FREEGOLD MOUNTAIN PROJECT

Whitehorse Mining District, Yukon, Canada

NI 43-101 TECHNICAL REPORT

Prepared for:

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1 SUMMARY

This Technical Report provides updated mineral resource estimates for the three deposits (Nucleus, Revenue, and Tinta Hill) on the Freegold Mountain Project for Triumph Gold Corp. (Triumph Gold) in Yukon, Canada.

Nucleus is an epithermal-style gold-silver-copper deposit, Revenue is a porphyry-related gold-silver-copper-molybdenum-tungsten deposit, and Tinta Hill is a vein-hosted gold-silver-copper-lead-zinc deposit.

This report was prepared by Robert Sim, P.Geo., and Bruce Davis, PhD, FAusIMM. Both are independent qualified persons (QPs) as defined by Canadian Securities Administrators *National Instrument 43-101 Standards of Disclosure for Mineral Projects* (NI 43-101) and as described in Section 28 (Date and Signature Pages) of this report.

PROPERTY LOCATION

The Freegold Mountain Project is a road-accessible, district-scale, gold-copper project located approximately 200 km northwest of the city of Whitehorse and 70 km northwest of the village of Carmacks within the Dawson Range mountains in southwestern Yukon, a stable, mining-friendly jurisdiction in northwestern Canada. Access to the property is provided by unpaved roads.

The centre of the property is approximately 62°18'N latitude and 137°12'W longitude (geographic projection: North American Datum 1983, UTM Zone 8N).

PROPERTY OWNERSHIP AND LAND TENURE

The Freegold Mountain Project consists of 1,067 contiguous Quartz claims and covers an area of just over 200 sq. km (20,000 ha) in the Whitehorse Mining District. Triumph Gold owns 100% of all claims on the Freegold Mountain Property.

The Project currently comprises four individual, but contiguous, exploration properties: Tinta Hill Property (195 claims), Freegold Mountain Property (378 claims), Revenue Property (198 claims) and the Big Creek block (296 claims).

Both the Nucleus and Revenue deposits lie within the Revenue Property, and the Tinta Hill deposit lies within the Tinta Hill Property.

The annual fees and work commitments due on all claims comprising the Project are in compliance, and all of the claims are in good standing.

HISTORY

In 1930, P.F. Guder discovered placer gold on the west side of Freegold Mountain. In the 1950s, further prospecting uncovered a massive chalcopyrite vein in bedrock at Revenue Creek. In the decades that followed, numerous other copper and gold showings were discovered in the northwest-trending belt of rocks hosting this discovery. The Revenue Creek find would lead to the Revenue gold-copper-molybdenum deposit and discovery of the adjacent Nucleus gold-silver deposit. In 2000, the claims hosting the Revenue and Nucleus prospects were united under ATAC

Resources and branded the Golden Revenue Property. In 2006, Northern Freegold Resources added adjoining claims that contained the Tinta Hill polymetallic mineral deposit, and it conducted extensive exploration on the expanded block of claims from 2006 to 2015. In 2010, "Golden" was dropped from the property name containing the Revenue and Nucleus deposits, and the area became known as the Revenue Property. Around that time, the entire claim package became known collectively as the "Freegold Mountain Project". In 2015, Northern Freegold Resources was renamed Triumph Gold Corp.

SAMPLE DATABASE AND VALIDATION

In the authors' opinion, the database management and validation are consistent with common industry practices. The database is considered acceptable for use in estimating mineral resources.

There have been no QA/QC programs that monitor the accuracy and precision of tungsten data in the Revenue deposit or lead and zinc data in the Tinta Hill deposit. These are considered accessory metals that provide only minor economic contributions to the potential value of these deposits, and, as a result, this lack of data validation for these metals is not considered material.

METALLURGY

The metallurgical work conducted to date is considered only preliminary in nature, but the results suggest that acceptable gold and accessory metal recoveries can be achieved using conventional processing methods. The exact locations of sample material used in the metallurgical testing do not capture the possible variability that may be present in these deposits. Additional testing using a more varied suite of sample materials is required. The testing completed to date has not investigated for the presence of any deleterious elements that could be present in the rocks at Freegold Mountain. Note: Estimates of arsenic in the resource models average 0.02% As at Revenue and 0.04% As at Nucleus.

MINERAL RESOURCE ESTIMATE

The mineral resource estimate was generated using drill hole sample assay results and the interpretation of geological models which relate to the spatial distribution of gold, silver and copper plus additional metals molybdenum, tungsten, lead and zinc in certain deposits.

Interpolation characteristics were defined based on the geology, drill hole spacing, and geostatistical analysis of the data. Estimations are made from 3D block models based on geostatistical applications using commercial mine planning software (MinePlan® v15.60, formerly called MineSight®).

The Project limits are based in the UTM coordinate system (NAD83 Zone 8N), and three dimensional block models use nominal block sizes considered appropriate for the individual deposits at the level of exploration drilling currently available.

Nucleus Deposit: The nominal block size, measuring 10 x 10 x 5 m (L x W x H), is considered appropriate for a deposit of this size and type and the current level of exploration drilling. The grade estimates for gold, silver, copper, molybdenum, tungsten, and arsenic were generated using ordinary kriging (OK). There are sufficient data available to support estimation of SG in rock in the resource model. An average SG of 1.90 is assigned to model blocks located within overburden.

Revenue Deposit: The nominal block size, measuring 10 x 10 x 5 m (L x W x H), is considered appropriate for a deposit of this size and type and the current level of exploration drilling. The grade estimates for gold, silver, copper, molybdenum, tungsten and arsenic were generated using ordinary kriging (OK). There are sufficient data available to support estimation of SG in rock in the resource model. An average SG of 1.90 is assigned to model blocks located within overburden.

Tinta Hill Deposit: The nominal block size, measuring 2 x 5 x 5 m (L x W x H), is considered appropriate for a deposit of this size and type and the current level of exploration drilling. Grade estimates for gold, silver, copper, lead and zinc were generated using ordinary kriging (OK). SG data are available in only 17 drill holes completed during the 2008 drill program on the Tinta Hill deposit. The volume and distribution of SG data is considered insufficient to support estimation into model blocks, and, as a result, the average SG value of samples located inside the vein domains has been used to calculate resource tonnages.

Potentially anomalous outlier grades were identified, and their influences on the grade models are controlled during interpolation using a combination of traditional top-cutting and outlier limitations.

The results of the modelling process were validated using a series of visual and statistical methods to ensure the models are valid representations of the underlying sample data.

The mineral resources for the three deposits at the Freegold Mountain Project (Nucleus, Revenue, and Tinta Hill) have been classified in accordance with the CIM *Definition Standards for Mineral Resources and Mineral Reserves* (May 2014). The classification parameters are defined relative to the distance between gold sample data and are intended to encompass zones of reasonably continuous mineralization that exhibit the desired degree of confidence. These parameters are based on visual observations and statistical studies. Classification parameters are based primarily on the nature of the distribution of gold data as it is the main contributor to the relative value of these polymetallic deposits.

At Nucleus, mineral resources in the Indicated category include areas showing continuity of mineralization and are tested using drill holes that are spaced at a maximum nominal distance of 50 m. Mineral resources in the Inferred category include model blocks that are located within a maximum distance of 150 m from a drill hole. There is insufficient drilling at the Nucleus deposit to define mineral resources in the Measured category.

At Revenue, mineral resources in the Indicated category include areas showing continuity of mineralization and are tested using drill holes spaces at a maximum nominal distance of 50 m. Mineral resources in the Inferred category include model blocks that are located within a maximum distance of 150 m from a drill hole. There are no mineral resources in the Measured category based on the current level of exploration at Revenue.

At Tinta Hill, mineral resources in the Inferred category include model blocks that are located within a maximum distance of 50 m from a drill hole. There is insufficient drilling at Tinta Hill to define mineral resources in the Indicated or Measured categories.

The economic viability of the mineral resources at the Freegold Mountain Project were tested by constraining them within floating cone pit shells, or evaluating the viability of possible underground extraction, using the following technical and economic parameters (Note: All currency with respect to the mineral resource estimates is expressed in 2020 U.S. dollars):

- Mining Cost (open pit) $2.50/t
- Mining Cost (underground) $25/t at Revenue, $60/t at Tinta Hill
- Process $11/t at Nucleus and Revenue, $12/t at Tinta Hill
- G&A $1.50/t at Nucleus and Revenue, $2.50 at Tinta Hill
- Gold Price $1,500/oz
- Silver Price $18/oz
- Copper Price $3.00/lb
- Lead Price $1.00/lb
- Zinc Price $1.25/lb
- Molybdenum Price $9.00/lb
- Tungsten Price $13.00/lb
- Gold Process Recovery 85%
- Silver Process Recovery 60%
- Copper Process Recovery 75% at Nucleus and Revenue, 80% at Tinta Hill
- Lead Process Recovery 75% (Tinta Hill only)
- Zinc Process Recovery 75% (Tinta Hill only)
- Molybdenum Process Recovery 50% (Revenue only)
- Tungsten Process Recovery 50% (Revenue only)
- Pit Slope 45 degrees
- SG 2.85 (Tinta Hill only). Estimated SG values at Nucleus and Revenue

Note: The projected underground mining costs at Nucleus and Revenue assume a large-scale bulk mining scenario where the relatively narrow zones of mineralization at Tinta Hill require much more selectivity during mining and, as a result, a higher projected underground mining cost.

The resource limiting pit shell is generated using a floating cone algorithm based on the recoverable gold equivalent block grades. Based on the metal prices and recoveries listed here, recoverable gold equivalent (AuEqR) grades are calculated using the following formulae:

Nucleus: AuEqR = (Au g/t x 0.85) + (Ag g/t x 0.012 x 0.60) + (Cu% x 1.371 x 0.75)

Revenue: AuEqR = (Au g/t x 0.85) + (Ag g/t x 0.012 x 0.60) + (Cu% x 1.371 x 0.75) +(Mo% x 4.114 x 0.50) + (W% x 5.942 x 0.50)

Tinta Hill: AuEqR = (Au g/t x 0.85) + (Ag g/t x 0.012 x 0.60) + (Cu% x 1.371 x 0.80) + (Pb% x 0.457 x 0.75) + (Zn% x 0.571 x 0.75) x (VEIN%)

(Note: Tinta Hill is a zone percent model, and the pit shell analysis was tested on whole block grades.)

There are no adjustments for mining recoveries or dilution. The pit constrained testing indicates that some of the deeper mineralization may not be economic due to the increased waste stripping requirements. Underground mineral resources must show continuity of thickness and grade to be considered to exhibit reasonable prospects for eventual economic extraction using underground extraction methods at the projected cut-off grades. It is important to recognize that these discussions of surface and underground mining parameters are used solely to test the “reasonable prospects for eventual economic extraction,” and that they do not represent an attempt to estimate mineral reserves. There are no mineral reserves calculated for this Project. These preliminary evaluations are used to prepare the mineral resource estimate contained in this Technical Report and to select appropriate reporting assumptions.

The estimates of mineral resources for the three deposits are shown in Table 1.1 (Nucleus), Table 1.2 (Revenue), and Table 1.3 (Tinta Hill), and the combined mineral resources are shown in Table 1.4.

There are no known factors related to metallurgical, environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which could materially affect the mineral resource estimates contained in this report.

Mineral resources in the Inferred category have a lower level of confidence than that applied to Indicated mineral resources, and, although there is sufficient evidence to imply geologic grade and continuity, these characteristics cannot be verified based on the current data.

It is reasonably expected that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration.

Table 1.1: Estimate of Mineral Resources for the Nucleus Deposit

Class	Tonnes (million)	Average Grade				Contained Metal			
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	AuEq koz	Au koz	Cu Mlbs	Ag koz
Indicated	31.0	0.75	0.65	0.07	0.70	748	651	44	698
Inferred	9.4	0.63	0.56	0.04	0.72	189	169	9	217

Note: Limited inside $1,500/oz Au pit shell. Base case cut-off grade is 0.30 g/t AuEq for pit constrained resources. Mineral resources are not mineral reserves because the economic viability has not been demonstrated.

Table 1.2: Estimate of Mineral Resources for the Revenue Deposit

Type	Tonnes (million)	Average Grade						Contained Metal					
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	W (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Mo klbs	W klbs
Indicated													
Pit Constrained	11.4	0.69	0.38	0.12	2.4	0.016	0.008	252	140	30	895	4,089	2,082
Inferred													
Pit Constrained	25.0	0.70	0.46	0.11	2.2	0.009	0.005	565	367	61	1,786	4,954	2,807
Underground	2.5	1.40	0.99	0.22	5.2	0.010	0.001	112	79	12	417	525	60
Combined Inferred	27.5	0.77	0.51	0.12	2.5	0.009	0.005	677	446	73	2,203	5,478	2,867

Note: Limited inside $1,500/oz Au pit shell. Base case cut-off grade is 0.30 g/t AuEq for pit constrained resources and 1.0 g/t AuEq for underground resources. Mineral resources are not mineral reserves because the economic viability has not been demonstrated.

Table 1.3: Estimate of Inferred Mineral Resources for the Tinta Hill Deposit

Type	Tonnes (000)	Average Grade						Contained Metal					
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Pb (%)	Zn (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Pb Mlbs	Zn Mlbs
Pit Constrained	893	3.01	1.09	0.18	42.5	0.72	1.47	86	31	4	1,218	14	29
Underground	1,290	3.13	1.43	0.16	46.3	0.56	1.17	130	59	5	1,921	16	33
Combined Inferred	2,183	3.08	1.29	0.17	44.7	0.63	1.29	216	90	8	3,140	30	62

Note: Limited inside $1,500/oz Au pit shell. Base case cut-off grade is 0.35 g/t AuEq for pit constrained resources and 1.8 g/t AuEq for underground resources. Mineral resources are not mineral reserves because the economic viability has not been demonstrated.

Table 1.4: Combined Estimate of Mineral Resources on the Freegold Mountain Project

Deposit	Tonnes (million)	Average Grade								Contained Metal								Comments
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	W (%)	Pb (%)	Zn (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Mo klbs	W klbs	Pb Mlbs	Zn Mlbs	
Indicated																		
Nucleus	31.0	0.75	0.65	0.07	0.7	na	na	na	na	748	651	44	698	na	na	na	na	Pit resources 0.30 g/t AuEq cut-off grade
Revenue	11.4	0.69	0.38	0.12	2.4	0.016	0.008	na	na	252	140	30	895	4,089	2,082	na	na	Pit resources 0.30 g/t AuEq cut-off grade
Total Indicated	**42.4**	**0.73**	**0.58**	**0.08**	**1.2**	**-**	**-**	**-**	**-**	**1,000**	**791**	**74**	**1,593**	**4,089**	**2,082**	**-**	**-**	-
Inferred																		
Nucleus	9.4	0.63	0.56	0.04	0.72	na	na	na	na	189	169	9	217	na	na	na	na	Pit resources 0.30 g/t AuEq cut-off grade
Revenue	27.5	0.77	0.51	0.12	2.5	0.009	0.005	na	na	677	446	73	2,203	5,478	2,867	na	na	Pit cut-off 0.30 g/t AuEq UG cut-off 1.0 g/t AuEq
Tinta Hill	2.2	3.08	1.29	0.17	44.7	na	na	0.63	1.29	216	90	8	3,140	na	na	30	62	Pit cut-off 0.35 g/t AuEq UG cut-off 1.8 g/t AuEq
Total Inferred	**39.0**	**0.86**	**0.56**	**0.10**	**4.4**	**-**	**-**	**-**	**-**	**1,082**	**705**	**90**	**5,560**	**5,478**	**2,867**	**30**	**62**	-

Note: Mineral resources are not mineral reserves because the economic viability has not been demonstrated.

COMMENTS AND CONCLUSIONS

Based on the evaluation of the data available from the Freegold Mountain Project, the authors of this Technical Report conclude the following:

- At the effective date of this Technical Report (February 11, 2020), Triumph Gold has 100% ownership in the Freegold Mountain Project, located in the Whitehorse Mining District near the village of Carmacks, Yukon, Canada.

- The Freegold Mountain Project contains three mineral deposits: the Nucleus deposit is an epithermal-style gold-silver-copper deposit, Revenue is a porphyry-related gold-silver-copper-molybdenum-tungsten deposit located approximately 4 km to the southeast of the Nucleus deposit, and Tinta Hill is a vein-hosted gold-silver-copper-lead-zinc deposit located 14 km southeast of Revenue.

- Drilling to date at the Nucleus deposit has outlined a pit constrained Indicated mineral resource estimate (at a 0.30 g/t AuEq cut-off) of 31 Mtonnes at 0.65 g/t Au, 0.07% Cu and 0.7 g/t Ag which contains 651 koz of gold, 44 Mlbs of copper and 698 koz of silver and an Inferred mineral resource estimate of 9.4 Mtonnes at 0.56 g/t Au, 0.04% Cu and 0.7 g/t Ag which contains 189 koz of gold, 9 Mlbs of copper and 217 koz of silver.
- Drilling to date at the Revenue deposit has outlined a pit constrained Indicated mineral resource estimate (at a 0.30 g/t AuEq cut-off) of 11.4 Mtonnes at 0.38 g/t Au, 0.12% Cu, 2.4 g/t Ag, 0.016% Mo and 0.008% W which contains 140 koz of gold, 30 Mlbs of copper, 895 koz of silver, 4.1 Mlbs of molybdenum and 2.1 Mlbs of tungsten and an Inferred mineral resource estimate of 25 Mtonnes at 0.46 g/t Au, 0.11% Cu and 2.2 g/t Ag, 0.009% Mo and 0.005% W which contains 367 koz of gold, 61 Mlbs of copper, 1.8 Moz of silver, 5 Mlbs of molybdenum and 2.8 Mlbs of tungsten. Below the resource pit shell, there is an additional Inferred resource that is considered amenable to underground extraction methods at a 1.0 g/t AuEq cut-off grade of 2.5 Mtonnes at 0.99 g/t Au, 0.22% Cu, 5.2 g/t Ag, 0.010% Mo and 0.001% W which contains 79 koz of gold, 12 Mlbs of copper, 417 koz of silver, 525 klbs of molybdenum and 60 klbs of tungsten.
- Drilling to date at the Tinta Hill deposit has outlined a pit constrained Inferred mineral resource estimate (at a 0.35 g/t AuEq cut-off) of 893 ktonnes at 1.09 g/t Au, 0.18% Cu, 42.5 g/t Ag, 0.72% Pb and 1.47% Zn which contains 31 koz of gold, 4 Mlbs of copper, 1.2 Moz of silver, 14 Mlbs of lead and 29 Mlbs of zinc. Below the resource pit shell, there is an additional Inferred resource that is considered amenable to underground extraction methods at a 1.8 g/t AuEq cut-off grade of 1.3 Mtonnes at 1.43 g/t Au, 0.16% Cu, 46.3 g/t Ag, 0.56% Pb and 1.17% Zn which contains 59 koz of gold, 5 Mlbs of copper, 1.9 Moz of silver, 16 klbs of lead and 33 klbs of zinc.
- The three deposits have a combined Indicated mineral resource estimated to be 42.4 Mtonnes at 0.58 g/t Au, 0.08% Cu, 1.2 g/t Ag which contains 791 koz of gold, 74 Mlbs of copper, 1.6 Moz of silver and a combined Inferred mineral resource estimated to be 39 Mtonnes at 0.56 g/t Au, 0.10% Cu, 4.4 g/t Ag which contains 705 koz of gold, 90 Mlbs of copper, 5.6 Moz of silver.

- The newly discovered Blue Sky and WAu Breccia zones at Revenue remain “open” to expansion with further exploration along strike and at depth. Some of the southern areas at Nucleus remain “open” to expansion, and the Tinta Hill deposit remains “open” to expansion at depth and along strike.
- There are no known factors related to metallurgical, environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which could materially affect the mineral resource estimates contained in this report.

2 INTRODUCTION

Triumph Gold Corp. (Triumph Gold or the Company) based in Vancouver, B.C. is a public company trading on the TSX Venture Exchange (TSX-V: TIG). The Company has 100% ownership in the Freegold Mountain Project (the Project), located in the Whitehorse Mining District near the village of Carmacks, Yukon, Canada.

Triumph Gold commissioned Robert Sim, P.Geo., of SIM Geological Inc. and Bruce Davis, PhD, FAusIMM, of BD Resource Consulting, Inc. to provide updated mineral resource estimates for the Nucleus, Revenue and Tinta Hill mineral deposits, located on the Freegold Mountain Property. Nucleus is an epithermal-style gold-silver-copper deposit, Revenue is a porphyry-related gold-silver-copper-molybdenum-tungsten deposit, and Tinta Hill is a vein-hosted gold-silver-copper-lead-zinc deposit.

Robert Sim and Bruce Davis are both independent qualified persons (QPs) within the meaning of *National Instrument 43-101 Standards of Disclosure for Mineral Projects* (NI 43-101). They are responsible for the preparation of this technical report on the Project (the Technical Report), which has been prepared in accordance with NI 43-101 and Form 43-101F1 Technical Report.

The previous estimates of mineral resources for the Nucleus, Revenue and Tinta Hill deposits were described in a 2015 NI 43-101 technical report titled *Technical Report on the Freegold Mountain Project, Yukon, Canada, Resource Estimates* (Campbell et al., 2015) dated February 28, 2015 with an effective date of December 15, 2014.

This Technical Report uses all of the available historical geological, geophysical, geochemical and metallurgical information for the Project and information generated by Northern Freegold Resources and Triumph Gold. The authors also relied on publicly available assessment reports, unpublished reports, and Project data provided by Triumph Gold, and supplemented by publicly available government maps and publications listed in Section 27 (References) of this Technical Report.

This Technical Report is based on information known to the authors as of February 11, 2020.

Robert Sim visited the Project from June 4 to 5, 2018. He inspected drill core from a series of drill holes at the camp core storage facility and discussed exploration activities with Triumph Gold geologists. Several drill sites were visited at the Nucleus, Revenue and Tinta Hill deposits, and surface bedrock exposures were observed in several locations. Bruce Davis did not visit the property.

2.1 TERMS OF REFERENCE

The co-ordinate system used in this report is Universal Transverse Mercator (UTM) Zone 8N, and the datum used is North American Datum 1983 (NAD83). Unless otherwise stated, all units used in this report are metric. Gold and silver concentrations are reported in grams per tonne (g/t) or ounces per tonne (oz/t), and the concentration of other elements of interest are reported in parts per million (ppm). All currency is expressed in 2018 Canadian dollars (CAD), unless stated otherwise. Abbreviations and acronyms used in this report are shown in Table 2.1.

Table 2.1: Abbreviations and Acronyms

Description	Abbreviation or Acronym
percent	%
three dimensional	3D
atomic absorption spectroscopy	AAS
silver	Ag
arsenic	As
gold	Au
gold-equivalent	AuEq
recoverable gold-equivalent	AuEqR
bulk leach extractable gold	BLEG
degrees centigrade	°C
Canadian dollar	CAD
cadmium	Cd
CDN Resource Laboratories Ltd.	CDN
centimetre	cm
cyanide	CN
controlled source audio magnetic telluric	CSAMT
copper	Cu
diamond drill	DD
diamond drill hole	DDH
digital elevation model	DEM
east	E
exploratory data analysis	EDA
electromagnetic	EM
Fellow of the Australasian Institute of Mining and Metallurgy	FAusIMM
gram	g
general and administrative	G&A
grams per litre	g/L
grams per tonne	g/t
Global Positioning System	GPS
Geological Survey of Canada	GSC
hectare	ha
horizontal loop electromagnetic	HLEM
drill core size (inside diameter 63.5 mm)	HQ (HTW)
inductively coupled plasma	ICP
inverse distance weighted	IDW
induced polarization	IP
potassium	K
kilogram	kg
thousand pounds	klbs
kilometre	km
thousand ounces	koz
litre	L
length x width x height	L x W x H
pound	lb
metre	m
million years	Ma

Description	Abbreviation or Acronym
Mineral Deposits Research Unit	MDRU
million pounds	Mlbs
mobile metal ion	MMI
molybdenum	Mo
million ounces	Moz, M ounces
million tonnes	Mt, Mtonnes
north	N
not applicable	na
North American Datum	NAD
Northern Freegold Resources	NFR
National Instrument 43-101	NI 43-101
nearest neighbour	NN
drill core size (inside diameter 47.6 mm)	NQ (NTW)
net smelter return	NSR
National Topographic System	NTS
ordinary kriging	OK
ounce	oz
ounces per tonne	oz/t
lead	Pb
Professional Geoscientist	P.Geo
portable infra-red mineral analyzer	PIMA
parts per million	ppm
quality assurance/quality control	QA/QC
QEMSCAN	quantitative evaluation of materials by scanning electron microscopy
quartz-feldspar porphyry	QFP
qualified person	QP
rotary air blast	RAB
reverse circulation	RC
rock quality designation	RQD
south	S
specific gravity	SG
SGS Canada Inc.	SGS
square kilometre	sq. km
tonne	t
tonnes per cubic metre	t/m^3
Triumph Gold Corp.	Triumph Gold
U.S. dollars	US$
Universal Transverse Mercator	UTM
very-low-frequency electromagnetic	VLF-EM
versatile time domain electromagnetic	VTEM
tungsten	W
west	W
tungsten gold	WAu
tungsten trioxide	WO_3
Yukon Environmental and Socio-economic Assessment Act	YESAA
zinc	Zn

3 RELIANCE ON OTHER EXPERTS

The report was prepared by Robert Sim, P.Geo., and Bruce Davis, PhD, FAusIMM. They are qualified persons for the purposes of NI 43-101 and fulfill the requirements of an "independent qualified person".

The information, conclusions, and recommendations contained herein are based on:

- Robert Sim's field observations
- data, reports and other information supplied by Triumph Gold and other third parties.

For the purpose of disclosure relating to ownership data and claim information (mineral, surface and access rights) in this report, the authors have relied exclusively on information provided by Triumph Gold and the Yukon Mining Recorder.

The authors also relied on topographic maps published by the Government of Canada and geological maps produced by the Yukon Geological Survey in addition to imagery obtained from Google Earth.

In 2017, the law firm, Macdonald & Company, located at Suite 200, Financial Plaza, 204 Lambert Street, Whitehorse, Yukon, conducted a title opinion on claims held by Triumph Gold, and their findings were summarized in a letter dated March 1, 2017. The letter states that as of February 20, 2017, the claims are in good standing, and there are no liens, encumbrances, options or royalties other than those notes in Section 4 of this report.

Annual fees and work commitments due on all claims comprising the Project are in compliance, and all of the claims are owned by Triumph Gold and are in good standing. None of the Project claims have been surveyed.

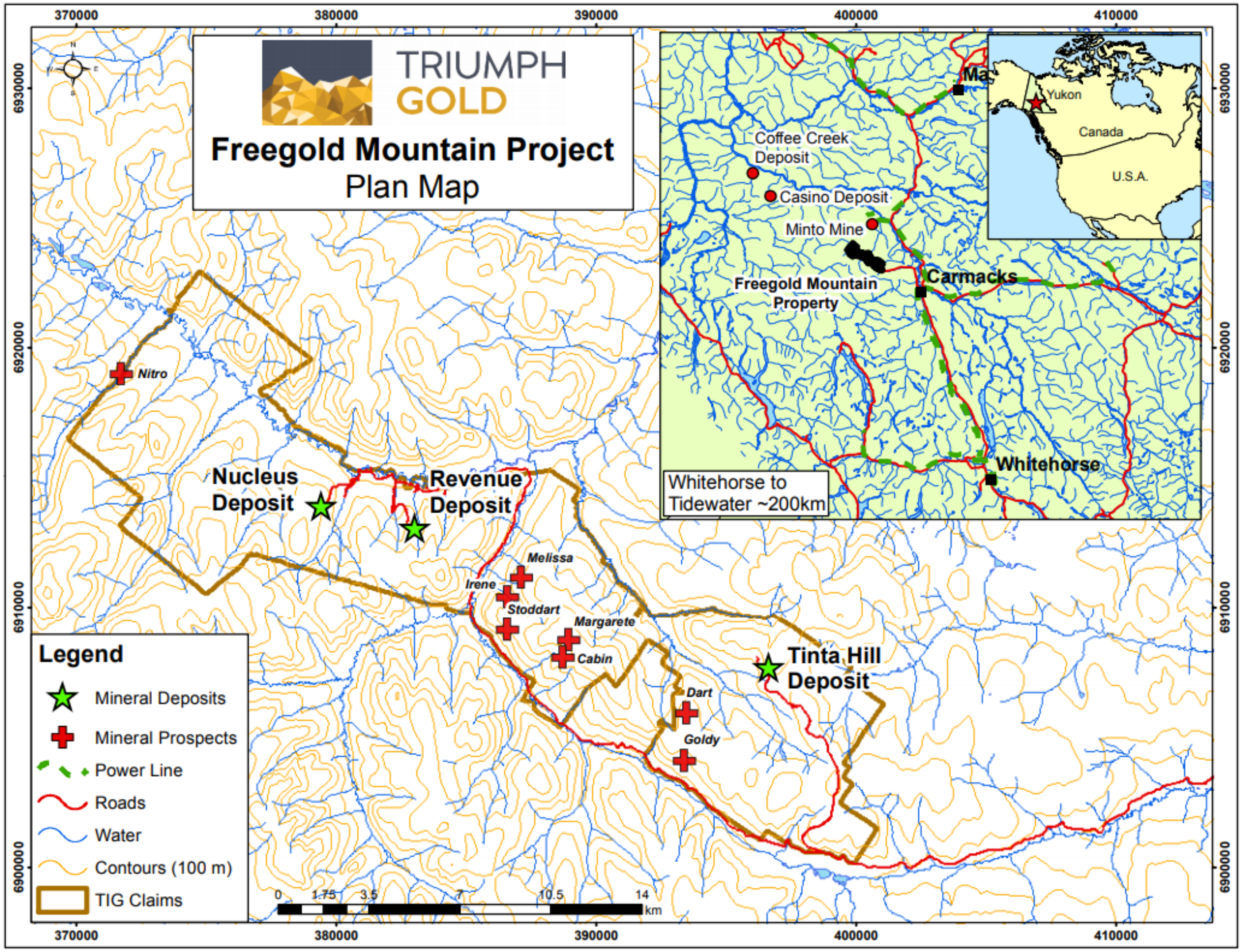
The authors have not researched the property title or mineral rights for the Freegold Mountain Project and express no legal opinion as to the ownership status of the property.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

The Freegold Mountain Project is located approximately 200 km northwest of the city of Whitehorse and 70 km northwest of the village of Carmacks (Figure 4-1) within the Dawson Range mountains in southwestern Yukon. The Project covers parts of National Topographic System (NTS) map sheets 115I/2, 115I/3, 115I/6, and 115I/7, and is centred at approximately 62°18'N latitude and 137°12'W longitude.

Figure 4-1: Location Map
Freegold Mountain Project



Source: Triumph Gold News Release #20-02, February 11, 2020

Two First Nations communities share boundaries with the claims of the Freegold Mountain Project. The Selkirk First Nation has settlement land which bounds the northwest portion of the Project, and the Little Salmon/Carmacks First Nation has settlement land northeast of Big Creek in the area of the Revenue and Nucleus areas. In 1997, the Selkirk First Nation and the Little Salmon/Carmacks First Nation signed final claim settlement agreements with the Government of Canada and the Government of Yukon.

4.2 Land Tenure

The Project consists of 1,067 contiguous Quartz claims (included in Appendix A) and covers an area of just over 200 sq. km (20,000 ha) in the Whitehorse Mining District. Triumph Gold owns 100% of the claims on the Freegold Mountain Project.

The Project currently comprises four individual, but contiguous, exploration properties: Tinta Hill Property (195 claims), Freegold Mountain Property (378 claims), Revenue Property (198 claims) and the Big Creek block (296 claims).

Claims staked by Northern Freegold Resources (NFR) include 175 claims adjoining the original Big Creek block staked in 2009. Triumph Gold has staked one fractional claim adjoining the Revenue Property in 2018, and 15 claims adjoining the Tinta Hill Property in 2019, which are included in the property totals above and are currently awaiting approval for inclusion into respective work permits.

In June of 2019, claims listed on the former Seymour Property work permit were incorporated into the work permit of the Freegold Mountain Property.

Both the Nucleus and Revenue deposits lie within the Revenue Property (Figure 4-2), and the Tinta Hill deposit lies within the Tinta Hill Property (Figure 4-3). Subsections 4.2.1 to 4.2.4 reference claim groupings and nomenclature current to 2006, a period of claim consolidation by NFR and are shown in Figure 4-4.

4.2.1 Golden Revenue Property

Under the terms of option agreements dated March 15, 2006 and August 22, 2007, NFR acquired 100% interest in the Golden Revenue Property (Figure 4-4) by making aggregate cash payments of $185,000 and issuing 2.3 million common shares to ATAC Resources Ltd. (ATAC Resources). ATAC Resources retained 1% net smelter return (NSR) on the Historic Golden Revenue Property (Figure 4-4). At the time, an underlying 2% NSR on the Historic Golden Revenue Property existed, and 1.5% NSR could be purchased for $600,000.

On October 25, 2018, Triumph Gold purchased the 2% NSR interest on the Historic Revenue Property. As a result, 9.9 sq. km in the Blue Sky-Revenue area is currently unencumbered by any royalties.

The NSR relates to 69 claims forming the original Golden Revenue Property which was purchased from the original property owner for $100,000. The purchase of this royalty reduces the NSR in most of the Blue Sky-Revenue area to zero percent.

4.2.2 Freegold Mountain Property

Under the terms of option agreements dated March 15, 2006 and August 22, 2007, NFR acquired 100% interest in the Freegold Mountain Property subject to an advanced royalty payment and 3% NSR from Bill Harris (founder) by making cash payments of $5,000, issuing 750,000 common shares, and incurring $500,000 in exploration expenditures.

As per the option agreement, NFR committed to making $10,000 annual advanced royalty payments to the property owner in the event the property owner ceased to be an insider, director, officer or beneficial owner of more than 10% of the issued and outstanding common shares of NFR. The advanced royalty payment would be netted against royalty interest payments after the commencement of commercial production.

Of the 3% NSR, NFR can elect to purchase 2% at a cost of $250,000 for the first 1% and $1.0 million for the second 1%.

4.2.3 Tinta Hill Property

Under the terms of option agreements dated March 15, 2006 and August 22, 2007, NFR acquired 100% interest in the Tinta Hill Property subject to an advanced royalty payment and 3% NSR from Bill Harris (founder) by making cash payments of $10,000, issuing 2.25 million common shares, and incurring $500,000 in exploration expenditures.

As per the option agreement, NFR committed to making $20,000 annual advanced royalty payments to the property owner in the event the property owner ceased to be an insider, director, officer or beneficial owner of more than 10% of the issued and outstanding common shares of NFR. The advanced royalty payment would be netted against royalty interest payments after the commencement of commercial production.

Of the 3% NSR, NFR can elect to purchase 2% at a cost of $250,000 for the first 1% and $1.0 million for the second 1%.

4.2.4 Goldstar Property

Under the terms of option agreement dated March 15, 2006 with Bill Harris (a director) and a private investor, NFR acquired 100% interest in the Goldstar Property by making aggregate cash payments of $415,000 and incurring aggregate expenditures of $500,000, subject to a 3% NSR. Pursuant to this option agreement, NFR committed to making $10,000 annual advanced royalty payments to the property owner in the event the property owner ceased to be an insider of NFR. The advanced royalty payment would be netted against royalty interest payments after the commencement of commercial production.

The NSR royalty and the advance royalty payments will be granted and paid to the property owners on the condition that the related party to such agreements is not a director, officer or beneficial owner of more than 10% of the issued and outstanding common shares of NFR.

Of the 3% NSR, NFR can elect to purchase 2% at a cost of $500,000 for the first 1% and $1.0 million for the second 1%.

4.3 Claims

As stated, the Freegold Mountain Project consists of 1,067 contiguous Quartz claims; these include claims listed on:

- Operating (Work) Permit LQ00426a (Revenue Property), which hosts the Nucleus and Revenue gold, silver, and copper mineral resources
- Operating Permit LQ00447 (Tinta Hill Property), which hosts the Tinta Hill polymetallic mineral resource
- Operating Permit LQ00488 (Freegold Mountain Property), which hosts the Cabin area and the Irene Vein area
- The remaining claims are the single claim staked in 2018 at Revenue, the 15 claims staked in 2019 at Tinta Hill, and a large block of claims referred to as the Big Creek block; these are held under the Yukon Territory Quartz Mining Act and Quartz Mining Land Use Regulation and are administered by the Government of Yukon through the Mining Recorder's office. The locations of the claims are shown in Figures 4-2 and 4-3.

The annual fees and work commitments due on all claims comprising the Project are in compliance, and all of the claims are in good standing.

4.4 Environmental Regulations and Permitting

Exploration activity in the Yukon requires a Mining Land Use permit.

A Class 1 Permit allows activities that are low impact, often do not require roads and are usually at an early stage of exploration.

Class 2 and Class 3 Permits allow mineral exploration activities that are subject to approval under the Yukon Environmental and Socio-economic Assessment Act (YESAA); this is a single assessment process that applies throughout the Yukon to all projects and all levels of government.

The Freegold Mountain Project has the following Class 3 Permits: Tinta Hill Property (Operating Permit LQ00447; expires July 25, 2021); Freegold Mountain Property (Operating Permit LQ00488; expires May 16, 2023); and, Revenue Property (Operating Permit LQ00426a; expires May 20, 2020).

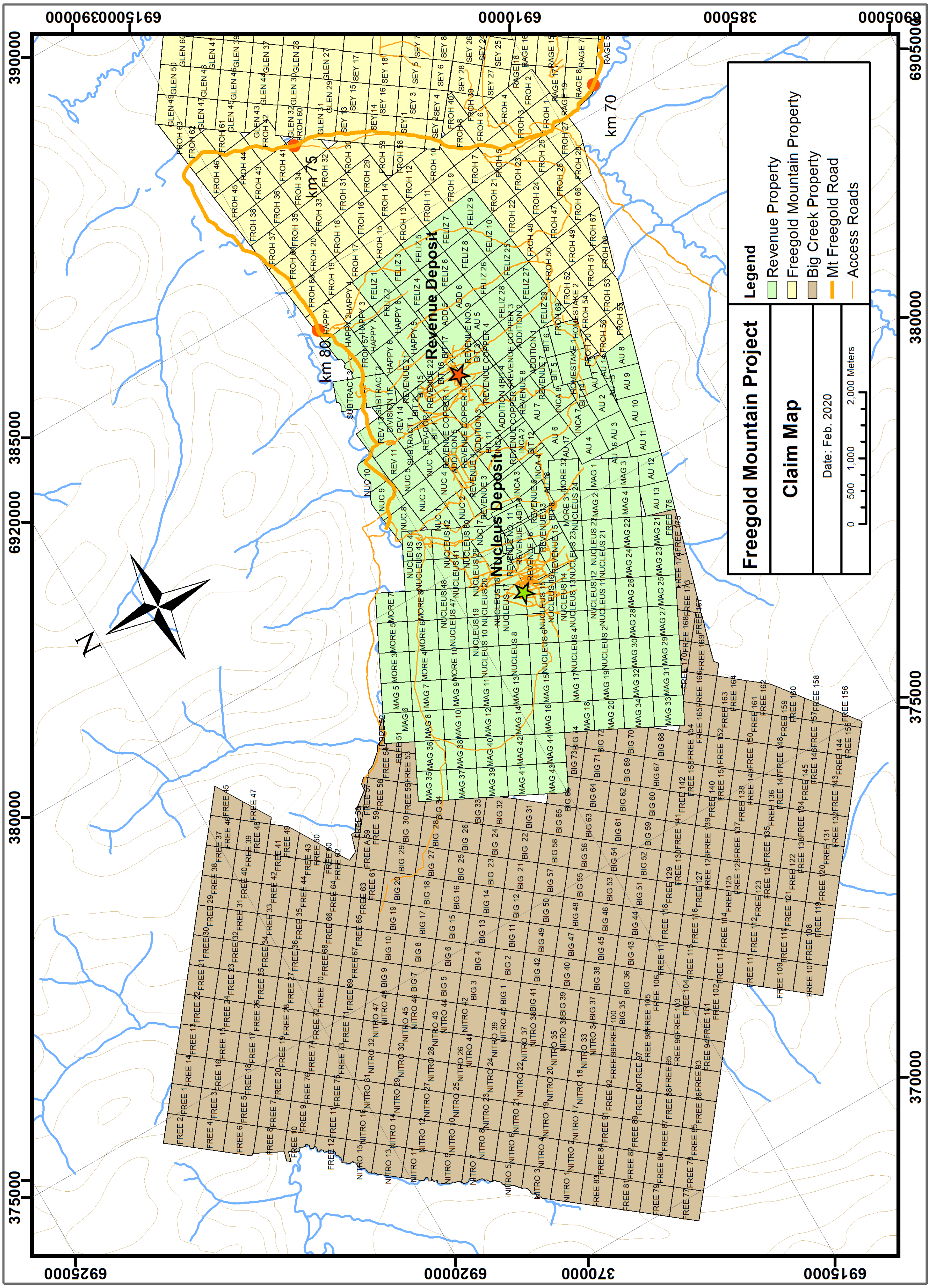
Note: Triumph Gold was issued an amendment to its Class 3 Operating Permit effective as of March 31, 2017 and it was numbered LQ00426a after approval from the YESAA Board. An additional variation to Permit LQ00426a was issued on March 6, 2018, when diesel fuel storage was increased from 10,000L to 50,000L. The permit is valid until May 20, 2020 and an application for its renewal was submitted in December 2019.

Other specific permits required for the Freegold Mountain Project include:

- Waste Management Permit – Yukon Environment Permit No. 81-123
- Building Permit – Yukon Community Services Permit No. 2017-0098-B
- Storage Tank System Permit – Yukon Community Services Permit No. 2017-02 and 2018-16
- Septic Tank Permit – Yukon Health and Social Services Permit No.3165

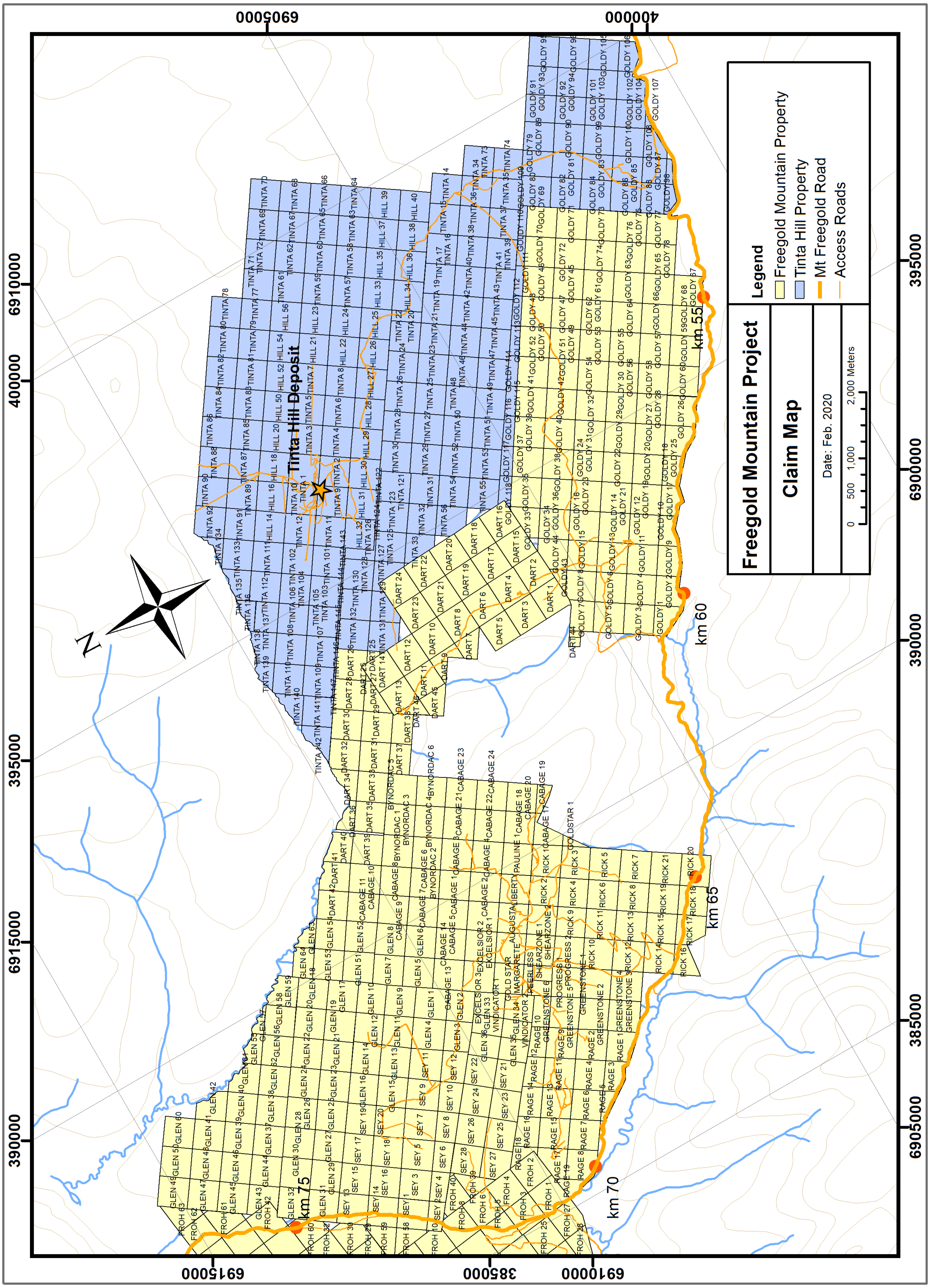
There are no other significant factors or risks that may affect access, title, or right/ability to perform the work.

Figure 4-2: Claim Map (Nucleus and Revenue Deposits)
Freegold Mountain Project



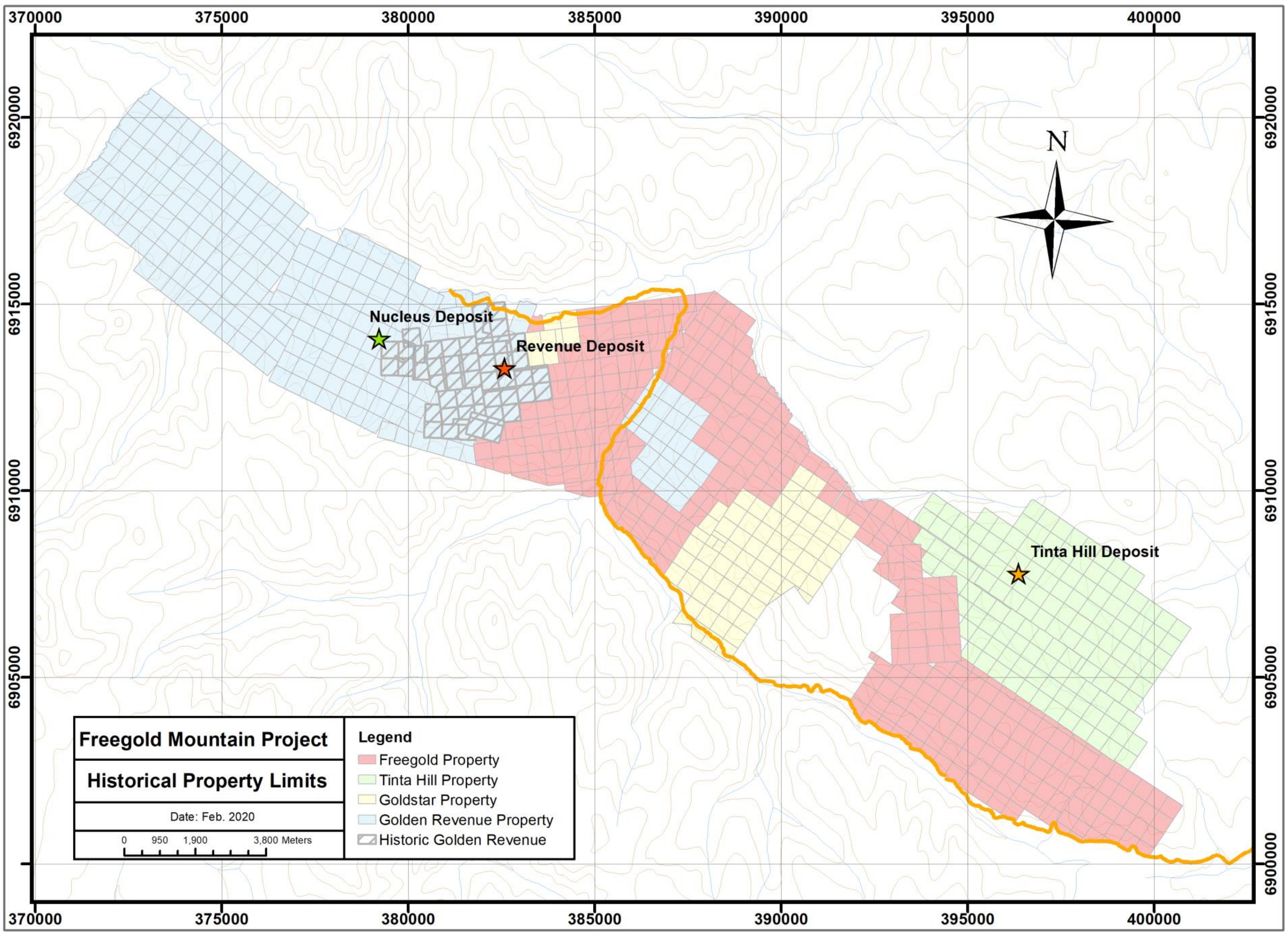
Source: Yukon Mining Recorder, February 2020

Figure 4-3: Claim Map (Tinta Hill Deposit)
Freegold Mountain Project



Source: Yukon Mining Recorder, February 2020

Figure 4-4: 2006 Property Boundaries
Freegold Mountain Project



Source: Triumph Gold, February 2020

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY

The Project lies within the Dawson Range mountains in southwestern Yukon. From Carmacks, the nearest settlement, the unpaved Mount Freegold Road and subsidiary unpaved roads provide access to a large portion of the Project, including the three road-accessible mineral deposits (Nucleus, Revenue, and Tinta Hill). The Revenue Camp is situated at kilometre 82 on the Mount Freegold Road, and the driving time from Carmacks is 2.25 hours under good road conditions.

Travel on the Mount Freegold Road is two-wheel drive except sometimes during spring runoff or after a heavy rain. A network of four-wheel-drive roads and ATV trails provides access to the main work areas on the property.

5.2 CLIMATE

The Project's exploration season spans April to October. The area has a northern interior climate. Winters are long and have typically low precipitation, with temperatures often reaching -30°C. Summers are relatively dry, with the exception of common afternoon thunderstorms. Permafrost is discontinuous and typically occurs near surface on north-facing slopes and below a depth of about one metre on south-facing slopes.

At relatively high elevations, vegetation consists of alpine grass and moss, willow, and black spruce. Valleys in the area are vegetated with spruce, birch, and cottonwood. Alder and willow form dense cover over disturbed areas. In the summer of 2004, large areas of the Project were burned and have now regenerated (Figure 5-1).

5.3 LOCAL RESOURCES AND INFRASTRUCTURE

The nearest settlement to the Project area is the village of Carmacks with a population of approximately 500 permanent residents. In addition to accommodation, groceries, fuel, and potable water, both skilled and unskilled labour can be found there. Whitehorse, with a population of more than 25,000, acts as the primary supply centre for exploration in the Project area.

Carmacks is situated on the Klondike Highway (Yukon Hwy 3), a paved all-weather highway running from Whitehorse to Dawson City. The main electrical grid, natural gas pipeline, and communication networks are all located along this route. Apart from access to the property via the Mount Freegold Road, minimal infrastructure currently exists in the immediate vicinity of the Project.

5.4 PHYSIOGRAPHY

The Project lies in an area of broad, rolling hills and valleys. Elevations range from 750 m to 1,510 m above sea level at the Nucleus and Revenue deposits and from 900 m to 1,360 m at the Tinta Hill deposit. Big Creek and its tributaries, Seymour Creek and Bow Creek, are the main perennial streams draining the Project area. Water flows in these creeks throughout most of the year.

Figure 5-1: Regenerating Forests at the Nucleus Deposit

Source: Photo Courtesy of B. Gow, 2018

6 HISTORY

In 1930, P.F. Guder discovered placer gold on the west side of Freegold Mountain.

In the 1950s, further prospecting uncovered a massive chalcopyrite vein in bedrock at Revenue Creek. In the many decades that followed, numerous other copper and gold showings were discovered in the northwest-trending belt of rocks hosting this discovery. The Revenue Creek find would lead to the Revenue gold-copper-molybdenum deposit and discovery of the adjacent Nucleus gold-silver deposit.

In 2000, the claims hosting the Revenue and Nucleus prospects were united under ATAC Resources and branded the Golden Revenue Property.

In 2006, Northern Freegold Resources added adjoining claims that contained the Tinta Hill polymetallic mineral deposit, and it conducted extensive exploration on the expanded block of claims from 2006 to 2015.

In 2010, ”Golden” was largely eliminated from the property name containing the Revenue and Nucleus deposits, and the area became known as the Revenue Property. Around that time, the entire claim package became known collectively as the “Freegold Mountain Project”.

In 2017, Northern Freegold Resources was renamed Triumph Gold Corp.

The work history of the Freegold Mountain Project was compiled by Pautler (2006), Fonseca & Giroux (2009), and GeoVector (2015). The history of exploration work conducted on the Freegold Mountain Property by previous owners (prior to Northern Freegold Resources in 2006) is summarized in Table 6.1.

Table 6.1: History of Exploration by Previous Operators of the Freegold Mountain Property

Year(s)	Owner	Work Performed
1930	P.F. Guder	Discover placer gold on the west side of Freegold Mountain
1930–31	Prospectors	Stake >100 claims in the area
1950	P.F. Guder	Discover gold-bearing chalcopyrite lenses; explore Discovery Zone of Revenue Creek with a short adit and trenches
1951	Conwest Exploration Ltd.	EM and resistivity surveying on Discovery Zone of Revenue Creek
1954	P.F. Guder	Stake claims over gold-bearing quartz float at Happy Creek (Clark, 1954)
1954	Newkirk Mining Corp.	IP-Resistivity surveying on Big Creek and Revenue Creek near Discovery showing
1954–55	Teck Exploration	EM surveying and five diamond drill holes (614 m total) on Discovery Zone of Revenue Creek
1960	Conwest Exploration Ltd.	Bulldozer trenching, mapping, 5 diamond drill holes (410 m) at Tinta Hill.
1964	P.F. Guder	Re-stake Happy Creek claim area (Dunn, 1965)
1964–1965	Meridian Syndicate	Geochemical surveying and three diamond drill holes (165 m total) (Dunn, 1965)

Year(s)	Owner	Work Performed
1968–1970	Yukon Revenue Mines Ltd.	Geochemical, magnetic and IP surveying, bulldozer trenching, road construction, and 10 drill holes (1,258 m total) mostly on Discovery Zone (Baird, 1968; Granger, 1970)
1970	Kaiser Resources Ltd.	Soil geochemical and IP surveying, 20 percussion drill holes (1,873 m total) and nine diamond drill holes (1,291 m total) on Discovery Zone (Johnson, 1970)
1973–1976	Tinta Hill Mines Ltd.	Bulldozer trenching, soil sampling, EM surveys, mapping and re-logging old core. Drilled 28 diamond drill holes (1,997 m).
1974	Shakwak Exploration Co. Ltd.	Mapping and geochemical sampling in the eastern part of Happy Creek Zone
1974–1980	Yukon Revenue Mines Ltd.	Bulldozer trenching and three diamond drill holes (180 m total) on Discovery Zone (MacDonald, 1983; Wallis, 1983)
1976	P.F. Guder	Re-stake Happy Creek claims
1978–-1979	Yukon Revenue Mines Ltd.	Hand-trenching on Happy Creek Zone
1980–1982	Silver Tusk Mines Ltd and Panther Mines Ltd.	939 m underground development on two levels at the Tinta Hill deposit. 578 chip samples collected from drifts. 4 diamond drill holes (410 m) at Tinta Hill
1982	Guder Mining Exploration Ltd.	Trenching on Happy Creek Zone (Eaton W. D., 1983)
1983–1984	Shakwak Exploration Co. Ltd.	Geochemical, magnetic, and EM surveying and nine diamond drill holes (628 m) mostly on Discovery Zone (MacDonald, 1983; Wallis, 1983)
1985	NORDAC Mining Corp. Yukon Revenue Mines Ltd.	Soil geochemistry and trenching (Cathro & Main, 1986) and metallurgical testing on some Revenue mineralization (Wilson, 1985)
1985–1991	Big Creek Resources Ltd. and Rexford	Multi-element soil geochemical, magnetic, and EM surveying, extensive mechanized trenching, and 11 diamond drill holes (1,330 m total) and 35 RC holes (1,283 m) on Discovery Zone at Revenue Creek. (Becker & Eaton, 1991; Cathro & Main, 1986)
1985–1986	Freegold Ventures	Grid soil sampling in eastern area (ACK claims at Stoddart)
1986	Guder Mining Exploration Ltd.	Trenching in Happy Creek Zone
1986	NORDAC Mining Corp.	Trenching and grid soil geochemical surveying, and re-examination of all pre-1985 drill holes (Cathro & Main, 1986)
1988	Mill City Gold Mining Corp.	Tinta Hill deposit, nine diamond drill holes (1,263 m)
1993–2004	Harris and Associates Exploration (Midnight Mines Ltd.)	Prospecting, soil and rock sampling, magnetic and VLF-EM surveying, and hand-trenching at Happy Creek (McFaull, 1997; Harris, 2003)
1996	YKR (originally Yukon Revenue)	Ground magnetometry and VLF-EM surveying (McFaull, 1997)
1999–2004	ATAC Resources	Structural mapping, geological mapping, prospecting, soil geochemistry, ground magnetics, hand-trenching, excavator trenching, road construction, diamond drilling (20 holes; 3,060 m) at Nucleus (Becker, 2001a; Becker 2001b; Dumala, 2004)

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Omineca Belt is a Jurassic through Cretaceous volcanic arc terrane which extends from Alaska through the Yukon and British Columbia to Washington State. The belt is composed of the Slide Mountain, Cassiar, and Yukon-Tanana Terranes. These terranes are three magmatic island arcs that formed at a convergent boundary near the ancient continental margin. The Yukon-Tanana Terrane is thought to have accreted to the North American craton during the Late Triassic to Early Jurassic periods.

