



# Independent Technical Report on the Eskay Creek Au-Ag Project, Canada

Prepared for

Skeena Resources Limited



Prepared by



SRK Consulting (Canada) Inc.  
Effective Date: April 7, 2021  
Issue Date: May 21, 2021  
2CS042.010

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# 1 Executive Summary

## 1.1 Introduction

The Eskay Creek Project is a precious and base metal-rich volcanogenic massive sulphide (VMS) deposit, located in the Golden Triangle of northwestern British Columbia, Canada. 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 January 2021, Skeena commissioned SRK to provide Skeena with support and review of an updated resource model, together with an NI 43-101 compliant resource estimate and an NI 43-101 report on the Eskay Creek Project. The services were rendered between January and May 2021 leading to the preparation of the mineral resource statement reported herein that was disclosed publicly by Skeena in a news release on April 7, 2021. The effective date of this Technical Report is May 21, 2021.

The updated 2021 Mineral Resource Estimate (MRE) has a larger component of pit constrained resources than the 2019 MRE as the NEX zone, which was previously reported as underground resources, has now been incorporated into the pit constrained resource base. Remaining mineralization below the optimized resource reporting pit shell with reasonable prospects of economic extraction by underground mining methods, is reported in addition as underground resources.

This Technical Report documents a mineral resource statement for the Eskay Creek 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".

## 1.2 Property Description and Location

The Eskay Creek Project is located in the Pacific Northwest region of British Columbia, 83 km northwest of Stewart, BC in the Unuk and Iskut River region.

The Project covers a total of 5,093.81 hectares, consisting of 40 mineral claims (3,263.55 ha) and eight (8) mineral leases (1,830.26 ha). There are five net smelter return (NSR) royalty obligations to four third parties on the property.

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

Access to the property is via Highway 37 (Steward Cassiar Highway). The Eskay Mine Road is an all-season gravel road that connects to Highway 37 approximately 135 km north of Meziadin Junction. The Eskay Mine Road is a 54.5 km private industrial road that is operated by Altagas Ltd. (0 km to 43.5 km) and Skeena Resources Limited (43.5 km to 54.5 km).

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 mean annual total precipitation at the former mine site is estimated to be 2,500 <sup>+/-</sup> 500 mm. About 55-71% of precipitation falls as snow. The average temperature range is from -10.4° C in January to +15 ° C in July. Exploration activities can sometimes be curtailed by extreme local weather conditions. The previous mining operation was conducted on a year-round basis and it is expected that any future operations will also be year-round.

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 Eskay Creek mine site. The Forest Kerr, McLymont, and Volcano Creek hydroelectric plants are within 20 km of the Eskay Creek Mine site and collectively produce up to 277 MW, which is fed to the provincial grid via transmission lines that extend along the Eskay Creek Mine Road.

Eskay Creek lies in the Prout Plateau, a rolling subalpine upland, located on the eastern flank of the Boundary Ranges. The Plateau is characterized by northeast trending ridges with gently sloping meadows occupying valleys between the ridges. Relief over the Plateau ranges from 500 m in the Tom MacKay Lake area to over 1,000 m in the Unuk River and Ketchum Creek valleys. Mountain slopes are heavily forested, and scenic features of glacial origin, such as cirques, hanging valleys and over-steepened slopes are present throughout. The Plateau is surrounded by high serrate peaks containing cirque and mountain glaciers.

## 1.4 History

The Eskay Creek Project has undergone exploration activity dating back to 1932 when prospectors looking for precious metals were first attracted by the gossanous bluffs extending for over seven kilometers beside Eskay and Coulter Creeks. The Tom Mackay Syndicate undertook the first staking in 1932 near the southern end of the claim group. During the period from 1935 to 1938, Premier Gold Mining Company Ltd. held the property under option and were responsible for the definition of 30 zones of surface mineralization including the 21 Zone. This was followed in 1939 by the driving of the 85 m Mackay Adit into the hillside three kilometers south of the current 21A/B Zones by the Tom Mackay Syndicate.

During World War II, from 1940 to 1945, exploration was halted and from 1946 through to 1963 only minor work was done on the property. This work included some minor re-staking along with various changes in claim title.

Western Resources drove the Emma Adit in 1963 with drifting and crosscuts totalling 146 m. In 1964, the property was registered under Stikine Silver Limited.

Seven different options were undertaken on the property between 1964 and 1987. Exploration continued with geological mapping, geochemical and geophysical surveys, trenching, and diamond

drilling looking for precious metal and VMS-style targets. During this period, in 1986, the company was renamed Consolidated Stikine Silver.

In 1988, Calpine Resources Inc. signed an option agreement to earn a 50% beneficial interest in the TOK and KAY claims by spending \$900,000 over a three-year period. Six diamond drill holes were undertaken in the fall of 1988 near the old 21 Zone trenches. The 21A Zone was discovered with an intercept of 25.78 g/t Au and 38.74 g/t Ag over 29.4 m in drill hole DDH CA88-6. Continued drilling in 1988 and 1989 outlined the 21A Zone and defined the 21B Zone, some 200 m to the north. Prime Resources acquired a controlling interest in Calpine in 1989 and took over managing the Eskay Creek Project. Once their obligations were complete, Prime merged with Calpine in April 1990. At the same time, Homestake Canada Inc. acquired an equity position in Consolidated Stikine Silver and eventually acquired the property. 21B Zone underground development began in 1990-91; a feasibility study was undertaken in 1993 and the Eskay Creek Mine was officially opened in 1995.

From 1995 through 2001, Homestake Canada operated the mine and continued exploration on the surrounding claims with geological mapping, geochemical and geophysical surveys, and diamond drilling.

In 2002 Barrick Gold Corp. assumed control of the Eskay Creek mine, continuing with mining operations and exploration until the mine closed in 2008. Since 2008, the property has been under a state of reclamation, care and maintenance.

Skeena entered into an Option Agreement for the Eskay Creek Property with Barrick in 2017, which affects all mineral claims and mineral leases that comprise the Eskay Creek Property. This Agreement allowed Skeena the option to acquire all of Barrick's rights, title, and interest in, and to, the Eskay Creek Assets by incurring \$3.5 million of exploration expenditures in the Project area by December 18, 2020.

In 2018, Skeena completed a 7,737 m surface diamond drilling program targeting the 22, 21A, and 21C Zones as well as flew a LiDAR and photography survey over the Eskay Creek property. In September 2018, Skeena released its Maiden Resource estimate based solely on legacy data using a predominantly underground and minor Pit mining scenario.

On February 28, 2019, Skeena released an updated resource estimate, this time including most resources into a predominantly Pit mining scenario with a minor underground component. In 2019, Skeena completed 14,092 m drill holes to upgrade the Inferred mineral resources in the proposed pit area, and to expand current resources. A small prospecting program was undertaken in the Tom MacKay area, as well the Eskay Porphyry and Tip Top areas.

In 2020, Skeena undertook a large surface diamond drill program to convert Indicated to Inferred resources in the pit area, as well as test exploration targets in the WT and LP domains and Tom MacKay. In Phase 1 of the program, 36,582 m were drilled outside of a 20m exclusion buffer around underground workings as well as at Tom MacKay. In addition, a 3D resistivity and Induced Polarization (DCIP) survey was carried out over the Eskay Creek Property during late summer.

On October 2, 2020 Skeena signed the Definitive Agreement with Barrick Gold Corporations' wholly owned subsidiary, Barrick Gold Inc., to exercise its option to acquire 100% of the Eskay Creek Project. This gives a 1% NSR payable to Barrick on all the claims, in addition to the existing royalties. This allowed Skeena to drill within the 20 m buffer around underground development in a Phase 2 program totalling 46,328 m from October 2020 until early January 2021.

## 1.5 Geology and Mineralization

The Eskay Creek Project is located along the western margin of the Stikine Terrane, within the Intermontane Tectonic Belt of the Northern Cordillera. It is hosted within the Jurassic rocks of the Stikinia Assemblage at the stratigraphic transition from volcanic rocks of the uppermost Hazelton Group to the marine sediments of the Bowser Lake Group.

The property is underlain by volcanic and sedimentary rocks of the regionally extensive Lower to Middle Jurassic Hazelton Group. The Hazelton Group can be further subdivided into the Jack, Betty Creek, Spatsizi, Iskut River, Mt. Dilworth, and Quock Formations (arranged from oldest to youngest). The stratigraphy in the immediate area of the property consists of an upright succession of andesite, marine sediments, intermediate to felsic volcanoclastic rocks, marine sediments, rhyolite, contact mudstone (host to the main Eskay Creek deposits), and basaltic/andesitic sills and flows intercalated with mudstones. This sequence is overlain by mudstones and conglomerates of the Bowser Lake Group. These rocks are folded into a gently, northeast plunging fold termed the Eskay Anticline and are cut by north, northwest, and northeastern fault structures. Regional metamorphic grade in the area is lower greenschist facies. Alteration in the footwall volcanic units is characterized by a combination of pervasive quartz-sericite-pyrite, potassium feldspar, chlorite and silica veins. Intense alteration zones are locally associated with sulphide veins that contains pyrite, sphalerite, galena, and chalcopyrite. An intense, tabular-shaped blanket of chlorite-sericite alteration, up to 20 m thick, occurs in the Eskay Rhyolite member, immediately below the contact with the main stratiform sulphide mineralization.

Several types of stratiform and discordant mineralization zones are present at the Eskay Creek Project defined over an area approximately 1,400 m long and as much as 300 m wide. Distinct zones have been defined by variations in location, mineralogy, texture, and precious metal grades.

The stratiform mineralization is hosted in black, carbonaceous mudstone and sericitic tuffaceous mudstones at the contact between the Eskay rhyolite and the overlying basaltic flows (hanging-wall andesite). The main zone of mineralization, the 21B Zone, consists of stratiform clastic sulphide-sulfosalt beds. These beds contain fragments of coarse-grained sphalerite, tetrahedrite, Pb-sulfosalts with lesser freibergite, galena, pyrite, electrum, amalgam and minor arsenopyrite. Stibnite occurs locally in late veins and as a replacement of clastic sulphides. Rare cinnabar is associated with the most abundant accumulations of stibnite. At the same stratigraphic horizon as the 21B Zone are the 21A, 21C, 21Be, 21E and NEX Zones. The 21A Zone is characterized by high concentrations of stibnite-realgar, cinnabar and arsenopyrite.

Stratigraphically above the 21B Zone, and usually above the first basaltic sill, the mudstones also host a localized body of base metal rich, relatively precious metal poor mineralization referred to as the HW Zone.

Below the prolific Rhyolite package is the Lower Package, consisting of the Lower Mudstone, Dacite, Even Lower Mudstone and Andesite.

Stockwork and discordant mineralization is hosted in the rhyolite footwall in the PMP, 109, 21A, 21C, and 22 Zones. The PMP Zone is characterized by base metal rich veins and veinlets in strongly sericitized and chloritized rhyolite. The 109 Zone comprises gold-rich veins of quartz, sphalerite, galena, and pyrite associated with silica flooding and fine-grained carbon. The 21C rhyolite consists of very fine cryptic pyrite with rare sphalerite and galena in sericitized rhyolite. The 21A rhyolite hosted mineralization contains disseminated stibnite, arsenopyrite, tetrahedrite and base-metal rich veinlets.

Significant exploration potential remains for the Eskay Creek deposit. The targets include syn-volcanic feeder structures at depth and along strike; mineralization hosted within the largely underexplored Lower Mudstone and Even Lower Mudstone horizons; and mineralization in the Hanging-wall Mudstones which were historically selectively sampled. Due to the limited legacy exploration drilling in the area between the 21A and 22 Zones, additional opportunities exist to discover and delineate near surface rhyolite hosted mineralization.

## 1.6 Mineral Resource Estimate

The updated mineral resource estimate for the Project (the “2021 Mineral Resource Estimate”) herein was prepared by Skeena Resources Limited using all available information and reviewed and validated by Ms. S. Ulansky, PGeo of SRK.

The April 2021 mineral resource is primarily based upon historical diamond drilling completed by previous Operators, however additional holes drilled by Skeena between 2018 and 2021 have been included. The database used to estimate the Eskay Creek mineral resource contains 7,583 historical surface and underground diamond drill holes totalling 651,332 m, and 751 additional surface holes drilled totalling 104,790 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 and silver mineralization domains, and that assay data is sufficiently reliable to support estimating mineral resources.

The litho-structural model was constructed in Leapfrog Geo™ software and was updated in 2020 to include the hanging-wall and footwall sediments, which were previously merged within the three main lithologies of the stratigraphic package. In addition, the extrusive units below the prolific rhyolite package were delineated. Seven main faults recognized as meaningful for modelling purposes were used. Eight-four mineralization solids were subsequently defined using two distinct methods: 1) geologically realistic radial basis function (RBF) grade interpolants using a 50% probability and nominal 0.5 g/t AuEQ cut off grade within the Contact Mudstones, and 2) the Interval Selection tool using a nominal 0.5 g/t AuEQ grade. The mineralization solids were separated into major fault block and historical mining zones.

Excluding the low-grade envelope, twelve domains based on historic mining zones were created: all domains occur in the pit area, and five domains contained shared pit and underground resources.



**Two block models were created:**

1. A pit model using 9 x 9 x 4 m parent block sizes, with sub-block sizes of 3 x 3 x 2 m; and
2. an underground model using 3 x 3 x 2 m parent block sizes, with 1 x 1 x 1 m sub-block sizes.

Two-meter composites were created for the pit block model. Grades within each domain were then capped within hard-domain boundaries. Within the 84 mineralization solids gold capping values ranged from 7 to 650 g/t and silver capping values ranged from 40 to 25,000 g/t in the two-meter composite file. Grade capping was performed separately in the five low grade envelope zones and did not exceed 9 g/t gold and 200 g/t silver. One-meter composites were generated for the underground block model and capping values ranged from 4 to 400 g/t gold and 10 to 30,000 g/t silver.

Gold and silver variograms were used to determine the nugget, sills, ranges and orientations used during kriging, however a dynamic surface, modelled along the Contact Mudstone basal contact, was used to incrementally modify the anisotropic search orientation during interpolation in the 21A, 21C and 21B domains.

Ordinary Kriging (OK) was used for the estimation of gold and silver in all domains. The mineral resources were estimated using three passes with increasing search radii based on variogram ranges in both models. Pass 1 approximated 2/3 of the range of the variogram; Pass 2 equalled the range of the variogram and Pass 3 equalled 2.5 X the variogram range. In both models, Pass 1 used a minimum of 8 composites and a maximum of 10 composites. Pass 2 used a minimum of 5 composites and a maximum of 15 composites and Pass 3 used a minimum of 3 composites and a maximum of 15 composites. A maximum of 2 composites per drillhole was specified.

Classification used a combination of the Pass and kriging variance. Measured resources were defined as blocks interpolated only during Pass 1, using a minimum of 4 holes, a kriging variance of less than 0.3 and an average distance of less than 15 m to gold composites. The Indicated category is defined by block interpolated during Pass 1 and Pass 2 only, using a minimum of 4 drill holes and the Inferred category is defined by blocks interpolated within Pass 1, Pass 2 or Pass 3 using a minimum of 2 holes and a kriging variance of less than 0.8.

For the low-grade envelope, 1 estimation pass using a restricted search of 25 m x 25 m x 15 m was allocated using a minimum of 3 composites and a maximum of 10 composites per estimation block. A maximum of 2 composites per hole were specified. Only coherent low-grade envelope blocks estimated using a minimum of 3 drill holes were included into the Inferred category.

For the underground model, the Measured category is defined as blocks interpolated with Pass 1 only using a minimum of 4 holes and an average distance of less than 15 to the gold composites. The Indicated is defined by blocks interpolated during Pass 1 and Pass 2 using a minimum of 3 holes and the Inferred category is defined by blocks interpolated in Pass 1, 2 and 3 using a minimum of 2 holes.

SRK is of the opinion that the current mineral resource estimate is a reasonable representation of the global gold and silver mineral resources at the current level of sampling and can be categorized

as Measured, Indicated and Inferred based on quality data, data density and geological understanding.

Block tonnage was estimated from average specific gravity measurements using lithology groupings.

The 21A and 21B Domains have elevated levels of arsenic, mercury and antimony as compared to the rest of the mineralization domains at the Eskay Creek Project. The 21A Domain is geologically and geochemically equivalent to the 21B Domain which accounted for the bulk of mineralization historically mined at Eskay Creek. Blending of the 21B ore with less deleterious material from other ore domains diluted these penalty elements thus reducing smelter penalties which allowed a profitable head grade to be maintained. A blending scenario like the one historically adopted is the expected approach for future ore processed at Eskay Creek.

SRK considers mineralization at the Eskay Creek Project to have reasonable prospects for economic extraction, in both pit domains (22, 21A, 21C, 21B, 21Be, 21E, HW, NEX, WT, PMP, 109, and LP) and remaining underground domains (22, HW, NEX, WT and LP).

In consultation with SRK's geotechnical team who reviewed the documentation on fill type used previously at Eskay Creek Mine, a geotechnical exclusion buffer of 0.2 m surrounds the underground workings in the proposed pit constrained model, whereas a geotechnical exclusion buffer of 1.0 m surrounds the underground workings for the underground model. Any resources within these exclusion buffers were excluded from the reported resource.

Table 1-1 and Table 1-2 report the results of the pit constrained and potential underground Mineral Resource Estimates for the Eskay Creek Project.

**Table 1-1: Pit Constrained Mineral Resource Statement at a 0.7 g/t AuEQ cut-off grade**

	GRADE			CONTAINED OUNCES			
	TONNES	AUEQ	AU	AG	AUEQ	AU	AG
	(000)	G/T	G/T	G/T	OZ (000)	OZ (000)	OZ (000)
<b>MEASURED</b>							
21A	1,863	4.9	3.9	71.8	291	233	4,303
21C	4,497	3.6	2.9	51.4	524	423	7,425
21B	1,997	10.9	7.4	257.5	697	474	16,533
21Be	1,640	8.8	5.8	220.5	462	305	11,630
21E	743	3.2	2.2	75.0	77	52	1,793
HW	919	5.8	3.6	163.9	172	107	4,840
NEX	4,540	5.5	3.8	125.2	804	557	18,271
WT	67	3.4	3.0	31.2	7	6	67
PMP	239	5.6	4.3	95.1	43	33	731
109	754	5.5	5.3	12.4	132	128	300
LP	52	1.2	1.1	9.2	2	2	15
<b>TOTAL MEASURED</b>	<b>17,312</b>	<b>5.8</b>	<b>4.2</b>	<b>118.4</b>	<b>3,213</b>	<b>2,322</b>	<b>65,908</b>
<b>INDICATED</b>							
22	3,445	2.1	1.4	48.2	230	158	5,334
21A	3,764	3.4	2.7	46.1	406	330	5,583

	GRADE				CONTAINED OUNCES		
	TONNES	AUEQ	AU	AG	AUEQ	AU	AG
	(000)	G/T	G/T	G/T	OZ (000)	OZ (000)	OZ (000)
21C	1,648	2.6	2.1	38.4	139	112	2,036
21B	3,100	3.9	2.9	75.3	390	289	7,501
21Be	848	5.1	3.9	92.4	140	105	2,522
21E	642	2.7	1.8	60.8	55	38	1,235
HW	1,470	3.9	2.5	104.5	185	118	4,938
NEX	3,171	2.4	1.8	40.3	244	188	4,104
WT	290	2.5	2.2	23.0	23	20	214
PMP	198	3.2	2.6	47.9	21	16	305
109	301	2.2	2.0	12.1	21	19	117
LP	1,465	1.1	0.9	9.6	51	45	545
<b>TOTAL INDICATED</b>	<b>20,342</b>	<b>2.9</b>	<b>2.2</b>	<b>52.5</b>	<b>1,903</b>	<b>1,439</b>	<b>34,362</b>
<b>MEASURED + INDICATED</b>							
22	3,445	2.1	1.4	48.2	230	158	5,334
21A	5,627	3.8	3.1	54.6	696	563	9,887
21C	6,145	3.4	2.7	47.9	663	535	9,461
21B	5,096	6.6	4.7	146.7	1,087	762	24,033
21Be	2,489	7.5	5.1	176.8	602	411	14,152
21E	1,385	2.9	2.0	68.4	131	90	3,047
HW	2,388	4.7	2.9	127.3	357	225	9,778
NEX	7,711	4.2	3.0	90.3	1,048	746	22,375
WT	358	2.7	2.3	24.5	31	27	282
PMP	437	4.5	3.5	73.7	64	50	1,036
109	1,055	4.5	4.3	12.3	153	148	416
LP	1,517	1.1	0.9	9.6	53	46	470
<b>TOTAL M &amp; I</b>	<b>37,654</b>	<b>4.2</b>	<b>3.1</b>	<b>82.8</b>	<b>5,116</b>	<b>3,761</b>	<b>100,270</b>
<b>INFERRED</b>							
ENV	2,836	1.1	0.8	17.1	98	77	1,562
22	316	1.4	1.0	26.2	14	10	266
21A	938	1.1	0.8	24.5	34	24	739
21C	50	3.0	2.3	53.0	5	4	86
21B	564	2.0	1.6	26.0	36	30	471
21Be	22	3.3	2.7	41.0	2	2	29
21E	6	2.5	1.9	42.9	0.5	0.3	9
HW	324	3.3	2.0	92.0	34	21	958
NEX	30	2.5	2.1	25.7	2	2	25
WT	0.06	1.2	1.1	8.6	0.03	0.02	0.02
PMP	7	3.2	2.2	74.4	0.7	0.5	17
109	0.1	1.6	1.6	3.7	0.06	0.06	0.0
LP	145	1.0	2.3	9.0	5	4	40
<b>TOTAL INFERRED</b>	<b>5,239</b>	<b>1.4</b>	<b>1.0</b>	<b>25.0</b>	<b>231</b>	<b>174</b>	<b>4,203</b>

**Table 1-2: Underground Mineral Resource Statement at a 2.4 g/t AuEQ cut-off grade for long-hole mining, and 2.8 g/t AuEQ for Drift and Fill mining**

	TONNES (000)	GRADE			CONTAINED OUNCES		
		AUEQ G/T	AU G/T	AG G/T	AUEQ OZ (000)	AU OZ (000)	AG OZ (000)
<b>MEASURED</b>							
WT	102	6.0	5.9	13.3	20	19	44
HW	19	5.7	4.5	95.3	3	3	57
NEX	222	6.2	5.0	90.3	44	36	645
LP	2	6.7	6.4	18.7	0.5	0.4	1
<b>TOTAL MEASURED</b>	<b>345</b>	<b>6.1</b>	<b>5.2</b>	<b>67.3</b>	<b>68</b>	<b>58</b>	<b>747</b>
<b>INDICATED</b>							
WT	215	5.4	5.3	10.4	38	37	72
22	61	6.5	4.9	117.2	13	10	230
HW	20	5.9	4.7	94.0	4	3	62
NEX	87	5.7	5.0	54.4	16	14	152
LP	123	4.3	4.1	17.0	17	16	67
<b>TOTAL INDICATED</b>	<b>506</b>	<b>5.3</b>	<b>4.9</b>	<b>35.8</b>	<b>87</b>	<b>79</b>	<b>583</b>
<b>MEASURED + INDICATED</b>							
22	61	6.5	4.9	117.2	13	10	230
WT	317	5.6	5.5	11.3	58	56	116
HW	39	5.9	4.6	94.6	7	6	119
NEX	309	6.1	5.0	80.1	60	50	797
LP	125	4.3	4.1	17.0	17	16	68
<b>TOTAL M &amp; I</b>	<b>851</b>	<b>5.7</b>	<b>5.0</b>	<b>48.6</b>	<b>155</b>	<b>137</b>	<b>1,330</b>
<b>INFERRED</b>							
WT	79	4.6	4.5	7.2	12	11	18
22	221	5.5	4.1	99.4	39	29	706
HW	1	5.3	4.2	83.1	103	81	2
LP	129	4.0	3.8	14.6	17	16	61
<b>TOTAL INFERRED</b>	<b>429</b>	<b>4.9</b>	<b>4.1</b>	<b>57.0</b>	<b>67</b>	<b>57</b>	<b>787</b>

\* Notes to accompany the Mineral Resource Estimate statement:

- These mineral resources are not mineral reserves as they do not have demonstrated economic viability. Results are reported in-situ and undiluted and are considered to have reasonable prospects for economic extraction.
- 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 April 7, 2021.
- The number of metric tonnes and ounces were rounded to the nearest thousand. Any discrepancies in the totals are due to rounding.
- Pit constrained Mineral Resources are reported in relation to a conceptual Pit shell.
- Reported underground resources are exclusive of the resources reported within the conceptual Pit shell and reported using stope optimized shapes using long-hole and drift and fill mining methods.
- Block tonnage was estimated from average specific gravity measurements using lithology groupings.
- All composites have been capped where appropriate.
- Pit mineral resources are reported at a cut-off grade of 0.7 g/t AuEQ and underground mineral resources are reported at a cut-off grade of 2.4 g/t AuEQ for long-hole mining and 2.8 g/t AuEQ for drift and fill mining.
- Cut-off grades are based on a price of US\$1,700 per ounce of gold, US\$23 per ounce silver, and gold recoveries of 90%, silver recoveries of 80% and without considering revenues from other metals.  $AuEQ = Au (g/t) + (Ag (g/t)/74)$
- 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 Interpretation and Conclusions

After conducting a detailed review of all pertinent information and completing the 2021 Mineral Resource Estimate mandate, SRK concludes the following:

- The Eskay Creek deposit is a precious and base metal-rich VMS deposit, hosted in volcanic and sedimentary rocks of the Lower to Middle Jurassic Hazelton Group. Mineralization is contained in several stratiform, disseminated and stock work vein zones that display a wide variety of textural and mineralogical characteristics. In addition to extremely high precious metal grades, Eskay Creek is distinguished from conventional VMS deposits by its association with elements of the 'epithermal suite' (Sb-Hg-As) and the dominance of clastic sulphides and sulfosalts.
- The understanding of the regional geology, lithological and structural controls of the mineralization on the Eskay Creek Project are sufficient to support estimation of Mineral Resources.
- A considerable amount of surface and underground drilling has been completed on the property by various companies since the 1930s. No historical drill core remains for any zones at Eskay Creek. Skeena compiled and reviewed the available historical data to build a validated database to support the updated Mineral Resource Estimate.
- A total of 751 drill holes were completed by Skeena Resources Limited, and the additional 104,740 m have been checked and validated by SRK.
- 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 historical and 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 Eskay Creek deposit.
- SRK reviewed the analytical quality control data accumulated for the Eskay Creek deposit between 1997 and 2004. An analysis of the historical QA/QC programs confirmed that sample bias was negligible. SRK confirms that gold and silver grades are reasonably well reproduced and reliable for resource estimation purposes. Similarly, a QA/QC analysis on the 2018 to early 2021 drilling programs showed no obvious bias or errors.
- The recovery factors applied into the Mineral Resource Estimate by Skeena are considered acceptable and appropriate.
- The 21A and 21B Zones hosted within the Contact Mudstone unit are geologically and geochemically equivalent and contain high concentrations of As, Hg and Sb. The 21B Zone accounted for the bulk of mineralization historically mined at Eskay Creek, whereas the 21A remains unmined. In the 21B Zone, smelter penalties were often prevented by blending ore with a concentrated sulfosalt assemblage with ore having lower concentrations. This allowed the mine to maintain profitable head grades meanwhile diluting the penalty elements.

Significant unmined mineralization exists in the 22, 21C and PMP Zone, which contain low levels of Sb-Hg-As; here mineralization occurs in proximal feeder structures in the footwall rhyolite.

- Despite the substantial precious metal grades and potential base metal credits of the 21A Zone it was historically uneconomic to mine. High smelter penalties and prevailing low commodity prices were factors that halted mining ambitions. In addition, antimony was treated as a penalty element which contributed to the unfavourable economics of the 21A Zone at the time.
- In the Pit constrained resource, on a tonnage weighted basis, approximately 12% percent of the contained metal at a 0.7 g/t AuEQ cut-off grade is classified as Inferred. It is reasonable to expect that the Inferred Mineral Resource could be upgraded to an Indicated Mineral Resource with continued drilling.

## 1.8 Recommendations

Continually reaching for improvements during the drilling and sampling process, as well as looking for ways to enhance the geological and resource models, is a priority at Eskay Creek. By improving the data collection process and fine-tuning the geological model, assay data will be partitioned in a way that most reasonably represents the presiding mineralization controls. This in turn will refine the mineral resource estimation result. The following recommendations aim to add value to future programs:

- Future drilling programs will continue to maintain rigorous QA/QC measures such as those taken during the 2018 to 2021 drilling programs. The addition of field duplicates will complete the QC measures needed to fully test the sampling process.
- As drilling and mapping progresses, geological understanding and interpretations will improve. This knowledge will be used to enhance future lithological, alteration, mineralization, and structural models.
- Build the next level of structural complexity into future models to assist the reinterpretation of geological domain orientation, width, and continuity. Additional structural knowledge will enhance the design of future geotechnical models.
- The current SG sampling process at Eskay Creek is to conduct on-site density determinations using the water displacement method. Future drill programs should adopt a method of independently analysing a percentage of the SG samples.
- Geotechnical inspections of the underground workings will need to be completed to determine rock conditions immediately adjacent to, and within, the mined-out solids; measurements that are needed for adjusting the depletion buffer zone appropriately.
- The status of antimony as an economic element has yet to be established. The 21A Zone contains appreciable grades of antimony, which may be of benefit to future mining operations.
- Gaps in the historical data set exist because documents were moved several times and stored in multiple locations over a 10-year time frame. To conduct a full reconciliation of all mined material these documents will need to be retrieved and compiled.

- The Lower Package (LP) was targeted and developed during the 2019 to early 2021 drilling programs. The Lower Package consists of a series of mudstones, dacite, and andesites that were previously grouped within the lower Rhyolite. The LP has been sparsely sampled and the limits have not yet, been fully defined. Future drilling programs should focus on developing the LP so that domain extents and boundaries are better defined. The refined interpretation will aid in improving model validation and confidence within this package.

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## Appendices

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Appendix B: Sample Preparation, Analyses, and Security – Pre-2004 Analysis

Appendix C: Verification of Analytical Quality Control Data 1995 – 2004

## 2 Introduction and Terms of Reference

The Eskay Creek Project is a precious and base metal-rich VMS deposit in Canada. It is located 83 km northwest of Stewart, BC in the Unuk and Iskut River region. Skeena is a junior Canadian mining exploration company focused on developing prospective precious and base metal properties in the Golden Triangle of northwest British Columbia, Canada.

In January 2021, Skeena commissioned SRK to provide Skeena with support and review of the updated in-house resource model, together with an NI 43-101 compliant resource estimate and NI43-101 report on the Eskay Creek Project. The services were rendered between January and May 2021 leading to the preparation of the Mineral Resource Statement reported herein that was disclosed publicly by Skeena in a news release on April 7, 2021 with a release date of May 21, 2021 for the Technical Report.

This Technical Report documents a Mineral Resource Statement for the Eskay Creek 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 January 13, 2021 between Skeena and SRK, was to provide Skeena with ongoing support and review of the updated in-house resource that will be used for future preliminary engineering studies. The resource model will be accompanied by an NI 43-101 compliant resource estimation report published by SRK. This work involved the review and assessment of the following aspects:

#### Task 1: Geological Modelling

- Review of the updated Eskay Creek geological model prepared by Skeena,
- Review of the updated Mineralization domains completed by Skeena.

#### Task 2: Resource Estimation

- Thorough review of the Quality Assurance and Quality Control data (QA/QC) data that Skeena have collected during each drilling and sampling program,
- Review exploratory data analysis (EDA) for a total of 10 elements to be estimated including Au, Ag, Pb, Cu, Zn, As, Sb, Hg, Fe, and S,
- Design and review of the estimation methodology and classification,
- Resource validation to confirm that the block grades are unbiased and representative of the assay data; and
- Preparation of a NI 43-101 compliant mineral resource report.

### **Task 3: Pit and Slope Optimization**

- Conduct two high level optimizations to fulfill the “Reasonable Prospects for Economic Extraction” requirement of NI 43-101 using a pit optimizer to create a shell for the open pit model and slope optimization solids for the underground portion.

## **2.2 Work Program**

The Mineral Resource Estimate is the result of a collaborative effort between Skeena and SRK personnel. The database was compiled and maintained by Skeena and was subsequently audited by SRK. Mineralization domains were created by the Skeena Resource Limited Geologist and modifications suggested by SRK were applied over several phases of edits. The structural model that was modified and audited by SRK in November 2018 was used for the updated resource model in 2021. The lithological model was updated in 2021 to include hanging-wall and footwall sediments, which were previously merged within the nearest stratigraphic package. In addition, footwall extrusive units below the prolific rhyolite lithology package were defined.

In the opinion of SRK, the geological model reasonably represents mineralization at the current level of sampling and understanding of mineralization controls. Geostatistical analyses, variography and grade models were validated by SRK during February and March 2021. The Mineral Resource Statement was validated and disclosed publicly in a news release dated April 7, 2021.

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 and Form 43-101F1.

The Technical Report was assembled in Vancouver, Canada during April, and May 2021.

## **2.3 Basis of Technical Report**

This report is based on information provided to SRK by Skeena throughout the course of SRK’s investigations. SRK performed two site visits to the Eskay Creek Property between the following dates: (1) June 27 and June 28, 2018, and (2) July 27 and July 30, 2020. SRK has no reason to doubt the reliability of the information provided. This Technical Report is based on the following sources of information:

- Review of exploration data collected by Skeena,
- Inspection of the Eskay Creek Project area, including outcrop and drill core surface collars,
- Discussions with Skeena personnel, and
- Review of drill core and the core logging facility.

## 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 many 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 (Table 2-1). The Qualified Person meets the requirements of independence as defined in NI 43-101. The names and details of Other Experts who have contributed to this Technical Report are listed in Table 1-1 and Table 2-2.

Mr. Andre Deiss (*Pr.Sci.Nat*), Principal Consultant, Resource Geology with SRK, provided guidance and peer review. He also reviewed drafts of the Technical Report prior to delivery to Skeena as per SRK internal quality management procedures.

**Table 2-1: SRK personnel 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 30, 2020	PGeo	Qualified Person
Mr. G. Carlson	Senior Mining Engineer	SRK Consulting (Canada)	Yes	n/a	PEng	Pit Optimization
Ms. D. Nakou	Consultant Mining	SRK Consulting (Canada)	Yes	n/a	PEng	Stope Optimization
Dr. Adrian Dance	Principal Consultant (Metallurgy)	SRK Consulting (Canada)	Yes	n/a	PEng	Metallurgy
Mr. A. Deiss	Principal Consultant, Resource Geology	SRK Consulting (Canada)	Yes	n/a	Pri.Sci.Nat	Peer Review

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

Other Experts	Position	Employer	Independence of Skeena	Items of Technical Report
Ms. K. Dilworth	Senior Resource Geologist	Skeena Resources Limited	No	Items 1, 2, 4, 6, 7, 8, 9, 10, 14, 25
Mr. P. Geddes	VP, Exploration & Resource Development	Skeena Resources Limited	No	Review
Mr. M. Mayer	Manager, Technical Services	Skeena Resources Limited	No	Maps and Figures
Mr. C. Russell	Mine/Site Manager	Skeena Resources Limited	No	Items 6, 8 and 10
Mr. A Newton	Director of Exploration	Skeena Resources Limited	No	Items 7, 9 and 23
Mr. J. Himmelright	VP, Sustainability	Skeena Resources Limited	No	Item 5

## 2.5 Site Visit

In accordance with National Instrument 43-101 guidelines, Ms. Ulansky of SRK visited the Eskay Creek Project on two occasions, both in advance of conducting the relevant resource evaluation work.

The first site visit occurred between June 27 and June 28, 2018 where two representatives from Skeena Resources Limited (Ms. Dilworth and Mr. Himmelright), accompanied the QP. The purpose of this site visit was to see localities that had been described in earlier reports first-hand and validate the areas independently. The mine buildings, and portals were site-checked and observed to be maintainable. Historical surface drill hole collars were located without any trouble because many of them had been cased and clearly marked with drill hole identifiers. SRK validated the surface location of a number of these drill holes with GPS recordings, which have been logged accurately in Skeena's drill hole database.

The most recent site visit was conducted between July 27 and July 30, 2020, where Ms. Dilworth was also in attendance. During this visit, Ms. Ulansky reviewed surface and underground drill core to confirm the presence and nature of mineralization and appropriateness of the interpreted geological framework. She observed abundant mineralization in drill core, verifying the presence, and nature of gold and silver mineralization at the Eskay Creek project.

## 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 **March 9, 2021** (the close out date of the Database) 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, Mr. Mayer, Mr. Russel, Mr. Newton, and Mr. Himmelright. Not all of 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.

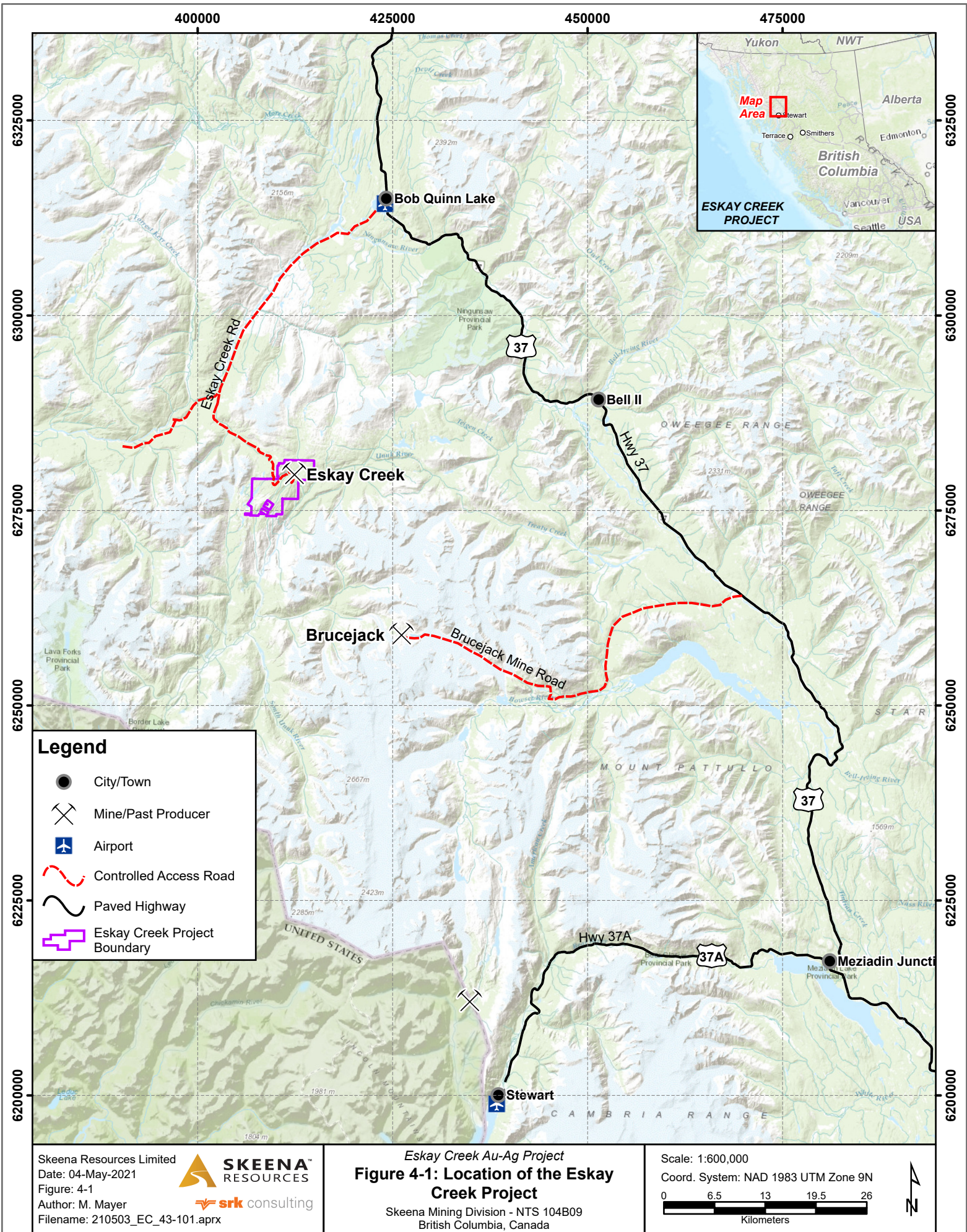
SRK was informed by Skeena that there are no known litigations potentially affecting the Eskay Creek Project.



## 4 Property Description and Location

The Eskay Creek Project is located in the Golden Triangle region of British Columbia, Canada, 83 km northwest of Stewart, on the eastern flanks of the Coast Mountain ranges. The Eskay Creek Project is located at an elevation of 800 m above sea level at 56° 39' 13.9968" N and 130° 25' 44.0004" W.

The Eskay Creek Project is located near the Unuk River, and 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. This road travels along the eastern side of the Iskut River for a distance of 38 km to its junction with the Volcano Creek drainage system. The road then follows Volcano Creek to its headwaters and then down Tom Mackay Creek to the mine site (Figure 4-1). There are no known federal, provincial, or regional parks, wilderness or conservancy areas, ecological reserves, or recreational areas near the Eskay Creek Property. The area is within the Traditional Territory assertions of the Tahltan Central Government and Skii km Lax Ha.



**Legend**

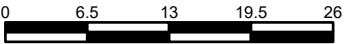

- City/Town
- ⌵ Mine/Past Producer
- ✈ Airport
- Controlled Access Road
- Paved Highway
- ▭ Eskay Creek Project Boundary

Skeena Resources Limited  
 Date: 04-May-2021  
 Figure: 4-1  
 Author: M. Mayer  
 Filename: 210503\_EC\_43-101.aprx




*Eskay Creek Au-Ag Project*  
**Figure 4-1: Location of the Eskay Creek Project**  
 Skeena Mining Division - NTS 104B09  
 British Columbia, Canada

Scale: 1:600,000  
 Coord. System: NAD 1983 UTM Zone 9N

## 4.1 Mineral Tenure

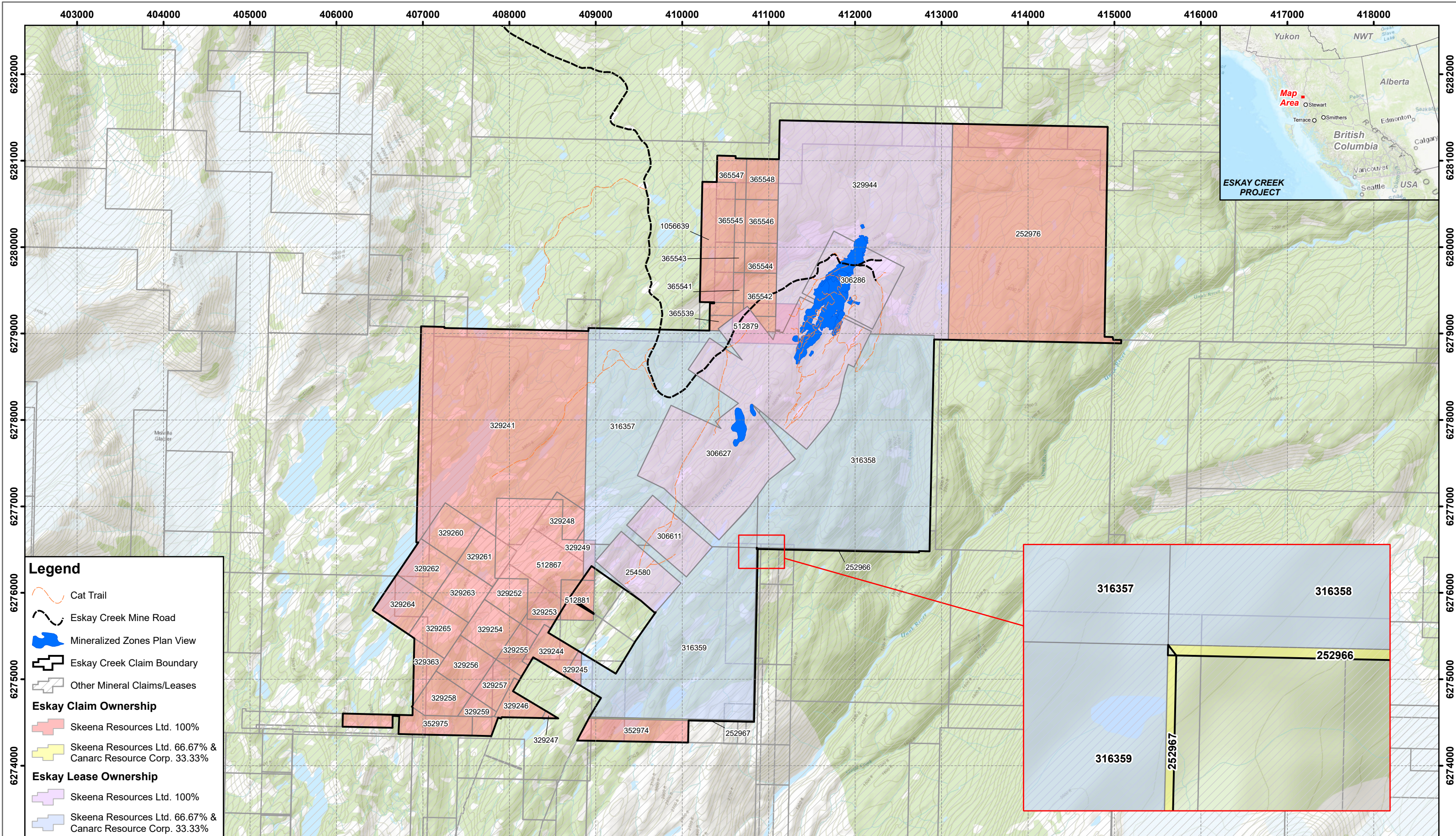
The status of all mining titles was verified using Mineral Titles Online (“MTO”), the British Columbia government’s online mineral titles administration system at:

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

The Eskay Creek Project covers a total of 5,093.81 hectares (12,587.06 acres) and is comprised of the following (Figure 4-2):

- Forty (40) mineral claims totaling 3,263.55 hectares (8,064.40 acres) (Table 4-1); and
- Eight (8) mineral leases totaling 1,830.26 hectares (4,522.66 acres) (Table 4-2).

Thirty eight (38) mineral claims are 100% registered to Skeena Resources Limited, and two (2) mineral claims are held 66.67% Skeena Resources Limited, and 33.33% are held by Canarc Resource Corp. Five (5) mineral leases are 100% held by Skeena Resources Limited, and three (3) mineral leases are held 66.67% Skeena Resources Limited, and 33.33% are held by Canarc Resource Corp.



**Legend**

- Cat Trail
- Eskay Creek Mine Road
- Mineralized Zones Plan View
- Eskay Creek Claim Boundary
- Other Mineral Claims/Leases

**Eskay Claim Ownership**

- Skeena Resources Ltd. 100%
- Skeena Resources Ltd. 66.67% & Canarc Resource Corp. 33.33%

**Eskay Lease Ownership**

- Skeena Resources Ltd. 100%
- Skeena Resources Ltd. 66.67% & Canarc Resource Corp. 33.33%

Skeena Resources Limited  
 Date: 04-May-2021  
 Figure: 4-2  
 Author: M. Mayer  
 Filename: 210503\_EC\_43-101.aprx



*Eskay Creek Au-Ag Project*  
**Figure 4-2: Eskay Creek Project Land Tenure**  
 Skeena Mining Division - NTS 104B09  
 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	Title Protection Expiry Date*	Area (Hectares)	Owner Name	Number of Owners
252966	CAL #2	CLAIM	1989-08-05	2021/JAN/15	2021/DEC/31	500	Skeena	2
252967	CAL #3	CLAIM	1989-08-06	2021/JUN/22	2021/DEC/31	400	Skeena	2
252976	IKS 2	CLAIM	1989-08-02	2025/JUL/12		500	Skeena	1
329241	MACK 23	CLAIM	1994-07-21	2025/JUN/25		500	Skeena	1
329244	MACK 1	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329245	MACK 2	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329246	MACK 3	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329247	MACK 4	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329248	MACK 5	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329249	MACK 6	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329252	MACK 9	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329253	MACK 10	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329254	MACK 11	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329255	MACK 12	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329256	MACK 13	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329257	MACK 14	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329258	MACK 15	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329259	MACK 16	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329260	MACK 17	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329261	MACK 18	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329262	MACK 19	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329263	MACK 20	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329264	MACK 21	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329265	MACK 22	CLAIM	1994-07-21	2025/JUN/25		25	Skeena	1
329363	MACK 26 FR.	CLAIM	1994-08-03	2025/JUN/25		25	Skeena	1
352974	STAR 21	CLAIM	1996-12-07	2021/JUN/22	2021/DEC/31	250	Skeena	1
352975	STAR 22	CLAIM	1996-12-07	2025/JUN/25		150	Skeena	1
365539	KAY 1	CLAIM	1998-09-12	2025/OCT/06		25	Skeena	1
365541	KAY 3	CLAIM	1998-09-12	2025/OCT/06		25	Skeena	1
365542	KAY 4	CLAIM	1998-09-12	2025/OCT/06		25	Skeena	1
365543	KAY 5	CLAIM	1998-09-12	2025/OCT/06		25	Skeena	1
365544	KAY 6	CLAIM	1998-09-12	2025/OCT/06		25	Skeena	1
365545	KAY 7	CLAIM	1998-09-12	2025/OCT/06		25	Skeena	1
365546	KAY 8	CLAIM	1998-09-12	2025/OCT/06		25	Skeena	1
365547	KAY 9	CLAIM	1998-09-12	2025/OCT/06		25	Skeena	1
365548	KAY 10	CLAIM	1998-09-12	2025/OCT/06		25	Skeena	1
512867	<Null>	CLAIM	2005-05-17	2021/JUN/25	2021/DEC/31	106.8	Skeena	1
512879	<Null>	CLAIM	2005-05-18	2021/APR/06	2021/DEC/31	35.58	Skeena	1
512881	<Null>	CLAIM	2005-05-18	2021/JUN/25	2021/DEC/31	17.8	Skeena	1

Tenure Number	Claim Name	Description	Issue Date	Good to Date	Title Protection Expiry Date*	Area (Hectares)	Owner Name	Number of Owners
1056639	MELISSA	CLAIM	2017-11-24	2020/OCT/06	2021/DEC/31	53.35	Skeena	1

\*Title Protection was applied to all claims due to COVID which extends all dates to an expiry date of Dec. 31, 2021

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

Tenure Number	Issue Date	Good to Date	Title Protection Expiry Date*	Area (Hectares)	Owner Name	Percent Ownership	Number of Owners
254580	1990-12-17	2020/DEC/17	2021/DEC/31	41.8	Skeena	100	1
306286	1991-08-13	2021/AUG/13	2021/DEC/31	73.56	Skeena	100	1
306611	1992-06-01	2021/JUN/01	2021/DEC/31	41.8	Skeena	100	1
306627	1992-06-01	2021/JUN/01	2021/DEC/31	355	Skeena	100	1
316357	1994-04-30	2022/APR/30		276.7	Skeena	66.67	2
316358	1994-04-30	2022/APR/30		367.7	Skeena	66.67	2
316359	1994-04-30	2022/APR/30		278.7	Skeena	66.67	2
329944	1994-12-06	2021/DEC/06	2021/DEC/31	395	Skeena	100	1

\*Title Protection was applied to all claims due to COVID which extends all dates to an expiry date of Dec. 31, 2021.

## 4.2 Royalty Obligations

The Eskay Creek Project has net smelter return (NSR) royalty obligations on 5 properties payable to third parties as shown in Table 4-3. A map of the claims with royalty obligations is presented in Figure 4-3.

**Table 4-3: Summary of Eskay Creek Project royalty obligations**

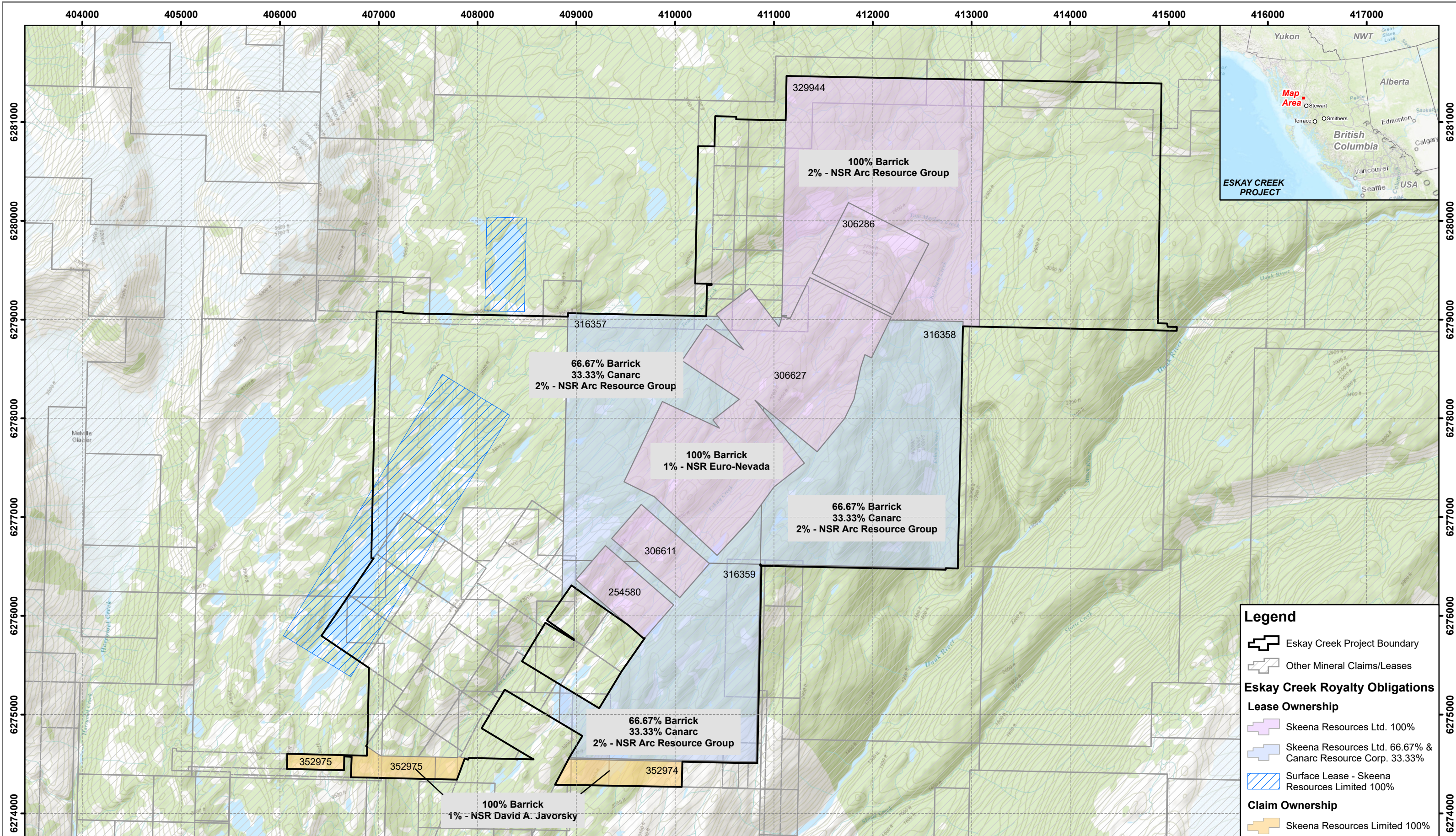
Parcel	Royalty
Kay-Tok Property <ul style="list-style-type: none"> <li>• Kay Mining Leases</li> <li>• Tok Mining Leases</li> </ul>	1% NSR in favour of Franco-Nevada Corp. (1) w/o duplication of the following and depending on the handling of the Product: 1% Net Smelter Returns, 1% Net Ore Returns, 1% Net Returns payable from the disposition of the beneficiated product of all metals, minerals and mineral substances. Barrick has the right of first refusal to purchase the royalty. No cap or buyout provision of this royalty.
IKS Property <ul style="list-style-type: none"> <li>• IKS 1 Mining Lease</li> <li>• IKS 2 Mining Claim</li> </ul>	2% NSR in favour of ARC Resource Corporation (2) Royalty also includes the area known as the IKS Gap. No cap on royalty payments. No buyout provision or rights of first refusal on the sale of the royalty.
GNC Property <ul style="list-style-type: none"> <li>• GNC 1-3 Mining Leases</li> </ul>	2% NSR in favour of ARC Resource Corporation (3) Interest: Barrick 66.67%; Canarc 33.33% No cap on royalty payments. No buyout provision or rights of first refusal on the sale of the royalty.
Star Property <ul style="list-style-type: none"> <li>• Star 21, 22</li> <li>• Sliver West Mining Claims</li> </ul>	1% NSR in favour of David A. Javorsky (4) No cap on royalty payments. The Option to Purchase the Royalty has expired.
Entire Eskay Creek Land Package	1% NSR in favour of Barrick Gold Corp. (5) Half the royalty may be repurchased from Barrick during the 24 -month period after closing at a cost of C\$17.5 million

1. Amended and Restated Eskay Creek Royalty Agreement dated May 5, 1995 between Prime Resources Group Inc. (now Barrick) and Euro-Nevada Mining Corporation Limited (now Franco-Nevada Corp.).
2. Transfer and Assignment Agreement dated December 22, 1994 between Prime Resources Group Inc. & Stikine Resources Ltd. (both now Barrick) and Adrian Resources Ltd.  

This agreement references the Royalty Deed dated August 1, 1990 between ARC Resource Group Ltd. and Adrian Resources Ltd.
3. Option and Joint Venture Agreement dated November 4, 1988 between Canarc Resources Corp and Calpine Resources Incorporated (now Barrick).

4. NSR Royalty Agreement w/ Option to Purchase dated November 3, 2004 between Homestake Canada Inc. (now Barrick) and David A. Javorsky.
5. Royalty Agreement dated October 2, 2020 between Skeena Resources Limited, and Barrick Gold Inc.





### **4.3 Acquisition of the Eskay Creek Project from Barrick Gold Inc.**

On October 2, 2020 Skeena and Barrick Gold Inc. agreed to amend the terms of the original option agreement on the Eskay Creek Property. Skeena acquired 100% ownership of Eskay Creek in consideration for:

- The issuance to Barrick of 22.5 million units, with each unit comprised of one common share of Skeena and a non-transferrable half warrant.
- The grant of a 1% NSR royalty on the entire Eskay Creek land package. Half of that royalty may be repurchased from Barrick during the 24-month period after closing, at a cost of C\$17.5 million.
- A contingent payment, payable if Skeena sells more than a 50% interest in Eskay Creek during the 24-month period after closing, stands at C\$15 million.

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

### **5.1 Accessibility**

Access to the Eskay Creek Project is via Highway 37 (Stewart Cassiar Highway). The Eskay Mine Road is an all-season gravel road that connects to Highway 37 approximately 135 km north of Meziadin Junction (Figure 5-1). The Eskay Mine Road is a 54.5 km private industrial road that is operated by Altagas Ltd. (0 km to 43.5 km) and Skeena Resources Limited (43.5 km to 54.5 km).

There are two nearby gravel air strips; Bronson Strip which is about 40 km west of the mine site and Bob Quinn, roughly 37 km northeast of the Eskay Creek Project. Bronson Strip is a private air strip operated by Snip Gold Corporation. It is 1,500 m long and in fair condition. The Bob Quinn Strip is managed by the Bob Quinn Lake Airport Society, a not-for-profit organization comprised of residents and local business interests. The airstrip is about 1,300 m long and in good condition.

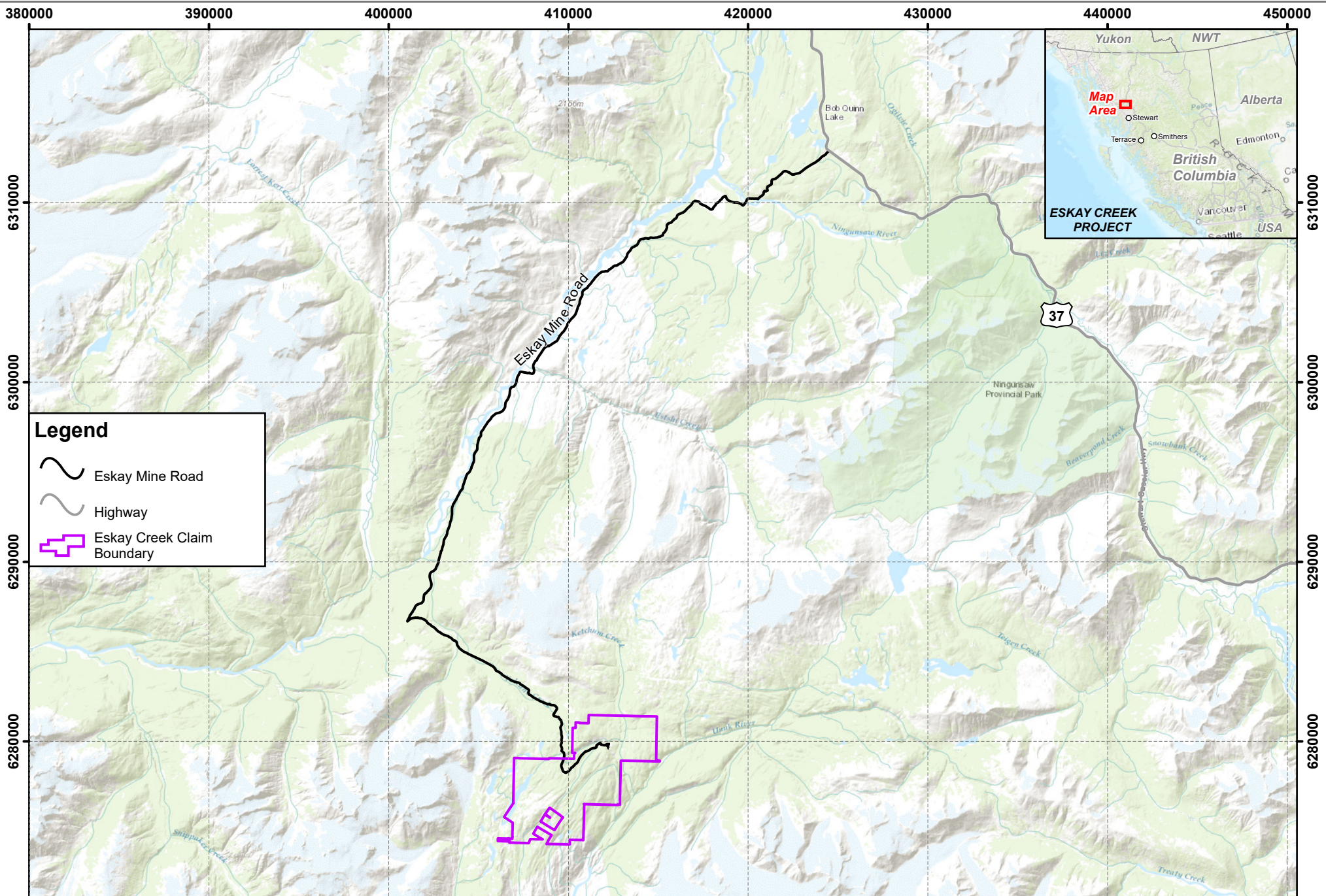
### **5.2 Local Resources and Infrastructure**

The Eskay Creek 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). Both communities are 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 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 Project 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 Eskay Creek Project. The Forest Kerr, McLymont, and Volcano Creek hydroelectric plants are within 20 km and collectively produce up to 277 MW which is fed to the provincial grid via transmission lines that extend along the Eskay Mine Road.

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



**Legend**

-  Eskay Mine Road
-  Highway
-  Eskay Creek Claim Boundary

Skeena Resources Limited  
 Date: 04-May-2021  
 Figure: 5-1  
 Author: M. Mayer  
 Filename: 210503\_EC\_43-101.aprx



**SKEENA**  
RESOURCES



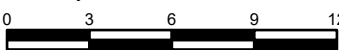
srk consulting

*Eskay Creek Au-Ag Project*


**Figure 5-1: Access to the Eskay Creek Project**

Skeena Mining Division - NTS 104B09  
 British Columbia, Canada

Scale: 1:275,000  
 Coord. System: NAD 1983 UTM Zone 9N



0 3 6 9 12  
 Kilometers



## 5.2.1 Mine Site Infrastructure

The Eskay Creek mine site still retains much of the infrastructure that supported previous operations. This infrastructure is still in serviceable condition and includes residences, mine offices, machine shop, carpentry shop, warehouse, fuel storage, power plant, underground workings and access, water management and treatment facilities, waste management facilities, and tailings storage facilities. The operations are currently closed but actively managed with ongoing maintenance and monitoring activities being carried out by a caretaker who visits the site on an as needed basis.

## 5.3 Climate and Vegetation

### 5.3.1 Climate

Climate conditions in this mountainous region are highly variable and location dependent (Hallam Knight Piesold Ltd, 1993). During the initial environmental baseline studies and permitting efforts for the Eskay Creek mine (1989-93), regional data was collected from all major weather reporting stations including Telegraph Creek, Todagin Ranch, Bob Quinn, Forrest Kerr, Stewart, Alice Arm, Snip Project, Sulphurets Project, and Snippaker Creek.

The expected mean annual temperature at the mine site (El. 750 m) is  $1 \pm 0.9$  °C, with mean monthly temperatures ranging from -10.4 °C in January to +15 °C in July (Environment Canada, 2013b). Expected extreme temperatures range from -40 °C to +30 °C.

The estimated mean annual total precipitation at the mine site is estimated to be 2,500 +/- 500 mm. Data collection at the site between 1989 and 1993 indicated between 55% and 71% of precipitation falls as snow.

Regional snowpack data is available but is highly variable and location dependent. Snowpack data collected at the Eskay Creek Project between 1990 and 1993 indicated peak snowpack (April) of  $1,425 \pm 567$  mm. Cumulative snowfall data at the mine site collected between 1999 and 2006 indicates a range of roughly 7.5 to 17.5 m of snow fall between September and May. Although annual snowfall is high, the snow avalanche hazard for the area is low, except in the Volcano Creek region.

Although adaptations are required to manage climate conditions, the operating season at Eskay is unconstrained. The mine operated successfully between 1994 and 2008 on a year-round basis.

### 5.3.2 Vegetation

The Eskay Creek Project area is represented by five biogeoclimatic zones: Alpine Tundra (AT), Engelmann Spruce-Subalpine Fir (ESSF), Mountain Hemlock (MH), Coastal Western Hemlock (CWH) and Interior Cedar Hemlock (ICH) (BC Ministry of Forests, 1988).

The highest elevational zone at 1,050 amsl (above mean sea level), occurring throughout the Tom MacKay Lakes area, is the Alpine Tundra Zone (AT). Here, the harsh climate results in essentially

treeless conditions. Vegetation is dominated by heather, lichens, mosses, sedges, and hardy alpine flowers. Much of this area is interspersed with rock and standing water.

The mine site and mid-Tom MacKay Creek, lower Argillite Creek, and mid-upper Eskay Creek are located within the Engelmann Spruce - Subalpine Fir Zone (ESSF), which includes continuous forest cover at its lower and middle elevations and subalpine parkland near its upper limits. Engelmann Spruce (*Picea Engelmann*) dominates the canopy of mature stands, while subalpine fir (*Abies lasiocarpa*) is most abundant in the understory (Meidinger and Pojar, 1991).

Subalpine areas below the Alpine Tundra are within the Mountain Hemlock Zone (MH), west and southwest of the mine site area. The major tree species include mountain hemlock (*Tsuga mertensiana*), subalpine fir with Sitka spruce and western hemlock (*Tsuga heterophylla*) occurring at lower elevations.

Low elevation landscapes along the Unuk River near the outlets of both Eskay Creek and Ketchum Creek are within the Coastal Western Hemlock Zone (CWH). Tree species include western hemlock, Sitka spruce, black cottonwood, subalpine fir, and a hybrid of white and Sitka spruce known as Roche spruce.

Valley bottoms and low elevation uplands along the Iskut River and Forest Kerr Creek are situated within the Interior Cedar Hemlock Zone (ICH). Dominant shrubs and groundcover characteristic of the ICH include feathermosses and leafy mosses.

## 5.4 Physiography

The Eskay Creek Project lies in the Prout Plateau, a rolling subalpine upland with an average elevation of 1,100 m (amsl), located on the eastern flank of the Boundary Ranges. The Plateau is characterized by northeast trending ridges with gently sloping meadows occupying valleys between the ridges (Figure 5-2). Relief over the Plateau ranges from 500 m in the Tom MacKay Lake area to over 1,000 m in the Unuk River and Ketchum Creek valleys. Mountain slopes are heavily forested, and scenic features of glacial origin, such as cirques, hanging valleys and over-steepened slopes are present throughout. The Plateau is surrounded by high serrate peaks containing cirque and mountain glaciers.

The surficial geology in the area is varied. Typical features include glacial till deposits, talus at the base of bedrock outcrops, colluvium on steep slopes, organics in poorly drained depressions and kettle holes, alluvial deposits along streams and alluvial fan deposits along the lake shorelines.

The Prout Plateau is drained by the tributaries of two major river systems including the Stikine - Iskut Rivers, and the Unuk River. Volcano Creek drains to the north into the Iskut River, a major tributary to the Stikine River system. The remainder of the Plateau is drained almost exclusively by the Unuk River and its tributaries: Tom MacKay, Argillite, Ketchum, Eskay and Coulter Creeks. The gradient of these drainages increases dramatically as they descend from the moderate relief of the Prout Plateau into the deeply incised Unuk River valley. The Plateau is occupied by Tom MacKay,

Little Tom MacKay and several smaller lakes and Argillite Creek which form the headwaters of the Tom MacKay Creek drainage system.



**Figure 5-2: View of Eskay Creek valley looking northeast**

## 6 History

### 6.1 Exploration History

The Eskay Creek Property has undergone exploration activity dating back to 1932 when prospectors looking for precious metals were first attracted by the gossanous bluffs extending for over seven kilometers beside Eskay and Coulter Creeks. The Tom Mackay Syndicate undertook the first staking in 1932 near the southern end of the claim group. During the period from 1935 to 1938, Premier Gold Mining Company Ltd. held the property under option and were responsible for the definition of 30 zones of surface mineralization including the 21 Zone. This was followed in 1939 by the driving of the 85 m Mackay Adit into the hillside three kilometers south of the current 21A/B Zones by the Tom Mackay Syndicate.

During World War II, from 1940 to 1945, exploration was halted and from 1946 through to 1963 only minor work was done on the property. This work included some minor re-staking along with various changes in claim title. Western Resources drove the Emma Adit in 1963 with drifting and crosscuts totalling 146 m. In 1964 the property was registered under Stikine Silver Limited.

Seven different options were undertaken on the property between 1964 and 1987. Exploration continued with geological mapping, geochemical and geophysical surveys, trenching, and diamond drilling looking for precious metal and VMS-style targets. In 1986 the company was renamed Consolidated Stikine Silver.

In 1988, Calpine Resources Inc. signed an option agreement to earn a 50% beneficial interest in the TOK and KAY claims by spending \$900,000 over a three-year period. Six diamond drill holes were undertaken in the fall of 1988 near the old 21 Zone trenches. The 21A Zone was discovered with an intercept of 25.78 g/t Au and 38.74 g/t Ag over 29.4 m in drill hole DDH CA88-6. Continued drilling in 1988 and 1989 outlined the 21A Zone and defined the 21B Zone, some 200 meters to the north. Prime Resources acquired a controlling interest in Calpine in 1989 and took over managing the Eskay Creek project. Once their obligations were complete, Prime merged with Calpine in April 1990. At the same time, Homestake Canada Inc. acquired an equity position in Consolidated Stikine Silver and eventually acquired the property. 21B Zone underground development began in 1990-91, a feasibility study was undertaken in 1993 and the Eskay Creek Mine was officially opened in 1995.

From 1995 through 2001, Homestake Canada operated the mine and continued exploration on the surrounding claims with geological mapping, geochemical and geophysical surveys, and diamond drilling.

In 2002 Barrick Gold Corp. assumed control of the Eskay Creek Mine, continuing with mining operations and exploration until the mine closure in 2008. From 2008 to 2018 the property was under a state of reclamation, care and maintenance.

In December 2017, Skeena and Barrick Gold Inc. entered into an Option Agreement on the Eskay Creek Property. Skeena had the option to acquire all of Barrick's rights, title and interest in and to



the Eskay Creek Assets (Property and all Facilities, the Coast Road and the Barrick/Coast Road Use Agreement), the Permits (including the Barrick Road Special Use Permit), and the Eskay Creek Contracts) by completing \$3,500,000 in Expenditures by December 18, 2020. Skeena would pay Barrick the aggregate amount of Barrick Expenditures during the Option Period plus \$10,000,000 (assuming the environmental bond is estimated at \$7,700,000, with a closing payment not exceeding \$17,700,000).

In 2018, Skeena completed 46 holes for a total of 7,737 m of surface diamond drilling targeting the 22, 21A, and 21C Zones. The drilling was designed to reduce drill spacing in these areas, as well as collect fresh material for metallurgical studies. Due to the onset of winter, drilling in the 22 Zone was suspended. Drilling in the 21A and 21C Zones were completed successfully, however only 30% of the planned drilling in the 22 Zone was accomplished. In addition, a LiDAR and photography survey over the Eskay Creek property was undertaken.

In November 2018 Skeena released its Maiden Mineral Resources estimate with a predominantly underground mining focus, using legacy data only.

In February 2019, Skeena released an updated Mineral Resource Estimate with a predominantly Open Pit component.

In 2019, Skeena completed 203 drill holes for a total of 14,091.87 meters targeting the 22, 21A, 21C, HW, and 21 Zones to infill and upgrade the Inferred resources in these areas. In addition, a small prospecting program at Tom MacKay, Eskay Porphyry and Tip Top was undertaken. A total of 93 grab samples were taken for geochemical analysis, as well as 44 structural measurements at Tom MacKay. Following the positive results at Tom MacKay, 6 holes were drilled in 2020.

During 2020 and early-2021 an ambitious surface drilling program was undertaken to improve confidence within the proposed pit area, as well as to expand current resources across the property. The drilling occurred in two phases:

- **Phase 1:** 197 drill holes for a total of 36,582.45 m were completed. All holes occurred outside of a 20 m buffer imposed by Barrick. This buffer surrounded all underground workings.
- **Phase 2:** 305 drill holes for a total of 46,328.22 m inside the 20 m buffer were completed once Skeena secured the option to acquire the Eskay Creek Project.

On October 2, 2020 Skeena and Barrick Gold Inc. agreed to amend the terms of the original option agreement on the Eskay Creek Property. Skeena acquired 100% ownership of Eskay Creek Property from Barrick Gold which allowed the Phase 2 portion of the surface drilling program to commence in October 2020.

In addition, between July 27<sup>th</sup> and September 4<sup>th</sup>, 2020, Dias Geophysical Limited (Dias) carried out a 3D DC Resistivity and Induced Polarization (DCIP) survey over the Eskay Creek Property.

Table 6-1 is a summary of the work that has been undertaken on the Eskay Creek Project by various operators since 1932.

