

AMENDED AND RESTATED TECHNICAL REPORT ON THE HERBERT GOLD PROPERTY

JUNEAU DISTRICT, SOUTHEAST ALASKA

Prepared for:



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

Prepared by:

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

DRW Geological Consultants Ltd.

July 12, 2018

Effective Date:

May 28, 2018

Certificate of Qualifications

I, Dave R. Webb, Ph.D., P.Geol., P.Eng. (Lic 601, NAPGEGG), hereby 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 and 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 38 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. This is the largest undeveloped lode gold deposit in the Yellowknife Gold Belt.
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, the second largest 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 need 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

10. I completed an earlier Mineral Resource estimate 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 "AMENDED AND RESTATED TECHNICAL REPORT ON THE HERBERT GOLD PROPERTY" and dated July 12, 2018, revised July 12, 2018 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 in 2013 on the property that is the subject of the Technical Report.

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.

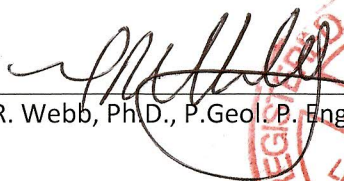
9) I am not independent of the issuer and the vendor applying all of the tests in section 1.5 of National Instrument 43-101.

10) 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.

11) 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 disclosure before filed to ensure its authenticity.

12) I have read this the document entitled "AMENDED AND RESTATED TECHNICAL REPORT ON THE HERBERT GOLD PROPERTY" and dated July 12, 2018.

Dated this 12th Day of July, 2018


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



CONTENTS OF THE TECHNICAL REPORT

1	SUMMARY (ITEM 1)	7
2	INTRODUCTION (ITEM 2)	9
2.1	TERMS OF REFERENCE AND PURPOSE OF THE REPORT	9
2.2	QUALIFICATIONS OF CONSULTANT	9
2.3	DETAILS OF SITE INSPECTION	10
2.4	EFFECTIVE DATE	10
2.5	SOURCES OF INFORMATION	10
2.6	UNITS OF MEASURE	10
3	RELIANCE ON OTHER EXPERTS (ITEM 3)	10
4	PROPERTY LOCATION AND DESCRIPTION (ITEM 4)	11
4.1	AREA AND LOCATION	11
4.2	CLAIMS AND AGREEMENTS	12
4.3	CLAIMS AND OWNERSHIP	13
4.4	ENVIRONMENTAL LIABILITIES	16
4.5	OTHER SIGNIFICANT RISKS AND FACTORS	16
4.6	PERMITS	16
5	ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPY (ITEM 5)	17
6	HISTORY (ITEM 6) (MOST OF THIS SECTION HAS BEEN EXCERPTED FROM VAN WYCK AND BURNETT, 2012).	19
7	GEOLOGICAL SETTING AND MINERALIZATION (ITEM 7)	20
7.1	REGIONAL GEOLOGY	20
7.2	PROPERTY GEOLOGY (EXCEPTED FROM VAN WYCK AND BURNETT, 2011)	20
	<i>Mineralization</i>	20
8	DEPOSIT TYPES (ITEM 8)	21
9	EXPLORATION (ITEM 9)	22
10	DRILLING (ITEM 10)	23
11	SAMPLE PREPARATION, ANALYSIS AND SECURITY (ITEM 11)	30
11.1	SAMPLE PREPARATION	30
11.2	SECURITY	31
11.3	SAMPLE ANALYSES	31
	<i>Crushing Procedures</i>	31
	<i>Analytical Procedures (Several Analytical Procedures were used)</i>	32
a)	Au GR21	32
12	DATA VERIFICATION (ITEM 12)	32
13	MINERAL PROCESSING AND METALLURGICAL TESTING (ITEM 13)	34
14	MINERAL RESOURCE ESTIMATES (ITEM 14)	35
14.1	RESOURCE ESTIMATION PROCEDURES	35
	<i>Solid Model Construction</i>	36
	<i>Assay Database</i>	37
14.1.1.1	Univariate Statistics	38
	<i>Density</i>	40
	<i>Compositing</i>	41

<i>Treatment of High-grade outliers</i>	41
<i>Variography</i>	43
<i>Block Model Estimate</i>	45
<i>Interpolation Method</i>	46
<i>Estimation Plans</i>	46
<i>Validation of the Block Model</i>	47
14.2 RESOURCE STATEMENT.....	51
15 MINERAL RESERVE ESTIMATES (ITEM 15)	55
16 MINING METHODS (ITEM 16)	55
17 RECOVERY METHODS (ITEM 17)	55
18 PROJECT INFRASTRUCTURE (ITEM 18)	56
19 MARKET STUDIES AND CONTRACTS (ITEM 19)	56
20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT (ITEM 20)	56
21 CAPITAL AND OPERATING COSTS (ITEM 21)	56
22 ECONOMIC ANALYSIS (ITEM 22)	56
23 ADJACENT PROPERTIES (ITEM 23)	56
24 OTHER RELEVANT DATA AND INFORMATION (ITEM 24)	56
25 INTERPRETATION AND CONCLUSIONS (ITEM 25)	57
26 RECOMMENDATIONS (ITEM 26)	58
26.1 2018 EXPLORATION PROGRAM.....	58
27 REFERENCES (ITEM 27)	59

LIST OF FIGURES

FIGURE 1. LOCATION OF HERBERT GOLD PROJECT.....	12
FIGURE 2 HERBERT PROPERTY CLAIM MAP.....	13
FIGURE 3 LOCAL GEOLOGY OF HERBERT PROPERTY AREA.....	21
FIGURE 4. ASSAYS OF BLANKS SUBMITTED IN 2017 DRILL PROGRAM.....	32
FIGURE 5. ASSAYS OF OREAS 215 STANDARD.....	33
FIGURE 6. ASSAYS OF ORAES 10C STANDARD.....	33
FIGURE 7. ASSAYS OF OREAS 229 STANDARD.....	34
FIGURE 9. TYPICAL EAST FACING CROSS SECTION SHOWING VEIN CORRELATIONS WITH DRILL HOLE TRACES.....	36
FIGURE 10. TYPICAL EAST FACING CROSS SECTION SHOWING VEIN CORRELATIONS WITH DRILL HOLE TRACES.....	37
FIGURE 11. LOGNORMAL PROBABILITY PLOT OF ALL 1.0 M COMPOSITES WITHIN THE MINERALIZED SOLIDS.....	39
FIGURE 12. GENERAL LOCATION OF THE THREE PRINCIPAL VEIN STRUCTURES WITH RESPECT TO TOPOGRAPHY, 10 METRE CONTOUR INTERVALS.....	40
FIGURE 8. DENSITY MEASUREMENTS ON SAMPLES FROM HERBERT GOLD PROJECT.....	41
FIGURE 13. LOGNORMAL PROBABILITY PLOT OF ALL OF THE RAW DATA SHOWING A REMARKABLY UNIFORM DISTRIBUTION WITH A VERY HIGH-GRADE POPULATION INDICATED IN THE TOP 0.01%.....	42
FIGURE 14. LOGNORMAL PROBABILITY PLOT OF THE 1.0M COMPOSITE DATA WITHIN THE SOLIDS SHOWING A UNIFORM DISTRIBUTION WITH A HIGH-GRADE POPULATION INDICATED IN THE TOP 0.23%.....	43
FIGURE 15. LOGNORMAL PROBABILITY PLOT OF THE UNCUT BLOCK DATA AND THE 1.0M COMPOSITE DATA WITHIN THE SOLIDS SHOWING A UNIFORM DISTRIBUTION WITH IDENTICAL MODES.....	43

FIGURE 16. COVARIANCE PLOT OF ALL DATA >0 GPT GOLD FOR THE MAIN VEIN SHOWS THE BEST CORRELATIONS AT 080 DEGREES -50 INCLINATION.	44
FIGURE 17. COVARIANCE PLOT OF ALL DATA >0 GPT GOLD FOR THE DEEP TRENCH VEIN SHOWS THE BEST CORRELATIONS AT 090 DEGREES -90 INCLINATION.	45
FIGURE 18. OBLIQUE VIEW, DOWN TO THE NORTHEAST SHOWING ALL OF THE VEIN SOLIDS, WITH AN AIR PHOTOGRAPH DRAPED OVER TOPOGRAPHY. GRID IS 200M SPACING.	46
FIGURE 19. EAST LOOKING CROSS SECTION OF THE DEEP TRENCH VEIN WITH DRILLHOLE TRACES AND RESOURCE BLOCKS SHOWN ON A 70M THICK SLICE.	47
FIGURE 20. EAST LOOKING CROSS SECTION OF THE DEEP TRENCH VEIN WITH DRILLHOLE TRACES AND RESOURCE BLOCKS SHOWN ON A 70M THICK SLICE.	48
FIGURE 21. EAST LOOKING CROSS SECTION OF THE MAIN VEIN WITH DRILLHOLE TRACES AND RESOURCE BLOCKS SHOWN ON A 70M THICK SLICE.	49
FIGURE 22. EAST LOOKING CROSS SECTION OF THE GOAT VEIN WITH DRILLHOLE TRACES AND RESOURCE BLOCKS SHOWN ON A 50M THICK SLICE.	49
FIGURE 23. EAST LOOKING CROSS SECTION OF THE GOAT VEIN WITH DRILLHOLE TRACES AND RESOURCE BLOCKS SHOWN ON A 50M THICK SLICE.	50
FIGURE 24. INCLINED VIEW DOWN TO THE SOUTH OF A LONGITUDINAL SECTION OF THE DEEP TRENCH VEIN WITH DRILL HOLE TRACES ON A 20 M GRID (RED).	50
FIGURE 25. INCLINED VIEW DOWN TO THE SOUTH OF A LONGITUDINAL SECTION OF THE MAIN VEIN WITH DRILL HOLE TRACES ON A 20 M GRID (RED).	51
FIGURE 26. INCLINED VIEW DOWN TO THE SOUTH OF A LONGITUDINAL SECTION OF THE GOAT VEIN WITH DRILL HOLE TRACES ON A 20 M GRID (RED).	51
FIGURE 27. AN EXAMPLE OF PROPOSED DRILL TARGETS WOULD BE THE EASTERN EXTENSION OF THE GOAT VEIN, AS SHOWN BY THE BLACK RECTANGLE ON THE SOUTH-FACING INCLINED LONGITUDINAL SECTION SHOWING RESOURCE BLOCKS.	58
PHOTO 1. PHOTOGRAPH OF HERBERT PROPERTY.	18
TABLE 1. HERBERT PROPERTY NI 43-101 UNCUT INDICATED AND INFERRED MINERAL RESOURCE STATEMENT.	8
TABLE 2. HERBERT PROPERTY CLAIM STATUS (APRIL 1, 2018).	13
TABLE 3. ALL DRILL HOLE LOCATION IN NAD 83 Z.8, AZIMUTH, DIP AND TOTAL DEPTH (IN METRES).	24
TABLE 4. LIST OF ALL ASSAY INTERVALS CONTAINING ASSAYS >60 GPT.	27
TABLE 5. SELECTED STATISTICS FOR 1988 DRILL HOLES.	35
TABLE 6. UNIVARIATE STATISTICS FOR ALL OF THE RAW ANALYTICAL DATA FROM THE DRILL AND TRENCH DATABASE. ALL NEGATIVE, NON-NUMERIC AND ZERO VALUES ARE DECLARED INVALID.	38
TABLE 7. UNIVARIATE STATISTICS FOR ALL OF THE 1M COMPOSITE DATA FROM THE DRILL AND TRENCH DATABASE WITHIN THE NINE SOLIDS. ALL NEGATIVE, NON-NUMERIC AND ZERO VALUES ARE DECLARED INVALID.	38
TABLE 8. BULK DENSITY MEASUREMENTS ON 30 MINERALIZED INTERSECTIONS FROM THE 2012 DIAMOND DRILLING.	40
TABLE 9. HERBERT GOLD PROJECT, INDICATED MINERAL RESOURCE, UNCUT AT VARIOUS CUT-OFFS.	52
TABLE 10. HERBERT GOLD PROJECT, INFERRED MINERAL RESOURCE, UNCUT AT VARIOUS CUT-OFFS.	52
TABLE 11. EASTERN-MOST DRILL HOLES ON THE GOAT MAIN VEIN.	57
TABLE 12. PROPOSED BUDGET AND WORK PROGRAM TO CONTINUE TO EXPAND HERBERT GOLD PROJECT RESOURCES.	59

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 and British Columbia, with its head office in Vancouver, British Columbia, Canada. The Report supports an updated Mineral Resource Estimate of the Property and provides an up-to-date assessment of the Property. The changes in this Report are the results of the 2017 drilling program.

The Herbert 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 empirical relationship between orogeny and gold-vein formation in the Juneau gold belt is well established. A belt of tonalitic plutons were intruded approximately 5 km east of the megalineament between 68-61 Ma (Barker et al., 1986; and Wood et al., 1991). The tonalities are believed to have been the primary source of heat and fluids that produced the 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 from a total of 139 diamond drill holes and 4 trenches comprised the digital database for this study. This resource estimate is updated from the Mineral Resource reported in 2015. Several exploratory drill holes also tested the other targets (Goat and Ridge Veins) and along the open extents of the Main and Deep Trench Veins. Utilizing a base case cut-off of 2.5 gpt, the eight veins on the property host an uncut Indicated Mineral Resource of 257,900 ounces of gold at an average grade of 7.25 gpt (1,107,000 tonnes) and an uncut Inferred Mineral Resource of 82,200 ounces of gold at an average grade of 6.04 gpt gold (423,000 tonnes) at a 2.5 gpt gold cut-off grade.

In Table 1 mineral resources are highlighted above a 2.5 gpt cut off, assuming an average gold price of \$1,500 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. Herbert Property NI 43-101 uncut Indicated and Inferred Mineral Resource Statement

Herbert Property NI 43-101 Indicated and Inferred Mineral Resource Statement			
Total Indicated			
Cut-off (gpt)	Tonnes	Au Grade (gpt)	Ounces Au
3.0	937,000	8.07	243,000
2.5	1,107,000	7.25	257,900
2.0	1,404,000	6.19	279,200
Total Inferred			
Cut-off (gpt)	Tonnes	Au Grade (gpt)	Ounces Au
3.0	334,000	6.93	74,400
2.5	423,000	6.04	82,200
2.0	469,000	5.67	85,500

Metallic or screened assays were used in all instances where they were available (921 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.

A series of cross sections were developed for each of eight 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, and block size varies between the veins. 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 1m thick and of variable length and height 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 mixture of three 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 or averaging was not necessary. 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 dynamic 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. Additional models were constructed by removing selected drill holes 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 ID² method.

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. Variography is equivocal and can be shown to support the extrapolation of composites up to 120m.

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 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 the previous technical report 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. 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 November 2017. GPG provided a drill hole database update with the results of the 2017 exploration activities. The effective date of this report is May 28, 2018.

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 2018 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.

4 PROPERTY LOCATION AND DESCRIPTION (Item 4)

4.1 Area and Location

The Herbert Property is situated in UTM Zone 8 between 516600m and 521000 East, 6485000m and 6848500m 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 2017 and GPG intends to pay these fees in the coming years.

