



# Independent Technical Report for the Snip Project, Canada

Prepared for

Skeena Resources Ltd



Prepared by



SRK Consulting (Canada) Inc.  
Effective Date: July 20, 2020  
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# **1 Executive Summary**

## **1.1 Introduction**

The Snip Project, located in northwest British Columbia (BC), is a past producing underground mine that hosts a high-grade structurally controlled mineralized vein and brittle-ductile shear zone system. Skeena is a Canadian junior mining exploration company focused on developing prospective precious and base metal properties in the Golden Triangle of northwest British Columbia, Canada.

In April 2020, Skeena commissioned SRK to update the gold vein model and provide technical support and validation of a NI-43101 compliant in-house resource estimate and Technical Report. The effective date of the 2020 Mineral Resource is July 21, 2020.

The services were rendered between May and August 2020 leading to the preparation of the Mineral Resource Statement that was disclosed publicly by Skeena in a news release on July 21, 2020. The effective date of the 2020 NI 43-101 Technical Report is September 03, 2020.

The Technical Report was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1. The Mineral Resource Statement reported herein was prepared in conformity with generally accepted CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines".

## **1.2 Property Location and Ownership**

The Snip Project occurs within the Iskut River region of the Golden Triangle in British Columbia. Stewart, BC, is the nearest district municipality, 105 km to the south southeast. The property is located wholly within NTS map sheet 104B/11 as well as on the Tahltan National Traditional Territory.

The Project covers a total of 4,546.15 hectares (11,233.78 acres) and consists of eight (8) mineral claims and one (1) mineral lease.

## **1.3 Accessibility, Climate, Local Resources, Infrastructure and Physiography**

Access to the Snip Property can be gained either by direct air or boat transportation to the 1.5 km long Bronson Airstrip on the Iskut River. Direct charter flights by fixed wing aircraft can land at the Bronson airstrip maintained by SnipGold Corp., a subsidiary of Seabridge Gold. Vehicle access from Smithers can be achieved by route of Hwy 16 to Kitwanga, then north along highway 37 to the Eskay Mine Road, 3 km south of Bob Quinn. Road access to the McLymont staging area is 45 km west of Bob Quinn and requires a road usage permit from AltaGas. From McLymont, it is a 10-minute helicopter flight to the Snip camp.

Support services for mining and other resource sector industries in the region are provided primarily from the communities of Smithers (pop. 5,400) and Terrace (pop. 11,500). Both communities are accessible by commercial airlines with daily flights to and from Vancouver.

The Snip property lies within the Coast Mountains. The dominant feature of the region is the Stikine Icecap which is centered 80 km to the NW of the property along the Alaska border. The Snip Property lies between the Iskut River, Craig River and Bronson Creek within the Stikine Watershed.

The property lies within the Coastal Western Hemlock BEC Zone. The Snip property has almost no alpine vegetation, with sub-alpine flora dominated by scattered Sitka Spruce, with transition to Engelmann Spruce, farther East. At the Bronson Creek level, natural vegetation is Western Hemlock and Sitka Spruce, with riparian populations of cottonwood and spruce. Natural regrowth is rapid, with hemlock and spruce growing to 5 m within 20 years.

## 1.4 History, Exploration and Drilling

The history of the camp goes back to the early 1900's when the Iskut Mining Company staked the first claims on the west side of Bronson Creek in 1907. Following this, the Red Bluff claims were staked in 1909. The first mining was completed between 1908 and 1911 when several short adits were driven into the Red Bluff Porphyry to obtain a bulk sample. The area saw limited work until 1929 when Cominco Ltd. staked 42 claims, however little of interest was found and the claims were abandoned.

Thirty-five years would pass before the Tuksi Mining Company acquired crown grants in 1964. In the same year Jodee Exploration company, Cominco Ltd. and Copper Soo Mining company all staked claims around Tuksi's grants. In 1965 the Snip discovery outcrop was made by geologists who were surveying a creek gully; the outcrop contained visible gold in a vein. The following year, in 1966, channel sampling on the vein returned assays up to 244 ppm Au over 1.2 m.

The area once again lay dormant for nearly a decade and a half until 1980 when Cominco Ltd. restaked the discovery outcrop on the Snip claims. Between 1980 to 1986, grass roots exploration, soil sampling and trenching were conducted by Cominco. In 1986, Cominco signed a JV agreement with Delaware Resources Corp., who provided funding for the project, and over two years, drilled over 15,000 m. The work outlined the Twin Zone on 50 m centers.

In 1988, a decision was made to go underground via a portal at the 300 m elevation. An additional 6,800 m of surface drilling, coupled with underground development and related drilling on 12.5 m centers, was completed and by 1989 the first reserve estimate for the Twin Zone was calculated at 940,000 tonnes grading 28.5 g/t Au.

The Snip Mine operated between January 1991 and June 1999, first by Cominco Ltd. and then, beginning in 1996, by Homestake Canada Inc. The mine was successfully closed in October 1999. In 2001, the property was acquired by Barrick Gold Inc. (Barrick) as part of its acquisition of Homestake Canada Inc.

The property lay dormant until 2016 when Skeena entered into an agreement with Barrick granting an option to acquire 100% interest in the past producing gold mine and mineral claims.

In 2016, Skeena completed 7,422 m of diamond drilling in 28 holes, collected 668 soil samples and completed 171-line kilometers of airborne magnetic surveying. The majority of drilling was completed on the portion covering the mining lease and was designed to test the targets in the Twin and Twin West zones as well as regional targets located on the mineral claims portion of the property. Infill soil sampling was conducted to test the continuity of historical gold anomalies and to add multi-element data in areas which previously only had gold.

In 2017, Skeena acquired 100% right, title and interest in and to the Property and Permits, and worked entirely on the mining lease. Work focused on camp expansion along with reopening and rehabilitating the 300 portal access road and underground. A total of 8,703 m from 62 holes were drilled from underground testing targets including the Twin Zone, 150 Veins, 412 Corridor and other footwall structures. In addition, Skeena commissioned a surface mapping LiDAR survey of the property having 25 cm pixel resolution.

In 2018, Skeena completed 6 surface holes totalling 2,121 m targeting the Jim Porphyry and Sky Creek Shear zone, and well as below the western vein extension of the Twin Zone. In addition, 48 holes totalling 9,178 m targeting the Twin Zone, 412 Corridor and the 200 Footwall zone was completed to further delineate areas of known mineralization with increased drill density, to expand new zones and confirm historical drilling.

In 2019 Skeena drilled 10 surface holes totalling 1,934 m targeting the 200 Footwall corridor and footwall veins. They were successful in intersecting the footwall, as well as identifying mineralization 75 m deeper. A petrography study to compare biotitic phyllite and Biotite Spotted Unit (BSU) was conducted to test composition relations.

## 1.5 Geology and Mineralization

The Snip Au (Cu-Mo-Zn) deposit, located within the economically important “Golden Triangle” region, is a structurally controlled mineralized vein and brittle-ductile shear zone system, hosted within a sequence of laminated turbidites of the Upper Triassic Stuhini Group. Mineralization has both Orogenic style gold characteristics as well as mineralogical and paragenetic similarities to porphyry related vein systems, being contemporaneous with the adjacent Early Jurassic Red Bluff porphyry, a calc-alkaline, I-type, magnetite-series intrusion of quartz monzodioritic composition.

Regional investigations have indicated the importance of the Stuhini Group unconformity with the overlying Lower Jurassic Hazelton Group and a major northwest-southeast trending zone, the Bronson corridor. Throughout the “Golden Triangle” major deposits, including the Snip deposit, occur within 2.5 km of this unconformity and numerous mineral occurrences are associated with the Bronson corridor, characterised by the Sky fault system. This wide fault zone likely formed close to the boundary of a rift-type basin, controlled plutonism, fluid circulation and mineralization.

Gold mineralization at the Snip Project has been reported from at least six historical zones, the Twin Zone, the 150 Vein, the Hangingwall Zone, the Footwall Zone, the 130 Vein and the Twin-West Zone. The Twin Zone shear-vein system which averages 2.5 m in width and dips 30-60° to the southwest is characterized by mineralogical banding of chlorite-biotite, calcite, quartz and pyrrhotite-pyrite, with wallrock alteration dominated by inner biotite and outer K-feldspar-calcite-quartz-sericite. Metal association and the importance of potassic alteration suggest a magmatic origin for the ore fluid, supported by the proximity of the Twin Zone to the Red Bluff porphyry and lead-isotopic data. More distal veins to the Red Bluff porphyry contain higher zinc, lead and silver contents as expected in a zoned porphyry system. The distribution and abundance of biotite in areas distal to the Red Bluff porphyry and extensive areas containing mineralized veins, suggest a more regional fluid source, possibly an underlying batholithic parent to the Red Bluff porphyry.

A distinctive unit at Snip is the Biotite Spotted Unit, a basic to intermediate biotitic dyke that has intruded the vein mineralization. Widths range from several decimeters up to five m with an average width of 2.5-3 m. Although it is unmineralized, it is moderately to strongly altered and biotitized with calcite-pyrite-quartz-sericite-chlorite alteration and is considered to have been emplaced late in the deformation history, after ore formation, but during the waning stages of the hydrothermal system.

In addition to the Red Bluff porphyry other intrusives recognised on the property include the Bronson stock, a poorly documented heterogeneous, medium-grained equigranular plagioclase-rich clinopyroxene-amphibole bearing diorite; the Jim Porphyry stock, interpreted solely from drill hole information comprising both felsic extrusive and intrusive units; and recent lamprophyre and basalt dykes.

## 1.6 Mineral Resource and Mineral Reserve Estimates

The Mineral Resource Estimate for the Snip Project (the “2020 Mineral Resource Estimate”) herein was prepared by Skeena Resources using all available information and reviewed and validated by Ms. S. Ulansky, PGeo of SRK.

The resource is based primarily on historical surface and underground diamond drilling completed by previous Operators in addition to holes drilled by Skeena from surface (in 2016, 2018 and 2019) and underground (in 2017 and 2018). The database used to estimate the Snip resource contains 2,972 historical holes totalling 201,468 m and 154 Skeena holes totaling 29,357 m. All historical and recent drilling was audited by SRK. SRK believes that the drilling information is sufficiently reliable to interpret with confidence the boundaries for gold mineralization domains, and that assay data is sufficiently reliable to support estimating mineral resources.

In the opinion of SRK, the block model resource estimates reported herein are a reasonable representation of the global gold mineral resources found on the Snip Project at the current level of sampling. Mineral resources are reported in accordance with the guidelines of the Canadian Securities Administrators National Instrument 43-101; and have been estimated in conformity with generally accepted CIM “Estimation and Mineral Resource and Reserve Best Practices”

guidelines (CIM, 2019). Mineral resources are not mineral reserves and do have demonstrated economic viability.

Mineralization veins were created using the economic compositing tool in Leapfrog Geo® software. A composite grade of 1.0 g/t over 1.5 m was used. Seventy-two narrow, high-grade veins were created to constrain the estimate. These were combined into three zones (V-Veins, S-Veins and TW-Veins) based on the orientation and structural interpretation for geostatistical analysis and estimation. Naming conventions were updated in the 2020 resource model, however historical mining areas have been honoured in the final resource tabulation.

Mineral resources were estimated using Maptek's Vulcan® software. Two block models were created for computer efficiency: (1) the Main block model, which encompasses the V- and S-Veins and the (2) Twin West block model which encompasses the TW-Veins. Both models were created with 4 m x 4 m x 4 m parent block sizes and 0.5 m x 0.5 m x 0.5 m sub blocks sizes. The models were unrotated.

Assays were composited to 1.5 m using distributed tails methodology within the wireframes and were also length weighted during estimation. Outlier composites were capped prior to estimation with gold capping values of 350 g/t Au, 300 g/t Au and 80 g/t Au in the V-, S- and TW- Veins, respectively.

Variograms were used to determine nuggets, sills and ranges used during estimation, as well as for search orientations. Unique orientations for the V-, S- and TW- Veins were derived, including an additional orientation in a portion of the S-Vein system where a collection of steeper veins occur. Gold grades were estimated in three progressively larger passes using Ordinary Kriging, along with inverse distance squared and polygonal methods for comparisons and validation. The models were validated using visual and statistical methods as well as swath plots. Block tonnages were estimated from volumes using a density of 2.78 g/cm<sup>3</sup> for all lithologies, except for the unmineralized BSU (Biotite Spotted Unit) which used a density of 2.86 g/cm<sup>3</sup>. Blocks within the BSU were coded as waste. Mineral resources have been depleted to account for past production as well as exclude mineralization within a 1 m buffer around historical underground development.

Classification followed CIM guidelines (CIM, 2019) and Indicated and Inferred resources were classified as follows.

- For the Indicated category, a 40 m buffer was created around current Skeena drill holes (>= years 2016) as these drill holes have supporting QA/QC data. All blocks within the 40 m buffer zone and estimated with at least 3 drill holes extending no more than the range of the variogram (32 m maximum) were classified as Indicated resources.
- Inferred resources were partitioned using a minimum of 2 drill holes at 2 times the variogram range (64 m maximum). No buffer constraints were used in this stage of the classification process.



- Blocks were locally reclassified to reduce 'spotted' Indicated resources within Inferred resources, and vice versa.

The calculated underground cut-off grade was determined to be 2.5 g/t Au. Reasonable prospects for economic extraction were determined by means of applying reasonable stope optimizer parameters in Deswik® software. The resources are reported in-situ and undiluted within these potentially economical and minable underground long hole stope shapes.

The Snip Project contains 0.539 million tonnes grading 14.0 g/t Au in the Indicated category and 0.942 million tonnes grading 13.3 g/t Au in the Inferred category. The mineral resources as estimated and reported on July 21, 2020 are summarized in Table 1-1.

**Table 1-1: Mineral Resource Statement\*, Snip Project, Iskut River Region, SRK Consulting, effective date July 21, 2020**

Mineral Resource Category	Zone	Historical Equivalent Areas	Mass	Contained Grade	Contained Metal
			Tonnes (000's)	Au (g/t)	Au ('000 oz)
Indicated	V	Twin Zone	164	12.9	68
	S	150 Vein	25	22.9	19
		130 Vein	95	10.9	33
		412 Corridor	162	17.1	89
		Footwall	26	10.1	8
		200 Footwall	13	13.4	6
		Other	18	15.4	9
TW	Twin West	37	10.3	12	
<b>Total Indicated</b>	<b>ALL</b>	<b>ALL</b>	<b>539</b>	<b>14.0</b>	<b>244</b>
Inferred	V	Twin Zone	272	12.8	112
	S	150 Vein	117	16.1	61
		130 Vein	120	14.0	54
		412 Corridor	81	17.2	45
		Footwall	114	10.7	39
		200 Footwall	121	9.9	38
		Other	61	15.3	30
TW	Twin West	56	12.4	22	
<b>Total Inferred</b>	<b>ALL</b>	<b>ALL</b>	<b>942</b>	<b>13.3</b>	<b>402</b>

\* Notes to accompany the Mineral Resource Estimate statement:

- Mineral resources are not mineral reserves as they do not have demonstrated economic viability.
- As defined by NI 43-101, the Independent and Qualified Person is Ms. S. Ulansky, PGeo of SRK Consulting (Canada) who has reviewed and validated the Mineral Resource Estimate.
- The effective date of the Mineral Resource Estimate is July 21, 2020.
- The number of metric tonnes and ounces were rounded to the nearest thousand. Any discrepancies in the totals are due to rounding.
- Reported underground resources are reported in-situ and undiluted at a cut-off grade of 2.5 g/t Au contained with the stope optimized shapes.
- Cut-off grades are based on a price of US\$1,550 per ounce of gold.
- Estimates use metric units (meters, tonnes and g/t). Metals are reported in troy ounces (metric tonne \* grade / 31.10348)
- CIM definitions were followed for the classification of mineral resources.
- Neither the company nor SRK is aware of any known environmental, permitted, legal, title-related, taxation, socio-political, marketing or other relevant issue that could materially affect this mineral resource estimate.

## 1.7 Interpretations and Conclusions

Key interpretations and conclusions are based on the SRK's July 2020 site visit and development of the Mineral Resource estimate:

- Gold mineralization is a structurally controlled mineralized vein and brittle-ductile shear zone system, hosted within a sequence of laminated turbidites of the Upper Triassic Stuhini Group. Mineralization has both Orogenic style gold characteristics as well as mineralogical and paragenetic similarities to porphyry related vein systems, being contemporaneous with the adjacent to Early Jurassic Red Bluff porphyry, a calc-alkaline, I-type, magnetite-series intrusion of quartz monzodioritic composition.
- Seventy-two narrow, high grade lodes were modelled which were combined into three zones based on structure and orientation.
- The understanding of the regional geology, lithological and structural controls of the mineralization are sufficient to support estimation of Mineral Resources.
- The quantity and quality of the lithological, collar and down-the-hole survey data collected are sufficient to support Mineral Resources. Sample data density and distribution is adequate to build meaningful litho-structural models reflective of the overall deposit type.
- SRK reviewed the database and is of the opinion that the current sample preparation, security and analytical procedures meet industry-standard practices. SRK also believes that the Skeena validated database is of a standard that is acceptable for creating an unbiased, representative Mineral Resource Estimate of the Snip deposit.
- SRK reviewed the analytical quality control data accumulated by Skeena during 2016 to 2019. SRK confirms that gold grades are reasonably well reproduced and reliable for resource estimation purposes. Similarly, a QAQC analysis showed no obvious bias or errors.
- Historical and recent assays evaluated in an equivalent area; the overall trend between historical and recent drill holes is apparent and distributions are comparative.
- Geostatistical studies were carried out on the composite data to select capping levels and derive estimation parameters. Gold was estimated into the block model using Ordinary Kriging informed from capped, composited data. Density was coded into each block for deriving tonnages based on the average specific gravity for the metasediments.
- Mineral Resources were estimated and classified following CIM best practices.
- The 2020 Mineral Resource has demonstrated that the project has development potential as an underground mining operation. Stope optimized shapes were created using reasonable assumptions for long hole mining with a cut-off grade of 2.5 g/t Au.
- Modelled veins delineate in-situ gold grade and do not consider minimum width or potential planned mining dilution which would be considered during conversion of mineral resources to mineral reserves.

- Indicated mineral resources are estimated to be 0.539 million tonnes grading 14.0 g/t Au.
- Inferred Mineral Resources are estimated to be 0.942 million tonnes grading 13.3 g/t Au.
- Approximately two thirds of the resource are classified as Inferred. It is reasonable to expect that part of the Inferred mineral resource may be upgraded to the Indicated mineral resource category with continued drilling.

## 1.8 Recommendations

In reviewing the compiled drill hole database, geological interpretation and mineral resource estimate for the Snip Project, SRK makes the following recommendations:

### Geology/Exploration

- The intimate association of biotite with shear zones and veining and overall homogeneity of potassic (biotitic) alteration suggests that the alteration envelope may help constrain fluid and mineralization pathways. It is recommended that alteration data are used to investigate the potential to delineate alteration domains and generate alteration models to identify potential ore shoots within the shear zone system.
- All occurrences and locations of visible gold should be standardized and combined with drill hole data to generate a high-grade gold model. This should be used to define zones of high grade that can potentially be used as a predictive tool to delineate further zones of higher-grade gold and/or ore shoots within the shear zone system. This will assist in improved local resolution of high-grade zones for resource estimation.
- A detailed desktop vein model was constructed in Leapfrog Geo® using data provided by Skeena. To further substantiate the model and elucidate the finer project scale structural details that are relevant to Snip mineralization, an onsite structural mapping survey is recommended.
- Regional geology and structure play a significant role in interpreting exploration geological datasets. To effectively understand geological context within the broader district, an improved regional geology map needs to be sourced and included into the Leapfrog Geo® model.
- The existing LiDAR survey covers the mineral lease area only. To extract subtle property-wide structural details, which may be applied to regional exploration, an expanded LiDAR survey that covers the entire property is recommended with an appropriate structural interpretation:
  - In tandem with the LiDAR survey, a high-resolution magnetics survey using drone surveying technologies would enhance future structural interpretations. This geophysical survey may be combined with the regional LiDAR survey to reduce exploration costs.
- Knowing that Snip ore is structurally controlled, advancing the project depends heavily on understanding the structural complexities of the deposit. Oriented core drilling facilitates measurements of the directional properties in the rock and is used to measure bedding,

foliation, vein orientations, shear fabrics and other kinematic indicators. SRK recommends the use of oriented core drilling during the twin drilling program mentioned below.

- Limited drilling has been conducted on the Jim Porphyry and Jim Porphyry south areas which exhibit similar alteration and lithological similarities with the Twin Zone. Knowing the narrow and variable nature of mineralization on the property, an additional 2 holes are recommended to fully test these targets.

### **Sampling**

- Preparation and Pulp repeats >5 g/t Au are lacking in the dataset. To adequately test for precision at and above this grade range, additional samples within the higher-grade ranges should be submitted to the lab;
- Preparation and pulp duplicates are inserted by the lab at a sequence that the lab defines. Additional preparation and pulp duplicates should be requested at intervals defined by Skeena to avoid intralab bias and to reflect the entire gold range that defines the Snip Project;
- Preparation and pulp duplicate results are not contained within a combined database, which makes quick checks time consuming and challenging. Assimilating these datasets into the primary database is a priority;
- Sample rejects and pulps are not currently saved and stored. In the event of core damage, loss or tampering, rejects and pulps will serve to validate the deposit's primary asset – the assay database. Therefore, sample rejects and pulps should be stored as a part of the standard QA/QC process.

### **Resource Model**

- An attempt to reconcile historical production was conducted using the updated 2020 block model. However, inaccuracies within the historical stope and underground development wireframes prevented a thorough comparison from being achievable. However, from the preliminary assessment it appears the 2020 mineral resource estimate has oversmoothed the deposit, whereby high grades are being under-estimated and low grades over-estimated. To fully test for this marked discrepancy in tonnes, grade and ounces, SRK recommends the following:
  - Due to the high degree of grade variability within the Snip deposit, SRK recommends conducting a conditional simulation study to assess the impact of localized grade variability within the mineral resource estimate and on future mine design and production planning. The simulated model could also be used to reconcile against historical production based on available historical stope and underground development wireframes;

### **Historical Confirmation**

- A basic property survey was conducted in 2017, whereby a new survey control point network was established. Differential GPS points from the 300 level portal were expanded underground and traversed up the ramp using a total station. To further this survey and to

validate the volume of depleted material, a study to determine the accuracy of the levels relative to the historical wireframes is recommended. This should be completed as part of the standard data management process for the Snip Project, and as such, does not need a separate budget.

- Depending on the outcome of the study, and if there are major differences in elevation and position, a more detailed survey will need to be undertaken.
- Approximately two thirds of the resource have been classified as Inferred. As part of SRK's risk management strategy and due to a lack of QA/QC all historical drill holes have been classified as Inferred (barring those that fall within the 40 m buffer zone). Considering that 67% of all assay intervals within the model area are historical and fall outside of the 40 m buffer zone, it is reasonable to expect that part of the Inferred mineral resource may be upgraded to Indicated category with continued drilling. SRK recommends the following:
  - Twin drill a small sub-set of historical drill holes for validation purposes. To lift the restriction that holes only within the 40 m buffer are to be considered in the Indicated category a total of 2.5% of all historical holes, outside of the 40 m buffer, should be twinned.
  - Measured blocks have not been accounted for in the 2020 Mineral Resource Statement due to Client-specific requests. However, blocks that qualify in terms of having quantity, grade or quality, densities, shape and physical characteristics that are estimated with confidence to allow the application of modifying factors, are currently accessible. To convert additional areas from Indicated to Measured, having approximately 12.5 m centres, updated classification parameters need to be generated in future resource model runs. This process may be conducted as part of SRK's proposed resource model conditional simulation study, whereby mineral resource classification criteria are reassessed to potentially support Measured resources (based on additional QA/QC an/or twin drilling results).

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## 2 Introduction and Terms of Reference

The Snip Project, located in northwest BC, is a high-grade underground gold deposit that has been historically partially mined. The Project is located in the Iskut River region in the Golden Triangle of British Columbia.

Skeena, a junior Canadian mining exploration company focused on developing prospective precious and base metal properties in the Golden Triangle of northwest British Columbia, Canada, owns 100% of the Snip Project.

In April 2020, Skeena commissioned SRK to provide Skeena with support and assessment of the updated in-house resource model for the Snip Project, together with an NI 43-101 compliant resource estimate and report. The services were rendered between May and September 2020 leading to the preparation of the mineral resource statement reported herein that was disclosed publicly by Skeena in a news release on July 21, 2020 with a release date of September 03, 2020 for the Technical Report.

This Technical Report documents a mineral resource statement for the Snip Project validated by SRK. It was prepared following the guidelines of the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1. The Mineral Resource Statement reported herein was prepared in conformity with generally accepted CIM "*Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines*".

### 2.1 Scope of Work

The scope of work, as defined in a letter of engagement executed on April 28, 2020 between Skeena and SRK, was to provide Skeena with ongoing support and validation of an updated in-house resource estimate that will be used for future preliminary engineering, accompanied by the preparation of an independent technical report published by SRK in compliance with National Instrument 43-101. This work involved the creation, review and assessment of the following aspects of this project:

- Regional and local geology;
- Review of all available historical and current exploration and production data;
- Geological modelling and creation of estimation domains;
- Mineral resource estimation and validation to confirm that the block grades are unbiased and representative of the assay data;
- Stope optimization;
- Preparation of a mineral resource statement; and
- Recommendations for additional work.

## 2.2 Work Program

The mineral resource statement reported herein is a collaborative effort between Skeena and SRK personnel. The exploration database was compiled and maintained by Skeena and was subsequently audited by SRK. The geological structural model and mineralization domains were constructed by SRK with modifications suggested by Skeena applied over several phases. In the opinion of SRK, the geological model is a reasonable representation of the distribution of the targeted mineralization at the current level of sampling. The geostatistical analysis, variography and grade models were validated by SRK during the months June and July 2020. The mineral resource statement reported herein was presented to Skeena in a memorandum report on July 09, 2020 and was disclosed publicly in a news release dated July 21, 2020

The mineral resource statement reported herein was prepared in conformity with generally accepted CIM “Exploration Best Practices” and “Estimation of Mineral Resource and Mineral Reserves Best Practices” guidelines. This technical report was prepared following the guidelines of the Canadian Securities Administrators National Instrument 43-101.

The technical report was assembled in the SRK Vancouver office during the months of August through September 2020.

## 2.3 Basis of Technical Report

This report is based on information provided by Skeena throughout the course of SRK’s investigations. SRK performed a site visit to the Snip Project on July 27 to July 30, 2020 and has no reason to doubt the reliability of the information provided by Skeena. This technical report is based on the following sources of information:

- Discussions with Skeena personnel;
- Inspection of the Snip Project area, including portals, outcrop and drill core surface collars; and
- Drill core evaluations and inspection.

## 2.4 Qualifications of SRK and SRK Team

The SRK Group comprises over 1,000 professionals, offering expertise in a wide range of resource engineering disciplines. The SRK Group’s independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. This fact permits SRK to provide its clients with conflict-free and objective recommendations on crucial judgment issues. SRK has a demonstrated track record in undertaking independent assessments of Mineral Resources and Mineral Reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. The SRK Group has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs.



The resource evaluation work and the compilation of this technical report was completed by Ms. Kathi Dilworth under the supervision of the Qualified Person, Ms. Sheila Ulansky, PGeo [EGBC#36085] (Table 2-1). By virtue of her education, membership to a recognized professional association and relevant work experience, Ms. Ulansky is an independent Qualified Person as this term is defined by National Instrument 43-101. The names and details of Other Experts who have contributed to this Technical Report are listed in Table 2-2.

Mr. Cliff Revering, PEng [APEGS9764], Principal Resource Geologist with SRK, reviewed and provided guidance with estimation parameters. He also reviewed drafts of this technical report prior to delivery to Skeena as per SRK internal quality management procedures.

**Table 2-1: Qualified Persons who prepared or contributed to the Technical Report**

SRK Experts	Position	Employer	Independence of Skeena	Date of Last Site Visit	Prof. Designation	Responsibility
Ms. S. Ulansky	Senior Resource Geologist	SRK Consulting (Canada)	Yes	July 2020	PGeo	Qualified Person
Dr. R. Uken	Principal Structural Geologist	SRK Consulting (Canada)	Yes	n/a	Pr.Sci.Nat	Mineralization Model
Mr. Allan Read	Mining Engineer	SRK Consulting (Canada)	Yes	n/a	EIT	Stope Optimization
Mr. Cliff Revering	Principal Resource Geologist	SRK Consulting (Canada)	Yes	n/a	PEng	Peer Review

**Table 2-2: Other Experts who assisted the Qualified Persons**

Other Experts	Position	Employer	Independence of Skeena	Items of Technical Report
Ms. K. Dilworth	Chief Resource Geologist	Skeena Resources	No	Items 1, 4, 5, 6, 9, 10, 14, 15, 16
Mr. Paul Geddes	Vice President of Exploration and Resource Development	Skeena Resources	No	Review
Mr. M. Mayer	Manager, Technical Services	Skeena Resources	No	Maps and Figures

## 2.5 Site Visit

In accordance with National Instrument 43-101 guidelines, Ms. Ulansky visited the Snip Project between July 27 and July 31, 2020 accompanied by Ms. Dilworth of Skeena Resources.

The purpose of the site visit was to ground truth historical and current surface collar locations, examine drill core intervals within the main lodes, and collect all relevant information for the compilation of this technical report.

During the visit, attention was given to geological and structural controls on the distribution of gold mineralization to validate the extent that mineralization had been extended in the three-dimensional gold mineralization vein model.

SRK was given full access to relevant data and conducted interviews with Skeena's personnel to obtain information on past exploration work, and to understand procedures used to collect, record, store and analyze historical and current exploration data.

## 2.6 Acknowledgement

SRK would like to acknowledge the support and collaboration provided by Skeena personnel for this assignment. Their collaboration was greatly appreciated and instrumental to the success of this project.

## 2.7 Declaration

SRK's opinion contained herein and effective **July 21, 2020**, is based on information collected by SRK throughout the course of SRK's investigations, which in turn reflect various technical and economic conditions at the time of writing. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results may be significantly more or less favourable.

This report may include technical information that requires subsequent calculations to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material.

SRK is not an insider, associate or an affiliate of Skeena and neither SRK nor any affiliate has acted as advisor to Skeena, its subsidiaries or its affiliates in connection with this project. The results of the technical review by SRK are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

### **3 Reliance on Other Experts**

Skeena contributors to this report include Ms. Dilworth and Mr. Mayer. Not all the authors of this report have met the current requirements of a “Qualified Person”, but all work has been performed under the supervision of independent Qualified Persons.

SRK has not performed an independent verification of land title and tenure information as summarized in Section 4-1 of this report. SRK did not verify the legality of any underlying agreements(s) that may exist concerning the permits or other agreement(s) between third parties.

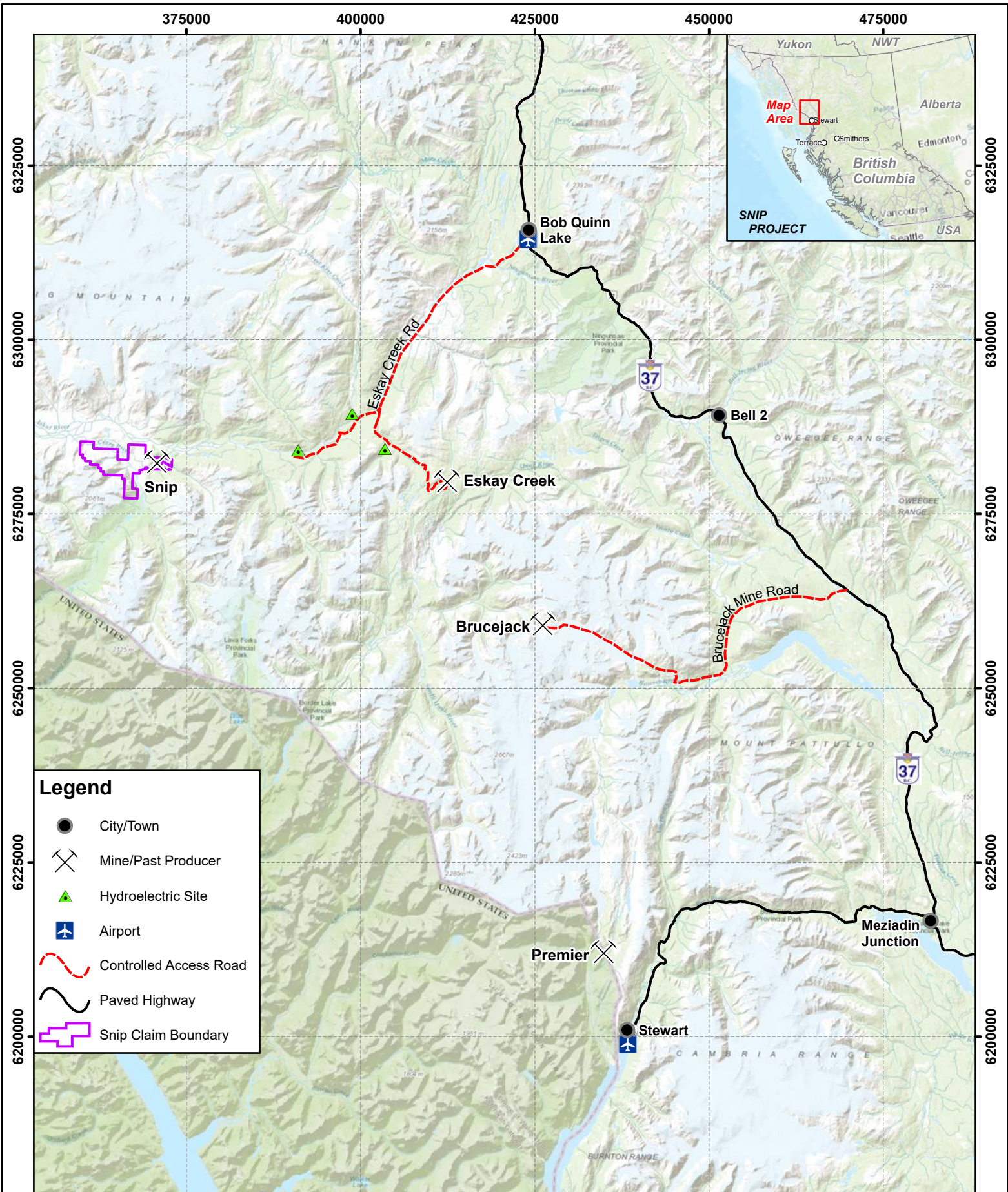
SRK was informed by Skeena that there are no known litigations potentially affecting the Snip Project.

## 4 Property Description and Location

The Snip Property is located in the Golden Triangle region of British Columbia, Canada, 105 km north north-west of Stewart and 330 km northwest of Smithers (Figure 4-1). The Snip Project is located at an elevation of 150 to 500 m above sea level, centred at latitude 56° 39' 51.35" and longitude 131° 07' 32.00" or UTM 6282650 N and 369390 E (NAD 83, Zone 9N) (Figure 4-1). The property is located wholly within NTS map sheet 104B/11.

The Snip Project is located on the south side of the Iskut River, 2.0 km south of its confluence with Bronson Creek (Figure 5-1). It is accessible by a 58.5 km, all-weather road, which departs from the Stewart-Cassiar Highway (Highway 37) just south of the Bob Quinn airstrip to McLymont Staging area. From McLymont, it is a 15-minute helicopter flight to the Snip camp location. The mill and mine site were previously located within the Bronson Creek Valley, 1.5 km northeast of the deposit and 120 m above sea level (ASL).

There are no known federal, provincial or regional parks, wilderness or conservancy areas, ecological reserves, or recreational areas near the Snip Property. The area is within the Traditional Territory assertions of the Tahltan Central Government.



Skeena Resources Ltd.  
 Date: 10-Aug-2020  
 Figure: 4-1  
 Author: M.Mayer  
 Filename: 200810\_SN\_43-101-Figures

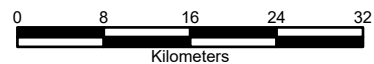


*Snip Project*  
**Figure 4-1: General Location**

Skeena Mining Division - NTS 104B11  
 British Columbia, Canada

Scale: 1:700,000

Coord. System: NAD83 - UTM Zone 9N



## 4.1 Mineral Tenure

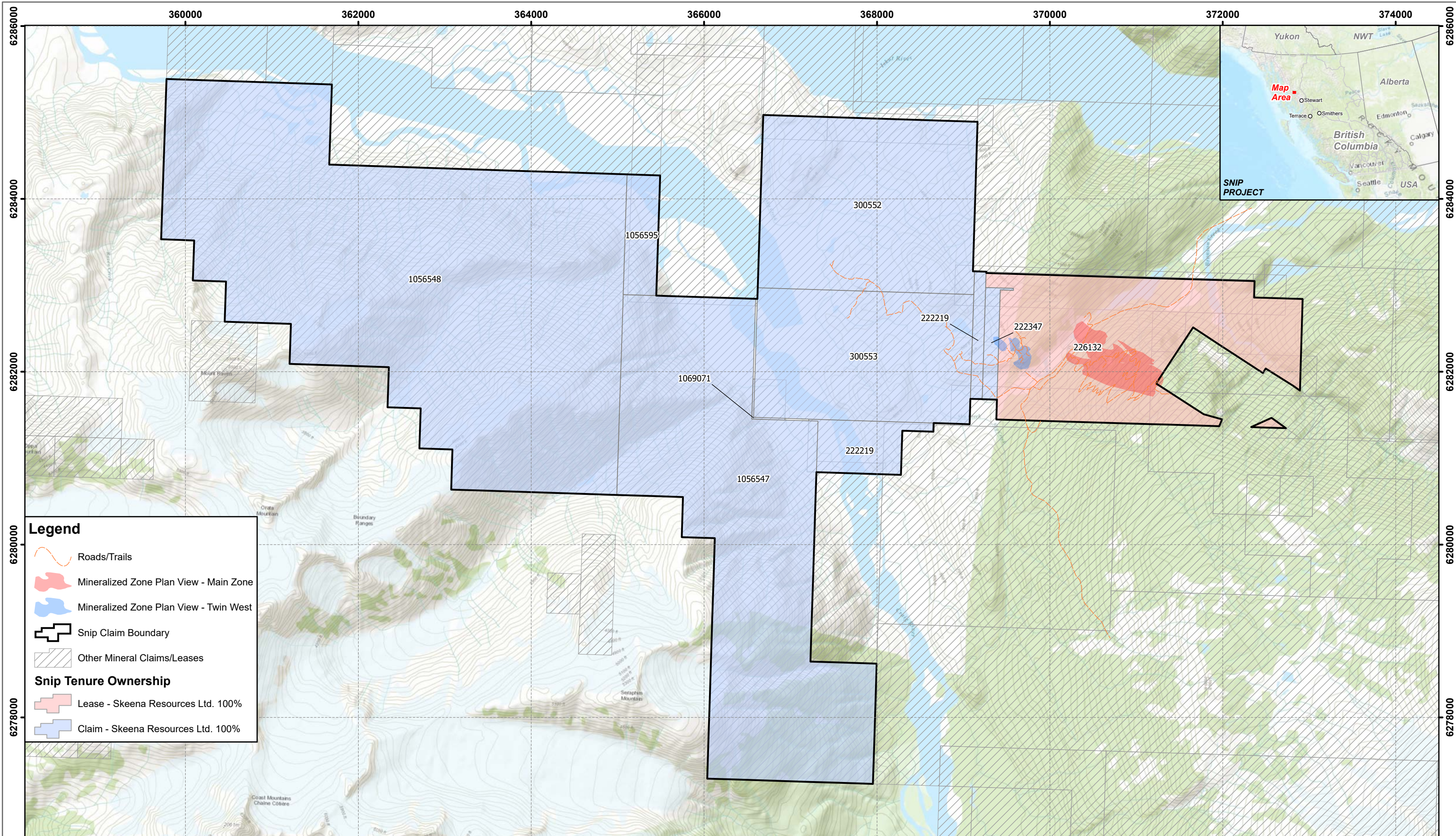
The status of all mining titles was verified using Mineral Titles Online (“MTO”), the British Columbia government’s online mineral titles administration system at:

<http://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/mineral-titles/mineral-placer-titles/mineraltitlesonline>.

The Snip Project covers a total of 4,546.15 hectares (11,233.78 acres) and is comprised of the following (Figure 4-2).

- Eight (8) mineral claims totaling 4,064.08 hectares (10,042.56 acres) (Table 4-1); and
- One (1) mineral lease totaling 482.07 hectares (1,191.22 acres) (Table 4-2).

All eight mineral claims and the mineral lease are 100% registered to Skeena Resources Limited.



**Legend**

- Roads/Trails
- Mineralized Zone Plan View - Main Zone
- Mineralized Zone Plan View - Twin West
- Snip Claim Boundary
- Other Mineral Claims/Leases

**Snip Tenure Ownership**

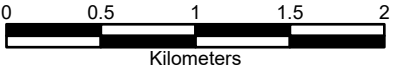

- Lease - Skeena Resources Ltd. 100%
- Claim - Skeena Resources Ltd. 100%

Skeena Resources Ltd.  
 Date: 27-Aug-2020  
 Figure: 4-2  
 Author: M. Mayer  
 Filename: 200810\_SN\_43-101-Figures



*Snip Project*  
**Figure 4-2: Land Tenure**  
 Liard Mining Division - NTS 104B11  
 British Columbia, Canada

Scale: 1:40,000  
 Coord. System: NAD 1983 UTM Zone 9N

**Table 4-1: Mineral claim information**

Tenure Number	Claim Name	Description	Issue Date	Good to Date	Area (Hectares)	Owner Name	Number of Owners
222219	SKY 3	Four Post Claim	1982-09-13	2029-07-15	500.00	Skeena Resources Limited	1
222347	SNIP 3	Four Post Claim	1983-10-20	2029-07-15	75.00	Skeena Resources Limited	1
300552	JIM 1	Four Post Claim	1986-07-22	2029-07-15	500.00	Skeena Resources Limited	1
300553	JIM 2	Four Post Claim	1986-07-22	2029-07-15	375.00	Skeena Resources Limited	1
1056547	WESTSIDE	Mineral Cell Title Submission	2017-11-21	2029-05-22	925.13	Skeena Resources Limited	1
1056548	CLEA	Mineral Cell Title Submission	2017-11-21	2029-05-22	1617.85	Skeena Resources Limited	1
1056595	PHIZGAP	Mineral Cell Title Submission	2017-11-22	2029-05-22	53.32	Skeena Resources Limited	1
1069071	SNIP 4	Mineral Cell Title Submission	2019-06-11	2021-06-11	17.78	Skeena Resources Limited	1

**Table 4-2: Mineral lease information**

Tenure Number	Issue Date	Good to Date	Area (Hectares)	Owner Name	Number of Owners
226132	1989-07-21	2021-07-21	482.07	Skeena Resources Limited	1



## 4.2 Underlying Agreements

The Snip Property is comprised of 8 mining claims and 1 mining lease that cover a total area of 4,546.15 hectares (Figure 4-2, Table 4-1, and Table 4-2). The property is contiguous except for a small outlier remnant of Mining Lease 226132 from an earlier claim swap with Skyline Gold Corp., a predecessor of Seabridge Gold Inc. In March 2016, Skeena Resources Ltd. entered into an option agreement with Barrick Gold Inc. for the Mining Lease and the four easternmost claims (222219, 222347, 300552, 300553). Three mining claims acquired in late 2017 (1056547, 1056548, 1056595), and one mining claim acquired in 2019 (1069071), expanded the property to the west; however, they are not subject to the terms of the agreement with Barrick Gold Inc.

## 4.3 Barrick Agreement

The initial expenditure requirements of the agreement with Barrick were satisfied by Skeena in July 2017, at which time Skeena exercised their right to acquire all of Barrick Gold Inc.'s 100% "right, title and interest in and to the Property and the Permits", subject to the retention by Barrick of a 51% Back-In Right exercisable upon definition of a Mineral Resource, or extraction from the property, of 2 million ounces of contained gold or gold equivalent and a 1% NSR Royalty. The "Back In Agreement" requires a repayment to Skeena of an amount three times their cumulative expenditures by Barrick.

## 4.4 Hochschild Option

In September 2018, Skeena and Hochschild entered into an option agreement for Hochschild to earn a 60% undivided interest in the Snip Project by spending twice the amount Skeena has spent since it originally optioned Snip from Barrick. Once exercised, Hochschild has three years to provide notice to Skeena that they wish to exercise their option, as well as the following:

- incur expenditures on Snip that are no less than twice the amount of such expenditures incurred by Skeena from March 23, 2016 up until the time of exercise of the Option by Hochschild;
- incur no less than C\$7.5 million in exploration or development expenditures on Snip in each 12-month period of the Option Period; and
- provide 60% of the financial assurance required by governmental authorities for the Snip mining properties.

After completing a minimum spend of CAD \$22,500,000, Hochschild may extend the Option Period by a further period of 12 months by making a cash payment to Skeena of CAD \$1.0 million.

## 4.5 Historical NSR

The historical property purchase "buy-out" agreement executed in March 1996 between owners Cominco Ltd. and Prime Resource Group (now Teck and Barrick, respectively) included a 5% net smelter return retained by Cominco from the sale or disposition of 60% of the gold recovered from

ore, containing 0.3 ounces per ton or greater, mined from the Snip Property after December 31, 1995 which ore is in excess of 480,660 tonnes. The reported total of proven, probable, and possible reserves tonnages on January 1, 1996 were 480,672 tonnes (Minfile 104B 250).

## **4.6 Environmental Issues**

Skeena is not aware of any environmental issues or liabilities that may directly affect exploration efforts on the property. Historical mine closure, reclamation, remediation, and monitoring programs have been carried out responsibly (Sibbick and MacGillivray, 2006), and ongoing monitoring indicates that there are no current issues with the tailings dam or water discharge at the site (Hull and Wickland, 2014; Shelbourne, 2015).