**Table 6-1: Summary of exploration on the Eskay Creek Project**

Year	Owner	Work Area	Description
1932	Unuk Gold/Unuk Valley Gold Syndicate	Unuk & Barbara Group claims (Core Property)	Prospecting
1933	Mackay Syndicate	Unuk & Barbara Claims	Trenching
1934	Mackay Syndicate/Unuk Valley Gold Syndicate	Unuk, Barbara & Verna D. Group Claims	Prospecting Diamond drilling (261.21 m)
1935-1938	Premier Gold Mining Co. Ltd.	Core Property	Optioned property and conducted prospecting Trenching Diamond drilling (1,825.95 m) Defined and named over 30 mineralized showings. Names are still in use (e.g. the 21, 22 zones, etc.)
1939	MacKay Gold Mines Ltd.	#13 O.C./Mackay Adit	Financed by Selukwe Gold Mining and Finance Company Ltd. and acquired property. Conducted data review Underground development of the Mackay Adit (84.12m)
1940-1945			No activity due to World War II
1946	Canadian Exploration Ltd.	Mackay Adit	Optioned property Mapping Trenching Underground development - extended the Mackay Adit to 109.73 m & put raise to surface at 46 m)
1947-1952	American Standard Mines Ltd. / Pioneer Gold Mines of B.C. Ltd. / New York-Alaska Gold Dredging Corp.	Canab Group (36 claims of the Mackay Group)	Optioned and conducted Property Examination.
1953	American Standard et al	Canab Group / Mackay Group 36 claims (No. 21, No. 22 & No. 5 areas)	Trenching (2655.32 m) Open cutting in the 5, 21 and 22 zones Diamond Drilling (22 boreholes)
1954-1962	Western Resources Ltd.	Kay 1-18	Unknown – no work reported
1963	Western Resources Ltd.	Kay 1-18 Kay 19-36 Emma Adit	Underground development of the Emma Adit (111.25m) Road building (13 km) from Tom Mackay Lake to property
1964	Stikine Silver Ltd. / Canex Aerial Exploration Ltd.	Kay Group Emma Adit	Optioned from Western Resources Ltd. Mapping Rock, stream, sediment, and soil sampling Underground diamond drilling (224.64m)
1965	Stikine Silver Ltd.	Kay Group (40 claims) Emma Adit	Trenching (1457.20m in 18 trenches) Diamond drilling (15.85 m) Underground development (extended Emma adit to 178.61m)
1966	Stikine Silver Ltd.		No activity
1967	Mount Washington Copper Co. / Stikine Silver Ltd.	Kay 1-36 (Core Property)	EM 16 and magnetometer surveys Petrography

Year	Owner	Work Area	Description
1968-1970	Newmont Mining Corp.	Kay 1-8 Au 1-4 Kay 3-4	Surface and underground geological mapping Trenching (137.16 m)
1971-1972	Stikine Silver Ltd.	22 Zone	Trenching Surface bulk sample (1515 kg grading 6.06 g/t Au, 4451.56 g/t Ag, 2.8% Zn, 1.9% Pb)
1973	Kalco Valley Mines Ltd.	22 Zone	Surface geological mapping Diamond drilling (299.62 m)
1974			No activity
1975-1976	Texasgulf Canada Ltd.	#5 O.C. #6 O.C. (Kay 11-18, Tok 1-22 & Sib 1-16 claims)	Mapping (1:5,000, Donnelly, 1976 B.Sc. Thesis, UBC) Line cutting Rock sampling EM Mag Diamond drilling (373.38 m)
1977-1978			No activity
1979	May-Ralph Resources Ltd.	22 Zone	Hand-cobbed bulk sample (1,263 grams Au, 25,490 grams Ag, 412 kg Pb and 1,008 kg Zn – no tonnage reported)
1980-1982	Ryan Exploration Ltd. (U.S. Borax)	22 Zone #6 Zone Mackay Adit	Mapping Rock, stream sediment and soil sampling Diamond drilling (452.32 m)
1983-1984			No activity
1985	Kerrisdale Resources Ltd.	#5 Zone 21 Zone 22 Zone	Mapping Rock and soil sampling Diamond drilling (622.10 m)
1986			No activity
1987	Consolidated Stikine Silver	#3 Bluff 5, 21 and 23 Zones	Stream sediment and soil sampling Core (all Kerrisdale) sampling Trench sampling
1988	Calpine Resources Inc. / Consolidated Stikine Silver	21A/21B Zones	Mapping, Rock Sampling, Soil Sampling, Diamond Drilling (2,875.5 m) Discovery hole CA88-6 for 21A Zone
1989	Calpine Resources Inc. / Consolidated Stikine Silver	21A/21B Zones 22 Zone	Mapping Rock and soil sampling Airborne Mag/EM/VLF Ground Mag/VLF-EM, I.P. Diamond drilling (44,338.9 m) Legal surveys
1990	Calpine Resources Inc. / Consolidated Stikine Silver	21B/21C Zones PMP Mack Proposed Mill Site Proposed Mine Site GNC Adrian	Mapping Rock and soil sampling UTEM Survey Diamond drilling (141,412.86 m) Environmental and terrane studies Geotechnical and metallurgical studies Underground development (21B Zone) Bulk Sample

Year	Owner	Work Area	Description
1991	International Corona Corp.	21B Zone GNC	Mapping Rock and soil sampling UTEM, seismic refraction and borehole FEM Diamond drilling (2,791 m) Relogging core program Start of underground diamond drilling
1992	International Corona Corp.	21B Zone GNC	Mapping Rock and soil sampling Seismic refraction / Gradient / I.P. / Transient EM / Borehole FEM Diamond drilling (3,342 m)
1993	Homestake Canada Inc.	21B Zone GNC	Mapping Rock sampling Resistivity/Borehole FEM Diamond drilling (1,606.6 m) Completion of Eskay mine road T. Roth - MSc. thesis completed R. Bartsch - MSc. thesis completed
1994	Homestake Canada Inc.	21B Zone Adrian Albino Lake	Mapping, Rock sampling Borehole EM Diamond drilling (4,080.95 m)
1995	Homestake Canada Inc.	21B Zone/NEX Bonsai	Mapping Rock sampling Diamond drilling (3,468.1 m) Start of production on 21B Zone Production: 6,113 kg Au, 309,480 kg Ag
1996	Homestake Canada Inc.	21B Zone/NEX/HW Adrian Bonsai	Mapping Rock sampling Trenching Diamond drilling (21,280.8 m) Orthophoto Survey Production: 6,570 kg Au, 375,000 kg Ag
1997	Homestake Canada Inc.	21B Zone/21C/21E Adrian GNC Mack Star	Prospecting Silt Sampling Diamond Drilling (16,220.47 m) Production: 7,612 kg Au, 367,000 kg Ag
1998	Homestake Canada Inc.	21C/21A/PMP 5/23/22/28/Mackay Adit GNC Mack SIB Gaps Star/Coulter	Mapping and prospecting Test gravity survey Diamond drilling (21,909.63 m) Orthophoto survey Production: 8,774 kg Au, 364,638 kg Ag
1999	Homestake Canada Inc.	21C/21A/PMP Deep Adrian West Limb East Limb	Mapping and prospecting Structural study Geophysical compilation Diamond drilling (17,363.96 m) Production: 9,934 kg Au, 422,627 kg Ag

Year	Owner	Work Area	Description
2000	Homestake Canada Inc.	21C/21A/PMP Deep Adrian West Limb East Limb	Mapping Prospecting Diamond Drilling (25,893.93 m) Production: 10,363 kg Au, 458,408 kg Ag
2001	Homestake Canada Inc.	21C/21A/PMP Deep Adrian West Limb East Limb Felsite Bluffs Sib Gaps Pillow Basalt Ridge	Mapping and prospecting Diamond drilling (22,035.48 m) Production: 9,977 kg Au, 480,685 kg Ag
2002	Barrick Gold Corp.	21C/21A/PMP Deep Adrian West Limb 22 Zone Mackay Adit	Mapping and prospecting Diamond drilling (15,115.69 m) Production: 11,157 kg Au, 552,487 kg Ag T. Roth - PhD. thesis completed
2003	Barrick Gold Corp.	21C/21A/PMP Deep Adrian West Limb 22 Zone Mackay Adit	Mapping and prospecting Diamond drilling (18,323.28 m) I.P. and gravity surveys Linecutting Production: 10,951 kg Au, 527,775 kg Ag
2004	Barrick Gold Corp.	22 Zone Deep Adrian West Limb Ridge Block Footwall	Mapping and prospecting Rock, soil, silt and vegetation sampling Topographic survey Borehole TEM Diamond drilling (18,404.88 m) Production: 8,825 kg Au, 504,602 kg Ag
2005	Barrick Gold Corp.		Diamond drilling (16,000 m) Production: 5,917 kg Au, 323,350 kg Ag
2006	Barrick Gold Corp.		Production: 3,324 kg Au, 216,235 kg Ag
2007	Barrick Gold Corp.		Production: 2,115 kg Au, 108,978 kg Ag
2008	Barrick Gold Corp.		Production: 480 kg Au, 27,800 kg Ag Mine Closed – April Reclamation ongoing
2009-2016	Barrick Gold Corp..		Mine reclaimed Continuous care and maintenance
2017	Barrick Gold Corp. / Skeena Resources Ltd.		Continuous care and maintenance Skeena secure option
2018	Skeena Resources Ltd.	21A, 21C, 21B and 22 Zone	Skeena files Notice of Work, commences Phase 1 diamond drill program on the 21A, 21C and 22 Zones (7,737.45m), LiDAR and photography survey Maiden Resource Estimate
2019	Skeena Resources Ltd.	21A, 21B, HW and 21E Zone, Tom MacKay, Tip Top and Eskay Porphyry	Updated Resource Estimate Surface diamond drilling of 203 holes for 14,091.87 m Prospecting at Tom MacKay, Eskay Porphyry and Tip Top.
2020	Skeena Resources Ltd.	22, 21A, 21C, 21B, 21E, HW, PMP, WTZ, LP, Tom MacKay	Surface diamond drilling: Phase 1 -197 holes for 36,582.45 m Phase 2 - 276 holes for 43,340.23 m

<b>Year</b>	<b>Owner</b>	<b>Work Area</b>	<b>Description</b>
			Geophysics survey over Eskay Creek Property
2021	Skeena Resources Ltd.	21B, HW and PMP	Completion of Phase 2 surface drilling for resource conversion (29 holes for 2,988.00 m)

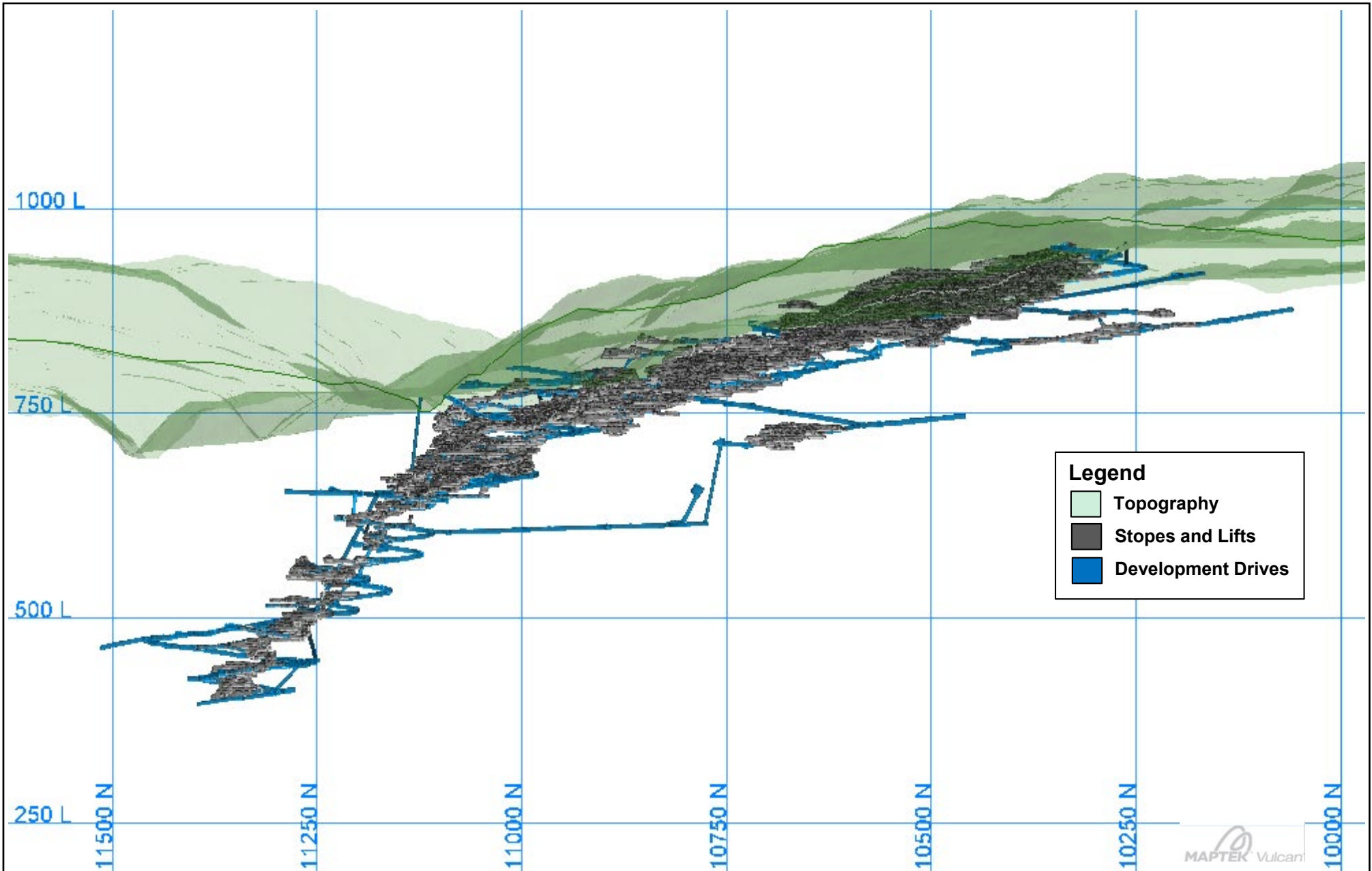
## 6.2 Past Production

The Eskay Creek mine was in production from 1994 until April 2008. Homestake Canada Inc. acquired Prime Resources and developed the mine, at a nominal rate of 270 tonnes per day, with the first shipment of direct-to-smelter ore from the 21B Zone being made in January 1995. Planning for an on-site mill started almost immediately and was permitted in 1996. The Eskay Creek mill began commercial production on January 1, 1998 at 150 tonnes per day, which increased incrementally over the next six years. The mill treated metallurgically simpler ore which primarily came from the 109 Zone below 21B, and subsequently the NEX stratiform Zone which was discovered in 1995.

The trackless, drift-and-fill underground mine produced more than 3.3 million ounces of gold and 160 million ounces of silver from less than 2.3 million tonnes of ore during its 14-year mine life. Historical production from Eskay Creek is shown below in Table 6-2. Underground workings (stopes, lifts and development drives) are shown in Figure 6-1.

**Table 6-2: Historical gold and silver production during the mine life at Eskay Creek**

Year	Gold Produced (oz)	Gold Produced (kg)	Silver Produced (kg)	Silver Produced (oz)	Ore Tonnes Milled	Ore Tonnes shipped direct
1995	196,550	6,113	309,480	9,950,401	0	100,470
1996	211,276	6,570	375,000	12,057,000	0	102,395
1997	244,722	7,612	367,000	11,799,784	0	110,191
1998	282,088	8,774	364,638	11,723,841	55,690	91,660
1999	308,985	9,934	422,627	13,588,303	71,867	102,853
2000	333,167	10,363	458,408	14,738,734	87,527	105,150
2001	320,784	9,977	480,685	15,454,984	98,080	109,949
2002	358,718	11,157	552,487	17,763,562	116,013	116,581
2003	352,069	10,951	527,775	16,969,022	115,032	134,850
2004	283,738	8,825	504,602	16,223,964	110,000	135,000
2005	190,221	5,917	323,350	10,396,349	103,492	78,377
2006	106,880	3,324	216,235	6,952,388	123,649	18,128
2007	68,000	2,115	108,978	3,503,861	138,772	0
2008	15,430	480	27,800	893,826	31,750	0
<b>TOTAL</b>	<b>3,272,628</b>	<b>102,112</b>	<b>5,039,065</b>	<b>162,016,018</b>	<b>1,051,892</b>	<b>1,205,604</b>





## 7 Geological Setting and Mineralization

### 7.1 Regional Geology

The Iskut River region is located along the western margin of the Stikine Terrane, within the Intermontane Tectonic Belt of the Northern Cordillera (Figure 7-1). Anderson (1989) divides this area of the Stikine Terrane into four unconformity-bounded, tectonostratigraphic elements. Deformed and metamorphosed sedimentary and volcanic rocks of the Paleozoic Stikine Assemblage are overlain by volcano-sedimentary arc complexes of the Stikinia Assemblage (Triassic Stuhini Group and Lower to Middle Jurassic Hazelton Group). These units are subsequently overlain by Upper Jurassic to Lower Cretaceous siliciclastic sedimentary rocks of the Bowser Lake Group that formed an overlap assemblage following the amalgamation of the Stikine and Cache Creek Terranes (Table 7-1). Six distinct plutonic suites have been recognized in the area and commonly intrude all assemblages (Table 7-2).

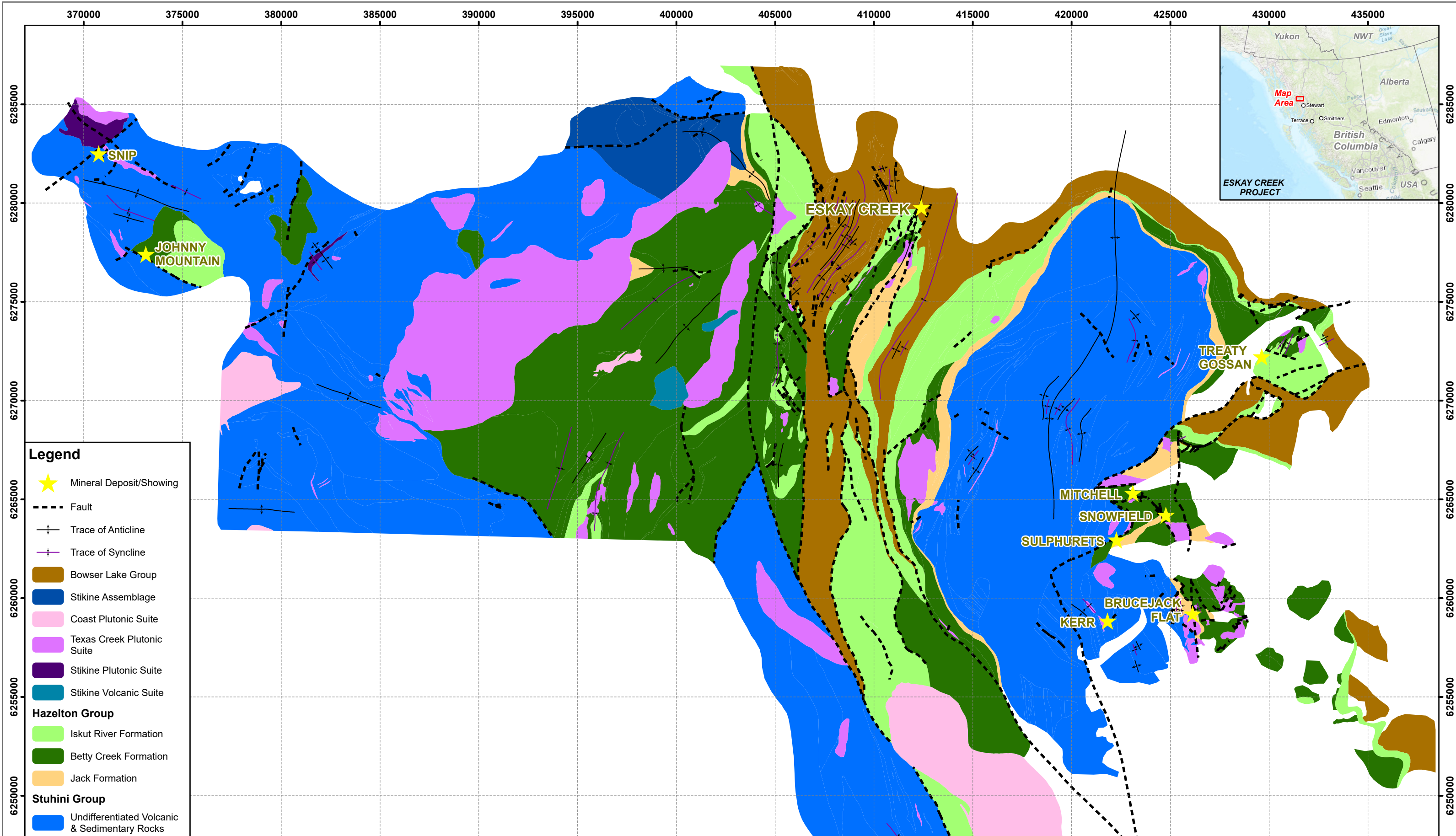
**Table 7-1: Regional stratigraphy of the Iskut River region (after Anderson, 1989 and Nelson et al., 2018)**

Assemblage	Age	Rock Units
Coast Plutonic Complex	Tertiary	Post tectonic, felsic plutons
"Bowser Overlap" Assemblage (includes Bowser Lake Group)	Late Jurassic to Early Cretaceous	Deformed, siliciclastic sediments
"Stikinia" Assemblage (includes Stuhini & Hazelton Groups)	Triassic to Middle Jurassic	Deformed volcanics, intrusives and basinal sediments
Stikine Assemblage	Early Devonian to Early Permian	Highly deformed limestone and volcanics

**Table 7-2: Iskut River region plutonic rock suite (After MDRU, 1992)**

Suite Name	Lithologies	Age
Coast Plutonic Complex	Lamprophyres, gabbro-syenite	Tertiary (13-25 Ma)
Hyder	Monzogranite, monzonite, granodiorite	Tertiary (36-57 Ma)
Eskay Creek	Monzodiorite	Middle Jurassic (185 ± 2 Ma)
Sulphurets	Felsic intrusives/extrusives	Middle Jurassic (185.9 Ma)
Texas Creek	Calc alkaline granodiorite and quartz monzodiorite commonly cut by andesite dikes	Early Jurassic (189-195 Ma)
Stikine	Clinopyroxene-gabbro, diorite, monzodiorite and monzonite. Co-spatial with the Stuhini volcanics	Late Triassic (210 Ma)

Lower greenschist facies metamorphism is common throughout the area and is likely related to the Cretaceous deformation that formed the Skeena fold and thrust belt (Rubin et al., 1990; Evenchick, 1991). Deformation in the Iskut River area is characterized by regional upright anticlinoria and synclinoria, related thrust faults, mesoscopic folds and normal faults, and cleavage development.



The regional-scale McTagg anticlinorium is the dominant structural feature, located in the eastern part of the Iskut River area.

The Iskut River region hosts many significant porphyry, precious-metal vein and volcanogenic massive sulphide deposits, the majority of which exhibit a close spatial relationship to Hazelton Group rocks (latest Triassic to Middle Jurassic) and their associated intrusions (Macdonald et al., 1996; Nelson et al., 2018). A list of some of the most significant mineral deposits and past producing mines located in the region is summarized below in Table 7-3. This information was compiled from technical reports (available on [www.sedar.com](http://www.sedar.com)) and from British Columbia's Ministry of Energy, Mines & Petroleum Resources MINFILE database.

**Table 7-3: Notable mineral deposits located in the Iskut River region**

Deposit Name	Company	Deposit Type	Status	Age
Brucejack	Pretium Resources Inc.	Porphyry-Related/ Intermediate Sulphidation Au-Ag Epithermal	In Production	Lower Jurassic (183 - 191 Ma)
KSM	Seabridge Gold Inc.	Porphyry Gold-Copper	Development Project	Lower Jurassic (190 - 198 Ma)
Red Mountain	IDM Mining Ltd.	Intrusion-Related Polymetallic Veins and Replacements	Development Project	Lower Jurassic
Snip	Skeena Resources Ltd.	Mesothermal Gold	Development Project; Past Producer (1.03 Moz Au)	Lower Jurassic (195 Ma)
Eskay Creek	Barrick Gold Inc.	VMS	Past Producer (3.30 Moz Au and 160 Moz Ag)	Lower Jurassic (175 Ma)
Granduc	Castle Resources Inc.	VMS	Past Producer (64 koz Au, 3.99 Moz Ag and 419 M lbs Cu)	Lower Jurassic
Johnny Mountain	Seabridge Gold Inc.	Mesothermal Gold	Past Producer (90,352 oz Au)	Lower Jurassic
Silbak Premier	Ascot Resources Ltd.	Intrusion-Related Polymetallic Veins/Epithermal	Past Producer (1.94 Moz Au, 41.52 Moz Ag, 54 M lbs Pb)	Lower Jurassic (194.8 Ma)

Given the important relationship of the Hazelton Group to mineral deposits throughout the area, there have been many local mapping campaigns through the years, completed by different workers and at different scales. The resulting stratigraphic framework, although detailed in parts, contained numerous inconsistencies, and resulted in a poor ability to correlate stratigraphy and units on a regional scale. Working to resolve many of these issues, Nelson et al. (2018) completed a comprehensive regional investigation of the Hazelton Group, resulting in a new stratigraphic framework that contains six formations, detailed in Table 7-4.

**Table 7-4: Stratigraphic framework for the Hazelton Group in the Eskay Creek-Harrymel Creek area (after Nelson et al., 2018)**

Formation	Lithologies	Sub-units	Age
<b>Quock Fm. (Hazelton Group)</b>	The highest unit in the Hazelton Group, consisting of 50-100 m of thinly bedded, dark grey siliceous argillite with pale felsic tuff laminae, and radiolarian chert. Commonly identifiable by presence of alternating dark and light coloured beds. Located in areas proximal to, but outside of the Eskay rift.		~164-170 Ma
<b>Mt. Dilworth Fm. (Hazelton Group)</b>	Dacite and rhyolite that form laterally continuous exposures; distinguished from felsic units of the Iskut River Fm. by its regional extent and lack of interfingering with mafic units. Located in areas proximal to, but outside of the Eskay rift.		174 Ma
<b>Iskut River Fm. (Hazelton Group)</b>	A several kilometer thick succession of interlayered basalt, rhyolite, and sedimentary rocks that occupy a narrow, fault-bounded north-trending belt known as the Eskay Rift. It consists of a highly variable succession of mafic and felsic volcanic and sedimentary units in differing stratigraphic sequences, often with multiple stratigraphic repetitions.	<b>Willow Ridge mafic unit</b> - Voluminous basalts located at varying stratigraphic levels; present in the hanging-wall to the Eskay Creek deposit.	170-173 Ma
		<b>Mount Madge sedimentary unit</b> - Thinly bedded black argillaceous mudstone and felsic tuff (host to the stratiform mineralization at Eskay Creek in the Contact Mudstone); similar thin, discontinuous lenses enclosed within volcanics occur elsewhere in the Iskut River Fm.	171-175 Ma
		<b>Eskay Rhyolite Member</b> - A linear flow dome complex of coherent to brecciated flows that show peperitic contacts with the overlying argillites; distinct geochemical signature compared to other felsic bodies in the area (Al/Ti>100). Associated with the mineralizing event at Eskay Creek.	175 Ma
		<b>Bruce Glacier felsic unit</b> - Non-welded to welded lapilli tuff, felsic volcanic breccia and coherent flows, and volcanic conglomerates. Located in the footwall of the Eskay Creek deposit.	173-179 Ma
<b>Spatsizi Fm. (Hazelton Group)</b>	Volcanic sandstone, conglomerate, and local bioclastic sandy limestone, mudstone-siltstone rhythmites, and limestone.		~174-187 Ma
<b>Betty Creek Fm. (Hazelton Group)</b>	Can be subdivided into three informal units which have been observed as multiple bodies at different stratigraphic levels.	<b>Brucejack Lake felsic unit</b> - Flow dome complex believed to represent the extrusive and high-level intrusive products of a local magmatic centre; consists of k-spar, plagioclase and hornblende phyric flows, breccias and bedded welded to non-welded felsic tuffs that are intruded by flow-banded coherent plagioclase phyric bodies (grade upward into flows).	183-188 Ma
		<b>Johnny Mountain dacite unit</b> - Generally located upsection of the Unuk River andesite consisting of bedded dacite lapilli tuff and breccia.	~194 Ma
		<b>Unuk River andesite unit</b> - Pyroclastic and epiclastic deposits often located unconformably overtop of the Jack Fm.	187-197 Ma
<b>Jack Fm. (Hazelton Group)</b>	Basal siliciclastic unit characterized by cobble-boulder granitoid-clast conglomerates, quartz-bearing arkosic sandstone, greywackes, and thinly bedded siltstones and mudstones, units sometimes weather to an orange colour. Some sections contain interbedded andesitic volcanoclastics.		196-203 Ma

## 7.2 Property Geology

### 7.2.1 Stratigraphy

The Eskay Creek deposit is located near the northern margin of the Eskay Anticline, just below the stratigraphic transition from volcanic rocks of the uppermost Hazelton Group to marine sediments of the Bowser Lake Group (Figure 7-2 and Figure 7-3). Descriptions of units from the local mine stratigraphy have been compiled from Roth et al. (1999) with stratigraphic nomenclature taken from Nelson et al. (2018).

The lowest stratigraphic unit encountered at Eskay Creek is the Unuk River andesite unit (Betty Creek Formation), which is exposed in the core of the Eskay Anticline. It is characterized by a thick sequence of coarse, monolithic andesite breccias and heterolithic volcanoclastic rocks. The andesites are overlain by marine shales and interbedded coarse clastic sedimentary, volcanoclastic, and calcareous rocks of the Spatsizi Formation (Even Lower Mudstone). Bartsch (1993) suggests that the observed shift from sandstone and conglomerate to shale dominated facies indicates a shift from shallow to deeper marine settings.

The base of the Iskut River Formation is marked by a sequence of volcanoclastic rocks with compositions ranging from dacite to basalt and are likely part of the Bruce Glacier felsic unit. This unit is characterized by pumice-rich block and lapilli tuffs and heterogeneous epiclastic rocks that are locally fossiliferous. Near the top of the sequence, a distinct dacite amygdaloidal, aphanitic flow or sill forms a marker horizon referred to by Roth et al. (1999) as the Datum Dacite. This unit is capped by a thin (<3 m thick) distinctive black mudstone horizon, referred to as the Datum Mudstone (Lower Mudstone).

Up stratigraphy, the Eskay Rhyolite member is represented by a linear set of flow-dome complexes through the property. Locally preserved flow bands, flow lobes, breccias, hyaloclastite, spherulites, and perlitic textures allowed Bartsch (1993) to identify several distinct facies. These included basal and peripheral fragmental felsic rocks containing pumiceous clasts, outer zones dominated by chaotic autobrecciated flow-banded rhyolite, and central zones of massive to flow-banded rhyolite. The entire rhyolite sequence is up to 200 m thick. U-Pb zircon dating by Childe (1996) shows an age for the unit of  $175 \pm 2$  Ma. The Eskay Rhyolite Member is located in the immediate footwall to the economically significant stratiform mineralized bodies, and also hosts stringer-style discordant mineralization.

The contact between the rhyolite and overlying Contact Mudstone (Mount Madge Sedimentary unit) is locally marked by a black-matrix breccia, consisting of matrix-supported white rhyolite fragments set in a siliceous black matrix (Bartsch, 1993). Peperitic textures, represented by irregular concave surfaces and jigsaw texture of the rhyolite fragments, suggests in-situ fragmentation of rhyolites as they intruded wet sediments. This hints that rhyolite volcanism was at least partly synchronous with argillaceous sedimentation. Overlying the rhyolite and black matrix breccia are black mudstone and intercalated graded volcanoclastic sedimentary rocks (Roth et al., 1999). Rhyolite fragments contained within the volcanoclastic beds suggest an extrusive component to the rhyolite flow domes (Roth, 1995). Within these volcanoclastic intervals, the presence of coarser rhyolite breccia

fragments is interpreted to represent debris flows. The thickest accumulations of these rhyolitic fragments are located in the immediate footwall to the 21B clastic ore Zone, which suggests that a basin developed in the area prior to mineralization (Roth, 1995).

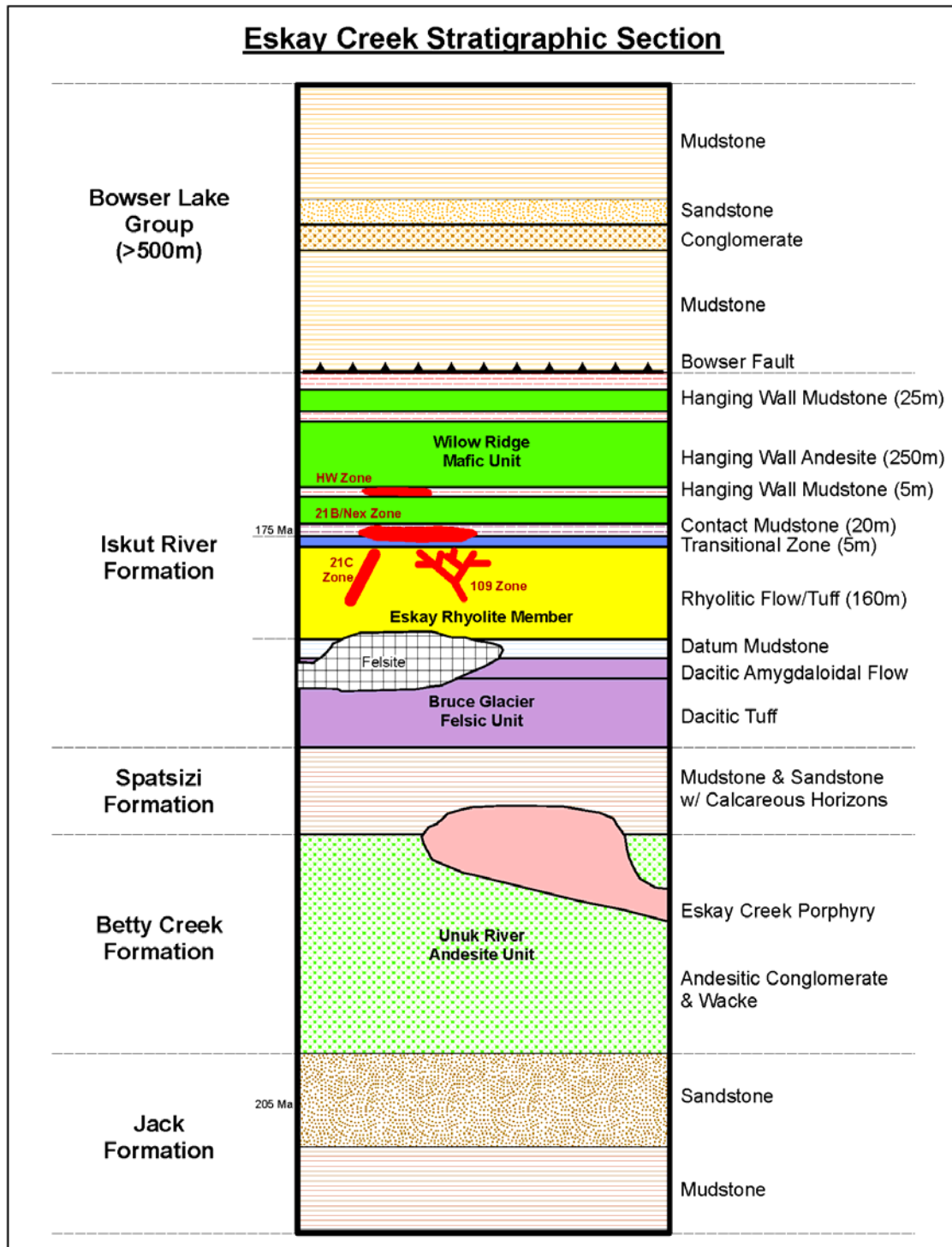
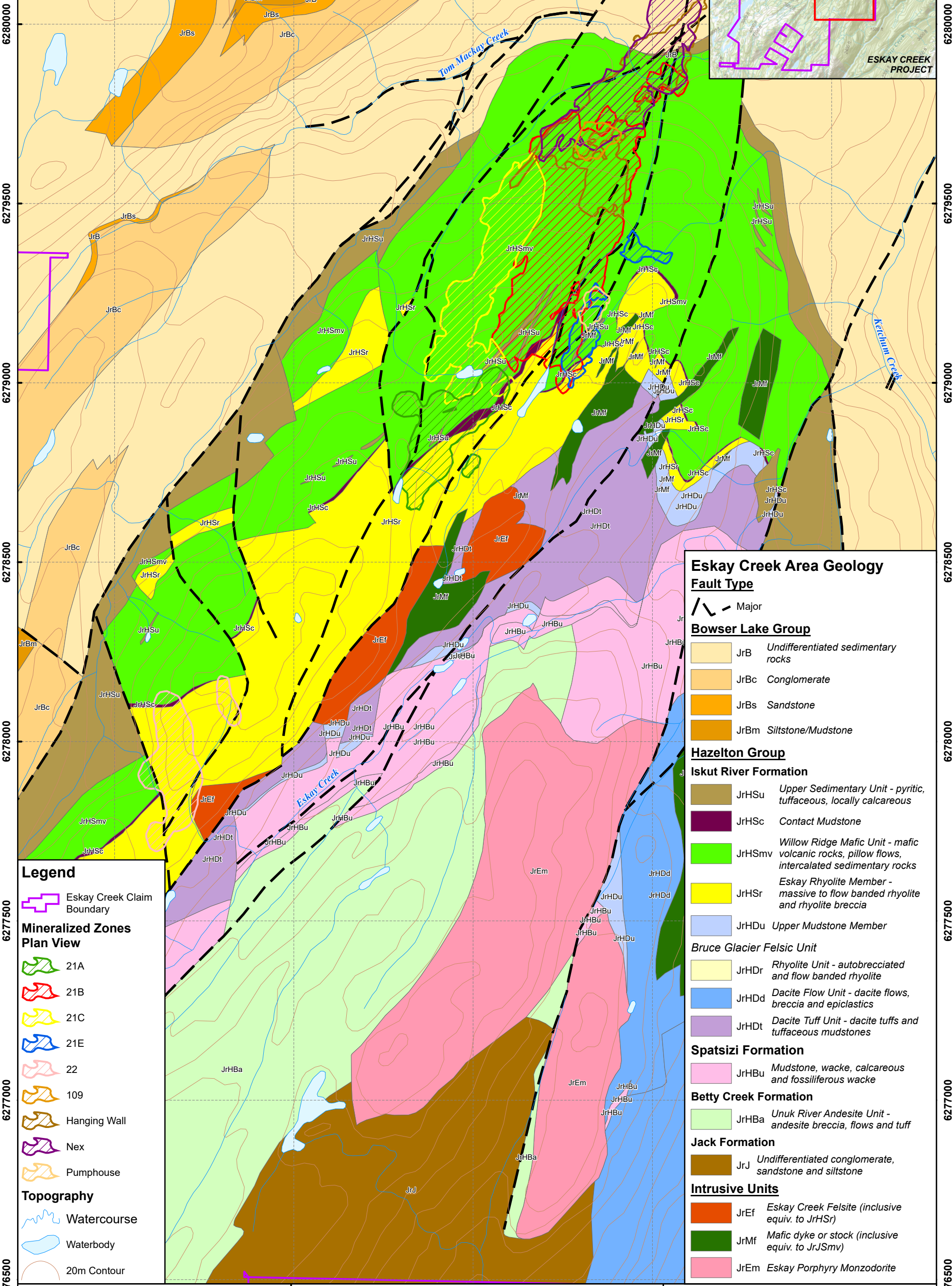


Figure 7-2: Eskay Creek stratigraphic section (modified after Gale et al., 2004)

410500 411000 411500 412000 412500



### Eskay Creek Area Geology

**Fault Type**  
 \ / - Major

**Bowser Lake Group**

- JrB Undifferentiated sedimentary rocks
- JrBc Conglomerate
- JrBs Sandstone
- JrBm Siltstone/Mudstone

**Hazelton Group**

**Iskut River Formation**

- JrHSu Upper Sedimentary Unit - pyritic, tuffaceous, locally calcareous
- JrHSc Contact Mudstone
- JrHSmv Willow Ridge Mafic Unit - mafic volcanic rocks, pillow flows, intercalated sedimentary rocks
- JrHSr Eskay Rhyolite Member - massive to flow banded rhyolite and rhyolite breccia
- JrHDu Upper Mudstone Member

**Bruce Glacier Felsic Unit**

- JrHDr Rhyolite Unit - autobrecciated and flow banded rhyolite
- JrHDd Dacite Flow Unit - dacite flows, breccia and epiclastics
- JrHDt Dacite Tuff Unit - dacite tuffs and tuffaceous mudstones

**Spatsizi Formation**

- JrHBu Mudstone, wacke, calcareous and fossiliferous wacke

**Betty Creek Formation**

- JrHBa Unuk River Andesite Unit - andesite breccia, flows and tuff

**Jack Formation**

- JrJ Undifferentiated conglomerate, sandstone and siltstone

**Intrusive Units**

- JrEf Eskay Creek Felsite (inclusive equiv. to JrHSr)
- JrMf Mafic dyke or stock (inclusive equiv. to JrJSmv)
- JrEm Eskay Porphyry Monzodiorite

**Legend**

- Eskay Creek Claim Boundary

**Mineralized Zones Plan View**

- 21A
- 21B
- 21C
- 21E
- 22
- 109
- Hanging Wall
- Nex
- Pumphouse

**Topography**

- Watercourse
- Waterbody
- 20m Contour

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The Contact Mudstone at Eskay Creek lies above the Eskay Rhyolite Member and below the Willow Ridge basalt unit. The Contact Mudstone is the host unit for stratiform mineralization in the 21A, 21B, 21C, 21E, and NEX Zones. It is characterized by laterally extensive, well-laminated, carbonaceous mudstone that is variably calcareous and siliceous and ranges from less than 1 m to more than 60 m in thickness. Thin siltstone, sandstone and ash beds, and pyritic laminae are common through the unit. Within certain beds, radiating porphyroblasts of prehnite, variably altered to sericite, calcite, and barite have been noted (Ettlinger, 1992). They may be a result of contact metamorphism due to the emplacement of basaltic dikes and sills.

The uppermost unit of the Iskut River Formation at Eskay Creek is the hanging-wall basalt (Willow Ridge mafic unit) which intruded into mudstones (HW Zones) mostly likely as sills. The basalt occurs as both extrusive and intrusive phases, ranges from aphanitic to medium-grained with local feldspar phenocrysts, and in places exceeds 150 m thickness. Near the top of the sequence, well-preserved pillow flows and breccias, hyaloclastite, and basaltic debris flows containing minor mudstone and rhyolite clasts interspersed with thin argillite beds have been reported (Roth et al., 1999). Basalt flows near the top of the sequence commonly contain chlorite and quartz-filled amygdules.

Capping the entire sequence are thick accumulations of Bowser Lake Group mudstones and conglomerates, covered locally by a thin veneer of in-situ soils and transported tills.

### 7.2.2 Intrusive Rocks

Intrusive units are common through the stratigraphic sequence. The 184 +/- 5 Ma (MacDonald et al., 1992; Childe, 1996) Eskay monzodiorite porphyry is perhaps the most voluminous intrusive on the property and is exposed in the core of the Eskay Anticline just south of the 21 Zone deposits. It predates the Eskay Rhyolite and mineralization located in the 21 Zone deposits, by 6-16 million years.

On the West Limb of the Eskay Anticline, a series of north-northeast trending felsic intrusive rocks form a series of prominent gossanous bluffs which extend for 7 km to the southwest of the Eskay Creek deposit. These felsic intrusives are chemically indistinguishable from the Eskay Rhyolite (Bartsch, 1993, Roth, 1993) and display strong quartz, pyrite, and potassium feldspar alteration with minor sericite. Bartsch (1993) and Edmunds et al. (1994) believe these intrusives represent sub-volcanic portions, or feeders, to the Eskay Rhyolite.

Basaltic dikes and sills linked to the hanging-wall basalt (Willow Ridge mafic unit) are also observed throughout the Eskay Creek stratigraphic section. Where they cut the Contact Mudstone, their contacts are frequently brecciated and peperitic, suggesting the mudstone was still wet at the time of intrusion (Roth et al., 1999).

### 7.2.3 Structure

The Eskay Creek deposit area has been deformed by at least two tectonic events (Edmunds and Kuran, 1992). The earliest deformation (D1) is likely related to a mid-Cretaceous north-northwest



compression event that formed the northeast trending, syncline-anticline couples, and a spaced pressure solution cleavage. The cleavage is axial planar to the bedding-defined Eskay Creek Anticline and is pervasive within the phyllosilicate-rich lithologies and even through the massive sulphide horizons. Faulting late in the D1 event resulted in the development of east-dipping thrust sheets, such as the Coulter Creek Fault, south of Eskay Creek. Regional metamorphism during the D1 event also resulted in the formation of porphyroblastic prehnite and calcite.

A second deformation (D2) event, related to a north-northeast directed compression event, locally re-oriented the D1 cleavage planes, and formed prominent north and northeast trending, steeply dipping faults. Crosscutting relationships suggest that the north set of faults are early with apparently consistent sinistral displacement (Edmunds and Kuran, 1992). The later northeast trending set of faults commonly display oblique normal displacement. These faults form strong topographic lineaments and displace both stratigraphic contacts and mineralized zones.

#### **7.2.4 Alteration**

Alteration in the footwall volcanic units is characterized by a combination of pervasive quartz-sericite-pyrite, potassium feldspar, chlorite, and silica. Zones of most intense alteration are associated locally with sulphide veins that contain pyrite, sphalerite, galena, and chalcopyrite (Roth et al., 1999).

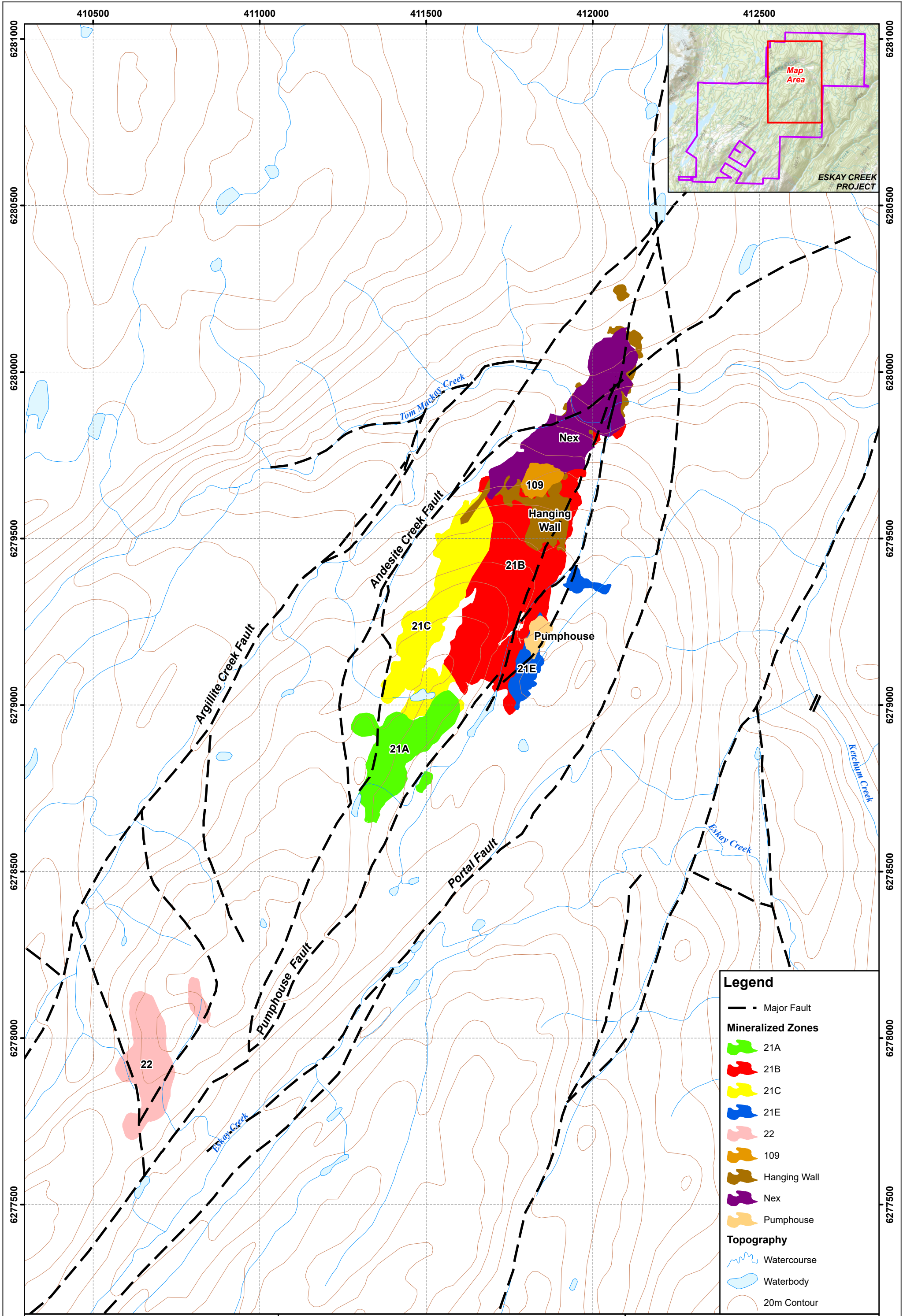
Alteration zonation is perhaps most apparent in the Eskay Rhyolite member (Roth et al., 1999), closely associated with the 21 Zone deposits. Rhyolite located lateral to and at deeper levels beneath the area of stratiform mineralization is commonly moderately silicified and potassium feldspar altered. Silica alteration occurs as extremely fine-grained quartz flooding and densely developed quartz-filled micro veinlets. Potassium feldspar occurs cryptically as fine-grained replacement of plagioclase phenocrysts (Gale et al., 2004). Fractures that cut potassium feldspar-silica altered rhyolite typically have sericitic alteration envelopes and contain very fine-grained pyrite. Where alteration is most intense, chlorite replaces sericite in these fracture envelopes.

An intense tabular shaped blanket of chlorite-sericite alteration, up to 20 m thick, occurs in the Eskay Rhyolite member, immediately below the contact with the main stratiform sulphide mineralization. In these areas, Mg-chlorite has completely replaced the rhyolite to form a dark green, waxy rock consisting of clinocllore (Roth et al., 1999). This blanket coincides spatially with an area of greater rhyolite thickness and where extensive brecciation has developed in the upper part of the rhyolite unit. This zone of increased brecciation likely created more pathways for hydrothermal fluids, and therefore greater surface area for fluid-rock interaction, resulting in development of the stronger alteration zone.

## 7.2.5 Mineralization

Several distinct styles of stratiform and discordant mineralization are present at the Eskay Creek Project, defined over an area approximately 1,400 m long and up to 500 m wide (Figure 7-4). Early exploration efforts focused on discordant style, precious metal mineralization hosted in sulphide veins within the rhyolite, felsic intrusions, and the footwall volcanic units. Following recognition of more significant stratiform mineralization, exploration expanded further to the north, defining the 21 Zone deposits. Distinct zones have been defined by variations in location, mineralogy, texture, and precious metal grades (Edmunds et al, 1994).

The main characteristics and stratigraphic locations of the ore zones are well summarized by Roth et al. (1999) and updated by Skeena, shown in Table 7-5.



**Table 7-5: Summary of mineralized zones at Eskay Creek (modified after Roth et al., 1999)**

Zone	Associated Elements	Characteristics	Stratigraphic Position
21A	As-Sb-Hg-Au-Ag	Stratiform lenses of massive to semi-massive sulphides (realgar, stibnite, cinnabar, arsenopyrite).	At the base of the Contact Mudstone
		Disseminated stibnite, arsenopyrite, tetrahedrite, and veinlets of pyrite, sphalerite, galena, tetrahedrite ± chalcopyrite.	Hosted within the underlying rhyolite
21B	Au-Ag-Zn-Pb-Cu-Sb	Stratiform, bedded clastic sulphides and sulfosalts including, sphalerite, tetrahedrite-freibergite, Pb sulfosalts (including boulangerite, bournonite, jamesonite), stibnite, galena, pyrite, electrum, and amalgam.	At the base of the Contact Mudstone
21Be	Ag-Au-Zn-Pb-Cu	Fine-grained massive to locally clastic sulphides and sulphosalts. Massive pyrite flooding in rhyolite grading upwards into massive sulphides and sulphosalts.	Within a fault bounded block, mainly at contact between mudstone and rhyolite
21C	Ba (Pb-Zn-Au-Ag)	Bedded massive to bladed barite associated with very fine-grained disseminated sulphides including pyrite, tetrahedrite, sphalerite and galena. Located sub-parallel to and down-dip of the 21B zone.	Within the Contact Mudstone
		Localized zones of cryptic, disseminated, precious metal bearing mineralization.	Hosted within the underlying rhyolite
21E	Sb-Ag-Au	Fine-grained stratabound sulphide lenses dominated by stibnite, pyrite, sphalerite, galena, chalcopyrite and arsenopyrite and associated with silica and carbonate alteration. This zone has generally lower gold-silver grades relative to the 21 zones.	Hanging-wall sediments
		Disseminated stibnite, arsenopyrite, and veinlets of pyrite, sphalerite, galena, tetrahedrite and chalcopyrite	Hosted within the underlying rhyolite

Zone	Associated Elements	Characteristics	Stratigraphic Position
NEX	Au-Ag-Zn-Pb-Cu	The North Extension Zone (NEX) stratiform mineralization is similar to the 21Be, and locally the 21B zone. Contains fewer sulfosalts and has a local overprint of chalcopyrite stringers.	At the base of the Contact Mudstone
HW	Pb-Zn-Cu	Massive, fine-grained stratabound sulphide lens dominated by pyrite, sphalerite, galena, and chalcopyrite (mainly as stringers). This zone has generally lower gold-silver grades and higher base metals relative to the 21 zones.	Hanging-wall sediments
PMP	Fe-Zn-Pb-Cu	Veins of pyrite, sphalerite, galena, and tetrahedrite. Commonly banded; locally with colloform textures. Local zones of very fine-grained mineralization in rhyolite. Underlies the 21Be zone.	Hosted within the underlying rhyolite
109	Au-Zn-Pb-Fe	Veins of quartz, sphalerite, galena, pyrite, and visible gold associated with silica flooding and fine-grained amorphous carbon. Underlies the north end of the 21B and HW zones.	Hosted within the underlying rhyolite
22 Zone	Au-Ag	Silica altered rhyolite with quartz veinlets and micro veinlets and precious metals associated with pyrite-arsenopyrite	Hosted within the underlying rhyolite
LP	Zn-Pb-Cu-Fe-Au-Ag	Semi-massive base metals with associated gold - silver and sericite alteration.	Hosted within the Lower Mudstone, Even Lower mudstone and dacitic conglomerates/tuffs
WTZ	Au-Ag	Feeder style, discordant mineralization in sericitized and silicified rhyolite breccias.	Hosted within rhyolite

## 7.2.6 Stratiform Style Mineralization

Stratiform style mineralization is hosted in black carbonaceous mudstone and sericitic tuffaceous mudstone of the Contact Mudstone (Iskut River Formation), located between the footwall Eskay Rhyolite member and the hanging-wall Willow Ridge mafic unit. The stratiform hosted zones include the 21B Zone, the NEX Zone, the 21A Zone (characterized by As-Sb-Hg sulphides), the barite-rich 21C-Mud Zone, and the 21Be Zone. Stratigraphically above the 21B Zone and usually above the first basaltic sill, the mudstones also host a localized body of base metal-rich, relatively precious metal-poor, massive sulphides referred to as the Hanging-Wall or HW Zone.

Descriptions of the following stratiform mineralized zones are modified after Roth et al. (1999).

### 21A Zone

The 21A Zone can be subdivided into stratiform and feeder style of mineralization. Stratiform mineralization is characterized by an Au-Ag-rich sulphide lens that sits on the flank of a small depression at the Eskay Rhyolite-Contact Mudstone contact, located 200 m south of the 21B Zone. Stratiform style, mudstone hosted mineralization averages 10 m thickness and is bound to the east by the Pumphouse fault. The sulphide lens consists of semi-massive to massive stibnite-realgar ± cinnabar ± arsenopyrite and local angular mudstone fragments. Areas with more concentrated stibnite-realgar +/- cinnabar appear to be focused above the interpreted vent locations with relatively limited extent. Visible gold is rare.

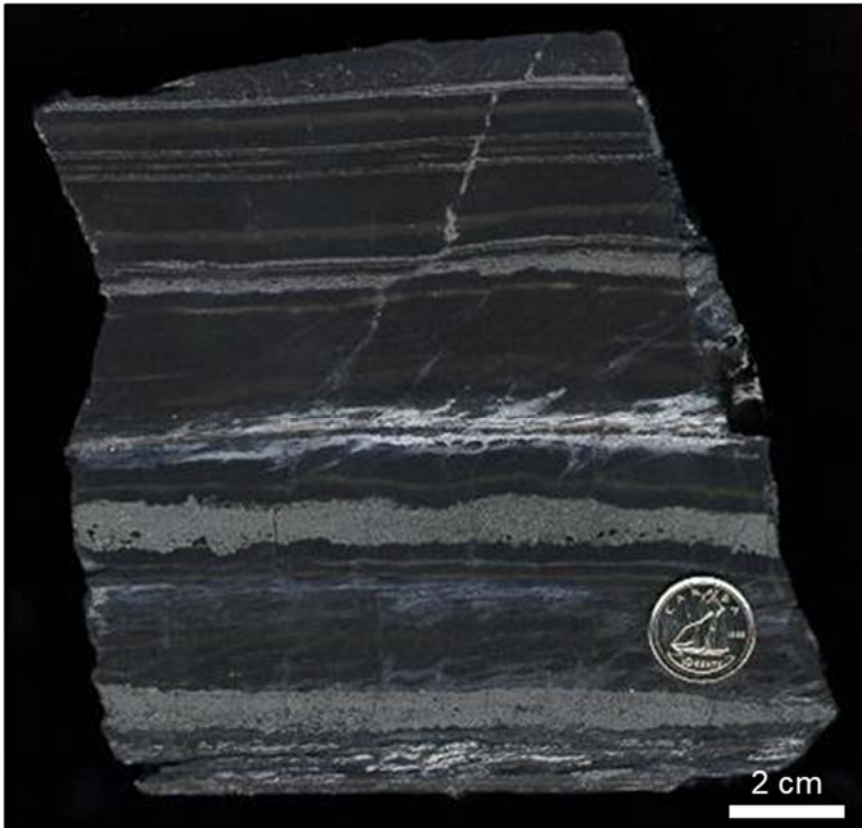
The mudstone is underlain by a discontinuous zone of intense Mg chlorite alteration and stockwork veining in the Eskay Rhyolite. Disseminated stibnite, arsenopyrite, and tetrahedrite also occur in the immediate footwall of the sulphide lens within the intensely sericitized rhyolite. Cinnabar and stibnite are observed in late fractures that cut the sulphide lens, the surrounding mudstone, and locally the rhyolite. Realgar-calcite veinlets locally cut the mudstone in a restricted area adjacent to the sulphide lens.

### 21B Zone

The main body of mineralization, the 21B Zone, is a stratiform tabular body of Au-Ag-rich mineralization roughly 900 m long, 60 to 200 m wide, and locally exceeding 20 m thick. Individual clastic sulphide beds range from 1 – 100 cm thick and become progressively thinner up sequence (Figure 7-5). Ore is composed of beds of clastic sulphides and sulfosalts containing variable amounts of barite, rhyolite, and mudstone clasts. Imbricated, laminated mudstone rip-up clasts have been observed locally at the base of the clastic sulphide-sulfosalt beds, indicating turbiditic emplacement of some beds. In the thickest part of the ore body, pebble to cobble-sized clasts occur in a northward trending channel overlying the Eskay Rhyolite. The beds grade laterally over short distances into thinner, finer-grained, clastic beds and laminations.

Gold and silver occur as electrum and amalgam while silver mainly occurs within sulfosalts. Precious metal grades generally decrease proportionally with the decrease in total sulphides and sulfosalts. Clastic sulphide beds contain fragments of coarse-grained sphalerite, tetrahedrite, Pb-

sulfosalts with lesser freibergite, galena, pyrite, electrum, amalgam, and minor arsenopyrite. Stibnite occurs locally in late veins, as a replacement of clastic sulphides, and appears to be confined to the central, thickest part of the deposit, suggesting a locus for late hydrothermal activity. Cinnabar is rare and is found associated with the most abundant accumulations of stibnite. Barite occurs as isolated clasts, in the matrix of bedded sulphides and sulfosalts, and also as rare clastic or massive accumulations of limited extent. Barite is more common towards the north end of the deposit.



**Figure 7-5: 21B Zone – Tetrahedrite-sphalerite-galena-stibnite beds within the Contact Mudstone (Gale et al., 2004)**

### **21C Zone**

The 21C Zone is dominantly characterized by stratabound to stratiform barite-rich mineralization with associated disseminated base and precious metal-rich mineralization in the rhyolite footwall. It occurs at the same stratigraphic horizon as the 21B Zone but is located down-dip and subparallel to it. The two zones are separated by 40 to 50 m of barren Contact Mudstone, roughly 8 to 15 m thick. Mineralization is associated with mottled barite-calcite  $\pm$  tetrahedrite beds in and near the base of the contact mudstone. Precious metal grades are variable. Local areas of brecciation are infilled with sulphides including sphalerite, pyrite, galena, and tetrahedrite. Mineralization in the underlying footwall forms a cryptic, tabular body, sub concordant to stratigraphy. Aside from containing 1-2% very fine-grained pyrite and trace sphalerite, tetrahedrite, and galena, the rhyolite

appears similar to adjacent unmineralized areas. Drill holes have intersected intervals containing up to 35 g/t Au from these seemingly barren rhyolites.

### **21Be Zone**

Precious-metal mineralization near the north end of the 21B Zone extends over top of the anticline into a block bound by segments of the north-south oriented Pumphouse faults. Mineralization of the 21Be Zone is found within a steeply dipping, fault bounded slab of Contact Mudstone that is complexly folded and faulted.

While some of the mineralization within the 21Be Zone appears similar to the 21B Zone, the majority is found to be steeply dipping and dominated by fine-grained, massive sulfosalts that grade downward into massive pyrite. There is a direct correlation of sulfosalts with higher-grade precious metal concentrations. The Ag/Au ratio for the zone is approximately 100 times greater than in the 21B Zone. Stringers of chalcopyrite and chalcopyrite-galena-sphalerite overprint the mineralization. Fine-grained pyrargyrite occurs locally in hairline fractures cutting the mudstone and hosts ore-grade mineralization. Many of the textures observed in this zone suggest that the sulphides were introduced by replacement processes, perhaps along early faults.

### **NEX Zone**

The ~300 m long North Extension Zone (NEX) is geometrically complicated by numerous faults that cut the nose of the Eskay Anticline. Textures, mineralogy, and precious-metal grades are somewhat variable and show similar characteristics to parts of the 21Be Zone and distal parts of the 21B Zone, suggesting synchronous deposition. Pyrite and chalcopyrite are more common whereas Sb-Hg bearing minerals are less common (Figure 7-6). Chalcopyrite occurs in stringers that overprint earlier clastic mineralization and may be related to the formation of the HW Zone. Much of the contained pyrite may also have been introduced during this later event.





**Figure 7-6: NEX Zone - Massive sulphides containing local chalcopyrite within the Contact Mudstone (Gale et al., 2004)**

### **HW Zone**

The HW Zone forms massive sulphide horizons hosted in the mudstone interbeds of the Willow Ridge Mafic package, located stratigraphically above the 21B, 21E and NEX Zones. Its geometry is disrupted by fault structures associated with the fold closure. Sulphides are typically fine-grained, finely banded, and consist of semi-massive to massive pyrite, sphalerite, galena, chalcopyrite, and tetrahedrite (Figure 7-7). Sphalerite is reddish brown, suggesting a higher iron content compared to sphalerite encountered in other Zones. The HW Zone has a higher base metal content compared to other Zones, except where tetrahedrite  $\pm$  sulfosalts are observed, which are associated with significantly higher precious metal grades. Mineralization is believed to have been emplaced at this higher stratigraphic level along deep-seated faults that were reactivated following the main mineralization event.



**Figure 7-7: HW Zone – Massive strata-bound sulphide lenses within the hanging-wall mudstone (Gale et al., 2004)**

### **21E Zone**

The 21E sits on the eastern most block. Locally, mudstone interbeds within the Willow Ridge Mafic unit host fine-grained to massive and locally clastic sulphides and sulphosalts. Sulphides include fine laminae of tetrahedrite, replacement to dendritic style stibnite, and minor blebs or replacements of sphalerite-galena-chalcopyrite and arsenopyrite and associated silica and carbonate alteration. This zone generally has lower gold-silver grades relative to the other 21 Zones. In the footwall Eskay Rhyolite unit, the mineralization is associated with disseminated stibnite, arsenopyrite and veinlets of pyrite.

## **LP Zone**

The Lower Package stratabound style mineralization is hosted stratigraphically below the Eskay Rhyolite and is hosted within the Lower Mudstone (Datum Mudstone) and to a lesser extent, in the dacitic conglomerates/tuffs of the Bruce Glacier Felsic unit and Even Lower Mudstone (Spatsizi Mudstone). Mineralization is comprised of semi-massive base metal rich beds with associated gold and silver. Metal content appears to be stronger near bounding faults of the Eskay Creek basin (in particular the Pumhouse Fault), and related conjugate fault sets.

### **7.2.7 Discordant Style Mineralization**

Stockwork and discordant style mineralization at Eskay Creek are hosted in the rhyolite footwall within the PMP, 109, 21A-Rhyolite, 21C-Rhyolite, 21E-Rhyolite, Water Tower, and 22 Zones. The PMP Zone is characterized by pyrite, sphalerite, galena, and chalcopyrite-rich veins and veinlets hosted in strongly sericitized and chloritized rhyolite. The 109 Zone comprises gold-rich quartz veins with sphalerite, galena, pyrite, and chalcopyrite associated with abundant carbonaceous material hosted mainly in siliceous rhyolite. The 21A and 21C-Rhyolite Zones consist of very fine-grained cryptic pyrite with rare sphalerite and galena in sericitized rhyolite. The 22 Zone consists of cross-cutting arsenopyrite, stibnite and tetrahedrite veins hosted in massive to pyroclastic facies rhyolite.

Descriptions of the following discordant mineralized zones are modified after Roth et al. (1999).

#### **PMP Zone**

The PMP Zone is a discordant zone of diffuse vein and disseminated sulphide mineralization hosted in the Eskay Rhyolite unit beneath the eastern part of the 21B Zone and just north of the 21Be Zone. Precious metal grades are generally lower than in other zones. Patchy sulphide mineralization is observed locally through the rhyolite in the form of veins containing pyrite, sphalerite, galena, and lesser sulfosalts such as tetrahedrite. Chalcopyrite content increases with depth. Sphalerite is generally darker (more iron-rich) than in the overlying 21B Zone. Mineralization is commonly banded and is locally characterized by colloform textures. Locally, areas of very fine-grained disseminated sulphide mineralization enriched in precious metals occur; these are similar to footwall hosted mineralization observed beneath the 21C Zone.

#### **109 Zone**

The 109 Zone is named after the discovery drill hole of the same name, which intersected 99 g/t Au and 29 g/t Ag over 61 m (Edmunds et al., 1994). The Zone is characterized by a distinct siliceous stockwork of crustiform quartz veins with coarse-grained sphalerite, galena, minor pyrite, and chalcopyrite (Figure 7-8). The 109 Zone is hosted entirely within the Eskay Rhyolite, beneath the north end of the 21B and the HW Zones. Gold and silver occur in electrum and sulfosalts.



**Figure 7-8: 109 Zone - Stockwork veins of quartz-sphalerite-galena-pyrite-gold in the Eskay Rhyolite (Gale et al., 2004).**

### **22 Zone**

The 22 Zone is located 2 km southeast of the 21A Zone, with mineralization hosted exclusively in the silicified Eskay Rhyolite. It is believed to represent a feeder zone intimately related to conjugate faults occurring between the N-S trending basing bounding faults (Pumphouse and Andesite Creek). Mineralization is hosted within barren looking quartz micro veinlets and veinlets and disseminated fine-grained pyrite with blebby sphalerite. Fine grained disseminated arsenopyrite and stibnite. Higher vein densities generally indicate better gold grades.

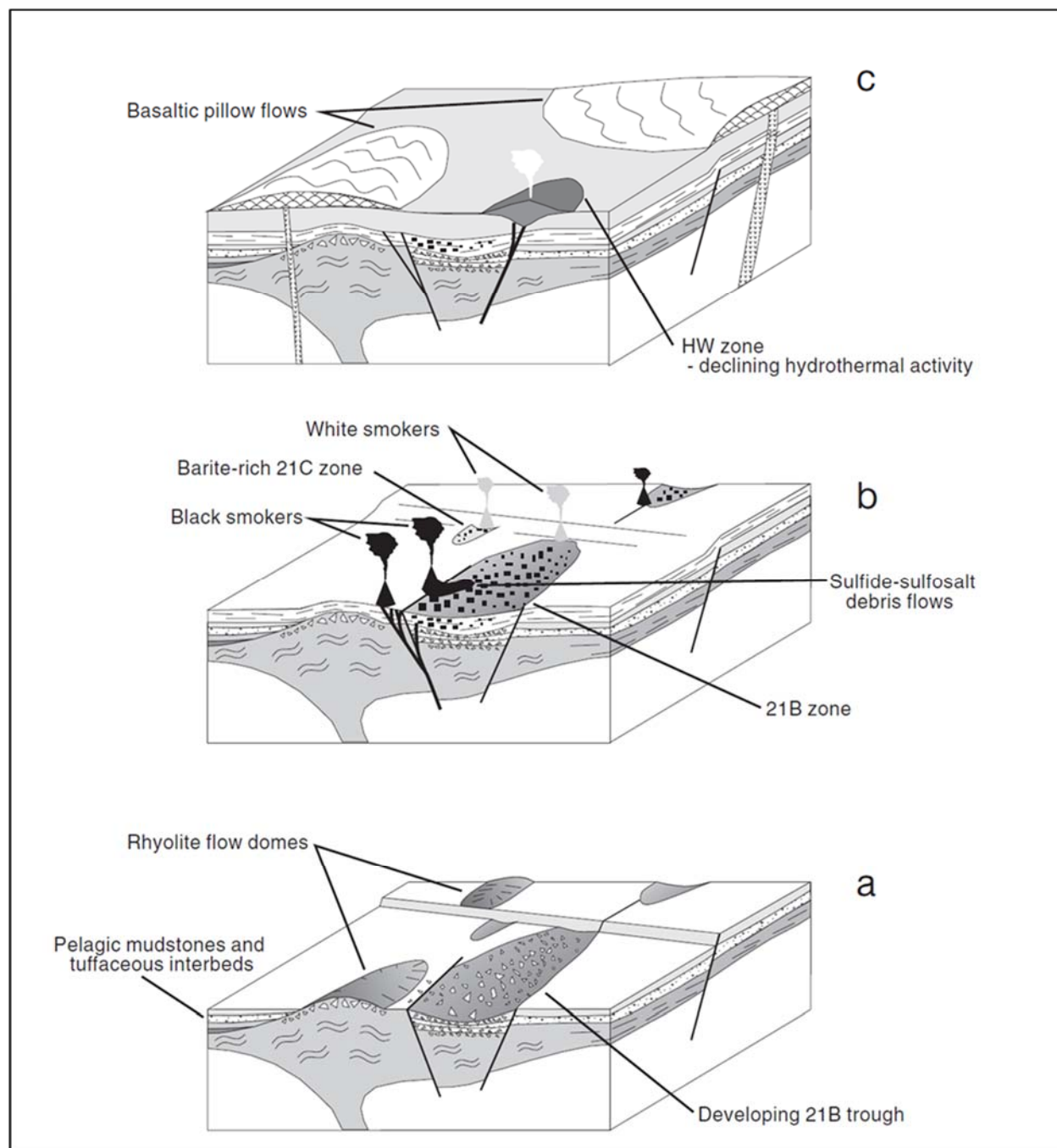
### **WT Zone**

The WT Zone is located on the western side of the property and occurs as steeply dipping, feeder-style, discordant mineralization within intensely altered rhyolite breccias. Mineralization is hosted within quartz veinlets and disseminated fine-grained pyrite with blebby sphalerite.

## 8 Deposit Types

The Eskay Creek deposit is known as an outstanding example of a high-grade, precious metal rich epithermal volcanogenic massive sulphide (VMS) deposit that formed in a shallow submarine setting. The deposit has features and characteristics typical of a classic VMS deposit: it formed on the seafloor in an active volcanic environment with a rhyolite footwall and basalt hanging-wall, having chlorite-sericite alteration in the footwall and sulphide formation within a mudstone unit at the seafloor interface. What differentiates the Eskay Creek deposit from other VMS deposits are the high concentrations of gold and silver, and an associated suite of antimony, mercury, and arsenic. These mineralization features, along with the high incidence of clastic sulphides and sulfosalts, are more typical of an epithermal environment with low formation temperatures.

The processes responsible for the formation of the Eskay Creek deposit are not unique in the VMS environment, but require the coincidence of several favourable conditions to optimize the precious metal grade in the deposit. Roth et al., (1999) hypothesized that the maintenance of a low temperature environment was of primary importance for the active and continued transport of gold. Heat was continually removed at the vent site due to the collapse and dismemberment of chimneys and mounds; an outcome which would have prevented the hydrothermal system from sealing. The redeposition of clastic sulphides adjacent to the vent site would have prevented the system from increasing in temperature beyond the range permissible for gold deposition. The mineralization at Eskay Creek therefore requires a specialized genetic model as shown below in Figure 8-1.



**Figure 8-1: Genetic model for the development of the 21 Zone orebodies (Roth et al., 1999)**

- a) Rifting, basin development and intrusion and extrusion of rhyolite flow domes. Coarse volcanoclastic debris from extrusive portions of the rhyolite domes are deposited along the developing 21B Zone trough.
- b) Hydrothermal activity is focused through rift faults forming chimneys and mounds on the seafloor. Collapse or disruption of these mounds forms clastic sulphide-sulfosalt debris which is redeposited in the 21B Zone trough. Other smaller basins provide the sites for similar mineralization and barite-rich zones (21C) related to white smokers.
- c) The HW zone of massive sulphide forms higher in the mudstone stratigraphy and basaltic magmatism begins (dykes and flows) during the waning stages of hydrothermal activity

## 9 Exploration

Exploration carried out on the Property prior to Skeena's involvement is described in Section 6 of this report.

### 9.1 2018

#### 9.1.1 Grids and Surveys

McElhanney Consulting Services Ltd. (McElhanney) of Vancouver, B.C flew an airborne light detection and ranging (LiDAR) and photo acquisition survey in December 2018. The resulting topography map was compiled to 10 cm accuracy.

LiDAR and photo acquisition were collected simultaneously with equipment co-mounted on the sampling aircraft. Sixty flight lines comprising 539-line kilometers were completed, covering the 100 km<sup>2</sup> survey area. Post-processing of the acquired data was completed in McElhanney's office.

### 9.2 2019

#### 9.2.1 Mapping and Grab Sampling Program

##### Tom MacKay

In mid-October 2019, geological mapping and grab samples were collected by Skeena geology staff in the Tom MacKay area, located approximately 2.2 km south of the 22 Zone. Historical drill holes in the adit area contained up to 13.56 g/t AuEQ primarily within felsite which generally lies subvertical, dipping towards the east. The purpose of the program was to determine the relationship of the felsite dykes to the Eskay Rhyolites and whether they were viable drill targets, to confirm the historical interpretation, and collect rocks for whole rock geochemistry analysis.

Three and half days were spent mapping and sampling over a 0.45 km<sup>2</sup> area. A total of 51 grab samples were collected from outcrops for whole rock analysis and analysed by multi acid multi element inductively coupled plasma (ICP) and 44 structural measurements were taken (Figure 9.1).

The results of field mapping show the Eskay Rhyolite varied slightly from the mapped and historically logged felsite dyke. The structural data taken support an anti clinical environment with foliations and N/S faults dipping sub vertically to the east. The strongest visual mineralization appeared to be associated with the brecciated felsite dyke within the structural corridor.

Table 9-1 shows the selection of the best grades from individual samples. Following the favourable geochemical assays, it was recommended to drill to the northeast of the Tom MacKay area.

409000

410000

411000

412000

6280000

6280000

6279000

6279000

6278000

6278000

6277000

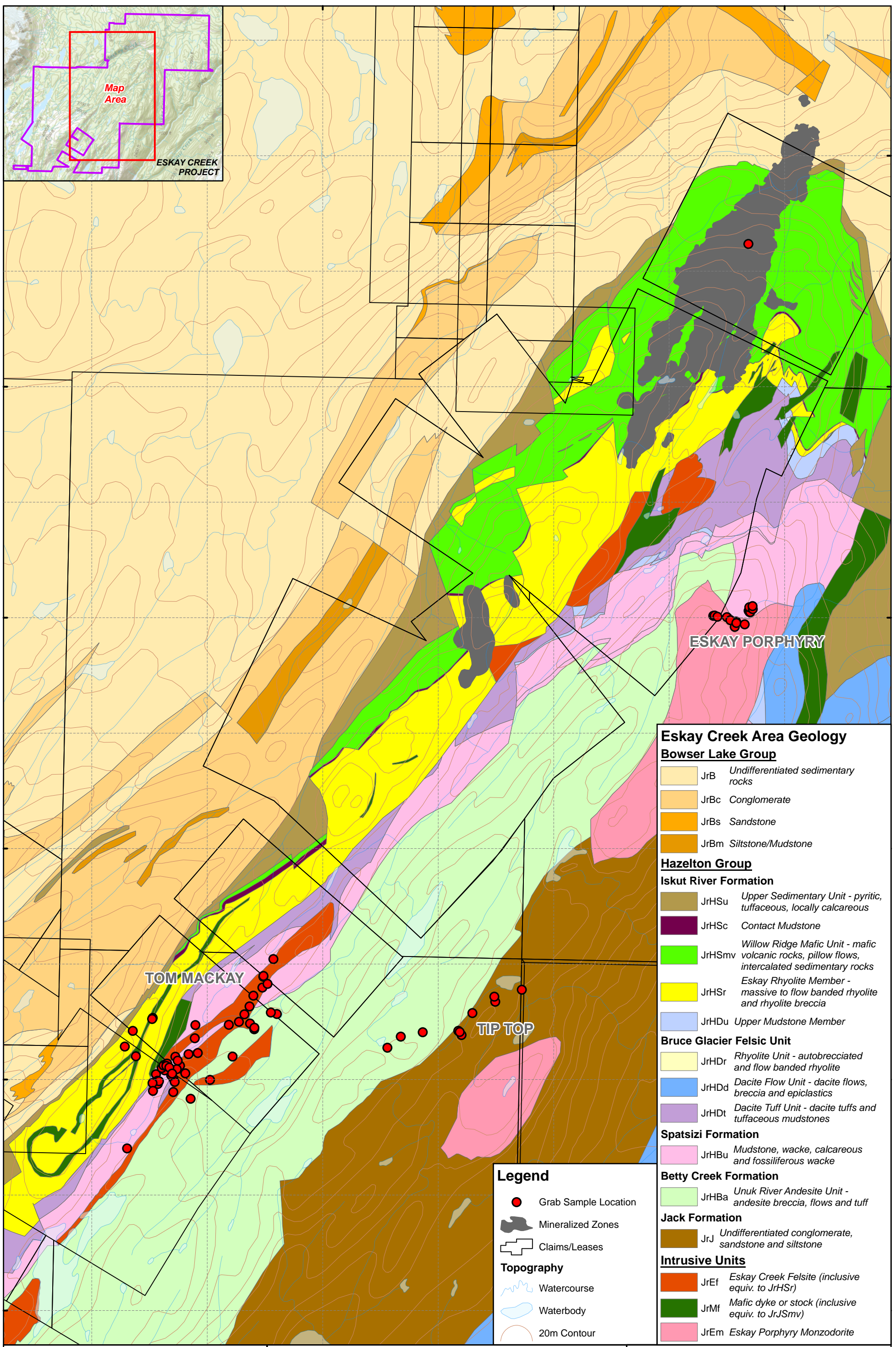
6277000

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**Legend**

- Grab Sample Location
- Mineralized Zones
- ▭ Claims/Leases

**Topography**

- ~ Watercourse
- ☪ Waterbody
- 20m Contour



**Table 9-1: Selection of the best assay results from the 2019 prospecting program at Tom MacKay**

UTM_East	UTM_North	Sample Type	Lithology	Au g/t	Ag g/t	AuEQ g/t
409405	6276027	Grab	Rhyolite	13.5	35	13.9
409327	6276069	Grab	Rhyolite	4.3	404	9.7
409362	6276099	Grab	Rhyolite	4.7	31	5.1
409303	6276050	Grab	Rhyolite	3.4	15	3.6
409660	6276282	Grab	Rhyolite	2.4	35	2.9

### Eskay Porphyry and Tip Top

In August 2019, geological mapping and grab sampling was carried out on the Tip Top and Eskay Porphyry targets, located 700 m east of the 21 Zone deposits (Figure 9-1). The Eskay Porphyry is a monzodiorite exposed in the core of the Eskay anticline, intruding into the Footwall Andesite. The Tip Top prospect is located along the same structural trend towards the southwest. Historical reports (pre-1989) detail mineralization within and peripheral to the Eskay Porphyry. Historical soil sampling returned results of up to 645 ppb Au and Assessment report #20030 details rock chip and channel sampling with assays up to 6.48 g/t Au and 9.1 g/t Ag.

Twenty-eight grab samples were collected from Tip Top and 14 grab samples were collected from the Eskay Porphyry, the best of which are shown in Table 9-2.

**Table 9-2: Selection of best assay results from the 2019 Tip Top and Eskay Porphyry program**

Prospect	UTM_East	UTM_North	Sample Type	Lithology	Au g/t	Ag g/t	AuEQ g/t
Tip Top	410631	6276301	Grab	Betty Creek Andesite	8.8	10	8.9
Eskay Porphyry	411861	6278050	Grab	Porphyritic Granodiorite	7.1	9	7.2
Tip Top	410630	6276302	Grab	Massive Pyrite Vein	1.8	144	3.7
Tip Top	410650	6276284	Grab	Rhyolite	2.5	5	2.6
Eskay Porphyry	411847	6278045	Grab	Porphyritic Granodiorite	1.7	5	1.8

## 9.3 2020

### 9.3.1 Geophysics

Between July 27<sup>th</sup> and September 4<sup>th</sup>, 2020, Dias Geophysical Limited (Dias) carried out a 3D DC Resistivity and Induced Polarization (DCIP) survey on the Eskay Creek Project using the DIAS32 system in the UTM Zone 9N WGS84. Details may be found in a report provided by Gebhardt et al., 2020.

The geophysical program carried out by Dias Geophysical Limited was designed to detect the electrical resistivity and chargeability signatures associated with potential targets of interest. This was achieved using the DIAS32 acquisition system, entirely managed by the Dias field crew, in conjunction with the DIAS transmitter, to produce up to 7.0 kW of total power. The survey was

completed using a rolling distributed partial 3D DCIP array with a pole-dipole transmitter configuration. The survey covered approximately 5 km<sup>2</sup>.