4.2 Claims and Agreements

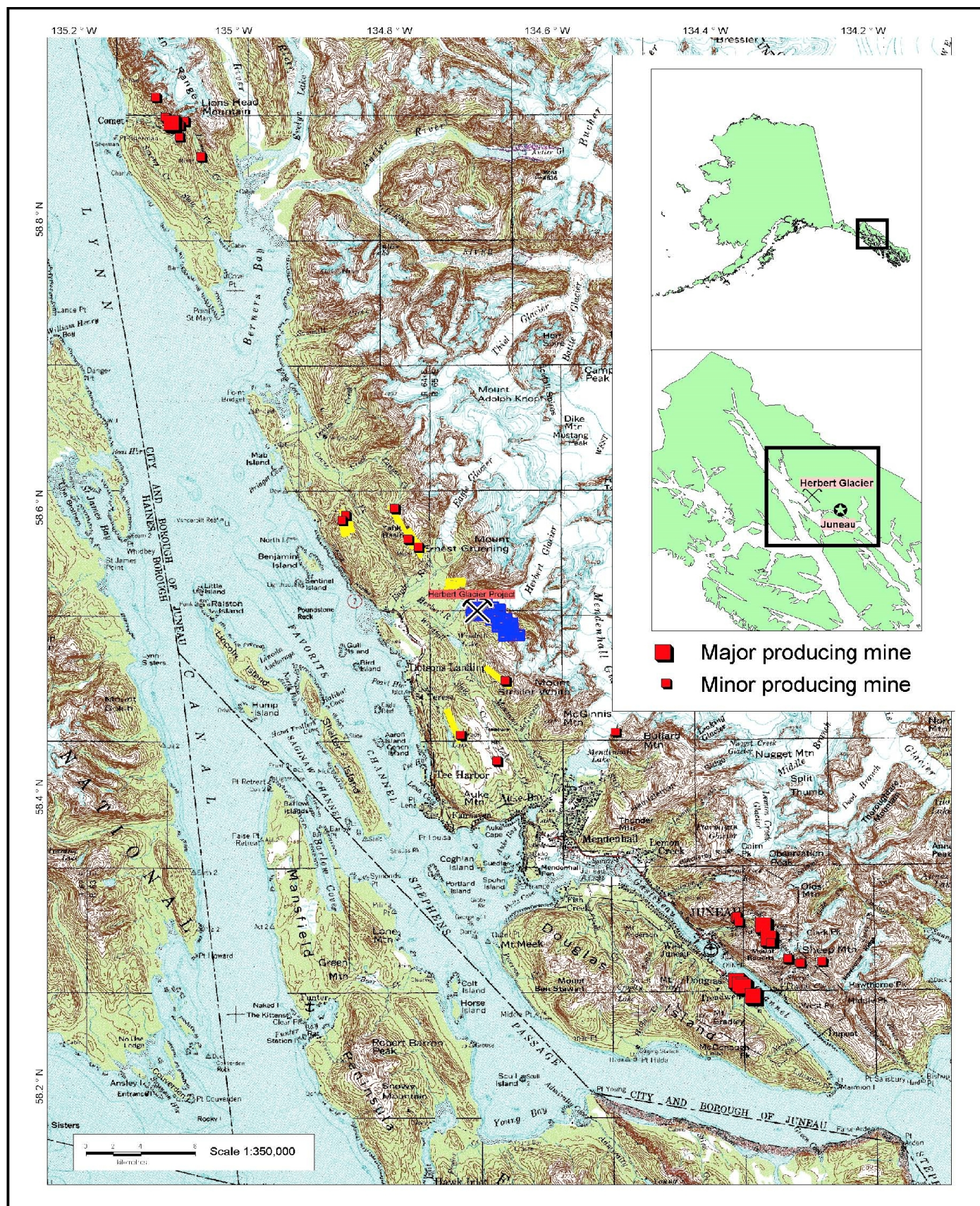


Figure 1. Location of Herbert Gold Project.

4.3 Claims and Ownership

The Herbert Gold Property consists of three groups of claims. Table 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. Intent to hold filing for all claims have been properly recorded through September 1, 2013.

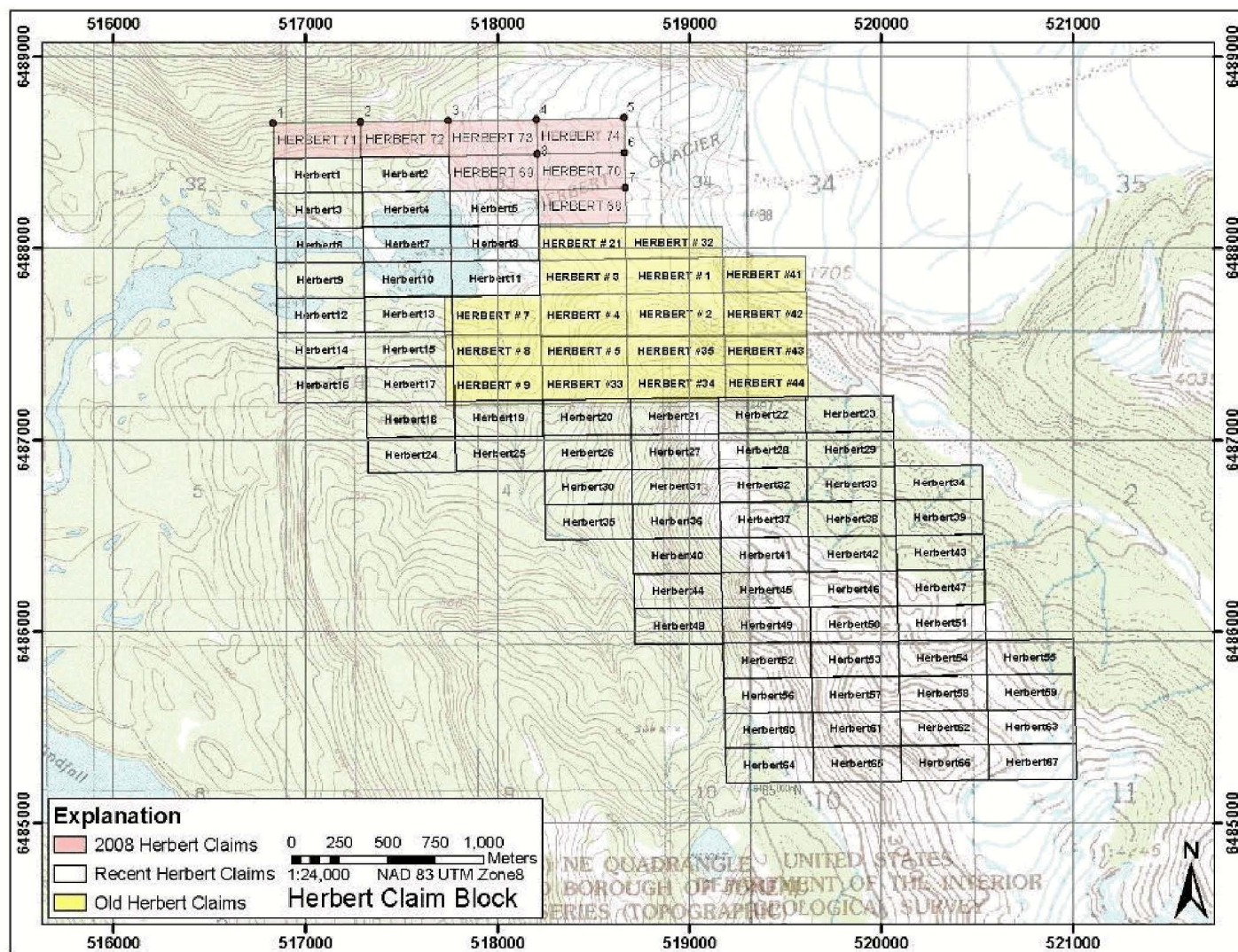


Figure 2 Herbert Property Claim Map

Table 2. Herbert Property Claim Status (April 1, 2018)

Claim Name	Claim Number	Claimant	District	MTRS	Map Label	Refresh Date	Status	Status Date
HERBERT 72	AKAA 087879	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 NE	AKAA 087879	02/12/2018	RECORDED	02/08/2018
HERBERT 73	AKAA 087880	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 NW	AKAA 087880	02/12/2018	RECORDED	02/08/2018
HERBERT 69	AKAA 087876	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087876	02/12/2018	RECORDED	02/08/2018

HERBERT 74	AKAA 087881	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 NE	AKAA 087881	02/12/2018	RECORDED	02/08/2018
HERBERT 70	AKAA 087877	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SE	AKAA 087877	02/12/2018	RECORDED	02/08/2018
HERBERT 68	AKAA 087875	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SE	AKAA 087875	02/12/2018	RECORDED	02/08/2018
HERBERT # 5	AKAA 059367	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 39S 65E 4 NE	AKAA 059367	02/12/2018	RECORDED	02/08/2018
HERBERT #33	AKAA 059981	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 39S 65E 4 NE	AKAA 059981	02/12/2018	RECORDED	02/08/2018
HERBERT 20	AKAA 087184	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NE	AKAA 087184	02/12/2018	RECORDED	02/08/2018
HERBERT # 32	AKAA 059394	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 38S 65E 34 SW	AKAA 059394	02/12/2018	RECORDED	02/08/2018
HERBERT # 1	AKAA 059363	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 38S 65E 34 SW	AKAA 059363	02/12/2018	RECORDED	02/08/2018
HERBERT # 2	AKAA 059364	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 38S 65E 34 SW	AKAA 059364	02/12/2018	RECORDED	02/08/2018
HERBERT #35	AKAA 059983	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 39S 65E 4 NE	AKAA 059983	02/12/2018	RECORDED	02/08/2018
HERBERT #34	AKAA 059982	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 39S 65E 4 NE	AKAA 059982	02/12/2018	RECORDED	02/08/2018
HERBERT 21	AKAA 087185	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NE	AKAA 087185	02/12/2018	RECORDED	02/08/2018
HERBERT 27	AKAA 087191	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NE	AKAA 087191	02/12/2018	RECORDED	02/08/2018
HERBERT #41	AKAA 059989	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 38S 65E 34 SW	AKAA 059989	02/12/2018	RECORDED	02/08/2018
HERBERT #42	AKAA 059990	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 38S 65E 34 SW	AKAA 059990	02/12/2018	RECORDED	02/08/2018
HERBERT #43	AKAA 059991	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 39S 65E 3 NW	AKAA 059991	02/12/2018	RECORDED	02/08/2018
HERBERT #44	AKAA 059992	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 39S 65E 3 NW	AKAA 059992	02/12/2018	RECORDED	02/08/2018
HERBERT 22	AKAA 087186	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 NW	AKAA 087186	02/12/2018	RECORDED	02/08/2018
HERBERT 28	AKAA 087192	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 NW	AKAA 087192	02/12/2018	RECORDED	02/08/2018
HERBERT 32	AKAA 087196	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087196	02/12/2018	RECORDED	02/08/2018
HERBERT 23	AKAA 087187	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 NW	AKAA 087187	02/12/2018	RECORDED	02/08/2018
HERBERT 29	AKAA 087193	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 NW	AKAA 087193	02/12/2018	RECORDED	02/08/2018
HERBERT 33	AKAA 087197	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087197	02/12/2018	RECORDED	02/08/2018
HERBERT 38	AKAA 087202	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087202	02/12/2018	RECORDED	02/08/2018
HERBERT 34	AKAA 087198	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SE	AKAA 087198	02/12/2018	RECORDED	02/08/2018
HERBERT 39	AKAA 087203	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SE	AKAA 087203	02/12/2018	RECORDED	02/08/2018
HERBERT 71	AKAA 087878	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 NW	AKAA 087878	02/12/2018	RECORDED	02/08/2018
HERBERT 1	AKAA 087165	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087165	02/12/2018	RECORDED	02/08/2018
HERBERT 3	AKAA 087167	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087167	02/12/2018	RECORDED	02/08/2018
HERBERT 6	AKAA 087170	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087170	02/12/2018	RECORDED	02/08/2018
HERBERT 9	AKAA 087173	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087173	02/12/2018	RECORDED	02/08/2018
HERBERT 12	AKAA 087176	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087176	02/12/2018	RECORDED	02/08/2018
HERBERT 14	AKAA 087178	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 5 NE	AKAA 087178	02/12/2018	RECORDED	02/08/2018
HERBERT 2	AKAA 087166	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087166	02/12/2018	RECORDED	02/08/2018
HERBERT 4	AKAA 087168	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087168	02/12/2018	RECORDED	02/08/2018
HERBERT 7	AKAA 087171	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087171	02/12/2018	RECORDED	02/08/2018
HERBERT 10	AKAA 087174	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087174	02/12/2018	RECORDED	02/08/2018
HERBERT 13	AKAA 087177	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087177	02/12/2018	RECORDED	02/08/2018
HERBERT 15	AKAA 087179	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NW	AKAA 087179	02/12/2018	RECORDED	02/08/2018
HERBERT 17	AKAA 087181	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NW	AKAA 087181	02/12/2018	RECORDED	02/08/2018
HERBERT 5	AKAA 087169	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087169	02/12/2018	RECORDED	02/08/2018
HERBERT 8	AKAA 087172	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087172	02/12/2018	RECORDED	02/08/2018
HERBERT 11	AKAA 087175	GPG ALASKA RESOURCES INC	Anchorage	C 38S 65E 33 SW	AKAA 087175	02/12/2018	RECORDED	02/08/2018
HERBERT # 7	AKAA 059369	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 38S 65E 33 SW	AKAA 059369	02/12/2018	RECORDED	02/08/2018
HERBERT # 8	AKAA 059370	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 39S 65E 4 NW	AKAA 059370	02/12/2018	RECORDED	02/08/2018
HERBERT # 9	AKAA 059371	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 39S 65E 4 NW	AKAA 059371	02/12/2018	RECORDED	02/08/2018
HERBERT # 21 WITNESS	AKAA 059383	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 38S 65E 33 SE	AKAA 059383	02/12/2018	RECORDED	02/08/2018
HERBERT # 3	AKAA 059365	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 38S 65E 33 SE	AKAA 059365	02/12/2018	RECORDED	02/08/2018
HERBERT # 4	AKAA 059366	JUNEAU EXPLORATION AND DEVELOPMENT INC	Anchorage	C 38S 65E 33 SE	AKAA 059366	02/12/2018	RECORDED	02/08/2018
HERBERT 16	AKAA 087180	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 5 NE	AKAA 087180	02/12/2018	RECORDED	02/08/2018
HERBERT 18	AKAA 087182	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NW	AKAA 087182	02/12/2018	RECORDED	02/08/2018

HERBERT 24	AKAA 087188	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NW	AKAA 087188	02/12/2018	RECORDED	02/08/2018
HERBERT 19	AKAA 087183	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NW	AKAA 087183	02/12/2018	RECORDED	02/08/2018
HERBERT 25	AKAA 087189	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NW	AKAA 087189	02/12/2018	RECORDED	02/08/2018
HERBERT 26	AKAA 087190	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 NE	AKAA 087190	02/12/2018	RECORDED	02/08/2018
HERBERT 30	AKAA 087194	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 SE	AKAA 087194	02/12/2018	RECORDED	02/08/2018
HERBERT 35	AKAA 087199	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 SE	AKAA 087199	02/12/2018	RECORDED	02/08/2018
HERBERT 31	AKAA 087195	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 SE	AKAA 087195	02/12/2018	RECORDED	02/08/2018
HERBERT 36	AKAA 087200	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 SE	AKAA 087200	02/12/2018	RECORDED	02/08/2018
HERBERT 40	AKAA 087204	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 SE	AKAA 087204	02/12/2018	RECORDED	02/08/2018
HERBERT 44	AKAA 087208	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 SE	AKAA 087208	02/12/2018	RECORDED	02/08/2018
HERBERT 48	AKAA 087212	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 4 SE	AKAA 087212	02/12/2018	RECORDED	02/08/2018
HERBERT 37	AKAA 087201	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087201	02/12/2018	RECORDED	02/08/2018
HERBERT 41	AKAA 087205	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087205	02/12/2018	RECORDED	02/08/2018
HERBERT 45	AKAA 087209	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087209	02/12/2018	RECORDED	02/08/2018
HERBERT 49	AKAA 087213	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087213	02/12/2018	RECORDED	02/08/2018
HERBERT 52	AKAA 087216	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 10 NW	AKAA 087216	02/12/2018	RECORDED	02/08/2018
HERBERT 56	AKAA 087220	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 10 NW	AKAA 087220	02/12/2018	RECORDED	02/08/2018
HERBERT 60	AKAA 087224	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 10 NW	AKAA 087224	02/12/2018	RECORDED	02/08/2018
HERBERT 64	AKAA 087228	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 10 NW	AKAA 087228	02/12/2018	RECORDED	02/08/2018
HERBERT 42	AKAA 087206	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087206	02/12/2018	RECORDED	02/08/2018
HERBERT 46	AKAA 087210	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087210	02/12/2018	RECORDED	02/08/2018
HERBERT 50	AKAA 087214	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SW	AKAA 087214	02/12/2018	RECORDED	02/08/2018
HERBERT 53	AKAA 087217	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 10 NW	AKAA 087217	02/12/2018	RECORDED	02/08/2018
HERBERT 57	AKAA 087221	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 10 NW	AKAA 087221	02/12/2018	RECORDED	02/08/2018
HERBERT 61	AKAA 087225	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 10 NW	AKAA 087225	02/12/2018	RECORDED	02/08/2018
HERBERT 65	AKAA 087229	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 10 NW	AKAA 087229	02/12/2018	RECORDED	02/08/2018
HERBERT 43	AKAA 087207	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SE	AKAA 087207	02/12/2018	RECORDED	02/08/2018
HERBERT 47	AKAA 087211	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SE	AKAA 087211	02/12/2018	RECORDED	02/08/2018
HERBERT 51	AKAA 087215	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 3 SE	AKAA 087215	02/12/2018	RECORDED	02/08/2018
HERBERT 54	AKAA 087218	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 11 NW	AKAA 087218	02/12/2018	RECORDED	02/08/2018
HERBERT 58	AKAA 087222	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 11 NW	AKAA 087222	02/12/2018	RECORDED	02/08/2018
HERBERT 62	AKAA 087226	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 11 NW	AKAA 087226	02/12/2018	RECORDED	02/08/2018
HERBERT 66	AKAA 087230	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 11 NW	AKAA 087230	02/12/2018	RECORDED	02/08/2018
HERBERT 55	AKAA 087219	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 11 NW	AKAA 087219	02/12/2018	RECORDED	02/08/2018
HERBERT 59	AKAA 087223	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 11 NW	AKAA 087223	02/12/2018	RECORDED	02/08/2018
HERBERT 63	AKAA 087227	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 11 NW	AKAA 087227	02/12/2018	RECORDED	02/08/2018
HERBERT 67	AKAA 087231	GPG ALASKA RESOURCES INC	Anchorage	C 39S 65E 11 NW	AKAA 087231	02/12/2018	RECORDED	02/08/2018

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 will issue 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 has 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.

