



TECHNICAL REPORT FOR THE EAGLE GOLD MINE YUKON TERRITORY, CANADA



Prepared by:
JDS ENERGY & MINING INC.
Suite 900, 999 W Hastings St.
Vancouver, BC V6C 2W2

Prepared for:
VICTORIA GOLD CORP.
1050 West Pender Street, Suite 1000
Vancouver, BC V6E 3S7

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NOTICE

JDS Energy & Mining, Inc. prepared this National Instrument 43-101 Technical Report, in accordance with Form 43-101F1, for Victoria Gold Corp. The quality of information, conclusions and estimates contained herein is based on: (i) information available at the time of preparation; (ii) data supplied by outside sources, and (iii) the assumptions, conditions, and qualifications set forth in this report.

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Date and Signature Page

This report entitled Technical Report for the Eagle Gold Mine, Yukon, Canada effective as of December 4, 2019 was prepared for Victoria Gold Corp. and signed by the following authors:

[Original signed and sealed by **Richard Goodwin, P. Eng.** **December 6, 2019**

Richard Goodwin, P. Eng. Date Signed

[Original signed and sealed by **Paul Gray, P. Geo** **December 6, 2019**

Paul Gray, P. Geo Date Signed

[Original signed and sealed by **Barry Carlson, P. Eng** **December 6, 2019**

Barry Carlson, P. Eng Date Signed

[Original signed and sealed by **Marc Jutras, P. Geo** **December 6, 2019**

Marc Jutras, P. Eng Date Signed

[Original signed and sealed by **Steve Tang, P. Eng.** **December 6, 2019**

Steve Tang, P.Eng. Date Signed

[Original signed and sealed by **Steve Wilbur, P. Geo.** **December 6, 2019**

Stephen Wilbur, P.Geo. Date Signed

1 Executive Summary

1.1 Introduction

JDS Energy & Mining Inc. (JDS) was commissioned by Victoria Gold Corp. (Victoria Gold) to prepare a Feasibility Study Update for the Eagle Gold Mine (Eagle Gold or Mine or Project), an operating gold mine owned by Victoria Gold. The Mine is located in the Mayo Mining District of Central Yukon Territory, approximately 45 km north of the community of Mayo.

This Technical Report presents the results of this Feasibility Study, including updated resource and reserve estimations for the Eagle Zone based on additional diamond drilling (there is no change to the Olive Zone). This report uses the guidance of the Canadian Securities Administrators' National Instrument (NI) 43-101 and Form 43-101F1 and Canadian Institute of Mining (CIM) guidance on Resource and Reserve Estimation. Much of the technical and financial information in this Feasibility Study is based on updates to the 2016 NI 43-101 Feasibility Study based on actual operating performance and costs during the operational start up.

This Technical Report has been prepared by Independent Qualified Persons (IQPs) supplied by JDS Energy & Mining (JDS), Ginto Consulting, and Forte Dynamics Inc.; as well as several non-independent QPs who are current employees of Victoria Gold. As the Technical Report is not triggered by any event and is being voluntarily submitted, the use of independent QPs is not a requirement of this Technical Report.

Costs presented in this report will be reported in C\$ unless otherwise specified.

1.2 Project Description

The Eagle and Olive deposits are situated within Victoria Gold's Dublin Gulch property. The Eagle deposit is actively being mined using open pit (OP) methods. Based on current reserves, the Eagle deposit will provide 110.4 million tonnes (Mt or M t) of ore while the Olive deposit will provide 6.5M t for a total of 116.9M t from January 2020 until completion of operations in 2030. An additional 32.1M t of low-grade ROM ore will also be mined over this period, resulting in a total extraction of 149.0M t. Waste mining will total 144.9M t for an overall strip ratio of 0.97:1. Production rate will be an average of 13.0 million tonnes per annum (M t/a) comprised of 29,500 t/d ore and 7,500 t/d ROM over a thirteen-year mine life, excluding the ramp-up period.

Gold is extracted from ore into a solution by a heap leaching process using two heap leaching pads (HLPs) – a primary and a secondary. Heap leach feed consists of crushed ore (116.9M t at 0.78 g/t Au) conveyed to the HLPs as well as run-of-mine (ROM), un-crushed (32.1M t at 0.22 g/t Au) ore, which is hauled directly to the HLP for leaching. The current plan is to stack both crushed and ROM ore on the primary HLP and secondary HLP.

Crushed ore is being fed through a three-stage crushing plant to produce an 80% passing (P_{80}) 6.5 mm product. All ROM ore will bypass the crushing plant.

Gold is being leached with cyanide solution and recovered by an adsorption-desorption-regeneration (ADR) carbon plant.

A total of 2,406k oz of gold will be recovered over a thirteen-year mine life from 77% overall recovery.

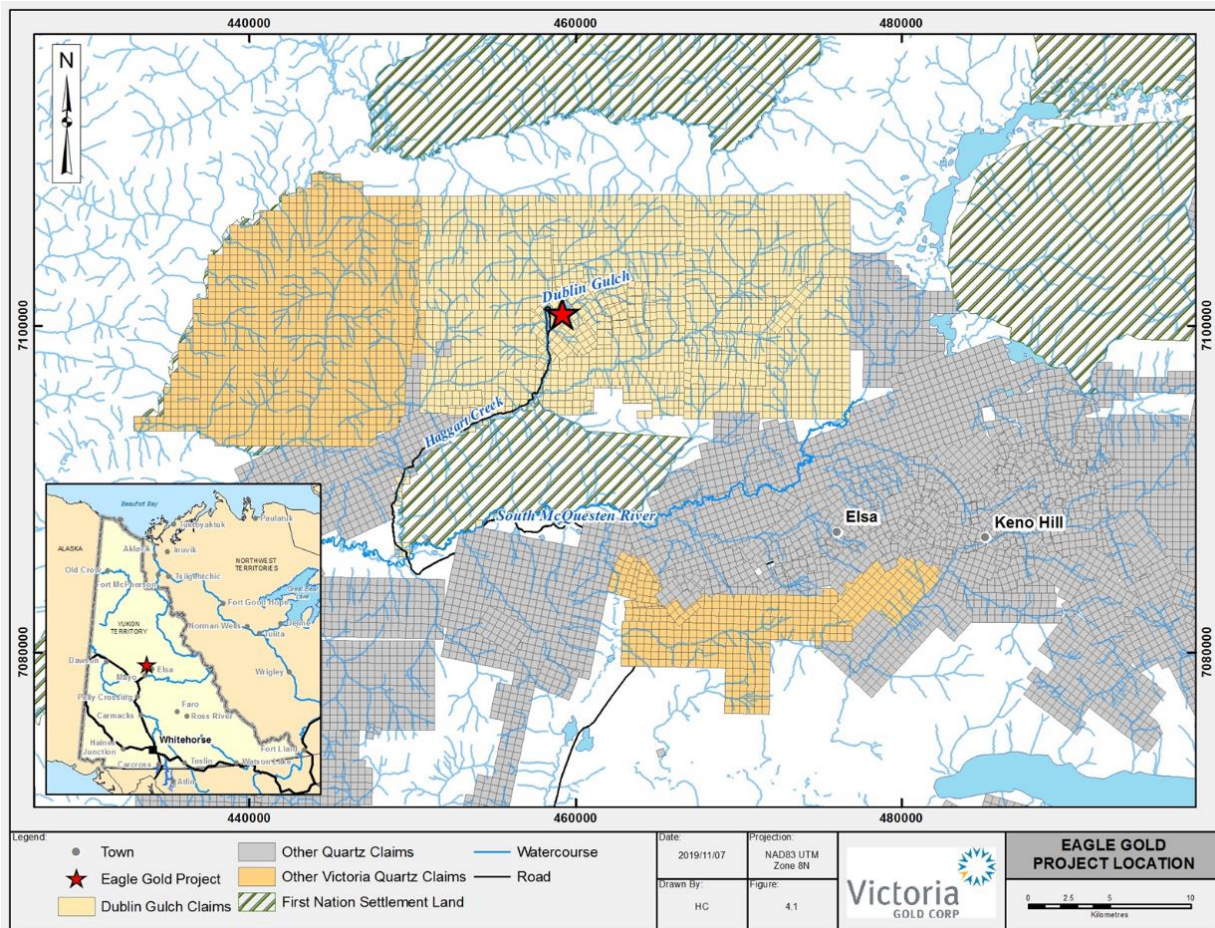
1.3 Property Description and Ownership

The Eagle Gold Mine is situated approximately 350 km north of the Yukon capital of Whitehorse (Figure 1-1). The centre of the Mine is at approximately 64°01'30" N latitude and 135°49'30" W longitude or Universal Transverse Mercator (UTM) Coordinates 7,100,060N / 459,680E, Zone 8, North American Datum (NAD) 83. Access to the project from Mayo is via the Silver Trail (Highway 11), then onto the South McQuesten and Haggart Creek Roads that terminate at the mine site.

The Mine is situated within the Dublin Gulch property, which is a contiguous block of 1,914 quartz claims, 10 quartz leases, and one federal crown grant all of which are under the control of Victoria Gold's wholly owned, directly held subsidiary StrataGold Corporation (StrataGold). The Dublin Gulch property is rectangular in shape and extends approximately 26 km in an east-west direction and 13 km in a north-south direction covering an aggregate area of approximately 35,000 hectares (ha).

A property location map is provided in Figure 1-1.

Figure 1-1: Property Location Map



Source: VGC (2019)

1.4 Geology & Mineralization

The Dublin Gulch property (Eagle Gold Mine) is underlain by upper Proterozoic to lower Paleozoic clastic sedimentary rocks that have undergone regional deformation including Cretaceous age thrust faulting and subsequent granitoid intrusions. Mineralization is associated with granitic intrusive bodies, here described as the Eagle Zone and Olive Zone gold deposits, which are hosted primarily in granodioritic rocks. The gold deposits occur within the Tombstone Gold Belt, located in the eastern portion of the Tintina Gold Province, which also hosts the Brewery Creek deposit and other gold occurrences in the Yukon.

The property is located on the northern limb of the McQuesten Antiform and is underlain by Proterozoic to Lower Cambrian-age Hyland Group metasediments and the Dublin Gulch intrusion, a granodioritic stock. The Dublin Gulch Stock is comprised of four intrusive rock phases, the most significant of which is Granodiorite. The stock has been dated at approximately 93 Mega annum (Ma).

The metasediments are the product of greenschist-grade regional metamorphism. Proximal to the Dublin Gulch Stock, these metasediments have undergone metasomatism and contact metamorphism. A hornfelsic thermal halo surrounds the stock and within the halo, the metasediments have been altered to schist, marble and skarn.

The Eagle and Olive zones belong to the RIRGS class (Reduced Intrusion-Related Gold Systems) of mineral deposits.

The Eagle Zone gold occurrence is localized at the narrowest exposed portion of the stock. The Eagle Zone mineralization is comprised of sub-parallel extensional quartz veins that are best developed within the granodiorite.

Sulphides account for less than 5% of vein material and occur in the centre, on the margin, and disseminated throughout the veins. The most common sulphide minerals are pyrrhotite, pyrite, arsenopyrite, chalcopyrite, sphalerite, bismuthinite, molybdenite and galena. Secondary potassium feldspar is the dominant mineral in alteration envelopes. Sericite-carbonate is generally restricted to narrow vein selvages, although alteration zones of this type also occur with no obvious relation to veins. Gold mineralization also occurs within the metasedimentary rock package immediately adjacent to the granodiorite.

The Eagle Zone is the principal concentration of mineralization within the property. The Eagle Zone is irregular in plan and is approximately 1,600 m long (east-west) and 600 m wide north-south. The Eagle Zone is near-vertical and has been traced for about 500 m below surface. Current drilling indicates that the mineralization is relatively continuous along this length and is open in several directions, including at depth. Mineralization occurs as elemental gold, both as isolated grains and most commonly in association with arsenopyrite, and less commonly with pyrite and chalcopyrite. The sulphide content in the veins is typically less than 5%, and is less than 0.5% within the deposit overall, with 1 to 4% carbonate (calcite) present.

The Olive Zone gold occurrence is localized at the contact zone on the northwest flank of the granodiorite intrusive and located 2.5 km northeast of the Eagle Zone. Olive measures approximately 20 to 80 m in width, 900 m in length, and has been drilled to approximately 175 to 250 m in depth. Over 97% of the gold mineralization in the Olive Zone is hosted in granodiorite.

Compared to Eagle, the Olive mineralization is more associated with sulphides and quartz-sulphide veining in an interpreted shear-zone setting. An oxidation zone and a transition zone, from near total oxidation to only sulphides, have been defined. Veins can be only sulphides or sulphides with white quartz. Pyrite plus

arsenopyrite (or arsenical pyrite) and quartz-pyrite veins are common, within the overall NE trending zone of mineralization.

1.5 History, Exploration and Drilling

Exploration drilling for intrusive-hosted gold mineralization began in the early 1990's and continued sporadically by several owners through 2004, including through StrataGold. Victoria Gold acquired StrataGold in 2009, and continued exploration drilling on the property. Since 2012, the majority of Victoria Gold's exploration work has been in-fill drilling at the Eagle Zone, and exploration efforts including trenching, geophysical surveys and drilling at the Olive Zone. In the winter of 2011-2012, Victoria Gold conducted a targeted in-fill drilling program consisting of core and Reverse Circulation (RC) drilling of an additional 130 drill holes in the Eagle Zone. The purpose of the targeted in-fill drilling program was to better define Measured and Indicated Mineral Resources. In 2017, an additional 2,557 metres of diamond drilling from four diamond drill holes was completed in the Eagle Zone.

The Olive Zone had been explored prior to Victoria Gold's ownership, with initial drilling in 1992, and sporadic follow-up drilling for a total of 19 holes by 2007. Victoria Gold conducted additional drilling of 58 holes in 2010-2012, in-fill drilling of 61 holes in 2014, and an additional 89 drill holes in 2016 in the Olive Zone.

The additional drilling allowed the Olive Zone to be defined as a Mineral Resource. Additional exploration work conducted at the Olive Zone included 17 shallow trenches in 2014 and 29 trenches in 2016, to expose and sample oxidized sulphide mineralization and help define the surface trace and extensions to mineralization. As well, a program of Internet protocol (IP)-Resistivity geophysical surveys was conducted over the core area of the Olive Zone in 2015. The results of the program concluded that there is a good correlation of IP chargeability highs with the modelled zone of anomalous gold mineralization in drilling, and a direct association of the gold with increased sulphide content.

A summary of exploration drilling and trenching, for which sample analyses have been used for Mineral Resource estimation, are presented below for the Eagle Zone in Table 1-1 and the Olive Zone in Table 1-2.

Table 1-1: Summary of Annual Exploration Programs – Eagle Zone:

Company	Year	Number of Holes	Metres Drilled	Type
Canada Tungsten	1977	65	11,315	DDH
Queenstake Resources	1986	4	705	DDH
Can Pro	1989	4	653	DDH
Ivanhoe Goldfields	1991	16	2,410	DDH
Amax Gold Inc.	1992	13	1,943	DDH
Amax Gold Inc.	1993	56	7,729	RC
Amax Gold Inc.	1993	10	1,476	DDH
Ivanhoe Goldfields	1993	10	2,078	RD
First Dynasty Mines	1995	40	8,354	RC
First Dynasty Mines	1995	25	4,946	DDH
New Millennium Mining	1996	21	4,114	DDH
New Millennium Mining	1996	37	5,271	RC

Company	Year	Number of Holes	Metres Drilled	Type
New Millennium Mining	1996	19	189	Auger
New Millennium Mining	1996	33	797	Water
StrataGold	2005	34	8,105	DDH
StrataGold	2006	10	4,282	DDH
StrataGold	2007	20	5,627	DDH
StrataGold	2008	15	4,429	DDH
Victoria Gold	2009	10	5,122	DDH
Victoria Gold	2009	4	1,321	Geotech
Victoria Gold	2010	20	3,592	DDH
Victoria Gold	2010	5	1,341	Geotech
Victoria Gold	2011	3	616	Geotech
Victoria Gold	2011-2012	33	4,337	RC
Victoria Gold	2011-2012	58	17,538	DDH
Victoria Gold	2017	59	8,423	DDH
TOTAL		570	112,603	

Source: Wardrop (2012), updated in 2019 from drill hole database

Table 1-2: Summary of Annual Exploration Programs – Olive Zone

Company	Year	Number of Holes/Trenches	Metres Drilled/Trenched	Type
Prior owners	1991, 1992	7	959	RC and DDH
Prior owners	2007	5	868	DDH
Prior owners	1989,2009	10	707	Trenches
Victoria Gold	2010	19	4,144	DDH
Victoria Gold	2011	24	4,486	DDH
Victoria Gold	2011	4	300	RC
Victoria Gold	2012	11	2,997	DDH
Victoria Gold	2014	61	8,594	DDH
Victoria Gold	2014	10	1,027	Geotech
Victoria Gold	2014	17	885	Trenches
Victoria Gold	2016	89	12,546	DDH
Victoria Gold	2016	34	1,025	Trenches
TOTAL DRILLING		230	35,921	
TOTAL TRENCHES		61	2,671	

Source: Wardrop (2012), updated in 2016 from drill hole database

1.6 Metallurgical and Mineral Processing Test Results

Extensive metallurgical testing programs including column leach, bottle roll leach, gravity concentration and flotation tests were conducted on various composites from the Eagle deposit. Comminution, compacted permeability, cyanide neutralization and humidity cell studies were also performed. Additional testing including bottle roll leach and column leach tests were conducted on composites from the Olive deposit.

Leach data on the Eagle Zone composites, crushed with a high-pressure grinding roll and with conventional cone crushers, were compiled at several crush sizes. The results from the column leach test programs indicate that gold recovery is sensitive to crush size, ore type, and, to a lesser extent, crush type. Overall gold recoveries ranged from 68% to 79% at a P₈₀ crush size of approximately 6.5 mm.

Leach data was also compiled on Olive oxide, transition and sulphide composites, crushed with conventional cone crushers to approximately 6.5 mm. Gold recoveries ranged from 54% to 68%.

The column leach test results show that crushing to a P₈₀ size of approximately 6.5 mm with conventional crushers will lead to the projected recoveries for Eagle as summarized in Table 1-3, as projected by Forte Dynamics Inc. (Forte). Forte uses a first principle fraction-extraction equation by rock type to estimate total heap leach recovery from operations, specific to each rock type and their respective tonnages and grades, as a function of time. This provides a long-term ultimate recovery that can be expected.

The fraction-extraction method allows for a projection for the ROM recovery by modification of kinetics based on the projected particle size distribution for life of mine. ROM size distribution based on the first principles of diffusion and dissolution. The ROM particle size distribution for Eagle was estimated from a combination of data from current and other operations however not all lithologies have been encountered to date. Due to the limited data, the life of mine (LOM) recovery for Eagle ROM material is estimated at 60%. Lime and sodium cyanide requirements were similarly estimated to be 1.0 kg/t and 0.35 kg/t, respectively. The leach cycle to be utilized for ROM material will be 90 days.

Long term ultimate recoveries based on bottle roll and column testing were projected for each rock type and are shown in Table 1-3. Field leach recoveries for Olive have been previously projected by Kappes, Cassiday and Associates (KCA) in 2016. Overall leach pad gold recoveries are dependent on the distribution of ore types and function of time. While these ultimate recoveries represent long term results, recovery as a function of time during active mining and leaching is estimated using the fraction-extraction values presented in Section 13.

Table 1-3: Summary of Gold Recovery by Ore Type

*Eagle – Ultimate Recoveries		**Olive – Ultimate/LOM Recoveries	
Type A - Weathered Granodiorite	85.8%	Oxide	75.7% / 66%
Type B - Fresh to Weakly Altered Granodiorite	73.1%		
Type C - Sericitic, Chloritic, Carbonate Altered Granodiorite	74.9%	Transition	N/A / 55%
Type E - Weathered Metasediments	77.2%	Sulphide	N/A / 53%
Run of Mine	60.0% ^a		

N/A = not available

^a ROM recovery from test work is 60%, however gold model calculates a ROM recovery of 55.7%.

* Source: Forte Dynamics (2018)

** Source: KCA (2016)

The results of the test programs indicate low reagent requirements and moderate leach times for both Eagle and Olive ore. A 30% and 0% reduction for field scale estimates for sodium cyanide (NaCN) and lime requirements have been incorporated, respectively. Projected reagent requirements are presented in Table 1-4.

Table 1-4: Summary of Reagent Consumption Estimate

Description	Reagent Requirements (kg/t)	
	NaCN	Lime
*Eagle - Overall	0.35	1.0
**Olive - Oxide	0.46	TBD
**Olive - Transition	0.24	TBD
**Olive - Sulphide	0.25	TBD

* Source: Forte Dynamics (2018)

** Source: KCA (2016)

1.7 Mineral Resource Estimates

This 2019 Technical Report includes an update to the Mineral Resource Estimate (MRE) for the Eagle Gold deposit, here called the Eagle Zone, as previously described in the JDS 2016 FS, and the MRE for the Olive Zone gold mineralization, a satellite deposit that is located approximately 2.5 km northeast of the Eagle Zone.

The MRE has been classified as "Measured", "Indicated" and "Inferred" according to the CIM "CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines" (May 2014).

A geological model was used for each deposit, consisting of lithology (granodiorite and metasediments), a mineralized shape defined from drill hole gold assays, and oxidation surfaces. Industry-standard statistical and geostatistical evaluations were performed, and data for both Eagle and Olive drill hole and trench assays were composited to 1.52 and 2.5 m, respectively. A block size of 10 x 10 x 5 m was used for each deposit with ordinary kriging for grade estimation from capped composited assays. Validation of the estimates was performed for both deposits. The estimation of the mineral resources was carried out with the Vulcan® software for the Eagle Zone and with the Datamine® software for the Olive Zone.

The current Eagle Zone Mineral Resources are reported as in-pit resources at a cut-off grade (COG) of 0.15 g/t Au.

The current Olive Zone in-pit Mineral Resources are reported at a cut-off grade of 0.40 g/t Au. The cut-off is supported by the same parameters as for Eagle, but with lower recoveries. The Olive cut-off grade was selected to provide higher-grade material for the project. Olive has a complete assay database for silver, whereas Eagle does not; thus, Olive has silver reported as an associated element.

Mineral Resources for the Eagle Zone and Olive Zone are stated in Table 1-5.

Table 1-5: 2019 Pit Constrained Eagle Mineral Resource Estimate* (inclusive of Mineral Reserves)

Classification	Quantity (M t)	Gold Grade (g/t)	Silver Grade (g/t)	Contained Gold (koz)	Contained Silver (koz)
Eagle (0.15 g/t Au cut-off) – Effective November 15, 2019					
Measured	37.4	0.71	N/A	850	N/A
Indicated	180.0	0.61	N/A	3547	N/A
Combined	217.4	0.63	N/A	4,397	N/A
Inferred	21.5	0.52	N/A	361	N/A
Olive (0.40 g/t Au cut-off)					
Measured	2.0	1.19	2.31	75	146
Indicated	7.5	1.05	2.06	254	498
Combined	9.5	1.08	2.11	329	645
Inferred	7.3	0.89	1.70	210	402

*Notes:

1. CIM definitions were followed for Mineral Resources
2. Mineral Resources are estimated at a cut-off of 0.15 g/t Au for Eagle and 0.40 g/t for Olive
3. Gold price used for this estimate was US\$1,700/oz
4. High-grade caps were applied as per the text of this report
5. Specific gravity was estimated for each block based on measurements taken from core specimens
6. Resources are In-pit resources as defined by pit parameters described in the text of this report
7. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources estimated will be converted into mineral reserves. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. However, there are no currently known issues that negatively impact the stated mineral resources.
8. The inferred mineral resources have a lower level of confidence than that applying to measured and indicated mineral resources and must not be converted to mineral reserves. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.
9. The mineral resources do not account for mining depletion. Up to the effective date of the mineral resources, 2.44M tonnes at 0.82 g/t Au for 64,500 ounces of gold were mined.

Source: Qualified Persons M. Jutras and F. Daviess

1.8 Mineral Reserve Estimate

The Mineral Reserve for the property is based on the Mineral Resource estimate for Eagle and Olive.

The Mineral Reserves were developed by examining each deposit to determine the optimal and practical mining method. COGs were then determined based on appropriate mine design criteria and the adopted mining method. A shovel and truck open pit mining method was selected for the two deposits.

The estimated Proven and Probable Mineral Reserves total 155M t at 0.65 g/t Au, containing 3,261k oz gold prior to mining activities. (Table 1-6 and Table 1-7). Reserve depletion up to November 15, 2019 totaled 2.44M t at 0.82 g/t and 64.5k oz.

Table 1-6: Open Pit Mineral Reserves by Deposit (Pre-Mining)

Area	Classification	Ore (M t)	Diluted Grade (g/t)	Contained Gold (k oz)
Eagle	Proven	30	0.71	694
	Probable	118	0.63	2,366
	Total	148	0.64	3,061
Olive	Proven	2	1.02	58
	Probable	5	0.93	142
	Total	7	0.67	200
Eagle + Olive	Total	155	0.65	3,261

Notes:

1. A gold price of US\$1,275/oz is assumed.
2. Reserve based on original topo with no depletion from preproduction/ramp up period up to the effective date.
3. A US\$:C\$ exchange rate of 0.75.
4. Cut-off grades, dilution and recovery factors are applied as per open pit mining method.