The Yukon-Tanana Terrane comprises the Mississippian-aged metasedimentary and metavolcanic rocks of the Snowcap Suite (Finlayson Suite), metaplutonic rocks of the Simpson River Suite, Jurassic batholithic intrusions (e.g., the Long Lake Suite), and Middle Cretaceous intrusions (e.g., the Whitehorse Suite). Intrusive rocks often dominate the terrane.

The youngest rocks in the region are volcanic rocks and associated shallow intrusions of the Late Cretaceous Casino, Prospector Mountain, and Carmacks Group Suites. The Casino Suite is oldest of these and is represented by high-level plugs, dykes, and breccias emplaced along the length of the Dawson Range Batholith. Prospector Mountain and Casino Suite rocks are coeval and slightly younger than the Casino Suite. Prospector Mountain suite rocks are found over a broad area of the Dawson Range and are represented by small intrusive bodies (e.g., Prospector Mountain stock). The Carmacks Group are the youngest rocks in the region and comprise a compositionally diverse range of volcanic rocks that can locally cover older lithologies.

Table 7.1 lists the geologic units observed at the Freegold Mountain Project.

Table 7.1: Geological Units at the Freegold Mountain Project

Geologic Unit (code)	Geologic Period	Corresponding Age	Description	Examples
Finlayson Suite (YTTs)	Devonian to Mississippian	~370Ma	intermediate to mafic metasedimentary and metavolcanic rocks, including schist, phyllite, and gneiss	
Simpson Range Suite (YTTi)	Late Devonian to Early Mississippian	345–355Ma	metagranite, quartz monzonite and granodiorite; augen granite and hornblende metagranodiorite, metadiorite and metatonalite	outcroppings on the Mount Freegold Road near the confluence of Seymour and Big Creeks
Long Lake Suite (eJyL, eJgA)	Early Jurassic	180–195Ma	K-feldspar megacrystic hornblende monzonite to syenite; biotite-hornblende granodiorite	Big Creek Syenite, Granite Mountain Batholith, Minto Suite intrusives?
Whitehorse Suite (mKfW; mKaW; mKqW; mKgW)	Early to Middle Cretaceous	105–112Ma	quartz-feldspar or feldspar-hornblende porphyry; leucogranite, aplite; K-megacrystic biotite quartz monzonite; biotite-hornblende granodiorite to quartz monzonite	Dawson Range Batholith, Coffee Creek Granite, Revenue Granite
Casino Suite (LKfC; LKqC)	Late Cretaceous	75–77Ma	quartz-feldspar porphyry dykes; biotite-hornblende quartz monzonite	QFP dykes, Stoddart Pluton, Patton Porphyry (Casino)
Prospector Mountain Suite (LKdP; LKyP)	Late Cretaceous	70Ma	biotite-pyroxene monzodiorite to monzogabbro; hornblende-biotite quartz syenite to quartz monzonite	Prospector Mountain intrusive stock, Seymour Creek Stock
Carmacks Group (uKfC; uKC)	Upper Cretaceous	69–70Ma	rhyodacite; augite-olivine basalt and breccia, hornblende-feldspar porphyry andesite and dacite flows, vesicular augite-phyric andesite and trachyte	

Source: summarized after Allan and Friend, 2018

The main structural features in the region are steeply dipping, northwest-trending dextral fault zones, parallel to the regional Tintina and Denali faults. The major structural feature in the area is the Big Creek fault.

7.2 Local and Property Geology

The oldest rocks of the Yukon-Tanana Terrane in the Freegold Mountain Project area are Palaeozoic or older metasedimentary and lesser metavolcanic rocks including quartz-feldspar-mica schist and gneiss, amphibolite, grey marble, and quartzite. This belt is generally oriented northwest and can be found at various locations throughout the property (Figure 7-1).

The metamorphic basement rocks are extensively intruded by Jurassic and Middle Cretaceous intrusions. The Big Creek monzonite pluton (188Ma) borders the property boundary to the south and underlies much of the western part of the property (Figure 7-1). The Early Jurassic Granite Mountain Batholith (~183Ma) comprises the quartz diorite, granodiorite, and quartz monzonite and occupies much of the northeastern part of the property.

A host of Middle Cretaceous intrusions intrude the length of the property. The main intrusions in the Freegold Mountain Project area are granodiorite to monzonite stocks, one of which hosts the Revenue deposit. The leucocratic microgranite immediately north of the Nucleus deposit is also of Middle Cretaceous age.

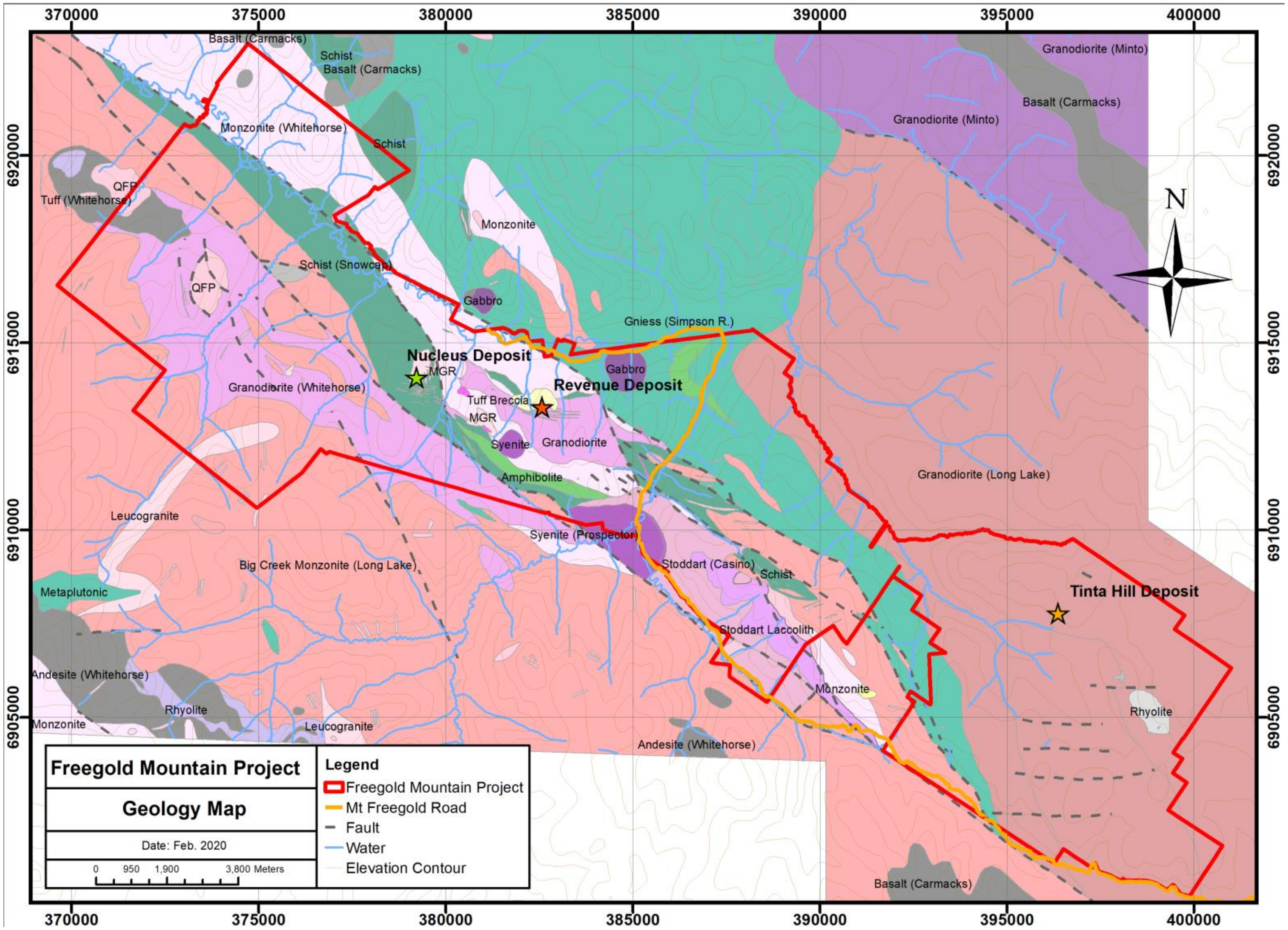
All Middle Cretaceous units described here are cut by small plugs and dykes of Late Cretaceous age. The largest intrusions of this age in the property area are the Seymour Creek stock (~74Ma) at the confluence of Seymour Creek, and multiple gabbro plugs (~70Ma) near Big Creek. All of these intrusions belong to the Prospector Mountain Suite (Allan and Friend, 2018).

Other Late Cretaceous intrusions include quartz-feldspar porphyry dykes and tuff breccias, both of which are associated with at least some of the copper and gold mineralization at the Freegold Mountain Project. Both intrusions are thought to be part of the Casino Suite (Allan and Friend, 2018). The quartz-feldspar porphyry dykes at Revenue and Nucleus have been dated at 75Ma (Bineli Betsi & Bennett, 2010).

Most of the higher parts of the property remained unglaciated during the last glacial events resulting in the preservation of a surface cap of weathered material formed during interglacial weathering. Minor signs of oxidation extend to depths of 20 m to 200 m below the present ground surface depending on local structural and lithological controls.

Two layers of white volcanic ash expelled from Alaskan volcanoes occur throughout most of the area as unconsolidated beds from a few centimetres thick to up to one metre. The oldest ash layer is thought to be the Dawson Tephra at approximately 30,000 years old, and the most recent layer is the White River Tephra at approximately 1,200 years old.

Figure 7-1: Project Scale Geology and Structure



Source: modified after Allan and Friend, 2018

7.3 DEPOSIT GEOLOGY

Outcrop exposure is very poor over most of the Project. The geological understanding of the Revenue and Nucleus deposits is largely based on observations from drill core, the interpretation of geophysical surveys, and regional observations.

In 2017, the University of British Columbia's Mineral Deposits Research Unit (MDRU) used Revenue Camp as a base for a study which sought to synthesize and better characterize the plutonic rocks in the region from previous mapping efforts (Allan and Friend, 2018). Lithologic contacts from this effort are shown for the Revenue and Nucleus deposit areas in Figure 7-2, along with a simplified version of the lithologic nomenclature.

7.3.1 Revenue Deposit

The dominant rock type in the Revenue deposit area is the Middle Cretaceous Revenue granodiorite. The granodiorite is a grey, coarse-grained, equigranular to locally feldspar porphyritic rock which typically contains 10% to 20% hornblende and biotite and up to 5% disseminated magnetite. The granodiorite exists as two distinct phases that are separated by narrow screens of east-trending country rock, interpreted as roof pendants.

Intruding the granodioritic phase boundary is an east-trending ovoid breccia body, approximately 1,000 m long and 500 m wide. The southern and northern contacts with the surrounding granodiorite body dip steeply southward.

The Revenue tuff breccia is a tan-coloured, clast-supported, quartz-feldspar breccia with up to 80% sub-rounded pebble to stone-sized fragments. The matrix is fine-grained and composed of porphyritic quartz and feldspar material. At the breccia margins, the fragment size increases, as does the percentage of country rock contained as clasts.

The tuff breccia has many modes and occurs as a coherent intrusive body, an auto-brecciated magma, and a milled breccia with rip-up clasts of granodiorite and metamorphic rocks. The breccia can be both matrix- and clast-supported with clasts ranging from 1 cm to greater than 30 cm. On average, clasts range between 2 cm and 7 cm and can be either angular or rounded. Mafic material is rare to absent outside of the clasts. Previously brecciated fragments have also been observed.

The tuff breccia is typically altered to clay and carbonate, and, near the surface, oxidizes to a distinctive pale pinkish-brown to purple colour. In outcrop, it has a distinctive irregular weathering pattern, containing pyrite crystals, and is often coated with copper oxides and carbonates. The breccia has a strong geophysical signature; it has low magnetism, chargeability, and resistivity because of the alteration, lack of magnetite, and relatively low disseminated pyrite content, especially near surface where it has been oxidized.

A series of parallel, narrow, east-trending, quartz-feldspar porphyritic dykes are known to exist immediately south of the tuff breccia. Quartz-feldspar porphyritic dykes at Revenue and Nucleus have been dated between 74Ma to 77Ma (Bineli Betsi & Bennet, 2010).

The Seymour Creek stock is a small syenitic body found at the confluence of Seymour and Bow Creeks. It is coarse-grained and feldspar porphyritic, consisting primarily of orthoclase and hornblende. Recent prospecting work discovered this unit on a prominent ridge at the headwaters of Revenue Creek, and a small plug has now been interpreted at this location from its magnetic signature.

7.3.2 Nucleus Deposit

The Nucleus deposit is hosted in tightly-folded Paleozoic schists and gneisses of the Snowcap assemblage. Cutting them are Late Cretaceous quartz-feldspar porphyry dykes that have been modelled to trend eastward. The dykes are directly associated with increased mineralization at the Nucleus deposit and are thought to represent rocks which have infilled zones of dilation and/or tension gashes resulting from brittle tectonism.

A fine-grained leucogranite unit forms a topographic high on the ridge immediately north of the Nucleus deposit (Figure 7-2). Characterized as a “microgranite”, it is seen in drill core as a sizable body, coarsening with depth. It is very felsic, composed of feldspar and quartz with occasional muscovite or biotite. The microgranite is thought to be Middle Cretaceous in age.

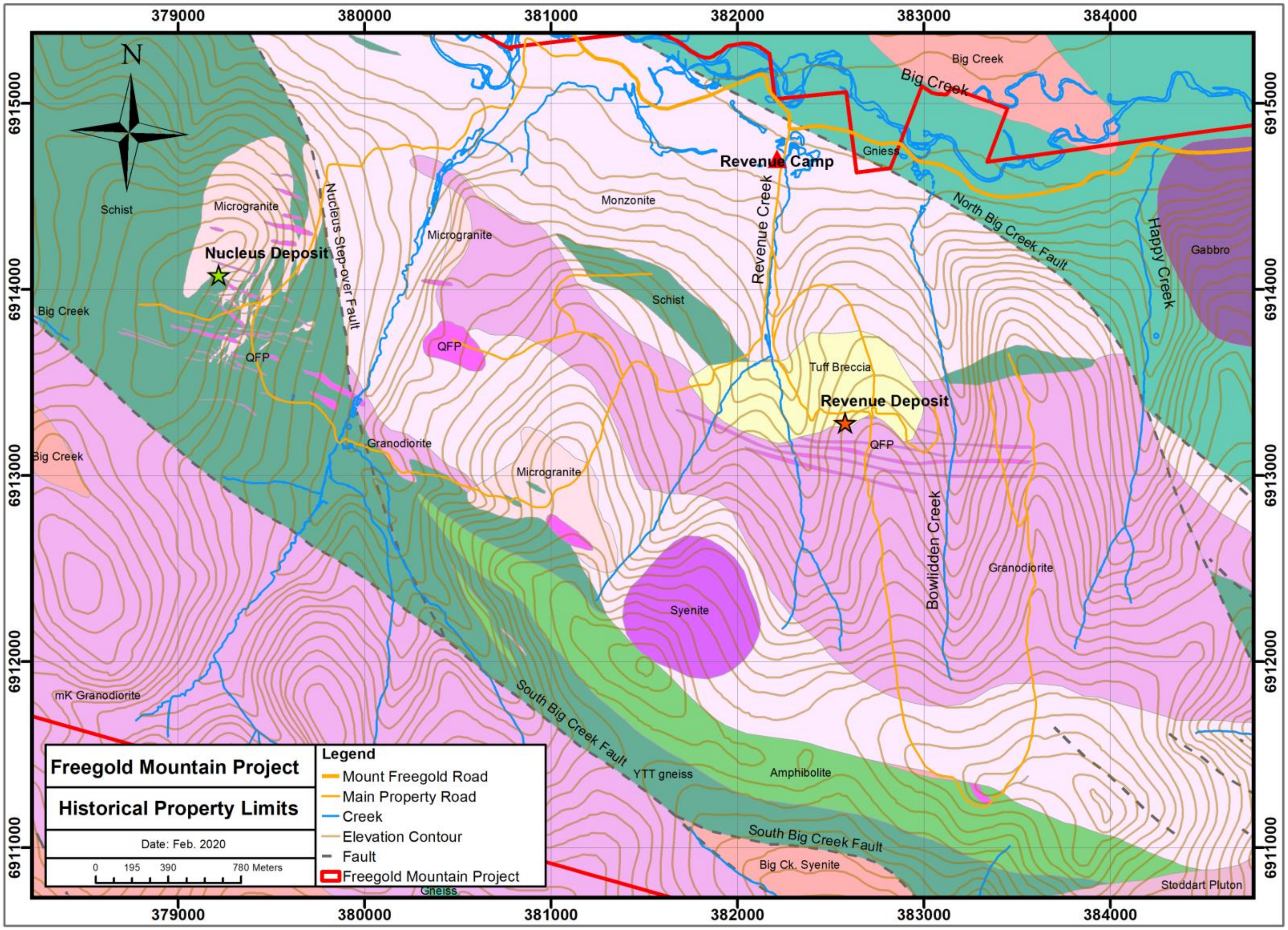
The structural system containing the Nucleus and Revenue deposits is dominated mainly by two steeply dipping, northwest-trending faults (the North Big Creek fault and the South Big Creek fault) and the structures which connect them (Figure 7-2). Other structures exist, but their extents are less well known. Early east-trending structures may have been a factor in the tuff breccia and QFP dyke emplacement, and northwest-trending structures especially in the Revenue area appear to be very important to mineralization. North-trending structures appear to be the most recent and have occurred mainly after mineralization.

7.3.3 Tinta Hill Deposit

The following description of the Tinta Hill geology has been extracted from Fonseca & Giroux (2009).

Tinta Hill is underlain by Jurassic-aged granodiorite to quartz monzonite of Aishihik Lake/Long Lake plutonic suite. Tikhomirova (2008) identified equigranular and porphyritic plutonic varieties juxtaposed by a linear northwest-trending structure that contains cataclastic breccias in the southeastern part of the property and is paralleled by mafic dykes in the northern part of the mapped area. Equigranular quartz monzonite to granodiorite is massive, medium- to coarse-grained, pinkish-grey, containing numerous small mafic xenoliths and segregations, and is locally cut by quartz-orthoclase veins and pegmatitic lenses. Porphyritic quartz monzonite to granodiorite is variably foliated, medium- to coarse-grained, grey to brown, and occurs predominantly southwest of the main northwest-trending fault. A series of northwest trending faults, veins and brecciated structures cut the porphyritic intrusion southwest of the main fault, whereas structures cutting the equigranular intrusion to the northeast of the main fault do not expose breccias and veins, and fan from a northwest- to north-northwest-trend.

Figure 7-2: Deposit Scale Geology



Source: modified after Allan and Friend, 2018

7.4 Mineralization and Alteration

7.4.1 Revenue Deposit

The previous (2015) resource estimate for the Revenue deposit was based on the low-grade copper and gold contained in the Revenue tuff breccia and porphyry-style mineralization found in the adjoining Revenue granodiorite to the south. The resource included estimates of gold, copper, silver and molybdenum.

The Revenue tuff breccia contains elevated copper and gold values throughout owing to abundant disseminated pyrite with chalcopyrite. Copper and gold grades increase approaching its southern margin due to an increase in porosity resulting from coarsening of clast size and an event of cross-cutting quartz-carbonate-chalcopyrite veins. The breccia may have diluted the grade of a previously mineralized system evidenced by brecciated clasts of mineralized granodiorite found within the breccia.

The granodiorite host of the Revenue tuff breccia has been shown to host copper-porphyry-style stockwork veins and disseminated sulphides originating from high-temperature potassic alteration, not seen in and pre-dating the emplacement of the Revenue breccia. Mineralization in the granodiorite is elevated in structurally complex areas and at the margins of QFP dykes. The granodiorite is also affected by chlorite alteration of biotite and sericite/clay alteration of feldspars.

The WAu breccia is a steeply plunging hydrothermal breccia identified in 2017 immediately east of the Revenue tuff breccia. It predates the emplacement of the tuff breccia and postdates earlier porphyry-style mineralization. Elevated tungsten, lead, and zinc impart a distinctive epithermal signature to this breccia. A set of late quartz-carbonate veins are concentrated within the main mineralized zone and contain variable amounts of chalcopyrite, molybdenite, galena, sphalerite, bismuthinite, and visible gold.

The Blue Sky breccia is also a steeply-plunging hydrothermal breccia found east of the Revenue tuff breccia in the Revenue granodiorite. Mineralization consists of veined and disseminated pyrite, chalcopyrite and molybdenite overprinted by a hydrothermal sulphide breccia. Cross-cutting quartz-feldspar porphyry dykes generally dilute grade but can carry elevated gold and copper. The most intense mineralization is associated with strong potassic (K-feldspar grading outwards into biotite) alteration.

7.4.2 Nucleus Deposit

The Nucleus gold-silver-copper deposit consists of polyphase quartz-chalcopyrite-pyrite-arsenopyrite veins, infill breccia and semi- to massive-sulphide lenses consistent with multiple phases of skarn and epithermal gold mineralization. The host schists and gneisses (of greenschist origin) have been overprinted by dominantly phyllic alteration (especially near veins and structures) with local pervasive actinolite skarn. In places, the skarns have been replaced with sulphides.

7.4.3 Tinta Hill Deposit

Mineralization in the Tinta Hill Property is dominated by northwest-trending, sub-vertical quartz+/-carbonate-sulphide veins containing pyrite, chalcopyrite, galena, and sphalerite. The Main vein zone is mapped discontinuously for more than 3,500 m in strike-length. Individual veins vary in true thickness from 1.6 m to 0.9 m and have intensely bleached envelopes.

Alteration defined from drill hole infrared spectra consists of magnetite destructive, intense kaolinite adjacent to, and extending a few metres from mineralized veins, and a broader white mica (muscovite and lesser illite) envelope that locally surrounds mineralized veins (Fonseca & Giroux, 2009).

8 DEPOSIT TYPES

The Project area hosts three mineral deposits and numerous advanced mineral prospects and showings indicative of a massive Cretaceous hydrothermal system with exhibited porphyry-copper, skarn, and low-sulphidation epithermal styles of mineralization.

Porphyry-copper-style mineralization is identified at Revenue as well as the drilled prospect at Stoddart. Intense phyllic alteration at Cabin is also indicative of a porphyry-copper environment. Skarns can also be found adjacent to porphyry intrusions and their apophyses and include the gold-bearing Margarete magnetite skarn near Stoddart as well as the actinolite skarns at Nucleus.

The Nucleus deposit is interpreted as a meso- to epithermal-style low-sulphidation gold-silver-copper deposit. The polymetallic veins at Tinta Hill are expressions of a similar, but somewhat more distal, deposit of low to moderate sulphidation epithermal-style mineralization. Epithermal-style veins also overprint high-temperature mineralization at Revenue, evidence of a telescoped system.

The Freegold Mountain Project has several other under-explored copper-gold porphyry exploration targets, including the Nitro and Castle Zones. Outboard of the porphyry targets are a number of gold-rich epithermal vein prospects, including Irene, Ridge, Goldstar, Goldy, and Dart.

The following is paraphrased from Allan et al. (2013), who provide a well-researched summary of the geologic history and deposit characteristics of many of the primary prospects of the Dawson Range.

Porphyry and epithermal systems in the Dawson Range belt extend from the Casino deposit to the Mt. Nansen camp. Aside from Nucleus-Revenue, significant porphyry-related systems in this belt include Casino, Sonora Gulch, and Tad-Toro. Brief descriptions of each are listed below:

- Casino is a large-tonnage Cu-Au-Mo porphyry deposit hosted in the Late Cretaceous Patton porphyry, a porphyritic plagioclase-hornblende rhyodacite with alteration and hypogene mineralization typical of calc-alkaline porphyry systems.
- Sonora Gulch is a Au-Ag-Cu-Zn ± Mo prospect in which Late Cretaceous feldspar porphyry dikes and quartz porphyry stocks are observed with hypogene pyrite-pyrrhotite-chalcopyrite assemblages.
- Tad-Toro is a Cu-Au porphyry-style prospect centered on a large plug of plagioclase-quartz-biotite porphyry which cuts Middle Cretaceous quartz monzonite. The property is near a southern strand of the Big Creek fault system.

Other historic porphyry-related prospects in the Dawson Range include the Mt. Cockfield Cu-Mo prospect hosted in Late Cretaceous quartz monzonite, the Cash Cu-Mo porphyry, the Antoniuk Au porphyry-breccia system, and the Cyprus Cu-Mo porphyry.

Aside from the Tinta Hill Ag-Pb-Zn-Cu-Au deposit, examples of polymetallic vein systems in the Dawson Range include the Bonanza Au-Ag-Cu prospect and Frog/Lilypad Ag-Pb(-Zn) prospect in the Prospector Mountain area.

9 EXPLORATION

The Freegold Mountain Project has an extensive history of exploration through a combination of geological mapping, geochemical sampling, geophysical surveys and drilling as described in Section 6 (History) of this report, or in previous technical reports filed on SEDAR (Pautler, 2006; Fonseca & Giroux, 2009; Campbell et al., 2010; Armitage & Campbell, 2011; Armitage et al., 2012; Campbell et al., 2013; Campbell et al., 2015).

Exploration programs conducted by Triumph Gold, including the work conducted under Northern Freegold Resources, is summarized in Table 9.1.

Table 9.1: Exploration Programs Conducted on the Freegold Mountain Property

Year	Company Name	Work Performed
2006	Northern Freegold Resources Ltd.	58 RAB holes (2,171 m total) at Revenue; 26 DDHs (4,792 m total) at Nucleus, including limited petrography Project-wide airborne VTEM and magnetic surveying (1,661 line-km total) by Geotech Ltd. (Geotech) Limited silt and BLEG stream sediment sampling; limited surface rock sampling at Mechanic, Granger, Nitro and Tinta Hill
2007	Northern Freegold Resources Ltd.	28 DDHs (6,337 m total; some oriented) and 32 RAB holes (1,658 m total) at Nucleus; eight DDHs (1,123 m total) and 84 RAB holes (2,997 m total) at Revenue; 13 DDHs (2,198 m total) at Goldy; 11 DDHs (2,199 m total) at Tinta Hill; four DDHs (592 m total) at Dart; two DDHs (509 m total) at Stoddart 1 m digital elevation mapping and 1:20,000 and 1:10,000 aerial orthophotography over entire project; baseline environmental studies 33 line-km of IP (Aurora Geoscience) at Revenue; mag, VLF, and max-min surveying at Dart (Aurora Geoscience); mag and VLF surveying at Goldstar (Aurora Geoscience); reprocessing of selected data from 2001 IP survey and 2006 airborne survey Minor trench remapping, reconnaissance mapping and sampling; MMI soil sampling over Revenue and Nucleus; soil sampling at Stoddart and Goldstar with MMI lines; trenching at Stoddart
2008	Northern Freegold Resources Ltd.	53 DDHs (13,287 m total) and 28 RAB holes (1,757 m total) at Nucleus; 17 DDHs (3,892 m total) at Tinta Hill; 10 DDHs (2,560 m total) at Stoddart; nine DDHs (1,079 m total) at Ridge; 8 DDHs (1,510 m total) at Goldy Limited ground magnetic survey and two radiometric test lines at Nucleus (Aurora Geoscience); reprocessing of Geotech's 2006 mag and EM airborne survey and incorporation of GSC airborne radiometrics (TerraNotes); production of a 3D chargeability survey Limited trench sampling at Margarete; limited trenching at Ridge
2009	Northern Freegold Resources Ltd.	43 DDHs (10,431 m total) and 21 RAB holes (1,246 m total) at Nucleus Ground magnetic, HLEM, and gamma-ray spectrometry surveying at Nucleus and Revenue (Aurora Geoscience); processing of Geotech's 2006 mag and EM airborne survey (Condor); interpretation of

Year	Company Name	Work Performed
		Geotech's 2006 property-wide survey incorporating Condor work (Costantini, 2009) Project-wide stream sediment sampling; outcrop mapping at Revenue and Nucleus; limited petrography Preliminary metallurgical testing for gold recovery completed on coarse rejects from 2009 Nucleus program (G&T Metallurgical)
2010	Northern Freegold Resources Ltd.	5 DDHs (1,531 m total) and 40 RC holes (5,634 m total) at Revenue; 11 DDHs (3,106 m total) and six RC holes (862 m total) at Nucleus 62.2 line-km (14 lines total) of Titan-24 DC/IP surveying at Revenue and Nucleus (Quantec); ground geophysics Inversion modelling of 2007 IP data (GeoVector) 347 soil and 19 rock samples over Revenue and Nucleus areas
2011	Northern Freegold Resources Ltd.	27 DDHs (12,429 m total) at Revenue 44 line-km of Titan-24 DC/IP Survey at Stoddart (Quantec)
2012	Northern Freegold Resources Ltd.	5 DDHs (2,452 m total) at Nucleus Preliminary metallurgical testing for gold recovery completed on coarse rejects from Revenue and Nucleus drilling programs
2013	Northern Freegold Resources Ltd.	1,176 soil samples, 207 chip samples, 28 grab samples, and limited others at Seymour, Discovery, and Goldy-Dart
2014	Northern Freegold Resources Ltd.	29 line-km of VLF and TFM surveying at Stoddart and Irene
2015	Northern Freegold Resources Ltd.	21 m of trenches, bedrock mapping, and 45 rock chip and two grab samples at Irene. 31 line-km ground magnetics and 29 line-km VLF at Irene
2016	Northern Freegold Resources Ltd.	Limited relogging and terra-spectrometric work of historical drill core from Nucleus and Revenue drilling
2017	Triumph Gold Corp.	16 DDHs (5,258 m total) at Nucleus; 18 DDHs (7,615 m total) at Revenue;3 DDH's (1,284 m total) at Generation; 1 DDH (604 m total) at Keirsten 70 line-km of ground magnetics and VLF at Tinta Hill; 10 line-km of soil sampling (993 samples taken) at Tinta Hill; 551 m of trenching resulting in 73 chip and 18 grab samples at Tinta Hill Limited surface rock grab samples at Revenue and Nucleus
2018	Triumph Gold Corp.	25 DDHs (7,852 m total) at Revenue; 21 DDHs (4,159 m total) at Nucleus; 11 DDHs (1,369 m total) at Irene; six DDHs (1,014 m total) at Granger; six DDHs (1,349 m total) at Guder; 4 DDHs (1,786 m total) at Keirsten 27 line-km of IP and resistivity surveying across Nucleus and Revenue deposits; 50 line-km of ground magnetics Seven trenches (342 m total) at Revenue and Mechanic Creeks; five channel-sampled trenches (93 m total) at Happy Creek; three trenches (116 m total) at Drone; six trenches (579 m total) at Cabin 780 soil samples and 85 C-horizon soil samples at Happy Creek 54 surface rock grab samples at Revenue and Nucleus
2019	Triumph Gold Corp.	Seven DDHs (5,557 m total) at Revenue 27 soil samples and two samples of regolith at Revenue South; six trenches (565 m total) mapped and sampled at Cabin; one trench (88 m total) mapped and sampled at Tinta Hill 11 trenches (120 m total) with grab samples at Vindicator

The property-wide VTEM and magnetic surveying in 2006 laid the foundation for multiple subsequent efforts to interpret the property-wide regional geology and structure. The ground magnetic grids spanning Revenue to Nucleus in 2009 and Revenue to Happy Creek in 2018 are currently being used in a 3D drill-hole-constrained magnetic inversion model. Similarly, the 2007 digital elevation modelling enabled increased accuracy for all subsequent exploration efforts.

Between 2006 and 2012, sub-surface exploration focused on acquiring sufficient data to infer or expand resources (e.g., Nucleus and Revenue). Exploration at the Stoddart Zone in 2007 and 2008 targeted mineralization in the possible causative intrusion responsible for much of the mineralization. In 2017, exploration east of the Revenue tuff breccia intersected the high-grade breccia pipe, later named the Blue Sky breccia, that would become an underground resource. In 2019, down-plunge drilling of the WAu Breccia successfully intersected one of a number of indicated blind porphyry centres.

New zones discovered since 2006 include the Drone Zone, found with the aid of placer mining activities at Mechanic Creek, and the epithermal Irene Zone discovered in 2013 and expanded in 2015.

The regional mapping efforts of the MDRU in 2018 used mapping from Northern Freegold Resources as a base for more informed and in-depth interpretation. Age determination from this effort identified new geologic units, including the Stoddart Pluton, currently a candidate for the causative intrusion to much of the mineralization on the property.

10 DRILLING

The first records of drilling on the Freegold Mountain Property date back to the mid-1950s. There have been numerous drilling programs, run by many operators, over a period of more than 60 years.

Table 10.1 lists all historical and recent drilling that has been recorded. Where available, the historical drill results are included in the estimates of mineral resources. It should be noted that not all historical drilling data reported in the records has been located and, therefore, is unavailable in the Freegold Mountain database.

Table 10.1: History of Drilling on the Freegold Mountain Property

Year	Operator	Target Zone	# Holes	Type	Metres
1955	Teck Exploration	Revenue	5	DDH	614
1960	Conwest Exploration Ltd.	Tinta Hill	5	DDH	410
1965	Meridian Syndicate	?	3	DDH	165
1969	Yukon Revenue Mines	Revenue	10	DDH	1,258
1970	Kaiser Resource Ltd.	Revenue	20	Percussion	1,873
			9	DDH	1,291
1973–76	Tinta Hill Mines	Tinta Hill	28	DDH	1,997
1974–80	Yukon Revenue Mines	Revenue	3	DDH	180
1980–82	Silver Tusk Mines Ltd. and Panther Mines Ltd.	Tinta Hill	4	DDH	410
1983–84	Shakwak Exploration Co. Ltd.	Revenue	9	DDH	628
1985–91	Big Creek Resource Ltd. And Rexford	Revenue	11	DDH	1,330
			35	RC	1,283
1988	Mill City Gold Mining Corp.	Tinta Hill	9	DDH	1,263
1999–2004	ATAC Resources	Nucleus	20	DDH	3,060
2006	Northern Freegold Resources	Nucleus	26	DDH	4,792
		Revenue	58	RAB	2,171

Year	Operator	Target Zone	# Holes	Type	Metres
2007	Northern Freegold Resources	Nucleus	28	DDH	6,337
			32	RAB	1,658
		Revenue	8	DDH	1,123
			84	RAB	2,997
		Tinta Hill	11	DDH	2,200
		Goldy	13	DDH	2,198
		Dart	4	DDH	592
		Stoddart	2	DDH	509
2008	Northern Freegold Resources	Nucleus	53	DDH	13,287
			28	RAB	1,757
		Tinta Hill	17	DDH	3,892
		Stoddart	10	DDH	2,560
		Goldy	8	DDH	1,510
		Ridge	9	DDH	1,079
2009	Northern Freegold Resources	Nucleus	43	DDH	10,431
			21	RAB	1,246
2010	Northern Freegold Resources	Revenue	5	DDH	1,531
			40	RC	5,634
		Nucleus	11	DDH	3,106
			6	RC	862
2011	Northern Freegold Resources	Revenue	27	DDH	12,429
2012	Northern Freegold Resources	Nucleus	5	DDH	2,452
2017	Triumph Gold	Nucleus	15	DDH	4,655
		Revenue	15	DDH	6,332
		Keirsten	1	DDH	604
		Generation	3	DDH	1,284

Year	Operator	Target Zone	# Holes	Type	Metres
2018	Triumph Gold	Nucleus	21	DDH	4,159
		Revenue	25	DDH	7,852
		Irene	11	DDH	1,369
		Granger	6	DDH	1,014
		Guder	6	DDH	1,349
		Keirsten	4	DDH	1,786
2019	Triumph Gold	Revenue	7	DDH	5,557

All drilling at the Freegold Mountain Project has been conducted by Northern Freegold Resources or Triumph Gold since 2006. There is little information regarding drilling procedures and contractors used prior to 2006. Geology and sample results from the historical drilling tends to compare very well with proximal recent drilling completed by Triumph Gold. These comparisons increase the level of confidence with respect to the older sources of information.

Triumph Gold has contracted Kluane Drilling Ltd. of Whitehorse, Yukon to conduct the bulk of the drilling on the property since 2006. Diamond drilling produced primarily HQ-size diamond drill core, and, if problems were encountered, holes were downsized to NQ. The majority of the percussion holes (RAB and RC) performed between 2006 and 2012 were exploratory in nature, testing satellite targets often located away from the areas containing mineral resources.

The majority of holes drilled between 2006 and 2011 were surveyed by Underhill Geomatics Ltd. Since 2017, all drill collar locations were recorded by Triumph Gold logging geologists or management using a Garmin 60-Series handheld GPS after the drill had been removed from the site. To date, a more accurate survey-quality differential GPS of the more recent drill collars has not been completed, but it is recommended as the Project advances. The drill hole collar locations correlate reasonably well with the 3D topographic surface. The elevations of several drill holes were corrected (± a few metres) to match the 3D topographic surface. Downhole surveys were done using both single-shot and multi-shot survey instruments.

The drill core handling and sampling procedures are described in Section 11 (Sample Preparation, Analyses and Security) of this report. All remaining ½ core from Nucleus and Revenue drilling is stored in racks at the Revenue Camp. Most of the remaining drill core from the Tinta Hill deposit is stored in cross-piles at the exploration camp at Tinta Hill.

The drilling and related logging and sampling practices and procedures adhered to by Triumph Gold follow accepted industry standards. The authors are not aware of any drilling, sampling or recovery factors that could materially impact the accuracy and reliability of the drilling results.

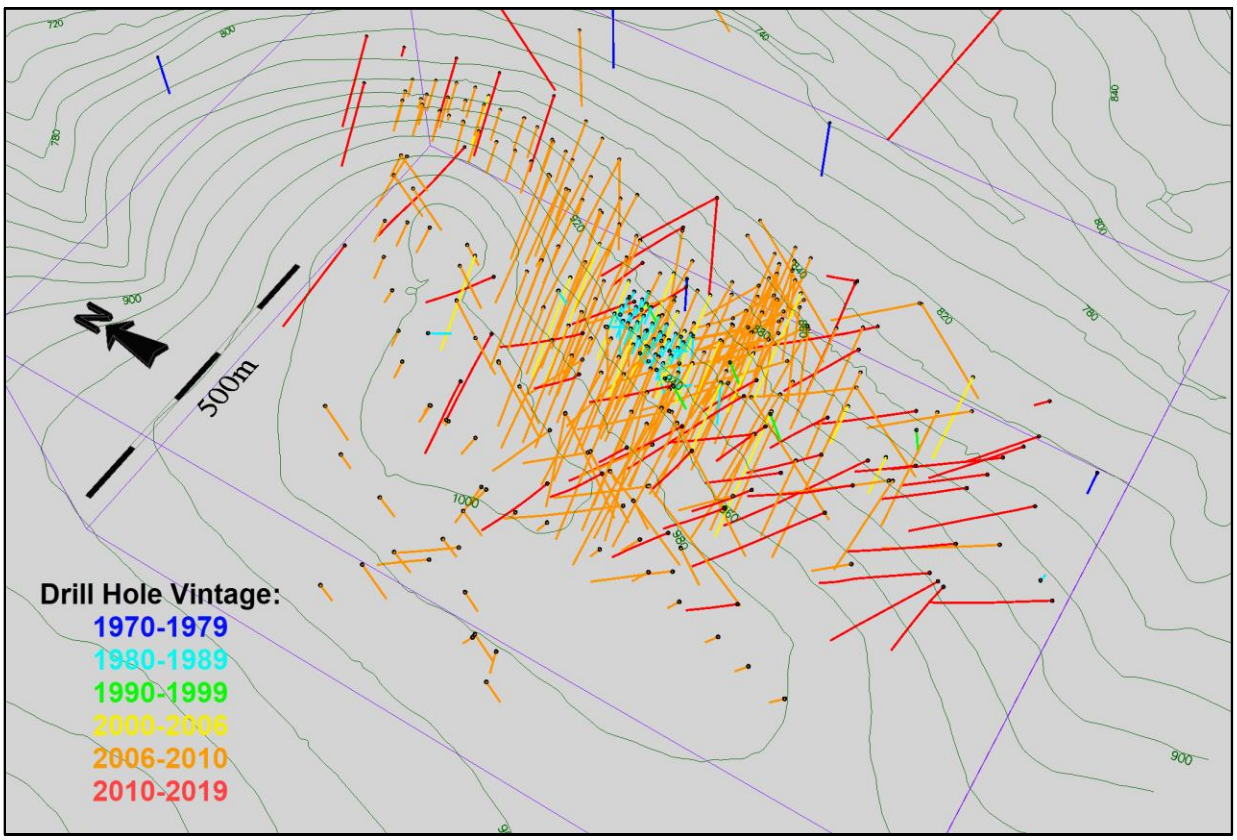
10.1 NUCLEUS DEPOSIT

There is a total of 359 drill holes, with a total length of 60,061 m, that are in the vicinity of the Nucleus deposit and which contribute to the estimation of mineral resources. Holes are drilled at a variety of angles and are generally spaced at 20 m to 50 m intervals in the centre of the deposit, increasing to 100 m spacing or more around the outer areas.

The distribution of drill holes by year is shown in Figure 10-1. Drilling at Nucleus dates back to 1970, where nine exploration holes primarily test the area surrounding the main deposit. In the mid to late 1980s through to 1991, 49 holes were drilled; these were primarily clustered over an area measuring 150 m × 100 m in the centre of the deposit, on 20 m centres and to a depth of about 30 m below surface.

Drilling started again in 2001 through to 2017 with holes that generally test to a depth of about 300 m below surface with the occasional hole reaching 500 m below surface. The majority of information used to generate the estimate of mineral resources at Nucleus was drilled during the period between 2006 and 2018.

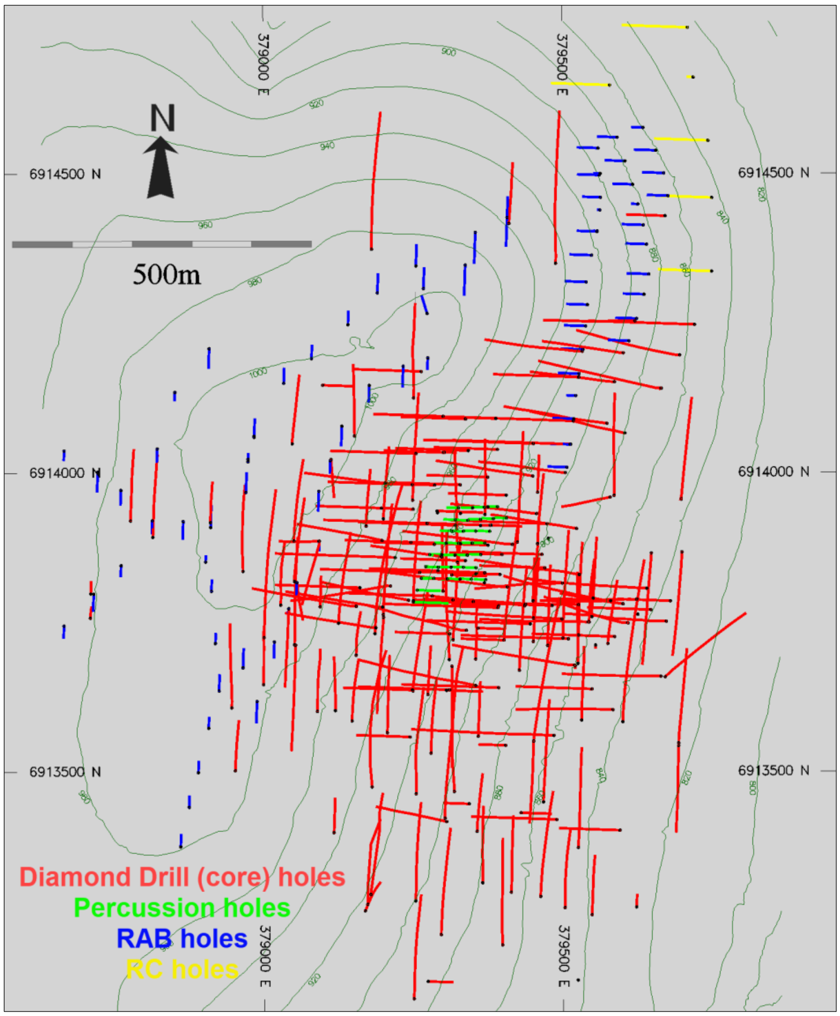
Figure 10-1: Isometric View Looking Northeast Showing Drilling by Year at Nucleus



Source: SIM Geological

Figure 10-2 shows the distribution of drilling by type at Nucleus. The majority of drilling was conducted using DD methods with fewer percussion, RAB and RC holes. Most of the significant mineralization at Nucleus is tested using DD holes. There is no apparent bias in the results achieved using the various drilling methods, and, as a result, there have been no modifications or exclusions of data related to the drilling method.

Figure 10-2: Plan View Showing Drilling by Type at Nucleus



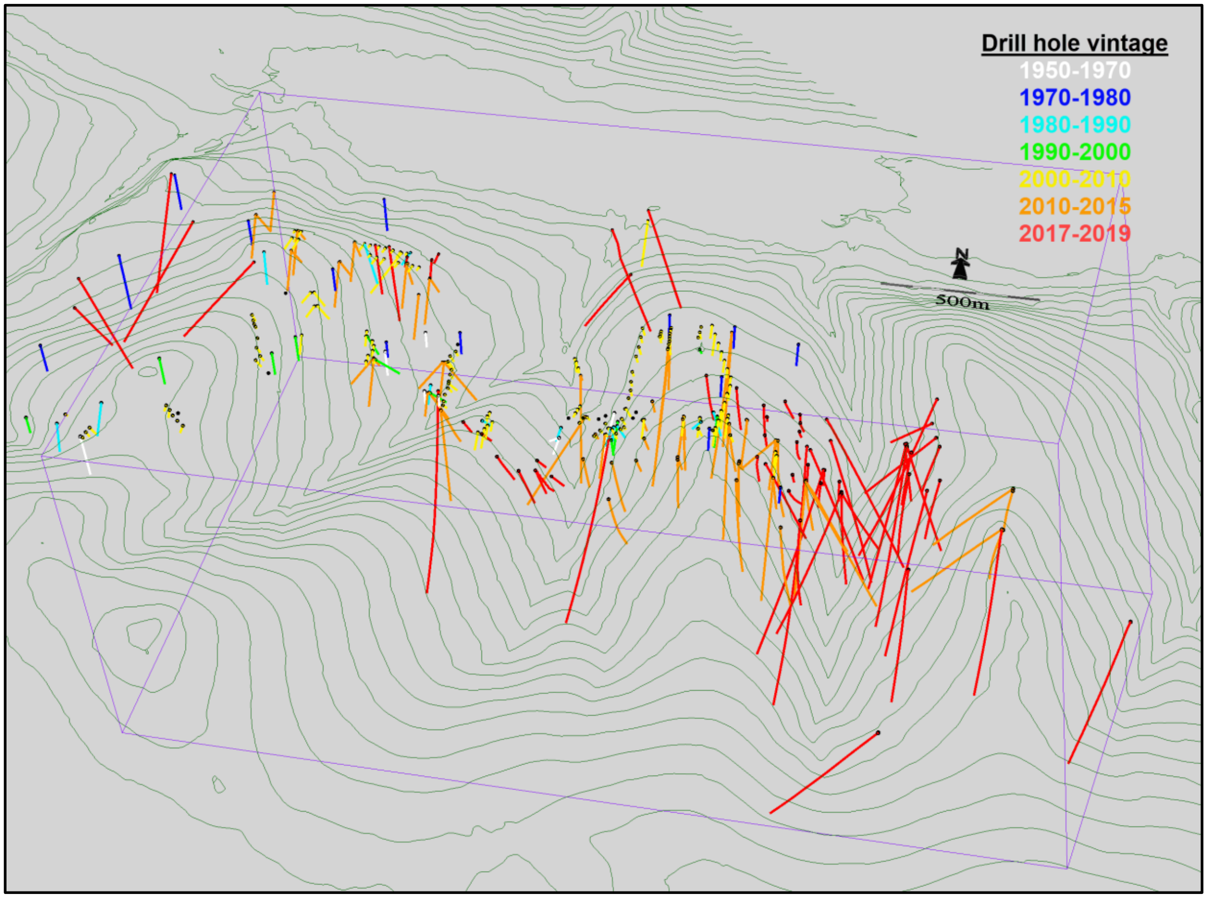
Source: SIM Geological

10.2 Revenue Deposit

There is a total of 324 drill holes, with a total length of 55,100 m, that are in the vicinity of the Revenue deposit and which contribute to the estimation of mineral resources. Many of the drill holes at Revenue are inclined at north or south orientations, but others are drilled at a variety of angles to test several deeper, sub-vertically oriented mineralized zones. Drill holes are variably spaced at 25 m to 400 m or more but, generally, at 50 m to 100 m intervals. Drill holes vary in length from 9 m to just over 900 m.

The distribution of drill holes by year is shown in Figure 10-3. Drilling at Revenue dates back to the 1950s, but the majority of the mineralized areas have been tested with recent drilling completed since 2000. Older drill holes from the 1950s, '60s, '70s and '80s tend to be shallow and localized and, as a result, do not provide significant contributions to the estimate of mineral resources at Revenue.

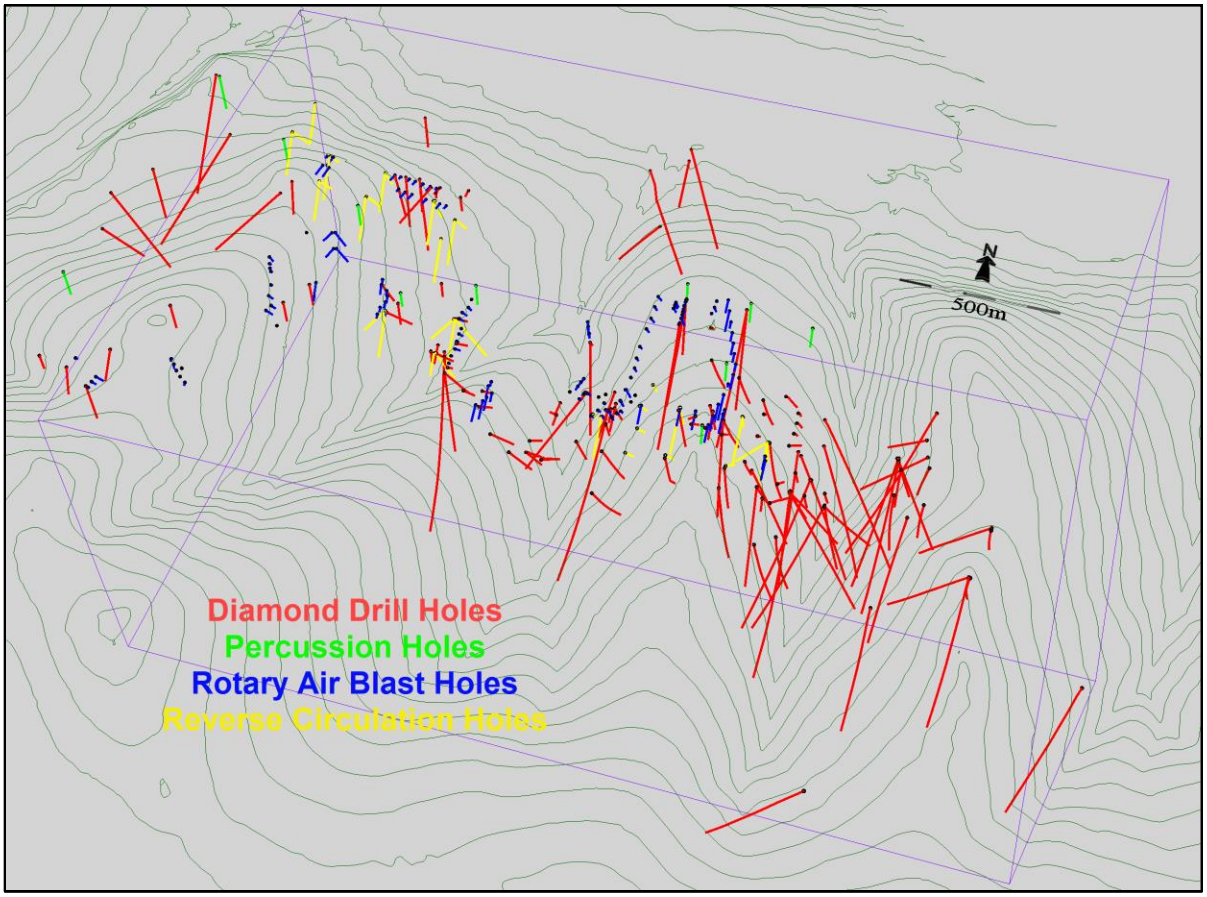
Figure 10-3: Isometric View Looking North Showing Drilling by Year at Revenue



Source: SIM Geological

Figure 10-4 shows the distribution of drilling by type at Revenue. The majority of drilling was conducted using DD methods with fewer RC, percussion and RAB holes. Most of the significant mineralization at Revenue is tested using DD holes. There is no apparent bias in the results achieved using the various drilling methods, and, as a result, there have been no modifications or exclusions of data related to the drilling method.

Figure 10-4: Isometric View Showing Drilling by Type at Revenue



Source: SIM Geological

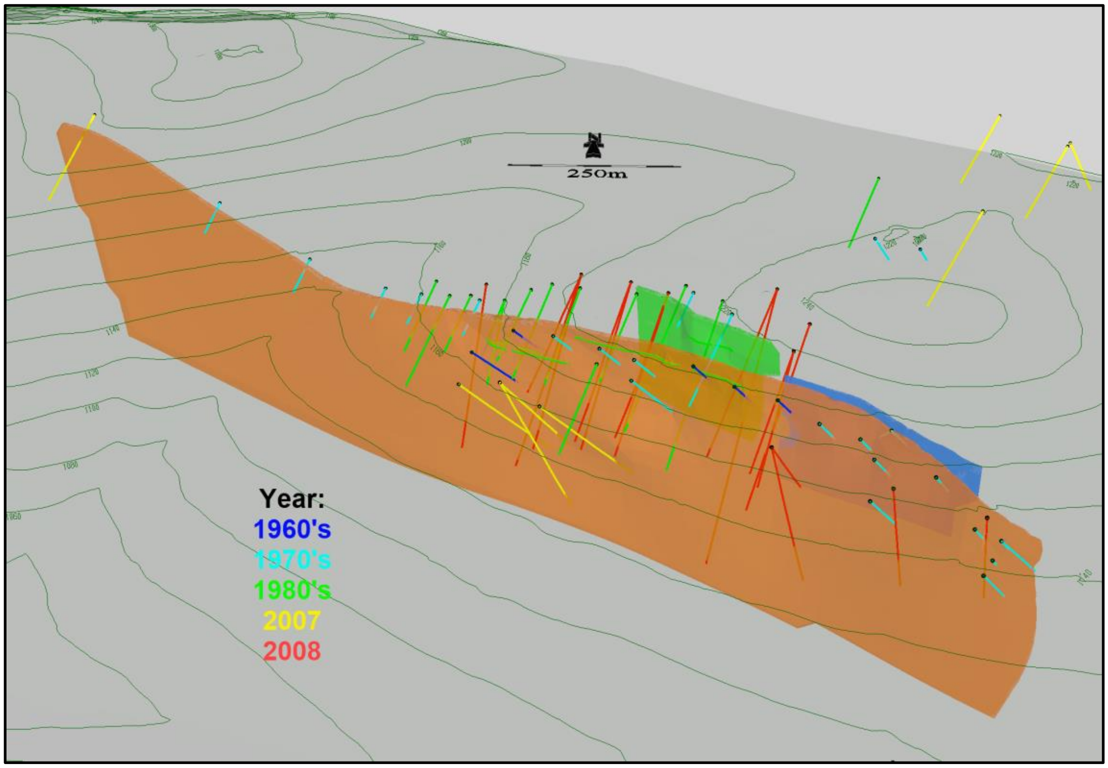
10.3 TINTA HILL DEPOSIT

The Main vein has been tested with drilling over a strike length of about 1.7 km, but most of the significant mineralization occurs over a strike length of about 1 km and extends to more than 300 m below surface. Drill holes are variably spaced at roughly 35 m to 50 m over the top 100 m of the deposit, increasing to 100 m spacing or more at depth.

Drilling and sampling programs at Tinta Hill extend back over 50 years. The initial drill holes (completed in 1960 and 1973 through 1976) commonly intersect the mineralized veins at depths of only 50 m below surface. Drilling conducted in the ’80s rarely tested deeper than 100 m below surface. The more recent drilling, conducted in 2007 and 2008, generally test the deeper parts of the deposit, to depths exceeding 300 m below surface.

The distribution of drill holes by year is shown in Figure 10-5. Visual observations suggest there are no significant differences between vintages of data, and, as a result, none of the data have been excluded from use in the estimate of mineral resources. In addition to the drilling at Tinta Hill, a series of underground channel samples have been collected from two levels in the Main vein and also over a portion of another smaller mineralized zone (vein B).

Figure 10-5: Isometric View Looking North Showing Drilling by Year at Tinta Hill



Source: SIM Geological

11 SAMPLING PREPARATION, ANALYSES AND SECURITY

11.1 HISTORICAL DRILL PROGRAMS

Historical drill core (prior to 2006) from the various deposits on the Freegold Mountain Property was sampled using a variety of sample preparation methods and approaches. However, minimal information was recorded with respect to sample preparation or security. In many cases, little to no information is provided on analytical methods, and it cannot be determined whether historical gold and silver analyses were performed by ICP or fire assay methods. Comparing data by vintage indicates that the results of historical drill holes are similar to those of proximal current drilling, and, as a result, all available historical data have been retained for use in mineral resource estimation. It should be noted that, in general, the volume and spatial location of historical drilling has relatively little impact on the estimate of mineral resources.

Sampling methods and approaches with respect to the drilling completed by Northern Freegold Resources from 2006 to 2014 follow similar practices applied to the recent work conducted by Triumph Gold. Descriptions of the sampling methods and analyses used from 2006 through 2014 are included in previous technical reports by Northern Freegold Resources posted on SEDAR (Pautler, 2006; Fonseca & Giroux, 2009; Campbell et al., 2010; Armitage & Campbell, 2011; Armitage et al., 2012; Campbell et al., 2013; Campbell et al., 2015) and are not included in this report.

11.2 2006 THROUGH 2019 DRILL PROGRAMS

Both Northern Freegold Resources and Triumph Gold have implemented a quality control procedure to ensure that drill core is handled, sampled, and analyzed according to accepted industry protocols, samples are representative of mineralization intersected by drilling, and no systematic sample bias has occurred.