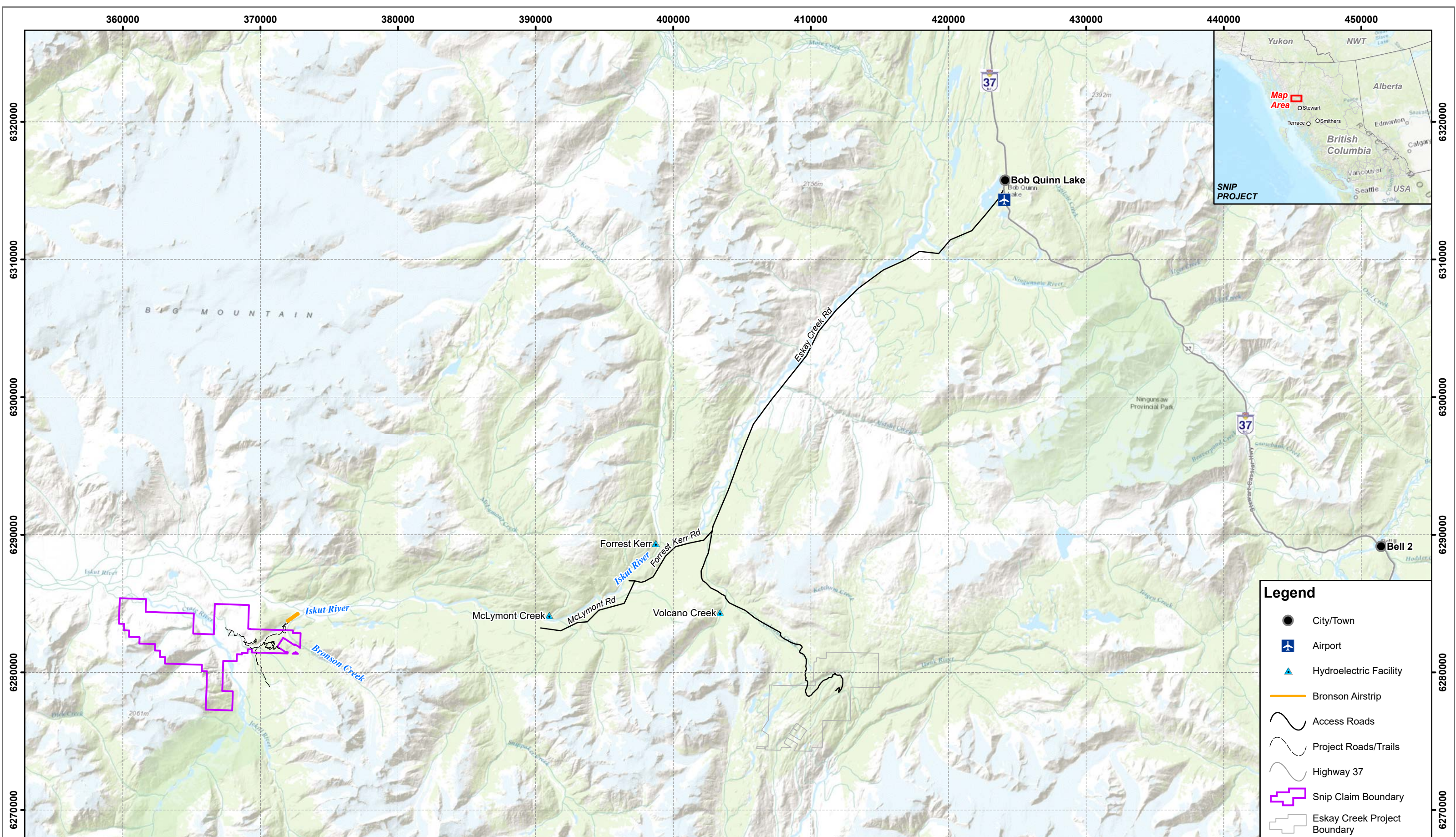
A multi-year exploration permit for surface work was issued by the BC Ministry of Energy and Mines in June 2020 (Permit MX-1-959) and expires in March 2025. Underground exploration of up to 200 holes and surface disturbance up to 120.96 hectares is currently granted on the mining lease under Ministry of Mines Permit Approving Mine Plan and Reclamation Program (M190). This permit does not expire and is subject to amendment from time to time to accommodate company plans for further exploration and development.

## **5 Accessibility, Climate, Local Resources, Infrastructure and Physiography**

### **5.1 Accessibility**

#### **5.1.1 Aircraft Infrastructure**

Access to the Snip Property can be gained either by direct air to the 1.6 km long Bronson Airstrip or by boat transportation along the Iskut River (Figure 5-1). Charter fixed wing flights are available from nearby centres, such as Smithers and Stewart, to the unpaved 1,600 m Bronson airstrip immediately adjacent to the property, which is managed and maintained by Snip Gold Corp, a subsidiary of Seabridge. Rotary wing aircraft can also be chartered from numerous available operators in northwestern British Columbia. Staging of equipment and supplies takes place from the McLymont staging area near the westernmost end of an access road for the AltaGas Run of River Hydroelectric Project. The Snip camp is a ten-minute helicopter flight (19 km) from the McLymont staging area.



Snip Project  
**Figure 5-1: Project Access**  
 Liard Mining Division - NTS 104B11  
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## 5.1.2 Road Access

The nearest road access to the Snip Property is McLymont road, located due east approximately 19 km upstream on the Iskut River to the McLymont Creek Run of River Hydroelectric Power Station, owned and operated by AltaGas Ltd (Figure 5-1). From Smithers, McLymont Road can be reached by following Highway 16 west for 111 km to Highway 37, near Kitwanga, then taking Highway 37 north for 295 km to the Eskay Creek Mine Road turnoff, which is 3 km south of Bob Quinn. Access to the further 45 km of road to the Staging Area at McLymont Creek requires a road usage permit from AltaGas.

## 5.2 Local Resources and Infrastructure

The Snip Project is located in the Pacific Northwest region of British Columbia, Canada. Support services for mining and other resource sector industries in the region are provided primarily by the communities of Smithers (pop. 5,400) and Terrace (pop. 11,500) (<https://www12.statcan.gc.ca>), which are both accessible by commercial airlines with daily flights to and from Vancouver. Volume freight service in the region is supported by rail connections that extend from tidewater ports in Prince Rupert and Vancouver. The closest tidewater port to the project is in Stewart, approximately 260 km from the Snip Project. Stewart is an ice-free shipping location and provides access for bulk shipping 365 days/year.

Road infrastructure in the region is well developed. Highway 16 (Yellowhead Highway) extends from Prince George in central British Columbia, through several communities including Smithers and Terrace, and terminates at the Port of Prince Rupert. Highway 37 (Stewart Cassiar Highway) connects to Highway 16 at Kitwanga and extends to the Alaska Highway in the Yukon. The Eskay Mine Road connects to Highway 37 roughly 295 km from Kitwanga. Driving time from either Smithers or Terrace to the Eskay Creek Mine is approximately 5 hours.

The region is supported by the Provincial power grid. A 287 kV transmission line extends from a grid connection at Terrace to Bob Quinn, primarily following Highway 37. Power supply opportunities exist close to the Snip Project. The Forest Kerr, McLymont, and Volcano Creek hydroelectric plants are within 20 km and collectively produce up to 277 MW ([www.altagas.ca](http://www.altagas.ca)).

Services, workforce, supply chains, and infrastructure are all well established in the region to support mining operations.

## 5.3 Climate and Vegetation

### 5.3.1 Climate

There are no long-term weather datasets available for the region. Data recorded from a weather station located on the Bronson airstrip from 1994 to 1998 (Lawrence and Seen, 2009) recorded annual precipitation between 1,300 and 2,100 mm, of which 30% fell as snow. Precipitation levels were highest in September and October and lowest in May through August. Mean daily temperatures were highest in July and August reaching approximately 16° C, and lowest in

January falling to  $-15^{\circ}\text{C}$ . The highest temperature recorded on site over the 5-year period was  $31^{\circ}\text{C}$  and the lowest temperature recorded was  $-32^{\circ}\text{C}$ .

### 5.3.2 Vegetation

For a review of flora and fauna, the reader is directed to the report by Burgoyne (2010), which provides a list covering species on and around Johnny Mountain.

The property lies within the Coastal Western Hemlock BEC Zone and a small portion of the eastern property is mapped as Mountain Hemlock. The Snip property has almost no alpine vegetation, with sub-alpine flora dominated by scattered Sitka Spruce transitioning to Engelmann Spruce further east.

At lowermost elevations, at the Bronson Creek level, the natural vegetation is Western Hemlock and Sitka Spruce with riparian populations of cottonwood and spruce. Devil's club and slide alder can be thick in low to moderate elevations and disturbed areas are overrun with the same vegetation. Huckleberry, blueberry, grouseberry and mountain arnica grow at various elevations. Natural regrowth is rapid, with hemlock and spruce growing to five metres within 20 years.

## 5.4 Physiography

The Snip Property lies within the Coast Mountains, a major regional chain extending from Alaska through British Columbia and into Washington State, U.S.A. The dominant feature of the region is the Stikine Icecap, which is centred 80 km to the Northwest of the Snip Property along the Alaska border. The Snip Property lies between the Iskut River, Craig River and Bronson Creek within the Stikine Watershed.

Local elevations vary from just over 100 m ASL at Bronson Creek, to 900 m ASL in the subalpine located in the far south-eastern portion of the property.



**Figure 5-2: View of the Snip Project looking south west - the Red Bluff Porphyry is shown in the foreground**

## 6 History

### 6.1 Exploration, 1900 - 1987

The history of the Snip property and adjacent surrounding area was previously provided in detail by Nichols and Giles (2017) and Moors (2018).

The Iskut area has been subjected to extensive exploration dating back well over 100 years. In 1907, a prospecting syndicate from Wrangell Alaska termed the "Iskut Mining Company" recorded claims on Bronson Creek. These claims would later become Crown Granted and still exist to this day. In 1909, the Red Bluff claims were staked, and from 1908 to 1911, several short adits were driven into the Red Bluff porphyry to obtain a bulk sample (King, 1988).

From 1911 to 1920, the Iskut Mining Company reported trenching, stripping and drifting on a number of gold bearing veins on the Red Bluff and Iskut claims on, and adjacent to, the current Snip property. Extracted material from the original Iskut claims assayed 0.06 oz Au, 44.2 oz Ag and 12.4% Cu (King, 1988).

In 1929 Cominco Ltd. staked 42 claims on Johnny Mountain, however these claims lapsed soon after and the area experienced no recorded work until 1954 (King, 1988).

Geologist Forrest Kerr mapped portions of the Iskut River region from 1926-1929, and published GSC map 311A in 1935. Kerr's memoir 246 on the area was published posthumously in 1948. The Geological Survey of Canada's "Operation Stikine" in 1956 mapped the Stikine-Iskut area on a regional basis, publishing it as GSC Map 9-1957 (Nichols, 1989).

From 1954 to 1960, Hudson Bay Mining and Smelting Co. Ltd.'s drilling resulted in copper discoveries on, and near, the Johnny Mountain Gold Mine. In 1964, Cominco Ltd. targeting copper, optioned claims from Tuksi Mining Company and Jodi Explorations Ltd. and in 1965 completed drilling on the Red Bluff claim north and east of the property. In 1973 and 1974, the same property was examined by Texas Gulf Sulphur Inc. for its copper and base metal content (King, 1988).

In 1964, the Tuksi Mining Co. acquired Crown Grants, and Jodi Exploration Co., Cominco Ltd. and Copper Soo Mining Co. staked claims around Tuksi's property. Further work at that time discussed the regional geology of the Iskut area, details of which may be found in Mawer (1964), Parsons (1965), Nagy (1966) and Bagshaw (1968). The following year Cominco Ltd. concentrated an exploration program on the Red Bluff porphyry copper deposit and discovered visible gold in a vein exposed in a nearby creek bed. In 1966, channel sampling on the vein returned assays up to 244 ppm Au over 1.2 m.

From 1980 to 1986, grass roots exploration, soil sampling and trenching were conducted on the Snip property by Cominco. In 1986, Cominco signed a JV agreement with Delaware Resources Corp., who provided the funding for the project, and over two years, drilled over 15,000 m. The work outlined the Twin Zone, and a decision was made to go underground in 1988, via a portal at 300 m ASL elevation. An additional 6,800 m of surface drilling, coupled with underground



development and related drilling at 12.5 m centers, produced a first reserve estimate for the Twin Zone of 940,000 tonnes grading 28.5 g/t Au (Nichols, 1989).

## 6.2 Development and Mining, 1988 – 1999

The history of development and mining on the Snip property area has been covered by many authors and is summarized hereafter. The Snip Mine operated between January 1991 and June 1999. A photo of the mine circa 1998 is shown in Figure 6-1. Prime Resources Group Inc. assimilated Delaware Resources in 1995 then bought Cominco's 60% interest of the Snip Property in March 1996. Homestake Canada Inc. owned a controlling interest in Prime Resource Group at the time and operated the mine until closure and reclamation. In 2001 the property was acquired by Barrick Gold Inc. (Barrick) as part of its acquisition of Homestake Canada Inc.

All historical reports of resources and reserves, including statements of grades and tonnages, were prepared internally by Cominco Ltd. in 1989 prior to the implementation of National Instrument 43-101 standards and should not be relied upon. Past production figures are from audited company records and government sources, including Canada Revenue Agency and BC Mines Branch, and may be relied upon.

The Snip Mine went into production in January 1991 and officially opened on July 25<sup>th</sup>. Gold ore was mined using conventional shrinkage and cut and fill methods in the lower parts of the orebody, while mechanized cut and fill methods were used in the upper, wider parts of the orebody

Initial plant design was planned for a daily production of 300 tonnes. Diluted ore reserves at start-up using a 12 g/t gold cut-off totalled 940,000 tonnes grading 28.5 g/t, with a mine life of 10 years at an annual output of 2.9 million grams (93,000 oz).

In the first year, mine production totalled 119,812 ounces from 122,648 tonnes mined. That same year, the first resource estimate on the 150 Vein was calculated at 46,300 tonnes grading 32.0 g/t Au. Peak total ounces produced occurred in 1992 with 165,713 tonnes grading 31.6 g/t (168,011 ounces). A peak production rate of 470 tonnes per day (172,254 tonnes) at an average grade of 25.3 g/t Au occurred two years later.



**Figure 6-1: Snip mining operation, circa 1998, looking southwest**

The Snip Mine consisted of an underground mining operation, mill, tailings impoundment and ancillary facilities. The mine was a fly-in/fly-out operation which was serviced by air flights from Wrangell, Alaska, Bob Quinn Lake and Smithers to the Bronson airstrip located adjacent to the Snip Mine.

Access to the underground workings was provided by a series of portals that accessed the Twin Zone (130, 180, 300, 340, 400, 420, 440, and 520 portals) and Twin West Zone (150 and 225 portals). Access and haulage from the Twin Zone workings were provided by the 130 and 180 portals. The mill and ancillary facilities were located north of the mine between Monsoon and Bronson Creeks. The tailings impoundment was constructed in the saddle of a narrow valley forming the headwaters to both Monsoon Creek and Sky Creek. Dams were constructed at each

end to form a tailings impoundment approximately 150 m wide and 800 m long. Discharge from the impoundment was directed towards Sky Creek (Sibbick and MacGillivray, 2006).

Ore was mined predominantly by the “cut and fill” method in the wider, generally higher elevation parts of the ore-body where mechanized drilling and mucking occurred, while the narrowest parts saw conventional jack-leg drilling and slushers. Veins intermediate in thickness saw various combinations of these methods. Broken ore was sent down ore-passes to haulage trucks and taken predominantly via the 130 haulage level to the mill. The proportion of mechanized/semi mechanized mining relative to conventional mining dropped significantly over the lifetime of the mine, from 81% of the total mining in 1991, to 42% in 1994, to 16% in 1998 (final full year of production). Annual production rate totals by the various veins is provided in Table 6-1 and production summaries by mining method and recovered gold in Table 6-2 and Table 6-3, respectively. Photos from underground during mining are shown in Figure 6-3.

**Table 6-1: Snip Mine production by zone (Homestake, 1998)**

Zone	Tonnes	Tonnes (%)	Grade (g/t)	Grade (oz/t)	Total Grams	Total Ounces	Ounces %
Twin	762,437	61%	28.95	0.93	22,070,709	709,601	64%
150 Vein	277,926	22%	25.41	0.82	7,060,746	227,012	21%
HW min	89,288	7%	26.86	0.86	2,398,031	77,100	7%
FW min	67,712	5%	28.31	0.91	1,916,875	61,630	6%
130 vein	26,582	2%	19.9	0.64	528,929	17,006	2%
Twin-West	9,668	1%	18.1	0.58	174,967	5,625	1%
Misc	16,585	1%	16.01	0.51	265,536	8,537	1%
<b>Total</b>	<b>1,250,198</b>	<b>100%</b>	<b>27.53</b>	<b>0.88</b>	<b>34,415,793</b>	<b>1,106,510</b>	<b>100%</b>

**Table 6-2: Snip Mine production by mining method**

Mine Production	1991	1992	1993	1994	1995	1996	1997	1998
Ore Tonnes Milled	122,648	165,731	170,566	172,254	170,180	154,859	150,190	145,723
Average Head Grade (g/t Au)	30.38	31.6	29.8	25.3	25.8	26.92	26.8	23.82
Production (tpd, 365 days/year)	335	450	470	470	465	425	410	400
Conventional (slusher) Stopes	18.8%	-	-	42.0%	-	-	-	84.2%
Mech. & Semi-mech. Stopes	81.2%	-	-	58.0%	-	-	-	15.8%
Active Stopes	14	20	21	25	31	45	46	57
Average Tonnes per Stope	8,761	8,287	8,122	6,890	5,490	3,441	3,265	2,557

**Table 6-3: Plant production annual summaries**

<b>Plant Production</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>
Au Gravity Recovery (%)	21.4	24.9	36	36.6	34	34.1	34.1	34.1
Au Flotation Recovery (%)	68.9	66.4	55.6	54.8	57.4	57.4	57.4	57.4
Au Recover (%)	90.3	91.3	91.6	91.4	91.4	91.5	91.5	91.5
Ounces as Bullion	28,272	34,900	58,830	51,282	47,995	45,664	44,057	38,022
Tonnes Concentrate	5,719	8,322	8,897	8,150	8,124	7,393	7,170	6,956
Ave. Concentrate Grade (g/t)	432	417	319	295	323	310	310	310

The milling operation consisted of a ball mill with gravity jig and a sulphide flotation circuit. Free milling gold came from a gravity jig on the ball mill and separated from the other heavy minerals on a shaker table (Figure 6-2). Gold ore bars were then poured and flown off site. The remaining portion of the gold associated with the sulphide minerals was recovered via flotation resulting in a concentrate containing upwards of 300 g/t gold.

The concentrate was shipped in 1.5 tonne “heavy bags” by hovercraft along the Iskut and Stikine Rivers to Wrangell, Alaska (Figure 6-2). Hovercraft shipments were augmented by air cargo flights through the early years of operation until the hovercraft was phased out completely in 1997 due to high operating costs and inoperability through the winter months. Cargo aircraft capacity was then correspondingly increased to satisfy shipment schedules. Diesel fuel for power transmission at the mine was brought in on the return leg of these trips.



**Figure 6-2: Recovery of gold from historical Snip Mine, circa 1998. (Left) Free gold on shaker table, (Right) Heavy bags of sulphide concentrate**



**Figure 6-3: Mining at the historical Snip Mine, circa 1998. (Left) Jumbo mechanized drilling, (Right) scoop tram exiting 180 level portal**

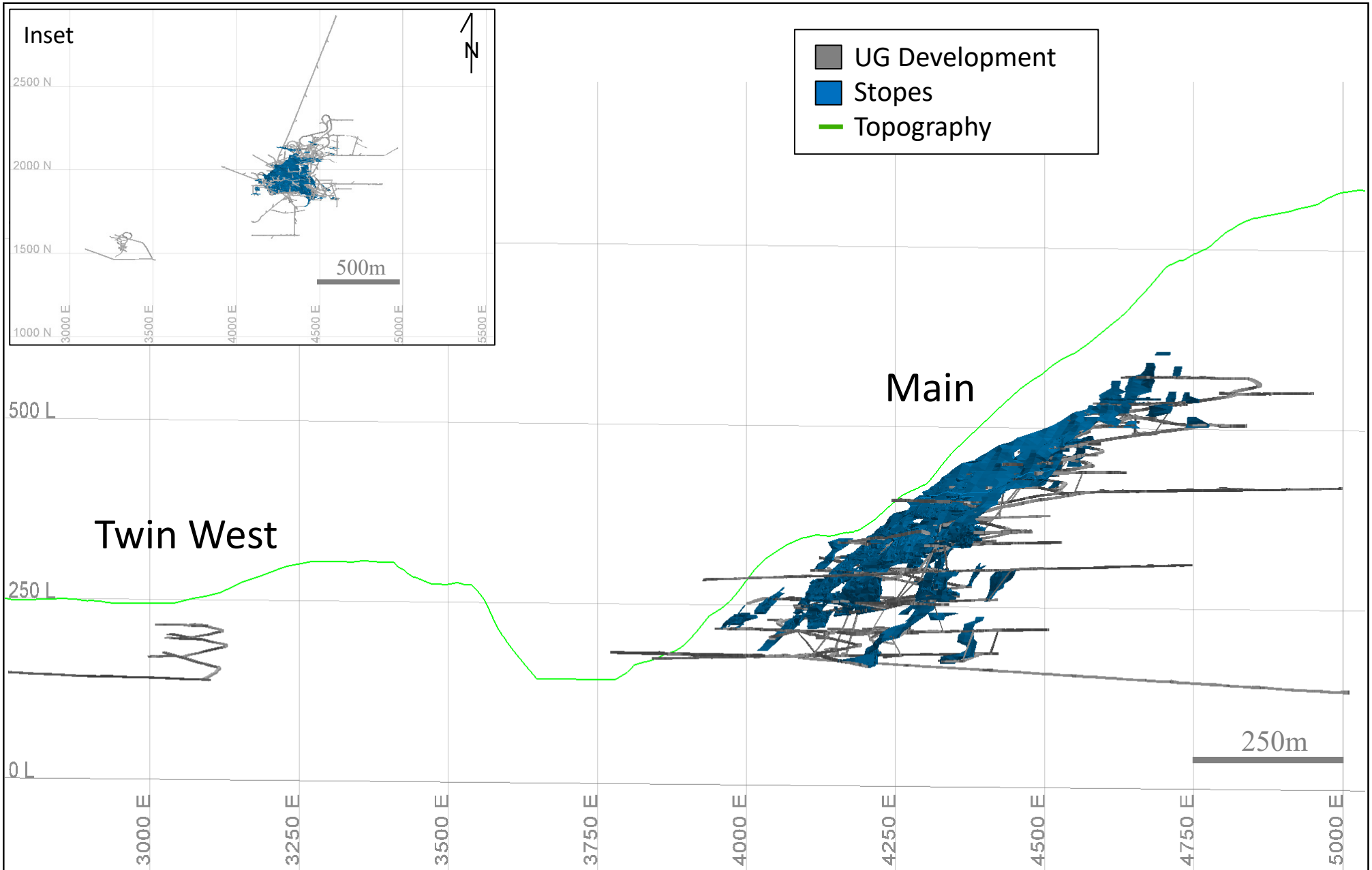
Mine waste generated during operations included waste rock and tailings. During operation, limited waste rock (180,000 Mt) was stockpiled in dumps adjacent to five portals (130, 180, 300, 440 and 150). The majority of the waste rock was ground down and used as hydraulic backfill (280,000 Mt), or placed directly as rock fill underground (344,648 Mt). Tailings were discharged to the tailings pond (Sibbick and MacGillivray, 2006).

When mining ceased in June 1999, the total production of gold from the Snip property was 1,106,510 ounces of gold in 1,250,198 tonnes of rock at an average grade of 27.53 g/t (Black, 1999).

The British Columbia Government reports slightly different totals than company records: "From 1991 to 1999, the Snip Mine produced 32.093 million grams of gold (1,031,822 ounces troy), 12.183 million grams of silver (391,696 ounces) and 249,276 kilograms of copper from about 1.2 million tonnes." (MEMBC Minfile 104B 250).

The total gold production at closure was roughly 30% greater than the gold resources defined at opening. A significant portion of these extra ounces came from the 150 and 130 footwall veins as they were not part of the initial resource and delineated after production commenced.

An oblique longitudinal section displaying all mined out areas in the Main and Twin West mines are shown in Figure 6-4.



### 6.3 Post Mining, 1999-2016

No further mining or mineral exploration work occurred on the property after mine closure until the option agreement was reached in March 2016 between Skeena Resources and Barrick Gold Corp; the owner of the property since assimilation of Homestake Canada Inc. in 2001. Work performed by Skeena since the agreement is described in Sections 9 (Exploration) and 10.0 (Drilling).

### 6.4 Mine Closure

Sibbick and MacGillivray (2006) provide a detailed description of the Snip Property mine closure process.

Closure of the mine was initiated following the completion of mining and the suspension of production in June 1999. Site closure operations were completed in October 1999. The isolated location of the mine and its restricted access posed several challenges for closure. Therefore, a comprehensive program was developed to ensure that the site closure could be sustained long-term with minimal post-closure maintenance. Key activities for closure were the:

- Sealing of the underground workings;
- Decommissioning of the waste dumps;
- Reclamation of the tailings impoundment; and
- Demolition of the site buildings and structures.

Reclamation activities were successfully completed by the end of 1999.

The underground workings contained backfill and rock surfaces considered to be potentially acid generating. Therefore, to minimize the potential for acid generation, the mine was flooded to the 300 level, the highest elevation possible. Concrete bulkheads were installed in the 130 and 180 portals to prevent discharge of mine water. The 340, 400, 420, 440, and 520 portals were sealed with a mixture of waste rock and concrete to limit airflow and prevent public access into the mine.

Waste rock dumps that were identified as being potentially acid generating were dismantled and either placed in the subsequently flooded portion of the underground or encapsulated within the tailings pond. The two dumps that were determined to be non-acid generating, the 150 and 180, were used as cover material for the tailings pond. The 300 dump, also non acid generating, was left in place to provide access to the 300 portal, the location of the underground mine drainage.

The tailings were regraded to promote drainage towards Sky Creek, and then capped with a layer of non-acid generating waste rock from the 150 and 180 dumps. A spillway was built at the south end of the impoundment to allow discharge into Sky Creek. The spillway elevation was constructed to maintain the water level within the waste rock layer capping the tailings. A coarse rock blanket was placed in the spillway to prevent potential damming as a result of beaver dam construction. Subsequent settlement of the tailings has resulted in the formation of shallow

ponding behind the embankment which ensures saturation during drier periods. Consolidation of the tailings and the migration of vegetation onto the cap have resulted in the development of a naturally formed wetland.

The mill and all ancillary buildings were dismantled and salvaged or buried on site. Small volumes of hydrocarbon contaminated soils were excavated and continue to be land farmed on a lined facility at the old mill site. Recontouring and seeding was carried out on the building areas and roads; revegetation to date has been highly successful.

## **6.5 Environmental Monitoring**

Sibbick and MacGillivray (2006) provide a detailed description of environmental monitoring on the Snip Property.

Barrick maintained a rigorous monitoring program as part of its Closure Management Manual for the site that includes water quality sampling, geotechnical inspections of the tailings dam and underground portal plugs, aquatic resource monitoring, and land use inspections.

The compliance monitoring point for the Snip Mine site is the tailings pond discharge (TPD) into Sky Creek. This site has been sampled 54 times since closure. Water quality of the discharge has been well below the permitted levels.

Based on the current success of the closure works, and continued success throughout 2006, a reduction in frequency and parameters analyzed for, will be pursued, if prudent. Geotechnical monitoring will also be conducted for the long-term; however, continued consolidation of the tailings over time further mitigates against future potential tailings facility stability issues.



## 7 Geological Setting and Mineralization

### 7.1 Regional Geology

The Iskut River area witnessed an abundance of geological and metallogeny studies from the late 1980's through the early 1990's following numerous discoveries and exploration campaigns, becoming known as the "Golden Triangle".

Earliest work by Tipper and Richards, (1976), Anderson (1989), and MacDonald et al. (1992) among others, established the Triassic (Stuhini Group) and Jurassic (Hazelton Group) stratigraphy of the area, within the Intermontane Belt on the western margin of the Stikine terrane. The unconformity separating the two groups was mapped throughout the "Golden Triangle" by Kyba and Nelson (2015), who established that most of the major deposits in the region, including the Snip deposit, occur within 2.5 km of the unconformity.

Numerous intrusive suites were identified, with the metallogenetically important Texas Creek Plutonic Suite considered coeval with volcanic components of the Hazelton Group. Further regional work by Kyba and Nelson (2015), coinciding with increasing exploration in 2014, resulted in the Bronson corridor map (Figure 7-1) showing the Hazelton and Stuhini Groups intruded by the Lehto plutonic suite.

The Snip property lies at the western margin of their study with applicable portions of their summary and interpretations provided below. In general, strata are gently dipping, as shown by major contacts that follow topographic contours, interrupted by minor, steep, northeast-striking faults. Stuhini Group rocks at the base of the Snippaker Ridge section consist of laminated to thick-bedded greywacke, argillite, siltstone, sandstone, crystal tuff, and rare fossiliferous limestone. Most common are grey-green, fine-grained, locally graded, tuffaceous volcanic wackes containing subhedral to anhedral plagioclase feldspar and up to 10% mafic minerals (replaced by chlorite) and rare detrital quartz (Kyba and Nelson, 2015).

Intrusive rocks in greater Iskut River region comprise five plutonic suites. The Stikine plutonic suite is represented by Late Triassic calc-alkaline intrusions which are coeval with group strata. Copper Mountain, Texas Creek and Three Sisters plutonic suites are variable in composition but are roughly coeval and co-spatial with Hazelton Group volcanic strata. The Tertiary age Coast Plutonic Complex is represented by predominantly granodioritic to monzonitic Eocene intrusions of the Hyder plutonic suite, exposed 12 km south of the Bronson Slope deposit (Britton et al., 1990).

The age, mineralogy and texture of the adjacent Red Bluff porphyry stock (associated with the adjacent Bronson Slope deposit), suggest that it belongs to the economically important Early Jurassic Texas Creek plutonic suite (see Alldrick, 1985; Alldrick et al, 1987; Brown, 1987). Plutons of this suite are located in the Stewart, Iskut River region and range in age from 196 to 185 My (Anderson, 1993; MacDonald et al., 1992., Alldrick et al., 1990).

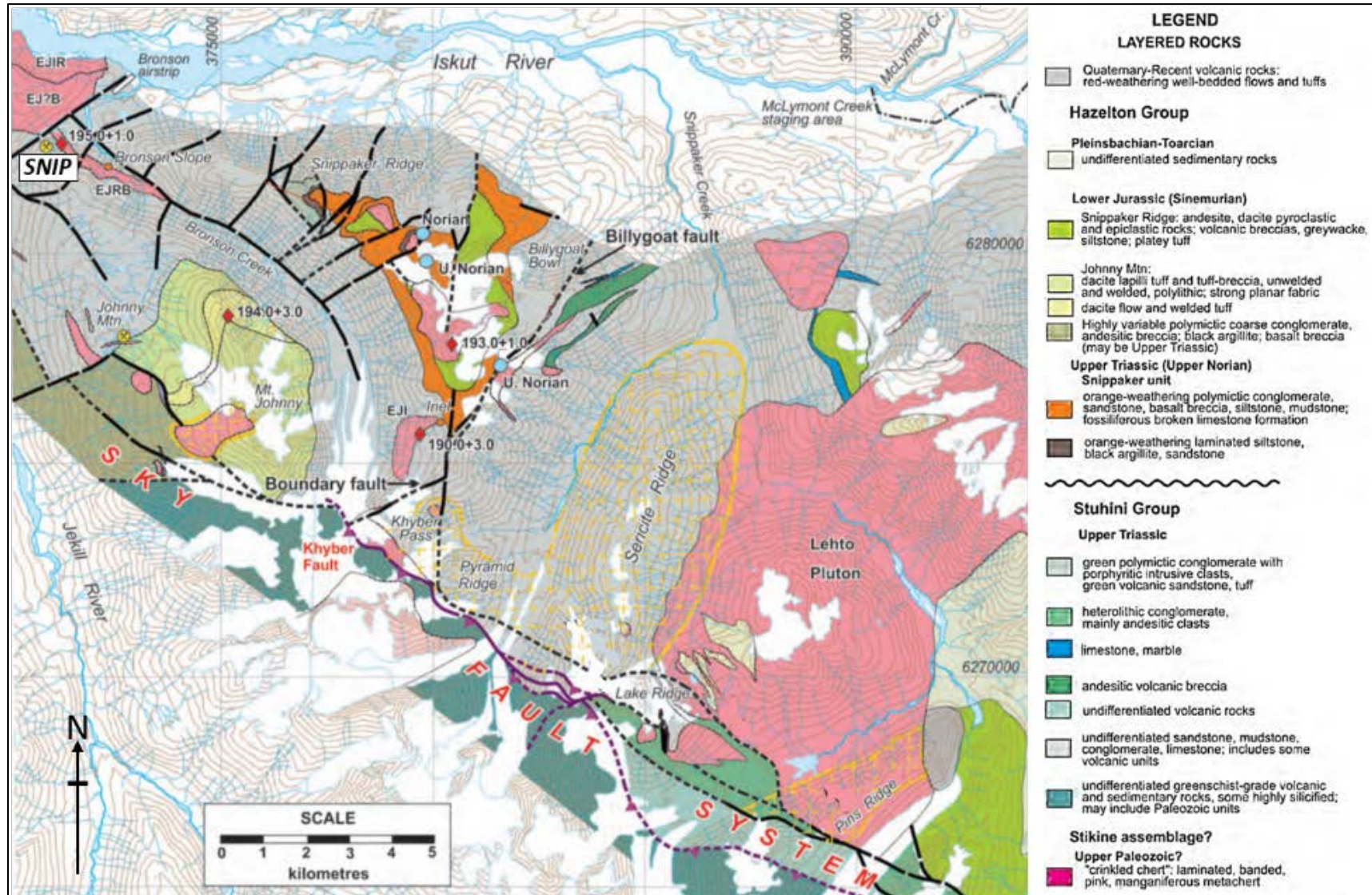


Figure 7-1: Regional Geology of the Bronson corridor area (Kyba and Nelson, 2015). Note the distribution of the Early Jurassic Lehto plutonic suite. Red diamonds show locations of U-Pb ages, blue dots represent fossil localities

Kyba and Nelson (2015) noted the spatial relationship of many mineral showings and deposits in the region, and in particular large zones of “quartz-sericite-pyrite” (QSP) alteration, with a major northwest-southeast trending structure named the “Sky fault system” (Figure 7-1). Their interpretation impacts on the Snip Property geology as the western extension of this fault system and broad zones of QSP are found within its boundaries.

*“Our analysis of the Sky fault system suggests that the Bronson corridor of alteration and mineralization (Metcalf and Moors, 1992) was controlled by regional structures. Normal faulting, emplacement of Lehto intrusive rocks, and alteration appear to be genetically related, as indicated by synkinematic dikes and the increased intensity of QSP alteration, polymetallic mineralization, and dike density at the Inel and Khyber prospects toward the Sky fault system.*

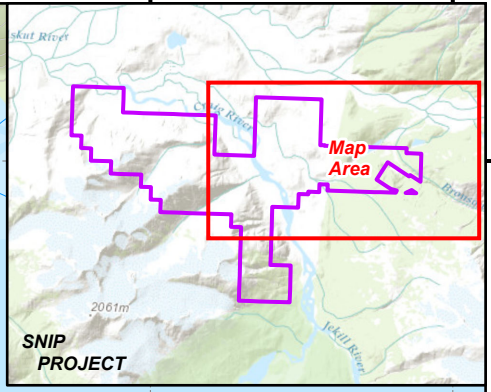
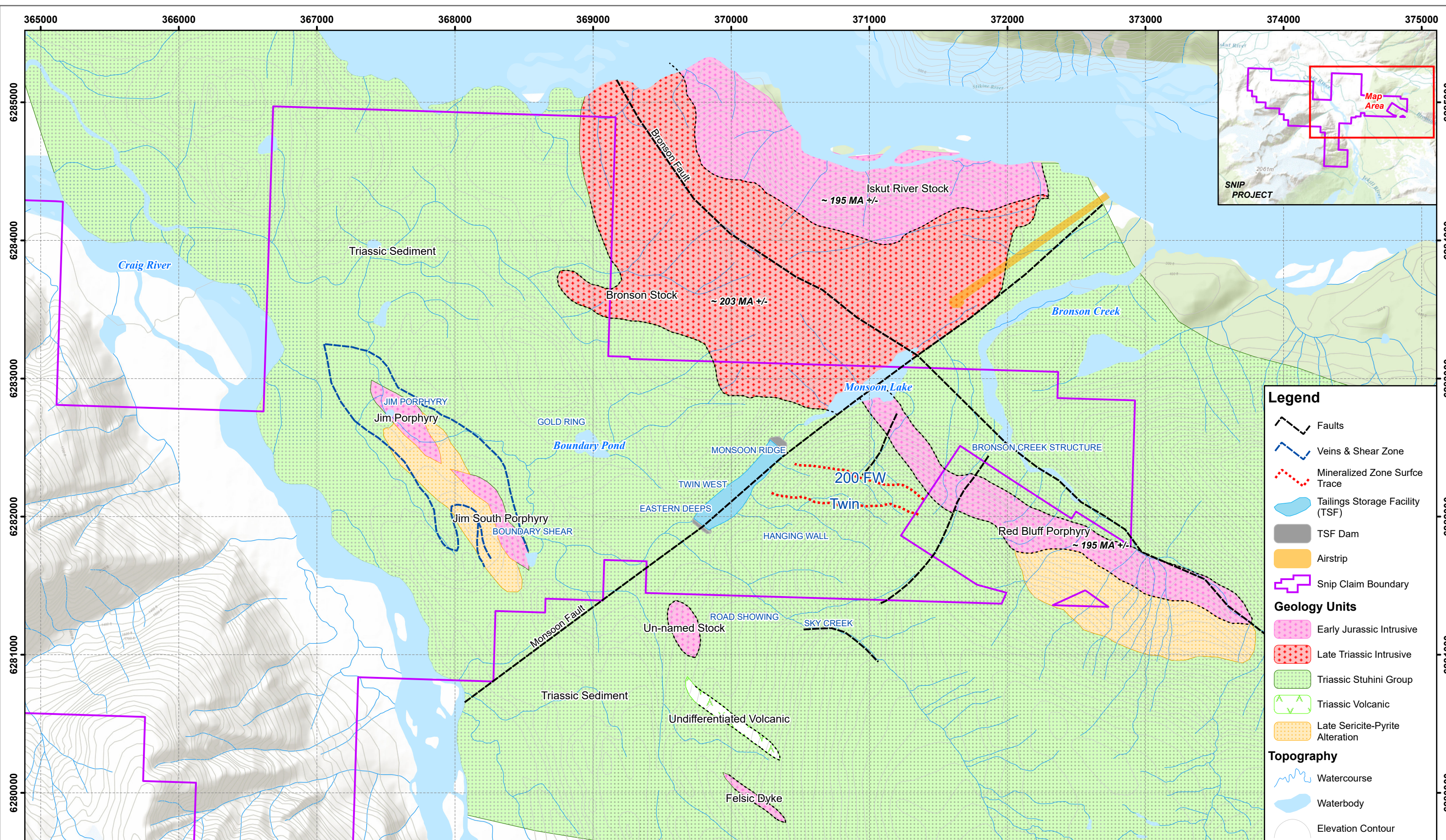
*In this study, we have observed many instances of normal sense motion on strands of the Sky fault system. However, the stress regime during the Early Jurassic may not have been purely extensional. There is limited evidence of dextral sense motion on the Sky fault south of Mt. Johnny. Detailed underground structural study of the Snip vein showed that it formed during normal-oblique (dextral) motion on the minor west-northwesterly, southeast-dipping fault zone that hosts it (Rhys, 1995). Northeasterly faults and trends of intrusions and alteration zones are an important feature of the Bronson corridor” (Kyba, J. and Nelson, J.L., 2015).*

*“The Lehto pluton, as shown in the Lewis (2013) compilation, is a large, northeast-trending, uniform intrusive body. More detailed observations show a wider diversity of phases, and distribution of Lehto plutonic rocks throughout the belt in small, high-level intrusive centers (e.g., Snippaker Ridge and Mt. Johnny) and as dikes near the Sky fault system. Analysis of the Sky fault system indicates that early normal faults, likely genetically related to alteration, mineralization, and Lehto plutonism, reactivated in a thrust sense during post- Early Jurassic regional shortening. The Sky fault system likely formed close to the boundary of a rift-type basin and enhanced circulation of hydrothermal fluids generated during Lehto suite plutonism to form the deposits of the Bronson corridor” (Kyba, and Nelson, 2015).*

## 7.2 Property Geology

Extensive geological work was performed on the property through its early exploration and production period. Studies focused on structural geology, alteration and mineralization as they were the principle controls on ore development. The Masters Thesis by Rhys (1993) from the University of British Columbia remains the most systematic and detailed evaluation of the property.

A property geology map accurately representing historic and more recent work was produced by Nichols and Giles (2017) (Figure 7-2). It is discussed in subsequent sections.



**Legend**

- Faults
- Veins & Shear Zone
- Mineralized Zone Surface Trace
- Tailings Storage Facility (TSF)
- TSF Dam
- Airstrip
- Snip Claim Boundary


**Geology Units**

- Early Jurassic Intrusive
- Late Triassic Intrusive
- Triassic Stuhini Group
- Triassic Volcanic
- Late Sericite-Pyrite Alteration

**Topography**

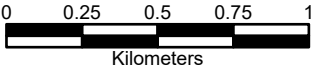

- Watercourse
- Waterbody
- Elevation Contour

Skeena Resources Ltd.  
 Date: 11-Aug-2020  
 Figure: 7-2  
 Author: M. Mayer  
 Filename: 200810\_SN\_43-101-Figures



*Snip Project*  
**Figure 7-2: Property Geology**  
 Liard Mining Division - NTS 104B11  
 British Columbia, Canada

Scale: 1:25,000  
 Coord. System: NAD 1983 UTM Zone 9N

## 7.2.1 Lithology

### Triassic Stuhini Group

The Stuhini Group that hosts the Snip mineralization was described in detail by Rhys (1993). Rocks exposed in the Snip mine workings were interpreted to represent strata from a stratigraphically intermediate position in the clastic lower succession of Johnny Mountain likely representing turbidites proximal to a volcanic source. Between 70 and 850 m of true thickness in the sequence has been intersected by the Snip underground workings and drilling, measured from west of the 130 portal adjacent to the Red Bluff porphyry to drilling in the south central end of 180 level.

Bedding dips moderately to steeply north to northwest with younging directions, determined from laminated graded beds, are upright and face north. Dips range from 60 to 80 degrees north on 180 level to shallower dips of between 30 to 50 degrees on the 230 to 340 levels. Bedding dips are variable but generally steeply to the north to northwest above the 340 level and on surface above the workings.

Rocks consist primarily of grey weathering massive fine to medium grained poorly sorted and feldspathic to lithic greywacke. Laminated and graded beds of siltstone and mudstone comprises between 3 and 15% of the sequence with massive coarse-grained greywacke comprising 5-10%. Less abundant matrix supported volcanic conglomerate also occurs throughout. Greywackes sediment comprises plagioclase (mainly albitic), quartz, K-feldspar, siltstone/mudstone and volcanic rock fragments. The coarser-grained greywackes and the lithic greywackes often contain 0.5-10 cm-sized subrounded biotized mafic minerals and K-feldspar porphyritic intermediate to mafic volcanic clasts, and clasts of tan coloured siltstone or dark grey mudstone. Clasts constitute generally less than 10% by volume.

### Red Bluff Porphyry and associated alteration

The Red Bluff Porphyry lies between 500 and 800 m northeast of the Snip deposit and is considered significant in the alteration and mineralization on the Snip Property (Rhys, 1995) (Figure 7-2). It is approximately 2 km long and 250 m wide, and trends northwest along the northeast edge of Johnny Ridge. Contact relationships with the country rock are poorly defined but where intersected by drilling and mine development, are faulted or intrusive.

The Red Bluff Porphyry is a hydrothermally altered K-feldspar megacrystic, plagioclase porphyritic intrusion of probably quartz diorite to quartz monzodiorite composition. The porphyry and adjacent rocks are affected by several styles of alteration and veining that are dominated by pervasive potassic alteration and associated quartz-magnetite-hematite veins. Veinlet and brown biotite ± pyrite occurs broadly and abundantly throughout the greywacke sequence of northern and western Johnny Mountain. Biotite abundance is greatest over an approximately 15 km<sup>2</sup> zone in the greywackes within the Snip mine workings, the southernmost kilometre of the Bronson stock, the northwestern end of Snippaker Ridge, and in greywacke and volcanic conglomerate units along the west side of Johnny Mountain.

The possible genetic relationship interpreted by Rhys between the Red Bluff porphyry, alteration and mineralization is important to consider during further exploration of the Snip Property. Rhys' conclusions are based upon spatial association, alteration assemblages, mineralization and metal zoning, structural fabrics and kinematics, and temporal relationships between alteration, intrusion and mineralization.

Taken together, these relationships suggest that: (1) mineralized structures on Johnny Mountain characterised by Early Jurassic galena Pb isotopic signatures, formed during one magmatically driven hydrothermal event that was synchronous with deformation; (2) metals were not mobilized into the structures by later fluid circulation during a younger phase of hydrothermal activity or deformation; (3) hydrothermal activity and mineralization in the Red Bluff porphyry and the Twin Zone were synchronous, and thus the Red Bluff porphyry is a potential local fluid source for the Twin Zone; and (4) the biotite envelopes on the Twin Zone and shear veins are contemporaneous with potassic alteration on the property.

The distribution and abundance of biotite in areas distal to the Red Bluff porphyry along the west side of Johnny Mountain and the extensive area containing mineralized veins, suggests a more regional fluid source, possibly an underlying batholithic parent to the Red Bluff porphyry (Rhys, 1995) rather than an origin related solely to the Red Bluff hydrothermal system.

### **Biotite Spotted Unit**

A distinctive unit at Snip Mine is the Biotite Spotted Unit, or 'BSU'. This distinctive dike, that is often found in the core of the principle vein, divides it into two "Twin" portions.

Nichols and Giles (2017) described the unit as a non-mineralized basic to intermediate biotitic dyke that has intruded the vein mineralization. Mining revealed that it mostly followed the plane of the Twin Zone, with dips from 50°-70° at the lower and upper elevations, with shallower dips at mid-elevations. Widths range from several decimeters up to 5 m with an average width of 2.5-3 m. It is moderately to strongly biotitized and hosts calcite-pyrite-quartz-sericite-chlorite alteration minerals. Biotite content ranges from 2 to 20% as disseminations, veins and fracture infill.

### **Bronson Stock**

A small portion of the Snip Property overlies an intrusive body that forms the hillside on the opposite side of a large fault gully to the northwest of the historic Snip mine, termed the "Bronson Stock" described in Nichols and Giles (2017).

The Bronson Stock is a poorly documented heterogeneous, medium-grained equigranular plagioclase-rich clinopyroxene-amphibole bearing diorite. The stock has a poorly constrained Late Triassic U-Pb zircon age of between 197 Ma and 225 Ma obtained from a K-feldspar and plagioclase phyrlic monzodiorite phase of this unit (Macdonald et al, 1992). It has also been noted by various authors that the stock has been intruded by several dykes, sills; and small stocks, of unknown age and intermediate to mafic composition.

Contacts of the stock with country rocks are not well defined, but where observed in drill core, are either faulted or intrusive. The southwest and northeast contacts appear to be southwesterly dipping. Screens of altered greywacke up to 40 m wide are common throughout the intrusion.

### **Jim Porphyry**

The Jim Porphyry has been interpreted solely from drill hole information as there is very limited outcrop in the southwest portion of the property. Geophysics does not provide strong evidence for an intrusive body of significant size. 2016 drilling on the Jim claims intersected an extrusive unit and possibly an associated intrusive unit. Rocks are described as feldspar-phyric, feldspar-quartz rich pyroclastic fall, ash-lapilli, agglomeratic, debris flow and volcanoclastic sections intruded by mineralogically similar dykes and sills.