Source: VGC (2019)

Table 1-7: Open Pit Mineral Reserves by Ore Type (Pre-Mining)

Type	Area	Ore (M t)	Diluted Grade (g/t)	Contained Gold (k oz)
Crushed Ore	Eagle	114	0.77	2,818
	Olive	7	0.95	200
	Total	121	0.78	3,018
Run of Mine Ore	Eagle	35	0.22	243
	Olive	-	-	-
	Total	35	0.22	243
Crushed + ROM	Total	155	0.65	3,261

Notes:

1. A gold price of US\$1,275/oz is assumed.
2. A US\$:C\$ exchange rate of 0.75.
3. Cut-off grades, dilution and recovery factors are applied as per open pit mining method.
4. Reserve based on original topo with no depletion from preproduction/ramp up period up to the effective date.

Source: VGC (2019)

The COGs for Eagle and Olive by ore type are listed in Table 1-8.

Table 1-8: Cut-off Grades by Deposit and Material Type

Rock Type	Direct Crushed Feed - Break Even COG (g/t)	Direct Crush Feed - Incremental COG* (g/t)	Direct ROM Hauled to HLP - Incremental COG* (g/t)	Rehandled ROM Stockpile to HLP - Incremental COG* (g/t)
Eagle- Oxide Granodiorite	0.25	0.15	0.15	0.20
Eagle- Altered Granodiorite	0.29	0.17	0.15	0.20
Eagle-Unaltered Granodiorite	0.30	0.17	0.15	0.20
Eagle-Oxide Metasediments	0.30	0.17	0.15	0.20
Eagle-Unaltered Metasediments	0.32	0.19	0.15	0.20
Olive - Oxide	0.46	0.20	not defined	not defined
Olive - Mixed	0.56	0.24	not defined	not defined
Olive - Sulphide	0.58	0.25	not defined	not defined

Notes:

1. Direct Crushed Feed Break Even COG: Bottom Break even cut off grade for material that are fed direct from the pit to the Primary Crusher/Primary Crusher Pad.
2. Direct Crush Feed Incremental COG: Bottom Incremental cut off grade for material that are fed directly from the pit to the Primary Crusher that covers leaching and crushing costs only.
3. Direct ROM Hauled to HLP Incremental COG: Bottom Incremental cut off grade for material that are placed directly from the pit to the heap leach facility that covers leaching costs and extra incremental haulage only.
4. Rehanded ROM Stockpile Incremental COG: Bottom incremental cut off grade for material that are placed directly from the pit to the ROM stockpile that covers leaching, ROM re-handling and extra incremental haulage costs only.

Incremental material is only fed when production targets are met, and spare plant capacity is available.

Source: VGC (2019)

The mineral reserve estimations take into consideration on-site operating costs (mining, processing, site services, freight, general and administration), geotechnical analysis for open pit wall angles, metallurgical recoveries, and selling costs. In addition, the Mineral Reserves incorporate allowances for mining recovery and dilution and overall economic viability.

1.9 Mining

The Eagle and Olive deposits are being mined using open pit methods, and operate as drill, blast, shovel and haul operation with a combined nominal rate of 29,500 t/d ore and 7,500 t/d ROM ore and a remaining mine life of 11.5 years. Open pit mining operations are comprised of a fleet of 22 m³ front shovels, 12 m³ front-end loaders and 136 t haul trucks. This fleet is supported by drills, graders, and track and dozers. Benches are mined at a height of 10 m in both ore and waste with an overall 20 m effective bench height based on a double-bench final wall configuration.

Mining commenced in Q2 of 2019 in the Eagle pit to provide waste rock for construction and allow for access roads to be built. Leachate processing also commenced in Q3 of 2019 and is currently ramping up to full production in 2020. Open pit mining will focus on the various Eagle pit phases with the smaller Olive pit coming into production in 2028. Open pit mining and loading of the heap leach facilities will be completed in Q2 of 2031.

Starting from the beginning of 2020, the mine is expected to produce a total of 149.0M t of heap leach feed and 144.9M t of waste (at a 0.97:1 overall strip ratio). Ore to be crushed will be hauled to the primary crusher

located towards the north-east side of the Eagle pit. ROM ore will be hauled directly to the primary HLP. ROM material will only come from the Eagle pit.

The current LOM plan focuses on achieving consistent heap leach production rates, mining of higher value material early in the production schedule, as well as balancing grade and strip ratios. Given that the secondary and tertiary crushers and HLP will only be operated between April and December of each year, stockpiles will be used when necessary for stockpiling of ore from the open pit. The handling of the ore from the crusher to the HLPs is included in the open pit scheduling and operating cost estimation. Table 1-9 summarizes the LOM material movement by year for both the mine and the heap leach facilities.

Table 1-9: LOM Production Schedule

Description	Unit	Total	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
EAGLE														
Crush Ore	Mt	110.4	9.9	9.2	10.6	10.6	10.6	10.6	10.6	10.7	10.4	8.6	8.8	
Crush Gold Grade	g/t	0.77	0.85	0.87	0.83	0.76	0.77	0.80	0.73	0.69	0.67	0.74	0.75	
Crush Contained Gold	k oz	2,726.4	271.9	259.9	280.7	259.4	260.2	271.6	247.6	238.2	223.6	202.9	210.3	
ROM Ore	Mt	32.1	1.0	1.8	2.2	3.1	2.6	3.1	3.1	3.3	3.9	4.1	3.8	
ROM Gold Grade	g/t	0.22	0.21	0.22	0.21	0.21	0.21	0.22	0.22	0.21	0.21	0.22	0.22	
ROM Contained Gold	k oz	222.7	6.8	12.5	15.4	21.5	18.1	22.2	22.1	22.4	26.3	28.5	26.9	
Total Ore	Mt	142.5	10.9	11.0	12.8	13.7	13.2	13.7	13.7	14.0	14.2	12.7	12.6	
Total Gold Grade	g/t	0.64	0.79	0.77	0.72	0.64	0.66	0.67	0.61	0.58	0.55	0.50	0.56	
Total Contained Gold	k oz	2,949.1	278.8	272.4	296.1	280.9	278.3	293.9	269.6	260.6	249.9	231.5	237.2	
Waste	Mt	128.0	13.5	17.2	15.9	14.9	12.9	8.0	8.7	9.9	9.4	10.3	7.3	
Strip Ratio	wt:ot	0.90	1.23	1.56	1.24	1.09	0.98	0.58	0.64	0.71	0.66	0.81	0.58	
OLIVE														
Crush Ore	Mt	6.5									0.4	2.2	2.0	1.9
Crush Gold Grade	g/t	0.95									1.18	1.07	0.92	0.81
Crush Contained Gold	k oz	199.7									15.4	75.4	58.9	50.0
Waste	Mt	16.9									3.9	6.5	4.4	2.1
Strip Ratio	wt:ot	2.60									9.62	2.97	2.22	1.08
TOTAL MINE														
Crush Ore	Mt	116.9	9.9	9.2	10.6	10.6	10.6	10.6	10.6	10.7	10.8	10.8	10.8	1.9
Crush Gold Grade	g/t	0.78	0.85	0.87	0.83	0.76	0.77	0.80	0.73	0.69	0.69	0.80	0.78	0.81
Crush Contained Gold	k oz	2,876.0	271.9	259.9	280.7	259.4	260.2	271.6	247.6	238.2	239.0	278.3	269.2	50.0
ROM Ore	Mt	32.1	1.0	1.8	2.2	3.1	2.6	3.1	3.1	3.3	3.9	4.1	3.8	-
ROM Gold Grade	g/t	0.22	0.21	0.22	0.21	0.21	0.21	0.22	0.22	0.21	0.21	0.22	0.22	-
ROM Contained Gold	k oz	222.7	6.8	12.5	15.4	21.5	18.1	22.2	22.1	22.4	26.3	28.5	26.9	-
Total Ore	Mt	149.0	10.9	11.0	12.8	13.7	13.2	13.7	13.7	14.0	14.6	14.9	14.6	1.9
Total Gold Grade	g/t	0.66	0.79	0.77	0.72	0.64	0.66	0.67	0.61	0.58	0.56	0.64	0.63	0.81
Total Contained Gold	k oz	3,149	278.8	272.4	296.1	280.9	278.3	293.9	269.6	260.6	265.2	306.9	296.1	50.0
Waste	Mt	144.9	13.5	17.2	15.9	14.9	12.9	8.0	8.7	9.9	13.3	16.8	11.7	2.1
Strip Ratio	wt:ot	0.97	1.23	1.56	1.24	1.09	0.98	0.58	0.64	0.70	0.91	1.13	0.80	1.08
Total Material	Mt	293.9	24.5	28.3	28.7	28.6	26.0	21.6	22.4	23.9	27.9	31.7	26.3	4.0
Total Mined	t/day		66,997	77,511	78,573	78,369	71,332	59,306	61,494	65,022	67,163	66,191	54,363	22,093

Source: VGC (2019)

1.10 Recovery Methods

Two heap leach pads will be used to extract gold from ore into solution; the primary HLP, which has been constructed, and the secondary HLP, which will be developed. The secondary HLP will be developed in time to receive ore in approximately Year 8 of operations. The current plan is to stack both crushed and ROM ore on the primary HLP.

Crushed ore is fed through a three-stage crushing plant to produce an 80% passing (P_{80}) 6.5 mm product. ROM ore will bypass the crushing plant.

Gold is leached with cyanide solution and recovered through the ADR plant. The process flowsheet and design criteria were based on the Eagle HLP processing rate of:

- 10M dry tonnes per annum (M t/a) of crushed ore with a LOM average gold feed grade of 0.76 g/t and a LOM recovery of 78%; and
- 3M t/a (on average) of ROM ore at a grade of 0.22 g/t and a LOM 56% gold recovery.
- Combined: 13M t/a at an average grade of 0.64 g/t and a LOM recovery of 77%.

LOM recoveries are reflective of actual leaching operations and recoveries as opposed to long term projections provided by ultimate recoveries. This is further discussed in Section 13.

The process plant is located near the primary HLP to minimize pumping and pipeline requirements for both pregnant and barren solutions during the first seven years of operation.

The HLPs will undergo year-round leaching with the stacking of ore occurring 275 days per annum (d/a).

1.10.1 Ore Crushing, Handling and Stockpiling

1.10.1.1 Crushed Ore

Ore above 0.30 g/t from the Eagle pit is sent to a three-stage crushing plant. The crushing circuit consists of one 375 kW primary gyratory crusher, one 932 kW secondary cone crusher and three, parallel 932 kW tertiary cone crushers. Crushing plant feed material, with a maximum top size of 1,000 mm, is trucked from the open pits and dumped directly into the primary gyratory crusher at a throughput of approximately 29,500 t/d. The primary crusher will operate 365 d/a, while the secondary and tertiary crushers will only operate 275 d/a when ore is stacked on the HLPs.

From Q2 through Q4 of each year, stockpiled crushed ore will be reclaimed via a loader / hopper / conveyor system to the secondary crusher. Crushed ore reclaiming will be done at 470 tonnes per hour (t/h), and combined with the primary crusher discharge, at a total rate of 39,200 t/d, to the secondary and tertiary crushing circuits. The tertiary product, screen undersize at P_{80} of 6.5 mm, will feed a series of conveyors and grasshopper conveyors to a radial stacker on the HLP. Lime will be added to the tertiary screen discharge conveyor for pH control.

1.10.1.1.1 ROM Ore

ROM ore (less than 0.30 g/t but above the cut-off grade of 0.15 g/t) will be sent directly from the Eagle pit to the primary HLP during the stacking months, and to the ore stockpile during the stockpiling months (January to March). The ROM ore will be reclaimed from the stockpile using a loader and trucks and taken

to the primary HLP. The ROM ore will be segregated from the crushed ore but will be placed within the overall primary HLP.

1.10.1.1.2 Stockpiling

An ore stockpile area with a capacity of approximately 3M t will be established to allow the stockpiling of ore on a temporary basis during the coldest winter months (Q1 of each year). Crushed ore stockpiled during the winter months is placed in a stockpile after passing through the primary crusher only. ROM ore is stacked in a stockpile during Q1.

1.10.2 Heap Leach Pad

The constructed primary HLP will accommodate up to 90M t of ore and is located approximately 1.2 km north of the Eagle Zone orebody, in the Ann Gulch valley. The base of the primary HLP is located at an elevation of 880 metres above sea level (masl), and at full height, the primary HLP will extend up Ann Gulch to an elevation of approximately 1,225 masl at the top of the planned ore stack.

The proposed secondary HLP will commence in approximately Year 8 and will accommodate the remaining ore (with expansion potential) and is planned to be located approximately 3 km east of the Eagle Zone orebody near the Olive Zone pit. The base of the secondary HLP is planned to be located in the upper portion of the basin at an elevation of 1,300 masl, and at full height, the secondary HLP will extend to an elevation of approximately 1,470 masl at the top of the planned ore stack.

The primary HLP is comprised of a number of elements: a confining embankment to provide stability to the base of the HLP and a sump for operational in-situ storage of process solution, a lined storage area for the ore to be leached, pumping wells for the extraction of solution, a lined events pond to contain excess solution in extreme events, upstream surface water interceptor ditches, and leak detection, recovery and monitoring systems to ensure the containment of solution. The secondary HLP design is proposed to mimic the primary HLP.

The primary HLP is irrigated with a barren cyanide-caustic solution fed from the process plant through pipelines and drip emitters incorporated in the HLP. The barren solution percolates through the HLP and dissolves gold producing a gold-bearing “pregnant” solution. The pregnant solution is pumped from the HLP at a current nominal rate of approximately 1,000 m³/h to the carbon adsorption circuit and will eventually ramp up to a nominal rate of 2,070 m³/h following 1.5-2 years of ore loading and stacking. The flowrate of barren solution is based on a 45-day primary leach cycle and a secondary leach cycle of additional 45-days assuming an application rate of 7-10 l/h/m² and a lift height of 10 m.

1.10.3 Processing Plant

The pregnant solution enters the ADR plant through the carbon adsorption circuit, which consists of two trains of five cascading-flow carbon columns. The barren solution discharged from the final carbon column is pumped to the barren solution tank. Liquid sodium cyanide solution, caustic, and antiscalant are added to the barren solution to maintain the required pH and cyanide concentrations for leaching.

Loaded carbon is extracted from the first carbon adsorption columns at a rate of 8 t/d (4 t/d per train) and is acid washed prior to advancing to the desorption circuit for gold recovery in the strip vessel. The available area under leach and pregnant solution flow currently only supports operation of a single train of carbon columns, and therefore, carbon is extracted from the first two columns in the train to provide eight tons of

total carbon to the acid wash and strip vessels. As solution flow ramps up following 1.5-2 years of ore loading, the other train will be utilized for gold recovery.

The pregnant solution from the strip vessel flows to the electrowinning circuit. At the conclusion of the strip cycle, the stripped carbon is thermally regenerated in the carbon reactivation kiln and then returned to the carbon columns.

Gold sludge is plated onto steel wool cathodes in the electrowinning cells. The gold-bearing sludge is dried, fluxed, and then smelted to produce gold doré.

1.10.4 Gold Recovery

A summary of the throughput and LOM gold recovery for each ore type are presented in Table 1-10.

Table 1-10: Throughput and Gold Recovery

Parameter	Units	Total
Eagle Crushed Ore		
Total Throughput	Mt	110
Gold Recovered from Heap Leach	k oz	2,134
Gold Recovery	%	78.4
Eagle ROM Ore		
Total Throughput	Mt	32
Gold Recovered From HL	k oz	125
Gold Recovery	%	55.7
Olive Ore		
Total Throughput	Mt	7
Gold Recovered From HL	k oz	147
Gold Recovery	%	73.6
Total Recovery		
Total Throughput	Mt	149
Gold Recovered From HL	k oz	2,406
Gold Recovery	%	76.9

*Excludes the 2.5M t low grade stockpile
Source: Forte Dynamics Inc. (2019)

A gold production model was developed to predict the gold production from the HLP operation and is based on a combination of metallurgical testing data, the mine production schedule, the HLP construction sequence (or stacking plan), and the leaching (irrigation) plan for the application of barren solution.

The gold production model uses discretized cells loaded through time based on the ore loading schedule. For each cell, grade by lithology is tracked along with planned leaching operations to determine the gold recovered over time.

Utilizing the leaching operations for the Eagle Project, the recovery per cell was calculated over time utilizing previous metallurgical testing work. The gold recovery was calculated for each rock type, within each cell

through time, to produce recovery based on the dissolution and diffusion of the gold coupled with leaching operations. At the end of the HLP life, the gold recovered from the HLPs is approximately 77%.

During the winter, when ore stacking onto the HLPs is stopped, the barren solution will still be applied to the HLP, and gold recovery from ore will continue.

During initial leaching of the primary and secondary HLPs, there will be an in-process inventory of recoverable gold built up. The inventory of recoverable gold will be from the recoverable gold in the ore in the heaps that has not been leached to completion, and is contained in solution inventories, carbon, and in the electrowinning / refining circuit that has not yet been processed into doré. Gold inventory in solution, carbon and the electrowinning / refining circuit will ultimately be recovered through residual leaching operations.

Solution will continue to be added in Year 8 for the primary and in Year 12 for the secondary HLP, to allow the last ore stacked to be leached to completion. Residual leaching may continue beyond these estimated time frames depending on project economics, relating to continued residual gold recovery and operating costs.

1.11 Infrastructure

The Eagle Gold Mine development included the construction of various ancillary facilities and related infrastructure, for which locations were selected to take advantage of local topography, to accommodate environmental considerations, and reduce capital and operating costs.

Current mine facilities and infrastructure include:

- A primary heap leach pad, comprised of a sump, a lined storage area, an in-heap storage area, pumping wells, events ponds, diversion ditches, leak detection, recovery and monitoring systems;
- Fresh water supply systems to treat and distribute process, fire, and potable water;
- Access and site roads;
- Water treatment infrastructure, including potable and sewage treatment infrastructure;
- Power supply and distribution, including:
 - A 43.5 km long, 69 kV power supply line from the Yukon Energy Corporation's power grid McQuesten switching station, approximately 25 km southeast of the property;
 - 13.8 kV power distribution from the mine site substation to all the facilities; and
 - Process control and instrumentation communication systems.
- Ancillary facilities, including:
 - Warehouse, cold storage and laydown areas;
 - Mine dry;
 - Administration buildings;
 - On-site fuel storage for diesel, gasoline & propane;
 - On-site explosive storage and magazines;

- Assay laboratory;
- Temporary and permanent camp accommodations complete with recreation area, commissary, first aid and laundry facilities;
- An incinerator; and
- Guard shack and entrance gate;

Future mine facilities and infrastructure will include:

- A secondary heap leach pad, comprised of a sump, a lined storage area, an in-heap storage area, pumping wells, events ponds, diversion ditches, leak detection, recovery and monitoring systems;
- Water treatment infrastructure, including a Mine Water Treatment Plant (MWTP) with cyanide detoxification capacity; and ancillary facilities, including a truck shop.

A current site layout is provided in Figure 1-2.

Figure 1-2: Eagle Mine Site Layout



Source: VGC (2019)

1.12 Environment and Permitting

The Eagle Gold Mine has been assessed under the Yukon Environmental and Socio-economic Assessment Act (YESAA) and currently holds a Quartz Mining License (QML) and a Water Use License (WUL) to construct, operate and close the Project.

As discussed in Section 1.5, the project area has an extensive exploration history involving a number of prior operators, some of whom had undertaken the collection of baseline environmental, socio-economic, land use, and heritage data. In 2007, StrataGold re-initiated the collection of environmental baseline data, which includes the disciplines of climate, water quality, hydrology, hydrogeology, aquatic biota, wildlife, air quality and vegetation. Fieldwork to characterize climatic, hydrological, hydrogeological, air, vegetation and water quality conditions is ongoing.

Victoria Gold and prior operators have also characterized local and regional land use and socio-economic conditions, First Nations land use and activities, and archaeological and heritage resources.

Prior to construction or operational activities taking place, mining projects in the Yukon are required to undergo an assessment of potential project effects pursuant to the YESAA. The YESAA process mandates that an applicant describe the scope of the project, the existing environmental and socio-economic setting, potential environmental and socio-economic effects of the project, and the measures that will be instituted by the applicant to mitigate those effects. The applicant also has a statutory obligation to consult any First Nation or resident of any community residing in the territory in which the project will be located or might have significant environmental or socio-economic effects on.

This duty to consult the parties must be completed to the satisfaction of the Yukon Environmental and Socio-economic Assessment Board (YESAB), based upon their consideration of any submitted material and discussions with the parties, before the formal review of a project may commence.

The YESAA review process results in a recommendation by the YESAB to federal, territorial or First Nation governments or agencies that will regulate or permit the proposed activity for measures to reduce, control or eliminate project effects. These governments or agencies, referred to as Decision Bodies, will then decide whether to accept, reject, or vary the YESAB's recommendation in a final Decision Document. Upon receipt of positive final Decision Documents by the Decision Bodies, a project may then proceed to the licensing phase.

Mining projects in the Yukon require permits and approvals issued pursuant to various federal and territorial legislation. The major regulatory approvals that must be received for a mining project during the licensing phase are generally a QML, under Section 135 of the Yukon's Quartz Mining Act, and a WUL, under Sections 6 (1) and 7 (1) of the Waters Act (Yukon).

The Eagle Gold Project has successfully completed the YESAA environmental assessment resulting in a positive final Decision Document in 2013. Victoria Gold subsequently applied for and received a QML and a Type A WUL for the construction, operation and closure of the Project.

Collectively the QML and WUL currently allow for:

- The extraction of 92M t of ore from the Eagle open pit;
- The construction of the Ann Gulch (or Primary) HLP;
- The development of two Waste Rock Storage Areas (WRSAs) immediately adjacent to the pit for the permanent storage of 132M t of waste rock;

- The construction and operation of crushing and conveying infrastructure;
- The construction and operation of an ADR plant;
- The development of site haul roads; and,
- The construction and operation of all water management infrastructure required for mine and waste-water treatment and for the extraction and/or conveyance of water required for processing.

Pursuant to the QML and WUL, Victoria Gold was able to begin the construction of the above facilities and undertake the associated activities immediately upon posting a bond, providing issued for construction drawings, and satisfying other minor requirements.

Project components not currently included in the QML or WUL include the Olive pit, expansion of one of the WRSAs into an adjacent watershed, the secondary HLP and the related project infrastructure required for developing these facilities. The project components not currently included in the QML or WUL will need to undergo a review pursuant to the YESAA and require the subsequent amendment to each license. Victoria Gold has estimated permitting of these additional elements can be completed within three years.

The Olive pit, development of a third WRSA, expansion of one of currently permitted WRSAs into an adjacent watershed, the secondary HLP and the related project infrastructure required for developing these facilities are not considered in the mine plan until 2023. This provides sufficient time to complete the assessment of the facilities pursuant to the YESAA and receive the required regulatory amendments in advance of intended development and does not present a significant risk of interruption to operations.

1.13 First Nations' Considerations

The project is located entirely within the Traditional Territory of the First Nation of Na-Cho Nyäk Dun (FNNND). The statutory requirement to consult on the project and to satisfy previous, and any future, assessments of the project under the YESAA involves the FNNND. To ensure that the FNNND, and the community of Mayo, have an opportunity for input at all key stages of project development, Victoria Gold has made it a priority to conduct early and ongoing consultation with the FNNND, and the community of Mayo, to ensure opportunities for input from both parties at all key stages of project development.

On October 17, 2011, Victoria Gold and the FNNND signed a comprehensive Cooperation and Benefits Agreement (CBA). The CBA replaced an earlier Exploration Cooperation Agreement and applies to the Eagle Gold mine development and exploration activities conducted by Victoria Gold anywhere in the FNNND Traditional Territory south of the Wernecke Mountains.

The objectives of the CBA are to:

- Promote effective and efficient communication between Victoria Gold and the FNNND in order to foster the development of a cooperative and respectful relationship and FNNND support of Victoria Gold's exploration activities on the project;
- Provide business and employment opportunities, related to the project, to the FNNND and its citizens and businesses in order to promote their economic self-reliance;
- Establish a role for the FNNND in the environmental monitoring of the project and the promotion of environmental stewardship;

- Set out financial provisions to enable the FNNND to participate in the opportunities and benefits related to the project; and
- Establish a forum for Victoria Gold and the FNNND to discuss matters related to the project and resolve issues related to the implementation of the CBA.

1.14 Capital Cost Estimates

The initial capital used to construct the Eagle Gold Mine was spent between August 2017 and July 2019. Capital expenditures for the Mine included:

- Earthworks for process facilities, infrastructure, roads, HLF embankment and events pond, and water management structures;
- Pre-production mining;
- Process facilities including:
 - Primary crusher building and coarse ore storage;
 - Secondary / Tertiary crusher building;
 - Conveyor systems;
 - ADR plant; and
 - Heap Leach facility.
- Warehouse and laydown areas;
- Fuel farm;
- McQuesten Switching Station and 69kV power line to the mine site;
- On-site 4.95mW power generation facility; and
- Camp and supporting infrastructure.

The initial capital phase of the project was completed in Q3 2019 ahead of schedule. Total pre-production capital cost of the Project phase was reported as \$487.2 M.

An additional \$209.5 M will be required as sustaining capital over the LOM for the following expenditures:

- Expansion of the HLF liner and pipework system;
- Construction of a truck shop;
- Purchase of additional or replacement surface mining equipment;
- Purchase of additional or replacement HLF grasshopper / stacker equipment;
- Replacement of light vehicles;
- Construction of a Water Treatment Facility;
- Value added infrastructure development projects identified to improve the operation as a whole; and

- Purchase of critical spares.

This amount includes an allowance of \$35.0 M for closure (net of salvage value).

LOM capital projects at the Eagle Gold Mine are forecasted on an annual basis with an emphasis placed on the upcoming budgeting year. Capital cost assumptions in this report reflect the current LOM assumptions and design criteria for the mine as a whole.