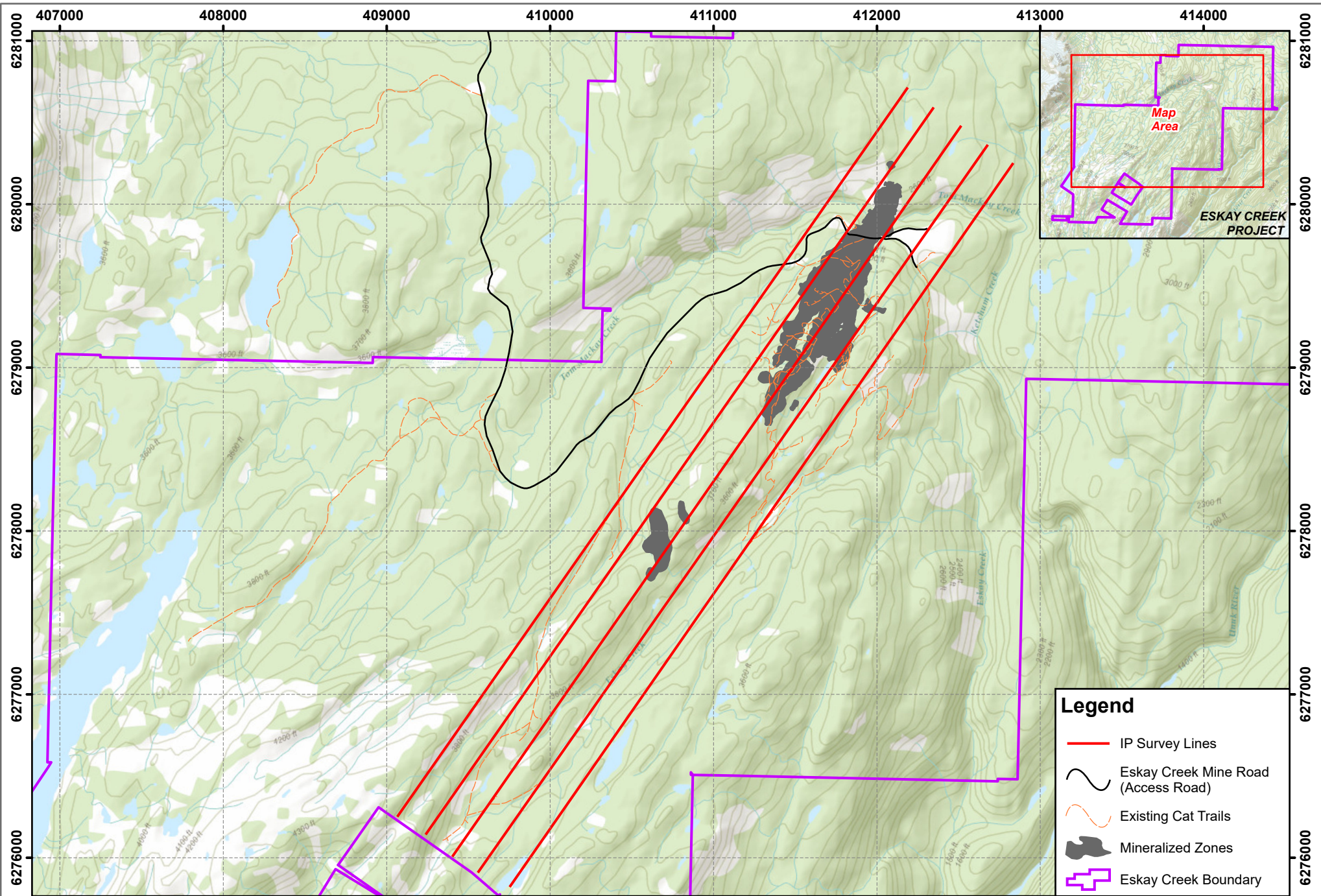
Dias completed a partial 3D Rolling Distributed Pole-Array in common voltage reference (CVR) mode. The survey layout was comprised of a total of 5 northeast-southwest oriented receiver lines, spaced at 200 m. Along the receiver lines, the electrode stations were spaced 100 m apart. The injection lines ran perpendicular to the 5 receiver lines and offset by 50 m from the receiver nodes.

The survey started with the southwestern portion of the grid and progressed northeast. Part of the 5 receiver reference lines were setup at once to form the “active array”. Each receiver line had at least 26 receiver stations installed for a minimum of 130 active receivers per injection. Current injections were performed in small 1000m sections, running perpendicular to the direction of the lines.

After thorough quality control, all the accepted data were used to produce a set of unconstrained 3D DC and IP models using the SimPEG inversion code. The resulting models were gridded and trimmed using Geosoft Oasis software and then converted into the UBC-GIF Tensor Mesh, XYZ-cell centred and Geosoft Voxel Format. The DC model is expressed in Ohm-m (resistivity model) and Siemens (conductivity model) and the IP model in MV/V.

### **9.3.2 Property Scale Exploration Program**

In early 2021 Skeena initiated a property scale exploration program designed to define additional near surface, bulk tonnage mineralization with the goal of expanding the current resource base and to supplement the existing mine plan. The property scale exploration program involves data compilation and interpretation followed by judicious target ranking that will culminate in drill testing of near mine and regional targets in H2 2021. Dr. Harold Gibson, one of the world’s foremost experts in VMS systems has been engaged by the Skeena to assist the program which will be spearheaded by the Skeena’s Director of Exploration, Adrian Newton, P.Geo.



- Legend**
- IP Survey Lines
  - Eskey Creek Mine Road (Access Road)
  - Existing Cat Trails
  - Mineralized Zones
  - Eskey Creek Boundary

*Eskey Creek Au-Ag Project*  
**Figure 9-2: Location of the IP Geophysics Lines**

## 10 Drilling

### 10.1 Introduction

Surface drilling has been carried out by multiple operators, with the first drilling on the property by Unuk Gold in 1932. Data collected prior to Skeena's project interest is referred to as legacy data.

Legacy drilling consists of 1,522 surface diamond drill holes totalling 342,119 m, drilled from 1932 until 2004. Since 2018, Skeena has drilled 751 surface dill holes totalling 104,740 m. Table 10-1 summarizes the surface drilling on the Eskay Creek Project arranged by Operator and year (modified after Gale et al., 2004); Figure 10-1 shows the location of the surface holes.

A total of 6,061 underground drill holes were drilled totalling 309,213 m. All underground drilling is legacy. Table 10-1 shows the locations of the underground diamond drill holes. Underground drill holes are generally less than 100 m in length and drilled with an average spacing of 10 m using BGM (~40 mm) core diameter. In highly complex areas where mining was active, drill spacing was locally reduced to 5 m.

**Table 10-1: Summary of drilling on the Eskay Creek property**

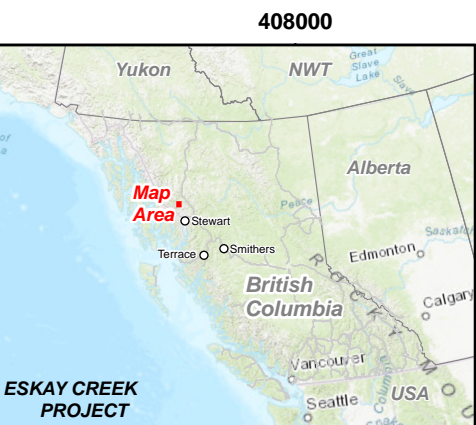
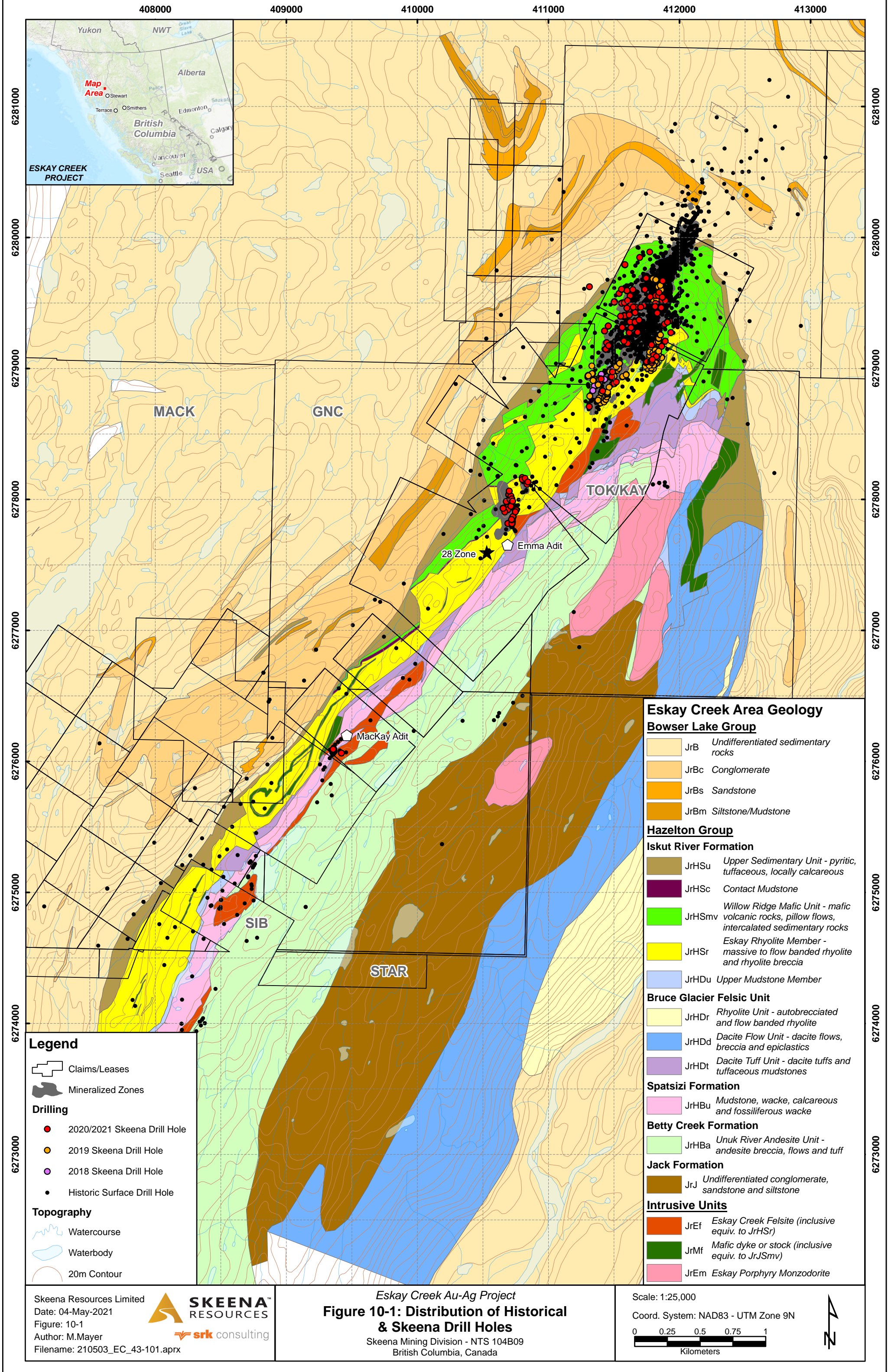
Period of Work	Company	Area of Work	Number of Holes	DDH #'s	Meters Drilled
1932-1934	Unuk Gold/Unuk Valley Gold		11	Unuk 1-11	261.21
1935-1938	Premier Gold Mining Co. Ltd.		38	P 12-49	1,825.95
1964	Stikine Silver Ltd. / Canex Aerial Exploration Ltd.	Emma Adit	6	C-1 to C-6	224.64
1965	Stikine Silver Ltd.	Emma Adit	3	?	15.85
1973	Kalco Valley Mines Ltd.	22 Zone	7	KV-1 to KV-7	299.62
1975-1976	Texasgulf Canada Ltd.	#5 O.C./#6 O.C.	7	K76-1 to K76-7	373.38
1980-1982	Ryan Exploration Ltd. (U.S. Borax)	22 Zone/6 Zone	7	MR-1 to MR-7	452.32
1985	Kerrisdale Resources Ltd.		5	KDL 85-1 to 85-5	622.1
1988	Calpine Resources Inc. / Consolidated Stikine Silver	21A/21B	16	CA88-01 to CA88-16	2,875.50
1989	Calpine Resources Inc. / Consolidated Stikine Silver	21A/21B/22 Zone	179	CA 89-17 to CA 89-196	43,017.90
				CA 89-198 to CA 89-205	
			7	CA 8922-01 to CA 8922-07	1,321.00
1990	Calpine Resources Inc. / Consolidated Stikine Silver	21B/21C	513	CA 90-197	115,272.26
		PMP		CA 90-206 to CA 90-691	
		Mack		MK 90-01 to MK 90-04	
		Proposed Mill Site		PMS 90-01 to PMS 90-06	
					3

Period of Work	Company	Area of Work	Number of Holes	DDH #'s	Meters Drilled
		GNC	19	GNC 90-01 to GNC 90-19	3,318.00
		Adrian	35	AD 90-01 to AD 90-35	21,786.00
1991	International Corona Corp.	21B	12	C 91-700 to C 91-711	2,791.00
		GNC	5	GNC 91-20 to GNC 91-24	
1992	International Corona Corp.	21B	1	C 92-712	3,342.00
		GNC	7	GNC 92-25 to GNC 92-31	
1993	Homestake Canada Inc.	21B	2	C 93-713- to C 93-714	1,606.60
		GNC	3	GNC 93-32 to GNC 93-34	
1994	Homestake Canada Inc.	Adrian	6	AD 94-35 to AD 94-40	3,531.70
		21B	5	KP 94-1 to KP 94-5	549.25
1995	Homestake Canada Inc.	21B/NEX	21	C 95-715 to C 95-735	3,468.10
				(formerly labelled NEX 95-1 to 18 and QZ 95-1 to 3)	
		Bonsai	5	BZ 95-1 to BZ 95-5	
1996	Homestake Canada Inc.	21B/NEX/HW	94	C 96-736 to C 96-829	21,280.80
		Adrian	19	AD 96-41 to AD 96-59	
		Bonsai	1	BZ 96-06	
1997	Homestake Canada Inc.	21B/21C/21E	42	C 97-830 to C 97-871	16,220.47
		Adrian	14	AD 97-60 to AD 97-73	
		GNC	1	GNC 97-30X	
		Mack/Star	2	MP 97-01 to MP 97-02	

Period of Work	Company	Area of Work	Number of Holes	DDH #'s	Meters Drilled
1998	Homestake Canada Inc.	Core Property	79	C 98-872 to C 98-950	21,909.63
		GNC	2	GNC 98-35 to GNC 98-36	
		Mack	8	MP 98-03 to MP 98-09	
		Star	1	SP 98-01	
1999	Homestake Canada Inc.	Core Property	64	C 99-951 to C 99-1014	17,363.96
2000	Homestake Canada Inc.	Core Property	77	C001012W	25,893.93
				C001015 to C001088	
2001	Homestake Canada Inc.	22 Zone	61	C011089 to C011145	22,035.48
		21C Zone			
2002	Barrick Gold Corp.	21C Zone	47	C02-1146 to C02-1178	15,115.69
		21A Zone		C02-920X, C02-975X	
		Deep Adrian			
2003	Barrick Gold Corp.	22 Zone	71	C03-1179 to C03-1245	18,323.28
		21A Zone		C03-919X	
		21C Zone			
2004	Barrick Gold Corp.	22 Zone	55	C04-1261 to C04-1298	18,404.88
		Ridge Block		C04-1020X, C04-1196X	
		21C/21E		C04-1206X	
		Deep Adrian		5702, 6461, 6464	
2018	Skeena Resources Limited	21A, 21B, 21C and 22 Zone	46	SK-18-001 to SK-18-043; SK-18-048 to SK- 18-051	7,737.45

Period of Work	Company	Area of Work	Number of Holes	DDH #'s	Meters Drilled
2019	Skeena Resources Limited	21A, 21B, 21E and HW Zones	203	SK-19-044 to SK-19-047; ~SK-29-052 to SK-19-247	14,091.87
2020	Skeena Resources Limited	21A, 21B, 21C, 21E, HW, PMP, WT, MAC, and 22 Zone	473	~ SK-20-248 to SK-20-788	79,922.79
2021	Skeena Resources Limited	21B, HW, PMP	29	~ SK-21-789 to SK-21-816	2,988.00





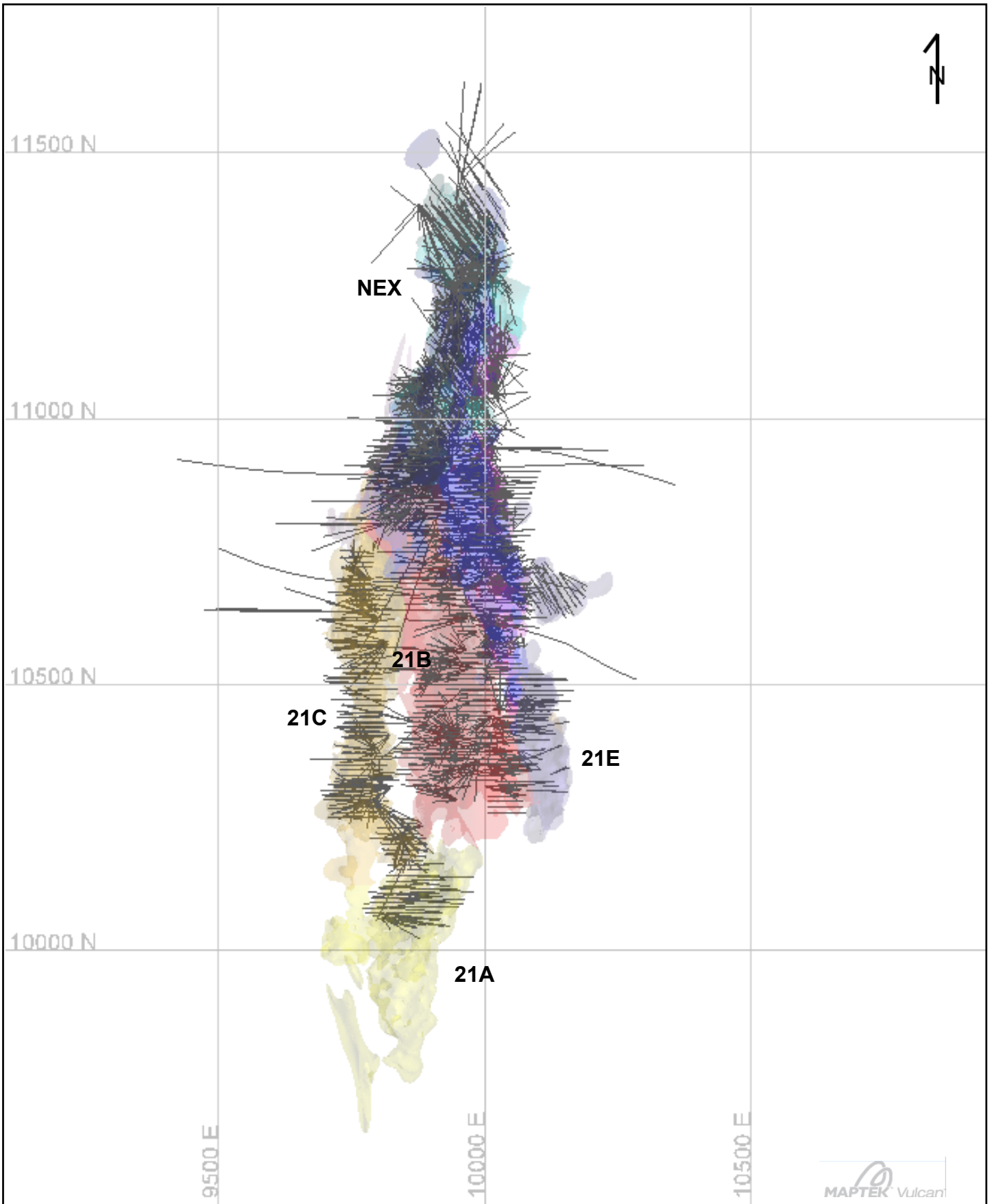
- Legend**
- Claims/Leases
  - Mineralized Zones
  - Drilling**
  - 2020/2021 Skeena Drill Hole
  - 2019 Skeena Drill Hole
  - 2018 Skeena Drill Hole
  - Historic Surface Drill Hole
  - Topography**
  - Watercourse
  - Waterbody
  - 20m Contour

- Eskay Creek Area Geology**
- Bowser Lake Group**
- JrB Undifferentiated sedimentary rocks
  - JrBc Conglomerate
  - JrBs Sandstone
  - JrBm Siltstone/Mudstone
- Hazelton Group**
- Iskut River Formation**
- JrHSu Upper Sedimentary Unit - pyritic, tuffaceous, locally calcareous
  - JrHSc Contact Mudstone
  - JrHSmv Willow Ridge Mafic Unit - mafic volcanic rocks, pillow flows, intercalated sedimentary rocks
  - JrHSr Eskay Rhyolite Member - massive to flow banded rhyolite and rhyolite breccia
  - JrHDu Upper Mudstone Member
- Bruce Glacier Felsic Unit**
- JrHDr Rhyolite Unit - autobrecciated and flow banded rhyolite
  - JrHDd Dacite Flow Unit - dacite flows, breccia and epiclastics
  - JrHDt Dacite Tuff Unit - dacite tuffs and tuffaceous mudstones
- Spatsizi Formation**
- JrHBu Mudstone, wacke, calcareous and fossiliferous wacke
- Betty Creek Formation**
- JrHBa Unuk River Andesite Unit - andesite breccia, flows and tuff
- Jack Formation**
- JrJ Undifferentiated conglomerate, sandstone and siltstone
- Intrusive Units**
- JrEf Eskay Creek Felsite (inclusive equiv. to JrHSr)
  - JrMf Mafic dyke or stock (inclusive equiv. to JrJSmv)
  - JrEm Eskay Porphyry Monzodiorite

Skeena Resources Limited  
 Date: 04-May-2021  
 Figure: 10-1  
 Author: M.Mayer  
 Filename: 210503\_EC\_43-101.aprx

*Eskay Creek Au-Ag Project*  
**Figure 10-1: Distribution of Historical & Skeena Drill Holes**  
 Skeena Mining Division - NTS 104B09  
 British Columbia, Canada

Scale: 1:25,000  
 Coord. System: NAD83 - UTM Zone 9N



**Distribution of underground diamond drilling**

Job No: 2CS042.003  
 Filename: Figure 10.2 Distribution of UG diamond drilling

Eskay Creek Au-Ag Project

Date:  
 May 12, 2021

Approved:  
 KD

Figure:  
**10.2**

## 10.2 Logging Procedures

### 10.2.1 Legacy

Limited information is available for procedures used during the exploration programs carried out prior to 2004. The drill core was logged using DLG computer programs for data entry as well as for drill log printing. The data were entered directly into laptop computers and the rock units coded with four-digit geology codes. Mineralized sections were logged separately as nested units of primary units. Textural descriptions, rock colour and structure were also coded with two-character fields. Remarks were typed into separate fields to characterize unique geology structure or mineralisation features.

All collar and survey information were tabulated in master files within the DLOG computer program. Completed logs were printed and the information was exported into ACAD and Vulcan software to facilitate plotting drill hole location maps and cross section.

The only data that remains from the legacy data is the collar, survey, the four-digit lithology code and assay data.

### 10.2.2 Skeena

All core logging and technical tasks were completed by geologists and supervised geological technicians employed by Skeena Resources Limited. Once the initial assessment was completed, core was measured, and one metre intervals were marked directly on the core with China markers. The start and end meterage of each core box was marked on the upper left and lower right respectively. A metal tag, noting hole identification, box number, and meterage was stapled to the top end of the core box for easy identification while stored. Geotechnical data was collected by a supervised geotechnician or by the logging geologist. Data collected for all drill holes included recovery, rock quality data, magnetic susceptibility and specific gravity. The logging geologist also recorded lithology, alteration, mineralization, and structural data. The geologist marked sampling intervals for assay analyses, and inserted QA/QC samples at regular intervals along the core.

## 10.3 Surface Drilling Methods

### 10.3.1 Legacy

Limited details are available regarding drilling contractors and drilling procedures specific to each campaign prior to 1995.

#### 1995-1997

Most of the drilling around the mine workings was completed by Hy-Tech Drilling of Smithers, B.C. Hy-Tech Drilling utilized up to three drill rigs that included a JKS-300 which drilled BQTK (thin wall) core, and two F-15 drill rigs which drilled NQTK (thin wall in 1996) and NQ2 in 1997.

In 1996, Advanced Drilling of Vancouver completed 4 holes using a Boyles 56 drill rig.

No casing for the 1995 program survived the winter snow removal since they were all located near, or on, the mine access road. Casing was left in most of the holes from 1996 and 1997. All holes were grouted provided that the casing was still intact. All holes drilled in 1996 and 1997 were marked with a yellow wooden stake and aluminum tags marked with the drill hole number.

## **1998**

Hy-Tech Drilling of Smithers, B.C. completed all holes of the 1998 campaign using four drill rigs including two JKS-300 rigs which drilled BQTK (thin wall) core and two F-15 rigs which drilled NQ2 core (with the capability of reducing to BQTK or BQ).

None of the holes completed during the 1998 drilling campaign were grouted. This was due partially to the ineffectiveness of the material used during the 1997 campaign and also due to the initiation of the mine closure plan.

## **2004**

Hy-Tech Drilling of Smithers, B.C. completed all drill holes during the 2004 summer and winter drilling campaigns. Three drill rigs were utilized including one JKS-300 rig which drilled both BQTK (thin wall) core and NQ2, and two modified F-15 rigs, which drilled NQ2 core (with the capability of reducing to BQTK or BQ).

All the drill holes were sealed using Volclay grout and a 15 m cement cap at the overburden/bedrock interface. The casings were left in for holes C04-1248 to C04-1272, but they were removed for all other holes and plugged with a yellow or orange steel cap with the appropriate drill hole number marked on the surface. In the longer holes (i.e. Deep Adrian and Deep West Limb), an additional 15 m cement plug was placed in the HW Andesite unit, immediately below the Bowser Fault.

## **Skeena**

### **2018**

From August 15<sup>th</sup> to November 6<sup>th</sup>, 2018, Skeena completed 46 exploration diamond drill holes from 12 drill platforms totalling 7,737.45 m. Drilling targeted the 21A, 21C and 22 Zones. The purpose of the drill program was to infill areas with low drill density and to collect fresh material for the metallurgical characterization program.

Drilling was conducted by DMAC Drilling Ltd. of Aldergrove, B.C. and Hy-Tech Drilling of Smithers, B.C. DMAC utilised a Hydracore 2000 hydraulic skid mounted drill rig on the 21A and 21C Zones and converted the drill to a fly rig for drilling on the 22 Zone. Hy-Tech utilised a Tech 5000 fly rig. Drill hole collars were initially located using handheld GPS units and surveyed at the end of the drill program using a Trimble DGPS. Down hole orientation surveys were taken approximately every 30 m down the hole utilising a multi-shot Reflex orientation tool.

Drill core was logged and sampled at core logging facilities located just inside the Eskay Creek Mine site gate, proximal to Argillite Creek. Drill core is a combination of NQ (Hy-Tech) and NQ2

(DMAC) diameter core. As weather conditions deteriorated with the onset of winter, all logging and sampling operations were moved to QuestEx Gold and Copper Ltd.'s core facilities located at the McLymont Creek staging area in the Iskut Valley. Core is stored at both the Eskay Creek Mine site carpentry shop and McLymont Creek staging area.

Helicopter drill moves, and daily drill support was provided by Silver King Helicopters Inc. of Smithers, B.C. utilising a Eurocopter AS350 B2 helicopter.

## **2019**

From August to December 2019 Skeena completed 203 exploration diamond drill holes totalling 14,091.87 m. The purpose of the drill program was to infill areas with low drill density and upgrade the mineral resource categories. The drilling targeted the 21A, 21B, 21E and HW Zones.

Drilling was conducted by Tahltech Drilling Services Ltd. utilising a Hydracore 2000 hydraulic skid mounted drill rig. Drill hole collars were initially located using handheld GPS units and surveyed at the end of the drill program using a Trimble DGPS. Down hole orientation surveys were taken approximately every 30 m down the hole utilising a multi-shot Reflex orientation tool. Drill core was NQ size.

Drill core was logged and sampled exclusively at core logging facilities located at the McLymont Creek staging area in the Iskut Valley. All drill core is stored at McLymont Creek Staging area.

## **2020**

From February 7 to October 10, 2020, with a hiatus from March to July due to Covid 19 restrictions, Skeena completed 197 diamond drill holes totalling 36,582.56 m from their Phase 1 drill program. Drilling targeted zones outside of the 20 m buffer zone imposed by Barrick Gold Ltd. around the underground workings.

From October 10<sup>th</sup> to December 31<sup>st</sup>, 2020, Skeena drilled 276 holes for 43,340.23 m from their Phase 2 drill program targeting zones inside the 20m buffer zone.

The purpose of the 2020 drilling was to upgrade the mineral resource categories in the 22, 21A, 21C, 21B, 21E, PMP, HW as well as test for mineralization in the Lower Mudstones below the 21A Zone and the Water Tower Zone. Exploration drilling in the Tom MacKay area was also conducted.

Three contractors were used throughout the year including: Tahltech Drilling Services Ltd. (a partnership between the Tahltan Nation Development Corporation – TNDC and Geotech Drilling Services Ltd.), ITL Diamond Drilling Ltd., and Konaleen Drilling Ltd.

Tahltech used Hydracore 2000 drills and were used for both skid and heli drilling, ITL used a DrillCo and was used only for heli drilling, and Konaleen Drilling used a Zinex A5 drill and was used solely for skid drilling. Helicopter drill moves, and daily drill support was provided by Silver King Helicopters Inc. of Smithers, B.C. utilising a Eurocopter AS350 B2 helicopters. All drill core was NQ in size.

Drill hole collars were initially located using handheld GPS units and surveyed at the end of the drill program using a Trimble DGPS. Down hole orientation surveys were taken approximately every 30 m down the hole utilising a multi-shot Reflex orientation tool. Drill core was NQ size.

Drill core was logged and sampled exclusively at core logging facilities located at the McLymont Creek staging area in the Iskut Valley. All drill core is stored at McLymont Creek Staging area.

## **2021**

The remaining 29 holes for 2,988.00 m of the Phase 2 program was completed between January 1 to January 11, 2021 by Tahltech and Konaleen Drilling using the same rigs and procedures as the 2020 drilling.

### **10.3.2 Discharge of water**

In exploration activities near underground workings, discharge of artesian flows from drill holes that intersect mine workings may constitute an unauthorised waste discharge under the B.C. Environmental Management Act. In accordance with this applicable legislation, and Skeena's Principles for Responsible Exploration, artesian flow from exploration drill holes had to be controlled and prevented. Therefore, Skeena instructed each drill contractor to comply with the following procedure: all drill holes had to be cased into solid bedrock and then cemented. Once the cement had cured the drill holes had to be pressure tested to a minimum of 300 psi to test for leakage. If the pressure test failed, casing was re-drilled and the whole casing-pressure testing process was repeated until the pressure test passed. Upon completion of each hole a Van Ruth plug was installed at depth, the drill hole above the plug was filled to surface using Microsil Anchor Grout, and then capped with a threaded metal cap.

### **10.3.3 Site Reclamation**

Upon completion of the drill holes, 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 were taken at each site and then submitted to the BC provincial government as part of the Notice of Closure.

## **10.4 Recovery**

### **10.4.1 Legacy**

Skeena does not currently have access to the legacy RQD and recovery data.

### **10.4.2 Skeena**

Drilling undertaken by Skeena during 2018 to 2021 had excellent core recoveries, with core recovery averaging 95%.

## 10.5 Sample Lengths/True Thickness

### 10.5.1 Legacy

Drill hole spacing throughout the deposit ranges from 5 m, where underground production drilling encountered complex areas, to 25 to 50 m at the surface. The average drill spacing throughout the deposit is 10-15 m.

For surface holes, mineralization true width varies but approximates 70 to 100% of drilled width; for underground drill holes positioned on single platforms and drilled in radiating fans, true drilling widths are more variable.

### 10.5.2 Skeena

The sample lengths were determined during logging by the geologist. The average sample length for drill holes ranged from 1.0 m in the Contact Mudstones, 1.5 m in the Rhyolite and 3.0 m in the Hanging-wall andesites. Samples were generally broken on geological contacts leading to some samples being as short as 18 cm. As the holes cut the mineralization at different angles, they all have different true widths. In general, the true width is estimated to be 70% to 100% of the interval length.

## 10.6 Underground Drilling

### 10.6.1 Legacy

Underground drilling began in 1991. Information regarding field procedures are largely incomplete or missing. Little detail is known about the amount of definition drilling completed per year or the type of drill rigs used.

The deposit is drilled at an average spacing of 10 m using BGM (~40 mm) core diameter. In highly complex areas where mining was active, drill spacing was locally reduced to 5 m. Underground drill holes are generally less than 100 m in length.

Collar location surveys were performed by the mine surveyors. These provided accurate collar locations for the holes, and a check on the initial azimuth and dip was recorded for each hole. Prior to 2004, most of the drill holes in the database were surveyed downhole using a Sperry Sun™ Single Shot instrument, with readings taken every 60 m, or by acid tubes, with readings every 30 m. In early 2004, downhole surveying used an Icefield Tools™ M13 instrument. This provided azimuths and dips for each hole every 3 m down the hole. Readings were reviewed by staff and inaccurate entries were removed from the database.

### 10.6.2 Skeena

No underground drilling has been undertaken by Skeena.

## 11 Sample Preparation, Analyses, and Security

Sample preparation, analyses, and security results and protocols for drilling campaigns before 2018, the year that Skeena Resources Limited optioned the Eskay Creek property, are documented in Appendix B. Skeena performed a rigorous analysis of the historical data prior to adopting into their database.

### 11.1 2018 – early 2021 Analysis

#### 11.1.1 Sample Preparation and Assaying Procedures

Skeena's sampling and assay quality control guideline for the Snip and Eskay Creek drill core programs was reviewed by SRK (Skeena, 2019). This quality control guideline is a comprehensive document which is designed to assist staff in the implementation and ongoing monitoring of assay quality data for all present and future drill programs. The guideline provides definitions and instructions for all stages of core handling, preparation and analysis with which Skeena personnel are expected to follow (see Section 10.3 for details on drill rig specifications and drill site procedures as well as core storage locations).

Drill core logging, photography and sampling is conducted in a systematic and vigilant manner. When drill core arrives at the core shack, the geologist rearranges the core so that the pieces fit back together as best as possible. The geologist then checks the core for any depth marker discrepancies or core interval mix-ups before making the applicable correction(s). Boxes are labelled at the start and end of the boxes, in meters, and then cleaned of any mud or contaminants. The core is photographed under wet conditions. The core is logged by a geotechnician for recovery, rock quality designation (RQD), longest stick, and magnetic susceptibility. Specific gravity samples are collected one in every 20 m down the hole. A whole piece of NQ-sized competent core 10-15 cm in length is selected and measured using the water displacement method.

A geologist is assigned to a drill hole and logs the core for lithology, alteration, veining, mineralization, and structural features. All metrics, depending on the geological feature being evaluated, are assessed in percent abundance or intensity rankings as well as orientation and thickness. One-meter assay intervals are established when visible mineralization is first observed, and then uniform intervals are continued down the drill length until there is no evidence of mineralization. Assay intervals honour geological contacts to a minimum of 0.5 m and a maximum of 1.5 m. Skeena records geological and geotechnical information into a GeoSpark database.

Skeena geologists mark the centre line of the core in red china marker in preparation for core cutting. All drill core is halved with a diamond core cutting saw. One assay sample ticket stub is placed into the sample bag with the half core and the other matching ticket stub is stapled into position onto the core box marking the appropriate assay interval.

Samples are shipped using the following procedure: Groups of samples are placed in a large rice bag and secured with tie wraps; high grade samples are separated into batches to ensure that the appropriate method is applied at the laboratory. The sample number series within the sack are



marked on the outside of the rice bag and a lab sample submission form is placed in the first rice bag in sequence. The laboratory is emailed in advance of the shipment, and when the lab receives the shipment a confirmation email is returned. Assay sample shipments are shipped to the assay facility in Kamloops twice per week. Samples were transported by truck from the Eskay mine site to the McLymont staging area by Skeena personnel and then loaded onto trucks driven by Rugged Edge Holdings (Skeena's expeditor). The samples were then delivered to Bandstra in Smithers and transported from there to the ALS prep laboratory in Kamloops.

Reject and pulp materials are temporarily stored with ALS in Vancouver for up to one year after the original sample has been tested. All temporarily stored materials are discarded thereafter; however, most original half core is appropriately maintained at the McLymont Creek staging area.

All samples are initially sent and prepared at the ALS facility in Kamloops after which the pulp samples are split and shipped for analysis to the lab in Vancouver, an ISO/IEC 17025:2005 accredited laboratory. At the preparation facility in Kamloops the entire sample is dried and then crushed using a two-stage Terminator crusher. Crushing is done to better than 70% passing a 2 mm Tyler 10 mesh screen, and then the crushed material is put through the riffle splitter to 1000 g. Roughly 1000 g is taken and pulverized to better than 85% passing a 75-micron Tyler 200 mesh screen (PREP-31BN). The LM2 Pulverizing Mill is equipped with a B2000 bowl.

At the analytical facility in Vancouver, gold assays were performed on 50 g samples by fire assay and atomic absorption (ALS code: Au-AA26) with a lower and upper detection limit of 0.01 g/t and 100 g/t, respectively. For assays above the upper detection limit then samples were analysed by fire assay with a gravimetric finish (ALS code: Au-GRA22) with lower and upper detection limits of 0.05 g/t and 10,000 g/t Au, respectively.

Silver assays were performed on 50 g samples by fire assay and gravimetric finish (ALS code: Ag-GRA22) with lower and upper detection limits of 5 g/t and 10,000 g/t, respectively. For assays above the upper detection limit, a concentrate and bullion grade fire assay and gravimetric finish were performed (ALS code: Ag-CON01) with lower and upper detection limits of 0.7 g/t Ag and 995,000 g/t Ag, respectively.

Multi-element assays were performed using a combination of digest and finish methods: a 0.25 g sample using a four-acid digest followed by an ICP-AES finish (ALS code: ME-ICP61), and a 0.1 g sample using lithium borate fusion followed by an ICP-MS finish (ALS code: ME-MS81). This combination in assay methods for the multi-elements ensured that the range of concentrations for all elements of interest, particularly for Sb, were covered. In the database, the ICP-AES finish method took precedence.

A limited number of samples exceeded the upper limits for Ag, As, Cu, Pb and Zn. For these samples, the lab was instructed to apply overlimit methods on a 0.4 g sample (ALS code: OG62) using a four-acid digest and ICP or AAS finish. Sulphur overlimits were re-analyzed using the total sulphur Leco furnace method using a 0.1 g sample (ALS code: S-IR08) with a lower detection limit of 0.01% and upper detection limit of 50%.

Mercury was separately analysed using low temperature aqua regia digestion followed by an ICP-AES finish (ALSO code: Hg-ICP42) with a lower detection limit of 1 ppm and an upper detection limit of 100,000 ppm.

### 11.1.2 QA/QC Verifications 2018 – early 2021

Skeena implemented formal QA/QC programs for all phases of drilling between 2018 and early 2021. In total four drilling phases were completed, including 2018, 2019, 2020 Phase 1, and 2020 Phase 2.

The QA/QC programs contained the following types of quality control samples: sample blanks, reference materials, and check assays. In addition to the Skeena introduced QC sample, the selected analytical laboratory (ALS Global) also inserted their own independent check samples.

The blank material used was a marble garden rock obtained from Canadian Tire in Smithers, BC. Approximately 1 kg of this material was used for each blank sample. Three blanks were inserted for every 100 samples, typically at the “20”, “60” and “00” numbers in the sample tag sequence. Assays for blanks should be less than 10 times the detection limit of the analytical method for gold.

Reference materials were inserted for every 100 samples, typically at the “10”, “30”, “50”, “70” and “90” numbers in the sample tag sequence. Reference materials were usually inserted in rotation, except where high-grade intervals above approximately 20 g/t Au were encountered; here high-grade reference materials (CDN-GS-25) were inserted.

Reference materials and blanks were monitored when batches of assay data were first received. Reference material or blank control charts were routinely updated for the following elements: Au, Ag, Cu, Pb and Zn; other elements were analyzed on an as needed basis. Table 11-1 depicts the 10 CRM's used and their expected values and standard deviation for Au and Ag. Control charts for reference material charts were prepared using the acceptable value plus or minus three standard deviations, the acceptable range. If analyses are outside of the acceptable range after checking for data entry errors, then repeat assay were requested. Where two or more consecutive certified reference materials are both biased high or low (more than 105% of the expected value or less than 95% of the expected value) repeat assays were requested. The lab was instructed to retrieve five pulp samples before and after the QC failure.

**Table 11-1: List of reference materials with recommended values for gold and silver only**

Reference Material	Year	Gold (g/t)			Silver (g/t)		
		Recommended value	+ 3 Std dev	- 3 Std dev	Recommended value	+ 3 Std dev	- 3 Std dev
CDN-GS-1T	2018	1.08	1.23	0.93	n/a	n/a	n/a
CDN-GS-25	2018-2020	25.60	27.01	24.19	99.5	110.5	88.3
CDN-GS-5T	2018	4.76	5.075	4.445	126	141	111
CDN-ME-1312	2018-2020	1.27	1.495	1.045	22.3	24.85	19.75
CDN-ME-1601	2018	0.613	0.682	0.544	39.6	42.3	36.9
OREAS 603b	2019-2020	5.21	5.837	4.583	297	321	273
OREAS 622	2019-2020	1.85	2.048	1.652	102	111.9	92.1
CDN-ME-1902	2020	5.38	6.01	4.75	356	384.5	327.5
CDN-GS-13A	2020	13.2	14.28	12.12			
<b>Arsenic</b>							
Cd-1	2019-2020	3.57					

Two kinds of duplicates were processed during all drilling program: preparation and pulp duplicates. The preparation duplicate is a split that the laboratory takes from the reject material at a rate of one in every 50 samples. The pulp duplicate is an exact repeat of the primary pulp sample analysed immediately after the original sample. Pulp repeat insertion rates are at the discretion of the laboratory Manager. Preparation and pulp duplicate data sets were routinely charted using X-Y scatterplots, relative percent difference versus average graphs and quartile-quartile plots. Skeena monitored the labs performance and reported any concerns to the Lab Manager.

Five reference materials were used during the 2018 Phase 1 drilling program, all of which were obtained from CDN Resource Laboratories in Langley, British Columbia. One standard was certified for Au only (CDN-GS-1T), two were certified for Au and Ag only (CDN-GS-5T and CDN-GS-25), and two were polymetallic standards certified for Au, Ag, Cu, Pb and Zn (CDN-ME-1312 and CDN-ME-1601). All reference materials were purchased from CDN Resource Laboratories Ltd. (CDN) of Delta, British Columbia; they were selected to best match the rock matrix seen at Eskay Creek, as well as to match the analytical method used on the samples.

A total of 112 control blanks, 196 reference samples, 206 preparation duplicates, and 1,178 pulp duplicates were inserted and analysed in 2018 (Table 11-2). The combined quality control samples equate to 51% of the total assays submitted in 2018.

**Table 11-2: Summary of QC samples inserted by Skeena during the Phase 1 drilling program in 2018**

QC Sample	Type	Subtotal	Total	% of Total
Total Blanks			112	7%
Reference Material	CDN-GS-1T	2		
	CDN-GS-25	44		
	CDN-GS-5T	58		
	CDN-ME-1312	48		
	CDN-ME-1601	44		
<b>Total Standards</b>			<b>196</b>	<b>12%</b>
Duplicates (internal ALS)	Prep	206		
	Pulp	1,178		
<b>Total Duplicates</b>			<b>1,384</b>	<b>82%</b>
<b>Total QC</b>			<b>1,692</b>	<b>100%</b>

Five reference materials were used in the 2019 Phase 1 drilling program, two of which originate from CDN Resource Laboratories in Langley, BC, and two from Ore Research & Exploration Pty Ltd. (OREAS), through Analytical Solutions Ltd. in Ontario. An additional high-grade antimony standard (Cd-1) was obtained from Natural Resource Canada in Ottawa, Ontario and inserted, at the geologist's discretion, in zones of massive stibnite. Cd-1 originates from a stibnite bearing quartz veins in greywacke and slate from Lake George mine, New Brunswick (Skeena, 2019a). A total of 281 control blanks, 466 reference samples, 28 preparation duplicates, and 1,504 pulp duplicates were inserted and analysed in 2019 (Table 11-3). The percentage of combined quality control samples equates to 27% of the total assay samples submitted in 2019.

**Table 11-3: Summary of QC samples inserted by Skeena during the Phase 1 drilling program in 2019**

QC Sample	Type	Subtotal	Total	% of Total
Total Blanks			281	12%
Reference Material	CDN-GS-25	123		
	CDN-ME-1312	112		
	OREAS 603b	115		
	OREAS 622	114		
	Cd-1	2		
<b>Total Standards</b>			<b>466</b>	<b>20%</b>
Duplicates (internal ALS)	Prep	28		
	Pulp	1,504		
<b>Total Duplicates</b>			<b>1,532</b>	<b>67%</b>
<b>Total QC</b>			<b>2,279</b>	<b>100%</b>

Five reference materials were used during the 2020 Phase 1 and Phase 2 drilling programs, three of which originate from CDN Resource Laboratories in Langley, BC, and two from Ore Research & Exploration Pty Ltd. (OREAS), through Analytical Solutions Ltd. in Ontario (Skeena, 2020a;

Skeena, 2020b). A total of 1,132 control blanks, 2,708 reference samples, 115 preparation duplicates, and 1,152 pulp duplicates were inserted and analysed in 2020 (Table 11-4). The percentage of combined quality control samples equates to 14% of the total assay samples submitted in 2020.

**Table 11-4: Summary of QC samples inserted by Skeena during the combined Phase 1 & 2 drilling programs in 2020**

QC Sample	Type	Subtotal	Total	% of Total
Total Blanks			<b>1,132</b>	<b>22%</b>
Reference Material	CDN-GS-25	664		
	CDN-ME-1312	678		
	OREAS 603b	689		
	OREAS 622	667		
	CDN-GS-13A	10		
<b>Total Standards</b>			<b>2,708</b>	<b>53%</b>
Duplicates (internal ALS)	Prep	115		
	Pulp	1,152		
<b>Total Duplicates</b>			<b>1,267</b>	<b>25%</b>
<b>Total QC</b>			<b>5,107</b>	<b>100%</b>

## 11.2 Specific Gravity Analysis

Specific gravity (SG) measurements were routinely collected from diamond drill core during Skeena's 2018, 2019 and 2020 Phase 1 and Phase 2 drilling campaigns. Sections of drill core up to 10 cm long of whole core were used to determine SG. The core was first weighed in air on a top loading balance, and then weighed in water. A total of 4,965 SG measurements were taken from each sample interval and categorized according to dominant lithology type. Table 11-5 shows the nine dominant lithology types versus their average SG values.

**Table 11-5: Summary of specific gravity measurements versus lithology type**

Rock Type	No. of Samples	Specific Gravity (g/cm <sup>3</sup> )
Bowser Group Sediments	3	2.74
Hanging-wall Andesite	2,460	2.80
Hanging-wall Sediments	606	2.72
Contact Mudstone	225	2.78
Rhyolite	1,496	2.66
Lower Mudstone	36	2.79
Footwall Andesite	43	2.75
Footwall Dacite	78	2.78
Even Lower Mudstones	18	2.75
<b>Average</b>	<b>4,965</b>	<b>2.75</b>

Specific gravity was coded into the resource model using these same dominant rock types. An additional unit was designed and inserted for the predominantly barite-rich unit: the 21C mudstone. In addition, a default value of 2.67 was applied to blocks for which lithology had not been coded. This is the average value of unmineralized rhyolite and mudstone host rocks combined.

Resource models prior to 2021 used an SG formula derived experimentally from actual measurements and analyses when the Eskay Creek mine was in historical production. This formula was utilized for all ore reserves calculated on site so that SG could be determined for mineralized intervals that did not have directly measured values. The formula historically used was:

$$SG = (Pb + Zn + Cu) * 0.03491 + 2.67 \text{ (where all metals are reported in \%)}.$$

### 11.3 SRK Comments

In the opinion of SRK the sampling preparation, security and analytical procedures used during the years 2018 to 2021 are consistent with generally accepted industry best practices and are therefore adequate. The quality control programs established for Skeena's 2018, 2019, 2020 Phase 1 and Phase 2 programs adequately tested for sample mix-ups, contamination, sample bias, sample accuracy and precision using a collection of reference materials and blanks. All quality control issues were immediately addressed, and repeat batches were conducted if questionable data was encountered. Monthly quality control reports documented the type, quantity, and outcome of the quality control assessment, all of which show good performance and assay data integrity.

## 12 Data Verification

### 12.1 Verifications by SRK

The Database used for the 2021 Mineral Resource Estimate was submitted to SRK on April 7<sup>th</sup>, 2021 (the close out date for the Database) for a final review before Skeena proceeded with generating mineralization domains. Skeena has ensured that the database inherited from the historical Operator was verified using historical assay certificates and logs. SRK conducted an independent review of the historical database as well as the current database used for the 2018, 2019, 2020 Phase 1 and Phase 2 drilling programs. In addition, SRK reviewed the historical and current quality assurance and quality control programs (QA/QC) and independently analysed the results from these programs; details of which may be found in Appendix C. After the review, SRK concluded that the Database was sufficiently reliable for resource estimation.

Note that although the resource has been estimated for the base metals (lead, copper, and zinc) and deleterious metals (arsenic, mercury, and antimony), the database verifications and validations are primarily focused on gold and silver assays. At the request of SRK, the units for arsenic and antimony were changed from percent to ppm.

#### 12.1.1 Current Database

The current Database was provided to SRK in .csv format and included collar, survey, assay, and geology files for the 751 drill holes drilled during the 2018, 2019, 2020 Phase 1 and Phase 2 drilling programs, as well as all historical holes (for a total of 8,334 holes). SRK inspected the data for collar survey discrepancies, erroneous downhole deviation paths, and overlapping or missing assay and lithology intervals.

SRK performed an independent analysis of Skeena's database relevant to the 2019 and 2020 Phase 1 and Phase 2 drilling programs, whereby the database was compared directly with the provided assay certificates. Certificates for the 2019 and 2020 Phase 1 and Phase 2 drilling programs were imported into an SRK SQL database and validations were performed for the following eight assay values: Ag\_Best\_ppm, As\_Best\_ppm, Au\_Best\_ppm, Cu\_Best\_%, Pb\_Best\_%, S\_Best\_ppm, Sb\_Best\_ppm, and Zn\_Best\_%.

A total of 729 final certificates were imported and out of the matching sample ID's 100% of the 294,640 values had zero errors when programmatically compared.

#### 12.1.2 Historical Database

The historical Database was provided to SRK in .csv format and included collar, survey, assay, and geology files.

SRK conducted routine verifications to ascertain the reliability of the electronic drill hole database provided by Skeena. All assays in the Database were verified against Eskay mine laboratory and Independent lab assay certificates, where assay certificates were available. No significant errors

or omissions were discovered; however, the large number of missing assay certificates is a limitation on the validation effort.

The Database was checked for missing values, duplicate records, overlapping intervals, sample intervals exceeding maximum collar depths, borehole deviations, drill holes collars versus topography, laboratory certificate vs database values and special values (i.e. non-numeric or less than zero). Minor errors were reviewed with Skeena's Resource Geologist and resolved prior to geological modelling and resource estimation. All modifications to the Database were checked to ensure appropriate allocation. These included assay priorities ranking and accurate, consistent LDL updates.

SRK viewed the collar locations of underground drill holes by means of 50 m sections with drill hole volume projections of 25 m. There was no obvious discrepancy between collar location and underground workings. Viewed on 50 m sections, the drill holes collars originating from the surface appear to correlate reasonably well with the topography layer. There are, however, several drill holes that occur approximately 20 m above or below the surface layer. Given the fact that the collar locations have more accurate spatial resolutions than the topography surface, this discrepancy is not thought to be a material concern. SRK cross-checked the UTM and mine grid coordinates from the McElhanney report with the final Skeena database. The checks confirmed that the UTM-mine grid shift had been done accurately.

### 12.1.3 Site Visit #1

Ms. S. Ulansky, PGeo, a Qualified person ("QP") as defined by Canadian National Instrument NI 43-101 standards of disclosure, visited the Eskay Creek Project on June 27 and June 28, 2018 with two representatives from Skeena Resources Limited (Ms. K. Dilworth and Mr. J Himmelright). The purpose of the visit was to see localities that had been described in earlier reports first-hand and to validate the areas with independent checks. The following areas were visited and verified:

- Approximately 50 drill hole collars, located on twenty-two drill pads, were located and resurveyed. GPS readings were taken along with general azimuth and dip orientations of the remaining casing. These independent GPS readings agreed within +/-5 m of the collar coordinates in the database, noting that the handheld GPS used by SRK had an accuracy of +/-5 m. All the drill holes surveyed were cased, although many casing caps were missing or not placed there in the first place. Seventeen of the drill holes had labels etched onto the casing caps and some of these locations were photographed (Figure 12-1 ):
- Five east-west trenches were visited, and their localities verified,
- The borrow pit that was used for making mine laboratory assay 'blank' samples,
- The historical regional exploration camp at km 45, which is now in the possession of another exploration company,
- Albino Lake, where all drill core and low-grade waste material was disposed.



The previous Mineral Resource Estimate dated November 1, 2018 was estimated using a total of 7,583 drill holes for a total of 651,332 m of core. The current Mineral Resource Estimate having an effective date of February 28, 2019 included an additional 46 holes, drilled by Skeena, for a total of 7,737 m of core. The new drilling from 2018 account for less than 1% of the total number of drill holes and total meterage; an immaterial change to the database. Based on this, SRK considers the site visit in 2018 valid for the updated 2019 MRE.



Figure 12-1: Drill hole locations with labelled casing

#### 12.1.4 Site Visit #2

Ms. S. Ulansky has been involved with the evaluation of the Eskay Creek Project since 2018 and has conducted two site visits to the Eskay Creek property. The most recent site visit was conducted between July 27 and July 30, 2020. During this latest site visit, Ms. Ulansky reviewed surface and underground drill core to confirm the presence and nature of mineralization and appropriateness of

the interpreted geological framework. She observed abundant mineralization in drill core, verifying the presence, and nature of gold and silver mineralization at the Eskay Creek project.

In addition, while on site, she verified Skeena's drilling, sample preparation, handling, security, and chain of custody procedures, surface drill hole locations and core logs. Figure 12-2 depicts the core logging facility at the McLymont Creek staging area.



**Figure 12-2: Core logging facility at the McLymont Creek staging area**

### **12.1.5 Verifications of Analytical Quality Control Data**

Skeena made available to SRK the historical assay results for analytical quality control data accumulated on the Eskay Creek property between 1997 and 2004. Although not complete, the Eskay Creek mine did initiate QA/QC measures into their sample stream in 1997. With progressive years the QA/QC protocol became more comprehensive and detailed. SRK independently compiled and summarized the QA/QC assays directly from the available assays for the years 1999, 2001, 2002, 2003 and 2004. Appendix C details the QA/QC data and results for the years between 1995 and 2004.

SRK also independently verified Skeena's 2018, 2019, 2020 Phase 1 and Phase 2 drilling program QA/QC measures.

Table 12-1 summarizes all the QA/QC procedures in place in relation to the years that the samples were inserted.

**Table 12-1: Drilling and sampling years versus QA/QC procedure in place**

Year	Lab(s)	Type(s)	Certificate Availability
1997	Eskay mine lab	Repeat (pulp?)	No certificates found
1998	Eskay mine lab Bondar Clegg IPL MIN-EN ALS Chemex	Round robin standards, blanks, field, and pulp duplicates	No certificates found
1999	Eskay mine lab	Pulp repeats	Certificates found
2001	Eskay mine lab	Pulp repeats	Certificates found
2002	Acme Analytical	In-house standards, in-house pulp repeats	Certificates found
2003	Eskay mine lab	Unknown standards and blanks	Certificates found
	Acme Analytical	In-house standards, in-house prep, pulp and reject repeats	Certificates found
2004	Eskay mine lab	Standards, blanks, prep, pulp and reject repeats	Certificates found
	Acme Analytical	In-house standards, in-house prep, pulp and reject repeats	Certificates found
2018 - 2021	ALS Global	Reference material, blanks, in-house prep, and pulp repeats	Certificates available

#### 12.1.6 2018 – early 2021 QA/QC

Official QA/QC programs were undertaken in 2018, 2019, 2020 Phase 1 and Phase 2, whereby Skeena added standards and blanks to the sample stream and submitted them to the primary assay laboratory, ALS Global, for preparation and analysis. Preparation and pulp duplicates were processed at ALS Global during the routine sampling process. An additional lab (SGS Canada) was used to independently test pulp duplicates and a select number of standards.

An analysis of 106 blank gold samples confirmed that the least amount of contamination was transferred from sample to sample (Figure 12-3). Two samples contained greater than 5 times the detection limit and follow up investigations show that one of them occurred immediately following a high-grade sample. Since the elevated blank sample was <1% of the previous high-grade sample result, it was deemed to be acceptable. No re-assays were requested for the blank results for the 2018 Phase 1 drill program.

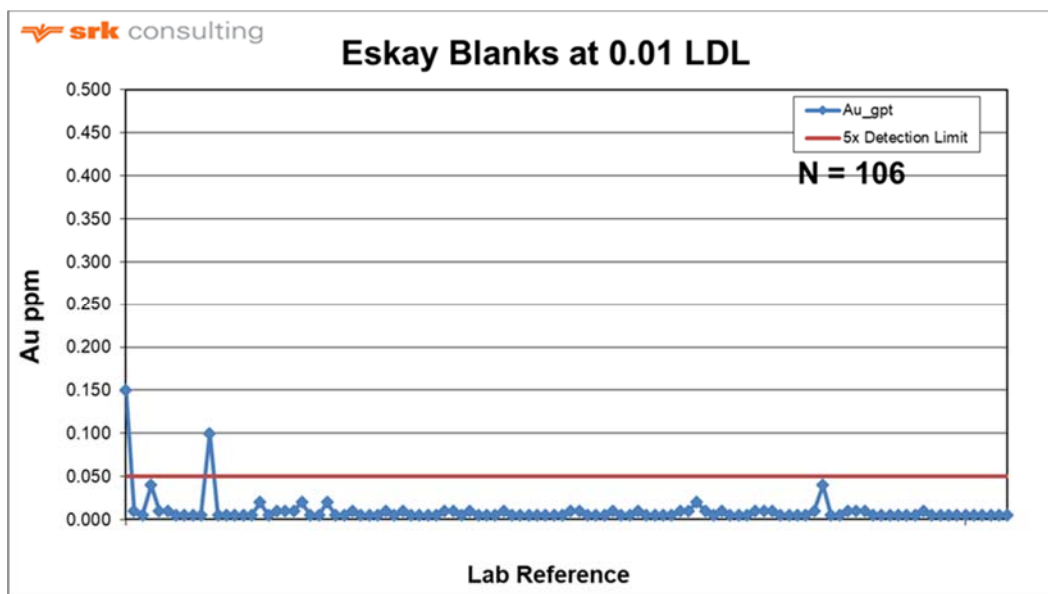


Figure 12-3: “Blank” marble garden rock used during the 2018 drilling campaign

Five commercially produced reference materials were inserted into the sample stream during the 2018 Phase 1 drilling program. An analysis of standard charts for gold showed no obvious errors or bias (Figure 12-4, Figure 12-5, Figure 12-6, and Figure 12-7). Several reference materials were mislabeled which were duly corrected during Skeena’s QA/QC routine procedures. Standard CDN-GS-25 demonstrated even spread about the expected value for gold, although several samples occurred outside of the 3 standard deviation limits (Figure 12-4). These samples were, however, within 10% of the expected value and are considered acceptable. One sample occurred outside of the 10% of the expected value but this sample was considered acceptable since it was introduced into a stream of low-grade assays.

Standard CDN-GS-5T demonstrate acceptable results for gold with one sample outside 3 standard deviations but within 10% of the expected value (Figure 12-5). Standard CDN-ME-1312 showed one standard more than 10% of the expected value which occurs within a series of medium to high grade gold assays (Figure 12-6). This standard was re-assayed along with 5 to 9 surrounding samples on each side of the failed samples. The re-assay results fit within the acceptable limits.

Standard CDN-ME-1601 resulted in several sample mislabels, which were duly corrected (Figure 12-7). Four samples occurred above the 3 standard deviation limit and above 10% of the expected value. These four samples occur within low grade assays and it was not considered necessary or material to retest the surrounding assays.

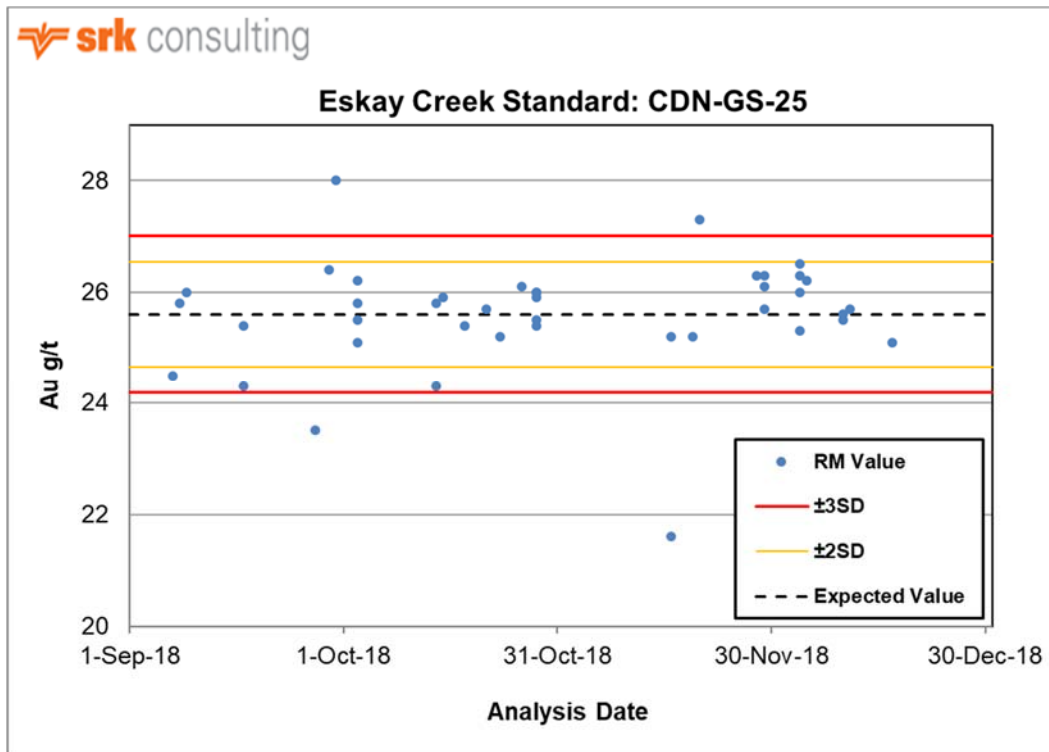


Figure 12-4: Standard CDN-GS-25 from the 2018 drilling campaign

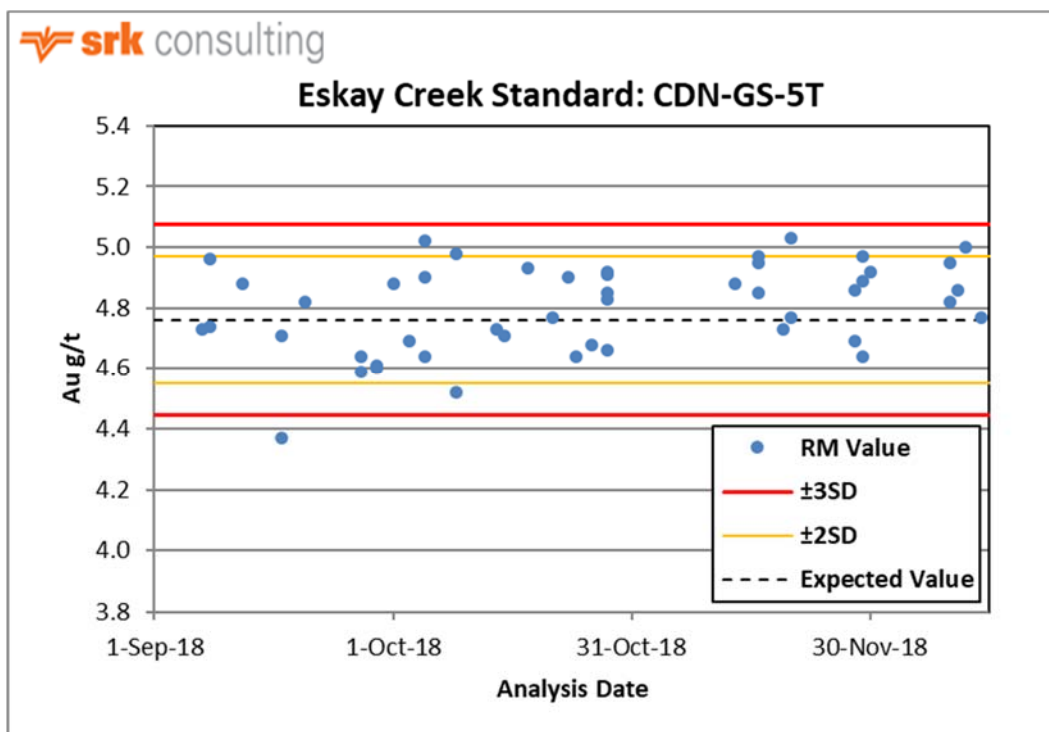


Figure 12-5: Standard CDN-GS-5T from the 2018 drilling campaign

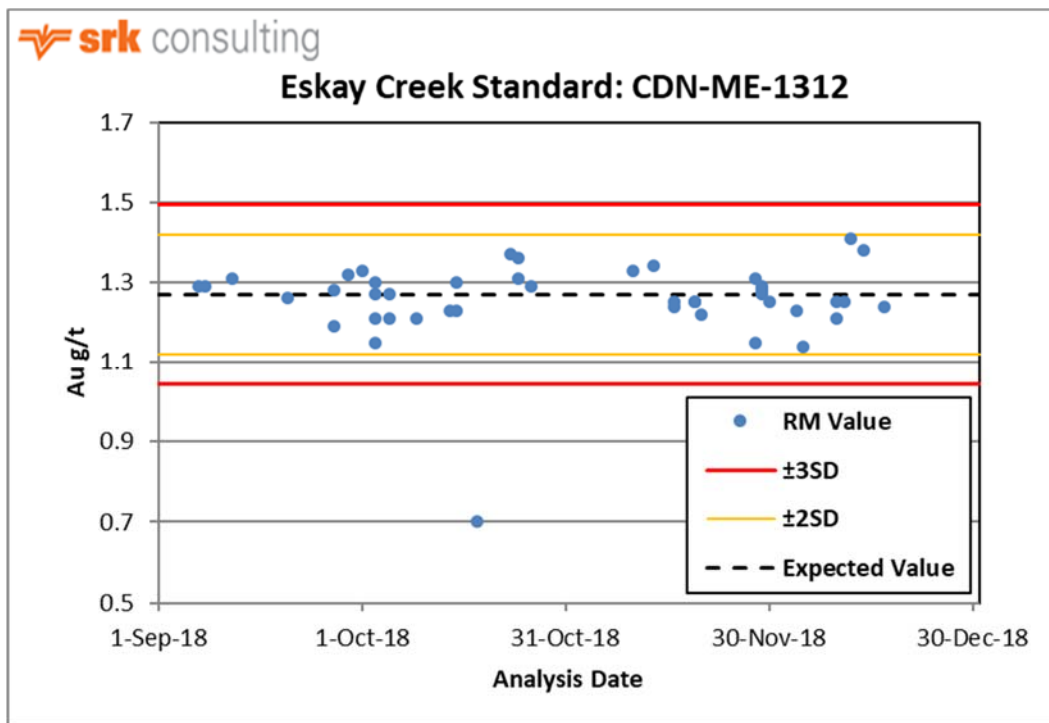


Figure 12-6: Standard CDN-ME-1312 from the 2018 drilling campaign

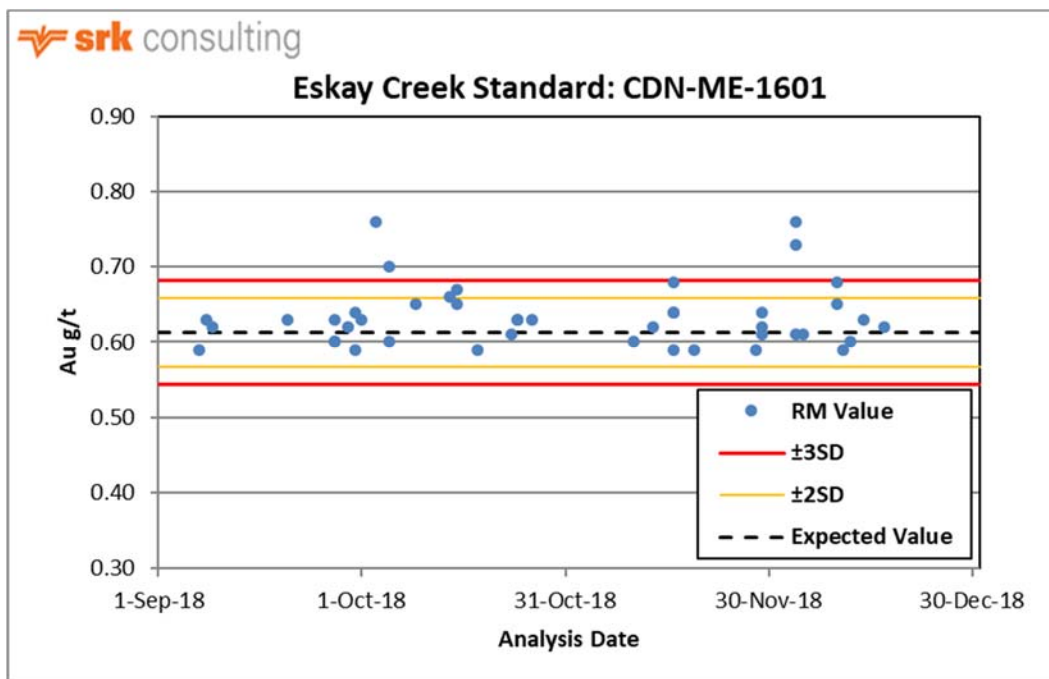


Figure 12-7: Standard CDN-ME-1601 from the 2018 drilling campaign

Preparation (rejects) and pulp duplicates were routinely run at ALS as part of the lab's internal QA/QC procedures. Paired preparation and pulp data performed within acceptable tolerance criteria at both lower grade and higher-grade values (Figure 12-8 and Figure 12-9).

At the end of the 2018 Eskay Creek drill program, 2.5% of all the samples processed during 2018 were sent to a secondary lab for independent analysis (SGS Canada, located in Burnaby, BC). A total of 45 pulps were checked against pulps originally processed at ALS. Overall, the check assays performed within acceptable limits. For samples less than 50 g/t Au, both the original and check lab deliver results within acceptable tolerances (Figure 12-10). The correlation breaks down slightly above 50 g/t Au, where results from SGS are slightly lower on average than ALS. Only 5 sample pairs account for the higher grades, an insufficient number to derive meaningful conclusions. Silver comparative charts show similarly acceptable results, where assays from ALS correlate with assays from SGS with an  $R^2$  value of 0.994 (Figure 12-11).

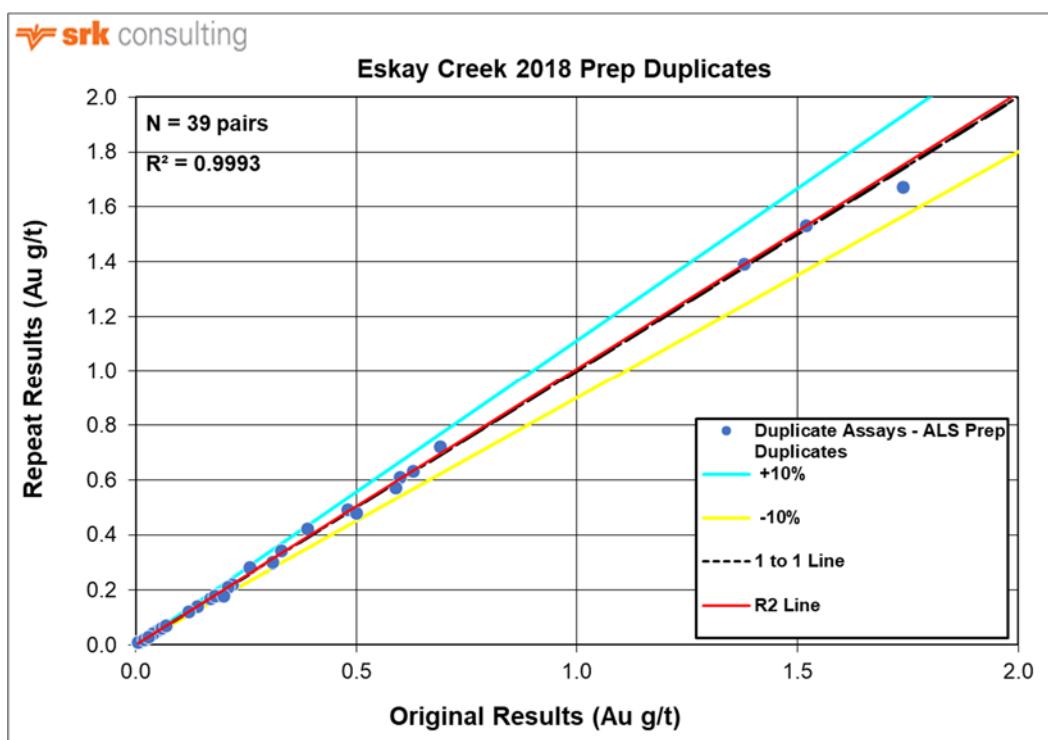


Figure 12-8: Gold prep duplicate samples from the 2018 drilling campaign

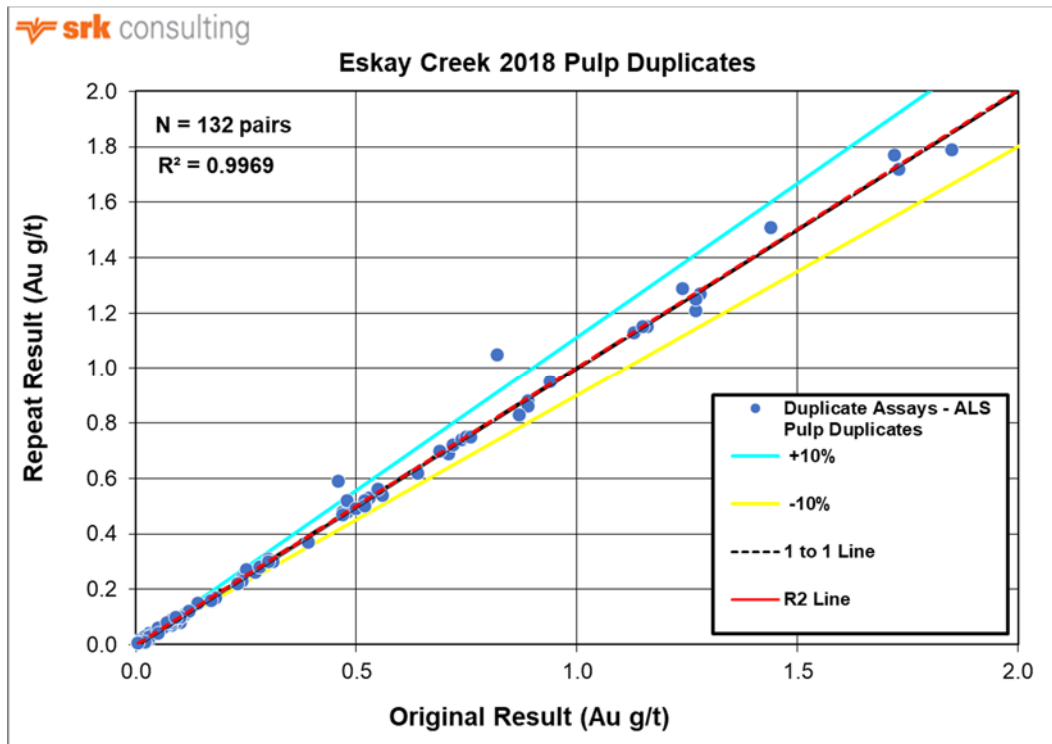


Figure 12-9: Gold pulp duplicate samples from the 2018 drilling campaign

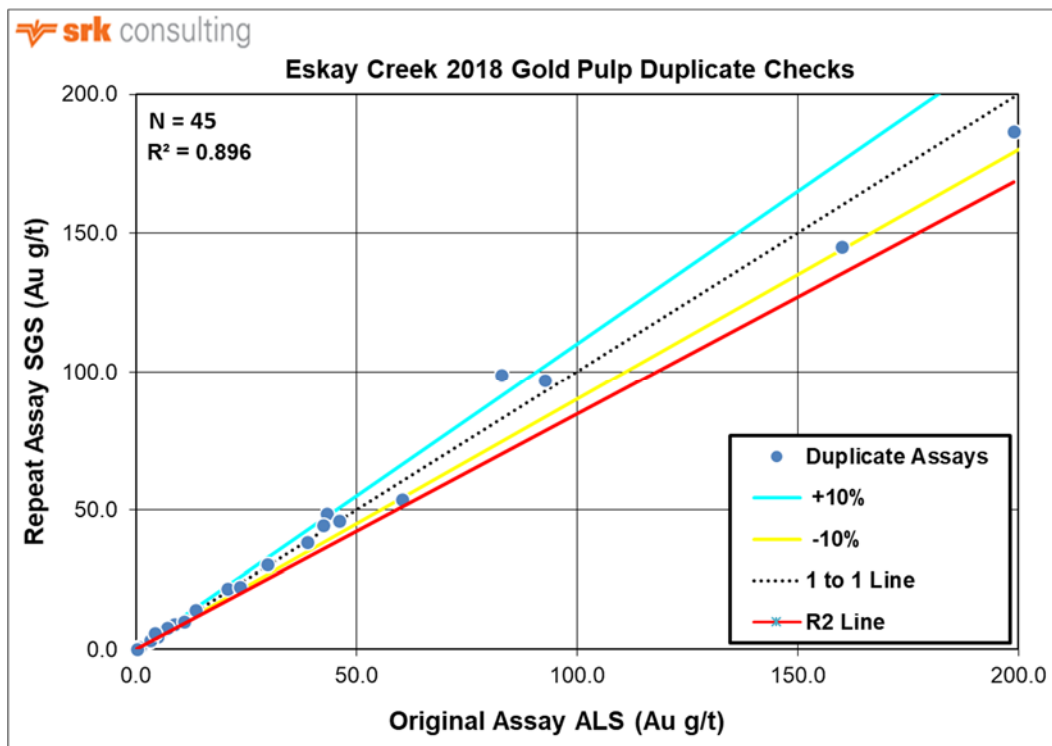


Figure 12-10: Gold pulp duplicate check samples from the 2018 drilling campaign



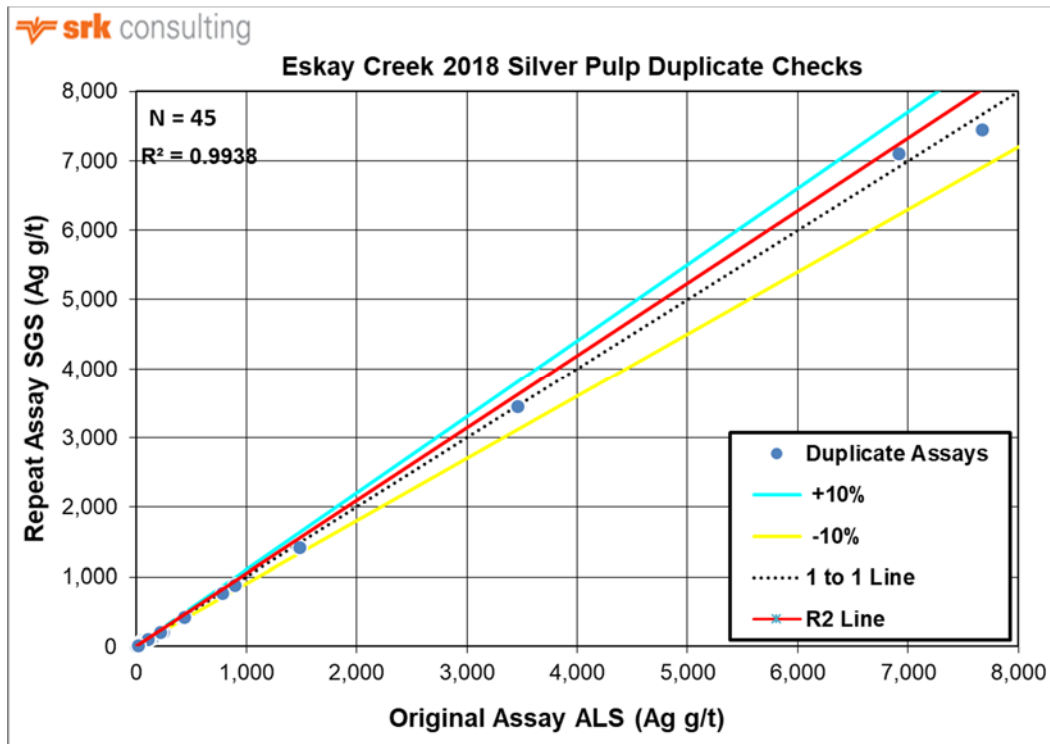


Figure 12-11: Silver pulp duplicate check samples from the 2018 drilling campaign

A total of 281 control blanks were inserted during the 2019 drilling campaign. All except one sample returned less than 10x the detection limit (Figure 12-12). One gold control blank sample registered 4.95 g/t Au; however, this sample immediately followed an extremely high-grade result of 1,380 g/t Au (Skeena, 2019). It is reasonable to expect up to 1% carry over in a blank sample, and hence, no re-assays were run.