Feldspar porphyroblastic dacitic intrusions may have been intersected in previous holes (based on conclusions, and inferences drawn from 2016 core, past drill logs and Rhys (1997) reported images) with some intercepts suggesting they could represent additional porphyry copper targets. Their extents are unknown due to lack of outcrop and drill density and it is conceivable that they may represent Hazelton Group equivalent rocks. Rhys (1997), suggests some of the feldspar porphyroblastic dykes ascribed to the loosely termed and even more loosely defined 'Jim Porphyry system', are related to the Jurassic age Texas Creek Plutonic suite. His generalized definition of the 'Jim Porphyry System' is based on examination of over a dozen holes. A quartz (vein) stockwork is near ubiquitous in drill holes with several intersecting megacrystic K-feldspar porphyry dykes. Alteration is an assemblage of quartz-sericite-chlorite-albite-pyrite-carbonate. (Nichols and Giles, 2017).

### **Recent Lamprophyre and Basalt dykes**

Undeformed lamprophyre dykes of probable Tertiary (Oligocene) age have been mapped and seen in drill core at several locations on the property, as have basalt dykes, possibly correlative with recent volcanism.

## **7.3 Structure**

Rhys (1993) provides a very thorough and detailed analysis of the structural geology of the Snip Project and surrounding area and its role in focusing fluid flow and mineralization. His work was accurately summarised by Nichols and Giles, 2017.

Several periods of deformation and veining have affected the Snip Mine sequence. Earliest quartz calcite veining is superseded by a (single) shear vein phase, followed by extensional veining. These features are cut by northwest dipping gouge filled faults that have oblique right lateral displacements. At least one set of the extension veins displays reverse shear sense relative to shear veining.

Rhys (1993) cites "consistency of mineralogy, identical progression of the same alteration facies from vein to wallrock, and the continuity of structural thickness from biotite-pyrite veinlets to shear veins suggest that these structures were formed during the same hydrothermal event." The

intimate association of biotite to shears, veining and the overall homogeneity of the alteration envelope are suggestive of a close relationship to the same event. Ore type formation and alteration were in his words, 'synchronous and part of a protracted process'. Evidence for this is:

- Deformed and undeformed auriferous quartz and sulphide veins in single exposure, and deformed veins cross-cutting foliation.
- Stacked repetitive sets of quartz and sulphide veins.
- Biotitic envelopes on deformed and shear veins suggesting alteration from the time of vein formation and continuing after the intrusion of the BSU.
- Multiple quartz-sulphide veining with various styles and clear cross-cutting relationships.

Rhys (1993) concluded the BSU dyke was intruded late in the deformation history of the Twin Zone, after ore formation, but during the waning stages of the hydrothermal system. Importantly, displacement on the Twin Zone and shear veins during the event that offset the extension veins, must have had only minor offset since there is no offset along the dyke, which predates the extension veins. The displacement of the extension veins must thus define a late reactivation of the shear veins that is minor and temporally unrelated to the main period of offset on the Twin Zone (Nichols and Giles, 2017).

## 7.4 Mineralization

Gold mineralization at the Snip Mine has been reported from at least six historical zones including the Twin Zone, the 150 Vein, the Hangingwall Zone, the Footwall Zone, the 130 Vein and the T-West ('Twin West') Zone.

Gangue mineralization is predominately calcite, iron-carbonate, quartz, pyrite, chlorite and biotite in decreasing order.

Mineralization was divided into the following four types by Rhys (1993):

- **Carbonate Type:** Banded to laminated calcite and chlorite/biotite with up to 70% carbonate. Quartz is disseminated to vein(let) in nature. Sulphides are trace to approximately 5%.
- **Chlorite-Biotite Type:** Up to 60% phyllosilicates and 30-40% calcite. Minor to moderate to predominant quartz with significant vein-type or 'augen' quartz. Sulphides approximately 5% (pyrite and pyrrhotite).
- **Sulphide Type:** Pyrite, chalcopyrite, pyrrhotite, arsenopyrite, galena, sphalerite can occur in varying percentages and combinations, as threads, veinlets, vein, semi- massive concentrations or disseminations.
- **Quartz Type:** Banded-parallel or 'foliation-parallel' white to milky in colour, with sulphides as in previous types. Pyrrhotite and chalcopyrite were reported as more abundant than in the Sulphide Type. Veins were also reported as commonly fractured with quartz and Fe-carbonate infill.



The mineral association and occurrence of gold within the different types is summarized in Table 7-1.

**Table 7-1: Mineralization types in the Twin Zone (Rhys, 1993)**

Type	Mineral Association	Gold Occurrence
<b>Sulphide Type</b>	Pyrite, chalcopyrite, pyrrhotite, magnetite, arsenopyrite, chlorite, biotite, tellurides, sulfosalts, native bismuth	Enclosed in, within fractures, or rimming sulphide grains; also free in gangue with chlorite or biotite. Often intergrown with tellurides, native bismuth, tetrahedrite or chalcopyrite
<b>Quartz Type</b>	Pyrite, chalcopyrite, pyrrhotite, chlorite	Rimming or spatially associated with these minerals, but less commonly occurs without them free in quartz
<b>Carbonate and Biotite/Chlorite Type</b>	Pink carbonate with fine-grained biotite; chlorite, molybdenite; associated with and alteration of biotite to chlorite, calcite and rarer actinolite	Streaked on chlorite foliation surfaces; or as coarse flakes and seams spatially associated with pink carbonate. Commonly intergrown with or rimmed by molybdenite

## 8 Deposit Types

Mineralization on the Snip property is unique as it displays structural geological similarities to many Orogenic style gold occurrences yet displays mineralogical and paragenetic similarities to porphyry related veins deposits. An excellent summary classification of the deposit style on the Snip property was provided in Sillitoe and Thompson (1998).

The Snip Au-Cu-Mo-Zn vein, in the Stewart-Iskut River area of northwestern British Columbia, lies adjacent to the Red Bluff porphyry, an Early Jurassic calc-alkaline, I-type, magnetite-series intrusion of quartz monzodioritic composition. The porphyry hosts a quartz-magnetite-hematite stockwork containing a low-grade gold-copper resource (Rhys, 1995). Similar intrusions associated with porphyry copper-gold mineralization occur throughout the region and were emplaced over an approximately 10 Ma time period in the Early Jurassic (Macdonald et al., 1996). The lead-isotopic signatures of the intrusions, porphyry mineralization and related veins fall in a tight cluster (Godwin et al., 1991).

The Snip deposit exploits the Twin Zone shear-vein system, which starts approximately 600 m from the Red Bluff intrusion and extends for >1000 m to the west-northwest. The vein, hosted by Triassic sedimentary rocks, averages 2.5 m in width and dips 30-60° to the southwest (Rhys, 1995). The vein system is characterized by internal mineralogical banding, typically parallel layers of chlorite-biotite, calcite, quartz and pyrrhotite-pyrite, with wallrock alteration dominated by inner biotite and outer K-feldspar-calcite-quartz-sericite (Rhys, 1995).

The historical mining and reserve grades averaged 27–30 g/t Au, with elevated copper (0.15–0.5 %), minor molybdenum (0.01– 0.05 %) and zinc (Zn: Cu<5:1) (Rhys, 1995).

Structural features in the Twin zone indicate oblique-directed shearing under semi-brittle conditions (Rhys, 1995). The shear fabrics associated with the gold mineralization in the Twin zone are similar to those described from many orogenic vein gold deposits. The metal association in the veins (Au-Cu-Mo-Zn) and the importance of potassic alteration suggest a magmatic origin for the ore fluid. This is supported by the proximity of the Twin zone to the Red Bluff porphyry as well as the lead-isotopic data (Rhys, 1995). Veins more distal with respect to the Red Bluff porphyry contain higher zinc, lead and silver contents as expected in a zoned porphyry system. The veins in the district can therefore be classified as porphyry related, similar to those in many other porphyry copper systems, although the Twin zone is unusual because of its economic grades and widths, the metal suite and the synchronicity of mineralization and semi-brittle deformation.

The relation of the Snip Property style of gold mineralization relative to the many other styles in the Stewart-Iskut River area was portrayed in Macdonald (1996). His diagram depicting the metallogenetic evolution of the area is provided in Figure 8-1.

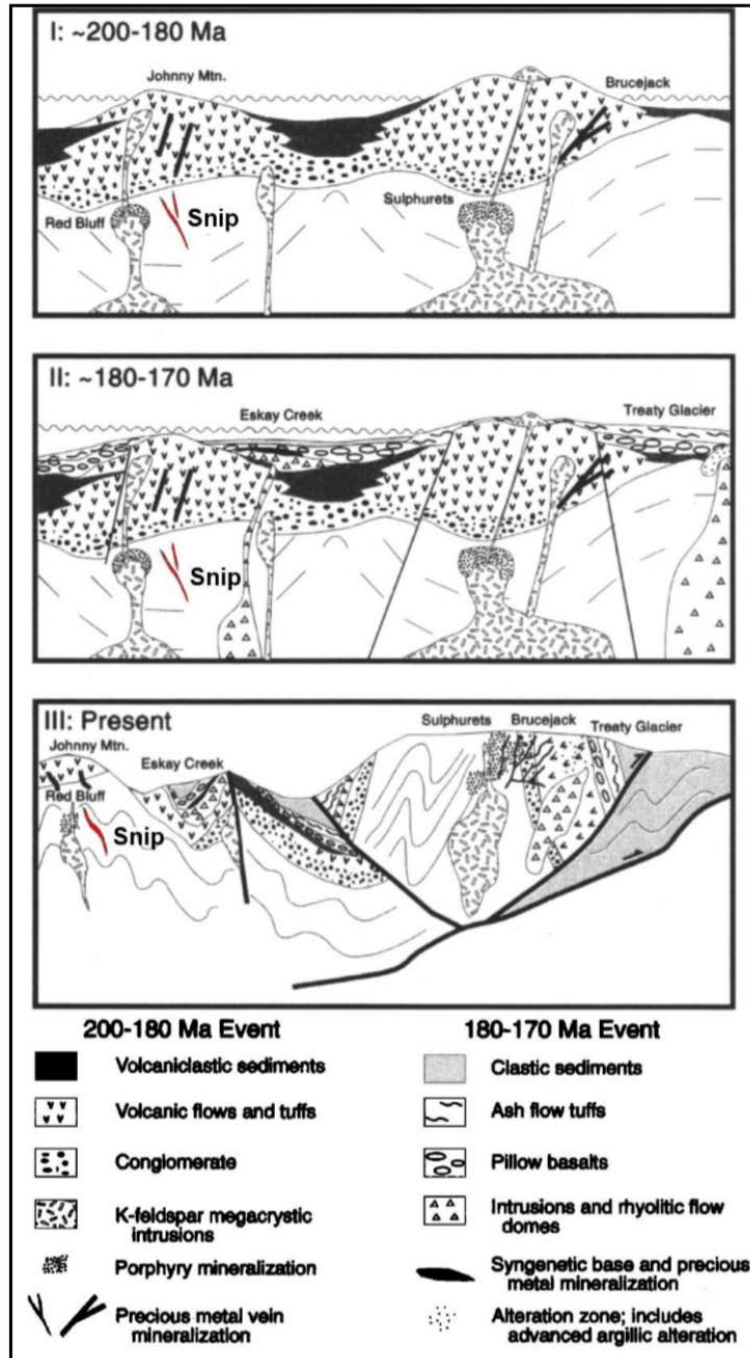


Figure 8-1: Schematic Geologic History of the Iskut River area and relation to the Snip mineralization (MacDonald, 1996)

## 9 Exploration

A significant amount of historical exploration work has been conducted on the Snip Property to date. Knowing that mineralization in the region is typically discontinuous and narrow in nature, a unique strategy of discovering an ore body of economic significance is needed. For example, the Twin Zone produced greater than 700,000 ounces of gold from a tabular body of rock with dimensions of roughly 2.5 m thick by 200 m across by 500 m in length. Seeing as zones of significant ore can be hidden so surreptitiously, additional holes should be planned for every primary drill target, to fully consider and cover the area of interest. Furthermore, due to the variable nature of these deposits, drill hole spacing distances should be as low as possible for effective mineral resource classification.

Exploring for high-grade targets like the Twin Zone, which has a small footprint with limited surface expression is hampered by its poor response to geophysical surveys and the area's thick vegetation and local glacial overburden cover.

Previous work has indicated that high grade mineralization on the Snip Property is contemporaneous with the emplacement of the Red Bluff Porphyry and that, on a broad scale, base metal (Cu-Zn) content in associated veins increases with distance from the porphyry at the expense of gold and silver. The Jim Porphyry to the west represents the only known other intrusive body on the property with a possible affinity to the Red Bluff Porphyry and is a possible exploration target.

Since acquiring the project in 2016, Skeena Resources has focussed exploration efforts on: (1) confirming the existence of gold mineralization previously defined by historical drilling, and (2) delineating further mineralization both proximal and distal to the historical orebody. Skeena has performed surface geochemistry, airborne geophysical surveys and surface and underground diamond drilling (using historical underground workings).

### 9.1 2016

#### 9.1.1 Geochemistry

Details of the soil sampling survey are provided in Nichols and Giles (2017).

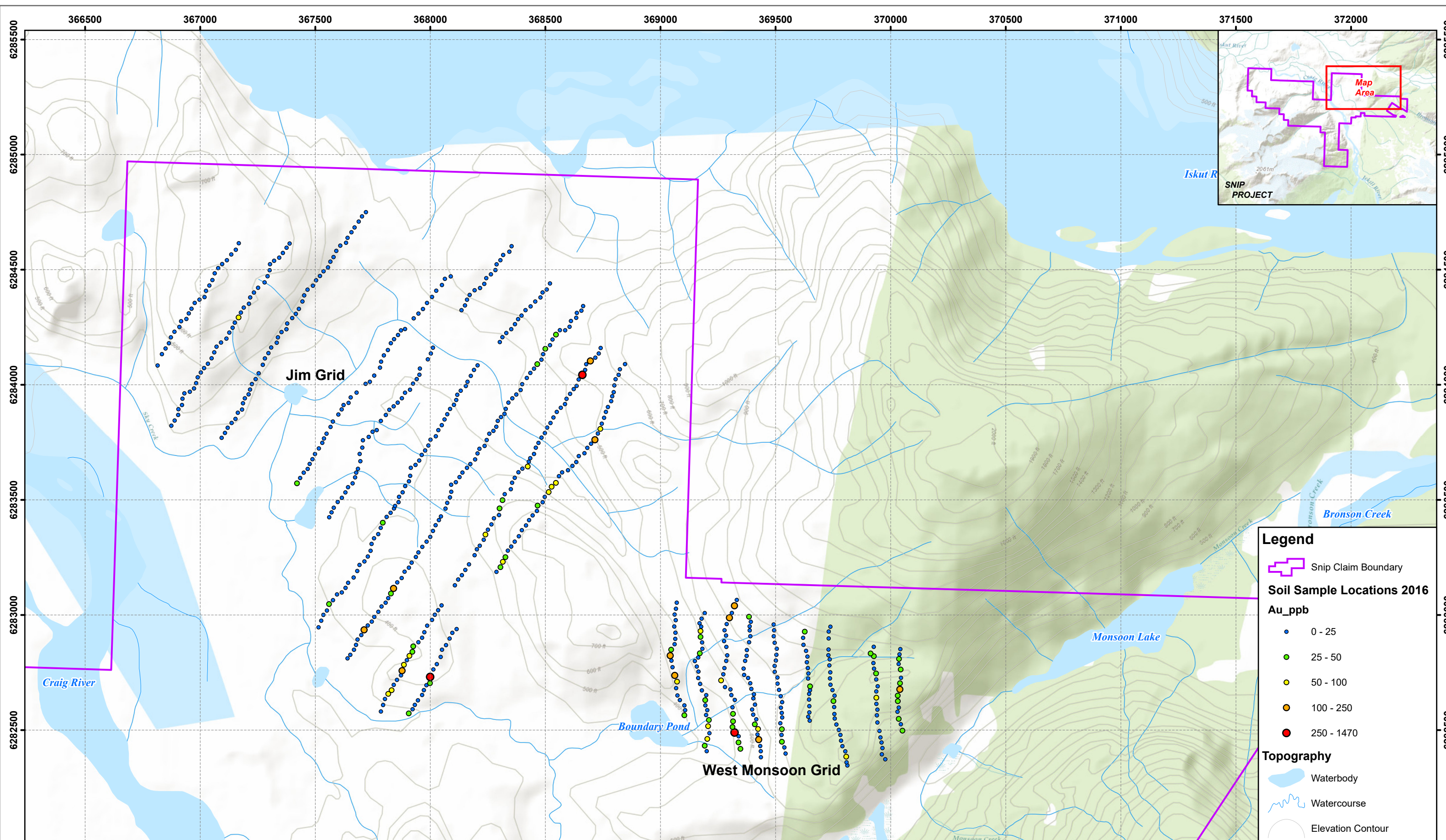
Reconnaissance soil sampling was conducted on the Jim and West Monsoon Lake grids, whereby a total of 668 samples were collected. Of these, 556 covered portions of the Jim 1, Jim 2, Sky 3 and Snip 3 mineral claims, while 112 were sampled on mining lease 226132 (Figure 9-1).

The programme was designed to expand previous geochemical coverage of the property, specifically over westernmost portions sampling north and north-west of the Twin West Zone, and westward from the easternmost portions of the Jim claims. Stations along GPS navigated lines were at approximately 25 m intervals, with some variance due to topography and extensive forest cover. Line spacing was approximately 100 to 125 m, with consideration for slope of terrain and areas with prominent drainage. Individual sample sites were flagged and marked with respective

location numbers. Sample depth was very much dependent on the depth of organic ('A' horizon) material, which, in this area can be considerable. A well-developed 'B' horizon was sampled, albeit with variable oxidation. Traverses and sample locations were recorded on handheld Garmin GPS instruments. For all samples, sample depth, basic colour, local topography, outcrop and drainage information, were recorded. Several areas planned for sampling were covered with recent sediments and/or were poorly drained; these stations were not sampled.

Analysis of the soil samples suggested the following:


- There was no linear correlation between gold and silver;
- West central areas returned poor results, in part due to higher clay-silt content in the substrate (notably around the pond north of Sky Creek);
- Highest gold values may be associated with anomalous Zinc, Copper, Bismuth and Tungsten, and to a lesser extent, Boron and Cadmium, this assessment based on a review of the ICP analyses
- In general, multi-element anomalies suggest orogenic gold targets with a minor contribution from late stage high-level base metal enriched fluids;
- Epithermal targets signatures, arguably defined by As-Sb-Cd-Hg-(Au)-(Ag), do not necessarily appear, although re-analysing for Hg by a more appropriate method is required (Nichols and Giles, 2017).
- Heberlein (2017) compiled the geochemistry surveys and recommended that the Ah soil horizon be sampled when at elevations below the treeline. This will limit the "noise" from substrate variability (i.e. till) and more accurately represent bedrock metal content.



**Legend**

- Snip Claim Boundary
- Soil Sample Locations 2016**
- Au\_ppb**
- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 250
- 250 - 1470
- Topography**
- Waterbody
- Watercourse
- Elevation Contour

Skeena Resources Ltd.  
 Date: 27-Aug-2020  
 Figure: 9-1  
 Author: M. Mayer  
 Filename: 200810\_SN\_43-101-Figures

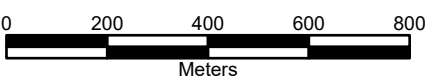



*Snip Project*

**Figure 9-1: Soil Survey Sample Locations with Au (ppb)**

Liard Mining Division - NTS 104B11  
 British Columbia, Canada

Scale: 1:15,000  
 Coord. System: NAD 1983 UTM Zone 9N

## 9.1.2 Geophysics

Airborne Geophysical surveying of the Snip Property was carried out in 2016 with a C-824 Cesium Magnetometer using a 10Hz sampling rate. It was flown at 100 m spacing on a heading of 045°/225° with 1000 m spaced tie lines. A total of 171 line-km of data was collected.

Results provide a broad correlation with mapped geology on the property, however topography and thick overburden cover on the southwest portion of the property masked the geophysical response of the area. Figure 9-2 shows the results of the Geophysical Magnetics survey.

## 9.2 2017

### 9.2.1 LiDAR Survey

Skeena commissioned a surface mapping LiDAR (Light Detection and Ranging) survey of the property in 2017 at a density of 16 points per square m resulting in a 25 cm pixel resolution. The portion of the survey over the Twin Zone is provided in Figure 9-3.

## 9.3 2019

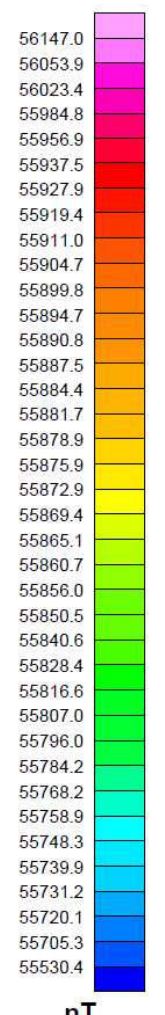
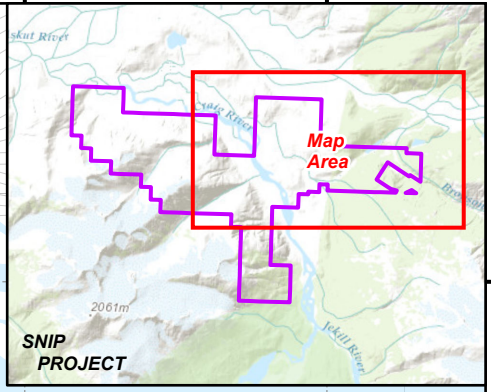
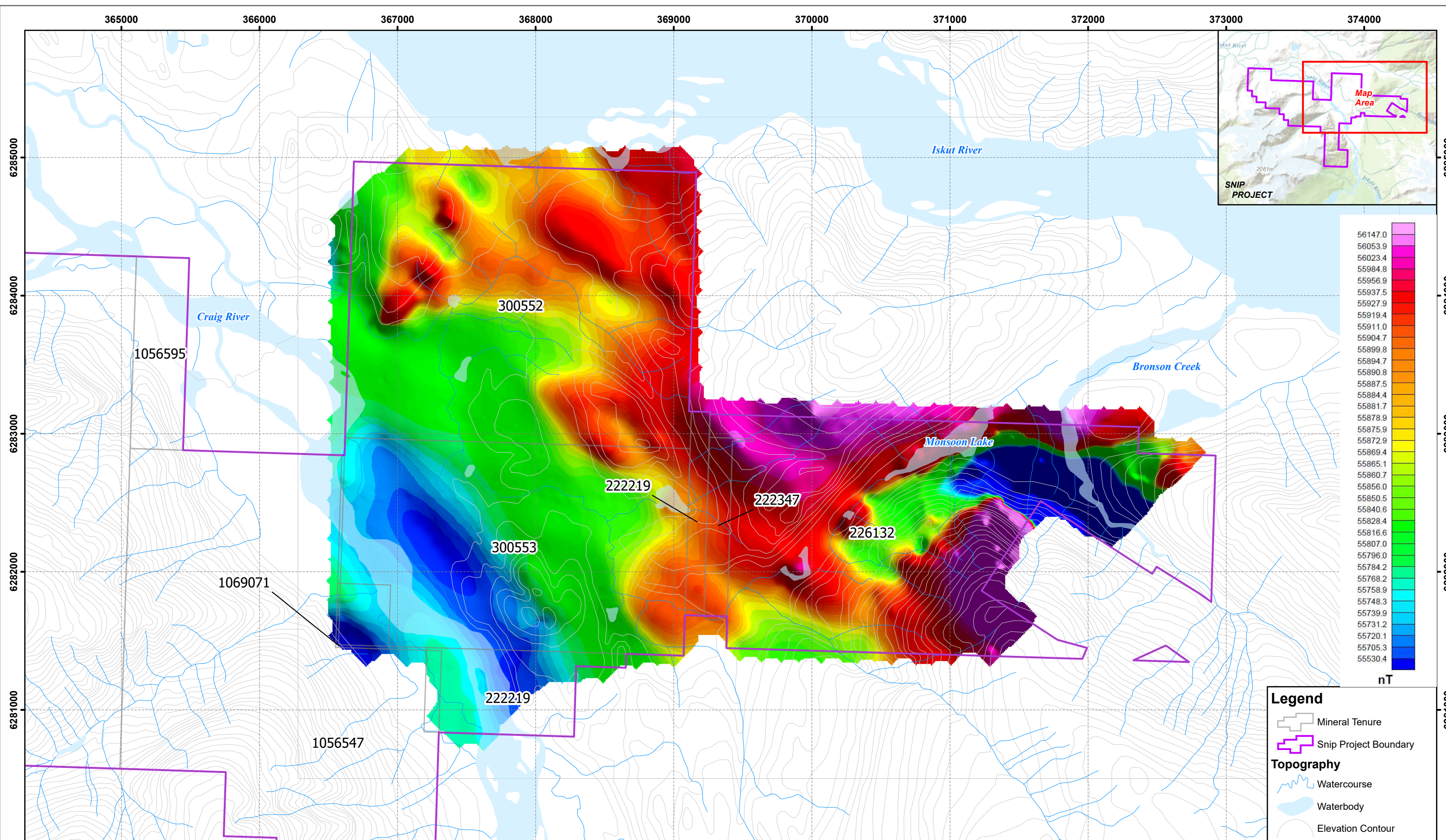
### 9.3.1 Petrography

In January and February 2019, four polished thin sections were sent to Oliver Geoscience International Ltd. for petrography analysis to compare a biotitic phyllite and BSU units (Oliver, 2019). Biotitic phyllites observed near the Jim Porphyry were thought to be related to the BSU at Snip as they were compositionally similar.

The study highlighted the following points with regards to biotite grain morphology:

- Mafic intrusions, although they may have extensively recrystallized biotite grains within their matrix, are likely to have weaker foliation or compositional layers as defined by the alignment of biotite grains;
- Mafic intrusions, even when extensively re-crystalized, may have stronger evidence for blunt shaped, biotite replaced, clinopyroxene grains within the matrix; and
- The color of biotite will likely differ between biotite rich rocks derived from mafic intrusions versus biotite hosted within biotitic phyllites. The biotite formed in biotite recrystallized mafic intrusions will be medium green-brown in color. The sample overall will have a greenish cast to the matrix. Biotite associated with biotitic phyllites, however, will be medium to rich brown in color.

The study concluded that that the biotite phyllites were not related to the BSU unit.



**Legend**

- Mineral Tenure
- Snip Project Boundary

**Topography**

- Watercourse
- Waterbody
- Elevation Contour

Skeena Resources Ltd.  
 Date: 11-Aug-2020  
 Figure: 9-2  
 Author: M. Mayer  
 Filename: 200810\_SN\_43-101-Figures

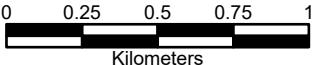




*Snip Project*

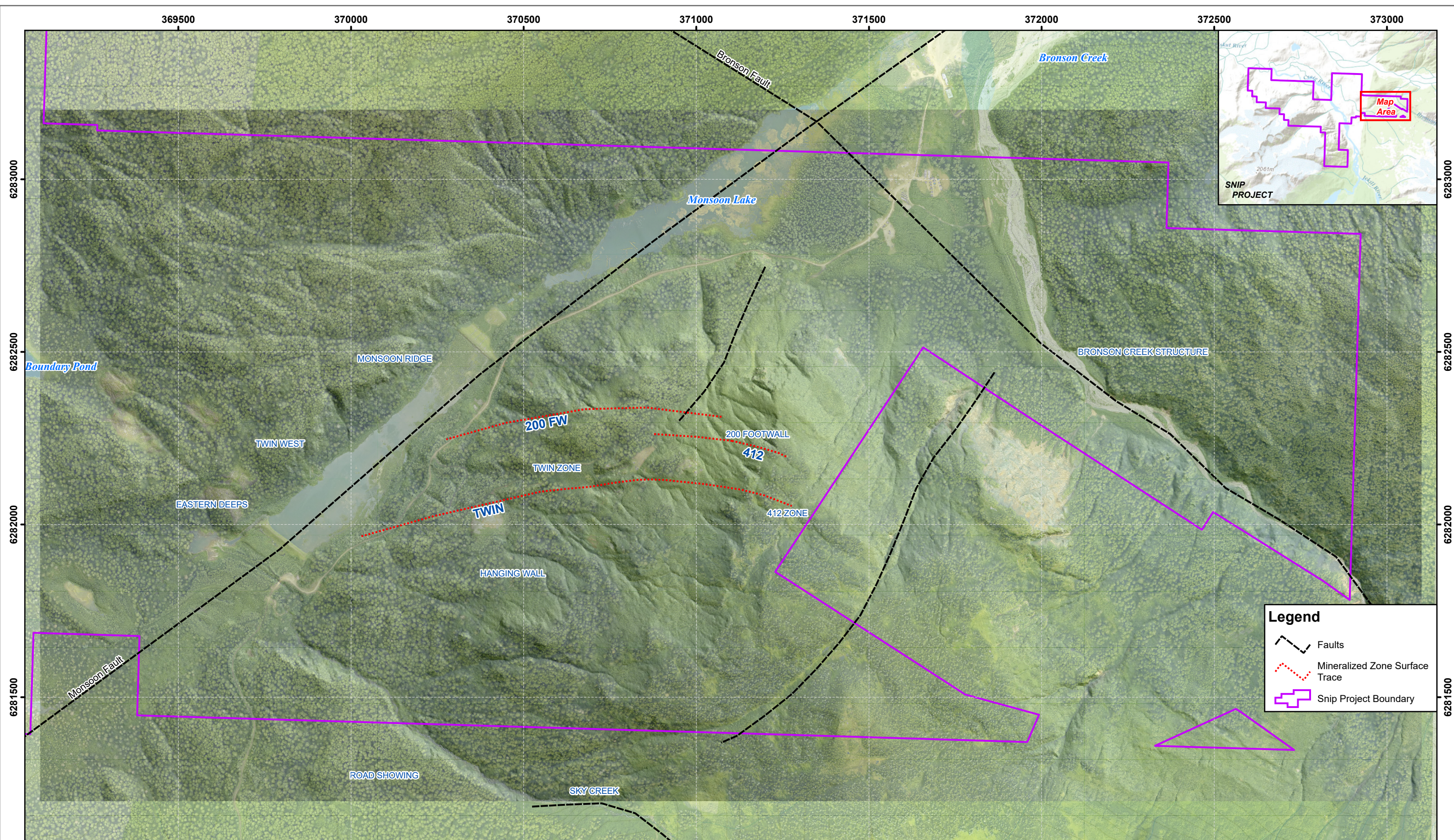
**Figure 9-2: 2016 GeoPhysical Survey Magnetics, Total Field Intensity**

Liard Mining Division - NTS 104B11  
 British Columbia, Canada

Scale: 1:25,000  
 Coord. System: NAD 1983 UTM Zone 9N





## 10 Drilling

Surface drilling on the Snip Property has been carried out by multiple operators, with the first drill hole by Cominco in 1986. Since that time, 353 diamond drill holes totalling 82,657 m have been drilled from surface. Figure 10.1 shows the locations of all surface diamond drill holes.

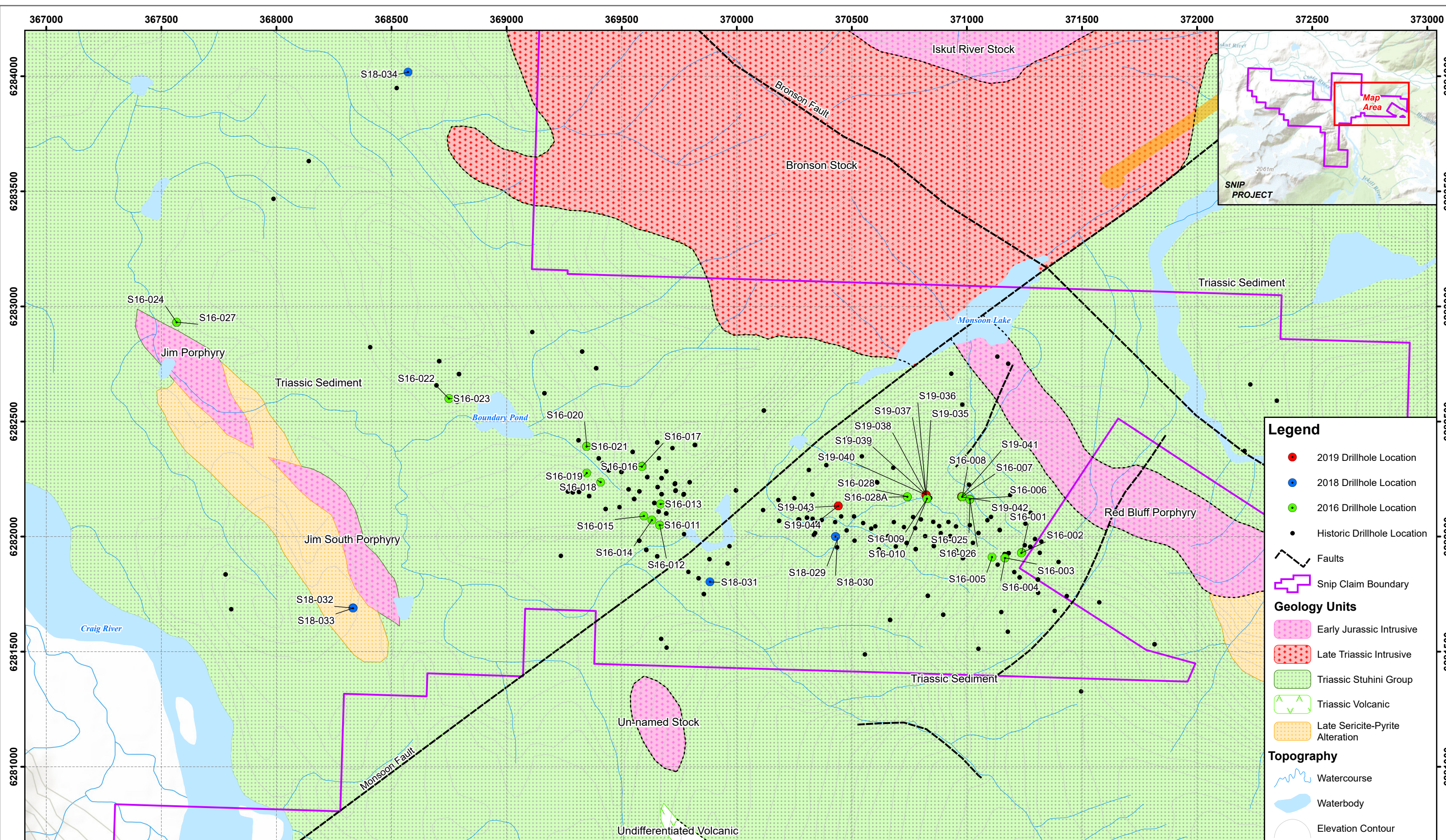
Underground drilling began in 1988. A total of 3,343 underground drill holes have been drilled totalling 226,648 m. Figure 10.2 shows the locations of all underground diamond drill holes.

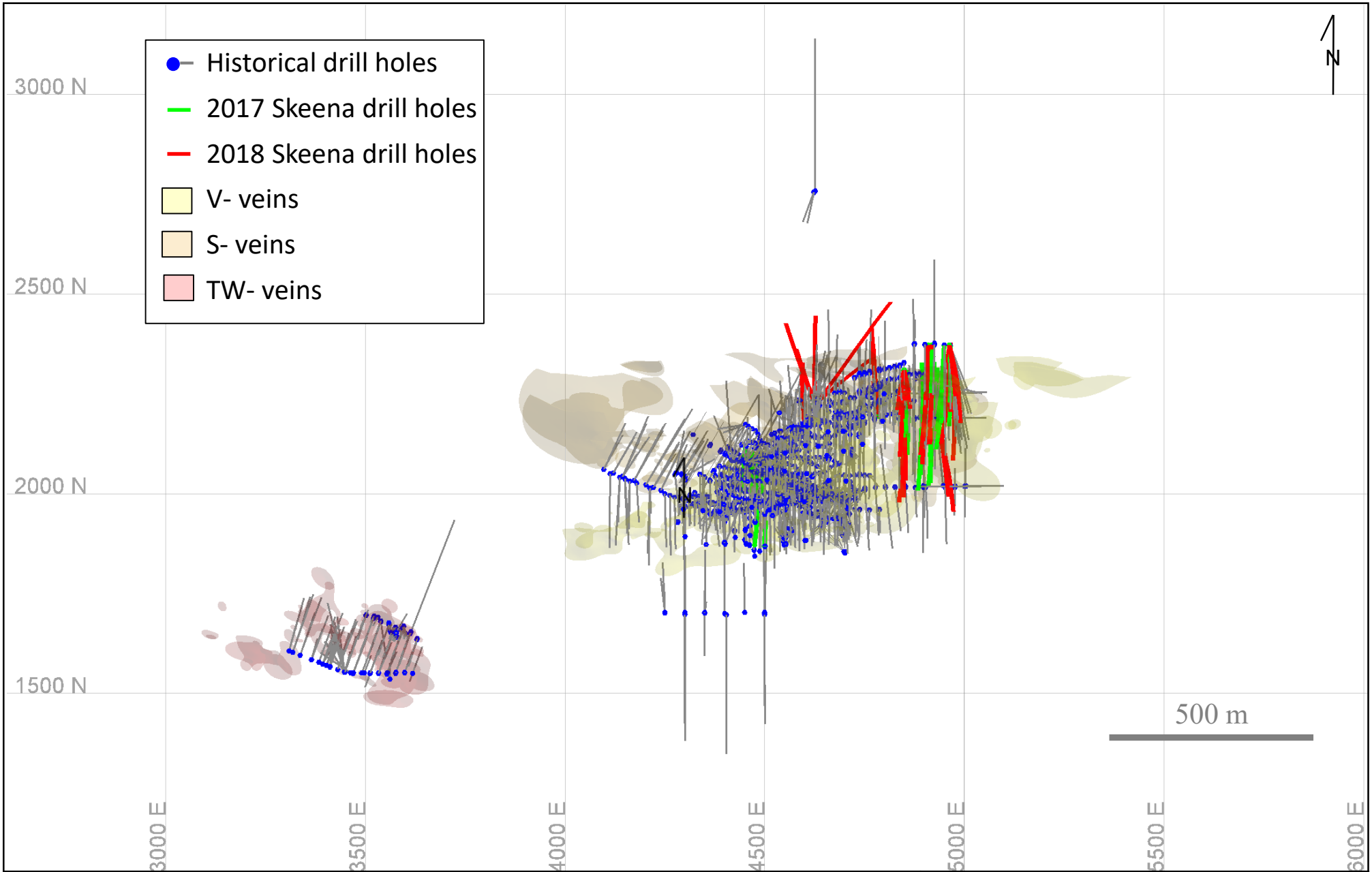
### 10.1 Historical Drilling (pre-1999)

309 surface holes totalling 71,181 m were drilled between 1986 and 1998 (Figure 10-1) and 3,233 underground drill holes totalling 208,790 m were drilled from 1988 to 1999 (Figure 10-2). A summary of all historical holes drilled by year on surface and underground is presented in Table 10-1.

**Table 10-1: Summary of historical surface and underground holes drilled by year**

Historical Surface			Historical Underground		
Year	No. of Holes	Length	Year	No. of Holes	Length
1986	13	1,621.00	1988	146	11,328.80
1987	69	13,253.90	1989	492	29,481.02
1988	24	7,059.30	1991	88	3599.20
1989	2	283.50	1992	191	16,294.48
1993	20	3,896.20	1993	292	15,164.90
1994	41	10,985.20	1994	361	19,126.47
1995	76	17,244.40	1995	293	15,787.55
1996	33	8,639.10	1996	530	33,763.45
1997	30	7,330.50	1997	567	47,217.25
1998	1	867.50	1998	249	16,415.94
<b>TOTAL</b>	<b>309</b>	<b>71,181.60</b>	1999	24	610.75
			<b>Total</b>	<b>3,233</b>	<b>208,789.8</b>





## 10.2 Skeena Resources Drilling (2016 to 2019)

Since the resumption of exploration on the Snip Property in 2016, Skeena have drilled a total of 154 holes totaling 29,357 m (Table 10-2). This includes 44 surface drill holes totalling 11,476 m and 110 underground drill holes totalling 29,357 m (Figure 10-1 and Figure 10-2 respectively).

**Table 10-2: Skeena surface and underground drill hole targets**

Skeena Surface			
Year	No. of Holes	Length	Target
2016	28	7,422	412 Corridor, Twin West, 200 Footwall, 130 Vein, Gold Ring and Jim Porphyry
2018	6	2,121	Lower Twin Zone Jim Claim and Sky Creek Shear
2019	10	1,934	200 Footwall
<b>Subtotal</b>	<b>44</b>	<b>11,476</b>	

Skeena Underground			
Year	No. of Holes	Length	Target
2017	62	8,703	Eastern Twin Zone, 150 Vein, 130 Vein, 412 Corridor and 200 Footwall
2018	48	9,177.66	Twin Zone, 200 Footwall
<b>Subtotal</b>	<b>110</b>	<b>29,357</b>	

## 10.3 Drill Coordinates, Downhole Surveys and Contractors

### 10.3.1 Historical

The Snip Mine closed prior to the implementation of NI 43-101 compliance requirements. Reclamation of the mine in 1999 included the disposal of drill core, and all documentation of procedures and methods of drilling, contractors and core size from previous operators.

### 10.3.2 Skeena Drilling

#### 2016 Surface

Omineca Drilling of Burns Lake, BC used a Multi Power Discovery 2 drill to drill NQ-sized core. A Geologist determined the azimuth and inclination of the hole using a hand-held compass. Down hole surveys were conducted by the drilling contractor using a Reflex EZ-Shot® tool. At the completion of the drilling program, all collars were digitally surveyed by Meridian Mapping of Nanaimo, B.C. Equipment using a Trimble® Pro6 using H-Star for post processing differential correction, and a Trimble R8 GNSS Model 2 for the Base Station position.

### **2017 Underground**

DMAC Drilling of Langley, BC used two 600V, 100 HP electric hydraulic Hydracore 2000® underground drill rigs, equipped with fire suppression, to drill NQ-sized drill core. Downhole surveying was completed at the end of a hole using a Reflex EZ-Shot tool. All collar surveys were obtained by Skeena staff using a Total Station Theodolite in conjunction with a regular array of permanent ground control stations that were established by Progressive Survey Solutions in 2017.

### **2018 Surface**

DMAC Drilling of Langley, BC and Hy-Tech drilling of Smithers, BC were both contracted to perform the drilling work using NQ2-sized drill core (excepting one drill hole S18-031 which was NQ-sized). Downhole surveys were completed every 30 m using a Reflex EZ-Shot or Reflex EZ-Trac tool; measurements of which the drilling contractors collected. Drill collars were surveyed by Skeena staff using a Trimble Geo 7X handheld GNSS system combined with a Zephyr Model 3 Rover Antenna.

### **2018 Underground**

DMAC Drilling of Langley, BC used two 600V, 100 HP electric hydraulic Hydracore 2000 underground drill rigs, equipped with fire suppression, to drill NQ2-sized drill core. Oriented drill core was collected for holes UG18-063 to UG18-098 using the ACTIII tool. Drillers were trained to accurately mark the bottom of the drill core run. Oriented core measurements were subsequently completed with an EZlogger® tool using a down-the-hole right hand rule. Downhole surveying was completed every 30 m using a Reflex EZ-Shot, which was completed by the drilling contractor. All collar surveys were obtained by Skeena staff using a total station theodolite in conjunction with a regular array of permanent ground control stations that were established by Progressive Survey Solutions in 2017.

### **2019 Surface**

Omineca Drilling of Burns Lake, BC used one Hydracore 2000 drill rig to drill NQ-sized drill core. Downhole surveying was completed every 30 m using a Reflex-EZ-Shot; measurements of which were taken by the drilling contractor. Drill collars were surveyed by Skeena staff using a Trimble Geo 7X handheld GNSS system combined with a Zephyr Model 3 Rover Antenna.

## **10.4 Drill Hole Logging**

Drill core was transported daily by truck or helicopter to the logging facility at the Snip camp. Drill core was logged and sampled at the core logging facility located at the Snip site. Core logging was conducted in a well-lit core shack in appropriately labelled core boxes. Details on core handling and sampling are presented in Section 11.0. All drill core was geotechnically (recovery, RQD, faults, etc.) and geologically (lithology, structure, veining, alteration, and mineralization) logged prior to being marked up for sampling and photography. Core logging information was recorded in the GeoSpark® core logging software, which includes data validation, picklists, and

minimum required fields to ensure data captured was consistent and valid. Additional data validation was conducted by the Skeena's database manager.

## **10.5 Recovery**

Diamond core recovery data is available for all Skeena drill holes. The overall average core is excellent averaging 97.5% recovery.

## **10.6 Completion of Drilling**

Upon completion of surface drilling in 2016, 2018 and 2019 casing was left in the hole. In 2019, holes that were drilled below the 300-portal level were cemented. All man-made materials and set-up timbers were removed from the drill sites and all trees felled were cut into 1.3 to 2 m lengths. Before and after pictures are taken at each site and then submitted to the BC Provincial Government as part of the Notice of Closure (NOC).

All drill core is stored on the Snip site, across from the Snip camp.

## **10.7 Skeena Drilling**

### **10.7.1 2016 – Surface Drilling**

A total of 28 drill holes totalling 7,422 m of helicopter-supported surface diamond drilling was undertaken by Skeena between early August and mid-October 2016 (Figure 10-1). The program was designed to confirm and expand historical drill results in the eastern Twin Zone, 130 Vein, 200 Footwall and Twin West. In these areas, the drill program encountered many prospective intercepts greater than 10 g/t Au over widths of >2 m. The more distal Jim Porphyry and Gold Ring targets provided less prospective results with isolated values reaching a maximum of 1.44 g/t Au over a length of 1.8 m.

Highlights of the 2016 program confirmed and expanded significant high-grade vein structures, including the 200 Footwall zone, as shown in results in Table 10-3.