1.15 Operating Cost Estimates

Operating costs include all normal, recurring costs of production including:

- Open pit mining (labour, maintenance, fuel, explosives, technical services);
- Processing (process consumables, maintenance);
- Site & Associated Corporate Support;
 - Power generation;
 - Site services, support and logistics;
 - Site labor; and
 - Corporate and administrative functions.

Operating budgets are based on first principle calculations provided by each respective department as well as historical cost trending. Budgets are updated in detail annually to reflect changes in markets, consumable prices and site-specific operating parameters. Annual budgets are scrutinized internally by department heads, senior management and strategic business planners to ensure costs align with business objectives and to ensure sufficient detail is present. Operating budgets are finalized to ensure adequate time for the procurement process to take place prior to the winter road season.

The Eagle Gold Mine operating costs consist of both variable and fixed cost items. Variable costs have a linear correlation to cost drivers such as open pit production, equipment hours or process throughput, while fixed costs do not.

For the mineral reserves in this report and the schedule of mining and processing envisioned for them, Table 1-11 depicts modeled estimates of the associated operating costs for 2020 and the remainder of Eagle Mine's production schedule in Canadian dollars and in real terms.

Table 1-11: Operating Cost Summary

Category	LOM (M \$)	\$/t leached
Mining	721.3	4.84
Processing	724.0	4.86
G&A	406.9	2.73
TOTAL	1,852.2	12.43

Source: VGC (2019)

1.16 Economic Analysis

An economic model was developed to reflect projected annual cash flows and sensitivities of the project. All costs, metal prices and economic results are reported in Canadian dollars (C\$ or \$) unless stated otherwise.

1.16.1 Results

The parameters used in the economic model and the results are shown in Table 1-12. The LOM economic model does not calculate a meaningful Internal Rate of Return (IRR) as there are no upfront annual net cash outflows. This economic model excludes any servicing of the debt incurred to finance the Project.

All costs and revenues are assumed to be paid and received in the period that they are incurred and produced. There is no working capital in the model.

Table 1-12: Economic Results

Parameter	Unit	Value
Au Price	US\$/oz	1,300
Exchange Rate	US\$:C\$	0.75
After-Tax Free Cash Flow	M\$	1,351.8
	Avg M\$/yr*	123
Pre-Tax NPV_{5%}	M\$	1,388.6
After-Tax NPV_{5%}	M\$	1,034.2

*Includes full production years only
Source: VGC (2019)

1.16.2 Sensitivities

Sensitivity analyses were performed using gold price, exchange rate, head grade, sustaining capital cost estimate, and operating cost estimate (OPEX) as variables. The value of each variable was changed plus and minus 15% independently, while all other variables were held constant. The results of the sensitivity analyses are shown in Table 1-13.

Table 1-13: Sensitivities Analyses

Variable	Pre-tax NPV _{5%} (M \$)			After-tax NPV _{5%} (M \$)		
	-15% Variance	0% Variance	15% Variance	-15% Variance	0% Variance	15% Variance
Metal Price	938	1,389	1,840	744	1,034	1,323
FX Rate	1,897	1,389	1,014	1,359	1,034	793
Head Grade	941	1,389	1,837	746	1,034	1,321
OPEX	1,603	1,389	1,175	1,173	1,034	881
CAPEX	1,412	1,389	1,366	1,057	1,034	1,012

Source: VGC (2019)

After-tax NPV's were evaluated using a wider range of sensitivities to different combinations of gold price and exchange rate. The sensitivities were calculated between gold prices from \$1,000 to \$2,000/oz and exchange rates between 0.60 to 0.90 US\$:C\$. The results are presented in Table 1-14 in C\$.

Table 1-14: After-Tax NPV_{5%} Sensitivity to Gold Price and FX Rate (M \$)

FX	Au Price (US\$/oz)										
US\$:C\$	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
0.90	310	454	592	725	850	974	1,098	1,222	1,345	1,468	1,592
0.85	390	539	683	817	948	1,079	1,210	1,341	1,471	1,602	1,732
0.80	479	633	779	919	1,058	1,197	1,336	1,475	1,614	1,752	1,891
0.75	576	736	886	1,034	1,183	1,331	1,479	1,627	1,775	1,923	2,070
0.70	685	848	1,007	1,166	1,325	1,483	1,642	1,800	1,959	2,117	2,275
0.65	804	976	1,147	1,318	1,489	1,659	1,830	2,000	2,171	2,341	2,511
0.60	939	1,124	1,310	1,495	1,680	1,864	2,049	2,234	2,418	2,602	2,787

Source: VGC (2019)

1.17 Conclusions

The preliminary results of the operational start up suggest a positive economic outcome for the Mine.

Operating costs are higher than the FS estimates, at \$12.43/t mined vs. a predicted cost of \$10.54/t, most of which (69%) is attributable to higher than anticipated G&A costs.

Overall gold recovery is predicted to be 77%.

The recent diamond drill program was successful in increasing resources and reserves significantly with the addition of 21.1% of gold ounces in the mineral resource and an increase of 0.6% of the average gold grade, for the measured and indicated categories based on the addition of 58 drill holes. The updated inferred mineral resources also showed an increase of 30.8% of gold ounces and an increase of 6.3% of the average gold grade when compared to the 2016 FS resources.

As the Project continues to develop, management should strive towards continuous improvement of operations through the following initiatives:

- Year-round stacking;

- Continued near-mine exploration with a focus on the Potato Hills Trend, which hosts the Olive, Shamrock and other targets;
- Reduction of operating costs;
- Reduction or elimination of rehandling of ore on the leach pad;
- Further refinement of water management and water treatment; and
- Improvement upon production targets.

It is expected that there will be many lessons learned in the first winter season of operation that will inform and enhance ongoing operations and mitigate seasonal disruptions in the future.

2 Introduction

2.1 Basis of Technical Report

This Technical Report was compiled by JDS for Victoria Gold to support the Canadian Securities Administrators' National Instrument 43-101 and Form 43-101F1.

The purpose of this Technical Report is to:

- Present an update to the 2016 Feasibility Study that incorporates the data and actual economics since the construction of the mining operation, including the following:
 - Actual operating cost data;
 - The final process flow design;
 - An expanded resource estimate for the Eagle Zone based on new diamond drill information (there is no change to the Olive resource estimate);
 - An expanded reserve and new mine plan incorporating the expanded Eagle Zone; and
 - New NSR royalty distributions.
- Support a movement of the company listing from the TSX Venture Exchange (TSX-V) to the more senior TSX Exchange.

Much of the technical and financial information in this Technical Report is based on updates to the 2016 NI 43-101 Feasibility Study (FS) based on actual operating performance and costs during the operational start up.

This Technical Report is not triggered by any event and is being voluntarily submitted by Victoria Gold.

2.2 Scope of Work and Responsibilities

The Qualified Persons (QPs) preparing this report are specialists in the fields of geology, exploration, Mineral Resource and Mineral Reserve estimation and classification, geotechnical, environmental, permitting, metallurgical testing, mineral processing, processing design, capital and operating cost estimation, and mineral economics.

This report was prepared primarily by Victoria Gold employees and management and compiled by JDS. Accordingly, most contributors to this report and QPs are not independent of Victoria Gold. As the report is being voluntarily submitted and is not triggered by any event, the exclusive use of independent QPs is not mandatory.

The following individuals, by virtue of their education, experience and professional association, are considered QPs as defined in the NI 43-101, and are members in good standing of appropriate professional institutions. The QPs are responsible for specific sections as follows in Table 2-1.

Table 2-1: Qualified Person Responsibilities

Qualified Person	Company	Report Sections of Responsibility
Richard Goodwin, P.Eng.	JDS Energy & Mining Inc.	1, 2 to 6 (except 4.5), 18, 19, 21, 22, 25 to 29
Paul Gray, P.Geo.	Victoria Gold Corp.	7 to 11, 14.2, 24
Marc Jutras, P.Geo.	Ginto Consulting Inc.	12, 14.1, 14.3
Barry Carlson, P.E., P.Eng.	Forte Dynamics Inc.	13, 17
Steve Tang, P.Eng.	Victoria Gold Corp.	15 and 16 (except 15.2.1.7, 16.3.6.1.1 and 16.3.6.1.2)
Steve Wilbur, P.Geo.	Victoria Gold Corp.	4.5, 20
Michael Levy, P.E.	JDS Energy & Mining Inc.	15.2.1.7, 16.3.6.1.1 and 16.3.6.1.2

Source: JDS (2019)

Independent QP visits to the Eagle Gold Mine were conducted as follows:

- Richard Goodwin visited the mine site on November 13, 2019. He toured all major facilities on site including the Eagle pit, the crushing plant, heap leach pad, and ADR building. He was toured by the following site staff: Andrew Balance (General Foreman, Mining), Stuart Harris (Mine Geological Technician) Matt Solski (Senior Engineer) and Jeff Hewko (General Foreman, Process).
- Michael Levy visited the mine site on May 26, 2016.
- Marc Jutras visited the mine site on September 13-15, 2018 and November 27, 2019.

All other QPs are Victoria Gold employees that have conducted multiple site visits in the performance of their duties.

2.3 Sources of Information

The sources of information include data and reports supplied by Victoria Gold personnel as well as documents cited throughout the report and referenced in Section 27. In particular, background project information was taken directly from the Technical Report entitled “Eagle Gold Project Feasibility Study” prepared by Wardrop Engineering Inc. (Wardrop 2012), with an effective date of April 18, 2012 and from the most recent Feasibility Study entitled “Eagle Gold Feasibility Study” prepared by JDS Energy & Mining Inc. (JDS 2016), with an effective date of September 12, 2016.

2.4 Units, Currency and Rounding

Unless otherwise specified or noted, the units used in this Technical Report are metric. Every effort has been made to clearly display the appropriate units being used throughout this Technical Report. Currency is in Canadian dollars (C\$ or \$) unless otherwise stated.

This report includes technical information that required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the QPs do not consider them to be material.

3 Reliance on Other Experts

The QPs opinions contained herein are based on information provided by Victoria Gold and others throughout the course of the study. The QPs have taken reasonable measures to confirm information provided by others and take responsibility for the information.

The QPs used their experience to determine if the information from previous reports was suitable for inclusion in this Technical Report and adjusted information that required amending.

4 Property Description and Location

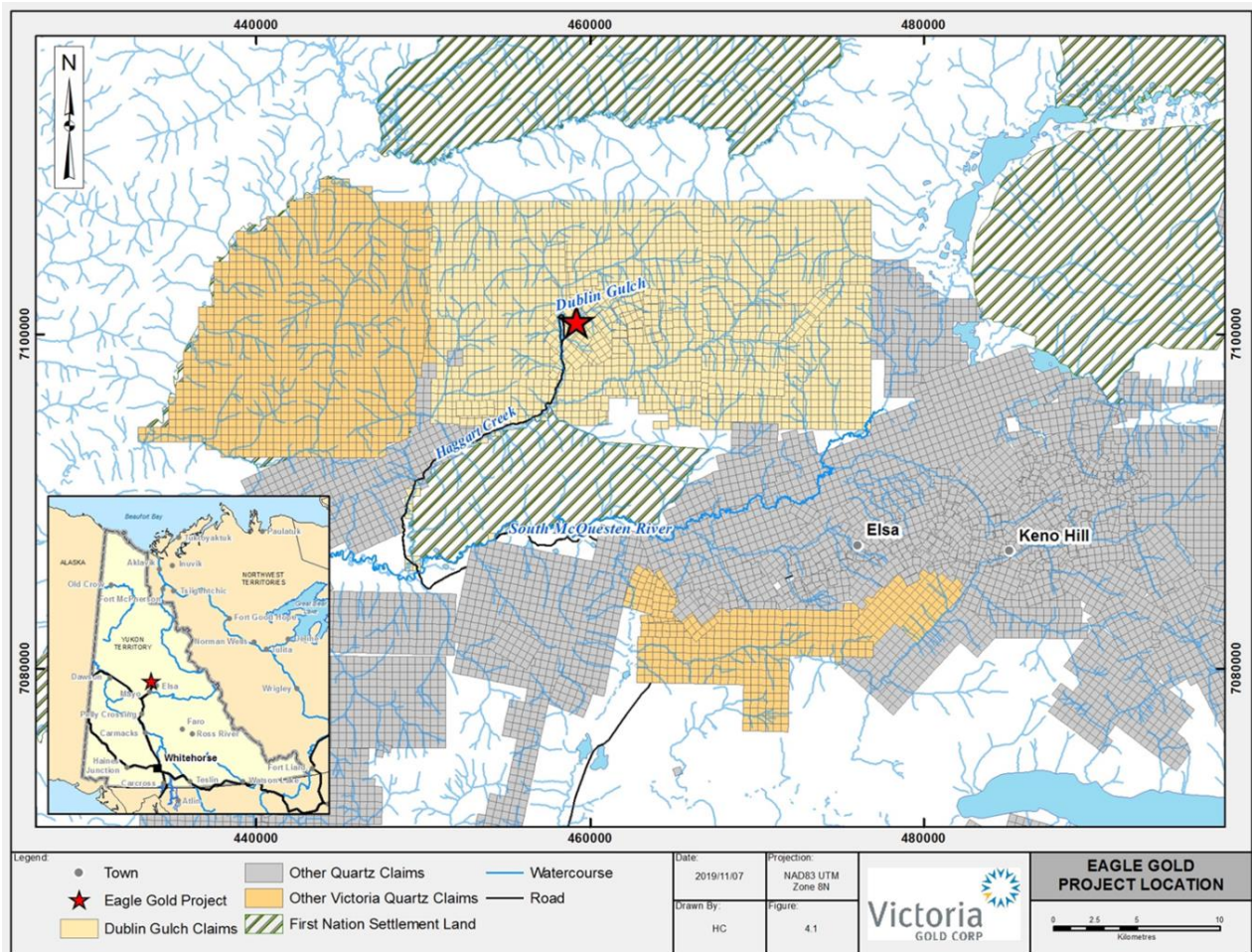
4.1 Location

The Eagle Gold Mine is located in central Yukon, in the Traditional Territory of the First Nation of Na-Cho Nyak Dun (FNNND), and within the Stewart River sub-basin of the Yukon River Watershed. The majority of the Project lies within the Dublin Gulch Watershed. Dublin Gulch is a second order stream that is a tributary to Haggart Creek, which flows to the South McQuesten River. Elevations in the vicinity of the project range from about 730 to 1,525 masl.

The centre of the Project is at approximately 64°01'30" N latitude and 135°49'30" W longitude or UTM Coordinates 7,100,060N / 459,680E, Zone 8, North American Datum (NAD) 83.

A Project location map is provided in Figure 4-1.

Figure 4-1: Eagle Gold Project Location



Source: VGC (2019)

4.2 Mineral Tenure

The Mine is situated within the Dublin Gulch property which is a contiguous block of 1,914 quartz claims, 10 quartz leases, and one federal crown grant. All of the Dublin Gulch mineral titles are held by StrataGold Corporation, a wholly owned-directly held subsidiary of Victoria Gold. The Dublin Gulch property is rectangular in shape and is approximately 35,000 ha.

In 1996, the claims which host a portion of the Eagle deposit, as it had been defined at that time, were surveyed by a Canada Lands surveyor to ensure that full title was held over the deposit. The claims that were to host the main HLP for the 1996 mine plan were also surveyed. These surveys were completed and satisfactorily registered and the boundaries of those claims are considered definitive.

In 2013, the claims that host the Eagle deposit as it was then defined, the two proposed WRSAs immediately north and south of the Eagle deposit, and the proposed phase one area of the Ann Gulch HLP were surveyed by a Canada Lands Surveyor to define their boundaries and ensure that no gaps in the claims exist. As a result of this process, two additional claims were staked to cover minor errors in historic staking. These surveys have defined the boundaries of the additional claims and the surveyed claims cover the current Eagle open pit, the refined WRSAs to the north and south of the Eagle open pit, and phase one area of the Ann Gulch HLP.

The mineral rights held by Victoria Gold include all minerals and the right to enter on and use and occupy the surface of the claims for the operation the mine. Mineral claims in Yukon can be maintained in good standing by performing approved exploration work, or making payments in lieu of work, of \$100 per claim per year.

A list of the claims, leases and grant that comprise the Dublin Gulch property are provided in Table 4-1 and are shown in Figure 4-2.

Table 4-1: Mineral Tenure Information

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Jan 1, 2	YB65585, YB65586	1-Mar-32	106D04
Claim	Jan 3	YB65587	16-Jan-24	106D04
Claim	Jan 4	YB65588	16-Jan-29	106D04
Claim	Bob 1 - 7, 52, 86	YA17729 - YA17735, YA17780, YA43014	1-Mar-34	106D04
Claim	Dave 1 - 8, 17, 18	YA17802 - YA17809, YA17818, YA17819	1-Mar-34	106D04
Lease	Dave 13 - 16, 25, 27, 28	YA17814 - YA17817, YA42970, YA42972, YA42973	31-Jan-36	106D04
Claim	Dave 26	YA42971	1-Oct-24	106D04
Claim	Dave 29, 30, 31	YA42974, YA42975, YA43015	1-Mar-34	106D04
Claim	DG 43 - 55, 82, 83, 85, 100 - 103	YA14986 - YA14998, YA43044, YA43045, YA43046, YA43061 - YA43064	1-Mar-34	106D04
Claim	Dub 1 - 3	YC11075 - YC11077	1-Mar-34	106D04
Claim	Dub 1000 - 1017	YC38297 - YC38314	1-Mar-31	106D03, 106D04
Claim	Dub 1018 - 1026	YC38315 - YC38323	1-Mar-32	106D04
Claim	Dub 1027 - 1029	YC38324 - YC38326	1-Mar-31	106D04

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Dub 103, 104	YC11177, YC11178	1-Mar-36	106D04
Claim	Dub 1030	YC38327	1-Mar-32	106D04
Claim	Dub 1031 - 1033	YC38328 - YC38330	1-Mar-31	106D04
Claim	Dub 1034 - 1045	YC38331 - YC38342	1-Mar-32	106D04
Claim	Dub 1046 - 1063	YC38343 - YC38360	1-Mar-31	106D03, 106D04
Claim	Dub 105	YC11179	1-Mar-37	106D04
Claim	Dub 106	YC11180	1-Mar-32	106D04
Claim	Dub 1064 - 1103	YC38361 - YC38400	1-Mar-32	106D04
Claim	Dub 107 - 111	YC11181 - YC11185	1-Mar-37	106D04
Claim	Dub 11 - 16	YC11085 - YC11090	1-Mar-33	106D04
Claim	Dub 1104	YC38401	1-Mar-33	106D04
Claim	Dub 1105	YC38402	1-Mar-32	106D04
Claim	Dub 1106 - 1117	YC38403 - YC38414	1-Mar-33	106D04
Claim	Dub 1118 - 1127	YC38415 - YC38424	1-Mar-32	106D04
Claim	Dub 112	YC11186	1-Mar-33	106D04
Claim	Dub 1128 - 1146	YC38425 - YC38443	1-Mar-31	106D03, 106D04
Claim	Dub 113 - 129	YC11187 - YC11203	1-Mar-37	106D04
Claim	Dub 1147, 1148	YC38444, YC38445	1-Mar-32	106D04
Claim	Dub 1149, 1150	YC38446, YC38447	1-Mar-31	106D04
Claim	Dub 1151	YC38448	1-Mar-32	106D04
Claim	Dub 1152	YC38449	1-Mar-31	106D04
Claim	Dub 1153	YC38450	1-Mar-32	106D04
Claim	Dub 1154	YC38451	1-Mar-31	106D04
Claim	Dub 1155	YC38452	1-Mar-32	106D04
Claim	Dub 1156, 1157	YC38453, YC38454	1-Mar-31	106D04
Claim	Dub 1158	YC38455	1-Mar-32	106D04
Claim	Dub 1159	YC38456	1-Mar-31	106D04
Claim	Dub 1160	YC38457	1-Mar-32	106D04
Claim	Dub 1161	YC38458	1-Mar-31	106D04
Claim	Dub 1162 - 1190	YC38459 - YC38487	1-Mar-32	106D04
Claim	Dub 1191	YC38488	1-Mar-33	106D04
Claim	Dub 1192	YC38489	1-Mar-32	106D04
Claim	Dub 1193	YC38490	1-Mar-33	106D04
Claim	Dub 1194	YC38491	1-Mar-32	106D04
Claim	Dub 1195	YC38492	1-Mar-33	106D04
Claim	Dub 1196	YC38493	1-Mar-32	106D04
Claim	Dub 1197 - 1199	YC38494 - YC38496	1-Mar-33	106D04
Claim	Dub 1200 - 1209	YC38497 - YC38506	1-Mar-32	106D04
Claim	Dub 1210 - 1229	YC38507 - YC38526	1-Mar-31	106D03, 106D04
Claim	Dub 1230 - 1293	YC38527 - YC38590	1-Mar-32	106D04
Claim	Dub 1294	YC38591	1-Mar-31	106D04

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Dub 1295	YC38592	1-Mar-32	106D04
Claim	Dub 1296	YC38593	1-Mar-31	106D04
Claim	Dub 1297	YC38594	1-Mar-32	106D04
Claim	Dub 1298	YC38595	1-Mar-31	106D04
Claim	Dub 1299	YC38596	1-Mar-32	106D04
Claim	Dub 130 - 135	YC11204 - YC11209	1-Mar-35	106d04
Claim	Dub 1300	YC38597	1-Mar-31	106D04
Claim	Dub 1301	YC38598	1-Mar-32	106D04
Claim	Dub 1302	YC38599	1-Mar-31	106D04
Claim	Dub 1303	YC38600	1-Mar-32	106D04
Claim	Dub 1304	YC38601	1-Mar-31	106D04
Claim	Dub 1305	YC38602	1-Mar-33	106D04
Claim	Dub 1306 - 1310	YC38603 - YC38607	1-Mar-32	106D04
Claim	Dub 1311	YC38608	1-Mar-33	106D04
Claim	Dub 1312	YC38609	1-Mar-32	106D04
Claim	Dub 1313	YC38610	1-Mar-34	106D04
Claim	Dub 1314, 1315	YC38611, YC38612	1-Mar-32	106D04
Claim	Dub 1316	YC38613	1-Mar-31	106D04
Claim	Dub 1317	YC38614	1-Mar-32	106D04
Claim	Dub 1318	YC38615	1-Mar-31	106D04
Claim	Dub 1319 - 1321	YC38616 - YC38618	1-Mar-32	106D04
Claim	Dub 1322	YC38619	1-Mar-31	106D04
Claim	Dub 1323	YC38620	1-Mar-32	106D04
Claim	Dub 1324	YC38621	1-Mar-31	106D04
Claim	Dub 1325, 1326	YC38622, YC38623	1-Mar-32	106D04, 116A01
Claim	Dub 1327	YC38624	1-Mar-31	116A01
Claim	Dub 1328 - 1344, 1345, 1346, 1347	YC38625 - YC38641, YC39876, YC38642, YC38643	1-Mar-32	106D04
Claim	Dub 1348, 1349	YC38644, YC38645	1-Mar-33	106D04
Claim	Dub 1350 - 1359	YC38646 - YC38655	1-Mar-32	106D04
Claim	Dub 136, 137	YC11210, YC11211	1-Mar-32	106D04
Claim	Dub 1360 - 1363	YC38656 - YC38659	1-Mar-31	106D04, 116A01
Claim	Dub 1364, 1365	YC38660, YC38661	1-Mar-32	106D04
Claim	Dub 1366, 1367	YC38662, YC38663	1-Mar-33	106D04
Claim	Dub 1368 - 1371	YC38664 - YC38667	1-Mar-34	106D04
Claim	Dub 1372 - 1395	YC38668 - YC38691	1-Mar-32	106D04
Claim	Dub 138 - 141	YC11212 - YC11215	1-Mar-34	106D04
Claim	Dub 1396 - 1399	YC38692 - YC38695	1-Mar-31	106D04, 116A01
Claim	Dub 1400 - 1403	YC38969 - YC38699	1-Mar-32	106D04
Claim	Dub 1404 - 1419	YC38700 - YC38715	1-Mar-34	106D04
Claim	Dub 142	YC11216	1-Mar-33	106D04
Claim	Dub 1420 - 1423	YC38716 - YC38719	1-Mar-32	106D04