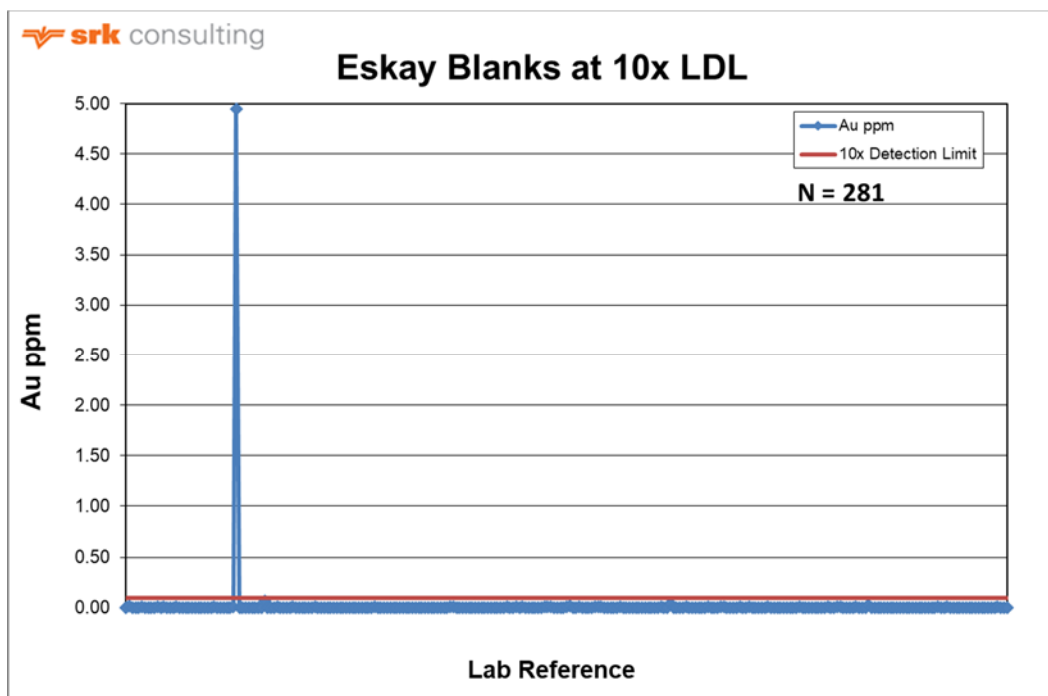


Figure 12-12: “Blank” marble garden rock used during the 2019 drilling campaign

Five commercially produced reference materials were inserted into the sample stream during the 2019 drilling program. An analysis of 3 standard charts for high, medium, and low gold grades showed no obvious errors or bias (Figure 12-13, Figure 12-14, and Figure 12-15). The overall standard failure rate for gold standards in the 2019 program was 0.6%, an inconsequential number of samples outside of the 3 standard deviation limits. Standard CDN-GS-25 demonstrated even spread about the expected value for gold, although a few samples occurred outside of the 3 standard deviation limits (Figure 12-13).

Standard OREAS603b demonstrate acceptable results for gold with all samples falling within 3 standard deviations value (Figure 12-14). Similarly, standard CDN-ME-1312 results are evenly spread about the expected value and occur wholly within the 3 standard deviation limits (Figure 12-15).

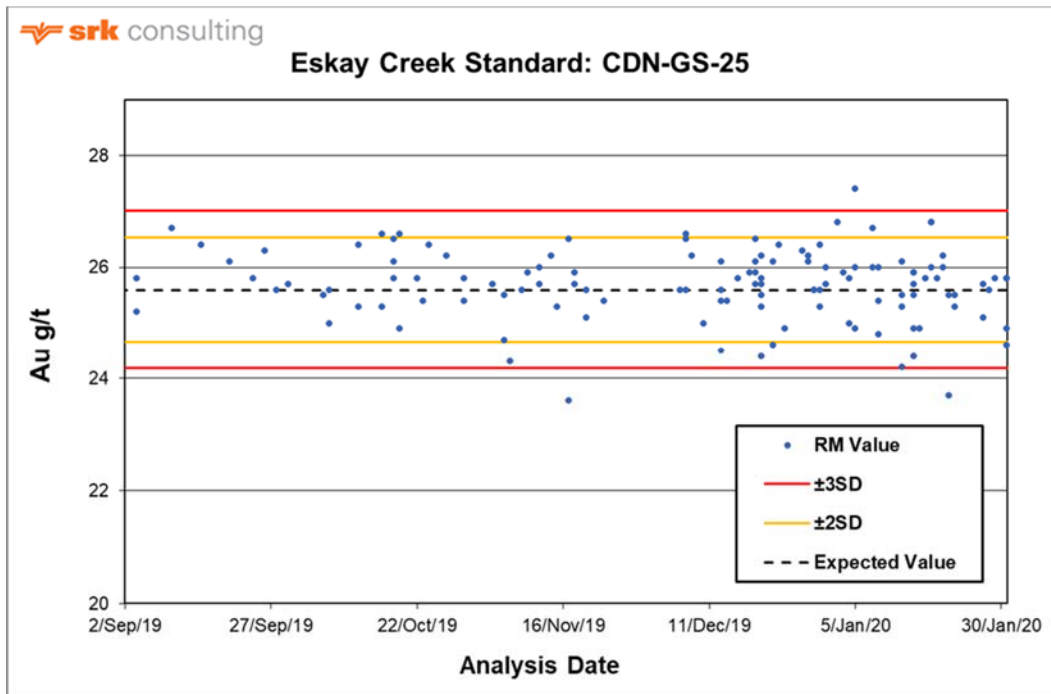


Figure 12-13: Standard CDN-GS-25 from the 2019 drilling campaign

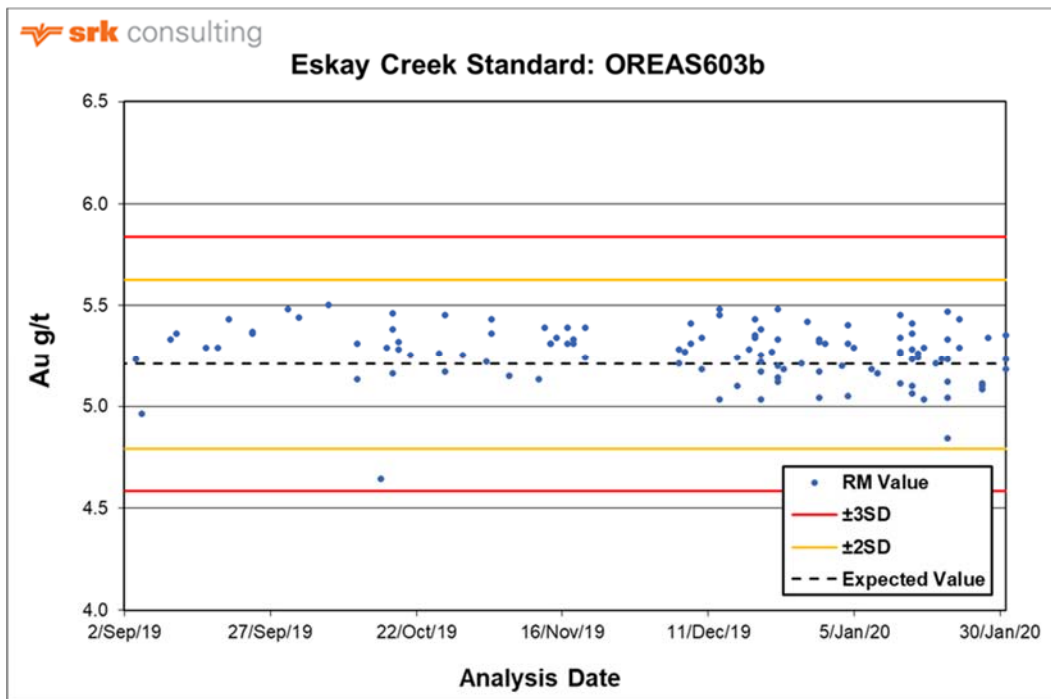


Figure 12-14: Standard OREAS603b from the 2019 drilling campaign

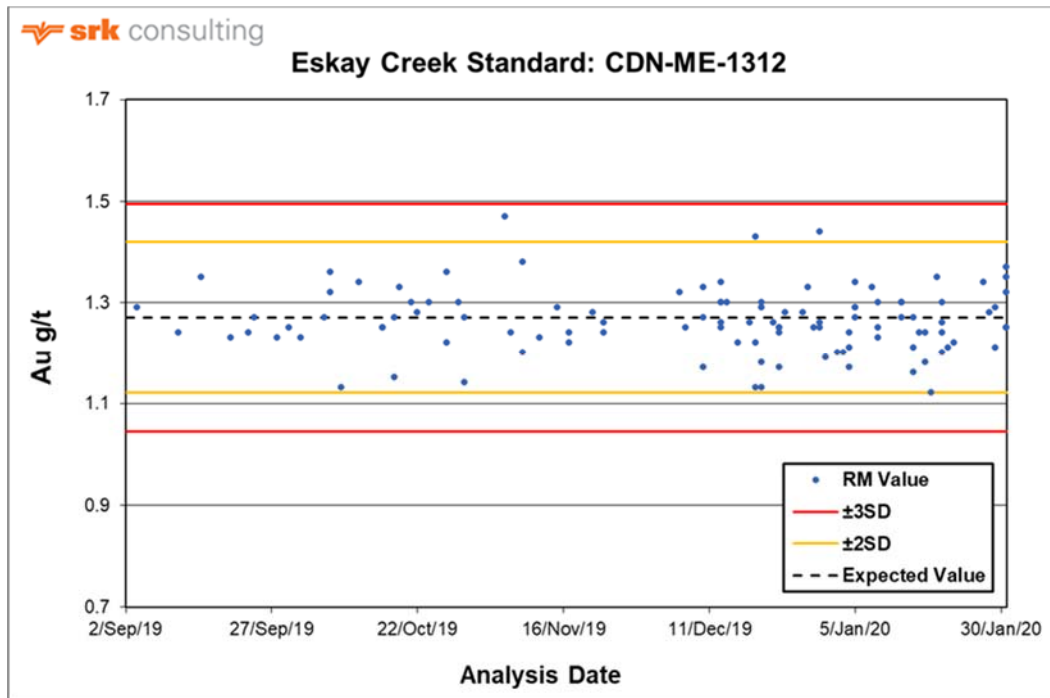


Figure 12-15: Standard CDN-ME-1312 from the 2019 drilling campaign

Paired preparation and pulp data performed in 2019 occurred within acceptable tolerance criteria at both lower grade and higher-grade values (Figure 12-16 and Figure 12-17).

At the end of the 2019 Eskay Creek drill program, a random selection of 2.5% of all assay samples, of which 1.5% occurred within moderate to higher gold grades, were selected and sent to a secondary lab for independent analysis (SGS Canada, located in Burnaby, BC) (Skeena, 2019b). A total of 215 pulps were checked against pulps originally processed at ALS, and ten reference materials were sent along with the check assay samples. Overall, the check assays performed within acceptable limits.

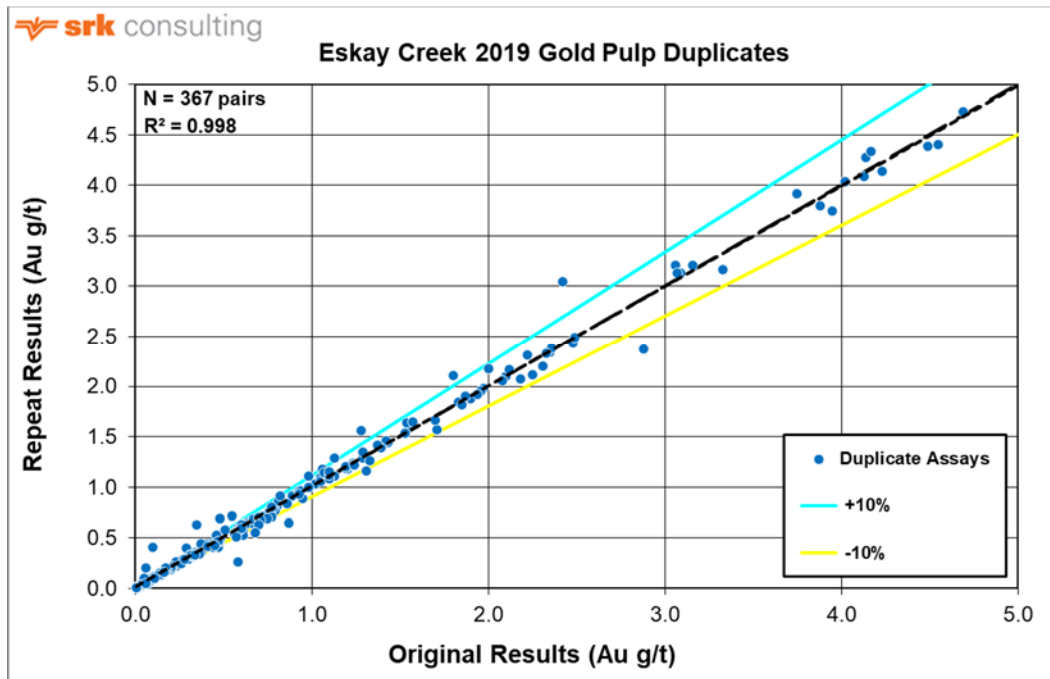


Figure 12-16: Gold pulp duplicate samples from the 2019 drilling campaign

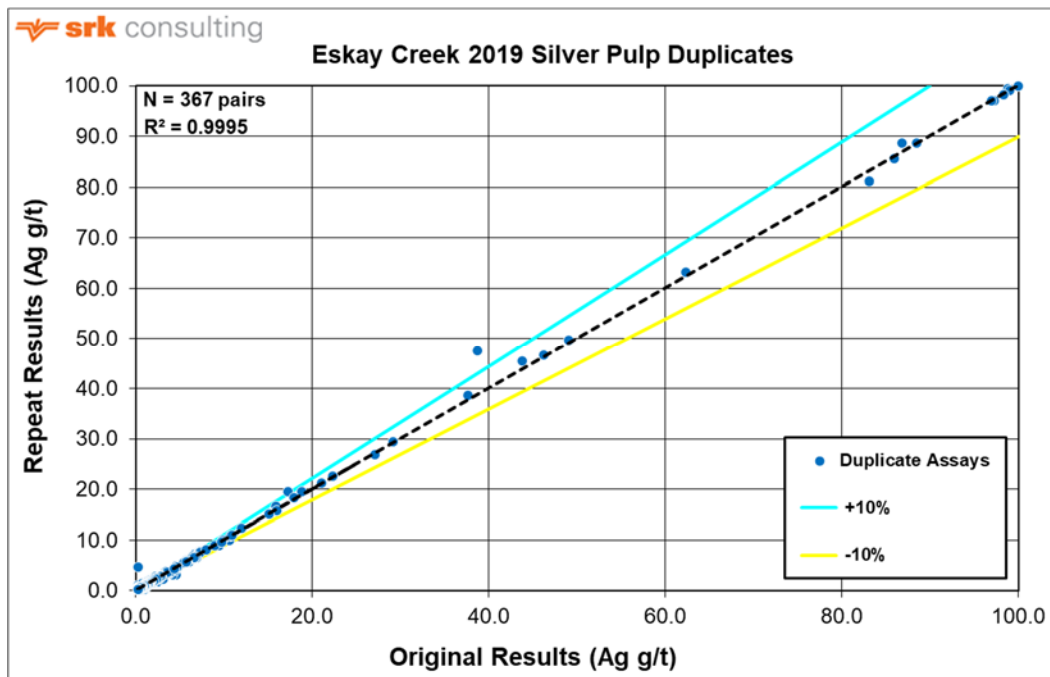


Figure 12-17: Silver pulp duplicate samples from the 2019 drilling campaign

A total of 1,132 control blanks were inserted during the two 2020 drilling campaigns. Two samples registered slightly above the 10x detection limit, however these samples occurred within a series of non-QC samples that registered below the detection limit (Figure 12-18). Having no effect on the resource, they were, therefore, not retested.

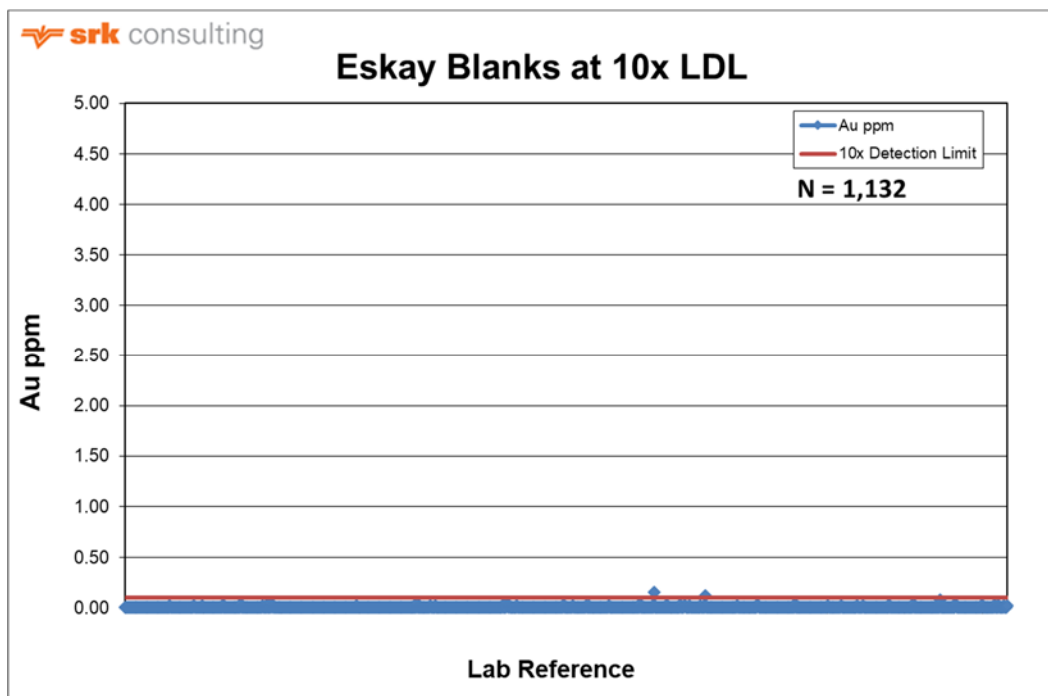


Figure 12-18: “Blank” marble garden rock used during the 2020 drilling campaigns

Five different types of commercially produced reference materials were inserted into the sample stream during the 2020 drilling programs. An analysis of 3 standard charts for high, medium, and low gold grades showed no obvious errors or bias (Figure 12-19, Figure 12-20, and Figure 12-21). Standard CDN-GS-25 demonstrated even spread about the expected value for gold, although four few samples occurred below the 3 standard deviation limits (Figure 12-19).

Standard OREAS622 demonstrate acceptable results for gold with all, excepting one sample, falling within the 3 standard deviations limits (Figure 12-20). Similarly, standard CDN-ME-1312 results are evenly spread about the expected value and occur wholly within the 3 standard deviation limits (Figure 12-21).

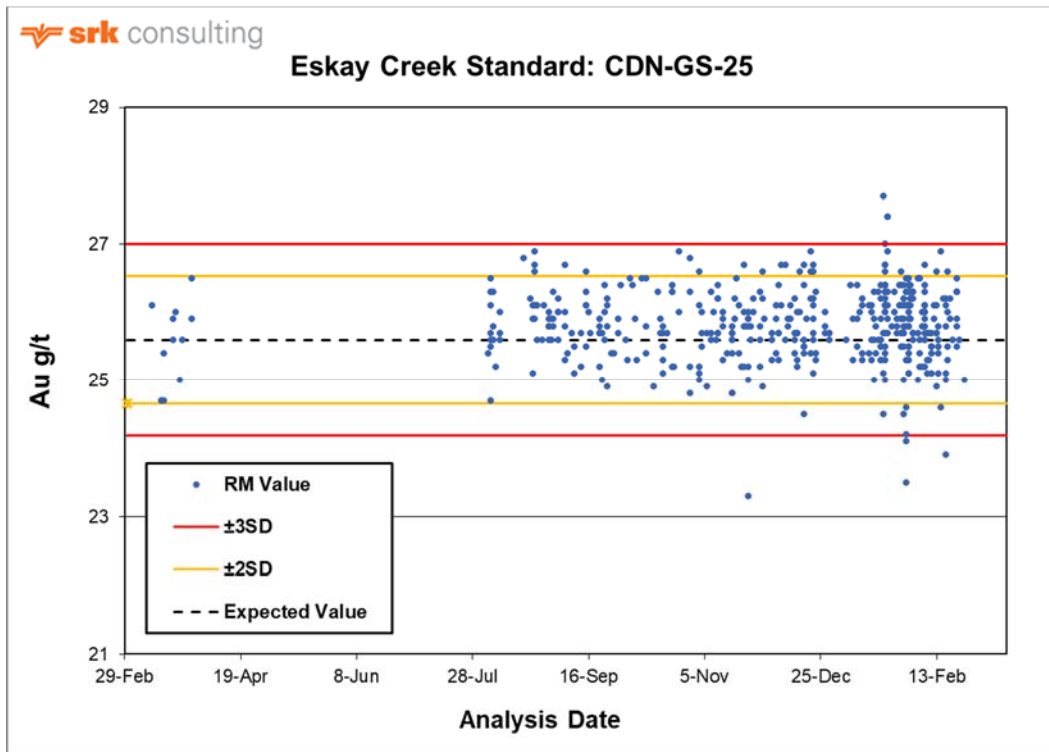


Figure 12-19: Standard CDN-GS-25 from the 2020 drilling campaign

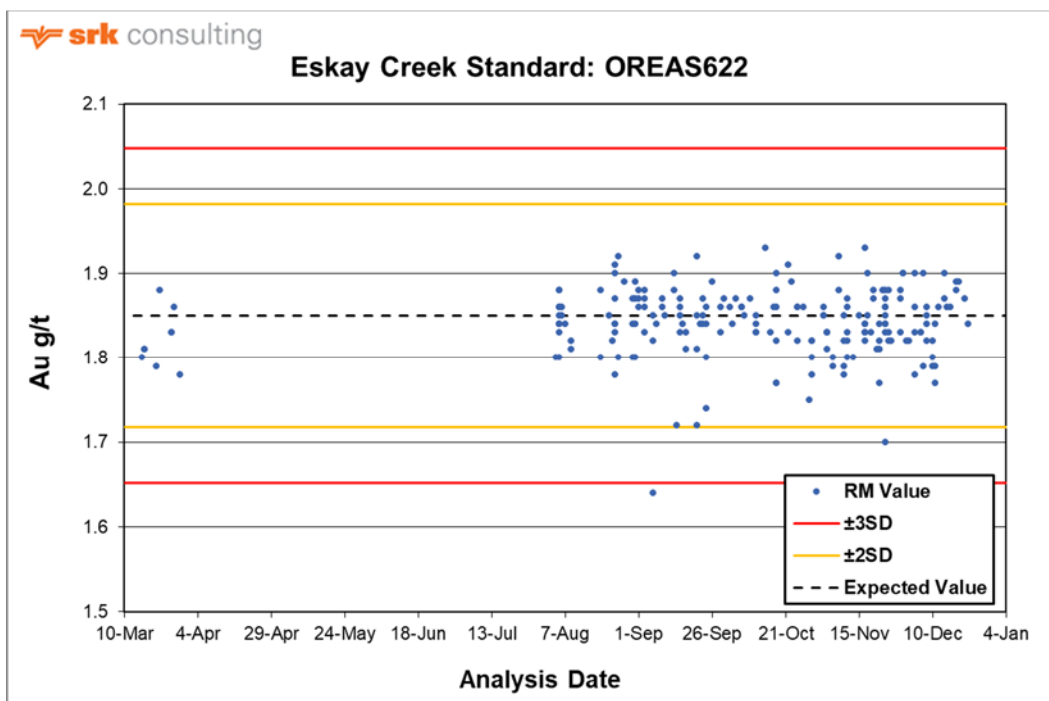


Figure 12-20: Standard OREAS622 from the 2020 drilling campaign

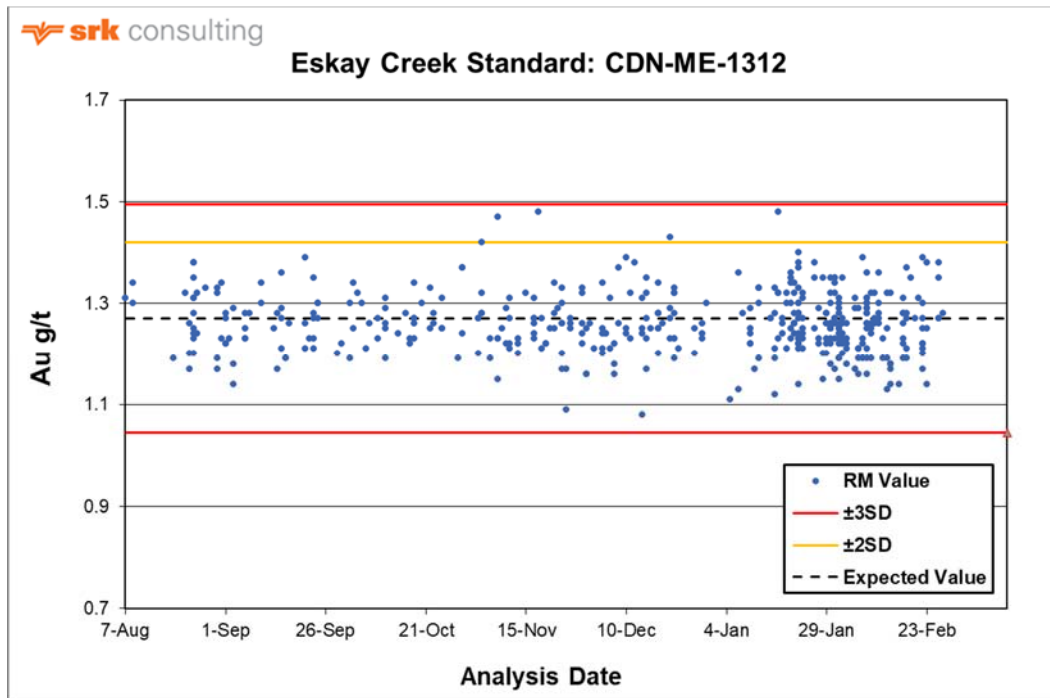


Figure 12-21: Standard CDN-ME-1312 from the 2020 drilling campaign

Paired preparation and pulp data performed during the 2020 Phase 1 and Phase 2 drilling campaigns occurred within acceptable tolerance criteria at both lower grade and higher-grade values (Figure 12-22 and Figure 12-23).

At the end of the 2020 Phase 1 drilling program, a random selection of 2.5% of all assay samples, of which 1.5% occurred within moderate to higher gold grades, were selected and sent to a secondary lab for independent analysis (SGS Canada, located in Burnaby, BC) (Skeena, 2020c). A total of 22 pulps were checked against pulps originally processed at ALS, and one reference materials were sent along with the check assay samples. Overall, the check assays performed within acceptable limits. Check assay results for the 2020 Phase 2 drilling program are pending.



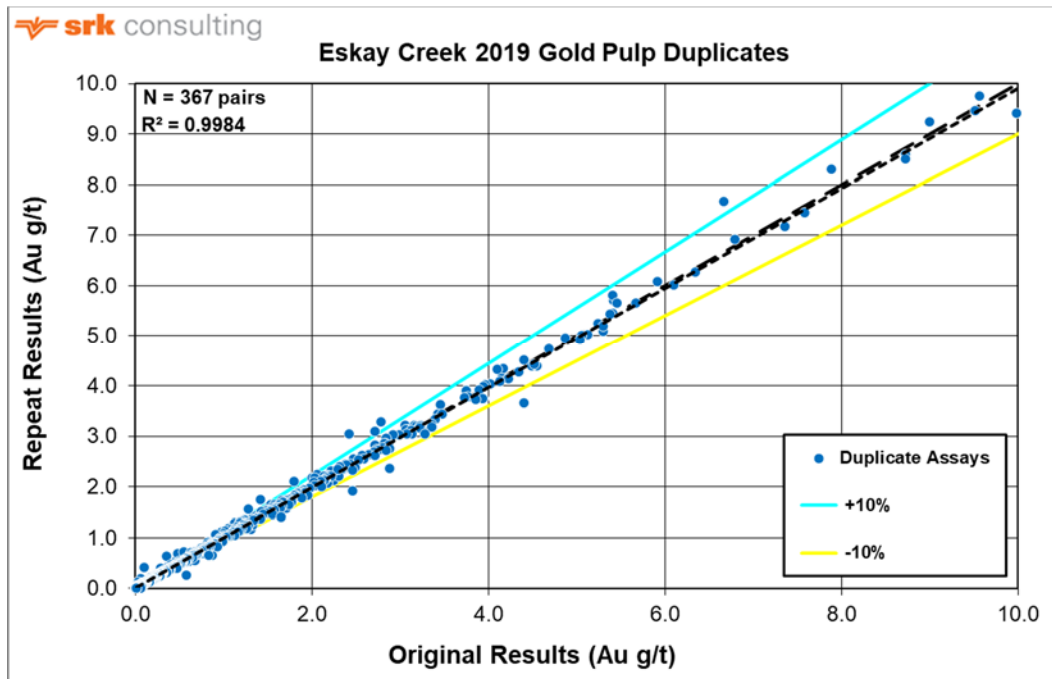


Figure 12-22: Gold pulp duplicate samples from the combined 2020 drilling campaigns

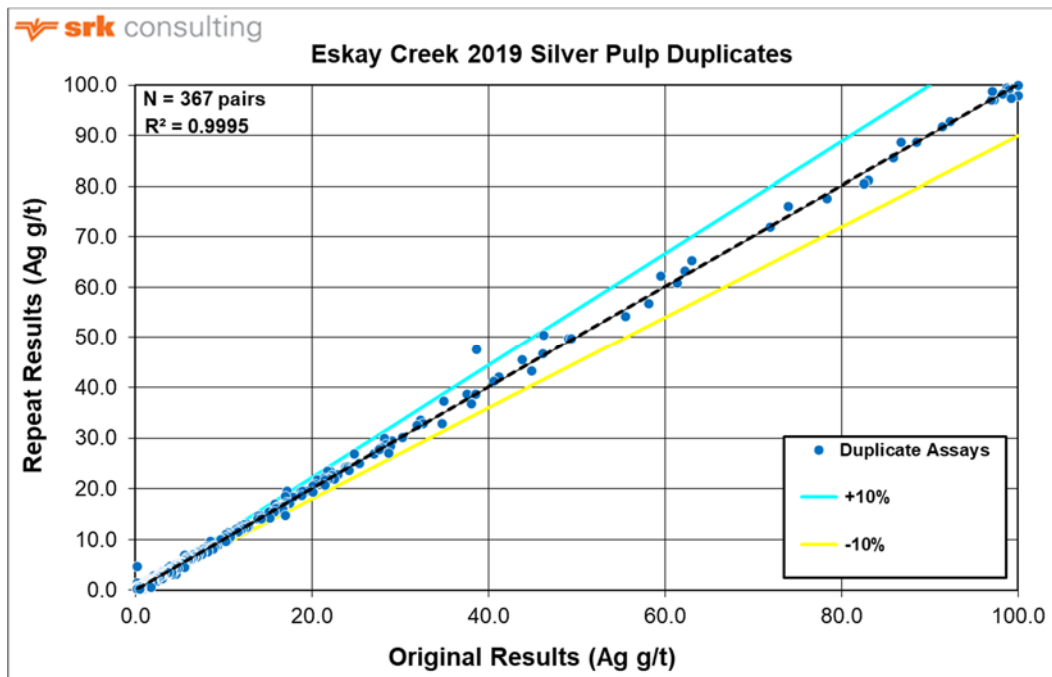


Figure 12-23: Gold pulp duplicate samples from the 2020 combined drilling campaign

### **12.1.7 Summary – Verifications by SRK**

The results of the QA/QC analysis indicate that the historical data are unbiased. A large number of assays in the Database were validated against the original digital assay certificates. These assays ranged from the years 1999 to 2004, and less than 1% errors were found. In addition, the data analysed for the 2018, 2019, 2020 Phase 1 and Phase 2 drilling programs were collected and analysed in a systematic and unbiased manner. The data verification of this data did not identify any material issues and the author is satisfied that the assay data is of suitable quality to be used as the basis for the resource estimate.

## 13 Mineral Processing and Metallurgical Testing

Note: large portions of this section were transferred directly from the Preliminary Economic Assessment Technical Report, prepared for Skeena Resources Limited by Ausenco, AGP Mining and SRK Consulting with an effective date of November 7, 2019 (Ausenco, 2019).

### 13.1 Background

Metallurgical testwork performed by SGS Lakefield, Ontario in 1991 and 1992, as part of an Eskay Creek Feasibility Study, defined a complex hydrometallurgical flowsheet for the recovery of gold and silver, as well as copper and zinc. This process required a large capital outlay with high unit operating costs. The original operating plan was to construct mining infrastructure at the mine site and transport ore to a processing facility located close to Placer Dome's Equity Silver mine, near Houston, B.C.

In late 1994, mining operations commenced at Eskay Creek. In 1996, a testwork program was initiated at Process Research Associates with follow up locked-cycle testing at International Metallurgical and Environmental Inc. to evaluate the potential of a gravity/flotation process for upgrading ore from the NEX and 109 Zones into marketable concentrates.

The work indicated that the ore could be economically upgraded to a saleable concentrate.

In 1997, Prime completed the engineering and construction of a 150 t/d mill to concentrate the gold and silver values for the NEX and 109 Zones. Over the next several years, the mill was steadily upgraded and expanded to its final production capacity of 350 t/d. Since 2008, the mine area has been under a state of reclamation, care, and maintenance.

As part of the 2019 PEA update, testwork was completed by Blue Coast Research (Blue Coast) in Parksville BC, including comminution, whole ore leaching, gravity and flotation recovery methods. The process plant flowsheet assumed for the PEA included only flotation recovery of a precious metal concentrate, for transport and shipment overseas.

Eskay Creek mineralisation is divided into a number of zones or domains. Within each zone, the main rock types are mudstone, rhyolite and hanging-wall andesite. Extensive underground workings are present below 1,000 m RL, mainly in the 21C, HW and NEX Zones. A significant part of the open pit mining area in the first few years will be in the 21A, 21B and 22 Zones.

Table 13-1 shows typical gold and silver grades within each mineralised zone, including arsenic, antimony and mercury as possible impurities to a bulk, precious metal concentrate. Zone 21A has elevated arsenic and mercury, while several zones have 0.16% Sb or higher.

**Table 13-1: Mineralised zone typical grades**

Zone	Au (g/t)	Ag (g/t)	As (ppm)	Sb (ppm)	Hg (ppm)
21A	5.3	85	3,000	2,418	231
21B	4.9	130	537	1,899	91
21Be	5.4	192	1,627	1,727	82
21C	3.5	61	295	584	15
21E	2.5	88	363	4,076	21
22	2.7	43	909	262	6
HW	3.6	164	480	1,645	31
NEX	4.3	155	446	768	20

## 13.2 PEA Testwork Program

As part of the 2019 PEA, metallurgical samples were obtained from the 2019 drilling program and submitted to Blue Coast for testing and evaluation. Complete details of the testwork conditions and results were reported by Blue Coast (Blue Coast, 2019).

### 13.2.1 Sample Details

The drilling program in 2019 focused primarily in the 21A mineralised zone with auxiliary drill holes added in zones 21C and 22 (Figure 13-1).



**Figure 13-1: Location of 2019 metallurgical drill holes**

From these drill holes, six metallurgical samples were collected including a “Hot” sample to represent the mudstone unit in the 21A zone. This sample was elevated in silver, arsenic, antimony and mercury, significantly higher sulphur, and sulphide content together with organic carbon ( $C_{org}$ ). The grades of the 2019 metallurgical samples are provided in Table 13-2.

**Table 13-2: Metallurgical sample grades**

Composite	Au (g/t)	Ag (g/t)	As (ppm)	Sb (ppm)	Hg (ppm)	S <sub>tot</sub> (%)	S <sub>2</sub> (%)	C <sub>tot</sub> (%)	C <sub>org</sub> (%)
Hot	32.6	690	43,350	100,200	3,024	8.08	7.54	0.86	0.48
21A Low As	1.9	53	315	205	49	1.33	1.37	0.31	0.03
21A High As	8.3	54	4,005	4,240	127	2.59	2.25	0.62	0.43
21C	3.4	207	187	409	12	1.93	1.74	0.16	0.06
22 Low As	1.3	107	205	166	4	0.42	0.43	0.02	0.02
22 High As	2.8	10	1,180	330	9	0.77	0.77	0.02	0.03

Zones 21A, 21C and 22 represent a significant portion of the life-of-mine (LOM) plant feed but Zone 21B was not sampled in the 2019 testwork program. Overall, the samples included a reasonable range in gold grade; however, they were lower in copper, lead, and zinc compared with the expected LOM average and future samples should be collected with higher base metal values.

The samples selected for metallurgical testing were representative of various mineralisation forms present within the different zones. Samples were selected from a range of locations within the zones and sufficient mass and testing was performed to support a PEA level of study.

The 21A and 22 Zones were divided into High and Low arsenic samples, with the samples covering a range in grades from 1.3–32.6 g/t Au and 10–690 g/t Ag.

Two composite samples were generated to estimate the expected gold grade for the first three years and the life-of-mine (LOM). The composites were a blend of Hot (mudstone) and 21A Low As (rhyolite) samples:

LOM sample: 91% 21A Low As + 9% Hot

Y1–3 sample: 83% 21A Low As + 17% Hot

The consequence of blending with the Hot sample was elevated arsenic, antimony, and mercury levels for the two composites which resulted in flotation concentrates being produced with artificially high impurity levels. Separate testing on lower grade samples produced concentrates with lower impurity levels so the performance estimates provided in Section 13.3 were not biased by the Hot sample blending.

Figure 13-2 shows the modal mineralogy of the mudstone and rhyolite material with the principal minerals labelled in the breakdown. The mudstone has appreciable amounts of sphalerite, realgar, and stibnite while the rhyolite sample had almost none detected using automated mineralogy.

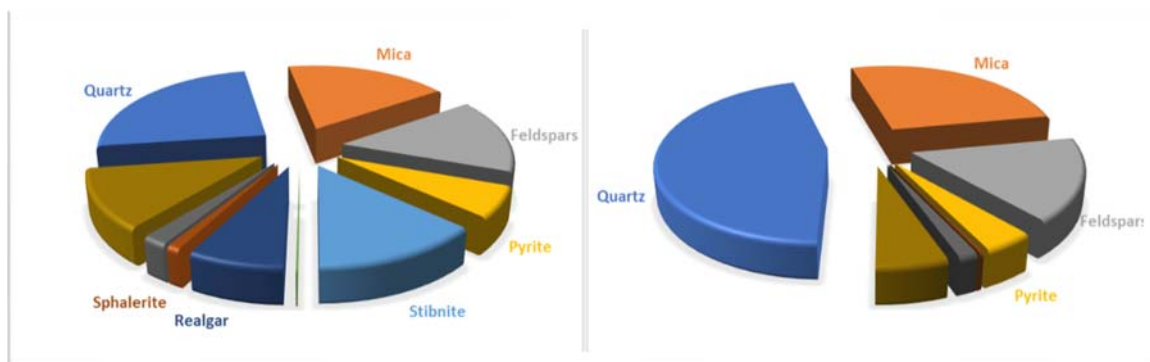


Figure 13-2: Modal Mineralogy of Mudstone vs. Rhyolite (Hot & 21A Low As samples)

### 13.2.2 Comminution

Comminution or hardness testing on each sample consisted of Drop Weight (DWi), Bond Rod Mill Work (RWi) and Bond Ball Mill Work (BWi) index testing at a closing screen size of 150 µm.

The test results indicated a range of material hardness with mudstone being moderately soft (DWi of 3.2 kWh/m<sup>3</sup>, BWi of 13.0 kWh/t), while the 22 Zone exhibited BWi values as high as 26.4 kWh/t. The hardness values for each sample and test type are summarized in Table 13-3.

Table 13-3: Summary of comminution testwork

Composite	Particle SG	DWi (kWh/m <sup>3</sup> )	RWi (kWh/t)	BWi <sub>150</sub> (kWh/t)
Hot	3.06	3.18	-	13
21A Low As	2.69	4.84	14	16.1
21A High As	2.69	4.73	15.2	16.2
21C	3.00	5.80	16.4	16.6
22 High As	2.62	7.34	21	23.5
22 Low As	2.59	5.91	21.8	26.4

Note: BWi measured at a closing screen size of 150 µm.

Previous testwork by SGS Lakefield on samples from the 21B, 21C, HW, 109 and NEX Zones reported SAG power index (SPI) values between 49 and 171 minutes with BWi results of 17.0–20.0 kWh/t, at an unreported closing screen size.

### 13.2.3 Whole Ore Leaching

Bottle roll, cyanidation tests were performed on 21A Low As, 21C and Hot samples to evaluate the potential for whole ore leaching compared with historical testwork done by SGS (on much higher-

grade samples). Overall, gold and silver extractions after 48 hours were poor, with silver generally higher than gold.

Leaching under a range of 80% passing ( $P_{80}$ ) grind sizes (80 $\mu$ m, 50 $\mu$ m and 30 $\mu$ m) did not show any significant effect. The 21C sample reported 31% Au extraction after 48 hours with 1 g/L NaCN and a  $P_{80}$  size of 33  $\mu$ m. For most samples, the initial dissolved oxygen (DO) levels were low and required air sparging throughout the bottle roll test. In addition, cyanide consumption was significant, ranging from 1.3–13 kg/t and increased with finer grind sizes.

Low gold extractions were attributed to a number of possible factors: fine-grained gold particles, the presence of preg-robbing sulphides and/or organic carbon and possible passivation of gold surfaces by antimony. A CIL test on the 21A Low As sample was performed at a  $P_{80}$  size of 18  $\mu$ m with 3 g/L NaCN and pre-oxidation, and reported only 10% higher gold extraction compared with the base case leach conditions.

Samples of coarsely-ground, 21A Low As rougher flotation tailings were subjected to cyanide leaching but only reported 9–15% Au and 14–24% Ag extractions after 48 hours. These tests were done to estimate the sample amenability to cyanidation after any preg-robbing agents had been removed to the flotation concentrate.

#### 13.2.4 Gravity Recovery

The LOM composite sample (91% 21A Low As + 9% Hot) was tested using an extended gravity recoverable gold (E-GRG) procedure with a three-pass grind and recovery sequence. Only 45% of the gold was recovered to a grind  $P_{80}$  size of 82  $\mu$ m with only 13% of the silver recovered. More importantly, the combined gravity + flotation recovery was not higher than flotation alone. Based on this test result, gravity recovery was not recommended in the process flowsheet as part of the 2019 PEA.

#### 13.2.5 Bulk Flotation

A considerable number of open-circuit, rougher and rougher/cleaner float tests were conducted on all samples included in Table 13-2. The 21A Low As sample was initially tested under a wide range of conditions and later applied to the other samples, as part of variability testing.

The testwork objective was to maintain high precious metal recoveries without a high mass pull to concentrate; this issue was evident in early testing as well the historical work done by SGS in 1991.

A range of primary  $P_{80}$  grind sizes were tested (from 338  $\mu$ m down to 39  $\mu$ m) with ~60  $\mu$ m used as the target grind size for further float work. Rougher concentrate was also reground prior to cleaning, with a target  $P_{80}$  size of ~25  $\mu$ m used as the base case.

It was noted that the grind and regrind times were quite long (up to 40 minutes being required for the 25  $\mu$ m regrind size); however, an investigation into possible overgrinding of phyllosilicate minerals did not reveal anything significant. Blue Coast noted that the flotation concentrate was

very slow to pressure filter and remained a concern to be investigated and addressed in later solid/liquid separation testing.

The use of dispersants (sodium silicate and carboxymethyl cellulose, or CMC) was investigated as well as different collector dosage. Much lower mass pulls were obtained without affecting recovery using stainless steel grinding media as well as lower pulp densities using a larger volume laboratory float cell.

Samples exhibited relatively slow float kinetics with 80% Au recovery after 20 minutes of rougher flotation and 90% recovery after 40 minutes. An investigation into possible sliming did not reveal any explanation for the slow-floating nature of the samples.

Three stages of cleaner flotation were done, with concentrates generated after 25 min, 15 min and 10 min of cleaning time. Copper sulphate was added at 100 g/t to the primary grind as an activator with potassium amyl xanthate (PAX) used throughout as the collector, for a total of 200 g/t added.

The base case flowsheet used to evaluate the range of samples is shown in Figure 13-3. Overall, the flotation testwork was able to produce a bulk concentrate with gold recoveries of 80–95% at grades of 40–50g/t Au. Silver recoveries were in the range of 84–97% with grades from 1,000–1,300 g/t Ag.

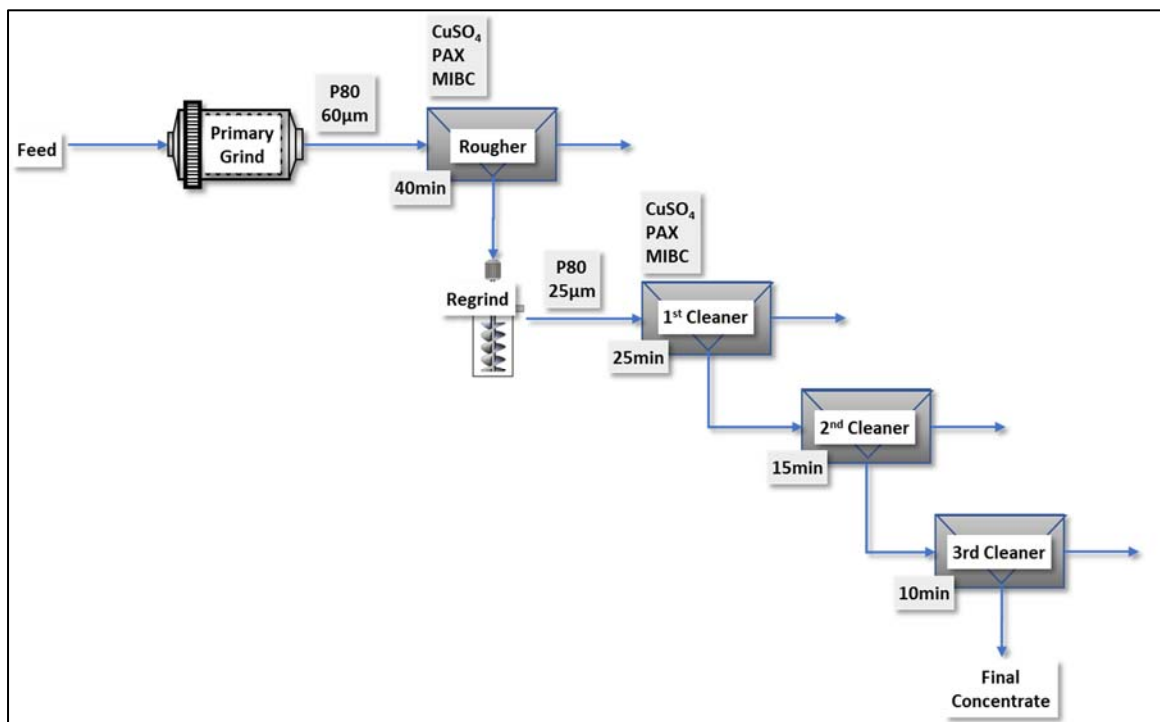


Figure 13-3: Blue Coast laboratory float test flowsheet



The base case float conditions were tested on the lower-grade samples (21A Low As, 21C, 22 Low As, 22 High As) to generate a metal recovery versus head grade relationship. The results showed a consistent behaviour across all samples, reflecting the relatively low amount of sulphides being recovered from rougher and cleaner flotation.

The range of final concentrate precious metal grades and impurity levels are shown in Table 13-4, sorted in order of gold head grade. As will be discussed in Section 13.3, the sulphide minerals containing arsenic, antimony and mercury closely follow the gold–silver-bearing minerals to final concentrate.

For the <3.5 g/t Au head grade samples, the final concentrate contained around 1% As and Sb with ~200 ppm Hg. The LOM composite generated concentrates with much higher impurity levels due to the Hot sample blend. As the expected mine plan indicates 4 g/t Au head grades and below, the lower-grade sample results were used to generate the forecasted concentrate quality and quantity.

**Table 13-4: Concentrate grades for Eskay Creek samples (results sorted by gold head grade)**

Sample	Head		Final Concentrate				
	Au (g/t)	Ag (g/t)	Au (g/t)	Ag (g/t)	As (%)	Sb (%)	Hg (ppm)
22 Low As	1.3	107	53.8	7,565	1.0	1.2	239
	1.3	107	49.1	5,395	0.7	0.7	138
21A Low As	1.9	53	40.2	1,208	0.6	0.7	1,091
22 High As	2.8	10	48.8	219	3.5	0.9	
	2.8	10	38.1	154	2.1	0.6	140
21C	3.4	207	52.5	4,150	0.3	1.2	230
	3.4	207	55.9	4,779	0.3	1.2	249
LOM Comp	3.9	96	40.6	1,036	3.5	9.2	
	3.9	96	52.3	1,115	4.8	9.8	3,817
	3.9	96	41.3	1,042	4.2	9.1	3,501
Yr 1-3 Comp	7.7	164	54.8	1,182	5.4	12.3	
	7.7	164	50.0	1,244	5.9	12.3	4,464
21A High As	8.3	54	51.3	382	2.9	3.5	

### 13.2.6 Flotation Product Mineralogy

Automated mineralogical analysis was performed on both the final concentrate and tailings from the LOM sample float testing. Table 13-5 summarises the main minerals in the two streams.

The LOM sample concentrate contained 19% pyrite with ~7% stibnite and realgar, together with 25% silica and 35% phyllosilicate minerals. In contrast, the tailings contained minimal sulphides (after an extended rougher flotation period) with 54% silica and 31% phyllosilicate minerals.

**Table 13-5: Modal mineralogy of flotation products (LOM sample)**

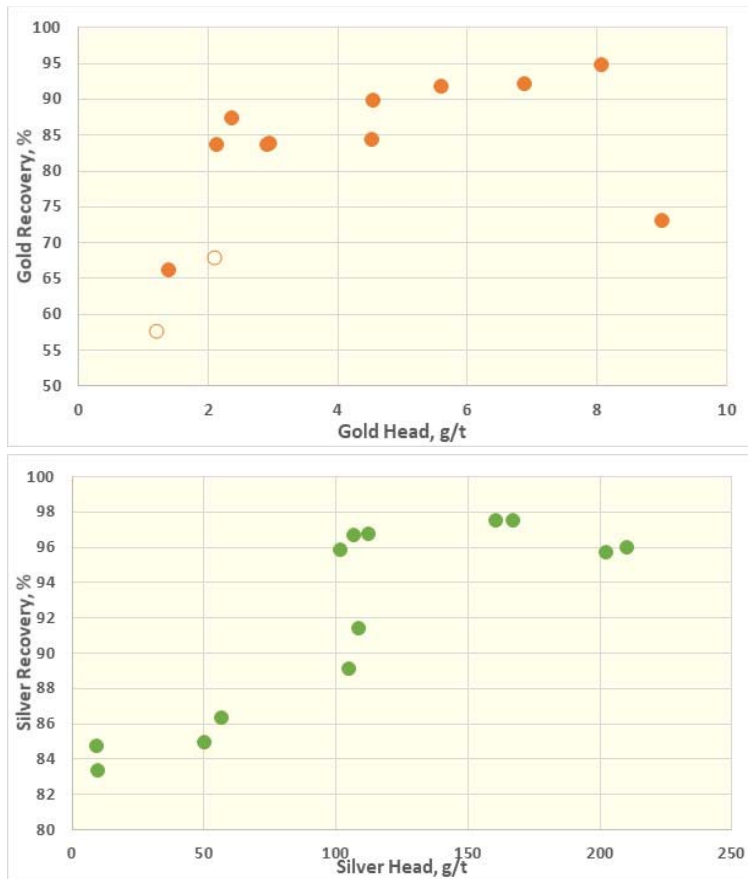
	Concentrate	Tailings
Pyrite	19	0.5
Chalcopyrite	0.2	—
Sphalerite	1.1	—
Stibnite	7.5	0.1
Realgar	6.5	—
Quartz	25	54
Phyllosilicates	35	31
Calcite	2.1	2.6
Barite	0.1	0.26
Other	3.3	11.6

### 13.3 Expected Performance Estimates

Based on 2019 test work results from a range of head grade samples, flotation concentrate of saleable precious metal content was produced at high recoveries of both gold and silver. This concentrate contained impurities of arsenic, antimony and mercury that would be subject to penalties. Depending on the smelter receiving the concentrate, the antimony content may be considered payable, provided the level is above a threshold value (e.g. 3% Sb).

The open-circuit rougher and cleaner float test results were used to generate relationships between the gold and silver recovery versus head grade as well as expected concentrate mass pull. The concentrate impurity levels were also well established from the testwork results. These relationships were done for 50 g/t, 40 g/t and 25 g/t Au concentrate grades to assist the marketing review completed as part of the 2019 PEA. For some samples, the lower-grade concentrate could be achieved with fewer cleaner stages.

Figure 13-4 shows the gold and silver recovery versus head grade relationships at a 40 g/t Au concentrate.



**Figure 13-4: Gold and silver recovery vs. head grade (40 g/t Au concentrate)**

Figure 13-5 shows the concentrate mass pull against sample head grade for a range of final concentrate grades. The effect of lower final grade on concentrate mass is clearly evident in these results.

Figure 13-6 shows the consistent upgrade of impurity-bearing sulphide minerals compared with gold to a 40 g/t Au concentrate. The very predictable behaviour of the samples tested added confidence that metallurgical performance could be reasonably well estimated using these simple relationships.

For the PEA mine plan (see Figure 13-7), 60% of the plant feed was anticipated to be rhyolite with 20% mudstone and 20% hanging-wall andesite material. In Year 1, almost 60% of plant feed will be from the 21A Zone with higher precious metal grades and impurity levels. As the percentage of 21A material decreases over time, the gold head grade will fall from almost 5g/t Au in Year 1 to around 3 g/t Au. Similarly, silver grade will be higher in Year 1 to 6 at 100g/t Ag, and will fall to around half this value in Year 7.

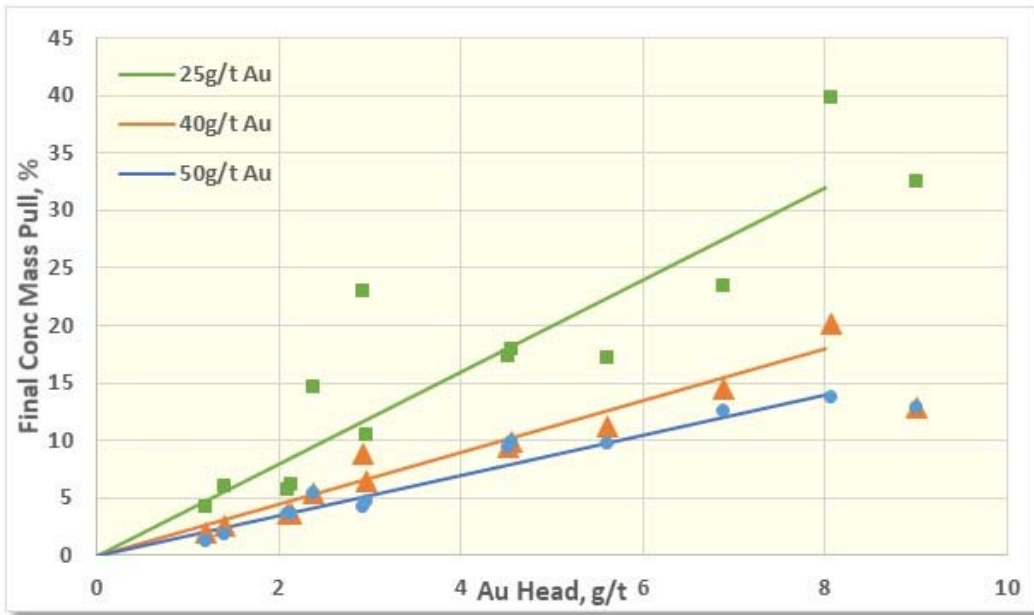


Figure 13-5: Mass pull vs. head grade

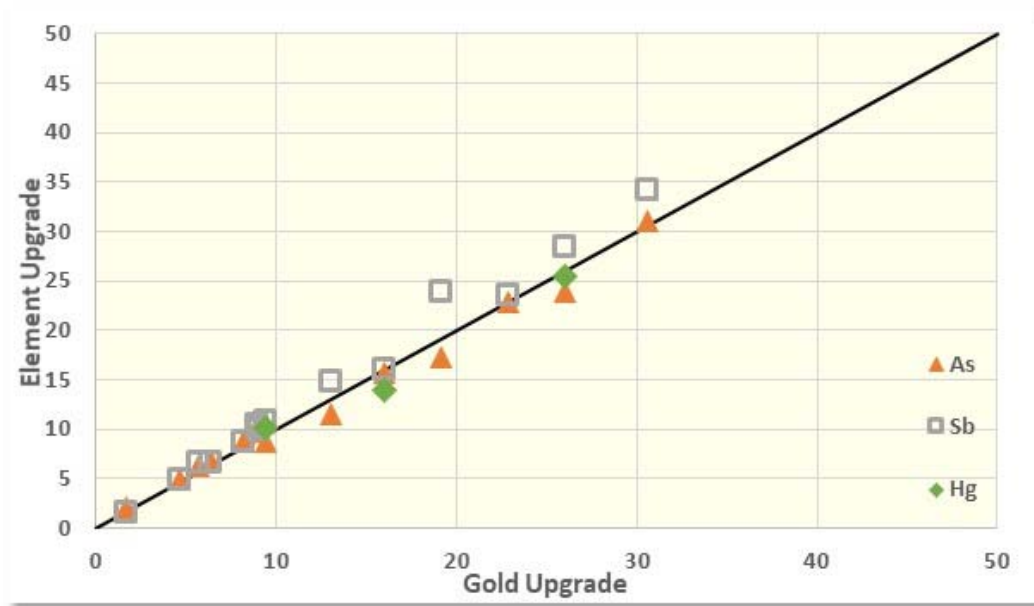


Figure 13-6: Impurity vs. gold upgrade to 40 g/t Au concentrate

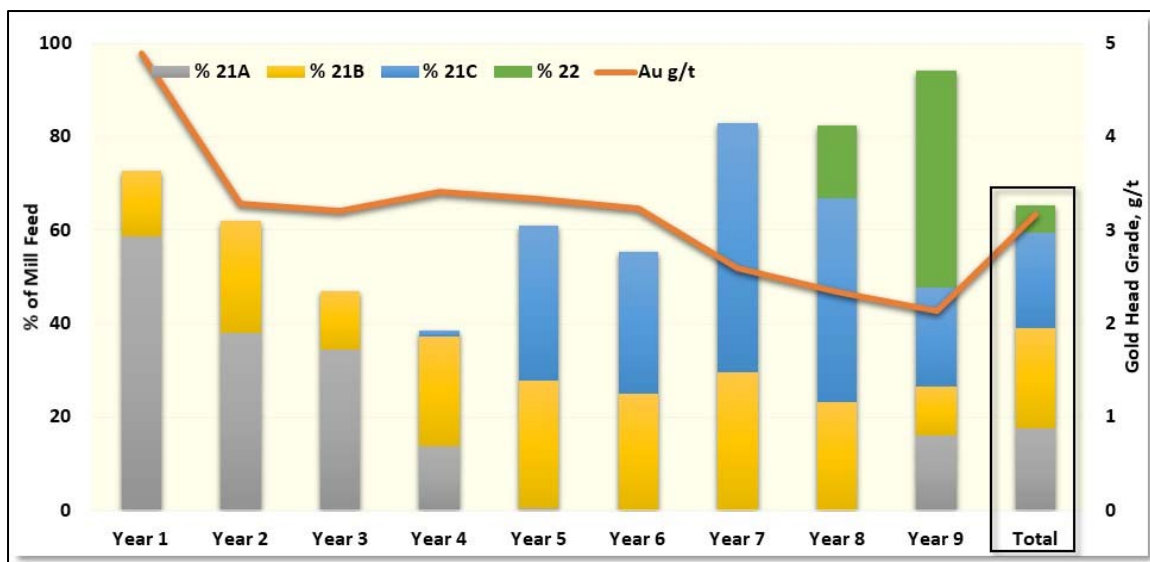


Figure 13-7: PEA Mine Plan by mineralised zone and gold head grade

Table 13-6 summarises the gold and silver recoveries used in the PEA mine plan optimisation for the three concentrate grades considered. The tonnes of concentrate were estimated from the mass pull relationships shown in Figure 13-5. Concentrate impurity levels (As, Sb, Hg) were estimated from the gold concentrate upgrade relationships shown in Figure 13-6.

Table 13-6: Estimated Precious Metal Recoveries

Au Recovery (%)			
Au Head (g/t)	50 g/t Au Conc	40 g/t Au Conc	25 g/t Au Con
<1.0	65	70	75
1.0 to 1.5	70	75	80
1.5 to 2.0	75	80	85
2.0 to 2.5	80	85	90
>2.5	90	90	92
Ag Recovery %			
Ag Head (g/t)	50 g/t Au Conc	40 g/t Au Conc	25 g/t Au Con
<100	86	88	90
>100	96	97	97

### 13.4 Ongoing Testwork Program

To improve confidence in the PEA testwork results over a wider range of sample compositions, additional testwork was completed in 2020 and is ongoing to support the PFS study. Fresh core intervals from the 21A, 21B, 21C, 21E and HW Zones were evaluated by Base Metallurgical

Laboratories Ltd. (Base Met) in Kamloops BC. Composite samples representing the first three years of plant feed were also prepared. An extensive flotation testing program was completed, resulting in a modified process flowsheet.

The results of this testwork program will be included in the Prefeasibility Study Technical Report, authored by Ausenco, AGP Mining and SRK Consulting, to be issued later in 2021.

## 14 Mineral Resource Estimates

### 14.1 Introduction

The Mineral Resource Statement presented herein represents the mineral resource evaluation for the Eskay Creek Project in accordance with the Canadian Securities Administrators' National Instrument 43-101.

The mineral resource model was prepared by Skeena and independently validated and signed off by SRK. The resource model considers 7,583 historical holes and 751 completed holes drilled by Skeena from 2018 to January 2021. The updated 2021 Mineral Resource Estimate (MRE) has a majority component of pit constrained resources. The resource estimation work was completed by Ms. K. 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 this mineral resource statement is April 7, 2021.

This section describes the resource estimation methodology and summarizes the key assumptions considered. In the opinion of SRK the resource evaluation reported herein is a reasonable representation of the global gold and silver Mineral Resources found in the Eskay Creek Project. 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 used to estimate the Eskay Creek Project Mineral Resources was audited by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret with confidence the boundaries for gold and silver mineralization and that the assay data are sufficiently reliable to support mineral resource estimation.

Leapfrog Geo™ (version 6.0) was used to update the litho-structural model and mineralization domains that define the 2021 Eskay Creek model. Snowden Supervisor™ (version 8.13) was used to conduct geostatistical analyses, variography, and a portion of model validation. For block modelling, Maptrek Vulcan™ (version 2021.1) software was used to prepare assay data for geostatistical analysis, modify mineralization domains, construct the block model, estimate metal grades and to tabulate the Mineral Resources.

## 14.2 Resource Estimation Procedures

The Mineral Resource evaluation methodology involved the following procedures:

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

## 14.3 Resource Database

The Eskay Creek database used for the creation of the resource estimate contains 8,334 drill holes totalling 756,073 m. This includes 7,583 historical drill holes within the extents of the resource estimate, for a total of 6,061 underground drill holes and 1,522 surface drill holes (Table 14-1). An additional 751 surface diamond drill holes were completed by Skeena from 2018 to the end of the Phase 2 program in early 2021 totalling 104,740 m (Table 14-2). The close out of the database was March 9, 2021.

**Table 14-1: Historical drill holes**

Year	No. of holes	Length (m)	Assays
Pre-2018	7,583	651,332	427,200

**Table 14-2: Skeena drill holes**

Year	No. of holes	Length	Assays
2018	46	7,737.45	3,315
2019	203	14,091.87	8,593
2020 Phase 1	197	36,582.45	16,593
2020/21 Phase 2	305	46,328.23	19,184
<b>TOTAL</b>	<b>751</b>	<b>104,740</b>	<b>47,685</b>

Drill hole spacing throughout the orebody varies from 5 m, where underground production drilling encountered complex areas, to 25 m between surface drill holes. The average drill hole spacing is approximately 10-15 m throughout the deposit. Historically, sampling at Eskay Creek was selective and primarily based on visual estimations of sulphide percent. All sample intervals sent to the lab were tested for gold and silver, however, lead, copper, zinc, mercury, antimony, and arsenic were inconsistently sampled from one drilling campaign to the next. For underground drilling, lead, copper, zinc, mercury, antimony, and arsenic were assayed when samples exceeded 8 g/t AuEQ (where AuEQ equaled  $Au+(Ag/68)$ ) (Barrick, 2005).

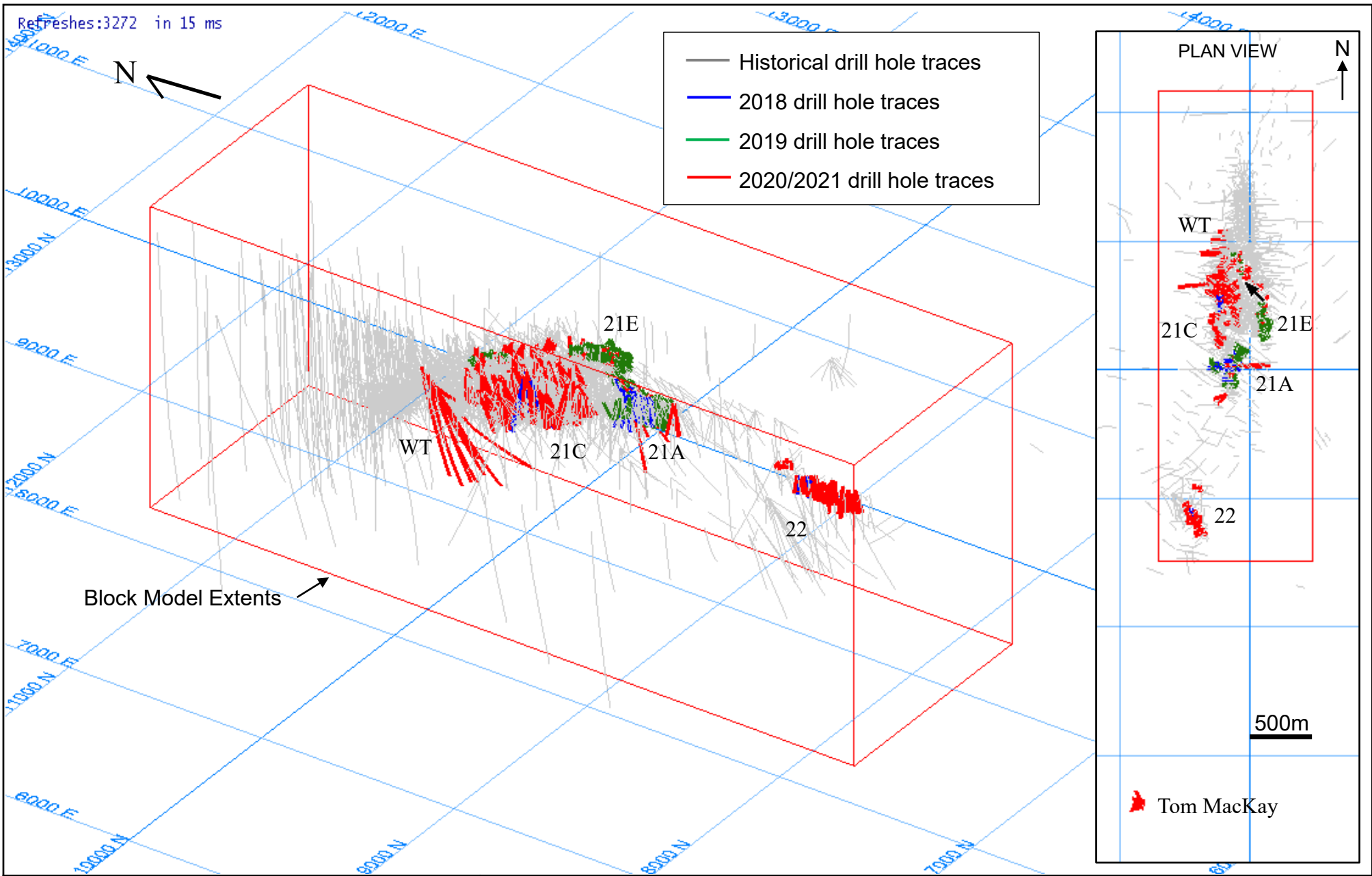
Figure 14-1 shows the traces of all drill holes in the historical database as well as the traces of surface drilling completed by Skeena from 2018 to 2021.

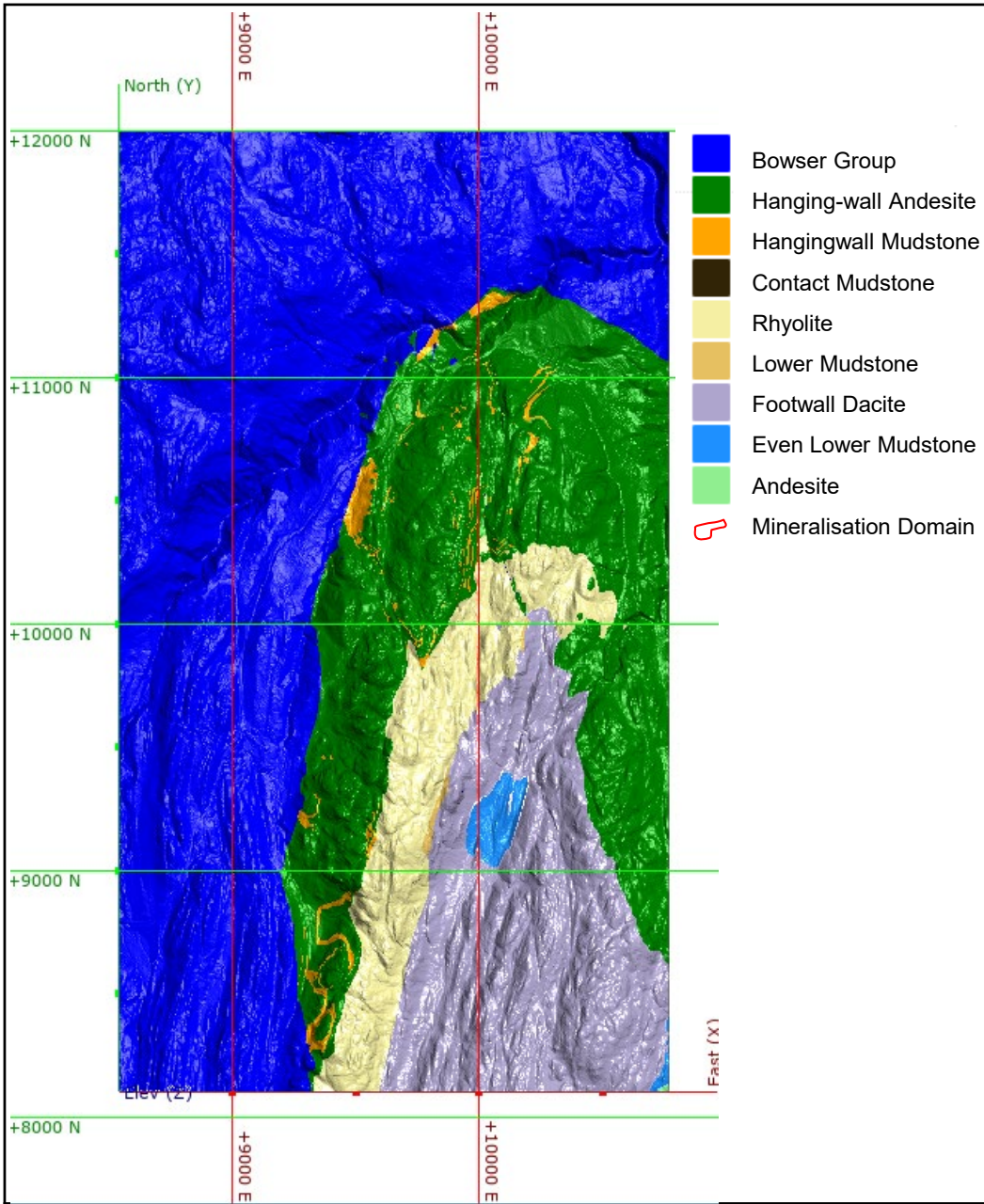
## **14.4 Solid Body Modelling**

### **14.4.1 3D Litho-Structural Model**

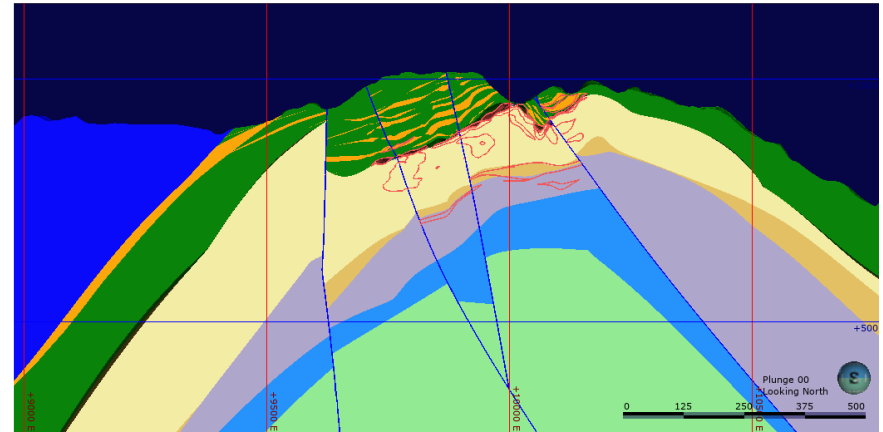
During 2020, the litho-structural model was updated to include six additional lithological units that were previously merged within the nearest stratigraphic package, namely, (1) the hanging-wall mudstone in the overlying Willow Ridge Andesite, (2) two footwall sediment units (Lower mudstone and Even Lower Mudstone), (3) extrusive units below the prolific rhyolite package (Dacite and Andesite) and (4) the Bowser Group sediments. The structural model that was created in 2018 by Dr. Ron Uken, a Principal Structural Geologist with SRK, was used as it was originally designed. (Figure 14-2).



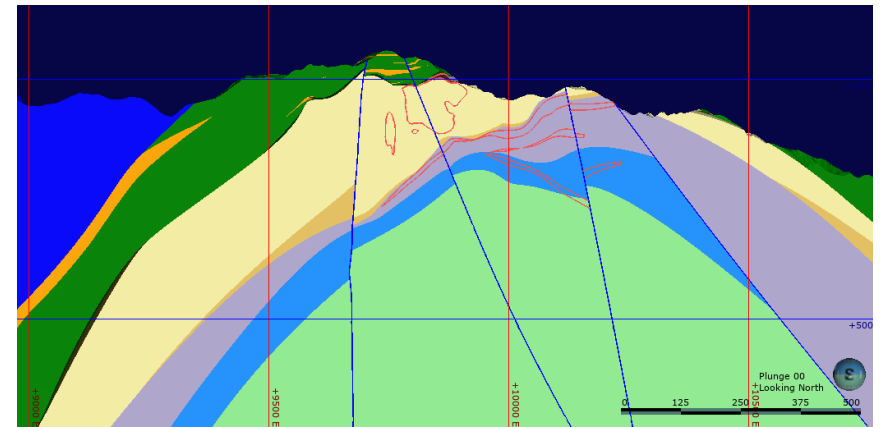




Section 10400



Section 10010



#### 14.4.2 Mineralization Domaining

The mineralization domain modelling undertaken for the 2021 MRE resource was updated and improved from the 2019 MRE. In total, ninety solids were created for the 2021 MRE including, eighty-four mineralization solids, five low-grade envelope solids, and one solid used to restrict the influence of high-grade, mined out material.

##### Mineralization Domains

Eighty-four mineralization solids were created to constrain the mineralization at Eskay Creek. The domains were designed by lithology type, structural trends, and AuEQ assay intervals with a nominal cut-off of 0.5 g/t AuEQ or greater (where AuEQ = Au + Ag/74). Occasionally, lower grade intersections were included to maintain continuity. Leapfrog Geo™ was the software used for initially creating all mineralization domains due to its ability to rapidly and accurately define geological zones whereby a series of geological conditions are honoured.

Three modelling methods were used:

##### 1. RBF Indicator interpolant for the Contact Mudstones

- drill holes were composited to 1 m, with left over samples at the end of the holes appended to the previous sample.
- a 50% probability was applied.
- a structural trend was used as the search orientation.

##### 2. Interval selection for all other lithologies

- a nominal cut-off grade of 0.5 g/t AuEQ was used to select assays intervals directly from the assay database.
- domains were created using either the vein or intrusion tool.

##### 3. Manual wireframing created in Vulcan

- two small solids in the Water Tower Zone were manually wireframed in Vulcan software.