**Table 10-3: Significant Intercepts from the 2016 drill program**

Drill Hole No.	Zone	From	To	Length	Au (g/t)
S16-02	eastern Twin Zone	132.50	133.40	0.90	49.40
		156.60	159.00	2.40	33.07
S16-03	eastern Twin Zone	143.80	145.20	1.40	59.50
		156.95	158.10	1.15	21.30
S16-06	200 Footwall	103.50	117.00	13.50	16.24
including		111.00	115.50	4.50	30.99
S16-09	130 Vein	68.30	70.30	2.00	19.65
S16-10	130 Vein	52.00	52.70	0.70	47.00
S16-11	Twin West	88.30	88.80	0.70	16.01
including		97.85	99.50	1.65	37.70
S16-16	Twin West	158.50	161.70	3.20	24.40
including		158.50	160.40	1.90	38.30

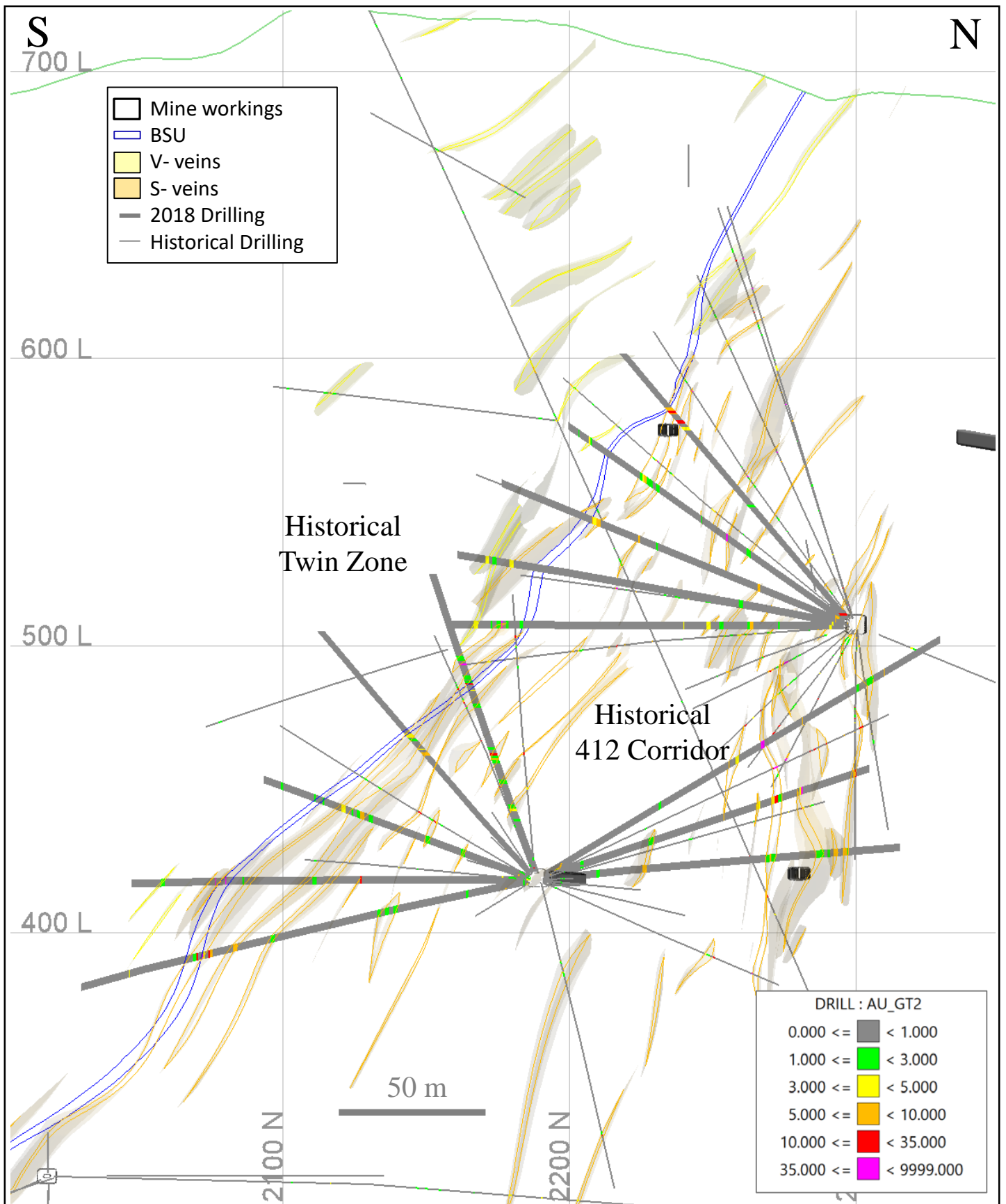
### 10.7.2 2017 – Underground Drilling

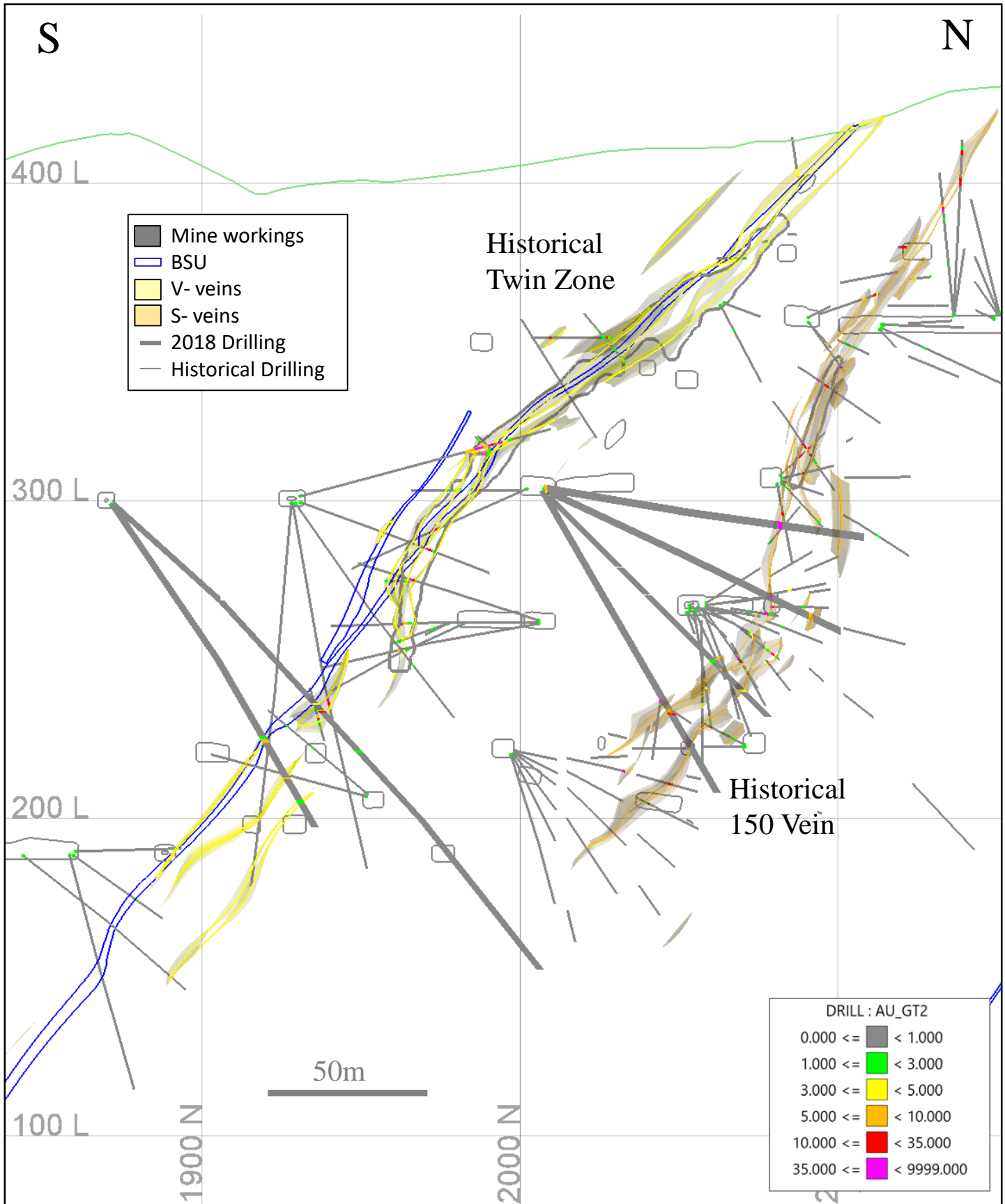
Underground access was gained to the rehabilitated historical mine workings above the 300-level portal in October 2017. This facilitated more efficient and accurate drilling of targeted areas within and proximal to existing historical mine workings.

Drilling priorities were fourfold: (1) Explore prospective areas adjacent to existing underground developments for immediate resource expansion. (2) Target the numerous mineralized footwall structures not previously included into the historical mine plan. (3) Confirm and/or define the mineralization extents of the remaining ore left unmined in the Twin Zone and 150 Vein. (4) Test unmined areas deeper in the footwall including the 130 Vein, 412 Corridor and 200 Footwall.

In total, 62 holes totaling 8,652 m was drilled, which confirmed and extended the targeted areas. Figure 10-3 and Figure 10-4 highlight the results of the 2017 underground drilling campaign.







### 10.7.3 2018 – Surface Drilling

Six drill holes totalling 2,121 m were drilled from surface collars to target the lower Twin Zone, Jim Claim and Sky Creek Shear Zone (Figure 10-1).

Two holes drilled on the Jim Porphyry target were designed to test a high gold anomaly in soils, while attempting to extend a mapped potassic zone with quartz stockwork veining to the south. A notable interval of quartz-calcite veining (>10%) was intersected in hole S18-033 from 169.00 to 212.00 m associated with 2-10% disseminated to blebby pyrite ± galena, sphalerite, chalcopyrite and pyrrhotite. The mafic phyllite intersected intermittently from 298.26 to 342.43 m was initially interpreted as the BSU due to its high biotite content and similar phenocryst-spotted texture. Petrographic analysis of several samples showed that these mafic phyllites have higher iron and titanium contents reflecting chemistry and sources differences to the BSU. No significant assay results were returned for either of these drill holes and they were unsuccessful in extending zones of potassic alteration reported further to the south.

Hole S18-034 was drilled north of the Sky Creek Shear Zone, close to the Bronson Stock, which targeted a high gold soil anomaly. This hole collared into a quartz monzonite and progressed to a homogenous greywacke sequence at 24.15 m, which continued through to the end of the hole. No significant assay results were returned.

Three deep holes were drilled to test the western vein extension down dip of the Twin Zone. No significant assay results were returned.

### 10.7.4 Skeena Underground Drilling, 2018

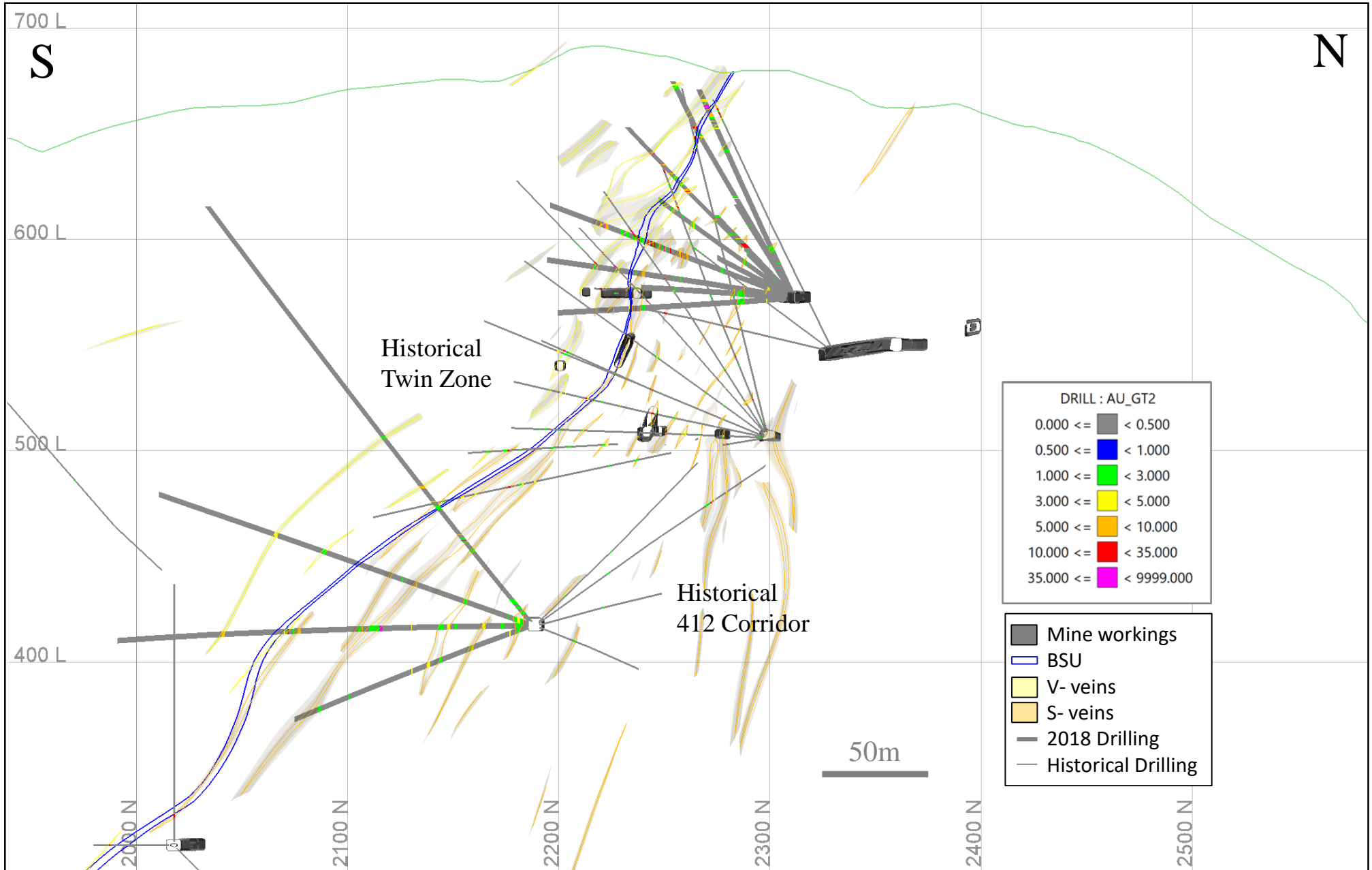
The 2018 program was designed to: (1) further delineate areas of known mineralization with increased drill density, and (2) expand newly modelled zones with the use of widely spaced exploratory drill step outs. The primary targets were the eastern Twin Zone, the 412 Corridor and the 200 Footwall zone, as well as other footwall structures.

The eastern part of the Twin Zone was less densely drill defined by the former operators and never developed. The 2018 drilling focused on infill drilling in this drilling as well as testing depth extensions.

The 412 Corridor is characterized by a network of discrete, structurally controlled veins geologically akin to the historically mined 130 and 150 veins.

The 200 Footwall Zone is a parallel structure geologically and structurally analogous to the mineralization hosted in the Twin Zone. The Footwall received limited underground drilling from previous operators. The lack of drilling and geological similarities to the Twin Zone make it a strategic exploration target and the 2018 program was designed to expand upon this newly modelled and largely untested area.

The program demonstrated confirmation and grade continuity in the eastern Twin Zone and 412 Corridor and expansion of the 200 Footwall Zone.



### 10.7.5 Skeena Surface Drilling, 2019

Skeena drilled 10 surface drill holes totalling 1,934 m targeting the 200 Footwall (further west of the holes drilled during the 2018 Program). The program was designed to validate an isolated historical and incompletely sampled high grade intersection in the 200 Footwall zone drilled in 1997. The hole intersected 200 Footwall mineralization, as well as identified mineralization 75 m deeper where historical holes had not formerly tested. Significant intervals also intersected mineralization in the hanging wall of the 200 Footwall zone (Table 10-4).

**Table 10-4: Significant Intercepts from the 2019 drill program**

Hole No.	Zone	From (m)	To (m)	Length (m)	Au (g/t)
S19-044	New structure 75m below 200 Footwall	249.60	251.10	1.50	1,131.91
including		250.10	250.60	0.50	3,390.00
S19-035	130 Vein	40.70	41.20	0.50	25.60
S19-035	200 Footwall	128.65	133.75	5.10	16.64
including		128.65	129.15	0.50	96.20

## 10.8 SRK Comments

The QP is of the opinion that the drilling, core logging, and sample handling procedures have been conducted using industry best practices. The appropriate level and quality of information has been obtained to provide sufficient confidence in drill hole spatial location for 3D geological and grade modelling of the Snip Project. There are no apparent drilling or recovery factors that would materially impact the accuracy and reliability of the drilling results.

## 11 Sample Preparation, Analyses, and Security

Sample preparation, analysis, and security for the years 2016 to 2019 inclusive are summarized in this section. Sample preparation and analysis information prior to 2016 were not retained by the previous owner.

### 11.1 Sample Preparation, Analysis, and Security

#### 11.1.1 Drill Hole Sampling

Most of the samples collected between 2016 and 2019 were from NQ or NQ2-diameter diamond drill core. Drill core was placed in core boxes at the drill rig (both on surface and underground), with drill footage markers recorded on wooden spacers and drill hole numbers and box numbers recorded on each box. Core boxes were nailed shut and transported via helicopter (for surface holes) or by truck (for underground holes) to Skeena's core logging facility at the Snip camp site (Figure 11-1). Core was then geologically and geotechnically logged and photographed prior to being cut. Each box was marked with Dymo® tape with drill hole ID, box number and depth and stored in cross piles at the Snip camp site (Figure 11-2).



Figure 11-1: Snip camp site core shack (photograph courtesy of S. Ulansky, 2020)

Assay sample intervals were delineated by the core logging geologist, taking geology into account. Sample intervals were generally broken at key lithological and mineralization lode contacts using no less than 0.5 m and no more than 1.5 m lengths. Sample intervals were marked in red china marker on the core and the corresponding sample assay tag was placed within the denoted interval to be sampled. All underground and surface drilling were half core sampled leaving the remaining half in the core yard for reference purposes.



**Figure 11-2: Drill core cross piles at the Snip camp (photograph courtesy of C. Chung, 2020)**

Geological and geotechnical logging was performed in Geospark® software using Panasonic Toughbooks®. Geotechnical measurements included ‘from’ and ‘to’ measurements, recovery length, RQD and number of joints and longest stick. Geological attributes recorded included lithology, alteration, veining, mineralization, faults, breccias and structures. For each attribute, an intensity range between 1 and 5 may have also been recorded.

Sampled drill core was placed in numbered polybags with appropriate sample tags. Sample bags were then grouped and sealed in appropriately labelled rice sacks with tie wraps, and flown via helicopter to the McLymont staging area where they were locked in a Sea-Can® container before being shipped by ground transportation to the respective preparation facilities: ALS in Terrace, BC in 2016, Actlabs in Kamloops, BC in 2017, and ALS in Kamloops, BC in 2018 and 2019. Hard copies of sample manifests were enclosed with each shipment and emailed directly to the sample preparation facilities ahead of shipping. Ground sample preparation using Rugged Edge Holdings picked up the samples and delivered them to Bandstra in Smithers, BC, for shipping. The preparation facilities sent an email once samples were received and that date was recorded.

Once the samples had been prepared, they were sent directly to their respective analytical laboratory: ALS in North Vancouver, BC in 2016, Actlabs in Kamloops, BC, Timmins, ON, or Thunder Bay, ON in 2017, and ALS in North Vancouver, BC in 2018 and 2019.

Skeena’s protocol is to conduct routine laboratory site visits to address any concerns with the preparation or analytical procedures. In February 2019, Mr. Geddes from Skeena Resources visited the ALS analytical facility in North Vancouver. He was satisfied with the condition of the equipment, the cleanliness of the facility, the sample logging methodology, the process methodology, and overall attention to quality control.

## 11.1.2 Sample Preparation and Analysis by Analytical Laboratory

ALS Vancouver has been the primary analytical laboratory for the analysis of samples from the Snip Gold Project in 2016 and 2018, whereas Activation Laboratories Ltd. (Actlabs Kamloops) was used during the 2017 drilling campaign. The umpire check analytical laboratory in 2016 and 2018 was SGS Mineral Services, and ALS Vancouver in 2017. The ALS analytical laboratory in Vancouver is an International Organization for Standardization (ISO) 9001-2015 certified and ISO 17025:2005 United Kingdom Accreditation Service (UKAS) ref. 4028 accredited laboratory. Actlabs has both ISO 17025:2017 and ISO 9001:2015 accreditation and SGS Mineral Services is ISO 9001:2015 certified. These laboratories are all independent of Skeena.

The addresses of the laboratories are as follows:

- ALS Canada Ltd. - 2103 Dollarton Hwy, North Vancouver, B.C., V7H 0A7, Canada
- Activation Laboratories Ltd. – 9989 Dallas Drive, Kamloops, B.C., V2C 6T4, Canada
- SGS Canada Inc. – 3260 Production Way, Burnaby, B.C., V5A 4W4, Canada

Primary sample preparation methods and analytical packages used for the Snip Project from 2016-2018 are summarized in Table 11-1.

**Table 11-1: Sample preparation and analytical methods conducted on Snip Project drill samples between 2016 and 2019**

Year/ Lab	Sample Preparation	Gold Analytical Methods
2016/ ALS	<ol style="list-style-type: none"> <li>1. Crush entire sample to 70% passing &lt;2 mm</li> <li>2. Riffle split</li> <li>3. Pulverize 1,000 g to 85% &lt;75 µm (PREP33D)</li> </ol>	50 g charge weight fire assay by AA finish at 10 g/t (Au-AA24) Au overlimit trigger at 10 g/t to complete 50 g fire assay with gravimetric finish (Au-GRA22) Visible gold samples bearing assayed by metallic screen fire assay (Au-SCR24) and gravimetry finish
2017/ Actlabs	<ol style="list-style-type: none"> <li>1. Crush entire sample to 90% passing &lt;2mm</li> <li>2. Riffle split</li> <li>3. Pulverize 1,000 g to 95% passing &lt;105 µm</li> </ol>	50 g charge weight fire assay by AA finish at 10 g/t (IA2-50) Au overlimit trigger at 10 g/t to complete a 50 g fire assay with gravimetric finish (IA3-50)
2018/ ALS	<ol style="list-style-type: none"> <li>1. Crush entire sample to 70% passing &lt;2 mm</li> <li>2. Riffle split</li> <li>3. Pulverize 1,000 g to 85% &lt;75 µm (PREP-31B)</li> </ol>	50 g charge weight fire assay by AA finish at 10 g/t (Au-AA26) Au overlimit trigger at 10 g/t to complete 1 kg metallic screen fire assay (Au-SCR24) with gravimetric finish (Au-GRA22)

Notes: AA – Atomic Absorption Spectroscopy

After sample shipments reach the sample preparation facility, they are in the facilities custody for sample preparation, inter-laboratory shipping, and analyses. It is ALS's standard operating procedure to check all samples received from Skeena against the electronic and hard copy sample manifests, as well as for any potentially missing sample material, compromised plastic sample bags, broken zip closures, or torn/broken rice bags upon receipt. Skeena has not been



alerted to any potential sample tampering by ALS. Laboratory sample preparation and analytical procedures have been conducted by independent accredited companies using industry standard methods. Skeena ensured quality control was monitored through the frequent insertion of blanks, certified reference materials, and duplicates.

### 11.1.3 Specific Gravity and Bulk Density

Density determinations to support the resource model were carried out between 2016 to 2019. A total of 1,373 specific gravity (SG) measurements from key lithologies were collected (Table 11-2). Specific gravity measurements were conducted at the Snip core processing facility. Solid pieces of uncut core approximately 10-15 cm in length were selected approximately every 20 m. Specific gravity was calculated using the water displacement method and lithology was recorded along with the SG calculations.

**Table 11-2: Specific gravity measurements between 2016 and 2019**

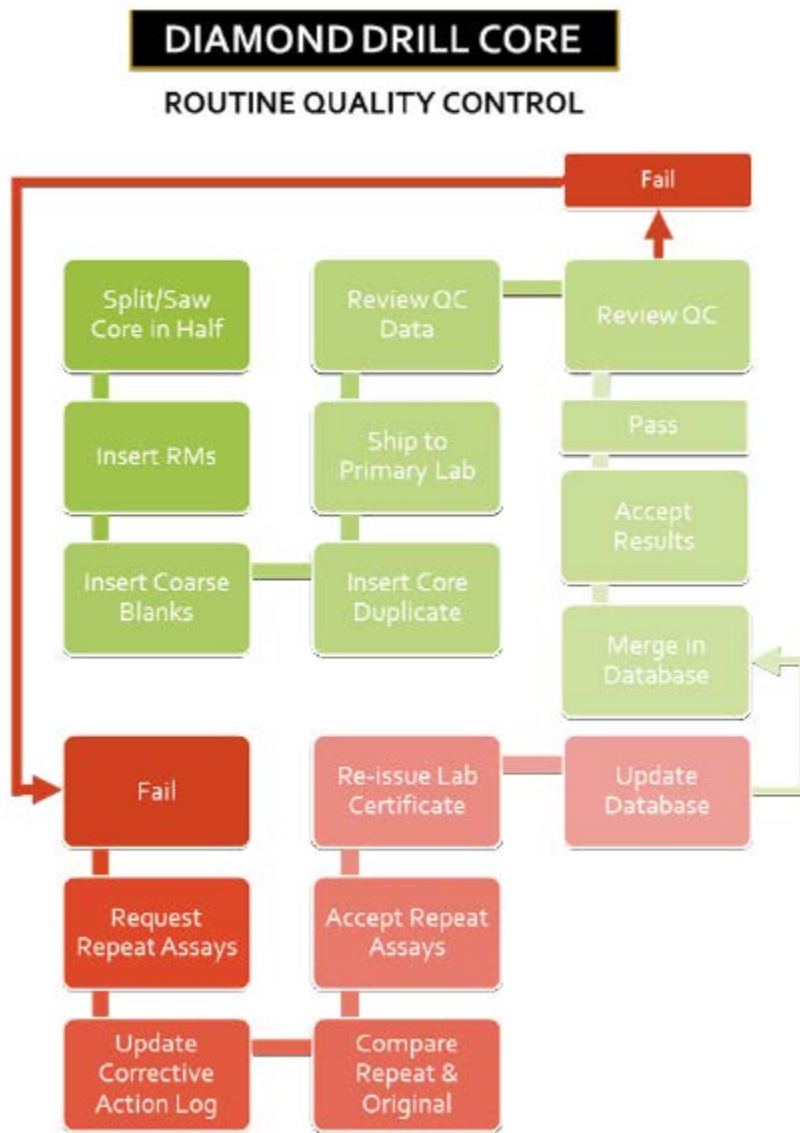
Year	No. of SG Samples
2016	374
2017	363
2018	543
2019	93
<b>Total</b>	<b>1,373</b>

Additional SG measurements will be needed as the resource model progresses in scope, as well as instigating an external checking program.

## 11.2 Quality Assurance and Quality Control

Skeena has designed and implemented sampling and assay quality control guidelines for drill core programs on the Snip Project (Bloom and Jollette, 2019). Within this guideline, QA/QC protocols include tests for data accuracy, precision, and sample cross-contamination. Field control samples are submitted together with drill hole samples to control and assess these key indicators of database quality.

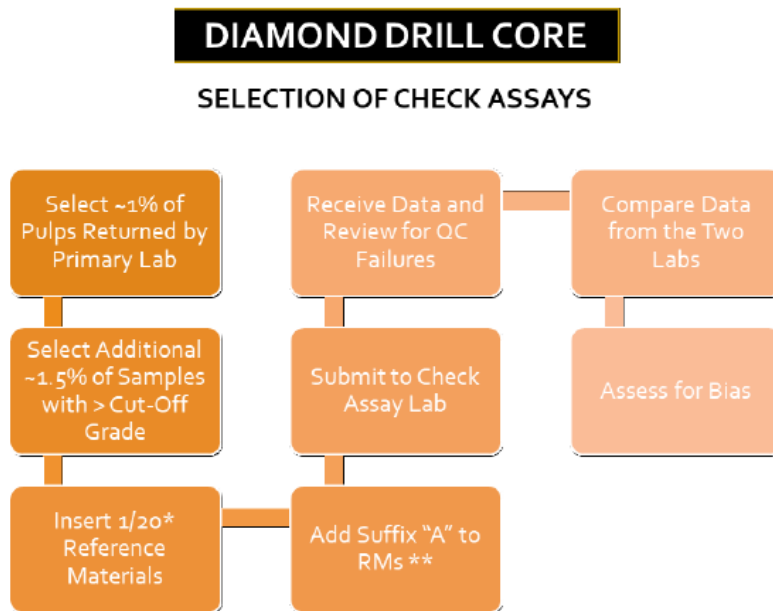
Skeena's routine quality control for diamond drill core is summarized in Figure 11-3, where the objective is to include 10 to 15% total quality control samples and actively monitor the results. In addition, a check assay program using a secondary laboratory is to be conducted on a quarterly basis to assess for bias within the primary laboratory (Figure 11-4).



Source: Bloom and Jollette, 2019

**Figure 11-3: Routine quality control flow chart**

Accuracy, a measure of the closeness to the true value, was tested using round-robin certified standard samples that were processed with equivalent assaying techniques to Snip Project samples. Analytical precision (repeatability of results) was checked using duplicate samples. Potential cross-contamination between samples as a result of smearing of high-grade samples was checked using blank samples.



\* Include a minimum of 5 reference materials with each batch submitted for analysis in order to verify the accuracy of the check assay laboratory.

\*\* To avoid renumbering all of the pulps sent to the Check Assay Lab, it is recommended that RMs inserted into the sample stream be numbered with the suffix "-A". Original sample numbers should be consecutive but a previously used sample number cannot be re-used for a RM inserted with check assay samples.

Source: Bloom and Jolette, 2019

**Figure 11-4: Quarterly quality control flow chart**

Field control samples were inserted into the sample stream at a frequency of 5 standards, 3 blank samples and 2 core duplicates per 100 samples. In 2016 and 2017, Blank samples were inserted immediately following samples with logged visible gold to quantify and avoid any potential cross-contamination between samples as a result of smearing from high-grade samples. Quarter core samples served as field duplicate control samples. Secondary laboratory duplicate assays were conducted on approximately 2.5% of the mineralized pulps at the SGS Mineral Services laboratory in 2016, 2018 and 2019, and at ALS Vancouver laboratory in 2017, using comparable analytical methods.

QA/QC results have been monitored and documented by Skeena geologists verifying the quality of the Snip Project assay data and its applicability for use in resource estimation. QA/QC results for the 2017, 2018 and 2019 programs are summarized in Snip (2017), Snip (2018) and Snip (2019), respectively; three in-house QA/QC reports. Table 11-3 summarizes the number of field control samples inserted per assay year (excluding in-lab preparation and pulp duplicates and external lab check assays, which are presented in subsequent tables).

**Table 11-3: Summary of field control samples per assay year**

Assay Year	No. Samples	Standards	Blanks	Core Duplicates
2016	2,635	151	90	58
2017	1,678	95	75	36
2018	12,424	719	437	86
2019	1,622	89	53	0
<b>Sub-Total</b>	<b>18,359</b>	<b>1,054</b>	<b>655</b>	<b>180</b>
<b>Percent</b>	<b>100%</b>	<b>6%</b>	<b>4%</b>	<b>1%</b>
<b>Total QC</b>	<b>10%</b>			

Note: Assay year refers to the date that assays were finalized, however for QC assays in progress at the end of a drill campaign, they were assigned to the following year.

### Standards

All certified reference material was acquired from CDN Resource Laboratories having an address of:

*#2, 20148 – 102<sup>nd</sup> Avenue, Langley, B.C., V1M 4B4, Canada*

In 2018, additional standards from Ore Research & Exploration Pty Ltd. (OREAS) were utilized for several months, however they were discontinued due to poor performance. The laboratory has an address of:

*37A Hosie Street, Bayswater North, VIC 3153, Australia*

The number and type of standards utilized during 2016 to 2019 have been summarized in Table 11-4. Standards representing low, medium and high-grade ranges in relation to the average Snip Project values were selected. A total of 12 individual standards were used, representing approximately 6% percent of the total samples assayed between 2016 and 2019.

**Table 11-4: Standards utilized during 2016, 2017, 2018 and 2019 drilling campaigns**

Standards	Gold Expected Value (g/t)	Between Lab Two Standard Deviations (g/t)	Method	Year Used
CDN-GS-22	22.94	1.12	30 g FA, gravimetric	2016, 2017, 2018
CDN-GS-40A	40.31	0.79	30 g FA, gravimetric	2016, 2017, 2018
CDN-GS-1Q	1.24	0.08	30 g FA, instrumental	2016, 2017
CDN-GS-5T	4.76	0.21	30 g FA, instrumental	2016, 2017, 2018, 2019
CDN-GS-5T (for overlimits)	4.86	0.26	30 g FA, gravimetric	2017, 2018, 2019
CDN-GS-1T	1.08	0.10	30 g FA, instrumental	2018
CDN-GS-16	16.48	0.63	30 g FA, gravimetric	2018
OREAS 601	0.780	0.062	20-40 g FA, various	2018
OREAS 602	1.95	0.132	20-40 g FA, various	2018
OREAS 603	5.18	0.302	20-40 g FA, various	2018
CDN-GS-12B	11.88	0.57	30 g FA, gravimetric	2018, 2019
CDN-GS-1P5R	1.81	0.14	30 g FA, instrumental	2018, 2019

Notes: FA – fire assay

Skeena evaluated the standards by means of using a 3 standard deviation tolerance from the expected gold value. A result in excess or below 3 standard deviations were considered failures. Field failures whereby the QC sample was incorrectly referenced in the logging sheet were all rectified in the database prior to being evaluated statistically.

Table 11-5 summarizes the total number of failures per year relative to each individual standard. Field failures were resolved prior to this tabulation. Of the 1,024 QC samples evaluated between 2016 and 2019, 42 standards failed the 3 standard deviation tests. A failure percentage of 4% is overall an acceptable amount considering that one standard (CDN-GS-40A which has been discontinued) accounted for the most failures.

**Table 11-5: Summary of standards inserted per assay year, including failure results**

Year	Standard	No. of Samples	Failures at 3 Standard Deviations	Failure %
2016	CDN-GS-1Q	27	1	4%
	CDN-GS-22	49	0	0%
	CDN-GS-40A	27	2	7%
	CDN-GS-5T	29	0	0%
2017	CDN-GS-1Q	23	1	4%
	CDN-GS-22	29	0	0%
	CDN-GS-40A	16	3	19%
	CDN-GS-5T	25	0	0%
2018	CDN-GS-1Q	46	0	0%
	CDN-GS-22	155	3	2%
	CDN-GS-40A	70	15	21%
	CDN-GS-1T	76	1	1%
	CDN-GS-5T	110	4	4%

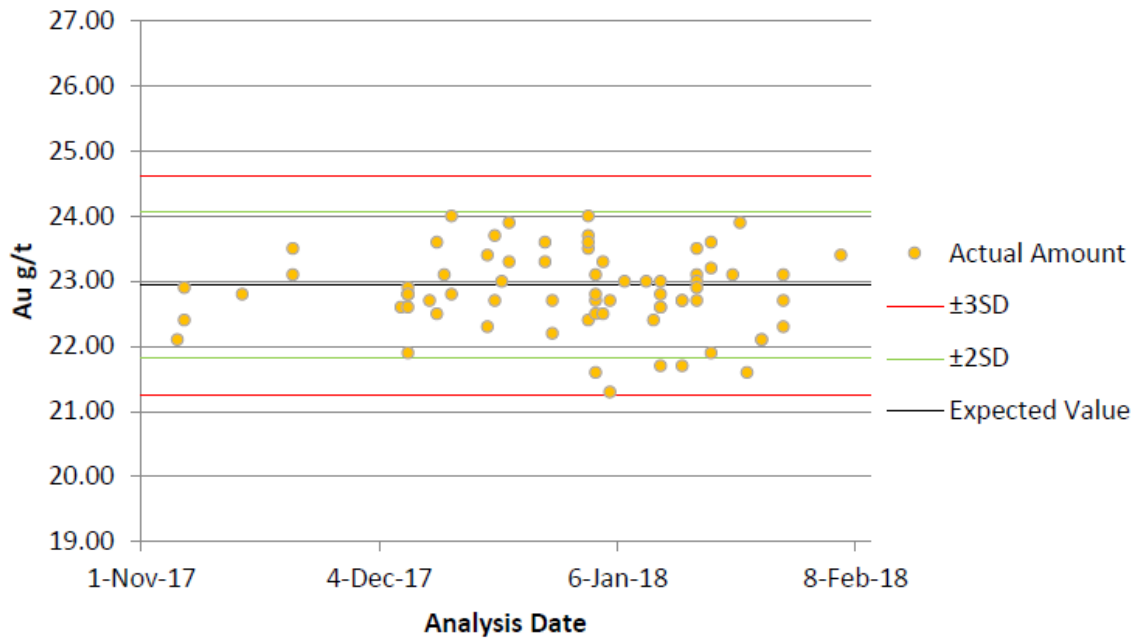
Year	Standard	No. of Samples	Failures at 3 Standard Deviations	Failure %
	CDN-GS-16	76	6	8%
	OREAS 601	72	0	0%
	OREAS 602	1	0	0%
	OREAS 603	88	4	5%
	CDN-GS-12B	11	0	0%
	CDN-SG-1P5R	5	1	20%
2019	CDN-GS-12B	28	0	0%
	CDN-SG-1P5R	30	0	0%
	CDN-GS-5T	31	0	0%
<b>Total</b>	<b>ALL</b>	<b>1,024</b>	<b>41</b>	<b>4%</b>

Note: Several standards that reached the upper detection limit were not tested with overlimit methods; these samples were removed from this tabulation.

For those samples that failed within the grade range applicable to the Snip Project, Skeena requested that the lab re-assay approximately 9 shoulder samples before and after the failed standard within the assay certificate. In 2017, a total of 6 certificates had instances of failures within the mineralized zones; all re-assay results passed, and the re-assay shoulder sample values agreed with the original results which were left unchanged in the database. During the 2018 program, there were 7 certificates that had instances of failures when re-assays were requested. In 2019, a series of assays were retested within one certificate due to a low failed standard. All reassays were equivalent to the originals and the standard subsequently passed. Like the previous programs, approximately 9 shoulder samples before and after the failed standard were re-assayed. In all instances, the standards passed upon re-assay with the re-assay shoulder results being very similar to the original results.

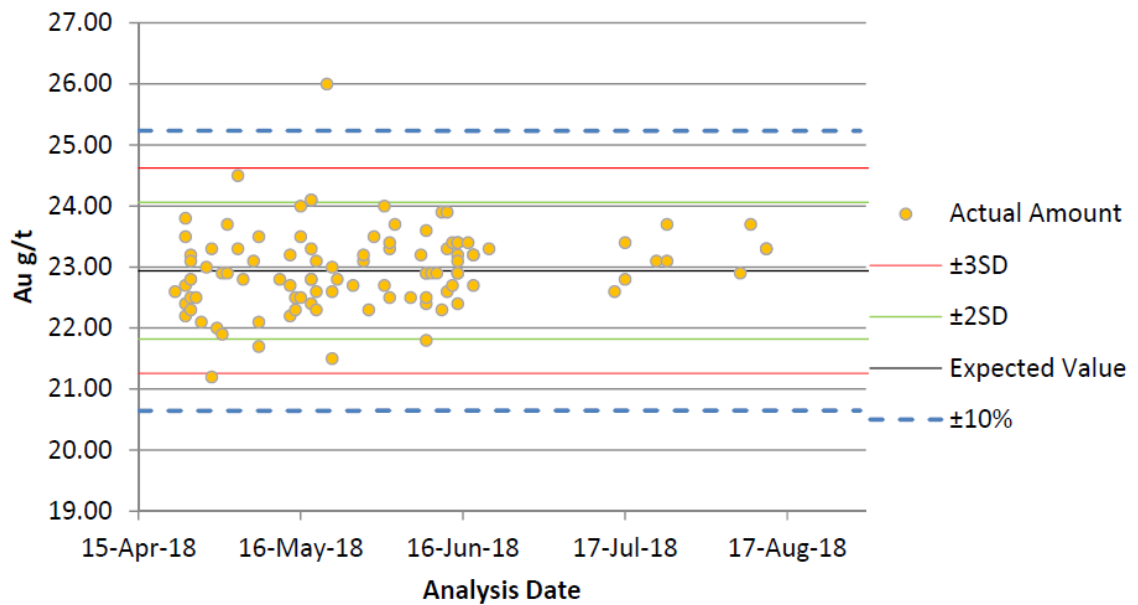
A selection of standards representing low, medium and high-grade gold values per drilling campaign year are discussed and presented below. Note that there were very few failures for years 2016 and 2019, and as such, charts have not been displayed for these years.

Gold standard CDN-GS-22 was utilized during 3 drilling campaigns (2016, 2017 and 2018) and represent the higher-grade samples having an expected value of  $22.94 \pm 1.12$  g/t Au. Figure 11-5 and Figure 11-6 display the actual values in relation to the expected value and standard deviation limits of 2017 and 2018, respectively. The high-grade gold standard is unbiased and falls within an acceptable tolerance range.



Source: Snip, 2017

**Figure 11-5: 2017 gold control chart for standard CDN-GS-22**

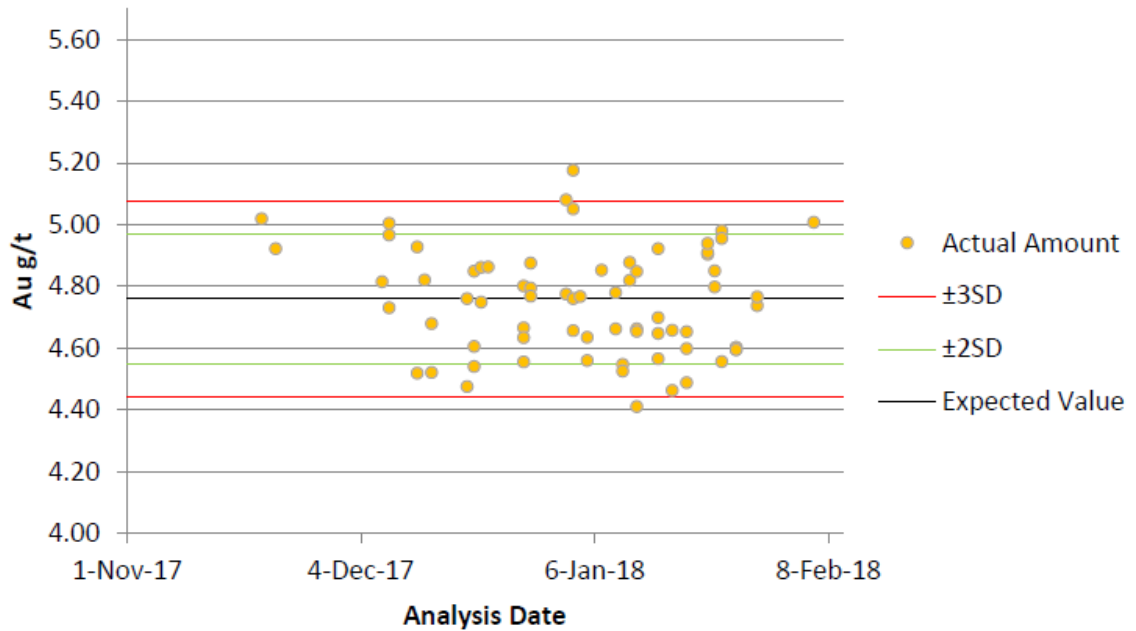


Source: Snip, 2018

**Figure 11-6: 2018 gold control chart for standard CDN-GS-22**

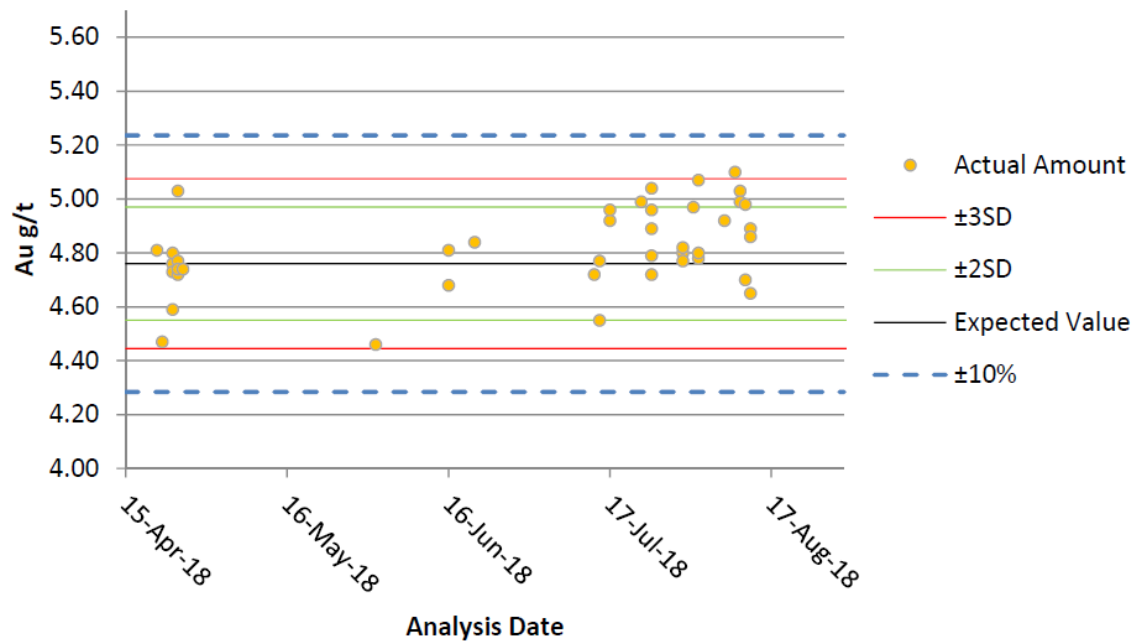
Gold standard CDN-GS-5T was inserted during 2 drilling campaigns (2017 and) and represent the medium-grade range of the Snip deposit, having an expected value of  $4.76 \pm 0.21$  g/t Au. Figure 11-7 and Figure 11-8 display the actual values in relation to the expected value and

standard deviation limits for 2017 and 2018, respectively. The medium-grade gold standard is unbiased and falls within an acceptable tolerance range.