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Dub 1424 - 1437	YC38720 - YC38733	1-Mar-34	106D04
Claim	Dub 143 - 152	YC11217 - YC11226	1-Mar-37	106D04
Claim	Dub 1438	YC38734	1-Mar-32	106D04
Claim	Dub 1439	YC38735	1-Mar-34	106D04
Claim	Dub 1440 - 1443	YC38736 - YC38739	1-Mar-32	106D04
Claim	Dub 1444 - 1457	YC38740 - YC38753	1-Mar-34	106D04
Claim	Dub 1458 - 1463	YC38754 - YC38759	1-Mar-32	106D04
Claim	Dub 1464	YC38760	1-Mar-34	106D04
Claim	Dub 1465	YC38761	1-Mar-32	106D04
Claim	Dub 1466	YC38762	1-Mar-34	106D04
Claim	Dub 1467	YC38763	1-Mar-32	106D04
Claim	Dub 1468	YC38764	1-Mar-34	106D04
Claim	Dub 1469	YC38765	1-Mar-32	106D04
Claim	Dub 1470	YC38766	1-Mar-34	106D04
Claim	Dub 1471	YC38767	1-Mar-32	106D04
Claim	Dub 1472	YC38768	1-Mar-34	106D04
Claim	Dub 1473	YC38769	1-Mar-32	106D04
Claim	Dub 1474	YC38770	1-Mar-34	106D04
Claim	Dub 1475 - 1499	YC38771 - YC38795	1-Mar-32	106D04, 116A01
Claim	Dub 1500	YC38795	1-Mar-31	116A01
Claim	Dub 1501	YC38796	1-Mar-32	116A01
Claim	Dub 1502	YC38797	1-Mar-31	116A01
Claim	Dub 1503	YC38798	1-Mar-32	116A01
Claim	Dub 1504 - 1512	YC38799 - YC38808	1-Mar-34	106D04
Claim	Dub 1513 - 1529	YC38809 - YC38825	1-Mar-32	106D04, 116A01
Claim	Dub 153 - 159	YC11227 - YC11233	1-Mar-34	106D04
Claim	Dub 1530 - 1534	YC38826 - YC38830	1-Mar-34	106D04
Claim	Dub 1535	YC38831	1-Mar-32	106D04
Claim	Dub 1536 - 1538	YC38832 - YC38834	1-Mar-34	106D04
Claim	Dub 1539	YC38835	1-Mar-32	106D04
Claim	Dub 1540	YC38836	1-Mar-	106D04
Claim	Dub 1541 - 1581	YC38837 - YC38877	1-Mar-32	106D04, 116A01
Claim	Dub 1582	YC38878	1-Mar-34	106D04
Claim	Dub 1583	YC38879	1-Mar-32	106D04
Claim	Dub 1584 - 1589	YC38880 - YC39856	1-Mar-31	106D04
Claim	Dub 1590 - 1602	YC39857 - YC39875	1-Mar-32	106D04, 105M13
Claim	Dub 160	YC11234	1-Mar-36	106D04
Claim	Dub 1603 - 1608	YC39860 - YC39865	1-Mar-32	105M13
Claim	Dub 1609 - 1619	YC42226 - YC42236	1-Mar-32	105M13
Claim	Dub 161 - 165	YC11235 - YC11239	1-Mar-37	106D04, 105M13
Claim	Dub 166 - 170	YC11240 - YC11244	1-Mar-35	105M13

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Dub 17 - 20	YC11091 - YC11094	1-Mar-32	106D04
Claim	Dub 171 - 180	YC11245 - YC11254	1-Mar-34	105M13
Claim	Dub 181 - 189	YC11255 - YC11263	1-Mar-37	105M13
Claim	Dub 190	YC11264	1-Mar-34	105M13
Claim	Dub 191	YC11265	1-Mar-37	105M13
Claim	Dub 192	YC11266	1-Mar-32	105M13
Claim	Dub 193 - 197	YC11267 - YC11271	1-Mar-34	106D04, 105M13
Claim	Dub 198	YC11272	1-Mar-37	105M13
Claim	Dub 199 - 207	YC11273 - 11281	1-Mar-34	106D04, 105M13
Claim	Dub 208	YC11282	1-Mar-33	106D04
Claim	Dub 209 - 216	YC11283 - YC11290	1-Mar-37	106D04
Claim	Dub 21	YC11095	1-Mar-37	106D04
Claim	Dub 217	YC11291	1-Mar-34	106D04
Claim	Dub 218	YC11292	1-Mar-35	106D04
Claim	Dub 219	YC11293	1-Mar-34	106D04
Claim	Dub 22	YC11096	1-Mar-33	106D04
Claim	Dub 220 - 222	YC11297 - YC11296	1-Mar-35	106D04
Claim	Dub 223	YC11297	1-Mar-34	106D04
Claim	Dub 224	YC11298	1-Mar-35	106D04
Claim	Dub 225	YC11299	1-Mar-34	106D04
Claim	Dub 226	YC11300	1-Mar-35	106D04
Claim	Dub 227 - 229	YC11301 - YC11303	1-Mar-32	106D04
Claim	Dub 23	YC11097	1-Mar-37	106D04
Claim	Dub 230 - 232	YC11304 - YC11306	1-Mar-34	106D04
Claim	Dub 233 - 240	YC11307 - YC11314	1-Mar-37	106D04
Claim	Dub 24	YC11098	1-Mar-32	106D04
Claim	Dub 241 - 257	YC11315 - YC11331	1-Mar-35	106D04
Claim	Dub 25	YC11099	1-Mar-37	106D04
Claim	Dub 258	YC11332	1-Mar-34	106D04
Claim	Dub 259, 260	YC11333, YC11334	1-Mar-35	106D04
Claim	Dub 26	YC11100	1-Mar-32	106D04
Claim	Dub 261	YC11335	1-Mar-36	106D04
Claim	Dub 262 - 266	YC11336 - YC11340	1-Mar-33	106D04
Claim	Dub 267 - 272	YC11341 - YC11346	1-Mar-34	106D04
Claim	Dub 27	YC11101	1-Mar-34	106D04
Claim	Dub 273 - 279	YC11347 - YC11353	1-Mar-35	106D04
Claim	Dub 28	YC11102	1-Mar-32	106D04
Claim	Dub 280	YC11354	1-Mar-33	106D04
Claim	Dub 281 - 288	YC11355 - YC11362	1-Mar-34	106D04
Claim	Dub 289	YC11363	1-Mar-35	106D04
Claim	Dub 29	YC11103	1-Mar-37	106D04

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Dub 290	YC11364	1-Mar-34	106D04
Claim	Dub 291	YC11365	1-Mar-34	106D04
Claim	Dub 292, 293	YC11366, YC11367	1-Mar-34	106D04
Claim	Dub 294, 295	YC11368, YC11369	1-Mar-33	106D04
Claim	Dub 296	YC11370	1-Mar-34	106D04
Claim	Dub 297 - 299	YC11371 - YC11373	1-Mar-35	106D04
Claim	Dub 30	YC11104	1-Mar-32	106D04
Claim	Dub 300 - 305	YC11374 - YC11379	1-Mar-34	106D04
Claim	Dub 306	YC11380	1-Mar-36	106D04
Claim	Dub 307 - 310	YC11381 - YC11384	1-Mar-34	106D04
Claim	Dub 31	YC11105	1-Mar-36	106D04
Claim	Dub 311	YC11385	1-Mar-33	106D04
Claim	Dub 312	YC11386	1-Mar-34	106D04
Claim	Dub 313 - 324	YC11387 - YC11398	1-Mar-33	106D04
Claim	Dub 32	YC11106	1-Mar-32	106D04
Claim	Dub 325 - 327	YC11399 - YC11401	1-Mar-34	106D04
Claim	Dub 328	YC11402	1-Mar-33	106D04
Claim	Dub 329	YC11403	1-Mar-34	106D04
Claim	Dub 33	YC11107	1-Mar-37	106D04
Claim	Dub 330 - 338	YC11404 - YC11412	1-Mar-35	106D04
Claim	Dub 339	YC11413	1-Mar-36	106D04
Claim	Dub 34	YC11108	1-Mar-32	106D04
Claim	Dub 340	YC11414	1-Mar-35	106D04
Claim	Dub 341	YC11415	1-Mar-37	106D04
Claim	Dub 342	YC11416	1-Mar-34	106D04
Claim	Dub 343	YC11417	1-Mar-36	106D04
Claim	Dub 344	YC11418	1-Mar-34	106D04
Claim	Dub 345	YC11419	1-Mar-36	106D04
Claim	Dub 346	YC11420	1-Mar-34	106D04
Claim	Dub 347	YC11421	1-Mar-36	106D04
Claim	Dub 348	YC11422	1-Mar-34	106D04
Claim	Dub 349	YC11423	1-Mar-36	106D04
Claim	Dub 35	YC11109	1-Mar-36	106D04
Claim	Dub 350	YC11424	1-Mar-33	106D04
Claim	Dub 351	YC11425	1-Mar-36	106D04
Claim	Dub 352	YC11426	1-Mar-34	106D04
Claim	Dub 353	YC11427	1-Mar-37	106D04
Claim	Dub 354	YC11428	1-Mar-34	106D04
Claim	Dub 355	YC11429	1-Mar-37	106D04
Claim	Dub 356	YC11430	1-Mar-33	106D04
Claim	Dub 357 - 359	YC11431 - YC11433	1-Mar-34	106D04

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Dub 36	YC11110	1-Mar-34	106D04
Claim	Dub 360	YC11434	1-Mar-33	106D04
Claim	Dub 361 - 364	YC11435 - YC11438	1-Mar-34	106D04
Claim	Dub 365 - 368	YC11439 - YC11442	1-Mar-35	106D04
Claim	Dub 369 - 372	YC11443 - YC11446	1-Mar-33	106D04
Claim	Dub 37	YC11111	1-Mar-32	106D04
Claim	Dub 373, 374	YC11447, YC11448	1-Mar-34	106D04
Claim	Dub 375, 376	YC11449, YC11450	1-Mar-37	106D04
Claim	Dub 377 - 384	YC11451 - YC11458	1-Mar-36	106D04
Claim	Dub 38	YC11112	1-Mar-34	106D04
Claim	Dub 385 - 390	YC11459 - YC11464	1-Mar-37	106D04
Claim	Dub 39	YC11113	1-Mar-32	106D04
Claim	Dub 391 - 396	YC11465 - YC11470	1-Mar-34	106D04
Claim	Dub 397	YC11471	1-Mar-35	106D04
Claim	Dub 398	YC11472	1-Mar-34	106D04
Claim	Dub 399, 400	YC11473, YC11474	1-Mar-35	106D04
Claim	Dub 4	YC11078	1-Mar-33	106D04
Claim	Dub 40	YC11114	1-Mar-34	106D04
Claim	Dub 401	YC11475	1-Mar-34	106D04
Claim	Dub 402	YC11476	1-Mar-33	106D04
Claim	Dub 403	YC11477	1-Mar-34	106D04
Claim	Dub 404	YC11478	1-Mar-33	106D04
Claim	Dub 405	YC11479	1-Mar-34	106D04
Claim	Dub 406	YC11480	1-Mar-33	106D04
Claim	Dub 407	YC11481	1-Mar-34	106D04
Claim	Dub 408	YC11482	1-Mar-33	106D04
Claim	Dub 409	YC11483	1-Mar-36	106D04
Claim	Dub 41	YC11115	1-Mar-32	106D04
Claim	Dub 410	YC11484	1-Mar-37	106D04
Claim	Dub 411	YC11485	1-Mar-35	106D04
Claim	Dub 412	YC11486	1-Mar-37	106D04
Claim	Dub 413	YC11487	1-Mar-35	106D04
Claim	Dub 414	YC11488	1-Mar-36	106D04
Claim	Dub 415	YC11489	1-Mar-35	106D04
Claim	Dub 416	YC11490	1-Mar-36	106D04
Claim	Dub 417	YC11491	1-Mar-35	106D04
Claim	Dub 418	YC11492	1-Mar-36	106D04
Claim	Dub 419	YC11493	1-Mar-35	106D04
Claim	Dub 42	YC11116	1-Mar-35	106D04
Claim	Dub 420	YC11494	1-Mar-37	106D04
Claim	Dub 421	YC11495	1-Mar-35	106D04

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Dub 422	YC11496	1-Mar-33	106D04
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Claim	Dub 425	YC11499	1-Mar-32	106D04
Claim	Dub 426	YC11500	1-Mar-36	106D04
Claim	Dub 427	YC11501	1-Mar-32	106D04
Claim	Dub 428	YC11502	1-Mar-35	106D04
Claim	Dub 429	YC11503	1-Mar-32	106D04
Claim	Dub 43, 44	YC11117, YC11118	1-Mar-32	106D04
Claim	Dub 430	YC11504	1-Mar-35	106D04
Claim	Dub 431	YC11505	1-Mar-32	106D04
Claim	Dub 432 - 436	YC1150 - YC11510	1-Mar-35	106D04
Claim	Dub 437 - 440	YC11511 - YC11514	1-Mar-36	106D04
Claim	Dub 441 - 449	YC11515 - YC11523	1-Mar-32	106D04
Claim	Dub 45	YC11119	1-Mar-37	106D04
Claim	Dub 450	YC11524	1-Mar-35	106D04
Claim	Dub 451	YC11525	1-Mar-34	106D04
Claim	Dub 452, 453	YC11526, YC11527	1-Mar-35	106D04
Claim	Dub 454	YC11528	1-Mar-36	106D04
Claim	Dub 455	YC11529	1-Mar-35	106D04
Claim	Dub 456	YC11530	1-Mar-36	106D04
Claim	Dub 457 - 479	YC11531 - YC11553	1-Mar-32	106D04
Claim	Dub 46	YC11120	1-Mar-32	106D04
Claim	Dub 47	YC11121	1-Mar-37	106D04
Claim	Dub 48	YC11122	1-Mar-32	106D04
Claim	Dub 480 - 484	YC11554, YC32478 - YC32481	1-Mar-34	106D04
Claim	Dub 485 - 492	YC32482 - YC32489	1-Mar-32	105M13
Claim	Dub 49	YC11123	1-Mar-35	106D04
Claim	Dub 493	YC32490	1-Mar-33	105M13
Claim	Dub 494 - 496	YC32491 - YC32493	1-Mar-32	105M13
Claim	Dub 497 - 516	YC32494 - YC32513	1-Mar-34	105M13
Claim	Dub 5 - 8	YC11079 - YC11082	1-Mar-32	106D04
Claim	Dub 50	YC11124	1-Mar-32	106D04
Claim	Dub 51	YC11125	1-Mar-35	106D04
Claim	Dub 517	YC32514	1-Mar-33	105M13
Claim	Dub 518 - 544	YC32515 - YC32541	1-Mar-34	105M13
Claim	Dub 52	YC11126	1-Mar-32	106D04
Claim	Dub 53 - 56	YC11127 - YC11130	1-Mar-35	106D04
Claim	Dub 545 - 548	YC32542 - YC32545	1-Mar-32	105M13
Claim	Dub 567 - 581	YC32564 - YC32578	1-Mar-34	105M13
Claim	Dub 57 - 66	YC11131 - YC11140	1-Mar-37	106D04

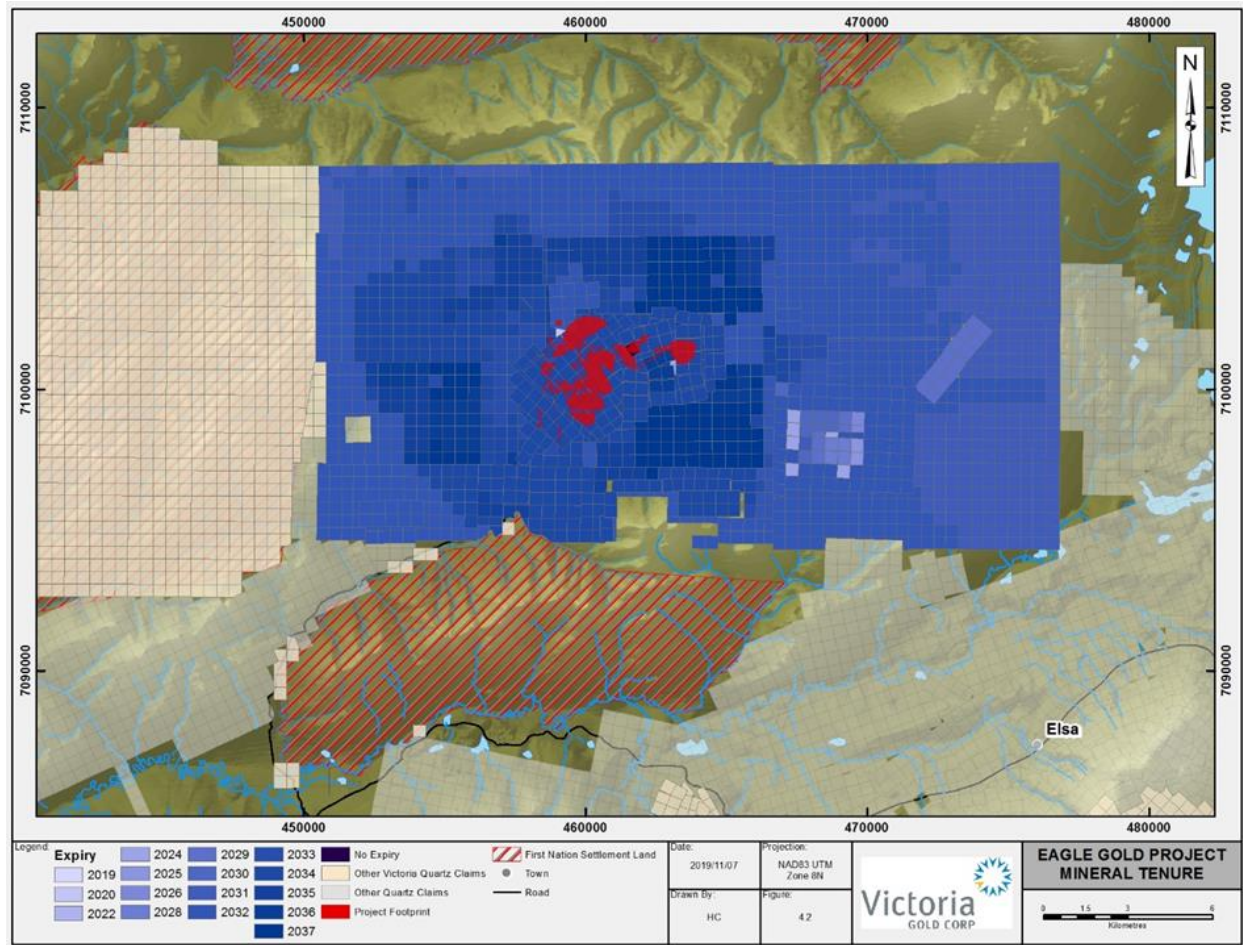
Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Dub 582 - 587	YC32579 - YC32584	1-Mar-32	105M13
Claim	Dub 588	YC32585	1-Mar-31	105M13
Claim	Dub 589	YC32586	1-Mar-32	105M13
Claim	Dub 590	YC32587	1-Mar-31	105M13
Claim	Dub 591	YC32588	1-Mar-32	105M13
Claim	Dub 592 - 603	YC32589 - YC32600	1-Mar-31	106D04, 105M13
Claim	Dub 604 - 662	YC32601 - YC32659	1-Mar-32	106D04, 105M13
Claim	Dub 663 - 678	YC32660 - YC32675	1-Mar-31	105M13, 105M14
Claim	Dub 67, 68	YC11141, YC11142	1-Mar-36	106D04
Claim	Dub 679 - 682	YC32676 - YC32679	1-Mar-32	105M13
Claim	Dub 683 - 779	YC32680 - YC32700, YC38001 - YC38076	1-Mar-31	106D04, 105M13, 105M14
Claim	Dub 69	YC11143	1-Mar-37	106D04
Claim	Dub 70	YC11144	1-Mar-36	106D04
Claim	Dub 71	YC11145	1-Mar-37	106D04
Claim	Dub 72	YC11146	1-Mar-36	106D04
Claim	Dub 73 - 78	YC11147 - YC11152	1-Mar-32	106D04
Claim	Dub 780	YC38077	1-Mar-32	106D04
Claim	Dub 781	YC38078	1-Mar-31	106D04
Claim	Dub 782	YC38079	1-Mar-32	106D04
Claim	Dub 783, 784	YC38080, YC38081	1-Mar-31	106D03
Claim	Dub 785 - 801	YC38082 - YC38098	1-Mar-32	106D03, 106D04
Claim	Dub 79	YC11153	1-Mar-37	106D04
Claim	Dub 80	YC11154	1-Mar-32	106D04
Claim	Dub 802 - 842	YC38099 - YC38139	1-Mar-31	106D03, 106D04
Claim	Dub 81 - 85	YC11155 - YC11159	1-Mar-37	106D04
Claim	Dub 843 - 879	YC38140 - YC38176	1-Mar-32	106D04
Claim	Dub 86	YC11160	1-Mar-35	106D04
Claim	Dub 87	YC11161	1-Mar-37	106D04
Claim	Dub 88	YC11162	1-Mar-35	106D04
Claim	Dub 880, 881	YC38177, YC38178	1-Mar-31	106D04
Claim	Dub 882	YC38179	1-Mar-32	106D04
Claim	Dub 883	YC38180	1-Mar-31	106D04
Claim	Dub 884, 885	YC38181, YC38182	1-Mar-32	106D04
Claim	Dub 886	YC38183	1-Mar-31	106D04
Claim	Dub 887 - 907	YC38184 - YC38204	1-Mar-32	106D04
Claim	Dub 89	YC11163	1-Mar-37	106D04
Claim	Dub 9, 10	YC11083, YC11084	1-Mar-34	106D04
Claim	Dub 90	YC11164	1-Mar-35	106D04
Claim	Dub 908 - 927	YC38205 - YC38224	1-Mar-31	106D03, 106D04
Claim	Dub 91	YC11165	1-Mar-37	106D04
Claim	Dub 92	YC11166	1-Mar-35	106D04

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Dub 928 - 953	YC38225 - YC38250	1-Mar-32	106D03, 106D04
Claim	Dub 93 - 102	YC11167 - YC11176	1-Mar-37	106D04
Claim	Dub 954 - 969	YC38251 - YC38266	1-Mar-31	106D03, 106D04
Claim	Dub 970	YC38267	1-Mar-32	106D04
Claim	Dub 971	YC38268	1-Mar-31	106D04
Claim	Dub 972 - 975	YC38269 - YC38272	1-Mar-32	106D04
Claim	Dub 976 - 979	YC38273 - YC38276	1-Mar-31	106D04
Claim	Dub 980	YC38277	1-Mar-32	106D04
Claim	Dub 981	YC38278	1-Mar-31	106D04
Claim	Dub 982 - 999	YC38279 - YC38296	1-Mar-32	106D04
Claim	Dub Fr. 1620	YE55727	11-Feb-20	106D04
Claim	Fiji 1	YA63884	1-Mar-34	106D04
Claim	Fiji 2	YB03409	1-Mar-34	106D04
Claim	Fiji 3	YA63886	1-Mar-34	106D04
Claim	Fiji 5	YA63888	1-Mar-34	106D04
Claim	Fiji 6	YA63889	1-Mar-34	106D04
Claim	Hla 1 - 6, 7 - 14	YC10918 - YC10923, YC10828 - YC10835	1-Mar-29	106D04
Claim	Jeff 116	YC39877	1-Mar-32	106D04
Claim	Jeff 117, 118, 120	YB03408, YA42981, YA42983	1-Mar-34	106D04
Claim	Jeff 17, 18, 33, 34, 113 - 115	YA17842, YA17843, YA17858, YA17859, YA42976 - YA142978	1-Mar-34	106D04
Claim	Len 1, 2	YC02730, YC02731	15-May-30	106D04
Claim	Len 10	YA30530	15-May-26	106D04
Claim	Len 11	YC02736	15-May-31	106D04
Claim	Len 12	YC02737	15-May-30	106D04
Claim	Len 13, 14	YC02738, YC02739	15-May-29	106D04
Claim	Len 15 - 18	YC02740 - YC02743	15-May-28	106D04
Claim	Len 19, 20	YC02744, YC02745	15-May-25	106D04
Claim	Len 21 - 23	YC02746 - YC02748	1-Mar-32	106D04
Claim	Len 24	YA30544	15-May-26	106D04
Claim	Len 25	YC02749	1-Mar-32	106D04
Claim	Len 26	YA30546	15-May-29	106D04
Claim	Len 27	YC02750	1-Mar-32	106D04
Claim	Len 28	YA30548	15-May-30	106D04
Claim	Len 29	YC02751	1-Mar-32	106D04
Claim	Len 3	YC02732	1-Mar-32	106D04
Claim	Len 30	YA30550	15-May-30	106D04
Claim	Len 31	YC02752	1-Mar-32	106D04
Claim	Len 32	YC02753	1-Mar-32	106D04
Claim	Len 4	YA30524	15-May-30	106D04
Claim	Len 5	YC02733	1-Mar-32	106D04

Regulation Type	Claim Name	Grant Number	Expiry Date	NTS Map Sheet
Claim	Len 6	YA30526	15-May-30	106D04
Claim	Len 7	YC02734	1-Mar-32	106D04
Claim	Len 8	YA30528	15-May-29	106D04
Claim	Len 9	YC02735	1-Mar-32	106D04
Claim	Lynx 1 - 18	YC10463 - YC10480	1-Mar-32	105M13
Claim	Lynx 19	YC10481	16-Jan-30	105M13
Claim	Lynx 20 - 23	YC10482 - YC10485	1-Mar-32	105M13
Claim	Lynx 24	YC10486	16-Jan-24	105M13
Claim	Lynx 25	YC10487	1-Mar-32	105M13
Claim	Lynx 26	YC10488	16-Jan-24	105M13
Claim	Lynx 27	YC10489	1-Mar-32	105M13
Claim	Lynx 28	YC10490	16-Jan-24	105M13
Claim	Lynx 29 - 32	YC10491 - YC10494	1-Mar-32	105M13
Claim	Lynx 33	YC10495	16-Jan-24	105M13
Claim	Lynx 34 - 40	YC10496 - YC10502	1-Mar-32	105M13
Claim	Lynx 41	YC10503	3-Mar-24	105M13
Claim	Lynx 42 - 57	YC10504 - YC11555	1-Mar-32	105M13, 106D04
Claim	Mar 1 - 12, 14 - 22, 24, 31, 33 - 40	YA14896 - YA14907, YA14909 - YA14917, YA14919, YA42984, YA43101 - YA43108	1-Mar-34	106D04
Claim	Mary 1 - 8	YA63876 - YA63883	1-Mar-34	106D04
Claim	Neera 1, 2	YC10822, YC10823	1-Mar-29	106D04
Grant	Olive Crown Grant	GR1054	N/A	106D04
Claim	R & D 1 - 8, 10, 12, 14 - 16	YA01393 - YA01400, YA01402, YA01404, YA01406 - YA01408	1-Mar-34	106D04
Lease	R & D No. 9, 11, 13	YA01401, YA01403, YA01405	31-Jan-36	106D04
Claim	Roni 1 - 14	YB64630 - YB64643	1-Mar-34	106D04
Claim	Smoky 1 - 10, 23, 25 - 30, 37 - 41, 44 - 47, 48, 49, 51 - 54, 56, 58, 62 - 65, 66 - 71, 74 - 77, 78, 80, 83 - 45, 91 - 100, 107 - 109	YA17930 - YA17939, YA17952, YA17954 - YA17959, YA17966 - YA17970, YA30072 - YA30075, YA17973, YA17974, YA30076 - YA30079, YA17977, YA17979, YA30080 - YA30083, YA17983 - YA17988, YA30084 - YA30087, YA17991, YA17993, YA43120 - YA43122, YA43128 - YA43137, YA43144 - YA43146	1-Mar-34	106D04
Claim	Smoky Fr. 55	YE55726	6-Dec-20	106D04
Claim	Tin Dome 1 - 4, 5 - 12	YC02842 - YC02845, YC02848 - YC02855	1-Mar-32	106D04
Claim	West 167 - 172, 174, 182, 184	YB18934 - YB18939, YB18941, YB18949, YB18951	1-Mar-34	106D04, 105M13

Source: VGC (2019)

Figure 4-2: Mineral Tenure Map



Source: VGC (2019)

4.3 Mining Rights

The primary legislation governing mining in Yukon is the Quartz Mining Act (QMA) and the Quartz Mining Land Use Regulations. The regulatory body charged with overseeing the QMA is the Department of Energy, Mines and Resources (EMR).