After the drill core is logged, the intervals to be sampled for geochemical analysis are marked and recorded by the geologist. Intervals of overburden and caved material are not sampled. Sampled intervals are generally not less than 1.0 m or longer than 2.0 m, though an occasional oversized sample is the result of core loss and/or poor recovery. Cutting lines are only marked on the core when it is deemed necessary by the geologist to prepare a more representative sample. In the case of oriented core, where a bottom mark is delineated down the length of the core, core cutting crews are instructed to retain marked core such that orientation data are not lost. Triumph Gold has drilled both HTW and NTW size core during the 2017 to 2019 programs.

Only authorized personnel are permitted access to the core shack and the drill core. Upon receipt from the drill site, each core box is opened and examined to ensure the hole number, box number, and marker block locations are correct. Next, geotechnical logging is conducted including measurements for drill core recovery and rock quality designation (RQD). Magnetic susceptibility measurements are also taken in 1 m intervals using a GDD MPP-EM2S+ probe. Specific gravity measurements are taken at 20 m intervals from each hole. Samples are weighed in air and again while submerged in water, and the resulting specific gravity (SG) is calculated. There is little evidence of porosity in the rocks, and, therefore, wax sealing prior to SG measurements is not required or applied.

Geologists record logged information directly into a laptop computer using MS Excel spreadsheets. Spreadsheets contain drop-down menus and, to reduce errors, the user is prompted when invalid information is entered into a field.

All core logging and cutting by Triumph Gold is performed on site at the Revenue Camp, and any core remaining from the sampling process is stored on site along with the historical drill core (Figure 11-1).

Prior to submission for final cutting, drill core is photographed then sampled for short wave infrared spectrometry work (SWIR, performed with a TerraSpec 3®). Samples, used for alteration studies, are collected roughly every 10 m and are selected based on the occurrence of clay minerals in the core. These samples are approximately 5 cm long and are placed into a properly labelled paper soil bag and either tested on site or shipped to Halifax, Nova Scotia for analysis.

The entire length of each hole is cut with a diamond blade core saw: one half of the core is placed directly into a polybag for eventual analyses, and the other half is returned to the core box. Core-cutting staff are consistent as to which half of the core is replaced in the box and which half is sampled for analysis. A sample tag is left in the core box at the start of the sample interval. One half of the drill core is placed in a clean plastic sample bag marked with the unique sample ID along with a sample tag stapled to the inside top to prevent any damage. The sample bags are then closed with a zip tie and placed in numbered rice bags, which are fastened with security zap-strap tags and placed into apple bins (or pallet boxes). The lids are sealed to await shipping. The rice bags containing the samples are stored in a secure room at the Revenue Camp prior to transportation to the analytical facility. The other half of the core is returned to the original core box and stored at the camp site in permanent core racks.

Figure 11-1: Core-Cutting and Sampling

Source: Triumph Gold, 2017

11.2.1 2006 to 2012 Assaying

Northern Freegold Resources used EcoTech Laboratories in 2006 to 2008 as a primary laboratory for drill core samples. The following is an excerpt from the 2007 drill report at Nucleus:

Duplicate core samples, commercial standards and blank samples were included in each sample batch sent to EcoTech Laboratory in Kamloops for geochemical analysis of gold by 30 g fire assay with an AA finish, followed by aqua regia digestion and ICP finish; other elements are analyzed by aqua regia digestion and 28 element ICP determinations.

Northern Freegold Resources used ALS Chemex as a primary laboratory for drilling campaigns in 2009 and 2010 through 2012. The following is a brief description of the drill core handling and assaying procedures employed.

Samples were transported by company vehicle and expeditor to the ALS Chemex preparation facility in Whitehorse. From there, the pulps were shipped to Vancouver for analysis. Samples were given a bar code that allowed tracking through all stages of the analysis. Core and RC samples were prepared and analyzed using the same methods. Samples were dried and crushed to >70% passing through a Tyler 10 mesh screen. A 250 g sample was subdivided from this material using a riffle splitter, then the sample is pulverized to >95% passing through a Tyler 150 mesh screen. The sub sample was rolled, homogenized and bagged in a pre-numbered bag. A 30 g sample was produced from the pulverization process. Barren material was used through the crushing and pulverizing stage to ensure no contamination of the samples. The pulverized samples were analyzed by fire assay/AAS finish. Samples that returned greater or equal to 1 ppm Au were re-assayed by fire assay/gravimetric finish. Additional elements were determined by aqua regia digestion and ICP-AES finish.

11.2.2 2017 Assaying

Drill core samples were trucked by an accredited transportation company who in turn shipped samples to ALS Global Laboratories in Whitehorse, Yukon. The majority of drill core samples were shipped via Smalls Expediting Services Ltd. to their secure facility where they would await transport to ALS Global Laboratories Ltd. (ALS) sample preparation facility on Mt. Sima Rd. in Whitehorse the next business day. More rarely, drill core samples were shipped on trucks driven by Triumph Gold personnel directly to the ALS facility in Whitehorse.

As requested by ALS's Prep-35B code, all drill core samples are weighed, dried, and crushed using an oscillating jaw crusher to >70% passing through a 2 mm mesh screen. A 250 g sample was subdivided from this material using a riffle splitter then pulverized to at least 95% passing 106 microns. A 30 g sample to be shipped to the main North American laboratory in North Vancouver, B.C. for final analysis. ALS ensures no contamination of samples by passing barren material and compressed air through the crushing and pulverizing equipment between each sample.

The pulverized samples were analyzed for gold through fire assay and atomic absorption spectroscopy (FA/AAS) required by the Au-AA23 code. Samples that returned greater or equal to 1 ppm Au were re-assayed by with a gravimetric finish. Copper, silver, molybdenum, tungsten and 31 other elements were estimated via aqua regia digestion and inductively coupled plasma atomic emission spectroscopy (ICP-AES) as denoted by ME-ICP41.

Geochemical results from ALS are forwarded electronically and by regular mail to Triumph Gold's office in Vancouver where the final assay certificates are presently on file and catalogued. Drill core sample pulps are stored at WestCoast Mineral Storage Ltd. in Maple Ridge, B.C.

11.2.3 2018 and 2019 Assaying

The majority of drill core samples were shipped via Small's Expediting and General Services Ltd. to its secure facility located at 2-25 Pilgrim Place in Whitehorse, Yukon until the core could be transported to the SGS Canada Inc. sample preparation facility in Whitehorse, Yukon on the next business day. On rare occasions, drill core samples were shipped on trucks driven by Triumph Gold personnel directly to the SGS facility in Whitehorse.

Samples are received by the preparation laboratory, and chain of custody paperwork is issued. The samples are placed into a secure storage area where they await an electronic scanner which automatically logs the sample numbers into the SGS system. This system allows both SGS and Triumph Gold to track any and all samples through every stage of the sample preparation process.

At the SGS facility, drill core samples were subjected to the PRP89 preparation procedure, which involved weighing the sample, drying at 60° C, and crushing such that 75% of the material passes 2 mm. Then a small fraction was split off and pulverized such that 85% passes 75 microns.

The samples were then subjected to SGS's GE ICP40B package which combines a multi-acid digestion with inductively coupled plasma—atomic emission spectroscopy (ICP-AES) to estimate the grade of 33 elements, including copper, silver, molybdenum, and tungsten. Multi-acid digestion uses a combination of HNO3 (nitric acid), HF (hydrofluoric acid), HClO4 (perchloric acid) and HCl (hydrochloric acid) to achieve "near-total digestion" of the sample, including silicate minerals. The digestion is then subjected to ICP-AES, an analytical technique where atoms in super-heated plasma emit radiation at wavelengths characteristic of the elements present, and the intensity of these wavelengths indicates the concentration of that element.

Gold concentrations were estimated using SGS's GE FAA313 procedure which subjects 30 g of pulverized sample material to a fire-assaying procedure with an atomic absorption spectroscopy (AAS) quantification. The detection limits from this procedure are 5 ppb to 10,000 ppb Au.

In instances where oxide gold and copper are suspected, drill core samples are also subjected to SGS's GE BLE64G procedure which is a hot cyanide-based partial leach followed by AAS or ICP quantification. The procedure uses a relatively large sample size to estimate bulk leach extractable gold.

SGS is an ISO-9001 and ISO-17025 certified analytical laboratory.

A 30 g sample is shipped to the main SGS North American laboratory in Burnaby, B.C. for final analysis. SGS ensures that no samples are contaminated by passing barren material and compressed air through the crushing and pulverizing equipment between each sample.

Geochemical results from SGS are forwarded electronically and by regular mail to Triumph Gold's office in Vancouver, B.C. where the final assay certificates are catalogued and remain on file. Coarse and fine (pulp) sample reject materials are stored at WestCoast Mineral Storage Inc. in North Vancouver, B.C.

The quality assurance and quality control (QA/QC) of the sampling process is monitored through the insertion of blind certified standards and blanks into the sample stream. During the period from 2006 through 2016, the frequency of QA/QC samples were generally one in every 10 samples analyzed. During the 2017 drill program, one certified reference standard and one blank were inserted into each batch of approximately 20 samples. Throughout the 2018 and 2019 drill programs, one standard and one blank were inserted into each batch of 25 samples. These QA/QC samples were verified against the accepted values when assay results were returned.

In the authors' opinion, the sampling, handling, preparation and analytical procedures used for all the drill programs completed on the Freegold Mountain Project are appropriate and consistent with common industry practices. The laboratories are recognized, accredited commercial assayers.

12 DATA VERIFICATION

12.1 DATABASE VALIDATION

12.1.1 Collar Coordinate Validation

On the Revenue Property, the majority of drill holes prior to 2011 were surveyed by Underhill Geomatics Ltd. and are sufficiently accurate for mineral resource estimation. Drill hole collars from 2011 and 2018 have been surveyed using a Garmin 60-Series handheld GPS.

The surveyed collar locations correlate well with the digital elevation model (DEM). The elevations of several drill holes were corrected (± a few metres) to match the 3D topographic surface.

12.1.2 Downhole Survey Validation

The downhole survey data were validated by identifying any large discrepancies between sequential dip and azimuth readings. No significant discrepancies were found.

12.1.3 Drill Data Verification

The data verification process conducted as part of the previous mineral resource estimates is described in the *Technical Report on the Freegold Mountain Property, Dawson Range, Yukon Territory*, August 31, 2009, by Fonseca & Giroux, and described in *Technical Report on the Revised Resource Estimate on the Nucleus Au-Cu-Ag Deposit*, Freegold Mountain Project, April 2011, by Armitage et al., and in *Technical Report on the Freegold Mountain Project, Yukon, Canada, Resource Estimates* February 28, 2015 (GeoVector) which is filed on SEDAR.

The data verification for all subsequent drilling is as follows:

All the collars, surveys, geology and assays were exported from Excel® files and loaded into MinePlan® software. No identical sample identifications exist; all FROM_TO data are either zero or a positive value; and no sample interval exceeds the total depth of its hole.

To validate the data, the following checks were confirmed:

- The maximum depth of samples was checked against the depth of the hole.
- The less-than-the-detection-limit values were converted into a positive number equal to one-half the detection limit.
- All assay values from 20 randomly selected Nucleus drill holes, 12 randomly selected Revenue drill holes, and five randomly selected Tinta Hill drill holes were checked against the original assay certificates. No errors were found. The review confirmed the electronic database contains correct information and can be used for mineral resource estimation.

The core recoveries averaged more than 90% for all drilling programs run by Triumph Gold and Northern Freegold Resources. There is no indication that grade is related to core recovery.

12.2 GEOLOGICAL DATA VERIFICATION AND INTERPRETATION

Several geological variables were captured during core logging. The geological data were verified by confirming that the geological designations derived during core logging were correct, and that the logged information was applied correctly in the interpretation of the geologic model. The geological model was found to be a reasonable interpretation of the underlying lithologic, alteration and structural information.

12.3 QA/QC Protocol

Primary components of the field QA/QC program for the Project included:

- A standard reference material (standard) sample monitors analytical accuracy and checks possible contamination originating at the laboratory
- An inserted field blank checks possible contamination originating at the laboratory
- Intra-laboratory re-assaying the coarse reject (CR) material gauges sampling processes at the assaying laboratory.

12.3.1 Standard Reference Material Performance

Standards inserted to control the assay process generally returned values for gold within control limits at a rate above 90% over all drill programs. All gold standard failures were checked by re-assaying the five samples preceding and the five samples following the failed standard. When the duplicates were sufficiently close the original assays were retained. If the duplicates were significantly different, the re-assay values were inserted in place of the originals in the database. Assay performance for copper standards was inconsistent over drilling programs; however, all copper standard failures were addressed with the same procedures used for gold. All copper assay values in the database have been verified by the check assay procedure. Molybdenum standard assays were consistently low for several programs. The low molybdenum results were found to be a problem with sample digestion prior to assay. Since gold is by far the major contributor of value and molybdenum contributes only minor amounts to the total metal value, no attempts were made to correct the assays.

12.3.2 Blank Performance

Blank material (blanks) was inserted at a rate of one in every 25 samples or following sample intervals where visible gold has been detected. The blanks returned metal values (gold being the most important) less than the control limits over 99% of the time. Blank assays exceeding the control limit were followed up to determine if the results indicated contamination. No significant contamination was detected.

12.3.3 Coarse Reject Duplicate Performance

During all sampling and assay programs, coarse reject duplicate material was processed at an outside laboratory. Therefore, the resulting assays contained both sampling and analytical errors and could not be used to assess the performance of the sample preparation protocol. Nevertheless, no biases were detected between original and duplicate assays, and the results confirmed the overall average value of the assays.

12.4 CONCLUSION

In the authors' opinion, the database management and validation are consistent with common industry practices. The database is considered acceptable for use in estimating mineral resources.

There have been no QA/QC programs that monitor the accuracy and precision of tungsten data in the Revenue deposit or lead and zinc data in the Tinta Hill deposit. These are considered accessory metals that provide only minor economic contributions to the potential value of these deposits, and, as a result, this lack of data validation for these metals is not considered material. It should be noted that tungsten has been identified and recovered during the limited metallurgical work conducted on rocks from the Revenue deposit.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

There have been several metallurgical studies of the various mineralized zones on the Freegold Mountain Project. The following is a summary of the studies completed between 1985 and 2012.

13.1 1985 METALLURGICAL STUDY

In 1985, metallurgical testing was conducted on rocks from the Nucleus Zone by Coastech Research Inc. for Archer, Cathro & Associates (Wilson, 1985). Bottle roll tests were completed on submitted composites of two samples to find the maximum gold and silver recovery of the fine product. Column leach tests were completed to simulate the possible recovery by this system on minus ⅜ inch size material.

Two composite samples of about 2 kg each were made up from assay pulps and used for the bottle roll tests, and two composites, made up from 1,500 lbs of coarse core reject, were used for the column leach tests. The exact location of these samples is not available, and it is unknown whether these composite samples are considered representative of the rocks comprising the mineral resources at Nucleus.

In the bottle roll tests, composite one provided a maximum recovery of 80.3% Au and 41.2% Ag. The recoveries for composite two were lower at 33.3% Au and 23.7% Ag, but when the test was repeated with higher cyanide and lime concentrations, recoveries improved to 83.8% Au and 31.8% Ag. The column leach tests returned overall recoveries of 48.7% for composite column one and 66.6% for composite column two.

13.2 2009 METALLURGICAL STUDY

In 2009, Northern Freegold Resources commissioned G&T Metallurgical Services Ltd. of Kamloops, B.C. to conduct metallurgical testing on three separate composite samples that were considered to be representative of relatively low-grade oxidized (oxide) and non-oxidized (sulphide) samples, as well as higher grade, sulphide-rich material (previously referred to as “skarn”) that comprised the Nucleus deposit (Folinsbee & Shouldice, 2009).

The three composite samples produced from the remaining drill core (½ core) from 33 diamond drill holes that had been completed between 2006 and 2008. The higher grade composite sample averaged 10.09 g/t Au, the low-grade oxidized composite sample averaged 0.59 g/t Au, and the low-grade non-oxidized (sulphide) composite sample averaged 0.54 g/t Au. For the two low-grade oxidized and non-oxidized composites, the best overall performance was achieved in a 48-hour cyanidation test with no gravity pre-concentration, recovering about 98% of the contained gold. The best result for the higher grade composite was 91.6% gold recovery using gravity concentration in addition to cyanidation. Also, a pre-aeration step and lead nitrate addition in the leach circuit were used. The pan concentrates, produced in the gravity tests, were inspected using the Automated Digital Imaging System: 15% to 35% of the observed gold occurrences were present as liberated gold particles. As expected, the highest occurrence of liberated gold particles was in the pan concentrate produced from the higher grade composite.

13.3 2012 Metallurgical Study

In February 2012, Northern Freegold Resources commissioned SGS Laboratories (SGS) of Vancouver, B.C. to conduct metallurgical testing on rocks from the Revenue and Nucleus deposits. A total of 1,800 kg of material was collected for testing, derived from the remaining coarse rejects from a total of 485 individual samples: 350 from the Revenue deposit and 135 from the Nucleus deposit area.

The samples from Nucleus come from relatively long (~100 m long) intervals in two drill holes that are located in the centre of the resource limiting pit shell. Although these samples are restricted to only two drill holes, they do represent material from the centre of the mineral resource.

The samples from Revenue were selected from six different drill holes. Unfortunately, about one half of the material selected is from drill hole intervals that are several hundred metres below the resource limiting pit shell. These deeper samples are representative of the rocks and style of mineralization in the deposit, but they are not spatially representative of the mineral resources at Revenue.

From this material, SGS produced three sub-composites and five variability samples for the Revenue deposit and one sub-composite and two variability samples for the Nucleus deposit.

The metallurgical test work at SGS was supervised by Jalal Tajadod, PhD, P.Eng. A summary of this work and the achieved results are presented in this subsection. Note: The tables and information in Sections 13.3.1 and 13.3.2 have been directly extracted from the 2012 Metallurgical Report.

13.3.1 Summary

A test program was completed by developing flowsheets suitable for three sub-composite samples from the Revenue Zone Cu/Mo/Au deposit and one sub-composite sample from the Nucleus Zone of a porphyry deposit located in the Yukon Territory, Canada. Later in the program, five variability composites from the Revenue Zone and two variability composites from the Nucleus Zone were prepared and tested.

In January and February of 2012, SGS Vancouver Metallurgy office received two shipments: a total of 1,800 kg originating from the Revenue and Nucleus Zone deposits submitted by Northern Freegold Resources Ltd. The material shipped was originally 350 individual samples for the Revenue Zone and 135 individual samples for Nucleus Zone and was used to prepare four sub-composites; Sub-Composites 1 (Revenue Zone; Breccia Oxide), Sub-Composite 2 (Revenue Zone; Breccia Sulphide), Sub-Composite 3 (Revenue Zone; Granodiorite Sulphide), and Sub-Composite 4 (Nucleus Zone; Mixed Metamorphic and Sulphide Intrusive Rocks) for metallurgical testing. Seven variability composites from the individual samples were selected for variability sample preparation.

The head assays of the composites that were used as the feed samples for the test work are shown in Table 13.1.

Table 13.1: Sub-Composites and Variability Composites Head Assay Results

Sample ID	lithology	S %	S= %	SO4 %	S° %	Cu %	Mo %	Fe %	W %	Au g/t	Ag g/t	As %	Cu seq H2SO4 %	Cu seq. NaCN %	Cu seq. A/R %
Sub-Comp 1(Revenue Zone)	Breccia Oxide	0.38	0.17	0.8	< 0.05	0.06	< 0.01	2.64	< 0.01	0.41	1.4	0.017	0.012	0.006	0.039
Sub-Comp 2(Revenue Zone)	Breccia Sulphide	2.76	2.58	0.2	< 0.05	0.11	0.05	4.98	0.02	0.14	2.1	0.012	0.002	0.011	0.082
Sub-Comp 3(Revenue Zone)	Granodiorite Sulphide	2.22	1.98	0.2	< 0.05	0.18	0.07	4.65	0.05	0.38	7.4	0.054	0.002	0.019	0.160
Sub-Comp 4(Nucleus Zone)	Mixed metamorphic & Sulphide Int.	1.93	1.83	0.6	< 0.05	0.09	< 0.01	5.32	< 0.002	0.53	0.9	0.019	0.022	0.016	0.041
Variability Composite 2	Breccia Sulphide	2.16	2.01	2.01	< 0.05	0.11	0.017	3.76	0.016	0.09	2.3	0.011	0.002	0.016	0.089
Variability Composite 3	Breccia Sulphide	3.48	3.08	3.08	< 0.05	0.11	0.075	6.26	< 0.01	0.11	1.8	0.009	0.001	0.021	0.073
Variability Composite 4	Granodiorite Sulphide	1.77	1.63	1.63	< 0.05	0.17	0.028	4.06	0.063	0.88	7.6	0.150	0.002	0.030	0.130
Variability Composite 5	Granodiorite Sulphide	2.65	2.38	2.38	< 0.05	0.17	0.005	5.42	0.019	0.61	4.6	0.008	0.002	0.018	0.130
Variability Composite 6	Granodiorite Sulphide	2.09	1.96	1.96	< 0.05	0.21	0.150	4.30	0.080	0.28	5.6	0.003	0.003	0.014	0.180
Variability Composite 7	Mixed metamorphic & Sulphide Int.	0.96	0.77	0.70	< 0.05	0.08	< 0.01	4.02	< 0.002	1.53	< 2	0.012	0.033	0.021	0.022
Variability Composite 8	Mixed metamorphic & Sulphide Int.	3.26	3.55	0.50	< 0.05	0.09	< 0.01	7.66	< 0.002	0.45	< 2	0.009	0.007	0.013	0.061

The scope of the program involved sample preparation, mineralogy, gravity, cyanidation and flotation. The flotation test work investigated reagent and flowsheet options for the recovery of a bulk copper-molybdenum concentrate and scoping copper-molybdenum separation test. Batch rougher kinetics and batch cleaner flotation testing were conducted on each sub-composite. Locked cycle flotation testing was conducted on Sub-Composites 2 and 3. The recovery of gold through gravity separation and cyanidation was also investigated in this program.

A detailed mineralogy investigation was conducted to determine feed mineralogy by QEMSCAN™ (quantitative mineralogy) on each sub-composite to identify mineral liberations and associations.

Initially, the development of a flowsheet was undertaken through a series of bench scale gravity tests on all four sub-composites followed by extensive flotation tests on Sub-Composite 2 (Breccia Sulphide) and Sub-Composite 3 (Granodiorite Sulphide). Finally, cyanide leach tests were conducted to determine the extractable gold and silver from the sub-composites.

Following optimization of the flotation test conditions for Sub-Composites 2 and 3, gravity tests were conducted to prepare gravity tailings as feed for the locked cycle flotation tests. Locked cycle tests were conducted in order to determine the effect of circulating streams on final products grade and recovery. Locked cycle test results on gravity tailings are presented in Table 13.2.

Table 13.2: Locked Cycle Test Results on Gravity Tailings for Sub-Composites 2 and 3

Test/ Composite	Product	Weight %	Assays, % (g/t) Cu	Mo	Au	Ag	S	% Distribution Cu	Mo	Au	Ag	S
LCT-1 Sub-Comp. 3 Granodiorite Sulphide	**Gravity Concentrate**	**0.06**	–	–	**422**	**435**	–	–	–	**32.2**	**4.4**	–
	3rd Clnr Concentrate	**0.86**	**19.0**	**6.06**	**33.9**	**412**	**33.6**	**92.3**	**83.3**	**36.8**	**59.2**	**14.0**
	1st Clnr Scav. Tail	13.7	0.08	0.03	1.59	12.8	11.8	5.8	7.1	27.3	29.2	78.2
	Rougher Tail	85.4	0.004	0.01	0.03	0.50	0.19	1.9	9.6	3.6	7.2	7.8
	Head (calc.)		0.18	0.06	0.80	6.01	2.07					
	(direct)		0.18	0.07	0.56	7.40	2.22					
LCT-2 Sub-Comp. 2 Breccia Sulphide	**Gravity Concentrate**	**0.05**	–	–	**86**	**166**	–	–	–	**21.0**	**4.2**	–
	3rd Clnr Concentrate	**0.57**	**16.7**	**5.63**	**15.9**	**158**	**36.5**	**90.4**	**74.4**	**42.5**	**43.3**	**8.7**
	1st Clnr Scav. Tail	15.6	0.05	0.02	0.39	4.3	12.8	8.0	6.1	28.6	32.2	84.1
	Rougher Tail	83.7	0.002	0.01	0.02	0.50	0.20	1.6	19.6	7.9	20.4	7.2
	Head (calc.)		0.11	0.04	0.21	2.07	2.38					
	(direct)		0.11	0.05	0.18	2.10	2.76					

The locked cycle test results on the gravity tailings of Sub-Composite 3 indicates 27% of the gold was lost in the first cleaner tailing. The cyanide leach test results demonstrated 11.2% of the gold in the LCT-1 cleaner 1 scavenger tailing was recovered, which amounted to a 3% increase in gold recovery for this composite.

Locked cycle test results on gravity tailings of Sub-Composite 2 indicates 29% of the gold was lost in the first cleaner tailing and 50% of the gold in LCT-2 cleaner scavenger tailing was recovered by cyanide leach which amounts to 14% increase in total gold recovery for Sub-Composite 2.

A bulk copper-molybdenum concentrate of Sub-Composite 3 was used to complete a single batch copper-molybdenum separation flotation test and did not allow for any development. Very good selectivity between copper and molybdenum was achieved, with 75% of the copper reporting to the copper concentrate and 71% of the Mo to the molybdenum concentrate. A relatively good quality molybdenum concentrate, grading 47% Mo and 0.4% Cu, and a copper concentrate of 20% grade and 75% recovery were produced. Additional development for this portion of the flowsheet is expected to reveal improved grade and recovery.

Limited laboratory test work was performed for tungsten mineral recovery from Sub-Composite 3 which assayed ~0.027% WO_3. Test work was conducted using various methods, including gravity preconcentration and flotation. Gravity separation used a laboratory Wilfley concentrating table and a Mozley mineral separator. The gravity recovery was in the range of 39% to 47% at WO_3 grades of less than 1%. With upgrading the gravity concentrate using Mozley Table, the tungsten grades increased to 9% to 16% WO_3. One flotation test was performed on the tungsten gravity tail with no successful upgrading to tungsten mineral flotation concentrate. The metallurgical test work conducted on four sub-composites showed each sub-composite behaves differently and modified flowsheets for the metallurgical processes is required for each composite.

The suggested flowsheet for Breccia Sulphide (Sub-Composites 2) and Granodiorite Sulphide (Sub-Composite 3) included a gravity circuit to recover gold and flotation of gravity tails to recover copper, molybdenum, gold, silver and cyanide leach of the cleaner flotation tails. The projected copper and molybdenum recoveries, as well as total gold and silver recoveries for this flowsheet are shown in Table 13.3.

The projected copper, molybdenum, gold and silver recoveries by flotation, gravity and whole ore leach for Breccia Oxide (Sub-Composite 1) and Nucleus Zone (Sub-Composite 4) are compared and summarized in Table 13.4. The results suggest a gravity circuit to recover gold followed by cyanide leaching of gravity tail to recover gold-silver for Sub-Composites 1 and 4.

Table 13.3: Projected Copper, Molybdenum, Gold and Silver Recoveries for Sub-Composites 2 and 3

Sample ID	lithology	Gravity, Au & Ag				Gravity Tail Flotation, Au & Ag				Total Rec.%		Gravity Tail Flotation, Cu & Mo			
		Au g/t	Rec.%	Ag g/t	Rec.%	Au g/t	Rec.%	Ag g/t	Rec.%	Au	Ag	Cu %	Rec.%	Mo %	Rec.%
Sub-Comp 2(Revenue Zone)	Breccia sulphide	86	21.0	166	4.2	15.9	42.5	158	43.3	63.5	47.5	16.7	90.4	5.63	74.4
Sub-Comp 3(Revenue Zone)	Granodiorite Sulphide	422	32.2	435	4.4	33.9	36.8	412	59.2	69.0	63.6	19.0	92.9	6.06	83.3

Table 13.4: Projected Copper, Molybdenum, Gold and Silver Recoveries for Sub-Composite 1 and 4

Sample ID	lithology	Rougher Flotation, Cu & Mo				Rougher Flotation, Au & Ag				Gravity, Au & Ag				Whole Ore Leach	
		Cu %	Rec.%	Mo %	Rec.%	Au g/t	Rec.%	Ag g/t	Rec.%	Au g/t	Rec.%	Ag g/t	Rec.%	Au Rec. %	Ag Rec.%
Sub-Comp 1(Revenue Zone)	Breccia Oxide	0.15	19.6	0.002	15.2	5.32	78.4	8.6	26.8	1180	38.0	290	0.7	95.4	81.9
Sub-Comp 4(Nucleus Zone)	Mixed metamorphic & Sulph.	0.40	72.0	0.007	54.4	4.82	87.8	3.2	53.5	473	35.5	97	5.2	96.9	51.1

The metallurgical variability within each ore type through flotation process was assessed. Variability samples were subjected to the optimized test conditions for each sub-composite. The variability flotation test results are shown in Table 13.5. The variability test results fell within reasonable expectations for each ore type. The lithology had a strong influence on the copper, molybdenum, gold, and silver metallurgy.

Table 13.5: Variability Flotation Test Results for Different Sub-Composites

Test # Composite ID	Product	Weight	Assays,%, g/t					% Distribution				
		%	Cu	Mo	Au	Ag	S	Cu	Mo	Au	Ag	S
Breccia Sulphide												
VF1	Cleaner 3 Conc	0.18	19.0	2.93	73.6	295	36.4	33.4	24.8	41.0	26.2	3.1
Varibality	Rougher Conc	13.8	0.68	0.09	2.29	12.8	15.2	91.6	59.6	97.3	87.2	98.0
Composite 2	Head (calc.)		0.10	0.02	0.32	2.03	2.14					
VF2	Cleaner 3 Conc.	0.34	15.4	12.6	4.11	44.4	33.7	53.7	61.8	17.6	10.4	3.6
Varibality	Rougher Conc	19.8	0.46	0.31	0.36	5.33	13.1	91.8	88.5	89.9	72.4	80.2
Composite 3	Head (calc.)		0.10	0.07	0.08	1.46	3.24					
Granodiorite Sulphide												
VF3	Cleaner 3 Conc	0.53	22.5	2.82	43.5	690	32.0	72.3	45.0	27.3	56.1	9.6
Varibality	Rougher Conc	11.2	1.39	0.22	6.56	55.6	14.1	94.6	73.2	87.4	95.9	89.9
Composite 4	Head (calc.)		0.16	0.03	0.84	6.50	1.76					
VF4	Cleaner 3 Conc.	0.41	27.3	0.67	52.2	288	34.4	70.9	21.1	65.3	29.9	5.7
Varibality	Rougher Conc	17.7	0.86	0.03	1.64	18.9	12.0	94.8	37.4	87.6	83.5	85.7
Composite 5	Head (calc.)		0.16	0.01	0.33	3.99	2.48					
VF5	Cleaner 3 Conc.	0.91	20.9	14.0	32.9	347	32.9	89.3	79.9	72.2	58.8	14.7
Varibality	Rougher Conc	12.5	1.64	1.21	3.04	38.1	14.2	95.9	94.5	91.6	88.6	86.7
Composite 6	Head (calc.)		0.21	0.16	0.42	5.38	2.05					
Mixed Metamorphic & Sulphide Intrusive Rocks												
VF6	Cleaner 3 Conc	1.3	2.53	<0.03	39.0	18.8	32.4	41.4	3.7	76.5	35.1	43.9
Varibality	Rougher Conc	20.3	0.24	<0.01	2.66	1.80	3.4	62.1	22.8	82.8	53.4	73.8
Composite 7	Head (calc.)		0.08	<0.01	0.65	0.68	0.94					
VF7	Cleaner 3 Conc.	2.7	2.42	<0.01	15.5	4.10	49.8	77.9	2.7	71.7	15.5	38.7
Varibality	Rougher Conc	17.3	0.42	<0.01	2.79	2.69	18.6	86.1	17.3	82.9	65.2	92.8
Composite 8	Head (calc.)		0.08	<0.01	0.58	0.71	3.46					

13.3.2 Conclusions & Recommendations from 2012 Metallurgical Testing

A test program was completed to develop the flowsheets for three sub-composite samples (Breccia Oxide, Breccia Sulphide and Granodiorite Sulphide) from the Revenue Zone Cu/Mo/Au material and one sub-composite sample (Mixed Metamorphic and Sulphide Intrusive) from the Nucleus Zone of the porphyry deposit in Yukon, Canada. Five variability composites from Revenue Zone and two variability composites from Nucleus Zone were also tested.

Detailed feed mineralogy was completed by QEMSCAN on each sub-composite to identify mineral liberations and associations to develop grade/recovery relationships for the sample.

The scope of the program involved sample preparation, mineralogy, gravity, cyanidation and flotation. The flotation test work investigated reagent and flowsheet options for the recovery of a bulk copper-molybdenum concentrate and Cu/Mo separation. Batch rougher kinetics, batch cleaner and locked cycle flotation testing were conducted on Breccia Sulphide (Sub-Composite 2) and Granodiorite Sulphide (Sub-Composite 3).

The recovery of gold through gravity separation and cyanidation was also investigated for all four sub-composites in this program.

The metallurgical test work conducted on four sub-composites indicated each sub-composite behaves differently and different flowsheets are required for the metallurgical processes of each ore.

Locked cycle test results for Sub-Composite 3 indicate 27% of gold was lost in the first cleaner tailing. The cyanide leach test results demonstrated 11.2% of the gold in the LCT-1 tailing was recovered which amounts to 3% increase in gold recovery for this composite.

Locked cycle test results for Sub-Composite 2 indicate 29% of gold was lost in the first cleaner tailing. 50% of the gold in LCT-2 tailing was recovered by CN leach which amounts to 14% increase in total gold recovery for Sub-Composite 2.

While significantly more testing is needed to finalize the Cu/Mo separation flowsheet, there is enough evidence in this programme to suggest that with optimization production of saleable grade concentrates is possible. It is recommended a larger programme initiated in the next phase of testing including optimization tests and confirmatory locked cycle tests. It is likely an extended pilot plant campaign will be required to produce suitable concentrate mass for Cu-Mo separation development work.

Limited laboratory test work was performed for scheelite recovery of Sub-Composite 3 using gravity preconcentration and flotation. Gravity separation used a laboratory Wilfley concentrating table and a Mozley mineral separator. The Shaking Table gravity produced very low WO3 grades of less than 1%. With upgrading the Shaking Table concentrate using Mozley Table the tungsten grades increased to 9-16% WO3 but with a low mass recovery. One flotation test was performed on the tungsten gravity tail with no successful upgrading of scheelite flotation concentrate.

The gold recovery of gravity separation test of Sub-Composites 2 and 3 is considered excellent. A gravity circuit to recover Au and gravity tail flotation to recover Cu/Mo/Au/Ag followed by CN leach of the cleaner flotation tail was suggested for these composites.

The recoveries of Cu, Mo, Au and Ag by flotation, gravity and whole ore leach for Sub-Composites 1 and 4 were investigated. The results suggest a gravity circuit to recover Au followed by gravity tail CN leach to recover Au/Ag for these sub-composites.

Comparisons of the results for different composites are presented in Table 13.6.

Table 13.6: Comparison of the Test Results for Different Composites

Sample ID	lithology	Gravity, Au & Ag				Gravity Tail Flotation, Au & Ag				Total Rec.%		Gravity Tail Flotation, Cu & Mo			
		Au g/t	Rec.%	Ag g/t	Rec.%	Au g/t	Rec.%	Ag g/t	Rec.%	Au	Ag	Cu %	Rec.%	Mo %	Rec.%
Sub-Comp 2(Revenue Zone)	Breccia sulphide	86	21.0	166	4.2	15.9	42.5	158	43.3	63.5	47.5	16.7	90.4	5.63	74.4
Sub-Comp 3(Revenue Zone)	Granodiorite Sulphide	422	32.2	435	4.4	33.9	36.8	412	59.2	69.0	63.6	19.0	92.9	6.06	83.3
Sample ID	**lithology**	**Gravity, Au & Ag**				**Rougher Flotation, Au & Ag**				**Whole Ore Leach**		**Rougher Flotation, Cu & Mo**			
		Au g/t	Rec.%	Ag g/t	Rec.%	Au g/t	Rec.%	Ag g/t	Rec.%	Au Rec. %	Ag Rec.%	Cu %	Rec.%	Mo %	Rec.%
Sub-Comp 1(Revenue Zone)	Breccia Oxide	1180	38.0	290	0.7	5.32	78.4	8.6	26.8	95.4	81.9	0.15	19.6	0.002	15.2
Sub-Comp 4(Nucleus Zone)	Mixed Metamorphic	473	35.5	97	5.2	4.82	87.8	3.2	53.5	96.9	51.1	0.40	72.0	0.007	54.4

The metallurgical variability within each ore type through flotation process was assessed. The lithology had a strong influence on the copper, molybdenum, gold and silver metallurgy.

The following is recommended for the next phase of the test work:

- Sub-Composite 3: copper molybdenum separation flotation optimization test work; cyanide leach optimization on cleaner flotation tails
- Sub-Composite 2: cleaner optimization test work; copper molybdenum separation flotation optimization test work; and cyanide leach optimization on cleaner flotation tails
- Sub-Composites 1 and 4: gravity tail cyanide leach optimization test work

The following test work programs are also recommended:

- environmental characterization
- water treatment
- tailing management
- grindability

13.4 TINTA HILL

This information on metallurgical testing for the Tinta Hill deposit was presented in the 2015 technical report. In 1975, M.J. Vreugde of Bacon, Donaldson and Associates Ltd. conducted metallurgical test work involving flotation tests on drill core samples (Fonseca & Giroux, 2009). The average calculated head grade was 7.85% Pb, 9.37% Zn, 9.58 oz/t Ag. This value was lower than the head analysis but was considered a reliable figure. The best results in the lead concentrate were 59.49% Pb, 8.76% Zn, 73.65 oz/t Ag, 0.370 oz/t Au, 4.37% Fe and 1.37% Cu with recoveries of 94.5% Pb, 11.1% Zn and 89.9% Ag. The best results in the zinc concentrate were 59.22% Zn, 0.44% Pb, 2.06 oz/t Ag, 0.032 oz/t Au, 2.49% Fe, 0.17% Cu and 0.45% Cd with recoveries of 81.0% Zn, 0.8% Pb and 2.7% Ag. Those results were considered to be close to optimum for this mineralization since the addition of depressants could move additional zinc from the lead to the zinc concentrate, but the low value of zinc concentrate makes it pointless. No metallurgical test work was conducted by Triumph Gold on the Tinta Hill deposit.

13.5 CONCLUSION

The metallurgical work conducted to date is considered only preliminary in nature, but the results suggest that acceptable gold and accessory metal recoveries can be achieved using conventional processing methods. The locations of sample material used in the metallurgical testing do not capture the possible variability that may be present in these deposits. Additional testing using a more varied suite of sample materials is required. The testing completed to date has not investigated for the presence of any deleterious elements that could be present in the rocks at Freegold Mountain. Note: Estimates of arsenic in the resource models average 0.02% As at Revenue and 0.04% As at Nucleus.

14 MINERAL RESOURCE ESTIMATES

14.1 INTRODUCTION

The mineral resource estimate was prepared under the direction of Robert Sim, P.Geo., with the assistance of Bruce Davis, PhD, FAusIMM. Robert Sim is the independent Qualified Person (QP) within the meaning of National Instrument 43-101 (NI 43-101) for the purposes of mineral resource estimates contained in this report. Note: All currency discussed with respect to the mineral resource estimates is expressed in 2020 U.S. dollars.

This section of the Technical Report describes the mineral resource estimation methodology and summarizes the key assumptions considered by the QP to prepare mineral resource models for the Nucleus, Revenue and Tinta Hill deposits located at the Freegold Mountain Project (Project).

There have been several estimates of mineral resources for the deposits on the Freegold Mountain Project. The most recent estimate of mineral resources was commissioned by Northern Freegold Resources and presented in a technical report titled, *Freegold Mountain Project, Yukon, Canada Resource Estimates,* dated February 28, 2015, with an effective date of December 15, 2014. Note: the mineral resource models presented in the February 2015 technical report were originally built in April 2013 and those same models were updated in December 2014 using different metal prices and cut-off grades.

In the opinion of the QP, the mineral resource estimates reported herein are reasonable representations of the mineralization found at the Project at the current level of sampling. The mineral resource was estimated in conformity with generally accepted guidelines stated in CIM *Estimation of Mineral Resources and Mineral Reserves Best Practices Guidelines* (November 29, 2019) and is reported in accordance with NI 43-101.

Mineral resources are not mineral reserves, and they do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into a mineral reserve upon application of modifying factors.

Estimations are made from 3D block models based on geostatistical applications using commercial mine planning software (MinePlan® v15.60, formerly called MineSight®). The Project limits are based in the UTM coordinate system (NAD83 Zone 8N), and three dimensional block models use nominal block sizes considered appropriate for the individual deposits at the level of exploration drilling currently available. The mineral resource estimates were generated using drill hole sample assay results and the interpretation of a geological model which relates to the spatial distribution of gold, copper, silver and other metals of interest at the three deposit areas. Interpolation characteristics were defined based on the geology, drill hole spacing, and geostatistical analysis of the data. The mineral resources were classified according to their proximity to the sample data locations and are reported, as required by NI 43-101, according to the CIM *Definition Standards for Mineral Resources and Mineral Reserves* (May 2014).

Detailed descriptions of the individual approaches taken to develop the three resource block models are described separately in this section of the report followed by the generation of estimates of mineral resources. No mineral reserves were prepared or reported. Unless otherwise noted, all figures presented in this section of the report have been produced by SIM Geological.

14.2 DEVELOPMENT OF THE RESOURCE BLOCK MODEL FOR THE NUCLEUS DEPOSIT

This section of the report describes the approach used to develop the resource block model for the Nucleus deposit. The primary metals of interest in the Nucleus deposit include gold, copper and silver, but additional elements molybdenum, tungsten and arsenic are also incorporated in the block model for information purposes.

14.2.1 Available Data

The data used in this estimate of mineral resources at the Nucleus deposit were provided by Triumph Gold on November 25, 2019. The data include the following information:

- Drilling data, including collar locations, downhole surveys, sample assay results and geologic information recorded during logging. Files were provided in ASCII (.csv) format.
- Interpreted 3D domains representing various lithologic units, alteration and fault structures that exist in the area of the Nucleus deposit.
- Digital terrain model representing the topographic surface over the deposit area. The original data were provided as a 3D point file (XYZ points in .txt format) which was triangulated into a 3D digital terrain model.

All data were formatted and loaded into MinePlan™ (v15.60).

The majority of samples have been analyzed for gold using a fire assay method plus an extensive suite of additional elements as part of a multi-element package. Grade values for gold, copper, silver, molybdenum, tungsten and arsenic have been extracted from the original assay database for use in this evaluation. Samples with grade values below the detection limit have been assigned values equal to ½ the detection limit.

The distribution of gold data in drilling is shown in plan view in Figure 14-1 and in an isometric view in Figure 14-2.

The distribution of drill holes that test the Nucleus deposit since the previous mineral resource estimate in 2015 are shown in plan view in Figure 14-3. The objective of the new drilling was to expand areas where mineralization remained “open” or to test for extensions of higher grade mineralization.

Figure 14-1: Plan View Showing Gold Data in Drilling at Nucleus

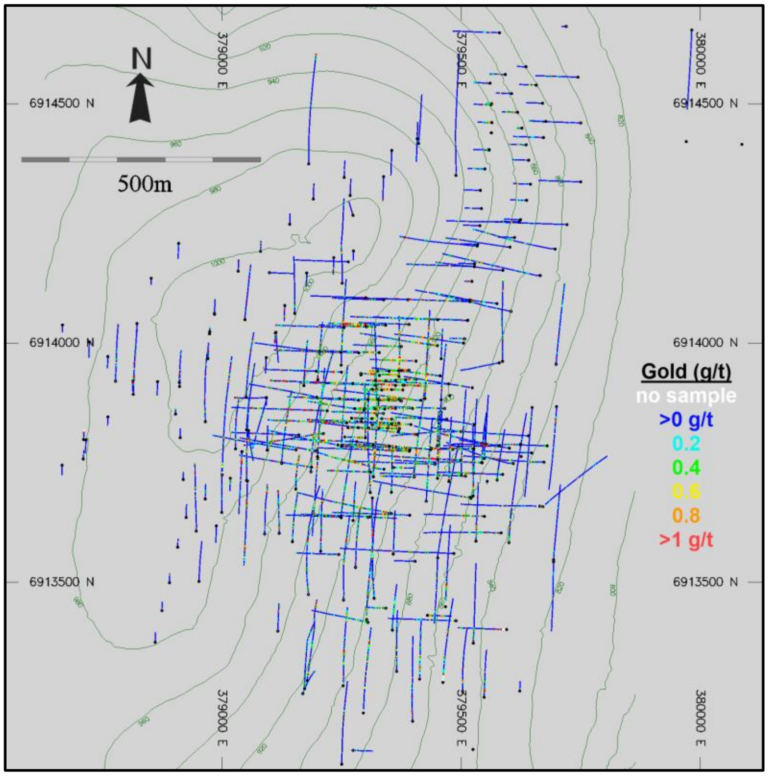


Figure 14-2: Isometric View Looking Northeast Showing Gold Data in Drilling at Nucleus

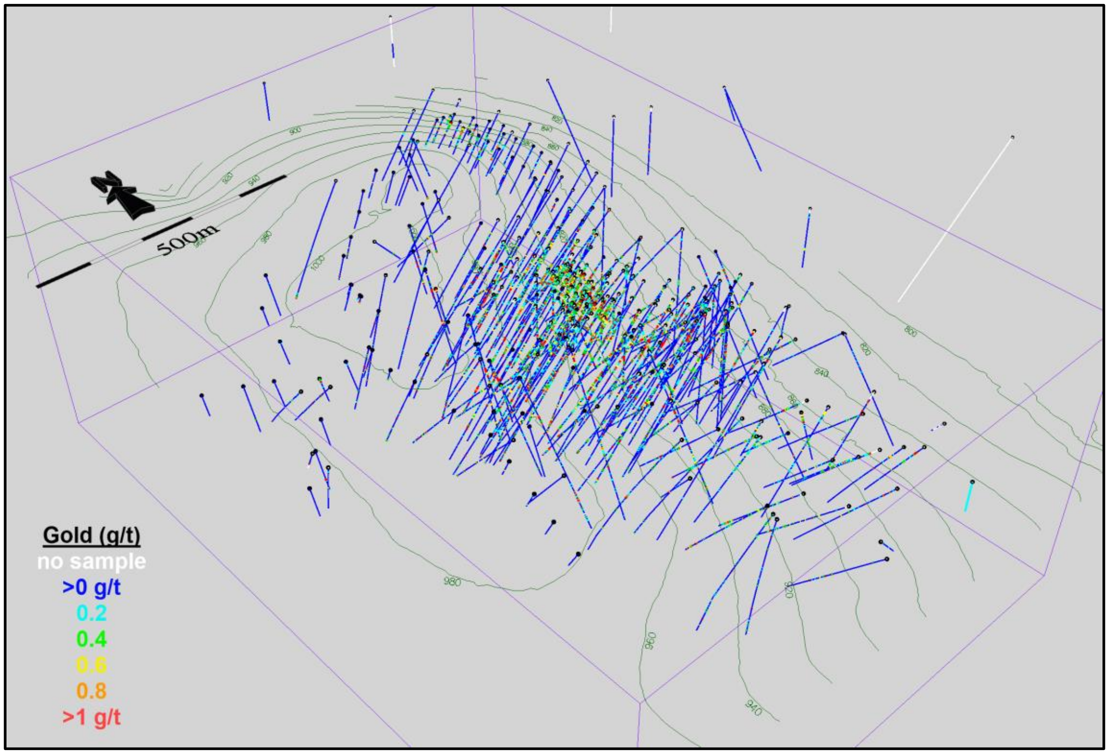
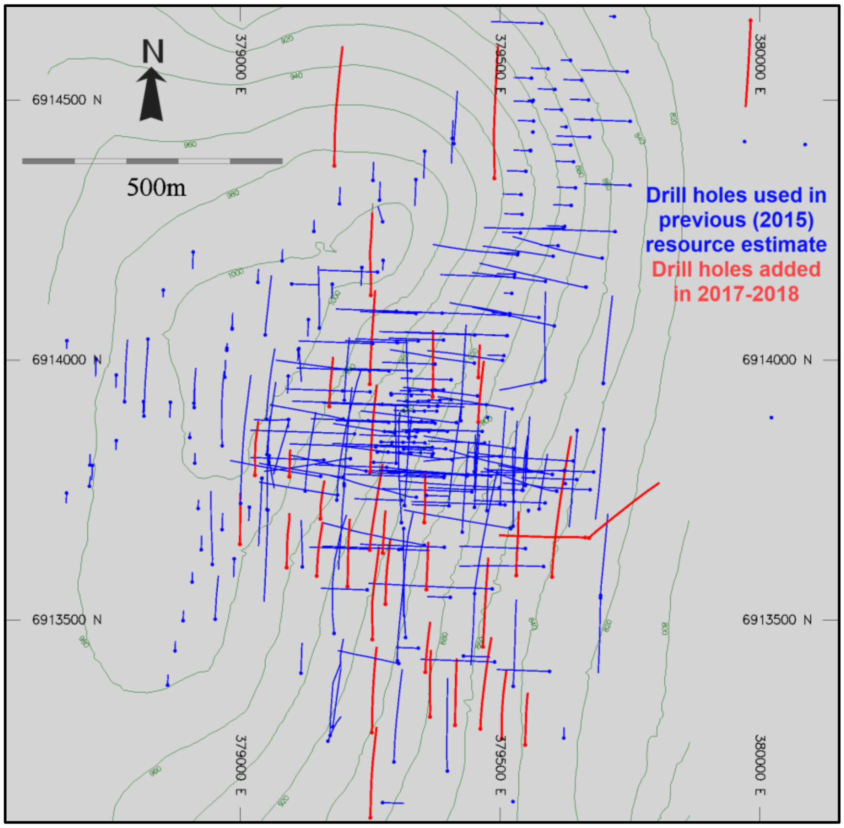
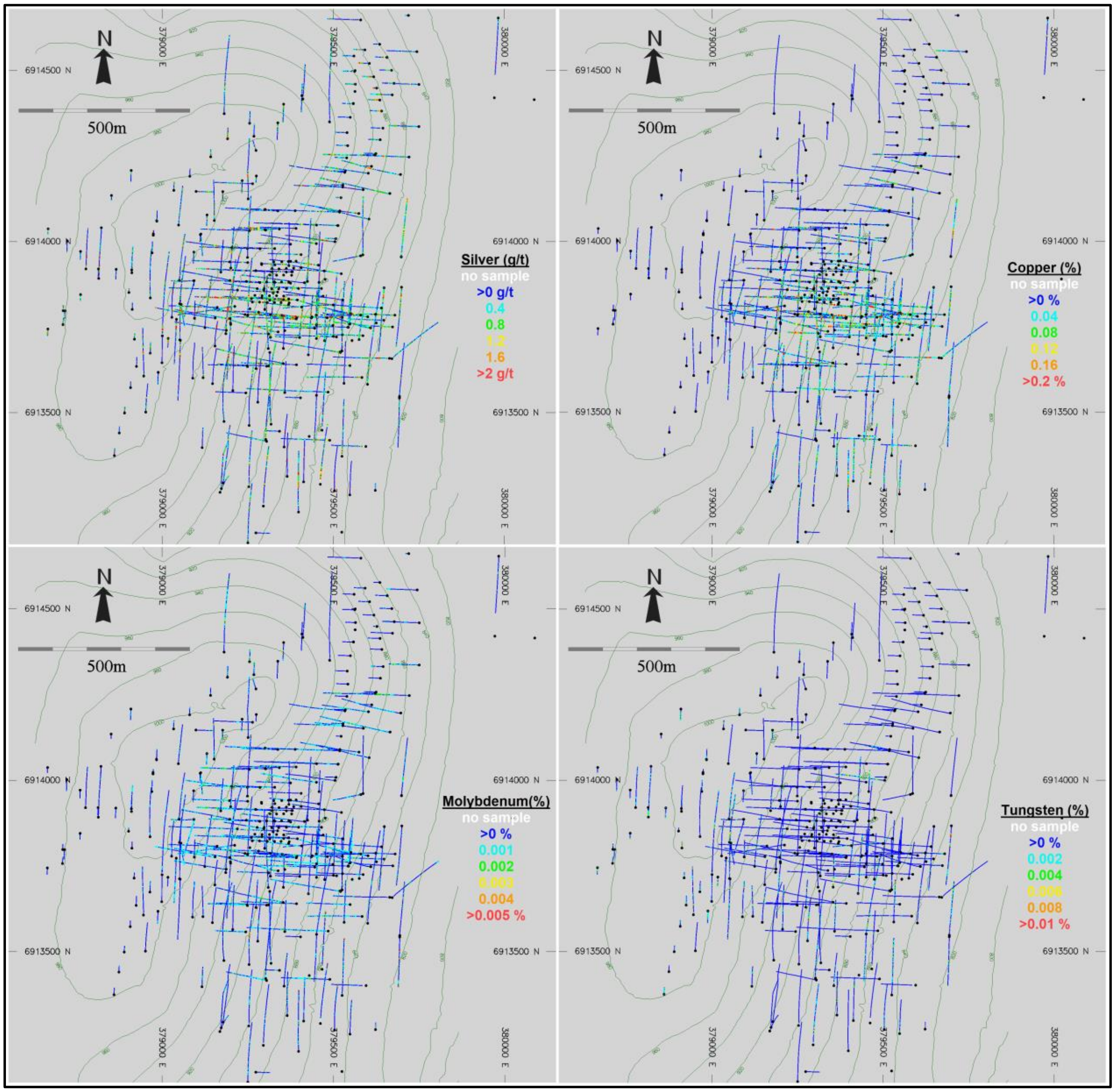


Figure 14-3: Plan View Showing the Location of Drill Holes Completed Since the Previous (2015) Resource Estimate at Nucleus



The distributions of silver, copper, molybdenum and tungsten are shown in plan view in Figure 14-4. The distributions of silver and copper are similar to those of gold, with a cluster of elevated grades in the centre of the drilling and more localized occurrences in the surrounding drill holes. The molybdenum and tungsten grades tend to be relatively low in most areas.

Figure 14-4: Plan View Showing the Distribution of Silver, Copper, Molybdenum and Tungsten Data in Drilling at Nucleus



There is a total of 359 drill holes, with a total length of 60,061 m, that are in the vicinity of the Nucleus deposit and which contribute to the estimation of mineral resources. Holes are drilled at a variety of angles and are generally spaced at 20 m to 50 m intervals in the centre of the deposit, increasing to 100 m spacing or more around the outer areas.

The distribution of drill holes by year is shown in Figure 14-5. Drilling at Nucleus dates back to 1970, where nine exploration holes primarily test the area surrounding the main deposit. In the mid to late 1980s through 1991, 49 holes were drilled; these were primarily clustered over an area measuring 150 m × 100 m in the centre of the deposit, on 20 m centres and to a depth of about 30 m below surface.

Drilling started again in 2001 and continued through to 2018 with holes that generally test to about 300 m below surface with the occasional hole reaching 500 m below surface. In general, the majority of the information used to generate the estimate of mineral resources at Nucleus was drilled during the period between 2006 and 2018.