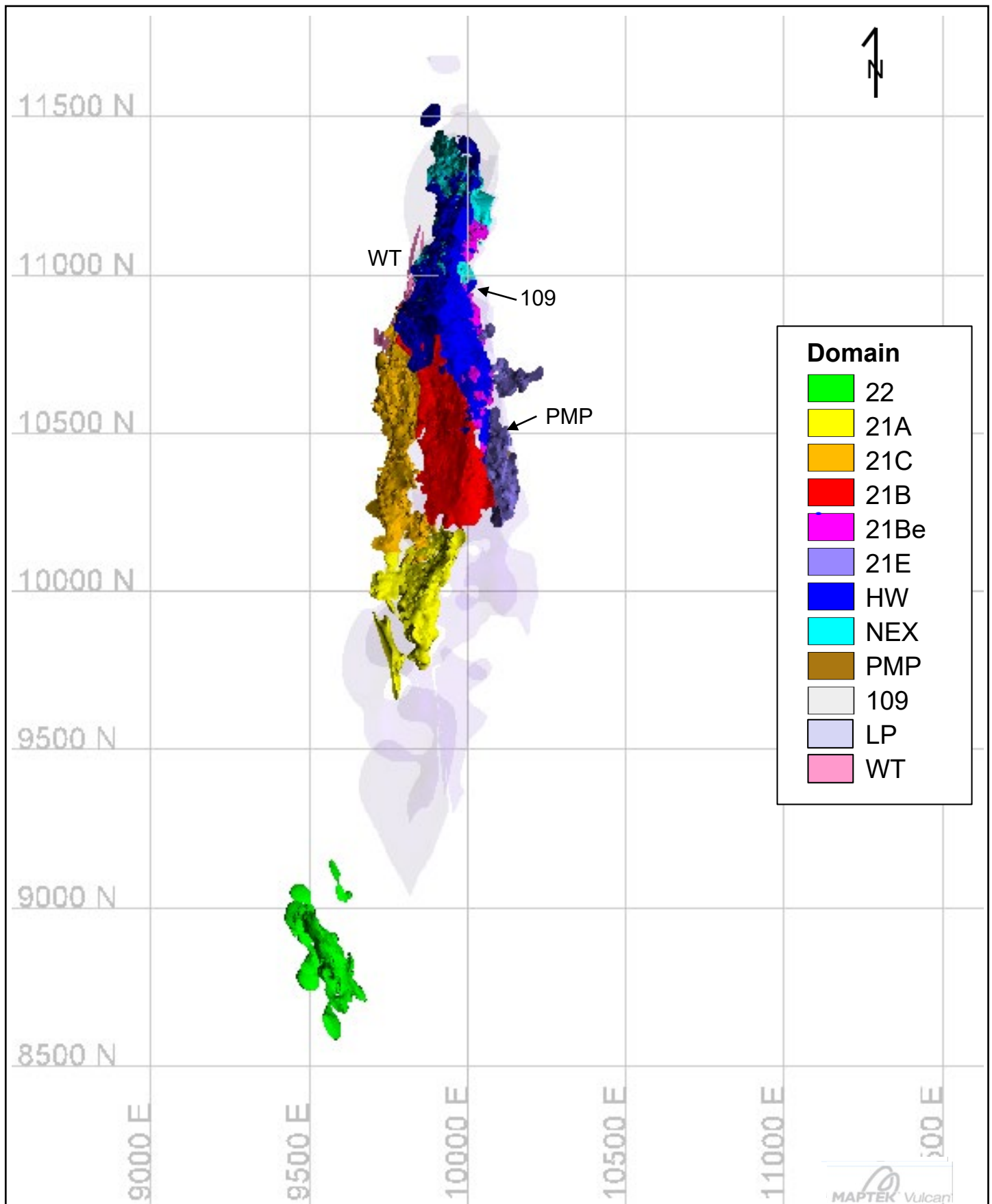
The subsequent wireframes were reviewed in section and level plan view by SRK's QP and they were deemed to be representative of the underlying geology.

The resulting mineralization solids in 2021 differ from the 2019 MRE due to the following changes:

- In the 2019 MRE, only three lithologies were modelled: Rhyolite, Contact Mudstone and Hanging-wall Andesite. In the 2021 model, the stratigraphic package was refined to include the hanging-wall and footwall sediments, as well as extrusive units below the prolific rhyolite package.

- In the 2019 MRE, a 0.5 g/t AuEQ indicator interpolant was used for all mineralization domains using Rhyolite and Contact Mudstone/Hanging-wall Andesite combined lithologies, whereas in the 2021 model the indicator interpolant was only used for the Contact Mudstone.
- The Lower Package was modelled. This domain sits below the previously mined domains, in the Lower Mudstones (equivalent to the Datum Mudstone), Dacite, and less commonly in the Even Lower Mudstones (equivalent to the Spatsizi Mudstone) and Andesite.

For consistency, the mineralization domain solids were split and/or combined and named according to their location within the previously established historical mining area zones: 22, 21A, 21C, 21B, 21Be, 21E, HW, NEX, WT, 109 and PMP (as shown in Figure 14-3). For the purposes of this Technical Report, “domain(s)” refer to mineralization solid(s) within the historically defined mining area zones. Mineralization in the recently defined Lower Package lithologies cannot be equated with historically defined mining zones, since they were not defined until 2021.



### **Low-Grade Envelope Domain**

In addition to the drill hole intervals contained within the mineralized domains, a significant number of drill hole intervals with grades greater than 0.5 g/t AuEQ were not modelled within a mineralization domain wireframe. A separate low-grade envelope was created around these intervals and subdivided into five domains based on litho-structural fault block groupings. Figure 14-4 shows the low-grade envelope in relation to the 2 m composite assay grades higher than 0.7 g/t AuEQ outside the mineralization domain boundaries.

### **3 m Restriction Domain**

Due to the high-grade nature of the mined-out areas at Eskay Creek, a 3 m solid around the mined-out stopes and lifts was created. All composites within this area were limited in range and were not allowed to influence blocks outside of this 3 m domain. This was done to limit the smearing effect of the high-grade samples into the remaining resource areas.

Figure 14-5 is a representation of the 21B Domain showing the Contact Mudstone, Rhyolite and 3 m restriction domain used for estimation.

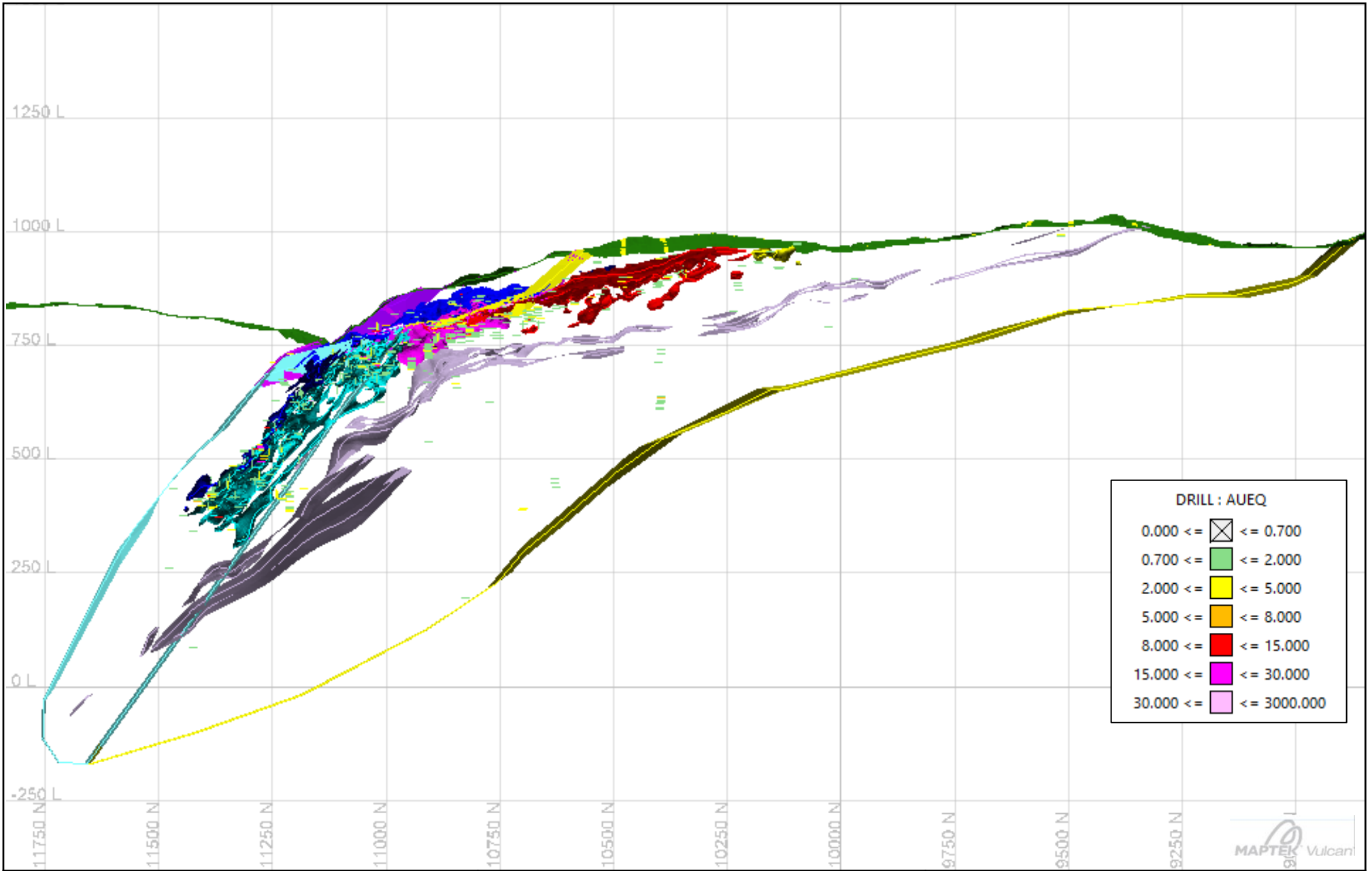
### **Solid Model Coding**

Estimation domains were coded successively based on the following division scheme: (1) location within historical mining area, (2) dominant lithology type, (3) position within litho-structural domain and, (4) location within the 3 m high grade restriction zone.

Table 14-3 summarizes the coding scheme used during estimation at Eskay Creek.

### **Topography**

The topography surface was created using a 10 cm resolution from the LiDAR survey.



**2 m composites greater than 0.7 AuEQ g/t in the Low-Grade Envelope  
Section 9975 E looking East +/- 40 m**

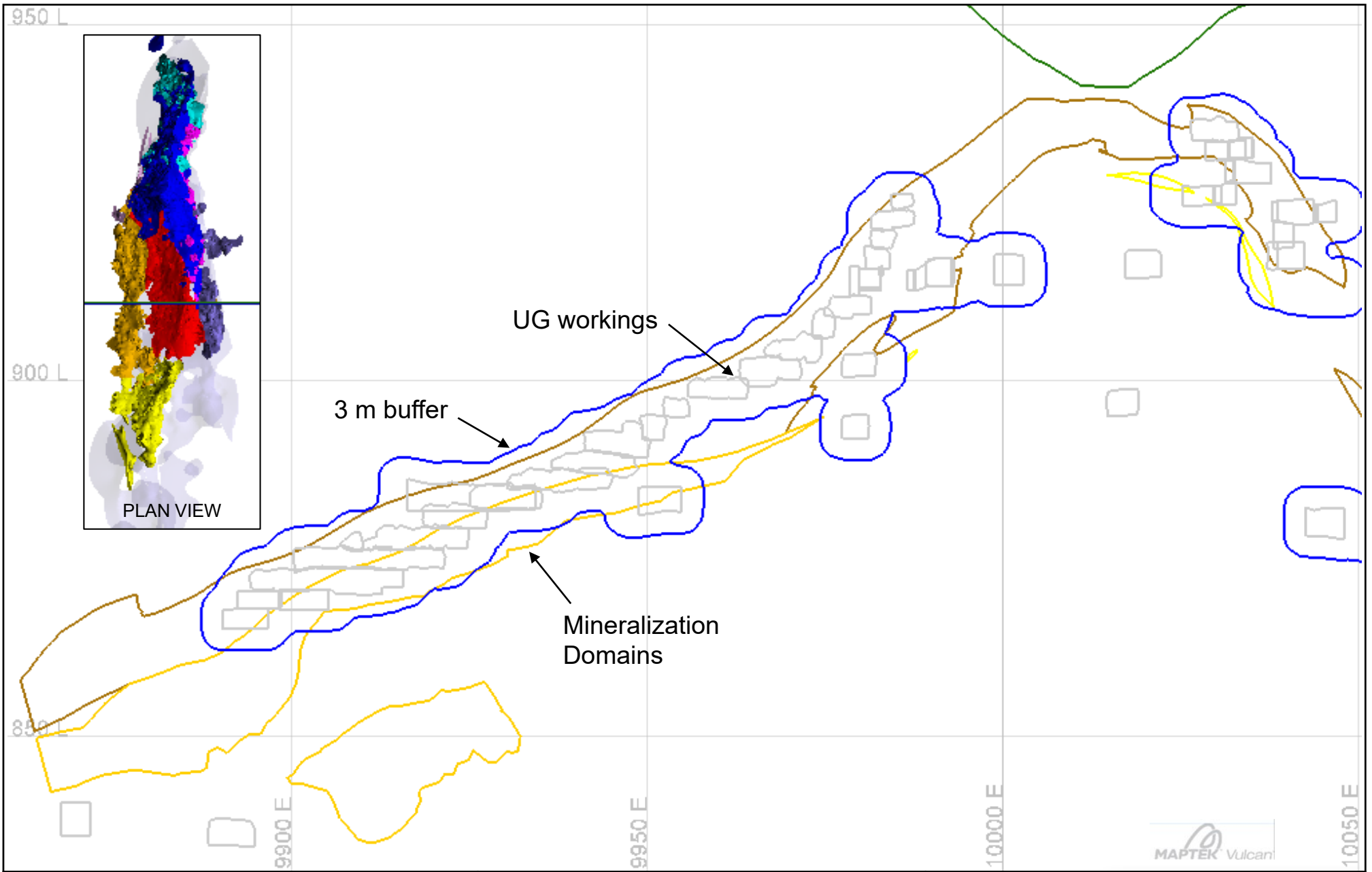
Job No: 2CS042.003  
Filename: Figure 14.4 2m composites in the LG Envelope

Eskay Creek Au-Ag Project

Date:  
April 19, 2021

Approved:  
KD

Figure:  
**14.4**



**3 m restrictive solid around underground stopes and lifts.  
Section 10430 N looking North**

Job No: 2CS042.003  
Filename: Figure 14.5 3m buffer

Eskay Creek Au-Ag Project

Date:  
April 19, 2021

Approved:  
KD

Figure:  
**14.5**



**Table 14-3: Mineralization coding summary**

DOMAIN NAME	DOMAIN	ROCKTYPE	ZONE	Litho-Structural Domain	No. of solids	EST_ZONE (outside 3m restriction)	EST_ZONE (within 3m restriction)
LG ENV	1	Variable	1		1	1	
			2		1	2	
			3		1	3	
			4		1	4	
			5		1	5	
22	10	Rhyolite	10		3	1011, 1012, 1013	
21A	20	Rhyolite	201		3	2011, 2012, 2013	
		Contact Mudstone	202		1	2021	
		Hanging-wall sediments	203		1	2031	
21C	30	Rhyolite	301		4	3011, 3012, 3013 3014	93011, 93012, 93013, 93014
		Contact Mudstone	302		2	3021, 3022	93021, 93022
		Hanging-wall sediments	303		7	3031, 3032, 3033, 3034, 3035, 3036, 3037	93031, 93032, 93033, 93034, 93035, 93036, 93037
21B	40	Rhyolite	401		7	4012, 4013, 4014, 4015, 4016, 4017	94012, 94013, 94014, 94015, 94016, 94017
		Contact Mudstone	402		2	4021, 4022	94021, 94022
21Be	50	Rhyolite	501		2	5011, 5012	95011, 95012
		Contact Mudstone	502		1	5021	95021
21E	60	Rhyolite	601		4	6011, 6012, 6013, 6010	96011, 96012, 96013, 96010
		Contact Mudstone	602		3	6021, 6022, 6043	96021, 96022, 96043
		Hanging-wall sediments	603		7	6031, 6032, 6033, 6034, 6035, 6041, 6042	96031, 96032, 96033, 96034, 96035, 96041, 96042

DOMAIN NAME	DOMAIN	ROCKTYPE	ZONE	Litho-Structural Domain	No. of solids	EST_ZONE (outside 3m restriction)	EST_ZONE (within 3m restriction)
HW	70	Hanging-wall Sediments	703	3	15	70381, 70382, 70383, 70384, 70386	970381, 970382, 970383, 970384, 970386
				5		70351, 70352, 70353, 70354, 70355, 70356, 70357	970351, 970352, 970353, 970354, 970355, 970356, 970357
				4		70341, 70343, 70342	970341, 970343, 790342
NEX	80	Rhyolite	801		4	8011, 0812, 8013, 8014	98011, 98012, 98013, 98014
		Contact Mudstone	802		2	8021, 8022	98021, 98022
WTZ	81	Rhyolite	811		6	8111, 8112, 8113, 8114, 8115, 8116	
LP	90	Dacite	90		2	901, 902	
		Even Lower Mudstone	91		1	903	
		Footwall Andesite	92		1	904	
		Lower Mudstone	93		1	905	
		Lower Rhyolite	94		1	906	
PMP	95	Rhyolite	95		3	951, 952, 953	9951
109	99	Rhyolite	99		1	99	999

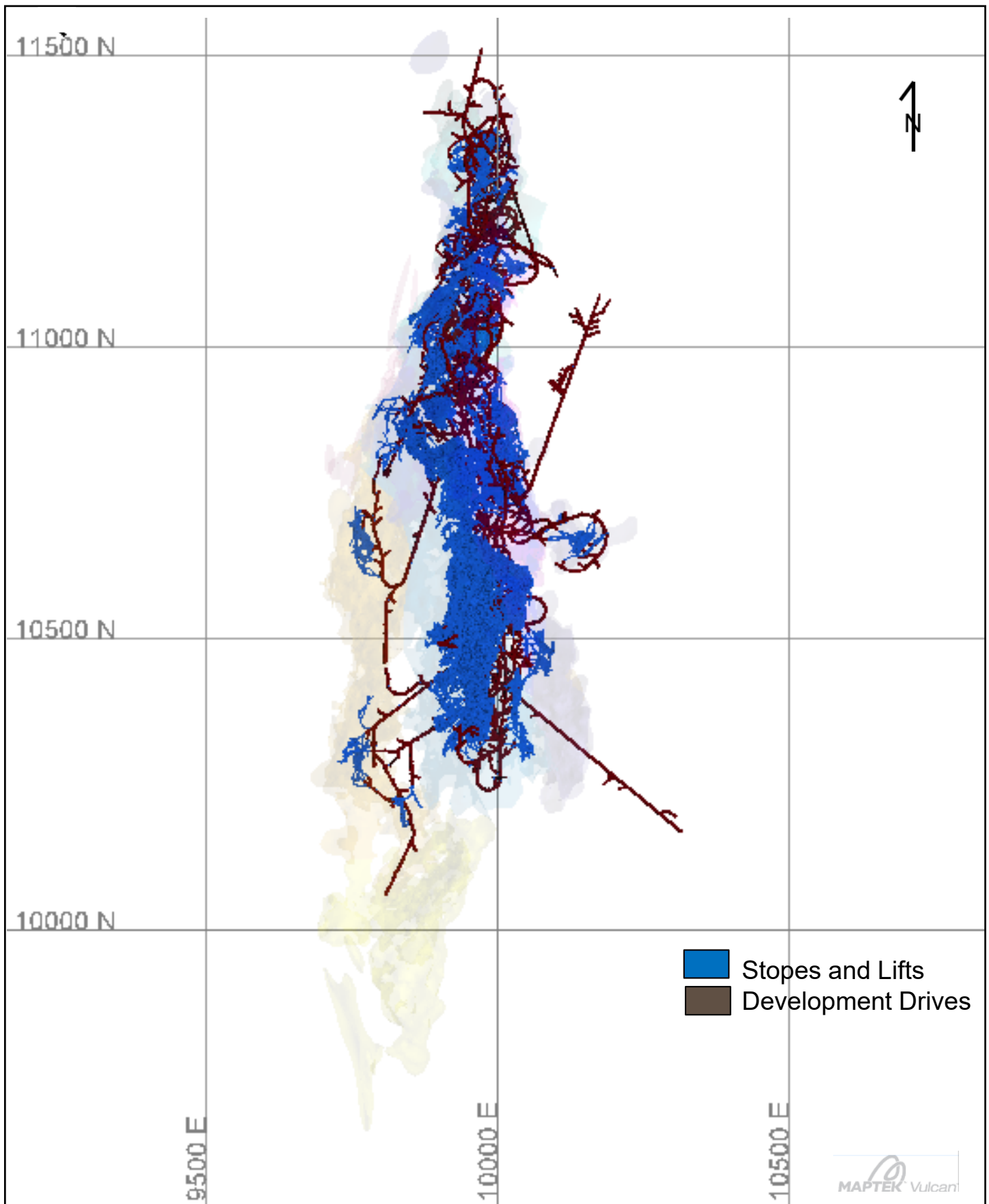
### 14.4.3 Underground workings

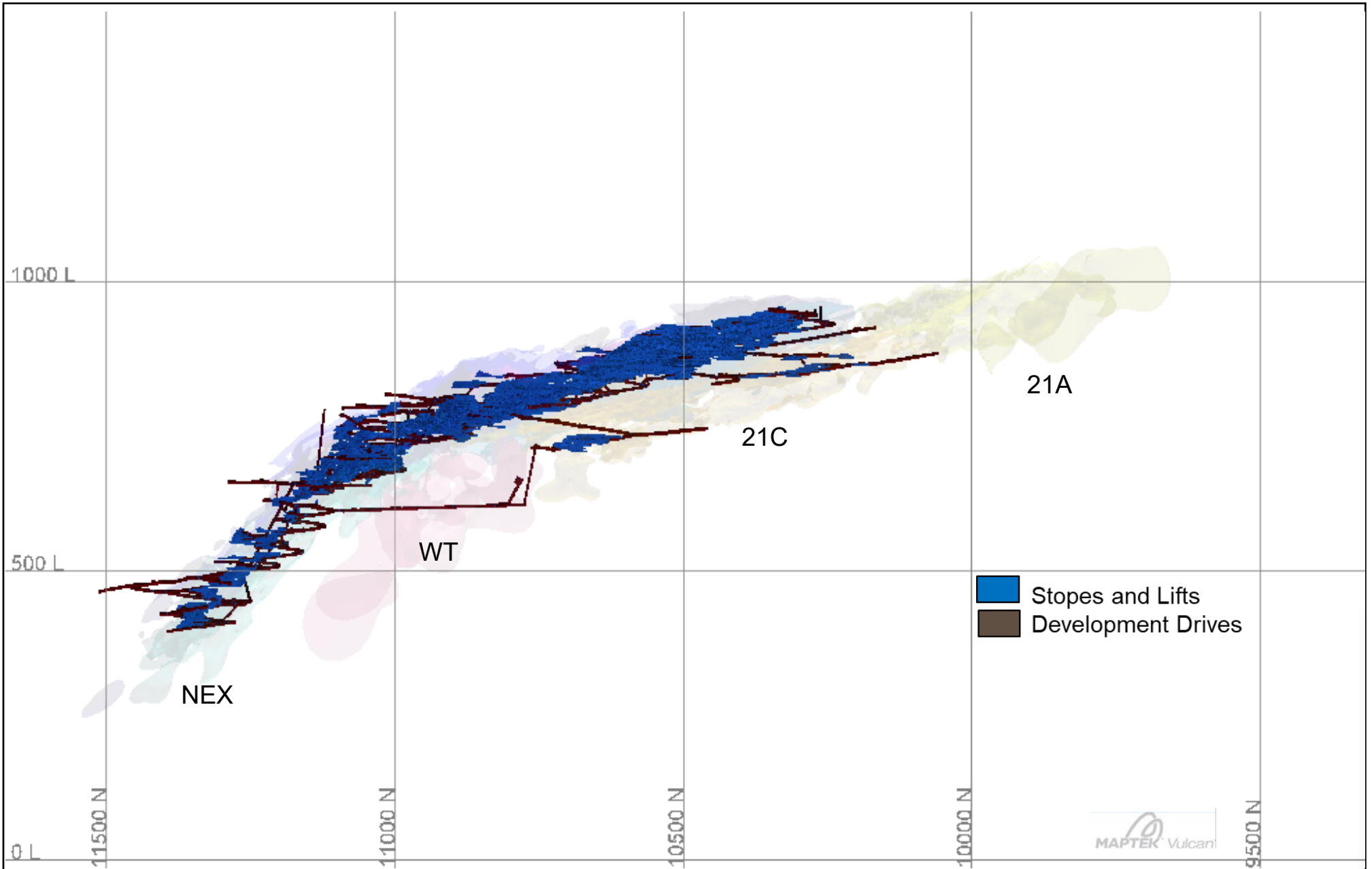
A complete dataset for all underground workings occurs in 3D Vulcan-format. The historical underground workings are a combination of stopes, lifts, and development drives. The previous Operator reported that the lifts in the stopes were backfilled with cobble, where cobble was made at the site in a batch cement plant that consisted of screened gravel from the Iskut River supplemented with 4-12% cement (Barrick, 2005).

Skeena checked the location of the underground drill holes in relation to the underground working solids and found no obvious spatial errors. Although the underground workings were routinely surveyed, there is a small measure of uncertainty in the location of the solids due to survey method limitations. Therefore, in addition to the volume within the underground workings, a 0.20 m geotechnical exclusion zone around the underground workings was used to deplete the final Open Pit resource estimate. For the Underground model, a 1 m geotechnical exclusion zone around all underground workings was used to deplete the underground resources. Figure 14-6 and Figure 14-7 show the underground workings used to deplete the current estimate in plan view and long section, respectively.

## 14.5 Data Analysis

The ZONE item was used to code the assay file in the database for geostatistical analysis, as this split the domain into the main lithology groupings (Table 14-3). These coded intercepts were used to analyse sample length and generate statistics for assays and composites. Table 14-4 summarizes the statistical analysis of original assays for gold and silver. In addition to gold and silver, the contents of the following additional elements were calculated as part of the resource process: Pb, Cu, Zn, Hg, Sb, As, Fe and S. The additional elements are important for optimizing ore mining economics, processing options, and saleable product routes, as smelter penalties may apply based on their relative content. Details of these elements are discussed in Section 14.17.





**Table 14-4: Summary statistics for drill hole gold and silver assays by zone**

DOMAIN	ZONE	Rocktype	No. of samples	Mean	CV	Min	Median	Max
<b>GOLD g/t</b>								
ENV	1	Rhyolite	10,824	0.1	4.0	0.0	0.0	13.7
ENV	2	-	148,359	0.3	23.3	0.0	0.1	1,193.3
ENV	3	-	43,051	0.3	18.4	0.0	0.1	986.8
ENV	4	-	19,119	0.4	13.4	0.0	0.1	303.8
ENV	5	-	20,322	0.2	19.1	0.0	0.1	352.1
22 Zone	101	Rhyolite	4,351	1.6	3.2	0.0	0.7	225.6
21A	201	Rhyolite	9,756	2.7	2.7	0.0	0.9	216.3
	202	Contact Mudstone	1,103	19.6	2.1	0.0	3.4	677.8
	203	Hanging-wall Sediments	5	0.9	0.6	0.1	0.9	1.4
21C	301	Rhyolite	29,787	4.0	2.8	0.0	1.6	937.0
	302	Contact Mudstone	5,730	4.0	10.6	0.0	1.2	1,774.4
	303	Hanging-wall Sediments	1,533	4.0	2.0	0.0	1.6	122.1
21B	401	Rhyolite	21,723	5.2	5.7	0.0	1.3	1,652.4
	402	Contact Mudstone	16,710	29.6	4.0	0.0	3.4	9,659.0
21Be	501	Rhyolite	19,714	9.2	5.3	0.0	2.2	1,621.9
	502	Contact Mudstone	8,505	18.5	4.2	0.0	2.1	2,072.7
21E	601	Rhyolite	1,762	1.6	1.5	0.0	0.9	41.8
	602	Contact Mudstone	1,110	7.3	2.9	0.0	1.5	450.6
	603	Hanging-wall Sediments	1,633	2.3	2.2	0.0	1.2	111.7
HW	703	Hanging-wall Sediments	16,612	5.2	2.9	0.0	1.6	504.4
NEX	801	Rhyolite	26,883	4.3	6.4	0.0	1.4	1,380.4
	802	Contact Mudstone	24,522	7.9	5.7	0.0	1.8	1,971.1
WT	811	Rhyolite	2,989	2.9	1.9	0.0	1.3	92.8
LP	90	Dacite	4,518	0.9	3.6	0.0	0.5	190.3
	91	Even Lower Mudstone	480	0.9	3.1	0.0	0.4	39.9
	92	Andesite	186	0.9	3.9	0.0	0.3	44.6
	93	Lower Mudstone	553	3.7	16.0	0.0	0.6	1,380.0
	94	Rhyolite	1,182	0.9	2.3	0.0	0.6	55.9
PMP	95	Rhyolite	2,868	6.8	3.7	0.0	2.8	704.8
109	99	Rhyolite	13,419	10.8	4.0	0.0	2.8	1,625.8
<b>SILVER g/t</b>								
ENV	1	Rhyolite	10,824	1.6	4.5	0.01	0.5	347
ENV	2	-	148,354	7.8	32.3	0.01	0.5	47,619
ENV	3	-	42,767	12.4	25.8	0.01	0.5	29,222
ENV	4	-	19,118	25.2	25.5	0.05	0.5	44,437
ENV	5	-	20,322	5.8	18.2	0.01	0.5	11,420

DOMAIN	ZONE	Rocktype	No. of samples	Mean	CV	Min	Median	Max
22 Zone	101	Rhyolite	4,351	48.1	3.1	0.05	6.0	3,461
21A	201	Rhyolite	9,756	51.4	4.0	0.05	5.0	7,190
	202	Contact Mudstone	1,103	219.7	5.3	0.05	6.0	22,353
	203	Hanging-wall Sediments	5	0.7	0.6	0.05	0.8	1
21C	301	Rhyolite	29,788	46.9	6.9	0.05	0.5	28,419
	302	Contact Mudstone	5,188	107.8	5.9	0.05	11.0	36,696
	303	Hanging-wall Sediments	1,533	251.3	3.0	0.05	17.5	8,174
21B	401	Rhyolite	21,723	260.9	5.8	0.01	3.0	44,767
	402	Contact Mudstone	16,710	1138.7	2.8	0.05	35.0	43,658
21Be	501	Rhyolite	19,713	486.6	6.2	0.05	30.0	155,086
	502	Contact Mudstone	8,505	955.0	3.8	0.05	26.0	54,899
21E	601	Rhyolite	1,762	62.3	3.5	0.05	8.0	4,470
	602	Contact Mudstone	1,110	291.4	4.0	0.05	12.0	17,274
	603	Hanging-wall Sediments	1,633	94.2	5.3	0.05	23.0	10,724
HW	703	Hanging-wall Sediments	16,612	261.9	4.0	0.05	22.0	28,093
NEX	801	Rhyolite	26,876	140.3	9.1	0.05	0.5	55,510
	802	Contact Mudstone	24,522	366.6	6.4	0.05	14.0	59,545
WT	811	Rhyolite	2,989	22.0	4.7	0.05	0.5	2,524
LP	90	Dacite	4,511	8.8	2.0	0.05	4.0	470
	91	Even Lower Mudstone	480	8.8	1.3	0.05	6.0	125
	92	Andesite	178	3.7	1.2	0.50	2.5	32
	93	Lower Mudstone	553	15.5	2.0	0.05	7.0	365
	94	Rhyolite	1,182	10.9	2.9	0.05	3.0	720
PMP	95	Rhyolite	2,868	178.9	4.8	0.05	22.0	23,117
109	99	Rhyolite	13,418	16.1	6.1	0.05	0.5	4,457

## 14.6 Compositing

To minimize bias introduced by variable sample lengths, assays were composited from assays honouring the relevant mineralization domain boundaries to 2 m lengths for the Pit model, and 1 m lengths for the Underground model. Most samples inside the mineralization domains were collected at approximately 1 m and shorter intervals. All unsampled gold and silver intervals were given a default value of 0.001 g/t during compositing. Missing samples due to lost core, voids or insufficient sample were ignored. Composite lengths that fell short were evenly distributed. The composites were assigned codes on a majority basis corresponding to the mineralized domain, zone, and estimation zone in which they occur. The compositing and coding processes were viewed in 3D to ensure that coding had been applied correctly.

### 14.6.1 2 m Composites

A total of 109,816 two-meter composites were coded into mineralization domains, not including composites within the low-grade envelope. Summary statistics between the assays and 2 m composites are shown in Table 14-5.

**Table 14-5: Comparison of assay data to 2 m composites**

DOMAIN	ZONE	Assays				2m composites			
		No. of samples	Maximum	Mean	CV	No. of samples	Maximum	Mean	CV
<b>GOLD g/t</b>									
ENV	1	10,824	13.7	0.1	3.948	10,235	8.5	0.1	4.0
	2	148,359	1193.3	0.3	23.288	1,393,934	808.5	0.1	20.7
	3	43,051	986.8	0.3	18.424	40,097	249.3	0.5	12.5
	4	19,119	303.8	0.4	13.415	13,179	218.6	0.3	12.8
	5	20,322	352.1	0.2	19.067	19,865	239.9	0.1	19.6
22 Zone	101	4,351	225.6	1.6	3.192	2,879	75.5	1.5	2.1
21A	201	9,756	216.3	2.7	2.739	5,962	143.9	2.5	2.4
	202	1,103	677.8	19.6	2.065	607	301.2	16.2	1.8
	203	5	1.4	0.9	0.64	3	1.0	0.8	0.2
21C	301	29,787	937.0	4.0	2.796	14,790	261.7	3.7	2.0
	302	5,730	1774.4	4.0	10.583	2,789	808.3	3.4	7.2
	303	1,533	122.1	4.0	2.04	781	105.6	3.3	1.9
21B	401	21,723	1652.4	5.2	5.68	11,237	1048.8	5.0	5.4
	402	16,710	9659.0	29.6	4.04	8,305	2866.4	27.0	2.8
21Be	501	19,714	1621.9	9.2	5.3	9,404	964.3	8.2	4.5
	502	8,505	2072.7	18.5	4.2	4,296	1253.6	16.1	3.6
21E	601	1,762	41.8	1.6	1.49	1,035	18.4	1.5	1.2
	602	1,110	450.6	7.3	2.88	540	227.1	6.3	2.6
	603	1,633	111.7	2.3	2.2	1,051	45.7	2.0	1.5
HW	703	16,612	504.4	5.2	2.92	8,266	326.4	4.5	2.6
NEX	801	26,883	1380.4	4.3	6.43	12,657	571.8	3.7	4.4
	802	24,522	1971.1	7.9	5.73	11,877	1346.7	7.0	4.7
WT	811	2,989	92.8	2.9	1.86	1,528	45.0	2.6	1.5
LP	90	4,518	190.3	0.9	3.605	2,524	102.0	8.6	2.7
	91	480	39.9	0.9	3.132	268	19.2	0.8	2.2



DOMAIN	ZONE	Assays				2m composites			
		No. of samples	Maximum	Mean	CV	No. of samples	Maximum	Mean	CV
	92	186	44.6	0.9	3.947	98	21.9	0.9	2.7
	93	553	1380.0	3.7	15.976	297	207.0	2.3	6.5
	94	1,182	55.9	0.9	2.294	629	27.0	0.9	1.6
PMP	95	2,868	704.8	6.8	3.069	1,439	415.9	6.0	2.5
109	99	13,419	1625.8	10.8	3.961	6,554	1063.2	9.9	3.1
<b>SILVER g/t</b>									
ENV	1	10,824	347	1.6	4.495	10,235	195	1.1	4.3
	2	148,354	47,619	7.8	32.299	139,934	25,072	3.9	35.6
	3	42,767	29,222	12.4	25.77	40,097	14,689	5.2	24.4
	4	19,118	44,437	25.2	25.45	13,179	25,127	14.3	24.5
	5	20,322	11,420	5.8	18.15	19,865	3,413	3.0	12.9
22 Zone	101	4,351	3,461	48.1	3.06	2,879	2,105	45.9	2.4
21A	201	9,756	7,190	51.4	3.96	5,962	5,288	48.1	3.2
	202	1,103	22,353	219.7	5.32	607	13,686	188.4	4.6
	203	5	1	0.7	0.6	3	1	0.7	0.4
21C	301	29,788	28,419	46.9	6.95	14,790	12,096	41.5	4.6
	302	5,188	36,696	107.8	5.91	2,789	7,808	86.9	3.3
	303	1,533	8,174	251.3	3.03	781	5,932	193.0	2.6
21B	401	21,723	44,767	260.9	5.79	11,237	26,928	218.8	5.4
	402	16,710	43,658	1138.7	2.84	8,305	33,184	1052.4	2.7
21Be	501	19,713	155,086	486.6	6.24	9,404	115,340	427.2	5.6
	502	8,505	54,899	955.0	3.83	4,296	44,646	804.7	3.5
21E	601	1,762	4,470	62.3	3.48	1,035	1,813	54.3	2.6
	602	1,110	17,274	291.4	3.96	540	5,597	232.9	2.9
	603	1,633	10,724	94.2	5.34	1,051	3,984	70.2	3.4
HW	703	16,612	28,093	261.9	3.99	8,266	19,852	228.1	3.4
NEX	801	26,876	55,510	140.3	9.07	12,657	39,787	109.6	8.2
	802	24,522	59,545	366.6	6.37	11,877	48,057	314.3	5.7
WT	811	2,989	2,524	22.0	4.67	1,528	1,170	19.2	3.6
LP	90	4,511	470	8.8	1.96	2,524	309	8.6	1.8
	91	480	125	8.8	1.33	268	77	8.3	1.2
	92	178	32	3.7	1.15	98	17	3.5	0.8
	93	553	365	15.5	1.98	297	216	14.1	1.5
	94	1,182	720	10.9	2.85	629	390	10.6	2.3
PMP	95	2,868	23,117	178.9	4.82	1,439	15,837	158.5	4.2
109	99	13,418	4,457	16.1	6.13	6,554	2,746	14.3	5.1

#### 14.6.2 1 m Composites

For the underground model, only domains that occurred below the conceptual open pit were estimated. A total of 79,596 one-meter composites were coded into five mineralization domains. Summary statistics between the assays and 1 m composites are shown in Table 14-6.

**Table 14-6 Comparison of assay data to 1 m composites**

DOMAIN	ZONE	Assays				1m composites			
		No. of samples	Maximum	Mean	CV	No. of samples	Maximum	Mean	CV
<b>GOLD g/t</b>									
22 Zone	101	4,351	225.6	1.6	3.2	5,775	90.4	1.48	2.3
HW	703	16,612	504.4	5.2	2.9	15,999	472.2	4.63	2.8
NEX	801	26,883	1380.4	4.3	6.4	24,941	930.7	3.79	5.2
	802	24,522	1971.1	7.9	5.7	22,446	1,621.6	7.14	5.4
WT	811	2,989	92.8	2.9	1.9	2,966	63.5	2.72	1.7
LP	90	4,518	190.3	0.9	3.6	4,953	190.3	0.9	3.5
	91	480	39.9	0.9	3.1	529	30.7	0.91	2.9
	92	186	44.6	0.9	3.9	199	41.5	0.92	3.5
	93	553	1380.0	3.7	16.0	577	413.3	2.45	8.9
	94	1,182	55.9	0.9	2.3	1,201	55.9	0.92	2.3
<b>SILVER g/t</b>									
22 Zone	101	4,351	3,461	48.1	3.1	5,775	2,370	45.82	2.7
HW	703	16,612	28,093	261.9	4.0	15,999	24,960	234.39	3.7
NEX	801	26,876	55,510	140.3	9.1	24,941	41,007	116.28	8.7
	802	24,522	59,545	366.6	6.4	22,446	52,902	318.21	6.3
WTZ	811	2,989	2,524	22.0	4.7	2,966	1,566	19.77	4.2
LP	90	4,511	470	8.8	2.0	4,953	470	8.58	2.1
	91	480	125	8.8	1.3	529	125	8.39	1.3
	92	178	32	3.7	1.2	199	27	3.57	1.0
	93	553	365	15.5	2.0	577	358	14.72	1.8
	94	1,182	720	10.9	2.9	1,201	720	10.63	2.9

## 14.7 Evaluation of Outliers

Block grade estimates may be overly affected by very high-grade assays therefore capping was applied to all domains. An analysis of sample lengths versus gold grade shows that effort was taken to sample intervals based on visible mineralization, since gold grades are highest in the smallest assay lengths (Figure 14-8). For this reason, capping was applied after compositing. Capping values were selected on a zone-by-zone basis using the results from log probability plots, histograms, CV values, degradation plots, and percent metal loss.

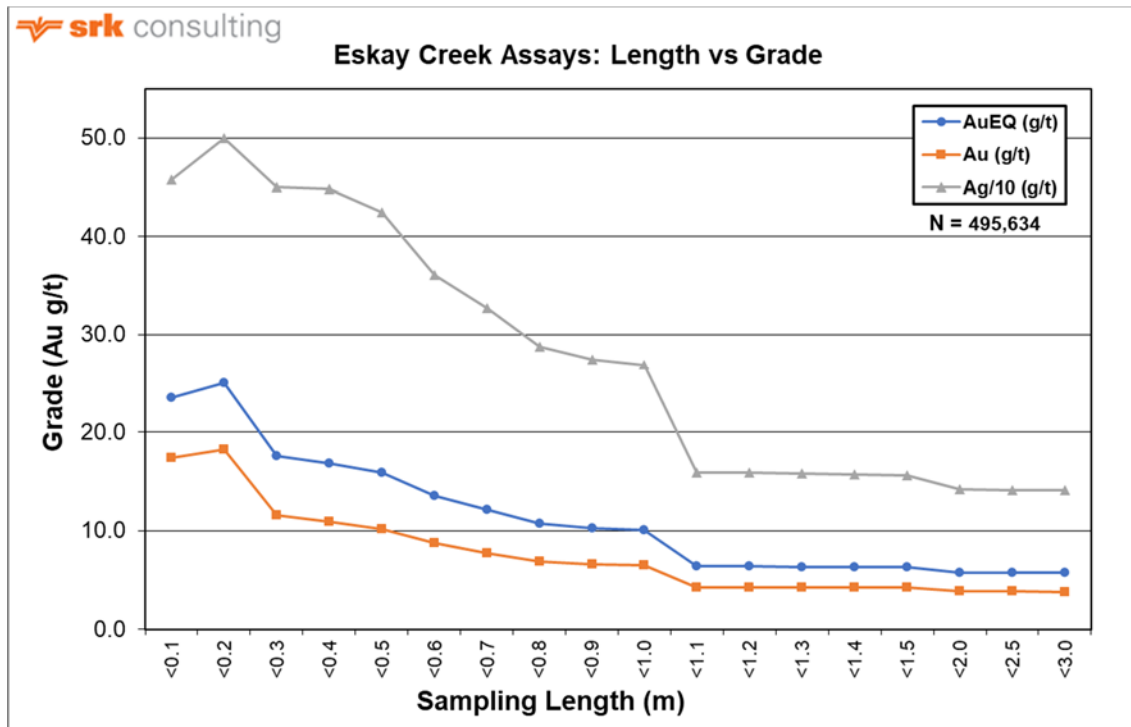


Figure 14-8: Gold grade versus sample length

### 14.7.1 2 m Composites

Percent metal loss was variable between zones, ranging from as little as 0.5% to as high as 47% for gold, and 0.4% to 17% for silver, in the main domains excluding the low-grade envelope (Table 14-7). For domains with percent metal loss more than 10%, the uncapped mean values were sensitive to extremely high-grade samples. On average, less than 7% gold and 6% silver were lost during the process of capping. Gold grades were capped more aggressively in the low-grade envelope.

Table 14-7: Gold and silver assay capped grades per zone

DOMAIN	ZONE	# Samples	Cap Value	No. Cut	% Cut	Uncapped Composites		Capped Composites		% Metal Lost
						Mean	CV	Mean	CV	
<b>GOLD g/t</b>										
ENV	1	10,235	2	24	0.2%	0.05	4.0	0.05	3.1	6%
ENV	2	1,393,934	4	402	0.0%	0.14	20.7	0.10	20.7	26%
ENV	3	40,097	6	113	0.3%	0.16	12.5	0.11	4.2	27%
ENV	4	13,179	9	40	0.3%	0.26	12.8	0.17	4.0	33%
ENV	5	19,865	3	48	0.2%	0.10	19.6	0.07	3.4	27%
22 Zone	101	2,879	30	5	0.2%	1.48	2.1	1.44	1.7	3%
21A	201	5,962	80	7	0.1%	2.45	2.4	2.42	2.2	1%
	202	607	130	4	0.7%	16.24	1.8	15.80	1.7	3%
	203	3	1	0	0.0%	0.78	0.2	0.78	0.2	0%
21C	301	14,790	90	10	0.1%	3.66	2.0	3.62	1.8	1%

DOMAIN	ZONE	# Samples	Cap Value	No. Cut	% Cut	Uncapped Composites		Capped Composites		% Metal Lost
						Mean	CV	Mean	CV	
	302	2,789	70	6	0.2%	3.44	7.2	2.59	2.2	25%
	303	781	33	8	1.0%	3.27	1.9	3.15	1.6	4%
21B	401	11,237	500	6	0.1%	4.99	5.4	4.41	4.9	12%
	402	8,305	650	8	0.1%	26.98	2.8	26.64	2.5	1%
21Be	501	9,404	500	12	0.1%	8.24	4.5	8.07	4.2	2%
	502	4,296	600	8	0.2%	16.09	3.6	15.81	3.4	2%
21E	601	1,035	10	8	0.8%	1.53	1.2	1.51	1.1	2%
	602	540	70	5	0.9%	6.28	2.6	5.73	1.9	9%
	603	1,051	16	8	0.8%	1.96	1.5	1.88	1.2	4%
HW	703	8,266	100	14	0.2%	4.49	2.6	4.35	2.2	3%
NEX	801	12,657	250	10	0.1%	3.66	4.4	3.52	3.6	4%
	802	11,877	450	13	0.1%	6.99	4.7	6.77	4.1	3%
WT	811	1,528	30	4	0.3%	2.62	1.5	2.60	1.5	1%
LP	90	2,524	7	10	0.4%	0.89	2.7	0.82	1.0	8%
	91	268	7	3	1.1%	0.84	2.2	0.74	1.5	11%
	92	98	7	3	3.1%	0.91	2.7	0.74	1.7	19%
	93	297	20	3	1.0%	2.33	6.5	1.23	2.0	47%
	94	629	7	2	0.3%	0.89	1.6	0.84	1.0	6%
PMP	95	1,439	100	4	0.3%	6.00	2.5	5.73	1.7	5%
109	99	6,554	500	4	0.1%	9.93	3.1	9.80	2.8	1%
<b>SILVER g/t</b>										
ENV	1	10,235	60	9	0.1%	1.10	4.3	1.02	2.9	8%
ENV	2	139,934	150	4	0.0%	3.93	35.6	1.95	4.7	50%
ENV	3	40,097	200	7	0.0%	5.18	24.4	2.45	5.3	53%
ENV	4	13,179	200	8	0.1%	14.25	24.5	5.55	3.4	61%
ENV	5	19,865	150	5	0.0%	2.95	12.9	2.29	3.9	23%
22 Zone	101	2,879	700	10	0.3%	45.87	2.4	44.05	2.1	4%
21A	201	5,962	1,900	6	0.1%	48.05	3.2	47.30	3.0	2%
	202	607	2,500	6	1.0%	188.37	4.6	156.18	3.4	17%
	203	3	-	0	0.0%	0.68	0.4	0.68	0.4	1%
21C	301	14,790	2,300	11	0.1%	41.51	4.6	40.13	3.8	3%
	302	2,789	2,300	5	0.2%	86.89	3.3	83.51	2.7	4%
	303	781	2,400	8	1.0%	192.98	2.6	180.65	2.4	6%
21B	401	11,237	15,000	13	0.1%	218.78	5.4	213.66	5.1	2%
	402	8,305	20,000	11	0.1%	1052.43	2.7	1,046.11	2.6	1%
21Be	501	9,404	25,000	17	0.2%	427.19	5.6	403.34	4.6	6%
	502	4,296	20,000	16	0.4%	804.73	3.5	772.90	3.2	4%
21E	601	1,035	720	20	1.9%	54.26	2.6	51.10	2.2	6%
	602	540	3,000	9	1.7%	232.92	2.9	213.54	2.7	8%
	603	1,051	900	9	0.9%	70.18	3.4	66.11	2.8	6%
HW	703	8,266	8,000	14	0.2%	228.09	3.4	220.00	3.0	4%
NEX	801	12,657	10,000	15	0.1%	109.64	8.2	101.88	6.5	7%
	802	11,877	22,000	7	0.1%	314.26	5.7	301.54	5.1	4%
WT	811	1,528	500	7	0.5%	19.15	3.6	17.93	3.0	6%
LP	90	2,524	90	11	0.4%	8.55	1.8	8.20	1.3	4%
	91	268	25	14	5.2%	8.33	1.2	8.06	1.0	3%
	92	98	-	0	0.0%	3.54	0.8	3.54	0.8	0%
	93	297	60	8	2.7%	14.11	1.5	12.89	1.1	9%
	94	629	100	5	0.8%	10.60	2.3	9.59	1.6	10%
PMP	95	1,439	2,000	14	1.0%	158.47	4.2	134.36	2.4	15%
109	99	6,554	600	9	0.1%	14.28	5.1	12.92	3.0	10%

\* % metal loss equals (mean - meanCap)/mean\*100 where mean is the average grade of the assays before capping and meanCap is the average grade of assays after capping. Composites are not declustered.

## 14.7.2 1 m Composites

For the underground model, 1 m composites were used. Statistics for the uncapped and capped 1 m composites are shown below in Table 14-8. Percent metal loss was variable between zones, ranging from as little as 0.2% to as high as 52% for gold, and 2% to 16% for silver. For domains with percent metal loss more than 10%, the uncapped mean values were sensitive to extremely high-grade samples.

**Table 14-8 Summary statistics for 1 m capped and uncapped composites by zone**

DOMAIN	ZONE	# Samples	Cap Value	No. Cut	% Cut	Uncapped Composites		Capped Composites		% Metal Lost
						Mean	CV	Mean	CV	
<b>GOLD g/t</b>										
22 Zone	101	5,775	40	8	0.1%	1.48	2.3	1.44	1.9	3%
HW	703	15,999	180	13	0.1%	4.63	2.8	4.55	2.5	2%
NEX	801	24,941	200	46	0.2%	3.79	5.2	3.47	3.4	8%
	802	22,446	400	45	0.2%	7.14	5.4	6.61	4.2	7%
WTZ	811	2,966	28	18	0.6%	2.72	1.7	2.65	1.5	3%
LP	90	4,953	8	20	0.4%	0.9	3.5	0.82	1.1	9%
	91	529	4	13	2.5%	0.91	2.9	0.65	1.1	29%
	92	199	4	4	2.0%	0.92	3.5	0.63	1.3	32%
	93	577	18	6	1.0%	2.45	8.9	1.17	1.9	52%
	94	1,201	7	8	0.7%	0.92	2.3	0.85	1.1	8%
<b>SILVER g/t</b>										
22 Zone	101	5,775	1000	14	0.2%	45.82	2.7	44.3	2.4	3%
HW	703	15,999	15000	12	0.1%	234.39	3.7	231.6	3.5	1%
NEX	801	24,941	9500	41	0.2%	116.28	8.7	97.35	5.8	16%
	802	22,446	30000	19	0.1%	318.21	6.3	308.6	5.8	3%
WTZ	811	2,966	550	13	0.4%	19.77	4.2	17.61	3.2	11%
LP	90	4,953	200	9	0.2%	8.58	2.1	8.4	1.8	2%
	91	529	40	11	2.1%	8.39	1.3	7.96	1.1	5%
	92	199	10	8	4.0%	3.57	1.0	3.28	0.6	8%
	93	577	130	5	0.9%	14.72	1.8	13.87	1.4	6%
	94	1,201	125	11	0.9%	10.63	2.9	9.51	1.8	11%

\* % metal loss equals  $(\text{mean} - \text{meanCap})/\text{mean} \times 100$  where mean is the average grade of the assays before capping and meanCap is the average grade of assays after capping. Composites are not declustered.

## 14.8 Variography

Variograms were used to assess for grade continuity, spatial variability in the estimation domains, sample search distances, and kriging parameters. Variograms were prepared using 2 m composites for the Pit model.

### 14.8.1 2 m Composites

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 attitude of each mineralized zone. Initially, the variograms were produced on normal scores of the composite assay grades. Downhole variograms were calculated to characterize the nugget effect. Final variogram models on original gold and silver composites were designed from the variograms on normal scores and backtransformed. Spherical variogram models used for determining grade continuity are summarized in Table 14-9 (for gold) and Table 14-10 (for silver). Figure 14-9 shows the gold variogram in the 21A Rhyolite zone, and Figure 14-10 illustrates gold search ellipsoids and ranges used per domain.

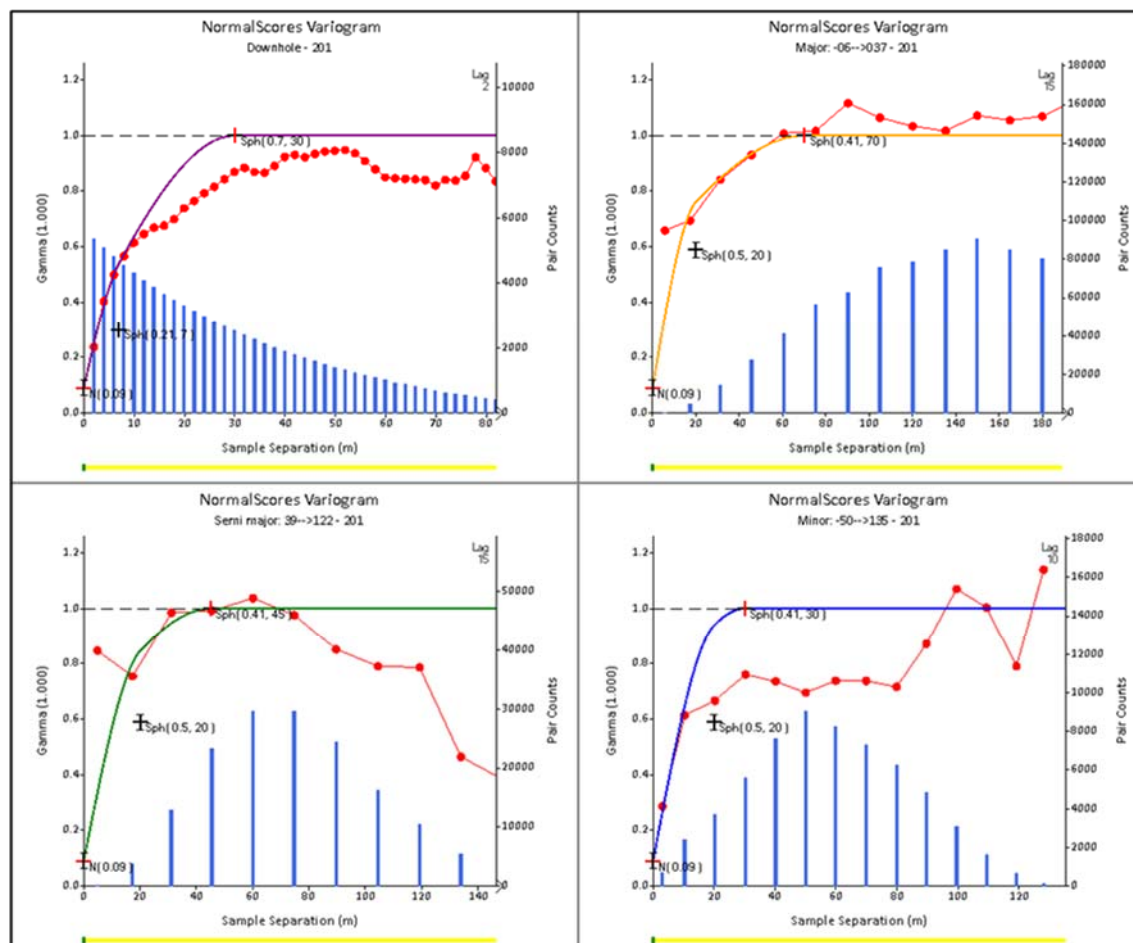


Figure 14-9: Gold variograms in the 21A Zone

**Table 14-9: Variogram parameters for gold by estimation zone**

ZONE	Structure	Nugget	Sill	Major (Y)	Semi (X)	Minor (Z)	Final Rotation		
							Y	X	Z
101	1	0.199	0.581	35	15	15	331.8	17.4	-42.2
	2		0.221	60	40	35			
201	1	0.205	0.599	20	20	20	37.3	-6.4	-140.4
	2		0.197	70	45	30			
202	1	0.0892	0.498	25	25	10	50.0	0.0	-135.0
	2		0.413	45	40	15			
203	1	0.0892	0.498	25	25	10	50.0	0.0	-135.0
	2		0.413	45	40	15			
204	1	0.0879	0.622	20	20	20	336.5	-28.9	72.8
	2		0.290	65	45	30			
3011	1	0.309	0.487	10	10	5	168.2	16.3	-53.3
	2		0.204	40	20	15			
3012	1	0.210	0.359	10	10	10	9.1	-4.2	155.3
	2		0.432	65	30	30			
302	1	0.300	0.555	10	5	5	10.8	-6.3	13.7
	2		0.145	40	30	15			
303	1	0.155	0.506	15	15	10	192.1	10.3	-22.9
	2		0.339	30	20	15			
401	1	0.262	0.663	7	7	5	2.5	-9.9	28.5
	2		0.075	25	20	10			
4011	1	0.0755	0.517	10	10	5	3.0	-33.8	157.2
	2		0.405	30	30	10			
402	1	0.0546	0.694	15	15	5	4.4	-12.7	38.3
	2		0.251	95	60	10			
501	1	0.192	0.695	15	10	5	6.7	-18.9	-47.2
	2		0.113	35	20	10			
502	1	0.0895	0.770	10	5	5	358.2	-21.6	-34.5
	2		0.141	35	30	10			
601	1	0.0828	0.470	15	15	5	354.1	-14.0	33.0
	2		0.447	70	60	20			
602	1	0.0828	0.47	15	15	5	354.1	-14.0	33.0
	2		0.447	70	60	20			
603	1	0.0544	0.403	25	25	15	354.1	-14.0	33.0
	2		0.543	70	30	20			
604	1	0.0768	0.557	10	5	5	100.8	37.8	26.6
	2		0.366	45	30	10			
7034	1	0.197	0.520	10	10	5	125.7	23.9	-26.3
	2		0.370	20	15	10			
7035	1	0.200	0.717	15	10	5	359.2	-26.1	-44.3
	2		0.078	35	20	10			
7038	1	0.125	0.666	20	5	5	3.0	-36.0	37.0
	2		0.209	35	30	10			
801	1	0.292	0.551	10	5	5	1.0	-44.0	-153.0
	2		0.157	75	30	25			
811	1	0.156	0.563	15	10	10	10.0	-44.0	-104.0
	2		0.281	50	30	30			
802	1	0.248	0.624	10	10	10	25.0	-36.0	46.0
	2		0.128	60	60	30			
90	1	0.267	0.273	20	10	10	356.3	-8.3	18.3
	2		0.459	60	45	20			
91	1	0.267	0.273	20	10	10	67.0	0.0	-40.0
	2		0.459	60	45	20			

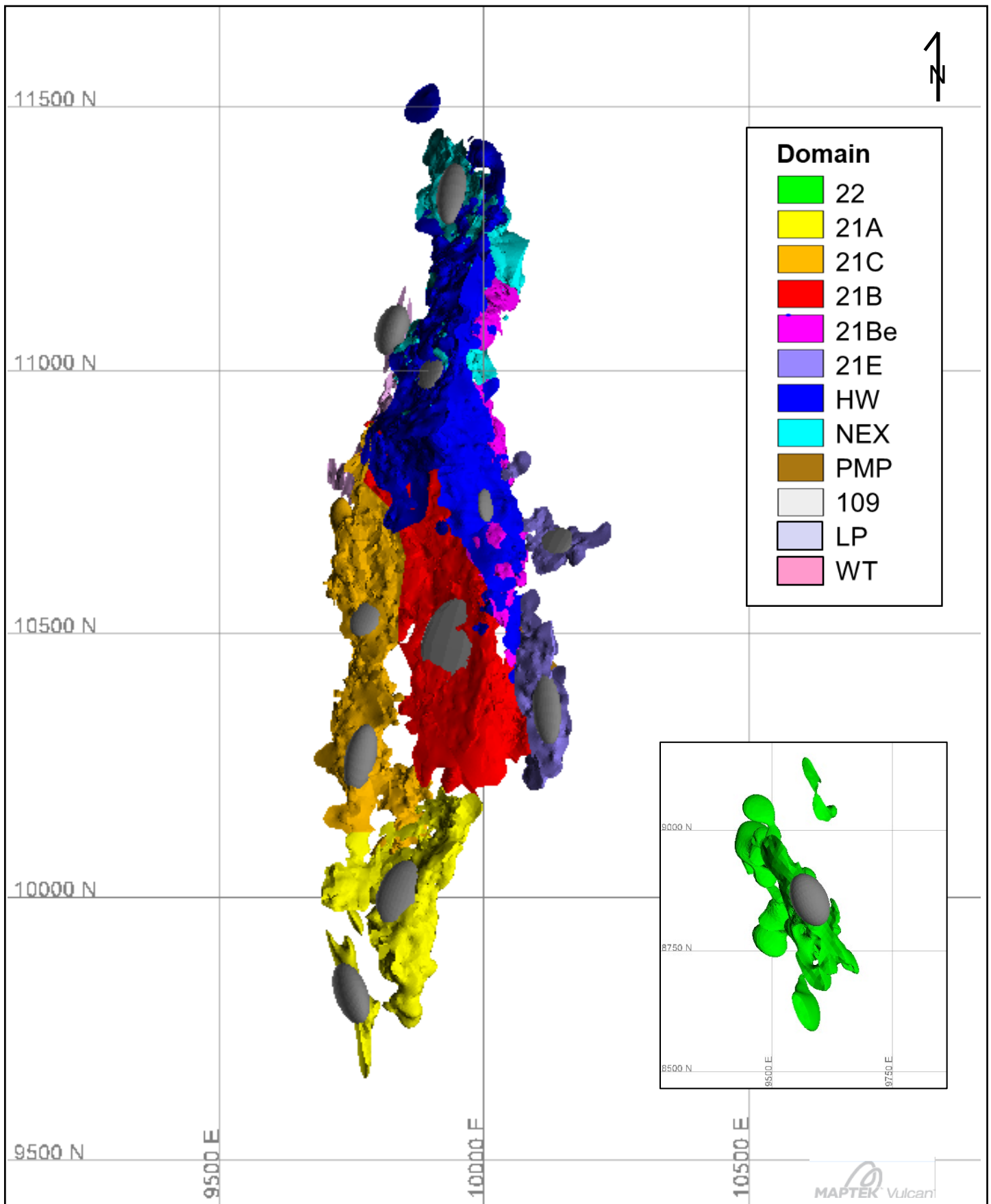
ZONE	Structure	Nugget	Sill	Major (Y)	Semi (X)	Minor (Z)	Final Rotation		
							Y	X	Z
92	1	0.267	0.273	20	10	10	67.0	0.0	-40.0
	2		0.459	60	45	20			
93	1	0.305	0.326	30	28	8	327.1	-10.3	22.9
	2		0.368	60	40	20			
94	1	0.232	0.518	25	15	13	356.7	-8.3	23.7
	2		0.250	55	25	15			
95	1	0.134	0.521	10	10	5	345.4	-19.3	105.9
	2		0.345	45	25	10			
99	1	0.352	0.450	15	10	10	6.3	-27.0	61.7
	2		0.198	60	50	20			

Table 14-10: Variogram parameters for silver by estimation zone

ZONE	Structure	Nugget	Sill	Major (Y)	Semi (X)	Minor (Z)	Final Rotation		
							Y	X	Z
101	1	0.097	0.459	20	15	10	331.8	17.4	-42.2
	2		0.444	55	25	35			
201	1	0.207	0.594	15	15	15	37.3	-6.4	-140.4
	2		0.199	70	40	40			
202	1	0.208	0.615	30	25	7	50.0	0.0	-135.0
	2		0.177	60	30	10			
203	1	0.208	0.615	30	25	7	50.0	0.0	-135.0
	2		0.177	60	30	10			
204	1	0.185	0.794	20	20	20	336.5	-28.9	72.8
	2		0.022	45	45	30			
3011	1	0.341	0.553	7	7	7	168.2	16.3	-53.3
	2		0.106	45	20	15			
3012	1	0.252	0.476	10	10	5	9.1	-4.2	155.3
	2		0.272	35	40	40			
302	1	0.168	0.662	15	15	10	10.8	-6.3	13.7
	2		0.170	45	30	15			
303	1	0.175	0.752	15	15	10	192.1	10.3	-22.9
	2		0.073	30	20	15			
401	1	0.222	0.655	10	10	5	2.5	-9.9	28.5
	2		0.123	35	30	20			
4011	1	0.092	0.692	10	10	5	3.0	-33.8	157.2
	2		0.216	30	30	10			
402	1	0.073	0.644	10	10	5	4.4	-12.7	38.3
	2		0.283	70	60	10			
501	1	0.128	0.790	10	10	5	6.7	-18.9	-47.2
	2		0.082	50	40	10			
502	1	0.062	0.844	5	5	5	358.2	-21.6	-34.5
	2		0.094	30	20	10			
601	1	0.076	0.711	20	5	5	354.1	-14.0	33.0
	2		0.212	50	40	20			
602	1	0.044	0.665	40	15	10	354.1	-14.0	33.0
	2		0.291	70	45	15			
603	1	0.044	0.665	40	15	10	354.1	-14.0	33.0
	2		0.291	70	45	15			
604	1	0.060	0.765	5	5	5	100.8	37.8	26.6
	2		0.175	25	25	10			
7034	1	0.226	0.647	10	10	5	125.7	23.9	-26.3
	2		0.127	25	15	10			
7035	1	0.107	0.798	5	5	5	359.2	-26.1	-44.3



ZONE	Structure	Nugget	Sill	Major (Y)	Semi (X)	Minor (Z)	Final Rotation		
							Y	X	Z
	2		0.095	35	35	10			
7038	1	0.055	0.758	10	5	5	3.0	-36.0	37.0
	2		0.187	30	30	15			
801	1	0.243	0.705	10	10	5	1.0	-44.0	-153.0
	2		0.052	50	25	15			
811	1	0.197	0.590	15	15	10	10.0	-44.0	-104.0
	2		0.212	30	30	15			
802	1	0.243	0.643	15	10	5	25.0	-36.0	46.0
	2		0.114	65	65	20			
90	1	0.220	0.459	30	15	10	356.3	-8.3	18.3
	2		0.321	60	30	20			
91	1	0.220	0.459	30	15	10	67.0	0.0	-40.0
	2		0.321	60	30	20			
92	1	0.220	0.459	30	15	10	67.0	0.0	-40.0
	2		0.321	60	30	20			
93	1	0.181	0.509	30	28	10	327.1	-10.3	22.9
	2		0.310	50	40	12			
94	1	0.234	0.527	25	18	15	356.7	-8.3	23.7
	2		0.239	55	30	20			
95	1	0.173	0.578	12	12	6	345.4	-19.3	105.9
	2		0.249	54	25	15			
99	1	0.286	0.554	10	6	5	6.3	-27.0	61.7
	2		0.160	20	18	16			



Gold search ellipses determined from variography

Job No: 2CS042.003  
 Filename: Figure 14.10 Gold Search Ellipses

Eskay Creek Au-Ag Project

Date:  
 May 7, 2021

Approved:  
 KD

Figure:  
**14.10**

## 14.8.2 1 m Composites

For the Underground model, variograms for the 1 m composites used the same orientations determined from the 2 m composites, however the nugget, sills and ranges were updated accordingly (Table 14-11 and Table 14-12). The Lower Mudstone and Dacite zones were subdivided into steep and shallow solids to aid with variogram creation and estimation.

**Table 14-11: 1 m variogram parameters for gold by zone**

Vario_ZONE	Structure	Nugget	Sill	Major (Y)	Semi (X)	Minor (Z)	Final Rotation		
							Y	X	Z
9011	1	0.314	0.531	30	30	10	10.768	-26.06	44.311
	2		0.156	45	45	20			
9012	1	0.362	0.444	25	25	10	1.656	-11.313	16.6
	2		0.194	105	105	25			
9021	1	0.188	0.621	10	10	10	10.768	-26.06	44.311
	2		0.191	45	40	20			
9022	1	0.161	0.519	10	10	10	1.656	-11.313	16.6
	2		0.320	60	40	25			
9031	1	0.161	0.519	10	10	10	60	0	40
	2		0.320	60	40	25			
9032	1	0.161	0.519	10	10	10	1.656	-11.313	16.6
	2		0.320	60	40	25			
92	1	0.161	0.519	10	10	10	60	0	40
	2		0.320	60	40	25			
93	1	0.149	0.552	22	22	5	327.09	-10.289	22.91
	2		0.299	40	40	10			
94	1	0.220	0.514	25	15	15	356.74	-8.31	23.66
	2		0.266	40	30	20			
101	1	0.135	0.538	10	10	7	331.75	17.39	-42.19
	2		0.327	50	30	20			
7038	1	0.084	0.778	10	5	5	3	-36	37
	2		0.137	30	30	15			
801	1	0.291	0.649	12	10	5	1	-44	-153
	2		0.0596	30	20	15			
811	1	0.131	0.744	15	15	10	10	-44	-104
	2		0.125	30	30	15			
802	1	0.137	0.773	15	10	7	25	-36	46
	2		0.0898	50	40	20			

**Table 14-12: 1 m variogram parameters for silver by zone**

EST_ZONE	Structure	Nugget	Sill	Major (Y)	Semi (X)	Minor (Z)	Final Rotation		
							Y	X	Z
9011	1	0.314	0.531	30	30	10	10.768	-26.06	44.311
	2		0.156	45	45	20			
9012	1	0.362	0.444	25	25	10	1.656	-11.313	16.6
	2		0.194	105	105	25			
9021	1	0.188	0.621	10	10	10	10.768	-26.06	44.311
	2		0.191	45	40	20			
9022	1	0.161	0.519	10	10	10	1.656	-11.313	16.6
	2		0.320	60	40	25			
9031	1	0.161	0.519	10	10	10	60	0	40

EST_ZONE	Structure	Nugget	Sill	Major (Y)	Semi (X)	Minor (Z)	Final Rotation		
							Z	X	Y
	2		0.32	60	40	25			
9032	1	0.161	0.519	10	10	10	1.656	-11.313	16.6
	2		0.320	60	40	25			
92	1	0.161	0.519	10	10	10	60	0	40
	2		0.320	60	40	25			
93	1	0.149	0.552	22	22	5	327.09	-10.289	22.91
	2		0.299	40	40	10			
94	1	0.22	0.514	25	15	15	356.74	-8.31	23.66
	2		0.266	40	30	20			
101	1	0.135	0.538	10	10	7	331.75	17.39	-42.19
	2		0.327	50	30	20			
7038	1	0.084	0.778	10	5	5	3	-36	37
	2		0.137	30	30	15			
801	1	0.291	0.649	12	10	5	1	-44	-153
	2		0.060	30	20	15			
811	1	0.131	0.744	15	15	10	10	-44	-104
	2		0.125	30	30	15			
802	1	0.137	0.773	15	10	7	25	-36	46
	2		0.090	50	40	20			

## 14.9 Dynamic Anisotropy

Due to the folded nature of the deposit, search ellipsoid orientations were not considered suitable for effectively estimating all the estimation domains. Dynamic anisotropy was selected as the preferred estimation method for the 21A, 21C and 21B because adjustments in each block could be made in relation to the presiding mineralization trend. The anisotropy direction was defined from the base of the Contact Mudstone (see example in Figure 14-11).

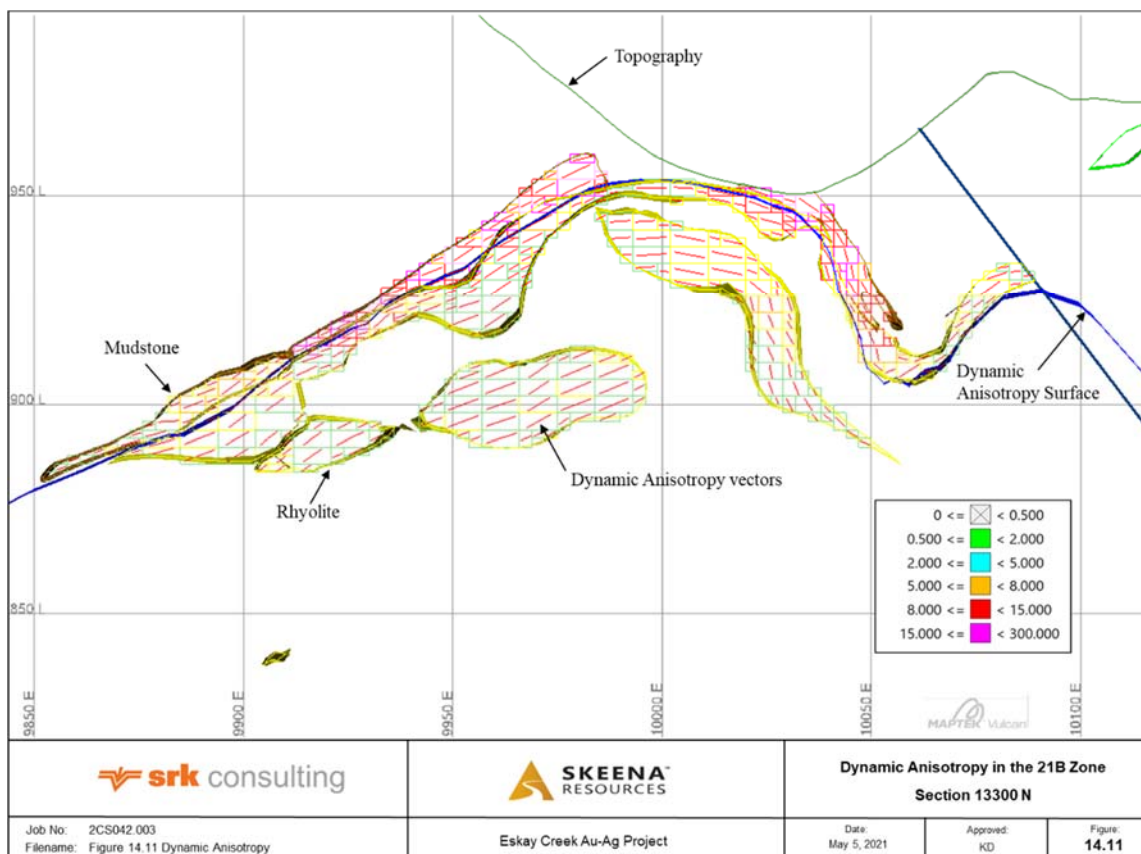


Figure 14-11: Dynamic anisotropy vectors used in the folded 21B Domain, looking north

## 14.10 Specific Gravity

During 2018 to the end of the 2020 Phase 2 drilling program, Skeena collected 4,965 specific gravity measurements. The density used for tonnage calculation for the 2021 MRE is based on the lithological model, with the mean value of measurements selected as the density for each lithology considered, with the exception of the barite-rich Mudstone in the 21C Domain (302). Table 14-13 summarizes the bulk density measurement by lithology used in the model.

Table 14-13: Specific gravity by rocktype

Rocktype	SG (g/cm <sup>3</sup> )
Bowser Sediments	2.74
Hanging-wall Andesite	2.80
Hanging-wall Mudstone	2.72
Contact Mudstone	2.78
Rhyolite	2.66
Lower Mudstone	2.79
Footwall Dacite	2.78
Even Lower Mudstone	2.75
Footwall Andesite	2.75
Barite-rich 21C mudstone	3.00

## 14.11 Block Model and Grade Estimation

The grade estimate for the 2021 MRE was constructed in two stages: (1) Pit modelling and, (2) Underground modelling. For the Pit model, grades were estimated into all twelve mineralization domains, and the five low-grade envelope domains. Five estimation domains below the bottom of the optimized resource pit were reported as underground resources (22, HW, NEX, WTZ and the LP). Each of the models were optimized based on the defining mining scenario, and the separate methodologies and parameters are described below.

### 14.11.1 Pit model

The block model geometry and extents used for grade estimation in the Pit model are summarized in Table 14-14.

**Table 14-14: Details of the Pit block model dimensions and block size**

	Bearing	Plunge	Dip	Start Offset			End Offset			Block Size		
				X	Y	Z	X	Y	Z	X	Y	Z
Parent	90	0	0	9300	8508	-50	1188	3654	1500	9	9	4
Sub-block	90	0	0	9300	8508	-50	1188	3654	1500	3	3	2

Ordinary Kriging (OK) was used to estimate gold and silver in all domains. Two-meter capped composites were used for the Pit model. Gold and silver grades within the mineralization domains were estimated in three successive passes with increasing search radii based on variogram ranges as outlined in Table 14-15 and Table 14-16. Pass 1 equalled 2/3 of the variogram range, Pass 2 equalled the variogram range and Pass 3 equalled 2.5 times the variogram range. The low-grade envelope domain was estimated using restricted ranges using one pass. A fourth validation pass at 5 times the variogram range was estimated in the Lower Package Domain to aid with validation.

For Pass 1 a minimum of 8 and maximum of 10 composites were used per block. For Pass 2, a minimum of 5 and maximum of 15 composites were used per block and for Pass 3 a minimum of 3 and maximum of 15 composites were used per block. A maximum of two composites per drill hole was specified for all passes.

Hard boundary interpolation was honoured for all domains. A hard boundary was applied within a 3 m restriction domain to limit the spread of high-grade values from mined-out intervals into the remaining resources area. A discretization grid of 4 m x 4 m x 3 m was used. A summary of gold and silver parameters used for estimation are shown in Table 14-15 and Table 14-16.