Source: Snip, 2017

Figure 11-7: 2017 gold control chart for standard CDN-GS-5T

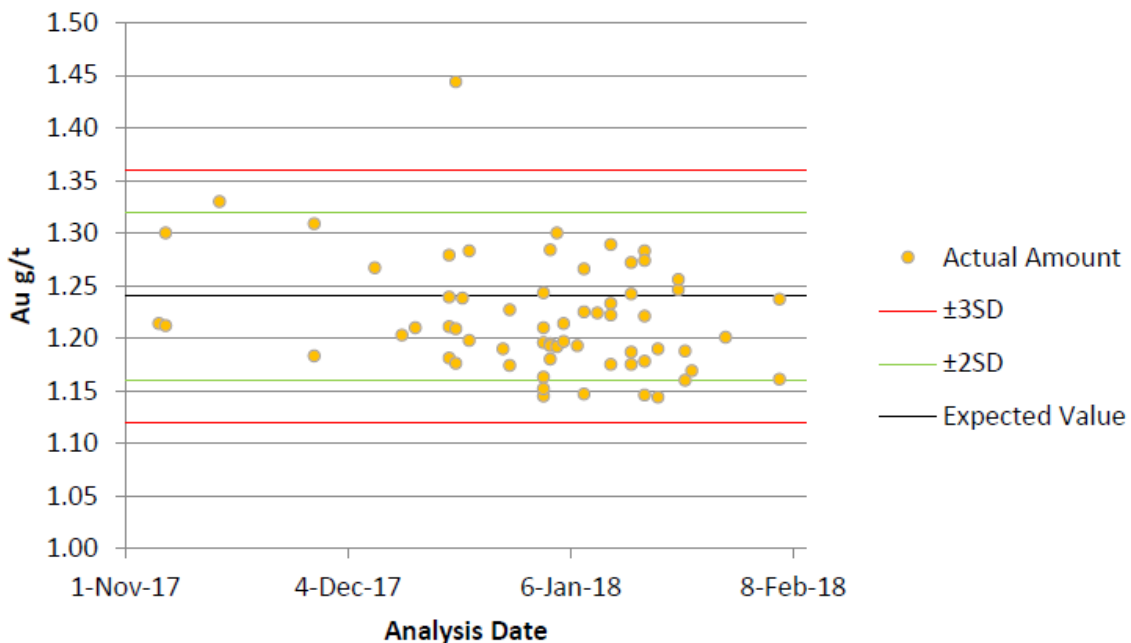


Source: Snip, 2018

Figure 11-8: 2018 gold control chart for standard CDN-GS-5T



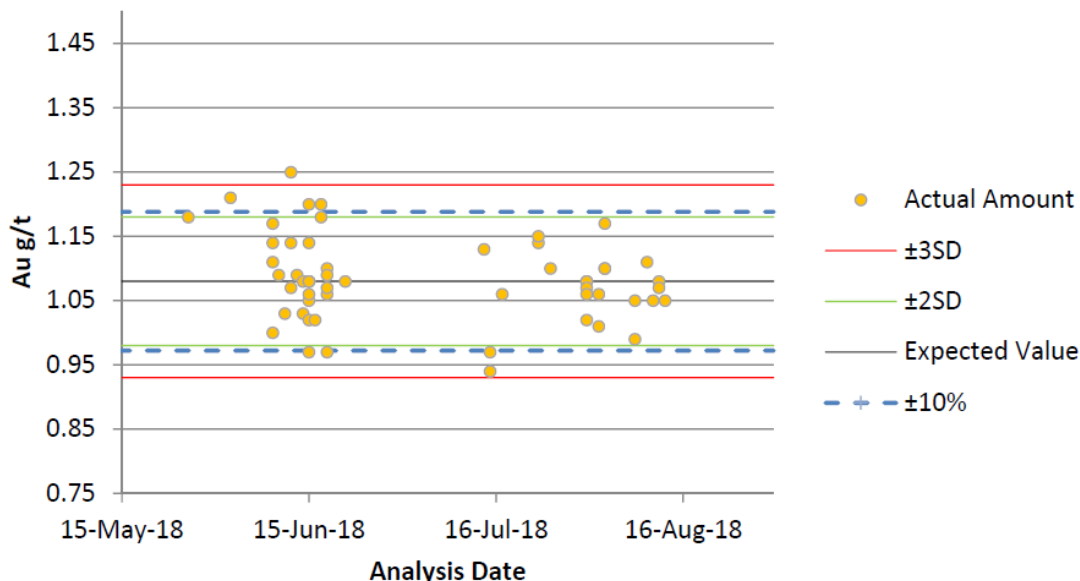
Gold standard CDN-GS-1Q was inserted during the 2017 drilling campaign and represent the low-grade range of the Snip deposit, having an expected value of  $1.24 \pm 0.08$  g/t Au. Figure 11-9 displays the actual values in relation to the expected value and standard deviation limits. The low-grade gold standard is unbiased and falls within an acceptable tolerance range.



Source: Snip, 2017

**Figure 11-9: 2017 gold control chart for standard CDN-GS-1Q**

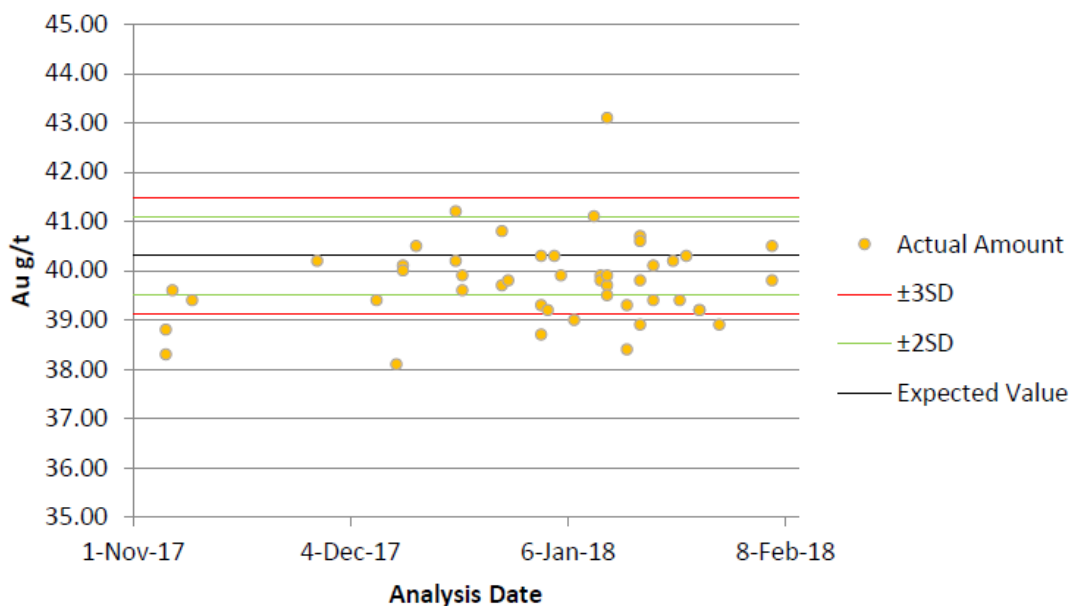
Gold standard CDN-GS-1T was inserted during the 2018 drilling campaigns and represent the low-grade range of the Snip deposit, having an expected value of  $1.08 \pm 0.10$  g/t Au. Figure 11-10 displays the actual values in relation to the expected value and standard deviation limits. The low-grade gold standard is unbiased and falls within an acceptable tolerance range.



Source: Snip, 2018

**Figure 11-10: 2018 gold control chart for standard CDN-GS-1T**

Certain standards were highlighted as being more likely to fail than others. Certified reference material CDN-GS-40A tended to display lower than expected gold results. Seeing as this was the case for both 2017 and 2018 results, the standard was not inserted at site after April 2018. Figure 11-11 and Figure 11-12 display the high gold standard CDN-GS-40A which was performing below than expected in 2017 and 2018, respectively. Similarly, OREAS 601, 602 and 603 were performing lower than expected and were discontinued after limited used.



Source: Snip, 2017

**Figure 11-11: 2017 gold control chart for standard CDN-GS-40A**



## Blanks

A total of 655 blanks have been inserted into the sample stream by Skeena between 2016 and 2019 (Table 11-3), representing 4% of the total samples assayed during 2016 and 2019. Blank material has come from 3 sources: (1) a certified powder purchased from CDN Resource Laboratories (CDN-BL-10), (2) a marble garden rock obtained from Home Hardware in Smithers, BC, and (3) drill core fragments from two unmineralized drill holes (S16-022 and S16-023).

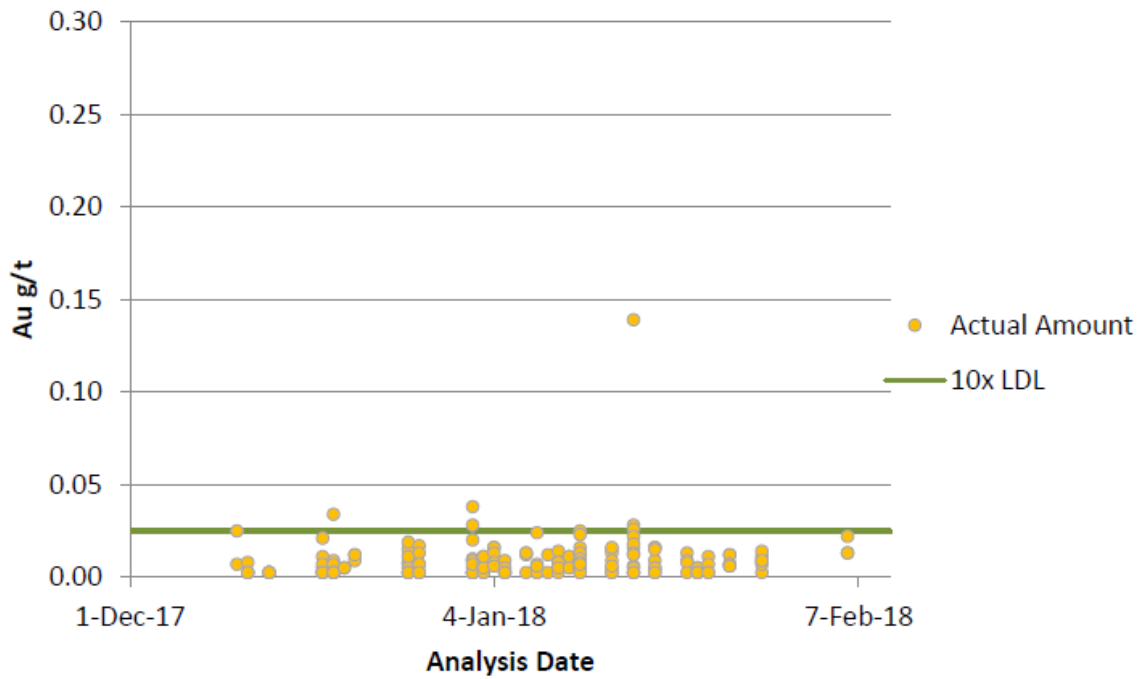
Skeena considered a blank sample to have failed when the result was greater than 10x the lower detection limit ( $>0.025$  g/t Au). Table 11-6 summarizes the number of failures and failure percent per drilling year. All failed results were re-assayed in the same manner as standard samples, whereby approximately 9 shoulder samples before and after the failed blank within a certificate were re-analysed. Should the re-assayed shoulder samples differ  $>10\%$  from the original result then the Geospark® database was updated accordingly.

**Table 11-6: Blank failures per assay year**

Assay Year	No. Samples	No. of Failures	Failure Percent
2016	90	1	1%
2017	75	2	3%
2018	437	7	2%
2019	53	2	4%
<b>Total</b>	<b>655</b>	<b>12</b>	<b>2%</b>

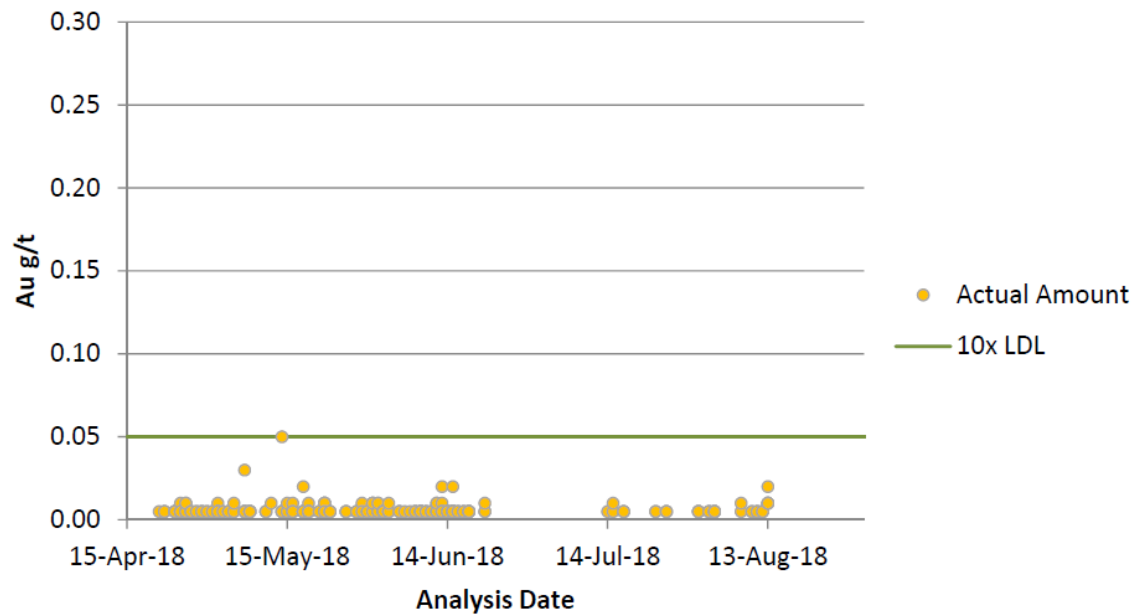
Note: excluding field failures and missing values

At the end of the 2017 drilling campaign, Skeena observed overall higher than expected blank values from the drill core fragments set aside as blank material from drill holes (S16-022 and S16-023). Although most of the samples passed the 10x detection limit, Skeena retired these blank samples in favour of the commercially purchased marble garden rock (Figure 11-13). Similarly, the certified blank powder (CDN-BL-10) was removed from the sample insertion process because, being in pulp form, it missed the crushing stage; a crucial phase where contamination is likely to occur. Figure 11-14 depicts the marble garden rock results, which were exclusively used in 2018 and 2019.



Source: Snip, 2017

**Figure 11-13: 2017 drill core blanks from drill holes S16-022 and S16-023**



Source: Snip, 2018

**Figure 11-14: 2018 drill core blanks from marble garden rock**

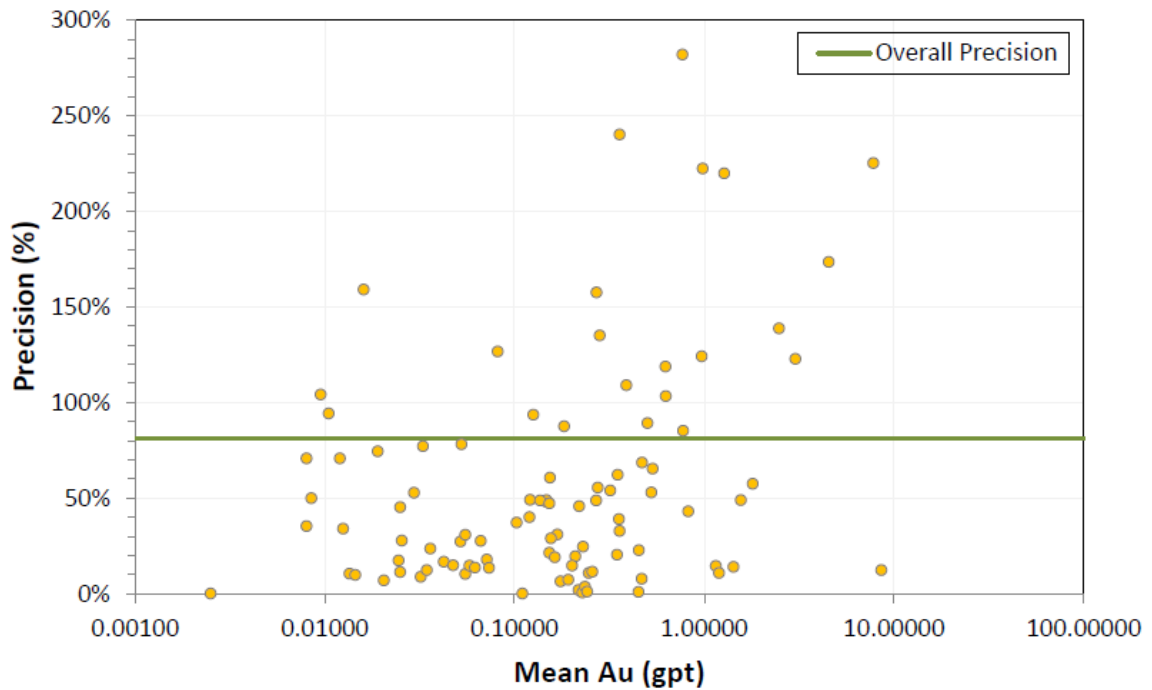
## Duplicates

Duplicate assay analysis of field control samples was performed regularly, whereby one half of the core was bagged and tagged as the original, and the remaining half core was quartered and separately bagged and tagged as the duplicate; these are referred to as core duplicates and occur 1 in approximately 40 samples. Prep Repeats refer to the sample whereby a second split from the reject is taken and pulverized every 50<sup>th</sup> sample. A pulp repeat is a duplicate of the same pulp analyzed immediately after the original sample. Skeena inserted core duplicates, prep and pulp repeats into their sample stream during the 2016 to 2019 drilling campaigns (Table 11-7).

**Table 11-7: No. of duplicates and percentages per year**

Year	No. Samples	Core Duplicates	Prep Repeat	Pulp Repeat
2016	2,635	58	not available	not available
2017	1,678	36	69	388
2018	12,424	86	91	319
2019	1,622	0	7	59
<b>Total</b>	<b>18,359</b>	<b>180</b>	<b>160</b>	<b>707</b>

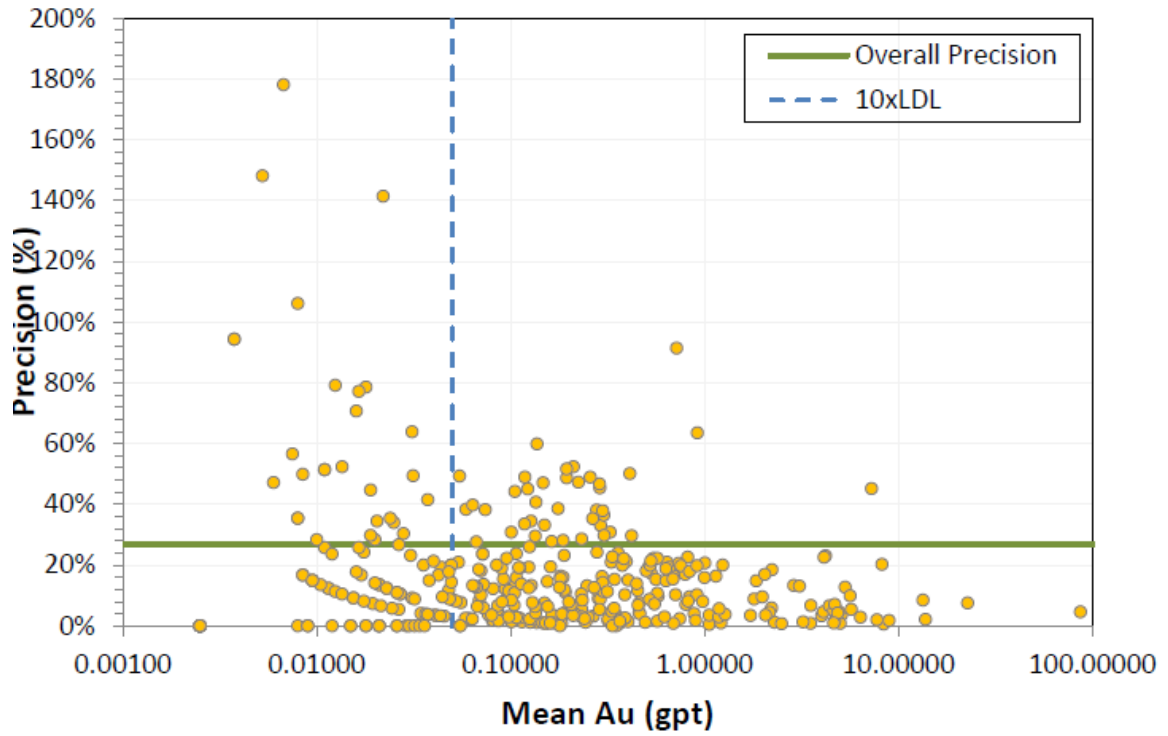
Core duplicate repeatability was evaluated by means of relative precision charts which measures sample percentage falling within 2 times the standard deviation relative to the mean value. Figure 11-15 depicts a core duplicate relative precision chart for 2017 and part of 2018. Overall precision values for core duplicates are low, likely reflecting the strong nugget effect at the Snip Project. Core duplicates, however, were not sampled to effectively capture the high grades at Snip seeing as only 2 core duplicates exceeded 5 g/t Au. Assessing overall precision based on grade ranges may be a more effective way of assessing repeatability since precision tends to increase along with increasing grades of the duplicate pairs. The practice of inserting core duplicates was halted in early 2018 due to the high nugget effect at Snip; preparation and pulp duplicates and check assays were relied on after this time to monitor repeatability.



Source: Snip, 2017

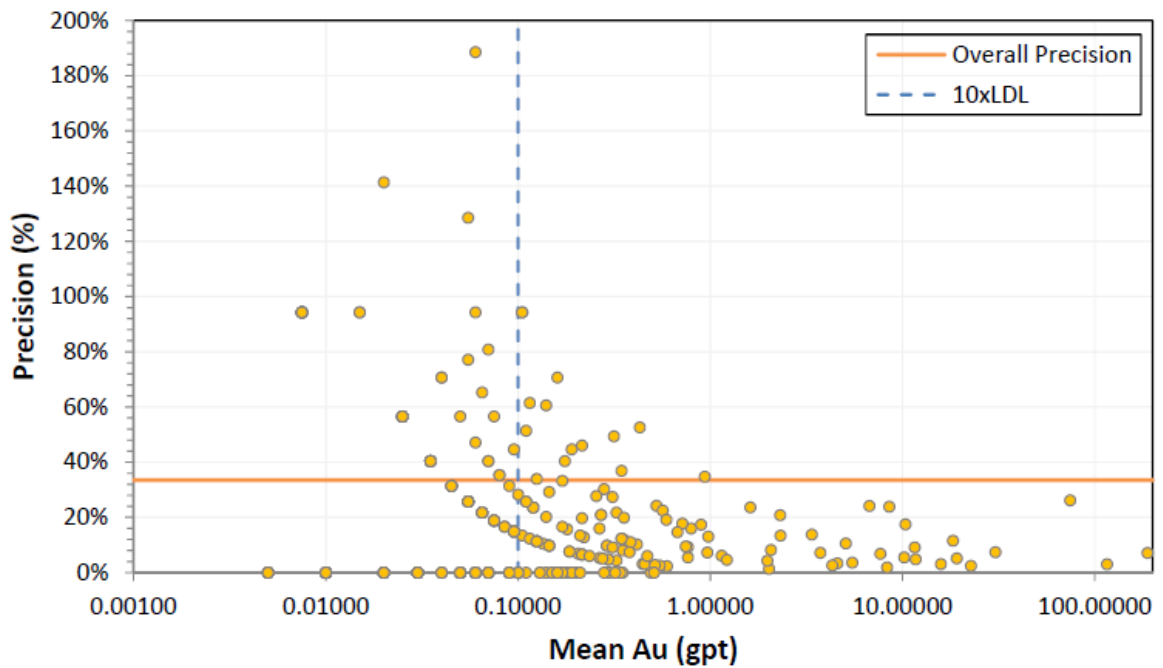
**Figure 11-15: 2017/2018 core duplicate relative precision chart**

Figure 11-16 and Figure 11-17 depict relative precision for 2017 and 2018 pulp duplicates, respectively. The overall precision is low for both years; however, once grades greater than 0.1 g/t Au are considered (10x the LDL of the assay method), relative and overall precision increases significantly. 2019 pulp duplicates show a similar trend whereby precision improves with increasing grade.



Source: Snip, 2017

Figure 11-16: 2017 pulp repeat relative precision chart



Source: Snip, 2018

Figure 11-17: 2018 pulp repeat relative precision chart



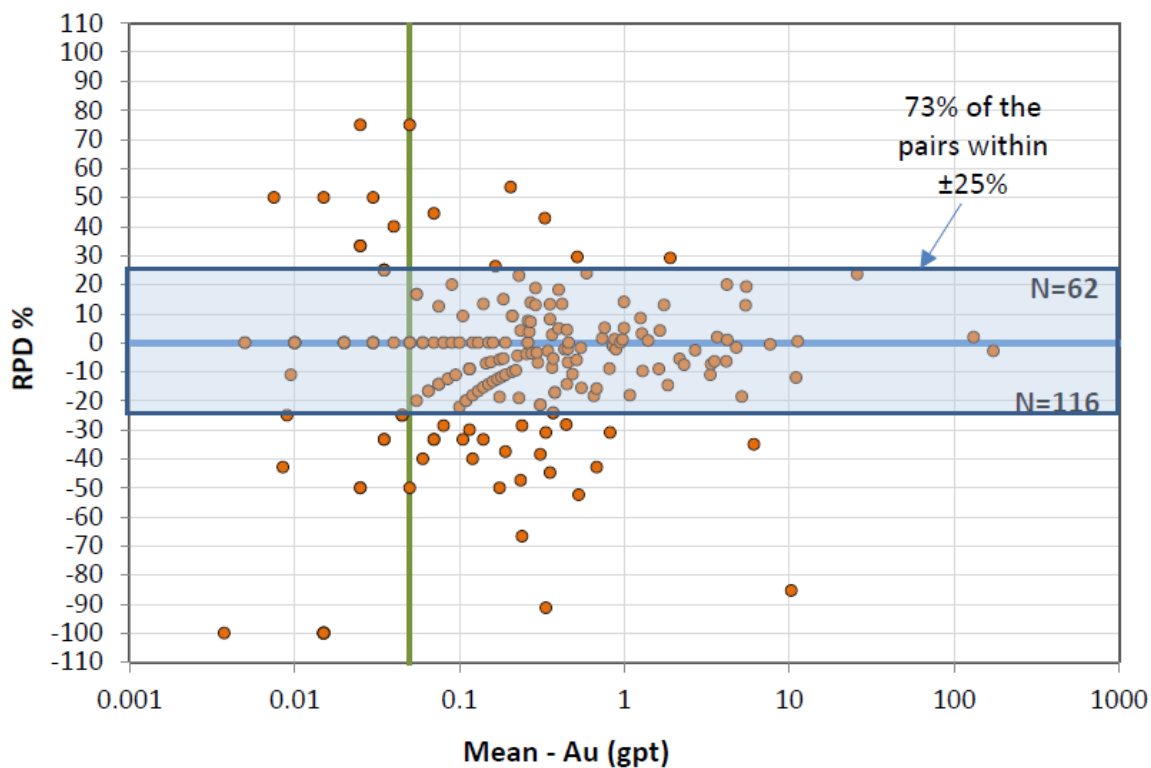
### Check Assays

At the completion of each drilling campaign, assays designated for independent laboratory checking were selected. Table 11-8 summarizes the number of samples selected per QC type per assay year. The check assay laboratories per year are as follows: ALS (2017), SGS Canada Inc. (2018 and 2019).

**Table 11-8: No. of check samples per assay year**

Assay Year	No. Samples	Duplicates	Standards
2016	2,635	not available	not available
2017	1,678	211	11
2018	12,424	240	21
2019	1,622	40	2

Check assays were selected using a random number generator and then subsequently modified to ensure that the range of grades were representative of the Snip Project assay results. In 2017, 13% of the 2017 pulps were sent to ALS including 11 standards. All standards, barring two, returned values within the 3 standard deviation tolerance limits. Check duplicate assays resulted in 73% of the sample pairs being within 25% of each other. Removing samples <0.1 g/t Au increased the percentage to 85% (Figure 11-18).



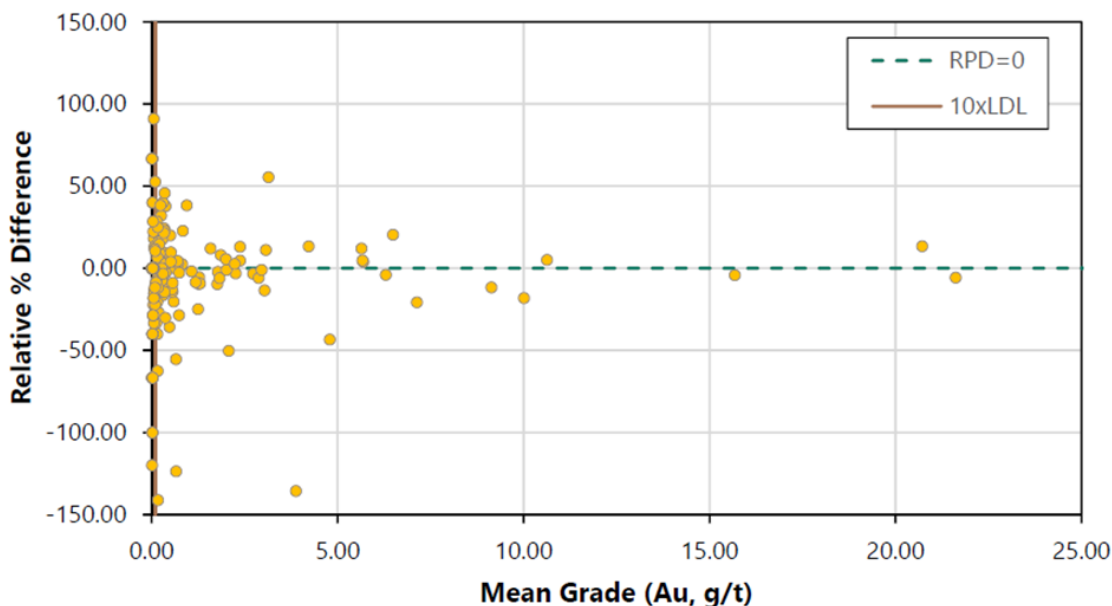
Source: Snip, 2018a

**Figure 11-18: 2017 check assay relative precision chart**

In August 2018, a random number generator was used to selected 2% of the assay results that were >1.0 g/t Au and an additional 0.5% of total assay results that were <1.0 g/t Au. A total of 204 samples were sent in for check assay, along with 10 standards from CDN Resource Laboratories (Snip, 2018a). Gold results from the check laboratory were on average slightly higher than samples processed at ALS; however, with a relative precision difference (RPD) of 87% for pairs occurring within 25% of each other, the results are shown to perform well (Figure 11-19).

Analyses of the 10 reference materials, barring one field entry error, all occurred within a 3 standard deviation tolerance.

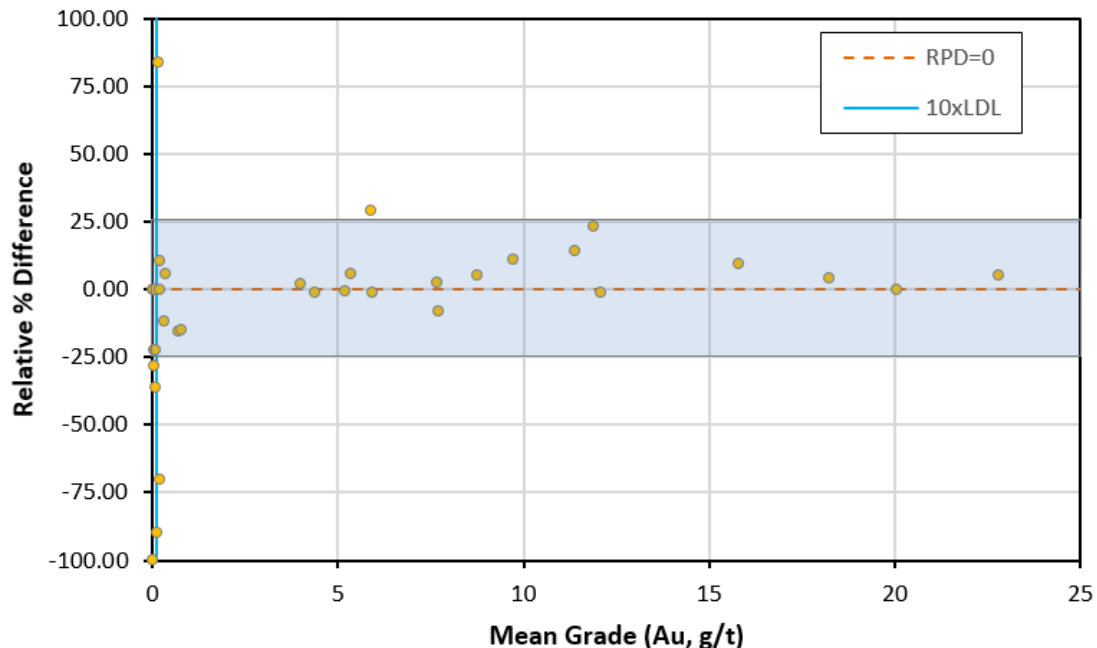
At the end of December 2018, an additional 36 check samples were sent to SGS Canada Ltd., along with 2 reference materials. Gold values were slightly higher at SGS than ALS with an RPD of 67% for pairs occurring within 25% of each other (Snip, 2018b). Results demonstrate a lack of bias between the two labs.



Source: Snip, 2018a

**Figure 11-19: 2018 check assays relative precision chart**

In 2019, 40 check samples along with 2 reference materials were sent to SGS Canada Ltd. An RPD of 84% pairs are within 25% of each other (Figure 11-20). Both reference materials passed the 3 standard deviation test.



Source: Snip, 2019

Figure 11-20: 2019 check assays relative precision chart

### 11.3 Qualified Person's Opinion on Quality Assurance and Quantity Control

Skeena adopted a rigorous QA/QC program whereby field failures were corrected as quickly as possible and re-assays were conducted where standards or blanks failed within the grade range of interest. Annual QC reports document the process along with mention of any major Database updates, if any, were conducted.

Original assay certificates were made available to the QP, as well as all certified reference material certificates; data that was interrogated and assimilated into the QA/QC review.

It is the QP's opinion that the sample preparation, sample security, analytical procedures and QA/QC are satisfactory and appropriate for generating data of suitable quality for use in resource modelling and estimation of the Snip Project. The QP's independent assessment of standard, duplicate and blank charts indicate an acceptable level of accuracy across all of Skeena's drill programs on the Snip Project. Check assay results also show a lack of bias between the primary and secondary laboratories.

The QP suggests the following QA/QC methods for future drilling campaigns at the Snip Project:

- Discontinue the use of core blank (CDN-BL-10) which occurs in powder format. All blank samples should be >2 mm when shipped to the preparation facility so that the samples are processed through the crushing stage; the store-bought marble garden rock is appropriate and will serve the purpose well for monitoring contamination.

- Core duplicates were currently evaluated using  $\frac{1}{2}$  core for the original and  $\frac{1}{4}$  for the repeat. If core duplicates are to be used in future, then samplers should aim to submit  $\frac{1}{4}$  core original and  $\frac{1}{4}$  core duplicate assays to the lab, thereby retaining  $\frac{1}{2}$  core in the box.
- Preparation and pulp duplicates  $>5$  g/t Au are lacking in the dataset. To adequately test for precision at and above this grade range, additional samples within the higher-grade ranges should be submitted to the lab.
- Preparation and pulp duplicates are inserted by the lab at a sequence that the lab defines. Additional preparation and pulp duplicates should be requested at intervals defined by Skeena to avoid intralab bias and to reflect the entire gold range that defines the Snip Project.
- Preparation and pulp duplicate results are not contained within a combined database, which makes quick checks time consuming and challenging. Assimilating these datasets into the primary database is a priority.
- Sample rejects and pulps are not currently saved and stored. In the event of core damage, loss or tampering, rejects and pulps will serve to validate the deposit's primary asset – the assay database. Therefore, sample rejects and pulps should be stored.
- Seeing that some assays are received and finalized after the year in which they were drilled, there is a need to have a column in the QA/QC database that uniquely identifies the drilling year for which the QC samples belong.

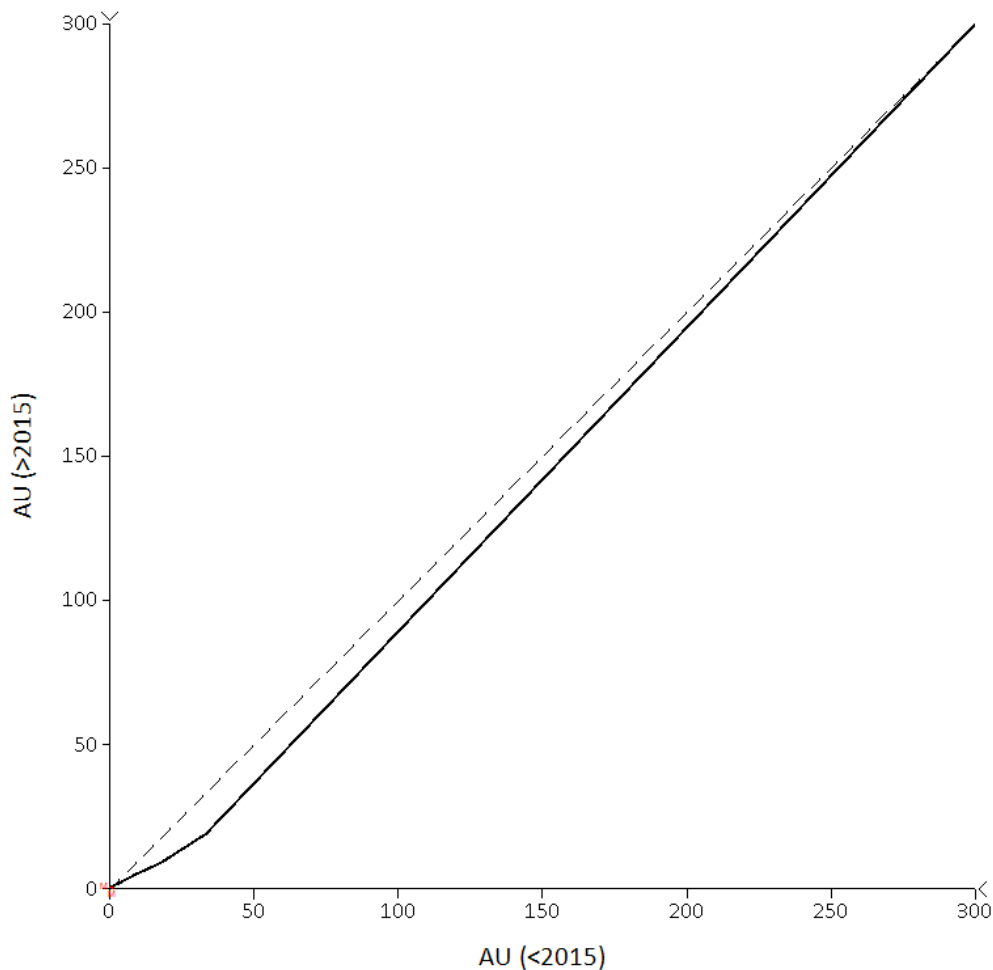
## 12 Data Verification

Due to the absence of QA/QC data for all the historical holes, SRK considered it a risk to include them into a classification category higher than Inferred. However, beginning in 2016 Skeena has drilled 44 surface and 110 underground drill holes on the Snip Property, all of which have validated QA/QC samples. SRK considers an area within a “40 m buffer” around these recent holes to be a reasonable distance for upgrading material into the Indicated category, if satisfying additional classification criteria (see Section 14.12).

To substantiate this upgrade in classification, SRK compared the historical data distribution versus the recent assay distribution within this 40 m buffer zone, outside of the depleted areas. A log quantile-quantile plot of the two datasets visualize the differences in distribution (Figure 12-1). The distribution comparison shows that the lower grades (i.e. below approximately 25 g/t Au) are higher in the Skeena dataset, whereas with an increase in grade, the distributions match more closely.

The distribution discrepancy may be due to the following factors: (1) Many more historical assays occur within the 40 m buffer zone as opposed to relatively few assay intervals recently drilled by Skeena. (2) The Skeena dataset represents the full grade profile, where sampling was not visually selective. (3) The historical dataset represents a grade profile weighted in favour of the high grades due to selective sampling. (3) The historical distribution is noticeably skewed to the right at approximately 25 g/t Au; the historical mining cut-off grade.

Nevertheless, the overall trend between historical and recent drill holes is apparent and the distributions are comparative.



**Figure 12-1: Log Q-Q plot of historical holes (Y axis) and Skeena drilled holes (X axis) within the 40 m buffer zone outside of the depleted areas**

Ms. Ulansky has been involved with the evaluation of the Snip Project since 2019 and has conducted a site visit to the Snip Property between July 27 and July 31, 2020. During her site visit, Ms. Ulansky reviewed surface and underground drill core to confirm the presence and nature of the mineralization and appropriateness of the interpreted geological framework. She observed abundant visible gold intersections in drill core, verifying the presence, and nature of gold mineralization at the Snip Project.

Sufficient checks have been completed to satisfy Ms. Ulansky that the Snip Project drilling and sampling data and geological interpretations are of suitable quality and robustness for resource modelling and estimation. She has verified Skeena's drilling, sample preparation, handling, security, and chain of custody procedures, QA/QC procedures and results, as well as surface drill hole locations and core logs. She has also reviewed Snip's database integrity and data quality for use in resource estimation (see Section 11.0). Ms. Ulansky has reviewed and been involved in all stages of the geological modelling and domain definition for the Snip Deposit and has assessed the applicability and robustness of these interpretations from the available drill core and drill logs.

## **13 Mineral Processing and Metallurgical Testing**

Not applicable.

## 14 Mineral Resource Estimates

### 14.1 Introduction

The Mineral Resource Statement presented herein represents the Maiden mineral resource estimate prepared for the Snip Project.

The mineral resource model was prepared by Skeena and independently validated and signed off by SRK. The resource model considers 3,542 historical drill holes and 154 holes drilled by Skeena from 2016 to 2019. The resource estimation work was completed by Ms. Dilworth and was reviewed and accepted by Ms. S. Ulansky, PGeo (EGBC#36085), Senior Resource Geologist with SRK, a Qualified Person as this term is defined in NI 43-101. The effective date of the resource statement is July 21, 2020.

This section describes the resource estimation methodology and summarizes the key assumptions considered by SRK. In the opinion of SRK, the mineral resource estimate reported herein is a reasonable representation of the global gold mineral resource found in the Snip Project at the current level of sampling. The mineral resources have been estimated in conformity with generally accepted CIM “Estimation of Mineral Resource and Mineral Reserves Best Practices” guidelines and are reported in accordance with the Canadian Securities Administrators’ National Instrument 43-101. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

The database, with a close out of April 29, 2020, used to estimate the Snip Project mineral resources was audited by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to confidently interpret the mineralized domains of the Snip Project mineralization and that the assay data are sufficiently reliable to support mineral resource estimation.

Leapfrog Geo® (version 5.01) was used to construct the litho-structural model and mineralization domains that define the lodes in the Snip model. Snowden Supervisor® (version 8.12) was used to conduct geostatistical analyses, variography and a portion of model validation. For block modelling, Maptek Vulcan® (version 12.0.5) software was used to prepare assay data for geostatistical analysis, construct the block model, estimate metal grades and to tabulate the mineral resources. Deswick® was used for the stope optimization.

Gold was the sole element estimated in the Snip Project resource model. To the extent currently known, there are no processing factors or deleterious elements that could have a significant impact on the mineral resources.



## 14.2 Resource Estimation Procedures

The mineral resource estimation methodology involved the following procedures:

- Database compilation and verification;
- Construction of litho-structural model and wireframes for gold mineralization;
- Definition of resource domains;
- Data conditioning (compositing and capping) for geostatistical analysis and variography;
- Block modelling and grade interpolation;
- Resource classification and validation;
- Assessment of “reasonable prospects for economic extraction” using selection of appropriate cut-off grades and stope optimized shapes; and
- Preparation of the Mineral Resource Statement.

## 14.3 Resource Database

The Snip Project drill hole database contains 3,542 historical holes and 154 recent holes drilled by Skeena totalling 3,696 drill holes for 309,329 m (Table 14-1 and Figure 14-1). The number of drill holes used directly in the resource estimate includes 2,974 historical holes of which 151 were drilled from surface and 2,823 drilled from underground, as well as 33 surface holes and 107 underground drill holes drilled by Skeena between 2016 and 2019 (Table 14-2). Figure 14-2 shows the distribution of surface and underground drill holes that were used in the mineral resource estimate.

