ounces Ag
Goat Vein North	69,000	9.90	1.27	22,100	2,800
Goat Vein	224,000	12.68	6.60	91,200	47,500
Sleeping Giant	82,000	21.37	12.62	56,600	33,400
Ridge Hanging Wall	405,000	7.12	2.39	92,800	31,100
Ridge Vein	204,000	6.29	4.68	41,300	30,700
North Strand Vein	14,000	4.22	2.08	1,900	1,000
F-Vein	4,000	4.48	1.03	600	100
Deep Trench Vein	135,000	4.50	5.21	20,000	22,600
Summary	**1,138,000**	**8.91**	**4.63**	**326,000**	**169,300**

The presumed mining method would be underground shrinkage mining with 1.5m minimum widths or longhole with 2.0m minimum widths. Similar mines can extract planar steeply dipping veins at US$90 to $120 per tonne and achieve a high degree of extraction. No dilution or mine recovery factors have been included.

As such, at current or near current gold prices US$1,400 per ounce, it is determined that there is a reasonable prospect of economic extraction under at the declared conditions.

In accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resource and Mineral Reserves, adopted by the CIM Council, as amended; the classification of the resource is as an Indicated Mineral Resource where blocks are within 60m of two composites, and as Inferred Mineral Resource where blocks are >60 m and <100m from two composites, (a minimum three composites for the Goat Vein in an effort to reduce the influence of the 2018 very high-grade composites).

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The mineral resource estimates generally can be affected by environmental, permitting, taxation, socio-economic, marketing, political, metallurgical, mining and infrastructure issues. These issues are normal for any mine development project and clear paths exist to deal with each aspect. No specific issues have been identified that are considered to materially affect the economics of this project.

15 Mineral Reserve Estimates (Item 15)

The Herbert Gold Property is not an advanced property, and this section does not apply to an early-stage exploration project.

16 MINING METHODS (Item 16)

The Herbert Gold Property is not an advanced property, and this section does not apply to an early-stage exploration project.

17 RECOVERY METHODS (Item 17)

The Herbert Gold Property is not an advanced property, and this section does not apply to an early-stage exploration project.

18 PROJECT INFRASTRUCTURE (item 18)

The Herbert Gold Property is not an advanced property, and this section does not apply to an early-stage exploration project.

19 MARKET STUDIES AND CONTRACTS (Item 19)

The Herbert Gold Property is not an advanced property, and this section does not apply to an early-stage exploration project.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT (Item 20)

The Herbert Gold Property is not an advanced property, and this section does not apply to an early-stage exploration project.

21 CAPITAL AND OPERATING COSTS (Item 21)

The Herbert Gold Property is not an advanced property, and this section does not apply to an early-stage exploration project.

22 ECONOMIC ANALYSIS (Item 22)

The Herbert Gold Property is not an advanced property, and this section does not apply to an early-stage exploration project.

23 ADJACENT PROPERTIES (Item 23)

There are five active claim blocks in close proximity to the Herbert Gold Project area. Figure 2depicts these claims in yellow with the Herbert Gold Project claims in red. The edge of the closest Isa claim block centered on the Mitchell and McPherson prospect (Barnett and Miller, 2003 - JU096) located 1100 m to the northwest. The next claim block 5 km to the northwest includes the Eagle River/Amalga Mine (Barnett and Miller, 2003 - JU094). This currently inactive mine had a reported 30,000 feet of underground workings and a 20-stamp mill dating from the 1930's. To the south within a 6 km radius are two other small claim blocks. The shape and orientation of all the claim blocks suggest a strong NW-SE structural orientation and are consistent with the regional mineralized trend.

24 OTHER RELEVANT DATA AND INFORMATION (Item 24)

The author is not aware of any other data that has material bearing on the Herbert Gold Property.