**Table 14-15: Gold estimation parameters by estimation zone**

ZONE	EST_ZONE	ROCKTYPE	Search Pass	Orientation	Gold Search Radii			No. of Composites		Max composites per drill hole
					X	Y	Z	Minimum	Maximum	
1	1	22 Zone	1	331.7/17.4/-42.2	25	25	15	3	10	2
2	2	Main Zone	1	Dynamic Anisotropy	25	25	15	3	10	2
3	3	NEX	1	33.18/-28.0/49.47	25	25	15	3	10	2
4	4	21Be	1	358.2/-21.6/34.5	25	25	15	3	10	2
5	5	21E	1	354.1/-14.0/32.4	25	25	15	3	10	2
101	1011, 1012, 1013	Rhyolite	1	331.7/17.4/-42.2	40	27	23	8	10	2
			2		60	40	35	5	15	2
			3		150	100	87.5	3	15	2
201	2011 (Fault)	Rhyolite	1	336.5/-28.9/72.1	44	30	20	8	10	2
			2		65	45	30	5	15	2
			3		162.5	112.5	75	3	15	2
201	2012, 2013	Rhyolite	1	Dynamic Anisotropy	47	30	20	8	10	2
			2		70	45	30	5	15	2
			3		175	112.5	75	3	15	2
202	2021	Contact Mudstone	1	Dynamic Anisotropy	30	27	10	8	10	2
			2		45	40	15	5	15	2
			3		112.5	100	37.5	3	15	2
203	2031	Hangwall Mudstone	1	Dynamic Anisotropy	30	27	10	8	10	2
			2		40	40	15	5	15	2
			3		100	100	37.5	3	15	2
301	3011, 3012, 3013 (North)	Rhyolite	1	Dynamic Anisotropy	27	13	10	8	10	2
			2		40	20	15	5	15	2
			3		100	50	37.5	3	15	2
301	3014 (South)	Rhyolite	1	Dynamic Anisotropy	44	20	10	8	10	2
			2		65	30	30	5	15	2
			3		162.5	75	75	3	15	2
302	3021, 3022	Contact Mudstone	1	Dynamic Anisotropy	27	20	10	8	10	2
			2		40	30	15	5	15	2
			3		100	75	37.5	3	15	2
303	3031 to 3037	Hangwall Mudstone	1	12.1/-10.3/22.3	20	13	10	8	10	2
			2		30	20	15	5	15	2
			3		75	50	37.5	3	15	2
401	4011, 4013, 4014, 4015, 4017	Rhyolite	1	Dynamic Anisotropy	17	13	7	8	10	2
			2		25	20	10	5	15	2
			3		175	112.5	75	3	15	2

ZONE	EST_ZONE	ROCKTYPE	Search Pass	Orientation	Gold Search Radii			No. of Composites		Max composites per drill hole
					X	Y	Z	Minimum	Maximum	
401	4012, 4016	Rhyolite	1	3/-33.826/157.2	20	20	7	8	10	2
			2		30	20	10	5	15	2
			3		75	50	25	3	15	2
402	4021, 4022	Rhyolite	1	Dynamic Anisotropy	64	40	7	8	10	2
			2		95	60	10	5	15	2
			3		237.5	150	25	3	15	2
501	5011, 5012	Rhyolite	1	6.7/-19/--47.2	23	13	7	8	10	2
			2		35	20	10	5	15	2
			3		87.5	50	25	3	15	2
502	5021	Contact Mudstone	1	358.2/-21.6/-34.5	20	20	7	8	10	2
			2		35	30	10	5	15	2
			3		87.5	75	25	3	15	2
601	6011, 6012, 6013, 6014,	Rhyolite	1	354.0/-14.0/32.4	47	40	13	8	10	2
			2		70	60	20	5	15	2
			3		175	150	50	3	15	2
602	6021	Contact Mudstone	1	354.0/-14.0/32.4	47	20	13	8	10	2
			2		70	30	20	5	15	2
			3		175	75	50	3	15	2
603	6031, 6032, 6033, 6034	Hanging-wall Mudstone	1	354.0/-14.0/32.4	47	20	13	8	10	2
			2		70	30	20	5	15	2
			3		175	75	50	3	15	2
604	6041, 6042, 6043	Hanging-wall Mudstone	1	100.8/37.8/26.6	30	20	7	8	10	2
			2		45	30	10	5	15	2
			3		112.5	75	25	3	15	2
703	70341, 70342, 70343	Hanging-wall Mudstone	1	Dynamic Anisotropy	13	10	7	8	10	2
			2		20	15	10	5	15	2
			3		50	37.5	25	3	15	2
703	70351 to 70357	Hanging-wall Mudstone	1	359.2/-26.0/-44.3	23	13	7	8	10	2
			2		35	20	10	5	15	2
			3		87.5	50	25	3	15	2
703	70382 to 70386	Hanging-wall Mudstone	1	2.5/-35.93/37.4	23	20	7	8	10	2
			2		35	30	10	5	15	2
			3		87.5	75	25	3	15	2
801	8011, 8012, 8013, 8014	Rhyolite	1	6.9/-41.6/-149.2	50	20	17	8	10	2
			2		75	30	10	5	15	2
			3		187.5	75	25	3	15	2
802	8021, 8022	Contact Mudstone	1	33.2/-28.0/49.5	40	40	20	8	10	2
			2		60	60	30	5	15	2



ZONE	EST_ZONE	ROCKTYPE	Search Pass	Orientation	Gold Search Radii			No. of Composites		Max composites per drill hole
					X	Y	Z	Minimum	Maximum	
			3		150	150	75	3	15	2
811	8111 to 8116	Rhyolite	1	13.1/-34.4/102.1	34	34	20	8	10	2
			2		50	50	30	5	15	2
			3		125	125	75	3	15	2
90	901,902	Dacite	1	356.3/-8.3/18.3	40	30	13	8	10	2
			2		60	45	20	5	15	2
			3		150	112.5	50	3	15	2
91	903	Even Lower Mudstone	1	356.3/-8.3/18.3	40	30	13	8	10	2
			2		60	45	20	5	15	2
			3		150	112.5	50	3	15	2
92	904	Andesite	1	67/0/40	40	30	13	8	10	2
			2		60	45	20	5	15	2
			3		150	112.5	50	3	15	2
93	905	Lower Mudstone	1	160.5/2.1/-24.9	40	27	13	8	10	2
			2		60	45	20	5	15	2
			3		150	112.5	50	3	15	2
94	906	Rhyolite	1	356.7/-8.31/23.7	37	17	10	8	10	2
			2		60	45	15	5	15	2
			3		150	112.5	37.5	3	15	2
95	951, 952,953	Rhyolite	1	345.4/-19.3/105.9	30	17	7	8	10	2
			2		45	25	10	5	15	2
			3		112.5	62.5	25	3	15	2
99	99	Rhyolite	1	6.3/-26.9/61.7	40	34	13	8	10	2
			2		60	50	20	5	15	2
			3		150	125	50	3	15	2

\* Dynamic Anisotropy (DA) using a structural surface.

**Table 14-16: Silver grade estimation parameters by estimation zone**

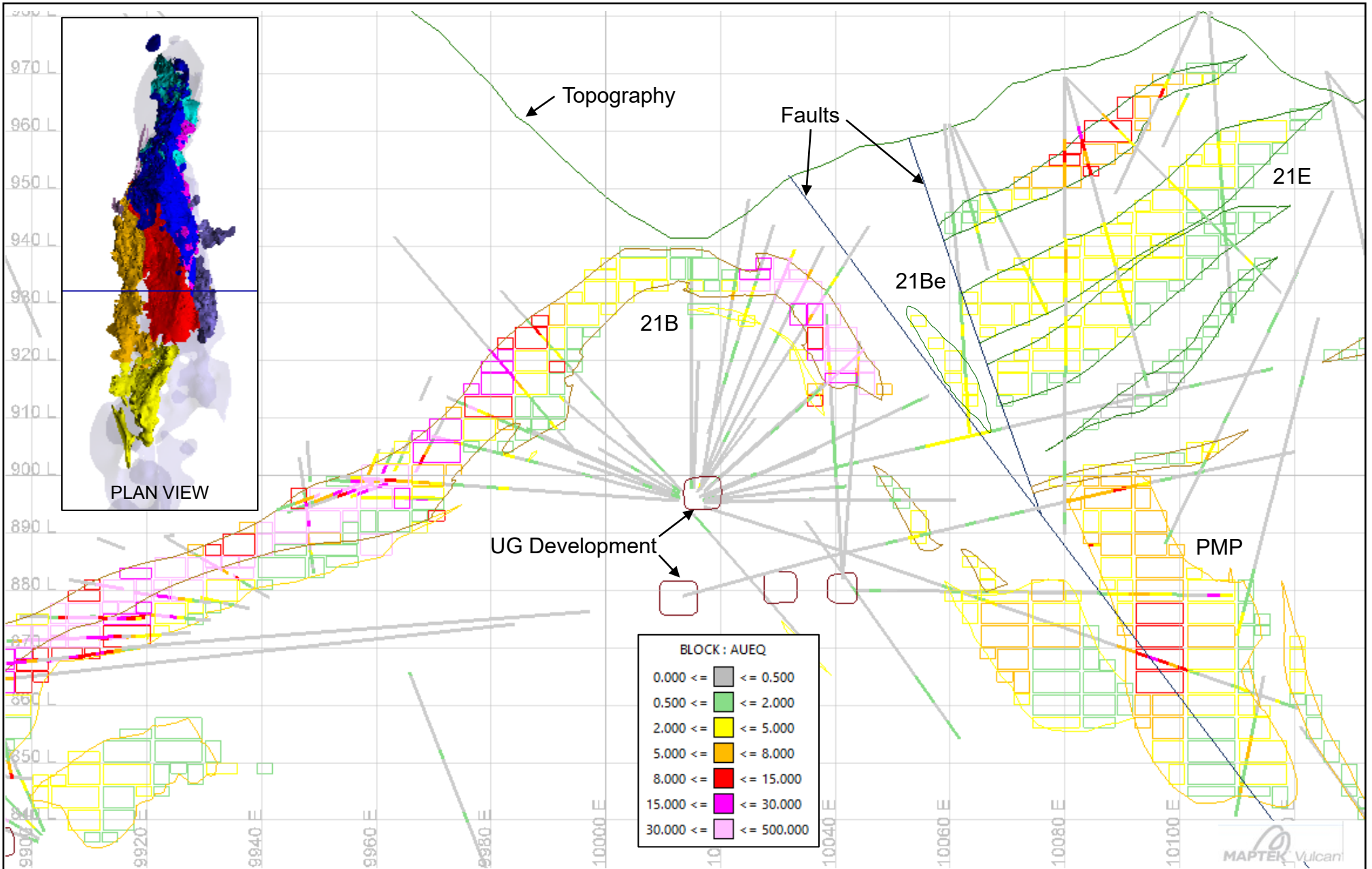
ZONE	EST_ZONE	ROCKTYPE	Search Pass	Orientation	Gold Search Radii			No. of Composites		Max composites per drill hole
					X	Y	Z	Minimum	Maximum	
1	1	22 Zone	1	331.7/17.4/-42.2	25	25	15	3	10	2
2	2	Main Zone	1	Dynamic Anisotropy	25	25	15	3	10	2
3	3	NEX	1	33.18/-28.0/49.47	25	25	15	3	10	2
4	4	21Be	1	358.2/-21.6/34.5	25	25	15	3	10	2
5	5	21E	1	354.1/-14.0/32.4	25	25	15	3	10	2
101	1011, 1012, 1013	Rhyolite	1	331.7/17.4/-42.2	82	37	52	8	10	2
			2		55	25	35	5	15	2
			3		138	63	88	3	15	2
201	2011 (Fault)	Rhyolite	1	336.5/-28.9/72.1	67	67	45	8	10	2
			2		45	45	30	5	15	2
			3		113	113	75	3	15	2
201	2012, 2013	Rhyolite	1	Dynamic Anisotropy	82	37	52	8	10	2
			2		70	40	40	5	15	2
			3		175	100	100	3	15	2
202	2021	Contact Mudstone	1	Dynamic Anisotropy	82	37	52	8	10	2
			2		60	30	10	5	15	2
			3		150	75	25	3	15	2
203	2031	Hanging-wall Mudstone	1	Dynamic Anisotropy	82	37	52	8	10	2
			2		60	30	10	5	15	2
			3		150	75	25	3	15	2
301	3011, 3012, 3013 (North)	Rhyolite	1	Dynamic Anisotropy	82	37	52	8	10	2
			2		45	20	15	5	15	2
			3		113	50	38	3	15	2
301	3014 (South)	Rhyolite	1	Dynamic Anisotropy	82	37	52	8	10	2
			2		35	40	40	5	15	2
			3		88	100	100	3	15	2
302	3021, 3022	Contact Mudstone	1	Dynamic Anisotropy	82	37	52	8	10	2
			2		45	30	15	5	15	2
			3		113	75	38	3	15	2
303	3031 to 3037	Hanging-wall Mudstone	1	12.1/-10.3/22.3	82	37	52	8	10	2
			2		30	20	15	5	15	2
			3		75	50	38	3	15	2
401	4011, 4013, 4014, 4015, 4017	Rhyolite	1	Dynamic Anisotropy	82	37	52	8	10	2
			2		35	30	20	5	15	2
			3		88	75	50	3	15	2
401	4012, 4016	Rhyolite	1	3/-33.826/157.2	82	37	52	8	10	2
			2		30	30	10	5	15	2

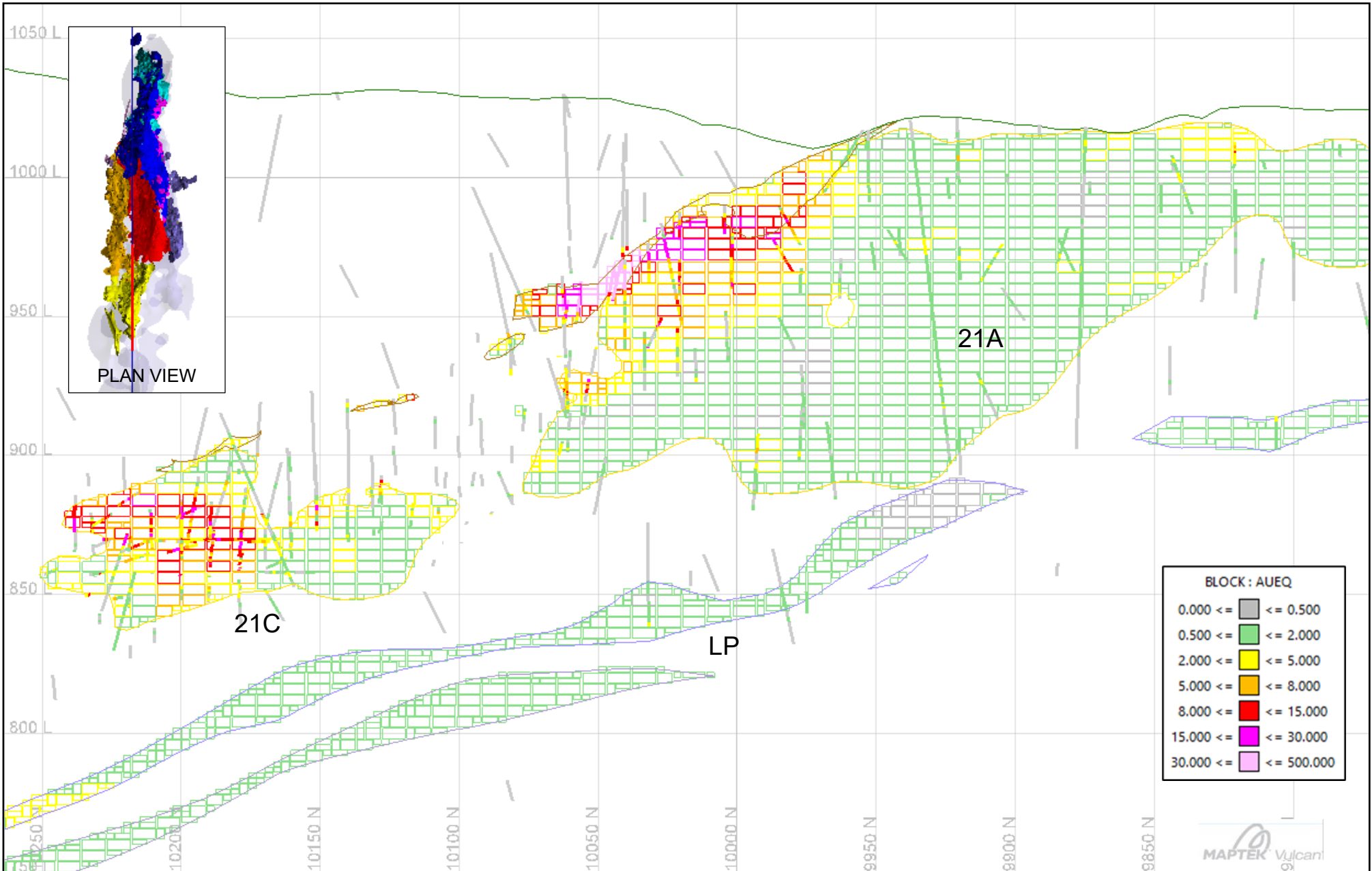
ZONE	EST_ZONE	ROCKTYPE	Search Pass	Orientation	Gold Search Radii			No. of Composites		Max composites per drill hole
					X	Y	Z	Minimum	Maximum	
			3		75	75	25	3	15	2
402	4021, 4022	Rhyolite	1	Dynamic Anisotropy	82	37	52	8	10	2
			2		70	60	10	5	15	2
			3		175	150	25	3	15	2
501	5011, 5012	Rhyolite	1	6.7/-19/--47.2	82	37	52	8	10	2
			2		50	40	10	5	15	2
			3		125	100	25	3	15	2
502	5021	Contact Mudstone	1	358.2/-21.6/-34.5	82	37	52	8	10	2
			2		30	20	10	5	15	2
			3		75	50	25	3	15	2
601	6011, 6012, 6013, 6014,	Rhyolite	1	354.0/-14.0/32.4	82	37	52	8	10	2
			2		50	40	20	5	15	2
			3		125	100	50	3	15	2
602	6021	Contact Mudstone	1	354.0/-14.0/32.4	82	37	52	8	10	2
			2		70	45	15	5	15	2
			3		175	113	38	3	15	2
603	6031, 6032, 6033, 6034	Hanging-wall Mudstone	1	354.0/-14.0/32.4	82	37	52	8	10	2
			2		70	45	15	5	15	2
			3		175	113	38	3	15	2
604	6041, 6042, 6043	Hanging-wall Mudstone	1	100.8/37.8/26.6	82	37	52	8	10	2
			2		25	25	10	5	15	2
			3		63	63	25	3	15	2
703	70341, 70342, 70343	Hanging-wall Mudstone	1	Dynamic Anisotropy	82	37	52	8	10	2
			2		25	15	10	5	15	2
			3		63	38	25	3	15	2
703	70351 to 70357	Hanging-wall Mudstone	1	359.2/-26.0/-44.3	82	37	52	8	10	2
			2		35	35	10	5	15	2
			3		88	88	25	3	15	2
703	70382 to 70386	Hanging-wall Mudstone	1	2.5/-35.93/37.4	82	37	52	8	10	2
			2		30	30	15	5	15	2
			3		75	75	38	3	15	2
801	8011, 8012, 8013, 8014	Rhyolite	1	6.9/-41.6/-149.2	82	37	52	8	10	2
			2		50	25	15	5	15	2
			3		125	63	38	3	15	2
802	8021, 8022	Contact Mudstone	1	33.2/-28.0/49.5	82	37	52	8	10	2
			2		65	65	20	5	15	2
			3		163	163	50	3	15	2
811	8111 to 8116	Rhyolite	1	13.1/-34.4/102.1	82	37	52	8	10	2
			2		30	30	15	5	15	2

ZONE	EST_ZONE	ROCKTYPE	Search Pass	Orientation	Gold Search Radii			No. of Composites		Max composites per drill hole
					X	Y	Z	Minimum	Maximum	
			3		75	75	38	3	15	2
90	901,902	Dacite	1	356.3/-8.3/18.3	82	37	52	8	10	2
			2		60	30	20	5	15	2
			3		150	75	50	3	15	2
91	903	Even Lower Mudstone	1	356.3/-8.3/18.3	82	37	52	8	10	2
			2		60	30	20	5	15	2
			3		150	75	50	3	15	2
92	904	Andesite	1	67/0/40	82	37	52	8	10	2
			2		60	30	20	5	15	2
			3		150	75	50	3	15	2
93	905	Lower Mudstone	1	160.5/2.1/-24.9	82	37	52	8	10	2
			2		50	40	20	5	15	2
			3		125	100	50	3	15	2
94	906	Rhyolite	1	356.7/-8.31/23.7	82	37	52	8	10	2
			2		55	30	20	5	15	2
			3		138	75	50	3	15	2
95	951, 952,953	Rhyolite	1	345.4/-19.3/105.9	82	37	52	8	10	2
			2		55	25	15	5	15	2
			3		138	63	38	3	15	2
99	99	Rhyolite	1	6.3/-26.9/61.7	82	37	52	8	10	2
			2		55	25	35	5	15	2
			3		138	63	88	3	15	2

#### **14.11.2 Pit model - visual validation**

Estimated block grades were assessed in plan and sectional view along with composite assay intervals. This method provides a local visual assessment of interpolated blocks in relation to the nearest composite. Figure 14-12 and Figure 14-13 show estimated AuEQ block grades in relation to 2 m AuEQ composite intervals in the 21B/21E and 21A Domains, respectively. Overall, the data show good agreement and no obvious discrepancies between block grades and composites were observed.





### 14.11.3 Pit model - comparison of interpolation models

To obtain an appropriate declustered mean of the composite grades, true Nearest Neighbour (NN declustered) models were created. For the Pit model, parent blocks of 2 m x 2 m x 2 m were created and the closest 2 m composite up to a maximum distance of 200 m was estimated. For the Underground model, parent blocks of 1 m x 1 m x 1 m were created and the closest 1 m composite up to a maximum distance of 200 m was estimated.

Global Bias check models using block sizes equivalent to the OK estimate method were estimated using Inverse distance (ID<sup>2</sup>) and nearest neighbour (NN) models.

Although variable between zones, the overall global bias in relation to declustered mean values (NN declustered) were less than 1% for both gold and silver in the Pit model. A summary of global bias between the NN declustered, ID<sup>2</sup>, and OK estimation methods for gold and silver by estimation zone are summarized in Table 14-17 and Table 14-18. The differences are within acceptable limits.

**Table 14-17: Global Bias check for gold by ZONE**

ZONE	NN Declustered	OK	ID	OK vs ID	OK vs NN declustered
1	-	0.07	0.07	0%	-
2	-	0.099	0.096	3%	-
3	-	0.085	0.081	5%	-
4	-	0.128	0.123	4%	-
5	-	0.058	0.057	2%	-
101	1.27	1.29	1.27	2%	2%
201	1.67	1.69	1.68	1%	1%
202	11.26	11.22	11.58	-3%	0%
203	0.83	0.77	0.83	-8%	-8%
301	2.6	2.66	2.63	1%	2%
302	2.24	2.23	2.25	-1%	0%
303	2.85	2.9	2.96	-2%	2%
401	2.53	2.54	2.53	0%	0%
402	24.18	23.12	23.64	-2%	-5%
501	5.05	5.13	5.05	2%	2%
502	13.57	13.08	12.97	1%	-4%
601	1.55	1.54	1.54	0%	-1%
602	4.5	4.65	4.8	-3%	3%
603	1.8	1.82	1.88	-3%	1%
703	3.32	3.31	3.34	-1%	0%
801	2.49	2.53	2.54	0%	2%
802	5.29	5.3	5.35	-1%	0%
8011	2.64	3	2.91	3%	12%
90	0.79	0.80	0.8	0%	2%
91	0.99	0.96	0.896	6%	-3%
92	0.95	1.01	1.05	-4%	6%
93	0.74	0.75	0.765	-2%	1%
94	0.89	0.88	0.85	3%	-1%
95	3.54	3.61	3.61	0%	2%
99	7.08	7.17	7.31	-2%	1%
				<b>-1%</b>	<b>1%</b>



**Table 14-18: Global Bias check for silver by ZONE**

<b>ZONE</b>	<b>NN Declustered</b>	<b>OK</b>	<b>ID</b>	<b>OK vs ID</b>	<b>OK vs NN declustered</b>
1	-	1.2	1.23	0%	-
2	-	1.6	1.61	2%	-
3	-	1.7	1.62	3%	-
4	-	4.6	4.4	4%	-
5	-	1.8	1.81	2%	-
101	46.8	41.8	44.7	-7%	-12%
201	36.5	36.8	37	-1%	1%
202	115.3	110.6	113.9	-3%	-4%
203	0.7	0.7	0.7	0%	0%
301	28.4	29.4	29	1%	3%
302	75.3	76.4	77.6	-2%	1%
303	131.6	129.3	140	-8%	-2%
401	91.4	90.6	88.6	2%	-1%
402	924.8	929.1	939.1	-1%	0%
501	209.7	224.9	226.4	-1%	7%
502	522.4	491.3	510.5	-4%	-6%
601	48.7	49.1	50	-2%	1%
602	184.7	187.2	198.7	-6%	1%
603	59.3	60.8	62.2	-2%	2%
703	157.6	153.9	164.2	-7%	-2%
801	59.2	59.2	58.6	1%	0%
802	233.1	228.9	231.6	-1%	-2%
8011	14.3	15.02	14.925	1%	5%
90	7.8	7.6	7.9	-4%	-3%
91	7.5	6.9	7.2	-4%	-8%
92	3.9	3.1	3.4	-8%	-24%
93	12.5	13.2	11.6	12%	5%
94	10.4	10.7	10.4	2%	2%
95	79.9	78	76.1	2%	-2%
99	12.6	13.3	13.1	2%	5%
				<b>-1%</b>	<b>-1%</b>

#### 14.11.4 Pit model - swath plots

The model was checked for local trends in the grade estimate using swath plots within each domain. This was done by plotting the mean values from the naïve, declustered NN, and ID<sup>2</sup> and against the OK estimate along north-south, east-west, and horizontal swaths. The ID<sup>2</sup>, declustered NN and OK models show similar trends in grades with the expected smoothing for each method. The observed trends show no significant metal bias in the estimate. Swath plots for gold and silver in the 21A Domain rhyolite and mudstones are illustrated in Figure 14-14 and Figure 14-15 respectively.

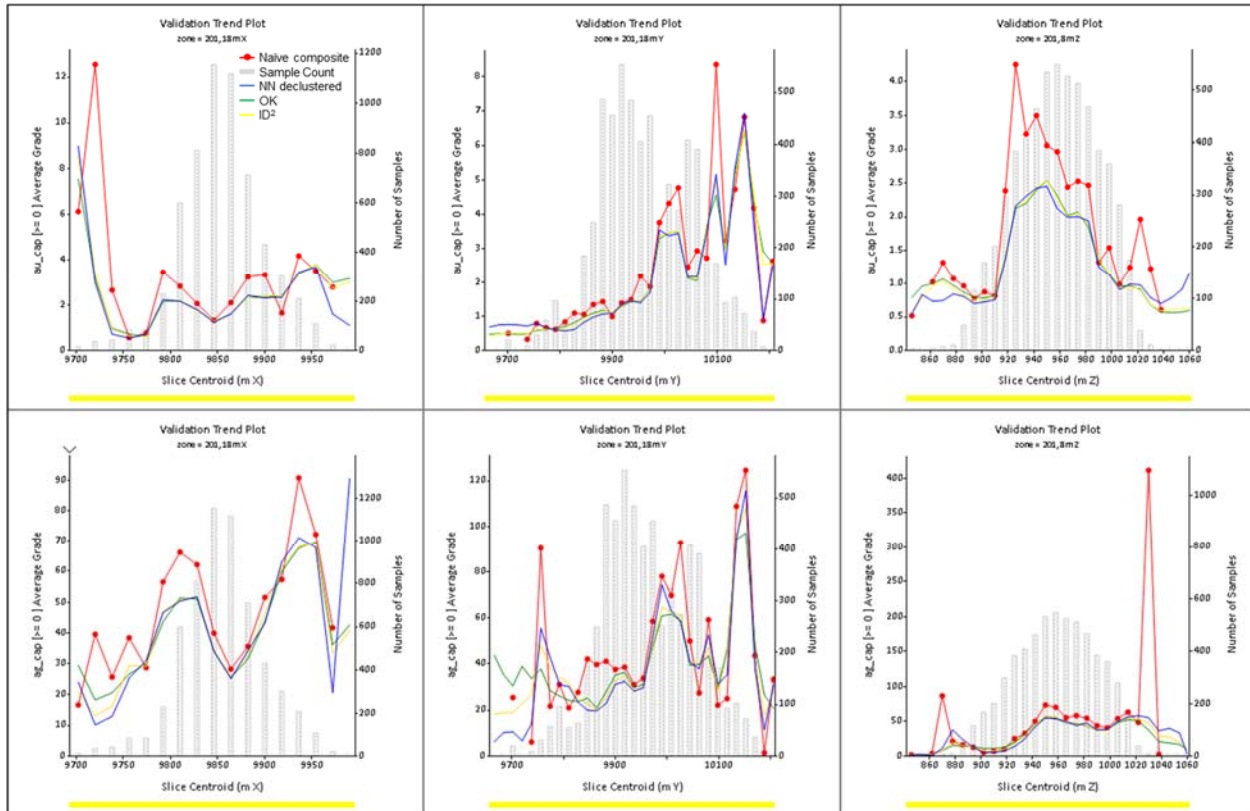


Figure 14-14: Swath plot for gold (top) and silver (bottom) in Zone 201 - 21A Rhyolite, (top) Northing, (middle) Easting, (bottom) Elevation

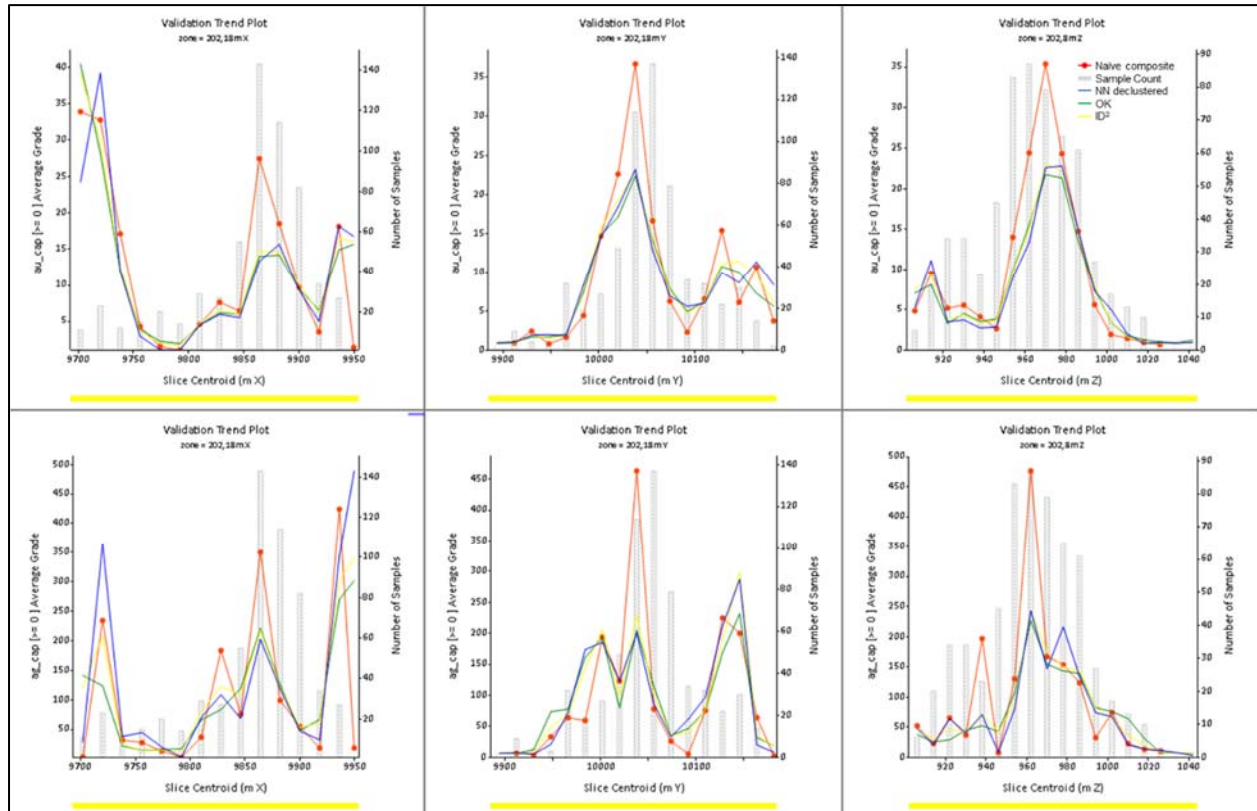


Figure 14-15: Swath plot for gold (left) and silver (bottom) in Est\_Zone 201 – 21A Mudstone, (top) Northing, (middle) Easting, (bottom) Elevation

### 14.11.5 Underground model

The block model geometry and extents used for grade estimation in the underground model are summarized in Table 14-19.

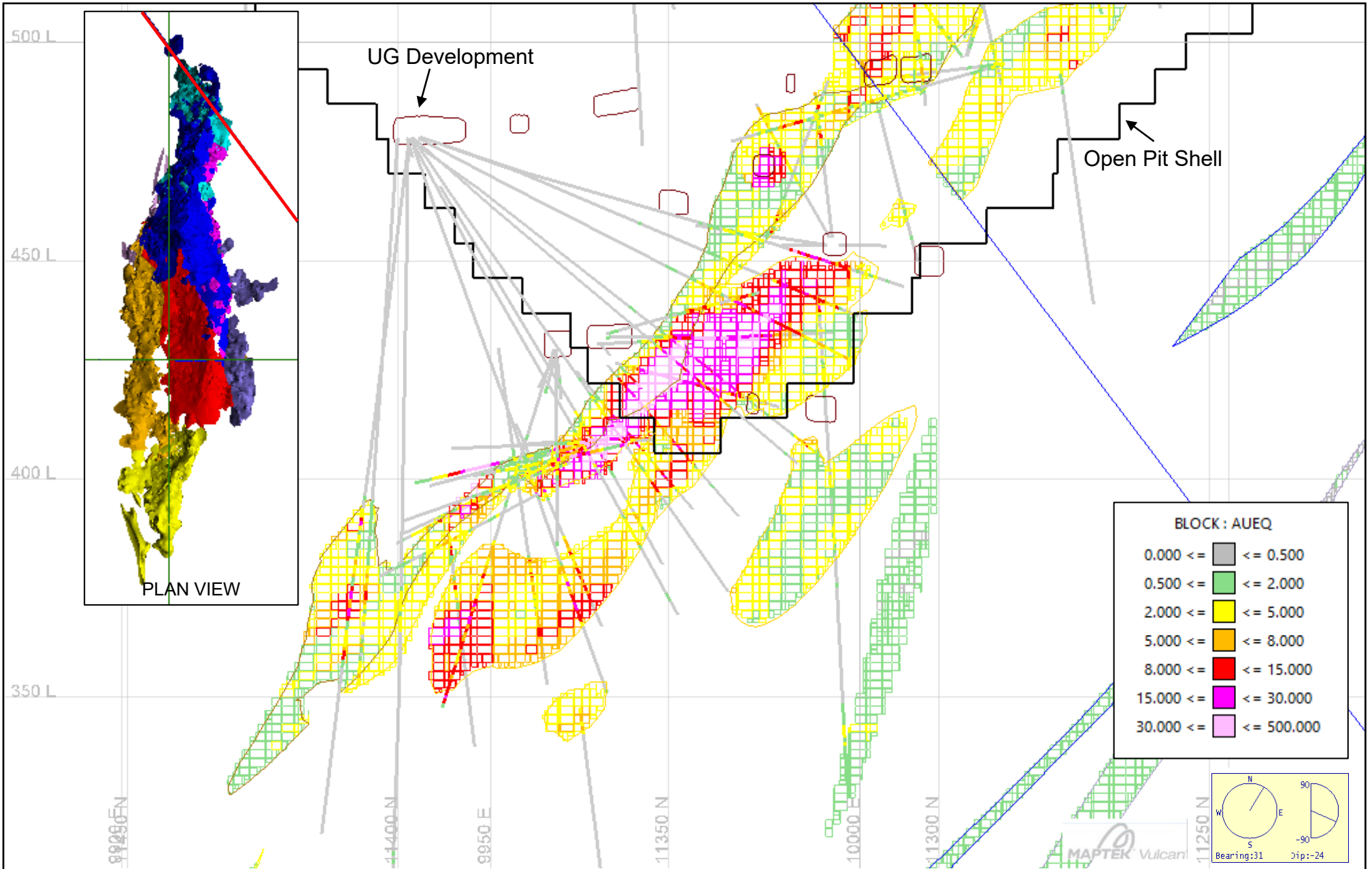
**Table 14-19: Details of block model dimensions and block size for the underground model**

	Bearing	Plunge	Dip	Origin			End Offset			Block Size		
				X	Y	Z	X	Y	Z	X	Y	Z
Parent	90	0	0	9300	8508	-50	1188	3654	1500	3	3	2
Sub-block	90	0	0	9300	8508	-50	1188	3654	1500	1	1	1

Five domains were captured within the Underground model: 22, HW, NEX, WT, and LP. Ordinary Kriging (OK) was used to estimate gold and silver in all five domains. One-meter capped composites were used for the Underground model. Gold and silver grades within mineralized domains were estimated in three successive passes with increasing search radii. Pass 1 approximated 2/3 of the variogram range, Pass 2 equalled the variogram range and Pass 3 equalled two and a half times the variogram range. Hard boundaries during interpolation was honoured. Hard boundaries were used for composites within the 3 m restriction domain to limit the effect of high-grade smearing from mined out intervals. For Pass 1 a minimum of 8 and maximum of 10 composites were used per block. For Pass 2, a minimum of 5 and maximum of 15 composites were used per block and for Pass 3 a minimum of 3 and maximum of 15 composites were used per block. A maximum of two composites per drill hole was specified for all passes. A 1 m geotechnical solid around the underground workings was used as the depletion zone for reporting remaining resources.

### 14.11.6 Underground model - visual validation

A visual inspection of the block estimates with drill hole composites in plan and cross-section was performed as a first pass check on the estimates. Good agreement between the composite grades and block estimates was observed, as well as suitably oriented estimates relative to variogram orientations (Figure 14-16).



### Underground model – comparison of interpolation models

To validate the OK estimates, gold and silver were estimated using ID<sup>2</sup> and NN declustered models to assess for global bias. Although variable between zones, the overall bias was less than 2% for gold and 1% for silver in the Underground model. A difference of more than +10% was used as a guideline to indicate bias or significant over or underestimation. As seen in Table 14-20 and Table 14-21, the results are within acceptable limits.

**Table 14-20: Global validation of gold**

ZONE	NN Declustered	ID	OK	OK vs ID	OK vs NN declustered
101	1.49	1.49	1.47	-1%	-1%
703	2.82	2.89	2.78	-4%	-1%
801	2.45	2.49	2.51	1%	2%
802	5.16	5.25	5.22	-1%	1%
811	2.66	2.82	2.90	3%	8%
90	0.83	0.85	0.85	0%	3%
91	0.77	0.70	0.74	5%	-4%
92	1.07	0.92	0.87	-6%	-23%
93	0.71	0.72	0.72	0%	2%
94	0.96	0.89	0.92	3%	-5%
				<b>0%</b>	<b>-2%</b>

**Table 14-21: Global validation of silver**

ZONE	NN Declustered	OK	ID	OK vs ID	OK vs NN declustered
90	7.57	7.90	8.11	-3%	4%
91	7.90	7.64	6.87	10%	-3%
92	4.47	4.19	4.31	-3%	-7%
93	12.56	14.75	13.83	6%	15%
94	10.67	10.69	10.27	4%	0%
101	53.20	45.47	48.30	-6%	-17%
703	61.48	67.08	68.09	-2%	8%
801	58.45	60.21	59.46	1%	3%
802	249.10	237.81	236.34	1%	-5%
811	13.61	14.82	14.65	1%	8%
				<b>1%</b>	<b>1%</b>

### Underground model - swath plots

As part of the validation process, declustered composite samples (declustered NN model using 1 m blocks) and ID<sup>2</sup> were compared with OK block model grades in three principal directions to assess for grade and local trend discrepancies. The observed block trends follow the overall

composite trends as was expected. Figure 14-17 and Figure 14-18 show OK, ID<sup>2</sup>, and declustered NN and declustered composites for the HW and NEX zones for gold and silver grades, respectively.

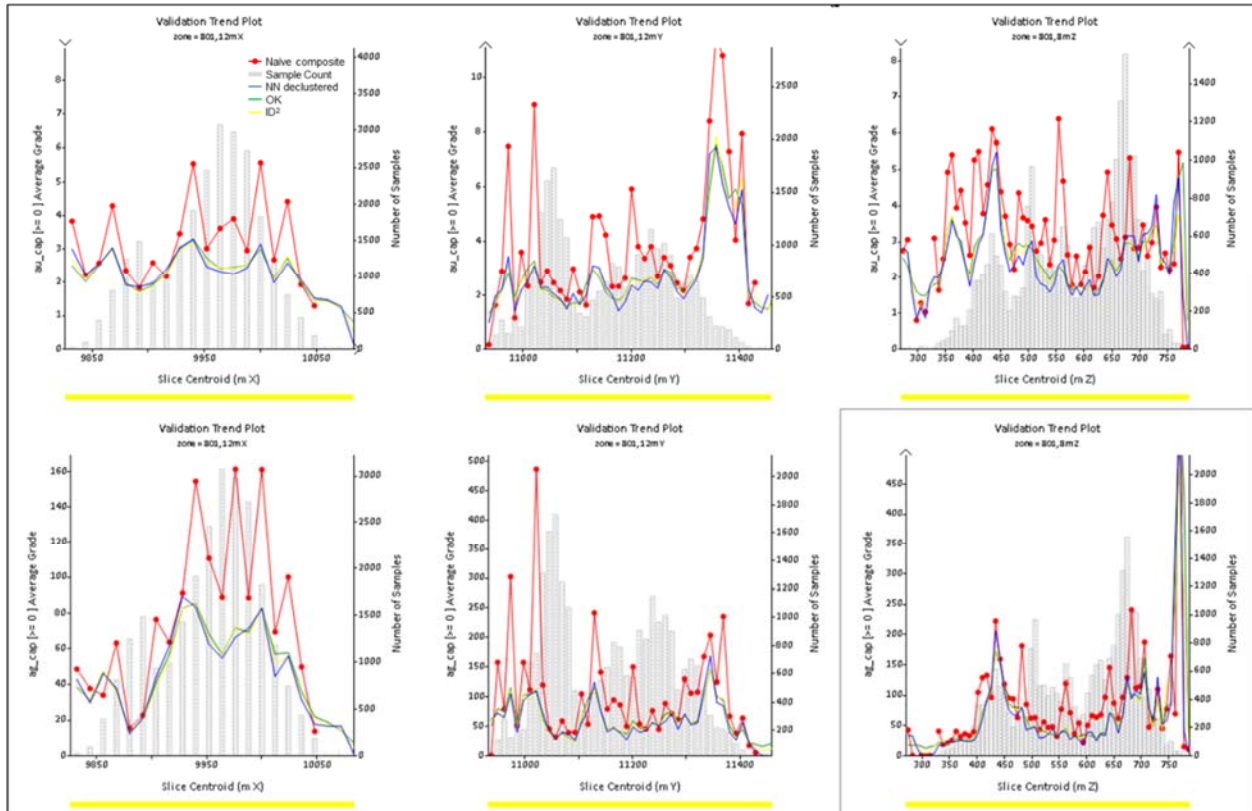


Figure 14-17: Swath plot for gold (top) and silver (bottom) in Zone 801 – NEX Rhyolite, (top) Northing, (middle) Easting, (bottom) Elevation



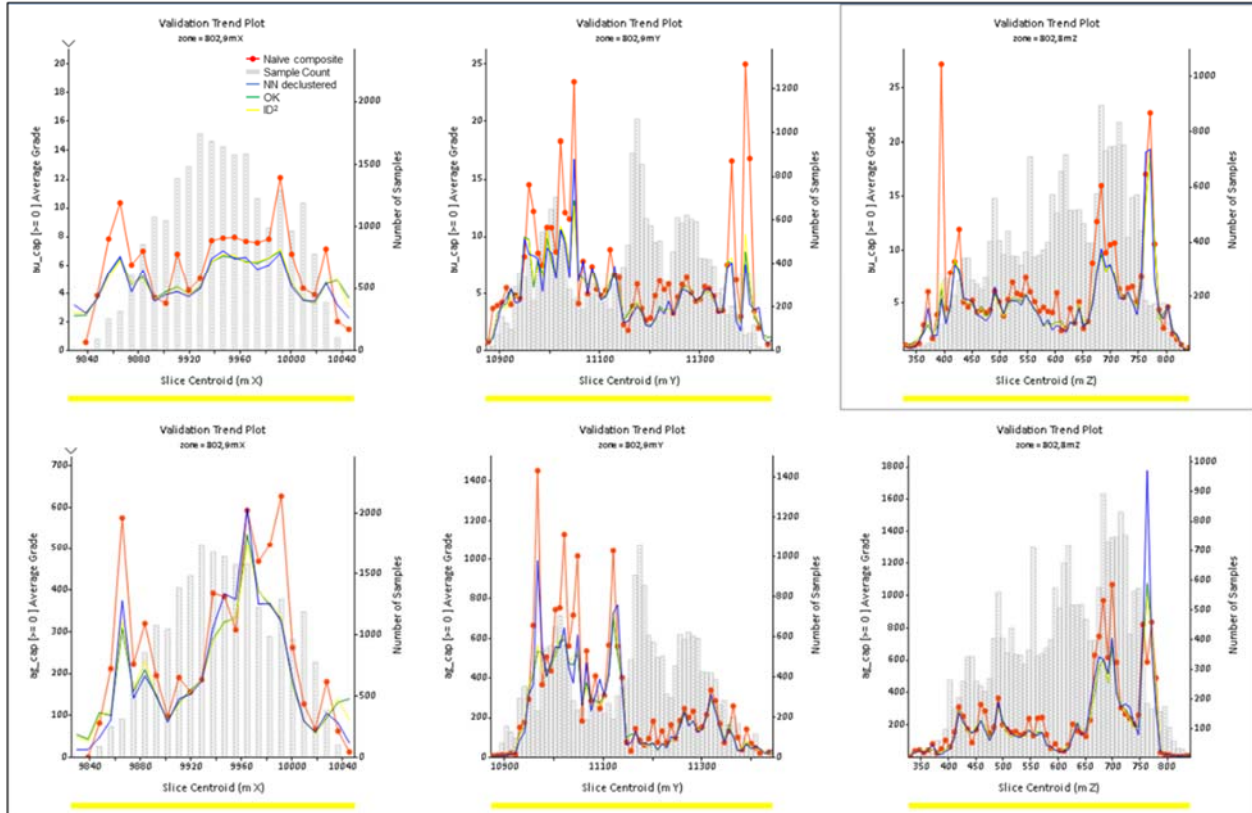


Figure 14-18: Swath plot for gold (top) and silver (bottom) in Zone 802 – NEX Mudstone, (top) Northing, (middle) Easting, (bottom) Elevation

## 14.12 Rhyolite versus Mudstone Estimates

Most of the remaining mineralization on a tonnage basis at Eskay Creek is hosted in the rhyolite lithology, which is not enriched in the exhalative epithermal suite of elements (Hg-As-Sb). Preferential historical development and mining of the bonanza grade mineralization hosted in the contact mudstone has resulted in extensive depletion of resources in this rocktype. The 2021 pit constrained MRE indicates that on a tonnage weighted basis, 68% of the resource is hosted within the rhyolite facies with only 30% hosted in the remaining unmined mudstones/hanging-wall andesite (Figure 14-19). Less than 2% is hosted within the footwall Dacite. On an ounce weighted basis, 52% of the pit constrained resource is contained within the rhyolite with the remaining 48% hosted within the unmined sediments/hanging-wall andesite/dacite.

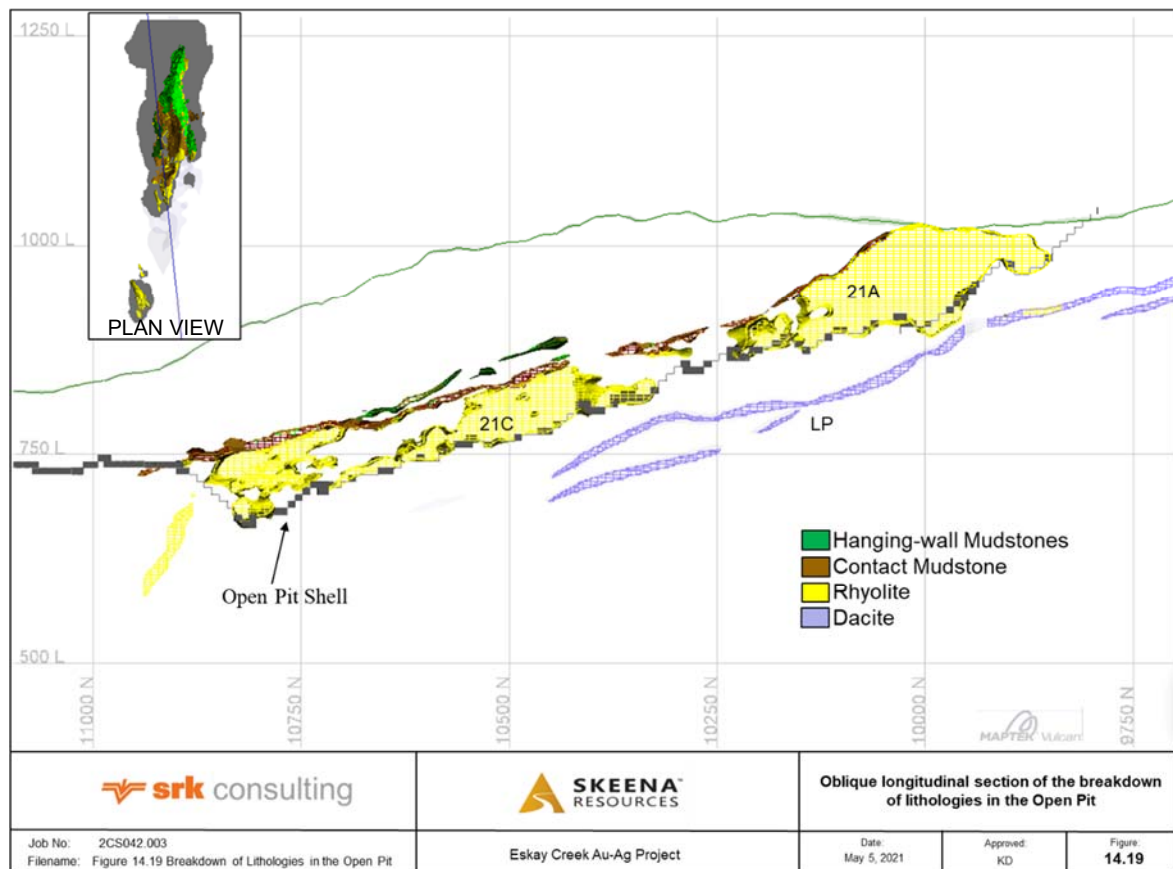


Figure 14-19: Breakdown of lithologies in the 21C, 21A and LP Domains looking east.

## 14.13 Mineral Resource Classification

Block model quantities and grade estimates for the Eskay Creek Project were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves.

Mineral resource classification is typically a subjective concept. Industry best practices suggest that resource classification should consider the following: 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 all above requirements to delineate regular areas at similar resource classification.

SRK is satisfied that the geological model honours the current geological interpretation and knowledge of the deposit. The location of the samples and the assay data are sufficiently reliable to support resource evaluation.

For mineralization in domains exhibiting good geological continuity using adequate drill hole spacing, SRK considers that blocks estimated during the first estimation pass using a minimum of 4 holes, an average distance of less than 15 m and a kriging variance (KV) of less than 0.3, to be classified as the Measured category. KV provides a relative measure of accuracy of the local kriged estimate with respect to data coverage.

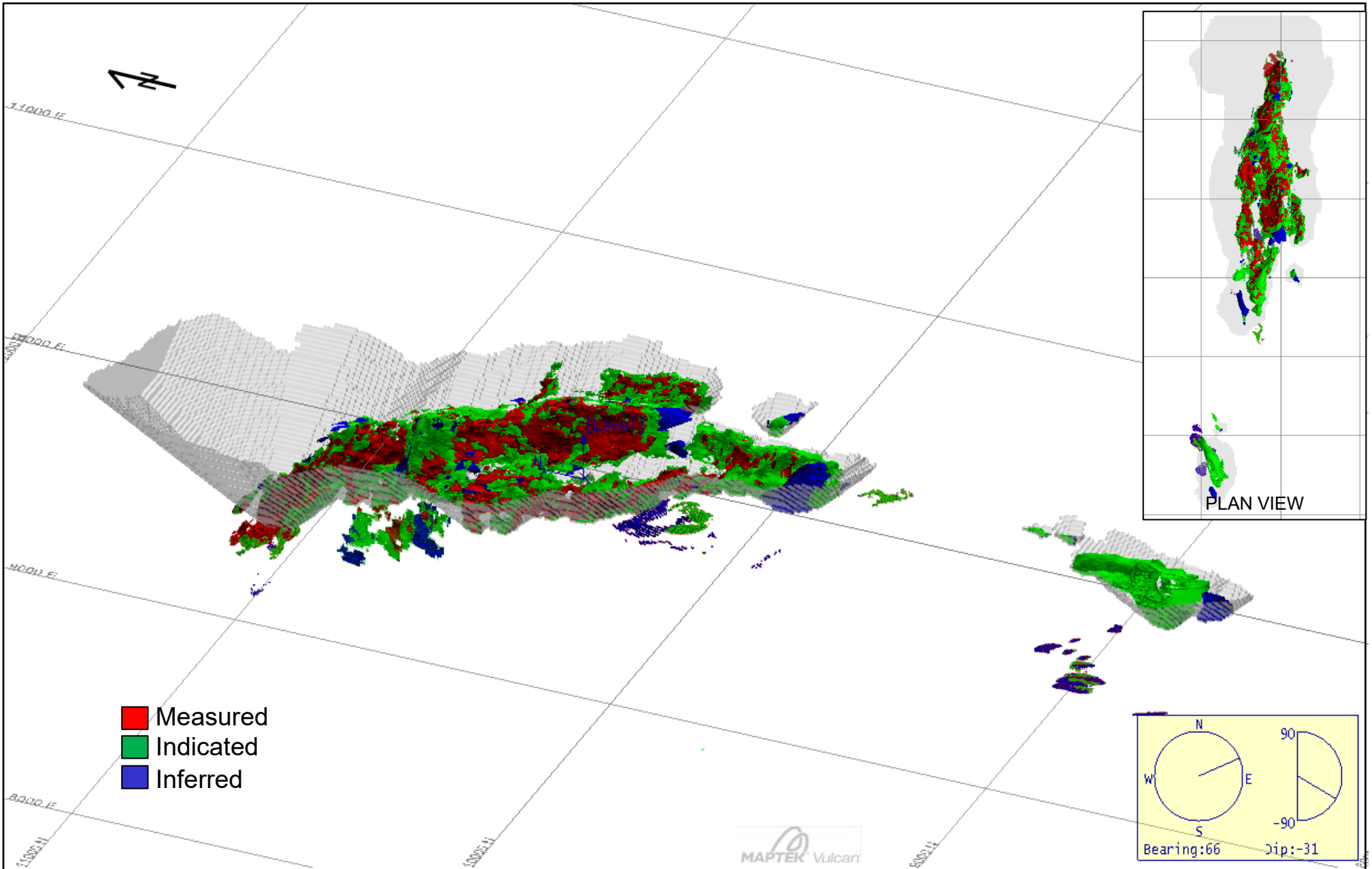
Mineralization in domains exhibiting good geological continuity estimated during Pass 2 with a minimum of 4 holes were classified as Indicated.

For Measured and Indicated blocks, the level of confidence is adequate for evaluating the economic viability of the deposit, as well as suitable for assessing technical and economic parameters to support mine planning.

Blocks estimated during Pass 3 pass, using search distances of two and half times the variogram range, and a KV of less than 0.8 were classified in the Inferred category. For those blocks, the level of confidence is inadequate for evaluating the economic viability of the deposit, as well as unsuitable for assessing technical and economic parameters to support mine planning.

No Measured or Indicated resources were classified in the low-grade envelope. Blocks in the low-grade envelope were classified as Inferred only if a minimum of 3 holes were used.

Figure 14-20 shows the distribution of the Measured, Indicated, and Inferred resources in the Pit constrained model.



## 14.14 Mineral Resource Statement

The QP for the 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 10, 2014) defines a mineral resource as:

*“(A) concentration or occurrence of solid material of economic interest in or on the Earth’s crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.*

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

The “reasonable prospects for economic extraction” requirement generally imply that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade considering extraction scenarios and processing recoveries. To meet this requirement, SRK considers that major portions of the Eskay Creek Project are amenable to open pit extraction, and minor areas are amenable to underground mining.

To determine the quantities of material offering “reasonable prospects for economic extraction” by open pit methods, SRK used a Pit optimizer and reasonable mining assumptions to evaluate the proportion of the block model (Indicated and Inferred blocks) that could be “reasonably expected” to be mined from the Pit.

The optimization parameters were selected based on experience, and benchmarking against similar projects (Table 14-22). The reader is cautioned that the results from the Pit optimization are used solely for testing “reasonable prospects for economic extraction” by open pit methods and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Eskay Creek 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 14-22: Pit Constrained scenario assumptions considered for determining cut-off grades with reasonable prospects of economic extraction**

Parameter	Value	Unit
Overall Pit Wall Angles	45	Degrees
Reference Mining Cost	3.00	US Dollars Per Tonne Mined
Processing Cost	15.50	US Dollars Per Tonne Processed
General and Administrative	6.00	US Dollars Per Tonne Processes
Mining Dilution	5	Percent
Mining Recovery	95	Percent
Gold Process Recovery	90	Percent
Silver Process Recovery	80	Percent
Sell Price Gold	1700.00 x (0.95)	US Dollars Per Ounce (95% Payable)
Sell Price Silver	23.00 x (0.95)	US Dollars Per Ounce (95% Payable)
Transportation/Refining Costs	25	US\$ per Ounce AuEQ
Strip Ratio	9.89 : 1	Unitless

The block model quantities and grade estimates were also reviewed to determine the portions of the Eskay Creek Project having “reasonable prospects for economic extraction” using a long-hole underground mining scenario. The parameters are summarized in Table 14-23.

**Table 14-23: Assumptions considered for underground resource reporting**

Parameter	Value	Unit
Mining costs	80	US Dollars Per Tonne Mined
Process cost	25	US Dollars Per Tonne Milled
General and Administrative	12	US Dollars Per Tonne Milled
All In Costs	117	US Dollars Per Tonne Milled
Process recovery Au	90	Percent
Process recovery Ag	80	Percent
Sell Price Gold	1700.00 x (0.95)	US Dollars Per Ounce (95% Payable)
Sell Price Silver	23.00 x (0.95)	US Dollars Per Ounce (95% Payable)
Transportation/Refining Costs	25	US\$ per Ounce AuEQ

The cut-off grade for the Pit model, using the parameters presented in Table 14-24, was determined to be 0.66 g/t AuEQ; however, a pit constrained cut-off of 0.7 AuEQ was selected for the MRE. The long-hole mining and drift and fill underground mining method cut-off grades were calculated to be 2.4 g/t AuEQ and 2.8 g/t AuEQ, respectively. In the underground scenario, the steeply dipping Water Tower Zone was determined to be amenable to long-hole, while the NEX, HW, 22 and LP was more amenable to the drift and fill mining method.

The mineral statement for the Pit constrained resources is presented in Table 14-24 and the mineral statement for the Underground model and resources is presented in Table 14-25. The reported underground resources are exclusive of the resources reported in the conceptual pit shell. In addition, all potential resources that occur within any historical workings, including an additional 0.20 m surrounding shell, in the Pit model were excluded from the reported resource. In the

Underground model, all potential resources that occur within any historical workings, including a 1.0 m surrounding shell, were excluded from the resource.

Table 14-24 presents the Pit constrained resources at a 0.7 g/t AuEQ cut-off outside of the 0.2 m exclusion zone and is shown in Figure 14-21. Table 14-25 shows the remaining underground resources above the 2.4 g/t AuEQ cut-off, for long-hole mining, and 2.8 g/t AuEQ cut-off, for drift and fill mining, outside the 1 m exclusion zone, and exclusive of the pit constrained resource. The UG resource in shown in Figure 14-22.

**Table 14-24: Pit constrained\* Mineral Resource Statement reported at 0.7g/t AuEQ cut-off grade by Domain**

DOMAIN	TONNES (000)	GRADE			CONTAINED OUNCES		
		AUEQ	AU	AG	AUEQ	AU	AG
		G/T	G/T	G/T	OZ (000)	OZ (000)	OZ (000)
<b>MEASURED</b>							
21A	1,863	4.9	3.9	71.8	291	233	4,303
21C	4,497	3.6	2.9	51.4	524	423	7,425
21B	1,997	10.9	7.4	257.5	697	474	16,533
21Be	1,640	8.8	5.8	220.5	462	305	11,630
21E	743	3.2	2.2	75.0	77	52	1,793
HW	919	5.8	3.6	163.9	172	107	4,840
NEX	4,540	5.5	3.8	125.2	804	557	18,271
WT	67	3.4	3.0	31.2	7	6	67
PMP	239	5.6	4.3	95.1	43	33	731
109	754	5.5	5.3	12.4	132	128	300
LP	52	1.2	1.1	9.2	2	2	15
<b>TOTAL MEASURED</b>	<b>17,312</b>	<b>5.8</b>	<b>4.2</b>	<b>118</b>	<b>3,213</b>	<b>2,322</b>	<b>65,908</b>
<b>INDICATED</b>							
22	3,445	2.1	1.4	48.2	230	158	5,334
21A	3,764	3.4	2.7	46.1	406	330	5,583
21C	1,648	2.6	2.1	38.4	139	112	2,036
21B	3,100	3.9	2.9	75.3	390	289	7,501
21Be	848	5.1	3.9	92.4	140	105	2,522
21E	642	2.7	1.8	60.8	55	38	1,235
HW	1,470	3.9	2.5	104.5	185	118	4,938
NEX	3,171	2.4	1.8	40.3	244	188	4,104
WT	290	2.5	2.2	23.0	23	20	214
PMP	198	3.2	2.6	47.9	21	16	305
109	301	2.2	2.0	12.1	21	19	117
LP	1,465	1.1	0.9	9.6	51	45	545
<b>TOTAL INDICATED</b>	<b>20,342</b>	<b>2.9</b>	<b>2.2</b>	<b>52.5</b>	<b>1,903</b>	<b>1,439</b>	<b>34,362</b>
<b>MEASURED + INDICATED</b>							
22	3,445	2.1	1.4	48.2	230	158	5,334
21A	5,627	3.8	3.1	54.6	696	563	9,887
21C	6,145	3.4	2.7	47.9	663	535	9,461
21B	5,096	6.6	4.7	146.7	1,087	762	24,033
21Be	2,489	7.5	5.1	176.8	602	411	14,152
21E	1,385	2.9	2.0	68.4	131	90	3,047
HW	2,388	4.7	2.9	127.3	357	225	9,778
NEX	7,711	4.2	3.0	90.3	1,048	746	22,375
WT	358	2.7	2.3	24.5	31	27	282
PMP	437	4.5	3.5	73.7	64	50	1,036

DOMAIN	TONNES	GRADE			CONTAINED OUNCES		
		AUEQ	AU	AG	AUEQ	AU	AG
		(000)	G/T	G/T	G/T	OZ (000)	OZ (000)
109	1,055	4.5	4.3	12.3	153	148	416
LP	1,517	1.1	0.9	9.6	53	46	470
<b>TOTAL M + I</b>	<b>37,654</b>	<b>4.2</b>	<b>3.1</b>	<b>82.8</b>	<b>5,116</b>	<b>3,761</b>	<b>100,270</b>
<b>INFERRED</b>							
ENV	2,836	1.1	0.8	17.1	98	77	1,562
22	316	1.4	1.0	26.2	14	10	266
21A	938	1.1	0.8	24.5	34	24	739
21C	50	3.0	2.3	53.0	5	4	86
21B	564	2.0	1.6	26.0	36	30	471
21Be	22	3.3	2.7	41.0	2	2	29
21E	6	2.5	1.9	42.9	0.5	0.3	9
HW	324	3.3	2.0	92.0	34	21	958
NEX	30	2.5	2.1	25.7	2	2	25
WT	0.06	1.2	1.1	8.6	0.03	0.02	0.02
PMP	7	3.2	2.2	74.4	0.7	0.5	17
109	0.1	1.6	1.6	3.7	0.06	0.06	0.0
LP	145	1.0	2.3	9.0	5	4	40
<b>TOTAL INFERRED</b>	<b>5,239</b>	<b>1.4</b>	<b>1.0</b>	<b>25.0</b>	<b>231</b>	<b>174</b>	<b>4,203</b>

**Table 14-25: Underground\* Mineral Resource Statement reported at a 2.4 g/t AuEQ cut-off grade for long-hole mining and 2.8 g/t AuEQ cut-off grade for drift and fill mining**

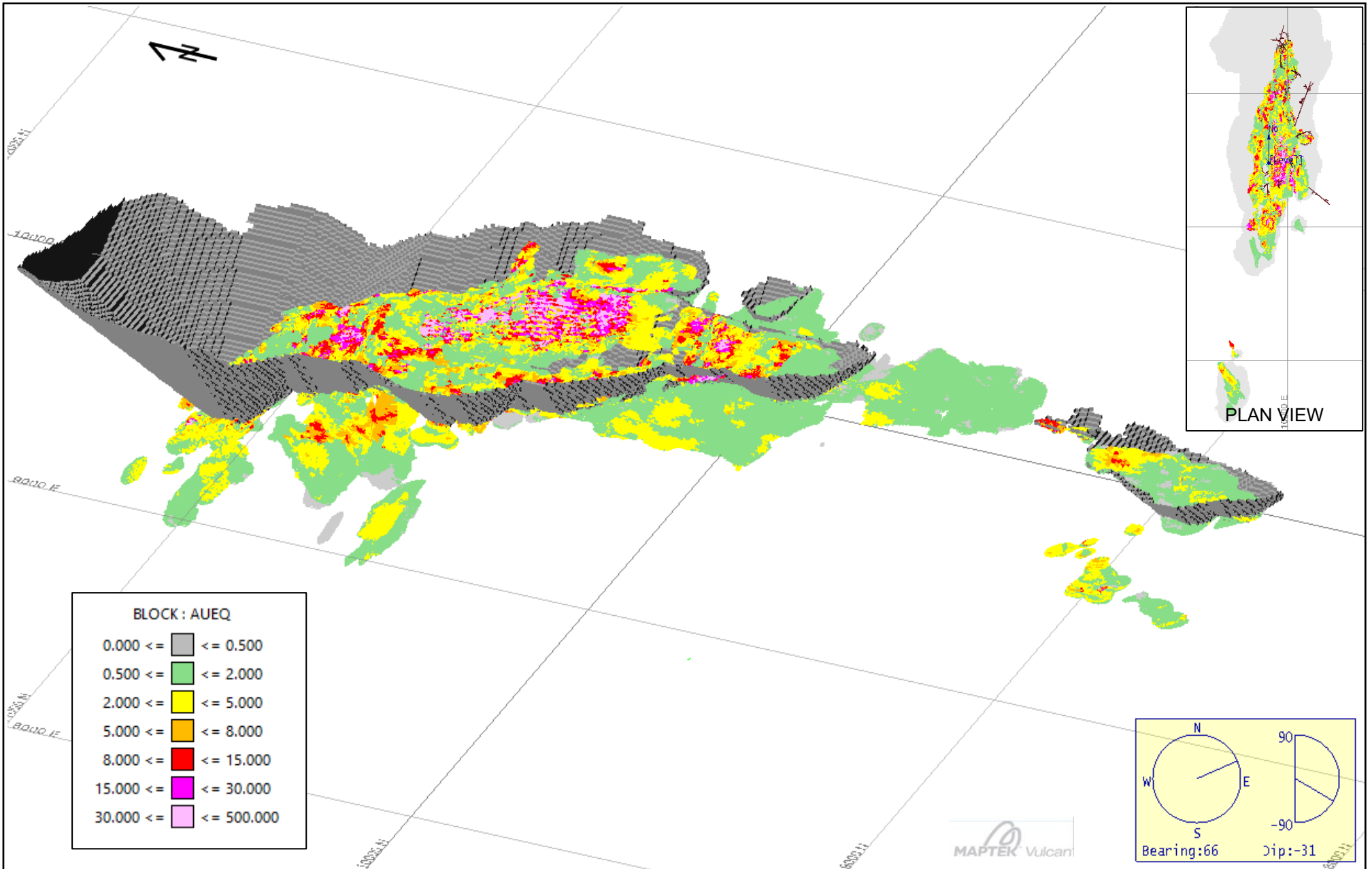
DOMAIN	TONNES (000)	GRADE			CONTAINED OUNCES		
		AUEQ	AU	AG	AUEQ	AU	AG
		G/T	G/T	G/T	OZ (000)	OZ (000)	OZ (000)
<b>MEASURED</b>							
WT	102	6.0	5.9	13.3	20	19	44
HW	19	5.7	4.5	95.3	3	3	57
NEX	222	6.2	5.0	90.3	44	36	645
LP	2	6.7	6.4	18.7	0.5	0.4	1
<b>TOTAL MEASURED</b>	<b>345</b>	<b>6.1</b>	<b>5.2</b>	<b>67.3</b>	<b>68</b>	<b>58</b>	<b>747</b>
<b>INDICATED</b>							
WT	215	5.4	5.3	10.4	38	37	72
22	61	6.5	4.9	117.2	13	10	230
HW	20	5.9	4.7	94.0	4	3	62
NEX	87	5.7	5.0	54.4	16	14	152
LP	123	4.3	4.1	17.0	17	16	67
<b>TOTAL INDICATED</b>	<b>506</b>	<b>5.3</b>	<b>4.9</b>	<b>35.8</b>	<b>87</b>	<b>79</b>	<b>583</b>
<b>MEASURED + INDICATED</b>							
22	61	6.5	4.9	117.2	13	10	230
WT	317	5.6	5.5	11.3	58	56	116
HW	39	5.9	4.6	94.6	7	6	119
NEX	309	6.1	5.0	80.1	60	50	797
LP	125	4.3	4.1	17.0	17	16	68
<b>TOTAL M + I</b>	<b>851</b>	<b>5.7</b>	<b>5.0</b>	<b>48.6</b>	<b>155</b>	<b>137</b>	<b>1,330</b>
<b>INFERRED</b>							
WT	79	4.6	4.5	7.2	12	11	18
22	221	5.5	4.1	99.4	39	29	706
HW	1	5.3	4.2	83.1	103	81	2
LP	129	4.0	3.8	14.6	17	16	61

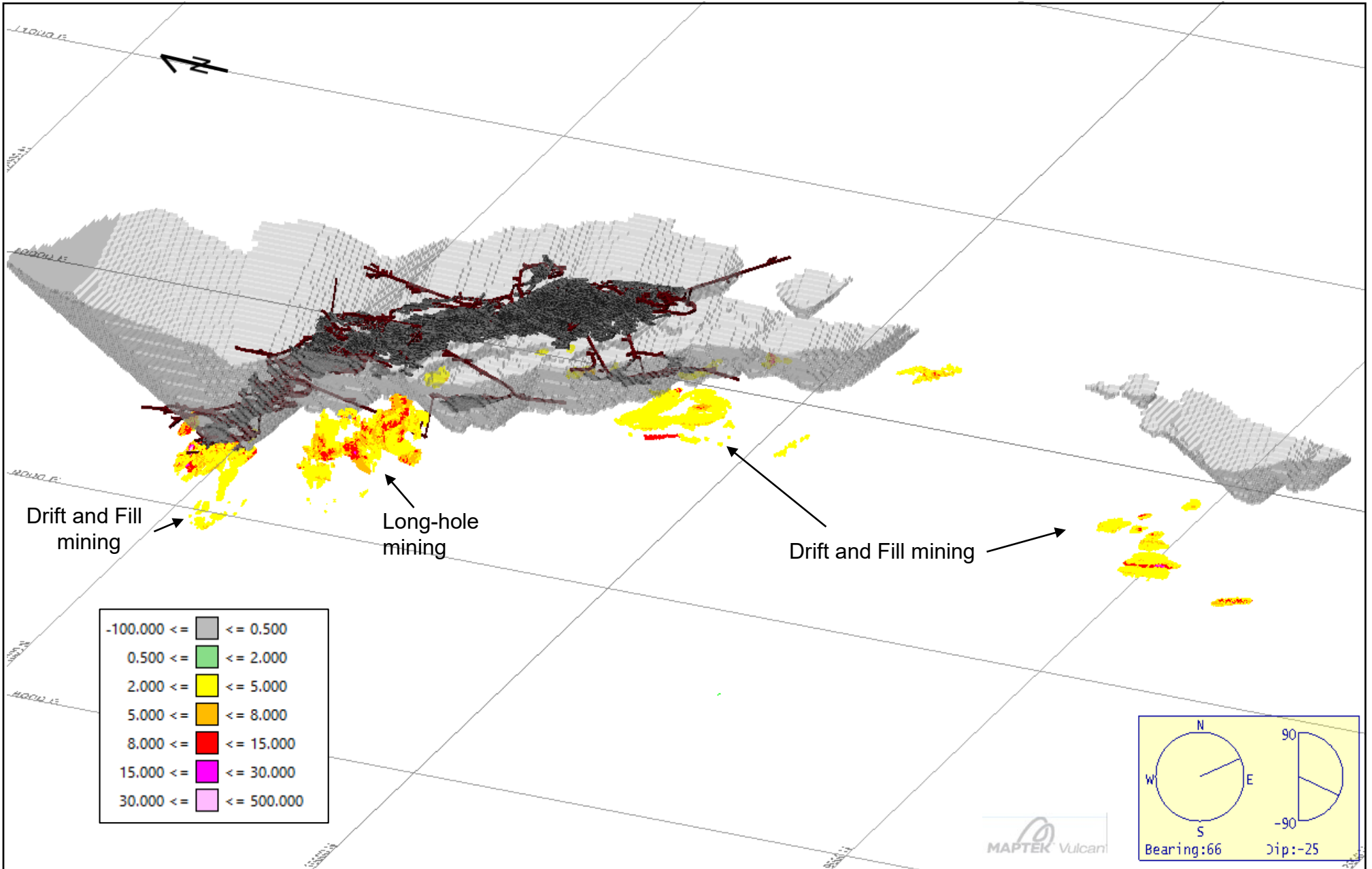


DOMAIN	TONNES (000)	GRADE			CONTAINED OUNCES		
		AUEQ G/T	AU G/T	AG G/T	AUEQ OZ (000)	AU OZ (000)	AG OZ (000)
<b>TOTAL INFERRED</b>	<b>429</b>	<b>4.9</b>	<b>4.1</b>	<b>57.0</b>	<b>67</b>	<b>57</b>	<b>787</b>

\* Notes to accompany the Mineral Resource Estimate statement:

- These mineral resources are not mineral reserves as they do not have demonstrated economic viability. Results are reported in-situ and undiluted and are considered to have reasonable prospects for economic extraction.
- 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 April 7, 2021.
- The number of metric tonnes and ounces were rounded to the nearest thousand. Any discrepancies in the totals are due to rounding.
- Pit constrained Mineral Resources are reported in relation to a conceptual Pit shell.
- Reported underground resources are exclusive of the resources reported within the conceptual Pit shell and reported using stope optimized shapes using long-hole and drift and fill mining methods.
- Block tonnage was estimated from average specific gravity measurements using lithology groupings.
- All composites have been capped where appropriate.
- Pit mineral resources are reported at a cut-off grade of 0.7 g/t AuEQ and underground mineral resources are reported at a cut-off grade of 2.4 g/t AuEQ for long-hole mining and 2.8 g/t AuEQ for drill and fill mining.
- Cut-off grades are based on a price of US\$1,700 per ounce of gold, US\$23 per ounce silver, and gold recoveries of 90%, silver recoveries of 80% and without considering revenues from other metals.  $AuEQ = Au (g/t) + (Ag (g/t)/74)$
- 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.





### 14.15 Grade Sensitivity Analysis

The Eskay Creek Mineral Resources were assessed in terms of cut-off grade selection by means of sensitivity analyses.

To illustrate this sensitivity, the global block model quantities and grade estimates are displayed at different cut-off grades in the Pit model as grade-tonnage curves in Figure 14-23 and Figure 14-24. The figures show that the resource is not sensitive to minor adjustments in cut-off grade selection as the average grade or the ore zone grades are substantially higher than the selected cut-offs and a significant difference in tonnage and ounces is not demonstrated. The reader is cautioned that numbers in the figures presented should not be misconstrued with a Mineral Resource Statement apart from the official scenario at 0.7 g/t AuEQ.

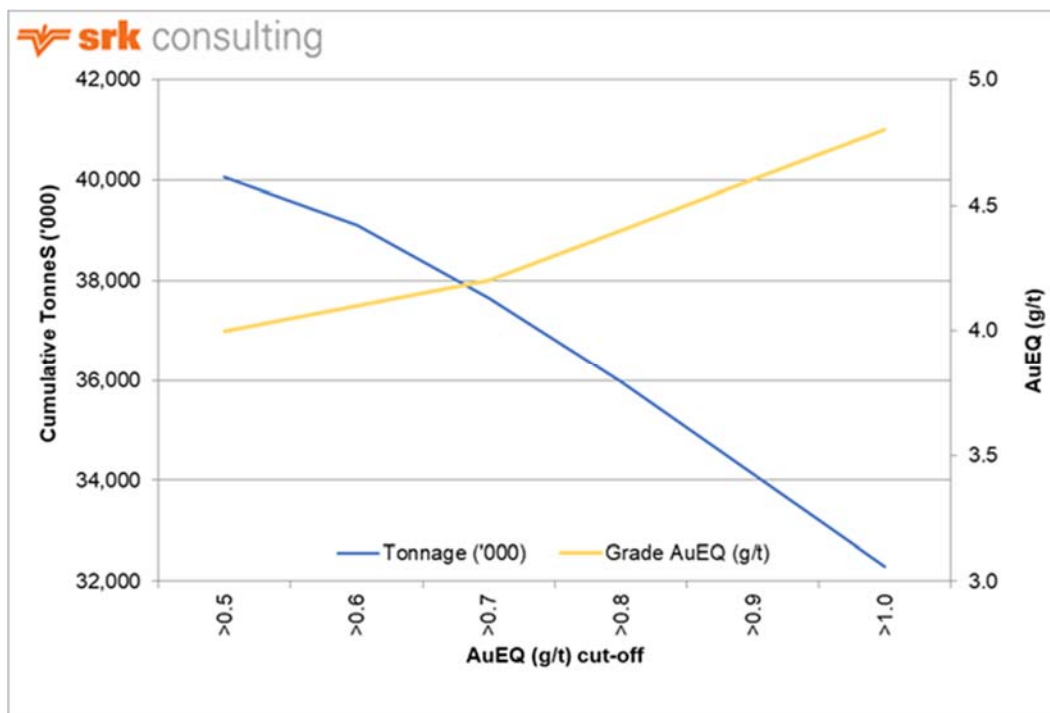


Figure 14-23: Pit model Measured + Indicated category grade-tonnage sensitivity curve

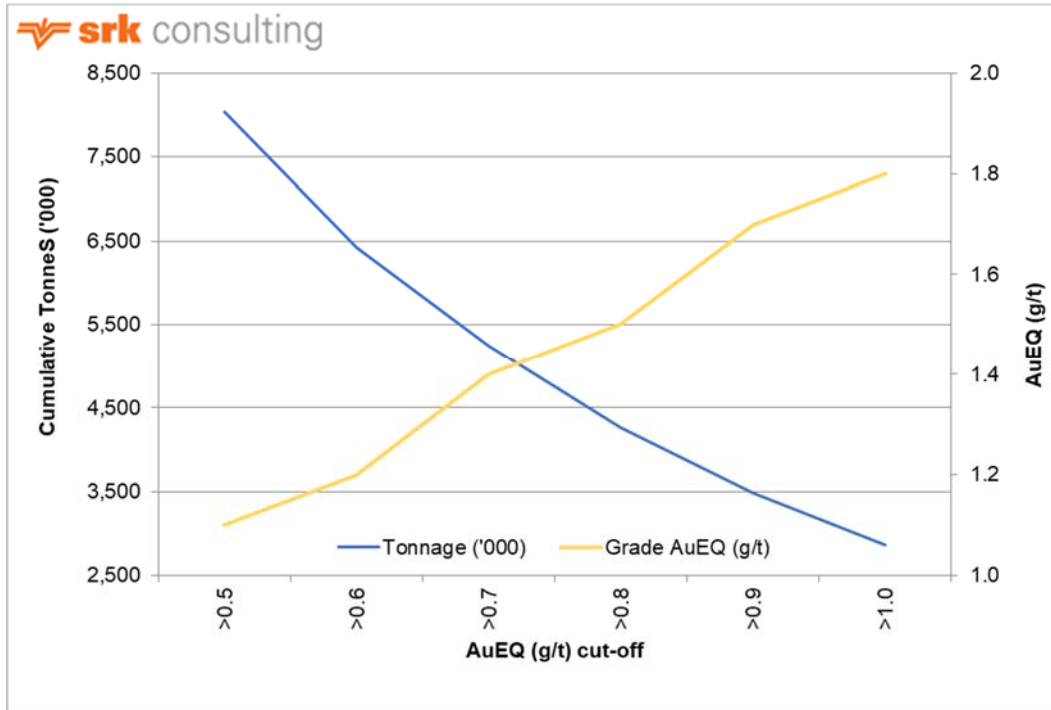


Figure 14-24: Pit model Inferred category grade-tonnage sensitivity curve

Figure 14-25 and Figure 14-26 presents global block model quantities and grade estimates within the underground resource model at different cut-off grades. The underground scenario is more sensitive to adjustments in cut-off grade selection due to the higher cut-off grades and selectivity of the mining methods. The reader is cautioned that the values presented in these figures should not be misconstrued with a Mineral Resource Statement apart from the official scenario at 2.4 g/t AuEQ for long-hole mining and 2.8 g/t AuEQ for drift and fill mining.