**Table 14-1: Skeena drill hole database**

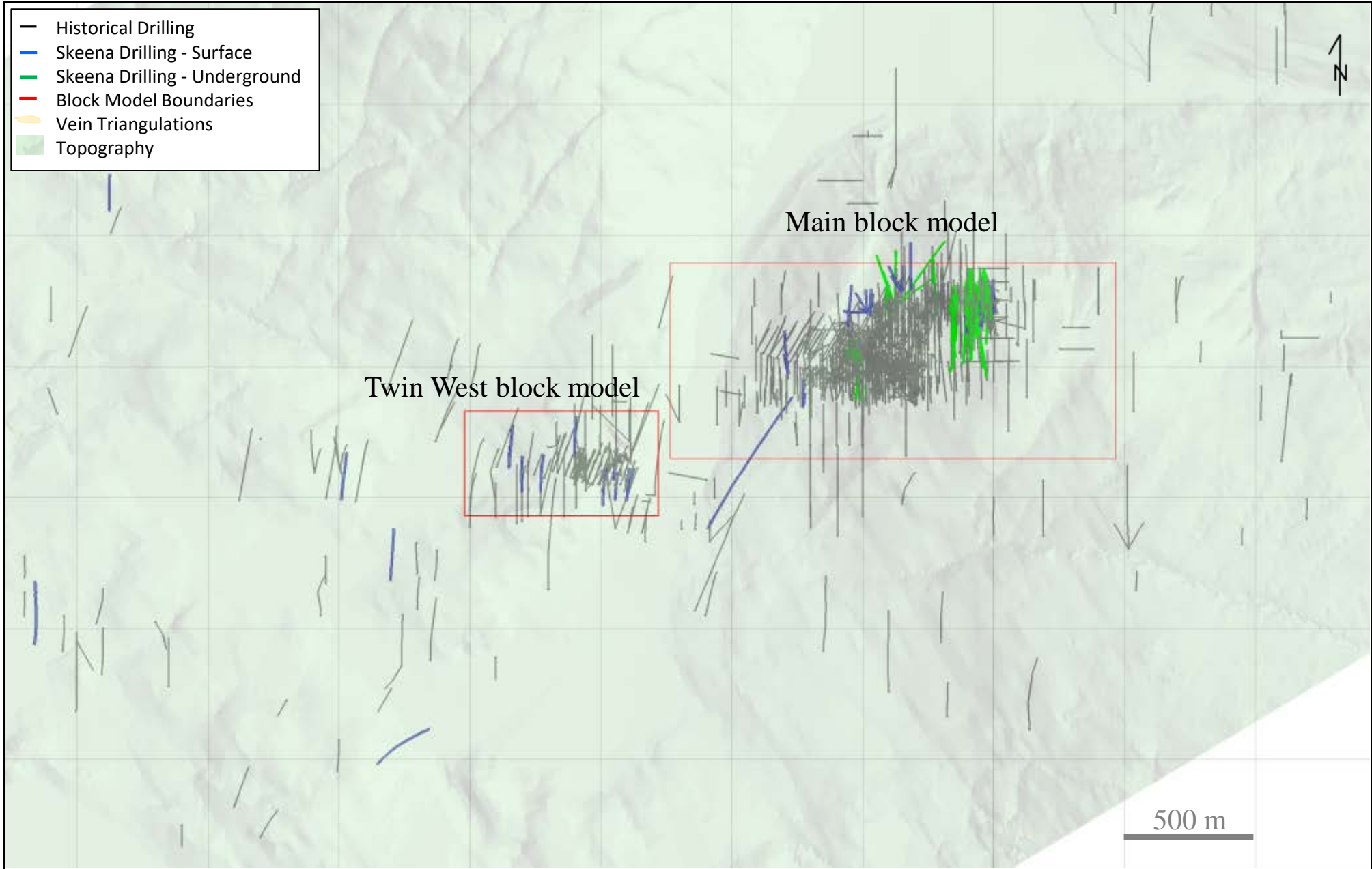
Program	Location	Year	No. of Holes	Length (m)
Historical	Surface	pre-1999	309	71,181
	Underground	pre-1999	3,233	208,790
Skeena	Surface	2016	28	7,422
		2108	6	2,121
		2019	10	1,934
	Underground	2017	62	8,703
		2018	48	9,178

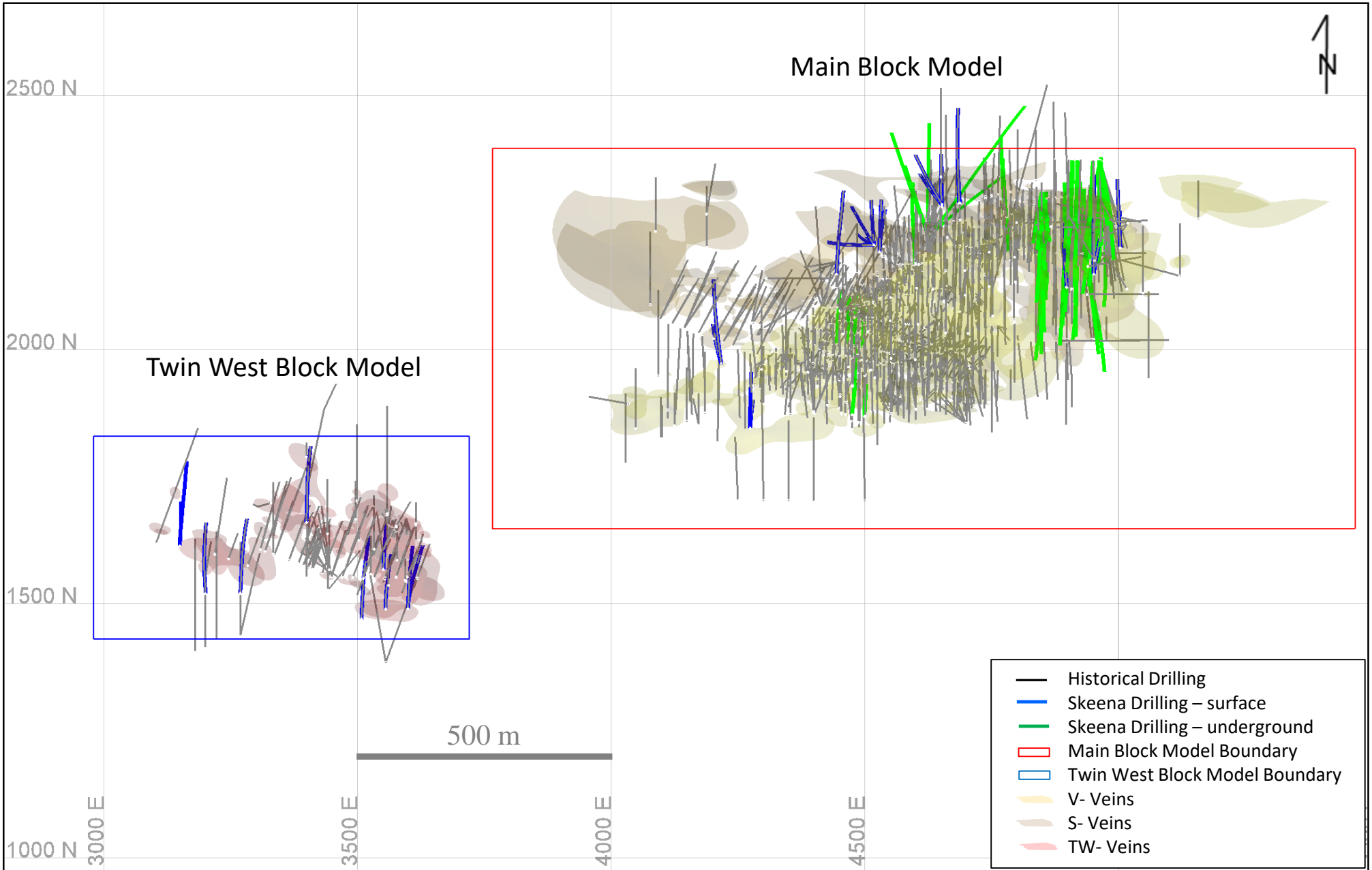
**Table 14-2: Drill holes used in the resource estimate**

Program	Location	Year	No. of Holes	Length (m)
Historical	Surface	pre-1999	151	29,527
	Underground	pre-1999	2,823	171,941
Skeena	Surface	2016	22	5,765
		2108	1	182
		2019	10	1,934
	Underground	2017	61	8,589
		2018	46	9,111

Drill holes were designed to intersect mineralized zones at right angles, where possible. The majority of drill holes in the vicinity of the Snip mine are drilled towards the north from surface on 50 m spacings and towards the north and north-northeast from underground workings on 12.5 m spacings. Drill hole spacing varies from as little as a few meters, where underground production drilling was drilled on a fan, up to 150 m, where exploration drilling tests the lateral extents of the deposit. The average drill hole spacing in the vicinity of the mine workings is approximately 10 to 15 m. Historically, sampling at Snip was selective and primarily based on visual estimation of sulphide content.

- Historical Drilling
- Skeena Drilling - Surface
- Skeena Drilling - Underground
- Block Model Boundaries
- Vein Triangulations
- Topography





## 14.4 Solid Body Modelling

### 14.4.1 Geological Modelling

During 2019, Ms. Amelia Rainbow created a three-dimensional (3D) litho-structural model of the Snip Project using Leapfrog Geo® (version 4.4.2), which was subsequently modified by Skeena geologists. The interpretation was based predominantly on historical surface and underground drill hole data. Most of the Snip deposit is hosted within a complex interbedded sequence of siltstone and greywacke units, which prohibits the various sedimentary facies from being subdivided in the model.

The Biotite Spotted Unit, an important lithology in the model, manifests as a non-mineralized basic to intermediate biotitic dyke that intrudes Twin Zone mineralization and, to a lesser degree, the 200 Footwall mineralization. The BSU was modelled as a barren dyke, which overprints the mineralized Twin Zone within the Main domain.

### 14.4.2 Mineralization Model

Dr. Ron Uken, Principal Structural Geologist with SRK, modelled the Snip mineralization using Leapfrog Geo® vein modelling tool. Mineralized shear zones and mineralized vein intercepts were generated from the assay data using the Leapfrog Geo Economic Compositing tool. Economic compositing classifies assay data into “ore” and “waste” categories, considering grade thresholds, mining dimensions and allowable internal dilution. Economic composited intervals can be of any length, with the composited lengths always coinciding with the end of an assay interval. Although economic composite intercepts were the primary input into the model, additional geometric constraints were provided by historical mining stopes and drives, and establishing best fit continuity orientations using the maximum intensity tool in Leapfrog Geo. Skeena provided local expertise and understanding of the deposit to further guide the generation of the vein system model.

A total of 6,782 economic composites were generated using a grade threshold of 1.0 g/t Au over 1.5 m in length. A grade threshold of 1.0 g/t Au was chosen because it corresponds to the first inflection point on a global log probability plot. A length of 1.5 m was selected to match the minimum width for long hole stope mining, and a maximum of 1.5 m of internal waste was permitted per economic composite interval. Of all the economic composites, 6,302 were included into 72 discrete, narrow veins within three major systems: 10 in the V- vein system, 52 in the S- vein system and 10 in the Twin West vein system. The three vein systems were primarily modelled using structural orientation, grade profiles and temporal interactions of the veins.

A total of 480 economic composites exist outside of the interpreted mineralized veins. These isolated values were not attributed to any specific vein given low drill hole density or lack of grade continuity.

The 72 lodes were combined into domains and zones (Table 14-3). The domain represents the block model (Main or Twin West) and zone represents the major vein grouping based on orientation and structural interpretation (V-Veins, S-Veins, and TW-Veins). The Twin West

domain is separated from the Main domain by the Monsoon Fault, having a displacement of 700 m towards the southwest. Figure 14-3 shows a plan and oblique view of the three zones (V, S and TW). The resultant wireframes were reviewed in sections and level plans and were deemed to be representative of the underlying geology and lodes.

**Table 14-3: Domain, zone and lode coding**

Domain		Zone		Lode	
Name	Code	Name	Code	Triangulation Name	Code
MAIN	1	V-Veins	1	V_veins_lode101_v1.00t	101
				V_veins_lode102_v2.00t	102
				V_veins_lode103_v3.00t	103
				V_veins_lode104_v0.00t	104
				V_veins_lode105_v4.00t	105
				V_veins_lode106_v0a.00t	106
				V_veins_lode107_v0b.00t	107
				V_veins_lode108_v0c.00t	108
				V_veins_lode109_v2c.00t	109
				V_veins_lode110_v2b.00t	110
MAIN	1	S-Veins	2	S_veins_lode201_s1.00t	201
				S_veins_lode202_s2.00t	202
				S_veins_lode203_s3.00t	203
				S_veins_lode204_m1.00t	204
				S_veins_lode205_m2.00t	205
				S_veins_lode206_s4.00t	206
				S_veins_lode207_f17.00t	207
				S_veins_lode208_f2.00t	208
				S_veins_lode209_f3.00t	209
				S_veins_lode210_s72.00t	210
				S_veins_lode211_s9.00t	211
				S_veins_lode212_f4.00t	212
				S_veins_lode213_f5.00t	213
				S_veins_lode214_f6.00t	214
				S_veins_lode215_f7.00t	215
				S_veins_lode216_f3a.00t	216
				S_veins_lode217_f3b.00t	217
				S_veins_lode218_f1a.00t	218
				S_veins_lode219_f2a.00t	219
				S_veins_lode220_f2b.00t	220
				S_veins_lode221_f2c.00t	221
				S_veins_lode222_f2d.00t	222
				S_veins_lode223_f5a.00t	223
				S_veins_lode224_f2e.00t	224
				S_veins_lode225_f4a.00t	225
				S_veins_lode226_f6a.00t	226
				S_veins_lode227_f7a.00t	227
				S_veins_lode228_f7b.00t	228
				S_veins_lode229_f7c.00t	229
				S_veins_lode230_f7d.00t	230
				S_veins_lode231_f7e.00t	231
				S_veins_lode232_f6b.00t	232
				S_veins_lode233_f6c.00t	233
				S_veins_lode234_F2f.00t	234
S_veins_lode235_f2g.00t	235				
S_veins_lode236_f2h.00t	236				
S_veins_lode237_f2i.00t	237				
S_veins_lode238_f6d.00t	238				
S_veins_lode239_f4b.00t	239				
S_veins_lode240_f7f.00t	240				
S_veins_lode241_f5b.00t	241				
S_veins_lode242_f2j.00t	242				
S_veins_lode243_f2k.00t	243				
S_veins_lode244_m3.00t	244				

Domain		Zone		Lode	
Name	Code	Name	Code	Triangulation Name	Code
				S_veins_lode245_f4c.00t	245
				S_veins_lode246_f7g.00t	246
				S_veins_lode247_f7h.00t	247
				S_veins_lode248_s4a.00t	248
				S_veins_lode249_m1a.00t	249
				S_veins_lode250_f6e.00t	250
				S_veins_lode251_f6f.00t	251
				S_veins_lode252_f5c.00t	252
				TW_veins_lode301_tw1.00t	301
				TW_veins_lode302_tw1a.00t	302
				TW_veins_lode303_tw1b.00t	303
				TW_veins_lode304_tw1c.00t	304
				TW_veins_lode305_tw2.00t	305
				TW_veins_lode306_tw2a.00t	306
				TW_veins_lode307_tw3.00t	307
				TW_veins_lode308_tw3a.00t	308
				TW_veins_lode309_tw3b.00t	309
				TW_veins_lode310_tw3c.00t	310
TWIN WEST	2	TW-Veins	3		





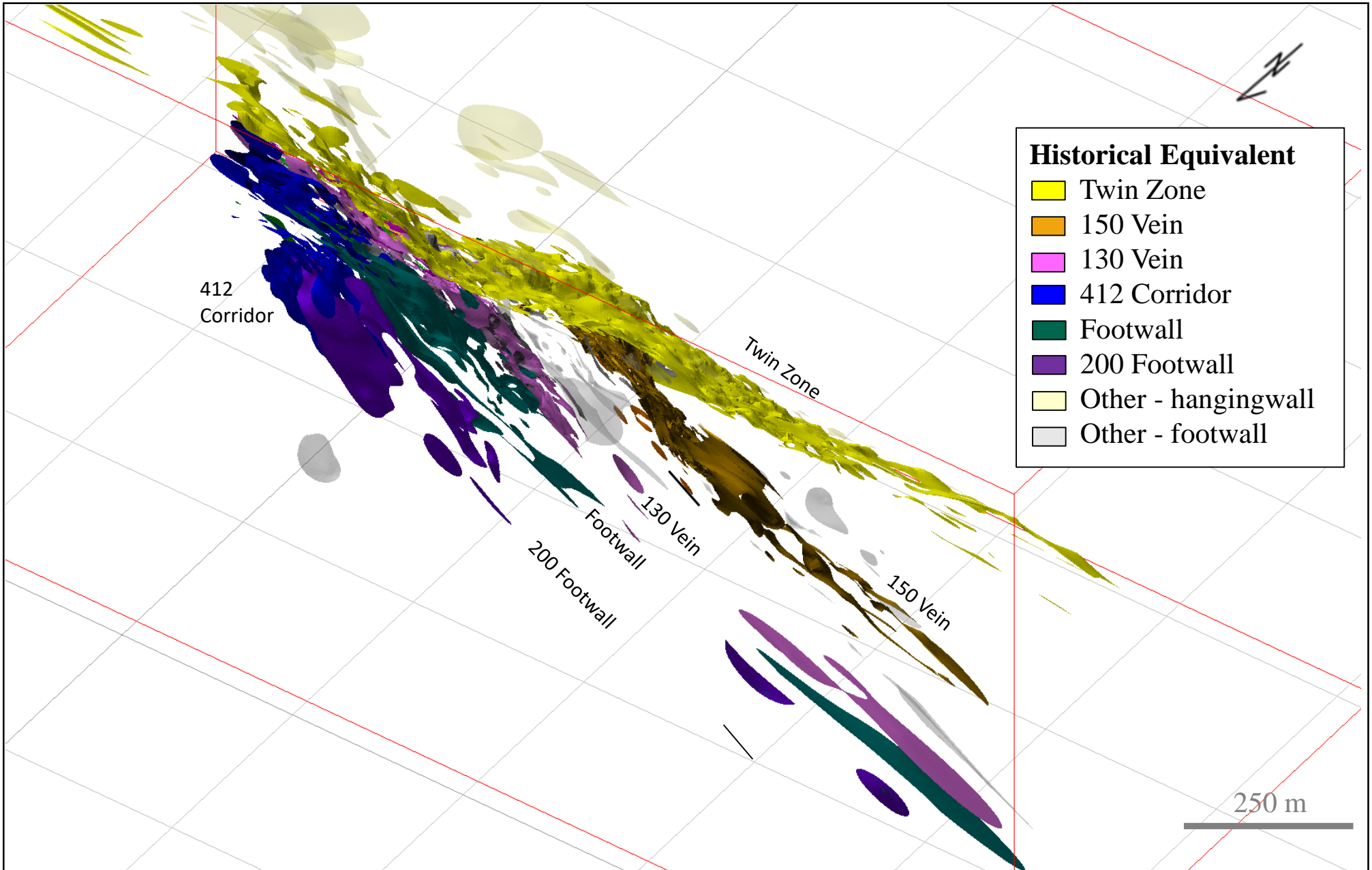
### 14.4.3 Historical Mining Zones

Historically, the lodes at Snip were referred to as the Twin Zone, 130 Vein, 150 Vein, Hangingwall, Footwall, 412 Corridor and Twin West. These areas were interpreted and mined using an approximate cut-off grade of 24 g/t Au. Snip was historically burdened with the high cost of being a stand-alone operation serviced by air via the Bronson airstrip, and by hovercraft from Wrangell, Alaska by way of the Iskut River. This required high grades to ensure economic viability. Additionally, mechanized mining shrunk from approximately 82% of mine production during the first production year (1991), to approximately 16% by 1998, which resulted in a near-doubling of the unit mining cost over the mine life at the same time gold price fell from a high of USD \$383 per ounce in 1994 to USD \$300 per ounce by 1999.

In 2020, a nominal cut-off grade of 1.0 g/t Au was used to constrain mineralization, whereby many individual veins following distinct structural pathways were interpreted. Since the historical lodes were sometimes blurred as to where one ends and the other begins, the lodes were combined in the updated model. The historical naming convention was too restrictive in light of improved market conditions, and hence were updated to the V-, S- and TW- vein systems which tracks structural orientation. The 2020 subdivided zones along with equivalent historical mining areas are summarized in Table 14-4 and shown in Figure 14-4.

**Table 14-4: Zone and associated historic naming equivalents**

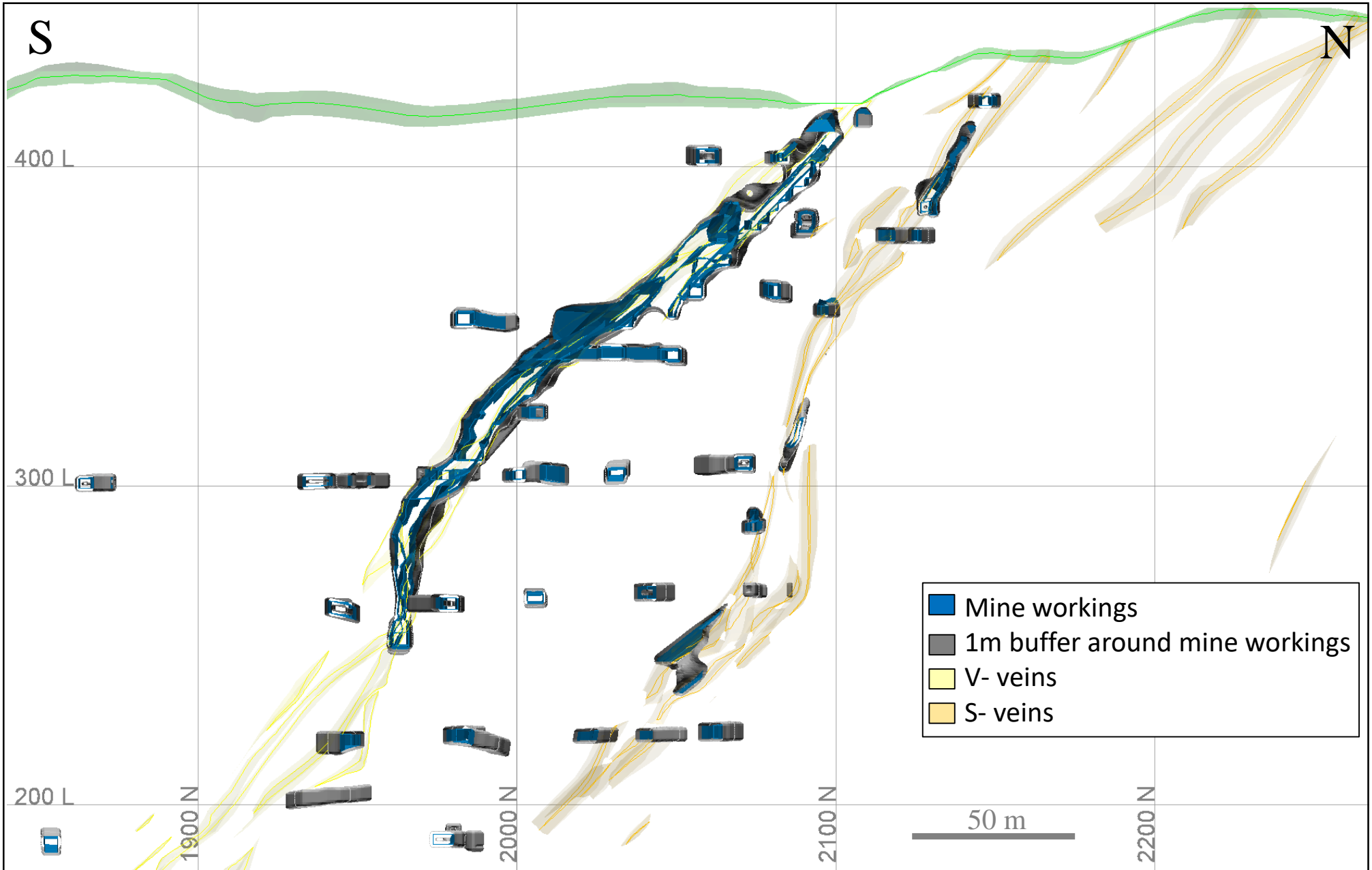
Zone	Number of Veins	Mine Equivalent Zone
V-Vein system	10	Twin Zone
S-Vein system	52	130 Vein, 150 Vein, Footwall, Hangingwall and 412 Corridor
TW system	10	Twin West



#### 14.4.4 Underground Workings

The historical underground workings are a combination of stopes, lifts and development drives. Two solid meshes representing historical stopes were independently constructed using AutoCAD® and MEDsystem® and subsequently combined into a single wireframe using Leafrog Geo®. The MEDsystem mesh appears to represent an earlier period of mining than the AutoCAD mesh, where the former has a resolution of approximately 6 m, while the latter mesh has a resolution of approximately 15 m.

Skeena confirmed the location of underground drill holes in relation to underground workings in Maptek Vulcan® software and found no obvious spatial errors. As a measure of caution against possible discrepancies and unconfirmed ground conditions, a 1 m exclusion zone (alternatively named the 1 m buffer zone) around all underground development was used to deplete the resources when reporting resources. The underground workings and 1 m buffer zone used to deplete the model are shown in Figure 14-5.



## 14.5 Data Analysis

Assays were assigned to domain, zone and lode codes by back-flagging the intercepts to the applicable vein wireframes. The process was then viewed in 3D to ensure that coding had been applied correctly. The zone code was used as the primary field to analyse assay and composite statistics and variography.

### 14.5.1 Sample length

Analysis of assay sample length was conducted to determine the most suitable composite length. The most common assay length was determined to be 1.5 m; the length selected for compositing (Figure 14-6). Assay interval lengths are variable within the database, ranging from as little as 0.1 m to a maximum of 6.6 m. During the process of back flagging, some intervals were truncated artificially if the interval had not been previously snapped to the drill hole; this caused a few assay intervals to be clipped smaller than 0.1 m.

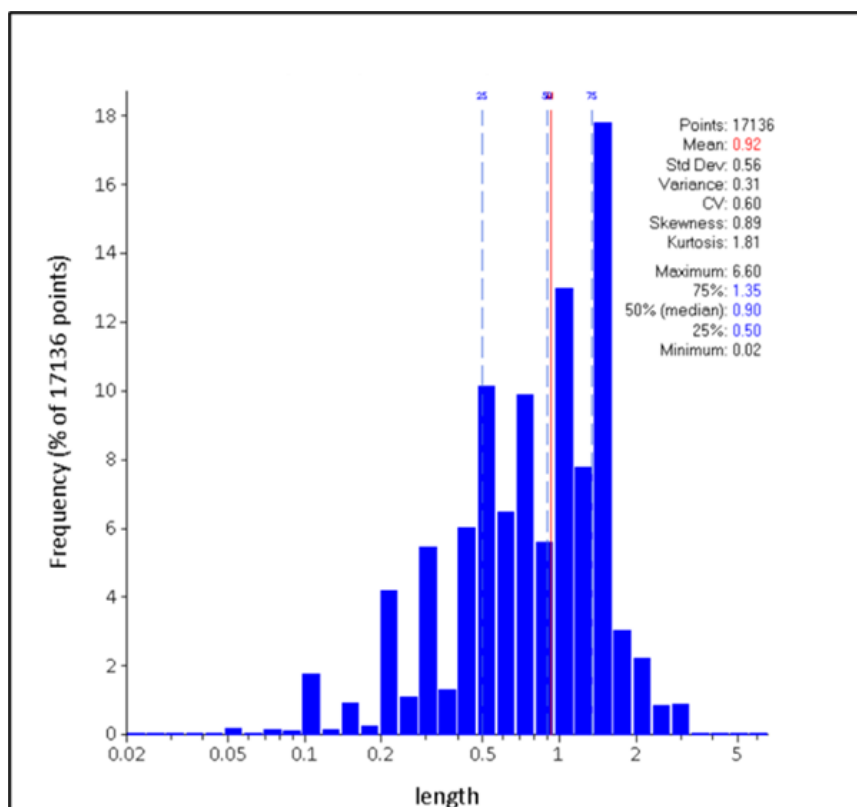


Figure 14-6: Histogram and statistics of assay sample lengths

## 14.5.2 Assay Grade Summary

A total of 20,008 assay sample intervals are contained within the zones. Of these, 17,170 are valid assays, whereas 2,838 are unsampled intervals that were set to a default of 0.001 g/t Au during compositing. Table 14-5 summarizes the statistical analysis of original assays for gold by zone.

**Table 14-5: Summary statistics for gold assays by zone**

Zone	No. Assays	Mean (g/t)	CV	Minimum (g/t)	Median (g/t)	Maximum (g/t)
V- Veins	9,458	<b>17.94</b>	3.00	0	3.00	999.00
S- Veins	9,401	<b>14.79</b>	4.20	0	2.61	3390.00
TW- Veins	1,149	<b>10.70</b>	3.03	0	2.45	555.70

## 14.5.3 Unsampled Intervals

Historical drill holes on the Snip Property were selectively sampled, where singular intervals down the hole were assayed without testing immediate shoulder samples to gauge gold grade variances outside of the vein of interest. Furthermore, many sample intervals that pierce the currently defined ore zone over significant widths are missing. Understanding historical sample selection criteria and processes is challenging and likely fruitless; however, it is known that gold in the 1990's was at market prices far below prices currently assessed in 2020 and likely factored into sample selection during that timeframe.

Handling of these unsampled intervals is critical for mineral resource estimation at Snip, as there is a danger of overestimating the deposit significantly if ignored. In the historical database, unsampled intervals were assigned a value of 0.001 g/t Au; a similar method applied to all unsampled intervals in the Skeena database. Table 14-6 shows the number of meters and percent of unsampled meters within each of the zones.

**Table 14-6: Number of meters and percent of non-sampled meters within each of the zones**

Zone	Meters of Assayed Intervals	Meters of Non-Sampled intervals	Total meters	Percent of Unsampled meters (%)
V- veins	8,253	1,229	9,483	13%
S- veins	6,885	1,630	8,514	19%
TW- veins	708	203	910	22%
<b>Total</b>	<b>15,846</b>	<b>3,062</b>	<b>18,907</b>	<b>16%</b>

## 14.6 Compositing

To minimize bias due to assay sample length variances, compositing to 1.5 m intervals honouring relevant mineralization boundaries, was performed. Sample intervals less than 1.5 m represent 90% of all sample lengths, confirming that 1.5 m was the optimal composite interval for the Snip Project database. Assays were composited to 1.5 m using the distributed tails methodology,

whereby samples that fell short of half the composite length were equally distributed within the vein.

Composites were assigned codes on a majority basis corresponding to the domain, zone and lode in which they occur. The compositing and coding processes were viewed in 3D to ensure that coding had been applied correctly.

A total of 14,113 composites were processed, during which all unsampled intervals were given a default value of 0.001 g/t. Summary statistics for original assays and 1.5 m composites are shown in Table 14-7. The composites were used in geostatistical analysis, top cutting, variography and estimation.

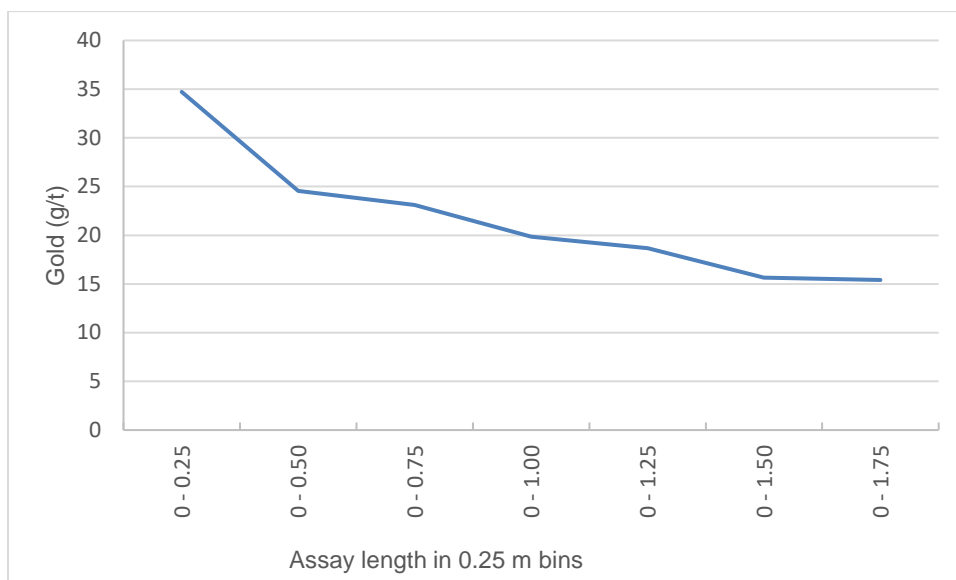
**Table 14-7: Comparison of assay data to 1.5 m gold composites**

Zone	Assays			1.5 m Composites		
	No. of Assays	Mean (g/t)	CV	No. of Composites	Mean (g/t)	CV
V- Veins	9,458	17.94	3.00	6,799	15.54	2.37
S- Veins	9,401	14.79	4.20	6,584	10.93	2.58
TW- Veins	1,149	10.70	3.03	730	8.55	1.72
<b>Total</b>	<b>20,008</b>			<b>14,113</b>		

## 14.7 Evaluation of Outliers

Block grade estimates may be overly affected by very high-grade assays. Grade capping is a technique used to mitigate the effect that a small population of high-grade sample outliers may have during grade estimation. These high-grade samples are considered not to be representative of the general sample population and are therefore “capped” to a level that is more representative of the general data population. Although subjective, grade capping is commonly used by industry professionals when performing grade estimation.

An analysis of sample length versus gold grade shows that effort was taken to select samples based on visible mineralization (Table 14-7). Seeing that gold grades are highest in the smallest sample intervals; capping was applied after compositing.



**Figure 14-7: Gold grade versus interval length in 0.25 m bins.**

Outlier analysis was conducted for each zone. Cumulative log probability plots, histograms, CV values and percent metal loss were used for determining capping thresholds. Capping values of 350 g/t Au, 300 g/t Au and 80 g/t Au were chosen for the V-, S- and TW-veins, respectively (Table 14-8). Figure 14-8, Figure 14-9, and Figure 14-10 display cumulative probability plots for the V-, S-, and TW- veins, respectively; along with the selected capped value denoted by a green line.

Percent differences of mean capped composite grades to uncapped composites is approximately equal to the amount of metal removed by capping. Metal loss for the V- and S- veins was 1.4% and 2.9%, respectively (Table 14-8), whereas metal loss for the TW- veins was 10.5%. Metal loss for the Twin West veins was high due to the capping of two extreme high-grade samples. All composites were capped prior to grade estimation.

**Table 14-8: Outlier threshold values and summary statistics of 1.5 m gold composites**

Zone	Number	Cap Value (g/t)	No. Cut	% Cut	Uncapped Mean (g/t)	Uncapped CV	Capped mean (g/t)	Capped CV	% Metal Lost
V Veins	6,799	350	13	0.2%	15.54	2.37	15.32	2.18	1.4 %
S Veins	6,584	300	15	0.2%	10.93	2.98	10.62	2.53	2.9 %
TW Veins	730	80	6	0.8%	8.55	2.53	7.65	1.72	10.5 %



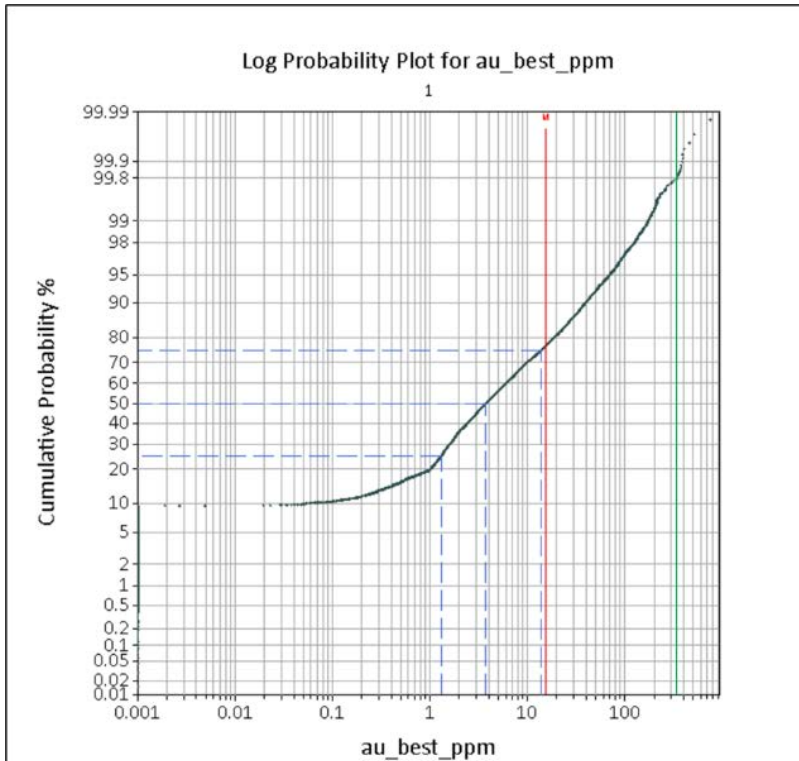


Figure 14-8: V-veins cumulative probability showing the chosen capping threshold of 350 g/t Au

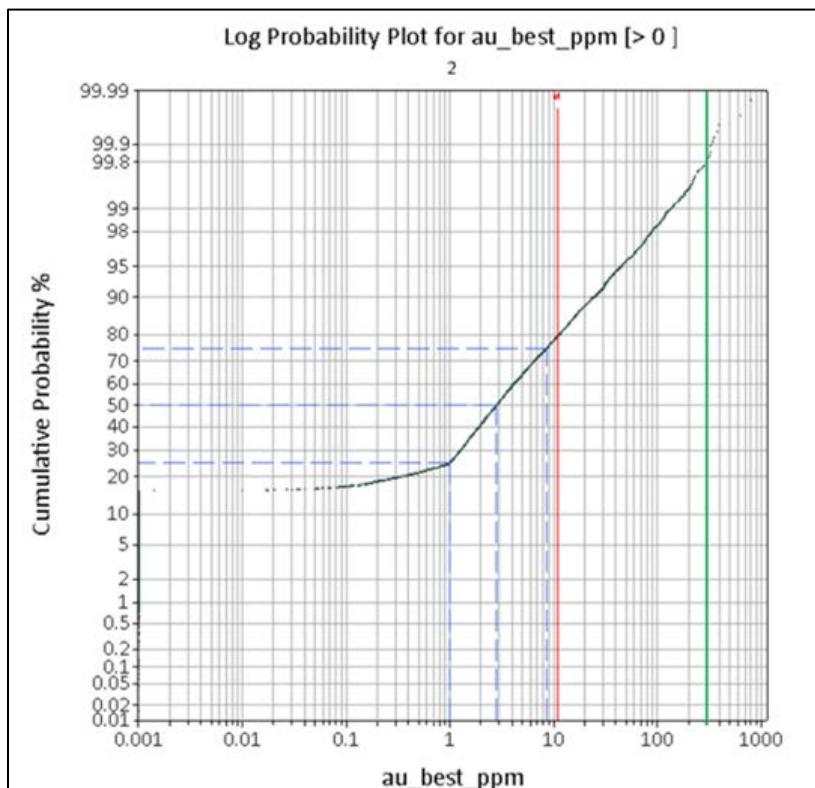


Figure 14-9: S-veins cumulative probability plot showing the chosen capping threshold of 300 g/t Au

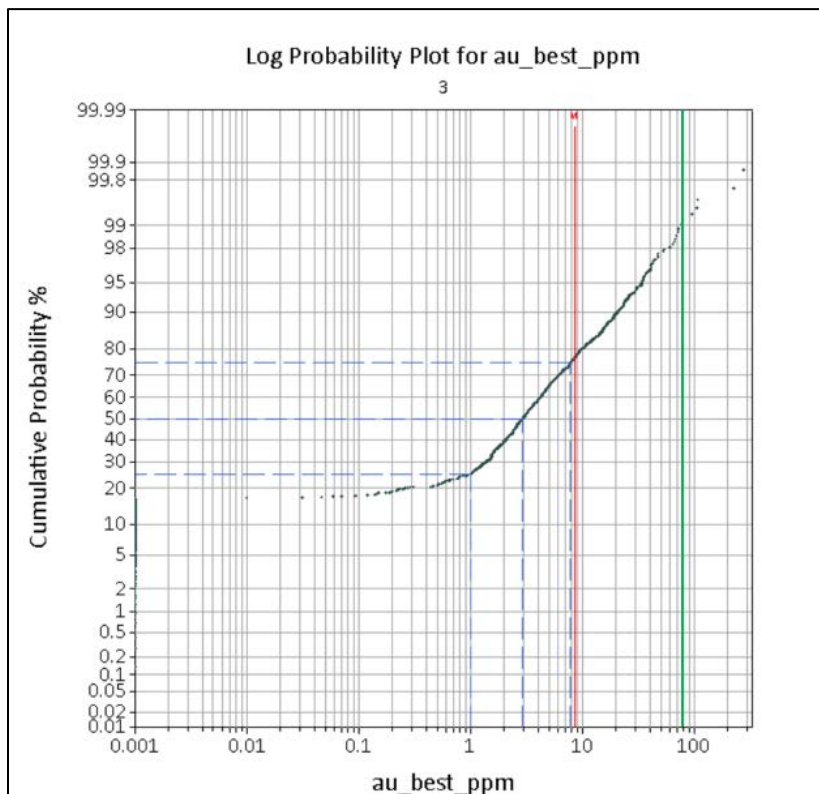


Figure 14-10: TW-veins cumulative probability plot showing the chosen capping threshold of 80 g/t Au

### 14.7.1 Outlier Sensitivity

Grade capping thresholds can be a subjective topic and therefore sensitivity analysis of the outliers was undertaken.

In addition to the analysis above, decile analysis was performed for the contained gold within each of the three zones. Within the V-, S- and TW- veins the last decile contained 54%, 55% and 45%, respectively of the contained metal and 14%, 18% and 11%, respectively, in the top percentile (P99). Capping to the grade threshold of the next lowest percentile (P98) provided a grade cap of 190 g/t Au, 165 g/t Au and 95 g/t Au for the V-, S- and TW- veins, respectively. The capping values determined by decile analysis for the V- and S-veins were considered to be too aggressive and not representative of mineralization at Snip.

In addition to the decile analysis, a sensitivity analysis tracking Mean and CV values at variable capped values were tabulated (Table 14-9). An analysis of the results show that both the Mean and CV have low sensitivities to increasing or decreasing cap values. Furthermore, metal loss percentages did not increase significantly when applying a cap value of 200 g/t Au in both the V- and S- domains. Considering all available data, capping values of 350 g/t Au, 300 g/t Au and 80 g/t Au for the V-, S- and TW-veins, respectively, were considered reasonable.

**Table 14-9: Capping sensitivity in the V-vein and S-veins**

V-Vein System					S-Vein System				
Cap Value	Mean (g/t)	CV	No. Cut	% Metal Loss	Cap Value	Mean (g/t)	CV	No. Cut	% Metal Loss
450	15.4	2.2	4	0.8%	450	10.7	2.6	3	1.7%
400	15.4	2.2	5	1.0%	400	10.7	2.6	3	1.9%
<b>*350</b>	<b>15.3</b>	<b>2.2</b>	<b>13</b>	<b>1.4%</b>	350	10.7	2.6	5	2.2%
300	15.2	2.1	17	2.2%	<b>*300</b>	<b>10.6</b>	<b>2.5</b>	<b>15</b>	<b>2.9%</b>
250	15.1	2.1	24	3.1%	250	10.5	2.4	19	4.0%
200	14.8	2.0	46	4.5%	200	10.3	2.3	35	5.8%
150	14.3	1.9	95	7.8%	150	10.0	2.2	56	8.9%

\*Cap value selected for estimation

## 14.8 Statistical Analysis and Variography

Variograms were used to assess grade continuity, spatial variability in the estimation domains, sample search parameters and kriging parameters. A normal-scores transform of the 1.5 m capped composites was used for variogram analysis.

Spatial continuity was assessed using variogram maps and 3D representations of grade continuity. The most suitable orientation was selected based on the general understanding of the orientation of each zone. Downhole variograms were calculated to characterize the nugget effect. Normal score variogram models were back transformed to Maptek Vulcan® software format for final rotation values. The spherical variogram models used for determining grade continuity are summarized in Table 14-10 and shown in Figure 14-11, Figure 14-12 and Figure 14-13 for the V-, S- and TW- veins, respectively.

**Table 14-10: Gold variogram parameters per zone**

Domain	Zone	Structure	Nugget	Sill	Major (y)	Semi (x)	Minor (z)	Final Rotation (yxz)
1	V-veins	1	0.32	0.55	10	10	5	59 / 24 / - 39
		2		0.13	32	32	15	
2	S-veins	1	0.34	0.54	10	10	8	95 / 17 / - 58
		2		0.12	30	20	12	
3	TW-veins	1	0.3	0.47	10	10	8	76 / 18 / - 36
		2		0.23	30	30	12	

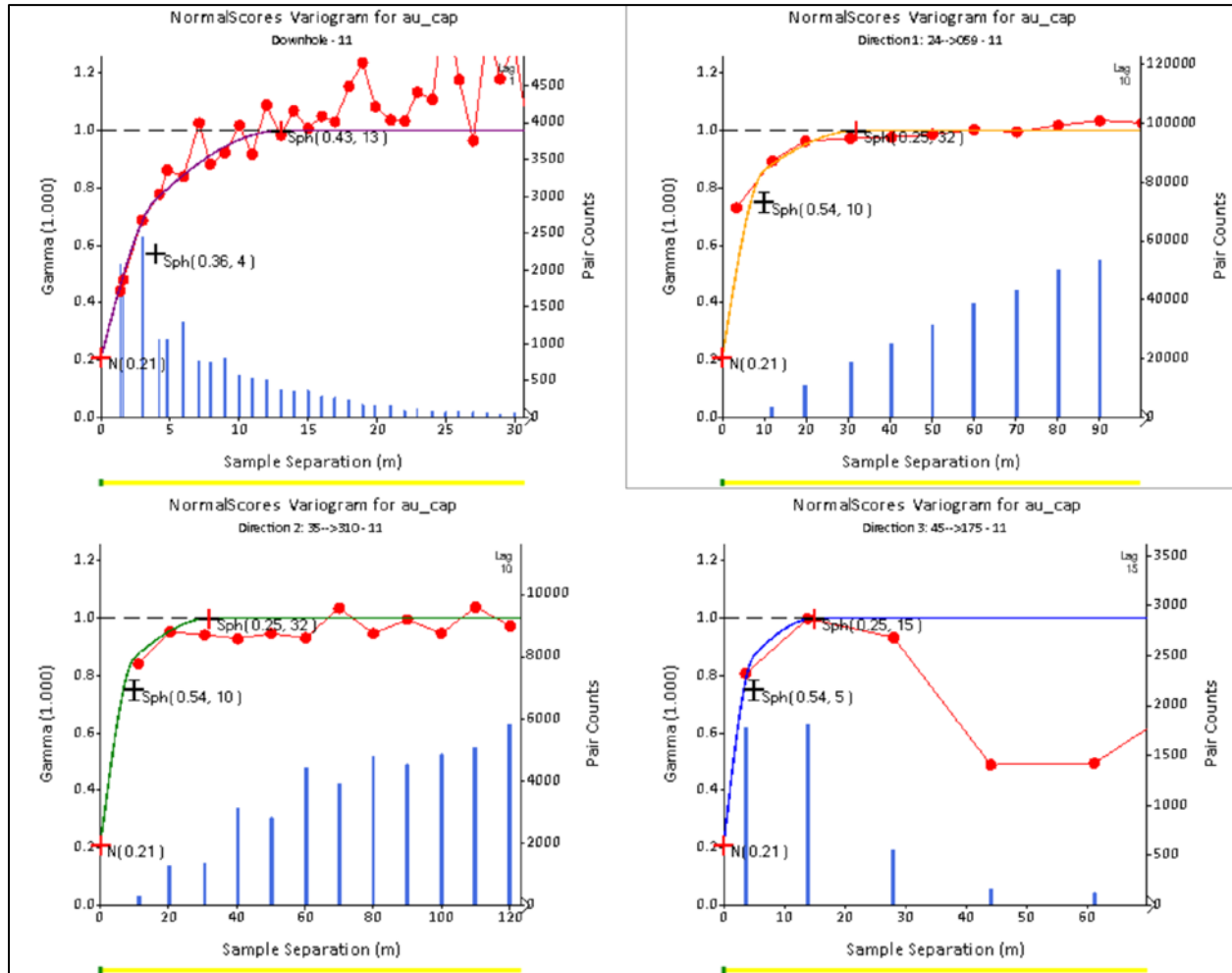


Figure 14-11: V-veins variogram models

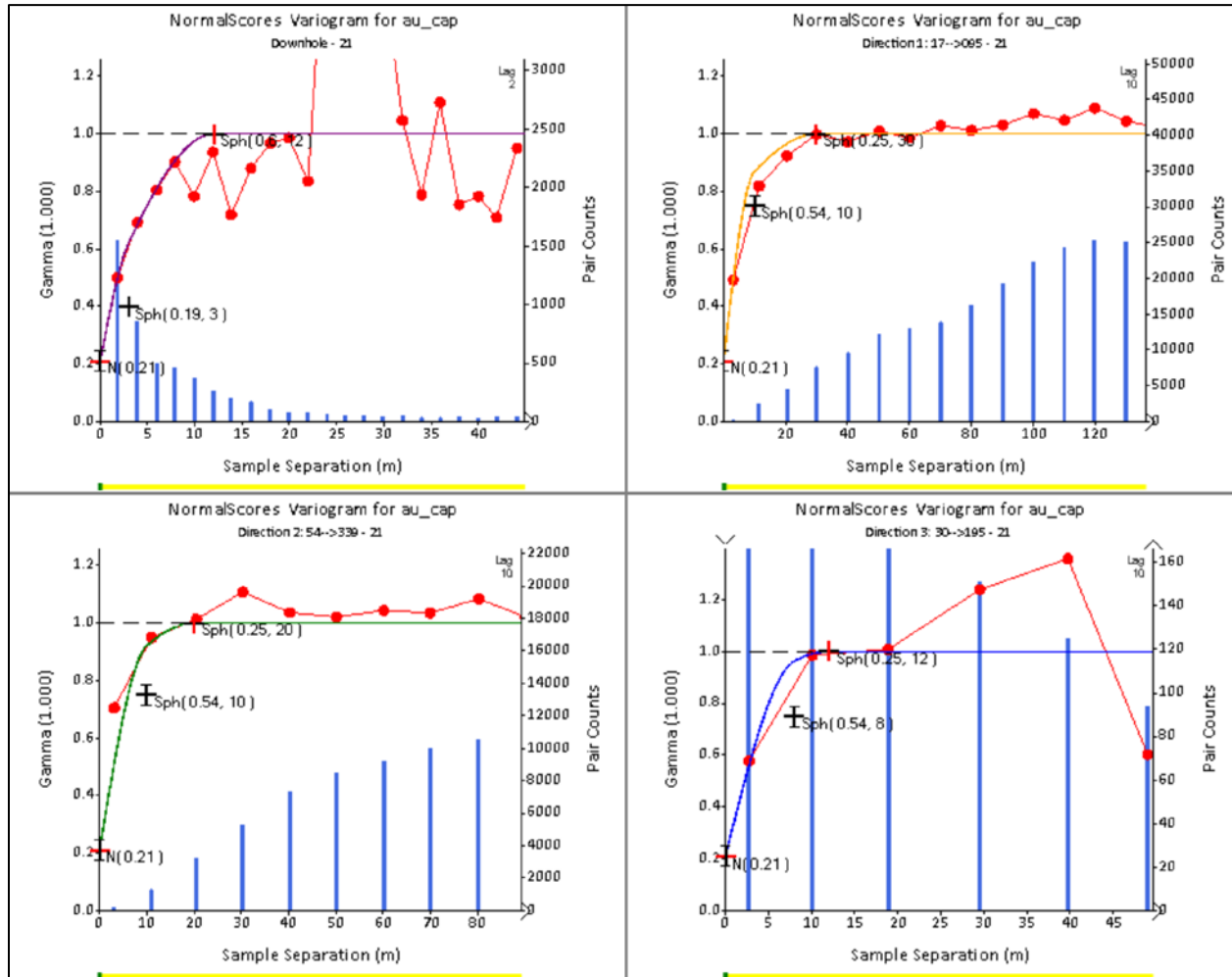


Figure 14-12: S-vein variogram models

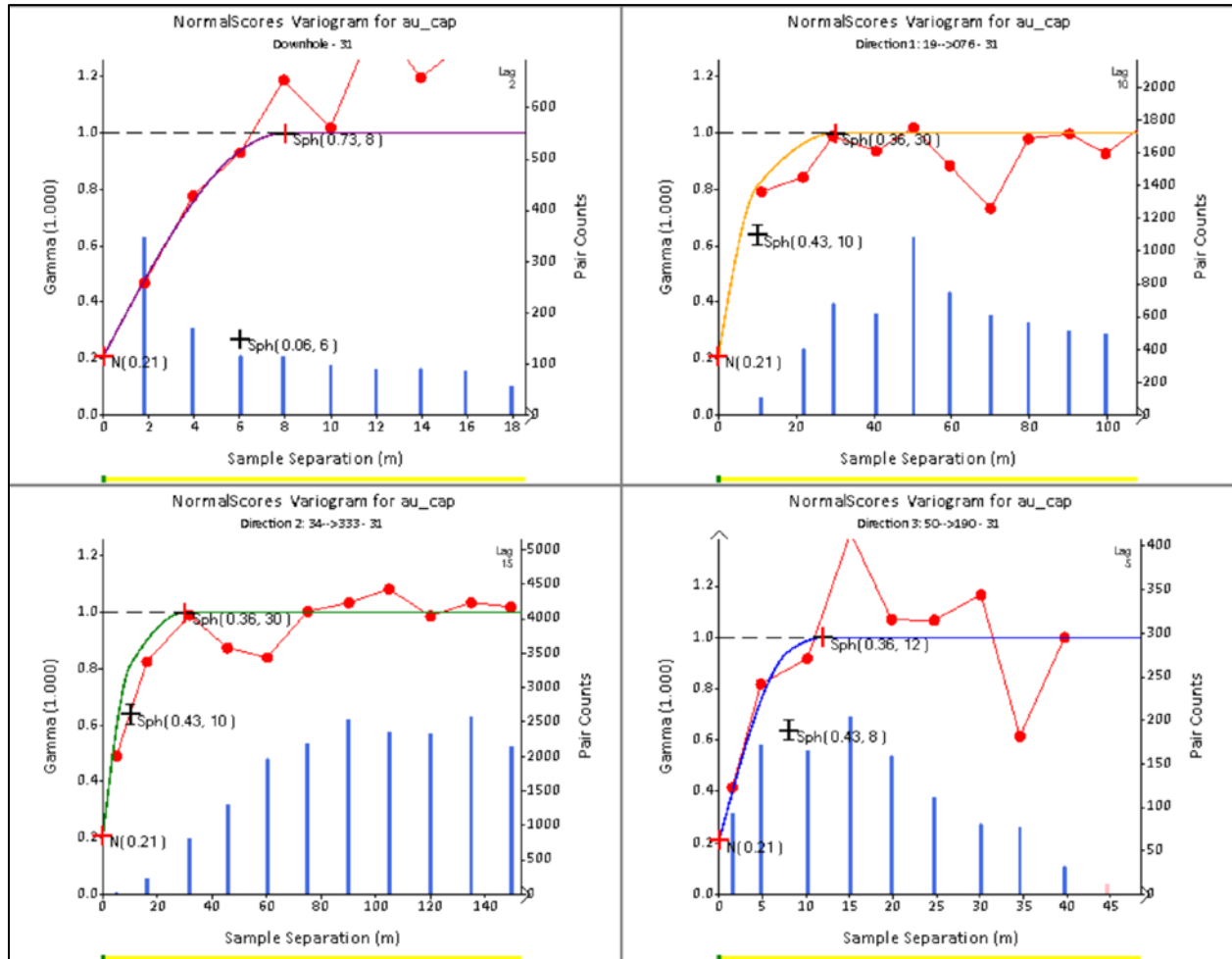


Figure 14-13: TW variogram models

## 14.9 Specific Gravity

Densities are used to calculate tonnages within the estimated volumes derived from the resource-grade block model. Specific gravity was measured by Skeena at their core logging facility using a standard weight in water/weight in air methodology on drill core.