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 2018 U.S. Forest Service Plan of Operations was still under review.

A baseline water sampling program by Admiralty Environmental started at the project site in 2012. The purpose of the program is 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, have 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 has been submitted and has not yet 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 (Figure 1). 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. Alaska Airlines is the sole commercial jet passenger operator. Alaska Airlines provides service to Anchorage and Sitka as well as to many small communities in the state. 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. This 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 (Figure 2), 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.

Climate data for Juneau, Alaska ([Juneau Int'l](#), 1981–2010 normals)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °F (°C)	60 (16)	57 (14)	61 (16)	72 (22)	80 (27)	87 (31)	90 (32)	88 (31)	85 (29)	73 (23)	64 (18)	59 (15)	90 (32)
Average high °F (°C)	32.8 (0.4)	35.2 (1.8)	39.6 (4.2)	48.4 (9.1)	56.6 (13.7)	62.2 (16.8)	63.9 (17.7)	62.7 (17.1)	55.7 (13.2)	47.1 (8.4)	38.1 (3.4)	34.1 (1.2)	48.0 (8.9)
Average low °F (°C)	23.7 (−4.6)	24.9 (−3.9)	27.9 (−2.3)	33.2 (0.7)	40.5 (4.7)	46.8 (8.2)	49.9 (9.9)	49.0 (9.4)	44.3 (6.8)	37.8 (3.2)	29.5 (−1.4)	25.5 (−3.6)	36.1 (2.3)
Record low °F (°C)	−22 (−30)	−22 (−30)	−15 (−26)	6 (−14)	25 (−4)	31 (−1)	36 (2)	31 (−1)	23 (−5)	11 (−12)	−7 (−22)	−21 (−29)	−22 (−30)
<u>Precipitation</u> inches (mm)	5.35 (135.9)	4.14 (105.2)	3.78 (96)	2.94 (74.7)	3.40 (86.4)	3.24 (82.3)	4.60 (116.8)	5.72 (145.3)	8.74 (222)	8.62 (218.9)	6.15 (156.2)	5.84 (148.3)	62.51 (1,587.8)
Snowfall inches (cm)	27.4 (69.6)	17.4 (44.2)	11.6 (29.5)	1.1 (2.8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.8 (2)	12.6 (32)	16.0 (40.6)	86.8 (220.5)
Avg. precipitation days (≥ 0.01 in)	20.6	16.6	18.9	17.0	16.3	15.8	17.7	19.1	22.3	23.9	20.9	20.6	229.7
Avg. snowy days (≥ 0.1 in)	10.7	8.0	6.8	1.3	0	0	0	0	0	0.6	5.7	9.8	42.9
Mean monthly sunshine hours	80.6	90.4	136.4	183.0	232.5	189.0	182.9	161.2	111.0	65.1	60.0	40.3	1,532.4

Source: NOAA (extremes 1890–present)^[10] HKO (sun only, 1961–1990)^[11]

6 HISTORY (Item 6) (MOST OF THIS SECTION HAS 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 additional 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 drill holes, Echo Bay abandoned the property as part of their divestiture of its Alaskan properties.

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 chip, 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).

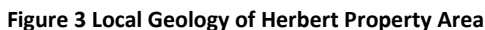
The Gravina belt comprises Upper Jurassic to Mid-Cretaceous marine argillite and greywacke, interbedded andesite to basaltic volcanic and volcanoclastic rocks, and plutons ranging from quartz diorite to peridotite (Gehrels and Berg, 1992 and 1994). The Taku terrane differs from the Gravina belt by having 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 (excepted 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 a meter 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.

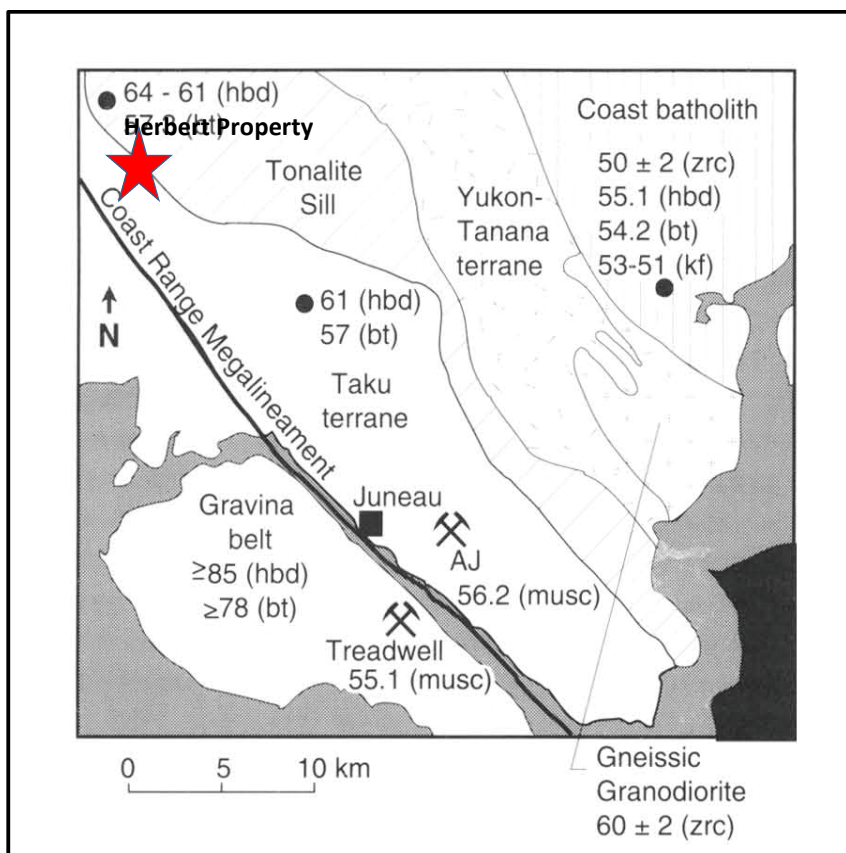
Mineralization



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 6.8 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*, 1991b). 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 1:2200 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.

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. Twenty three short BQ holes were drilled (300 series) with encouraging results.

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 addition 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) 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)

The 2017 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.

All drillhole information is shown on the Table 3 below.

Table 3. 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
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
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

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 45 degrees. All quartz vein intercepts were sampled, as well as the wall rock on either side of each vein. A total of 2,914 assay intervals have been obtained.

There are 22 samples with assays >60 gpt, and these are shown with the proximal samples.

Table 4. List of all assay intervals containing assays >60 gpt.

Drill Hole ID	From (m)	To (m)	Gold (gpt)
88H-13	88.39	88.76	0.14
88H-13	88.76	89.31	7.19
88H-13	89.31	89.76	0.99
88H-13	89.76	90.22	0.65
88H-13	90.22	90.46	3.8
88H-13	90.46	90.78	432.88
88H-13	90.78	91.07	14.31
88H-13	91.07	91.59	1.51
88H-6	48.92	57.76	0
88H-6	57.76	58.06	131.85
88H-6	58.06	58.37	2.1
88H-6	58.37	58.67	0.09
88H-1	22.25	22.56	0.06
88H-1	22.56	22.86	3
88H-1	22.86	23.16	0.05
88H-1	23.16	23.47	1.8
88H-1	23.47	23.77	2.054
88H-1	23.77	24.08	3.63
88H-1	24.08	24.38	94.178
88H-1	24.38	24.69	68.832
88H-1	24.69	24.99	18.07
88H-1	24.99	25.3	2.396
88H-1	25.3	25.6	4.657

88H-1	25.6	25.91	0.58
88H-1	25.91	26.21	0.03
326B2	87.56	88.4	0.335
326B2	88.4	89.11	0.83
326B2	89.11	89.66	0.077
326B2	89.66	91.29	0.338
326B2	91.29	92.28	1.32
326B2	92.28	92.71	5.62
326B2	92.71	93.37	4.96
326B2	93.37	94.08	428
326B2	94.08	95.12	0.007
315E	18.11	19.04	0.009
315E	19.04	19.46	1.655
315E	19.46	19.81	53.4
315E	19.81	20.17	97.2
315E	20.17	20.77	0.181
315E	20.77	21.33	0.002
311A	34.57	35.25	0.031
311A	35.25	36.06	0.007
311A	36.06	37.45	0.719
311A	37.45	37.98	365
311A	37.98	39.54	3.71
311A	39.54	40.13	130
311A	40.13	40.52	114.5
311A	40.52	41.03	196.5
311A	41.03	41.91	19.25
311A	41.91	42.22	40.7
311A	42.22	42.74	37
311A	42.74	43.28	26.6
311A	43.28	44.14	0.812
311A	44.14	44.71	0.162
311A	44.71	45.26	0.285
311A	45.26	45.72	0.015
120-6	119.29	119.63	1.48
120-6	119.63	120.74	1.5
120-6	120.74	121.29	16.1
120-6	121.29	121.71	0.92
120-6	121.71	122.1	0.425
120-6	122.1	123.63	0.759
120-6	123.63	124.87	0.462
120-6	124.87	125.76	0.52
120-6	125.76	126.14	1.92
120-6	126.14	126.61	68.6
120-6	126.61	127.35	0.008
12J-3	110.95	112.28	0.019
12J-3	112.28	113.2	17.4
12J-3	113.2	114	192.5
12J-3	114	114.33	0.101

12J-3	114.33	115.52	0.05
12G-5	126.41	127.41	0.085
12G-5	127.41	127.77	0.85
12G-5	127.77	128.97	0.059
12G-5	128.97	129.42	0.046
12G-5	129.42	130.83	2.7
12G-5	130.83	131.66	2.21
12G-5	131.66	132.86	79
12G-5	132.86	133.5	9.64
12G-5	133.5	134.58	4.29
12G-5	134.58	135.15	3.78
12G-5	135.15	136.79	0.156
12G-5	136.79	137.85	0.004
11I-5	111.13	112.19	72.7
11I-5	112.19	113.23	1.03
11I-5	113.23	114.28	0.4
11I-5	114.28	115.21	0.13
11I-4	144.21	144.95	2.24
11I-4	144.95	145.47	229
11I-4	145.47	145.88	6.77
11D-1	134.36	135.23	0.021
11D-1	135.23	136.24	0.285
11D-1	136.24	136.99	83.1
11D-1	136.99	137.7	227
11D-1	137.7	138.47	22.8
11D-1	138.47	139.29	0.79
12E-1	108.78	109.79	0.11
12E-1	109.79	110.46	4.08
12E-1	110.46	111.21	1.66
12E-1	111.21	112.19	0.2
12E-1	112.19	113.51	1.07
12E-1	113.51	114.23	5.21
12E-1	114.23	115.13	1.68
12E-1	115.13	116.3	10.25
12E-1	116.3	116.85	76.8
12E-1	116.85	117.68	0.15
12E-1	117.68	118.6	0.15
11E-2	136.44	137.1	0.025
11E-2	137.1	138.98	17.2
11E-2	138.98	140.52	2.11
11E-2	140.52	141.9	1.56
11E-2	141.9	142.58	0.019
11E-2	142.58	143.63	0.62
11E-2	143.63	144.6	31.3
11E-2	144.6	145.62	0.54
11E-2	145.62	147.07	0.66
11E-2	147.07	148.14	225
11E-2	148.14	149.7	141.5

11E-2	149.7	150.57	2.72
11E-2	150.57	150.83	81.8
11E-2	150.83	152.37	6.77
17L-2	162.2	163.36	0.003
17L-2	163.36	164.53	0.23
17L-2	164.53	165.25	8.18
17L-2	165.25	166	69.1
17L-2	166	167.25	0.05

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.
- 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 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 interjected 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.
- Blanks and standards were added to the samples for shipment using the tags which were reserved out of the sequence while first marking the intervals to be sampled earlier.
- 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 hauled to Alaska Air Freight by authorized Grande Portage personnel and shipped to:

ALS Prep Lab
1060 Bush Street
Fairbanks, AK 99709
Ph.# 907 452-2188

ALS is a commercial laboratory with ISO17025 certification, independent of GPG. It operates a preparation facility in Fairbanks Alaska with analytical facilities in North Vancouver.

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 Grande Portage 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 GPR personnel were maintained during transport. Time for core storage at Coastal Helicopters hanger was kept to a minimum.

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

11.3 Sample Analyses

Crushing Procedures

- a) ALS Crushing Procedure 21

The entire sample is passed through a primary crusher to yield a crushed product that 70% of which passes 6mm.

- b) ALS Preparation Procedure 41-g

The sample is logged in the tracking system, weighed, dried and finely crushed to better than 70% passing a 2 mm screen. A split of up to 1000 g is taken and pulverized to better than 85% passing a 75 micron screen.

Analytical Procedures (Several Analytical Procedures were used)

a) Au GR21

A 30 g prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax and other reagents in order to produce a lead button. This button is cupelled to remove the lead. The remaining gold bead is parted in dilute nitric acid, annealed and weighed as gold.

b) Au-ACR24

The sample pulp is passed through a 100 micron stainless steel screen. Any material remaining on the screen (>100 mm) is retained and analysed in its entirety by fire assay with gravimetric finish and reported as the Au(+) fraction. The material passing through the screen (<100 micron) is homogenized and two sub-samples (50g) are analysed by fire assay with AA finish (Au AA26 and Au AA26D). The average of the two AAS results is taken and reported as the Au (-) fraction. All three results are used in calculating the combined gold content of the plus and minus fractions. The gold values for both the (+) 100 and (-) fractions are reported together with the weight of each fraction as well as the calculated gold content of the sample.

12 DATA VERIFICATION (Item 12)

The author reviewed all analytical data collected by GPG, including the standards and blanks that were submitted.

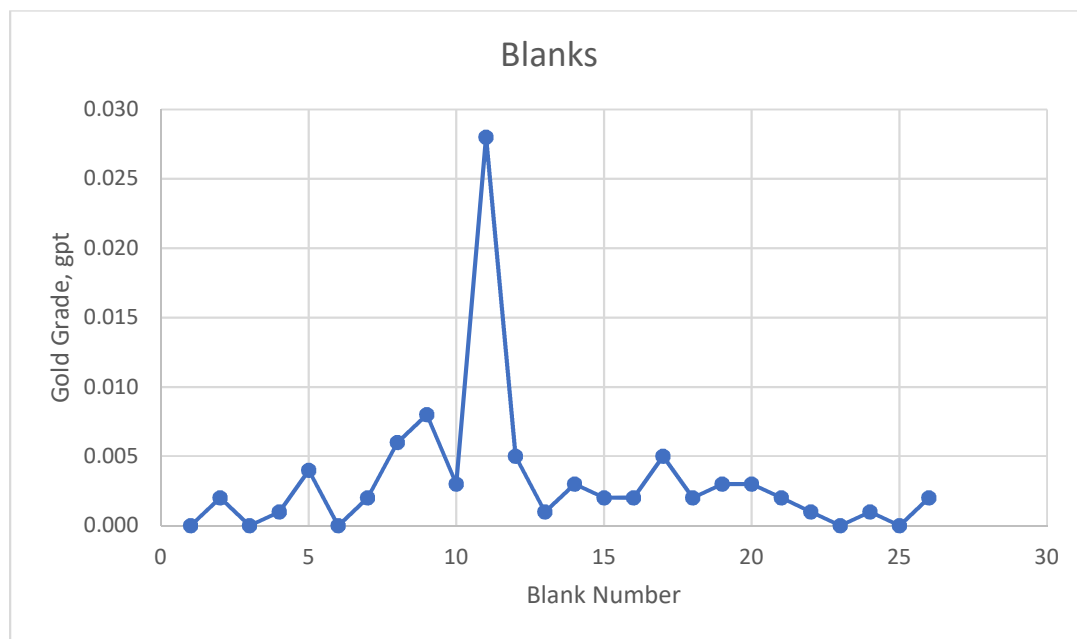


Figure 4. Assays of blanks submitted in 2017 drill program.

Twenty seven blank samples were inserted into the sample stream. All yielded acceptable results except for one anomalous value at 0.28 gpt obtained. This is unacceptable for a blank value and the data set from drill hole 17L2 should be rerun, however it is a low enough value to not be of material concern in the author's opinion.