25 INTERPRETATION AND CONCLUSIONS (Item 25)

The Herbert Gold Project is located in the heart of the historic Juneau Gold District, SE Alaska. Mineralization at the property consists of mesothermal quartz-carbonate-gold-base metal veining and is typical to that seen throughout the district. Three principal veins have been named from south to north and are the Deep Trench (and splays including Lake Vein), Main, and Goat veins. Minor veins include the Oblique (F Vein), Floyd, North, and Ridge. The principal veins strike N80E and dip steeply to the north. The cumulative strike length of all mapped veins at present is over 3,700 m. Drilling at the Herbert Gold Project has been used to define an Indicated and Inferred mineral resource along a portion of the Goat, Main and Trench veins (and associated splays).

The author concludes from observation and work completed to date that the Herbert Gold Project mineralization conforms to a model of orogenic-mesothermal gold mineralization and that such systems in Alaska have potential to develop economically recoverable resources. Work to date has made good progress in identifying mineralized continuity of the Goat, Main and Deep Trench veins along a strike lengths of 530 m, 680 m and 800 m along strike respectively and down dip extents from surface (mean 50 to 150 m AMSL) down to elevations as deep as -330 m (330 m below sea level). No geological evidence has been found to limit the down dip extension of these veins.

The Goat Vein offers a strong potential for additional resources and four more minor veins are not well tested. Additional vein exposures recently exposed by the retreating Herbert Glacier north of the Goat Vein as well as other east-west trending structures identified in the LiDAR survey suggests substantial additional undocumented potential exists.

This resource estimate is strongly influenced by high-grade shoots along the veins which is not atypical for these types of orogenic gold deposits.

26 RECOMMENDATIONS (Item 26)

26.1 2021 EXPLORATION PROGRAM

An exploration program designed to increase resources is proposed. The total cost of the program is dependent upon on-going success, and the location of drill platforms, as such a significant contingency cost is included. Specific targets would be to:

a. Continue with an additional fence of holes to the east of the resource on the Goat, Goat Hanging Wall, Sleeping Giant, Ridge Hanging Wall, Ridge, North Strand, Main and Deep Trench veins.

b. Additional step out holes to the west of the Goat, Goat Hanging Wall veins at depth.

c. Two or more shallow holes on the west-end of the Ridge and Ridge Hanging Wall veins.

d. All western drill holes should penetrate the metasediments, specifically where vein projections occur.

e. General prospecting and sampling within the metasedimentary terrain where possible, south of the Deep Trench Vein focusing on the Floyd and Elusive veins, and on LiDAR lineaments is recommended.

f. Prospecting to the north of the Goat Vein should continue to identify additional veins for follow-up, and drill platforms for those veins can be extended to get deeper cuts on the Goat and potentially Main Vein and their respective splays.

g. Metallurgical testing on cores should be considered on an annual basis, looking at gravity recoverable gold, flotation as well as bulk cyanidable (bottle role testing on pulps).

h. Additional specific gravity analyses should be completed to increase the database, incorporating wall rock as well as vein material.

i. Additional baseline studies (water, biology, basic ABA and SWEP testing (or equivalents) should be initiated or followed=up on.

Table 14. Proposed budget and work program to continue to expand Herbert Gold Project resources

Item	Description	Cost
Phase One		
Drilling	Further expansion in 10 to 20 drill holes, plus pad construction	$1,500,000
Prospecting	Expand north and south of the known mineralization	$200,000
Metallurgical	Bulk cyanidation, gravity, density	$100,000
Environmental	ABA, SWEP, water, biology	$100,000
Miscellaneous	Administration, support, G&A	$200,000
Subtotal		**$2,100,000**
Phase Two		
Drilling	Conditional upon success in Phase One	$1,100,000
Contingency		$150,000
Subtotal		**$1,250,000**
Total	**Assuming success in Phase One**	**$3,350,000**

The contingency includes immediate follow-up drill capacity to minimize mobilization and set-up costs. These drill holes would not be drilled if the initial drill holes did not support immediate follow-up.