Specific gravity was determined for all lithologies using 1,276 samples projected within the MRE model extent. Samples were measured using the buoyancy method by Skeena staff during the 2016 to 2019 drilling campaigns. Siltstones and greywackes are the most abundant host rock on the Snip Project. Seeing that other lithologies, barring the distinctive BSU, play a minor role in terms of significance, additional lithological subdivisions were not made and an average SG value of 2.78 g/cm<sup>3</sup> was applied to all lithologies (Table 14-11). Within the BSU, a density of 2.86 g/cm<sup>3</sup> was used.

**Table 14-11: Specific gravity by lithology**

No. Samples	LITHO	Description	SG
37	ARN	Arenite	2.74
16	AT	Ash tuff	2.73
9	BSU	Biotite Spotted Unit	2.86
2	CT	Cherty tuff	2.78
3	DAC	Dacite	2.68
3	DC/RDC	Dacite/Rhyodacite	2.78
1	FESED	Ferruginous sediment	2.93
11	FP	Feldspar Porphyry	2.73
646	GRWK	Grey Wacke	2.79
137	GRWK-SLST	Interbedded Greywacke-Siltstone	2.75
9	LAMP	Lamprophyre	2.75
2	LT	Lithic tuff	2.84
74	LTHWCKE	Lithic wacke	2.78
1	MD	Mafic dyke	2.87
11	PT	Lapilli tuff	2.74
1	QMONZ	Quartz monzonite	2.69
2	RDC	Rhyodacite	2.73
1	SILT	Siltstone	2.65
114	SLST	Siltstone	2.82
1	TON	Tonalite	2.68
42	VCL	Volcaniclastic	2.80
3	VWCK	Volcanic wacke	2.79
149	WCK	Wacke	2.78
1	XT	Crystal tuff	2.85
<b>Total: 1,276</b>	<b>ALL</b>	n/a	<b>2.78</b>

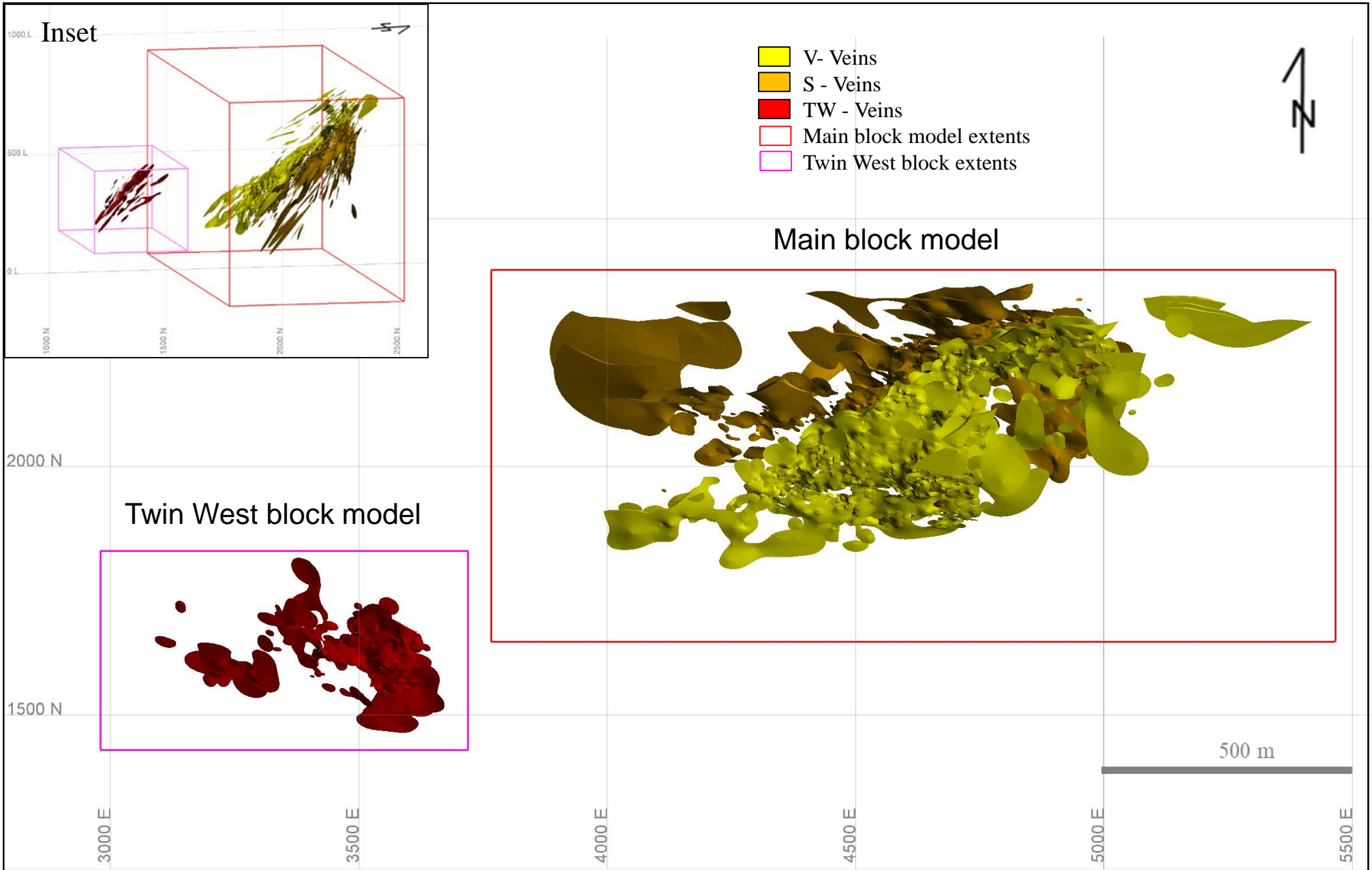
## 14.10 Block Model and Grade Estimation

Two block models were constructed in Maptek Vulcan® software for the 2020 Snip MRE, with details provided in Table 14-12 and displayed in Figure 14-14. The deposit was divided into two separate block models for data processing space efficiency: (1) Main model, which includes the V- and S-veins, and (2) Twin West model, which includes the TW-veins. Neither block model was rotated.

**Table 14-12: Block model details and specifications**

	Description	Easting	Northing	Elevation
		X	Y	Z
<b>MAIN</b>	Block Model Origin (Lower left corner)	3766	1648	-80
	Parent Block Dimension	4	4	4
	Sub Block Dimension	0.5	0.5	0.5
	Number of Blocks	425	187	215
	Rotation	None		
<b>TWIN WEST</b>	Block Model Origin (Lower left corner)	2980	1430	-80
	Parent Block Dimension	4	4	4
	Sub Block Dimension	0.5	0.5	0.5
	Number of Blocks	185	100	87
	Rotation	None		





Three interpolation passes were used to estimate gold grades using the parameters outlined in Table 14-13. The search ellipse orientations were derived from the variograms, with the exception of the steeper S-veins in the footwall (lodes 215, 227 through 233, 240 and 246), which used a steeper orientation of 105/19/-74 based on the average lode orientation. These veins are roughly equivalent to the historical 412 Corridor. During estimation, all composites were length weighted to the composite interval since a significant number of small composites (less than 0.75 m) were picked up where the narrow vein narrowed or pinched-out. In addition, composite intervals less than 0.1 m, resulting from back-flagged clipping, were excluded during estimation. Individual lodes within the zones were estimated independently to mitigate against cross-sharing of sample intervals within the search ellipse boundary.

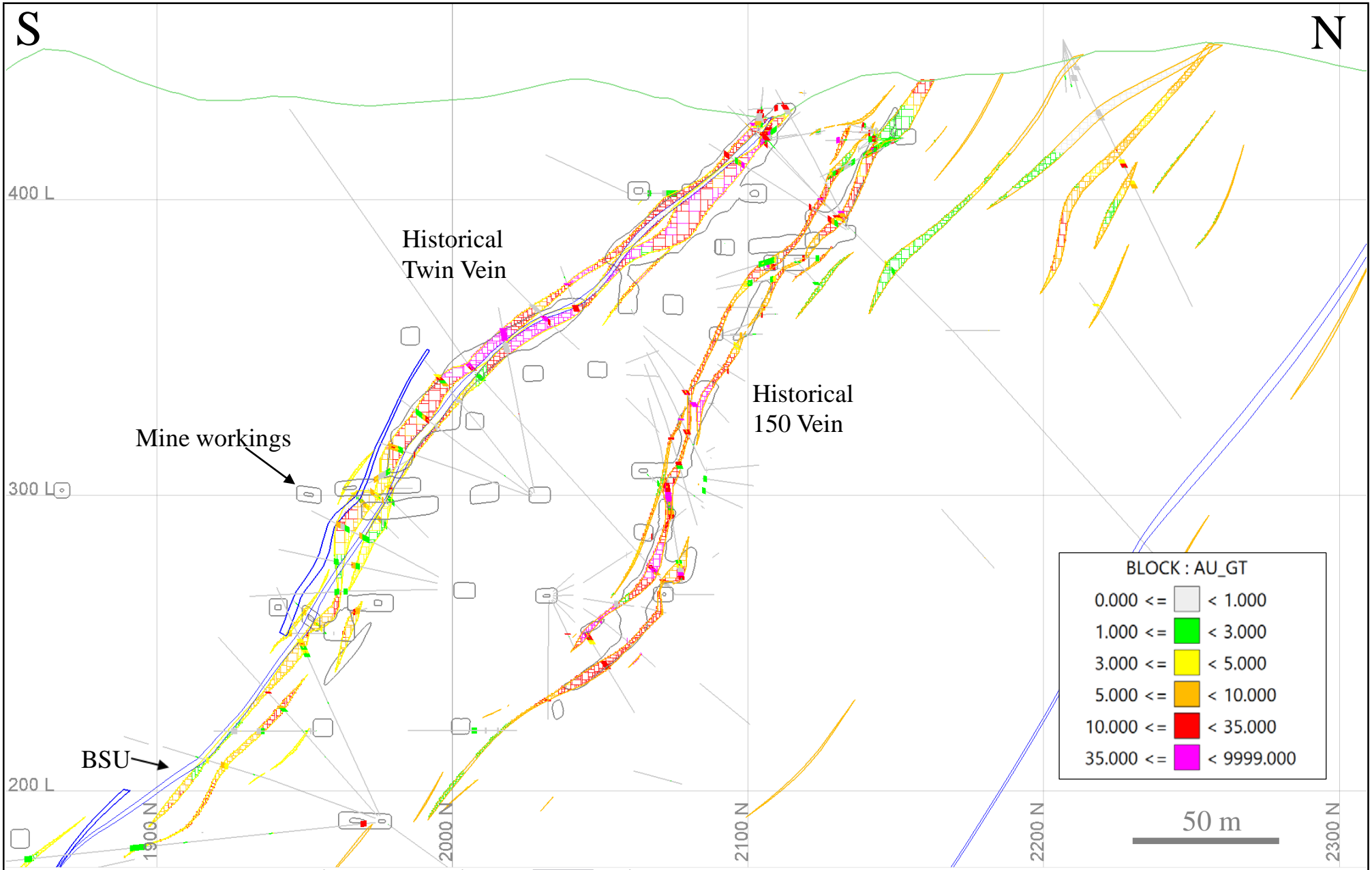
**Table 14-13: Estimation parameters**

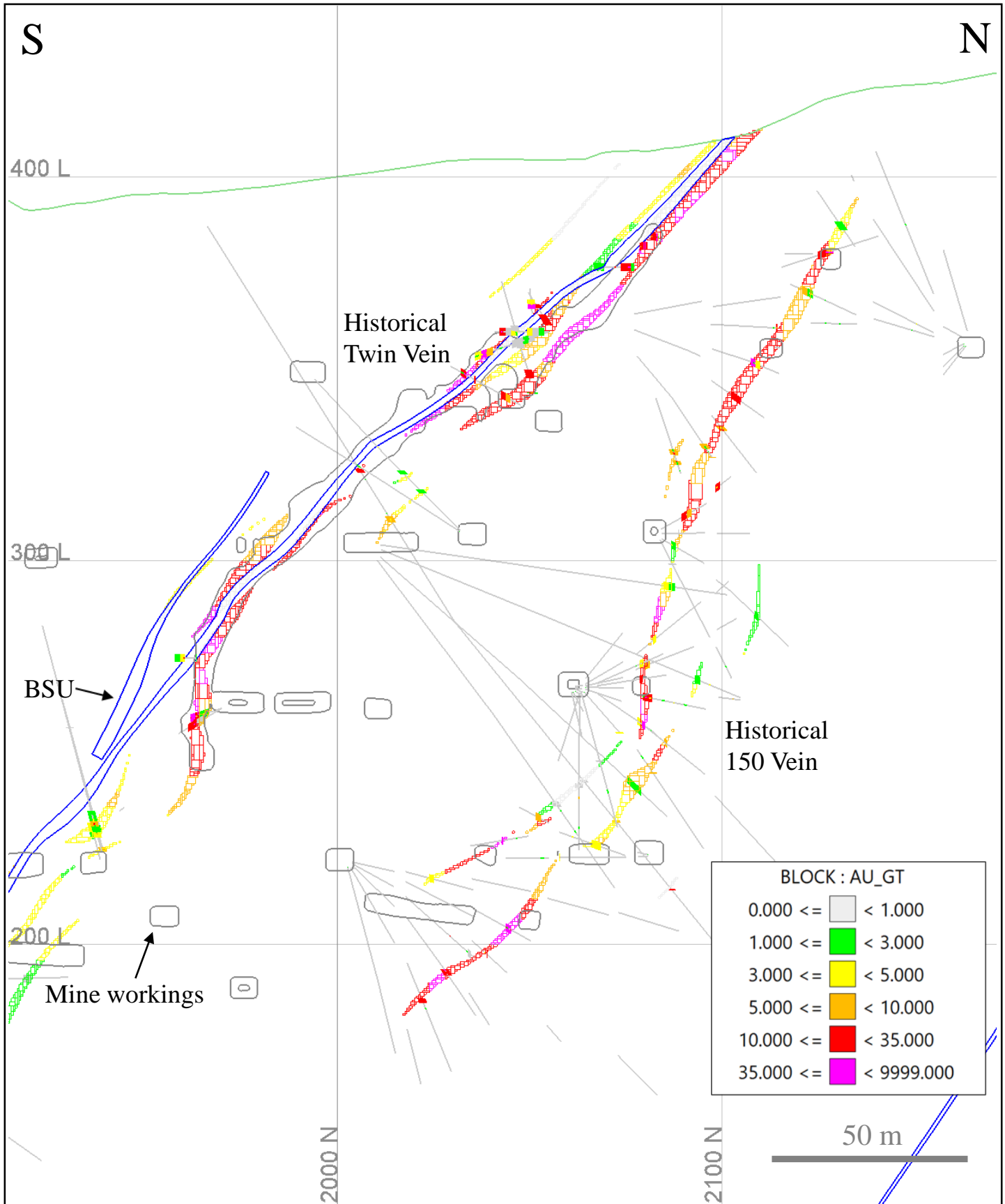
Domain	Zone	Search Pass	Search Radii			Orientation	Number of Composites		Max composites per drill hole
			X	Y	Z		Minimum	Maximum	
1	V-veins	1	16	16	7.5	59 / 24 / -39	6	12	2
		2	32	32	12		3	8	2
		3	64	64	24		2	6	2
2	S-veins	1	15	10	6	95 / 17 / -58*	6	12	2
		2	30	20	12		3	8	2
		3	60	40	24		2	6	2
3	TW-veins	1	15	15	6	76 / 18 / -36	6	12	2
		2	30	30	12		3	8	2
		3	60	60	24		2	6	2

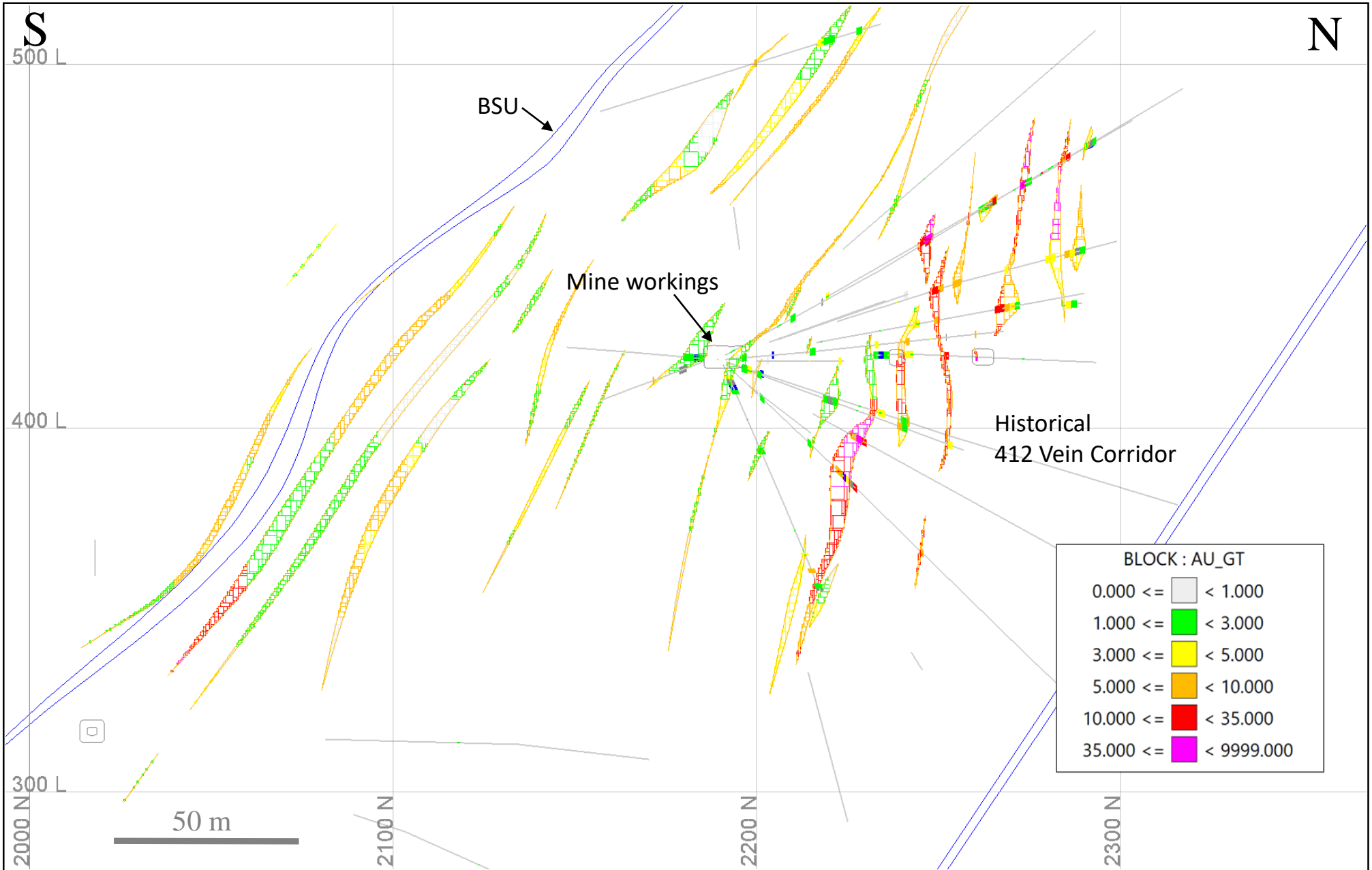
## 14.11 Model Validation

### 14.11.1 Block Model Visual Validation

All zones were validated by completing a series of visual inspections in plan and sectional view to provide a local visual assessment of the interpolated blocks in relation to the nearest composite. Good agreement between the composite grades and block estimates was observed as shown in Figure 14-15, Figure 14-16 and Figure 14-17.







### 14.11.2 Global Grade Bias Check

Inverse Distance (ID<sup>2</sup>) and Nearest Neighbour (NN) models were completed to check for global biases against the Ordinary Kriging model. In addition, a NN estimate using a block grid of 1 m x 1 m x 1 m was performed to infer accurate declustered composite means for the 3 zones, which have highly variable drill spacings. Global bias tabulations showing declustered composites, ID<sup>2</sup>, NN, and OK estimation results is summarized in Table 14-14. Overall bias was kept to a minimum and resulted in less than 6% difference for all zones; results which are within acceptable limits.

**Table 14-14: Global gold grade bias**

Zone	Declustered NN Composite (g/t)	OK (g/t)	NN (g/t)	ID (g/t)	Difference OK vs NN	Difference OK vs ID	Difference OK to Declustered NN Composite
V-veins	14.05	13.93	14.21	13.76	-2.0%	1.2%	-0.9%
S-veins	8.71	8.34	8.54	7.96	-2.4%	4.6%	-4.4%
TW-veins	7.66	7.25	7.75	7.22	-6.9%	0.4%	-5.6%

### 14.11.3 Local Grade Bias Check

Swath plot analysis of grade profiles between OK, NN and ID<sup>2</sup> estimates in each zone were generated to assess the model for local bias along north-south, east-west and horizontal swaths (Figure 14-18, Figure 14-19 and Figure 14-20). The observed trends show reasonable comparison between estimation methods.

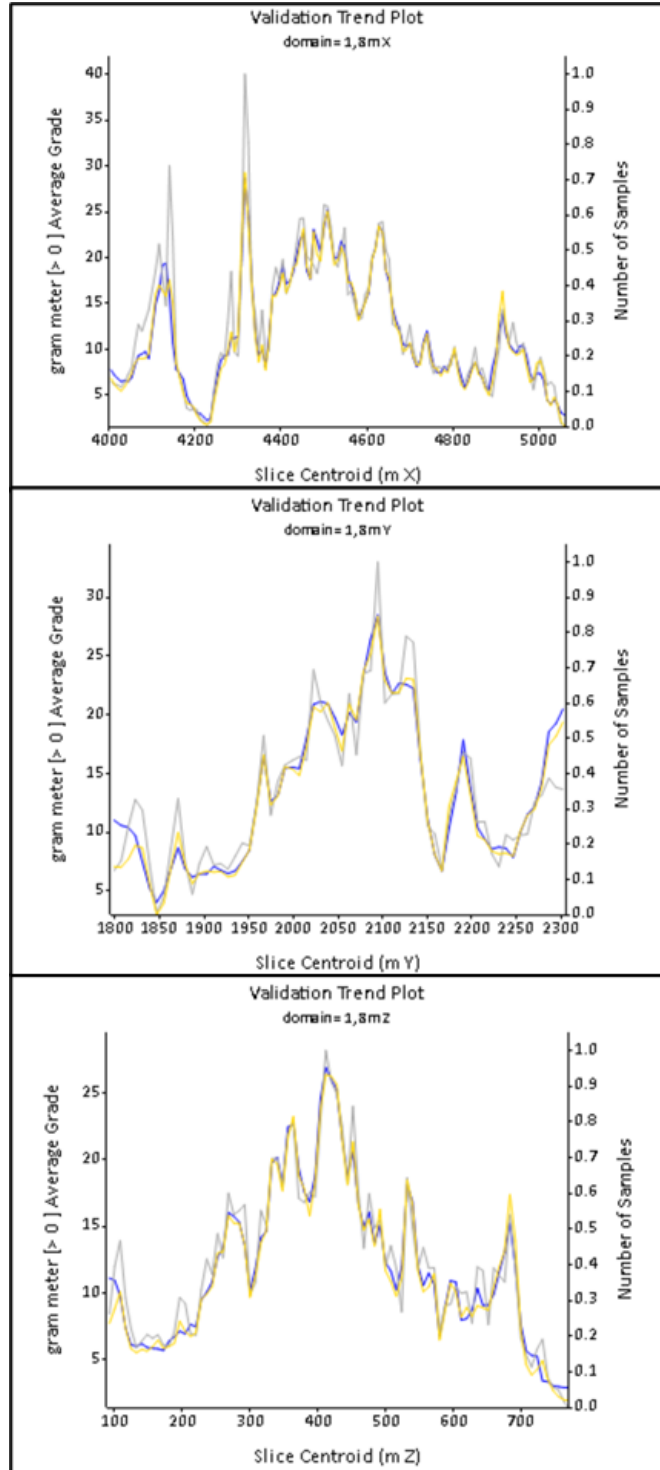


Figure 14-18: Swath plots for the V-veins. Blue= OK model, yellow= ID<sup>2</sup> model, grey=NN model

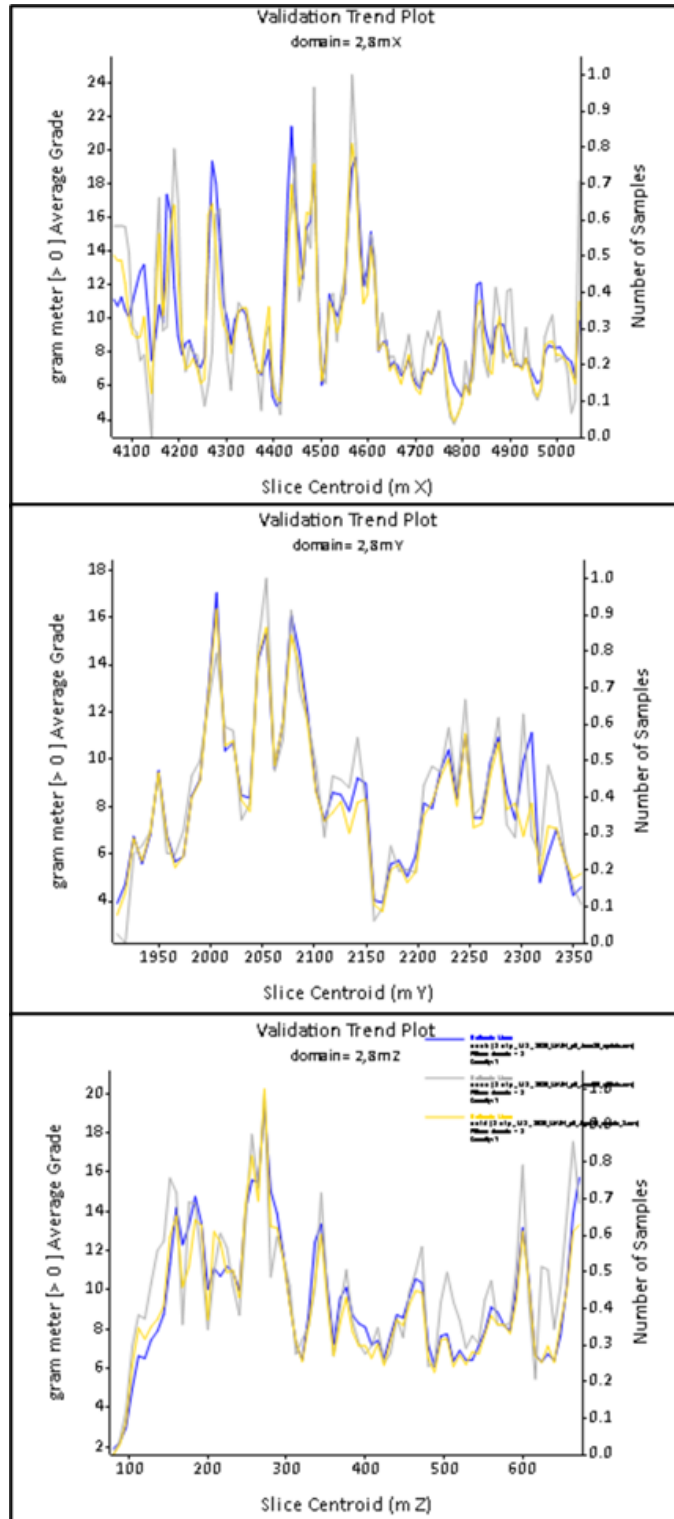


Figure 14-19: Swath plots for the S-veins. Blue= OK model, yellow= ID<sup>2</sup> model, grey=NN model



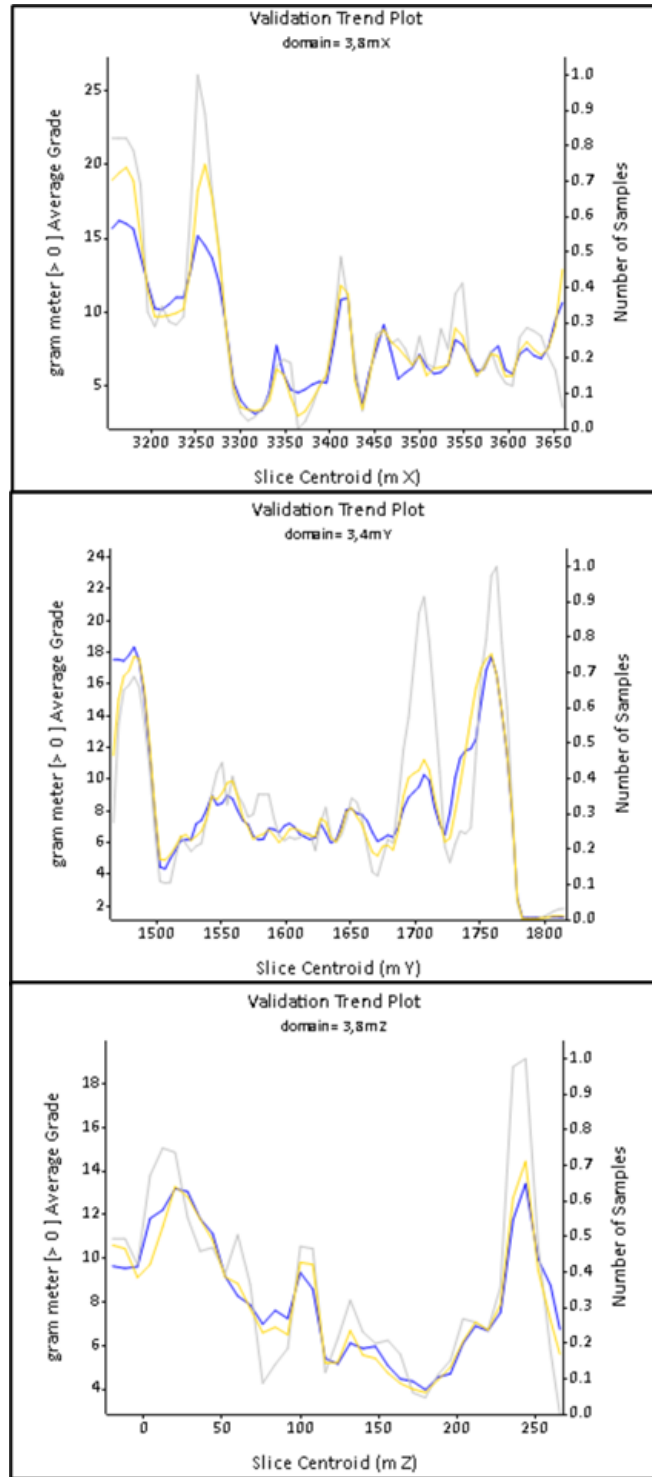


Figure 14-20: Swath plots for the TW-veins. Blue= OK model, yellow= ID<sup>2</sup> model, grey=NN model

## 14.12 Mineral Resource Classification

As mineral resource classification is typically a subjective concept, industry best practices suggest that resource classification should consider both the confidence in the geological continuity of the mineralized structures, the quality and quantity of exploration data supporting the estimates and the geostatistical confidence in the tonnage and grade estimates. Appropriate classification criteria should aim at integrating both concepts to delineate regular areas at similar resource classification. SRK is satisfied that the geological modelling honours the current geological information and knowledge. The location of the samples and the assay data are sufficiently reliable to support resource estimation.

Block model quantities and grade estimates for the Snip Project were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (CIM, 2014). Mineral resources for the Snip Project have been classified as either Indicated or Inferred mineral resources. No Measured mineral resource has been defined for this deposit.

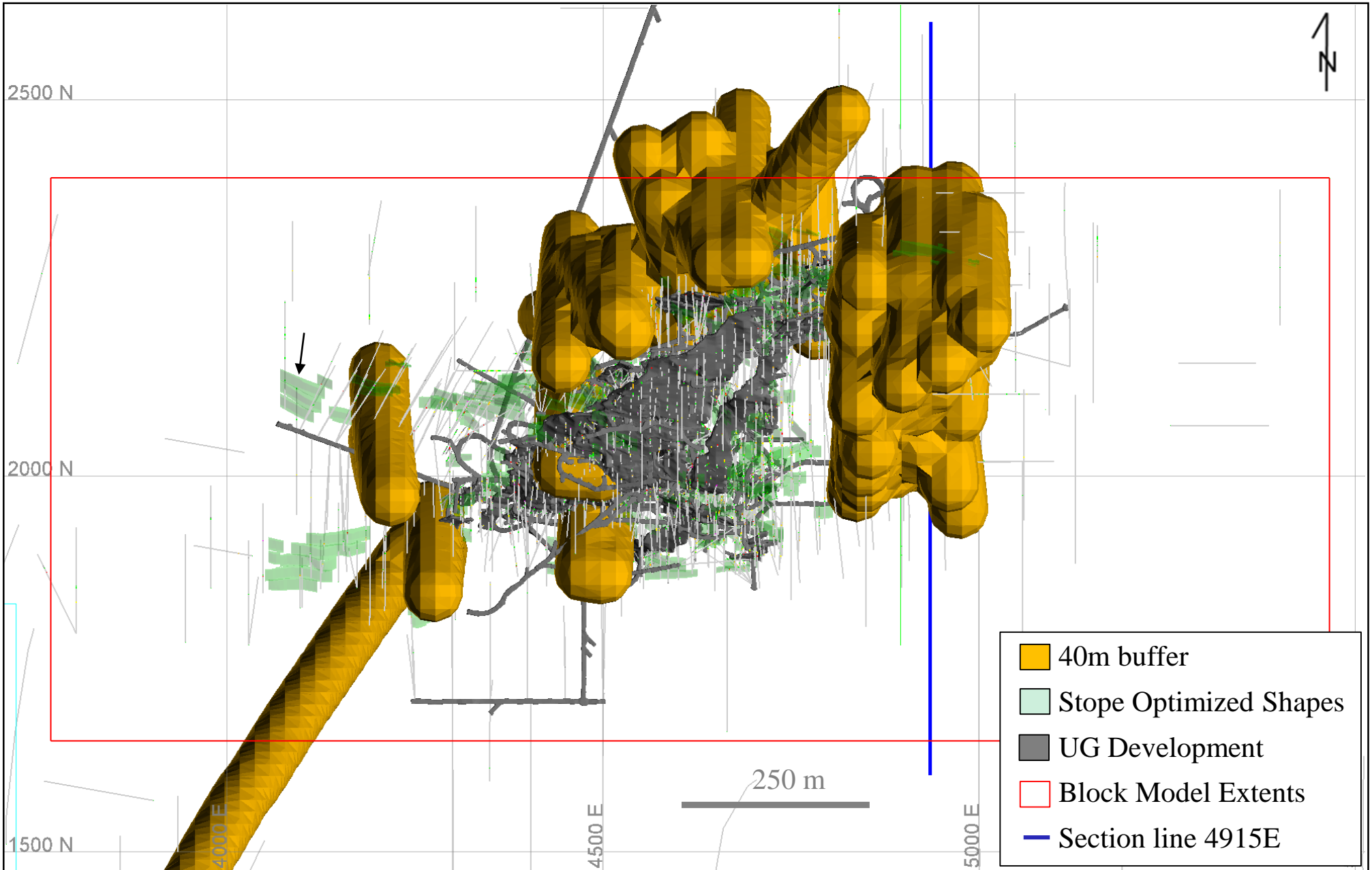
SRK considers that for those blocks estimated at an adequate drill hole spacing with accurately located and reliable sampling information, up to the full variogram ranges (pass 1 and 2) may be classified as Indicated. For those blocks, SRK considers that the level of confidence is sufficient to allow appropriate application of technical and economic parameters to support mine planning and to allow evaluation of the economic viability of the deposit. Furthermore, blocks estimated during the third estimation pass considering search neighbourhoods set at twice the variogram range may be appropriately classified in the Inferred category because confidence in the estimate is insufficient to allow for meaningful application of technical and economic parameters, or to enable an evaluation of economic viability.

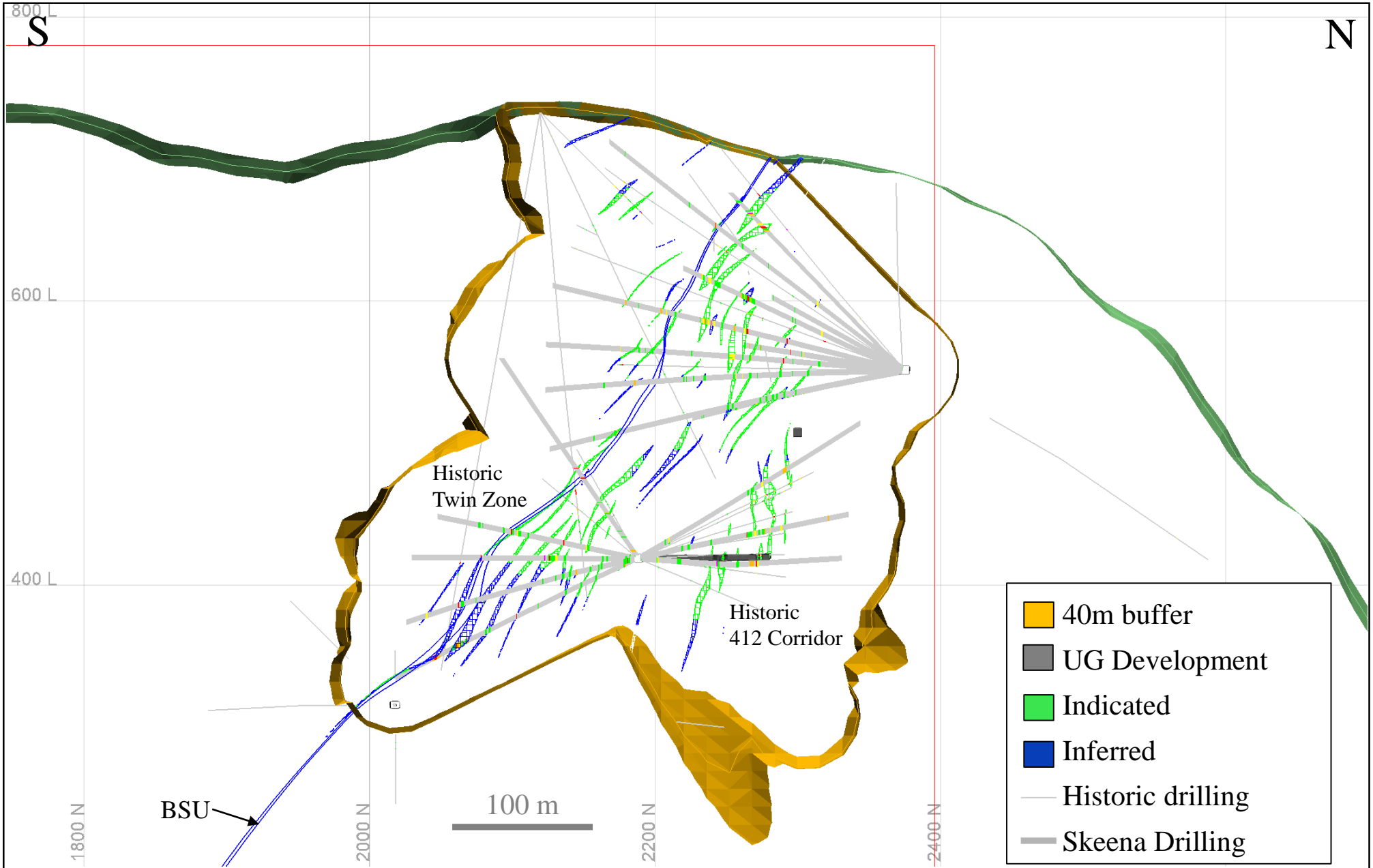
As an additional constraint, a 40 m buffer zone was created around holes drilled by Skeena during the 2016 to 2019 drilling campaigns, as shown in Figure 14-21. These drill holes contain QA/QC data that has passed all appropriate quality control tests and measures.

Indicated and Inferred resources are depicted in Figure 14-22 and were classified as follows:

- For the Indicated category, all blocks within the 40 m buffer zone and estimated with at least 3 drill holes extending no more than the range of the variogram (32 m maximum) were classified as Indicated resources;
- Inferred resources were partitioned using a minimum of 2 drill holes at 2 times the variogram range (64 m maximum) No buffer constraints were used in this stage of the classification process;
- Blocks were locally reclassified to reduce 'spotted' Indicated resources within Inferred resources, and vice versa;
- Indicated blocks interpolated during Pass 1 or Pass 2 were reclassified to Inferred on a visual basis if continuity was insufficient or blocks were isolated;

- Additionally, minimal reclassing was performed on blocks where isolated vein segments were intersected by only one drill hole; these blocks were downgraded to Unclassified.





## 14.13 Mineral Resource Statement

The QP for the mineral resource estimate is Ms. S. Ulansky, Senior Resource Geologist, PGeo (EGBC#36085), an employee of SRK Consulting.

CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines a mineral resource as:

*“(A) concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth’s crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge”.*

The “reasonable prospects for economic extraction” requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account extraction scenarios and processing recoveries. In order to meet this requirement, SRK considers that portions of the Snip Project are amenable for underground mining.

In order to determine the quantities of material offering “reasonable prospects for economic extraction” underground, SRK used a stope optimizer and reasonable mining assumptions to evaluate the proportions of the block model (Indicated and Inferred blocks) that could be “reasonably expected” to be mined from an underground scenario.

The optimization parameters were selected based on experience and benchmarking against similar projects as shown in (Table 14-15). The reader is cautioned that the results from the optimization are used solely for the purpose of testing the “reasonable prospects for economic extraction” by underground long hole stoping and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Snip Project. The results are used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting cut-off grade.