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

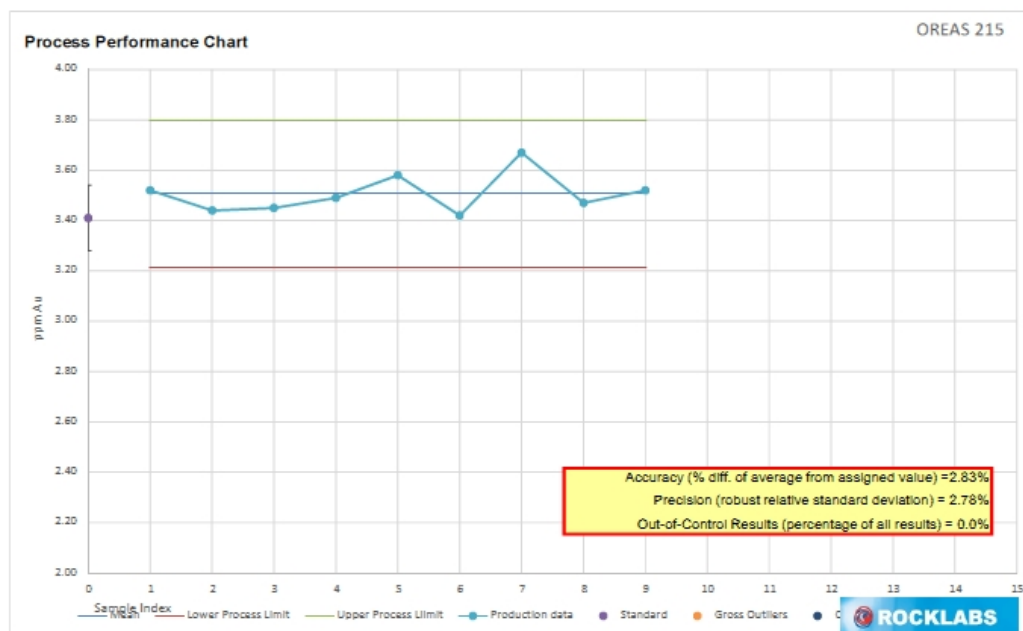


Figure 5. Assays of OREAS 215 standard

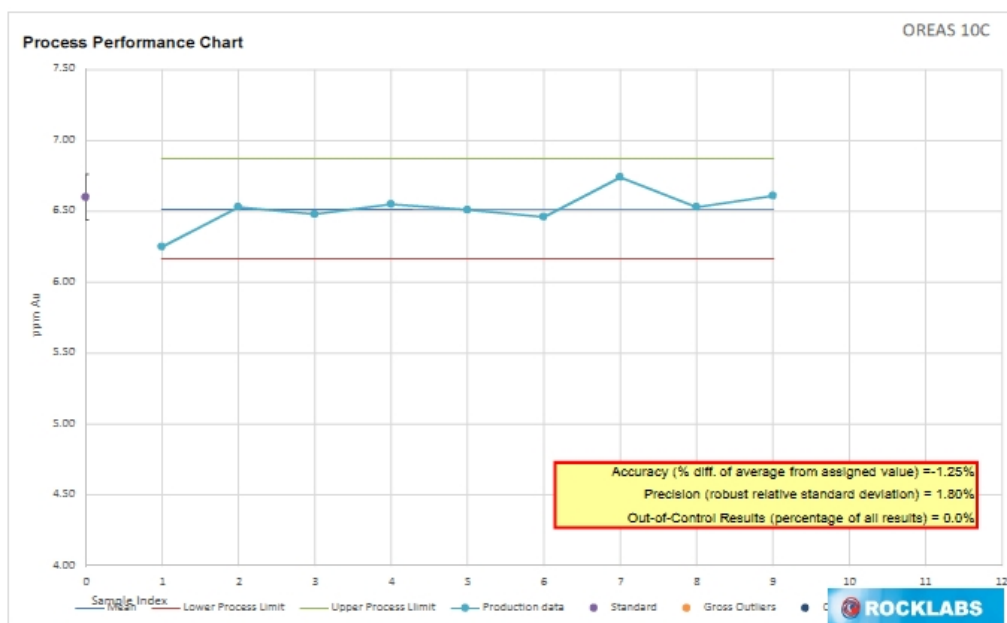


Figure 6. Assays of OREAS 10C standard.

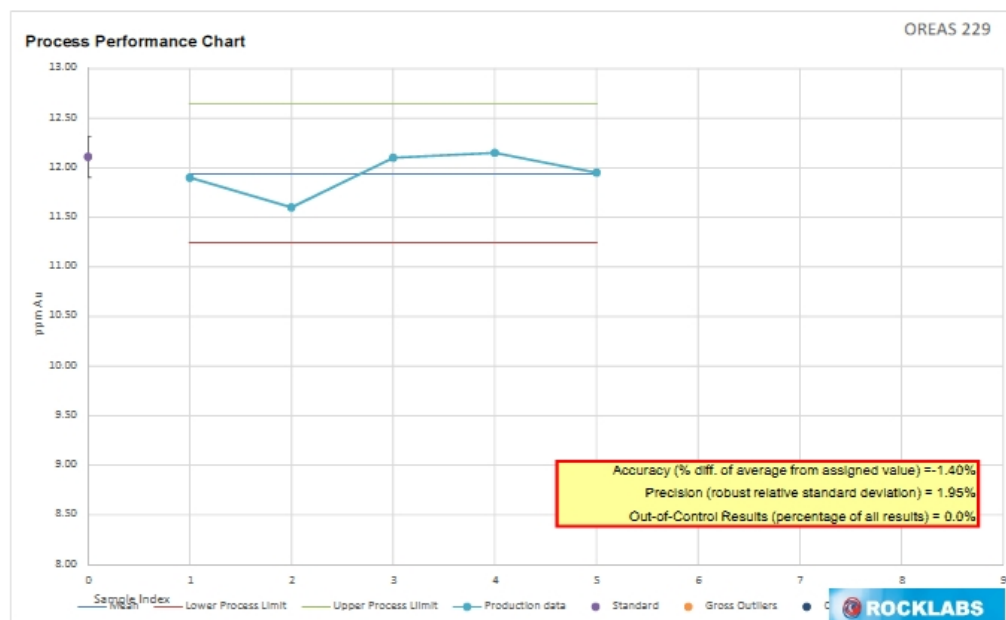


Figure 7. Assays of OREAS 229 standard.

The standards run by GPG all returned acceptable values and confirm that their QA/QC work is appropriate for this project in the author's opinion.

In addition, the author collected his own sample of the goat vein from material collected by the company during its drilling campaign. It assayed 24.3 gpt gold by fire assay (Bureau Veratis's FA530 technique) and 38.8 gpt by ICP (Bureau Veratis's AQ251 technique). Both are in accord with reported grades for the Goat Vein in this area.

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

13 MINERAL PROCESSING AND METALLURGICAL TESTING (Item 13)

No mineral processing or metallurgical testing was completed since the previous testing was reported and is excerpted here from Van Wyck and Burnett (2012).

The U.S. Bureau of Mines collected a 240 lb metallurgical sample for analysis and beneficiation tests in 1988. A gravity separation test recovered 88.8% of the gold and 80.7% of the silver (Redman and others 1988). 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. As testing of the project continues, increased knowledge will allow a better consideration of the range and size of the sampling program required for additional metallurgical sampling. A bulk sample of between 10 and 100 tonne will permit for a more comprehensive mill design and a gravity only test by Falcon (or equivalent) would provide for better parameters for the designing of the mill. Finally, the regional characteristics of ores from past mining operations in the Juneau District appear to be quite consistent, containing a very high percentage of free milling gold with the remained or the gold reporting with the base metal sulphides. It is reasonable to expect, based on the regional

characteristics and the character of the core samples obtained to date that potential ore from the Herbert Gold Project will behave similarly.

All testing is historical in nature and has been presented for reference only. The results obtained from these historical tests are similar to the recoveries from the nearby mine and are what might be anticipated from the Herbert Gold Property. The property hosts an orogenic gold deposit with significantly elevated arsenic and silver, and slightly elevated lead, and zinc. One assay reported significantly elevated mercury. No other elements appear to be significantly enriched.

Further work should be completed on 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° east of true north at Juneau, Alaska.

A total of 139 diamond drillholes and 4 trenches test mineralization on the Herbert Property. Three thousand and forty four (3,044) ICP gold assays, 100 gold assays with gravimetric finish, 999 screened metallic gold assays and 3,044 ICP multi-element (33 element) analyses were presented in a digital database. The author reviewed the data with the view to produce a resource estimate if possible. 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. This work builds on the later report.

The nineteen 1986 - 1988 diamond drill holes were assessed statistically by ANOVA techniques as no core exists for direct validation. The drillholes constitute 13% of the drill hole (plus four trench) database and 7% of the total meters included. Other pertinent statistics are shown below in Table 5

Table 5. Selected statistics for 1988 drill holes.

	1988 DDH	Full Data
Assays >0	223	2914
Range	0 – 142.7	0-432.9
Mean	2.05	2.83
Median	0.29	0.27
Standard Dev	10.56	17.65

Student T tests (2 sided, $T=0.127$) and Fisher F tests (1 sided $F=9 \times 10^{-26}$), 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.

Solid Model Construction

MapInfo's 3D solid generation routine was used to construct three dimensional models of 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.

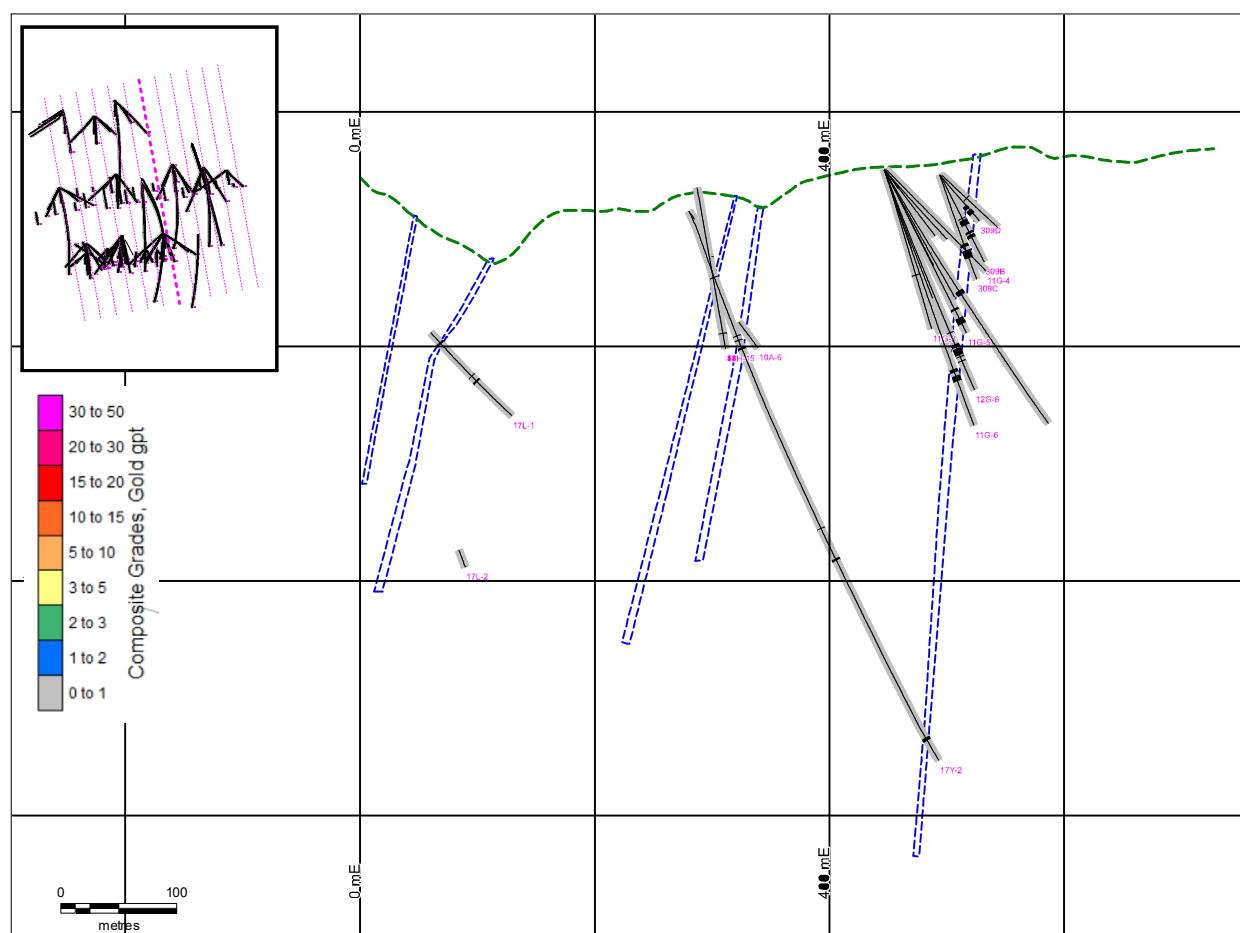


Figure 8. Typical east facing cross section showing vein correlations with drill hole traces.

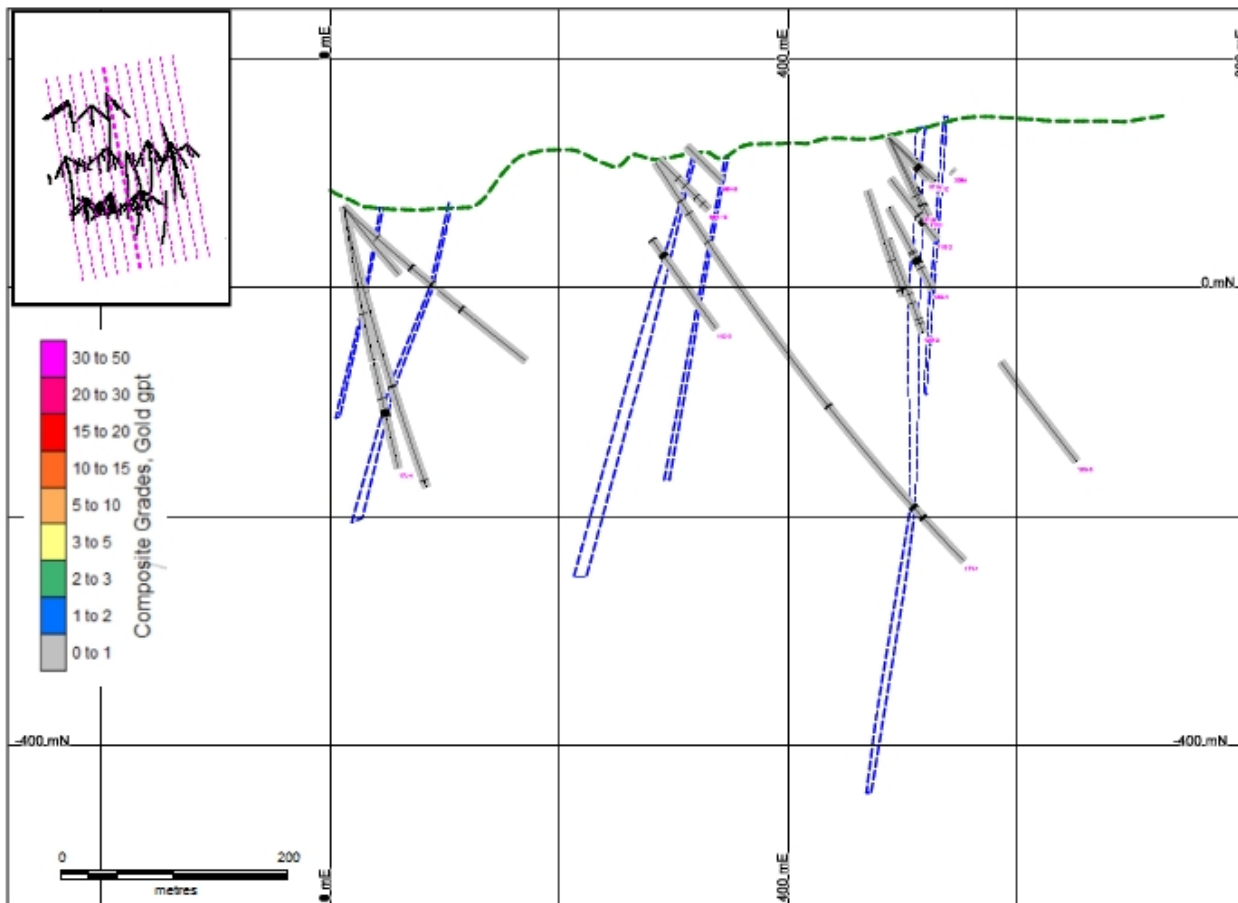


Figure 9. Typical east facing cross section showing vein correlations with drill hole traces.

Assay Database

The database consists of 139 diamond drillholes and four trenches (total 22,089.8 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 drillholes totaling 3,709 m were completed in 2017. Surveys were not completed on all drillholes, however these were the shorter holes (<100m) and 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 zero grade to facilitate resource calculations. Metallic or screened assays were used in all instances where they were available (999 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 6.