Ownership of quartz claims pursuant to the QMA carries the right to surface access and use for the exploitation of minerals contained within the claims. A claim holder must however make an application to the Minister of EMR to engage in development or production activities and may only conduct these activities in accordance with the terms and conditions of a license issued by the Minister. The license issued by the Minister is a Quartz Mining License (QML) which specifies the duration, activities, and claims, among other matters, that a licensee and claim holder must adhere to and operate within.

The permitting required for the Mine is discussed further in Section 20.

4.4 Mine Agreements

The Dublin Gulch property is subject to underlying agreements, four of which are material to the Eagle Gold Mine.

- The Eagle deposit falls entirely within claims that are subject to a royalty historically known as the Mar Gold Zone Royalty. This royalty historically required minimum annual royalty payments of \$20,000 or a production royalty of 2% of the gross returns received from the sale of all metals produced from the claims to a maximum of \$1,000,000 after which the royalty reverts to 1%. In 2019, Victoria Gold executed an agreement with the current royalty holder to buy down the production royalty and as such the royalty is now 1% of the gross returns.
- A portion of the Olive deposit falls within a claim that is subject to the Queenstake Mar Tungsten Royalty. This royalty is a 1% net smelter return royalty (NSR) payable only upon the commencement of production.
- The Eagle and Olive deposits fall entirely within claims that are subject to the Osisko Gold Royalty. This royalty is a 5% NSR royalty. After an aggregate of 97,500 ounces of refined gold have been delivered to Osisko, the royalty shall be reduced to a perpetual 3% NSR.
- The Eagle and Olive deposits fall entirely within claims that are subject to the Orion Offtake. The Orion Offtake grants Orion Mine Finance the right to purchase up to 25% of the annual gold production at prevailing market prices.

Other than the royalties described above, the project is free and clear of any material liens or third-party interests.

As part of the financing for construction, the property was encumbered with debt, the details of which are described in Section 22.2.

4.5 Environmental Liabilities and Considerations

Operational activities related to the Eagle Gold Mine are conducted primarily under QML-0011 granted by EMR under the QMA and a Type A Water Use Licence granted by the Yukon Water Board under the Waters Act and the Waters Regulations. These authorizations permit Victoria Gold to construct, operate and reclaim the facilities directly related to the Eagle Gold deposit including the open pit, primary heap leach pad, two waste rock storage areas, processing and crushing plant, mine camp, water management infrastructure, haul and service roads, and liquid and solid waste management facilities. Pursuant to the terms of these authorizations, a surety bond in the amount of \$21.6 M has been arranged and executed by Victoria Gold in favour of the Government of Yukon.

The surety bond represents the maximum cost anticipated, on a two-year look ahead basis for site activities, for a third party to fully reclaim project disturbances and monitor the effectiveness of such reclamation activities (and address maintenance as could be reasonably foreseen). This arrangement is common practice for all Yukon mining projects and is considered a standard mine related matter that does not present significant environmental liability. The value of the surety bond will continue to be assessed, and agreed upon, every two years by the related regulatory authorities and Victoria Gold for the life of the Project.

4.6 Property Risks

There are no known factors that may materially affect access, title or the right or ability to perform any of the activities contemplated herein.

5 Accessibility, Climate, Local Resources, Infrastructure & Physiography

5.1 Accessibility

The Mine, 90 km from the community of Mayo, has year-round access via the Silver Trail (Highway 11) onto the 45 km access road, the South McQuesten Road (SMR) and the Haggart Creek Road (HCR) which terminates at the Project site. The property is accessed from Mayo by the Silver Trail (Highway 11) onto the South McQuesten Road (SMR) and then the Haggart Creek Road (HCR) which terminates at the Project site. Together the SMR and the HCR comprise a 45 km road divided by the South McQuesten River. Both are public roads, regulated under the Yukon Highways Act; however, the SMR is only maintained during the summer by the Yukon Government Department of Highways and Public Works (HPW), whereas the HCR is considered a “public unmaintained” road.

Victoria Gold conducts snow clearing activities on both the SMR and HCR on an as needed basis and general maintenance on the HCR under the authority of permits granted by HPW.

5.2 Local Resources and Infrastructure

Mayo has a population of approximately 450 persons and offers accommodation, fuel, a nursing station, and earthmoving contractors. The Yukon Government maintains a 1,400 m gravel airstrip about 3 km north of Mayo, that has been certified by Transport Canada, and supports scheduled service by air carriers. The Project is about 45 km straight-line distance north-northeast of Mayo. Most major services and supplies are available in Whitehorse.

The Mine is currently connected to the Yukon Energy Corporation electrical grid. All major facilities required by the Mine are operating on grid power.

A broader range of services is available in Whitehorse, Yukon, located about six hours by road to the south of the project. Whitehorse has a population of 25,690 (Yukon Bureau of Statistics) and has regularly scheduled air service to Vancouver, Edmonton, Calgary, and Fairbanks.

The property is approximately 665 km by all-weather highway from the deep sea and barge port of Skagway, Alaska.

5.3 Climate

Central Yukon has a northern continental climate. The mean annual temperature for the area is approximately -3°C, with an annual range of 63.5°C. January is the coldest month, July the warmest. Annual precipitation ranges from 375 to 600 mm, about half of which falls as snow. The Project will be in operation year-round.

5.4 Physiography

The topography of the property area is characterized by rolling hills and plateaus ranging in elevation from approximately 800 masl to a local maximum of 1,650 masl at the summit of Potato Hills and is drained by deeply incised creeks and canyons. The ground surface is covered by residual soil and felsenmeer.

Outcrops are rare, comprising generally less than two percent of the surface area, and are limited to ridge tops and creek walls.

Lower elevations are vegetated with black spruce, willow, alder and moss, and higher elevations by subalpine vegetation. Patchy permafrost occurs on north-facing slopes (Figure 5-1). There are sufficient surface rights held by Victoria Gold by virtue of the claims, leases and permits described herein for mining operations contemplated in the future.

Figure 5-1: Typical Landscape in the Project Area



- 1 - From Eagle Zone looking North-West to camp and confluence of Dublin Gulch and Haggart Creek
 - 2 - From above the Eagle Zone looking north to camp and Ann Gulch
 - 3 - View of Haggart Creek road crossing approximately 3 km south of camp looking North-West
- Source: VGC (2016)

6 History

6.1 Management and Ownership

In 1977, Queenstake Resources Ltd. staked the Mar claims in the Ray Gulch area to cover a tungsten bearing skarn. This property was optioned to CanTung, who explored for gold and tungsten during 1977 – 1986 which led to the discovery of the Eagle Zone 3 km southwest of the original tungsten occurrences. In 1991, the property was acquired by Ivanhoe Goldfields.

In 1994, First Dynasty Mines Ltd. acquired the property through its acquisition of Ivanhoe Goldfields, and subsequently formed New Millennium Mining Ltd., and transferred Dublin Gulch to the new entity. In June 2002, First Dynasty changed its name to Sterlite Gold Limited.

In October 2004, StrataGold Corporation purchased the Dublin Gulch and Clear Creek gold properties from Sterlite. In June 2009, through a Plan of Arrangement, StrataGold was acquired by Victoria Gold.

6.2 Exploration History

Queenstake focused their exploration activities on an area historically known as Mar Tungsten (now Wolf Tungsten) north-east of the Eagle Zone and completed a small geological mapping and sampling program. When CanTung assumed control of these claims, and additional claims located near the Eagle Zone from another prospector, they retained Bema to manage the program.

Bema conducted first phase geological mapping which included an outcrop sampling program delineating the stratigraphic controls of the tungsten mineralization. This was followed up with a trenching program to expose bedrock in areas of shallow to moderate overburden thickness. CanTung also conducted geophysical survey programs that were later supplemented with Very Low Frequency Electromagnetic (VLF-EM) surveys focused on the tungsten skarns. Subsequently, Bema and CanTung completed an extensive diamond drilling program on the Mar Tungsten Zone and branched out to include trenching along the regional gold fault-vein system. After completing follow-up drilling programs on the tungsten target, CanTung returned the Mar Tungsten Zone and adjacent gold claims to Queenstake.

When Ivanhoe Goldfields acquired the property, they carried out exploration work based on a “Fort Knox-type” intrusive-hosted gold exploration model. Ivanhoe Goldfields continued exploratory work on the Eagle Zone via drilling, trenching, soil sampling, geophysical surveys, baseline environmental monitoring, as well as mineralogical and metallurgical studies.

First Dynasty Mines Ltd. subsequently undertook further exploration work on the Eagle Zone and through the newly formed New Millennium Mining Ltd. engaged Mineral Resource Development Inc. (MRDI) to produce a FS completed in 1997. Due to declining commodity prices, little further exploration work was undertaken on the Eagle Zone until the acquisition of the property by StrataGold Corporation.

In 2006, Wardrop Engineering Inc. (Wardrop) produced a NI 43-101 resource estimate for StrataGold consisting of an Indicated Resource totalling 66.5M t grading 0.92 g/t and an Inferred Resource totalling 14.4M t grading 0.80 g/t based on historic drilling and StrataGold’s 2005 drill campaign. StrataGold conducted further drilling on Eagle from 2006 – 2008 and Wardrop completed an updated NI 43-101 Mineral Resource estimate on the Eagle Zone Deposit in January 2009 adding 37% to the Indicated Resource for a total of 2.69M oz of gold averaging 0.849 g/t gold. This Mineral Resource estimate incorporated 13,058 m of drilling from 2006 – 2008 into the previously-stated resource estimate.

In 2008, StrataGold commissioned SRK to complete a Preliminary Assessment for tungsten on the Mar Tungsten deposit (now Wolf Tungsten). SRK estimated an Indicated Resource of 12.7M t grading 0.31% WO₃ and an Inferred Resource of 1.3M t grading 0.30% WO₃, an 11-year mine life, 15.5% IRR and NPV of \$24 M at an 8% discount rate.

In June 2009, after Victoria Gold acquired StrataGold, further exploration on the Eagle Zone was conducted and Victoria Gold commissioned a Pre-Feasibility Study (PFS) by Scott Wilson Roscoe Postle Associates. Work in 2009 focused on gathering further information on the Eagle Zone by drilling deep exploration holes and it was found that mineralization extended to considerable depths beyond the pit bottom models at that time.

Further field work around Olive and Shamrock, two targets identified within the Dublin Gulch property by previous operators, identified a continuous, structurally controlled corridor of mineralization, collectively called the 'Potato Hills Trend'.

In 2010, Victoria Gold completed additional exploration and geotechnical drilling on Eagle to quantify alteration, to verify the absence of mineralization (condemnation holes), for exploration, and for geotechnical, engineering and environmental purposes. Data from the 2010 drill program was incorporated into a May 2011 NI 43-101 compliant update to previous resource and reserve estimates in advance of a FS.

In 2011, 78 holes were drilled on Eagle to quantify alteration, for exploration, and for geotechnical, engineering and environmental purposes. In February 2012, Victoria Gold announced the results of a NI 43-101 compliant FS for the project completed by Wardrop Engineering Inc., Tetra Tech, with an effective date of April 18, 2012.

During the 2012 and 2013 field seasons, additional holes were drilled for exploration, to verify the absence of mineralization (condemnation holes), and for geotechnical engineering investigation to support detailed engineering.

In 2014, exploration drilling and trenching focused on the Olive Zone with the completion of 68 drill holes for exploration, metallurgical testing, and geotechnical purposes. Material from this program was used to establish the heap leach recoveries and kinetic results in 2015. Victoria Gold continued drilling on the Olive and subsequently the Shamrock zones in 2016 to support the integration of satellite zones into future mine plans for the Eagle Gold Mine.

6.3 Production History

Pre-stripping of the Eagle Pit commenced on March 1, 2019 and continued for three months until mid-June prior to transitioning into the production phase. Approximately 1.7M t of waste material was mined during the pre-stripping phase. An additional 2.4M t of ore with an average grade of 0.82 g/t Au and an additional 1.5M t of waste was mined during the production ramp up phase to November 15, 2019.

7 Geological Setting and Mineralization

7.1 Geological Setting

The geological setting of the Dublin Gulch property (Eagle Gold Project or Mine) is one of upper Proterozoic to lower Paleozoic clastic sedimentary rocks that have undergone regional deformation including Cretaceous age thrust faulting and subsequent granitoid intrusions. Mineralization is associated with granitic intrusive bodies, here described as the Eagle Zone and Olive Zone gold deposits, which are hosted primarily in granodioritic rocks.

7.2 Regional Geology

The property is located in the north-central part of the Selwyn Basin, which is a fault-controlled epi-cratonic basin. The stratigraphy of this basin is divisible into four predominantly clastic lithological units. From youngest to oldest they include; the Lower Schist, Keno Hill Quartzite, Upper Schist, and Hyland Group (formerly the Grit Unit). The Lower Schist is of probable Mesozoic age and the Upper Schist and Keno Hill Quartzite are of Paleozoic age (Devonian-Mississippian). The Hyland Group is of Proterozoic to Lower Cambrian age. These units have been juxtaposed by laterally extensive, northward-directed thrusting that occurred in early Cretaceous time.

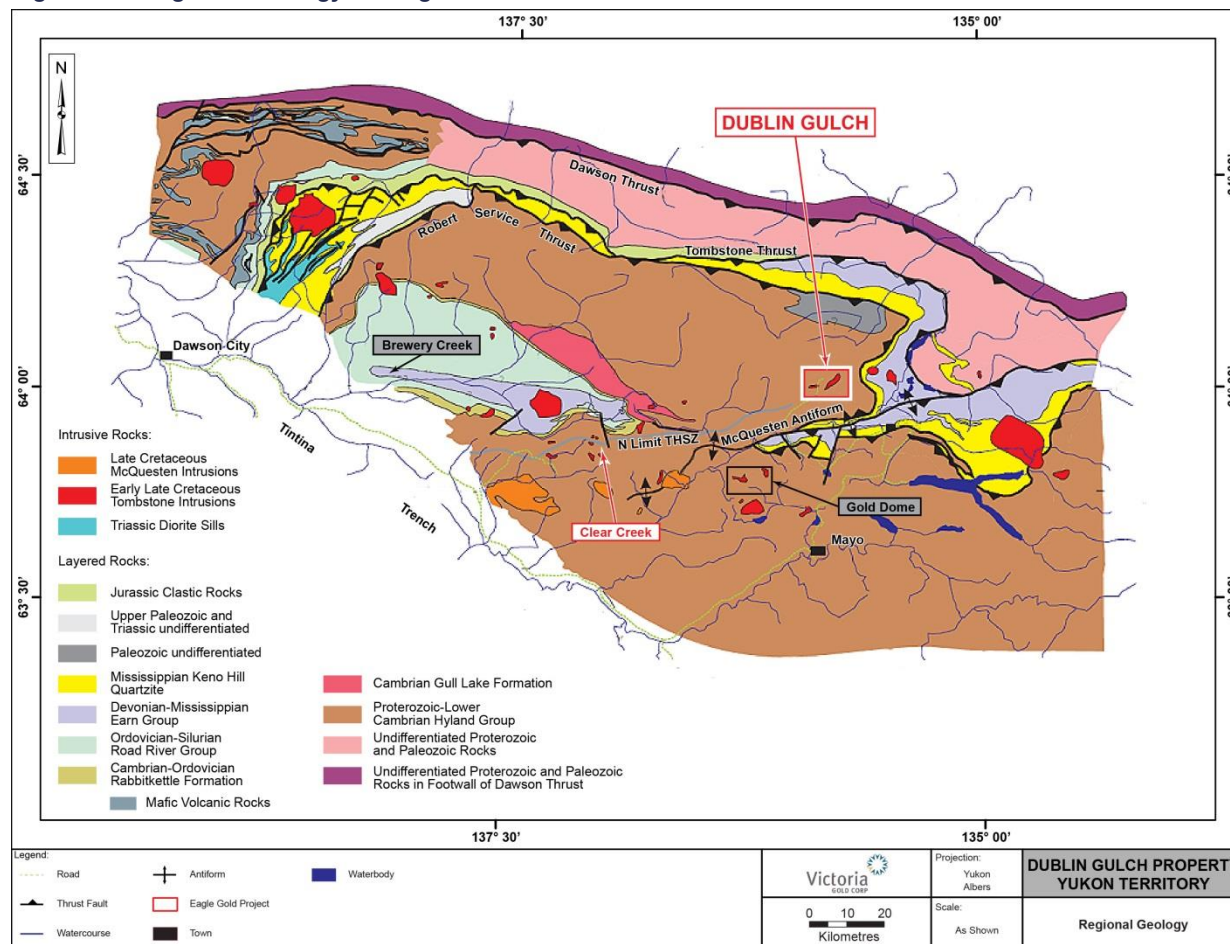
There are three principal thrust sheets in the region known as the Dawson Thrust, the Tombstone Thrust, and the Robert Service Thrust, respectively. The Robert Service Thrust is proximal to the property area and is inferred to have superimposed the Proterozoic–Cambrian age Hyland Group upon the Mississippian-age Keno Hill Quartzite (Figure 7-1).

Four phases of deformation have been documented. Only the first two resulted in the generation of penetrative structures. Thrusting during the first phase resulted in the widespread development of foliation that was subsequently deformed by gentle, regional scale folding during the second phase of deformation. Several east-west trending, west-plunging anticlines in the Dublin Gulch area are attributed to this second deformational event.

During the mid-to-late Cretaceous period, there were three granitoid intrusion events: the Selwyn Suite (between 104 and 98 Ma), the Tombstone Suite (between 94 and 92 Ma), and the McQuesten Suite (64 Ma). The Selwyn and Tombstone intrusive events were probably synchronous with the second regional folding event. Intrusives are commonly emplaced within the Hyland Group, and less commonly within the Upper Schist.

Cretaceous-age deformation and intrusion are possibly related to north-northeast directed subduction and related arc-trench magmatism of the oceanic Farallon Plate beneath continental North America.

Figure 7-1: Regional Geology Setting



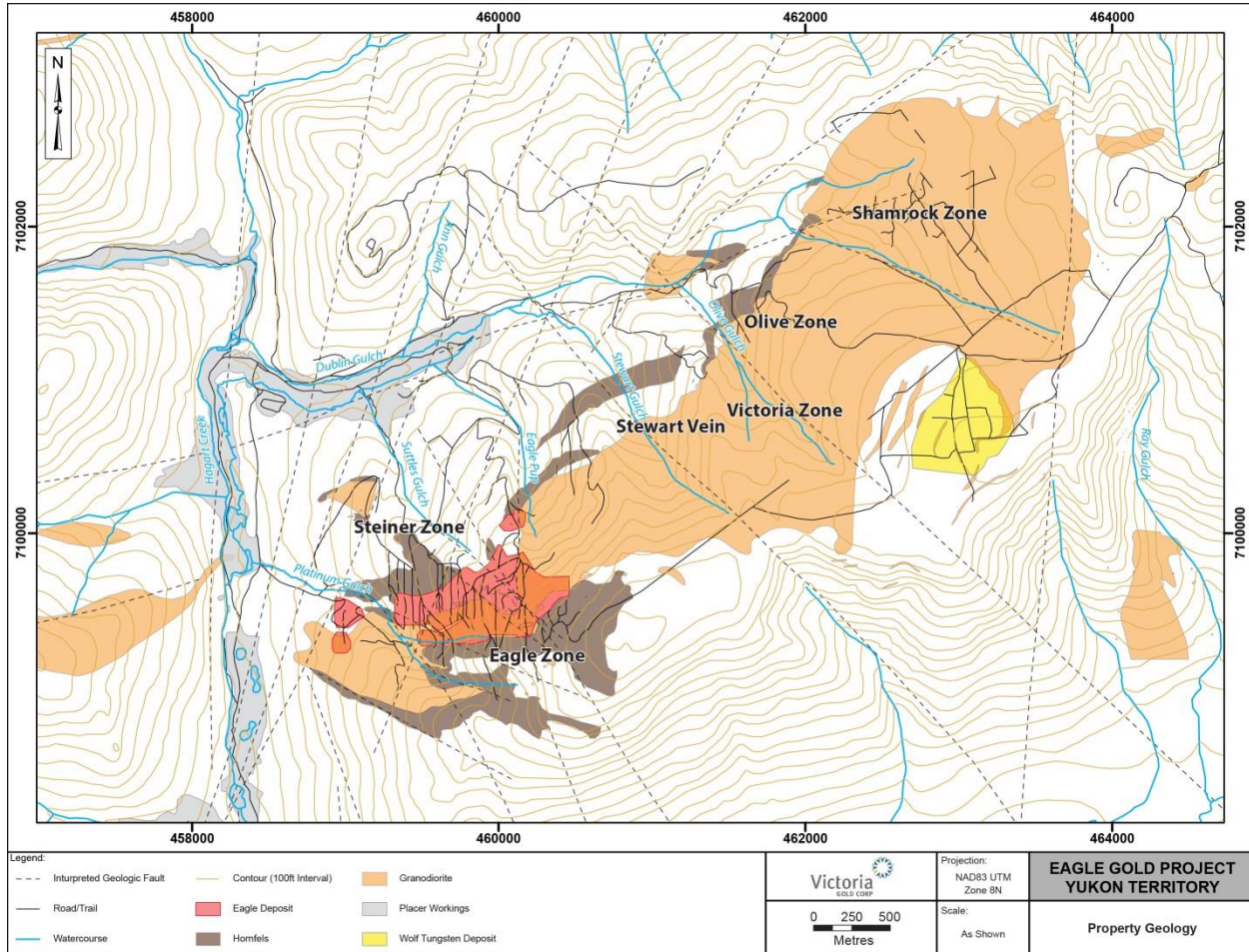
Source: Wardrop (2012)

Numerous mineral deposits in the district are associated with the Cretaceous-aged intrusives and they are generally vein, shear, and skarn related. Gold, silver, lead, zinc and tungsten are the principal elements of economic interest. The Tombstone Suite forms part of the Tombstone Gold Belt, which is the eastern part of the Tintina Gold Province. The Tombstone Suite is the primary source of intrusion-hosted gold deposits in Yukon. The western portion of the Tintina Gold Province has been dextrally displaced approximately 450 km by the Tintina Fault and contains gold deposits that include Fort Knox, Pogo and Donlin Creek in Alaska. In Yukon, Brewery Creek and Dublin Gulch occur within the Tombstone Gold Belt.

7.3 Property Geology

The property is located on the northern limb of the McQuesten Antiform and is underlain by Proterozoic to Lower Cambrian-age Hyland Group metasediments and the Dublin Gulch intrusion, a granodioritic stock. The stock has been dated at approximately 93 Ma and is assigned to the Tombstone Plutonic Suite (Figure 7-2).

Figure 7-2: Dublin Gulch Property Geology



Source: Wardrop (2012)

The Hyland Group is comprised of interbedded quartzite and phyllite. The quartzite is variably gritty, micaceous, and massive. The phyllite is composed of muscovite-sericite and chlorite. Limestone is a relatively minor constituent of this stratigraphic sequence.

The Dublin Gulch anticline, located midway between Dublin Gulch and Lynx Creek to the south, has folded the metasediments about an axis that trends at an azimuth of 070° and plunges gently to the west-southwest.

The metasediments are the product of greenschist-grade regional metamorphism. Proximal to the Dublin Gulch Stock, they have undergone metasomatism and contact metamorphism. A hornfelsic thermal halo surrounds the stock and within the halo, the coarse clastic components of the Hyland Group have been altered to quartz-biotite schist; the argillaceous components to sericite-biotite-chlorite schist and the carbonates to marble, wollastonite-quartz skarn and pyroxenite skarn. The halo extends from 80 to 200 m outward from the intrusive.

The Dublin Gulch Stock is comprised of four phases, the most significant of which is granodiorite. Quartz diorite, quartz monzonite, leucogranite and aplite comprise younger intrusive phases that occur predominantly as dikes and sills and cut both the granodiorite and surrounding country rocks. The Stock has intruded the Hyland Group metasediments near their contact with the underlying Upper Schist.

The granodiorite stock is elongate, measuring approximately 5 km in length and trends 070°. It has a maximum width of approximately 2 km. The long axis of the stock is coincident with the axis of the interpreted Dublin Gulch anticline. Sheet-like sills of granodiorite extend from the stock and cut the metasedimentary strata at low angles.

The intrusive-metasediment contact dips shallowly to steeply to the north and northwest on the northern side of the intrusive, and steeply to the north or south along its southern margin. No chilled margin is apparent at the contact.