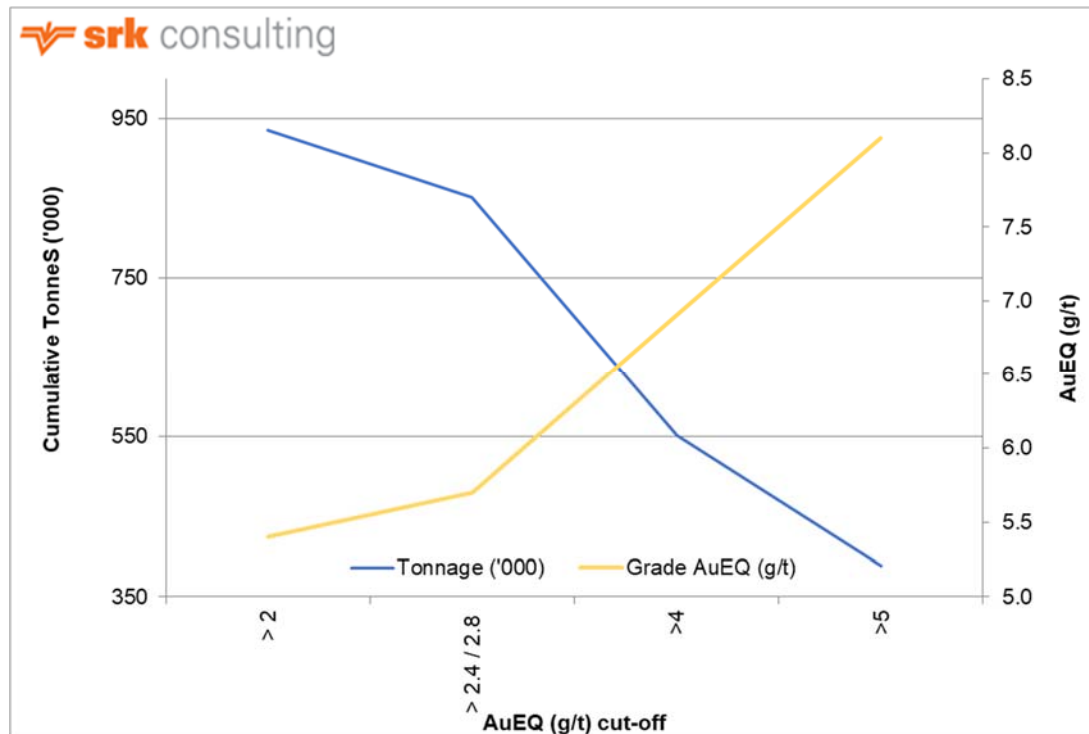


Figure 14-25: Underground model Measured + Indicated category grade-tonnage sensitivity curve

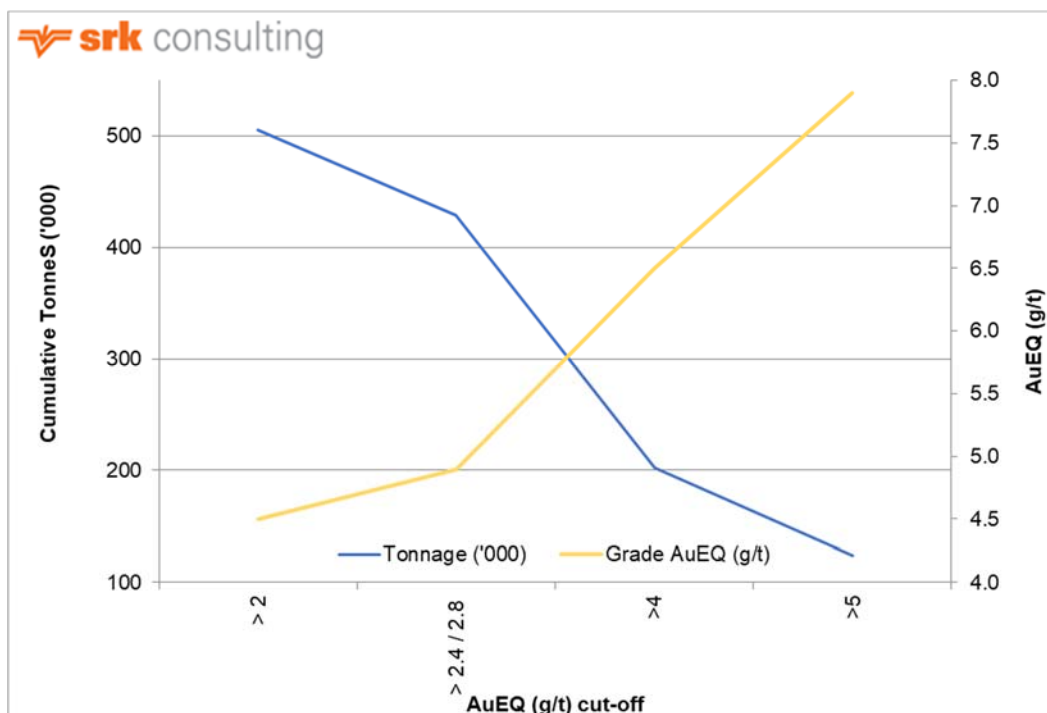


Figure 14-26: Underground model Inferred category grade-tonnage sensitivity curve

## 14.16 Reconciliation to Previous Mineral Resource Model

A comparison between the 2021 and 2019 Mineral Resource Statements is shown in Table 14-26 and Table 14-27 for the Pit constrained and Underground models, respectively.

Table 14-26: 2021 vs 2019 Resource Comparison for the Pit constrained mining scenario

Model Year	Tonnes ('000)	GRADE			CONTAINED OUNCES		
		AuEQ (g/t)	Au (g/t)	Ag (g/t)	AuEQ Ounces ('000)	Au Ounces ('000)	Ag Ounces ('000)
<b>MEASURED</b>							
2021	17,312	5.8	4.2	118.4	3,213	2,322	66
2019	0	0.0	0.0	0.0	0	0	0
<b>INDICATED</b>							
2021	20,342	2.9	2.2	52.5	1,903	1,439	34
2019	12,711	6.0	4.5	117.0	2,455	1,818	48
<b>MEASURED + INDICATED</b>							
2021	37,654	4.2	3.1	82.8	5,116	3,761	100
2019	12,711	6.0	4.5	117.0	2,455	1,818	48
<b>INFERRED</b>							
2021	5,239	1.4	1.0	25.0	231	174	4
2019	13,557	2.8	2.2	42.0	1,230	984	18

**Table 14-27: 2021 vs 2019 Resource Comparison for the Underground mining scenario**

Model Year	Tonnes (000)	GRADE			CONTAINED OUNCES		
		AuEQ (g/t)	Au (g/t)	Ag (g/t)	AuEQ Ounces (000)	Au Ounces (000)	Ag Ounces (000)
<b>MEASURED</b>							
2021	345	6.1	5.2	67.3	68	58	747
2019	0	0.0	0.0	0.0	0	0	0
<b>INDICATED</b>							
2021	506	5.3	4.9	35.8	87	79	583
2019	819	8.2	6.4	139.0	218	169	3,657
<b>MEASURED + INDICATED</b>							
2021	851	5.7	5.0	48.6	155	137	1,330
2019	819	8.2	6.4	139.0	218	169	3,657
<b>INFERRED</b>							
2021	429	4.9	4.1	57.0	67	57	787
2019	295	8.2	7.1	82.0	78	68	778

The large increase in the 2021 MRE Resource vs 2019 MRE is a direct function of the expansion of the pit to the north into the NEX Zone. In addition, several changes were made to the 2021 estimation methodology, including:

- The geological model and resource domain modelling were updated.
- The mudstones within the hanging-wall andesite and the lower package beneath the rhyolite was modelled.
- The 1 m geotechnical buffer around the mined-out stopes and lifts was reduced to 0.2 m in the open-pit constrained resource and reduced from 3 m to 1 m in the underground model.
- 705 additional drill holes from the 22, 21A, 21C, 21B, 21E, HW, WT, PMP and LP Domains.
- A change in classification strategy to include Measured material.
- The cut-off grade for the Underground mineral resource was reduced from 5.0 g/t AuEQ to 2.4 and 2.8 g/t AuEQ for long-hole mining and drift and fill mining, respectively.
- The 2021 MRE used specific gravity values based on lithology mean values, whereas the 2019 MRE used an empirical formula for density, which was less reliable for correlation.

### 14.17 Epithermal, Base Metal, and Metallurgical Estimates in the Pit Model for Metallurgical Characterization

The epithermal suite of elements (antimony, mercury, and arsenic), base metals (lead, copper, and zinc) and metallurgical elements (iron and sulphur) were estimated into the Pit block model to provide results for the metallurgical study. A high degree of variability of the epithermal elements exists between the different zones and rocktypes, and elevated concentrations occur in localized



zones/pods. The Contact Mudstone lithology within the 21A and 21B Zones have elevated levels of arsenic, mercury, and antimony. The 21A Zone is geologically and geochemically equivalent to the 21B Zone, an area which accounted for the bulk of mineralization historically mined at Eskay Creek. Smelter penalties for the elevated concentrations of arsenic, mercury, and antimony in the 21B Zone were often prevented via blending with material from other Zones while maintaining a profitable head grade (Barrick, 2004).

#### 14.17.1 Epithermal, base metal and metallurgical elements data analysis

For all drilling campaigns prior to Skeena involvement, iron and sulphur were not analysed. The epithermal and base metal elements were selectively sampled. Historical documentation note that these elements were analysed when AuEQ > 8g/t, however, this was not always the case. This selective sampling process resulted in a dataset that is biased towards higher grade material because lower grade sample intervals were mostly excluded. The sampling inconsistencies are evident for all historical drilling campaigns, where the mineralization zones were either fully sampled, not sampled or intervals were selectively sampled. Historically, interval percentages ranges from 98% in the 22 Zone to as low as 19% in the 21E Zone. Infill drilling in the 21A, 21C, 21B, 21E, HW, and PMP has improved interval percentages, giving greater confidence in these mining domains. Table 14-28 to Table 14-30 shows the percent of intervals assayed for the epithermal, base metal elements and Fe and S in relation to total gold assays, within each of the zones. Figure 14-27 is a cross section of the 21A Domain showing sampling bias where drill holes are either fully sampled, non-sampled or selectively sampled.

**Table 14-28: Percentage of intervals estimated for the epithermal elements in relation to total gold assays according to Zone**

Domain	Zone	No. of Gold Assays	Antimony		Mercury		Arsenic	
			No. of Antimony Assays	%	No. of Mercury Assays	%	No. of Arsenic Assays	%
22 Zone	101	4,351	4,331	100%	4,331	100%	4,329	99%
21A	201	9,756	6,489	67%	6,087	62%	6,536	67%
	202	1,103	818	74%	681	62%	819	74%
	203	5	0	0%	0	0%	0	0%
21C	301	29,787	10,546	35%	10,394	35%	10,547	35%
	302	5,730	2,665	47%	2,662	46%	2,677	47%
	303	1,533	1,004	65%	1,004	65%	997	65%
21B	401	21,723	7,815	36%	7,526	35%	6,568	30%
	402	16,710	8,294	50%	8,034	48%	7,023	42%
21Be	501	19,714	8,648	44%	8,599	44%	5,909	30%
	502	8,505	3,187	37%	3,132	37%	2,486	29%
21E	601	1,762	1,333	76%	1,324	75%	1,333	76%
	602	1,110	571	51%	559	50%	571	51%
	603	1,633	1,081	66%	1,079	66%	1,081	66%
HW	703	16,612	6,405	39%	6,257	38%	5,503	33%
NEX	801	26,883	5,833	22%	5,738	21%	5,310	20%
	802	24,522	7,893	32%	7,846	32%	6,852	28%
WT	811	2,989	885	30%	876	29%	885	30%
LP	90	4,518	1,104	24%	1,049	23%	1,118	25%
	91	480	192	40%	192	40%	192	40%

Domain	Zone	No. of Gold Assays	Antimony		Mercury		Arsenic	
			No. of Antimony Assays	%	No. of Mercury Assays	%	No. of Arsenic Assays	%
	92	186	178	96%	178	96%	178	96%
	93	553	83	15%	78	14%	87	16%
	94	1,182	170	14%	155	13%	132	11%
PMP	95	2,868	1,196	42%	1,197	42%	1,230	43%
109	99	13,419	5,042	38%	4,939	37%	3,925	29%

**Table 14-29: Percentage of intervals estimated for the base metal elements in relation to total gold assays according to Zone**

Domain	Zone	No. of Gold Assays	Lead		Copper		Zinc	
			No. of Lead Assays	%	No. of Copper Assays	%	No. of Zinc Assays	%
22 Zone	101	4,351	4,351	100%	4,351	100%	4,351	100%
21A	201	9,756	6,782	70%	6,782	70%	6,782	70%
	202	1,103	836	76%	836	76%	836	76%
	203	5	0	0%	0	0%	0	0%
21C	301	29,787	11,328	38%	11,328	38%	11,327	38%
	302	5,730	2,946	51%	2,946	51%	2,946	51%
	303	1,533	1,049	68%	1,049	68%	1,049	68%
21B	401	21,723	8,181	38%	8,181	38%	8,180	38%
	402	16,710	8,192	49%	8,192	49%	8,202	49%
21Be	501	19,714	6,896	35%	6,896	35%	6,897	35%
	502	8,505	3,295	39%	3,295	39%	3,300	39%
21E	601	1,762	1,384	79%	1,384	79%	1,384	79%
	602	1,110	634	57%	634	57%	634	57%
	603	1,633	1,207	74%	1,207	74%	1,207	74%
HW	703	16,612	7,223	43%	7,223	43%	7,223	43%
NEX	801	26,883	6,273	23%	6,273	23%	6,276	23%
	802	24,522	7,830	32%	7,830	32%	7,830	32%
WT	811	2,989	1,180	39%	1,180	39%	1,180	39%
LP	90	4,518	2,247	50%	2,247	50%	2,247	50%
	91	480	223	46%	223	46%	223	46%
	92	186	178	96%	178	96%	178	96%
	93	553	189	34%	189	34%	189	34%
	94	1,182	453	38%	453	38%	453	38%
PMP	95	2,868	1,325	46%	1,325	46%	1,325	46%
109	99	13,419	5,057	38%	5,057	38%	5,052	38%

**Table 14-30: Percentage of estimated for the metallurgical elements in relation to total gold assays according to Zone**

Domain	Zone	No. of Gold Assays	Iron		Sulphur	
			No. of Iron Assays	%	No. of Sulphur Assays	%
22 Zone	101	4,351	3,039	70%	3,039	70%
21A	201	9,756	3,640	37%	3,640	37%
	202	1,103	401	36%	401	36%
	203	5	0	0%	0	0%
21C	301	29,787	3,477	12%	3,477	12%
	302	5,730	1,539	27%	1,539	27%
	303	1,533	485	32%	485	32%
21B	401	21,723	2,659	12%	2,659	12%
	402	16,710	699	4%	699	4%
21Be	501	19,714	383	2%	383	2%
	502	8,505	95	1%	95	1%
21E	601	1,762	1,166	66%	1,166	66%
	602	1,110	207	19%	207	19%
	603	1,633	635	39%	635	39%
HW	703	16,612	994	6%	994	6%
NEX	801	26,883	0	0%	0	0%
	802	24,522	26	0%	26	0%
WT	811	2,989	144	5%	144	5%
LP	90	4,518	442	10%	442	10%
	91	480	99	21%	99	21%
	92	186	165	89%	165	89%
	93	553	40	7%	40	7%
	94	1,182	11	1%	11	1%
PMP	95	2,868	138	5%	138	5%
109	99	13,419	9	0%	9	0%

Correlations between the epithermal and base metal elements, in relation to gold and silver assays per zone, were generated with the purpose of using regression techniques for the missing intervals. Relationships with gold and silver were moderate, at best, in only a select few zones. Without strong associations with either gold or silver it was not possible to generate regression relationships to populate the missing intervals. Therefore, the gold equivalent mineralization domains were utilized for estimating the spatial extent of the epithermal and base metal elements as it was considered that sub-domaining would have biased the outcome due to artefacts produced by the missing samples. Variogram ranges were determined for each of the elements and this approach was considered appropriate for metallurgical characterization studies.

Table 14-31 to Table 14-33 summarize the statistical analysis of the epithermal, base metal and metallurgical elements within each of the zones.

**Table 14-31: Summary statistics for drill hole epithermal element assays by Zone**

DOMAIN	ZONE	Rocktype	No. of samples	Mean	CV	Min	Median	Max
<b>ANTIMONY ppm</b>								
ENV	1	Rhyolite	10,679	38.9	5.6	0.1	10.7	10,100
ENV	2	-	40,934	220.7	15.2	0.0	50.0	286,000
ENV	3	-	10,746	156.7	7.1	0.0	50.0	61,800
ENV	4	-	2,302	685.4	11.1	2.5	97.0	249,000
ENV	5	-	7,552	470.5	17.8	0.2	100.0	655,000
22 Zone	101	Rhyolite	4,331	322.1	5.3	2.5	100.0	64,240
21A	201	Rhyolite	6,489	691.8	5.3	0.1	94.8	114,700
	202	Contact Mudstone	818	24,960.5	3.3	10.0	318.0	591,000
	203	Hanging-wall Sediments	0	-	-	-	-	-
21C	301	Rhyolite	10,546	286.4	2.5	2.5	100.0	31,900
	302	Contact Mudstone	2,665	1,480.0	7.4	6.0	205.0	327,000
	303	Hanging-wall Sediments	1,004	2,954.8	3.4	2.5	300.0	149,000
21B	401	Rhyolite	7,815	3,263.9	5.5	0.0	200.0	483,500
	402	Contact Mudstone	8,294	17,118.6	2.6	12.0	900.0	545,000
21Be	501	Rhyolite	8,648	2,294.4	3.9	17.0	300.0	163,000
	502	Contact Mudstone	3,187	7,407.9	2.8	14.0	600.0	516,400
21E	601	Rhyolite	1,333	491.0	4.5	2.5	148.5	58,100
	602	Contact Mudstone	571	2,552.7	3.4	16.8	200.0	78,700
	603	Hanging-wall Sediments	1,081	12,857.1	4.5	32.0	398.5	651,000
HW	703	Hanging-wall Sediments	6,405	2,228.5	3.3	2.5	500.0	334,000
NEX	801	Rhyolite	5,833	1,620.9	4.9	10.7	200.0	230,000
	802	Contact Mudstone	7,893	2,376.6	4.8	19.0	300.0	342,000
WT	811	Rhyolite	885	335.0	5.7	8.0	100.0	46,500
LP	90	Dacite	1,104	326.6	11.2	1.1	50.0	117,600
	91	Even Lower Mudstone	192	132.3	2.5	2.5	35.0	2,670
	92	Andesite	178	19.3	1.6	2.5	9.5	233
	93	Lower Mudstone	83	219.0	1.0	13.3	121.0	1,220
	94	Rhyolite	170	191.6	2.3	12.0	100.0	4,800
PMP	95	Rhyolite	1,196	2,660.7	5.4	18.0	599.0	382,000
109	99	Rhyolite	5,042	266.3	3.6	44.0	100.0	50,800
<b>MERCURY ppm</b>								
ENV	1	Rhyolite	10,546	2.8	2.4	0.0	1.0	311
ENV	2	-	39,657	8.9	11.8	0.0	1.0	6,820
ENV	3	-	10,534	4.4	3.6	0.0	1.0	737
ENV	4	-	2,274	9.5	4.9	0.0	1.0	969
ENV	5	-	7,426	4.0	2.5	0.0	1.0	334
22 Zone	101	Rhyolite	4,331	7.1	2.6	0.0	3.0	637
21A	201	Rhyolite	6,087	88.5	5.8	0.0	14.0	18,800
	202	Contact Mudstone	681	1,587.4	3.4	0.0	105.5	100,000
	203	Hanging-wall Sediments	0	-	-	-	-	-
21C	301	Rhyolite	10,394	11.2	2.2	0.1	5.0	887
	302	Contact Mudstone	2,662	26.0	1.9	0.5	11.0	693
	303	Hanging-wall Sediments	1,004	36.3	2.1	0.5	8.0	723
21B	401	Rhyolite	7,526	140.3	6.3	0.5	14.0	34,375
	402	Contact Mudstone	8,034	904.7	2.9	0.5	66.0	44,775
21Be	501	Rhyolite	8,599	68.9	3.4	0.1	21.0	8,875
	502	Contact Mudstone	3,132	342.2	2.9	0.5	52.0	17,590
21E	601	Rhyolite	1,324	17.0	2.9	0.5	5.0	990
	602	Contact Mudstone	559	16.9	1.8	0.5	6.0	260
	603	Hanging-wall Sediments	1,079	22.0	3.2	0.5	9.0	1,898
HW	703	Hanging-wall Sediments	6,257	33.8	1.4	0.5	15.0	1,414
NEX	801	Rhyolite	5,738	26.4	2.5	0.5	10.0	1,940
	802	Contact Mudstone	7,846	38.5	2.1	0.5	14.0	2,488

DOMAIN	ZONE	Rocktype	No. of samples	Mean	CV	Min	Median	Max
WT	811	Rhyolite	876	6.4	2.4	0.1	2.0	227
LP	90	Dacite	1,049	6.6	2.1	0.0	2.0	143
	91	Even Lower Mudstone	192	5.1	2.0	0.1	1.7	63
	92	Andesite	178	1.2	1.3	0.3	0.8	13
	93	Lower Mudstone	78	25.0	1.3	1.0	10.0	142
	94	Rhyolite	155	14.9	1.8	0.6	5.5	223
PMP	95	Rhyolite	1,197	35.1	4.7	0.5	14.0	4,160
109	99	Rhyolite	4,939	14.0	1.2	0.5	9.0	236
<b>ARSENIC ppm</b>								
ENV	1	Rhyolite	10,677	298.0	3.0	0.3	100.0	24,500
ENV	2	-	39,499	231.5	3.3	0.0	100.0	58,000
ENV	3	-	10,219	234.8	3.6	0.005	100.0	35,600
ENV	4	-	2,126	213.1	2.9	2.5	100.0	140,000
ENV	5	-	7,447	294.9	7.3	0.8	100.0	180,000
22 Zone	101	Rhyolite	4,329	1,072.8	3.5	10.0	281.0	155,000
21A	201	Rhyolite	6,536	635.3	6.1	6.0	146.0	162,800
	202	Contact Mudstone	819	27,413.5	2.7	10.0	3,965.0	540,000
	203	Hanging-wall Sediments	0	-	-	-	-	-
21C	301	Rhyolite	10,547	243.3	1.3	2.5	200.0	7,310
	302	Contact Mudstone	2,677	661.2	3.1	2.5	312.0	47,600
	303	Hanging-wall Sediments	997	451.8	0.1	6.0	300.0	2,890
21B	401	Rhyolite	6,568	551.3	5.1	0.1	200.0	110,000
	402	Contact Mudstone	7,023	1,755.6	5.6	33.0	700.0	530,000
21Be	501	Rhyolite	5,909	1,725.7	1.5	6.0	500.0	19,500
	502	Contact Mudstone	2,486	1,280.1	1.9	50.0	600.0	60,000
21E	601	Rhyolite	1,333	349.4	1.6	12.0	175.0	5,100
	602	Contact Mudstone	571	340.1	1.9	36.0	200.0	9,500
	603	Hanging-wall Sediments	1,081	609.8	1.7	17.0	300.0	13,150
HW	703	Hanging-wall Sediments	5,503	754.8	2.2	6.0	400.0	100,000
NEX	801	Rhyolite	5,310	536.8	2.3	50.0	300.0	27,000
	802	Contact Mudstone	6,852	669.2	1.3	50.0	400.0	15,000
WT	811	Rhyolite	885	540.9	2.5	22.0	200.0	25,500
LP	90	Dacite	1,118	576.0	6.3	1.9	302.0	120,000
	91	Even Lower Mudstone	192	1,149.6	3.6	21.9	279.1	51,100
	92	Andesite	178	157.2	0.8	2.5	120.0	892
	93	Lower Mudstone	87	760.4	1.3	93.0	500.0	7,964
	94	Rhyolite	132	631.9	1.9	50.0	300.0	9,500
PMP	95	Rhyolite	1,230	594.0	1.5	21.0	308.5	10,100
109	99	Rhyolite	3,925	597.9	1.5	50.0	300.0	10,800

**Table 14-32: Summary statistics for drill hole base metal assays by Zone**

DOMAIN	ZONE	Rocktype	No. of samples	Mean	CV	Min	Median	Max
<b>LEAD %</b>								
ENV	1	Rhyolite	10,707	0.015	6.8	0.000	0.002	5.230
ENV	2	-	42,680	0.660	7.7	0.000	0.005	22.200
ENV	3	-	7,791	0.152	5.5	0.000	0.010	20.950
ENV	4	-	2,831	0.174	5.2	0.000	0.010	15.600
ENV	5	-	7,923	0.014	10.6	0.000	0.005	7.680
22 Zone	101	Rhyolite	4,351	0.113	5.1	0.000	0.010	16.150
21A	201	Rhyolite	6,782	0.120	3.0	0.000	0.018	10.920
	202	Contact Mudstone	836	0.101	4.7	0.000	0.010	7.150
	203	Hanging-wall Sediments	0	-	-	-	-	-
21C	301	Rhyolite	11,328	0.117	3.9	0.000	0.020	20.000
	302	Contact Mudstone	2,946	0.452	2.6	0.000	0.090	15.500
	303	Hanging-wall Sediments	1,049	0.939	2.8	0.000	0.030	20.200
21B	401	Rhyolite	8,181	0.507	3.3	0.000	0.030	20.000
	402	Contact Mudstone	8,192	1.975	1.8	0.000	0.260	53.150
21Be	501	Rhyolite	6,896	1.192	2.4	0.000	0.200	24.400
	502	Contact Mudstone	3,295	2.134	1.8	0.000	0.260	24.000
21E	601	Rhyolite	1,384	0.059	3.5	0.000	0.010	3.650
	602	Contact Mudstone	634	0.433	3.1	0.000	0.010	10.750
	603	Hanging-wall Sediments	1,207	0.740	6.1	0.000	0.010	7.150
HW	703	Hanging-wall Sediments	7,223	2.278	1.8	0.000	0.270	52.000
NEX	801	Rhyolite	6,273	0.842	2.4	0.001	0.130	22.620
	802	Contact Mudstone	7,830	2.068	1.8	0.001	0.410	27.720
WT	811	Rhyolite	1,180	0.103	4.8	0.000	0.010	12.590
LP	90	Dacite	2,247	0.422	2.7	0.000	0.080	20.000
	91	Even Lower Mudstone	223	0.188	2.5	0.001	0.020	3.350
	92	Andesite	178	0.119	2.8	0.000	0.010	3.290
	93	Lower Mudstone	189	0.919	1.6	0.002	0.255	10.200
	94	Rhyolite	453	0.591	1.7	0.003	0.165	7.010
PMP	95	Rhyolite	1,325	0.156	2.7	0.001	0.040	5.300
109	99	Rhyolite	5,057	1.489	1.8	0.005	0.580	65.360
<b>ZINC %</b>								
ENV	1	Rhyolite	10,707	0.033	4.9	0.000	0.010	6.690
ENV	2	-	42,699	0.111	7.7	0.000	0.010	44.400
ENV	3	-	7,791	0.236	5.6	0.001	0.020	32.530
ENV	4	-	2,836	0.285	5.0	0.002	0.020	22.000
ENV	5	-	7,923	0.370	5.4	0.000	0.012	13.050
22 Zone	101	Rhyolite	4,351	0.167	4.7	0.001	0.020	23.100
21A	201	Rhyolite	6,782	0.194	2.7	0.000	0.032	13.520
	202	Contact Mudstone	836	0.228	3.5	0.002	-	12.500
	203	Hanging-wall Sediments	0	-	-	-	-	-
21C	301	Rhyolite	11,327	0.213	3.4	0.000	0.040	22.580
	302	Contact Mudstone	2,946	0.782	2.6	0.001	0.200	27.320
	303	Hanging-wall Sediments	1,049	1.661	2.7	0.001	0.115	33.100
21B	401	Rhyolite	8,180	0.893	3.5	0.000	0.070	39.020
	402	Contact Mudstone	8,202	3.496	1.8	0.001	0.490	33.950
21Be	501	Rhyolite	6,897	1.967	2.5	0.001	0.310	43.000
	502	Contact Mudstone	3,300	3.701	1.8	0.005	0.480	39.440
21E	601	Rhyolite	1,384	0.115	3.7	0.001	0.020	10.350
	602	Contact Mudstone	634	0.796	2.9	0.004	0.080	19.080
	603	Hanging-wall Sediments	1,207	1.810	4.6	0.010	0.080	13.930
HW	703	Hanging-wall Sediments	7,223	3.400	1.8	0.001	0.460	33.680

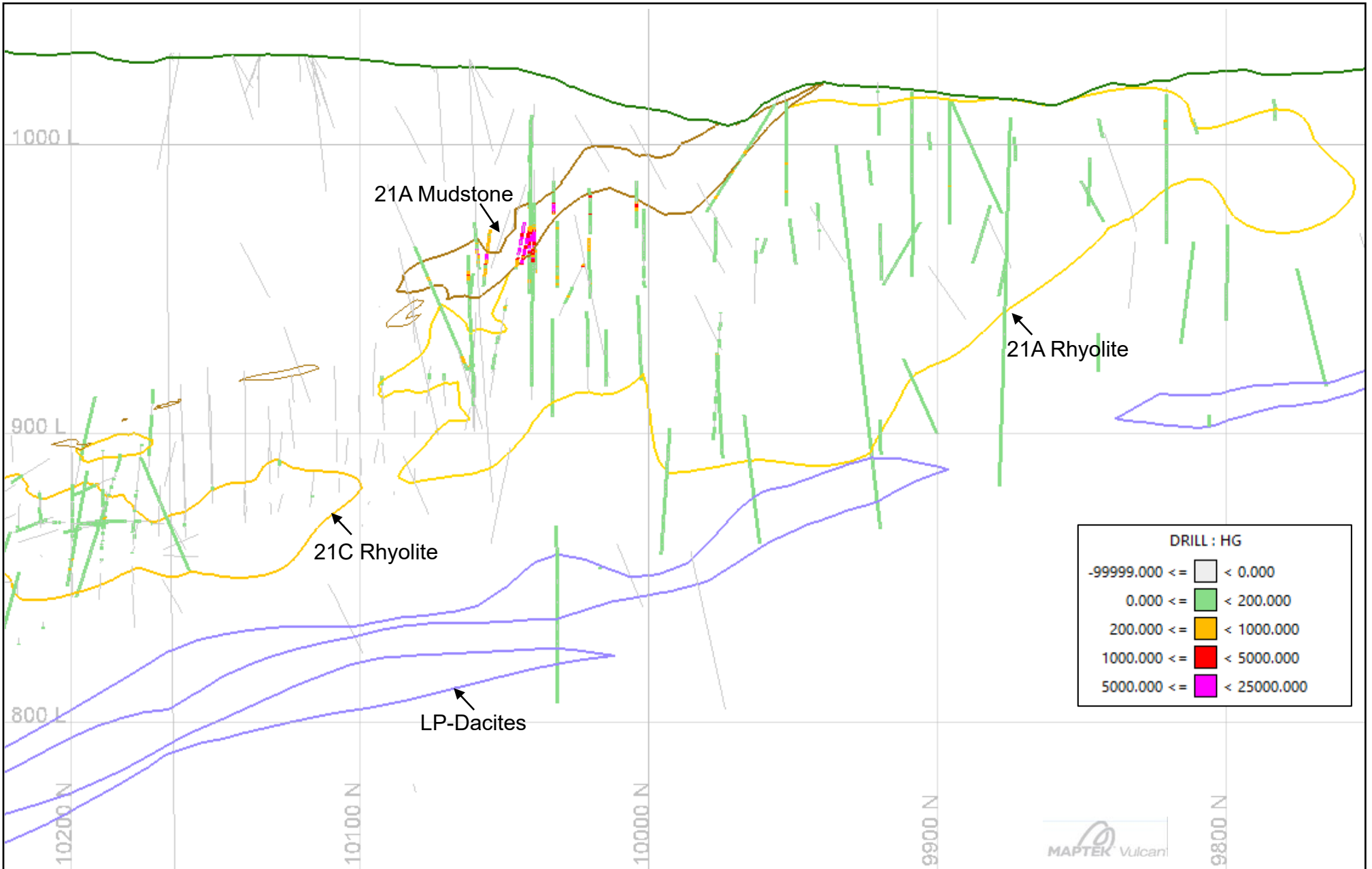
DOMAIN	ZONE	Rocktype	No. of samples	Mean	CV	Min	Median	Max
NEX	801	Rhyolite	6,276	1.411	2.5	0.001	0.210	48.880
	802	Contact Mudstone	7,830	3.190	1.8	0.005	0.630	35.100
WT	811	Rhyolite	1,180	0.217	4.8	0.002	0.030	21.450
LP	90	Dacite	2,247	0.653	2.6	0.001	0.090	21.100
	91	Even Lower Mudstone	223	0.317	2.3	0.001	0.050	7.200
	92	Andesite	178	0.197	2.2	0.002	0.020	3.140
	93	Lower Mudstone	189	1.819	1.9	0.003	0.470	20.700
	94	Rhyolite	453	0.841	1.7	0.001	0.190	11.000
PMP	95	Rhyolite	1,325	0.297	3.3	0.001	0.080	21.000
109	99	Rhyolite	5,052	2.266	1.6	0.010	0.840	31.800
<b>COPPER %</b>								
ENV	1	Rhyolite	10,679	0.003	7.8	0.000	0.001	1.487
ENV	2	-	42,461	0.010	8.9	0.000	0.005	5.520
ENV	3	-	7,774	0.021	6.6	0.000	0.010	4.180
ENV	4	-	2,824	0.031	6.6	0.000	0.010	5.200
ENV	5	-	7,924	0.007	6.2	0.000	0.005	3.200
22 Zone	101	Rhyolite	4331	0.013	4.8	0.000	0.002	1.700
21A	201	Rhyolite	6,773	0.018	3.4	0.000	0.005	1.341
	202	Contact Mudstone	836	0.023	3.8	0.000	0.010	1.510
	203	Hanging-wall Sediments	0	-	-	-	-	-
21C	301	Rhyolite	11,327	0.034	3.5	0.000	0.010	5.440
	302	Contact Mudstone	2,946	0.090	2.7	0.001	0.020	4.780
	303	Hanging-wall Sediments	1,049	0.223	2.8	0.000	0.010	5.240
21B	401	Rhyolite	8,157	0.121	3.6	0.000	0.010	5.660
	402	Contact Mudstone	8,184	0.501	2.3	0.001	0.050	26.400
21Be	501	Rhyolite	6,849	0.281	3.2	0.000	0.030	10.700
	502	Contact Mudstone	3,266	0.528	2.2	0.002	0.040	9.870
21E	601	Rhyolite	1,384	0.015	4.0	0.000	0.003	1.500
	602	Contact Mudstone	634	0.130	3.0	0.000	0.010	3.950
	603	Hanging-wall Sediments	1,206	0.024	5.3	0.001	0.010	2.290
HW	703	Hanging-wall Sediments	7,193	0.348	1.9	0.000	0.040	10.000
NEX	801	Rhyolite	6,274	0.136	3.5	0.000	0.010	8.580
	802	Contact Mudstone	7,822	0.379	2.4	0.001	0.040	35.000
WT	811	Rhyolite	1,180	0.025	4.0	0.000	0.010	2.400
LP	90	Dacite	2,050	0.014	2.5	0.000	0.010	0.780
	91	Even Lower Mudstone	223	0.210	2.1	0.000	0.007	0.304
	92	Andesite	178	0.009	2.9	0.000	0.002	0.280
	93	Lower Mudstone	189	0.034	2.7	0.001	0.010	0.890
	94	Rhyolite	445	0.020	2.3	0.001	0.010	0.670
PMP	95	Rhyolite	1,325	0.060	3.3	0.000	0.010	4.220
109	99	Rhyolite	4,577	0.031	4.8	0.002	0.010	3.280

**Table 14-33: Summary statistics for drill hole metallurgical assays by Zone**

DOMAIN	ZONE	Rocktype	No. of samples	Mean	CV	Min	Median	Max
<b>SULPHUR ppm</b>								
ENV	1	Rhyolite	1,849	6,777.3	1.3	50	4,200	147,000
ENV	2	-	18,510	14,929.3	1.1	50	9,800	426,000
ENV	3	-	458	9,741.5	1.2	100	4,800	68,800
ENV	4	-	1,414	14,455.7	1.0	400	8,100	145,500
ENV	5	-	3,754	9,630.7	1.2	100	5,600	273,000
22 Zone	101	Rhyolite	3,039	10,035.4	1.7	100	5,200	223,000
21A	201	Rhyolite	3,640	15,037.1	0.8	1,500	12,200	230,000
	202	Contact Mudstone	401	39,629.9	1.3	3,800	22,700	271,000
	203	Hanging-wall Sediments	0	-	-	-	-	-
21C	301	Rhyolite	3,477	11,905.8	0.8	400	9,900	154,500
	302	Contact Mudstone	1,539	39,436.6	0.7	800	36,500	192,000
	303	Hanging-wall Sediments	485	35,867.0	0.8	800	31,500	202,000
21B	401	Rhyolite	2,659	12,149.9	0.5	1,500	11,000	80,100
	402	Contact Mudstone	699	30,868.5	0.5	2,500	29,450	151,500
21Be	501	Rhyolite	383	23,150	1.8	300	10,150	365,000
	502	Contact Mudstone	95	39,603	0.7	5,800	33,550	226,000
21E	601	Rhyolite	1,166	9,078	0.6	100	8,000	81,800
	602	Contact Mudstone	207	16,897	0.6	1,400	15,950	47,800
	603	Hanging-wall Sediments	635	29,610	1.0	600	25,050	278,000
HW	703	Hanging-wall Sediments	994	36,112	0.8	1,000	29,400	276,000
NEX	801	Rhyolite	0	-	-	-	-	-
	802	Contact Mudstone	26	31,700	0.4	13,900	29,600	59,900
WT	811	Rhyolite	144	18,887	1.0	21,000	9,700	88,800
LP	90	Dacite	442	863,88	0.8	7,100	61,500	439,000
	91	Even Lower Mudstone	99	53,055	0.6	8,900	40,450	162,500
	92	Andesite	165	40,632	0.7	1,700	32,250	191,000
	93	Lower Mudstone	40	150,217	0.7	8,000	136,500	377,000
	94	Rhyolite	11	16,290	0.5	8,500	12,200	34,300
PMP	95	Rhyolite	138	10,296	0.6	1,500	9,100	53,000
109	99	Rhyolite	9	51,277	0.6	34,600	39,500	131,500
<b>IRON %</b>								
ENV	1	Rhyolite	1,849	1.2	0.7	0.370	1.030	14.750
ENV	2	-	18,510	3.9	0.7	0.130	3.210	31.400
ENV	3	-	458	3.2	0.	0.830	2.290	10.550
ENV	4	-	1,414	5.6	5.7	0.400	6.370	13.950
ENV	5	-	3,754	4.3	0.7	0.400	3.540	10.300
22 Zone	101	Rhyolite	3,039	1.3	0.9	0.340	0.980	15.500
21A	201	Rhyolite	3,640	1.4	0.5	0.280	1.290	18.650
	202	Contact Mudstone	401	2.1	0.4	0.210	1.995	7.850
	203	Hanging-wall Sediments	0	-	-	-	-	-
21C	301	Rhyolite	3,477	1.5	0.5	0.290	1.270	9.690
	302	Contact Mudstone	1,539	3.0	0.5	0.070	2.775	14.700



DOMAIN	ZONE	Rocktype	No. of samples	Mean	CV	Min	Median	Max
	303	Hanging-wall Sediments	485	5.4	0.5	0.130	5.120	17.700
21B	401	Rhyolite	2,659	1.3	0.3	0.490	1.250	6.530
	402	Contact Mudstone	699	3.2	0.5	0.850	3.080	12.450
21Be	501	Rhyolite	383	2.4	1.5	0.340	1.285	30.100
	502	Contact Mudstone	95	4.3	0.5	1.510	3.800	9.810
21E	601	Rhyolite	1,166	1.2	0.6	0.380	1.060	8.470
	602	Contact Mudstone	207	3.2	0.6	0.940	2.585	9.940
	603	Hanging-wall Sediments	635	3.8	0.5	0.380	3.320	14.750
HW	703	Hanging-wall Sediments	994	4.5	0.6	0.100	4.040	17.450
NEX	801	Rhyolite	0	-	-	-	-	-
	802	Contact Mudstone	26	4.0	0.3	2.680	3.540	7.450
WT	811	Rhyolite	144	3.3	0.9	0.770	1.650	10.600
LP	90	Dacite	442	8.6	0.6	2.310	6.680	36.700
	91	Even Lower Mudstone	99	5.7	0.5	1.480	4.800	15.750
	92	Andesite	165	5.5	0.4	1.680	4.990	15.200
	93	Lower Mudstone	40	12.6	0.6	1.090	11.700	30.400
	94	Rhyolite	11	1.4	0.3	1.010	1.230	2.250
PMP	95	Rhyolite	138	1.2	0.3	0.620	1.100	3.100
109	99	Rhyolite	9	5.1	0.03	2.760	4.565	7.390



### **14.17.2 Compositing**

Epithermal, base metal and metallurgical elements were composited to 2 m, using the same intervals determined for gold and silver composites. Since the epithermal and base metal elements are all considered penalty elements, a conservative approach was undertaken for compositing. To assure that the estimate wasn't unduly affected by the missing or unsampled intervals, the unsampled intervals were allocated a default value of -66 (=missing) prior to compositing and ignored during estimation thereby removing the risk of underestimating the values of the penalty elements.

### **14.17.3 Evaluation of Outliers**

Capping of high-grade assays was applied to the epithermal, base metal and metallurgical elements by zone using the 2 m composites. High-grade capping was examined using four tools: (1) histograms, (2) log probability plots, (3) capping statistics, and (4) percent metal loss values. Visual inspections of the high-grade outliers in relation to the surrounding data was also undertaken to ensure that the locations were spatially disassociated. Less than 1% of the data was capped for high-grade outliers, excluding the low-grade envelope, which was capped more aggressively (Table 14-34 to Table 14-36). Several zones show percent metal loss values of >5%, which are the result of a limited number of extreme high-grade outlier samples.

**Table 14-34: Capping statistics for the epithermal elements by Zone**

DOMAIN	ZONE	# Samples	Maximum	Cap Value	No. Cap	% Cap	Uncapped Composites		Capped Composites		% metal lost
							Mean	CV	Mean	CV	
<b>MERCURY ppm</b>											
ENV	1	7,618	177	70	1	0.0%	2.58	2.1	2.56	2.0	1%
ENV	2	260,920	9,840	500	45	0.0%	7.94	12.2	6.09	4.6	23%
ENV	3	6,579	354	100	16	0.2%	4.14	2.8	3.99	2.4	4%
ENV	4	1,692	969	100	18	1.1%	8.06	4.6	6.09	2.4	24%
ENV	5	5,115	104	70	11	0.2%	3.81	1.9	3.78	1.8	1%
22 Zone	101	2,853	292	80	7	0.2%	6.61	1.9	6.38	1.5	4%
21A	201	3,916	12,120	4,000	4	0.1%	72.69	4.7	68.00	3.5	6%
	202	343	27,370	15,000	4	1.2%	1,294.52	2.6	1,221.16	2.3	6%
	203	0	-	-	-	-	-	-	-	-	-
21C	301	6,188	282	140	14	0.2%	9.75	1.6	9.63	1.5	1%
	302	1,424	388	250	4	0.3%	23.29	1.5	23.02	1.4	1%
	303	518	584	300	4	0.8%	28.92	2.0	28.05	1.8	3%
21B	401	4,318	28,663	5,000	12	0.3%	118.36	6.2	101.27	3.9	14%
	402	4,380	31,125	20,000	6	0.1%	793.72	2.9	786.15	2.9	1%
21Be	501	4,663	6,181	1,900	5	0.1%	60.91	2.7	59.40	2.2	2%
	502	1,822	11,328	7,000	6	0.3%	283.60	2.8	274.58	2.5	3%
21E	601	836	403	200	5	0.6%	15.15	2.1	14.64	1.8	3%
	602	302	108	80	5	1.7%	13.96	1.3	13.64	1.3	2%
	603	764	834	300	3	0.4%	17.35	2.5	16.51	2.0	5%
HW	703	3,433	600	250	6	0.2%	30.07	1.3	29.83	1.2	1%
NEX	801	3,288	819	300	7	0.2%	21.90	1.8	21.47	1.6	2%
	802	4,466	1,000	500	9	0.2%	31.92	1.7	31.66	1.6	1%
WT	811	551	176	60	10	1.8%	6.07	2.3	5.53	1.8	9%
LP	90	660	106	50	11	1.7%	6.22	1.9	5.90	1.6	5%
	91	116	56	25	5	4.3%	4.49	1.8	3.98	1.5	11%
	92	98	7	7	1	1.0%	1.18	1.0	1.18	0.1	0%
	93	43	104	80	2	4.7%	23.68	1.1	22.83	1.1	4%
	94	106	223	50	6	5.7%	16.94	1.7	13.81	1.0	18%
PMP	95	697	2,972	300	5	0.7%	28.52	4.3	23.40	1.6	18%
109	99	2,794	185	100	10	<b>0.4%</b>	13.89	1.0	13.82	1.0	<b>0%</b>
<b>ANTIMONY ppm</b>											
ENV	1	7,726	8,625	1,300	8	0.1%	35.50	4.9	32.26	2.1	9%
ENV	2	26,981	136,000	6,000	89	0.3%	178.35	11.7	110.43	3.8	38%
ENV	3	6,690	61,800	6,000	17	0.3%	144.27	6.6	126.13	3.3	13%
ENV	4	1,712	9,353	6,000	15	0.9%	428.42	8.3	224.97	3.2	47%
ENV	5	5,197	59,355	9,000	41	0.8%	320.00	7.0	219.21	4.1	31%

DOMAIN	ZONE	# Samples	Maximum	Cap Value	No. Cap	% Cap	Uncapped Composites		Capped Composites		% metal lost
							Mean	CV	Mean	CV	
22 Zone	101	2,853	42,920	15,000	3	0.1%	295.65	4.4	279.47	3.2	5%
21A	201	4,255	62,777	30,000	6	0.1%	603.78	4.2	589.13	3.9	2%
	202	456	505,959	300,000	8	1.8%	18,999.60	3.4	17,139.85	3.2	10%
	203	0	-	-	-	-	-	-	-	-	-
21C	301	6,276	9,277	3,500	19	0.3%	256.17	1.7	253.22	1.6	1%
	302	1,426	234,300	16,000	9	0.6%	1,261.02	6.0	923.74	2.2	27%
	303	518	95,894	30,000	7	1.4%	2,297.49	3.0	2,019.48	2.3	12%
21B	401	4,474	282,314	100,000	15	0.3%	2,710.37	4.9	2,446.19	4.0	10%
	402	4,528	373,300	300,000	5	0.1%	14,504.39	2.5	14,463.21	2.5	0%
21Be	501	4,692	98,646	60,000	15	0.3%	1,999.39	3.3	1,961.67	3.2	2%
	502	1,853	197,000	110,000	6	0.3%	6,271.74	2.4	6,156.08	2.2	2%
21E	601	842	32,599	3,500	13	1.5%	425.15	3.3	358.90	1.6	16%
	602	310	42,578	25,000	5	1.6%	2,022.08	2.6	1,917.52	2.4	5%
	603	765	638,864	300,000	4	0.5%	7,476.71	5.3	6,695.33	4.5	10%
HW	703	3,519	120,665	40,000	6	0.2%	1,906.27	2.5	1,842.31	2.1	3%
NEX	801	3,337	230,000	40,000	10	0.3%	1,281.61	4.7	1,157.80	3.0	10%
	802	4,494	162,101	50,000	10	0.2%	1,800.28	3.5	1,685.52	2.7	6%
WT	811	557	31,629	2,000	7	1.3%	315.83	5.0	216.91	3.6	31%
LP	90	692	46,061	700	15	2.2%	265.09	7.3	109.39	1.3	59%
	91	116	1,899	700	6	5.2%	113.96	2.3	59.64	1.3	48%
	92	98	133	133	0	0.0%	18.20	1.3	18.20	1.3	0%
	93	46	766	500	4	8.7%	218.23	0.7	211.46	0.6	3%
	94	115	3,555	500	6	5.2%	194.31	1.8	156.73	0.8	19%
PMP	95	698	132,903	30,000	3	0.4%	1,952.67	3.8	1,656.91	2.1	15%
109	99	2,850	262	2,000	9	0.3%	261.85	2.3	242.02	1.0	8%
<b>ARSENIC ppm</b>											
ENV	1	7,726	24,500	10,000	9	0.1%	278.07	3.0	274.24	2.8	1%
ENV	2	26,341	44,208	3,000	152	0.6%	214.60	2.9	198.75	1.8	7%
ENV	3	6,438	27,450	3,000	35	0.5%	230.12	3.2	206.09	1.8	10%
ENV	4	1,633	12,500	1,900	16	1.0%	201.46	3.0	172.33	1.6	14%
ENV	5	5,147	74,923	6,000	4	0.1%	274.81	4.4	256.35	1.9	7%
22 Zone	101	2,853	132,852,162	30,000	4	0.1%	1,046.90	3.4	986.58	2.2	6%
21A	201	4,277	135,656	30,000	6	0.1%	600.24	6.1	518.50	3.5	14%
	202	456	400,000	300,000	5	1.1%	23,723.54	2.6	23,122.73	2.5	3%
	203	0	-	-	-	-	-	-	-	-	-
21C	301	6,278	6,100	2,000	28	0.4%	238.57	1.2	232.60	0.9	3%
	302	1,434	43,665	20,000	4	0.3%	622.50	3.1	591.79	2.3	5%
	303	517	1,703	1,625	2	0.4%	452.11	0.8	451.95	0.8	0%
21B	401	3,919	95,143	12,000	13	0.3%	480.69	4.6	420.04	2.4	13%

DOMAIN	ZONE	# Samples	Maximum	Cap Value	No. Cap	% Cap	Uncapped Composites		Capped Composites		% metal lost
							Mean	CV	Mean	CV	
	402	3,937	512,225	30,000	13	0.3%	1,693.40	5.4	1484.22	1.9	12%
21Be	501	3,434	16,800	14,000	11	0.3%	1,711	1	1708.13	1.5	0%
	502	1,502	60,000	12,000	11	0.7%	1,219.27	2.0	1156.05	1.5	5%
21E	<b>601</b>	<b>842</b>	<b>5,100</b>	<b>3,000</b>	<b>7</b>	<b>0.8%</b>	<b>349.87</b>	<b>1.5</b>	<b>339.81</b>	<b>1.4</b>	<b>3%</b>
	602	310	4,808	2,000	4	1.3%	332.13	1.4	311.40	1.0	6%
	603	765	11,439	5,000	5	0.7%	540.86	1.6	526.21	1.4	3%
HW	703	3,121	100,000	6,500	5	0.2%	715.95	2.7	683.30	1.1	5%
NEX	801	3,102	24,500	7,000	10	0.3%	500.64	2.0	482.67	1.5	4%
	802	3,985	10,814	5,500	6	0.2%	618.21	1.1	615.80	1.0	0%
WT	811	557	25,500	5,000	7	1.3%	534.98	2.0	477.59	1.6	11%
LP	90	703	59,186	2,500	10	1.4%	554.35	4.2	446.23	1.0	20%
	91	116	19,872	2,000	8	6.9%	894.65	2.6	475.65	1.1	47%
	92	98	557	557	0	0.0%	151.60	0.7	151.60	0.7	0%
	93	49	3,911	2,000	2	4.1%	689.61	1.0	635.44	0.7	8%
	94	95	9,500	2,000	8	8.4%	719.44	1.6	584.82	1.0	19%
PMP	95	701	10,000	5,000	4	0.6%	570.85	1.3	557.53	1.2	2%
109	99	2,329	7,082	4,000	17	0.7%	585.66	1.2	575.94	1.2	2%

**Table 14-35: Capping statistics for the base metal elements by Zone**

DOMAIN	ZONE	# Samples	Maximum	Cap Value	No. Cap	% Cap	Uncapped Composites		Capped Composites		% metal lost
							Mean	CV	Mean	CV	
<b>LEAD %</b>											
ENV	1	7,759	3.87	0.65	26	0.3%	0.01	5.9	0.01	4.4	7%
20.97	2	28,333	20.97	3.00	99	0.3%	0.07	7.5	0.05	4.7	21%
ENV	3	4,958	19.00	5.00	65	1.3%	0.17	5.2	0.14	4.1	14%
ENV	4	2,079	15.60	4.00	21	1.0%	0.18	4.8	0.15	3.9	19%
ENV	5	5,495	7.68	0.35	20	0.4%	0.14	12.0	0.09	3.3	36%
22 Zone	101	2,870	11.58	3.00	6	0.2%	0.10	3.9	0.09	3.0	6%
21A	201	4,465	4.67	3.10	3	0.1%	0.11	2.1	0.11	2.1	1%
	202	469	4.43	1.50	4	0.9%	0.09	4.1	0.07	2.8	19%
	203	0	-	-	-	-	-	-	-	-	-
21C	301	6,688	8.71	3.00	14	0.2%	0.10	3.0	0.10	2.4	3%
	302	1,589	9.21	4.50	13	0.8%	0.40	2.0	0.39	1.8	3%
	303	546	14.31	6.50	15	2.7%	0.70	2.5	0.63	2.3	9%
21B	401	4,785	20.00	11.50	19	0.4%	0.45	3.1	0.45	3.0	2%
	402	4,630	22.61	18.00	4	0.1%	1.74	1.8	1.74	1.7	0%
21Be	501	3,937	24.21	17.00	13	0.3%	1.05	2.3	1.04	2.2	1%
	502	1,963	19.95	15.00	23	1.2%	1.94	1.7	1.93	1.6	1%
21E	601	868	1.76	1.00	5	0.6%	0.05	2.7	0.05	2.5	2%
	602	345	4.62	3.00	10	2.9%	0.33	2.3	0.31	2.2	7%
	603	838	2.52	1.30	9	1.1%	0.05	4.3	0.04	3.5	14%
HW	703	4,054	32.00	18.00	9	0.2%	2.00	1.7	1.90	1.7	5%
NEX	801	3,600	16.97	9.50	23	0.6%	0.77	2.0	0.75	1.9	2%
	802	4,526	21.84	18.00	7	0.2%	1.81	1.7	1.80	1.7	0%
WT	811	709	9.05	1.50	9	1.3%	0.10	4.5	0.08	2.7	18%
LP	90	1,301	11.18	4.50	10	0.8%	0.40	2.2	0.38	1.9	5%
	91	133	2.31	1.00	4	3.0%	0.16	2.1	0.14	1.6	14%
	92	98	1.28	1.28	1	1.0%	0.11	1.9	0.11	1.9	0%
	93	107	5.58	3.00	0	0.0%	0.85	1.4	0.77	1.2	9%
	94	271	5.97	2.90	11	4.1%	0.65	1.5	0.60	1.3	9%
PMP	95	762	4.48	1.00	10	1.3%	0.13	2.1	0.12	1.5	10%
109	99	2,941	21.60	15.00	6	0.2%	1.43	1.4	1.42	1.3	0%
<b>COPPER %</b>											
ENV	1	7,726	1.11	0.16	6	0%	0.00	6.3	0.00	3.1	33%
ENV	2	28,209	4.99	1.00	29	0%	0.01	8.3	0.01	4.8	10%
ENV	3	4,944	3.20	0.80	15	0%	0.02	5.9	0.02	3.9	15%
ENV	4	2,073	3.30	0.80	15	1%	0.03	5.8	0.02	3.8	23%
ENV	5	5,497	2.26	0.10	12	0%	0.01	4.8	0.01	1.1	14%

DOMAIN	ZONE	# Samples	Maximum	Cap Value	No. Cap	% Cap	Uncapped Composites		Capped Composites		% metal lost
							Mean	CV	Mean	CV	
22 Zone	101	2,853	0.83	0.60	2	0%	0.01	3.5	0.01	3.4	0%
21A	201	4,459	0.82	0.50	8	0%	0.02	2.6	0.02	2.5	0%
	202	469	0.93	0.50	1	0%	0.02	3.0	0.02	2.5	5%
	203	0	-	-	-	-	-	-	-	-	-
21C	301	6,687	2.17	0.61	15	0%	0.03	2.5	0.03	2.1	3%
	302	1,589	2.07	1.00	9	1%	0.08	2.0	0.08	1.8	4%
	303	546	4.26	3.00	4	1%	0.17	2.6	0.17	2.5	2%
21B	401	4,771	4.41	3.00	14	0%	0.10	3.4	0.10	3.3	1%
	402	4,626	22.37	7.00	6	0%	0.44	2.3	0.42	2.0	3%
21Be	501	3,913	8.57	4.50	21	1%	0.24	3.1	0.23	2.8	5%
	502	1,947	8.66	6.00	6	0%	0.46	2.0	0.46	2.0	1%
21E	601	868	0.45	0.15	10	1%	0.01	2.7	0.01	2.1	15%
	602	345	1.51	1.00	5	1%	0.10	2.3	0.10	2.2	4%
	603	838	0.79	0.25	9	1%	0.02	3.1	0.02	1.9	12%
HW	703	4,038	10.00	3.00	8	0%	0.30	1.9	0.30	1.8	1%
NEX	801	3,600	5.19	3.00	10	0%	0.11	3.0	0.10	2.8	3%
	802	42,522	10.89	5.00	6	0%	0.31	2.1	0.31	2.0	1%
WT	811	709	1.69	0.20	9	1%	0.02	3.6	0.02	1.7	22%
LP	90	1,199	0.40	0.20	4	0%	0.01	1.9	0.01	1.6	7%
	91	133	0.21	0.09	6	5%	0.02	1.7	0.02	1.3	15%
	92	98	0.14	0.14	1	1%	0.01	2.2	0.01	2.2	0%
	93	107	0.55	0.20	1	1%	0.03	2.1	0.03	1.3	11%
	94	266	0.35	0.10	4	2%	0.02	1.6	0.02	1.1	11%
PMP	95	762	3.07	0.50	6	1%	0.05	2.7	0.05	1.6	10%
109	99	2,716	2.09	0.80	10	0%	0.03	3.7	0.03	2.8	7%
<b>ZINC %</b>											
ENV	1	7,759	4.13	1.00	25	0.3%	0.03	4.3	0.03	3.1	6%
ENV	2	28,339	44.40	3.00	164	0.6%	0.11	7.2	0.08	3.8	27%
ENV	3	4,958	27.25	4.00	73	1.5%	0.26	5.3	0.18	3.4	30%
ENV	4	2,081	22.00	6.00	20	1.0%	0.28	4.7	0.23	3.6	19%
ENV	5	5,495	4.65	0.50	20	0.4%	0.03	3.4	0.03	1.5	9%
22 Zone	101	2,870	18.31	4.00	7	0.2%	0.15	3.7	0.14	1.9	5%
21A	201	4,465	5.78	3.00	8	0.2%	0.18	2.1	0.18	1.9	2%
	202	469	7.71	2.00	5	1.1%	0.20	3.0	0.17	2.0	17%
	203	0	-	-	-	-	-	-	-	-	--0
21C	301	6,687	15.28	4.00	13	0.2%	0.18	2.7	0.18	2.1	4%
	302	1,589	15.90	10.00	4	0.3%	0.69	1.9	0.68	1.8	1%
	303	546	24.36	16.00	5	0.9%	1.25	2.5	1.20	2.4	4%
21B	401	4,784	38.95	24.00	12	0.3%	0.78	3.2	0.77	3.1	1%



DOMAIN	ZONE	# Samples	Maximum	Cap Value	No. Cap	% Cap	Uncapped Composites		Capped Composites		% metal lost
							Mean	CV	Mean	CV	
	402	4,631	31.49	30.00	1	0.0%	3.07	1.8	3.07	1.8	0%
21Be	501	3,939	32.96	30.00	6	0.2%	1.69	2.3	1.69	2.3	0%
	502	1,963	31.37	30.00	4	0.2%	3.34	1.7	3.34	1.7	0%
21E	601	868	5.09	1.00	13	1.5%	0.10	2.8	0.09	1.9	10%
	602	345	9.13	6.50	6	1.7%	0.63	2.3	0.61	2.2	3%
	603	838	4.86	4.00	3	0.4%	0.14	2.5	0.14	2.4	1%
HW	703	5,054	31.30	27.00	9	0.2%	3.00	1.7	3.00	1.7	0%
NEX	801	3,600	32.73	20.00	10	0.3%	1.25	2.1	1.23	2.0	1%
	802	4,526	32.51	27.00	7	0.2%	2.78	1.6	2.77	1.6	0%
WT	811	709	15.31	1.50	16	2.3%	0.20	4.3	0.14	2.1	32%
LP	90	1,301	18.90	10.00	6	0.5%	0.64	2.3	0.62	2.2	2%
	91	133	4.22	1.00	4	3.0%	0.29	1.9	0.24	1.3	17%
	92	98	1.73	1.10	2	2.0%	0.19	1.7	0.17	1.5	6%
	93	107	16.27	9.00	3	2.8%	1.68	1.6	1.59	1.5	5%
	94	271	11.00	5.00	6	2.2%	0.92	1.6	0.86	1.4	6%
PMP	95	762	16.05	2.00	8	1.0%	0.25	2.8	0.22	1.5	12%
109	99	2,941	26.30	17.00	10	0.3%	2.17	1.3	2.15	1.3	1%

**Table 14-36: Capping statistics for metallurgical elements by Zone**

DOMAIN	ZONE	# Samples	Maximum	Topcut	No. cut	% cut	Uncapped Composites		Capped Composites		% metal lost
							mean	CV	mean	CV	
<b>SULPHUR ppm</b>											
ENV	1	1,288	124,972	50,000	6	0.5%	6,768	1.3	6,636	1.1	2%
ENV	2	11,884	381,476	120,000	5	0.0%	13,912	1.0	13,872	1.0	0%
ENV	3	278	67,586	40,000	10	3.6%	9,467	1.2	9,078	1.1	4%
ENV	4	1,189	74,600	40,000	83	7.0%	13,919	1.0	13,382	0.9	4%
ENV	5	2,820	77,900	50,000	12	0.4%	9,175	1.1	9,143	1.1	0%
22 Zone	101	2,041	162,178	110,000	5	0.2%	9,438	1.4	9,396	1.4	0%
21A	201	2,371	140,836	90,000	7	0.3%	14,568	0.7	14,499	0.6	0%
	202	208	255,145	200,000	3	1.4%	35,978	1.2	35,498	1.1	1%
	203	0	-	-	-	-	-	-	-	-	-
21C	301	2,144	123,938	50,000	5	0.2%	11,397	0.6	11,312	0.6	1%
	302	745	135,915	90,000	7	0.9%	28,423	0.5	28,252	0.5	1%
	303	259	176,356	75,000	11	4.2%	36,199	0.6	34,686	0.5	4%
21B	401	1,648	56,775	28,000	15	0.9%	11,691	0.5	11,614	0.4	1%
	402	364	122,059	60,000	8	2.2%	31,155	0.4	30,831	0.4	1%
21Be	501	235	204,492	100,000	10	4.3%	20,159	1.5	18,422	1.2	9%
	502	54	176,173	80,000	3	5.6%	38,087	0.7	36,225	0.5	5%
21E	601	732	46,024	30,000	2	0.3%	8,727	0.5	8,704	0.5	0%
	602	120	39,282	32,000	4	3.3%	16,166	0.5	16,020	0.5	1%
	603	512	268,859	75,000	7	1.4%	26,537	0.8	25,321	0.5	5%
HW	703	646	185,581	80,000	23	3.6%	33,797	0.6	32,915	0.6	3%
NEX	801	0	-	-	-	-	-	-	-	-	-
	802	31	58,000	58,000	31	100.0%	31,697	0.3	31,697	0.3	0%
WT	811	89	74,807	40,000	8	9.0%	17,529	0.9	15,709	0.8	10%
LP	90	268	361,452	300,000	3	1.1%	80,462	0.7	80,083	0.7	0%
	91	59	124,223	90,000	10	16.9%	55,077	0.6	51,998	0.5	6%
	92	89	108,616	100,000	2	2.2%	39,375	0.5	39,185	0.5	0%
	93	20	361,409	300,000	3	15.0%	146,079	0.7	142,558	0.7	2%
	94	8	26,140	20,000	1	12.5%	15,652	0.3	14,884	0.3	5%
PMP	95	95	34,867	15,000	10	10.5%	9,919	0.4	9,575	0.3	3%
109	99	0	-	-	-	-	-	-	-	-	-
<b>IRON %</b>											
ENV	1	1,288	13.2	7.0	3	0.2%	1	0.7	1.22	0.6	1%
ENV	2	11,884	29.5	13.0	5	0.0%	4	0.7	3.92	0.7	0%
ENV	3	278	10.4	8.0	4	1.4%	3.18	0.6	3.16	0.6	1%
ENV	4	1,189	9.8	9.8	0	0.0%	5.75	0.4	5.75	0.4	0%
ENV	5	2,820	9.9	9.5	3	0.1%	4.61	0.6	4.61	0.6	0%
22 Zone	101	2,041	10.8	8.5	9	0.4%	1.30	0.8	1.29	0.8	0%
21A	201	2,371	12.2	3.5	14	0.6%	1.39	0.4	1.38	0.3	1%
	202	208	6.6	5.0	2	1.0%	2.14	0.4	2.12	0.4	1%
	203	0	-	-	-	-	-	-	-	-	-
21C	301	2,144	8.0	6.0	6	0.3%	1.41	0.5	1.42	0.4	0%
	302	745	11.2	10.0	1	0.1%	3.04	0.5	3.04	0.5	0%
	303	259	12.5	10.0	6	2.3%	5.82	0.4	5.793	0.4	0%
21B	401	1,648	4.8	4.0	2	0.1%	1.30	0.3	1.30	0.3	0%
	402	364	10.7	7.8	5	1.4%	3.27	0.4	3.26	0.4	0%
21Be	501	235	17.9	10.0		0.0%	2.16	1.2	2.06	1.0	5%
	502	54	7.9	7.0		0.0%	4.09	0.4	4.05	0.4	1%
21E	601	732	7.2	7.2	0	0.0%	1.15	0.5	1.15	0.5	0%
	602	120	8.3	8.0	3	2.5%	3.27	0.5	3.27	0.5	0%
	603	512	9.2	8.0	4	0.8%	3.85	0.4	3.85	0.4	0%
HW	703	646	15.2	10.0	6	0.9%	4.38	0.5	4.37	0.5	0%
NEX	801	0	-	-	-	-	-	-	-	-	-

DOMAIN	ZONE	# Samples	Maximum	Topcut	No. cut	% cut	Uncapped Composites		Capped Composites		% metal lost
							mean	CV	mean	CV	
	802	31	7.0	-	0	0.0%	3.93	0.3	3.93	0.3	0%
WT	811	89	10.3	8.0	11	12.4%	3.20	0.8	3.14	0.8	2%
LP	90	268	27.0	20.0	3	1.1%	8.18	0.5	8.11	0.5	1%
	91	59	13.3	12.0	3	5.1%	5.96	0.5	5.95	0.5	1%
	92	89	11.0	9.0	5	5.6%	5.46	0.3	5.41	0.3	1%
	93	20	27.2	20.0	4	20.0%	12.21	0.6	11.43	0.6	6%
	94	8	1.9	1.9	0	0.0%	1.35	0.2	1.35	0.2	0%
PMP	95	95	3.4	2.1	3	3.2%	1.35	0.2	1.13	0.2	1%
109	99	0	-	-	-	-	-	-	-	-	-

#### 14.17.4 Block Model Details

The epithermal, base metal and metallurgical elements used the same block model geometry and extents as the gold and silver block model with 9 m x 9 m x 4 m parent blocks, and 3 m x 3 m x 2 m subblocks, where subblocks occur around the zone boundaries.

#### 14.17.5 Estimation Parameters

Due to selective sampling, insufficient data were available to produce reliable variograms necessary for a kriged estimate. Therefore, the block model grades were estimated using inverse distance squared (ID<sup>2</sup>). A Nearest Neighbour (NN declustered) model was also estimated to determine declustered composite statistics for validation purposes.

The final parameters selected for the epithermal, base metals and metallurgical element estimates are presented in Table 14-37. A discretization grid of 4 m x 4 m x 3 m was used during all estimation runs. Ranges were determined for each of the elements from the variogram (Table 14-38). The estimate was generated in two consecutively longer passes. Pass 1 used a minimum of 5 maximum of 16 samples at the variogram range, and Pass 2 used a minimum of 3 samples and a maximum of 16 at two times the variogram to ensure that at least two drill holes were used for the estimate. An octant search was used to aid in declustering using 2 samples per octant, and hard boundaries were honoured in all zones. A third pass at 4X variogram range was used to aid in validation for the LP Domain.

**Table 14-37: Interpolation parameters for the epithermal, base metal, metallurgical elements by Zone**

ZONE	Search Pass	Orientation	Ranges	No. of Composites		Max composites per drill hole	Max Samples per Octant
				Minimum	Maximum		
ALL	1	Gold Variogram Orientation	1X Variogram range	5	16	2	2
	2		2X Variogram range	3	16	2	2
LP	3		4X Variogram range	3	16	2	2

**Table 14-38: Ranges for the epithermal, base metal, metallurgical elements by Zone**

Vario Code	Base Metals									Epithermal Suite									Metallurgical Elements					
	Lead			Copper			Zinc			Arsenic			Mercury			Antimony			Sulphur			Iron		
	Major (Y)	Semi (X)	Minor (Z)	Major (Y)	Semi (X)	Minor (Z)	Major (Y)	Semi (X)	Minor (Z)	Major (Y)	Semi (X)	Minor (Z)	Major (Y)	Semi (X)	Minor (Z)	Major (Y)	Semi (X)	Minor (Z)	Major (Y)	Semi (X)	Minor (Z)	Major (Y)	Semi (X)	Minor (Z)
101	60	40	40	50	35	25	60	35	35	60	50	50	60	50	30	60	40	40	45	40	35	50	45	35
201	60	40	40	25	20	20	45	25	25	50	30	20	60	35	20	40	25	20	70	45	20	45	40	15
202	50	30	20	35	25	20	50	30	20	50	30	20	60	35	20	40	25	20	50	35	10	60	40	15
203	50	30	20	25	25	20	50	30	20	40	40	20	40	35	20	40	25	20	30	20	18	30	20	15
204	30	25	15	30	25	15	30	25	15	30	25	15	30	25	15	30	25	15	30	25	15	30	25	15
3011	30	20	15	30	20	15	20	20	15	40	25	15	30	25	15	30	25	15	60	25	15	40	30	20
3012	30	20	20	30	20	10	30	20	10	30	20	10	30	20	10	30	20	10	n/a					
302	75	45	20	55	50	25	45	40	25	50	40	25	30	30	20	30	30	20	40	40	20	50	40	15
303	40	20	20	35	18	15	40	20	20	35	18	15	35	18	15	35	18	15	35	20	15	30	20	15
401	65	40	20	65	40	15	65	40	20	45	45	30	45	40	20	35	35	25	65	35	15	45	30	20
4011	35	30	10	20	20	15	35	30	10	30	25	20	15	15	10	25	25	10	n/a					
402	70	60	10	70	60	10	70	60	10	60	60	10	70	60	10	70	60	10	70	45	20	60	50	20
501	50	50	20	50	50	15	50	50	20	50	30	15	60	45	10	30	25	10	n/a					
502	35	15	10	25	15	10	40	15	10	40	15	15	50	25	10	30	30	15	n/a					
601	40	30	20	30	30	15	50	20	15	55	50	25	35	35	20	30	30	20	50	45	10	30	30	20
603	55	35	15	45	40	20	45	45	15	50	50	20	45	45	20	45	45	15	40	40	20	40	30	15
7034	35	15	10	20	15	10	40	15	10	30	15	10	25	25	10	20	15	10	25	25	10	25	25	10
7035	50	40	15	45	35	20	35	35	20	45	25	10	50	20	15	45	25	15	25	25	15	25	25	10
7038	35	35	10	40	35	10	35	30	10	25	15	5	40	40	20	30	30	15	n/a					
801	62	55	15	45	20	15	50	50	15	45	30	15	50	30	15	45	45	20	n/a					
811	35	35	15	30	30	15	50	25	20	40	40	20	45	45	20	50	25	20	30	30	20	30	30	15
802	50	50	15	55	40	15	55	55	15	40	35	10	40	35	15	45	40	10	n/a					
90	35	35	35	35	35	35	35	35	35	60	30	30	45	30	30	55	30	30	35	30	30	45	35	20
93	55	30	20	75	20	20	75	20	20	50	20	20	40	20	20	40	20	20	40	20	20	40	20	20
94	40	40	40	45	40	20	40	35	20	30	20	20	25	20	20	25	20	20	20	20	15	20	20	15
95	40	20	20	30	25	10	35	20	10	30	25	10	25	25	10	30	20	10	30	20	10	25	20	15
99	25	20	18	25	20	10	30	20	15	25	20	20	30	20	20	25	25	15	n/a					

### 14.17.6 Block Model Validation

The block model estimates were validated for the elements using several methods to ensure an unbiased estimate; these include: a visual review of the block model, grade distribution evaluations using swath plots and global validation.

### 14.17.7 Pit Model - Visual Validation

Section and plan view visual inspections of the block model were conducted for each element to evaluate final estimated grades with the neighbouring informing composites. In addition, domain coding accuracies were checked during this stage. Figure 14-28 shows estimated antimony block grades in relation to 2 m antimony composite intervals in the 21A Domain. Overall, the data show good agreement, and no major discrepancies between block grades and composites were observed.

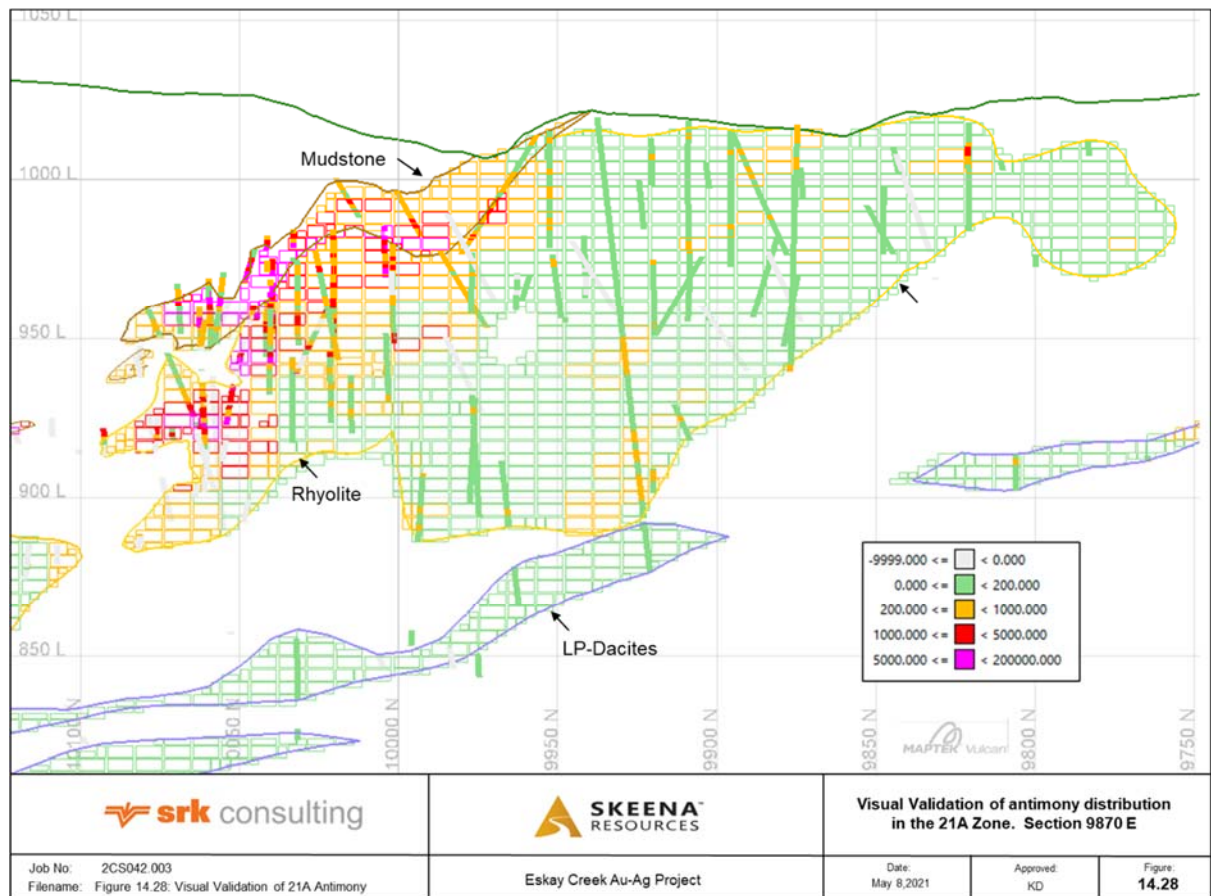


Figure 14-28: Example of visual validation of antimony distribution in the 21A Domain looking east

#### **14.17.8 Comparison of interpolation models**

The ID<sup>2</sup> model was compared against the NN declustered model to check for the occurrence of global bias. Although variability exists between the different zones for both the ID<sup>2</sup> and NN estimates, there is an average difference of less than 5% for all elements (Table 14-39 to Table 14-41) confirming that global bias is not a concern for the estimates. For the LP Package (Zones 91 to 93) higher percent differences were noted. Seeing that these Zones occur mostly below the conceptual pit shell, and contain low numbers of composites in relation to the total number of blocks, higher variability was not considered a concern.