Table 6. Univariate statistics for all of the raw analytical data from the drill and trench database. All negative, non-numeric and zero values are declared invalid.

Field	au_ppm	as_ppm	ag_ppm	pb_ppm	zn_ppm	w_ppm
Count_n	4042	4042	4042	4042	4042	4042
CountValid	2914	2906	2376	2690	2617	2503
CountInvalid	1128	1136	1666	1352	1425	1539
Minimum	0.001	3	0.2	1	1	5
Maximum	432.88	153000	4010	31800	31200	6020
Sum_Total	8232.157	14962542	9526.2	456497	361073	165390
Mean	2.825	5148.844	4.009	169.701	137.972	66.077
Median	0.268	1597.500	0.200	14.500	105.000	20.000
Range	432.879	152997.000	4009.800	31799.000	31199.000	6015.000
Mode	0.003	15000.000	0.200	12.000	109.000	10.000
Variance	311.551	85817167.272	6900.331	1416546.404	486958.484	69576.009
StandardDeviation	17.651	9263.756	83.068	1190.188	697.824	263.773

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 zeros during the compositing procedure.

Table 7. Univariate statistics for all of the 1m composite data from the drill and trench database within the nine solids. All negative, non-numeric and zero values are declared invalid.

Field	au_ppm	as_ppm	ag_ppm	pb_ppm	zn_ppm	w_ppm
Count_n	1761	1761	1761	1761	1761	1761
CountValid	1043	1041	991	1018	1011	1003
CountInvalid	718	720	770	743	750	758
Minimum	0.000	0.090	0.002	0.030	0.800	0.150
Maximum	271.475	91281.000	2865.500	22840.500	21985.500	2981.000
Sum_Total	3921.571	6964917.697	6345.368	231238.712	142251.151	56355.916
Mean	3.760	6690.603	6.403	227.150	140.703	56.187
Median	0.782	3688.840	0.506	16.270	98.100	23.300
Range	271.475	91280.910	2865.498	22840.470	21984.700	2980.850
Mode	0.007	15000.000	0.200	13.000	97.000	20.000
Variance	237.942	76029341.053	9242.341	1213042.246	549666.249	26299.645
StandardDeviation	15.425	8719.481	96.137	1101.382	741.395	162.172

The log probability plot of this data showed a smooth curve consistent with a small population of very low grade composites, a small population of high-grade samples, and the bulk of the population with an average grade around 1 gpt.

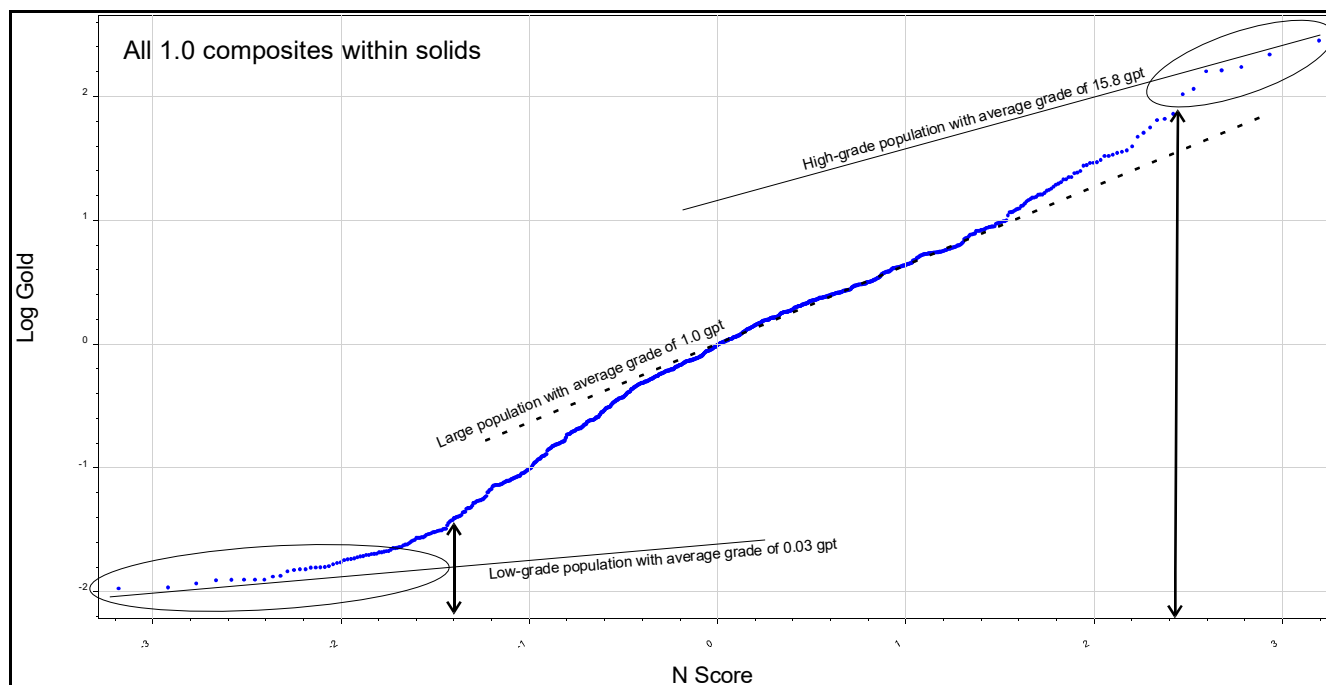


Figure 10. Lognormal probability plot of all 1.0 m composites within the mineralized solids.

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.

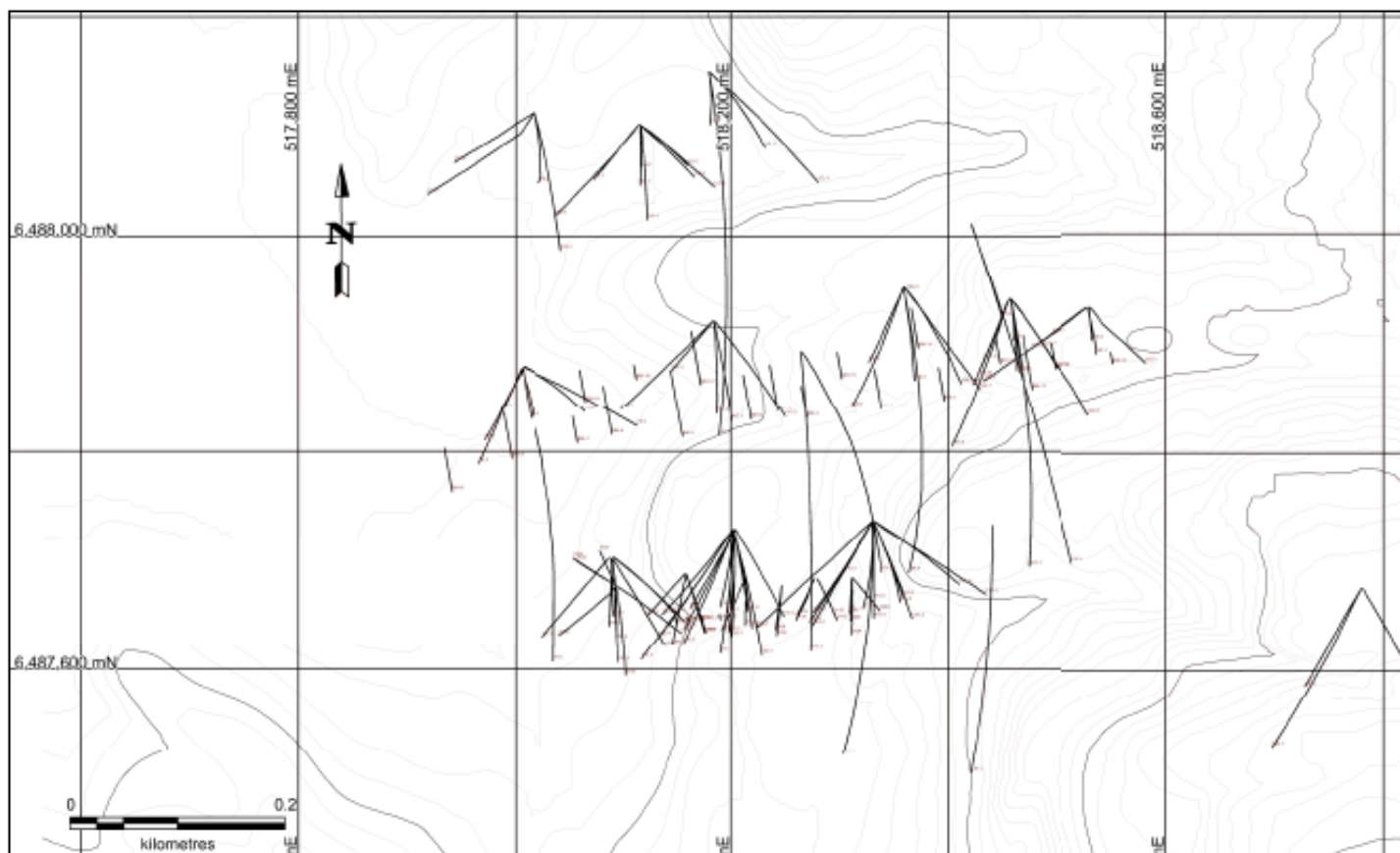


Figure 11. General location of the three principal vein structures with respect to topography, 10 metre contour intervals.

Density

A total of 30 mineralized samples from diamond drilling in 2012 were submitted for bulk density measurements (Table 8) to ALS for their determination using water immersion protocols (ALS OA-GRA09). The average density of 2.757 gm/cm³ is used in all calculations.

Table 8. Bulk density measurements on 30 mineralized intersections from the 2012 diamond drilling.

SAMPLE	Recvd Wt.	B.D.
DESCRIPTION	kg	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

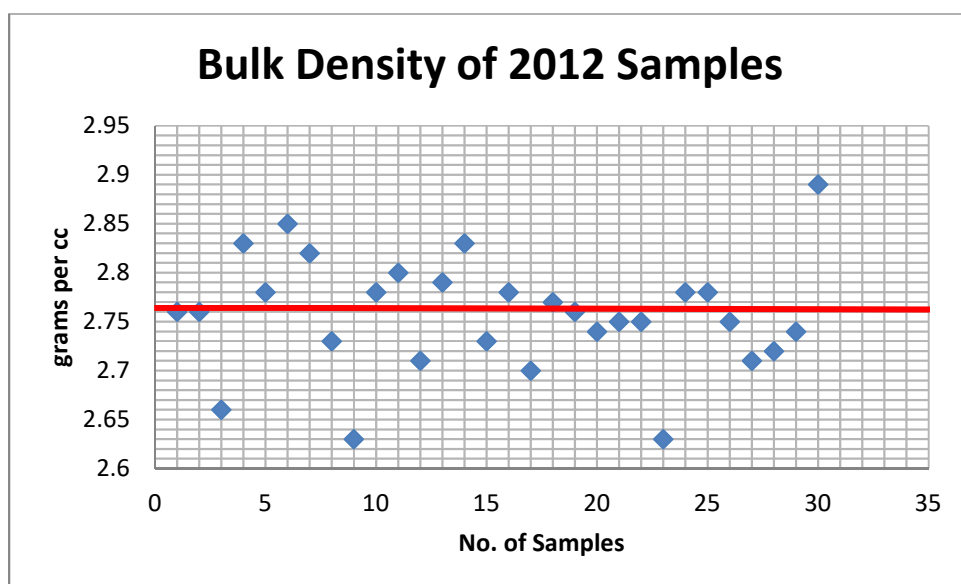


Figure 12. Density measurements on samples from Herbert Gold Project.

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 1m 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 all of the raw data shows materially a single population with a very high-grade population appearing in less than 0.01% of the population.

Both cut and uncut runs were considered, using a top cut of 80 gpt gold (log 1.90), picked as the inflection point from the probability plot of the 1.0m composites. An examination of the resultant block data distribution showed that the uncut run provided for a more uniform data distribution that was compatible with the composite data

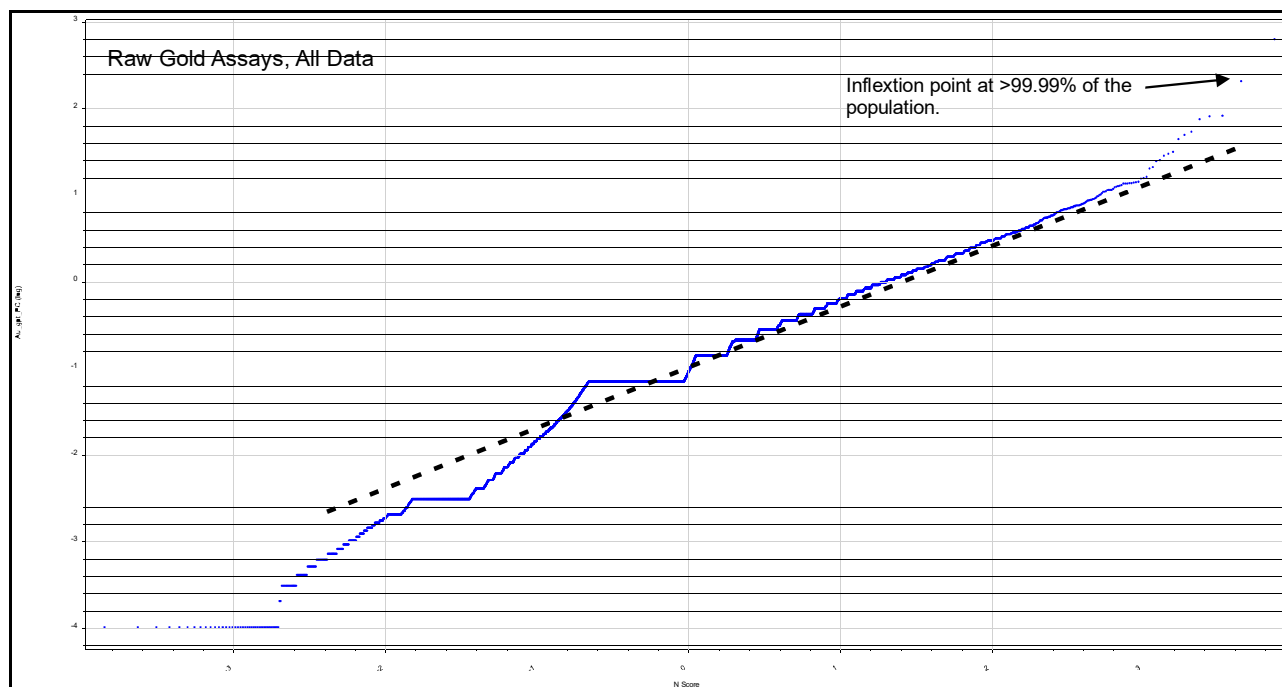


Figure 13. Lognormal probability plot of all of the raw data showing a remarkably uniform distribution with a very high-grade population indicated in the top 0.01%

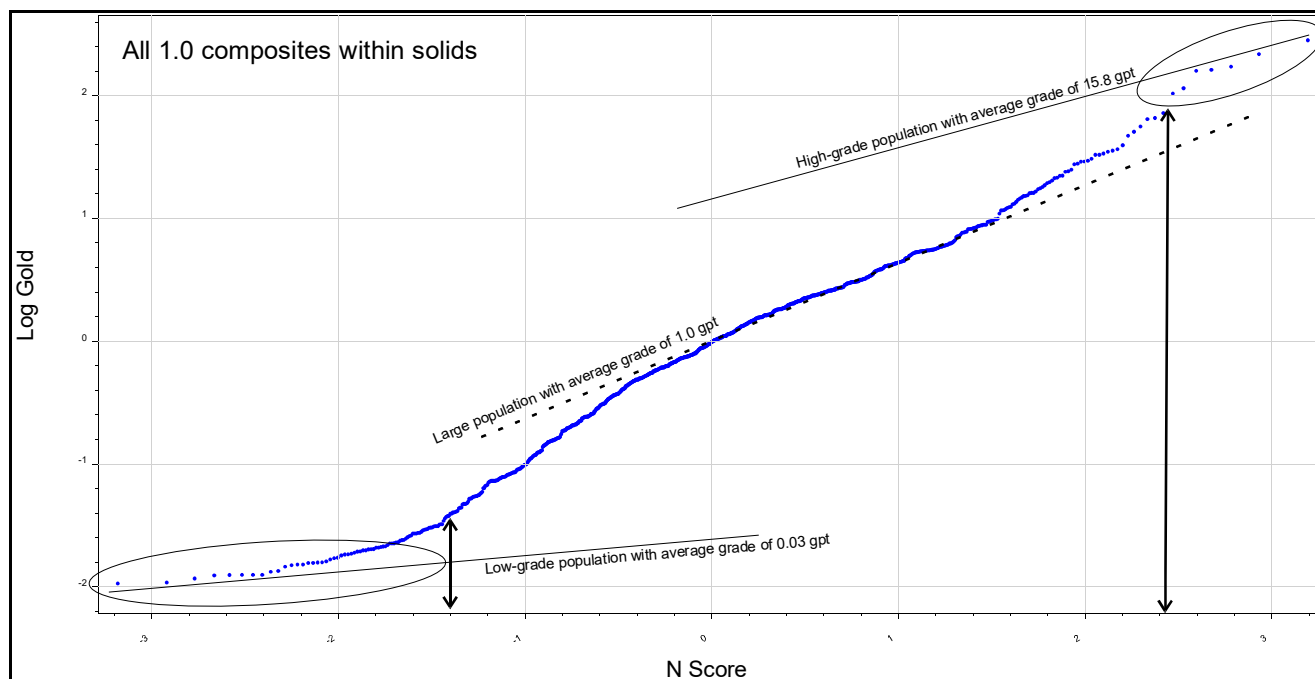


Figure 14. Lognormal probability plot of the 1.0m composite data within the solids showing a uniform distribution with a high-grade population indicated in the top 0.23%.