**Table 14-15: Assumptions considered for stope optimization.**

Input Parameters	Value	Unit
Sell Price AU	\$1,550	US DOLLARS PER OUNCE
Metal recovery	90%	PERCENT
Selling cost	\$30	US DOLLARS PER OUNCE
Metal revenue	\$63.11	CANADIAN DOLLARS PER GRAM
Mining cost	\$120	CANADIAN DOLLARS PER TONNE MILLED
Process cost	\$25	CANADIAN DOLLARS PER TONNE MILLED
G&A cost	\$15	CANADIAN DOLLARS PER TONNE MILLED
All-in cost	\$160	CANADIAN DOLLARS PER TONNE MILLED
Cut-off grade	2.5 g/t	GRAMS PER TONNE
Buffer around historic voids	1 m	METERS

SRK considers that the blocks located within the stope optimized shapes, as shown in Figure 14-23, show “reasonable prospects for economic extraction” and can be reported as a mineral resource.

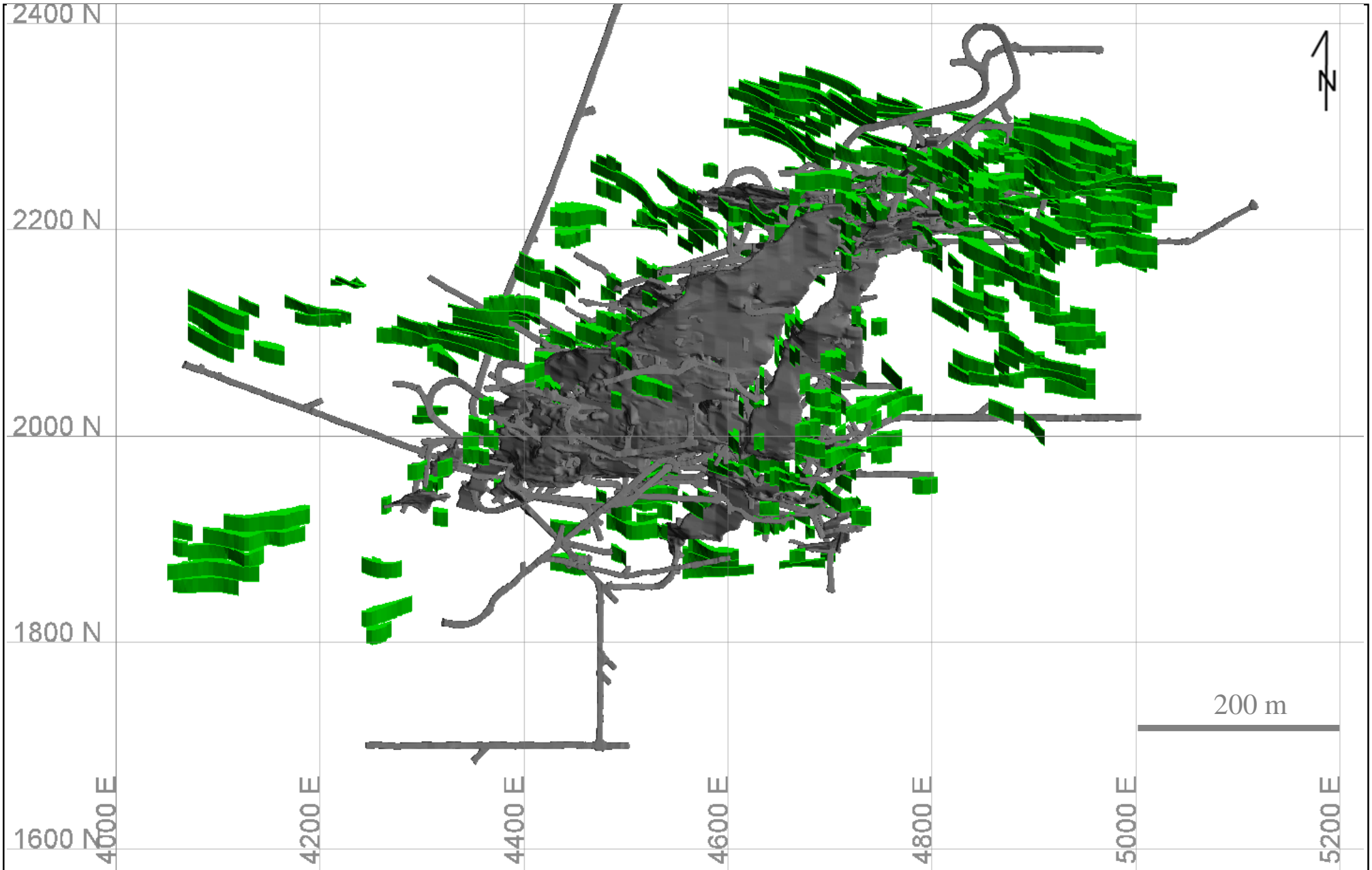
The cut-off grade was determined to be 2.5 g/t Au. The resources have been stated as in-situ, undiluted and contained within these potentially economically minable underground stope shapes (Table 14-16). Figure 14-24 and Figure 14-25 show the reported resources in the V- and S- Veins in the Main Domain, and TW-Veins in the Twin West Domain, respectively. Mineral Resources have been depleted to account for past production and exclude mineralization within a 1 m buffer around historical underground development. The post-mineral BSU unit has been nulled to a waste grade of 0.001 g/t.

**Table 14-16: Snip Project underground Mineral Resource Statement as of July 21, 2020.**

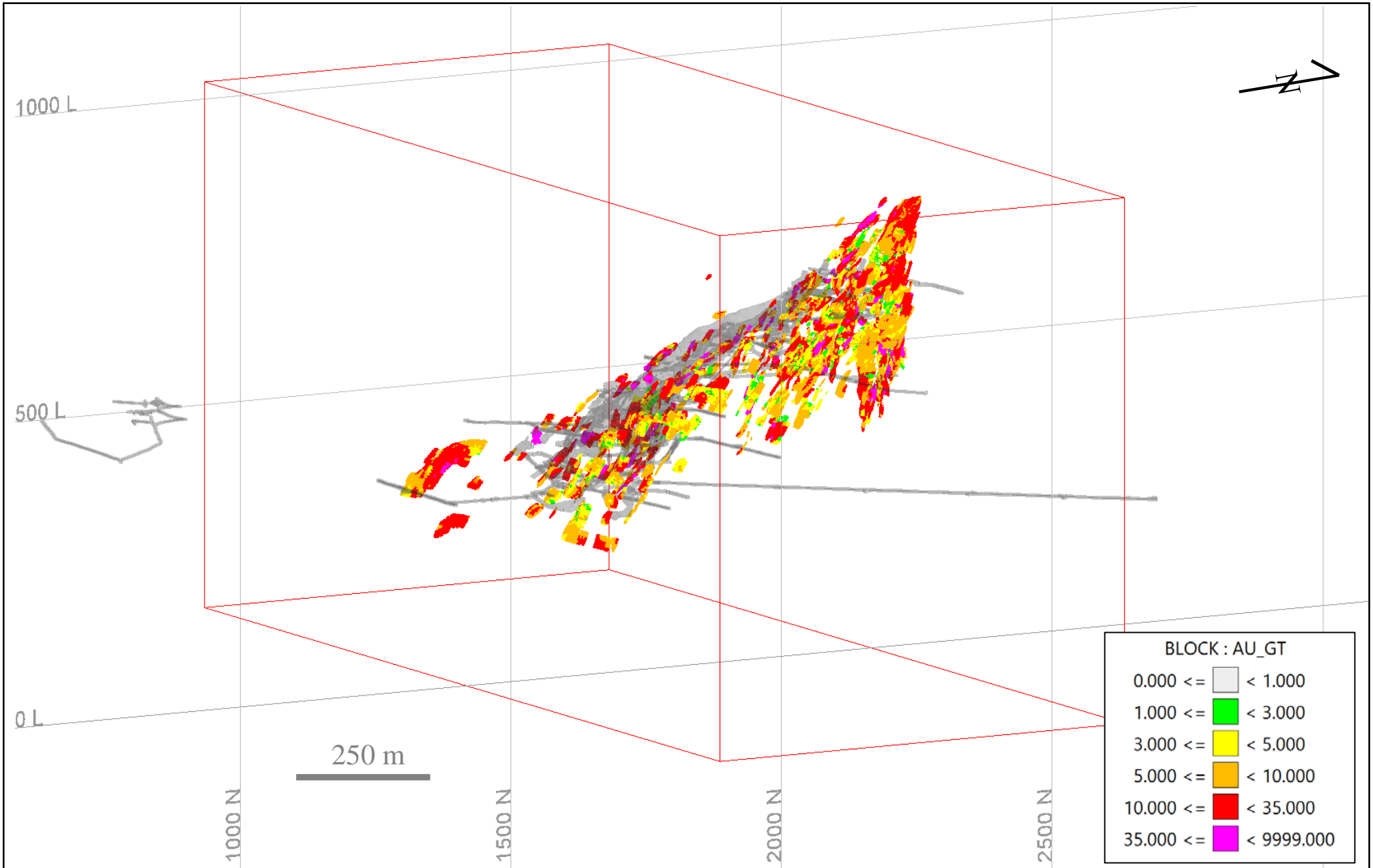
Mineral Resource Category	Zone	Historical Equivalent Areas	Mass	Contained Grade	Contained Metal
			Tonnes (000's)	Au (g/t)	Au ('000 oz)
Indicated	V	Twin Zone	164	12.9	68
	S	150 Vein	25	22.9	19
		130 Vein	95	10.9	33
		412 Corridor	162	17.1	89
		Footwall	26	10.1	8
		200 Footwall	13	13.4	6
		Other	18	15.4	9
	TW	Twin West	37	10.3	12
<b>Total Indicated</b>	<b>ALL</b>	<b>ALL</b>	<b>539</b>	<b>14.0</b>	<b>244</b>
Inferred	V	Twin Zone	272	12.8	112
	S	150 Vein	117	16.1	61
		130 Vein	120	14.0	54
		412 Corridor	81	17.2	45
		Footwall	114	10.7	39
		200 Footwall	121	9.9	38
		Other	61	15.3	30
	TW	Twin West	56	12.4	22
<b>Total Inferred</b>	<b>ALL</b>	<b>ALL</b>	<b>942</b>	<b>13.3</b>	<b>402</b>

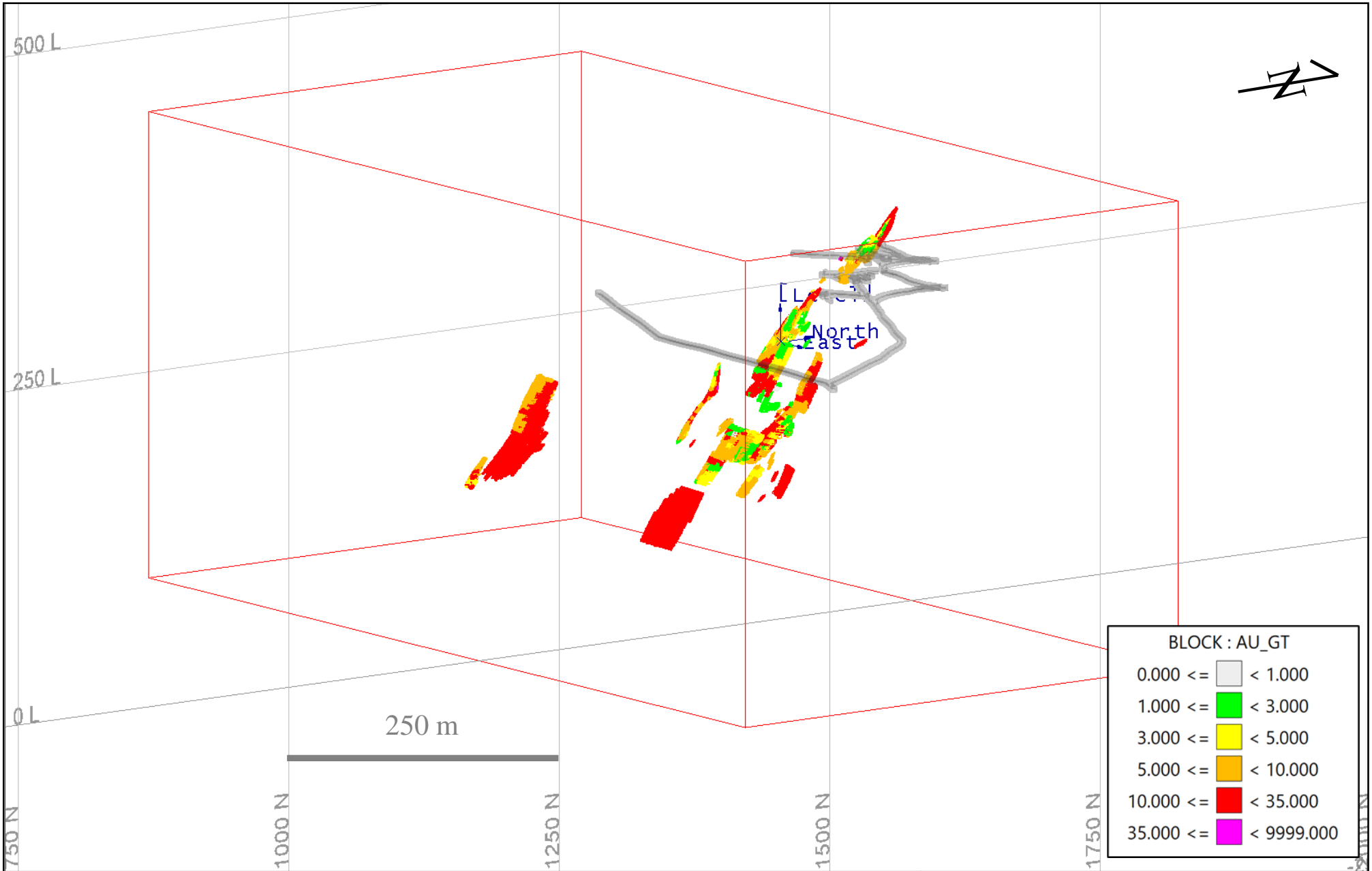
\*Notes to accompany the Mineral Resource Estimate statement:

- Mineral resources are not mineral reserves as they do not have demonstrated economic viability.
- As defined by NI 43-101, the Independent and Qualified Person is Ms. S. Ulansky, PGeo of SRK Consulting (Canada) who has reviewed and validated the Mineral Resource Estimate.
- The effective date of the Mineral Resource Estimate is July 21, 2020.
- The number of metric tonnes and ounces were rounded to the nearest thousand. Any discrepancies in the totals are due to rounding.
- Reported underground resources are reported in-situ and undiluted at a cut-off grade of 2.5 g/t Au contained with the stope optimized shapes.
- Cut-off grades are based on a price of US\$1,550 per ounce of gold.
- Estimates use metric units (meters, tonnes and g/t). Metals are reported in troy ounces (metric tonne \* grade / 31.10348)
- CIM definitions were followed for the classification of mineral resources.
- Neither the company nor SRK is aware of any known environmental, permitted, legal, title-related, taxation, socio-political, marketing or other relevant issue that could materially affect this mineral resource estimate.









## 14.14 Grade Sensitivity Analysis

The mineral resources of the Snip Project are not sensitive to the selection of the reporting cut-off grade. To illustrate this sensitivity, the global model quantities and grade estimates within the stope optimized shapes are presented in Table 14-17 at different cut-off grades. The table shows the resource is not sensitive to minor adjustments in cut-off grade selection as the average grade of the ore zones are substantially higher than the selected cut-offs. A significant difference in tonnes and ounces is not demonstrated. Grade-tonnage sensitivity charts for Indicated and Inferred categories are displayed in Figure 14-26 and Figure 14-27, respectively.

The reader is cautioned that the figures presented in this table should not be misconstrued with a Mineral Resource Statement apart from the official scenario at 2.5 g/t Au. The figures are only presented to show the sensitivity of the block model estimates to the selection of cut-off grade.

**Table 14-17: Sensitivity analysis to the block model grades within the stope optimized shapes at variable cut-off grades**

Au COG	Tonnes	Grade	Ounces
	(000's)	(g/t)	(000's)
INDICATED CATEGORY			
> 2	557	13.7	245
> 2.5	539	14	244
> 3	518	14.5	242
> 3.5	495	15	239
INFERRED CATEGORY			
> 2	977	12.9	404
> 2.5	942	13.3	402
> 3	911	13.6	399
> 3.5	880	14	396

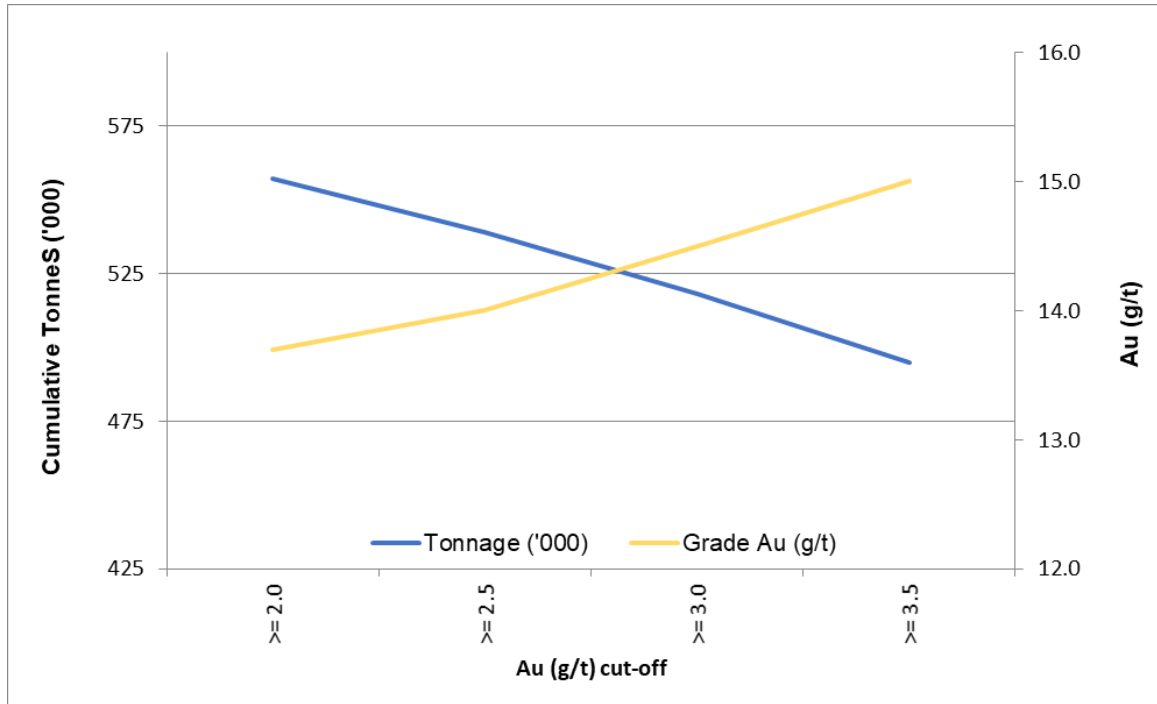


Figure 14-26: Indicated category grade-tonnage sensitivity curve

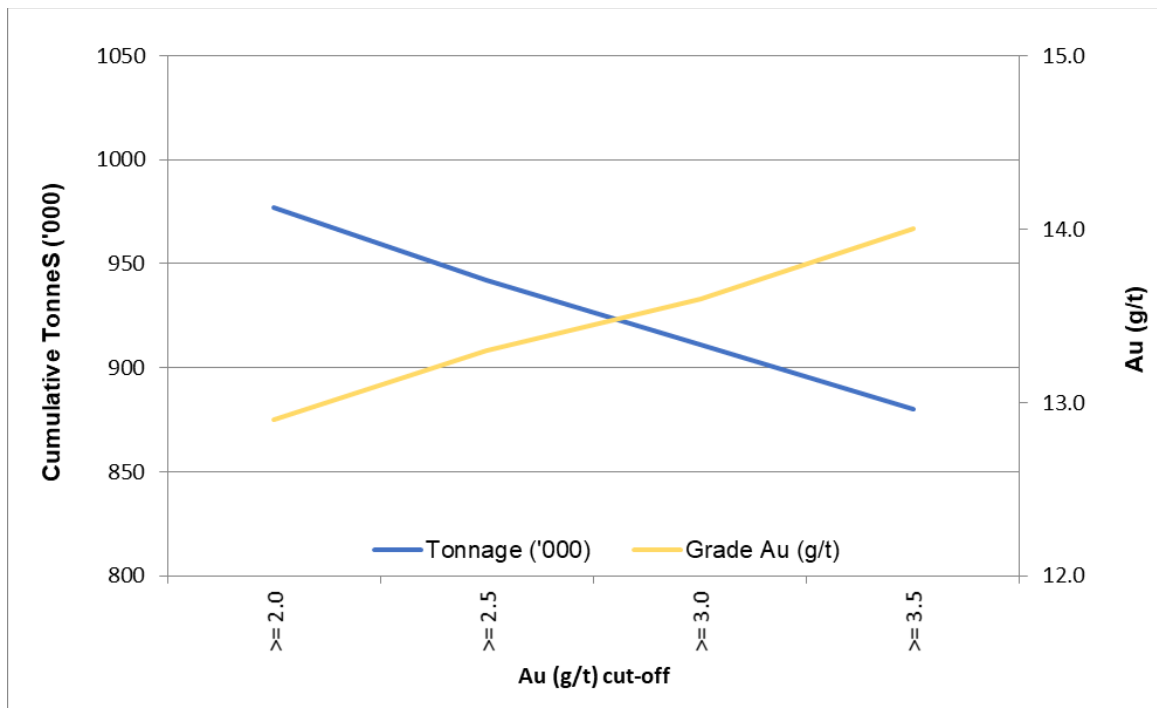


Figure 14-27: Inferred category grade-tonnage sensitivity curve

## 15 Adjacent Properties

The area surrounding the Snip Project saw extensive exploration throughout the 1980's and early 1990's. SnipGold Corp, a subsidiary of Seabridge Gold Inc., and Colorado Resources Ltd. are the current owners of the two active projects in the immediate area (Figure 15-1). Both companies are reporting public companies regulated by Canadian securities regulators. Information pertaining to their properties have been taken from documents readily available on the respective company websites and MineFileBC. Although the information below was publicly disclosed by the Owner or Operator of the adjacent properties, the QP has not audited the associated technical data and the information is not necessarily indicative of the mineralization on the Property that is the subject of this Technical Report.

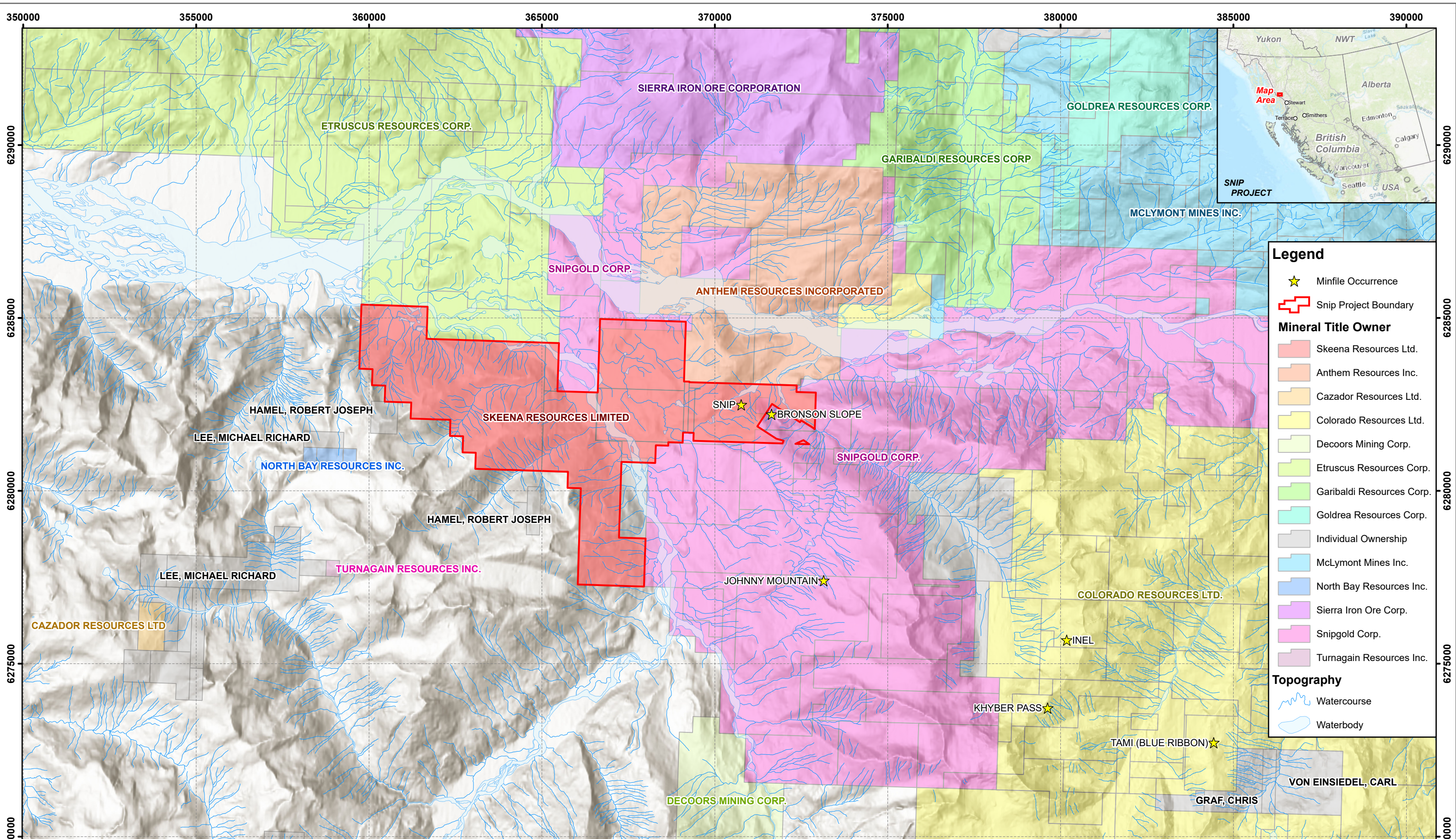
### 15.1 SnipGold Corp. (a Subsidiary of Seabridge Gold)

The Iskut property consists of a contiguous block of 100 BC Mineral Claims, 2 Mineral Leases and 13 Crown Grants covering 29,436 hectares (294 km<sup>2</sup>) situated in the Liard Mining Division. The property includes the former high-grade gold Johnny Mountain Mine and the copper-gold Bronson Slope deposit. The property was acquired by Seabridge Gold Inc. in June 2016.

Seabridge has reactivated the property as the "Iskut Project", exploring for a gold-copper porphyry similar to those Seabridge discovered at its nearby KSM project. Three years of work at Quartz Rise area include two small drill campaigns on the lithocap above the old, high-grade Johnny Mountain Mine, as well as geophysical and geochemical surveys and detailed mapping. A drill program totaling up to 8,000 m has been planned for 2020 to test a large intrusive system that is likely responsible for the Quartz Rise lithocap. The program will evaluate about 750 m of strike and 800 m of vertical projection on coincident magnetic and IP anomalies that are positioned below and west of the well-developed lithocap.

#### 15.1.1 Stonehouse Deposit

The past producing Stonehouse deposit, or Johnny Mountain Mine, is described in BC Minfile No 104B 107. In November 1988, the company began operating the Johnny Mountain Mine. The mine closed in mid-August of 1990 and milling operations ceased in early September. High operating costs and low gold prices were significant factors in the closure. In 1993, a further 21,850 tonnes were milled. The total mined from 1988, 1989, 1990 and 1993 was 196,358 tonnes from which a total of 2,815,393 g of gold, 4,348,814 g of silver and 1,008,109 kg of copper were recovered. It is a structurally disrupted mesothermal gold-bearing quartz vein deposit. Mineralization includes pyrite, chalcopyrite with some sphalerite, galena and minor pyrrhotite within a number of sub parallel sulphide-K-feldspar-quartz veins and stock work systems occurring along a series of northeast-trending structures in close proximity to plagioclase porphyry dykes.



**Legend**

- ★ Minfile Occurrence
- ⬮ Snip Project Boundary

**Mineral Title Owner**

- █ Skeena Resources Ltd.
- █ Anthem Resources Inc.
- █ Cazador Resources Ltd.
- █ Colorado Resources Ltd.
- █ Decoors Mining Corp.
- █ Etruscus Resources Corp.
- █ Garibaldi Resources Corp.
- █ Goldrea Resources Corp.
- █ Individual Ownership
- █ McLymont Mines Inc.
- █ North Bay Resources Inc.
- █ Sierra Iron Ore Corp.
- █ Snipgold Corp.
- █ Turnagain Resources Inc.

**Topography**

- ~ Watercourse
- Waterbody

Skeena Resources Ltd.  
 Date: 27-Aug-2020  
 Figure: 15-1  
 Author: M. Mayer  
 Filename: 200810\_SN\_43-101-Figures

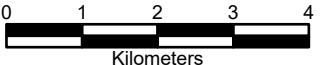



*Snip Project*

**Figure 15-1: Adjacent Properties**

Liard Mining Division - NTS 104B11  
 British Columbia, Canada

Scale: 1:100,000  
 Coord. System: NAD 1983 UTM Zone 9N

### 15.1.2 Bronson Slope

The Bronson Slope prospect is immediately adjacent to the Snip Project and overlies primarily the Red Bluff Porphyry; the interpreted source of gold mineralization at Snip. It is described in BC Minfile No 104B 077. In 2008, Skyline Gold released a NI 43-101 compliant report containing updated resource estimates for Au, Ag, Cu and Mo. Combined Measured and Indicated resources were 225.1 million tonnes grading 0.36 g/t Au, 2.22 g/t Ag, 0.14% Cu, and 0.0077% Mo. Inferred resources were 91.6 million tonnes grading 0.27 g/t Au, 1.76 g/t Ag, 0.13% Cu, and 0.0080% Mo (Burgoyne and Giroux, 2008).

In 2010 Skyline Gold released a NI 43-101 compliant report containing updated magnetite resource estimates. Combined Measured and Indicated resources were 163,160,000 tonnes grading 7.28 per cent Ma. Inferred resources were 6,300,000 tonnes grading 6.92 per cent Ma, calculated using a cut-off grade of 2.00 per cent Ma (Burgoyne et al., 2010)

## 15.2 Colorado Resources

Colorado Resources is exploring across the large block of prospective stratigraphy and alteration to the southeast of the Snip Property. Their KSP property consists of a contiguous block of 61 BC Mineral Claims covering 31,175 hectares (311.75 km<sup>2</sup>) 15 km southeast of the Snip Mine.

Colorado is targeting high-grade gold veins similar to the Snip and Pretivm Resources Valley of the King deposits, as well as bulk tonnage copper-gold mineralization similar to Seabridge Resources KSM Project. Three target zones, “Khyber Pass”, “Inel”, and “Tami”, have seen the majority of the advanced stage work on the KSP property. The property is comprised of a large number of mineral showings that have seen sporadic periods of intense exploration work since the late 1970’s. From 2014 to 2017, Colorado has undertaken 21,477 m of drilling from 133 holes testing multiple targets within the Inel-Khyber and Tami Zones. The 2017 program was successful in identifying new discoveries at the Camp Porphyry, West Khyber and Tami Zones. In addition, geophysics, rock and soil sampling and geological mapping were undertaken on various targets on the KSP property. In 2018, a 9,814 m drill program was undertaken to follow up on previously identified targets at Tami, A-J, Pins Bowl and Inel. The program was successful in defining gold-copper mineralization over 500 m strike length at Tami and extending the Inel-type mineralization along the Big Rock Deformation Zone 400 m to the east. There are no public reports of Mineral Resources or Mineral Reserves.

## 16 Other Relevant Information

The road access and hydroelectrical infrastructure history was previously provided in detail by Moors, 2018.

### 16.1 Road Access

Road access to the Snip Project site from BC Highway 37 has been proposed in the past. An engineering study commissioned by the government of British Columbia in 1989 during construction of the Snip Mine determined the cost of a 72-km long Class 5 road from Bob Quinn Lake (Hwy 37) to the Bronson airstrip to be approximately \$13.6 million dollars. The 32-kilometre-long “Iskut Road Central” portion of the road west of Volcano Creek (and now the existing Eskay Creek road) accounted for \$6.04 million of the total. The road was not constructed but the idea was revisited later in the life of the mining operation. Homestake applied to the Ministry of Forests for a Special Use Permit to build an extension of the Iskut (Eskay) road to the Snip mine. This would have reduced operating costs thereby extending mine life by enabling lower grade ore to be mined (the cutoff grade at the time was 12 g/t Au) (Wojdak, 1996).

A five kilometre portion of the “Iskut Road Central” was constructed for the Forrest Kerr Hydroelectric Project in 2010. A Preliminary Economic Assessment study done by Skyline Gold Corp. in 2010 for the Bronson Slope Project, immediately adjacent to the Snip Property, included a cost estimate for construction of a 25-km access road from the Forest Kerr station to the Bronson Airstrip (Figure 5-1). The road was a single lane, permanent, forest industry style with road and bridge structures similar to those used on the Eskay Creek Mine access road with road grades generally expected to range from -5% to +5% with short sections over 10%.

The following is based on the report titled ‘Pre-Feasibility Study on Access Road Location and Cost Estimate’ prepared by Forsite (Original Oct 2006 and cost estimate revised in 2008). This proposal is for a permanent mine access road for the Bronson Slope Property if the project was to go into construction and operation. The proposed permanent road access to the project can be divided into two main sections. The first section is the relatively flat road on old lava beds. The second section starts at the end of the lava flats east of Bug Lake and continues to the Bronson Creek crossing and the airstrip. The most recent and the one used for the Preliminary Assessment was completed for Skyline Gold Corp. in May 2008. The total construction cost was determined to be approximately CAD \$7.576 million (Giroux and Gray, 2010). The “Iskut Road Central” was lengthened a further 7 km to the west with the construction for the McLymont Creek station in 2015 thereby bringing the distance to Bronson Creek down to 18 km (Figure 5-1). In June 2017, Skeena Resources and Seabridge Gold agreed to cooperatively fund the Engineering and Environmental studies required to permit the remaining portion of the “Iskut Road Central”, now termed the “Bronson Connector Road”. This estimate is to provide a general outline on the scale of expenditure required to improve access and eliminate the high aircraft support costs from future exploration programs.



## 16.2 Hydroelectric Infrastructure

The closest source of hydroelectric power when the Snip Mine was operating until 1999 was the 138 kV line in Stewart, BC at a distance of 108 km as the crow flies, or more realistically, 180 km through more amenable topography to the same power source at Meziadin Junction on BC Highway 37. At present the nearest source of electricity for the Snip Project is the Forest Kerr power station 25 km to the east. It is supplied by both the 195-megawatt Forest Kerr Hydroelectric Facility and the 66-megawatt McLymont Creek Hydroelectric Facility. They commenced power production in 2014 and 2015, respectively, and feed the 287 kV BC Hydro substation at Bob Quinn Lake. Construction costs for a power line linking the Snip Project to the power station have not been estimated.

There is no other relevant data available about the Snip Project.

## 17 Interpretation and Conclusions

The objective of SRK's scope of work was to provide Skeena with support and validation of the Snip resource estimate, accompanied by the preparation of an independent technical report published by SRK in compliance with National Instrument 43-101. This technical report and the Mineral Resources presented herein meet these objectives.

### 17.1 Mineral Tenure, Surface Rights, Agreements, and Royalties

The information provided by Skeena supports the conclusion that the mining tenure held is valid.

### 17.2 Geology and Mineralization

- Gold mineralization is a structurally controlled mineralized vein and brittle-ductile shear zone system, hosted within a sequence of laminated turbidites of the Upper Triassic Stuhini Group.
- Mineralization has both Orogenic style gold characteristics as well as mineralogical and paragenetic similarities to porphyry related vein systems, being contemporaneous with the adjacent to Early Jurassic Red Bluff porphyry, a calc-alkaline, I-type, magnetite-series intrusion of quartz monzodioritic composition.
- Seventy-two narrow, high grade lodes were modelled which were combined into three zones based on structure and orientation.
- The understanding of the regional geology, lithological and structural controls of the mineralization are sufficient to support estimation of Mineral Resources.

### 17.3 Data Analysis

- The quantity and quality of the lithological, collar and down-the-hole survey data collected are sufficient to support Mineral Resources. Sample data density and distribution is adequate to build meaningful litho-structural models reflective of the overall deposit type.
- SRK reviewed the database and is of the opinion that the current sample preparation, security and analytical procedures meet industry-standard practices. SRK also believes that the Skeena validated database is of a standard that is acceptable for creating an unbiased, representative Mineral Resource Estimate of the Snip deposit.
- SRK reviewed the analytical quality control data accumulated by Skeena during 2016 to 2019. SRK confirms that gold grades are reasonably well reproduced and reliable for resource estimation purposes. Similarly, a QAQC analysis showed no obvious bias or errors.
- Historical and recent assays were evaluated in an equivalent area; the overall trend between historical and recent drill holes is apparent and the distributions are comparative.
- Geostatistical studies were carried out on the composite data to select capping levels and derive estimation parameters.

## 17.4 Mineral Resource Estimation

- Geostatistical studies were carried out on the composite data to select capping levels and derive estimation parameters. Gold was estimated into the block model using Ordinary Kriging informed from capped, composited data. Density was coded into each block for deriving tonnages based on the average specific gravity for the metasediments.
- Mineral Resources were estimated and classified following CIM best practices.
- A 40 m buffer created around Skeena drill holes with QAQC was used to constrain the Indicated Resource.
- The 2020 Mineral Resource has demonstrated that the project has development potential as an underground mining operation. Stope optimized shapes were created using reasonable assumptions for long hole mining with a cut-off grade of 2.5 g/t.
- Modelled veins delineate in-situ gold grade and do not consider minimum width or potential planned mining dilution which would be considered during conversion of mineral resources to mineral reserves.
- Approximately two thirds of resource is classified as Inferred. It is reasonable to expect that part of the Inferred Mineral Resource could be upgraded to an Indicated Mineral Resource with continued drilling.

## 18 Recommendations

In reviewing the compiled drill hole database, geological interpretation and mineral resource estimate for the Snip Project, SRK makes the following recommendations:

### Geology/Exploration

- The intimate association of biotite with shear zones and veining and overall homogeneity of potassic (biotitic) alteration suggests that the alteration envelope may help constrain fluid and mineralization pathways. It is recommended that alteration data are used to investigate the potential to delineate alteration domains and generate alteration models to identify potential ore shoots within the shear zone system. This should be completed as a part of the standard geological logging and mapping observations, and as such, does not need a separate budget.
- All occurrences and locations of visible gold should be standardized and combined with drill hole data to generate a high-grade gold model. This should be used to define zones of high grade that can potentially be used as a predictive tool to delineate further zones of higher-grade gold and/or ore shoots within the shear zone system. This will assist in improved local resolution of high-grade zones for resource estimation. This should be completed as a part of the standard geological logging and mapping process, and as such, would not require a separate budget.
- A detailed desktop vein model was constructed in Leapfrog Geo® using data provided by Skeena. To further substantiate the model and elucidate the finer project scale structural details that are relevant to Snip mineralization, an onsite structural mapping survey is recommended. Budget recommendations are provided in Table 18-1.
- Regional geology and structure play a significant role in interpreting exploration geological datasets. To effectively understand geological context within the broader district, an improved regional geology map needs to be sourced and included into the Leapfrog Geo® model.
- The existing LiDAR survey covers the mineral lease area only. To extract subtle property-wide structural details, which may be applied to regional exploration, an expanded LiDAR survey that covers the entire property is recommended with an appropriate structural interpretation:
  - In tandem with the LiDAR survey, a high-resolution magnetics survey using drone surveying technologies would enhance future structural interpretations. This geophysical survey may be combined with the regional LiDAR survey to reduce exploration costs. Costs associated with this LiDAR-add one have not been included.
- Knowing that Snip ore is structurally controlled, advancing the project depends heavily on understanding the structural complexities of the deposit. Oriented core drilling facilitates measurements of the directional properties in the rock and is used to measure bedding, foliation, vein orientations, shear fabrics and other kinematic indicators. SRK recommends the use of oriented core drilling during the twin drilling program mentioned below.

- Limited drilling has been conducted on the Jim Porphyry and Jim Porphyry south areas which exhibit similar alteration and lithological similarities with the Twin Zone. Knowing the narrow and variable nature of mineralization on the property, an additional 2 holes are recommended to fully test these targets.

### **Sampling**

- Preparation and Pulp repeats >5 g/t Au are lacking in the dataset. To adequately test for precision at and above this grade range, additional samples within the higher-grade ranges should be submitted to the lab. This should be completed as a part of the standard sampling process observations, and as such, does not need a separate budget.
- Preparation and pulp duplicates are inserted by the lab at a sequence that the lab defines. Additional preparation and pulp duplicates should be requested at intervals defined by Skeena to avoid intralab bias and to reflect the entire gold range that defines the Snip Project. This should be completed as a part of the standard sampling process, and as such, does not need a separate budget.
- Preparation and pulp duplicate results are not contained within a combined database, which makes quick checks time consuming and challenging. Assimilating these datasets into the primary database is a priority. This should be completed as part of the standard database update process, and as such, does not need a separate budget.
- Sample rejects and pulps are not currently saved and stored. In the event of core damage, loss or tampering, rejects and pulps will serve to validate the deposit's primary asset – the assay database. Therefore, sample rejects and pulps should be stored as a part of the standard QA/QC process, and as such, does not need a separate budget.

### **Resource Model**

- An attempt to reconcile historical production was conducted using the updated 2020 block model. However, inaccuracies within the historical stope and underground development wireframes prevented a thorough comparison from being achievable. However, from the preliminary assessment it appears the 2020 mineral resource estimate has oversmoothed the deposit, whereby high grades are being under-estimated and low grades over-estimated. To fully test for this marked discrepancy in tonnes, grade and ounces, SRK recommends the following:
  - Due to the high degree of grade variability within the Snip deposit, SRK recommends conducting a conditional simulation study to assess the impact of localized grade variability within the mineral resource estimate and on future mine design and production planning. The simulated model could also be used to reconcile against historical production based on available historical stope and underground development wireframes.

### **Historical Confirmation**

- A basic property survey was conducted in 2017, whereby a new survey control point network was established. Differential GPS points from the 300 level portal were expanded

underground and traversed up the ramp using a total station. To further this survey and to validate the volume of depleted material, a study to determine the accuracy of the levels relative to the historical wireframes is recommended. This should be completed as part of the standard data management process for the Snip Project, and as such, does not need a separate budget:

- Depending on the outcome of the study, and if there are major differences in elevation and position, a more detailed survey will need to be undertaken.
- Approximately two thirds of the resource have been classified as Inferred. As part of SRK's risk management strategy and due to a lack of QA/QC all historical drill holes have been classified as Inferred (barring those that fall within the 40 m buffer zone). Considering that 67% of all assay intervals within the model area are historical and fall outside of the 40 m buffer zone, it is reasonable to expect that part of the Inferred mineral resource may be upgraded to Indicated category with continued drilling. SRK recommends the following:
  - Twin drill a small sub-set of historical drill holes for validation purposes. To lift the restriction that holes only within the 40 m buffer are to be considered in the Indicated category a total of 2.5% of all historical holes, outside of the 40 m buffer, should be twinned. This amounts to approximately 20 holes (with an average length of 200 m each) for a total meterage of approximately 4,000 m (Table 18.1).
  - Measured blocks have not been accounted for in the 2020 Mineral Resource Statement due to Client-specific requests. However, blocks that qualify in terms of having quantity, grade or quality, densities, shape and physical characteristics that are estimated with confidence to allow the application of modifying factors, are currently accessible. To convert additional areas from Indicated to Measured, having approximately 12.5 m centres, updated classification parameters need to be generated in future resource model runs. This process may be conducted as part of SRK's proposed resource model conditional simulation study, whereby mineral resource classification criteria are reassessed to potentially support Measured resources (based on additional QA/QC an/or twin drilling results).

**Table 18-1: Estimated Cost for the Exploration Program Proposed for the Snip Project**

<b>Action Item</b>	<b>Estimated Cost (CAD)</b>
Structural Geology Review	\$30,000
Desktop Interpretation (LiDAR and Geophysics Lineament Analysis)	\$20,000
LiDAR Survey (@CAD\$5,625/km <sup>2</sup> for 10km <sup>2</sup> )	\$56,250
Exploration Drilling (@CAD\$475/m)	\$285,000
Oriented Drilling (@CAD\$2,000/month over 4 months)	\$8,000
Conditional Simulation Study	\$22,000
Twin Drilling (@CAD\$475/m)	\$1,900,000
<b>Subtotal</b>	<b>\$2,321,250</b>
Contingency (10%)	\$232,125
<b>Total Estimated Program Costs (CAD)</b>	<b>\$2,553,375</b>

SRK is unaware of any other significant factors and risks that may affect access, title, or the right or ability to perform the exploration work recommended for the Snip Project.

## 19 Acronyms and Abbreviations

Distance	
µm	micron (micrometre)
mm	millimetre
cm	centimetre
m	metre
km	km
"	inch
in	inch
'	foot
ft	foot
Area	
m <sup>2</sup>	square metre
km <sup>2</sup>	square km
ac	acre
Ha	hectare
Volume	
l	litre
m <sup>3</sup>	cubic metre
ft <sup>3</sup>	cubic foot
usg	US gallon
lcm	loose cubic metre
bcm	bank cubic metre
Mbcm	million bcm
Mass	
kg	kilogram
g	gram
t	metric tonne
Kt	kilotonne
lb	pound
Mt	megatonne
oz	troy ounce
wmt	wet metric tonne
dmt	dry metric tonne
Pressure	
psi	pounds per square inch
Pa	pascal
kPa	kilopascal
MPa	megapascal
Elements and Compounds	
Au	gold
Ag	silver
Cu	copper
Fe	iron
S	sulphur
CN	cyanide
NaCN	sodium cyanide

Other	
°C	degree Celsius
°F	degree Fahrenheit
Btu	British Thermal Unit
cfm	cubic feet per minute
elev	elevation above sea level
masl	m above sea level
hp	horsepower
hr	hour
kW	kilowatt
kWh	kilowatt hour
M	Million
mph	miles per hour
ppb	parts per billion
ppm	parts per million
s	second
s.g.	specific gravity
usgpm	US gallon per minute
V	volt
W	watt
Ω	ohm
A	ampere
tph	tonnes per hour
tpd	tonnes per day
mtpa	million tonnes per annum
∅	diam
Acronyms	
SRK	SRK Consulting (Canada) Inc.
CIM	Canadian Institute of Mining
NI 43-101	National Instrument 43-101
ABA	Acid- base accounting
AP	Acid potential
NP	Neutralization potential
NPTIC	Carbonate neutralization potential
ML/ARD	Metal leaching/ acid rock drainage
PAG	Potentially acid generating
non-PAG	Non-potentially acid generating
RC	reverse circulation
IP	induced polarization
COG	cut-off grade
NSR	net smelter return
NPV	net present value
LOM	life of mine
Conversion Factors	
1 tonne	2,204.62 lb
1 oz	31.1035 g



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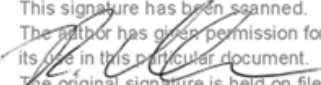
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