Figure 14-5: Isometric View Looking Northeast Showing Drilling by Year at Nucleus

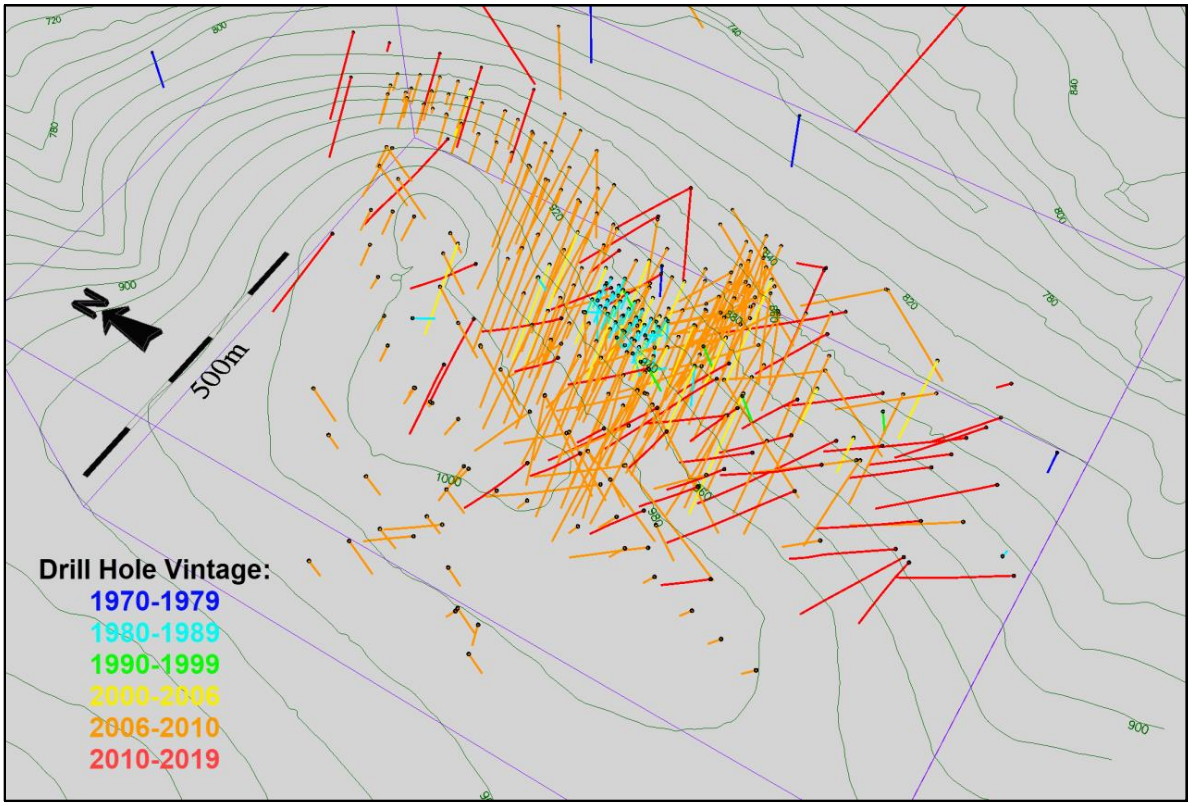
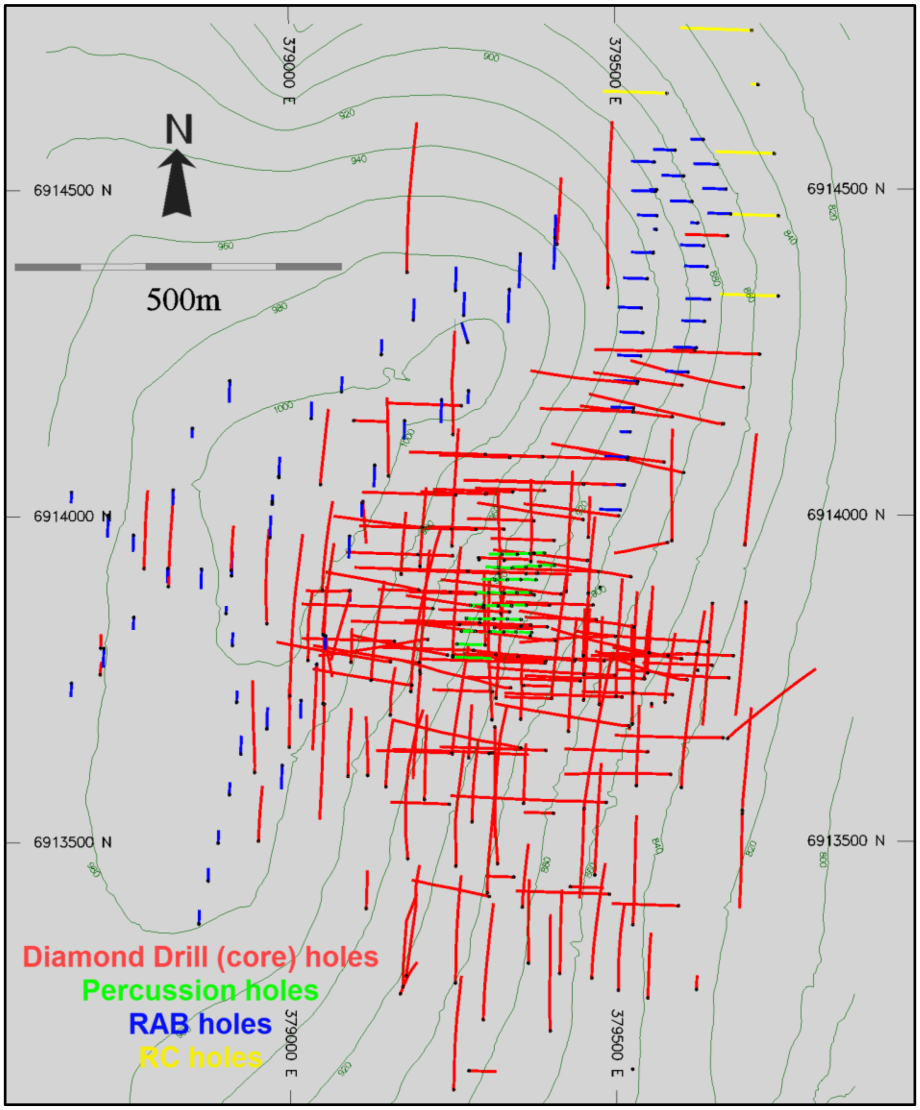


Figure 14-6 shows the distribution of drilling by type at Nucleus. The majority of drilling was conducted using diamond drilling (DD) methods with fewer percussion, rotary air blast (RAB) and reverse circulation (RC) holes. Most of the significant mineralization at Nucleus is tested using DD holes. There is no apparent bias in the results achieved using the various drilling methods, and, as a result, there have been no modifications or exclusions of data related to the drilling method.

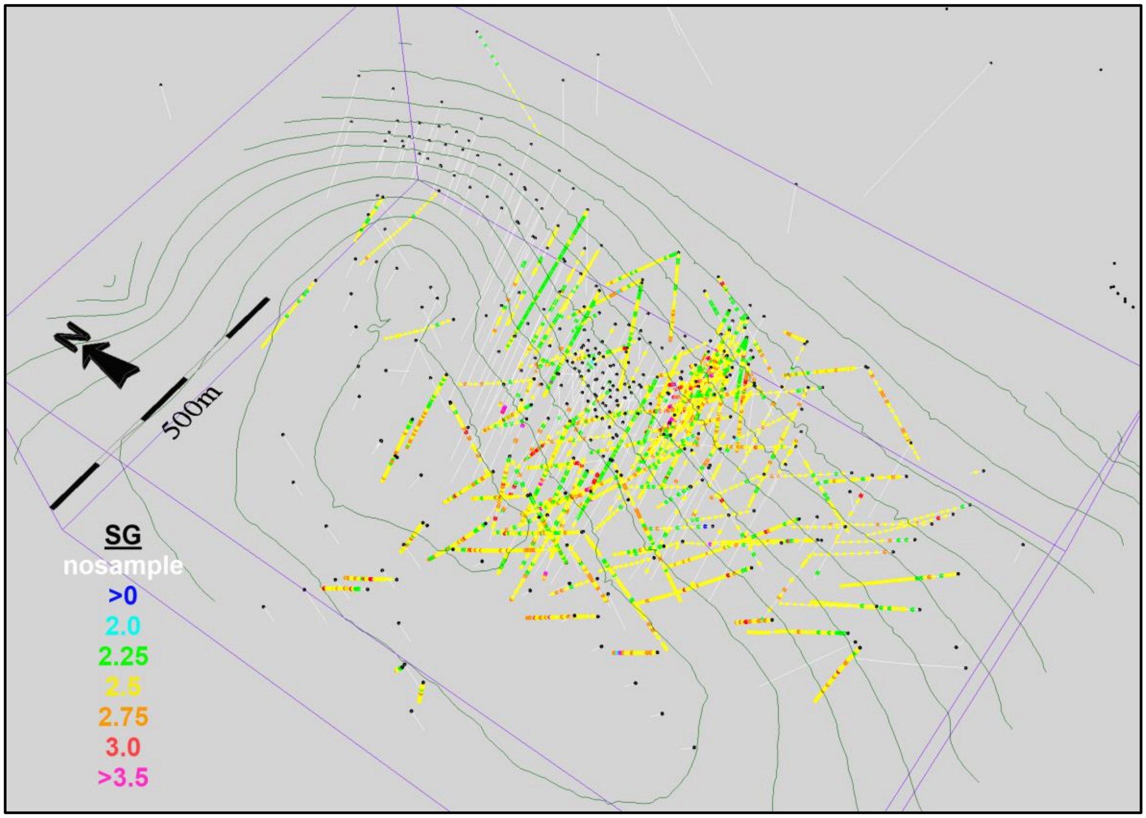
Figure 14-6: Plan View Showing Drilling by Type at Nucleus



A total of 4,989 specific gravity (SG) measurements have been made on samples taken from a total of 159 drill holes at Nucleus. Measurements for SG began in 2006 and are restricted to diamond (core) drill holes.

Samples collected for SG measurements are typically at 10 m and 20 m intervals down each drill hole. SG measurements were conducted by Northern Freegold Resources and, more recently, by Triumph Gold geology personnel in the core shack using the water immersion method (weight in air vs. weight in water) with unwaxed core samples (Note: There is minimal evidence of porosity in the rocks at the Nucleus deposit). The distribution of SG samples, shown in Figure 14-7, is considered reasonable to support estimation in the resource model.

Figure 14-7: Isometric View of Specific Gravity Sample Data at Nucleus



There is a total of 36,007 samples in the 359 drill holes that contribute to the estimate of gold mineral resources at Nucleus. There are slightly fewer samples available for the other elements included in the mineral resource model. Sample intervals range from 0.2 m to 9.14 m long with an average of 1.64 m. Most of the samples from the 1970s vintage holes are composited over longer intervals (up to 36.58 m long). Essentially, all of the drilled intervals have been sampled and analyzed for gold content except for relatively short intervals of overburden at the collars of most holes. Table 14.1 shows the basic statistics for samples in drill holes that are proximal to the Nucleus deposit. There have been no adjustments to the database to account for unsampled core intervals.

Table 14.1: Statistics of Sample Data in the Vicinity of the Nucleus Deposit

Element	Number of Samples	Length of Samples (m)	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
Gold (g/t)	36,007	59,077	0.001	402.000	0.272	2.949	10.86
Silver (g/t)	34,943	57,000	0.1	1,569.0	0.54	7.41	13.82
Copper (%)	35,218	57,838	0	2.62	0.037	0.068	1.842
Molybdenum (%)	34,774	56,717	0	0.065	0.0002	0.0008	3.083
Tungsten (%)	34,774	56,717	0	0.107	0.0011	0.0012	1.067
Arsenic (%)	34,634	56,335	0	1.000	0.0275	0.0854	3.109
Specific Gravity	4,989	na	1.17	4.59	2.65	0.215	0.081

Note: statistics weighted by sample length.

14.2.2 Geological Model and Domains

Triumph Gold provided a series of interpreted 3D (wireframe) domains representing the distributions of alteration, lithology and structural features in the Nucleus area. The argillic and phyllic domains are shown in Figure 14-8. A series of faults are roughly coincident with the QFP dykes located in the southern part of the deposit as shown in Figure 14-9.

Figure 14-10 shows a series of relatively flat-lying microgranite dykes in the centre of the deposit with the main intrusion located at depth to the north. Figure 14-10 also shows a series of sub-vertical granite dykes trending northwest-southeast with a large granite intrusion at depth to the north.

Figure 14-8: Isometric Views Showing Alteration Domains at Nucleus

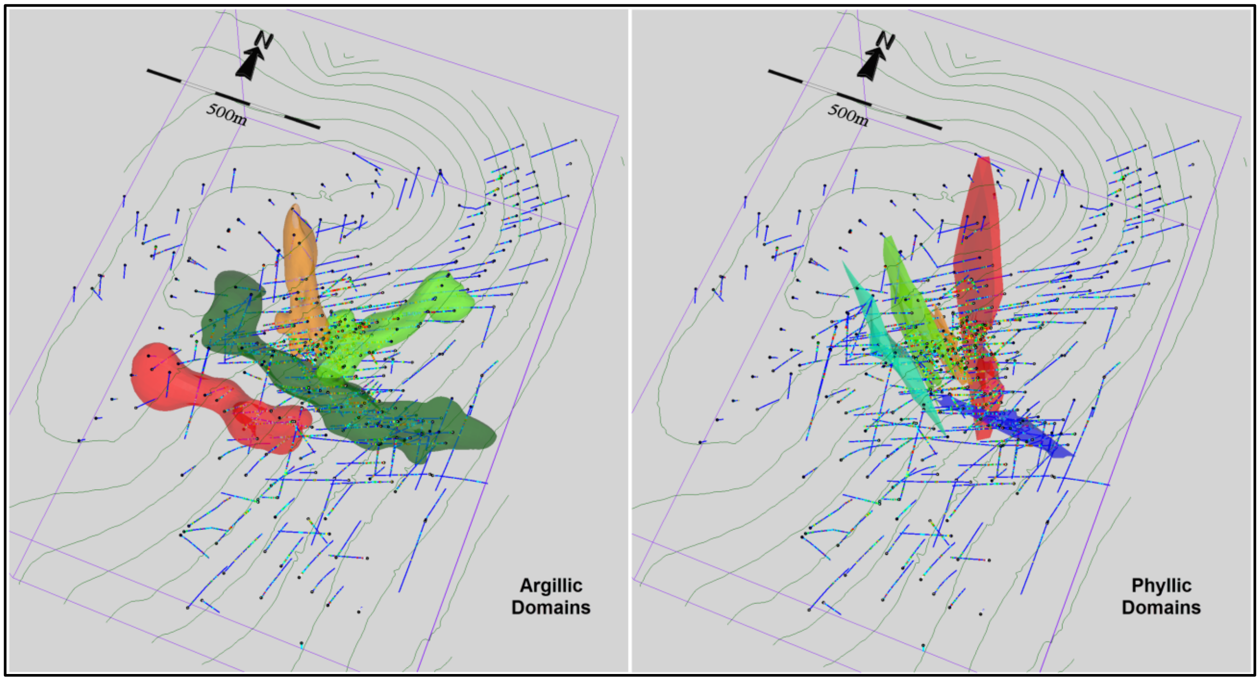


Figure 14-9: Isometric Views Showing Faults and QFP Dykes at Nucleus

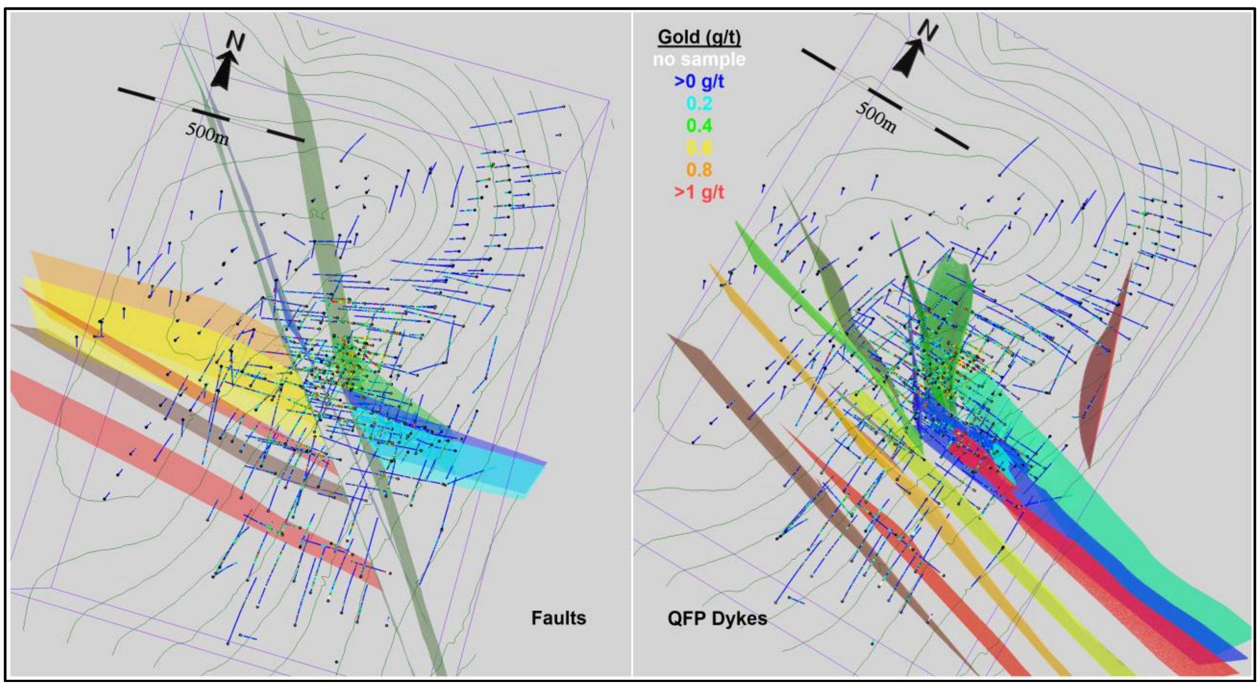
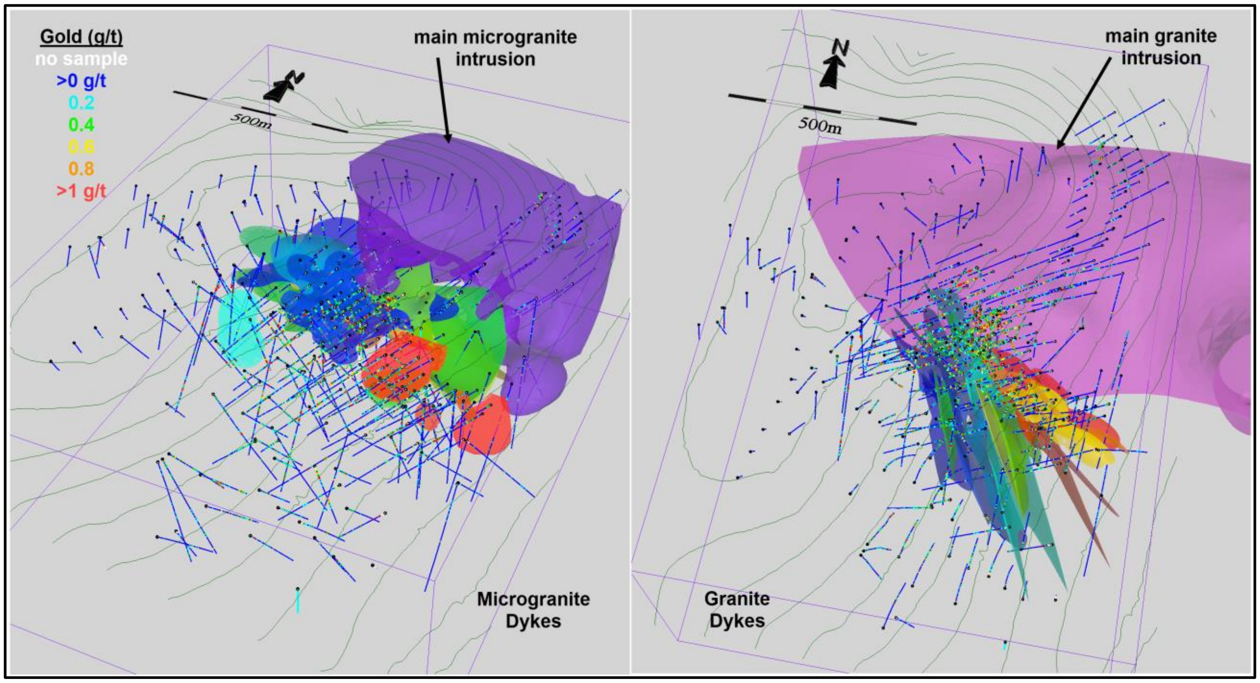


Figure 14-10: Isometric Views Showing Microgranite and Granite Dykes and Intrusions at Nucleus



Overburden has been encountered in about 60% of the drill holes at Nucleus (percussion holes and some of the RAB holes do not have any logged lithology data). In most cases, the thickness of overburden material in the Nucleus area is between 1 m and 4 m thick but can approach 20 m thick in some areas. A surface representing the base of overburden has been generated using the drilling information. Blocks in the model are assigned rock vs. overburden designations on a majority basis.

14.2.3 Compositing

Drill hole samples are composited in order to standardize the database for further statistical evaluation. This step removes any influence that the sample length might have on data.

To retain the original characteristics of the underlying data, a composite length is selected which reasonably reflects the average, original sample length. The generation of too-long composites results in a degree of smoothing which could mask certain features of the data.

The average length of all original sample data located inside the interpreted vein domains is 1.64 m with intervals ranging from 0.2 m to 9.14 m long. A standard composite length of 1.5 m was applied to the original, variable-length, sample data. The generation of composites honours the boundary between overburden and bedrock.

14.2.4 Exploratory Data Analysis

Exploratory data analysis (EDA) involves the statistical summarization of the database to better understand the characteristics of the data that may control grade. One of the main purposes of this exercise is to determine whether there is evidence of spatial distinctions in grade which may require the separation and isolation of domains during interpolation. The application of separate domains prevents unwanted mixing of data during interpolation, and, therefore, the resulting grade model will better reflect the unique properties of the deposit. However, applying domain boundaries in areas where the data are not statistically unique may impose a bias in the distribution of grades in the model.

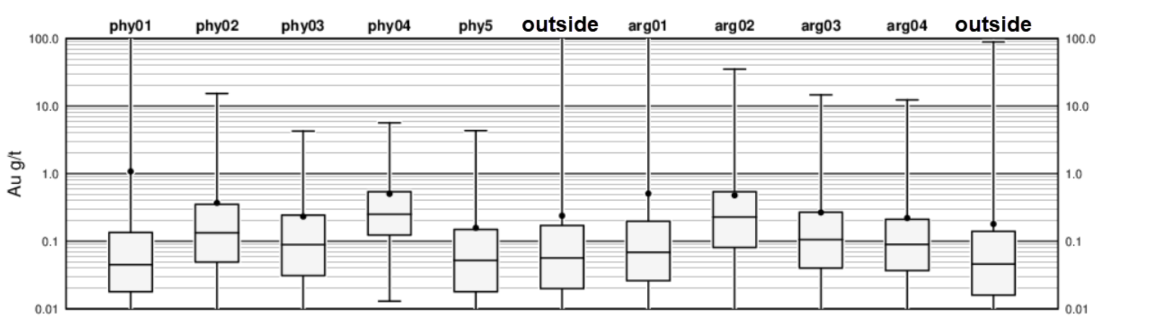
A domain boundary, which segregates the data during interpolation, is typically applied if the average grade in one domain is significantly different from that of another domain. A boundary may also be applied if there is evidence that a significant change in the grade distribution has occurred across the contact.

14.2.4.1 Basic Statistics by Domain

Composited sample data were assigned unique code values using the interpreted lithologic and alteration domains. The statistical properties of samples inside and outside of these domains were evaluated by generating a series of boxplots.

Figure 14-11 shows the distribution of gold by alteration domain. Note that phy01 to phy05 are the phyllite domains, and phy09 represents the areas outside the domains. Similarly, arg01 to arg04 are the argillic domains, and arg09 represents all other areas. There is little difference in the distribution of gold between any of these alteration domains.

Figure 14-11: Boxplot of Gold by Alteration Domain at Nucleus

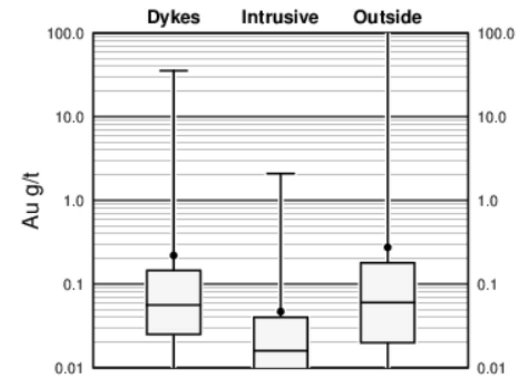


phy01	phy02	phy03	phy04	phy5	outside	arg01	arg02	arg03	arg04	outside	
1182	827	534	305	523	36785	7504	2904	1140	1417	27191	Number of data
1.081	0.37	0.232	0.503	0.158	0.239	0.507	0.479	0.267	0.221	0.18	Mean
103.526	0.726	0.226	0.53	0.134	2.245	23.216	1.404	0.496	0.402	0.964	Variance
15.22	9.14	5.375	3.718	6.891	40.15	27.101	18.103	13.212	12.59	46.955	Skewness
9.415	2.302	2.052	1.447	2.321	6.274	9.496	2.474	2.638	2.868	5.441	Coef of Variation
209.519	15.468	4.25	5.7	4.334	117.24	209.519	35.1	14.679	12.371	89.274	Maximum
0.135	0.353	0.244	0.542	0.15	0.171	0.197	0.541	0.268	0.212	0.14	Upper quartile
0.045	0.133	0.089	0.252	0.052	0.057	0.069	0.229	0.106	0.09	0.046	Median
0.018	0.049	0.031	0.123	0.018	0.02	0.026	0.081	0.04	0.037	0.016	Lower quartile
0.003	0.003	0.003	0.013	0.003	0.001	0.001	0.002	0.003	0.001	0.001	Minimum

Figure 14-12 shows the distribution of gold in the combined granite dykes is essentially the same as the surrounding areas. The main granite intrusive located at depth contains much lower grades.

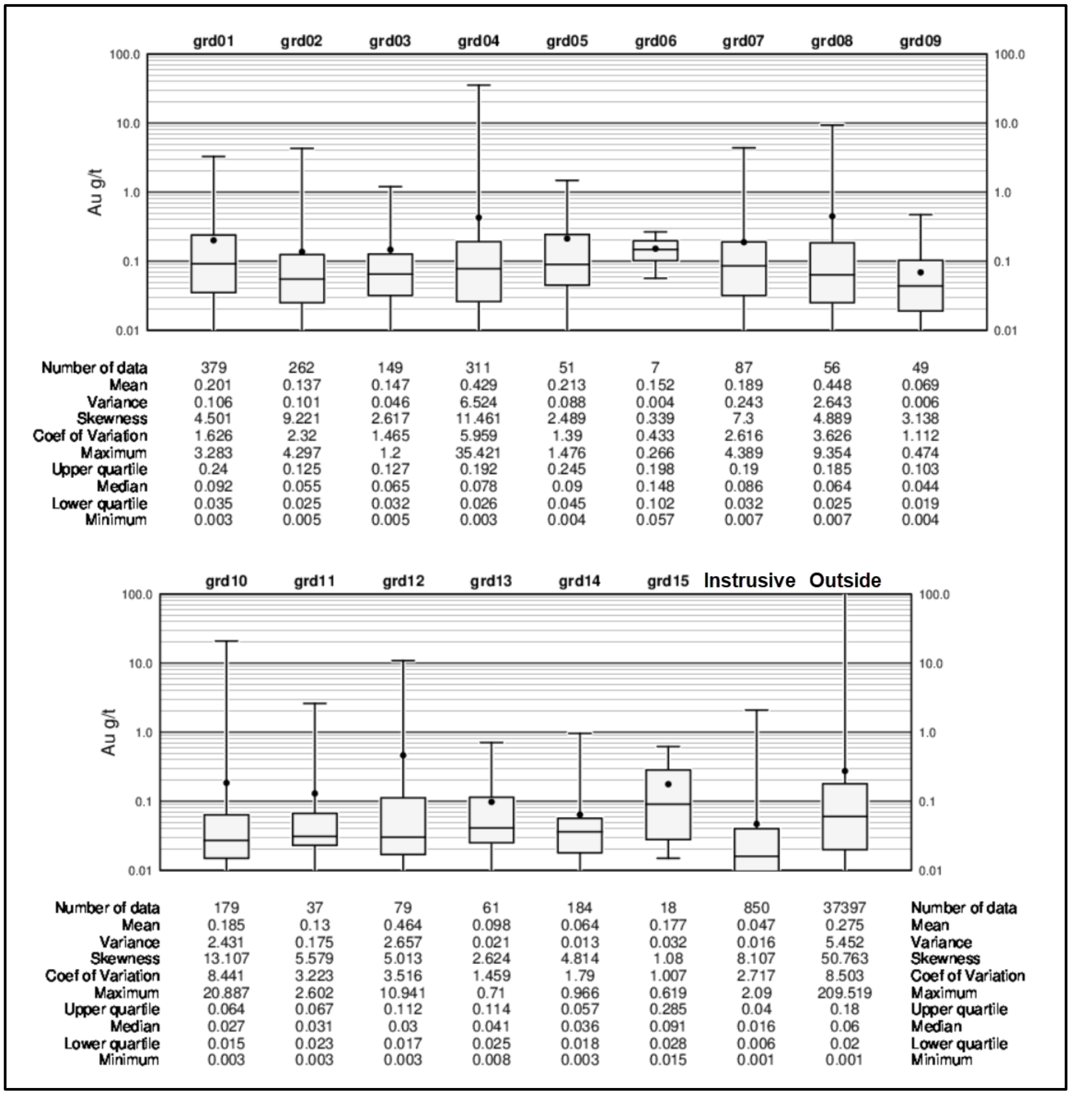
Figure 14-13 shows the grades of the individual dykes can be quite variable. Note that most dykes are quite small (contain relatively few samples) and contain grades similar to the surrounding rocks.

Figure 14-12: Boxplot of Gold by Granite Domain at Nucleus



	Dykes	Intrusive	Outside
Number of data	1909	850	37397
Mean	0.22	0.047	0.275
Variance	1.55	0.016	5.452
Skewness	19.75	8.107	50.763
Coef of Variation	5.67	2.717	8.503
Maximum	35.421	2.09	209.519
Upper quartile	0.145	0.04	0.18
Median	0.056	0.016	0.06
Lower quartile	0.025	0.006	0.02
Minimum	0.003	0.001	0.001

Figure 14-13: Boxplot of Gold by Individual Granite Domain at Nucleus



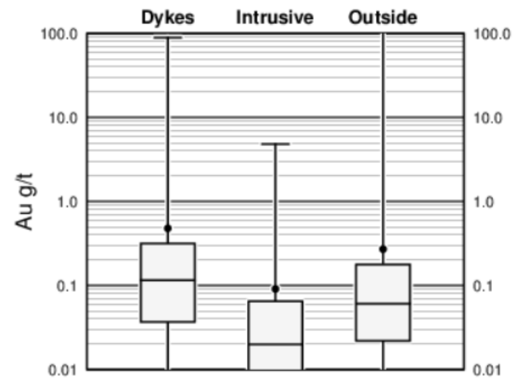
	grd01	grd02	grd03	grd04	grd05	grd06	grd07	grd08	grd09
Number of data	379	262	149	311	51	7	87	56	49
Mean	0.201	0.137	0.147	0.429	0.213	0.152	0.189	0.448	0.069
Variance	0.106	0.101	0.046	6.524	0.088	0.004	0.243	2.643	0.006
Skewness	4.501	9.221	2.617	11.461	2.489	0.339	7.3	4.889	3.138
Coef of Variation	1.626	2.32	1.465	5.959	1.39	0.433	2.616	3.626	1.112
Maximum	3.283	4.297	1.2	35.421	1.476	0.266	4.389	9.354	0.474
Upper quartile	0.24	0.125	0.127	0.192	0.245	0.198	0.19	0.185	0.103
Median	0.092	0.055	0.065	0.078	0.09	0.148	0.086	0.064	0.044
Lower quartile	0.035	0.025	0.032	0.026	0.045	0.102	0.032	0.025	0.019
Minimum	0.003	0.005	0.005	0.003	0.004	0.057	0.007	0.007	0.004

	grd10	grd11	grd12	grd13	grd14	grd15	Instrusive	Outside	
Number of data	179	37	79	61	184	18	850	37397	Number of data
Mean	0.185	0.13	0.464	0.098	0.064	0.177	0.047	0.275	Mean
Variance	2.431	0.175	2.657	0.021	0.013	0.032	0.016	5.452	Variance
Skewness	13.107	5.579	5.013	2.624	4.814	1.08	8.107	50.763	Skewness
Coef of Variation	8.441	3.223	3.516	1.459	1.79	1.007	2.717	8.503	Coef of Variation
Maximum	20.887	2.602	10.941	0.71	0.966	0.619	2.09	209.519	Maximum
Upper quartile	0.064	0.067	0.112	0.114	0.057	0.285	0.04	0.18	Upper quartile
Median	0.027	0.031	0.03	0.041	0.036	0.091	0.016	0.06	Median
Lower quartile	0.015	0.023	0.017	0.025	0.018	0.028	0.006	0.02	Lower quartile
Minimum	0.003	0.003	0.003	0.008	0.003	0.015	0.001	0.001	Minimum

Figure 14-14 shows that the gold grade inside the (combined) microgranite dykes is almost twice that of the surrounding host rocks. The main microgranite intrusive, at depth to the north, contains much lower grades.

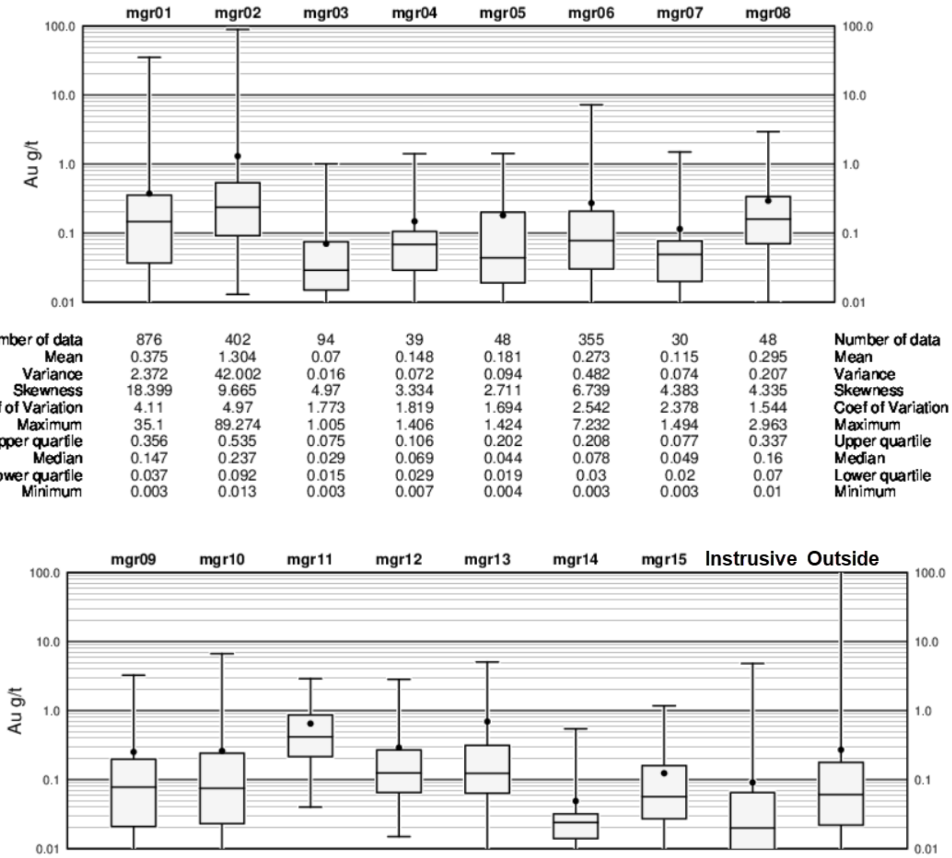
Figure 14-15 shows that only a few individual microgranite dykes contain high gold grades, and most are similar in grade to the surrounding rocks. Gold in the area outside of these dykes is similar to the gold inside (grm01 to grm15) most of these domains.

Figure 14-14: Boxplot of Gold by Microgranite Domain at Nucleus



	Dykes	Intrusive	Outside	
Number of data	2316	3618	34222	Number of data
Mean	0.479	0.091	0.271	Mean
Variance	8.432	0.06	5.462	Variance
Skewness	20.259	7.579	52.822	Skewness
Coef of Variation	6.063	2.693	8.609	Coef of Variation
Maximum	89.274	4.83	209.519	Maximum
Upper quartile	0.315	0.065	0.178	Upper quartile
Median	0.116	0.02	0.061	Median
Lower quartile	0.037	0.007	0.022	Lower quartile
Minimum	0.003	0.001	0.001	Minimum

Figure 14-15: Boxplot of Gold by Individual Microgranite Domain at Nucleus

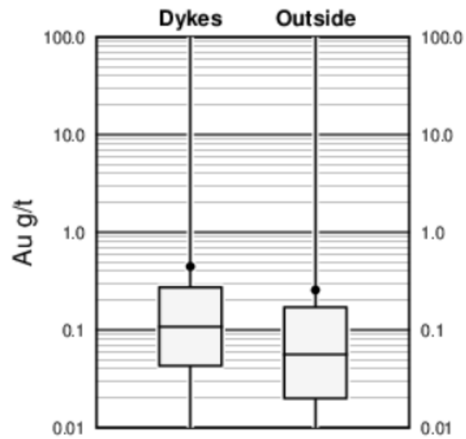


	mgr01	mgr02	mgr03	mgr04	mgr05	mgr06	mgr07	mgr08	
Number of data	876	402	94	39	48	355	30	48	Number of data
Mean	0.375	1.304	0.07	0.148	0.181	0.273	0.115	0.295	Mean
Variance	2.372	42.002	0.016	0.072	0.094	0.482	0.074	0.207	Variance
Skewness	18.399	9.665	4.97	3.334	2.711	6.739	4.383	4.335	Skewness
Coef of Variation	4.11	4.97	1.773	1.819	1.694	2.542	2.378	1.544	Coef of Variation
Maximum	35.1	89.274	1.005	1.406	1.424	7.232	1.494	2.963	Maximum
Upper quartile	0.356	0.535	0.075	0.106	0.202	0.208	0.077	0.337	Upper quartile
Median	0.147	0.237	0.029	0.069	0.044	0.078	0.049	0.16	Median
Lower quartile	0.037	0.092	0.015	0.029	0.019	0.03	0.02	0.07	Lower quartile
Minimum	0.003	0.013	0.003	0.007	0.004	0.003	0.003	0.01	Minimum

	mgr09	mgr10	mgr11	mgr12	mgr13	mgr14	mgr15	Instrusive	Outside
Number of data	108	124	38	48	28	31	47	3618	34222
Mean	0.252	0.261	0.649	0.291	0.694	0.049	0.124	0.091	0.271
Variance	0.293	0.544	0.397	0.229	1.767	0.01	0.035	0.06	5.462
Skewness	3.777	6.713	1.699	3.632	2.42	4.369	3.963	7.579	52.822
Coef of Variation	2.145	2.821	0.971	1.646	1.916	1.984	1.502	2.693	8.609
Maximum	3.252	6.67	2.895	2.85	5.078	0.547	1.178	4.83	209.519
Upper quartile	0.198	0.242	0.869	0.268	0.314	0.032	0.16	0.065	0.178
Median	0.078	0.075	0.417	0.125	0.124	0.024	0.057	0.02	0.061
Lower quartile	0.021	0.023	0.215	0.065	0.064	0.014	0.027	0.007	0.022
Minimum	0.004	0.003	0.04	0.015	0.005	0.008	0.005	0.001	0.001

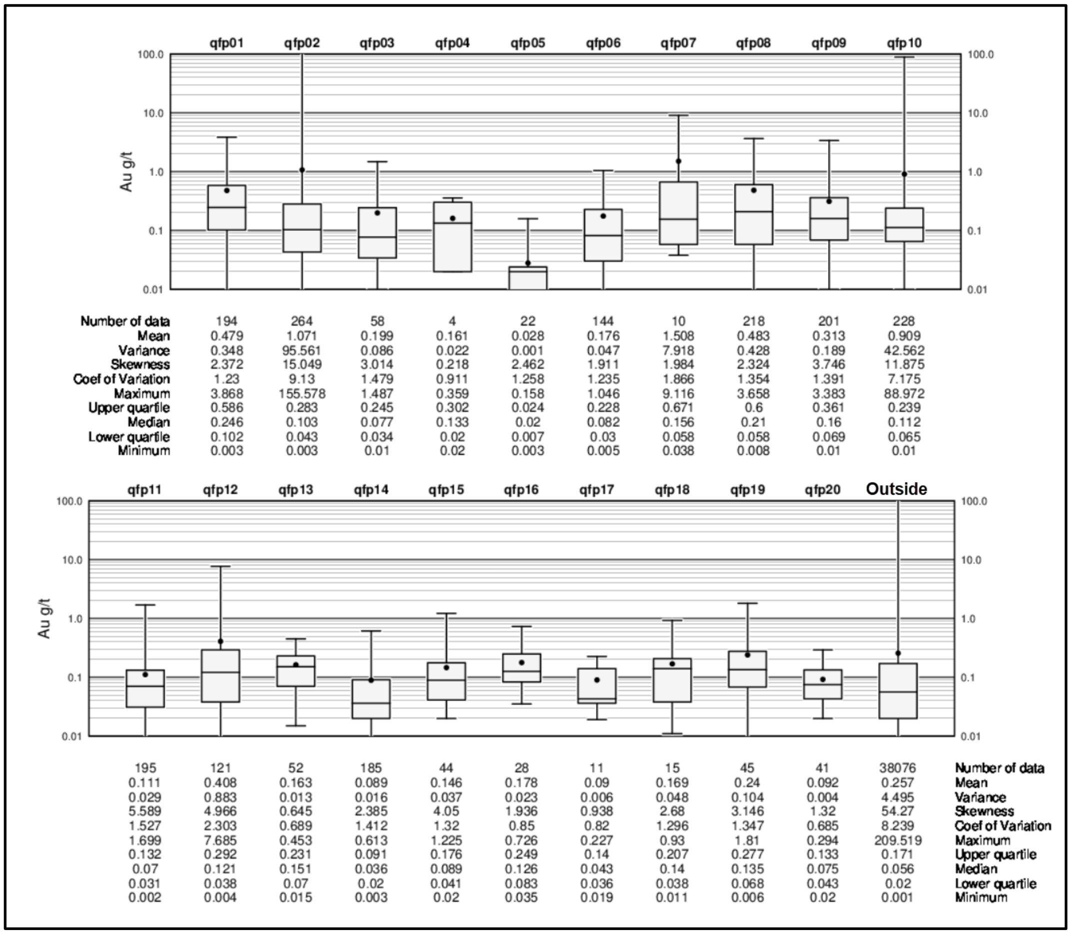
Figure 14-16 shows that the gold grade inside the combined QFP dykes is significantly higher than in the surrounding host rocks. However, the grade of individual dykes, shown in Figure 14-17, is quite variable and most contain relatively few samples.

Figure 14-16: Boxplot of Gold by QFP Domain at Nucleus



	Dykes	Outside	
Number of data	2080	38076	Number of data
Mean	0.447	0.257	Mean
Variance	17.125	4.495	Variance
Skewness	30.718	54.27	Skewness
Coef of Variation	9.257	8.239	Coef of Variation
Maximum	155.578	209.519	Maximum
Upper quartile	0.275	0.171	Upper quartile
Median	0.108	0.056	Median
Lower quartile	0.043	0.02	Lower quartile
Minimum	0.002	0.001	Minimum

Figure 14-17: Boxplot of Gold by Individual QFP Domain at Nucleus



14.2.4.2 Contact Profiles

Contact profiles evaluate the nature of grade trends between two domains: they graphically display the average grades at increasing distances from the contact boundary. Those contact profiles that show a marked difference in grade across a domain boundary indicate that the two datasets should be isolated during interpolation. Conversely, if a more gradual change in grade occurs across a contact, the introduction of a hard boundary (e.g., segregation during interpolation) may result in a much different trend in the grade model; in this case, the change in grade between domains in the model is often more abrupt than the trends seen in the raw data. Finally, a flat contact profile indicates no grade changes across the boundary; in this case, hard or soft domain boundaries will produce similar results in the model.

A series of contact profiles were generated to evaluate the nature of gold grades across the various interpreted domain boundaries.

Figure 14-18 shows the distribution of gold by alteration type. Elevated grades are present inside these domains, but there are no distinct changes in grade at the contacts of these domains.

Figure 14-18: Contact Profiles Showing Gold In/Out of the Alteration Domains at Nucleus

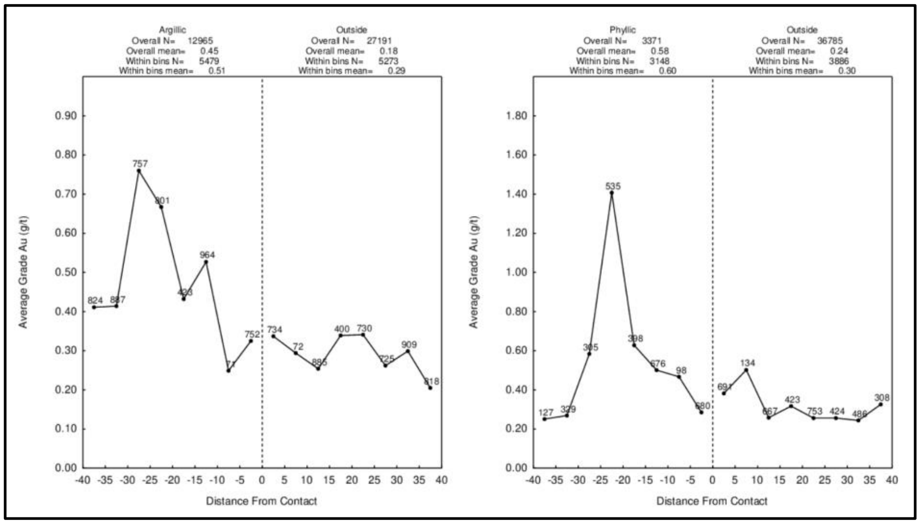
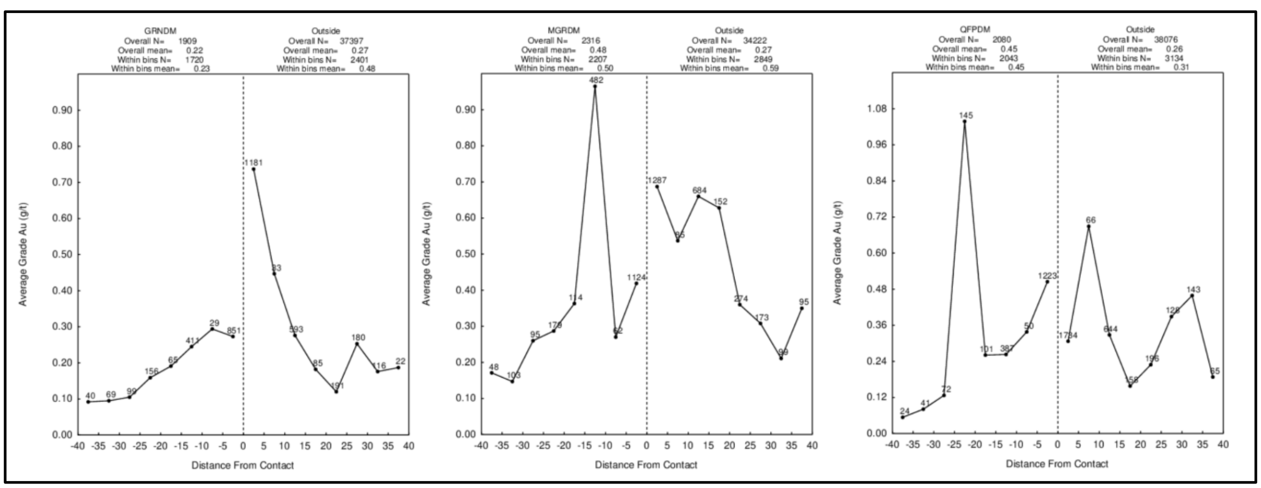


Figure 14-19 shows that gold grades tend to increase near the contacts of all intrusive dykes; this suggests that these rocks either influenced the introduction of gold or followed structures that were instrumental in the emplacement of gold at Nucleus. The large spikes in grade are often the result of the presence of several anomalous very high-grade samples. There are no real distinct changes in gold grade across any of the dyke domains.

Figure 14-19: Contact Profiles Showing Gold In/Out of the Granite, Microgranite and QFP Dyke Domains at Nucleus



14.2.4.3 Conclusions of the EDA

The results of the EDA indicate that the distribution of gold is not distinctly related to either the alteration or the various volcanic intrusive rocks. Elevated grades in the vicinity of the granite, microgranite and QFP dykes suggest that these rocks may have influenced the introduction of gold at Nucleus, but mineralization tends to occur in both the intrusive rocks as well as in the surrounding host rocks. This type of metal distribution is not uncommon in porphyry-type deposits.

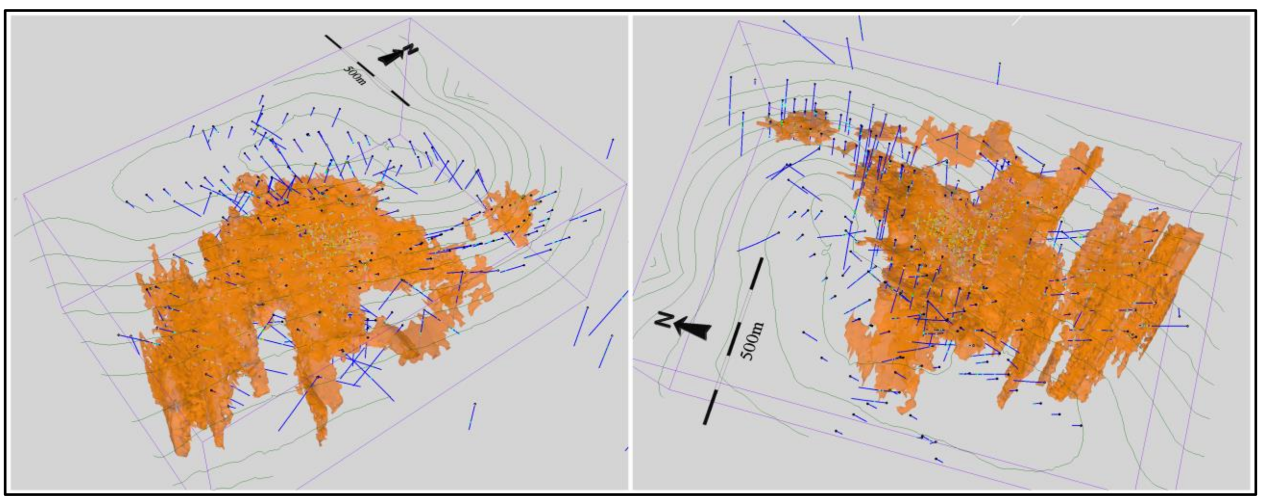
In the centre of the deposit, all three types of intrusive rocks are present (flat-lying microgranite, west-east QFP and northeast-southwest-trending granite), and the distribution of gold tends to occur over a large and more consistent area. In the north part of the deposit, there are limited intrusive rocks present, and, as a result, much less gold has been encountered in drilling. To the south, there are no microgranite dykes and only rare granite dykes present, and the gold mineralization appears to be associated with the west-east-trending, steeply dipping, QFP dykes. Search orientations have been designed based on these observations: spherical searches are used in the central and northern parts of the deposit, but, in the south, an anisotropic search ellipse is used that mimics the west-east orientation of the QFP dykes and several prominent structures in that part of the deposit.

14.2.4.4 Generation of a Grade Probability Shell

In the absence of a geologic model that could be used to develop a resource block model, a probability-shell approach was used to generate a domain that segregates *mineralized* rocks from *unmineralized* rocks. Rather than build separate shells for each element in the model, one shell was generated based on the gold distribution. Gold is the main economic contributor at Nucleus, and the contribution from the other elements tends to be quite minor.

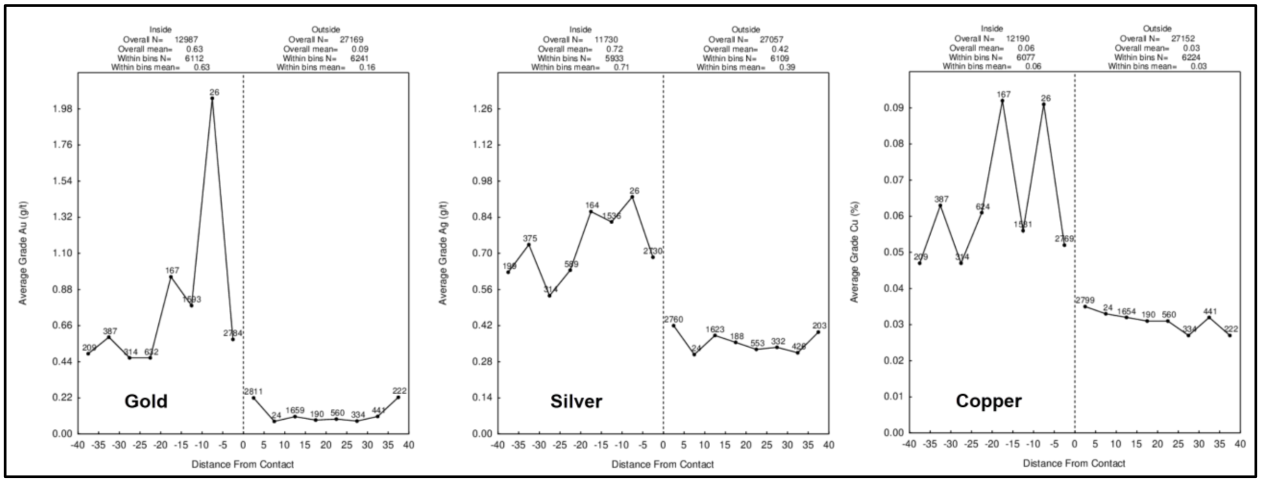
Using a grade threshold of 0.10 g/t Au, probabilities are estimated in model blocks using ordinary kriging. Note: This threshold grade is lower than the economic cut-off grade to ensure that the model contains sufficient internal low-grade dilution. As stated previously, during interpolation in the block model, a spherical search is used in the central and northern parts of the deposit, with anisotropy controlled by the indicator variograms. In the south, an oriented ellipse was used that mimics the west-east, steeply dipping trends of the QFP dykes and local fault structures. These trends are evident in the resulting shell shown in Figure 14-20.

Figure 14-20: Isometric View of the Gold Probability Shell Domain at Nucleus



The contact profiles in Figure 14-21 show that the gold, silver and copper grades tend to be higher inside the probability shell domain and consistently low-grade outside the domain, and there are abrupt changes in grade at the boundary of the domain. This is an indication that this domain should be used to segregate the data during grade interpolation in the block model. This type of grade transition is not evident for arsenic, molybdenum or tungsten.

Figure 14-21: Contact Profiles Showing Gold, Silver and Copper Grades Across Probability Shell Domain Boundary at Nucleus



14.2.4.5 Conclusions and Modelling Implications

The results of the EDA indicate that higher gold, silver and copper grades occur in the alteration domains and are somewhat associated with the presence of microgranite and QFP dykes. However, none of these domains exhibit distinct controls on the distribution of these metals. In areas of microgranite and QFP dykes, there are similar grades in both the dykes as well as in the proximal host rocks. Therefore, from a mineral resource perspective, there are no distinct alteration or lithologic controls on the distribution of metals at Nucleus. The gold probability grade shell domain is an appropriate alternative in segregating mineralized from unmineralized rocks for the distributions of gold, silver and copper in the deposit. Molybdenum and tungsten grades tend to be very low in most areas, and there are no apparent trends evident in these metals. The distribution of arsenic is not controlled by any alteration or lithology domains or the gold probability grade shell domain.

The distribution of SG data is not controlled by lithology or alteration type. In general, SG values tend to be lower near surface and increase with depth. There are only eight SG samples, averaging 2.54, that are located in the interpreted overburden domain. Although these are lower than the overall average SG of 2.65, these are still relatively high densities for overburden and likely represent misclassified material. There are sufficient data available to support estimation of SG in rock in the resource model. An average SG of 1.90 is assigned to model blocks located within overburden.

Estimation of each element in the Nucleus block model is conducted in the three passes, one for each area. This allows for specific treatment of potentially anomalous sample data and also the use of different search orientations.

14.2.5 Evaluation of Outlier Grades

Histograms and probability plots for the distribution of gold, silver, copper, arsenic, molybdenum and tungsten were reviewed to identify the presence of anomalous outlier grades in the composited (1.5 m) database. Following a review of the physical location of potentially erratic samples in relation to the surrounding sample data, it was decided that these would be controlled during block grade interpolations using a combination of traditional top-cutting plus the use of outlier limitations. Outlier limitations control the distance of influence of samples above a defined grade threshold. During grade interpolations, samples above the outlier thresholds are limited to a maximum distance-of-influence of 25 m.

The grade thresholds for the various elements located inside and outside of the probability shell domain are shown in Tables 14.2 and 14.3, respectively. The thresholds for arsenic, molybdenum and tungsten are shown in Table 14.4. These measures have reduced the contained metals in the model by 6% for gold, 9% for silver, 2% for copper, 8% for arsenic and less than 0.5% for molybdenum and tungsten. These results are considered appropriate for this deposit at this stage of exploration.

Table 14.2: Treatment of Outlier Sample Data Inside of the Probability Shell Domain at Nucleus

Element	Maximum	Top-Cut Limit	Outlier Limit
Main (Central) Area			
Gold (g/t)	209.519	100	20
Silver (g/t)	63.1	30	12
Copper (%)	1.90	1	0.8
South Area			
Gold (g/t)	13.589	-	6
Silver (g/t)	16.1	-	6
Copper (%)	0.85	-	0.4
North Area			
Gold (g/t)	5.492	-	1.5
Silver (g/t)	20.0	10	4
Copper (%)	0.41	-	0.25

Samples above the outlier threshold are restricted to a maximum distance of influence of 25 m during grade interpolation.

Table 14.3: Treatment of Outlier Sample Data Outside of the Probability Shell Domain at Nucleus

Element	Maximum	Top-Cut Limit	Outlier Limit
Main (Central) Area			
Gold (g/t)	138.327	30	10
Silver (g/t)	1569.0	30	15
Copper (%)	1.39	-	0.50
South Area			
Gold (g/t)	14.150	6	1.8
Silver (g/t)	27.6	-	8
Copper (%)	0.42	-	0.2
North Area			
Gold (g/t)	3.60	-	1.5
Silver (g/t)	26.4	-	10
Copper (%)	0.61	-	0.30

Samples above the outlier threshold are restricted to a maximum distance of influence of 25 m during grade interpolation.

Table 14.4: Treatment of Outlier Sample Data for Arsenic, Molybdenum and Tungsten at Nucleus

Element	Maximum	Top-Cut Limit	Outlier Limit
Main (Central) Area			
Arsenic (%)	1.000	-	0.800
Molybdenum (%)	0.065	0.030	0.020
Tungsten (%)	0.086	0.050	0.020
South Area			
Arsenic (%)	1.000	-	0.550
Molybdenum (%)	0.031	-	0.020
Tungsten (%)	0.027	-	-
North Area			
Arsenic (%)	1.000	-	0.500
Molybdenum (%)	0.012	-	-
Tungsten (%)	0.022	-	-

Samples above the outlier threshold are restricted to a maximum distance of influence of 25 m during grade interpolation.

SG values below 2.00 and above 4.00 are considered to be outliers and are excluded from use during estimation of SG in the resource model. SG values >3.00 are also considered anomalous and are restricted to a maximum distance of influence of 15 m during the estimation of SG in the resource block model.

14.2.6 Variography

The degree of spatial variability in a mineral deposit depends on both the distance and direction between points of comparison. Typically, the variability between samples increases as the distance between those samples increases. If the degree of variability is related to the direction of comparison, then the deposit is said to exhibit anisotropic tendencies which can be summarized with the search ellipse. The semi-variogram is a common function used to measure the spatial variability within a deposit.

The components of the variogram include the nugget, the sill and the range. Often samples compared over very short distances, even samples compared from the same location, show some degree of variability. As a result, the curve of the variogram often begins at some point on the y-axis above the origin: this point is called the *nugget*. The nugget is a measure of not only the natural variability of the data over very short distances but also a measure of the variability which can be introduced due to errors during sample collection, preparation, and the assay process.

The amount of variability between samples typically increases as the distance between the samples increases. Eventually, the degree of variability between samples reaches a constant, maximum value: this is called the *sill*, and the distance between samples at which this occurs is called the *range*.