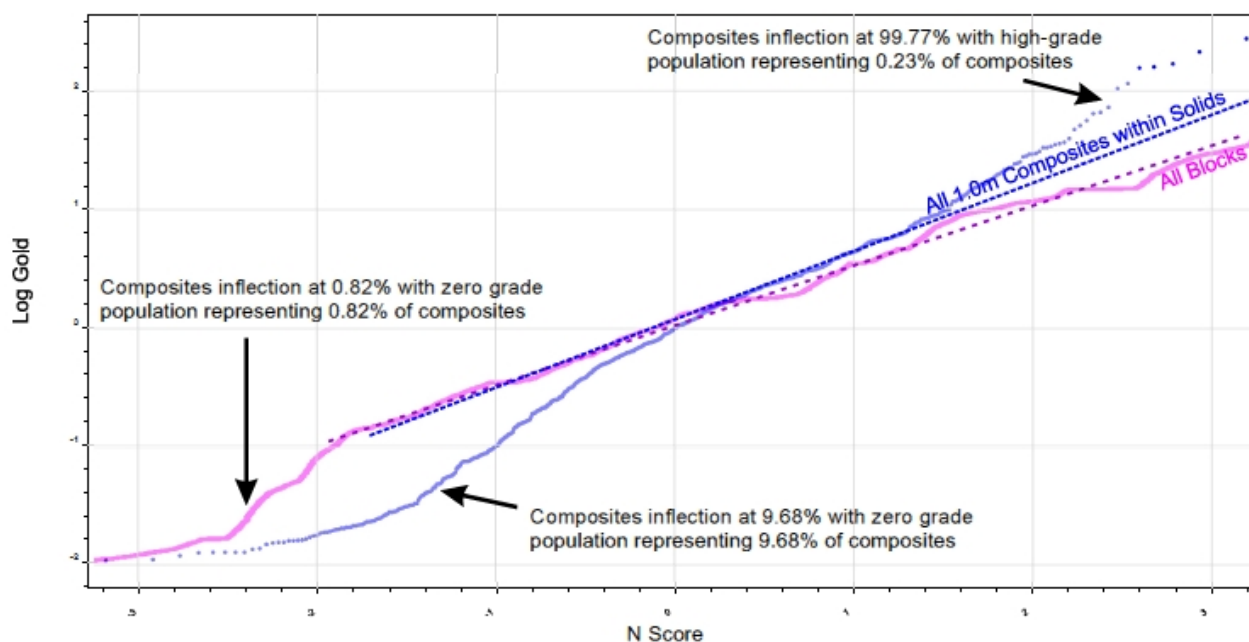


Figure 15. Lognormal probability plot of the uncut block data and the 1.0m composite data within the solids showing a uniform distribution with identical modes.

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.

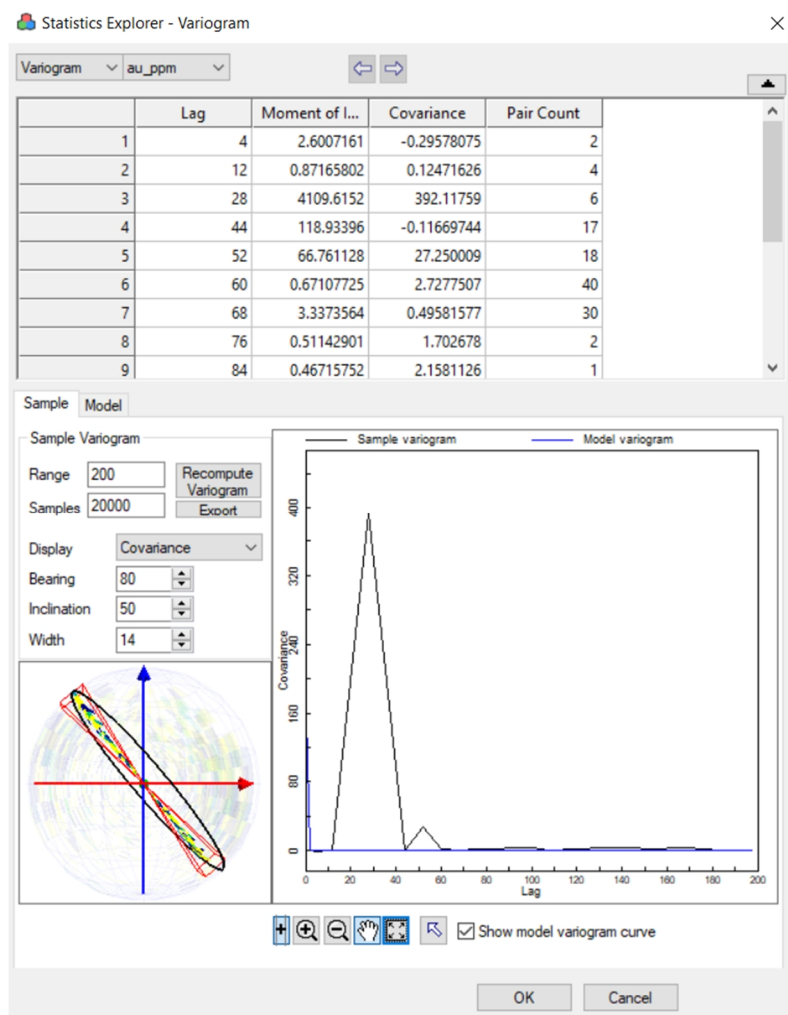


Figure 16. Covariance plot of all data >0 gpt gold for the Main Vein shows the best correlations at 080 degrees -50 inclination.

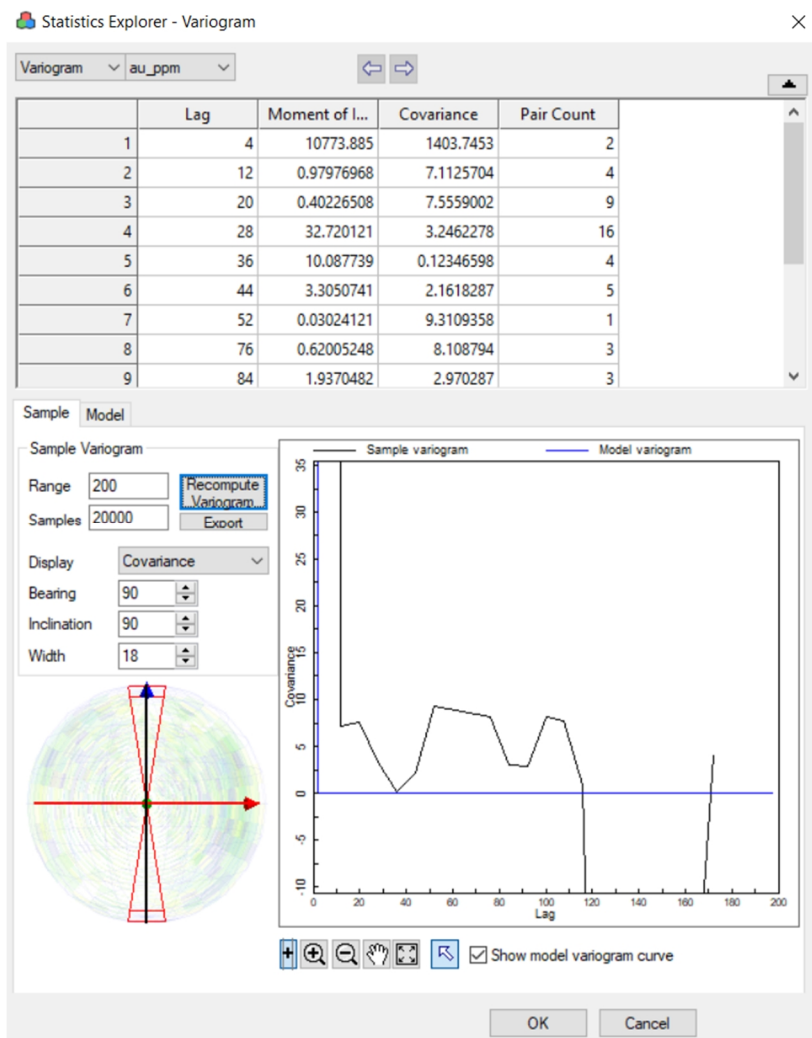


Figure 17. Covariance plot of all data >0 gpt gold for the Deep Trench Vein shows the best correlations at 090 degrees -90 inclination.

Block Model Estimate

A series of tabular blocks 1m wide and of various lengths and depths depending on the regularity of the vein boundaries were rotated into the plan of the vein were developed 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 omitted.

Vein	Width (m)	Length (m)	Height (m)
Deep Trench Vein	1	8	8
Deep Trench Vein HW	1	4	4
Deep Trench Vein FW	1	4	4
Main Vein	1	6	4

Main Vein HW	1	4	4
Main Vein FW	1	6	6
Oblique Vein	1	4	6
Goat Vein	1	4	4
Goat Vein HW	1	4	4

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. Previous resource estimates used search ellipsoids of up to 150m.

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.

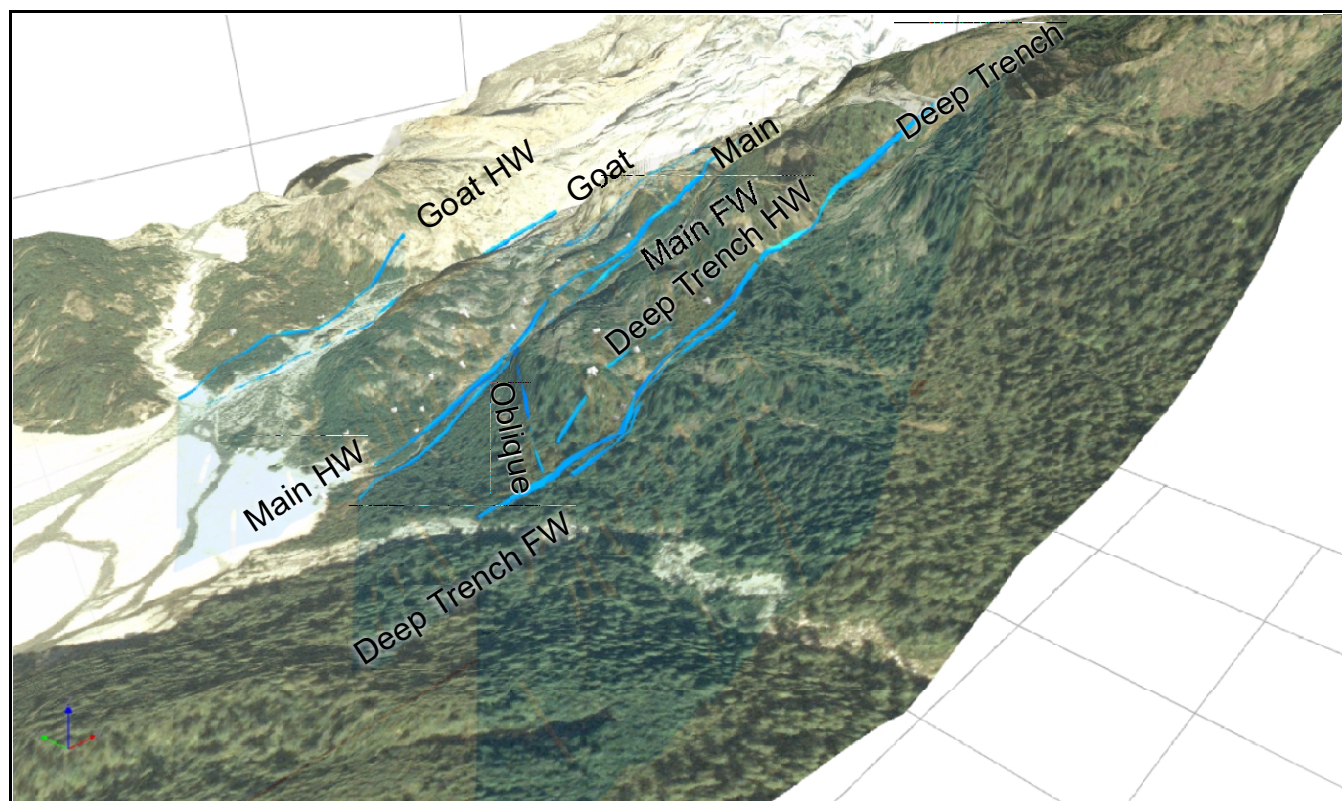


Figure 18. Oblique view, down to the northeast showing all of the vein solids, with an air photograph draped over topography. Grid is 200m spacing

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 ID2 method.

Cross sections populated with the resource blocks for the Deep Trench Vein are shown below with 20 m grids (red) and drill hole traces are shown.

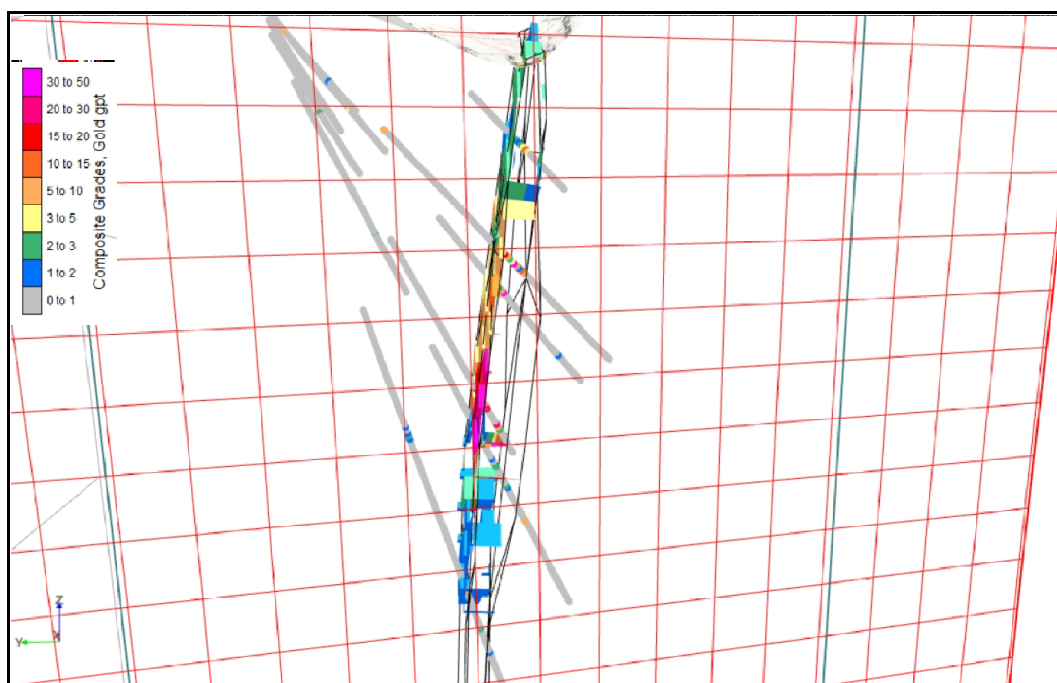


Figure 19. East looking cross section of the Deep Trench Vein with drillhole traces and resource blocks shown on a 70m thick slice.