At least four periods of faulting have been documented in the Dublin Gulch area including low-angle thrusting and bedding-plane faults and normal faults with north, northeast, northwest, and easterly trends. North-trending faults are inferred to have displaced portions of the Dublin Gulch Stock and one of these is interpreted to form the eastern boundary of the Eagle Zone. No apparent fault offset to mineralization has been noted. The northeast and easterly trending structural directions are sub-parallel to mineralization trends and are likely in-part pre-mineral structures.

7.3.1 Eagle Zone

The Eagle Zone gold occurrence is localized at the narrowest exposed portion of the stock, near its known western limit. The intrusive-metasediment contact is sharp but irregular and varies between steep attitudes that crosscut metasedimentary foliation, to shallow southwest dips parallel to foliation.

The Eagle Zone is comprised of sub-parallel extensional quartz veins that are best developed within the granodiorite proximal to both the hanging wall and footwall intrusive-metasediment contacts. Veining is apparently best developed on the hanging wall contact, but this may be more apparent than real as more drilling has taken place on the hanging wall side.

Veins are typically composed of white or grey quartz with subordinate potassium feldspar and strike at azimuths of 060° to 085°. They typically dip 60° south to vertical, and range in width from 1 mm to more than 10 cm. Contacts are typically sharp. Vein densities range from less than 1 per metre (/m) to more than 15/m, and average 3 to 5/m. The greatest concentration of veins appears to coincide with both the narrowest constriction as well as the local apex of the intrusion.

Sulphides account for less than five percent of vein material and occur in the centre, on the margin, and disseminated throughout the veins. The most common sulphide minerals are pyrrhotite, pyrite, arsenopyrite, chalcopyrite, sphalerite, bismuthinite, molybdenite and galena.

Secondary potassium feldspar is the dominant mineral in alteration envelopes. Sericite-carbonate is generally restricted to narrow vein selvages, although alteration zones of this type also occur with no obvious relation to veins.

Vein formation can be attributed to contrasts in cohesion and tensile strength between the intrusion and the enclosing metasediments. Embayments and narrow portions of the Stock represent stress shadows that constitute favourable areas for rheological failure leading to the formation of extensional quartz veins.

Protrusions in the stock created favourable areas for the development of extensional shear-veining in the adjacent country rocks. Gold mineralization also occurs hosted within the metasedimentary rock package immediately adjacent to the granodiorite. This mineralization represents a portion of the Mineral Resource.

7.3.2 Olive Zone

The Olive Zone gold occurrence is localized at the contact zone on the northwest flank of the granodiorite intrusive. The intrusive-metasediment contact is sharp and steep to nearly vertical and has a general northeast trend.

Olive is defined by sulphide and quartz-sulphide+carbonate veining at various orientations (parallel to conjugate) to the general northeast mineralized trend, possibly indicative of vein formation within dilational zones or conjugate fractures between two or more shear planes.

Sericitic alteration and sulphide mineralization are more pronounced than at Eagle, and oxidation is less well developed. Moderate to strong sericitic alteration is present throughout the Olive Zone.

Oxidation varies as well from local zones of total oxidation at surface to un-oxidized sulphide-bearing granodiorite at depth. A transition zone from near total oxidation to only sulphides has been defined based on core-logged oxidation codes. Mixed oxides-sulphides are present at surface in shallow trenches. Veins can be comprised of exclusively sulphides or, more commonly, sulphides associated with white quartz.

Over 97% of the gold mineralization in the Olive Zone is hosted in granodiorite just south of the stock-metasedimentary rock contact, with very minor metasediment-hosted mineralization.

7.4 Mineralization

The Eagle Zone is the principal concentration of mineralization within the property. Within the Eagle Zone, gold occurs in extensional quartz veins that are most abundant on the hanging and footwall contacts of the narrowest portion of the Dublin Gulch granodiorite near its known western limits. Subordinate quantities of gold mineralization occur in quartz veins within the adjacent metasediments. Veins strike at azimuths of 060° to 85°, sub-parallel to the intrusive contact and are commonly fractured by repeated movement along the host fractures.

The Eagle Zone is irregular in plan and is approximately 1,600 m long (east-west) and 600 m wide north-south. The Eagle Zone is near-vertical and has been traced for about 500 m below surface. Current drilling indicates that the mineralization is relatively continuous along this length and is open in several directions, including to depth.

Mineralization occurs as elemental gold, both as isolated grains and most commonly in association with arsenopyrite, and less commonly with pyrite and chalcopyrite.

The sulphide content in the veins is typically less than 5%; and, is less than 0.5% within the deposit overall, with 1 to 4% carbonate (calcite) present as a buffer, acid generation from the ore and waste rock is not expected to be an issue (Stantec, 2011).

In descending abundance, the principal sulphides present are pyrrhotite, pyrite, arsenopyrite and chalcopyrite. Minor sphalerite, galena and molybdenite are also present. Scorodite and limonite are common weathering products.

The Olive Zone is a narrow-elongated zone sub-parallel to the intrusive-metasediment contact; located approximately 2.5 km northeast of the Eagle Zone. Olive measures approximately 20 to 80 m in width, 900

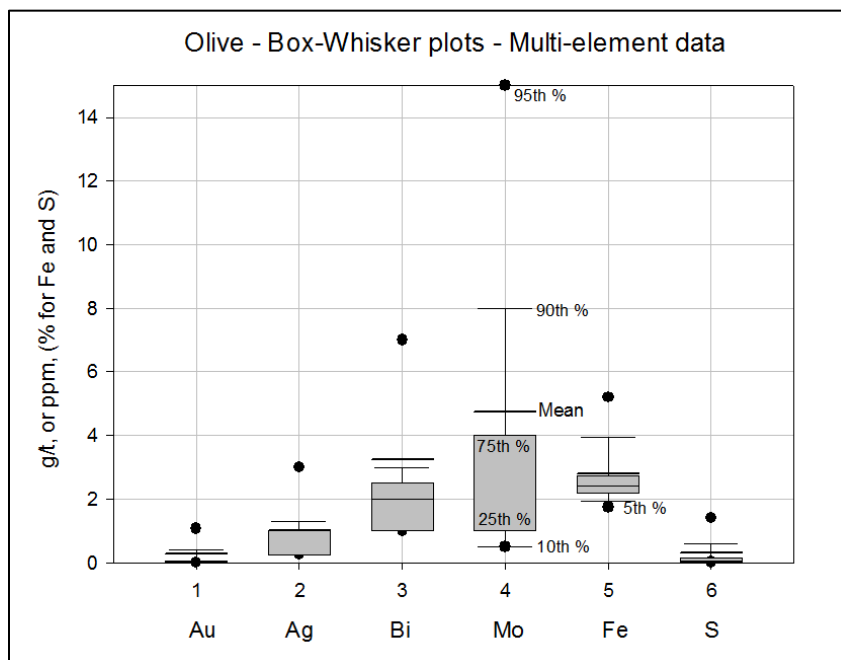
m in length, and has been drilled to approximately 175 to 250 m in depth. Compared to Eagle, the Olive mineralization is more associated with sulphides and quartz-sulphide veining in an interpreted shear-zone setting; with veining having an orientation at angles to the general northeast mineralized trend.

The Olive Zone differs from Eagle in some respects. Olive has more sulphide mineralization as both disseminated pyrite with moderate to strong sericitic alteration, and sulphide and quartz-sulphide veins, and is more tightly structurally controlled along the granodiorite-metasediment contact. Pyrite plus arsenopyrite (or arsenical pyrite) and quartz-pyrite veins to several centimetres in width have an average strike trend of azimuth 120°, and dips of 60° to 80° south, within the overall NE trending zone of mineralization. Vein densities vary significantly; however, trench exposures and assays indicate that good grade mineralization typically hosts multiple centimeter wide sulphide veins, on metre or less spacings, within areas of moderate to strong sericitic alteration with 3 to 5% disseminated sulphides. The most common sulphides noted are pyrite, arsenopyrite, with minor to trace amounts of sphalerite, chalcopyrite, galena, bismuthinite, and molybdenite. Olive also has higher levels of silver than Eagle.

Multi-element geochemistry for Olive, based on over 17,300 analyses, shows the following:

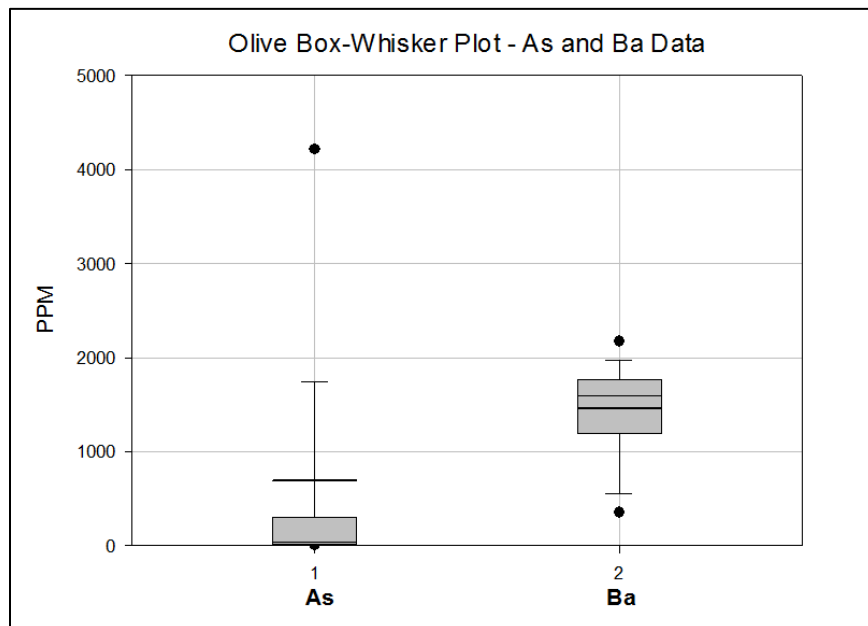
- A good Au-Ag-As correlation; with Au correlation coefficients of 0.50 with Ag, and 0.42 with As;
- A strong Au-Bi correlation coefficient of 0.74;
- A strong Ag-Bi-Cu-Fe correlation; and
- Overall levels of associated elements at Olive are relatively low, as shown in the box-whisker plots (Figure 7-3 to Figure 7-5). Similar multi-element associations at perhaps lower levels are indicated at Eagle, based on a less complete database.

Figure 7-3: Box-Whisker Plot for Olive - Au-Ag-Bi-Mo-Fe-S



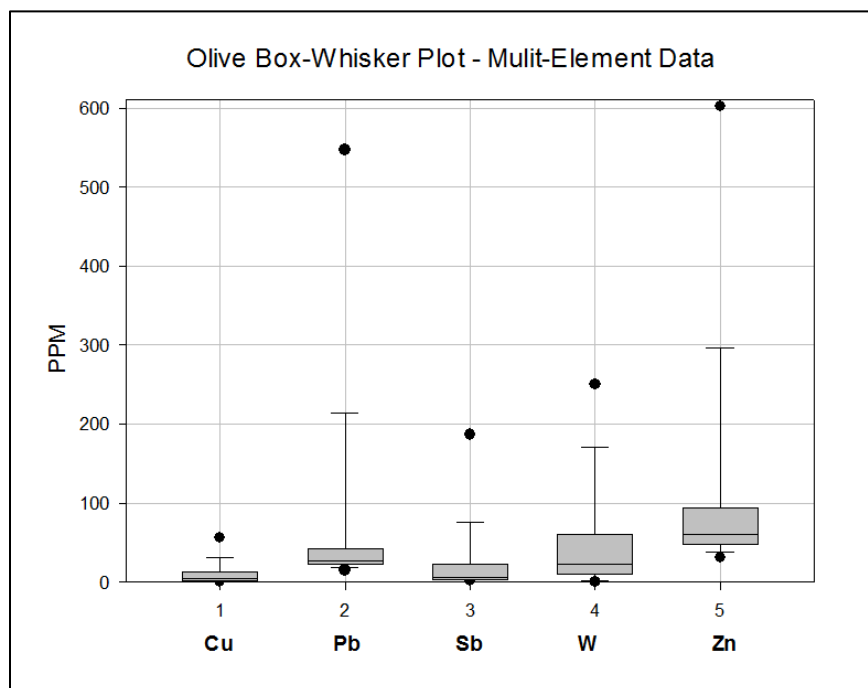
Source: AVMC (2016)

Figure 7-4: Box-Whisker Plot for Olive - As-Ba



Source: AVMC (2016)

Figure 7-5: Box-Whisker Plot for Olive - Cu-Pb-Sb-W-Zn



Source: AVMC (2016)

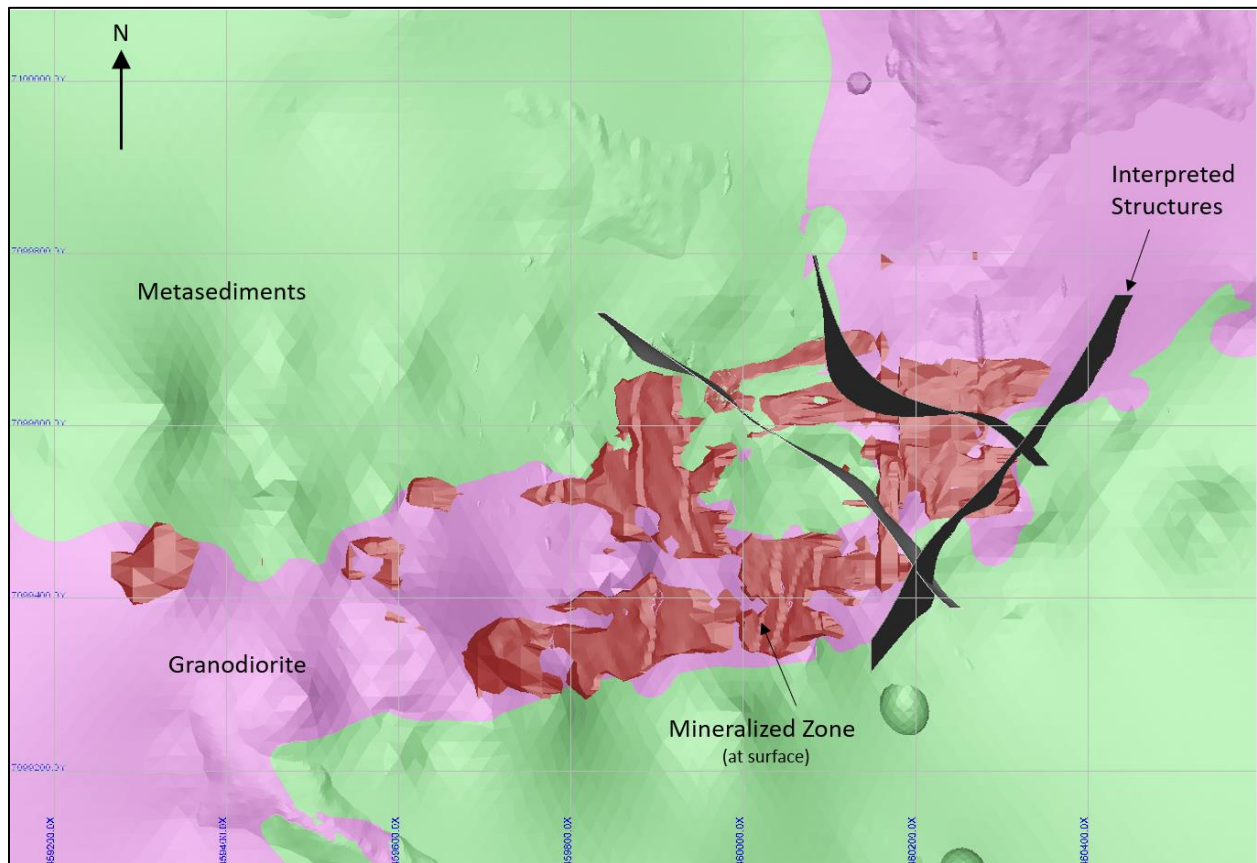
Several other mineralized showings occur within the property. Most of these are related to the Dublin Gulch granodiorite and are in part characteristic of RIRGS deposits similar to the Eagle Gold deposit. Others are more characteristic of later structurally hosted overprinting mineralization. The Wolf (formerly Mar) tungsten deposit is located approximately 3 km east-northeast of the Eagle Zone. Scheelite occurs in a calc-silicate skarn in metasedimentary rocks adjacent to the Dublin Gulch granodiorite.

A number of gold-bearing quartz-sulphide veins occur around the margins of the Dublin Gulch Stock. These veins are narrow (centimetre-scale), steeply dipping and generally strike at about 070°. Silver-quartz-sulphide veins also occur. These distal veins are infrequent relative to the sheeted vein system within the Dublin Gulch Stock and due to their small size, they are not a significant part of the Mineral Resource, with the exception of the Olive Zone.

Since 1978, when documentation of placer mining production was initiated, approximately 110,000 ounces of placer gold has been recovered from the Dublin Gulch area until mining ceased in the mid-1990s. Placer gold is still being actively mined, particularly in the Haggart Creek area. Current placer gold production from these operations is unknown.

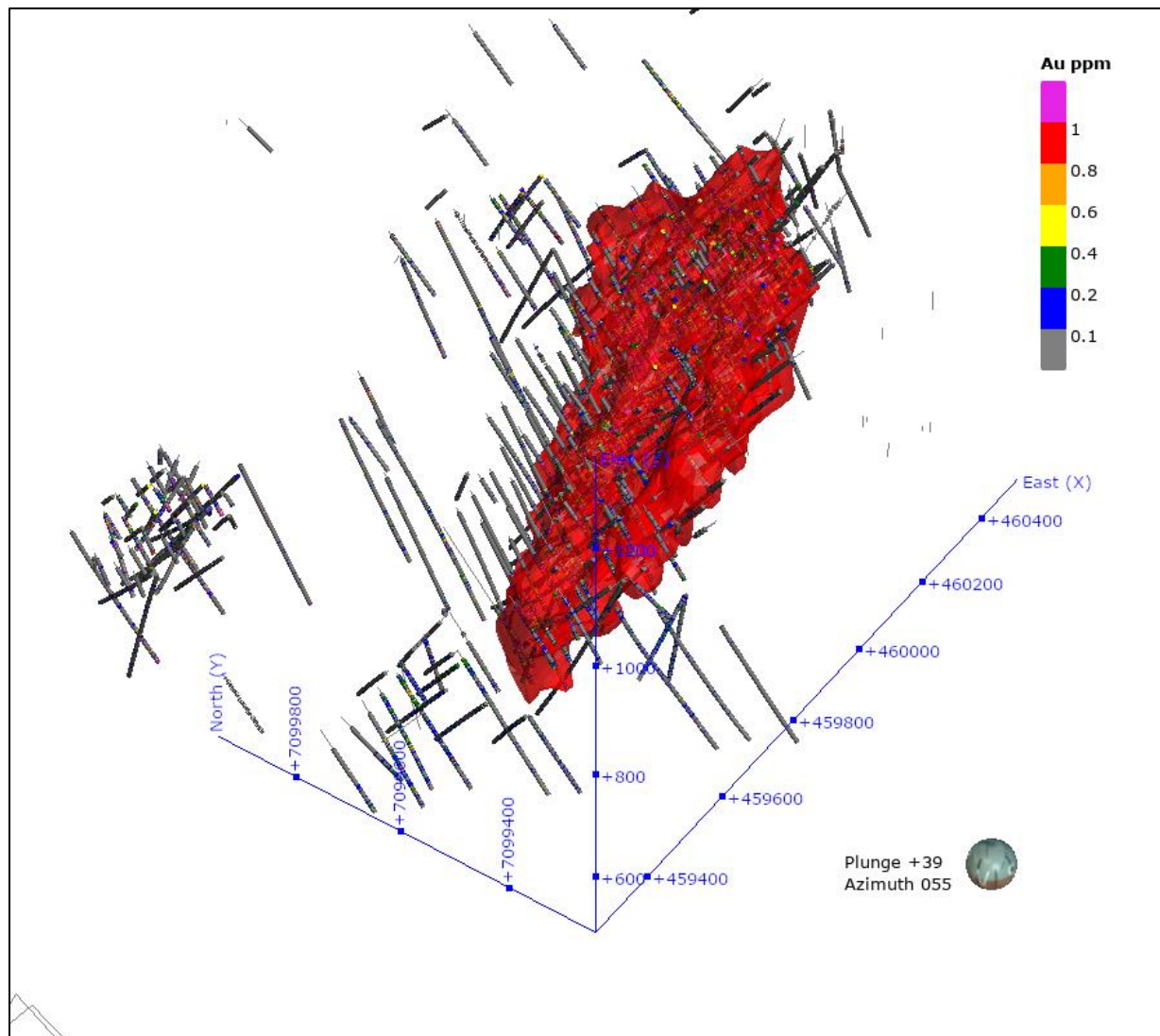
Figure 7-6 through Figure 7-13 show representative geology images for Eagle and Olive.

Figure 7-6: Eagle Simplified Geology Plan Map



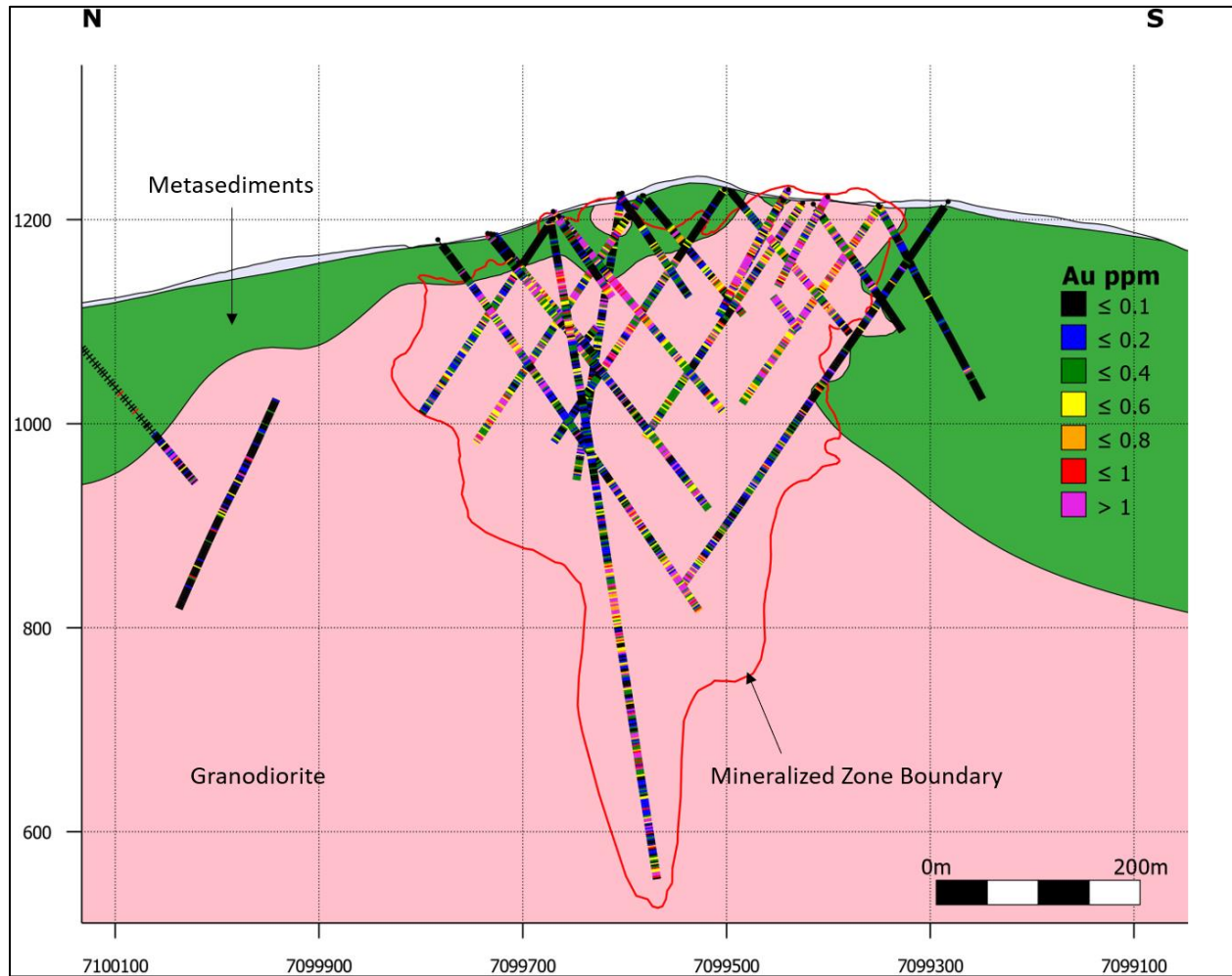
Source: VGC (2019)