27 REFERENCES (Item 27)

Barnett, J.C., and Miller, L.D., 2003, ARDF report for the Juneau Quadrangle. USGS Open File Report 03-456, 587 p.

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APPENDIX I

Glossary of Terms and Abbreviations

Glossary of Technical Terms

Adit – common mining term for a horizontal to sub–horizontal tunnel driven into a hillside to access an ore body.

Agglomerate – a volcanic rock consisting of fragments of *pyroclastic* rocks more than 2 cm in size.

Alkaline – a term applied to igneous rocks which are characterised by relatively high concentrations of sodium and potassium.

Alluvial – deposits of sediment, usually sand and gravel transported and deposited by a river.

Argillaceous rocks – a group of detrital, fine grained, sedimentary rocks subdivided into silt grade (particle size range 1/16 to 1/256 mm) and clay grade (particle size < 1/256 mm).

Arsenide – a mineral formed by the combination of arsenic with another chemical

Barite – a white, yellow or colourless mineral, $BaSO_4$. The principal ore of barium used in paints, drilling muds and as filler for paper and textiles. Syn: baryte, barytes.

Basic – describes an igneous rock with relatively low silica content (between 45–52% SiO_2). Basic rocks are relatively rich in iron, magnesium and calcium and thus include most mafic rocks.

Beneficiation – the process of concentration of the valuable components of an ore or other mineral commodity. Commonly includes multiple stages such as crushing, grinding, washing, screening, flotation, roasting, etc.

Breccia – a rock that has been mechanically, hydraulically or pneumatically broken into angular fragments and re–cemented

Bulk Leach Extractable Gold - more commonly shortened to BLEG is a geochemical sampling/analysis tool used during exploration for gold. It was developed in the early 1980s to address concerns relating to the accurately measuring fine grained gold, and dealing with problems associated with sample heterogeneity.

Calcite – a very common rock forming mineral comprising calcium, carbon and oxygen ($CaCO_3$).

Cenozoic Era – period of geological time extending from 65 million years ago to the present.

Chert – sedimentary rock that is ultra–fine grained and composed almost entirely of silica. May be of organic or inorganic origin.

Core strategy: sets out the long-term spatial vision for the local planning authority area, the spatial objectives and strategic policies to deliver that vision. The core strategy will have the status of a *development plan document*.

Cretaceous – period of geological time from 142 to 65.5 million years ago. Marks the end of the *Mesozoic Era*.

Devonian – period of geological time from 417 to 354 million years ago.

Electrolytic – the process of extracting metal based on passing an electric current through a solution containing dissolved metals, causing the metals to be deposited on the cathode.

Extrusive – describes igneous rocks that have been formed by solidification of magma on or above the Earth's surface.

Felsic – In modern usage, the term felsic rock, although sometimes used as a synonym, refers to a high-silica-content (greater than 63% SiO_2 by weight) volcanic rock, such as rhyolite. In order to be classified as felsic, it generally needs to contain >75% felsic minerals; namely quartz, orthoclase and plagioclase. Rocks with greater than 90% felsic minerals can also be called *leucocratic*, meaning 'light-colored'.

Footwall – the name given to the host rock of an ore deposit that is physically below the ore deposit.

Gangue – the undesirable or unwanted minerals in an ore deposit.

Graben - An elongated block of the earth's crust lying between two faults and displaced downward relative to the blocks on either side, as in a rift valley.

Hangingwall – the name given to the host rock of an ore deposit that is physically above the ore deposit.

Highwall mining – mining method used to maximize the output of an open–pit coal mine. Remotely operated cutting or boring machines are used to penetrate the coal seam at the foot of the highwall (the final wall in an open–pit) to extract coal.

Hydrometallurgy – the treatment of ores by wet processes, resulting in the dissolution of a particular component and its subsequent recovery by precipitation, adsorption or electrolysis.

Igneous – one of the three main groups of rocks on Earth. They have a crystalline texture and appear to have consolidated from a silicate melt (magma).