In this Technical Report, the spatial evaluation of the data was conducted using a correlogram rather than the traditional variogram. The correlogram is normalized to the variance of the data and is less sensitive to outlier values, generally giving better results.

Variograms were created using the commercial software package Sage 2001© developed by Isaaks & Co.

Multidirectional variograms for gold, silver and copper were generated from the distributions of data located inside the probability shell domain for Nucleus in each of the three areas (Main, South, and North) of the deposit. These variograms are used to interpolate grades both inside and outside of the probability shell domain. Additional variograms were generated for distributions of molybdenum, tungsten and arsenic using all data. The variogram results are summarized in Table 14.5.

Table 14.5: Variogram Parameters for the Nucleus Deposit

Element	Nugget	Sill 1	Sill 2	1st Structure Range (m)	1st Structure Azimuth (°)	1st Structure Dip	2nd Structure Range (m)	2nd Structure Azimuth (°)	2nd Structure Dip
Main (Central) Area									
Gold	0.177	0.252	0.570	35	302	-30	42	5	9
	Spherical			32	14	27	32	134	76
				10	250	47	2	272	11
Silver	0.350	0.536	0.114	27	28	14	182	341	65
	Spherical			13	213	76	108	140	23
				10	119	1	71	53	-8
Copper	0.300	0.584	0.116	25	357	56	1061	248	6
	Spherical			18	179	34	238	340	16
				9	268	-1	93	139	73
South Area									
Gold	0.706	0.164	0.130	38	90	-24	383	94	50
	Spherical			19	20	37	55	116	-38
				4	155	43	18	17	-11
Silver	0.450	0.185	0.365	36	260	36	341	177	59
	Spherical			21	356	9	119	344	30
				9	99	53	14	77	5
Copper	0.350	0.530	0.120	19	31	-1	192	349	68
	Spherical			14	302	28	109	328	-21
				12	119	62	66	60	-7
North Area									
Gold	0.261	0.490	0.249	78	21	40	39	192	-6
	Spherical			15	171	45	18	101	-4
				3	277	16	10	155	83
Silver	0.350	0.530	0.120	19	31	-1	192	349	68
	Spherical			14	302	28	109	328	-21
				12	119	62	66	60	-7
Copper	0.450	0.436	0.114	75	133	81	1333	71	-7
	Spherical			21	175	-6	240	343	16
				13	85	-6	88	136	73
All Areas									
Arsenic	0.450	0.427	0.123	29	45	46	627	349	84
	Spherical			17	283	27	337	113	3
				10	174	32	219	23	-5
Molybdenum	0.617	0.303	0.080	92	66	77	188	228	-67
	Spherical			30	299	8	61	121	-7
				6	207	11	58	29	-22
Tungsten	0.686	0.215	0.099	39	144	-3	111	71	14
	Spherical			38	64	70	103	197	68
				8	233	20	14	336	17

Note: Correlograms were conducted on 1.5 m composite sample data.

14.2.7 Model Setup and Limits

A block model was initialized in MinePlan®, and the dimensions are defined in Table 14.6. The block model has not been rotated. The nominal block size, measuring 10 x 10 x 5 m (L x W x H), is considered appropriate for a deposit of this size and type and the current level of exploration drilling. The limits of the block model are represented by the purple rectangle in previous figures that show the drilling and various domains using isometric viewpoints.

Table 14.6: Block Model Limits at Nucleus

Direction	Minimum	Maximum	Block Size (m)	# of Blocks
X (east)	378700	379800	10	110
Y (north)	6913100	6914700	10	160
Z (elevation)	450	1050	5	120

Note: The block model is not rotated.

14.2.8 Interpolation Parameters

The block model grades for gold, silver, copper, molybdenum, tungsten, and arsenic were estimated using ordinary kriging (OK). The results of the OK estimation were compared with the Hermitian Polynomial Change of Support model (also referred to as the Discrete Gaussian Correction). This method is described in more detail in Section 14.2.9.

The Nucleus OK models were generated with a relatively limited number of samples to match the change of support or Herco (*He*rmitian *Co*rrection) grade distribution. This approach reduces the amount of smoothing or averaging in the model, and, while there may be some uncertainty on a localized scale, this approach produces reliable estimates of the recoverable grade and tonnage for the overall deposit.

Estimates for SG are made using the inverse distance weighted (IDW) interpolation method. Model blocks below the overburden/bedrock interface that are distant from drilling and, as a result, do not get estimated SG values, are assigned default SG values of 2.65. Blocks located in the overburden domain are assigned default SG values of 1.90.

The estimation parameters for the various elements in the mineral resource block model are shown in Table 14.7. All grade estimations use length-weighted composite drill hole sample data.

Table 14.7: Interpolation Parameters for the Nucleus Deposit

Element	Search Ellipse[1] Range (m)			# of Composites			Other
	X	Y	Z[1]	Min/Block	Max/Block	Max/Hole	
Main (Central) Area							
Gold	300	300	300	3	12	4	
Silver	300	300	300	3	15	5	
Copper	300	300	300	3	24	6	
South Area							
Gold	300	300	25	3	24	6	ellipse strike 107 dip -85 south
Silver	300	300	25	3	18	6	ellipse strike 107 dip -85 south
Copper	300	300	25	3	24	6	ellipse strike 107 dip -85 south
North Area							
Gold	300	300	300	3	24	6	
Silver	300	300	300	3	18	6	
Copper	300	300	300	3	24	6	
All Areas							
Arsenic	300	300	300(1)	3	24	6	
Molybdenum	300	300	300(1)	3	24	6	
Tungsten	300	300	300(1)	3	24	6	
SG	300	300	300	2	12	3	

Note: South area ellipse 300 x 300 x 25 m strike 107 dip -85 south. Sample selectivity limited to one drill hole per octant.

[1] Estimates of As, Mo and W use the oriented ellipse in the South Area (300x300x25m).

14.2.9 Validation

The results of the modelling process were validated using several methods. These include a thorough visual review of the model grades in relation to the underlying drill hole sample grades, comparisons with the change of support model, comparisons with other estimation methods, and grade distribution comparisons using swath plots.

14.2.9.1 Visual Inspection

A detailed visual inspection of the block model was conducted in both section and plan to ensure the desired results following interpolation. This includes confirmation of the proper coding of blocks within the gold grade probability shell domain. The estimated gold, silver, copper, arsenic, molybdenum and tungsten grades in the model appear to be a valid representation of the underlying drill hole sample data.

Two examples of the distribution of gold in model blocks compared to the drill hole sample data are shown in vertical cross sections in Figures 14-22 and 14-23.

Figure 14-22: Vertical Cross Section 6913900N Showing Gold Grades in Model Blocks and Drill Hole Samples at Nucleus

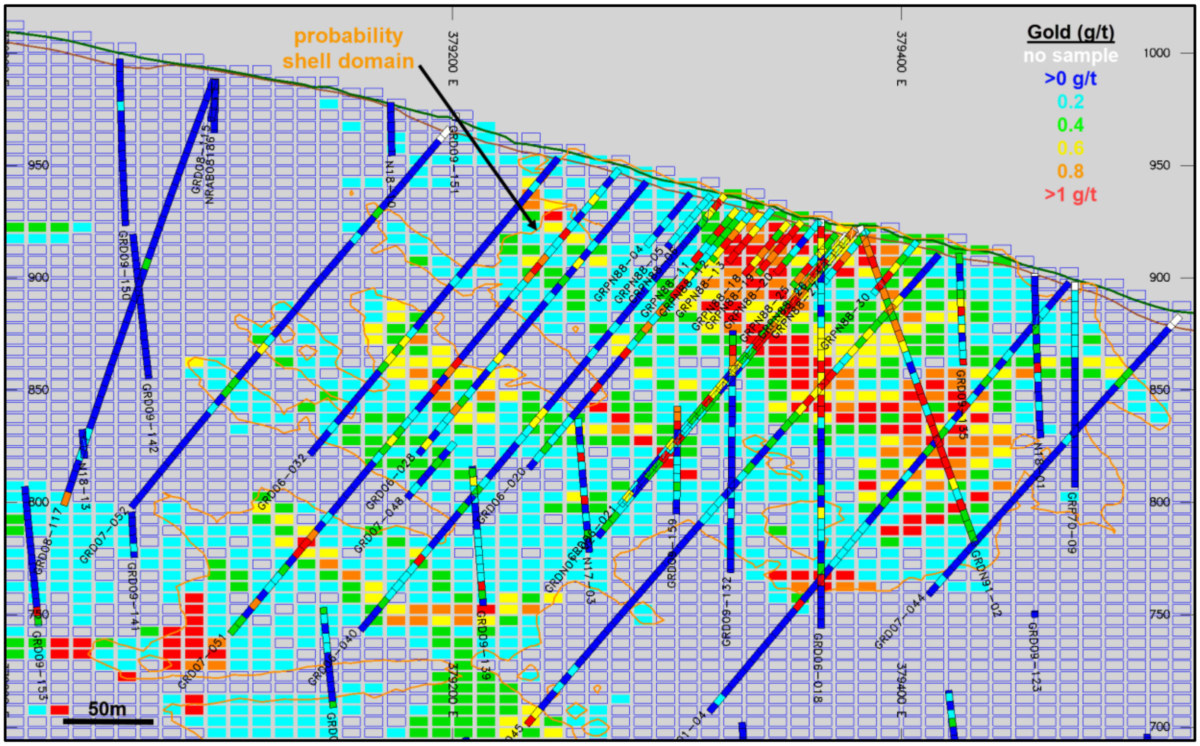
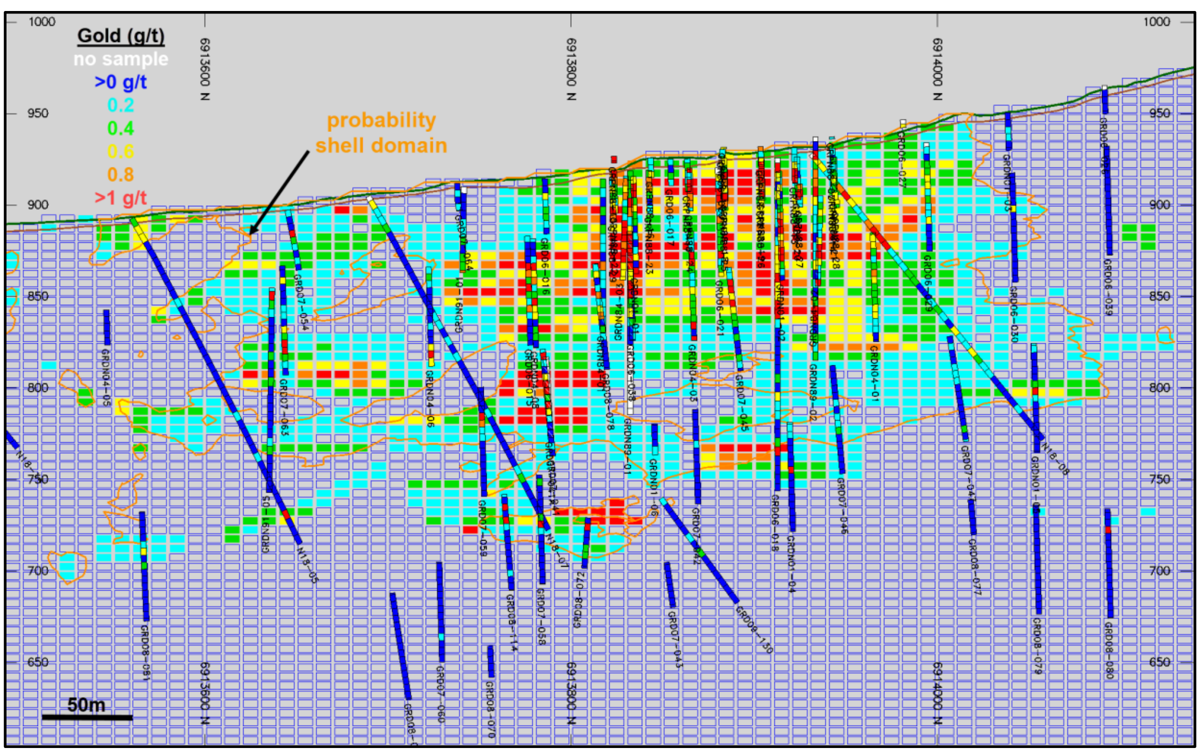


Figure 14-23: Vertical Cross Section 379350E Showing Gold Grades in Model Blocks and Drill Hole Samples at Nucleus



14.2.9.2 Model Checks for Change of Support

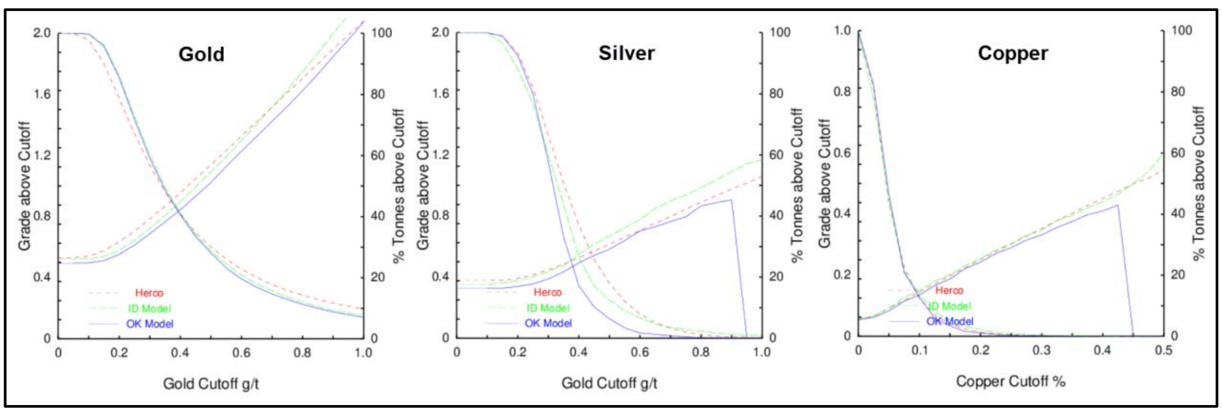
The relative degree of smoothing in the block model estimates were evaluated using the Discrete Gaussian of Hermitian Polynomial Change of Support method (described by Rossi and Deutsch, Mineral Resource Estimation, 2014).

Using this method, the distribution of the hypothetical block grades can be directly compared to the estimated (OK) model through the use of pseudo-grade/tonnage curves. Adjustments are made to the block model interpolation parameters until an acceptable match is made with the Herco distribution. In general, the estimated model should be slightly higher in tonnage and slightly lower in grade when compared to the Herco distribution at the projected cut-off grade. These differences account for selectivity and other potential ore-handling issues which commonly occur during mining.

The Herco distribution is derived from the declustered composite grades which have been adjusted to account for the change in support, going from smaller drill hole composite samples to the large blocks in the model. The transformation results in a less skewed distribution but with the same mean as the original declustered samples.

The Herco curves for the gold, silver and copper models in the central area of the Nucleus deposit are shown in Figure 14-24. Note: The majority of mineral resources are located in the Main (central) area at Nucleus.

Figure 14-24: Herco Plot of Gold, Silver and Copper Models in the Central Area of the Nucleus Deposit

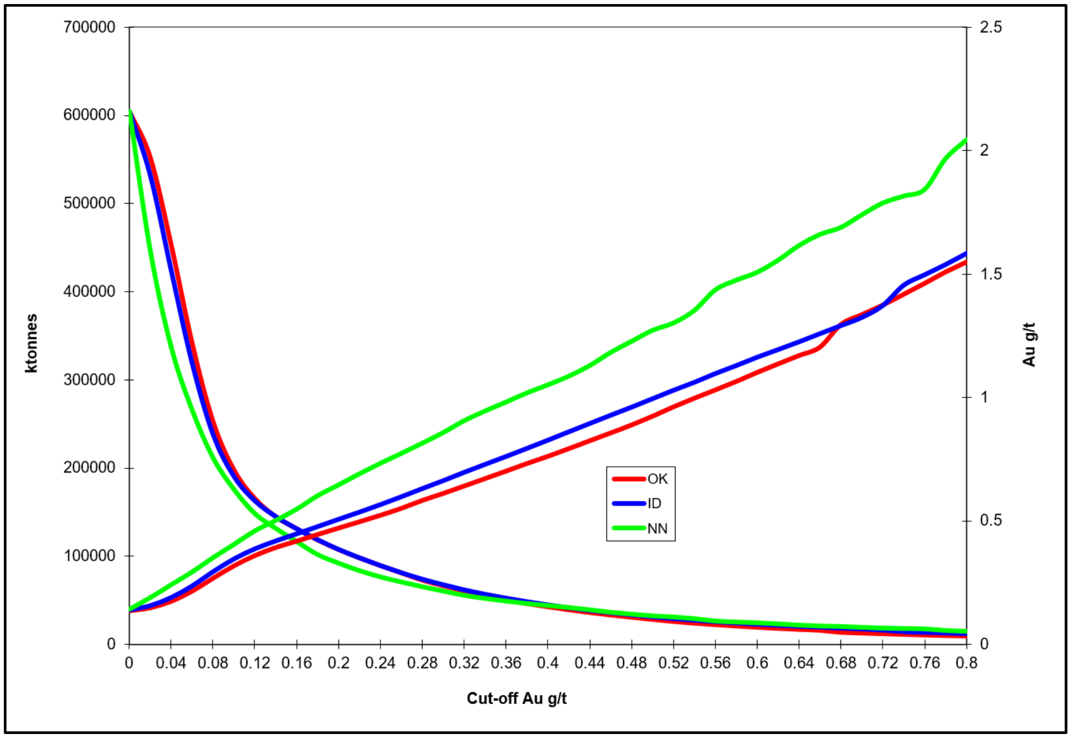


14.2.9.3 Comparison of Interpolation Methods

For comparison purposes, additional models were generated using both the inverse distance weighted (IDW) and nearest neighbour (NN) interpolation methods (the NN model was generated using data composited to 5 m intervals).

Comparisons are made between these models on grade/tonnage curves. An example of the grade/tonnage curves for gold models is shown in Figure 14-25. There is good correlation between the OK and ID models throughout the range of cut-off grades. The NN distribution, generally showing less tonnage and higher grade, is the result of the absence of smoothing in this modelling approach. Similar results were achieved with the silver, copper, arsenic, molybdenum and tungsten models. Reproduction of the model using different methods tends to increase the confidence in the overall mineral resource estimate.

Figure 14-25: Grade Tonnage Comparison of OK, ID and NN Models for Gold at Nucleus



14.2.9.4 Swath Plots (Drift Analysis)

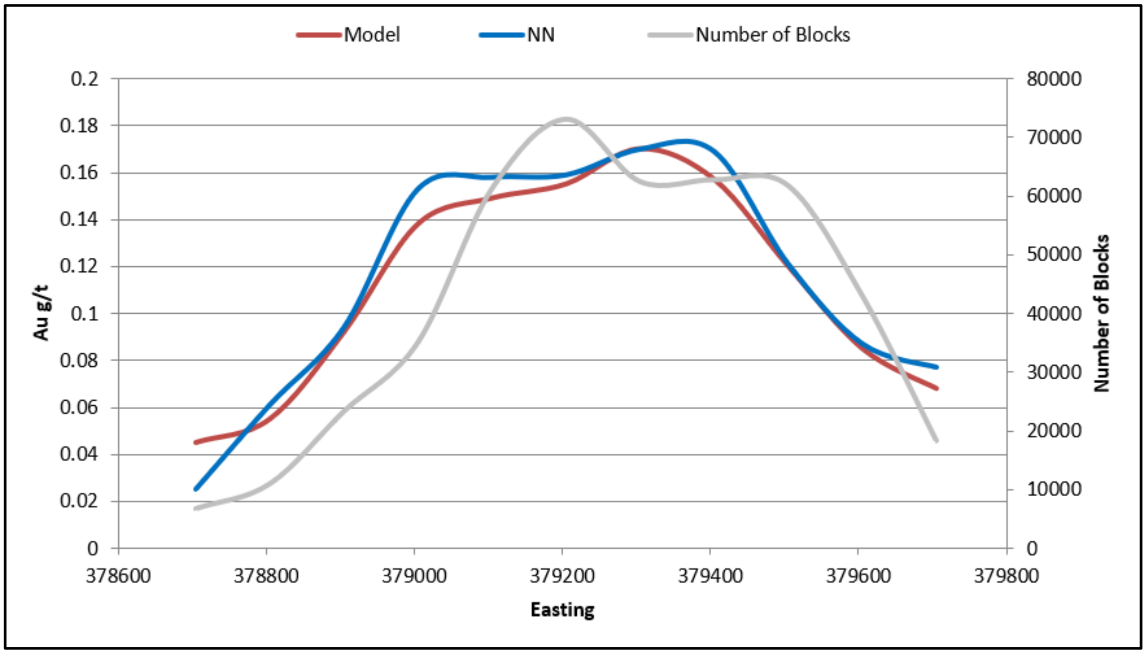
A swath plot is a graphical display of the grade distribution derived from a series of bands, or swaths, generated in several directions through the deposit. Using the swath plot, grade variations from the OK model are compared to the distribution derived from the declustered (NN) grade model.

On a local scale, the NN model does not provide reliable estimations of grade, but, on a much larger scale, it represents an unbiased estimation of the grade distribution based on the underlying data. Therefore, if the OK model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend should be similar to the NN distribution of grade.

Swath plots were generated in three orthogonal directions for all models. An example of the gold distribution in north-south swaths is shown in Figure 14-26.

There is good correspondence between the models in most areas. The degree of smoothing in the OK model is evident in the peaks and valleys shown in the swath plots. Areas indicating large differences between the models tend to be the result of “edge” effects, where there are fewer available data to support a comparison. The validation results indicate that the OK model is a reasonable reflection of the underlying sample data.

Figure 14-26: Swath Plot by Easting of Gold in OK and NN Models at Nucleus



14.2.10 Mineral Resource Classification

The mineral resources for the Nucleus deposit have been classified in accordance with the CIM *Definition Standards for Mineral Resources and Mineral Reserves* (May 2014). The classification parameters are defined relative to the distance between gold sample data and are intended to encompass zones of reasonably continuous mineralization that exhibit the desired degree of confidence. These parameters are based on visual observations and statistical studies. Classification parameters are based primarily on the nature of the distribution of gold data as it is the main contributor to the relative value of this polymetallic deposit.

The following criteria were used to define mineral resources in the Indicated and Inferred categories. There is insufficient drilling at the Nucleus deposit to define mineral resources in the Measured category.

Indicated Mineral Resources

Mineral resources in the Indicated category include areas showing continuity of mineralization and are tested with drill holes spaced at a maximum nominal distance of 50 m.

Inferred Mineral Resources

Mineral resources in the Inferred category include model blocks that are located within a maximum distance of 150 m from a drill hole.

14.3 Development of the Resource Block Model for the Revenue Deposit

This section of the report describes the approach used to develop the resource block model for the Revenue deposit. The primary metals of interest in the Revenue deposit include gold, copper, silver, molybdenum and tungsten. Arsenic is also incorporated in the block model for information purposes.

14.3.1 Available Data

The data used in this estimate of mineral resources at the Revenue deposit were provided by Triumph Gold on December 4, 2019. The data include the following information:

- Drilling data, including collar locations, downhole surveys, sample assay results and geologic information recorded during logging. Files were provided in ASCII (.csv) format.
- Interpreted 3D domains representing the various lithologic units that exist in the area of the Revenue deposit.
- Three dimensional topographic contours on 1 m vertical intervals. Data were triangulated to provide a digital terrain model representing the topographic surface that extends over both the Revenue and Nucleus deposit areas.

All data were formatted and loaded into MinePlan™ (v15.60).

The majority of samples have been analyzed for gold using a fire assay method plus an extensive suite of additional elements as part of a multi-element package. Grade values for gold, copper, silver, molybdenum, tungsten and arsenic have been extracted from the original assay database for use in this evaluation. Samples with grade values below the detection limit were assigned values equal to ½ the detection limit.

Samples collected during the 2018 and 2019 drill programs were analyzed at SGS Labs using its 4-acid digestion ICP-AES analytical technique which has a lower detection limit for silver of 1 g/t. Previous samples were run using similar procedures, but the detection limit for silver is 0.2 g/t. Rather than assign ½ the silver detection limit, which is a relatively high value of 0.5 g/t, to the 2018–2019 samples, these have been assigned a default value of 0.25 g/t Ag which represents roughly the average grade of samples <1 g/t Ag in samples analyzed in 2017.

The distribution of gold data in drilling is shown in plan view in Figure 14-27 and in an isometric view in Figure 14-28.

The distribution of drill holes that test the Revenue deposit since the previous mineral resource estimate in 2015 are shown in plan view in Figure 14-29. The objective of the new drilling was to expand areas where mineralization remained “open” or to test for extensions of higher grade mineralization both laterally and at depth.

Figure 14-27: Plan View Showing Gold Data in Drilling at Revenue

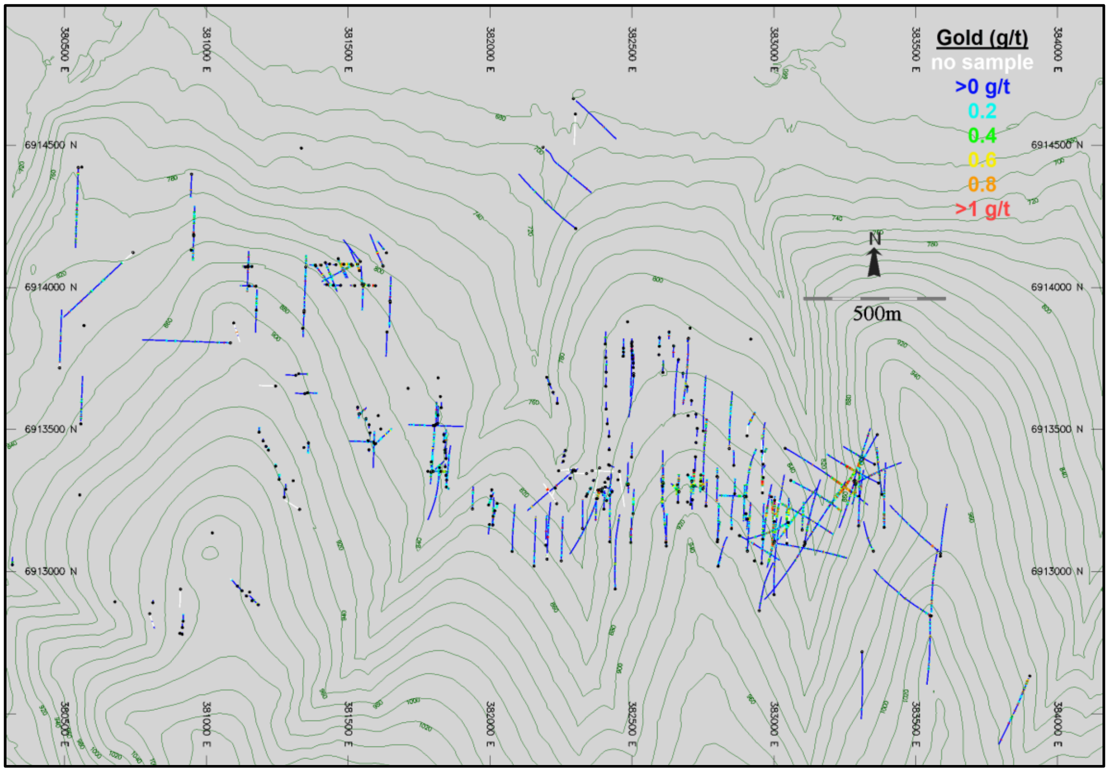


Figure 14-28: Isometric View Looking North-Northwest Showing Gold Data in Drilling at Revenue

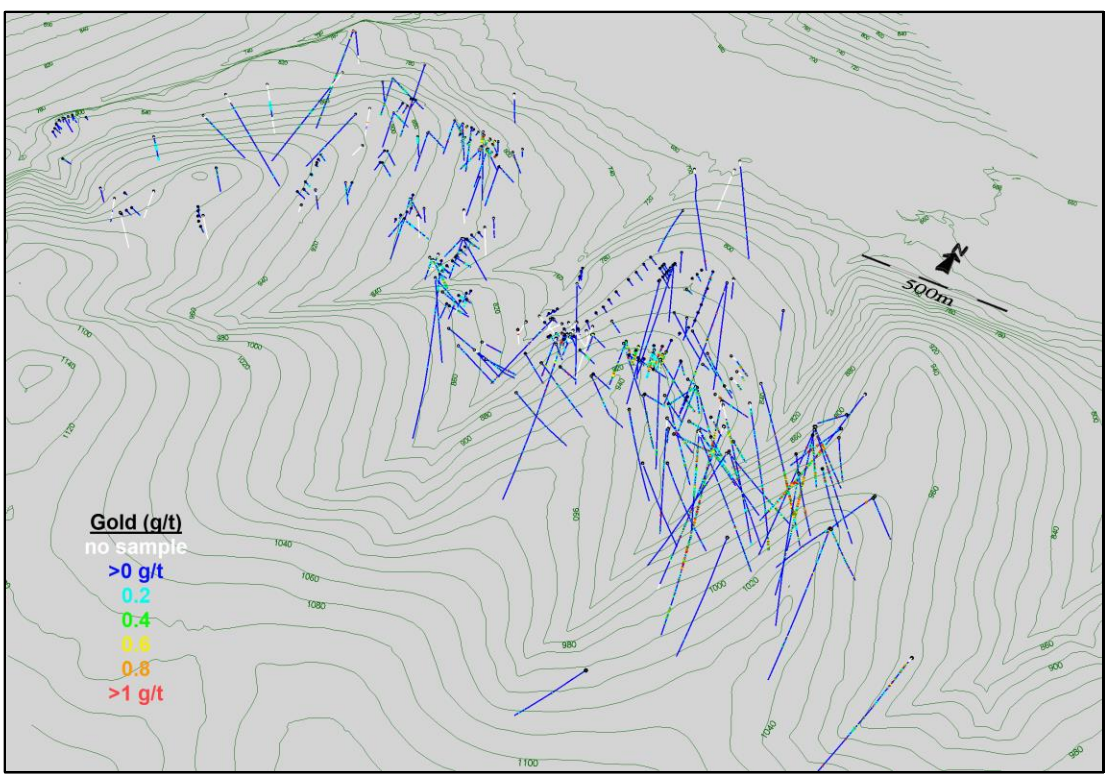
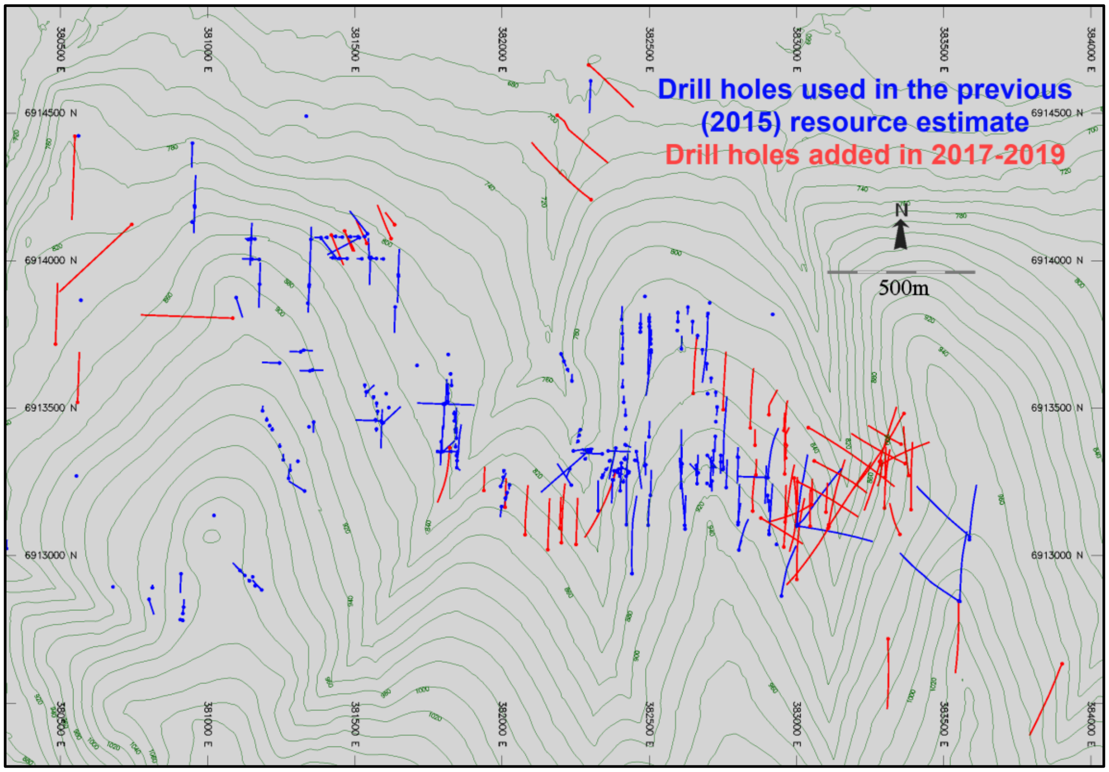


Figure 14-29: Plan View Showing the Location of Drill Holes Completed Since the Previous (2015) Mineral Resource Estimate at Revenue



The distributions of silver, copper, molybdenum, tungsten and arsenic are shown in plan view in Figures 14-30 through 14-34, respectively. Areas with elevated gold grades also tend to show increased grades for the other five elements.

Figure 14-30: Plan View Showing the Distribution of Silver in Drilling at Revenue

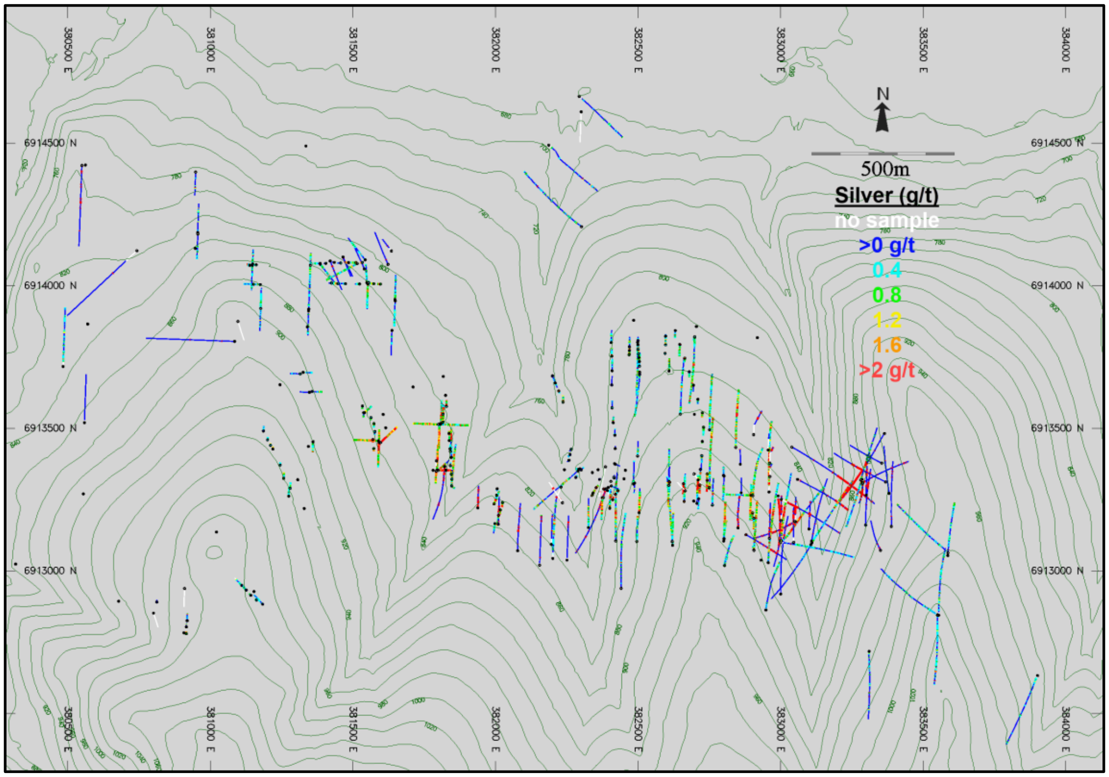


Figure 14-31: Plan View Showing the Distribution of Copper in Drilling at Revenue

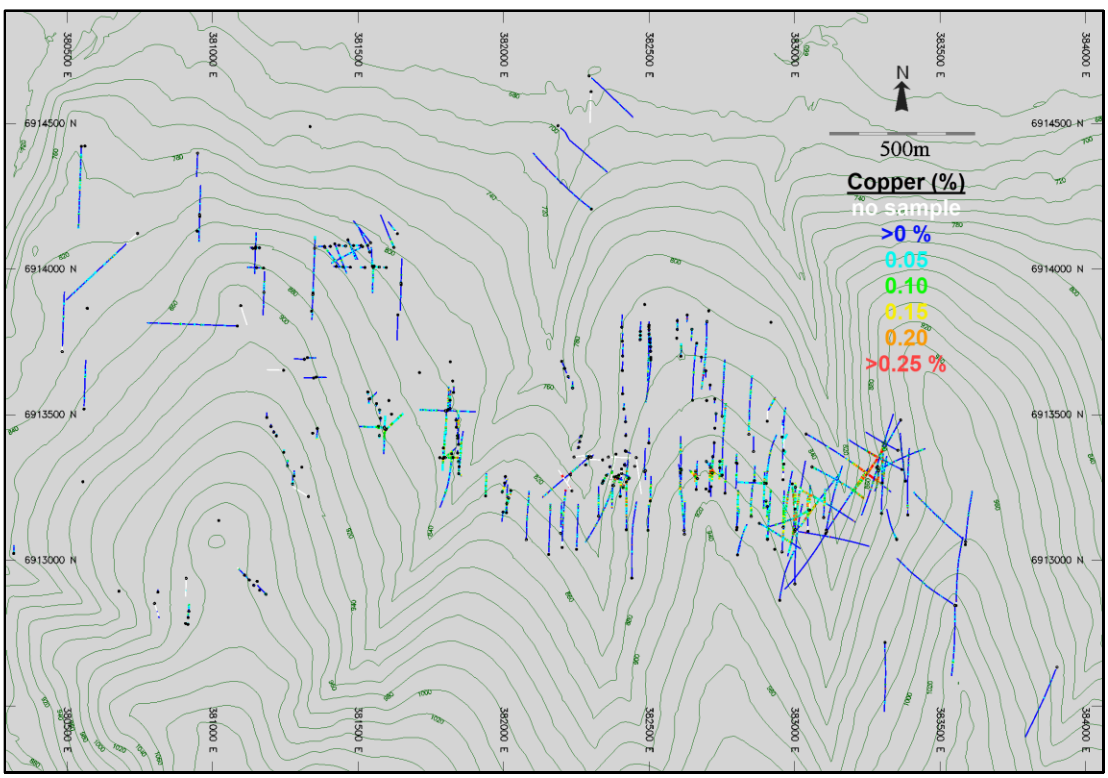


Figure 14-32: Plan View Showing the Distribution of Molybdenum in Drilling at Revenue

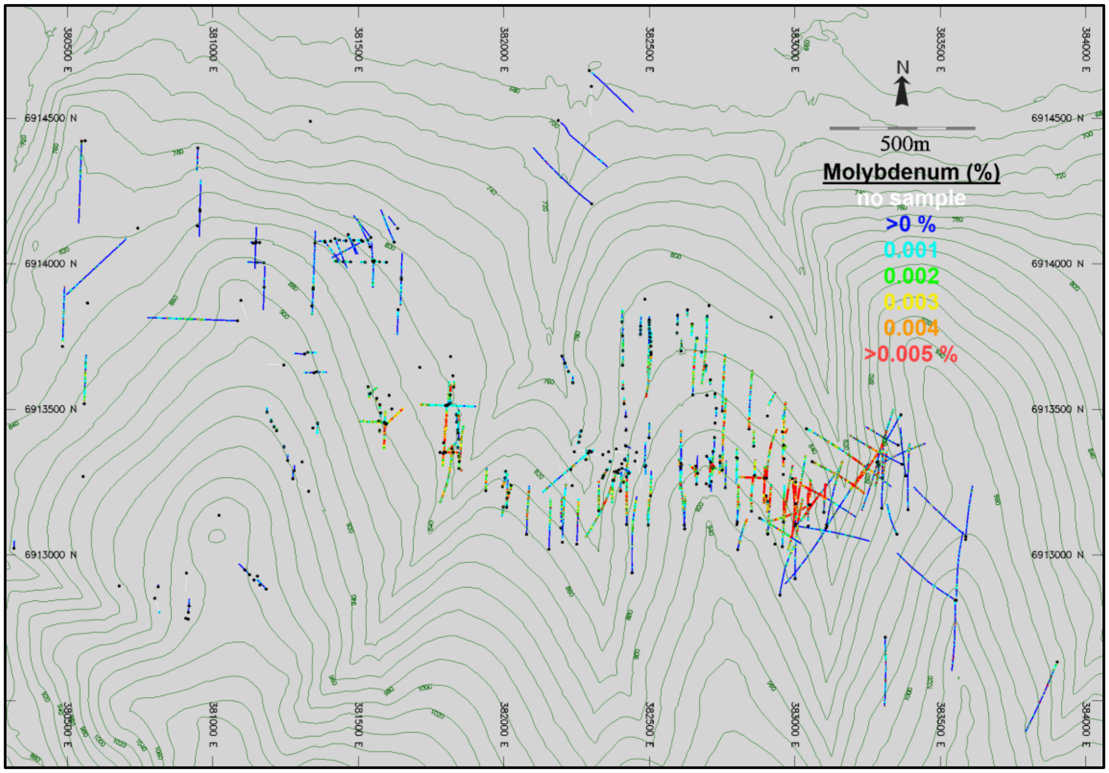


Figure 14-33: Plan View Showing the Distribution of Tungsten in Drilling at Revenue

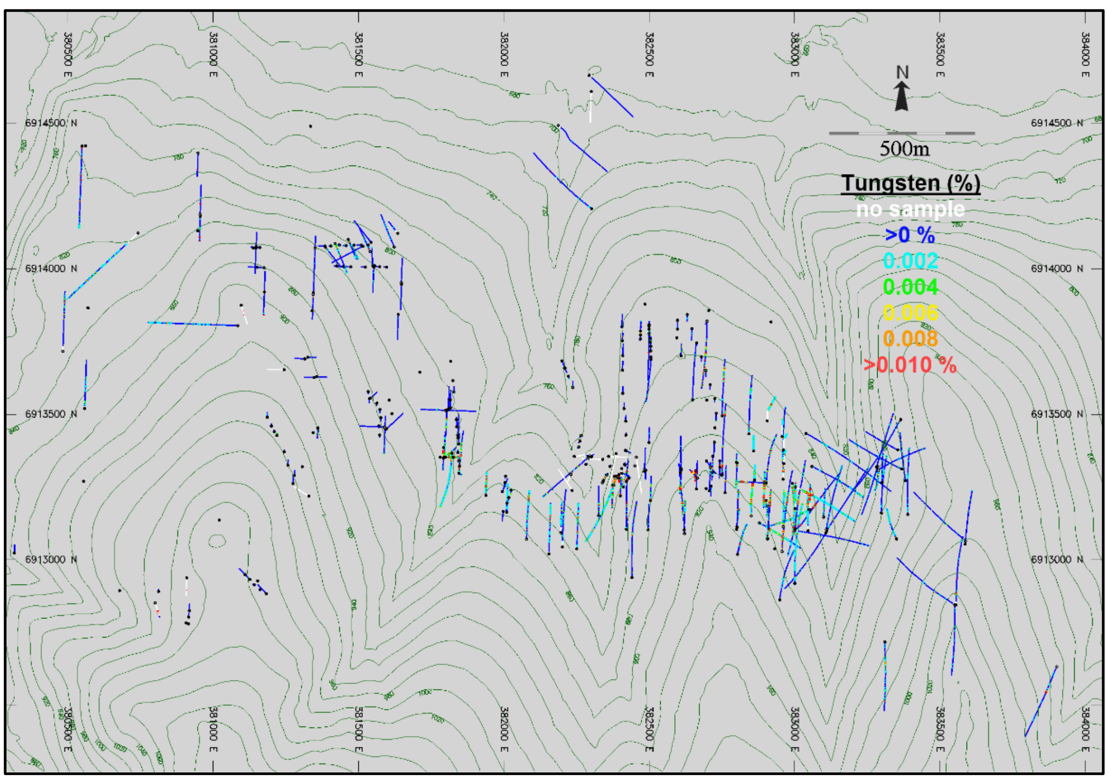
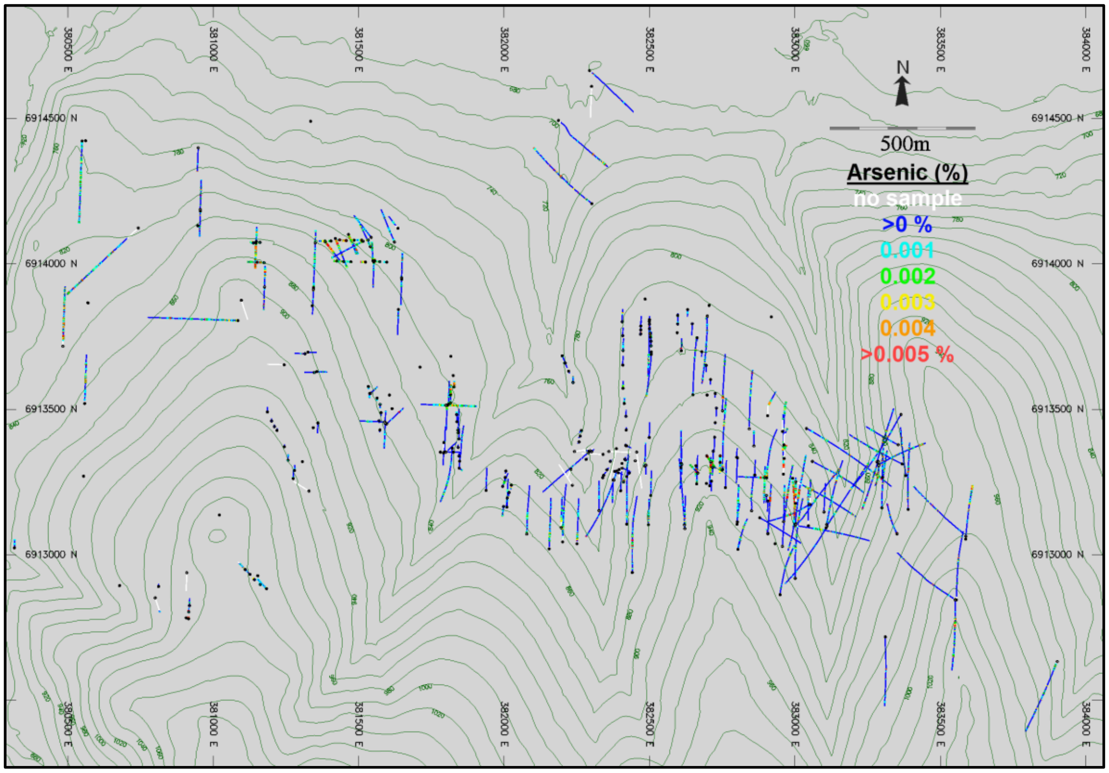


Figure 14-34: Plan View Showing the Distribution of Arsenic in Drilling at Revenue



There is a total of 324 drill holes, with a total length of 55,100 m, that are in the vicinity of the Revenue deposit and which contribute to the estimation of mineral resources. There are an additional 11 drill holes in the vicinity of the Revenue deposit that do not have any associated sample data. It is assumed that the assay data for these holes have been lost, and, as a result, these holes have been excluded from use in the estimate of mineral resources. Many of the drill holes at Revenue are inclined at north or south orientations, but others are drilled at a variety of angles to test several deeper, sub-vertically oriented mineralized zones. Drill holes are variably spaced at 25 m to 400 m or more but, generally, at 50 m to 100 m intervals. Holes vary in length from 9 m to just over 900 m.

The distribution of drill holes by year is shown in Figure 14-35. Drilling at Revenue dates back to the 1950s, but the majority of the mineralized areas have been tested with recent drilling completed since 2000. Older drill holes from the 1950s, ‘60s, ‘70s and ‘80s tend to be shallow and localized and, as a result, do not provide significant contributions to the estimate of mineral resources at Revenue. All vintages of data were retained for use in the estimate of mineral resources.

Figure 14-35: Isometric View Looking North Showing Drilling by Year at Revenue

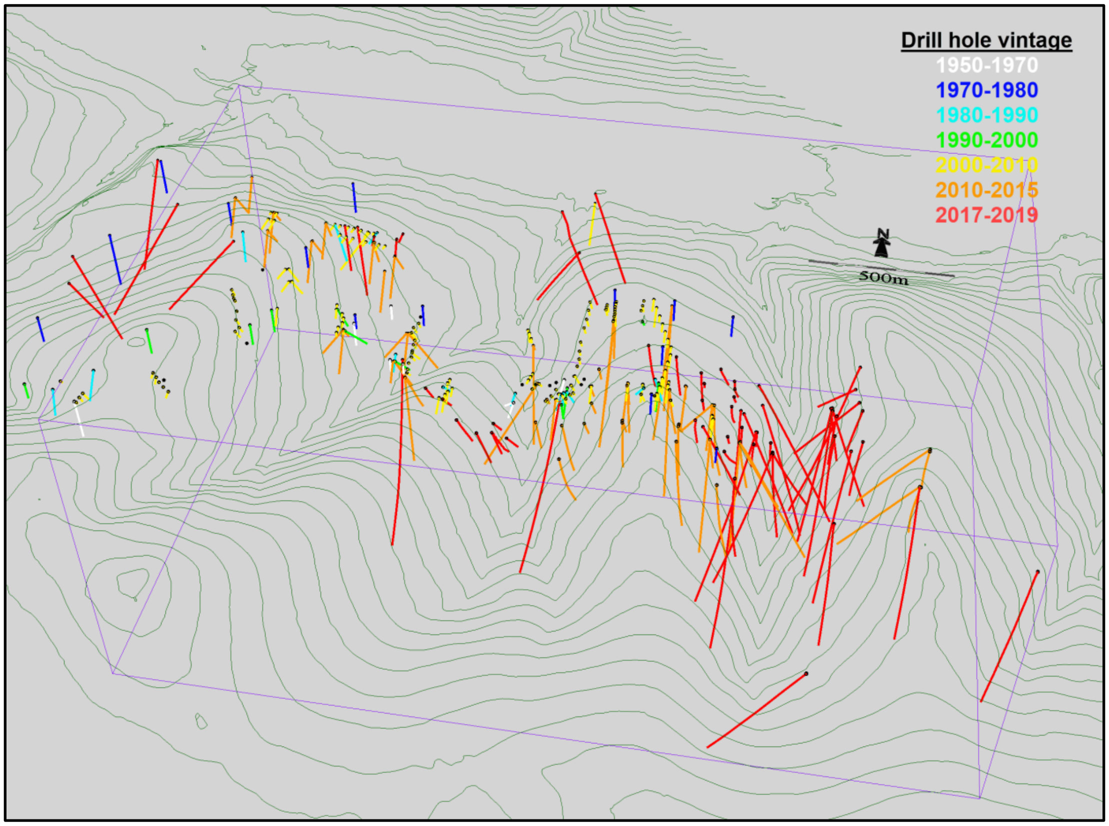
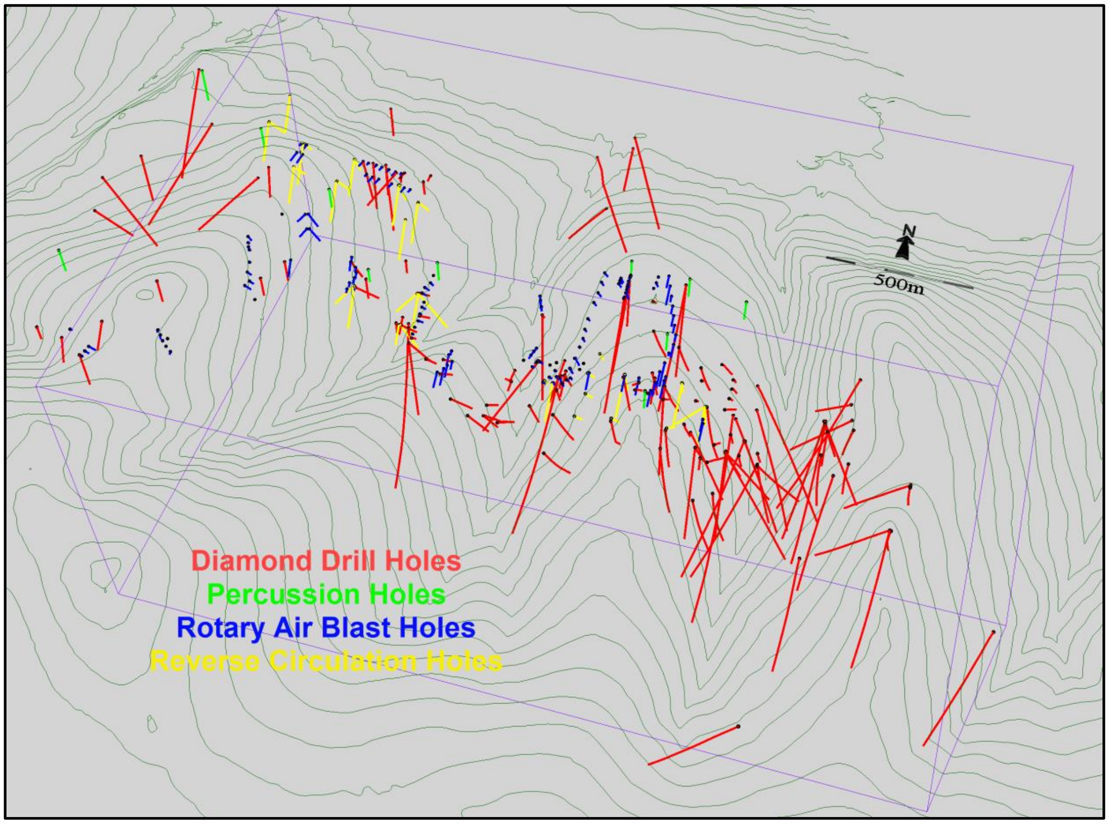


Figure 14-36 shows the distribution of drilling by type at Revenue. The majority of drilling was conducted using diamond drilling (DD) methods with fewer reverse circulation (RC), percussion and rotary air blast (RAB) holes. Most of the significant mineralization at Revenue is tested using DD holes. There is no apparent bias in the results achieved using the various drilling methods, and, as a result, there have been no modifications or exclusions of data related to the drilling method.

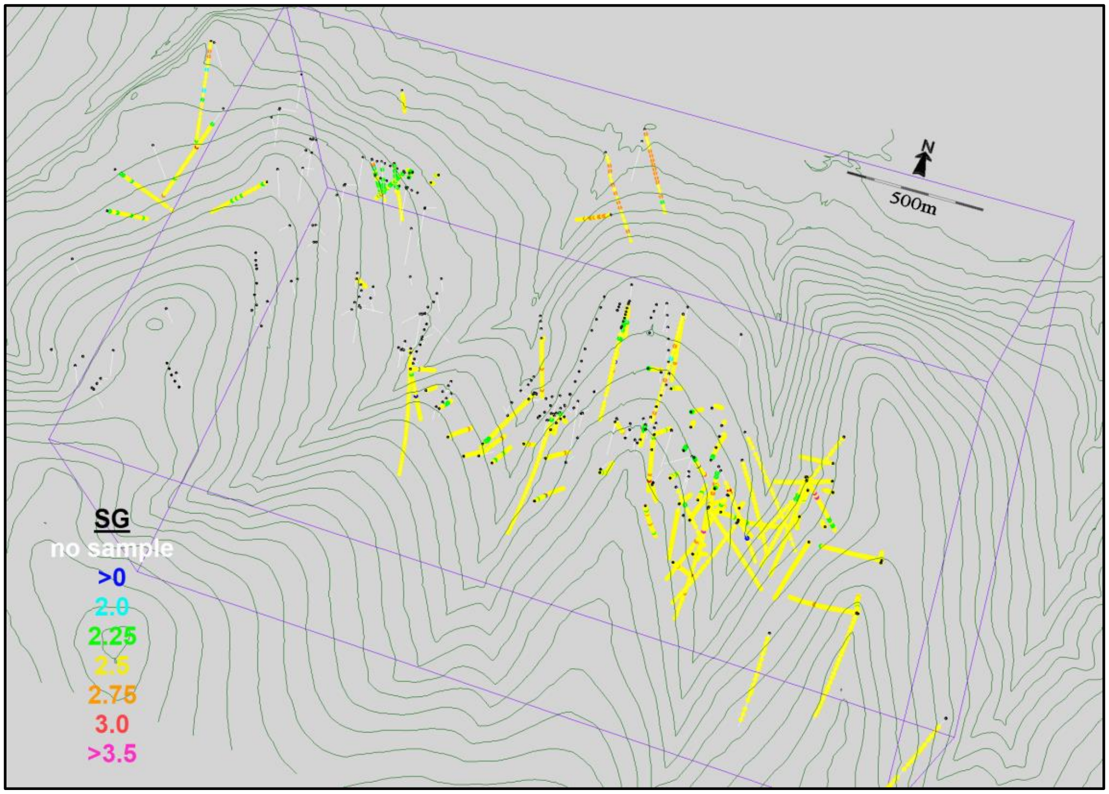
Figure 14-36: Isometric View Showing Drilling by Type at Revenue



A total of 2,236 specific gravity (SG) measurements have been made on samples taken from a total of 109 drill holes at Revenue. Measurements for SG exist from several holes drilled in the 1980s and ’90s, but the majority of SG data have been collected from diamond drill holes completed since 2010.

Samples collected for SG measurements are typically taken at 20 m intervals down each drill hole. SG measurements were conducted by Triumph Gold geology personnel in the core shack using the water immersion method (weight in air vs. weight in water) with unwaxed core samples (Note: There is minimal evidence of porosity in the rocks at the Revenue deposit). The distribution of SG samples, shown in Figure 14-37, is considered reasonable to support estimation in the resource model.

Figure 14-37: Isometric View of Specific Gravity Sample Data at Revenue



Approximately 6% of the drilling in the 324 holes in the vicinity of the Revenue deposit does not have any associated sample data. Some of these represent intervals of casing (drilled in overburden) or occur in very old drill holes, which may represent intervals that were not sampled because, visually, they do not show signs of the presence of mineralization. In both of these instances, unsampled intervals have been assigned zero grade values for gold, copper, silver, molybdenum and tungsten. There were two instances where problems were encountered in drilling and holes were restarted. The “twinned” interval in the second drill hole was not sampled (holes RVD11-016A and RVD11-029). There were no modifications to these unsampled “twinned” intervals because there were already existing proximal samples.