Figure 7-7: Eagle Drill Holes and Mineralized Shape - Perspective View



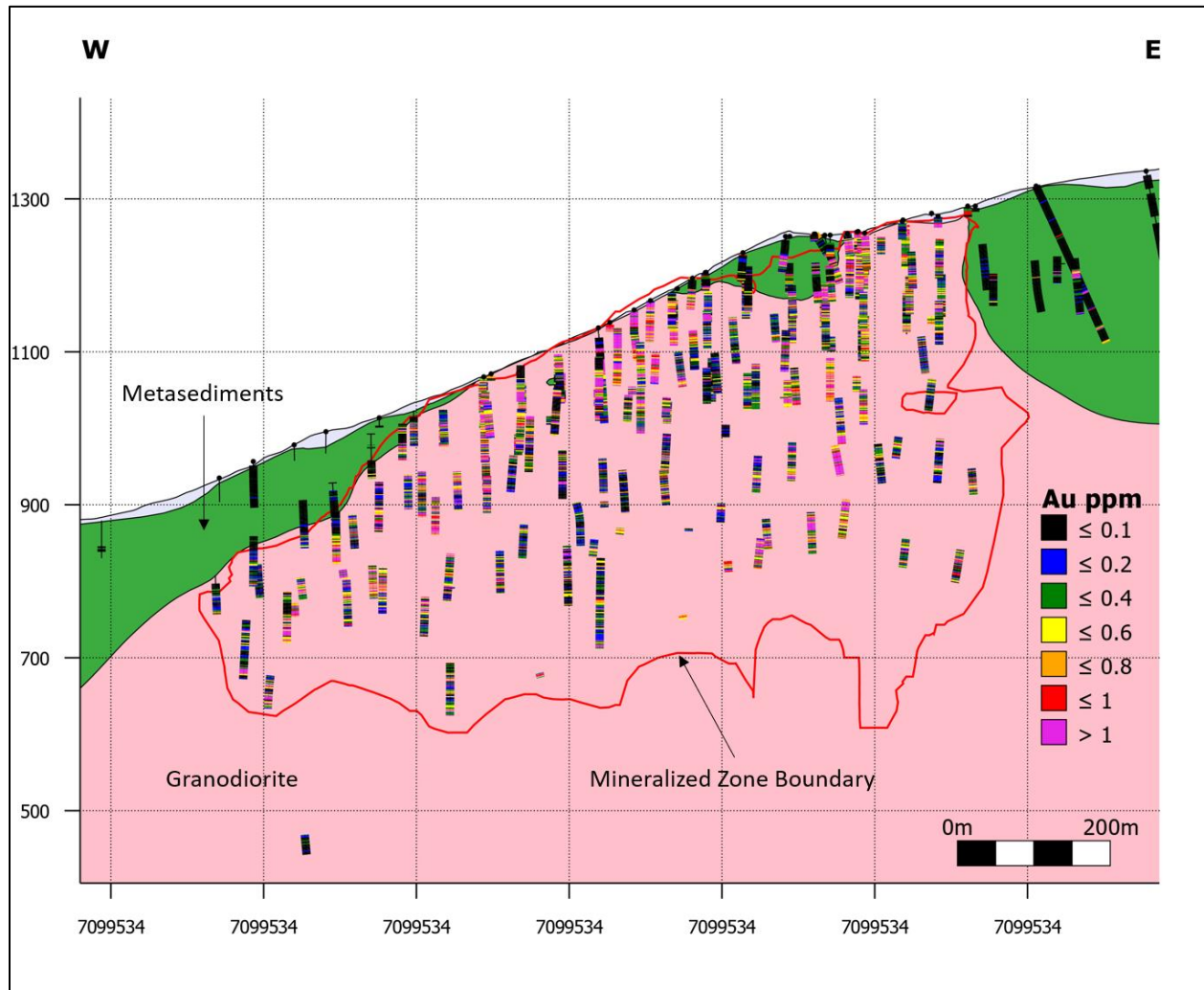
Source: VGC (2019)

Figure 7-8: Eagle Geology and Drill Hole Assays, Representative Cross-Section - View to NE



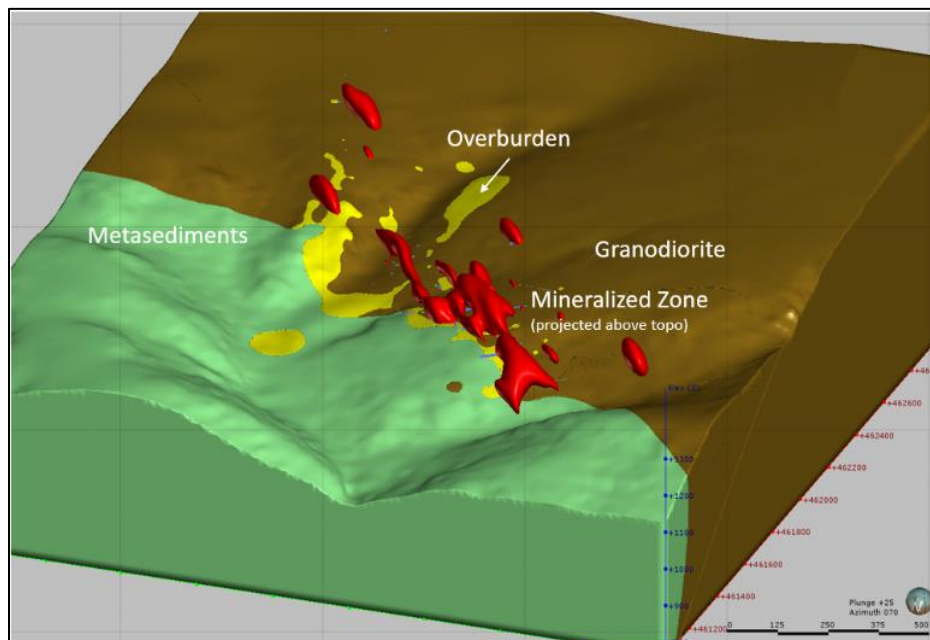
Source: VGC (2019)

Figure 7-9: Eagle Geology and Drill Hole Assays, Long-Section - View to NW



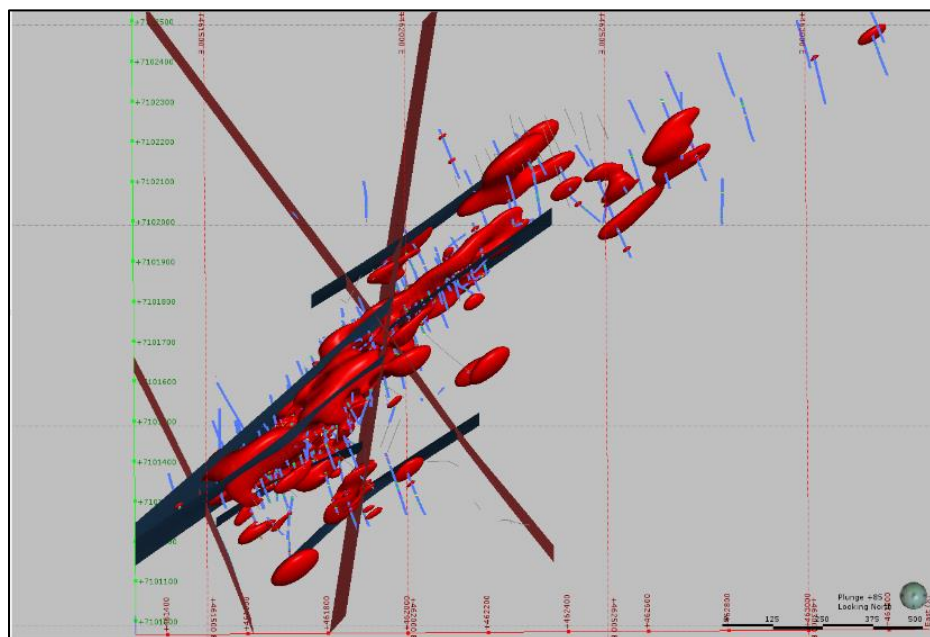
Source: VGC (2019)

Figure 7-10: Olive Geology - Perspective View Looking NE



Source: AVMC (2016)

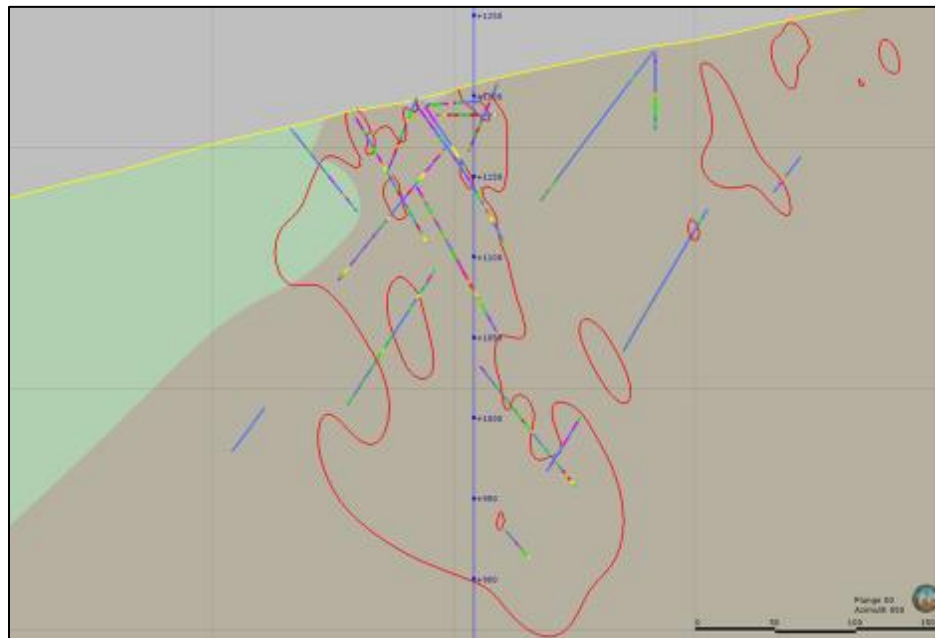
Figure 7-11: Olive Drill Holes, Mineralization Shape, and Interpreted Structures



Note: Perspective View Looking down to the NE.

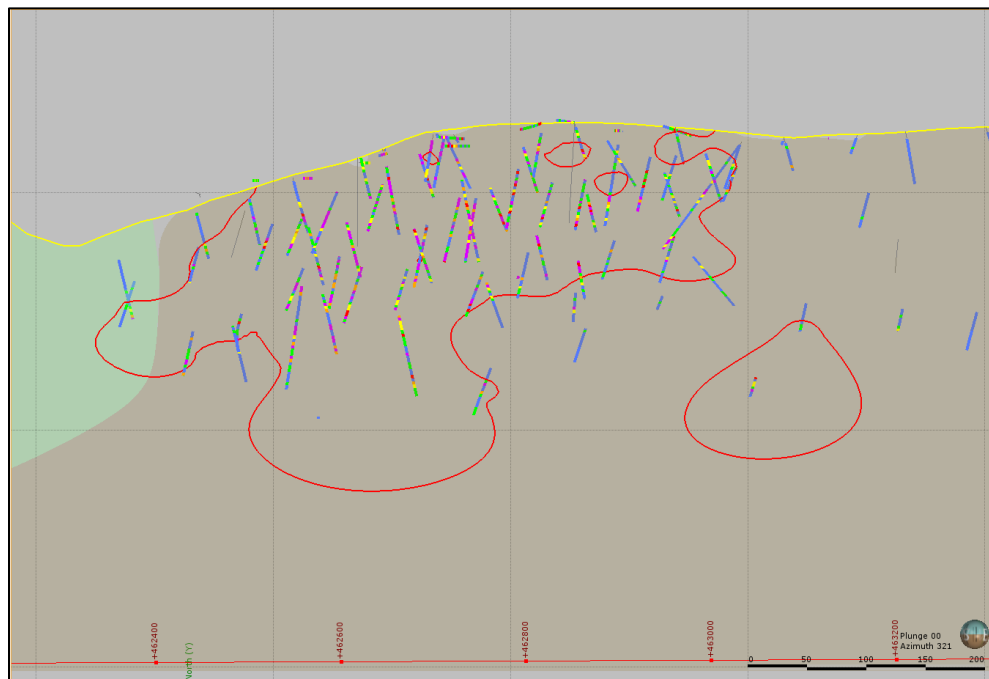
Source: AVMC (2016)

Figure 7-12: Olive Geology and Drill Holes Assays, Representative Cross-Section - Looking NE



Source: AVMC (2016)

Figure 7-13: Olive Geology and Drill holes Assays, Long-Section - Looking NW



Source: AVMC (2016)

8 Deposit Types

The Dublin Gulch intrusion is part of the mid-Cretaceous Tombstone Intrusive Suite of Alaska-Yukon granitoids, and the Eagle Zone belongs to the RIRGS class (Reduced Intrusion-Related Gold Systems) of mineral deposits. Gold mineralization in the Dublin Gulch intrusion shows strong similarities to the Fort Knox deposit in Alaska, including the presence of sheeted quartz veins and elevated levels of bismuth, arsenic, tellurium, and tungsten. The veins in the Eagle Zone consist of early quartz-scheelite with varied occurrences of pyrrhotite, pyrite and arsenopyrite, and are associated with K-feldspar and minor albite alteration envelopes. These are overprinted by sericite-carbonate and occasional chlorite alteration. The metasediments marginal to the intrusion are mineralized as well, but the bulk of the gold is hosted within the intrusive. The Dublin Gulch Stock is an elongate body trending 070°, with surface dimensions of approximately 6 x 2 km. Exploration for additional gold deposits is ongoing with excellent potential for further discoveries.

The Dublin Gulch intrusion is composed of mainly biotite hornblende granodiorite. Minor phases of diorite and granite occur within the intrusion. The overall low sulphide content of the rock, commonly less than 0.5%, and the presence of carbonate (Calcite 1 to 4%) make the rock non-acid generating. In a report prepared by SRK for Stantec in April 2011 (SRK, 2010: Geological Characterization and Water Quality Predictions Eagle Gold Project), SRK states that acid rock drainage (ARD) is not anticipated for the project.

RIRGS' classes of mineral deposits are deposits that are:

- Metaluminous subalkalic intrusions of intermediate to felsic composition that lie near the boundary between ilmenite and magnetite series;
- Associated with carbonic hydrothermal fluids;
- A metal assemblage that variably combines gold with elevated bismuth, tungsten, arsenic, molybdenum, tellurium, and antimony as well as low concentrations of base metals;
- Associated with commonly weak hydrothermal alteration that is areally restricted;
- In a tectonic setting well inboard of inferred or recognized convergent plate boundaries; and
- Located in magmatic provinces best or formerly known for tungsten and/or tin deposits.

The RIRGS class of gold deposits was developed based on studies of gold and other mineral deposits hosted in granitoids in the Yukon and Alaska (Hart, C. R., 2007)

Additionally:

- RIRGS deposits are best developed in intrusions that were emplaced into ancient continental margins behind accretionary or collisional orogens and subduction-related magmatic arcs. Preferred host strata include reducing basinal miogeoclinal sedimentary or metasedimentary rocks;
- Thermal gradients surrounding cooling plutons are steep and result in temperature-dependent concentric metal zones that develop outward from pluton margins for distances up to a few kilometres or just beyond the thermal halo;

- Skarns and replacements are generally pluton-proximal with an increase in structural control on more distal mineralization. There is also crustal-scale vertical zonation with epizonal occurrences forming at shallower levels;
- The most distinctive style of gold mineralization in RIRGS deposits is sheeted arrays of parallel, low sulphide, single-stage quartz veins that are found over widths of tens to hundreds of metres and are preferentially located in the cupola of the pluton. These veins are unlike multidirectional, interconnected stockworks characteristic of porphyry systems or antithetic tensional vein arrays typical of orogenic deposits;
- Mineralized plutons have characteristics that indicate the likelihood of generation of hydrothermal fluids, high volatile contents, fluid exsolution, rapid fractionation and zonation, including the presence of porphyritic textures, aplite and pegmatite dikes, quartz and tourmaline veins, greisen alteration, miarolitic cavities and unidirectional solidification textures, preferably in pluton apices;
- RIRGS deposits are associated with felsic, ilmenite-series plutons that lack magnetite, have low magnetic susceptibilities and aeromagnetic response, and have ferric-ferrous ratios of less than 0.3. These types of plutons are uncommon in arc and fore-arc settings where orogenic gold deposits are most common; and
- Intrusion-related deposits are coeval with their associated, causative pluton.

8.1 Geological Model

The Eagle Zone geological model is simply described as a zone of mineralization containing sheeted quartz veinlets and post-veining fracturing hosting gold mineralization, located near the apex of a granodioritic stock, and mostly within the stock. As the gold mineralization is generally but not directly related to quartz veining, the geological modelling for resource estimation has been constructed based on the mineralization rather than the veining. A mineralized shape, based on the gold grades in drill holes, has been constructed to confine the resource estimation.

The Olive Zone geological model is that of a structural zone on the flank of the granodiorite stock, hosted essentially entirely in granodiorite, sub-parallel to the intrusive metasediments contact. Detailed structural controls that define the mineralization are interpreted, but not directly defined, and do not offset mineralization. Similar to Eagle, the mineralization for resource estimation purposes is confined by a mineralized shape based on gold grades in drill holes.

9 Exploration

9.1 Previous Exploration

Prior to Victoria Gold's involvement with the property, numerous drilling campaigns were conducted on the property as described in Section 6. Exploration drilling for intrusive-hosted gold mineralization began in the early 1990's and continued sporadically by several owners through 2004 with the work of StrataGold. Victoria Gold acquired StrataGold in 2009.

The majority of Victoria Gold's exploration work since the 2012 Wardrop FS has been in-fill drilling at the Eagle Zone, and exploration efforts including trenching, geophysical surveys and diamond drilling at the Olive Zone.

9.2 Victoria Gold Exploration

Victoria Gold completed a FS on the Eagle Zone in 2012 (Wardrop, 2012). Following release of this FS and Mineral Resource Estimate, Victoria Gold conducted a targeted in-fill drilling program of an additional 130 drill holes in the Eagle Zone, for the purpose of better definition of Measured and Indicated Mineral Resources. The drilling program was conducted in the winter of 2011-2012. Victoria Gold conducted resource drilling campaign in Eagle, following release of the 2016 Mineral Resource including near-pit satellite deposits within the Eagle Mine infrastructure, consisting of an additional 58 drill holes, four of which are located in the Eagle pit.

The Olive Zone had been explored prior to Victoria Gold's ownership, with initial drilling in 1992, and sporadic follow-up drilling for a total of 19 holes by 2007. Victoria Gold conducted additional drilling of 58 holes in 2010-2012, and in-fill drilling in 2014 with 61 holes and 2016 with 89 drill holes. The Olive Zone was defined as a Mineral Resource for the first time in the 2016 FS report, and remains unchanged in this current Technical Report.

Additional exploration work conducted at the Olive Zone included 17 shallow trenches in 2014 and 29 trenches in 2016 to expose and sample oxidized sulphide mineralization and assist definition of the surface trace and extensions to mineralization. As well, a program of third IP-Resistivity geophysical surveys was conducted over the core area of the Olive Zone in 2014, which shows a good correlation of IP chargeability highs with the modelled zone of anomalous gold mineralization in drilling, a direct association of the gold with increased sulphide content. Trenching, sampling and IP-Resistivity surveys are a useful exploration tool to define gold mineralization at Olive and possible extensions to the northeast.

As the majority of work on the Eagle and Olive zones was drilling, the details of that exploration work are discussed in Section 10 of this report.

10 Drilling

Previous project drilling has been accomplished by several different companies, from 1977 through 2009, when Victoria Gold became Owner of the property, as indicated in Table 10-1. Discussions of the previous drilling are included in prior NI 43-101 technical reports issued by Victoria Gold (StrataGold) as listed in Section 27. A substantial amount, 91 holes for 21,875 m, of additional drilling was completed by Victoria Gold in late 2011 and 2012, after completion of the Mineral Resource estimation in the 2012 FS. Following the Feasibility study, additional holes were drilled during Victoria Gold's 2017 Dublin Gulch Exploration campaign, with 58 new holes located within and around the area of the Eagle Zone. With this new information, an update of the mineral resource of the Main Eagle Zone was initiated in early October 2018.

The drill hole database of the Eagle Gold Project used for this resource update has a cut-off date of October 8, 2017. It is comprised of 1,078 holes with 178,489.5m of drilling and 112,949 assays for gold in g/t. Following the 2016 Feasibility study, a total of 79 holes were drilled in the project region in 2017, with 58 of them in the area of the Main Eagle Zone, including 4 deeper holes drilled within the Main Eagle Zone. It is these four deeper holes that comprise the majority of new geologic information within the Main Eagle Zone. Statistics of the drill hole database's content are presented in Table 10-1. A database of lithology codes was also provided for the building of the geology model.

Victoria Gold conducted a considerable amount of diamond drilling and surface trench exploration work on the Olive Zone and local area in 2014 through 2018 (see Tables 10-3 and 10-4). Only those holes drilled prior to June 2016 were utilized prepare the Olive Mineral Resource presented in this Technical Report, which totaled 160 holes, totalling 22,167 m and 41 trenches totalling 1,910 m. The resulting data was sufficient for the initial Mineral Resource estimation for the Olive Zone, as described in Section 14 of this report.

Drilling was conducted for the in-fill and the definition of mineral deposit boundaries, metallurgical samples, and geotechnical information.

Table 10-1: Eagle Drill Hole Database Statistics

Collar Data	Count	Mean	Standard Deviation	Coefficient of Variation	Minimum	Lower Quartile	Median	Upper Quartile	Maximum
Easting (X)	456	459810.8	423.519	0.0001	458781.0	459540.5	459923.5	460136.4	460641.7
Northing (Y)	456	7099644.1	287.833	0.000	7098993.5	70994575.0	7099575.0	7099733.2	7100493.5
Elevation (Z)	456	1116.6	131.064	0.117	840.0	999.4	1142.7	1228.2	1336.0
Hole Depth	456	212.8	120.174	0.565	12.2	128.0	196.7	285.9	655.0
Azimuth	456	151.0	114.901	0.761	0.0	0.0	180.0	180.0	368.0
Dip	456	-54.1	8.195	-0.152	-90.0	-56.0	-53.0	-50.0	0.0
Survey Data									
Azimuth	2,302	176.1	110.668	0.629	0	169.3	179.2	185.5	369.8
Dip	2,302	-56.2	7.754	-0.138	-90	-60.7	-55.0	-51.0	2.0
Assay Data									
Internal Length (from-to)	61,772	1.5	0.390	0.264	0.0	1.5	1.5	1.5	28.0
Gold Grade (g/t)	61,772	0.5	1.257	2.625	0.0	0.0	0.1	0.5	52.4

Source: VGC (2019)

Since 2012, core drilling was done by Kluane Drilling, New Age Drilling Solutions, of Whitehorse, Yukon, and LynCorp Drilling Services Inc. of Smithers, BC. RC drilling was conducted by Midnight Sun Drilling Inc. of Whitehorse, Yukon. Holes were surveyed by a downhole instrument from REFLEX, as soon as the hole was stable, and with no interference from casing, at 75 m intervals thereafter, and at the bottom of the hole.

Core was drilled primarily as HQ core size with 2017 drilling in HTW size. Core was transferred from the core tube into boxes by the drill crew who marked the end of each run with a wooden marker. Hole depth was measured in imperial units (feet) and subsequently converted into metric units (metres) on the depth markers. Core was transported by the drilling company from the drill site to the core logging facility that is located in the camp complex.

Core was laid out for logging inside the core shed and then measured for rock quality designation (RQD), recovery and permanent (aluminum) labels were then affixed to the core boxes. Core was then washed and marked for sampling. Most samples were 1.5 m in length but did not exceed 2 m in length and were shorter if lithological contacts or significant variations in sulphide content were present. In general, the entire length of the hole was sampled.

Core logging observations were transferred to a computer database. Significant observations include rock type, weathering, alteration, foliation angle and intensity, fracture angle and intensity as well as descriptions of any veins present. Several types of alteration (oxidation, silicification, sericitization) were quantified from zero to five with zero equating to no alteration and five representing complete alteration. There is no unique convention with respect to fracture intensity although the attempt was made among those logging to apply the same criteria.

When logging was complete, sample tags were affixed to the core box at the start of each sample interval. Each sample tag was comprised of three pieces: one for the core box, one for the sample bag into which the sample was placed, and the third which remains in the sample book.

Given the variable orientation of mineralized quartz veins, the relationship between sample length and thickness of mineralization is also variable. However, given that the sampling was continuous, and the mineralization is a bulk target, the variability of this relationship is not considered to be detrimental to the objectives of the sampling program.

In addition to the procedures described above, which pertain to all holes drilled since 2012, those holes drilled for geotechnical testing were logged by Mining Plus or BGC Engineering Inc., geotechnical specialists, for a range of parameters relating primarily to pit design.

Core drilling recoveries are generally +90%, and low recovery intervals are addressed in the resource estimation process of the exploratory data analysis (EDA). Several PQ size core holes were drilled for the purpose of metallurgical sample collections.

RC drilling was part of the in-fill program at Eagle, as detailed investigations of RC versus core drilling show no particular bias in the RC assays over core.

Drilling was done as angle holes across the primary strike orientation of the mineralization. The drilling methods, and sample handing procedures are in line with industry norms and are acceptable methods for defining the gold mineralization at the Eagle and Olives Zones.