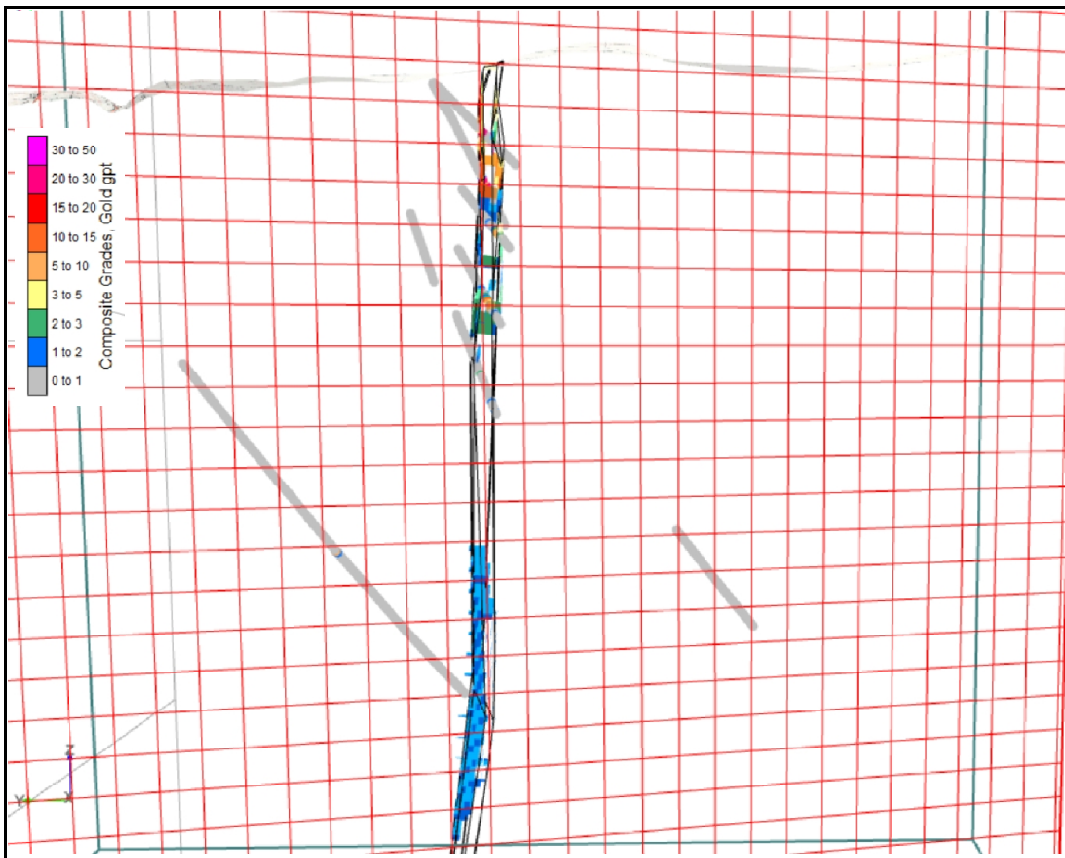


Figure 20. East looking cross section of the Deep Trench Vein with drillhole traces and resource blocks shown on a 70m thick slice.

Cross section populated with the resource blocks for the Main Vein are shown below with 20 m grids (red) and drill hole traces are shown below.

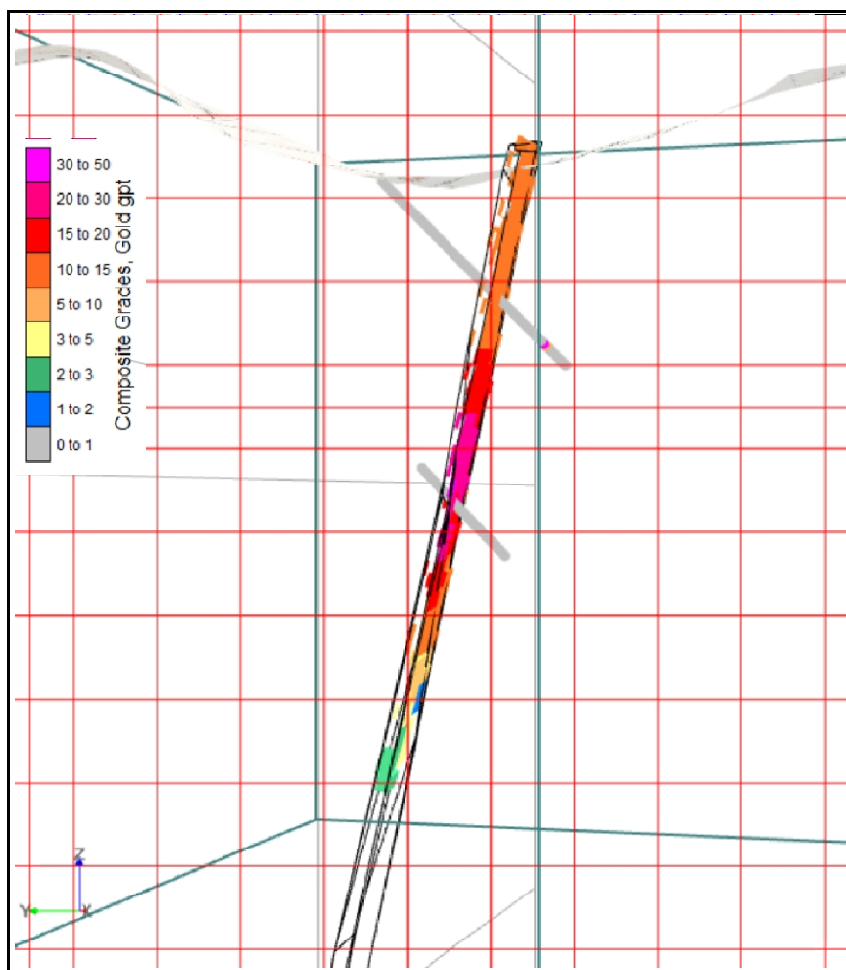


Figure 21. East looking cross section of the Main Vein with drillhole traces and resource blocks shown on a 70m thick slice.

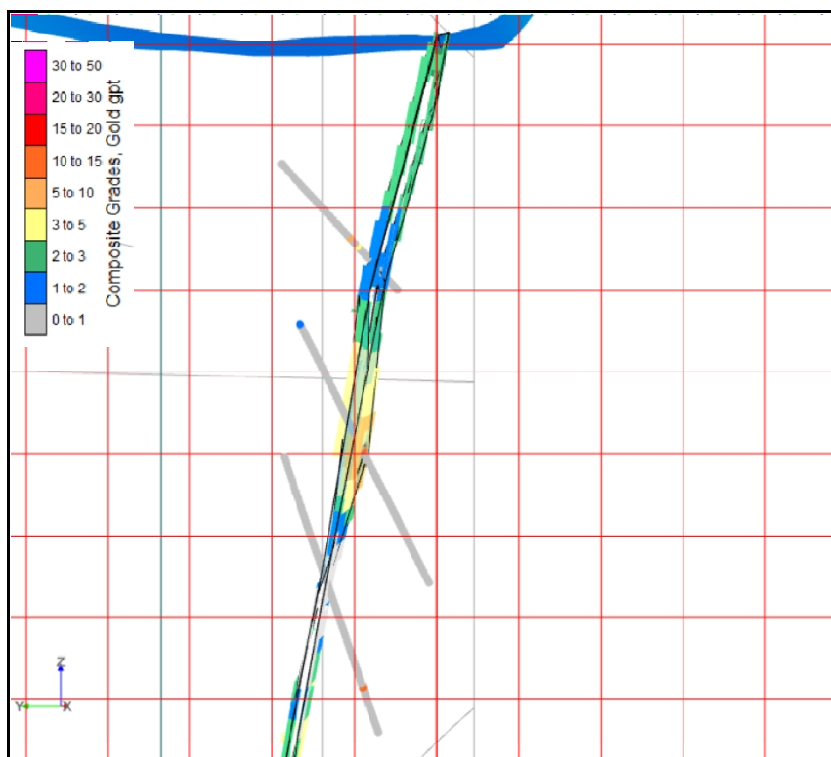


Figure 22. East looking cross section of the Goat Vein with drillhole traces and resource blocks shown on a 50m thick slice.

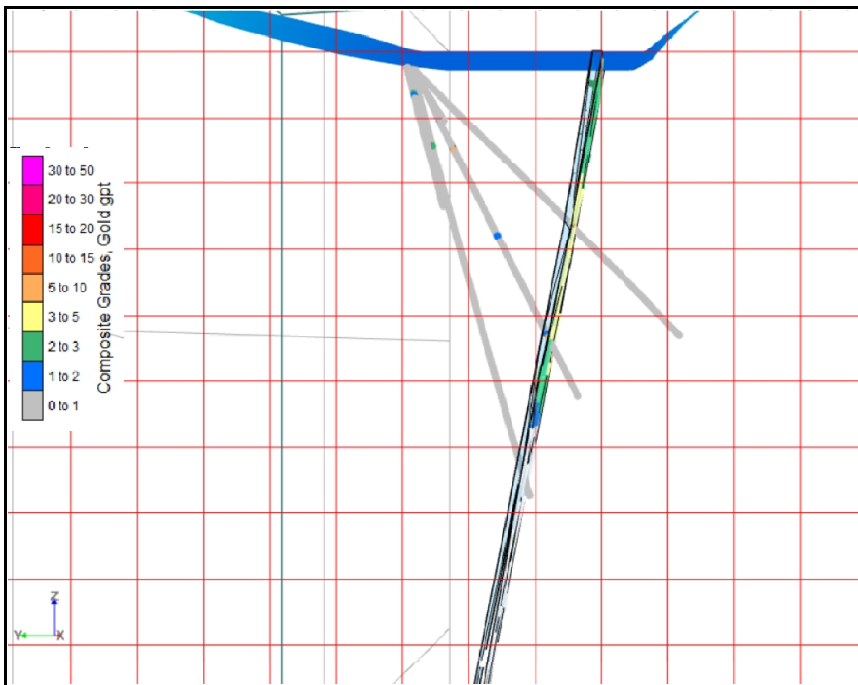


Figure 23. East looking cross section of the Goat Vein with drillhole traces and resource blocks shown on a 50m thick slice.

A series of inclined longitudinal sections with 20 m grids (red) and thicknesses of between 8 and 20 m are shown to illustrate the distribution of the blocks.

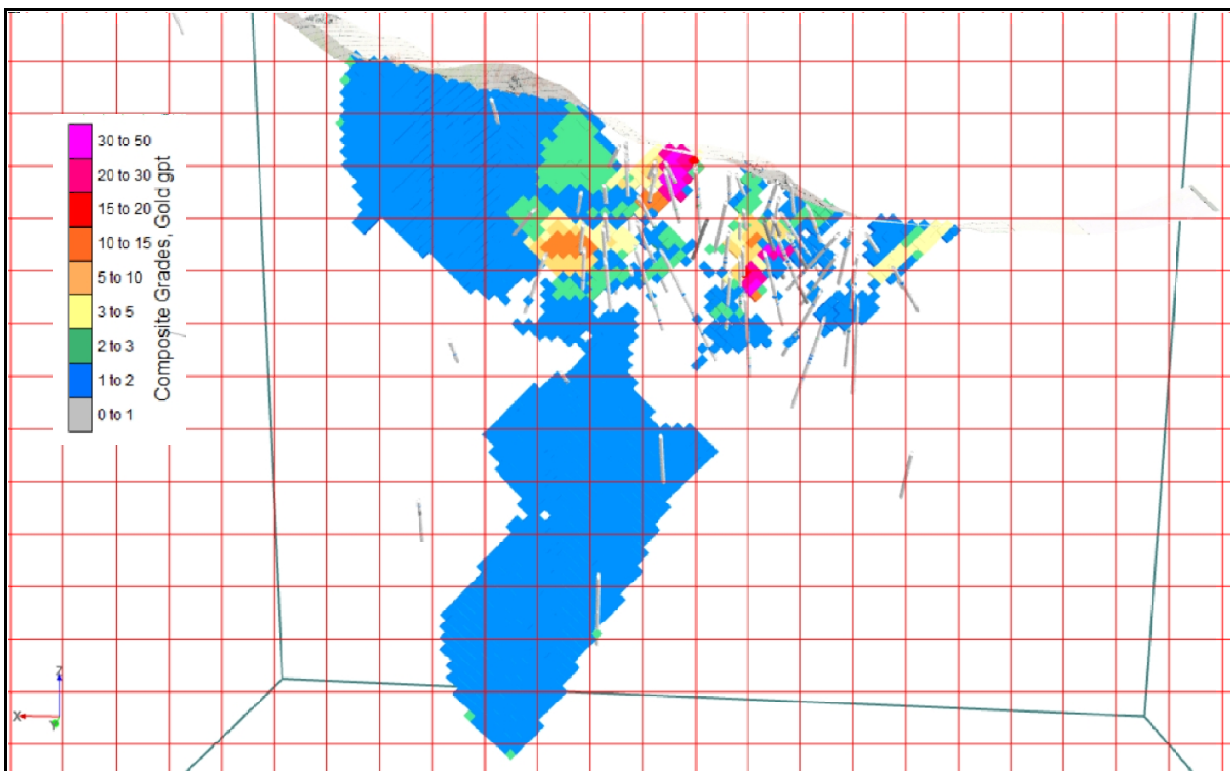


Figure 24. Inclined view down to the south of a longitudinal section of the Deep Trench Vein with drill hole traces on a 20 m grid (red).

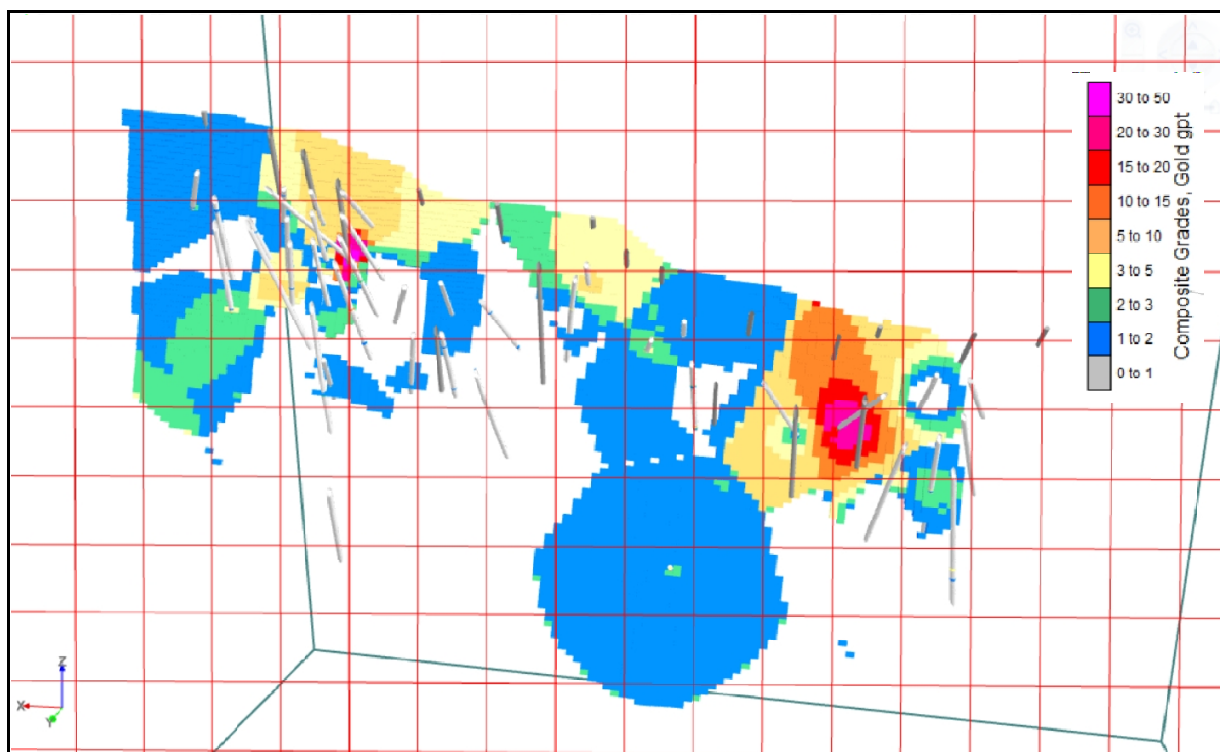


Figure 25. Inclined view down to the south of a longitudinal section of the Main Vein with drill hole traces on a 20 m grid (red).