Following the treatment of unsampled intervals (described above), there is a total of 31,373 samples in 324 drill holes that contribute to the estimate of gold mineral resources at Revenue. Sample intervals range from 0.01 m to 9.17 m long with an average of 1.64 m. Many of the samples from the 1970s vintage holes are composited over longer intervals (up to 33.52 m long). Table 14.8 shows the basic statistics for samples in drill holes that are proximal to the Revenue deposit. There have been no adjustments to the database to account for unsampled core intervals.

Table 14.8: Statistics of Sample Data in the Vicinity of the Revenue Deposit

Element	Number of Samples	Length of Samples (m)	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
Gold (g/t)	31,373	54,925	0	174.000	0.136	0.977	7.19
Silver (g/t)	31,373	54,925	0	663.4	0.90	3.93	4.37
Copper (%)	31,373	54,925	0	22.10	0.044	0.136	3.12
Molybdenum (%)	31,373	54,925	0	0.557	0.004	0.015	4.06
Tungsten (%)	31,373	54,925	0	1.040	0.003	0.012	4.84
Arsenic (%)	30,665	50,341	0	1.000	0.001	0.040	4.26
Specific Gravity	2,236	na	1.40	6.68	2.62	0.141	0.054

Note: statistics (except SG) weighted by sample length.

14.3.2 Geological Model and Domains

Triumph Gold provided a series of interpreted 3D (wireframe) domains representing the distributions of the various lithologic units present in the Revenue area. The distribution of the lithologic domains is shown in Figures 14-38 and 14-39.

Figure 14-38: Isometric View of Lithologic Domains at Revenue

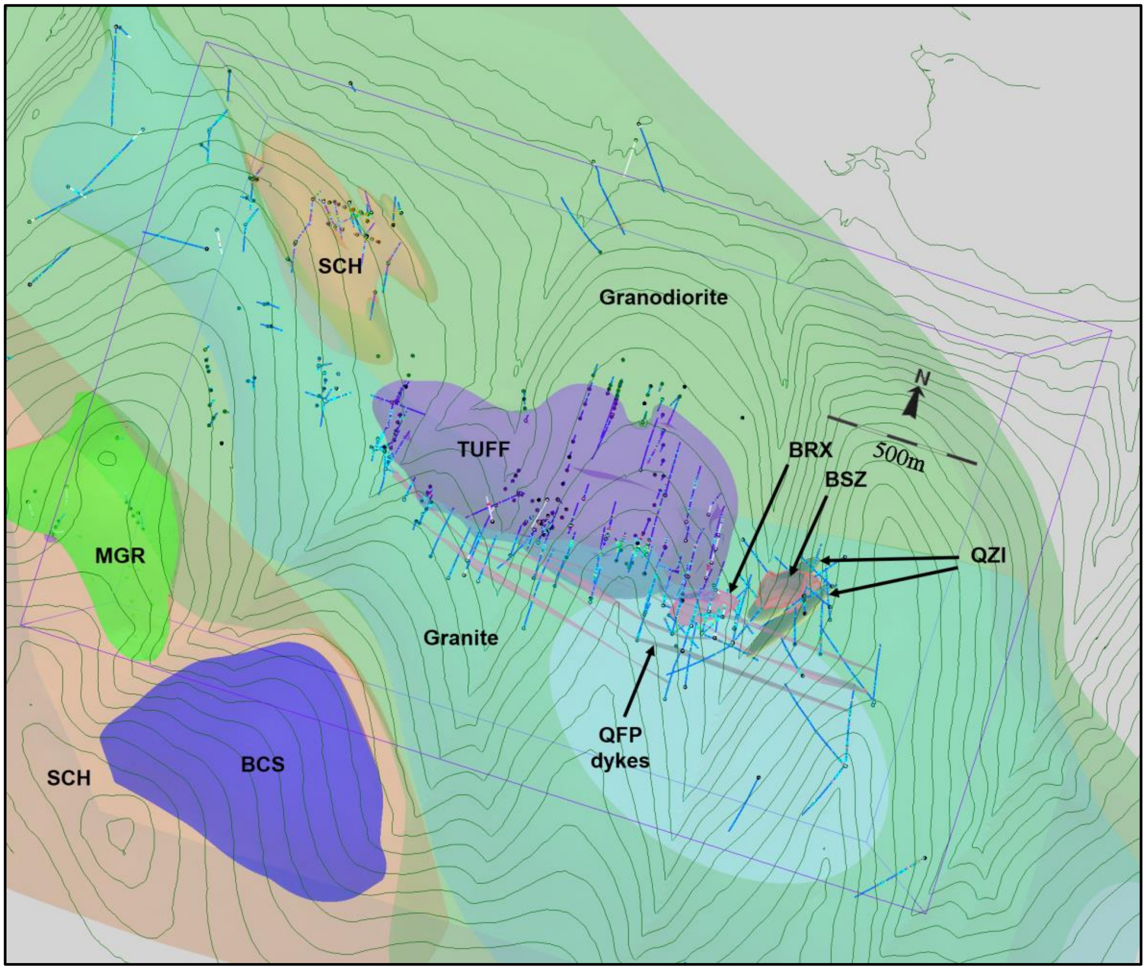
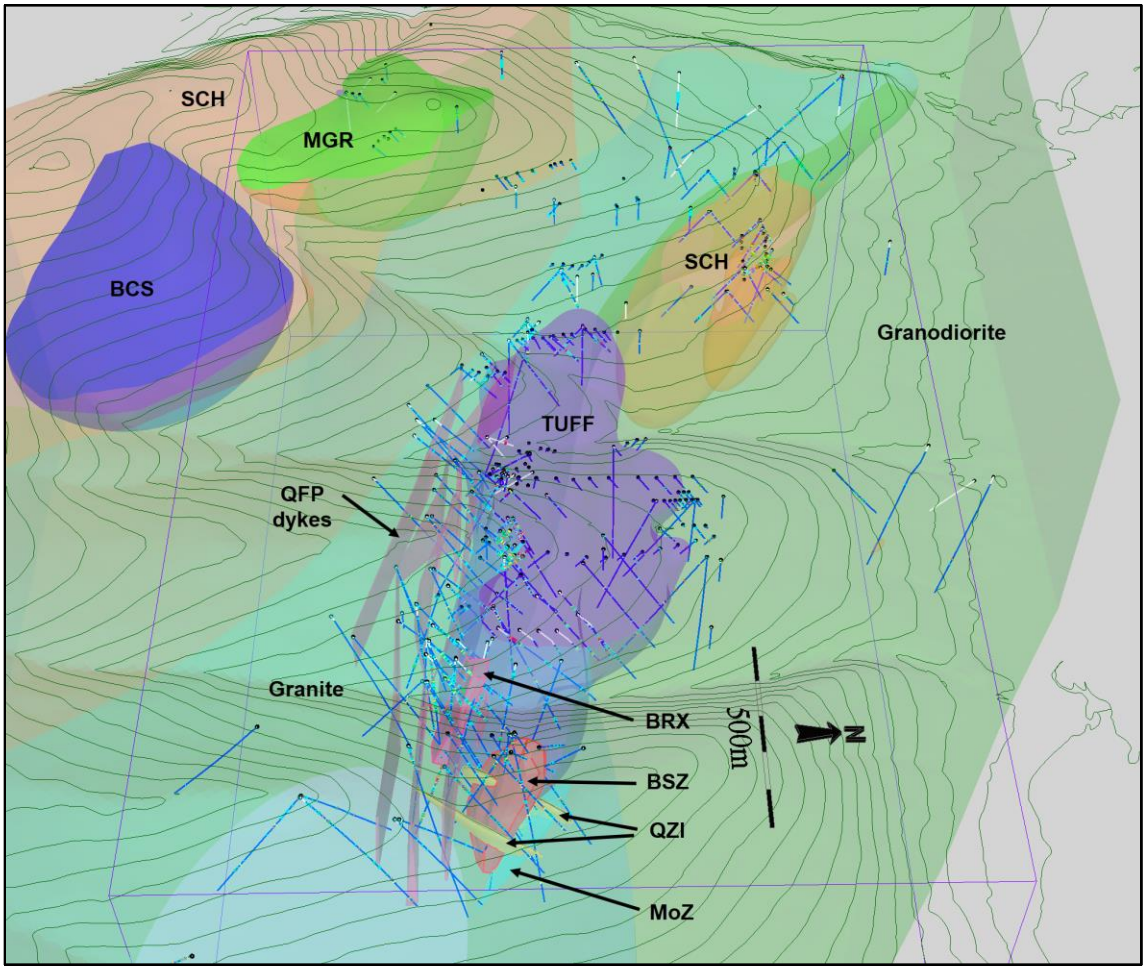


Figure 14-39: Isometric View of Lithologic Domains at Revenue



Intervals of overburden have been recorded as a lithology type in 122 drill holes. There are another 119 drill holes that have unsampled intervals at surface and no associated lithology designation. These intervals are interpreted to represent zones where casing has been installed through surface overburden. This (combined) information has been used to generate a surface representing the top of bedrock (base of overburden). The thickness of overburden in the Revenue area is typically less than a few metres but can exceed 40 m in some of the valleys. The overburden surface is used to assign rock vs. overburden designations, on a majority basis, in the mineral resource block model.

14.3.3 Compositing

Drill hole samples are composited in order to standardize the database for further statistical evaluation. This step removes any influence that the sample length might have on data.

To retain the original characteristics of the underlying data, a composite length is selected which reasonably reflects the average, original sample length. The generation of too-long composites results in a degree of smoothing which could mask certain features of the data.

The average length of all original sample data located inside the interpreted vein domains is 1.64 m with intervals ranging from 0.01 m to 9.17 m long. A standard composite length of 1.5 m was applied to the original, variable-length, sample data. The generation of composites honours the boundary between overburden and bedrock.

14.3.4 Exploratory Data Analysis

Exploratory data analysis (EDA) involves the statistical summarization of the database to better understand the characteristics of the data that may control grade. One of the main purposes of this exercise is to determine whether there is evidence of spatial distinctions in grade which may require the separation and isolation of domains during interpolation. The application of separate domains prevents unwanted mixing of data during interpolation, and, therefore, the resulting grade model will better reflect the unique properties of the deposit. However, applying domain boundaries in areas where the data are not statistically unique may impose a bias in the distribution of grades in the model.

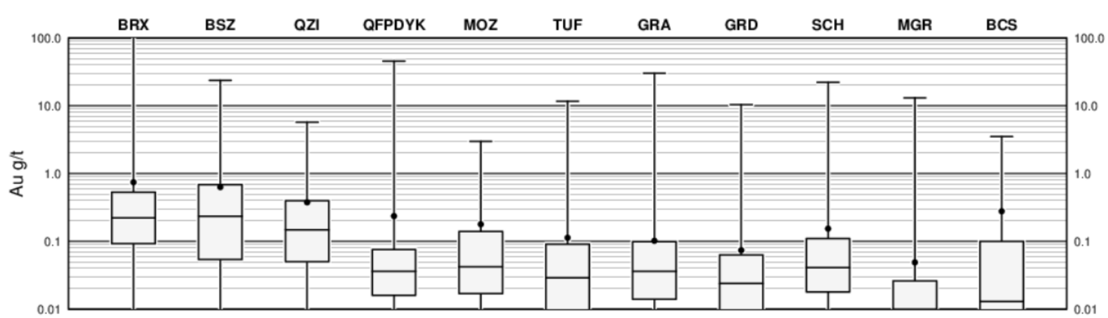
A domain boundary, which segregates the data during interpolation, is typically applied if the average grade in one domain is significantly different from that of another domain. A boundary may also be applied if there is evidence that a significant change in the grade distribution has occurred across the contact.

14.3.4.1 Basic Statistics by Domain

Composited sample data were assigned unique code values using the interpreted lithologic domains. The statistical properties of samples located inside these domains were evaluated by generating a series of boxplots.

Figure 14-40 shows the distribution of gold by lithology domain. Elevated grades occur in both the breccia (BRX) and the Blue Sky Zone (BSZ) domains and, to a lesser degree, in the QZI and BCS domains.

Figure 14-40: Boxplot of Gold by Lithology Domain at Revenue



	BRX	BSZ	QZI	QFPDYK	MOZ	TUF	GRA	GRD	SCH	MGR	BCS
Number of data	795	1033	355	337	91	7483	19679	5526	1831	568	43
Mean	0.745	0.632	0.376	0.236	0.179	0.113	0.102	0.074	0.154	0.049	0.278
Variance	19.582	1.637	0.436	6.623	0.176	0.183	0.119	0.067	0.442	0.307	0.741
Skewness	23.417	8.232	4.043	17.293	4.578	16.896	40.463	19.54	22.336	23.211	3.453
Coef of Variation	5.938	2.025	1.754	10.893	2.346	3.795	3.404	3.518	4.305	11.329	3.099
Maximum	117.097	23.731	5.75	45.441	2.993	11.657	30.003	10.37	22.1	13.083	3.5
Upper quartile	0.53	0.691	0.397	0.076	0.14	0.091	0.099	0.063	0.11	0.026	0.1
Median	0.221	0.235	0.148	0.036	0.042	0.029	0.036	0.024	0.041	0.01	0.013
Lower quartile	0.093	0.054	0.05	0.016	0.017	0.009	0.014	0.008	0.018	0.0	0.0
Minimum	0.007	0.0	0.006	0.0	0.003	0.0	0.0	0.0	0.0	0.0	0.0

14.3.4.2 Contact Profiles

Contact profiles evaluate the nature of grade trends between two domains: they graphically display the average grades at increasing distances from the contact boundary. Those contact profiles that show a marked difference in grade across a domain boundary indicate that the two datasets should be isolated during interpolation. Conversely, if a more gradual change in grade occurs across a contact, the introduction of a hard boundary (e.g., segregation during interpolation) may result in a much different trend in the grade model; in this case, the change in grade between domains in the model is often more abrupt than the trends seen in the raw data. Finally, a flat contact profile indicates no grade changes across the boundary; in this case, hard or soft domain boundaries will produce similar results in the model.

A series of contact profiles were generated to evaluate the nature of gold grades across the various interpreted lithology domain boundaries.

Figure 14-41 shows the distribution of gold across the contacts of the two more prominent lithology domains, BSZ and BRX. Although the grade is higher inside both of these domains, the change is transitional across the contacts, indicating that these domains do not encompass distinct populations of gold sample data.

Figure 14-41: Contact Profiles Showing Gold In/Out of the BSZ and BRX Lithology Domains at Revenue

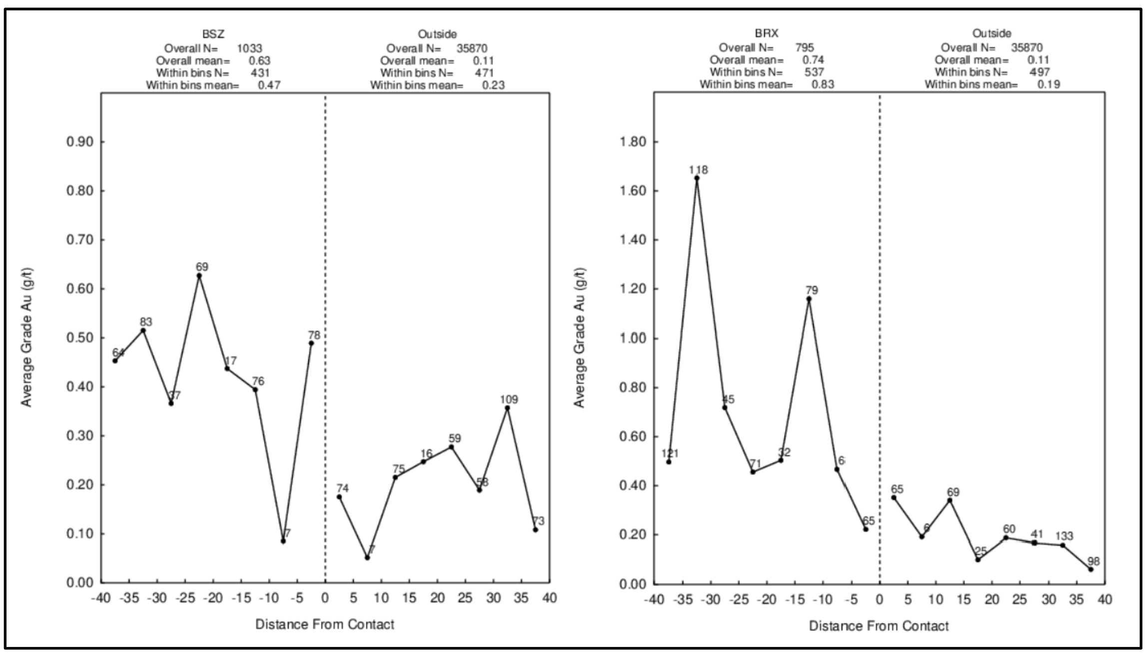
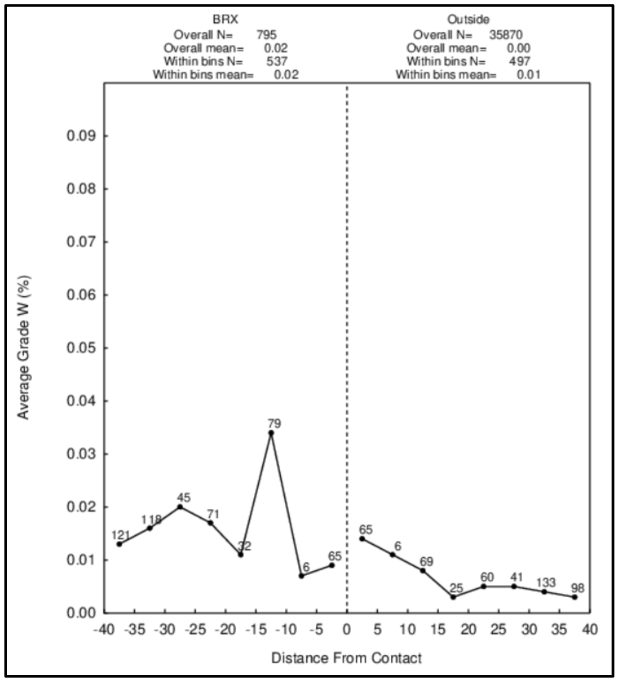


Figure 14-42 shows a transitional change in tungsten grades across the boundary of the BRX domain. Although the BRX domain contains higher tungsten grades, appreciable tungsten also exists outside of this interpreted domain.

Figure 14-42: Contact Profiles Showing Tungsten In/Out of the BRX Domain at Revenue



14.3.4.3 Conclusions of the EDA

The results of the EDA indicate that the distribution of gold is not distinctly related to any of the interpreted lithologic domains. Elevated grades occur inside the BSZ and BRX domains, but higher grades also occur in proximal areas outside of these domains. Elevated grades for gold, and all other elements of interest at Revenue, occur in west-east-oriented zones that dip steeply to the south. This trend is similar to the general mineralized trends seen at the Nucleus deposit located several kilometres to the west of Revenue.

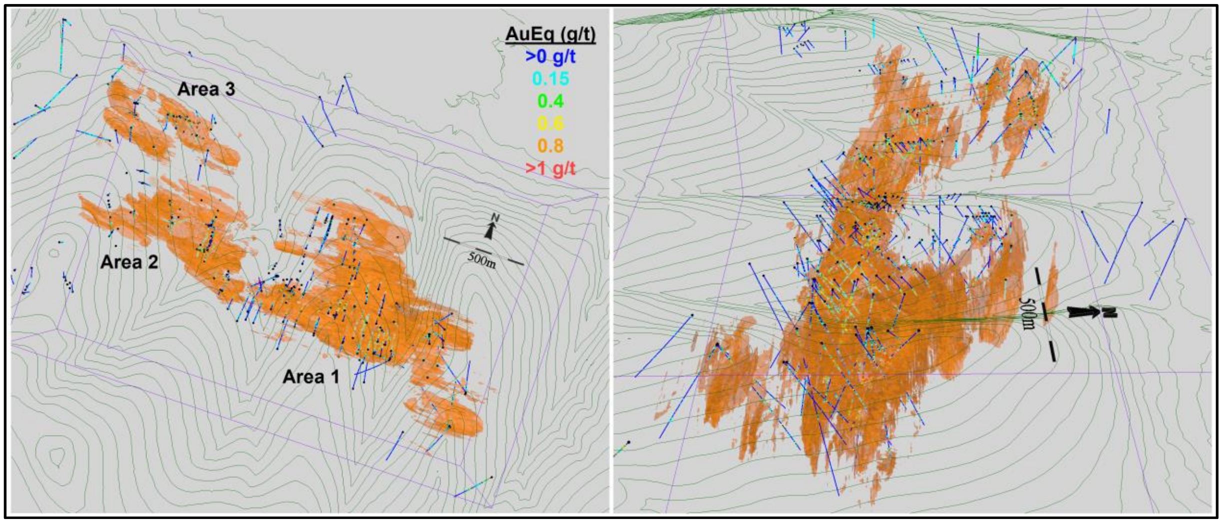
14.3.4.4 Generation of a Grade Probability Shell

In the absence of a geologic model that could be used to develop a resource block model, a probability-shell approach was used to generate a domain that segregates *mineralized* rocks from *unmineralized* rocks. In general, the trend of gold mineralization at Revenue is similar to that of silver, copper, molybdenum, tungsten and arsenic. As a result, a probability shell domain has been generated based on gold equivalent (AuEq) grades. The metal prices (US$) used to calculate AuEq grades are, gold $1,500/oz, silver $18/oz, copper $3.00/lb, molybdenum $9.00/lb and tungsten $13.00/lb, resulting in the following formula:

AuEq = Au g/t + (Ag g/t x 0.012) + (Cu% x 1.371) + (Mo% x 4.114) + (W% x 5.942)

A threshold grade of 0.15 g/t AuEq was used to designate indicator values in composited (1.5 m) sample data. Probability values are estimated in model blocks using ordinary kriging. West-east-trending and southerly dipping anisotropic search orientations are applied during interpolations. A probability shell domain was produced where there is a >50% probability that the grade inside the domain will be above the threshold grade of 0.15 g/t AuEq. The resulting probability shell domain is shown in Figure 14-43. The shell outlines roughly three separate areas of mineralization at Revenue: a larger main zone in the central-east (Area 1), a smaller and lower grade zone to the west (Area 2), and another low-grade zone to the northwest (Area 3).

Figure 14-43: Isometric View of the Gold Equivalent Probability Shell Domain at Revenue



14.3.4.5 Conclusions and Modelling Implications

The results of the EDA indicate that the distributions of gold, silver, copper, molybdenum, tungsten and arsenic tend to show similar west-east-trending zones of mineralization that dip steeply to the south. These mineralized trends are similar to those seen in the neighbouring Nucleus deposit to the west. Mineralization is not distinctly controlled by any of the interpreted lithologic domains. A grade shell domain has been produced that encompasses zones where there is a >50% probability that the grade will be above 0.15% AuEq. This probability shell domain is used to segregate *mineralized* from *unmineralized* rocks during the estimation of all elements of interest in the Revenue resource model. The designation of the three separate areas, as shown in Figure 14-43, are used to define unique search orientations as well as more localized analyses of potentially anomalous sample data.

The distribution of SG data is not controlled by lithology type. In general, SG values tend to be lower near surface and increase with depth. There are 23 SG samples, averaging 2.54, that are located in the interpreted overburden domain. Although these are lower than the overall average SG of 2.62, these are still relatively high densities for overburden and likely represent misclassified material. There are sufficient data available to support estimation of SG in rock in the resource model. An average SG of 1.90 is assigned to model blocks located within overburden.

14.3.5 Evaluation of Outlier Grades

Histograms and probability plots for the distribution of gold, silver, copper, molybdenum, tungsten and arsenic were reviewed to identify the presence of anomalous outlier grades in the composited (1.5 m) database. Following a review of the physical location of potentially erratic samples in relation to the surrounding sample data, it was decided that these would be controlled during block grade interpolations using a combination of traditional top-cutting plus the use of outlier limitations. Outlier limitations control the distance of influence of samples above a defined grade threshold. During grade interpolations, samples above the outlier thresholds are limited to a maximum distance-of-influence of 15 m.

The grade thresholds for the various elements located inside and outside of the probability shell domain are shown in Tables 14.9 and 14.10, respectively. These measures have reduced the contained metals in the model by 8% for gold, 4% for silver, 3% for copper, 4% for molybdenum and tungsten, and 7% for arsenic. These results are considered appropriate for this deposit at this stage of exploration.

Table 14.9: Treatment of Outlier Sample Data Inside of the Probability Shell Domain at Revenue

Element	Maximum	Top-Cut Limit	Outlier Limit
Area 1 - Main (Central-East) Area			
Gold (g/t)	98.609	-	8
Silver (g/t)	113.76	100	50
Copper (%)	2.54	-	1.5
Molybdenum (%)	0.481	-	0.25
Tungsten (%)	0.905	0.500	0.35
Arsenic (%)	1.000	-	0.600
Area 2 - West Area			
Gold (g/t)	3.545	-	1.5
Silver (g/t)	58.33	-	15
Copper (%)	0.75	-	0.35
Molybdenum (%)	0.080	-	0.04
Tungsten (%)	0.116	-	0.06
Arsenic (%)	0.126	-	0.050
Area 3 - Northwest Area			
Gold (g/t)	20.508	10	4
Silver (g/t)	8.03	-	3
Copper (%)	0.30	-	0.2
Molybdenum (%)	0.057	-	-
Tungsten (%)	0.016	-	-
Arsenic (%)	0.44	-	0.2

Note: Samples above the outlier threshold are restricted to a maximum distance of influence of 15 m during grade interpolation.

Table 14.10: Treatment of Outlier Sample Data Outside of the Probability Shell Domain at Revenue

Element	Maximum	Top-Cut Limit	Outlier Limit
Area 1 - Main (Central-East) Area			
Gold (g/t)	30.717	10	6
Silver (g/t)	100.85	60	30
Copper (%)	6.80	-	1
Molybdenum (%)	0.227	-	0.05
Tungsten (%)	0.242	-	0.100
Arsenic (%)	0.899	-	0.300
Area 2 - West Area			
Gold (g/t)	2.047	-	0.5
Silver (g/t)	6.96	-	3
Copper (%)	0.34	-	0.2
Molybdenum (%)	0.092	-	0.03
Tungsten (%)	0.039	-	-
Arsenic (%)	0.123	-	0.05
Area 3 - Northwest Area			
Gold (g/t)	4.565	-	0.75
Silver (g/t)	300.00	100	3
Copper (%)	0.48	-	0.20
Molybdenum (%)	0.010	-	-
Tungsten (%)	0.218	-	0.100
Arsenic (%)	0.449	-	0.300

Note: Samples above the outlier threshold are restricted to a maximum distance of influence of 15 m during grade interpolation.

SG values below 2.00 and above 3.00 are considered to be outliers and are excluded from use during estimation of SG in the resource model.

14.3.6 Variography

The degree of spatial variability in a mineral deposit depends on both the distance and direction between points of comparison. Typically, the variability between samples increases as the distance between those samples increases. If the degree of variability is related to the direction of comparison, then the deposit is said to exhibit anisotropic tendencies which can be summarized with the search ellipse. The semi-variogram is a common function used to measure the spatial variability within a deposit.

The components of the variogram include the nugget, the sill and the range. Often samples compared over very short distances, even samples compared from the same location, show some degree of variability. As a result, the curve of the variogram often begins at some point on the y-axis above the origin: this point is called the *nugget*. The nugget is a measure of not only the natural variability of the data over very short distances but also a measure of the variability which can be introduced due to errors during sample collection, preparation, and the assay process.

The amount of variability between samples typically increases as the distance between the samples increases. Eventually, the degree of variability between samples reaches a constant, maximum value: this is called the *sill*, and the distance between samples at which this occurs is called the *range*.

In this Technical Report, the spatial evaluation of the data was conducted using a correlogram rather than the traditional variogram. The correlogram is normalized to the variance of the data and is less sensitive to outlier values, generally giving better results.

Variograms were created using the commercial software package Sage 2001© developed by Isaaks & Co.

Multidirectional variograms for gold, silver, copper, molybdenum, tungsten and arsenic were generated from the distributions of data located inside the probability shell domain. There are insufficient sample data available inside the probability shell domain in Area 2 (West) and Area 3 (Northwest) to generate reliable variograms. Therefore, the variograms were produced using sample data located in Area 1 (the main central-east area of the Revenue deposit), and these were used to estimate grades in Area 2 and Area 3. These variograms are used to interpolate grades both inside and outside of the probability shell domain. The variogram results are summarized in Table 14.11.

Table 14.11: Variogram Parameters for the Revenue Deposit

Element				1st Structure			2nd Structure		
	Nugget	Sill 1	Sill 2	Range (m)	Azimuth (°)	Dip	Range (m)	Azimuth (°)	Dip
Main (Central-East) Area									
Gold	0.300	0.554	0.146	28	286	37	220	293	7
	Spherical			25	27	14	88	39	64
				4	133	49	51	20	-25
Silver	0.450	0.367	0.183	27	108	15	555	17	76
	Spherical			26	336	68	100	297	-2
				6	202	16	50	27	-14
Copper	0.400	0.387	0.213	18	293	-2	898	17	74
	Spherical			15	23	-16	127	293	-2
				14	17	74	62	23	-16
Molybdenum	0.350	0.306	0.344	41	52	25	201	253	63
	Spherical			25	326	-8	107	52	25
				16	253	63	74	326	-8
Tungsten	0.565	0.314	0.121	23	191	12	648	68	68
	Spherical			16	68	68	126	285	18
				10	285	18	52	191	12
Arsenic	0.450	0.153	0.397	43	69	-1	301	343	76
	Spherical			19	338	-14	80	69	-1
				12	343	76	31	338	-14

Note: Correlograms were conducted on 1.5 m composite sample data.

14.3.7 Model Setup and Limits

A block model was initialized in MinePlan®, and the dimensions are defined in Table 14.12. The block model has not been rotated. The nominal block size, measuring 10 x 10 x 5 m (L x W x H), is considered appropriate for a deposit of this size and type and the current level of exploration drilling. The limits of the block model are represented by the purple rectangle in some of the previous figures that show the drilling and various domains using isometric viewpoints.

Table 14.12: Block Model Limits at Revenue

Direction	Minimum	Maximum	Block Size (m)	# of Blocks
X (east)	380950	383900	10	295
Y (north)	6912500	6914400	10	190
Z (elevation)	0	1200	5	240

Note: The block model is not rotated.

14.3.8 Interpolation Parameters

The block model grades for gold, silver, copper, molybdenum, tungsten and arsenic were estimated using ordinary kriging (OK). The results of the OK estimation were compared with the Hermitian Polynomial Change of Support model (also referred to as the Discrete Gaussian Correction). This method is described in more detail in Section 14.3.9.

The Revenue OK models were generated with a relatively limited number of samples to match the change of support or Herco (*He*rmitian *Co*rrection) grade distribution. This approach reduces the amount of smoothing or averaging in the model, and, while there may be some uncertainty on a localized scale, this approach produces reliable estimates of the recoverable grade and tonnage for the overall deposit.

Estimates for SG are made using the inverse distance weighted (IDW) interpolation method. Model blocks below the overburden/bedrock interface that are distant from drilling and, as a result, do not get estimated SG values, are assigned default SG values of 2.65. Blocks located in the overburden domain are assigned default SG values of 1.90.

The estimation parameters for the various elements in the mineral resource block model are shown in Table 14.13. All grade estimations use length-weighted composite drill hole sample data.

Table 14.13: Interpolation Parameters for the Revenue Deposit

Element	Search Ellipse[1] Range (m)			# of Composites			Other
	X	Y	Z[1]	Min/Block	Max/Block	Max/Hole	
Area 1 – Main Central-East Area Inside Probability Shell Domain							
Gold	300	300	50	7	21	7	Ellipse strike 90, Dip -75 south
Silver	300	300	50	7	28	7	Ellipse strike 90, Dip -75 south
Copper	300	300	50	7	28	7	Ellipse strike 90, Dip -75 south
Molybdenum	300	300	50	7	21	7	Ellipse strike 90, Dip -75 south
Tungsten	300	300	50	7	28	7	Ellipse strike 90, Dip -75 south
Arsenic	300	300	50	7	28	7	Ellipse strike 90, Dip -75 south
Area 2 – West Area Inside Probability Shell Domain							
Gold	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south
Silver	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south
Copper	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south
Molybdenum	300	300	50	7	21	7	Ellipse strike 100, Dip -75 south
Tungsten	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south
Arsenic	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south
Area 3 – Northwest Area							
Gold	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south
Silver	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south
Copper	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south
Molybdenum	300	300	50	7	21	7	Ellipse strike 100, Dip -75 south
Tungsten	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south
Arsenic	300	300	50	7	28	7	Ellipse strike 100, Dip -75 south

Element	Search Ellipse[1] Range (m)			# of Composites			Other
	X	Y	Z[1]	Min/Block	Max/Block	Max/Hole	
Outside Probability Shell Domain							
Gold	300	300	50	7	28	7	Search ellipses oriented by Area as described above
Silver	300	300	50	7	28	7	
Copper	300	300	50	7	28	7	
Molybdenum	300	300	50	7	28	7	
Tungsten	300	300	50	7	28	7	
Arsenic	300	300	50	7	28	7	
Specific Gravity	300	300	300	2	12	3	

[1] Estimates outside of the Probability Shell Domain also use the oriented ellipses.

14.3.9 Validation

The results of the modelling process were validated using several methods. These include a thorough visual review of the model grades in relation to the underlying drill hole sample grades, comparisons with the change of support model, comparisons with other estimation methods, and grade distribution comparisons using swath plots.

14.3.9.1 Visual Inspection

A detailed visual inspection of the block model was conducted in both section and plan to ensure the desired results following interpolation. This includes confirmation of the proper coding of blocks within the gold grade probability shell domain. The estimated gold, silver, copper, molybdenum, tungsten and arsenic grades in the model appear to be a valid representation of the underlying drill hole sample data.

Two examples of the distribution of gold in model blocks compared to the drill hole sample data are shown in vertical cross sections in Figures 14-44 and 14-45.

Figure 14-44: Vertical Cross Section 383300E Showing Gold Grades in Model Blocks and Drill Hole Samples at Revenue

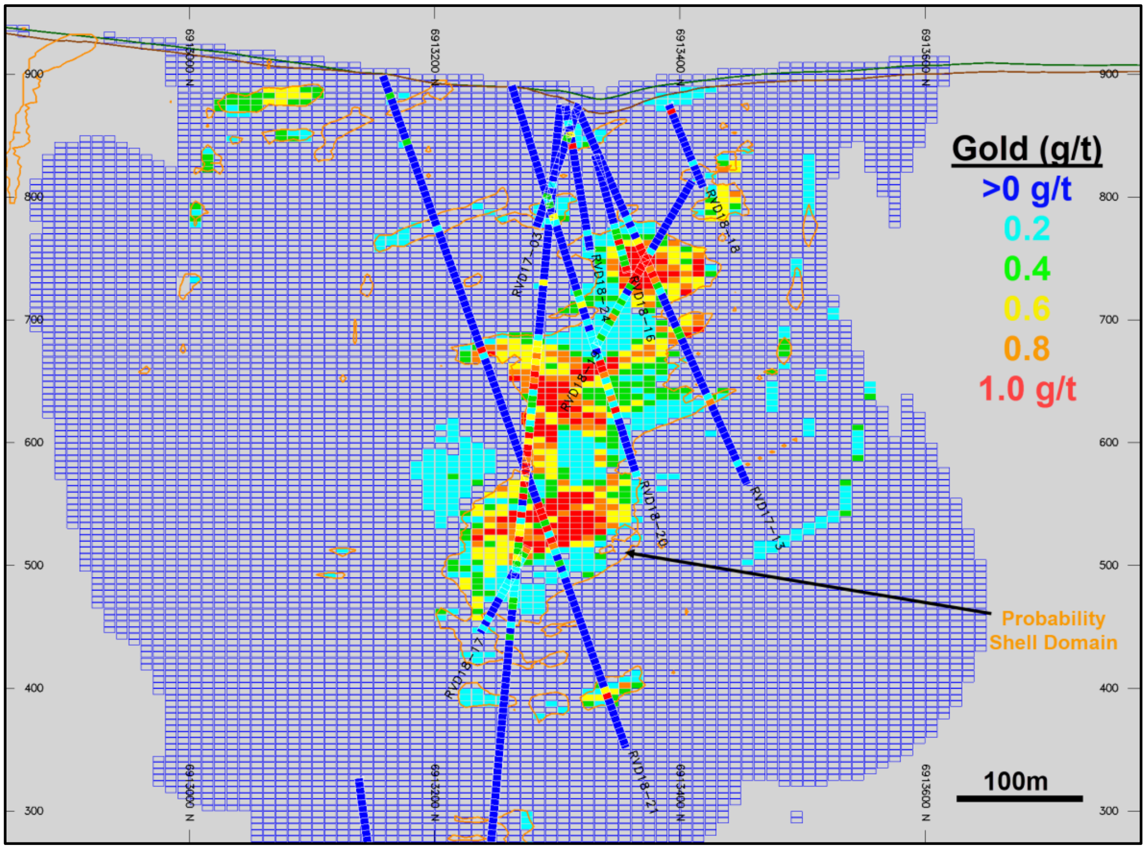
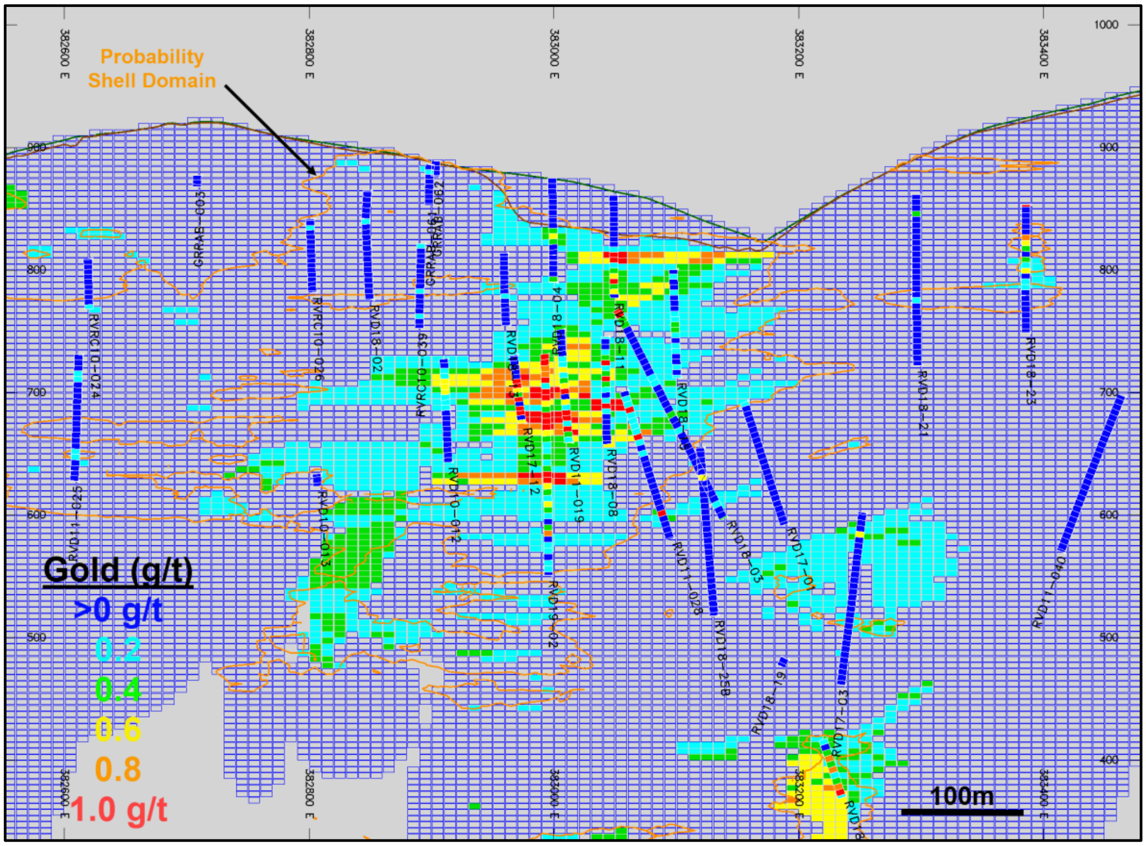


Figure 14-45: Vertical Cross Section 6913200N Showing Gold Grades in Model Blocks and Drill Hole Samples at Revenue



14.3.9.2 Model Checks for Change of Support

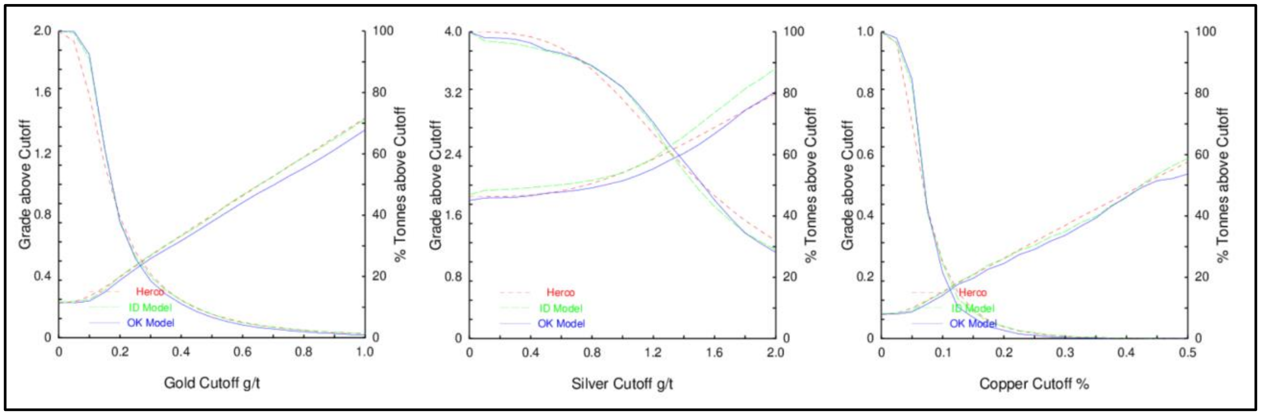
The relative degree of smoothing in the block model estimates were evaluated using the Discrete Gaussian of Hermitian Polynomial Change of Support method (described by Rossi and Deutsch, Mineral Resource Estimation, 2014).

Using this method, the distribution of the hypothetical block grades can be directly compared to the estimated (OK) model through the use of pseudo-grade/tonnage curves. Adjustments are made to the block model interpolation parameters until an acceptable match is made with the Herco distribution. In general, the estimated model should be slightly higher in tonnage and slightly lower in grade when compared to the Herco distribution at the projected cut-off grade. These differences account for selectivity and other potential ore-handling issues which commonly occur during mining.

The Herco distribution is derived from the declustered composite grades which have been adjusted to account for the change in support, going from smaller drill hole composite samples to the large blocks in the model. The transformation results in a less skewed distribution but with the same mean as the original declustered samples.

The Herco curves were generated for all elements in the block model. There is very good correlation between examples from the gold, silver and copper models shown in Figure 14-46.

Figure 14-46: Herco Plot of Gold, Silver and Copper Models in the Revenue Deposit

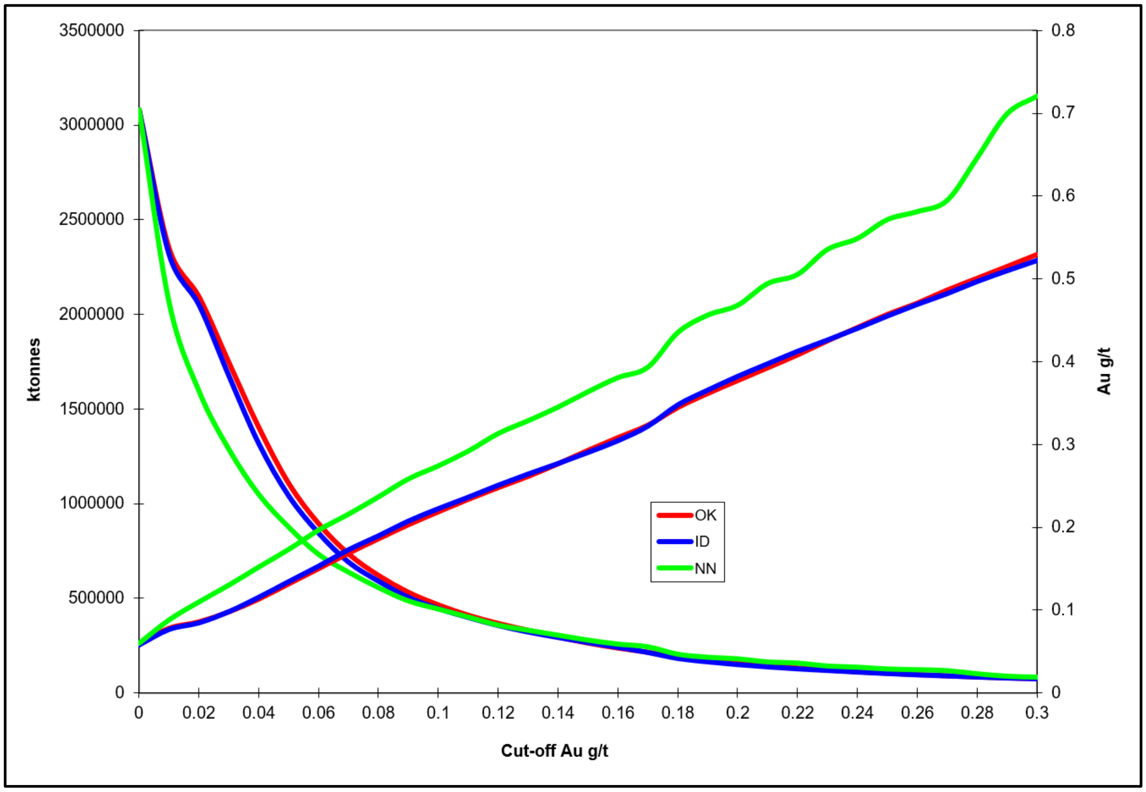


14.3.9.3 Comparison of Interpolation Methods

For comparison purposes, additional models were generated using both the inverse distance weighted (IDW) and nearest neighbour (NN) interpolation methods (the NN model was generated using data composited to 5 m intervals).

Comparisons are made between these models on grade/tonnage curves. An example of the grade/tonnage curves for gold models is shown in Figure 14-47. There is good correlation between the OK and ID models throughout the range of cut-off grades. The NN distribution, generally showing less tonnage and higher grade, is the result of the absence of smoothing in this modelling approach. Similar results were achieved with the silver, copper, molybdenum, tungsten and arsenic models. Reproduction of the model using different methods tends to increase the confidence in the overall mineral resource estimate.

Figure 14-47: Grade Tonnage Comparison of OK, ID and NN Models for Gold at Revenue



14.3.9.4 Swath Plots (Drift Analysis)

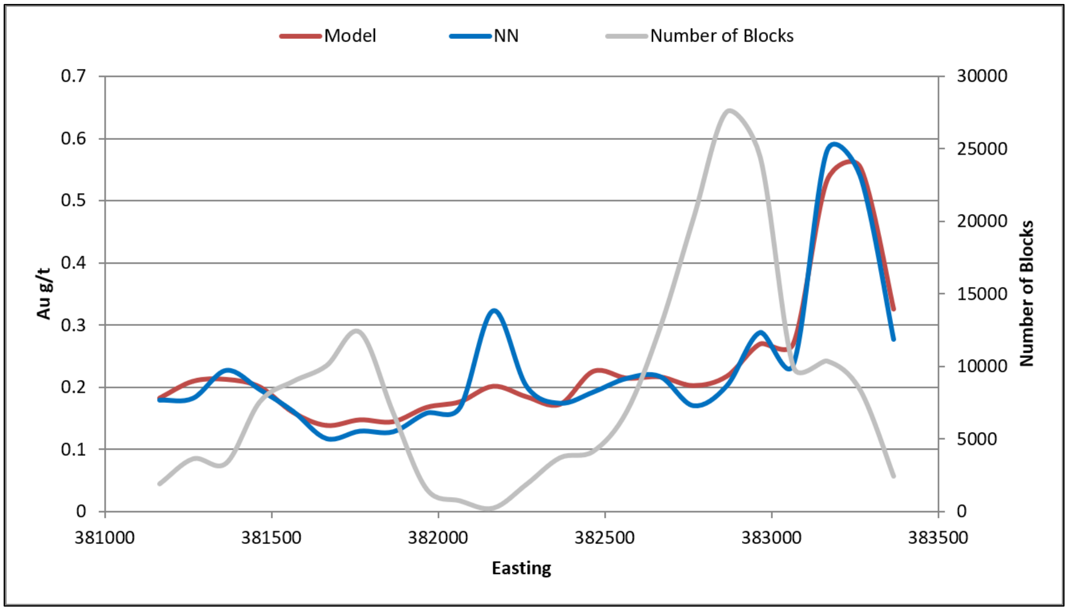
A swath plot is a graphical display of the grade distribution derived from a series of bands, or swaths, generated in several directions through the deposit. Using the swath plot, grade variations from the OK model are compared to the distribution derived from the declustered (NN) grade model.

On a local scale, the NN model does not provide reliable estimations of grade, but, on a much larger scale, it represents an unbiased estimation of the grade distribution based on the underlying data. Therefore, if the OK model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend should be similar to the NN distribution of grade.

Swath plots were generated in three orthogonal directions for all models. An example of the gold distribution in north-south swaths is shown in Figure 14-48.

There is good correspondence between the models in most areas. The degree of smoothing in the OK model is evident in the peaks and valleys shown in the swath plots. Areas indicating large differences between the models tend to be the result of “edge” effects, where there are fewer available data to support a comparison. The validation results indicate that the OK model is a reasonable reflection of the underlying sample data.

Figure 14-48: Swath Plot by Easting of Gold in OK and NN Models at Revenue



14.3.10 Mineral Resource Classification

The mineral resources for the Revenue deposit have been classified in accordance with the CIM *Definition Standards for Mineral Resources and Mineral Reserves* (May 2014). The classification parameters are defined relative to the distance between gold sample data and are intended to encompass zones of reasonably continuous mineralization that exhibit the desired degree of confidence. These parameters are based on visual observations and statistical studies. Classification parameters are based primarily on the nature of the distribution of gold data as it is the main contributor to the relative value of this polymetallic deposit.

The following criteria were used to define mineral resources in the Indicated and Inferred categories. There is insufficient drilling at the Revenue deposit to define mineral resources in the Measured category.

Indicated Mineral Resources

Mineral resources in the Indicated category include areas showing continuity of mineralization and are tested with drill holes spaced at a maximum nominal distance of 50 m.

Inferred Mineral Resources

Mineral resources in the Inferred category include model blocks that are located within a maximum distance of 150 m from a drill hole.

There are four zones in the Revenue deposit area that meet the criteria to be included in the Indicated category. There are additional zones that have drilling spaced at distances less than 50 m, but these are relatively small in extent and, as a result, do not exhibit the continuous nature generally required of mineral resources in this category.

14.4 Development of the Resource Block Model for the Tinta Hill Deposit

This section of the report describes the approach used to develop the resource block model for the Tinta Hill deposit. The metals of interest in the Tinta Hill deposit include gold, copper, silver, lead and zinc.

14.4.1 Available Data

The data used in this estimate of mineral resources at the Tinta Hill deposit were provided by Triumph Gold on November 25, 2019. The data include the following information:

- Drilling data and underground drift channel samples, including collar/channel locations, downhole surveys, sample assay results and geologic information recorded during logging. Files were provided in ASCII (.csv) format.
- Interpreted 3D domains representing various lithologic units, alteration and fault structures that exist in the area of the Tinta Hill deposit. Also provided were the 3D vein domains used by GeoVector to build its 2015 resource model. Files were provided in .dxf format.
- Digital terrain model representing the topographic surface over the deposit area. The file was provided in .dxf format.

All data were formatted and loaded into MinePlan™ (v15.60).

Samples with grade values below the detection limits were assigned values equal to ½ the detection limit.

The distribution of gold data in drilling is shown in plan view in Figure 14-49 and in an isometric view in Figure 14-50.

Figure 14-49: Plan View Showing Gold Data in Drilling at Tinta Hill

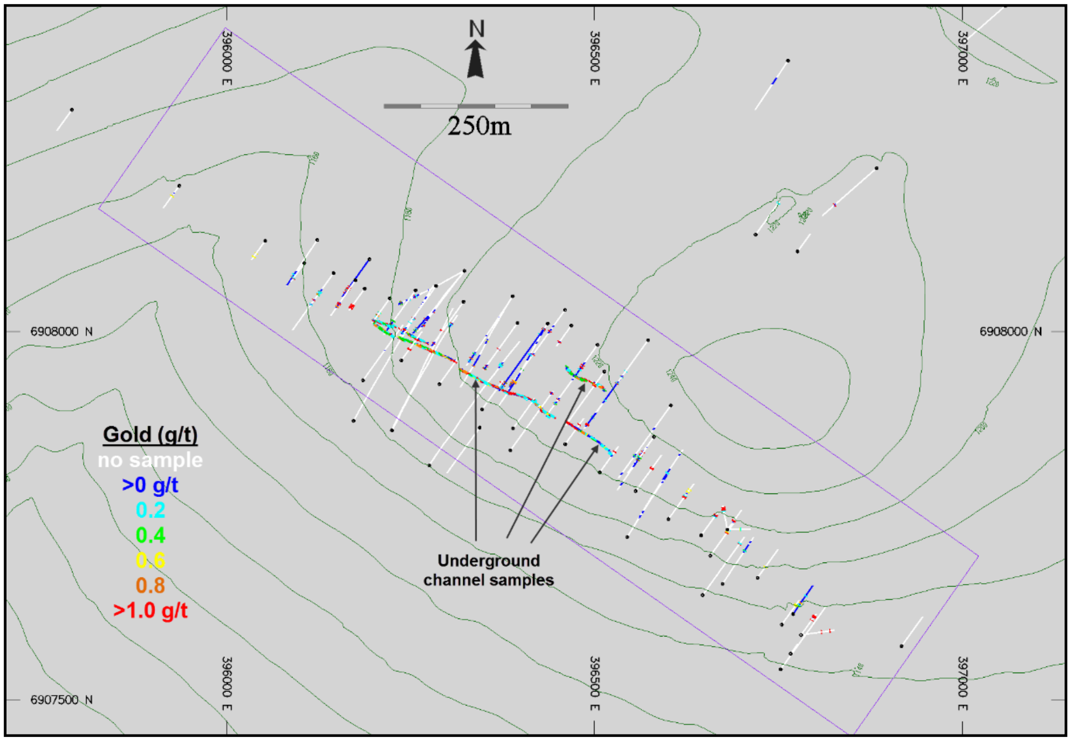
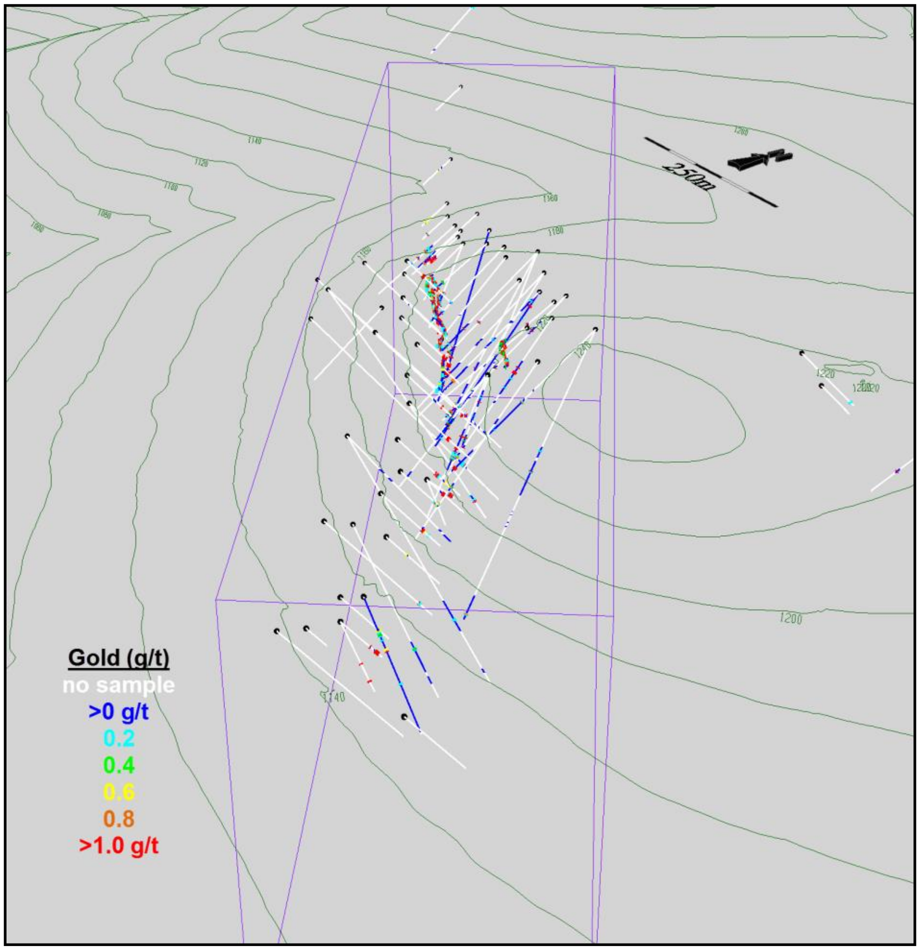


Figure 14-50: Isometric View Looking Northwest Showing Gold Data in Drilling at Tinta Hill



The distributions of silver, copper, lead and zinc are similar to those of gold, where sampling is concentrated in several sub-vertical mineralized vein structures that trend at an azimuth of approximately 300 degrees. The Main vein has been tested over a strike length of about 1.7 km, but most of the significant mineralization occurs over a strike length of about 1 km and extends to more than 300 m below surface. Two smaller, sub-parallel, veins occur in the hanging wall of the Main vein; these are referred to as vein B and vein C.