**Table 14-39: Comparison ID<sup>2</sup> vs declustered NN estimates within each Zone for the epithermal elements**

ZONE	ARSENIC		
	NN declustered	ID <sup>2</sup>	ID <sup>2</sup> vs NN declustered
101	939	971	3%
201	358	392	9%
202	12,059	12,586	4%
301	213	217	2%
302	649	649	0%
303	467	465	-1%
401	301	306	2%
402	1,228	1,247	2%
501	1,484	1,487	0%
502	1,035	1,056	2%
601	320	341	6%
602	287	316	9%
603	536	527	-2%
703	638	588	-9%
801	385	380	-1%
802	527	537	2%
811	653	545	-20%
90	491	518	5%
91	829	480	-73%
92	123	131	6%
93	817	704	-16%
94	535	685	22%
95	438	467	6%
99	572	589	3%
<b>Average Difference</b>			<b>-2%</b>

MERCURY		
NN declustered	ID <sup>2</sup>	ID <sup>2</sup> vs NN declustered
6.3	6.4	1%
42.0	52.1	19%
577.6	643.4	10%
7.5	7.8	4%
22.2	23.0	4%
21.9	23.3	6%
50.1	51.0	2%
500.0	517.5	3%
46.1	46.7	1%
211.3	218.2	3%
14.2	14.5	2%
13.1	13.0	-1%
13.6	14.5	6%
23.3	24.8	6%
15.0	16.0	6%
24.1	25.3	5%
6.6	6.8	3%
6.8	8.0	15%
7.4	2.6	-191%
0.8	0.8	1%
18.6	15.7	-19%
11.1	13.1	15%
16.2	17.8	9%
30.3	30.0	-1%
<b>Average Difference</b>		<b>-4%</b>

ANTIMONY		
NN declus	ID <sup>2</sup>	ID <sup>2</sup> vs NN declustered
287	295	3%
424	477	11%
7,473	8,747	15%
214	223	4%
785	827	5%
1,483	1,562	5%
1,322	1,173	-13%
8,533	8,980	5%
989	1,025	3%
3,855	4,184	8%
367	370	1%
1,845	1,727	-7%
5,022	5,120	2%
1,437	1,413	-2%
610	667	9%
1,125	1,207	7%
291	273	-6%
109	119	9%
103	62	-65%
19	13	-44%
263	193	-36%
135	167	19%
1,011	1,095	8%
242	248	2%
<b>Average Difference</b>		<b>-2%</b>



**Table 14-40: Comparison of ID<sup>2</sup> vs declustered NN estimates within each Zone for the base metal elements**

ZONE	LEAD			COPPER			ZINC				
	NN declustered	ID <sup>2</sup>	ID <sup>2</sup> vs NN declustered	NN declustered	ID <sup>2</sup>	ID <sup>2</sup> vs NN declustered	NN declustered	ID <sup>2</sup>	ID <sup>2</sup> vs NN declustered		
101	0.080	0.086	7%	0.013	0.015	13%	0.135	0.141	4%		
201	0.087	0.101	14%	0.015	0.017	12%	0.146	0.171	15%		
202	0.052	0.052	0%	0.017	0.017	0%	0.127	0.125	-2%		
301	0.087	0.090	3%	0.022	0.023	4%	0.150	0.159	6%		
302	0.393	0.397	1%	0.077	0.078	1%	0.678	0.690	2%		
303	0.468	0.544	14%	0.135	0.15	10%	0.915	1.031	11%		
401	0.257	0.264	3%	0.051	0.053	4%	0.458	0.453	-1%		
402	1.294	1.325	2%	0.29	0.297	2%	2.193	2.251	3%		
501	0.735	0.752	2%	0.124	0.133	7%	1.151	1.206	5%		
502	1.355	1.462	7%	0.27	0.295	8%	2.295	2.402	4%		
601	0.050	0.050	0%	0.012	0.012	0%	0.089	0.090	1%		
602	0.286	0.276	-4%	0.091	0.089	-2%	0.559	0.548	-2%		
603	0.039	0.038	-3%	0.014	0.014	0%	0.122	0.124	2%		
703	1.433	1.503	5%	0.21	0.225	7%	2.113	2.250	6%		
801	0.530	0.554	4%	0.055	0.063	13%	0.858	0.896	4%		
802	1.365	1.487	8%	0.203	0.223	9%	2.066	2.130	3%		
8011	0.061	0.067	9%	0.016	0.018	11%	0.111	0.112	1%		
90	0.193	0.239	19%	0.012	0.012	0%	0.291	0.361	19%		
91	0.181	0.154	-18%	0.017	0.015	-13%	0.230	0.212	-8%		
92	0.109	0.078	-40%	0.011	0.008	-38%	0.133	0.109	-22%		
93	0.623	0.434	-44%	0.023	0.018	-28%	0.587	0.668	12%		
94	0.504	0.547	8%	0.016	0.018	11%	0.748	0.828	10%		
95	0.091	0.092	1%	0.028	0.03	7%	0.168	0.167	-1%		
99	1.405	1.376	-2%	0.026	0.025	-4%	2.139	2.133	0%		
<b>Average Difference</b>			<b>0%</b>	<b>Average Difference</b>			<b>1%</b>	<b>Average Difference</b>			<b>3%</b>

**Table 14-41: Comparison of ID<sup>2</sup> vs declustered NN estimates within each Zone for the metallurgical elements**

ZONE	SULPHUR ppm			IRON %			
	NN declustered	ID <sup>2</sup>	ID <sup>2</sup> vs NN declustered	NN declustered	ID <sup>2</sup>	ID <sup>2</sup> vs NN declustered	
101	10,678	10,055	-6%	1.36	1.392	2%	
201	12,749	12,943	1%	1.37	1.339	-2%	
202	30,131	24,951	-21%	2.020	2.163	7%	
203	-	-	-				
301	10,337	10,666	3%	1.311	1.319	1%	
302	26,902	28,501	6%	2.903	2.895	0%	
303	33,534	34,978	4%	5.34	5.057	-6%	
401	12,502	11,962	-5%	1.333	1.351	1%	
402	34,214	32,225	-6%	3.384	3.368	0%	
501	-	-	-				
502	-	-	-				
601	8,266	8,439	2%	1.059	1.079	2%	
602	-	-	-				
603	24,244	24,840	2%	4.097	3.736	-10%	
703	32,875	30,200	-9%	4.375	4.365	0%	
801	-	-	-				
802	-	-	-				
811	16,226	16,666	3%	2.862	2.77	-3%	
90	68,041	55,216	-23%	7.4	7.476	1%	
91	56,422	58,505	4%	5.777	6.020	4%	
92	36,076	36,844	2%	5.580	5.631	1%	
93	31,634	48,533	35%	11.496	10.718	-7%	
94	15,917	13,574		1.470	1.276	-15%	
95	8,918	9,703	8%	1.097	1.091	-1%	
99							
<b>Average Difference</b>			<b>1%</b>	<b>Average Difference</b>			<b>-1%</b>

### 14.17.9 Swath plots

Swath plots were generated in three orthogonal directions to graphically display grade distribution in each of the zones in north-south, east-west, and horizontal directions throughout the deposit.

All zones and all elements (Sb, As, Hg, Pb, Cu, Zn, Fe and S) were visually assessed using swath plots in three directions. Grade variations from the ID<sup>2</sup> model were compared to the NN grade distribution, along with declustered composite data determined from a NN model. The swath plots showed acceptable correspondence between grade distributions, although the ID<sup>2</sup> model inherently smoothed the results.

An example of mercury swath plots in the 21A domain is shown in Figure 14-29 which depicts the naive composite grade (red line), block model ID<sup>2</sup> grade (green line), and declustered NN grade (blue line).

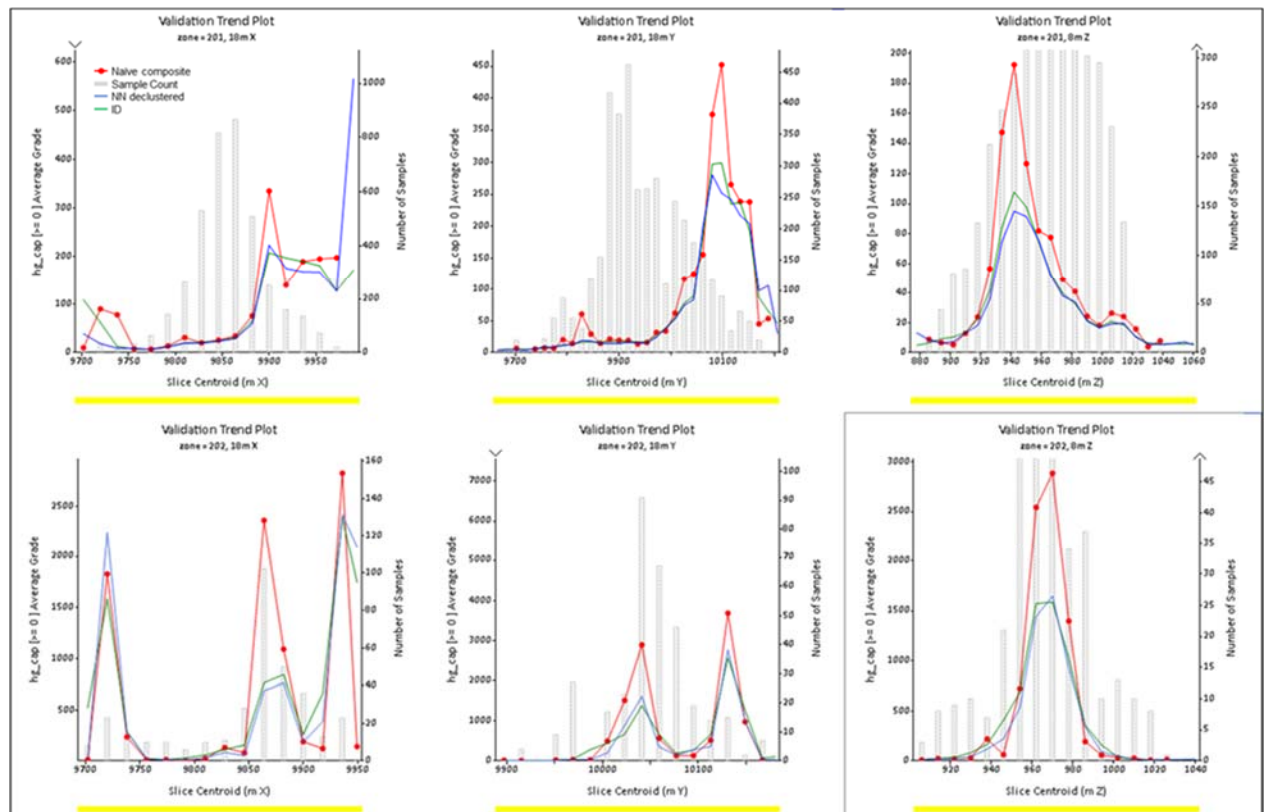


Figure 14-29: Swath plots of mercury in Zone 201 -- 21A Rhyolite (top) and Zone 202 -- 21A Mudstone (bottom). Left (Northing), middle (Easting) and right (Elevation)

#### 14.17.10 Base metal, Epithermal, and metallurgical element concentrations

The average estimated epithermal, base metal, and metallurgical concentrations remaining in each domain within the pit shell at the resource cut off grade of AuEQ > 0.7 g/t is shown in Table 14-42.

**Table 14-42: Epithermal, base metal, and metallurgical concentrations remaining in each of the Domains within the pit shell at an AuEQ cut-off grade of 0.7 g/t**

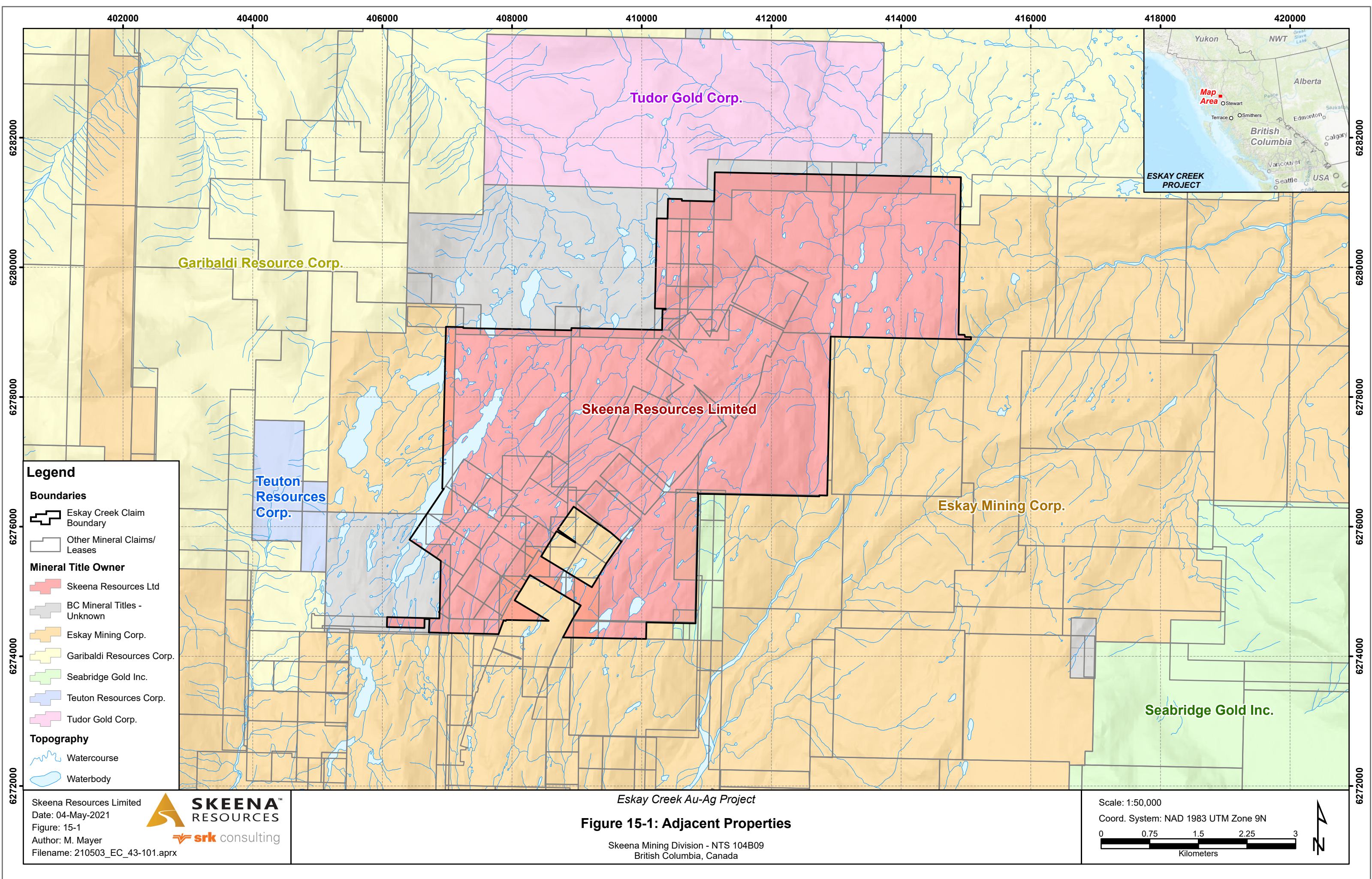
Domain	Mercury ppm	Arsenic ppm	Antimony ppm	Lead %	Copper %	Zinc %	Fe %	S %
ENV	11	200	266	0.220	0.031	0.337	1.736	0.672
22	6	763	241	0.106	0.015	0.167	1.333	0.955
21A	102	1,352	1,184	0.095	0.018	0.165	1.373	1.397
21C	13	320	446	0.193	0.045	0.340	1.716	1.424
21B	96	489	1,865	0.378	0.073	0.636	1.665	1.609
21Be	75	1,345	1,572	0.808	0.136	1.299	-	-
21E	15	429	2,561	0.066	0.020	0.149	1.922	1.373
HW	23	514	1,302	1.353	0.203	2.022	1.782	1.332
NEX	20	445	765	0.937	0.118	1.380	-	-
WT	8	240	311	0.100	0.028	0.177	0.839	0.501
LP	24	1,229	301	0.706	0.021	1.165	-	-
PMP	17	469	1,061	0.093	0.030	0.167	1.057	0.946
109	28	594	245	1.359	0.025	2.098	-	-

## 15 Adjacent Properties

Notable third-party properties in the Iskut River region are summarized in Table 15-1. Adjacent properties to the Eskay Creek Project are shown in Figure 15-1. The information listed has been taken from documents readily available on the respective company websites and BC MINFILE. 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.

**Table 15-1: Summary table of notable third-party properties in the Iskut River region**

Project Name	Owner/Operator	Status	Year	Classification	Cut-off Grade	Tonnes (000)	Average Grades				Source
							Au (g/t)	Ag (g/t)	Cu (%)	Mo (%)	
Brucejack	Pretium Resources Inc.	In Production	2020	Proven & Probable	\$180/t	15.7	8.4	59.6	-	-	Shaw et al., (2020)
KSM	Seabridge Gold Inc.	Development Project	2020	Proven & Probable	\$9/t	2,198	0.55	2.6	0.21	42.6	Threlkeld et al., (2020)
Galore Creek	Teck Resources Ltd./NOVAGOLD Resources Inc. JV	Development Project	2011	Proven & Probable	\$11.96/t	528	0.32	6.02	0.59	-	Gill et al., (2011)
Schaft Creek	Teck Resources Ltd./Copper Fox Metals Inc. JV	Development Project	2013	Proven & Probable	\$6.6/t	940.8	0.19	1.72	0.27	0.018	Farah et al., (2013)
Red Mountain	Ascot Resources Limited	Development Project	2020	Proven & Probable	3.11 to 4.1 g/t AuEQ	2,544	6.52	20.6	-	-	Bird et al., (2020)
Project Name	Owner/Operator	Status	Production Years	Million Tonnes	Historical Production				Au (Moz)	Ag (Moz)	
					Au (g/t)	Ag (g/t)	Cu (%)	Mo (%)			
Snip	Skeena Resources Limited	Past Producer, Exploration	1991-1999	1.308	24.53	9.31	0.02	-	1.03	0.39	BC MINFILE (2018)
Johnny Mountain	Seabridge Gold Inc.	Past Producer, Exploration	1988-1990, 1993	0.227	12.38	19.14	0.44	-	0.09	0.14	BC MINFILE (2018)
PROJECT NAME	Owner/Operator	Status	Comments								
E & L	Garibaldi Resources Inc.	Exploration	Plans for 2021 include two airborne geophysical surveys to expand the footprint of the flagship E&L sulphide zone at Nickel Mountain and establish new discoveries along the 15km strike length between E&L and the nickel-copper outcrops identified at Mount Shirly in 2020. It will also explore for Eskay Creek type gold-silver rich volcanogenic-massive-sulphide (VMS) mineralization.								Company website
KSP	QuestEx Gold and Copper Limited.	Exploration	The Inel prospect located on the 312 km <sup>2</sup> KSP property has 38,000m of drilling in 305 drill holes and 1,240m m of underground development. During 2021 QuestEx plans to drill +2,000m meters for infill drilling and testing of exploration targets as well as develop an independent 43-101 compliant mineral resource.								Company website
Corey and SIB	Eskay Mining Corporation.	Exploration	2021 exploration work will consist of a property wide SkyTEM survey across its 100% owned consolidated Eskay Precious metal rich VMS Project. A +30,000 m drill program is anticipated to commence in June.								Company website
Treaty Creek	Tudor Gold Corp./American Creek Resources Ltd./Teuton Resources Corp.	Exploration	Maiden Resource estimate was released in March 2021 containing a pit constrained resource of 609.8 M tonnes at 0.65 g/t Au, 3.2 g/t Ag and 0.06% Cu (Measured and Indicated) and 139.4 Mt of 0.72 g/t Au, 3.6 g/t Ag and 0.004% Cu (Inferred) at a 0.3 g/t AuEQ cut-off grade as well as Bulk Underground resource of 205.9 Mt at 0.7 g/t Au, 4.6 g/t Ag and 0.07 Cu (Measured and Indicated) and 172.3 Mt of 0.72 Au, 4.4 g/t Ag and 0.006% Cut (Inferred) at a cut off grade of 0.46 g/t AuEQ.								Company website
Kirkham	Metallis Resources Inc.	Exploration	2021 Exploration work consists of geological mapping/prospecting, surface rock-chip and soil sampling, 15 line kms of Induced Polarization ("IP") survey and 5000m of drilling on the Kirkham Property.								Company website



**Legend**

**Boundaries**

- Eskay Creek Claim Boundary
- Other Mineral Claims/Leases

**Mineral Title Owner**

- Skeena Resources Ltd
- BC Mineral Titles - Unknown
- Eskay Mining Corp.
- Garibaldi Resources Corp.
- Seabridge Gold Inc.
- Teuton Resources Corp.
- Tudor Gold Corp.

**Topography**

- Watercourse
- Waterbody

Skeena Resources Limited  
 Date: 04-May-2021  
 Figure: 15-1  
 Author: M. Mayer  
 Filename: 210503\_EC\_43-101.aprx



*Eskay Creek Au-Ag Project*

**Figure 15-1: Adjacent Properties**

Skeena Mining Division - NTS 104B09  
 British Columbia, Canada

Scale: 1:50,000  
 Coord. System: NAD 1983 UTM Zone 9N

## **16 Other Relevant Data and Information**

There is no other relevant data available about the Eskay Creek Project.



## 17 Interpretation and Conclusions

The objective of SRK's scope of work was to perform a review of the Resource Estimate for the Eskay Creek Project and validate the results. 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

- The Eskay Creek deposit is a precious and base metal-rich VMS deposit, hosted in volcanic and sedimentary rocks of the Lower to Middle Jurassic Hazelton Group. Mineralization is contained in several stratiform, disseminated and stock work vein zones that display a wide variety of textural and mineralogical characteristics. In addition to extremely high precious metal grades, Eskay Creek is distinguished from conventional VMS deposits by its association with elements of the 'epithermal suite' (Sb-Hg-As) and the dominance of clastic sulphides and sulfosalts.
- The understanding of the regional geology, lithological and structural controls of the mineralization on the Eskay Creek Project are sufficient to support estimation of Mineral Resources.

### 17.3 Exploration, Drilling and Data Analysis

- A considerable amount of surface and underground drilling has been completed on the property by various companies since the 1930s. No historical drill core remains for any zones at Eskay Creek. Skeena compiled and reviewed the available historical data to build a validated database to support the current Mineral Resource Estimate. This database includes 7,583 drill holes totalling 651,332 meters.
- From 2019 to early January 2021, 705 additional drill holes totalling 97,003 m was drilled in the 22, 21A, 21C, 21B, 21E, and PMP and the newly modelled LP and WT Zones.
- 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 historical sample preparation, security and analytical procedures met 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 Eskay Creek deposit.
- SRK reviewed the analytical quality control data accumulated for the Eskay Creek deposit between 1997 and 2004. An analysis of the historical QA/QC programs confirmed that sample bias was negligible. SRK confirms that gold and silver grades are reasonably well reproduced and reliable for resource estimation purposes.

- SRK reviewed the analytical quality control data from the 2018 drilling campaign and found no obvious errors or bias.

## 17.4 Metallurgy

- Recovery percent for gold and silver were deduced from metallurgical samples that were tested and evaluated in 2019. Based on test work from a range of head grade samples and flotation concentrate of saleable precious metal, recoveries of 90% for gold and 80% for silver were selected. These recovery factors have been applied into the Mineral Resource Estimate by Skeena and are considered acceptable and appropriate.
- The 21A and 21B Zones hosted within the Contact Mudstone unit are geologically and geochemically equivalent, containing high concentrations of arsenic, mercury, and antimony. The 21B Zone accounted for the bulk of mineralization historically mined at Eskay Creek, whereas the 21A Zone remains unmined. In the 21B Zone, smelter penalties were often prevented by blending ore with a concentrated sulfosalt assemblage with ore having lower concentrations. This allowed the mine to maintain profitable head grades while diluting penalty elements. Deleterious elements are of little significance outside the 21A and 21B Zones. Significant unmined mineralization exists in the 21C, 22 and PMP Zones, which contain low levels of arsenic, mercury, and antimony; here mineralization occurs in proximal feeder structures in the footwall rhyolite.
- Despite the substantial precious metal grades and potential base metal credits of the 21A Zone it was historically uneconomic to mine. High smelter penalties and prevailing low commodity prices were factors that halted mining ambitions. In addition, antimony was treated as a penalty element which contributed to the unfavourable economics of the 21A Zone at the time; however, market conditions have changed since then and there is now the potential to offer antimony by-product credits.
- Metallurgical characterization and testing are currently ongoing.

## 17.5 Mineral Resource Estimation

- The Mineral Resource estimation was performed for the primary commodities of interest: gold and silver, both of which are reported within the Mineral Resource Statement.
- An additional eight elements were estimated along with gold and silver. These include lead, copper, zinc, mercury, arsenic, antimony, iron, and sulphur.
- Block tonnage was estimated using density values derived from lithology groupings.
- SRK considers mineralization at the Eskay Creek Project to have reasonable prospects for eventual economic extraction by means of two mining methods. Using Pit extraction methods, the following zones are considered: 22, 21A, 21C, 21B, 21Be, 21E, HW, NEX, PMP, 109, WT and LP. Using Underground methods, the following zones are considered: 22, NEX, HW, WT and LP.
- The calculated pit constrained cut-off grade was determined to be 0.66 g/t AuEQ (although 0.7 g/t AuEQ was used), and the underground cut-off grade was determined to be 2.4 g/t AuEQ for long-hole mining and 2.8 g/t AuEQ for drift and fill mining where:

$$AuEQ = Au (g/t) + [Ag (g/t)/74].$$

## 18 Recommendations

Continually reaching for improvements during the drilling and sampling process, as well as looking for ways to enhance the geological and resource models, is a priority at Eskay Creek. By improving the data collection process and fine-tuning the geological model, assay data will be partitioned in a way that most reasonably represents the presiding mineralization controls. This in turn will refine the mineral resource estimation result. The following recommendations aim to add value to future programs:

- Future drilling programs will continue to maintain rigorous QA/QC measures.
- As drilling and mapping progresses, geological understanding and interpretations will improve. This knowledge will be used to enhance future lithological, alteration, mineralization, and structural models.
- Build the next level of structural complexity into future models to assist the reinterpretation of geological domain orientation, width, and continuity. Additional structural knowledge will enhance the design of future geotechnical models.
- The current SG sampling process at Eskay Creek is to conduct on-site density determinations using the water displacement method. Future drill programs should adopt a method of independently analysing a percentage of the SG samples.
- Historical mining processes and procedures need to be understood fully so that future mining activities are built upon this knowledge and experience.
- Gaps in the historical data set exist because documents were moved several times and stored in multiple locations over a 10-year time frame. To conduct a full reconciliation of all mined material these documents will need to be retrieved and compiled.
- The Lower Package (LP) was targeted and developed during the 2019 to early 2021 drilling programs. The Lower Package consists of mudstones, dacite and andesites that were previously grouped within the lower Rhyolite. The LP has been sparsely sampled and the limits have not yet been fully defined. Future drilling programs should focus on developing the LP so that domain extents and boundaries are better defined. The refined interpretation will aid in improving model validation and confidence within these zones.

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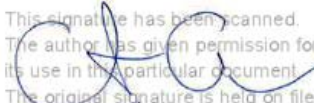
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## 20 Date and Signature Page

This technical report was written by the following “Qualified Persons” and contributing authors. The effective date of this technical report is May 21, 2021.

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Reviewed by



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Andre Deiss, Pr.Sci. Nat  
 Project Reviewer

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices

Appendix A –  
Drill holes excluded from the Mineral Resource Estimate

---

Removed by Barrick					
1249	4069	CA89-200	CA90-394	CA90-566	
2580	4073	CA90-197	CA90-431	CA90-568	
2795	4074	CA90-225	CA90-497	CA90-629	
2815	5035	CA90-242A	CA90-515A	CA90-630	
3729	CA89-170	CA90-349	CA90-564	C96744	
C96775	C96814	C99953	C99955	C99961	
U-51					
Collars suspect					
CA90-420	CA90-225	CA90-312	CA90-263		
Duplicate sample numbers and/or overlapping assay intervals					
1494	AD9006	C02-1168X	MR05	AD9006	
1766	AD9008	CA89-126	7119	C02-1148	
1943	ADL9435	CA89-154	7162	KV01	
620865	C01977X	CA90-545	7204		
Drain Holes					
DR001	DR015	DR061	DR620	DRAIN1	
DR003	DR016	DR109	DR70	DRAIN2	
DR004	DR018	DR507	DR700	DRAIN3	
DR006	DR042	DR525	DR728	DRAIN4	
DR013	DR044	DR589	DR734		
Excluded Regional Holes South of 8250N					
C011127	GNC9006	LW9006	LW9126	MR03	P3621
C011128	GNC9015	LW9007	LW9127	MR04	P3622
C011129	GNC9018	LW9008	LW9128	P3402	P3623
C02-1175	GNC9018A	LW9009	LW9129	P3404	P3624
C02-1177	GNC9123	LW9010	LW9130	P3405	P3625
C04-1289	GNC91-24	LW9011	LW9131	P3406	P3626
C04-1290	GNC92-29	LW9012	MP0109X	P3407	P3627
C04-1292	GNC9230	LW9013	MP0110	P3408	P3628
C04-1294	GNC92-31	LW9014	MP02-11	P3409	P3629
C91-706	GNC93-32	LW9115	MP9701	P3410	P3630
C91-707	GNC93-33	LW9116	MP9702	P3411	P3631
C91-708	GNC93-34	LW9117	MP9801X	P3512	P3632
C91-709	GNC9730X	LW9118	MP9803	P3513	P3633
C98925	GNC9835	LW9119	MP9804	P3514	P3634
DR620	GNC9836	LW9120	MP9805	P3515	P3635
GNC9001	LW9001	LW9121	MP9806	P3616	P3637
GNC9002	LW9002	LW9122	MP9807	P3617	P3639
GNC9003	LW9003	LW9123	MP9808	P3618	SIB89-1
GNC9004	LW9004	LW9124	MP9809	P3619	SIB89-10
GNC9005	LW9005	LW9125	MR01	P3620	SIB89-11
SIB89-12	SIB90-24	SIB90-46	SIB91-53	SIB91-73	SIB91-93
SIB89-13	SIB90-25	SIB90-47	SIB91-54	SIB91-74	SIB91-94
SIB89-14	SIB90-26	SIB90-48	SIB91-55	SIB91-75	SIB91-95
SIB89-15	SIB90-27	SIB91-100	SIB91-56	SIB91-76	SIB91-96
SIB89-2	SIB90-28	SIB91-101	SIB91-57	SIB91-77	SIB91-97
SIB89-3	SIB90-29	SIB91-102	SIB91-58	SIB91-78	SIB91-98
SIB89-4	SIB90-30	SIB91-103	SIB91-59	SIB91-79	SIB91-99
SIB89-5	SIB90-31	SIB91-104	SIB91-60	SIB91-80	SP9801
SIB89-6	SIB90-32	SIB91-105	SIB91-61	SIB91-81	
SIB89-7	SIB90-33	SIB91-106	SIB91-62	SIB91-82	
SIB89-8	SIB90-34	SIB91-107	SIB91-63	SIB91-83	
SIB89-9	SIB90-35	SIB91-108	SIB91-64	SIB91-84	
SIB90-16	SIB90-36	SIB91-109	SIB91-65	SIB91-85	
SIB90-17	SIB90-37	SIB91-110	SIB91-66	SIB91-86	
SIB90-18	SIB90-38	SIB91-111	SIB91-67	SIB91-87	
SIB90-19	SIB90-39	SIB91-112	SIB91-68	SIB91-88	
SIB90-20	SIB90-40	SIB91-49	SIB91-69	SIB91-89	
SIB90-21	SIB90-41	SIB91-50	SIB91-70	SIB91-90	
SIB90-22	SIB90-44	SIB91-51	SIB91-71	SIB91-91	
SIB90-23	SIB90-45	SIB91-52	SIB91-72	SIB91-92	

Appendix B –  
Sample Preparation, Analyses, and Security

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## Sample Preparation, Analyses, and Security

### Pre-2004 Analysis

#### Sample Preparation and Assaying Procedures

Limited information is available for procedures used during the exploration programs carried out before 2004. The drill core was logged using DLOG computer programs for data entry as well as for drill log printing. The data was entered directly into laptop computers and the rock units coded with 4-digit geology codes; mineralized sections were logged separately as nested units or primary units depending on quantities. Textural descriptions, rock colour and structure were also coded with 2-character fields. Remarks were typed into separate fields to characterize unique geology, structure, or mineralization features.

All collar and survey information were tabulated in master files within the DLOG computer program. Completed logs were printed and the information was exported into ACAD and Vulcan software to facilitate plotting drill hole location maps and cross-sections.

As part of the diamond drill core processing procedures, all drill core was geotechnically logged. Two parameters were routinely measured and recorded: (1) Core recovery – the % of drill core recovered in every 3.05 m (10 foot) run, and (2) RQD (Rock Quality Determination) – the % of core within a run exceeding 10 cm in length. Skeena currently does not have access to the historical RQD and recovery data.

During the drill core logging process, portions of the core were selected for sampling based on lithology, mineralization, and alteration. Sample intervals varied from about 0.25 m up to 1.5 m though the optimum sample interval was 1.0 m. Sample intervals were always contained within one geologic unit and did not straddle contacts. Assay tags were used for sample identification and were inserted at the end of each sample interval. After the logging and photography had been completed, the core was sampled by means of splitting the core with a manual or pneumatic splitter or by cutting the core with a diamond bladed rock saw in the case of the massive sulphide zones. One half of the core was placed in plastic sample bags and sealed for shipment to the lab and the other half of the core was returned to the core box and then trucked to the unused gravel pit at km 45 for long term storage; this storage area was turned into a logging facility for the 1998 drilling campaign. Sample bags containing core for analysis were either carried to the mine assay lab located adjacent to the logging facilities or packed in rice bags/plastic pails for shipment via truck to Independent Plasma Laboratories (IPL) for an independent check on select samples.

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Asia
Australia
Europe
North America
South America

During 1996 and 1997, most of the drill core was processed at the core logging facilities located at the Eskay Creek mine site. However, during the 1998 drill campaign the drill core was processed at the core logging facilities located either at the Eskay Creek mine site or at Camp 45, an exploration site situated 45 km along the Eskay Creek Mine Road.

Both the Eskay Creek mine assay lab and IPL in Vancouver used very similar sample preparation and analytical procedures in processing drill core samples.

At IPL, all drill core samples were crushed to -10 mesh, riffle split and 250g pulverized to -15 mesh. Gold was assayed by fire assay (30g) with AA finish. All gold values greater than 1.00 g/t were re-assayed by fire assay (30g) and finished gravimetrically. Silver was assayed by fire assay (30g) with AA finish. Every batch of 24 assays consisted of 22 samples, 1 internal standard or blank and a random re-weigh of one of the samples.

Analysis for lead, zinc, copper, arsenic and antimony was done by an ore grade assay method using a 0.50g sample digested in a dilute aqua regia solution. The above-mentioned elements were analyzed for by AA. Calibration was done using three known standards and a blank. Internal quality control was accomplished by a system of standards, blanks and re-analysis. Mercury was analyzed for using an aqua regia digestion and finished by ICP.

At the Eskay Creek mine assay lab, the drill core was jaw-crushed to -1/8", riffle split and 250 to 300g pulverized. Gold was assayed by fire assay (10g) with AA finish. Every batch of 24 samples included two duplicate assay checks.

For analysis for zinc, antimony, copper, and lead, a 0.20g sample was digested in a heated solution of tartaric, nitric, perchloric and hydrochloric acids, and finished by AA. For mercury and arsenic, a 1.00g sample was digested in a heated solution of nitric, perchloric and hydrochloric acids and finished by AA.

### **QA/QC Verifications 1997 to 2003**

Prior to 2002, there was no formal QA/QC program in place, however the Eskay Creek mine lab and external lab, IPL, were regularly monitored with pulp duplicates. In 2003, standards and blanks were inserted into the sample stream, however there is no record of what type of standards were used. Table A summarizes the number and type of standards, duplicates and blanks used during this period. Section 12 – Verifications of Analytical Quality Control Data, details the SRK reviewed and validated QA/QC results for the 1997 to 2003 drilling and sampling campaigns.

**Table A: Summary of historical analytical quality control data on the Eskay Creek Project**

Sampling Program	DDH	
	1997-2003	(%)
Sample Count	6190	100
Field Blanks (silica)	209	3
QC Samples unknown	3271	53
G-1 Standard	8	0.1
DS4 Standard	92	1
DS5 Standard	491	8
Unknown Standard	177	3
Field Duplicates	-	
Preparation Duplicates	524	8
Pulp Duplicates	985	16
Unknown Duplicates	433	7

## 2004 Analysis

### Sample Preparation and Assaying Procedures

Comprehensive sampling and assaying methodology were in place during the 2004 drilling campaign for both surface and underground drill holes (Barrick, 2005).

The diamond drill core was sampled at 1.0 m intervals, but smaller increments were applied where necessary to honour geological contacts. The core was submitted whole to the Eskay mine assay lab for gold and silver determination by fire assay. Samples reporting greater than 8 g/t gold-equivalent, using the following formula:  $AuEQ = Au + (Ag/68)$ , were also analyzed for lead, zinc, copper, mercury and arsenic by atomic absorption spectrometry.

Drill logs and sample data were compiled into an SQL server-based database where all geological, assay and survey information were entered. Once the drill hole data had been approved the drill hole was locked from further editing and data was transferred to a Vulcan database to allow plotting and spatial interpretation. Hole locations were checked visually on import to detect for collar and survey errors.

Photographing of all diamond drill core using a digital camera was initiated in 2004. All core drilled for the mine geology department was either consumed during sampling or discarded once it had been logged. Skeena was unable to find photographic evidence of any of the core.

Production samples were also collected daily from each face. Representative geologic contacts were identified, and these chip samples were analyzed for gold, silver, mercury and antimony. Information collected from each face was entered daily into an inhouse Access database and then transferred to a Vulcan database.

Surface diamond drilling was overseen by the historical operator's exploration group. Surface samples were sent to commercial laboratories in Vancouver for analysis, whereas underground samples were sent and

processed at the Eskay Creek mine lab. Gold and silver were analyzed by fire assay and other elements were determined by ICP-MS.

Holes drilled for the Regional Exploration group were shipped to the exploration camp. This camp has now been dismantled and all core was disposed of in Albino Lake, 9 km from the Eskay Creek mine site.

### QA/QC Verifications 2004

An official QA/QC program was undertaken in 2004 whereby the Eskay Creek exploration team added standards, blanks and field duplicates to the sample stream and submitted them to an independent lab for checking (Table B). Section 12 – Verification of Analytical Quality Control Data, details the SRK reviewed and validated QA/QC results for the 2004 drilling and sampling program.

An audit was conducted on the 2004 QA/QC results and procedures by Dr. Barry Smee, of Smee & Associates Consulting Ltd. (Gale et al., 2004). The findings from the analysis identified a low bias in relation to Acme's internal standards for both aqua regia and fire assay methods. Acme corrected the inconsistencies with batch repeats. The sampling precision by means of using duplicate preparation and pulp samples was found to be within acceptable limits.

**Table B: Summary of historical analytical quality control data on the Eskay Creek Project**

Sampling Program	DDH	
	2004	(%)
Sample Count	2456	100
Field Blanks	289	12
QC Samples unknown	1515	62
ESK13-1	12	0.5
ESK12-1	10	0.4
ESK72-1	9	0.4
ESK6114-1	21	1
ESK61-1	131	5
Field Duplicates	144	6
Preparation Duplicates	158	6
Pulp Duplicates	167	7

### Historical Specific Gravity Analysis

Specific gravity (SG) measurements were collected from diamond drill core in 1996 (250 measurements from 20 drill holes) and 1997 (84 measurements from 7 drill holes). Sections of drill core up to 10 cm long of split or whole core were used to determine the SG. The core was first weighed in air on a beam balance, and then weighed in water. One or more measurements were taken from each sample interval.



SG models were subsequently created using a formula that was derived experimentally based on comparisons between actual measurements and analyses at Eskay Creek. This formula was utilized for all ore reserves calculated on site in the mine's history so that SG could be determined for mineralized intervals that did not have the directly measured values.

$$SG = (Pb + Zn + Cu) * 0.03491 + 2.67 \text{ (where all metals are reported in \%)}.$$

A default value of 2.67 was applied to samples for which base metals were not reported. This is the average value of unmineralized rhyolite and mudstone host rocks combined.

The measured SG values from the early drill programs were primarily from relatively low base metal, 21B-style mineralization. The formula is therefore likely biased on the low side for rocks with higher base metal content.

## Analysis of Historical Data by Skeena

In early 2018, Skeena was given access to the historical Operators proprietary database ("historical database"), which had been held in confidence since the mine closed in 2008. The database files, assay certificates, drill hole logs, and report files were stored in various locations and in various states of order. No single complete data set was located.

Between May and July 2018 Skeena personnel compiled and reviewed all available drilling and assay data to rebuild and produce a validated database in Microsoft Access™ format. The historical database originated as a Vulcan file that was extracted and used as the building block for the final Skeena database ("the Database").

Digital certificates of original and rerun assays were located for the years 1999 to 2004 from the Eskay Creek mine laboratory as well as from three Independent laboratories: IPL, Bondar Clegg and Acme Analytical (Acme). Although only a partial set, the assays with certificates were imported into the Database and took precedence over any other assay values within the historical database. A total of 27,609 of the 426,367 assays in the Database were validated with original certificates. Gold and silver make up most of the assays in the Database, whereas base metals (lead, copper, zinc) and deleterious elements (arsenic, mercury, antimony) account for a lesser proportion in the Database because they were historically selectively analysed.

Lower detection limit (LDL) inconsistencies were encountered in the historical database. The Eskay Mine laboratory did not consider values below 1 g/t Au and 10 g/t Ag as significant, therefore those grades were either set to a default of 0.5 g/t Au and 5 g/t Ag or left as <1 g/t Au and <10 g/t Ag. Base metal and deleterious elements below detection limits were set to 0.0%. Due to the high cut-off grades at the time that the mine was in production, the use of these default lower detection limits had little impact. Skeena reviewed the methodology and assays certificates from the Eskay mine laboratory and determined reporting to 0.1 g/t for Au and Ag. For assays below this true detection limit, a value of half of this limit was applied in the Database (0.05 g/t for Au and 0.05 g/t for Ag and 0.005% for Pb, Cu, Zn, As and Sb). In addition, all LDL's from the Independent assay laboratories were originally set to 0.0 g/t in the historical database for all elements analyzed. Skeena reset the LDL's to the actual limits used by the Independent laboratories at the time. Table C shows the detection limits from the historical database along with the modified LDL used in the Database.

**Table C: Lower detection limit (LDL) changes in the Database for gold, silver, base metal and deleterious elements**

Lab	Gold			Silver		
	Historical LDL (g/t)	Lab LDL (g/t)	Skeena LDL (g/t)	Historical LDL (g/t)	Lab LDL (g/t)	Skeena LDL (g/t)
Acme	0	0.0005	0.001	0	0.1	0.05
Bondar Clegg	0.0	0.069 *	0.035	0	0.069 *	0.035
IPL	0.0	0.034 *	0.017	0	1.714 *	0.85
Eskay	0.5	0.1	0.05	5	0.1	0.05
TSL	0.0	0.034 *	0.017	0	1.714 *	0.85
unknown**	0.0	0.069 *	0.035	0	0.69 *	0.35

Lab	Base Metals	Lead		Zinc		Copper	
	Historical LDL (%)	Lab LDL (%)	Skeena LDL (%)	Lab LDL (%)	Skeena LDL (%)	Lab LDL (%)	Skeena LDL (%)
Acme	0	0.00005	0.001	0.00001	0.001	0.00001	0.001
Bondar Clegg	0.0	0.01	0.005	0.01	0.005	0.01	0.005
IPL	0.0	0.01	0.005	0.01	0.005	0.01	0.005
Eskay	0.0	0.01	0.005	0.01	0.005	0.01	0.005
TSL	0.0	0.01	0.005	0.01	0.005	0.01	0.005
unknown**	0.0	0.01	0.005	0.01	0.005	0.01	0.005

Lab	Deleterius Elements	Arsenic		Mercury		Antimony	
	Historical LDL (%)	Lab LDL (%)	Skeena LDL (%)	Lab LDL (%)	Skeena LDL (%)	Lab LDL (%)	Skeena LDL (%)
Acme	0	0.00001	0.001	0.010	0.005	0.00001	0.000
Bondar Clegg	0.0	0.01	0.005	3	1.5	0.01	0.005
IPL	0.0	0.01	0.005	3	1.5	0.01	0.005
Eskay	0.0	0.01	0.005	1	0.5	0.01	0.005
TSL	0.0	0.01	0.005	1	0.5	0.01	0.005
unknown**	0.0	0.01	0.005	1	0.5	0.01	0.005

\* Converted from ounces per tonne (opt) to g/t

\*\* Barrick noted that it was assumed to be Bondar Clegg, therefore Bondar Clegg lab values were used

Skeena inherited a database that had a total of 41,624 duplicate primary sample numbers. The duplicate sample numbers were a result of the historical Operators reusing the same sample tag number already used by previous drilling campaigns in different years. Skeena rectified the conflicts by creating a new column in the Database that uniquely identifies the sample by year of drilling first and then by sample number.

For data integrity purposes, the Database retains all the original sample numbers with unmodified assay values in separate, searchable columns. This applies to multiple element rerun samples as well. A priority system was set up so that a final "element\_best" column gives precedence to assay values with validated assay certificates over unconfirmed samples.

Drill core at Eskay Creek was selectively sampled by the historical Operators based on visual estimations of mineralization, which resulted in many unsampled intervals within the body of mineralization. Skeena identified these unsampled intervals with an assigned value of -99 in the database. In some cases, samples were not analyzed due to insufficient material provided to the laboratory or samples not received. The historical Operator coded these samples with one of five default values. Skeena denoted these samples with a value of -66 in the database.

Once the Skeena database had been rebuilt it was validated for gaps, overlapping intervals, duplicates, and lower detection limits. Surface drill hole collar locations were checked against the topographic surface for accuracy, and underground drill hole collar locations were checked against underground development wireframes. Where available, drill holes collar locations were confirmed from the original drill logs.

Following validation, 306 holes were flagged in the Database and were excluded from the data export used to create the Mineral Resource Estimate (see Appendix A). The excluded drill holes include:

- 31 holes where collar locations were reported as suspicious in 2004 and 2006 internal company Resource reports;
- 4 surface holes where mineralized intervals do not correlate with underground development;
- holes with duplicate sample numbers and/or overlapping assay intervals;
- 24 drain holes
- 228 surface holes south of 8250N that were outside the extents of the Mineral Resource estimate.

Drill holes were imported using a mine grid that is rotated 23 degrees to the east. The Skeena Database was updated with complete UTM and mine coordinates based on the formula provided by McElhanney (McElhanney, 2004). The mine grid coordinates were established by applying a rotation and scale factor as well as northing, easting and elevation shifts to the UTM values around point RP248, in the following order:

Rotation: -24° 14' 45"

Combined Scale Factor: 1.0004459

Northing Shift: -6268630.813m

Easting Shift: -401584.000m

Elevation Shift: 0.000

## **SRK Comments**

In the opinion of SRK the historical sampling preparation, security and analytical procedures used during the years 1997 and 2004 are consistent with generally accepted industry best practices and are therefore adequate.

Appendix C  
Verification of Analytical Quality Control Data 1995 – 2004

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## Verification of Analytical Quality Control Data 1995 - 2004

### 1995-1997 QA/QC Data

Prior to 2002, there was no formal QA/QC program in place, however, the Eskay mine lab was regularly monitored via pulp replicates, which were processed at the external lab: IPL. Some of these replicate samples have been discovered in the original database and have been updated into the updated QA/QC Database. Note that the assay certificates for 1997 were not available.

SRK compiled 190 samples out of a total of 17 drill holes from the 1997 data files. Figure A and Figure B are scatterplots of the original sample versus the pulp repeat for gold and silver, respectively. The results show high correlation between the original and the duplicate assays.

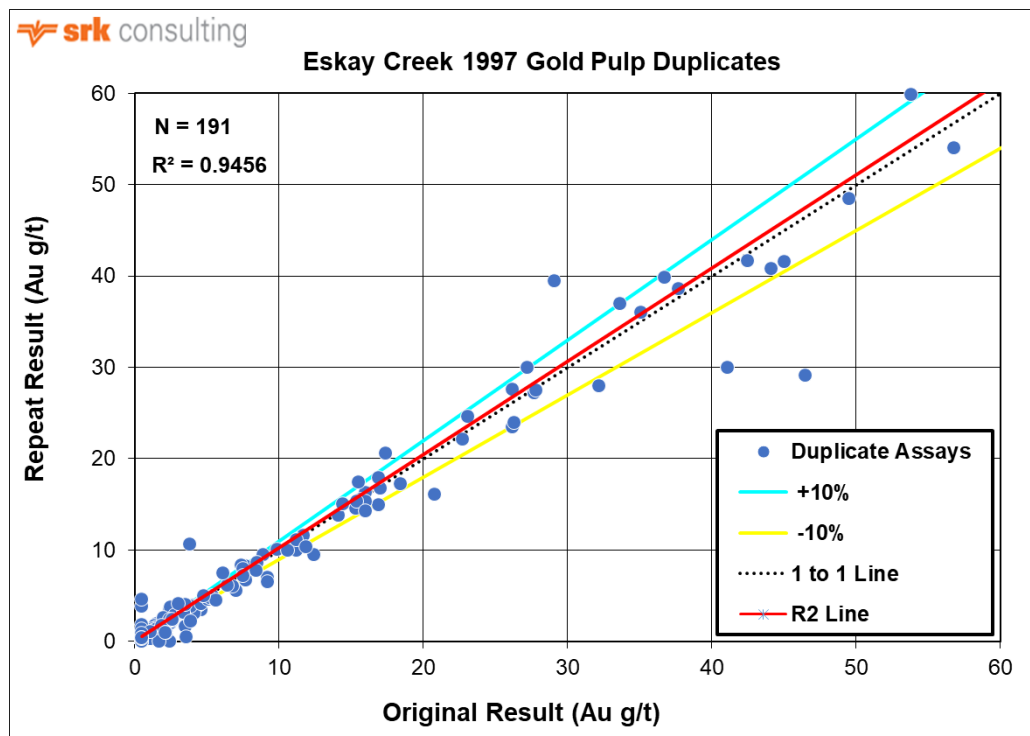


Figure A: Scatterplot of original gold assay (Eskay mine laboratory) and pulp repeat (IPL) from the 1997 drilling campaign

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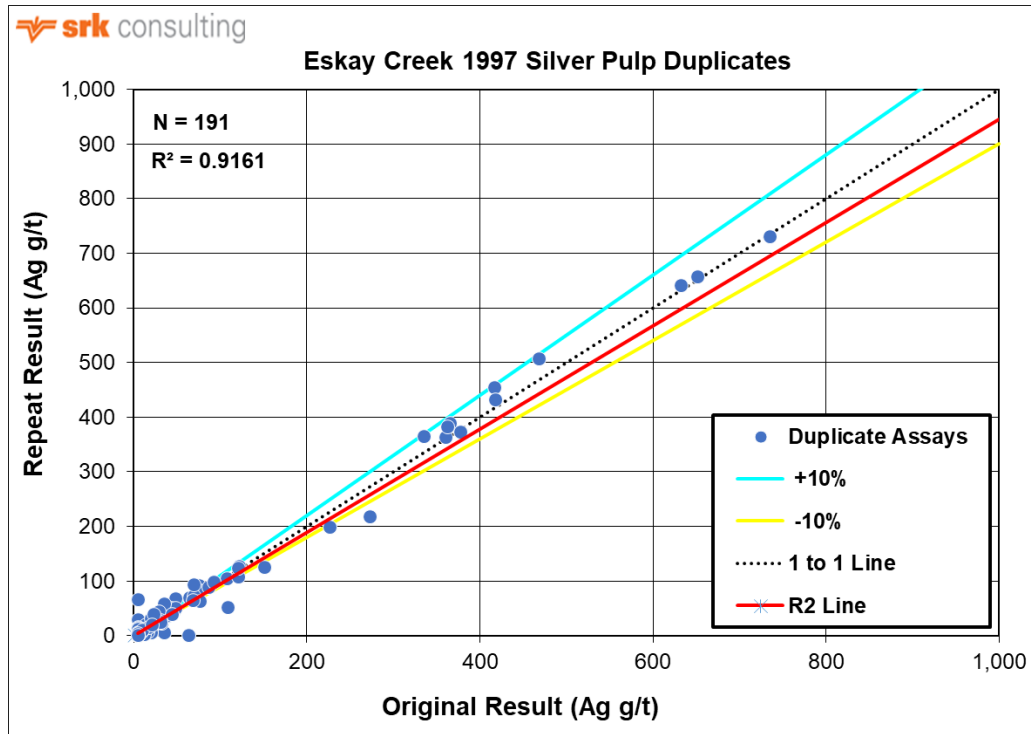


Figure B: Scatterplot of original silver assay (Eskay mine laboratory) and pulp repeat (IPL) from the 1997 drilling campaign

### 1998 QA/QC Data

In 1998 a series of blanks were inserted into the Eskay mine laboratory assaying procedure. Some anomalous background values were observed; however, the source of the blank material has not been documented.

Field duplicates initially tested at the Eskay mine laboratory were sent to IPL labs for independent checking. There was good agreement between the original sample and field duplicate for Au and Ag as well as the base and deleterious elements.

Pulp duplicates were also assessed within the Eskay mine laboratory as well as sent to IPL for an independent check. The data and graphs for these results are extensive and numerous, but the data mostly indicate high correlation between the original and the duplicate assays.

### 1999 QA/QC

SRK independently compiled all the mine assay certificates available and 126 pulp duplicates from the 1999 drilling campaign. A high correlation between the original and the duplicate assays were observed (Figure C).

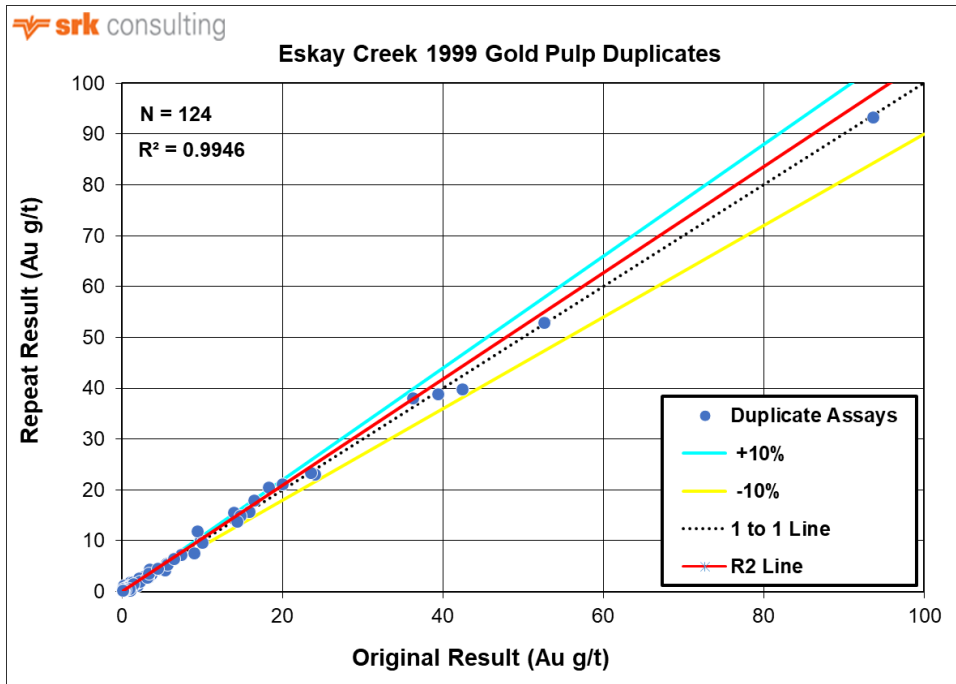


Figure C: Gold pulp repeat samples from the 1999 drilling campaign

## 2001 QA/QC

SRK independently compiled all the mine assay certificates and retrieved 306 pulp duplicates from the 2001 drilling campaign. Figure D shows a high correlation between the original and the duplicate assays.

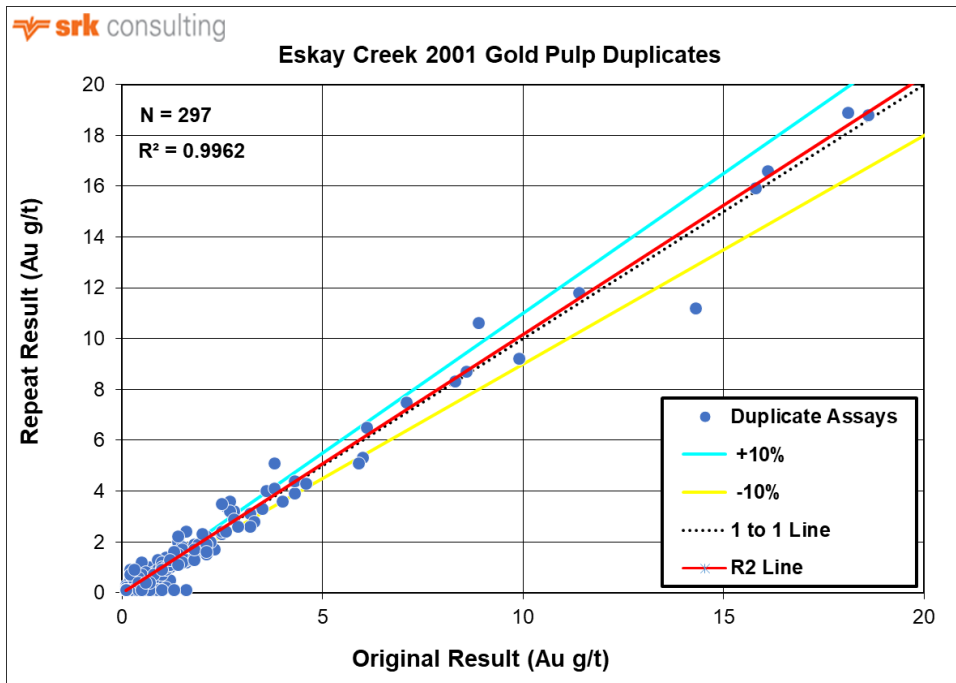


Figure D: Gold Pulp repeat samples from the 2001 drilling campaign



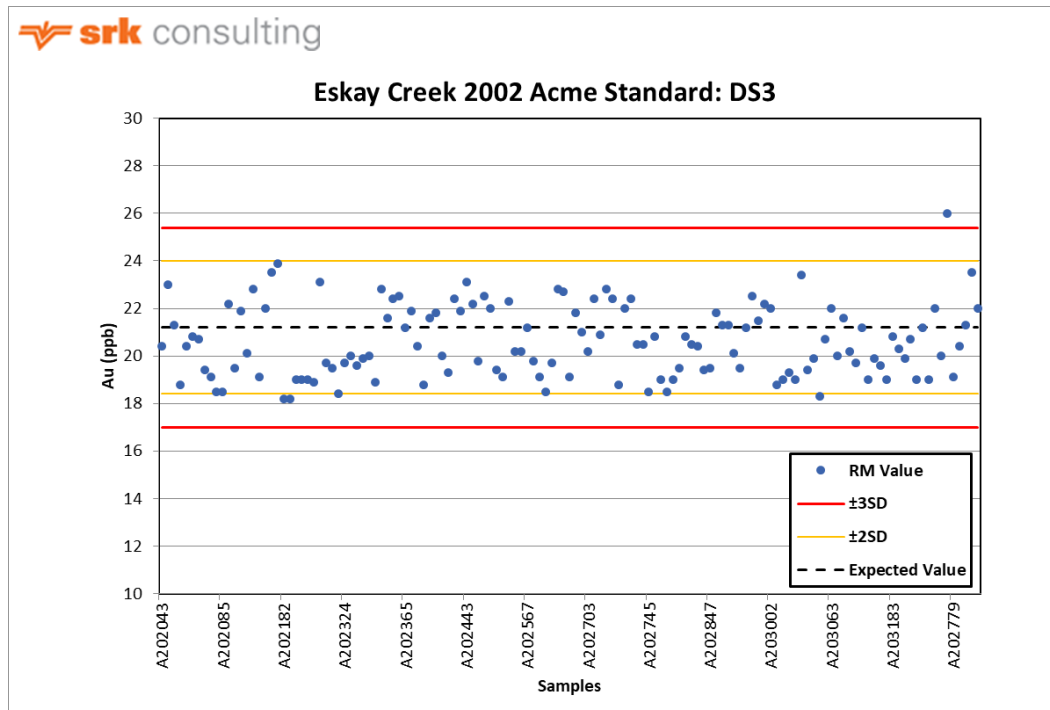
## 2002 QA/QC

No Eskay Mine lab pulp repeats were documented in 2002. The surface drill hole samples were, however, being routinely sent to Acme for processing. Acme inserted three of their own in-house standards: DS3, DS4 and DS4 (Table A). Acme In-house pulp repeats were also routinely completed and monitored.

**Table A: Acme in-house standards used during 2002, 2003, and 2004**

Standard Type	Official value (Au in ppb)	STDEV (-3)	STDEV (+3)
DS3	21.2	17	25.4
DS4	27.4	22.9	31.9
DS5	43.1	38.8	47.4

SRK located the standard certificates for DS3, DS4 and DS5 and independently compiled quality control charts using the results from the original exploration certificates. Note that only the results for gold have been documented, but the standard certificates are valid for silver, lead, zinc, copper, arsenic, mercury and antimony, as well. Figure E and Figure F are the results of the in-house QC validation. All the samples fit within the acceptable limit of 3 standard deviations.



**Figure E: Acme in-house standard (DS3) inserted during the 2002 drilling campaign**



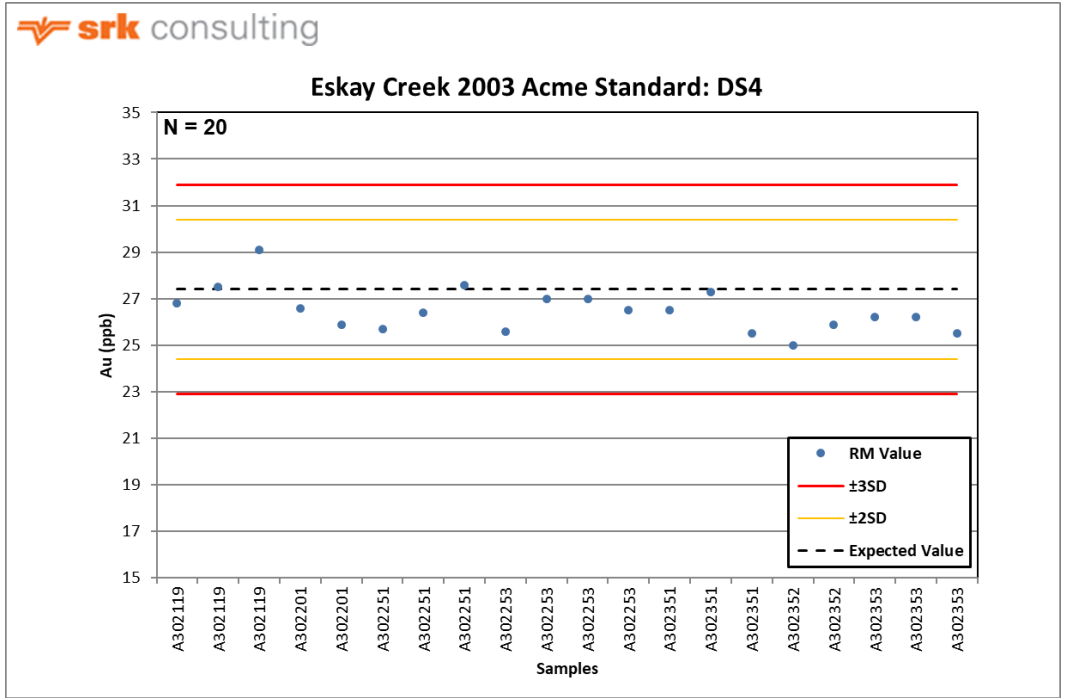


Figure G: Acme in-house standard (DS4) during the 2003 drilling campaign

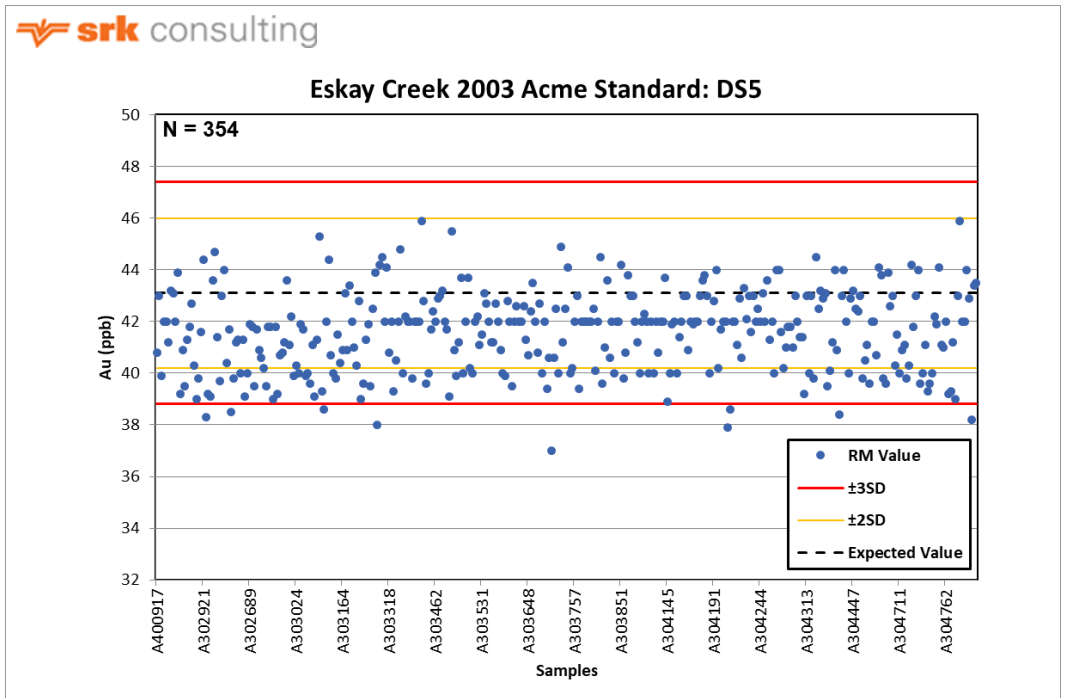


Figure H: Acme in-house standard (DS5) during the 2003 drilling campaign

## 2004 QA/QC

An official QA/QC program was undertaken in 2004 whereby the Eskay Creek exploration team added standards, blanks and field duplicates to the sample stream and submitted them to an independent lab for checking. Acme was used as the umpire lab and all procedures were well documented (Barrick, 2005).

Five in-house assay standards were manufactured by ALS Chemex using material collected from the Eskay Creek Mine (Barrick, 2005). The acceptable values were certified through round-robin analyses at six different labs and statistically evaluated by the Chief Geochemist. The standards and their acceptable values and limits have been tabulated below (Table B). One in every 50 drill core samples was a QA/QC standard.

**Table B: List of the Eskay mine lab standard types and their accepted results**

Standard	Element	-3SD	-2SD	Expected	+2SD	+3SD	SD	Method
DS4	Au g/t	22.9	24.4	27.4	30.4	31.9	1.5	30g FA, instrumental
DS4	Ag g/t	237	251	279	307	321	14	4-acid, instrumental

Standard	Element	-3SD	-2SD	Expected	+2SD	+3SD	SD	Method
ESK61-1	Au g/t	1.2070	1.3259	1.5637	1.8015	1.9204	0.1189	30 g FA AAS
ESK61-1	Ag g/t	32.6309	33.3950	34.9233	36.4516	37.2158	0.7641	130g ICP- MS

Standard	Element	-3SD	-2SD	Expected	+2SD	+3SD	SD	Method
ESK6114-1	Au g/t	3.7155	3.9230	4.3381	4.7531	4.9607	0.2075	30 g AAS
ESK6114-1	Ag g/t	215.1785	225.1665	245.1427	265.1188	275.1068	9.9881	30g Grav

Standard	Element	-3SD	-2SD	Expected	+2SD	+3SD	SD	Method
ESK14-1	Au g/t	8.9315	9.5703	10.8478	12.1252	12.7640	0.6387	10g Grav
ESK14-1	Ag g/t	757.0433	785.7414	843.1375	900.5336	929.2317	28.6981	10g Grav

Standard	Element	-3SD	-2SD	Expected	+2SD	+3SD	SD	Method
ESK72-1	Au g/t	21.8519	22.9641	25.1887	27.4132	28.5255	1.1123	10g Grav
ESK72-1	Ag g/t	42.7441	46.3485	53.5575	60.7665	64.3709	3.6045	10g Grav

Standard	Element	-3SD	-2SD	Expected	+2SD	+3SD	SD	Method
ESK12-1	Au g/t	22.5185	24.5219	28.5288	32.5357	34.5391	2.0034	10g Grav
ESK12-1	Ag g/t	379.4767	393.9158	422.7940	451.6722	466.1113	14.4391	10g Grav

Blanks have been collected from barren rocks found regionally around the mine. One in every 50 drill core samples was a QA/QC blank.

In 2004, the historical Operator generated control charts in Excel and included the results in the month-end drilling reports. These control charts showed that the QA/QC measures taken to ensure unbiased, accurate and precise sampling were effective. SRK recreated standard and blank charts based on some of the data that

that the previous Operator used, and the results all occur within an acceptable range of values for gold (Figure I to Figure K).

Sample repeatability at Eskay Creek was closely monitored during the 2004 drilling campaign by the regular insertion of field duplicates into the sample stream. Field duplicates at the Eskay mine laboratory performed well with the duplicate sample set (Figure L).

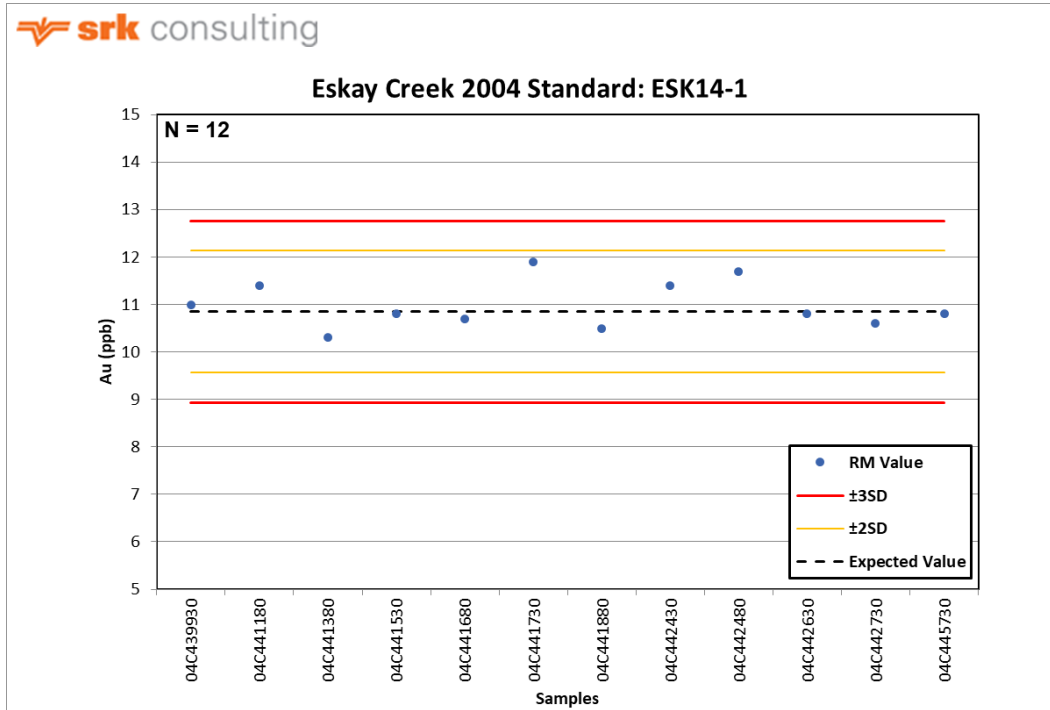


Figure I: Standard ESK14-1 from the 2004 drilling campaign

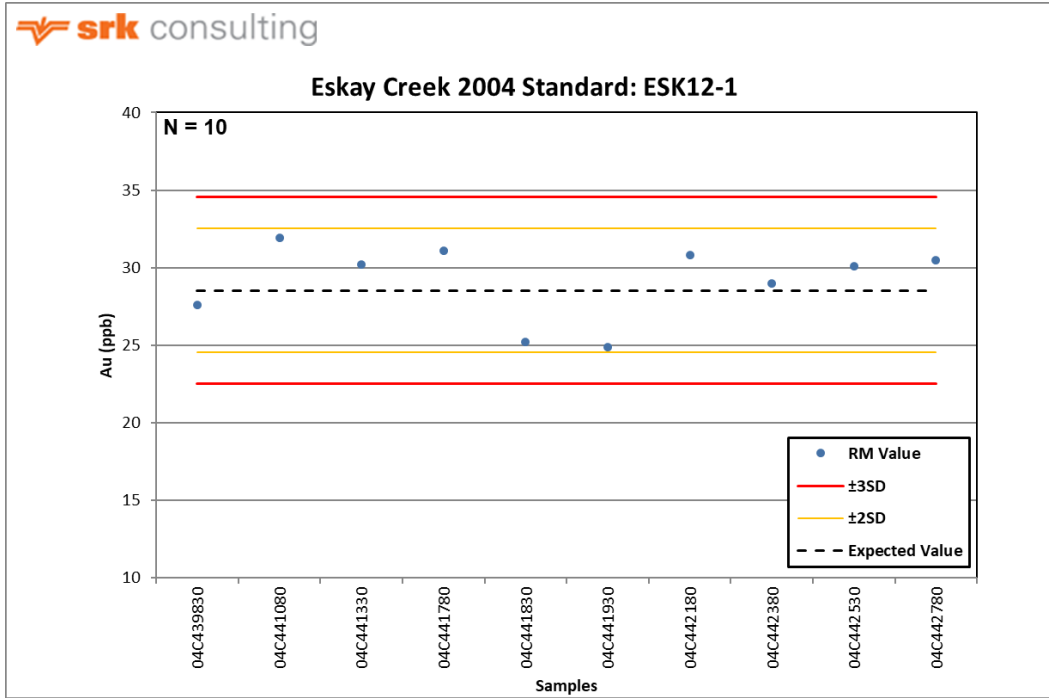


Figure J: Standard ESK12-1 from the 2004 drilling campaign

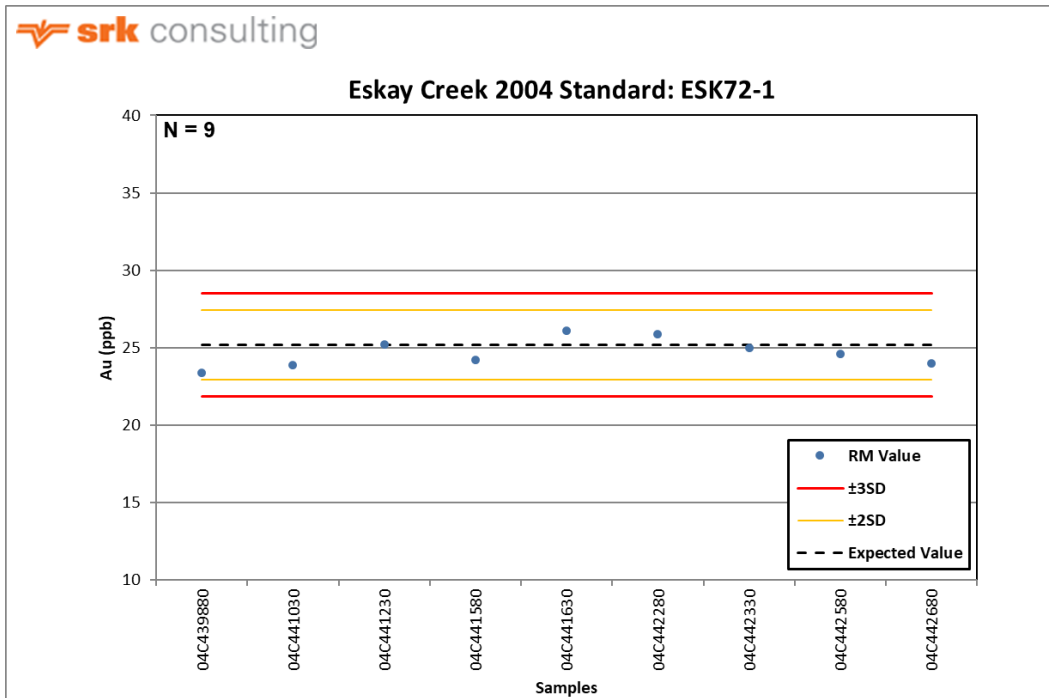


Figure K: Standard ESK72-1 from the 2004 drilling campaign

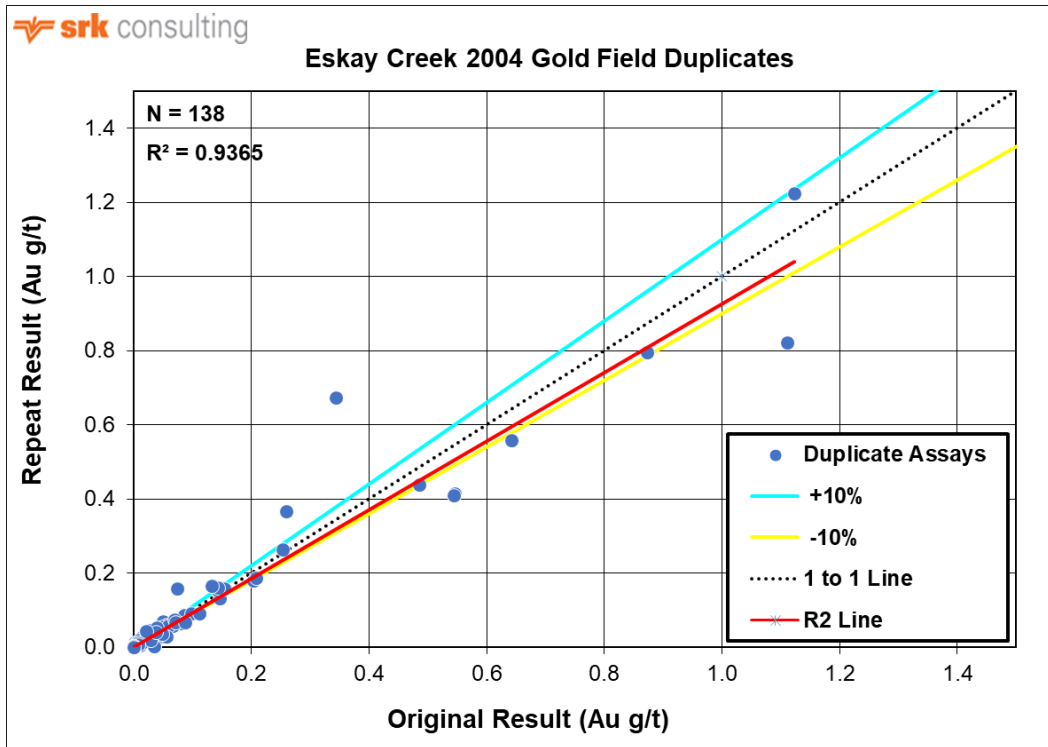


Figure L: Gold field duplicate samples from the 2004 drilling campaign