Inductively coupled plasma mass spectrometry (ICP-MS) -- a type of mass spectrometry that is highly sensitive and capable of the determination of a range of metals and several non-metals at concentrations below one part in 1012 (part per trillion). It is based on coupling together an inductively coupled plasma as a method of producing ions (ionization) with a mass spectrometer as a method of separating and detecting the ions. ICP-MS is also capable of monitoring isotopic speciation for the ions of choice.

Intrusion – a body of *igneous* rock emplaced into pre–existing rocks, either along some structural feature such as a fault or by deformation and rupturing of the invaded rocks. (Intrusive, *adj*).

Jurassic – period of geological time from 205.1–142 million years ago.

Kaolin – group of pale-coloured clay minerals. In the UK kaolin is an industrial mineral extracted from kaolinised granites in south–west England. It is used as a paper filler and coater, and for high grade ceramics and pottery (china clay).

Lenticular – lens shaped body of rock.

Lode – mining term for a mineralized *vein* (used irrespective of whether the *vein* can be economically extracted).

Mesozoic Era – period of geological time from 250 to 65.5 million years ago. Subdivided into the *Triassic*, *Jurassic* and *Cretaceous* periods.

Miocene – period of geological time from 23.8 to 5.32 million years ago.

Mudstone – fine grained sedimentary rocks that are similar to *shales* in their non–plasticity, cohesion and low water content but lack fissility.

Neogene – part of the *Cenozoic Era*, comprising the *Miocene* and *Pliocene* epochs from 23.8 to 1.81 million years ago.

Oligocene – period of geological time from 28.5 to 23.8 million years ago.

Ordovician – period of geological time from 495 to 440 million years ago.

Paleogene – part of the *Cenozoic Era* comprising the *Paleocene*, *Eocene* and *Oligocene* epochs, from 65.5 to 23.8 million years ago.

Paleozoic Era – period of geological time from 545 to 245 million years ago.Subdivided into the *Cambrian*, *Ordovician*, *Silurian*, *Devonian*, *Carboniferous* and *Permian Periods*.

Permian – period of geological time from 280 to 255 million years ago marks the end of the Paleozoic Era. Globally important source of coal.

Pliocene – period of geological time from 5.3 to 1.81 million years ago.

Precambrian - an informal name for the span of time before the current Phanerozoic Eon, and is divided into several eons of the geologic time scale. It spans from the formation of Earth around 4600 Ma (million years ago) to the beginning of the Cambrian Period, about 542 Ma, when macroscopic hard-shelled animals first appeared in abundance. Accounts for 90% of all geological time and ends approximately 545 million years ago.

Proterozoic - a geological eon representing a period before the first abundant complex life on Earth. The Proterozoic Eon extended from 2500 Ma to 542.0 ± 1.0 Ma (million years ago), and is the most recent part of the old, informally named ‘Precambrian’ time.

Pyroclastic – fragmental volcanic material that has been blown into the atmosphere by an explosive eruption.

Pyrometallurgical – the treatment of ores by processes involving heating.

Quarrying (mining) – the extraction of rock from an open pit site.

Quaternary – the uppermost part of the *Cenozoic Era* from 1.81 million years ago to present day.

Refractory – a general term for a material that resists chemical or physical change.

Refractory ore – ore from which it is difficult to extract the valuable constituents. This material may require special treatments, such as pressure leaching, to recover the valuable minerals.

Sedimentary rocks – rocks formed from material derived from other rocks by weathering. Deposited by water, wind or ice.

Silurian – period of geological time from 440 to 417 million years ago.

Stope – mining term for the underground void left after ore extraction has taken place.

Stratabound – an ore deposit that is confined to a single stratigraphic bed or horizon but which does not constitute the entire bed.

Stratiform – an ore deposit that occurs as a specific stratigraphic (i.e. sedimentary) bed.