Drill holes are variably spaced at roughly 35 m to 50 m over the top 100 m of the deposit, increasing to 100 m spacing or more at depth. A series of underground channel samples have been collected from two levels in the Main vein and also over a portion of vein B. Individual "channels" have been cut perpendicular to the trend of the veins, with each channel comprising two or three individual samples. Each channel is stored in the database in a similar manner to the drill hole data; each has a collar location, direction and dip. Both the channel and drilling data have been used to estimate mineral resources at Tinta Hill.

It appears that sampling of drill holes was controlled by visual observations of the presence of mineralization. Essentially all of the drill hole intervals in the vicinity of the mineralized veins have been sampled and analyzed. Conversely, most of the core intervals located away from the veins have not been sampled. It is assumed that unsampled intervals did not show any visible signs of mineralization, and, as a result, all unsampled intervals have been assigned zero grade values.

Drilling and sampling programs at Tinta Hill extend back over 50 years. The initial drill holes, conducted in 1960 and 1973 through 1976, commonly intersect the mineralized veins at depths of only 50 m below surface. Drilling conducted in the ’80s rarely tested deeper than 100 m below surface. The more recent drilling, conducted in 2007 and 2008, generally test the deeper parts of the deposit, to depths exceeding 300 m below surface. All of the underground channel samples were collected in 1981. It is difficult to conduct statistical comparisons of old vs. new sample data because of segregation by vintage location (the old data are primarily shallow, and the new data are primarily deep). Visual observations suggest there are no significant differences between vintages of data, and, as a result, none of the data have been excluded from use in the estimate of mineral resources in this report.

There is a total of 74 drill holes in the database representing a 10,063 m of drilling: 63 holes target the Tinta Hill veins, and the other 11 holes are exploratory in nature, testing for proximal mineralized zones. There are 249 individual channel samples with a combined length of 693 m.

There is a total of 659 individual samples with SG measurements made using the water displacement method. SG data are available in only 17 drill holes completed during the 2008 drill program on the Tinta Hill deposit. SG samples are generally taken on 5 m to 10 m intervals down each drill hole. Of the 659 samples, only 75 occur within the mineralized vein domains (described below), and the remaining SG samples are located in the hanging wall and footwall rocks. The volume and distribution of SG data are considered insufficient to support estimation into model blocks, and, as a result, the average SG value of samples located inside the vein domains has been used to calculate resource tonnages. Excluding the three values that are considered to be anomalous or possibly incorrect, the average of the remaining 72 samples located in the mineralized vein domains is 2.85. Note that an average SG of 2.90 was used to estimate resource tonnage in the previous (2015) estimate of resources at Tinta Hill.

14.4.2 Geological Model and Domains

Triumph Gold provided a series of interpreted 3D (wireframe) domains representing fault structures, alteration domains (kaolinite, hematite and silicification domains), including a series of mafic dykes present in the Tinta Hill area. The shape and extent of these various domains are shown in Figures 14-51 and 14-52.

Figure 14-51: Isometric Views of Structure and Dyke Domains at Tinta Hill

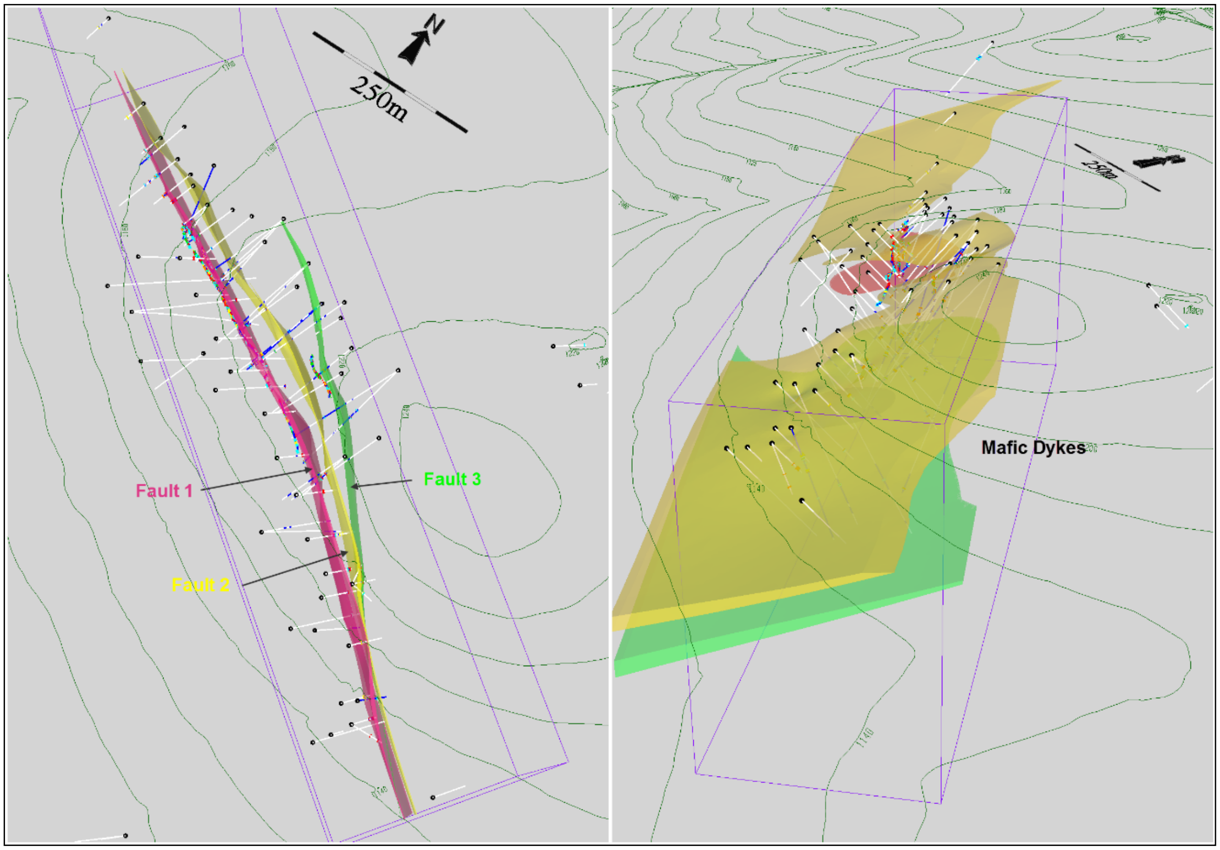
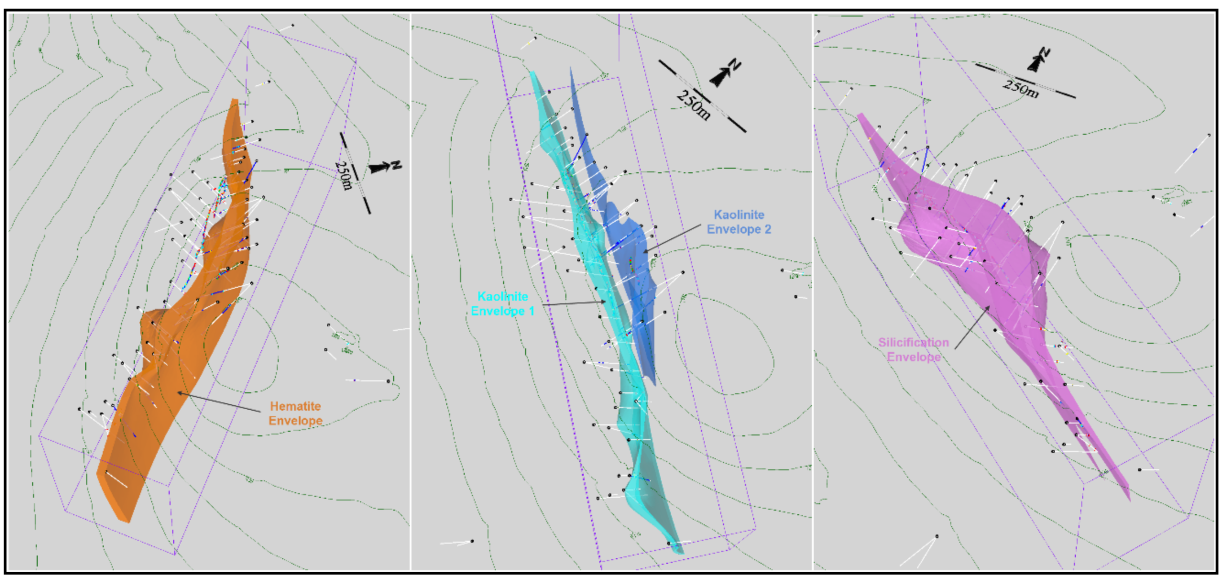


Figure 14-52: Isometric Views of Alteration Domains at Tinta Hill

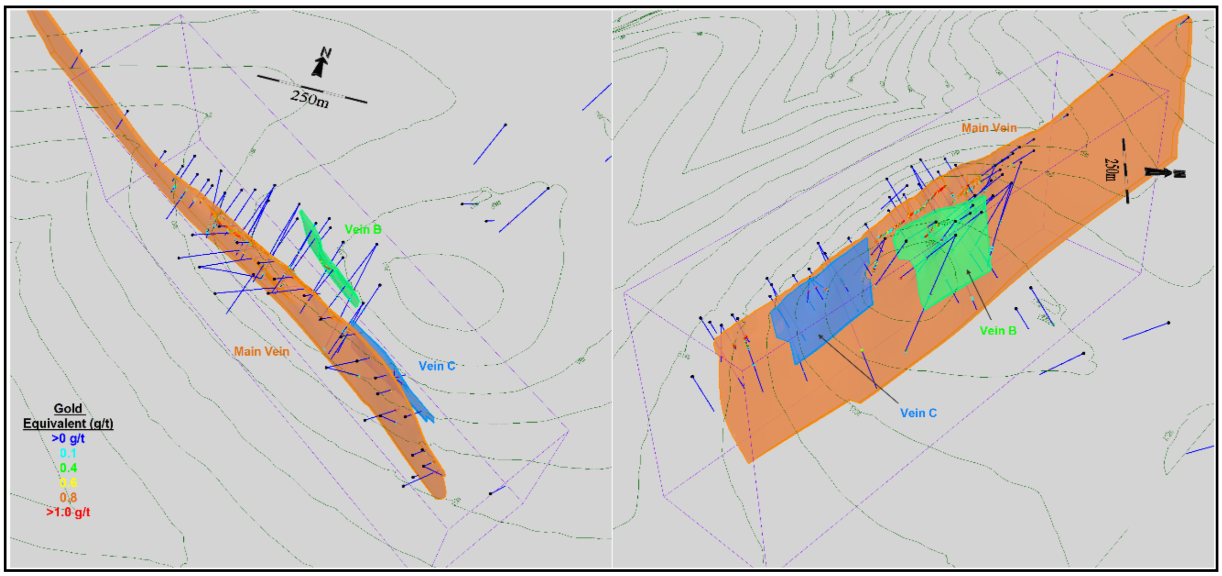


A series of vein domains have been interpreted based on gold equivalent grades in drilling and the channel samples. Based on several plan maps of the Tinta Hill drifts in the 2015 Technical Report and comparisons to surrounding drilling data, it appears the drifts at Tinta Hill exposed the full thickness of the mineralized veins. Gold equivalent grades were calculated in drill holes and channel samples using the following metal prices (US$); gold $1,500/oz, silver $18/oz, copper $3.00/lb, lead $1.00/lb and zinc $1.25/lb, resulting in the following formula:

AuEq = Au g/t + (Ag g/t x 0.012) + (Cu% x 1.371) + (Pb% x 0.457) + (Zn% x 0.571)

Three vein domains were interpreted based on a grade threshold of 0.1 g/t AuEq. The shape and extent of the vein domains are shown in Figure 14-53. Note: These interpreted vein domains are similar to those used by GeoVector in its 2015 mineral resource estimate.

Figure 14-53: Isometric Views of Vein Domains at Tinta Hill



Only seven drill holes in the vicinity of the Tinta Hill deposit show intervals of overburden encountered at surface, and the thickness is generally only a few metres. It is assumed there is little overburden in the area, and no steps were taken to account for it in the lithology interpretations at Tinta Hill.

14.4.3 Compositing

Drill hole samples are composited in order to standardize the database for further statistical evaluation. This step removes any influence that the sample length might have on data.

To retain the original characteristics of the underlying data, a composite length is selected which reasonably reflects the average, original sample length. The generation of too-long composites results in a degree of smoothing which could mask certain features of the data.

The average length of all original sample data located inside the interpreted vein domains is 0.99 m with intervals ranging from 0.09 m to 3.51 m long. A standard composite length of 1 m was applied to the original, variable-length, sample data. The generation of composites honours the boundary between overburden and bedrock.

14.4.4 Exploratory Data Analysis

Exploratory data analysis (EDA) involves the statistical summarization of the database to better understand the characteristics of the data that may control grade. One of the main purposes of this exercise is to determine whether there is evidence of spatial distinctions in grade which may require the separation and isolation of domains during interpolation. The application of separate domains prevents unwanted mixing of data during interpolation, and, therefore, the resulting grade model will better reflect the unique properties of the deposit. However, applying domain boundaries in areas where the data are not statistically unique may impose a bias in the distribution of grades in the model.

A domain boundary, which segregates the data during interpolation, is typically applied if the average grade in one domain is significantly different from that of another domain. A boundary may also be applied if there is evidence that a significant change in the grade distribution has occurred across the contact.

14.4.4.1 Basic Statistics by Domain

Composited sample data were assigned unique code values using the interpreted vein, lithologic, alteration and structural domains. The statistical properties of samples inside and outside of these domains were evaluated by generating a series of boxplots.

The structural (fault) domains are similar in shape and location compared to the interpreted vein domains; however, these domains do not envelope all of the significant gold mineralization. It is common to find high gold grades outside of the fault domains. These results suggest that the structures may have helped transport mineralization at Tinta Hill, but significant grades also occur in areas outside of the fault domains.

The hematite and silicified domains are quite thick and extensive and envelope not only most of the significant mineralization but also large portions of barren rocks as well.

The kaolinite domains also envelope the majority of the mineralization at Tinta Hill, but these domains also include large volumes of rocks that are unmineralized. These domains are generally associated with the presence of mineralization but are not distinct with respect to the distribution of metals at Tinta Hill.

The dyke domains generally contain relatively low metal grades suggesting they are possibly post-mineral events. However, locally these domains contain intervals with high gold (and other metal) grades.

The interpreted vein domains contain sample grades that are distinctly higher grade compared to the surrounding sample data. The basic statistics of samples in the vein domains, and the data outside of these domains, are shown in Table 14.14.

Table 14.14: Basic Statistics of Composited Samples by Vein Domains at Tinta Hill

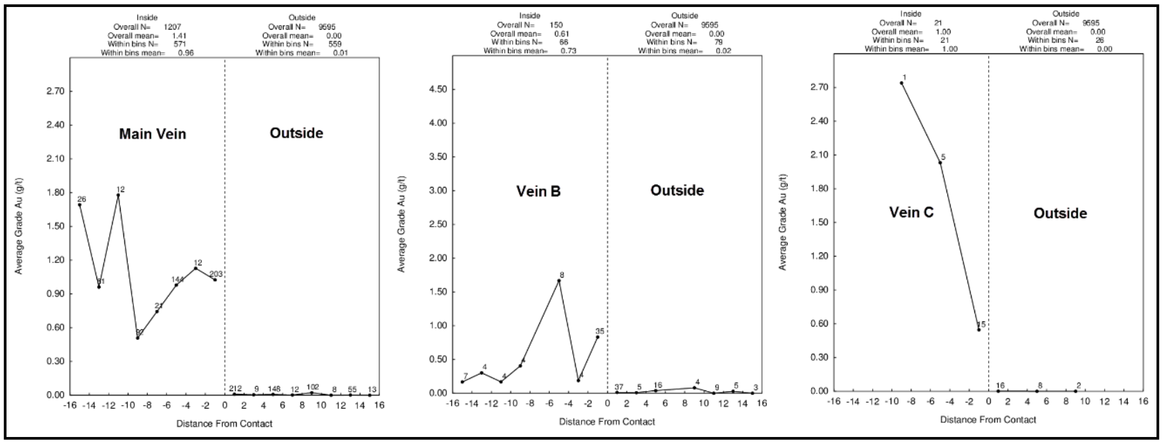
Metal	# Comps	Total Length (m)	Minimum	Maximum	Mean	Standard Deviation	Coefficient of Variation
Main Vein							
Au (g/t)	1,207	1,083	0	59.656	1.408	3.787	2.69
Ag (g/t)	1,207	1,083	0	896.7	33.7	77.60	2.30
Cu%	1,207	1,083	0	3.75	0.20	0.41	2.00
Pb%	1,207	1,083	0	16.38	0.71	1.44	2.04
Zn%	1,207	1,083	0	16.38	1.46	2.33	1.60
Vein B							
Au (g/t)	150	130	0.007	6.852	0.642	1.031	1.607
Ag (g/t)	150	130	0.1	452.3	39.4	76.64	1.95
Cu%	150	130	0	1.60	0.21	0.32	1.52
Pb%	150	130	0	7.48	0.55	1.03	1.88
Zn%	150	130	0.03	8.27	0.81	1.13	1.39
Vein C							
Au (g/t)	21	19	0	3.080	1.077	1.114	1.034
Ag (g/t)	21	19	0	497.1	157.4	180.60	1.15
Cu%	21	19	0	0.20	0.08	0.08	1.03
Pb%	21	19	0	14.10	4.22	5.03	1.19
Zn%	21	19	0	16.38	5.95	6.46	1.09
Outside Veins							
Au (g/t)	9,595	9,524	0	8.823	0.005	0.096	20.666
Ag (g/t)	9,595	9,524	0	49.1	0.1	0.96	12.38
Cu%	9,595	9,524	0	0.61	0.00	0.01	21.22
Pb%	9,595	9,524	0	1.84	0.00	0.04	15.43
Zn%	9,595	9,524	0	4.05	0.01	0.06	11.87

14.4.4.2 Contact Profiles

Contact profiles evaluate the nature of grade trends between two domains: they graphically display the average grades at increasing distances from the contact boundary. Those contact profiles that show a marked difference in grade across a domain boundary indicate that the two datasets should be isolated during interpolation. Conversely, if a more gradual change in grade occurs across a contact, the introduction of a hard boundary (e.g., segregation during interpolation) may result in a much different trend in the grade model; in this case, the change in grade between domains in the model is often more abrupt than the trends seen in the raw data. Finally, a flat contact profile indicates no grade changes across the boundary; in this case, hard or soft domain boundaries will produce similar results in the model.

A series of contact profiles were generated to evaluate the nature of gold grades across the various domain boundaries. The only distinct contacts that were identified were the interpreted vein domains as shown in Figure 14-54.

Figure 14-54: Contact Profiles Showing Gold In/Out of the Vein Domains at Tinta Hill



14.4.4.3 Conclusions and Modelling Implications

The results of the EDA indicate that higher metal grades are loosely associated with the presence of kaolinite, silicification and structure, but these occurrences are not distinct. Metal grades are significantly higher inside the interpreted vein domains, and there is very little mineralization present outside of these domains. As a result, the sample data inside vs. outside of the interpreted vein domains should remain segregated during the interpolation of all metal grades in the resource block model.

As described in Section 14.4.1, an average SG of 2.85 is used to calculate tonnage for the mineral resources at Tinta Hill.

14.4.5 Evaluation of Outlier Grades

Histograms and probability plots for the distribution of gold, copper, silver, lead and zinc were reviewed to identify the presence of anomalous outlier grades in the composited (1 m) database. Following a review of the physical location of potentially erratic samples in relation to the surrounding sample data, it was decided that these would be controlled during block grade interpolations using outlier limitations. Outlier limitations control the distance of influence of samples above a defined grade threshold. During grade interpolations, samples above the outlier thresholds are limited to a maximum distance-of-influence of 15 m.

The grade thresholds for the various elements are shown in Table 14.15. These measures have reduced the contained metals in the model by 11% for gold, 16% for silver, 14% for copper, 18% for lead, and 1% for zinc. These relatively high values, in some instances, are the result of a combination of skewed data distributions and generally wide-spaced drill holes.

Table 14.15: Treatment of Outlier Sample Data at Tinta Hill

Metal	Maximum	Outlier Limit
Main Vein		
Gold (g/t)	59.656	15.000
Silver (g/t)	896.68	500.0
Copper (%)	3.75	1.50
Lead (%)	16.38	8.00
Zinc (%)	16.38	15.00
Vein B		
Gold (g/t)	6.852	2.500
Silver (g/t)	452.3	250.0
Copper (%)	1.60	0.60
Lead (%)	7.48	3.50
Zinc (%)	8.27	2.50
Vein C		
Gold (g/t)	3.080	2.000
Silver (g/t)	497.1	250.0
Copper (%)	0.20	-
Lead (%)	14.10	7.00
Zinc (%)	16.38	10.00

Note: Samples above the outlier threshold are restricted to a maximum distance of influence of 15 m during grade interpolation.

14.4.6 Variography

The degree of spatial variability in a mineral deposit depends on both the distance and direction between points of comparison. Typically, the variability between samples increases as the distance between those samples increases. If the degree of variability is related to the direction of comparison, then the deposit is said to exhibit anisotropic tendencies which can be summarized with the search ellipse. The semi-variogram is a common function used to measure the spatial variability within a deposit.

The components of the variogram include the nugget, the sill and the range. Often samples compared over very short distances, even samples compared from the same location, show some degree of variability. As a result, the curve of the variogram often begins at some point on the y-axis above the origin: this point is called the *nugget*. The nugget is a measure of not only the natural variability of the data over very short distances but also a measure of the variability which can be introduced due to errors during sample collection, preparation, and the assay process.

The amount of variability between samples typically increases as the distance between the samples increases. Eventually, the degree of variability between samples reaches a constant, maximum value: this is called the *sill*, and the distance between samples at which this occurs is called the *range*.

In this Technical Report, the spatial evaluation of the data was conducted using a correlogram rather than the traditional variogram. The correlogram is normalized to the variance of the data and is less sensitive to outlier values, generally giving better results.

Variograms were created using the commercial software package Sage 2001© developed by Isaaks & Co.

Multidirectional variograms for gold, silver, copper, lead and zinc were generated from the distributions of data located inside the Main vein domain at Tinta Hill. There are insufficient sample data available in vein B and vein C to generate separate variograms, so the results from the Main vein are also used for the two smaller veins. A dynamic search orientation strategy is used relative to the centre of the interpreted vein domains. These variograms have been generated relative to the centre of the vein domain. The results are summarized in Table 14.16.

Table 14.16: Variogram Parameters for the Tinta Hill Deposit

Element				1st Structure			2nd Structure		
	Nugget	Sill 1	Sill 2	Range (m)	Azimuth (°)	Dip	Range (m)	Azimuth (°)	Dip
Gold	0.450	0.326	0.224	4	65	-90	87	57	-90
	Spherical			3	245	0	9	147	-90
				2	335	-90	3	237	0
Silver	0.300	0.534	0.166	6	103	-90	141	93	-90
	Spherical			3	193	0	8	3	-90
				2	13	-90	3	183	0
Copper	0.600	0.261	0.139	6	76	-90	125	94	-90
	Spherical			5	256	0	10	4	-90
				4	346	-90	4	184	0
Lead	0.125	0.777	0.098	24	218	-90	311	95	-90
	Spherical			3	128	-90	37	5	-90
				3	218	0	9	185	0
Zinc	0.186	0.677	0.136	5	111	-90	1,242	130	-90
	Spherical			3	21	-90	106	40	-90
				3	201	0	8	220	0

Note: Correlograms were conducted on 1 m composite sample data.

14.4.7 Model Setup and Limits

A block model was initialized in MinePlan®, and the dimensions are defined in Table 14.17. The block model has been horizontally rotated by -55 degrees so that the y-axis is parallel to the strike of the deposit at an azimuth of 305 degrees. The nominal block size, measuring 2 x 5 x 5 m (L x W x H), is considered appropriate for a deposit of this size and type and the current level of exploration drilling. The larger block dimensions, measuring 5 m in size, are oriented along strike and vertically, and the smaller block dimension is oriented perpendicular to the strike of the deposit. The limits of the block model are represented by the purple rectangle shown in Figures 14-49 to 14-53.

Table 14.17: Block Model Limits at Tinta Hill

Direction	Minimum	Maximum	Block Size (m)	# of Blocks
X (Az 35)	0	300	2	150
Y (Az 305)	0	1250	5	250
Z	760	1260	5	100

Note: The block model is horizontally rotated by -55 about origin point 396850E, 6907450N.

14.4.8 Interpolation Parameters

The block model grades for gold, silver, copper, lead and zinc were estimated using ordinary kriging (OK). The Tinta Hill OK models were generated with a relatively limited number of samples to match the change of support or Herco (Hermitian Correction) grade distribution. This approach reduces the amount of smoothing or averaging in the model, and, while there may be some uncertainty on a localized scale, this approach produces reliable estimates of the recoverable grade and tonnage for the overall deposit.

The estimation parameters for the various elements in the mineral resource block model are shown in Table 14.18. All grade estimations use length-weighted composite drill hole sample data.

Table 14.18: Interpolation Parameters for the Tinta Hill Deposit

Element	Search Ellipse[1] Range (m)			# of Composites		
	X	Y	Z[1]	Min/Block	Max/Block	Max/Hole
Gold	200	200	3	4	12	4
Silver	200	200	3	4	12	4
Copper	200	200	3	4	12	4
Lead	200	200	3	4	12	4
Zinc	200	200	3	4	12	4

[1] Dynamic search orientation in the plane of the domain. Z-axis is perpendicular to the trend.

14.4.9 Validation

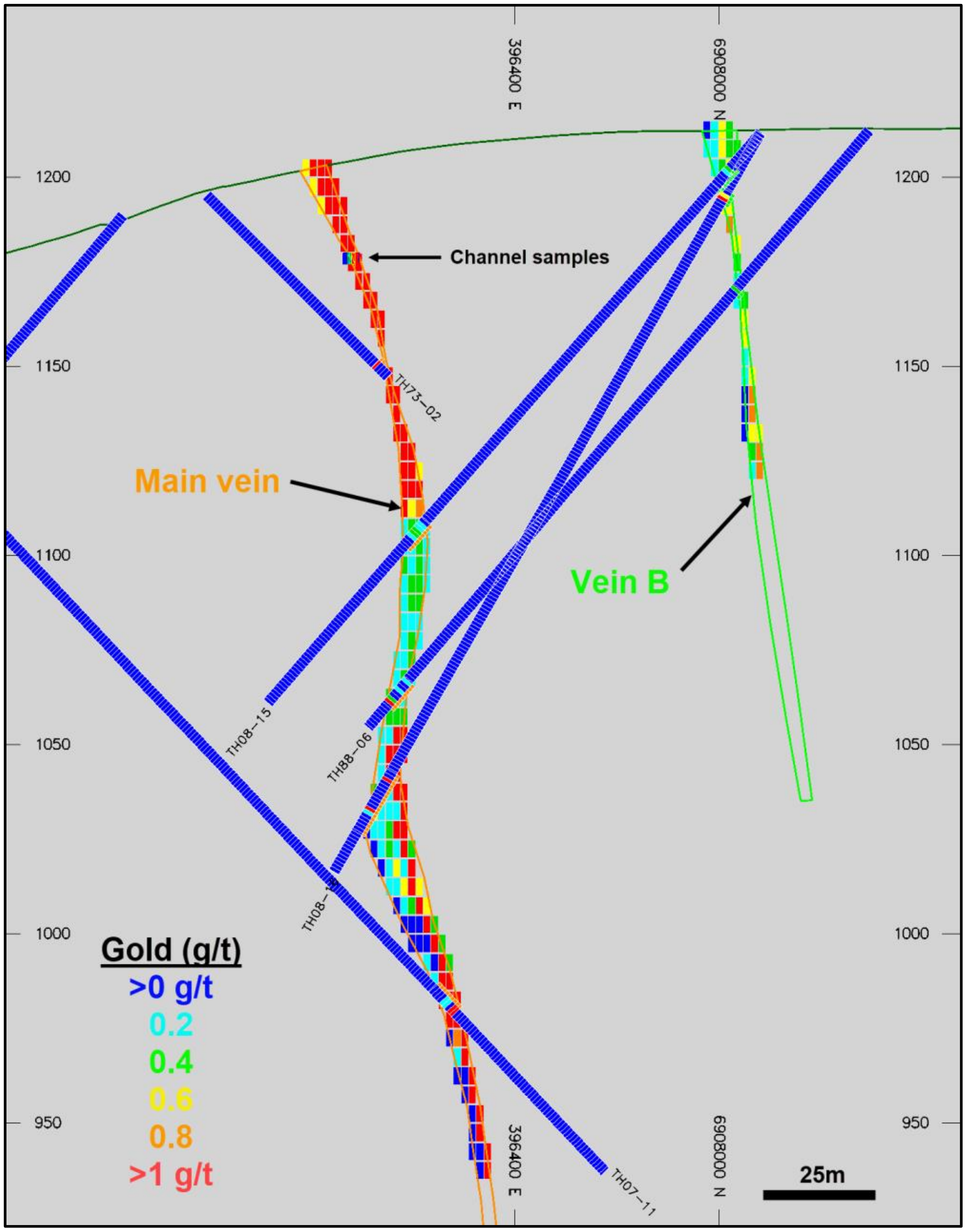
The results of the modelling process were validated using several methods. These include a thorough visual review of the model grades in relation to the underlying drill hole sample grades, comparisons with the change of support model, comparisons with other estimation methods, and grade distribution comparisons using swath plots.

14.4.9.1 Visual Inspection

A detailed visual inspection of the block model was conducted in both section and plan to ensure the desired results following interpolation. This includes confirmation of the proper coding of blocks within the gold grade probability shell domain. The estimated gold, silver, copper, lead and zinc grades in the model appear to be a valid representation of the underlying drill hole sample data.

An example of the distribution of gold in model blocks compared to the drill hole sample data is shown in a vertical cross section in Figure 14-55.

Figure 14-55: Vertical Cross Section Showing Gold Grades in Model Blocks and Drill Hole and Channel Samples at Tinta Hill



14.4.9.2 Model Checks for Change of Support

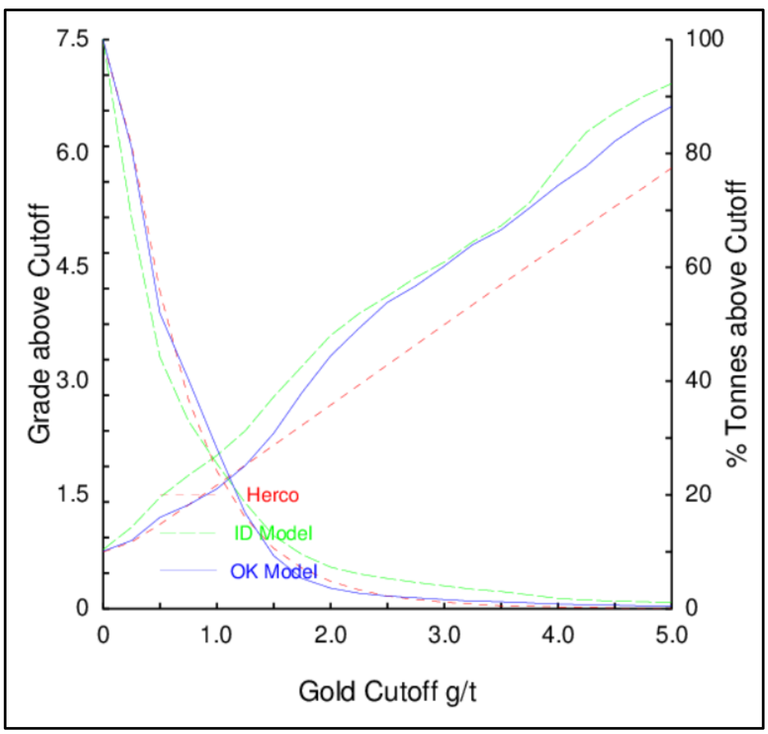
The relative degree of smoothing in the block model estimates were evaluated using the Discrete Gaussian of Hermitian Polynomial Change of Support method (described by Rossi and Deutsch, Mineral Resource Estimation, 2014).

Using this method, the distribution of the hypothetical block grades can be directly compared to the estimated (OK) model through the use of pseudo-grade/tonnage curves. Adjustments are made to the block model interpolation parameters until an acceptable match is made with the Herco distribution. In general, the estimated model should be slightly higher in tonnage and slightly lower in grade when compared to the Herco distribution at the projected cut-off grade. These differences account for selectivity and other potential ore-handling issues which commonly occur during mining.

The Herco distribution is derived from the declustered composite grades which have been adjusted to account for the change in support, going from smaller drill hole composite samples to the large blocks in the model. The transformation results in a less skewed distribution but with the same mean as the original declustered samples.

The Herco curve for the gold model in the Main vein is shown in Figure 14-56.

Figure 14-56: Herco Plot of Gold Model in Main Vein at Tinta Hill

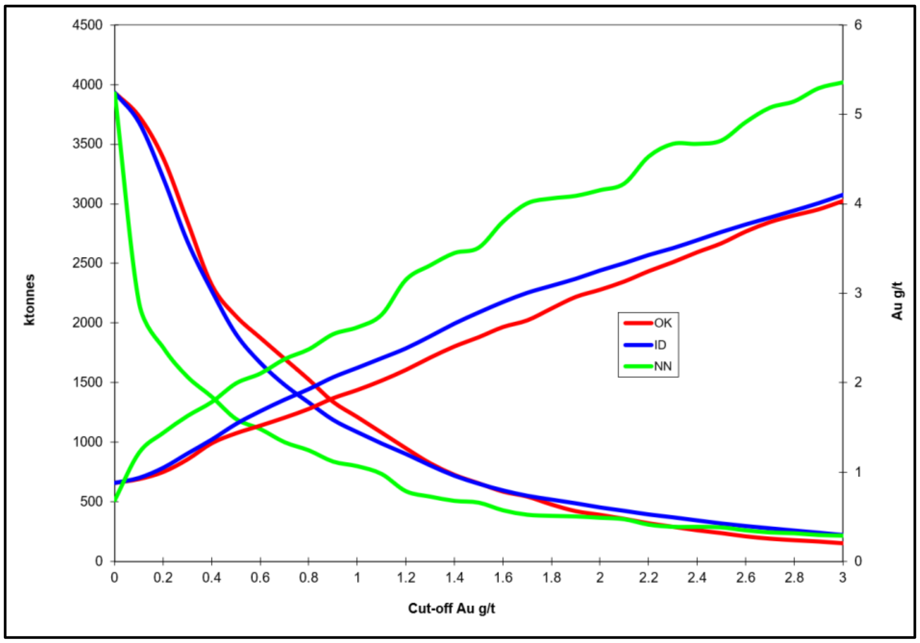


14.4.9.3 Comparison of Interpolation Methods

For comparison purposes, additional models were generated using both the inverse distance weighted (IDW) and nearest neighbour (NN) interpolation methods (the NN model was generated using data composited to 2 m intervals).

Comparisons are made between these models on grade/tonnage curves. An example of the grade/tonnage curves for gold models is shown in Figure 14-57. There is reasonably good correlation between the OK and ID models throughout the range of cut-off grades. The NN distribution, generally showing less tonnage and higher grade, is the result of the absence of smoothing in this modelling approach. Similar results were achieved with the copper, silver, lead and zinc models. Reproduction of the model using different methods tends to increase the confidence in the overall mineral resource estimate.

Figure 14-57: Grade Tonnage Comparison of OK, ID and NN Models for Gold at Tinta Hill



14.4.9.4 Swath Plots (Drift Analysis)

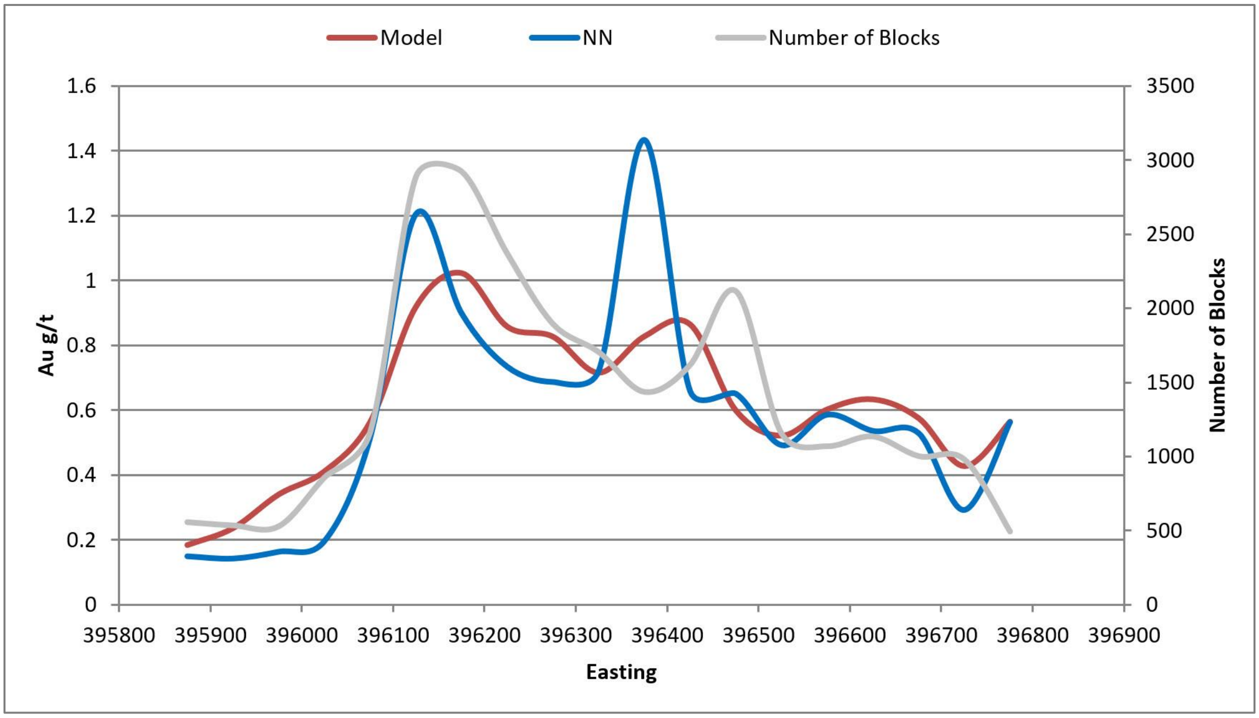
A swath plot is a graphical display of the grade distribution derived from a series of bands, or swaths, generated in several directions through the deposit. Using the swath plot, grade variations from the OK model are compared to the distribution derived from the declustered (NN) grade model.

On a local scale, the NN model does not provide reliable estimations of grade, but, on a much larger scale, it represents an unbiased estimation of the grade distribution based on the underlying data. Therefore, if the OK model is unbiased, the grade trends may show local fluctuations on a swath plot, but the overall trend should be similar to the NN distribution of grade.

Swath plots were generated in three orthogonal directions for all models. An example of the gold distribution in north-south swaths is shown in Figure 14-58.

There is good correspondence between the models in most areas. The degree of smoothing in the OK model is evident in the peaks and valleys shown in the swath plots. Areas indicating large differences between the models tend to be the result of "edge" effects, where there are fewer available data to support a comparison. The validation results indicate that the OK model is a reasonable reflection of the underlying sample data.

Figure 14-58: Swath Plot by Easting of Gold in OK and NN Models at Tinta Hill



14.4.10 Mineral Resource Classification

The mineral resources for the Tinta Hill deposit have been classified in accordance with the CIM *Definition Standards for Mineral Resources and Mineral Reserves* (May 2014). The classification parameters are defined relative to the distance between gold sample data and are intended to encompass zones of reasonably continuous mineralization that exhibit the desired degree of confidence. These parameters are based on visual observations and statistical studies. Classification parameters are based primarily on the nature of the distribution of gold data as it is the main contributor to the relative value of this polymetallic deposit.

The following criteria were used to define mineral resources in the Inferred category. There is insufficient drilling at Tinta Hill to define mineral resources in the Indicated or Measured categories.

Inferred Mineral Resources

Mineral resources in the Inferred category include model blocks that are located within a maximum distance of 50 m from a drill hole.

14.5 ESTIMATION OF MINERAL RESOURCES FOR THE FREEGOLD MOUNTAIN PROJECT

CIM *Definition Standards for Mineral Resources and Mineral Reserves* (May 2014) define 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 eventual economic extraction" requirement generally implies that quantity and grade estimates meet certain economic thresholds and that mineral resources are reported at an appropriate cut-off grade that takes into account extraction scenarios and processing recovery.

The economic viability of the mineral resources at the Freegold Mountain Project were tested by constraining them within floating cone pit shells, or evaluating the viability of possible underground extraction, using the following technical and economic parameters (Note: All currency with respect to the mineral resource estimates is expressed in 2020 U.S. dollars):

- Mining Cost (open pit) — $2.50/t
- Mining Cost (underground) — $25/t at Revenue, $60/t at Tinta Hill
- Process — $11/t at Nucleus and Revenue, $12/t at Tinta Hill
- G&A — $1.50/t at Nucleus and Revenue, $2.50 at Tinta Hill
- Gold Price — $1,500/oz
- Silver Price — $18/oz
- Copper Price — $3.00/lb
- Lead Price — $1.00/lb
- Zinc Price — $1.25/lb
- Molybdenum Price — $9.00/lb
- Tungsten Price — $13.00/lb
- Gold Process Recovery — 85%
- Silver Process Recovery — 60%
- Copper Process Recovery — 75% at Nucleus and Revenue, 80% at Tinta Hill
- Lead Process Recovery — 75% (Tinta Hill only)
- Zinc Process Recovery — 75% (Tinta Hill only)
- Molybdenum Process Recovery — 50% (Revenue only)
- Tungsten Process Recovery — 50% (Revenue only)
- Pit Slope — 45 degrees
- SG — 2.85 (Tinta Hill only). SG values at Nucleus and Revenue are estimated in block.

Note: The projected underground mining costs at Nucleus and Revenue assume a large-scale bulk mining scenario where the relatively narrow zones of mineralization at Tinta Hill require much more selectivity during mining and, as a result, a higher projected underground mining cost.

The resource limiting pit shell is generated using a floating cone algorithm based on the recoverable gold equivalent block grades. Based on the metal prices and recoveries listed here, recoverable gold equivalent (AuEqR) grades are calculated using the following formulae:

Nucleus: AuEqR = (Au g/t x 0.85) + (Ag g/t x 0.012 x 0.60) + (Cu% x 1.371 x 0.75)

Revenue: AuEqR = (Au g/t x 0.85) + (Ag g/t x 0.012 x 0.60) + (Cu% x 1.371 x 0.75) +(Mo% x 4.114 x 0.50) + (W% x 5.942 x 0.50)

Tinta Hill: AuEqR = (Au g/t x 0.85) + (Ag g/t x 0.012 x 0.60) + (Cu% x 1.371 x 0.80) + (Pb% x 0.457 x 0.75) + (Zn% x 0.571 x 0.75) x (VEIN%)

(Note: Tinta Hill is a zone percent model, and the pit shell analysis was tested on the whole block grades)

There are no adjustments for mining recoveries or dilution. The pit constrained testing indicates that some of the deeper mineralization may not be economic due to the increased waste stripping requirements. Underground mineral resources must show continuity of thickness and grade to be considered to exhibit reasonable prospects for eventual economic extraction using underground extraction methods at the projected cut-off grades. It is important to recognize that these discussions of surface and underground mining parameters are used solely to test the “reasonable prospects for eventual economic extraction,” and that they do not represent an attempt to estimate mineral reserves. There are no mineral reserves calculated for this Project. These preliminary evaluations are used to prepare the mineral resource estimate contained in this Technical Report and to select appropriate reporting assumptions.

Mineral resources are summarized based on in-situ gold equivalent (AuEq) cut-off grades that are calculated using the following formulae:

Nucleus: AuEq = Au g/t + (Ag g/t x 0.012) + (Cu% x 1.371)

Revenue: AuEq = Au g/t + (Ag g/t x 0.012) + (Cu% x 1.371) + (Mo% x 4.114) + (W% x 5.942)

Tinta Hill: AuEq = Au g/t + (Ag g/t x 0.012) + (Cu% x 1.371) + (Pb% x 0.457) + (Zn% x 0.571)

Using the assumed metal prices, operating costs, and metallurgical recoveries listed previously, the base case cut-off grade for mineral resources amenable to open pit extraction is 0.30 g/t AuEq at Nucleus and Revenue and 0.35 g/t AuEq at Tinta Hill. The base case cut-off grade for underground extraction is estimated to be 1.0 g/t AuEq at Revenue and 1.8 g/t AuEq at Tinta Hill. There are zones of mineralization below the resource pit shells at Revenue and Tinta Hill that show continuity of thickness and grade to be considered to exhibit reasonable prospects for eventual economic extraction using underground mining methods. Below the pit constrained resource shell at Nucleus, there are no areas of continuous mineralization above 1.0 g/t AuEq that could be considered amenable to underground mining methods, and, as a result, there are no underground mineral resources stated for the Nucleus deposit.

The estimates of mineral resources for the three deposits are shown in Table 14.19 (Nucleus), Table 14.20 (Revenue), and Table 14.21 (Tinta Hill), and the combined estimate of mineral resources are shown in Table 14.22.

Note: Although estimates of molybdenum and tungsten were included in the Nucleus block model, the average grades of these metals are considered too low to exhibit reasonable prospects for eventual economic extraction, and, as a result, they are not included in the mineral resource statement.

There are no known factors related to environmental, permitting, legal, title, taxation, socio-economic, marketing, or political issues which could materially affect the mineral resource. Mineral resources in the Inferred category have a lower level of confidence than that applied to Indicated mineral resources, and, although there is sufficient evidence to imply geologic grade and continuity, these characteristics cannot be verified based on the current data.

It is reasonably expected that the majority of Inferred mineral resources could be upgraded to Indicated mineral resources with continued exploration.

Table 14.19: Estimate of Mineral Resources for the Nucleus Deposit

Class	Tonnes (million)	Average Grade				Contained Metal			
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	AuEq koz	Au koz	Cu Mlbs	Ag koz
Indicated	31.0	0.75	0.65	0.07	0.70	748	651	44	698
Inferred	9.4	0.63	0.56	0.04	0.72	189	169	9	217

Note: Limited inside $1,500/oz Au pit shell. Base case cut-off grade is 0.30 g/t AuEq for pit constrained resources. Mineral resources are not mineral reserves because the economic viability has not been demonstrated.

Table 14.20: Estimate of Mineral Resources for the Revenue Deposit

Type	Tonnes (million)	Average Grade						Contained Metal					
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	W (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Mo klbs	W klbs
Indicated													
Pit Constrained	11.4	0.69	0.38	0.12	2.4	0.016	0.008	252	140	30	895	4,089	2,082
Inferred													
Pit Constrained	25.0	0.70	0.46	0.11	2.2	0.009	0.005	565	367	61	1,786	4,954	2,807
Underground	2.5	1.40	0.99	0.22	5.2	0.010	0.001	112	79	12	417	525	60
Combined Inferred	27.5	0.77	0.51	0.12	2.5	0.009	0.005	677	446	73	2,203	5,478	2,867

Note: Limited inside $1,500/oz Au pit shell. Base case cut-off grade is 0.30 g/t AuEq for pit constrained resources and 1.0 g/t AuEq for underground resources. Mineral resources are not mineral reserves because the economic viability has not been demonstrated.

Table 14.21: Estimate of Inferred Mineral Resources for the Tinta Hill Deposit

Type	Tonnes (000)	Average Grade						Contained Metal					
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Pb (%)	Zn (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Pb Mlbs	Zn Mlbs
Pit Constrained	893	3.01	1.09	0.18	42.5	0.72	1.47	86	31	4	1,218	14	29
Underground	1,290	3.13	1.43	0.16	46.3	0.56	1.17	130	59	5	1,921	16	33
Combined Inferred	2,183	3.08	1.29	0.17	44.7	0.63	1.29	216	90	8	3,140	30	62

Note: Limited inside $1,500/oz Au pit shell. Base case cut-off grade is 0.35 g/t AuEq for pit constrained resources and 1.8 g/t AuEq for underground resources. Mineral resources are not mineral reserves because the economic viability has not been demonstrated.

Table 14.22: Combined Estimate of Mineral Resources on the Freegold Mountain Project

Deposit	Tonnes (million)	Average Grade								Contained Metal								Comments
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	W (%)	Pb (%)	Zn (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Mo klbs	W klbs	Pb Mlbs	Zn Mlbs	
Indicated																		
Nucleus	31.0	0.75	0.65	0.07	0.7	na	na	na	na	748	651	44	698	na	na	na	na	Pit resources 0.30 g/t AuEq cut-off grade
Revenue	11.4	0.69	0.38	0.12	2.4	0.016	0.008	na	na	252	140	30	895	4,089	2,082	na	na	Pit resources 0.30 g/t AuEq cut-off grade
Total Indicated	**42.4**	**0.73**	**0.58**	**0.08**	**1.2**	**-**	**-**	**-**	**-**	**1,000**	**791**	**74**	**1,593**	**4,089**	**2,082**	**-**	**-**	-
Inferred																		
Nucleus	9.4	0.63	0.56	0.04	0.72	na	na	na	na	189	169	9	217	na	na	na	na	Pit resources 0.30 g/t AuEq cut-off grade
Revenue	27.5	0.77	0.51	0.12	2.5	0.009	0.005	na	na	677	446	73	2,203	5,478	2,867	na	na	Pit cut-off 0.30 g/t AuEq UG cut-off 1.0 g/t AuEq
Tinta Hill	2.2	3.08	1.29	0.17	44.7	na	na	0.63	1.29	216	90	8	3,140	na	na	30	62	Pit cut-off 0.35 g/t AuEq UG cut-off 1.8 g/t AuEq
Total Inferred	**39.0**	**0.86**	**0.56**	**0.10**	**4.4**	**-**	**-**	**-**	**-**	**1,082**	**705**	**90**	**5,560**	**5,478**	**2,867**	**30**	**62**	-

Note: Mineral resources are not mineral reserves because the economic viability has not been demonstrated.

The distribution of the base case mineral resources for the three deposits are shown from a series of isometric viewpoints in Figures 14-59 through 14-64.

Figure 14-59: Isometric View of Mineral Resources at the Nucleus Deposit

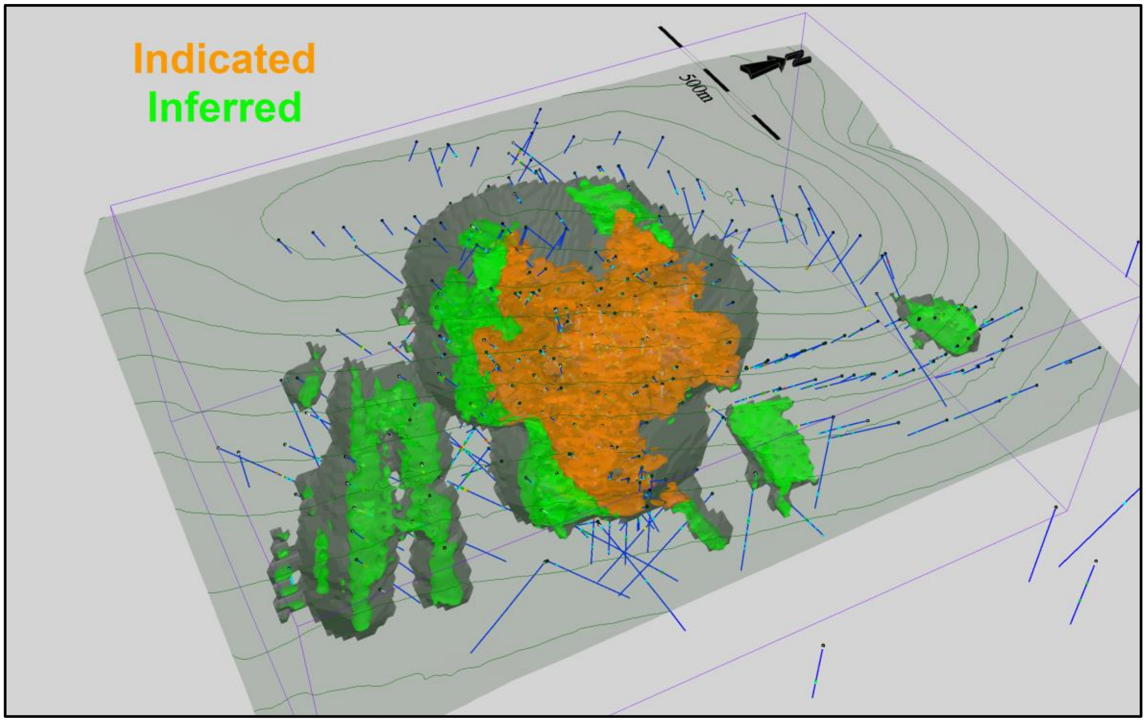


Figure 14-60: Isometric View of Mineral Resources at the Nucleus Deposit

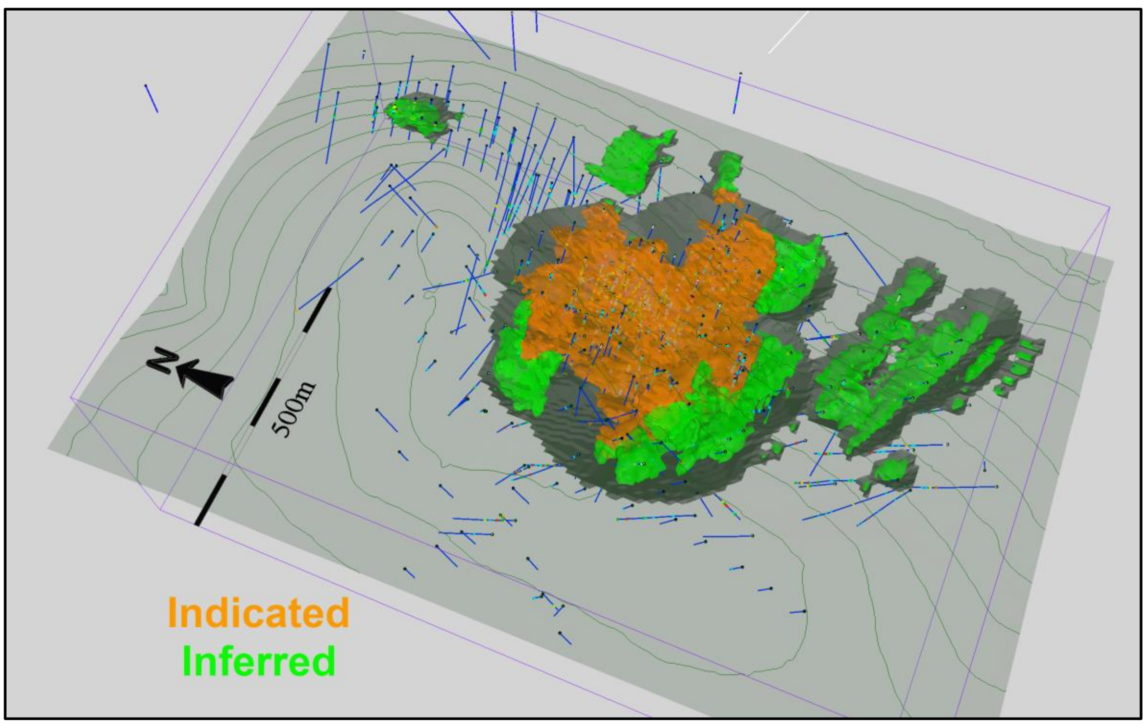


Figure 14-61: Isometric View of Mineral Resources at the Revenue Deposit

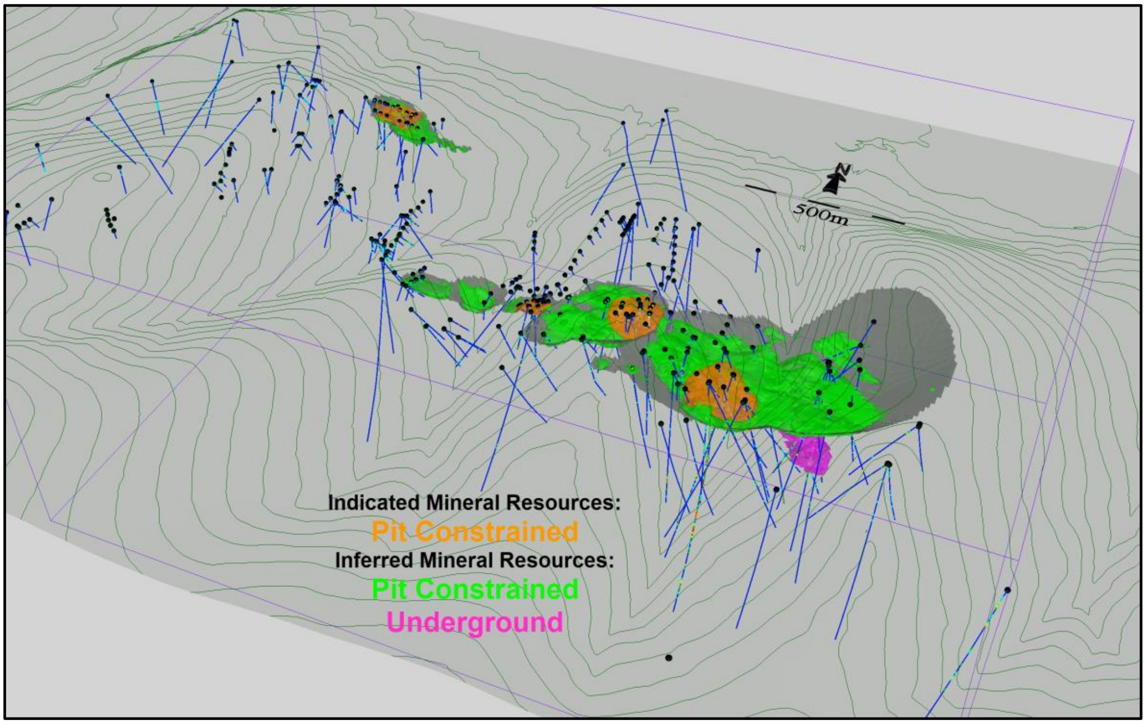


Figure 14-62: Isometric View of Mineral Resources at the Revenue Deposit

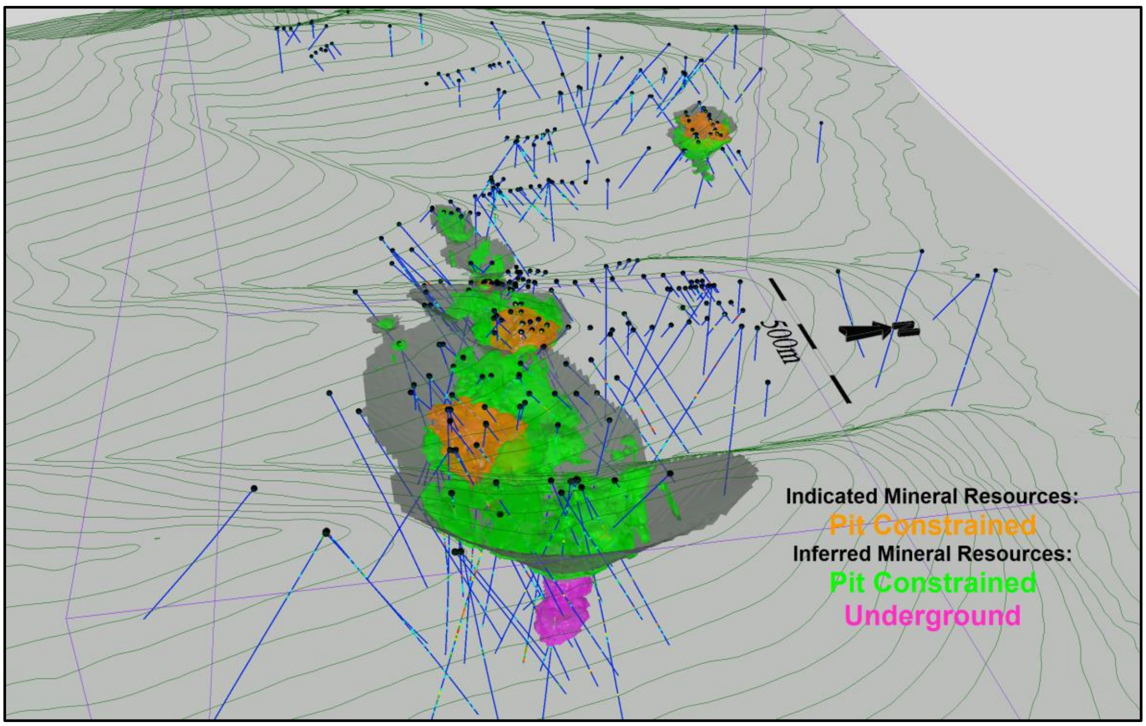


Figure 14-63: Isometric View of Inferred Mineral Resources at the Tinta Hill Deposit

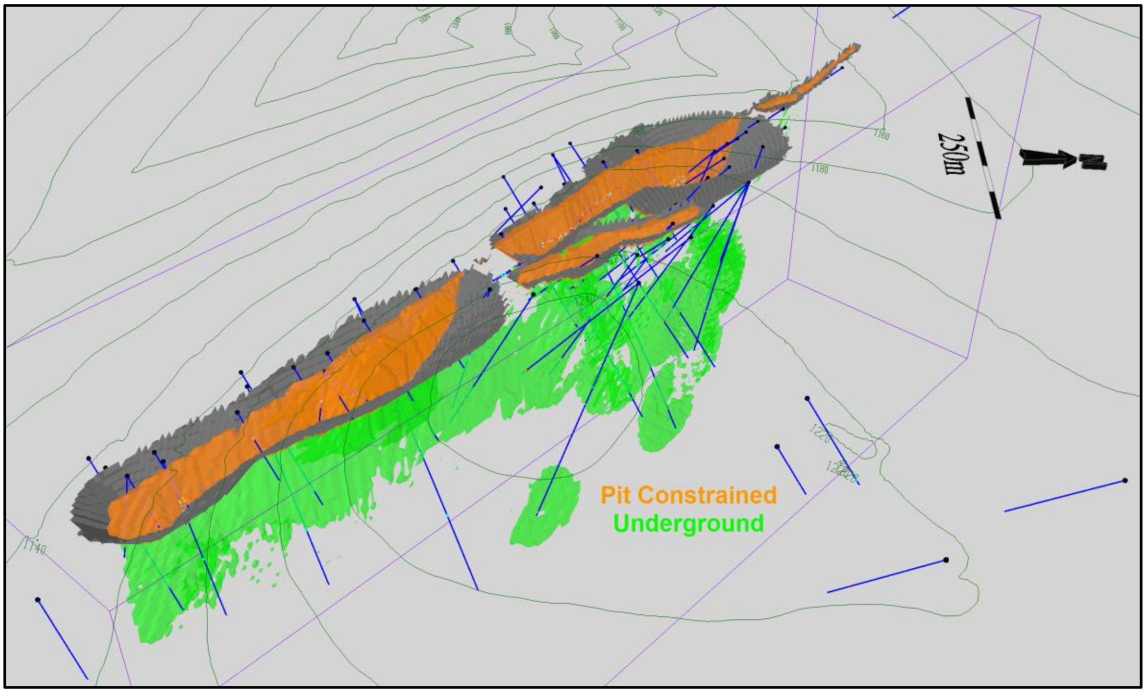
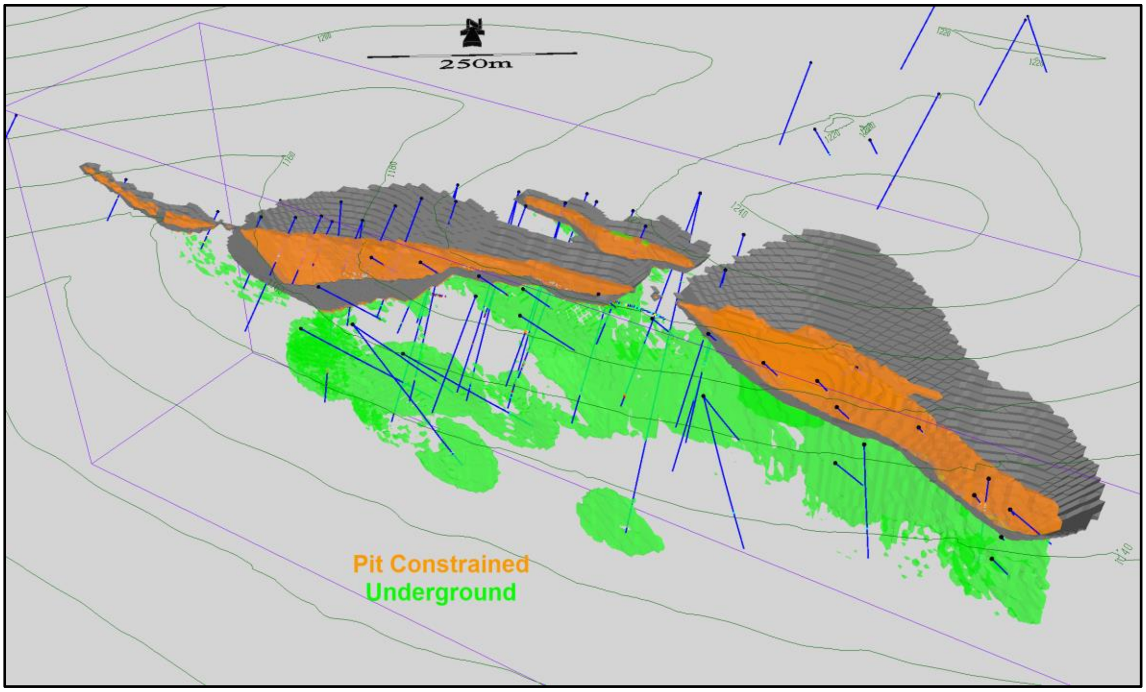


Figure 14-64: Isometric View of Inferred Mineral Resources at the Tinta Hill Deposit



The sensitivity of the estimate of mineral resources to cut-off grade at Nucleus is shown in Tables 14.23 and 14.24.