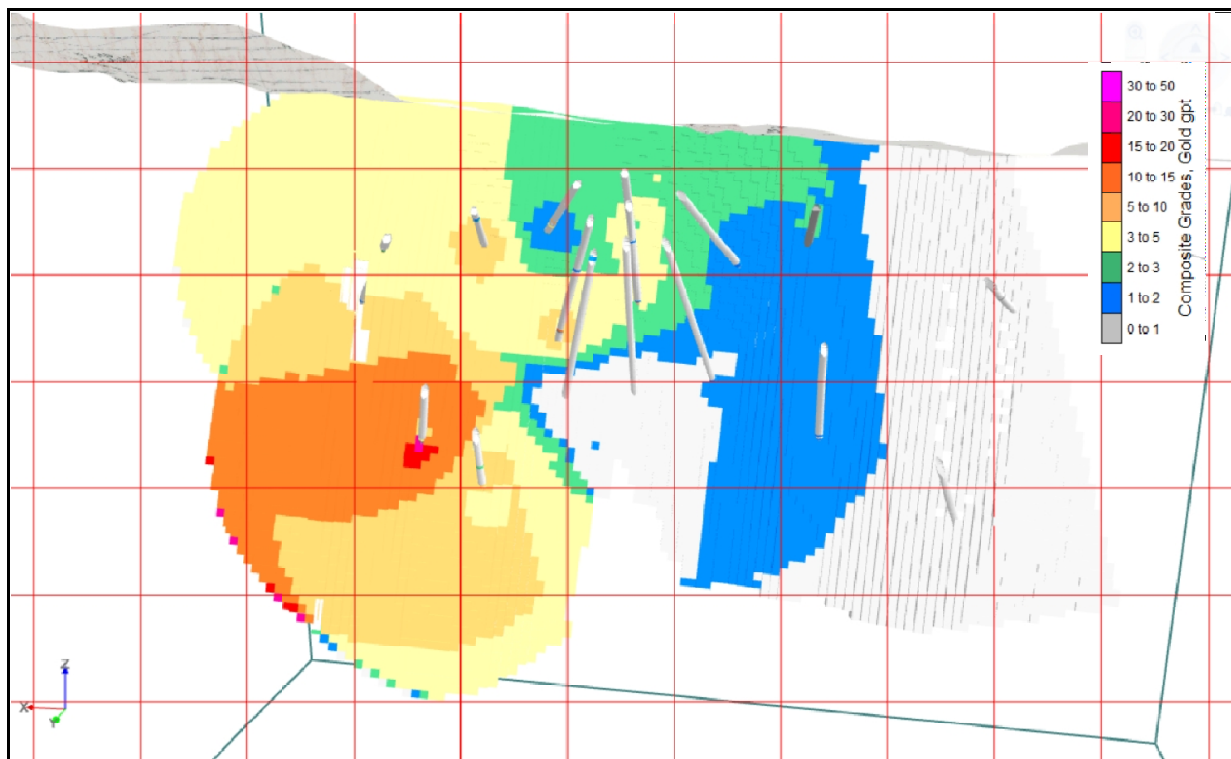


Figure 26. Inclined view down to the south of a longitudinal section of the Goat Vein with drill hole traces on a 20 m grid (red).

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.

The resource classification is presented on Table 9 and Table 10 (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 2.5 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 9. Herbert Gold Project, Indicated Mineral Resource, uncut at various cut-offs.

Cut-off	Tonnes	Grade	Ounces gold
3.0	937,000	8.07	243,000
2.5	1,107,000	7.25	257,900
2.0	1,404,000	6.19	279,200

Table 10. Herbert Gold Project, Inferred Mineral Resource, uncut at various cut-offs.

Cut-off	Tonnes	Grade	Ounces gold
3.0	334,000	6.93	74,400
2.5	423,000	6.04	82,200
2.0	469,000	5.67	85,500

A breakdown of the Mineral Resource by reference to the solids is presented below.

Deep Trench Vein Indicated Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	232,558	12.06	90,162
2.5	273,318	10.66	93,691
2.0	425,593	7.64	104,591

Main Vein Indicated Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	329,384	7.24	76,678
2.5	356,381	6.90	79,037
2.0	424,534	6.15	83,901

Goat Vein Indicated Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	269,039	6.70	57,924
2.5	308,078	6.19	61,346
2.0	337,721	5.85	63,503

Goat Vein HW Indicated Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	16,189	3.68	1,915
2.5	47,068	3.08	4,664
2.0	66,741	2.83	6,069

Main Vein HW Indicated Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	419	3.57	48
2.5	1,081	3.03	105
2.0	8,844	2.32	660

Main Vein FW Indicated Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	72,255	5.84	13,560
2.5	98,160	5.03	15,887
2.0	107,887	4.78	16,588

Deep Trench Vein FW Indicated Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	1,059	3.23	110
2.5	4,941	2.79	444
2.0	11,293	2.49	904

Oblique Vein Indicated Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	16,079	5.06	2,617
2.5	17,733	4.86	2,770
2.0	19,520	4.61	2,895

Deep Trench Vein Inferred Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	-	-	-
2.5	-	-	-
2.0	16,079	5.06	2,617

Main Vein Inferred Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	18,858	8.14	4,938
2.5	46,251	4.96	7,370
2.0	55,846	4.46	8,010

Goat Vein Inferred Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	272,259	7.37	64,479
2.5	279,450	7.25	65,105
2.0	287,125	7.11	65,656

Goat Vein HW Inferred Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	29,334	3.72	3,511
2.5	62,507	3.18	6,386
2.0	70,712	3.07	6,986

Main Vein FW Inferred Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	7,642	3.05	751
2.5	29,478	2.81	2,664
2.0	46,351	2.62	3,905

Oblique Vein Inferred Mineral Resource

Cut-off	Tonnes	Grade	Ounces gold
3.0	5,492	3.86	681
2.5	5,492	3.86	681
2.0	5,889	3.77	713

The presumed mining method would be underground shrinkage mining with 1.5m minimum widths. Similar mines can extract planar steeply dipping veins at US\$100 to \$120 per tonne and achieve a high degree of extraction. The veins systems are subparallel and spaced 150 to 210 m apart and are hosted within very competent quartz diorite. A potential portal site for 3 x 4 m ramp development occurs proximal to the Main Vein at 60m elevation above mean sea level, 518,085 mE and 6,847,800 mN and could subparallel the footwall of the vein for 200m at -15% slope before turning south, perpendicular to the vein sets. Development costs might be in the range of US\$10,000 per metre. This development plus extensions would;

- provide access to each of the identified vein systems,
- provide for all season drilling access for potential extensions and definitions

c. provide a sill pillar depth for stope development

Individually, single stope development might be able to produce 100 to 200 tonnes per day depending on stope width. Multiple stopes could be developed on each vein system at each level, and four vein systems have been identified. Typically in these types of operations, 1/3 of the stopes are being mined, 1/3 are being developed, and 1/3 are being completed (filled if necessary), depending on manpower.

Any mineralization developed or extracted might be sold or toll milled at nearby facilities, obviating the need for a mill and tailings storage facilities. Metallurgical recoveries should be 90% range for gold and 75% for silver using gravity plus flotation techniques. Transportation of mineralization to a toll mill would entail road to pier and barging which might cost in the range of \$15 per tonne with G&A adding another \$10 +/- per tonne of mineralization shipped.

As such, at current or near current gold prices US\$1,300 per ounce, it is determined that there is a reasonable prospect of economic extraction under reasonably anticipated or 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 a composite, and as Inferred Mineral Resource where blocks are >60 m from a composite.

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 advance 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 advance 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 advance 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 advance 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 advance 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 advance 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 advance 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 advance 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 2 depicts 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, Main, and Goat veins. Minor veins include the Floyd, North, Ridge and Lake. 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 -450 m (450 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 largely un-drill tested. Additional vein exposures recently exposed by the retreating Herbert Glacier north of the Goat Vein suggests additional undocumented potential exists here. A mineral resource estimate has been calculated based on results from 139 diamond drill-core holes and four trenches (total 22,089.8 m), targeting part of the Goat, Main and Deep Trench veins, resulting in an uncut Indicated Mineral Resource of 257,900 ounces of gold at an average grade of 7.25 gpt (1,107,000 tonnes) and an uncut Inferred Mineral Resource of 82,200 ounces of gold at an average grade of 6.04 gpt gold (423,000 tonnes) at a 2.5 gpt gold cut-off grade.

Preliminary resource estimates are strongly influenced by high-grade shoots along the veins as is typical for these types of orogenic gold deposits. For example, the eastern-end of the Goat Vein is influenced by the last fence of four drill holes that all intersected very good gold grades and widths and therefor impacted the extrapolation of the resource blocks east of this fence of drill holes. An examination of the only additional information shows a very high-grade surface sample (random chip) which was not included in the database because of its quality and reproducibility in comparison to the core samples. The search ellipsoid was reduced to 50 m for the Goat Main Vein in an attempt reduce the influence of the eastern-most drillholes, 17L-1, 2, 3, and 4 as shown on Table 1Table 11.

Table 11. Eastern-most drill holes on the Goat Main Vein.

DH_ID	From_m	To_m	au_ppm	Interval	MidX_DB_3D	MidY_DB_3D	MidZ_DB_3D
17L-1	97	98	2.33	1	518231.7	6488102	2.601057
17L-1	98	99	8.14	1	518232.2	6488102	1.930371
17L-1	99	100	0.01	1	518232.8	6488101	1.259686
17L-2	162	163	0.10	1	518212	6488113	-84.974
17L-2	163	164	0.15	1	518212.2	6488113	-85.9167
17L-2	164	165	3.97	1	518212.4	6488113	-86.8586
17L-2	165	166	53.87	1	518212.5	6488113	-87.8004
17L-3	102	103	8.53	1	518190.4	6488074	2.17651
17L-3	103	104	4.00	1	518190.5	6488073	1.535328
17L-4	181	182	8.55	1	518181.9	6488114	-107.833
17L-4	182	183	4.56	1	518181.9	6488114	-108.807
17L-4	183	184	5.34	1	518181.9	6488114	-109.78
17L-4	184	185	5.51	1	518181.9	6488113	-110.754

17L-4	185	186	5.51	1	518181.8	6488113	-111.727
17L-4	186	187	5.28	1	518181.8	6488113	-112.701
17L-4	187	188	2.44	1	518181.8	6488113	-113.673
17L-4	188	189	0.00	1	518181.8	6488113	-114.645

Drillhole 17L-2 contains a single composite grading 53.87 gpt that would be unaffected by capping at levels less than this, which is not indicated by the probability plots or the author's experience.

A sample of this material reassayed by the author returned 24.3 gpt gold by 1 AT fire assay (BVI FA550) and 38.8 gpt by ICP (BVI AQ251), confirming its high-grade nature thus providing some confidence the zone is real and has been extrapolated properly, however further drilling here would be strongly recommended.

The resource model is largely dependent on these high-grade zones and drill delineation of the downdip extensions and identification of additional shoots are a priority. The resource remains open in multiple directions along these defined veins in addition to there being several highly prospective structures spread over the property.

26 RECOMMENDATIONS (Item 26)

26.1 2018 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.

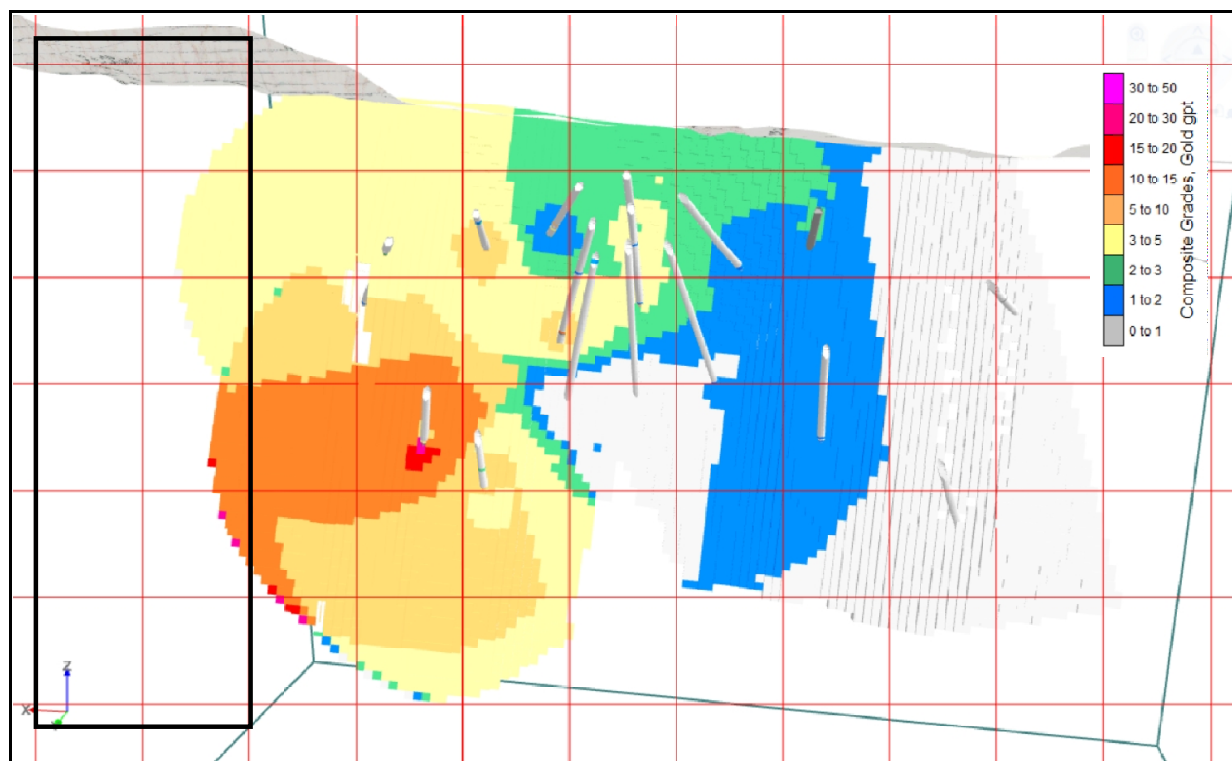


Figure 27. An example of proposed drill targets would be the eastern extension of the Goat Vein, as shown by the black rectangle on the south-facing inclined longitudinal section showing resource blocks.

Prospecting to the north of the Goat Vein should 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.

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

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

A good topographical base map, such as one generated from a LIDAR survey with orthophotographs would enable better presentations and a more accurate location of exploration targets. This should be possible for \$50,000.

Table 12. 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
Miscellaneous	Administration, support, G&A, LIDAR	\$250,000
Subtotal		\$2,050,000
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	\$3,300,000

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.

Dupre D.G. and Webb, D.R., 2013. Technical Report on the Herbert Gold Project, Juneau District, Southeast Alaska.

Gehrels, G.E. and Berg, H.C. 1992. Geologic map of Southeastern Alaska. USGS Miscellaneous Investigation Series Map 1-1867. 1:600,000 map sheet and accompanying booklet 24p.

Gehrels, G.E. and Berg, H.C. 1994, Geology of southeastern Alaska, in: Plafker, G. and Berg, H.C. eds. The Geology of Alaska, Geological Society of America, The Geology of North America, v. G-1.

Groves, D. I., Goldfarb, R. J., Robert, F., Hart, C. J. R., 2003, Gold Deposits in Metamorphic Belts: Overview of Current Understanding, Outstanding Problems, Future Research, and Exploration Significance. Economic Geology 98: 1-29.

Goldfarb, R.J., Miller, L.D., Leach, D.L., and Snee, L.W, 1997, Gold deposits in metamorphic rocks in Alaska, in Goldfarb, R.J., and Miller, L.D., eds., Mineral Deposits of Alaska: Economic Geology Monograph 9:151-190.

G & T Metallurgical Services, Ltd., 2011. Metallurgical testing report on the Herbert Glacier Project, dated March 15, 2011. Internal report, 49 p.

Hawley Resource Group, 2007 to 2011. Digital data files of sampling and assay results, aerial photography and geologic mapping at 1:2200 at Herbert Glacier Project.

Light, T.D., Brew, D.A., and Ashley, R.P., 1989, Gold deposits in metamorphic rocks. USGS Bulletin 1857D 27- 36.

Moerlein, G.A., 1986, Preliminary summary report Herbert Glacier, Juneau, Alaska. Internal report, 17 p.

Moerlein, G.A., 1988, 1988 diamond drilling, Herbert Vein - Juneau, Alaska. Internal report, 38 p.

Redman, E.C., Maas, K.M., Kurtak, J.M., and Miller, L.D., 1989, Bureau of Mines Mineral Investigations in the Juneau Mining District, Alaska, 1984-1988, Volume 2--Detailed mine, prospect, and mineral occurrence descriptions, Section D, Juneau Gold Belt Subarea: U.S. Bureau of Mines Special Publication, 424 p.

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, BaSO₄. 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% SiO₂). 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 (CaCO₃).

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% SiO₂ 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; chalcopryrite, CuFeS₂.

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

Tuff -- (from the Italian *tufo*) 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 (SiO₂), 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 (g/t Au) and silver (g/t 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
Atomic absorption	AA	Millions of years ago	Ma
Acme Analytical Laboratories	Acme	Inductively coupled plasma mass ICPAR-UT	
Banded Iron Formation	BIF	Kilometre(s)	km
Bulk Leach Extractable Gold	BLEG	Lead	Pb
Canadian Dollars	\$CDN	Methyl isobutyl ketone	MIBK
Canadian National Instrument 43-101	NI 43-101	Ounce(s)/Troy ounce(s)	oz
Centimetre(s)	Cm	Ounce per ton	Oz/t
Gainey Capital Corp.	GCC	Parts per billion	ppb
Degree(s)	°	Parts per million	ppm
Degrees Centigrade/Celsius	°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	km ²
Micron(s)	μ	Three-dimensional	3D
Metre(s)	m	Tonnes per cubic metre	t/m ³
Metres above sea level	masl	Two-dimensional	2D
Inch(es)	in	Volcanogenic massive sulphide deposits VMS	