Sulphide – a mineral formed by the combination of sulphur with another chemical element. Most economic deposits of non–ferrous metals occur as sulphide minerals e.g. galena, PbS; sphalerite, ZnS; chalcopyrite, $CuFeS_2$.

Triassic – period of geological time from 250 to 205.1 million years ago. This period marks the beginning of the *Mesozoic Era*.

Tuff -- is a type of rock consisting of consolidated volcanic ash ejected from vents during a volcanic eruption.

Tuff Breccia and Volcanic Agglomerate - as distinguished from the true ashes, these tend to occur in angular fragments; and when they form a large part of the mass the rock is more properly a "volcanic breccia" than a tuff. The ashes vary in size from large blocks ten meters or more in diameter to the minutest impalpable dust. Any ash in which large angular blocks are very abundant is called an agglomerate.

Ultrabasic – describes an igneous rock containing less than 45% silica (SiO_2), including most ultramafic rocks.

Ultramafic – composed chiefly of *ferromagnesian* (Fe–Mg) minerals, such as olivine and pyroxene.

Vein – A tabular or sheet–like assemblage of minerals that has been intruded into a joint or fissure in rocks.

Volcanogenic massive sulphide, VMS – an ore deposit typically comprising a lens of massive sulphide minerals (>60% sulphide) formed by volcanic processes normally on the sea–floor. VMS deposits are important sources of copper, lead and zinc.

Wallrock – an economic geology term used to describe the rock adjacent to an accumulation of ore minerals (veins, layers, disseminations, etc.).

Workings – the current or past underground or surface openings and tunnels of a mine. More specifically, the area where the ore has been extracted.

Zoning – in economic geology, the spatial distribution of distinct mineral assemblages or chemical elements associated with an ore–forming process.

Abbreviations

Unless otherwise indicated, the metric system of measure has been used throughout this report, including metric tons (tonnes, t), kilograms (kg) or grams (g) for weight, kilometers (km) or metres (m) for distance, hectares (ha) for area, liters (L) for volume and grams per tonne for gold (gpt Au) and silver (gpt Ag) grades. Base metal grades are usually expressed in weight percent (%). Geochemical results or precious metal grades may be expressed in parts per million (ppm) or parts per billion (ppb) (1 ppm = 1 g/t). Precious metal quantities may also be reported in troy ounces (ounces, oz), a common practice in the mining industry. In the Imperial System, significant gold concentrations are reported as troy ounces per short ton. In the metric system, gold concentration is now reported in grams per metric tonne. One troy ounce per short ton= 34.2857 grams per metric tonne. Currency values are in Canadian dollars ($CDN).

Description	Abbreviation	Description	Abbreviation
Above mean sea level	amsl	Millions of years ago	Ma
Atomic absorption	AA	Inductively coupled plasma mass	ICPAR-UT
Banded Iron Formation	BIF	Kilometre(s)	km
Bulk Leach Extractable Gold	BLEG	Lead	Pb
Bureau Veritas Laboratories International	BVI	Methyl isobutyl ketone	MIBK
Canadian Dollars	$CDN	Ounce(s)/Troy ounce(s)	oz
Canadian National Instrument 43-101	NI 43-101	Ounce per ton	Oz/t
Centimetre(s)	Cm	Parts per billion	ppb
Degree(s)	^{0}	Parts per million	ppm
Degrees Centigrade/Celsius	^{0}c	Percent	%
Foot/feet	ft.	Qualified Person(s)	QP(s)
Fire Assay	FA	Quality Assurance/Quality Control	QA/QC
Geological Survey of Canada	GSC	Reduced Level	RL
Gold	Au	Rock quality designation	RQD
Gram(s)	g	Silver	Ag
Gram-metres per tonne, metres x	g/t	Specific gravity	SG
Grams per tonne	g/t	Square kilometers	km2
Inch(es)	in	Three-dimensional	3D
Micron(s)	µ	Tonnes per cubic metre	t/m3
Metre(s)	m	Two-dimensional	2D
		Volcanogenic massive sulphide deposits	VMS