Table 14.23: Sensitivity of Pit Constrained Indicated Mineral Resource to Cut-off Grade at Nucleus

Cut-off Grade AuEq (g/t)	Tonnes (million)	Average Grade				Contained Metal			
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	AuEq koz	Au koz	Cu Mlbs	Ag koz
0.2	39.5	0.64	0.55	0.06	0.64	815	701	52	812
0.3 base case	**31.0**	**0.75**	**0.65**	**0.07**	**0.70**	**748**	**651**	**44**	**698**
0.4	23.2	0.88	0.78	0.07	0.75	661	583	35	560
0.5	17.0	1.04	0.93	0.07	0.82	571	510	28	448

Note: Resources constrained within $1,500/oz Au pit shell. Base case cut-off grade is 0.30 g/t AuEq for pit constrained resources.

Table 14.24: Sensitivity of Pit Constrained Inferred Mineral Resource to Cut-off Grade at Nucleus

Cut-off Grade AuEq (g/t)	Tonnes (million)	Average Grade				Contained Metal			
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	AuEq koz	Au koz	Cu Mlbs	Ag koz
0.2	11.5	0.56	0.50	0.04	0.66	206	183	10	243
0.3 base case	**9.4**	**0.63**	**0.56**	**0.04**	**0.72**	**189**	**169**	**9**	**217**
0.4	6.5	0.75	0.67	0.05	0.82	156	141	7	171
0.5	4.4	0.89	0.81	0.05	0.91	126	115	5	128

Note: Resources constrained within $1,500/oz Au pit shell. Base case cut-off grade is 0.30 g/t AuEq for pit constrained resources.

The sensitivity of the estimate of mineral resources to cut-off grade at Revenue is shown in Tables 14.25,14.26 and 14.27.

Table 14.25: Sensitivity of Pit Constrained Indicated Mineral Resources to Cut-off Grade at Revenue

Cut-Off Grade AuEq (g/t)	Tonnes (million)	Average Grade						Contained Metal					
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	W (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Mo klbs	W klbs
0.2	12.6	0.65	0.36	0.11	2.3	0.015	0.008	262	145	31	928	4,197	2,196
0.3 base case	**11.4**	**0.69**	**0.38**	**0.12**	**2.4**	**0.016**	**0.008**	**252**	**140**	**30**	**895**	**4,089**	**2,082**
0.4	9.2	0.77	0.43	0.13	2.7	0.019	0.009	228	127	26	809	3,754	1,907
0.5	7.1	0.87	0.48	0.14	3.1	0.021	0.011	197	110	22	701	3,282	1,704

Note: Resources constrained within $1,500/oz Au pit shell. Base case cut-off grade is 0.30 g/t AuEq for pit constrained resources.

Table 14.26: Sensitivity of Pit Constrained Inferred Mineral Resource to Cut-off Grade at Revenue

Cut-Off Grade AuEq (g/t)	Tonnes (million)	Average Grade						Contained Metal					
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	W (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Mo Mlbs	W Mlbs
0.2	36.1	0.56	0.36	0.09	1.8	0.007	0.004	653	419	72.4	2,049	5,807	3,420
0.3 base case	**25.0**	**0.70**	**0.46**	**0.11**	**2.2**	**0.009**	**0.005**	**565**	**367**	**61.1**	**1,786**	**4,954**	**2,807**
0.4	17.2	0.86	0.57	0.13	2.7	0.010	0.006	479	318	50.1	1,516	3,836	2,203
0.5	13.2	0.99	0.67	0.15	3.1	0.011	0.006	422	285	43.4	1,314	3,176	1,807

Note: Resources constrained within $1,500/oz Au pit shell. Base case cut-off grade is 0.30 g/t AuEq for pit constrained resources.

Table 14.27: Sensitivity of Underground Inferred Mineral Resources to Cut-off Grade at Revenue

Cut-Off Grade AuEq (g/t)	Tonnes (million)	Average Grade						Contained Metal					
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Mo (%)	W (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Mo klbs	W klbs
0.8	3.0	1.32	0.92	0.22	5.0	0.010	0.001	126	88	14	479	626	72
1.0 base case	**2.5**	**1.40**	**0.99**	**0.22**	**5.2**	**0.010**	**0.001**	**112**	**79**	**12.2**	**417**	**525**	**60**
1.2	1.8	1.53	1.09	0.24	5.6	0.010	0.001	86	61	9	313	367	43
1.4	1.1	1.66	1.20	0.25	6.0	0.009	0.001	60	43	6	215	225	27
1.6	0.6	1.81	1.34	0.26	6.4	0.009	0.001	34	25	3	118	108	14
1.8	0.2	1.99	1.51	0.27	7.2	0.007	0.001	15	12	1.4	56	36	6

Note: Resources constrained below the $1,500/oz Au pit shell. Base case cut-off grade is 1.0 g/t AuEq for underground resources.

The sensitivity of the estimate of mineral resources to cut-off grade at Tinta Hill is shown in Tables 14.28 and 14.29.

Table 14.28: Sensitivity of Pit Constrained Inferred Mineral Resources to Cut-off Grade at Tinta Hill

Cut-Off Grade AuEq (g/t)	Tonnes (000)	Average Grade						Contained Metal					
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Pb (%)	Zn (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Pb Mlbs	Zn Mlbs
0.25	903	2.98	1.07	0.18	42.0	0.71	1.45	86	31	4	1,219	14	29
0.3	898	2.99	1.08	0.18	42.2	0.72	1.46	86	31	4	1,219	14	29
0.35 base case	893	**3.01**	**1.09**	**0.18**	**42.5**	**0.72**	**1.47**	**86**	**31**	**4**	**1,218**	**14**	**29**
0.4	891	3.01	1.09	0.18	42.6	0.72	1.47	86	31	4	1,218	14	29
0.45	885	3.03	1.09	0.18	42.8	0.73	1.48	86	31	3	1,218	14	29
0.5	877	3.05	1.10	0.18	43.1	0.73	1.49	86	31	3	1,216	14	29

Note: Resources constrained within $1,500/oz Au pit shell. Base case cut-off grade is 0.35 g/t AuEq for pit constrained resources.

Table 14.29: Sensitivity of Underground Inferred Mineral Resources to Cut-off Grade at Tinta Hill

Cut-Off Grade AuEq (g/t)	Tonnes (000)	Average Grade						Contained Metal					
		AuEq (g/t)	Au (g/t)	Cu (%)	Ag (g/t)	Pb (%)	Zn (%)	AuEq koz	Au koz	Cu Mlbs	Ag koz	Pb Mlbs	Zn Mlbs
1.4	1,617	2.82	1.26	0.15	41.7	0.53	1.07	146	65	5	2,166	19	38
1.6	1,440	2.98	1.35	0.16	44.1	0.55	1.12	138	62	5	2,044	17	35
1.8 base case	1,290	**3.13**	**1.43**	**0.16**	**46.3**	**0.56**	**1.17**	130	59	5	1,921	16	33
2	1,157	3.27	1.49	0.17	48.5	0.58	1.23	122	56	4	1,804	15	31
2.2	1,030	3.42	1.56	0.17	50.7	0.61	1.30	113	52	4	1,680	14	29
2.4	889	3.59	1.63	0.18	53.8	0.64	1.37	103	47	3	1,537	12	27

Note: Resources constrained below the $1,500/oz Au pit shell. Base case cut-off grade is 1.8 g/t AuEq for underground resources.

14.6 Comparison with the Previous Estimate of Mineral Resources

The previous estimates of mineral resources for the Freegold Mountain Project were produced by GeoVector and are described in a technical report dated February 28, 2015 (effective date December 15, 2014). Note: All currency in this subsection is expressed in U.S. dollars.

14.6.1 Nucleus Deposit

The "Indicated Resource Estimate" from the 2015 Technical Report for Nucleus is shown in Table 14.30, and the "Inferred Resource Estimate" from the 2015 report for Nucleus is shown in Table 14.31. The base case cut-off grade is 0.5 g/t AuEq, where AuEq is calculated based on metal prices of $1,250/oz Au, $22/oz Ag and $2.90/lb Cu. Note: The formula used to calculate AuEq values is not included in the 2015 Technical Report.

Table 14.30: Previous Estimate of Indicated Mineral Resources for the Nucleus Deposit (GeoVector, December 15, 2014)

AuEq* (g/t)		Au		Ag		Cu		AuEq	
Cut-off	Tonnes	Grade (g/t)	Ozs	Grade (g/t)	Ozs	Grade (ppm)	lbs	Grade (g/t)	Ozs
0.10 g/t	196,160,000	0.283	1,790,000	0.638	4,030,000	442.165	191,220,000	0.365	2,300,000
0.20 g/t	119,460,000	0.405	1,550,000	0.782	3,000,000	549.476	144,710,000	0.506	1,940,000
0.30 g/t	**74,740,000**	**0.544**	**1,310,000**	**0.906**	**2,180,000**	**639.328**	**105,340,000**	**0.662**	**1,590,000**
0.40 g/t	46,860,000	0.720	1,080,000	1.018	1,530,000	709.014	73,250,000	0.851	1,280,000
0.50 g/t	32,670,000	0.886	930,000	1.097	1,150,000	756.631	54,500,000	1.027	1,080,000
0.60 g/t	23,390,000	1.068	800,000	1.199	900,000	801.113	41,300,000	1.218	920,000
0.70 g/t	18,080,000	1.224	710,000	1.346	780,000	847.520	33,790,000	1.384	810,000
1.0 g/t	9,260,000	1.744	520,000	1.847	550,000	854.544	17,440,000	1.915	570,000

** Gold equivalent (AuEq) is calculated based upon prices of US$1250/oz for gold, US$22.00/oz for silver, and US$2.90/lb for copper and assumes a 100% recovery. All figures are rounded to reflect the relative accuracy of the estimate and numbers may not add up due to rounding.*

Table 14.31: Previous Estimate of Inferred Mineral Resources for the Nucleus Deposit (GeoVector December 15, 2014)

AuEq* (g/t)		Au		Ag		Cu		AuEq	
Cut-off	Tonnes	Grade (g/t)	Ozs	Grade (g/t)	Ozs	Grade (ppm)	lbs	Grade (g/t)	Ozs
0.10 g/t	506,900,000	0.121	1,970,000	0.726	11,830,000	379.505	424,110,000	0.194	3,170,000
0.20 g/t	127,950,000	0.265	1,090,000	1.192	4,900,000	492.140	138,820,000	0.364	1,500,000
0.30 g/t	**63,790,000**	**0.390**	**800,000**	**1.535**	**3,150,000**	**491.799**	**69,160,000**	**0.495**	**1,020,000**
0.40 g/t	36,980,000	0.500	590,000	1.916	2,280,000	465.223	37,930,000	0.608	720,000
0.50 g/t	22,680,000	0.597	440,000	2.193	1,600,000	462.882	23,140,000	0.709	520,000
0.60 g/t	8,700,000	0.866	240,000	2.373	660,000	421.116	8,080,000	0.974	270,000
0.70 g/t	5,220,000	1.094	180,000	2.423	410,000	353.392	4,060,000	1.193	200,000
1.0 g/t	2,020,000	1.688	110,000	1.942	130,000	383.655	1,710,000	1.783	120,000

** Gold equivalent (AuEq) is calculated based upon prices of US$1250/oz for gold, US$22.00/oz for silver, and US$2.90/lb for copper and assumes a 100% recovery. All figures are rounded to reflect the relative accuracy of the estimate and numbers may not add up due to rounding.*

The previous base case Indicated "resource" tonnage is almost 2.5 times greater than the current estimate of Indicated mineral resources, and its Inferred "resource" is almost seven times greater than the current estimate of Inferred mineral resources. Although the base case cut-off grade of 0.5 g/t AuEq used in 2015 by GeoVector may reflect a reasonable threshold for open pit mining based on the metal prices used at that time, the estimate is not constrained within a pit shell, and, therefore, it includes some very deep mineralized zones that does not exhibit reasonable prospects for eventual economic extraction. The resource block model for Nucleus includes appreciable mineralization to depths approaching 600 m below surface. However, pit shell analyses using projected technical and economic parameters indicate that portions of the deposit that extend deeper than about 200 m below surface do not exhibit reasonable prospects for eventual economic extraction and, therefore, should not be included in estimates of mineral resources.

14.6.2 Revenue Deposit

The "Inferred Resource Estimate" from the 2015 Technical Report for Revenue is shown in Table 14.32. The base case cut-off grade is 0.5 g/t AuEq, where AuEq is calculated based on metal prices of $1,250/oz Au, $22/oz Ag, $2.90/lb Cu and $10/lb Mo. Note: The formula used to calculate AuEq values is not included in the 2015 Technical Report.

Table 14.32: Previous Estimate of Inferred Mineral Resources for the Revenue Deposit (GeoVector, December 15, 2014)

AuEq* (g/t)	Tonnes	Gold		Silver		Copper		Molybdenum		AuEq*	
Cut-off		g/t	Ozs	g/t	Ozs	%	lbs	%	lbs	g/t	Ozs
0.1 g/t	196,430,000	0.23	1,460,000	2.20	13,920,000	0.09	411,040,000	0.02	106,760,000	0.56	3,720,000
0.2 g/t	182,450,000	0.24	1,430,000	2.29	13,440,000	0.10	396,880,000	0.03	105,790,000	0.59	3,640,000
0.3 g/t	131,060,000	0.30	1,270,000	2.78	11,700,000	0.12	338,320,000	0.03	95,600,000	0.72	3,200,000
0.4 g/t	101,280,000	0.35	1,130,000	3.15	10,250,000	0.13	288,850,000	0.04	88,300,000	0.83	2,840,000
0.5 g/t	**80,800,000**	**0.39**	**1,010,000**	**3.45**	**8,960,000**	**0.14**	**241,360,000**	**0.05**	**82,850,000**	**0.92**	**2,520,000**
0.6 g/t	56,200,000	0.45	820,000	3.75	6,780,000	0.15	188,540,000	0.06	73,130,000	1.09	2,060,000
0.7 g/t	47,590,000	0.49	740,000	3.90	5,970,000	0.16	166,330,000	0.07	68,400,000	1.16	1,870,000
0.8 g/t	33,190,000	0.60	640,000	4.74	5,060,000	0.19	136,020,000	0.07	49,420,000	1.35	1,510,000
0.9 g/t	27,050,000	0.66	570,000	5.14	4,470,000	0.20	116,330,000	0.07	43,550,000	1.46	1,340,000
1 g/t	21,850,000	0.73	510,000	5.64	3,960,000	0.21	99,990,000	0.08	37,270,000	1.58	1,170,000

** Gold equivalent (AuEq) is calculated based upon prices of US$1250/oz for gold, US$22.00/oz for silver, US$2.90/lb for copper, and US$10.00/lb for molybdenum, and assumes a 100% recovery. All figures are rounded to reflect the relative accuracy of the estimate and numbers may not add up due to rounding.*

The previous base case Inferred "resource" tonnage is almost twice that of the current estimate of Inferred mineral resources. Although the base case cut-off grade of 0.5 g/t AuEq used in 2015 by GeoVector may reflect a reasonable threshold for open pit mining based on the metal prices used at that time, the estimate is not constrained within a pit shell and, therefore, it includes some very deep mineralized zones that do not exhibit reasonable prospects for eventual economic extraction. The resource block model for Revenue includes appreciable mineralization to depths exceeding 600 m below surface. However, pit shell analyses using projected technical and economic parameters indicate that portions of the deposit that extend deeper than about 300 m below surface do not exhibit reasonable prospects for eventual economic extraction and, therefore, should not be included in estimates of mineral resources.

14.6.3 Tinta Hill Deposit

The "Inferred Resource Estimate" from the 2015 Technical Report for Tinta Hill is shown in Table 14.33; the table shows a range of cut-off grades and highlights the base case cut-off grade of 0.5 g/t Au.

Table 14.33: Previous Estimate of Inferred Mineral Resources for the Tinta Hill Deposit (GeoVector, December 15, 2014)

Cutoff (Au g/t)	Tonnes	Grade					Contained Metal				
		Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Ozs Au	Ozs Ag	Lbs Cu	Lbs Pb	Lbs Zn
0.2 g/t	2,950,000	1.48	46.7	0.23	0.87	1.30	140,000	4,430,000	15,300,000	56,800,000	84,800,000
0.3 g/t	2,660,000	1.61	49.0	0.25	0.89	1.34	138,000	4,180,000	14,700,000	52,000,000	78,300,000
0.4 g/t	2,450,000	1.72	51.3	0.26	0.93	1.37	135,000	4,040,000	14,100,000	50,000,000	73,800,000
0.5 g/t	**2,160,000**	**1.89**	**54.9**	**0.27**	**0.99**	**1.41**	**131,000**	**3,810,000**	**13,000,000**	**47,100,000**	**67,200,000**
0.6 g/t	2,000,000	2.00	56.5	0.28	1.01	1.42	128,000	3,630,000	12,400,000	44,400,000	62,300,000
0.7 g/t	1,830,000	2.12	58.2	0.29	1.03	1.43	125,000	3,440,000	11,800,000	41,700,000	57,800,000
0.8 g/t	1,680,000	2.25	59.2	0.30	1.05	1.44	121,000	3,190,000	11,000,000	38,800,000	53,100,000
0.9 g/t	1,480,000	2.43	59.1	0.31	1.06	1.45	116,000	2,810,000	10,200,000	34,500,000	47,300,000
1.0 g/t	1,260,000	2.68	58.7	0.32	1.06	1.48	109,000	2,380,000	8,800,000	29,600,000	41,200,000

The previous base case Inferred "resource" tonnage shows similar tonnage and higher average grades for all metals compared to the current estimate listed in Table 14.21. Although the base case cut-off grade of 0.5 g/t AuEq used in 2015 by GeoVector may reflect a reasonable threshold for open pit mining based on the metal prices used at that time, the estimate is not constrained within a pit shell. As shown in Figures 14-63 and 14-64, significant mineralization at Tinta Hill extends to depths of more than 400 m below surface. However, pit shell analyses using projected technical and economic parameters indicate that only areas within 100 m below surface are amenable to open pit mining methods. Therefore, it is not appropriate to apply an open pit cut-off grade to the *whole* mineral resource, as was done previously.

14.7 COMMENTS AND CONCLUSIONS

The Nucleus deposit contains pit constrained Indicated mineral resource estimated, at a base case cut-off grade of 0.30 g/t AuEq, to be 31 Mtonnes at a grade of 0.65 g/t Au, 0.07% Cu, and 0.70 g/t Ag containing 651 koz of gold, 44 Mlbs of copper and 698 koz of silver plus an Inferred mineral resource estimated to be 9.4 Mtonnes at a grade of 0.56 g/t Au, 0.04% Cu, and 0.72 g/t Ag containing 169 koz of gold, 9 Mlbs of copper and 217 koz of silver. As required under NI 43-101, the estimate of mineral resources exhibits reasonable prospects of eventual economic extraction using open pit mining methods. The resource limiting pit shell extends to maximum depths of about 200 m below surface. The total amount of contained gold in mineral resources in the current estimate is about 40% of the total reported in the previous resource estimate conducted in 2015; this is because, although the previous estimate was reported using a cut-off grade considered reasonable for open pit extraction methods, the estimate was not constrained within a resource limiting pit shell.

The extent of mineralization in most of the central and northern parts of the Nucleus deposit appears to be defined with current drilling. Some of the narrow zones in the southern area of the deposit remain open along strike.

The Revenue deposit contains a pit constrained Indicated mineral resource, at a base case cut-off grade of 0.30 g/t AuEq, of 11.4 Mtonnes at a grade of 0.38 g/t Au, 0.12% Cu, 2.4 g/t Ag, 0.016% Mo, and 0.008% W containing 140 koz of gold, 30 Mlbs of copper, 895 koz of silver, 4.1 Mlbs of molybdenum, and 2.1 Mlbs of tungsten plus an Inferred mineral resource of 25 Mtonnes at a grade of 0.46 g/t Au, 0.11% Cu, 2.2 g/t Ag, 0.009% Mo, and 0.005% W containing 367 koz of gold, 61 Mlbs of copper, 1.8 Moz of silver, 5 Mlbs of molybdenum, and 2.8 Mlbs of tungsten. Below the resource limiting pit shell, there is additional Inferred mineral resource considered amenable to underground mining methods. Using a base case cut-off grade of 1.0 g/t AuEq, the estimate of Inferred mineral resources amenable to underground extraction methods totals 2.5 Mtonnes at a grade of 0.99 g/t Au, 0.22% Cu, 5.2 g/t Ag, 0.010% Mo, and 0.001% W containing 79 koz of gold, 12 Mlbs of copper, 0.4 Moz of silver, 0.5 Mlbs of molybdenum, and 0.06 Mlbs of tungsten. As required under NI 43-101, the estimate of mineral resources exhibits reasonable prospects of eventual economic extraction using a combination of open pit and underground mining methods.

The amount of contained gold in mineral resources in the current estimate is about ½ of the total reported in the previous estimate conducted in 2015; this is because, although the previous estimate was reported using a cut-off grade considered reasonable for open pit extraction methods, the estimate was not constrained within a resource limiting pit shell.

The “Blue Sky Zone” of higher grade mineralization located on the eastern end of the Revenue deposit remains “open” to expansion in several directions and at depth.

The Tinta Hill deposit hosts an estimated Inferred mineral resource of 2.2 Mtonnes at a grade of 1.29 g/t Au, 0.17% Cu, 44.7 g/t Ag, 0.63% Pb and 1.29% Zn containing 90 koz of gold, 8 Mlbs of copper, 3.1 Moz of silver, 30 Mlbs of lead and 62 Mlbs of zinc that is considered amenable to a combination of open pit and underground extraction methods. The deposit remains open, to some extent, along strike and at depth.

15 MINERAL RESERVE ESTIMATES

Currently, there are no mineral reserve estimates for the Freegold Mountain Project.

16 MINING METHODS

This section is not applicable.

17 RECOVERY METHODS

This section is not applicable.

18 PROJECT INFRASTRUCTURE

This section is not applicable.

19 MARKET STUDIES AND CONTRACTS

This section is not applicable.

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Northern Freegold Resources initiated some preliminary water balance and water quality studies, but, at this stage, they are insufficient to characterize the environmental aspects of the Project.

In addition, Triumph Gold has begun community consultations with local stakeholders, but no agreements for development have been reached.

For all projects in the Yukon, as of November 2005, the Yukon Environmental and Socio-economic Assessment Board (YESAB) must assess projects in Yukon for environmental and socio-economic effects under the Yukon Environmental and Socio-economic Assessment Act (YESAA). The Act includes two regulations: Assessable Activities, Exceptions and Executive Committee Projects Regulations and Decision Body Time Periods and Consultation Regulations.

Development of the Freegold Mountain Project into a fully operational mine will trigger an environmental assessment under YESAA as all activities related to the construction, operation, modification or closure of the mine are listed as assessable activities. The level of assessment will be at the Executive Committee screening level as the key activities meet or exceed the applicable activity thresholds. The YESAA screening process for projects submitted to the Executive Committee is estimated to take between 18 and 30 months to complete.

The regulatory permitting and licensing processes are separate from the environmental and socio-economic assessment process and are initiated only after the issuance of a positive YESAA Screening Report.

At this time, there are no environmental or socio-economic issues associated with the Freegold Mountain Project that are expected to prevent or delay project development.

21 CAPITAL AND OPERATING COSTS

This section is not applicable.

22 ECONOMIC ANALYSIS

This section is not applicable.

23 ADJACENT PROPERTIES

Properties adjacent to the Freegold Mountain Property include the LaForma and Antoniuk gold deposits and the Ant, Greenstone, Boo, Best and Cara claims. The LaForma and Antoniuk deposits and the Ant claims are held by Strikewell Energy Corp. and are located between the Goldy and Goldstar Zones. The Boo claims are 100% owned by Bill Harris, the Best and Cara claims are 49% owned by Bill Harris and 51% owned by Mainsteele Developments Ltd., and the Greenstone claims are 49% owned by Bill Harris and 51% owned by Eric Wienecke.

The LaForma and Antoniuk deposits are the only adjacent properties containing estimates of mineral resources. They are described briefly below. These estimates are historical in nature, and the QP has not reviewed these estimates and is unable to verify this information.

No information from any adjacent properties has been used in the estimate of mineral resources at the Freegold Mountain Property.

23.1 LaForma Deposit

The LaForma deposit is interpreted to be a low sulphidation vein deposit that has experienced some limited historical underground production (in 1939 and also from 1965 to 1966).

Wallis (1987) reviewed previous data and reported that the proven and probable reserves on the G3 Vein were 176 ktonnes at 13.03 g/t Au. (converted from 193,456 tons grading 0.38 ounces).

In 1996, the Redell Mining Corporation commissioned Ash and Associates Consultants Ltd. to produce a "geological resource" estimate for the LaForma deposit (Table 23.1).

Table 23.1: 1996 Historical Resource for the LaForma Deposit

G3 Vein and G3 Extension	Grade Cut-off (Au g/t)	Mineral Resource (tonnes)	Average Grade (g/t Au)
Geological Resource	0.000	1,333,739	1.95
Mineral resource (subset of the geological resource, assayed portion only)	0.001	602,470	4.31
	0.450	340,775	7.43
	0.778	296,513	8.50
	1.001	260,021	9.56
	1.555	221,577	11.0

Note: The information presented in Table 23.1 is historical in nature, and the QP has not reviewed these estimates and is unable to verify this information. This information should not be relied upon.

23.2 Antoniuk Deposit

A 1974 geochemical sampling program outlined a 500 m by 300 m gold-arsenic anomaly over porphyritic and brecciated intrusive rocks of the Antoniuk deposit. Trenching and drilling outlined a roughly elliptical diatreme of heterolithic breccia cutting an igneous complex. Gold-bearing zones at Antoniuk occur within or adjacent to the diatreme.

In 1985, Cathro & Main produced “Inferred reserves” based on surface trench assays, eight rotary percussion drill holes and two diamond drill holes in two separate blocks to a depth of 61 m (Table 23.2).

Table 23.2: 1985 Historical “Inferred Reserves” for the Antoniuk Deposit

Cut-off (Au g/t)	Tonnes (million)	Grade (Au g/t)	Cumulative Gold (koz)
0.34	5.1	1.17	192
0.50	3.8	1.44	176
0.70	2.6	1.82	155
0.86	2.1	2.06	141
1.03	1.7	2.37	128

Note: The information presented in Table 23.2 is historical in nature, and the QP has not reviewed these estimates and is unable to verify this information. This information should not be relied upon.

In 1986, the Antoniuk “reserve” was recalculated by E.S. Holt with the addition of the 1986 drill assays to produce a “probable (drill-indicated) reserve”. This reserve was divided into oxide and sulphide based on metallurgy (Table 23.3).

Table 23.3: 1986 Historical “Probable Reserves” for the Antoniuk Deposit

Cut-off (Au g/t)	Category	Tonnes (million)	Grade (g/t Au)	Cumulative Gold (koz)
0.5	Oxide	2.6	0.99	84
0.5	Sulphide	1.1	1.50	53
0.5	Combined	3.7	1.14	136
0.7	Oxide	1.9	1.14	69
0.7	Sulphide	1.1	1.52	52
0.7	Combined	3.0	1.28	122

Note: The information presented in Table 23.3 is historical in nature, and the QP has not reviewed these estimates and is unable to verify this information. This information should not be relied upon.

24 OTHER RELEVANT DATA AND INFORMATION

There are no other relevant data or information.

25 INTERPRETATION AND CONCLUSIONS

Based on the evaluation of the data available from the Freegold Mountain Project, the authors of this Technical Report conclude the following:

- At the effective date of this Technical Report (February 11, 2020), Triumph Gold has 100% ownership in the Freegold Mountain Project, located in the Whitehorse Mining District near the village of Carmacks, Yukon, Canada.
- The Freegold Mountain Project contains three mineral deposits: the Nucleus deposit is an epithermal-style gold-silver-copper deposit, Revenue is a porphyry-related gold-silver-copper-molybdenum-tungsten deposit located approximately 4 km to the southeast of the Nucleus deposit, and Tinta Hill is a vein-hosted gold-silver-copper-lead-zinc deposit located 14 km southeast of Revenue.
- Drilling to date at the Nucleus deposit has outlined a pit constrained Indicated mineral resource estimate (at a 0.30 g/t AuEq cut-off) of 31 Mtonnes at 0.65 g/t Au, 0.07% Cu and 0.70 g/t Ag which contains 651 koz of gold, 44 Mlbs of copper and 698 koz of silver and an Inferred mineral resource estimate of 9.4 Mtonnes at 0.56 g/t Au, 0.04% Cu and 0.7 g/t Ag which contains 189 koz of gold, 9 Mlbs of copper and 217 koz of silver. As required under NI 43-101, the estimate of mineral resources exhibits reasonable prospects of eventual economic extraction using open pit mining methods.
- Drilling to date at the Revenue deposit has outlined a pit constrained Indicated mineral resource estimate (at a 0.30 g/t AuEq cut-off) of 11.4 Mtonnes at 0.38 g/t Au, 0.12% Cu, 2.4 g/t Ag, 0.016% Mo and 0.008% W which contains 140 koz of gold, 30 Mlbs of copper, 895 koz of silver, 4.1 Mlbs of molybdenum and 2.1 Mlbs of tungsten and an Inferred mineral resource estimate of 25 Mtonnes at 0.46 g/t Au, 0.11% Cu and 2.2 g/t Ag, 0.009% Mo and 0.005% W which contains 367 koz of gold, 61 Mlbs of copper, 1.8 Moz of silver, 5 Mlbs of molybdenum and 2.8 Mlbs of tungsten. Below the resource limiting pit shell, there is an additional Inferred resource that is considered amenable to underground extraction methods at a 1.0 g/t AuEq cut-off grade of 2.5 Mtonnes at 0.99 g/t Au, 0.22% Cu, 5.2 g/t Ag, 0.010% Mo and 0.001% W which contains 79 koz of gold, 12 Mlbs of copper, 417 koz of silver, 525 klbs of molybdenum and 60 klbs of tungsten. As required under NI 43-101, the estimate of mineral resources exhibits reasonable prospects of eventual economic extraction using a combination of open pit and underground mining methods.
- Drilling to date at the Tinta Hill deposit has outlined a pit constrained Inferred mineral resource estimate (at a 0.35 g/t AuEq cut-off) of 893 ktonnes at 1.09 g/t Au, 0.18% Cu, 42.5 g/t Ag, 0.72% Pb and 1.47% Zn which contains 31 koz of gold, 4 Mlbs of copper, 1.2 Moz of silver, 14 Mlbs of lead and 29 Mlbs of zinc. Below the resource pit shell, there is an additional Inferred resource that is considered amenable to underground extraction methods at a 1.8 g/t AuEq cut-off grade of 1.3 Mtonnes at 1.43 g/t Au, 0.16% Cu, 46.3 g/t Ag, 0.56% Pb and 1.17% Zn which contains 59 koz of gold, 5 Mlbs of copper, 1.9 Moz of silver, 16 klbs of lead and 33 klbs of zinc.

- The three deposits have a combined Indicated mineral resource estimated to be 42.4 Mtonnes at 0.58 g/t Au, 0.08% Cu, 1.2 g/t Ag which contains 791 koz of gold, 74 Mlbs of copper, 1.6 Moz of silver and a combined Inferred mineral resource estimated to be 39 Mtonnes at 0.56 g/t Au, 0.10% Cu, 4.4 g/t Ag which contains 705 koz of gold, 90 Mlbs of copper, 5.6 Moz of silver.
- The newly discovered Blue Sky and WAu Breccia zones at Revenue remain “open” to expansion with further exploration along strike and at depth. Some of the southern areas at Nucleus remain “open” to expansion, and the Tinta Hill deposit remains “open” to expansion at depth and along strike.
- There are no known factors related to metallurgical, environmental, permitting, legal, title, taxation, socio-economic, marketing or political issues which could materially affect the mineral resource estimates contained in this report.

26 RECOMMENDATIONS

The authors have made a series of recommendations designed to advance the understanding and viability of the Project going forward. Drilling recommendations focus on expanding the current resources at Revenue and Tinta, as well as testing the potential for satellite deposits in the area surrounding Revenue.

Additional metallurgical testing is proposed that will incorporate more spatially representative samples across all deposit areas.

Finally, some preliminary engineering studies should be initiated that evaluate potential mining methods, both surface and underground, with projected production rates and associated operating costs. This information, together with enhanced metallurgical evaluations, will allow for better future economic evaluations of the mineral resources at Freegold Mountain.

Some comments on the various drilling targets are listed:

- Drill-testing the WAu Breccia below the current Revenue resource in order to deepen the pit-constrained resource and/or assess the underground resource potential (2,500 m of diamond drilling recommended).
- Infill and step out drilling within and beneath the Blue Sky Zone to extend the underground Revenue resource to depth and to test for an underlying or adjacent source of the mineralizing fluids, for example causative intrusion (2,500 m of diamond drilling recommended).
- Step-out drilling of the Revenue resource to the east of the Blue Sky Zone and to the north of the WAu Zone (2,500 m of diamond drilling recommended).
- Drill coincident soil geochemical and geophysical anomalies adjacent to the Revenue deposit testing for potential satellite deposits with characteristics similar to the WAu Breccia and Blue Sky Porphyry Breccia (3,000 m of diamond drilling recommended).
- Infill/step-out drilling adjacent to higher grade intersections that tested deeper portions of the Tinta Hill resource (1,500 m of diamond drilling recommended).
- Methodical shallow drill-testing of polymetallic mineralization identified in trenches along strike to the northwest of the Tinta Hill mineral resource (2,500 m of diamond drilling recommended)
- In addition to the Revenue, Nucleus and Tinta Hill mineral resources, there are numerous prospects across the 200 sq. km Freegold Mountain Property that have significant potential to host mineral deposits. Several of these targets are considered by Triumph Gold geologists as “drill-ready”, while others require additional geological mapping, trenching or geophysical surveys (3,000 m of diamond drilling and an additional $750,000 in expenditures for other exploration techniques recommended).

Table 26.1 summarizes the projected costs of the recommended work for the Freegold Mountain Project.

Table 26.1: Summary of Recommended Future Work and Projected Costs

Area	Description	Units	Cost (CAD)
Revenue	Delineate and expand resource at WAu Zone	Drilling 2,500 m	$700,000
	Delineate and expand resource at Blue Sky Zone	Drilling 2,500 m	$700,000
	Delineate and expand near-surface resources	Drilling 2,500 m	$700,000
	Exploration holes test anomalies adjacent to deposit	Drilling 3,000 m	$840,000
Tinta Hill	Infill drilling of areas with high grade potential	Drilling 1,500 m	$420,000
	Exploration drilling along strike and at depth	Drilling 2,500 m	$700,000
Other Areas	Grassroots exploration and drilling	Drilling 3,000 m Mapping, sampling, etc.	$840,000 $740,000
Revenue, Nucleus and Tinta Hill	Metallurgical studies		$50,000
	Preliminary engineering studies on mining methods, productivity and costs		$50,000
Total		**Drilling 17,500 m**	**$5,740,000**

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28 DATE AND SIGNATURE PAGES

CERTIFICATE OF QUALIFIED PERSON
Bruce M. Davis, FAusIMM, BD Resource Consulting, Inc.

I, Bruce M. Davis, FAusIMM, do hereby certify that:

1. I am an independent consultant of BD Resource Consulting Inc., and have an address at 4253 Cheyenne Drive, Larkspur, Colorado USA 80118.
2. I graduated from the University of Wyoming with a Doctor of Philosophy (Geostatistics) in 1978.
3. I am a Fellow of the Australasian Institute of Mining and Metallurgy, Number 211185.
4. I have practiced my profession continuously for 39 years and have been involved in mineral resource and reserve estimations and feasibility studies on numerous underground and open pit base metal and gold deposits in Canada, the United States, Central and South America, Europe, Asia, Africa and Australia.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I am responsible for the preparation of Sections 11 and 12 and portions of Sections 1, 2, 3, 14, 25, and 26 of the technical report titled *Freegold Mountain Project, Whitehorse Mining District, Yukon, Canada, NI 43-101 Technical Report*, dated March 27, 2020, with an effective date of February 11, 2020. (the "Technical Report").
7. I have not visited the Freegold Mountain Project.
8. I am independent of Triumph Gold Corp. applying all the tests in Section 1.5 of NI 43-101.
9. I have had no prior involvement with the property that is the subject of the Technical Report. I have read NI 43-101, Form 43-101F1 Technical Report ("Form 43-101F1") and the Technical Report and confirm the portions of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101 and Form 43-101F1.
10. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 27th day of March 2020.

"original signed and sealed"

Bruce M. Davis, FAusIMM

CERTIFICATE OF QUALIFIED PERSON
Robert Sim, P.Geo., SIM Geological Inc.

I, Robert Sim, P.Geo., do hereby certify that:

1. I am an independent consultant of: SIM Geological Inc. and have an address at 508–1950 Robson Street, Vancouver, British Columbia, Canada V6E 1E8.
2. I graduated from Lakehead University with an Honours Bachelor of Science (Geology) in 1984.
3. I am a member, in good standing, of Engineers and Geoscientists British Columbia, Licence Number 24076.
4. I have practiced my profession continuously for 36 years and have been involved in mineral exploration, mine site geology and operations, mineral resource and reserve estimations and feasibility studies on numerous underground and open pit base metal and gold deposits in Canada, the United States, Central and South America, Europe, Asia, Africa and Australia.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
6. I am responsible for the preparation of all sections except 11 and 12 of the technical report titled "Freegold Mountain Project, Whitehorse Mining District, Yukon, Canada, NI 43-101 Technical Report" dated March 27, 2020 , with an effective date of February 11, 2020 (the "Technical Report").
7. I visited the Freegold Mountain Property from June 4 to 5, 2018.
8. I am independent of Triumph Gold Corp. applying all the tests in Section 1.5 of NI 43-101.
9. I have had no prior involvement with the property that is the subject of the Technical Report. I have read NI 43-101, Form 43-101F1 Technical Report ("Form 43-101F1") and the Technical Report and confirm the portions of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101 and Form 43-101F1.
10. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 27th day of March 2020.

"original signed and sealed"

Robert Sim, P.Geo.

29 APPENDICES

Appendix A: Claims List for the Freegold Mountain Project

Operating Permit	Grant Number	Claim Name	No. of Claims	NTS	Anniversary Date	Owner and Work Completed By
LQ00417	YC09221 - 240	Sey 1 - 20	20	115I06	2030-02-28	Triumph Gold Corp. - 100%
	YC29907 - 914	Sey 21 - 28	8	115I06	2028-02-28	Triumph Gold Corp. - 100%
LQ00426	Y 26371 - 372	Add 5 - 6	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	68060 - 061	Addition 1 - 2	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	74488 - 489	Addition 3 - 4	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	75323	Addition 5	1	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 79564 - 568	Au 1 - 5	5	115I06	2032-02-28	Triumph Gold Corp. - 100%
	YC54143 - 147	Au 14 - 18	5	115I06	2028-02-28	Triumph Gold Corp. - 100%
	Y 80439 - 440	Au 6 - 7	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	YC47242 - 247	Au 8 - 13	6	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YA95206 - 211	Bit 1 - 6	6	115I06	2032-02-28	Triumph Gold Corp. - 100%
	YA95212	Bit 14	1	115I06	2032-02-28	Triumph Gold Corp. - 100%
	YA95221 - 224	Bit 15 - 18	4	115I06	2032-02-28	Triumph Gold Corp. - 100%
	YA95214 - 220	Bit 7 - 13	7	115I06	2032-02-28	Triumph Gold Corp. - 100%
	YF93685	Division 1F	1	115I06	2020-02-28	Triumph Gold Corp. - 100%
	YC19290 - 293	Feliz 1 - 4	4	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC19661 - 665	Feliz 25 - 29	5	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC19655 - 660	Feliz 5 - 10	6	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC47233	Froh 57	1	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC19283 - 284	Happy 2 - 3	2	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC19286 - 289	Happy 5 - 8	4	115I06	2028-02-28	Triumph Gold Corp. - 100%
	75321 - 322	Homestake 1 - 2	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 21008 - 011	Inca 1 - 4	4	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 21014 - 015	Inca 7 - 8	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	YC30165 - 200	Mag 1 - 36	36	115I06	2028-02-28	Triumph Gold Corp. - 100%

Operating Permit	Grant Number	Claim Name	No. of Claims	NTS	Anniversary Date	Owner and Work Completed By
	YC37001 - 008	Mag 37 - 44	8	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC09250	More 10	1	115I06	2030-02-28	Triumph Gold Corp. - 100%
	YC09243 - 248	More 3 - 8	6	115I06	2030-02-28	Triumph Gold Corp. - 100%
	YC09336 - 337	More 31 - 32	2	115I06	2030-02-28	Triumph Gold Corp. - 100%
	YC09279 - 285	Nuc 1 - 7	7	115I06	2030-02-28	Triumph Gold Corp. - 100%
	YC47421 - 423	Nuc 8 - 10	3	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YA51198-218	Nucleus 10 - 30	21	115I06	2029-02-28	Triumph Gold Corp. - 100%
	YA51190	Nucleus 2	1	115I06	2029-02-28	Triumph Gold Corp. - 100%
	YA51192	Nucleus 4	1	115I06	2029-02-28	Triumph Gold Corp. - 100%
	YA60262 - 265	Nucleus 41 - 44	4	115I06	2029-02-28	Triumph Gold Corp. - 100%
	YA60268 - 269	Nucleus 47 - 48	2	115I06	2029-02-28	Triumph Gold Corp. - 100%
	YA51194	Nucleus 6	1	115I06	2029-02-28	Triumph Gold Corp. - 100%
	YA51196	Nucleus 8	1	115I06	2029-02-28	Triumph Gold Corp. - 100%
	Y 25959	Rev 11	1	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 25961 - 962	Rev 13 - 14	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	YA95213	Rev-Cop 1	1	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 24017 - 020	Revenue 13 - 16	4	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 24025 - 026	Revenue 21 - 22	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 26361 - 362	Revenue 3 - 4	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 26365 - 366	Revenue 5 - 6	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 26404 - 405	Revenue 7 - 8	2	115I06	2032-02-28	Triumph Gold Corp. - 100%
	67180 - 187	Revenue Copper 1 - 8	8	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 21272	Revenue No. 11	1	115I06	2032-02-28	Triumph Gold Corp. - 100%
	Y 21270	Revenue No. 9	1	115I06	2032-02-28	Triumph Gold Corp. - 100%
	YA97441 - 443	Subtract 1 - 3	3	115I06	2032-02-28	Triumph Gold Corp. - 100%
LQ00447	YC57842 - 843	Goldy 105 - 106	2	115I02	2023-02-28	Triumph Gold Corp. - 100%
	YC57844 - 845	Goldy 107 - 108	2	115I02	2025-02-28	Triumph Gold Corp. - 100%
	YC65775 - 784	Goldy 109 - 118	10	115I07	2024-02-28	Triumph Gold Corp. - 100%
	YC57816 - 831	Goldy 79 - 94	16	115I02	2027-02-28	Triumph Gold Corp. - 100%

Operating Permit	Grant Number	Claim Name	No. of Claims	NTS	Anniversary Date	Owner and Work Completed By
	YC57832 - 833	Goldy 95 - 96	2	115I02	2023-02-28	Triumph Gold Corp. - 100%
	YC57834 - 841	Goldy 97 - 104	8	115I02	2027-02-28	Triumph Gold Corp. - 100%
	YC18864 - 91	Hill 14, 16, 18, 20 - 40, 50, 52, 54, 56	28	115I07	2028-02-28	Triumph Gold Corp. - 100%
	YC19653 - 654	Tinta 1 - 2	2	115I07	2030-02-28	Triumph Gold Corp. - 100%
	YC37129 - 130	Tinta 101 - 102	2	115I07	2028-02-28	Triumph Gold Corp. - 100%
	YC37131 - 132	Tinta 103 - 104	2	115I07	2029-02-28	Triumph Gold Corp. - 100%
	YC41392 - 397	Tinta 105 - 110	6	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC37127 - 128	Tinta 11 - 12	2	115I07	2028-02-28	Triumph Gold Corp. - 100%
	YC47385 - 386	Tinta 111 - 112	2	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC41398 - 400	Tinta 121 - 123	3	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC46501 - 509	Tinta 124 - 132	9	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC47311 - 368	Tinta 14 - 72	58	115I07	2028-02-28	Triumph Gold Corp. - 100%
	YC18660 - 667	Tinta 3 - 10	8	115I07	2028-02-28	Triumph Gold Corp. - 100%
	YC65081 - 082	Tinta 73 - 74	2	115I06	2029-02-28	Triumph Gold Corp. - 100%
	YC47369 - 384	Tinta 77 - 92	16	115I07	2028-02-28	Triumph Gold Corp. - 100%
	YF49184 - 198	Tinta 133 - 147	15	115I06	2020-02-28	Triumph Gold Corp. - 100%
LQ00488	15494	Augusta	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YB05903 - 908	Bynordac 1 - 6	6	115I06	2027-02-28	Triumph Gold Corp. - 100%
	YA92757 - 760	Cabage 1 - 4	4	115I06	2027-02-28	Triumph Gold Corp. - 100%
	YA92768 - 769	Cabage 13 - 14	2	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YA92770 - 777	Cabage 17 - 24	8	115I06	2027-02-28	Triumph Gold Corp. - 100%
	YA92761 - 767	Cabage 5 - 11	7	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC19564 - 577	Dart 1 - 14	14	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC30038 - 043	Dart 15 - 20	6	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC41340 - 349	Dart 21 - 30	10	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC41350	Dart 31	1	115I06	2029-02-28	Triumph Gold Corp. - 100%
	YC41351 - 357	Dart 32 - 39	8	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC54139 - 141	Dart 39 - 41	3	115I06	2028-02-28	Triumph Gold Corp. - 100%

Operating Permit	Grant Number	Claim Name	No. of Claims	NTS	Anniversary Date	Owner and Work Completed By
	YC54142	Dart 42	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC65083 - 084	Dart 43 - 44	2	115I06	2026-02-28	Triumph Gold Corp. - 100%
	YC65085 - 086	Dart 45 - 46	2	115I06	2025-02-28	Triumph Gold Corp. - 100%
	63639 - 641	Excelsior 1 - 3	3	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC40095 - 102	Froh 1 - 8	8	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC40917 - 924	Froh 21 - 28	8	115I06	2027-02-28	Triumph Gold Corp. - 100%
	YC40925 - 934	Froh 29 - 38	10	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC41358 - 365	Froh 39 - 46	8	115I06	2026-02-28	Triumph Gold Corp. - 100%
	YC47223 - 232	Froh 47 - 56	10	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC47234 - 239	Froh 58 - 63	6	115I06	2026-02-28	Triumph Gold Corp. - 100%
	YC47240 - 241	Froh 64 - 65	2	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC47424 - 426	Froh 66 - 68	3	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC47427 - 428	Froh 69 - 70	2	115I06	2026-02-28	Triumph Gold Corp. - 100%
	YC40103 - 114	Froh 9 - 20	12	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC30062 - 097	Glen 1 - 36	36	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC41366 - 391	Glen 37 - 62	26	115I06	2026-02-28	Triumph Gold Corp. - 100%
	YC54137 - 138	Glen 63 - 64	2	115I06	2025-02-28	Triumph Gold Corp. - 100%
	15519	Gold Star	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	Y 80600	Goldstar	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YB37988	Goldstar 1	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC18716 - 719	Goldy 1 - 4	4	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC30019 - 036	Goldy 25 - 42	18	115I03	2028-02-28	Triumph Gold Corp. - 100%
	YC30127	Goldy 43	1	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC30037	Goldy 44	1	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC47387 - 420	Goldy 45 - 78	34	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC30123 - 126	Goldy 5 - 8	4	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC18724 - 739	Goldy 9 - 24	16	115I03	2028-02-28	Triumph Gold Corp. - 100%
	90465 - 468	Greenstone 1 - 4	4	115I06	2025-02-28	Triumph Gold Corp. - 100%
	91056	Greenstone 5	1	115I06	2025-02-28	Triumph Gold Corp. - 100%

Operating Permit	Grant Number	Claim Name	No. of Claims	NTS	Anniversary Date	Owner and Work Completed By
	Y 21094	Greenstone 6	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC19282	Happy 1	1	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC19285	Happy 4	1	115I06	2028-02-28	Triumph Gold Corp. - 100%
	63638	Liberty	1	115I06	2027-02-28	Triumph Gold Corp. - 100%
	15505	Margarete	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YB37987	Pauline 1	1	115I06	2027-02-28	Triumph Gold Corp. - 100%
	15549	Peerless	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	73464 - 465	Progress 1 - 2	2	115I06	2025-02-28	Triumph Gold Corp. - 100%
	15677	Protection	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC40076 - 094	Rage 1 - 19	29	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YA92082 - 083	Rick 1 - 2	2	115I06	2027-02-28	Triumph Gold Corp. - 100%
	YA92748 - 754	Rick 15 - 21	7	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YA92084 - 095	Rick 3 - 14	12	115I06	2025-02-28	Triumph Gold Corp. - 100%
	60420 - 421	Shearzone 1 - 2	2	115I06	2025-02-28	Triumph Gold Corp. - 100%
	60422 - 423	Vindicator 1 - 2	2	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC41307 - 339	Big 1 - 33	33	115I06	2030-02-28	Triumph Gold Corp. - 100%
	YC54330	Big 34	1	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC47429 - 444	Big 35 - 50	16	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC53685 - 692	Big 51 - 58	8	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC47445 - 460	Big 59 - 74	16	115I06	2028-02-28	Triumph Gold Corp. - 100%
	YC95142	Free 1	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YC95115 - 117	Free 10 - 12	3	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17051 - 073	Free 107 - 129	23	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17118	Free 13	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17201 - 219	Free 130 - 148	19	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17113	Free 14	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD18382 - 403	Free 149 - 170	22	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17136	Free 15	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17130	Free 16	1	115I06	2023-02-28	Triumph Gold Corp. - 100%

Operating Permit	Grant Number	Claim Name	No. of Claims	NTS	Anniversary Date	Owner and Work Completed By
	YD17139	Free 17	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD18406 - 409	Free 173 - 176	4	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17137	Free 18	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17141	Free 19	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YC95105 - 112	Free 2 - 9	8	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17140	Free 20	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD17142 - 148	Free 21 - 27	7	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD16920 - 946	Free 28 - 54	27	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD16967	Free 55	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD16947 - 949	Free 56 - 58	3	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD16968	Free 59	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD16950 - 966	Free 60 - 76	17	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD16970 - 999	Free 77 - 106	30	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YD16969	Free A 59	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YC37009 - 047	Nitro 1 - 39	39	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YC37048	Nitro 40	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC37049	Nitro 41	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YC37050	Nitro 42	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC37051	Nitro 43	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YC37052	Nitro 44	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC37053	Nitro 45	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YC37054	Nitro 46	1	115I06	2025-02-28	Triumph Gold Corp. - 100%
	YC37055	Nitro 47	1	115I06	2023-02-28	Triumph Gold Corp. - 100%
	YC37056	Nitro 48	1	115I06	2025-02-28	Triumph Gold Corp. - 100%