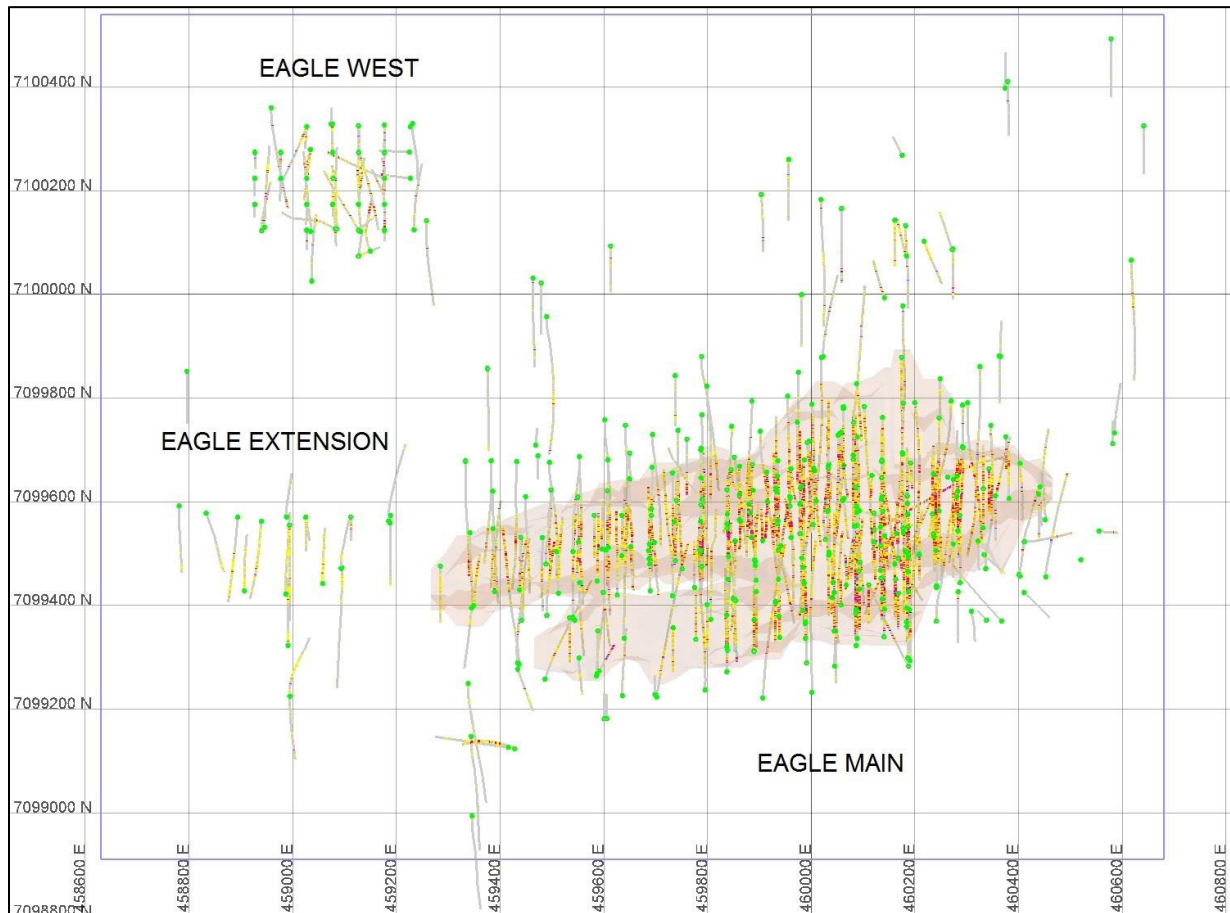
Core was sawn in half by diamond saw; one half was bagged for assaying and the other half was kept for reference. The sample to be analyzed was put in a plastic bag that contained a sample tag. The sample number was also written on the outside of the bag. Each bag was then closed by cable ties and combined

with others to fill woven plastic “rice bags” for shipping. Each rice bag was labelled with the numbers of the samples it contained. The rice bags were expedited by a contract shipper who picked up the samples in camp and delivered them to the assigned laboratory in Whitehorse and Vancouver. Standard chain-of-custody forms were used for the shipping process.

The boxes with the half-core are stored out of doors on covered racks or cross-piled on pallets in the central core storage facility.

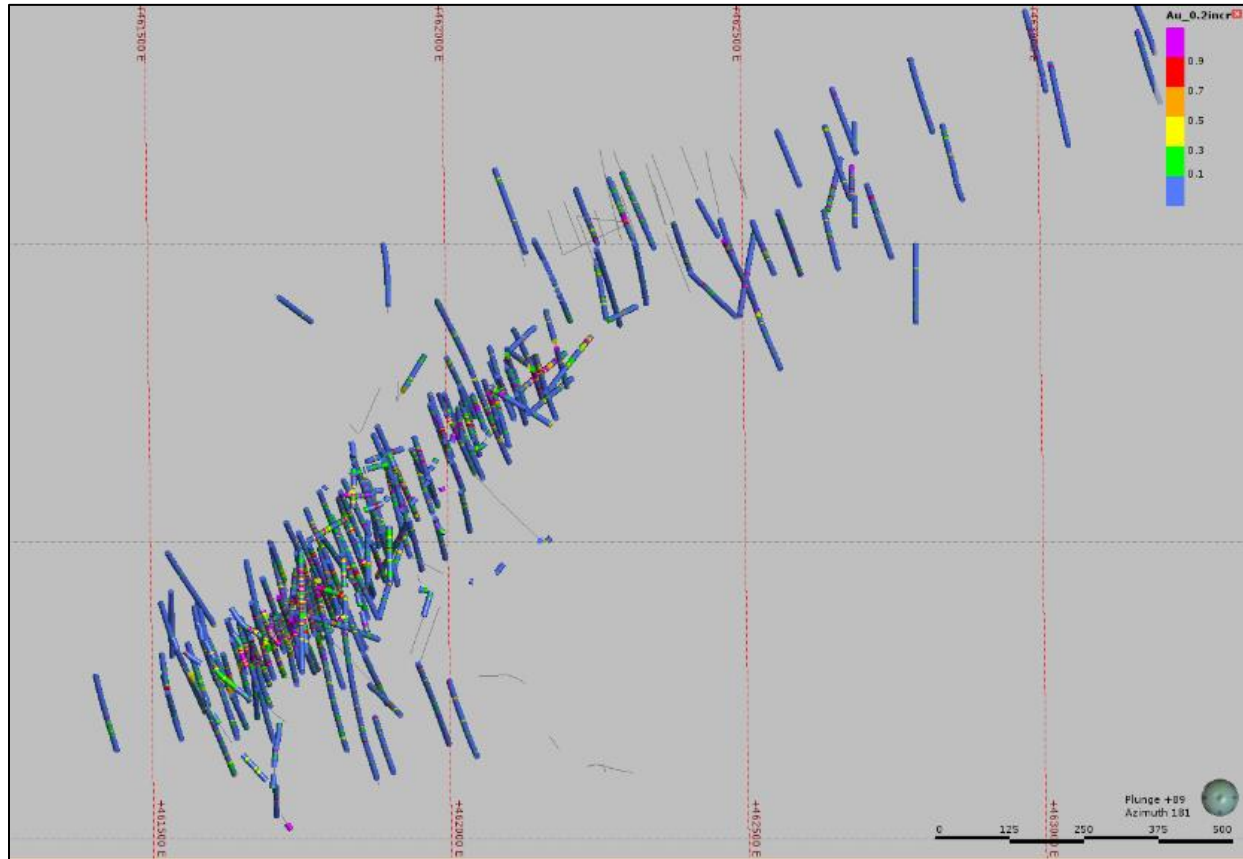
Holes were generally sampled in their entirety, unless recovery was particularly poor in any single drilled interval, or the recovered material was considered highly unlikely to be significantly mineralized. Figure 10-1 shows the locations all drill holes for the Eagle Zone, and Figure 10-2 shows the location of all drill holes for the Olive Zone.

Figure 10-1: Plan Map Showing the Distribution of Drilling for the Eagle Zone



Source: Ginto Consulting Inc. (2018)

Figure 10-2: Plan Map Showing the Distribution of Drilling for the Olive Zone



Source: AVMC (2016)

Table 10-2: Project Drilling by Year - Eagle

Company	Year	Number of Holes	Metres Drilled	Type
Canada Tungsten	1977	65	11,315	DDH
Queenstake Resources	1986	4	705	DDH
Can Pro	1989	4	653	DDH
Ivanhoe Goldfields	1991	16	2,410	DDH
Amax Gold Inc.	1992	13	1,943	DDH
Amax Gold Inc.	1993	56	7,729	RC
Amax Gold Inc.	1993	10	1,476	DDH
Ivanhoe Goldfields	1993	10	2,078	RD
First Dynasty Mines	1995	40	8,354	RC
First Dynasty Mines	1995	25	4,946	DDH
New Millennium Mining	1996	21	4,114	DDH
New Millennium Mining	1996	37	5,271	RC
New Millennium Mining	1996	19	189	Auger
New Millennium Mining	1996	33	797	Water
StrataGold	2005	34	8,105	DDH
StrataGold	2006	10	4,282	DDH
StrataGold	2007	20	5,627	DDH
StrataGold	2008	15	4,429	DDH
Victoria Gold	2009	10	5,122	DDH
Victoria Gold	2009	4	1,321	Geotech
Victoria Gold	2010	20	3,592	DDH
Victoria Gold	2010	5	1,341	Geotech
Victoria Gold	2011	3	616	Geotech
Victoria Gold	2011-2012	33	4,337	RC
Victoria Gold	2011-2012	58	17,538	DDH
Victoria Gold	2017	59	8,423	DDH
TOTAL		565	112,603	

Source: Wardrop (2012), modified by VGC (2019)

Table 10-3: Project Drilling by Year - Olive Zone

Company	Year	Number of Holes	Metres Drilled	Type
Prior owners	1991, 1992	7	959	RC and DDH
Prior owners	2007	5	868	DDH
Prior owners	2007	10	707	Trenches
Victoria Gold	2010	19	4,144	DDH
Victoria Gold	2011	24	4,486	DDH
Victoria Gold	2011	4	300	RC
Victoria Gold	2012	11	2,997	DDH
Victoria Gold	2014	61	8,594	DDH
Victoria Gold	2014	10	1,027	Geotech
Victoria Gold	2016	89	12,546	DDH
Victoria Gold	2014	17	885	Trenches
Victoria Gold	2016	34	1,025	Trenches
Victoria Gold	2017	65	12,492	DDH
Victoria Gold	2017	11	501	Trenches
TOTAL		291	51,531	

Source: Wardrop (2012), modified by VGC (2019)

Table 10-4: Exploration Completed in and nearby to Olive Zone after June 2016

Company	Year	Purpose	Number	Meters	Type
Victoria Gold	2016	Exploration	7	351	Trench
Victoria Gold	2016	Exploration	71	10,543	DDH
Victoria Gold	2017	Exploration	79	15,126	DDH
Victoria Gold	2017	Exploration	14	575	Trench
Victoria Gold	2018	Exploration	8	607	Trench
Victoria Gold	2018	Exploration	10	1,929	DDH
TOTAL			189	29,132	

Note: Not included in 2016 Olive mineral Resource Estimate

Source: VGC (2019)

11 Sample Preparation, Analyses and Security

11.1 Sample Preparation and Security

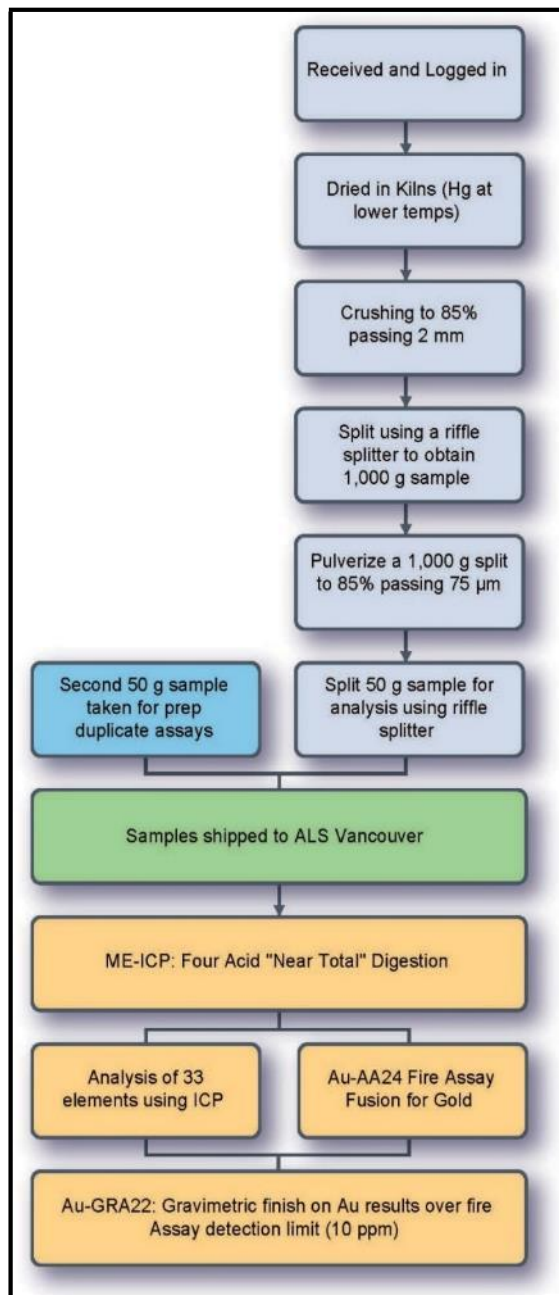
The following discussion in this section is derived from the Wardrop 2012 FS, as the general procedures have not changed since the sample preparation, analyses and security procedures in use by Victoria Gold for 2011, with the exception of the samples from the 2016 drilling on the Olive Zone, which instead underwent contract sample preparation on-site by SGS Canada Inc., and with selected sample pups shipped from site to the SGS analytical lab in Vancouver.

Other than during the 2016 season, samples were shipped from camp to the ALS Chemex or Acme Analytical (Acme) labs prep laboratory in Whitehorse. The samples were dried, crushed, split and pulverized, and a 50 g split was sent to the ALS Chemex laboratory in North Vancouver or the Acme Analytical Labs laboratory in Vancouver for analysis.

The analytical procedure used by ALS Chemex and Acme is described in Section 11.2. The sample preparation and analytical procedure is summarized in Figure 11-1.

Chain-of-custody measures under Victoria Gold's control were followed with the shipping of samples from camp to Whitehorse and from Whitehorse to North Vancouver. Receipt of analytical results was restricted to key personnel.

Figure 11-1: Eagle Sample Preparation and Analytical Flowchart



Source: Wardrop (2012)

11.2 Analytical Procedures

The standard analytical procedure for the Eagle Zone was carried out at ALS Chemex in North Vancouver as follows:

- A 50 g sub-sample was taken from the 150 g pulp sample by withdrawing two to three scoops of material from different places in the envelope;
- The 50 g sample was subjected to a gold fire assay with atomic absorption spectroscopy and a 27 to 33 element inductively coupled plasma (ICP) analysis consisting of a four-acid “near total” digestion by hydrofluoric acid (HF)-nitric acid (HNO₃)-perchloric acid (HClO₄) digestion, hydrochloric acid (HCl) leach and ICP-atomic emission spectroscopy (AES); and
- All results with gold greater than 10 ppm were subjected to a fire assay with a gravimetric finish (Wardrop, 2009).

The ALS Chemex laboratory in Vancouver, the primary assay lab in use for the project work at Eagle Gold, is accredited to International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 17025-2005 standards under the Standards Council of Canada, which provides specific assessments of the laboratory’s analytical capabilities. ALS Chemex laboratories in North America are also ISO 9001:2008 registered through SAI Global, ISO registration and accreditation provides independent verification that a quality management system (QMS) is in operation at the analytical laboratory. ALS Chemex is a worldwide based analytical company that has been providing analytical services to the mining and exploration industry of North America for over 30 years. The ALS Chemex analytical laboratory is located at 2103 Dollarton Hwy, North Vancouver, BC, Canada. ISO registration applies to the ALS Chemex preparation lab located at 78M t. Sima Road, Whitehorse, Yukon, Canada.

Approximately 5% of assays were re-assayed for gold alone by Inspectorate Exploration & Mining Services Ltd. (Inspectorate) laboratories at 11620 Horseshoe Way, Richmond, BC, Canada as the umpire (external check).

Inspectorate is used as a secondary lab for check assays. Inspectorate has ISO 9001:2008 certification and is an internationally known and reputable analytical laboratory that provides assay services to the exploration and mining industry.

The same above-described analytical procedure was used for drilling samples from the Olive Zone, most of which were collected in 2014 and 2016. However, the analytical labs involved were Acme Labs in Whitehorse (sample preparation) and Vancouver (analytical) in 2014, and an on-site SGS preparation lab in 2016, as well as the SGS labs in Vancouver during 2016.

Acme Labs has ISO/IEC 17025:2005 Accreditation and ISO 9001 Registration and is a well-known and accepted mining and exploration industry utilized commercial lab. SGS labs is a worldwide leader in analytical services and is ISO 14001:2015 Certified.

All laboratories used for the analytical purposes are independent of Victoria Gold.

11.3 Quality Assurance and Quality Control Procedures

The Eagle Zone and Olive Zone drill programs employed blanks, duplicates and standards as part of the quality assurance/quality control (QA/QC) program. The following description of the materials, procedures and results has been adapted from a 2010 QA/QC document prepared by Victoria Gold.

- Crushed dolomite, purchased from a garden-supply centre, was used as blank material. Blanks were made by scooping roughly 200 g of crushed dolomite into a bag which was then added to the sample stream. Three blank controls were added for every 100 samples, usually where the sample numbers ended in 16, 56 and 96, although some were added in other locations according to local mineralizing conditions and at the discretion of the logging geologists;
- Drill core duplicates were obtained by submitting both halves of the core for analysis; with one half representing the original (normal) sample and the other half the duplicate. The gap left in the core box was marked by a piece of wood or polyvinyl chloride plastic pipe;
- Preparation duplicates were collected at the sample preparation stage by splitting a crushed portion of the sample, which was then pulverized. These samples were then issued to the assaying laboratory for analysis; and
- Standard Reference Material (standards) were obtained from Analytical Solutions Ltd., Toronto, who supplied six certified Ore Research & Exploration Assay Standards (OREAS). For the 2016 and 2017 drill programs, some standards were also obtained from CDN Resource Laboratories Ltd, Langley. These are all listed in Table 11-1, together with their mean values and lower and upper limits of two standard deviations.

Table 11-1: Standard Reference Material Statistics

Standard	Mean Value	Low Threshold	High Threshold
	(Au ppm)	(Au ppm)	(Au ppm)
OREAS 152a	0.116	0.106	0.126
OREAS 15Pa	1.02	0.96	1.07
OREAS 15Pb	1.06	1	1.12
OREAS 50c	0.836	0.78	0.891
OREAS 52c	0.346	0.312	0.379
OREAS 5Pb	0.098	0.092	0.105
OREAS 60b	2.57	2.35	2.78
OREAS 6Pc	1.52	1.39	1.66
CDN-GS-1P5L	1.53	1.39	1.53
CDN-GS-P4C	0.362	0.326	0.398
CDN-GS-P4E	0.493	0.435	0.551
CDN-GS-P6	0.626	0.552	0.7
CDN-GS-P8E	0.827	0.749	0.905

Source: VGC (2019)

11.4 2012-2017 QA/QC Results

The resource database inclusive of 2011-2012 assay results for the Eagle Zone, and the 2011-2016 Olive Zone assay results was examined by the authors of the 2016 Feasibility study update. The drill programs employed blanks, duplicates and standards as part of the QA/QC program, in a similar fashion to the 2010 QA/QC procedures.

Summary QA/QC results for the post 2016 Eagle and Olive drilling are summarized below. Post 2016 Olive drilling was not used in this resource update.

- A sufficient number of standards, 166 SRM's or Standard Reference Materials for Eagle were inserted into the drilling sample batches sent for analysis. Results showed three out-of-range analysis for a total of 1.8%;
- Blanks totally 868 samples in Eagle showed no instances of assay values greater than 0.05 g/t Au.
- A total of 1,307 standard samples were inserted into the Olive sample stream; 22 failed to assay within +/- two standard deviations of the control value; six of which assayed high, and the remainder lower than the standard value;
- A total of 646 blanks were inserted into the Olive sample stream, one of which failed;
- In all cases for Eagle and Olive, if other standard or blank samples were not included in the batch for which a standard or blank failure occurred, then the batch was re-run.
- Field duplicates and sample preparation duplicates for Eagle and Olive show acceptable ranges of scatter relative to the original assays; and
- The QA/QC program for Eagle and Olive resulted in no significant identified issues.

The pre-2011 sampling, preparation, security and QA/QC procedures have been described in previous technical reports, have been reviewed by the authors, and are consistent with current procedures. The authors consider the 2011-2017 sampling, sample preparation, security, analytical procedures, and QA/QC procedures to be consistent with industry standards, and the results obtained verify the data as acceptable for use in resource estimation.

12 Data Verification

12.1 Verifications by Previous Workers

Previous work by others, as described below, has verified the Eagle Zone database as sufficient for use in the Mineral Resource estimation.

Wardrop conducted data verifications in 2006 and 2008 in relation to Mineral Resource estimation and reporting.

Data verification was also conducted by SRK in 2011, for the purpose of a resource model used in the 2012 FS and is described in the Wardrop NI 43-101 Technical Report dated April 18, 2012. An extract from this report is summarized as follows below.

"A site visit verified the geology and select drill hole collar coordinates. It also confirmed the geology model of steeply dipping quartz veins and veinlets dominantly hosted in Granodiorite. A visual inspection of select drill core verified the presence and direct relationship of gold assays with quartz veins and veinlets in the Granodiorite and metasedimentary host rocks. Spot checking of the drill hole assay database against the assay certificates noted approximately a 1.7% error rate. A statistical evaluation and visual examination of the data in 3D verified the prior and current use of 13.0 g/t Au as a capping grade for high-grade gold assays, and visually demonstrated hole-to-hole continuity of mineralization. Database errors noted were deemed to have minimal effect on the Mineral Estimate, and SRK concluded that the "Eagle Gold Deposit database is sufficiently well defined, documented, and verified, to allow for use in resource estimation and for definition of reserves in a Feasibility Study."

Data verification on the 2016 drill hole database was conducted by SRK in 2016 for the purpose of a resource model update described in the 2016 JDS Report "Feasibility Study Technical Report for The Eagle Gold Project". An extract of this report is summarized as follows below.

"Victoria Gold's 2016 database included 130 additional drill holes (RC and core), completed since August 2011, for an increase of 39% of data, internal to the mineralized wireframe, as compared to the data used in the resource estimate of the 2012 FS.

The authors undertook a re-examination of the post-2012 FS database by completing the following steps:

- Verifying the database for 2011 and 2012 data against the assay certificates; 14,661 assays representing 27% of the total data were checked and verified with less than 0.5% error rate noted;
- Examining the QA/QC data for 2010 to 2012 that was deemed acceptable;
- Examining in-house versus ALS Chemex bulk density data for use in the resource model;
- Extensively examining the RC versus core assays data, for potential bias and identification of holes or assay intervals to exclude from the resource estimation; and
- Verifying the oxidation surfaces.

As an independent check, the authors compiled assay data from 443 lab assay certificates of the 2011 to 2012 drilling. These constituted of 14,661 assays out of 53,239 total assays (27% of total assays). The compiled assay file was compared with the assay database supplied by Victoria Gold; insignificant errors were identified in the database and were fixed before importing in Datamine software."

Following the 2016 Feasibility study, a total of 79 holes were drilled in the project region in 2017, with 58 of them in the area of the Main Eagle Zone, including 4 deeper holes drilled within the Main Eagle Zone. It is these 4 deeper holes that comprise the majority of new geologic information within the Main Eagle Zone. Statistics of the drill hole database's content are presented in Sections 14.1.1 and below 14.2.1.

12.1.1 Quality Assurance/Quality Control Verification

Victoria Gold's QA/QC procedure included standards, duplicates and blanks to check the accuracy and precision of assay data. The authors evaluated the QA/QC data from 2009 to the 2016 drilling program. QC samples used in the 1990's historic drilling, and prior to 2009, have been summarized in earlier reports. Commercially supplied standard from Ore Research and Exploration Pty (ORE) as well as CDN Resource Laboratories were used for quality control. For the 2011-2017 drilling campaigns standard and blank frequencies was approximately 3% each, prep and field duplicates were 2% each.

As a part of the QA/QC protocol, QA/QC samples were inserted with the above frequency using the last two digits of the sample ID number. Additional QA/QC samples were inserted by the geologist's discretion but not to the exclusion of the regular insertion order.

As a standard quality assurance protocol, if assay results were received of standards and/or blanks not within the QC limit, the laboratory was immediately asked to re-assay a particular batch including QC samples. If the re-assay passed the QA/QC criteria, the results of the second batch were used in the resource estimation.

Minimal issues with acceptable limits were identified in the QA, and the authors concluded the assay data is acceptable to be used for the resource estimation. The authors have relied on earlier QP reports done on the QA/QC of historic drilling prior to 2010 as well as the QA review completed for the 2016 Feasibility study.

12.1.2 Bulk Density Verification

Victoria Gold compiled bulk density data from core in-house measurement for the 2016 Feasibility Study update, and a total of 1,227 bulk density determinations were reviewed. Of those, a total of 17 determinations were discarded as being either too high or too low for the respective rock type. The data were reviewed in detail in comparison with outside labs SGS and ALS Chemex, and to verify representative locations of data within the mineralized zones

Victoria Gold used a method of weighing the core pieces in air and in water, without the use of paraffin wax for coating the core in order to seal off porosity. In 2012, Victoria Gold sent the same 1,227 core samples to ALS Chemex for outside laboratory density determinations, and ALS used a paraffin wax coating process. As a QA/QC check, Victoria Gold also sent approximately 300 samples to SGS labs, who used the same process as ALS in their density determination method. The Eagle mineralized shape bulk density data was deemed to be sufficiently distributed throughout the deposit to be representative.

It was verified that all data, including in-house, SGS, and ALS, were in close agreement for the approximately 1,210 original data and 300 additional SGS determinations. The bulk density data comparison is shown in Table 12-1.

Table 12-1: Bulk Density Data Used for the Resource Estimation – by Rock Type

SRK Type	FS Type	Classification	In-House (t/m ³)	SGS (t/m ³)	ALS (t/m ³)	Mean Value (t/m ³)
		ALL DATA (No outliers)	2.66	2.65	2.65	2.65
1	A	Oxidized Granodiorite	2.62	2.62	2.61	2.62
3*	B	Fresh Granodiorite (unaltered)	2.66	2.65	2.65	2.65
2	C	Altered Granodiorite	2.65	2.62	2.63	2.63
4	E	Oxidized Metasedimentary Rock	2.62	2.59	2.61	2.61
6		Fresh Metasedimentary Rock	2.68	2.72	2.66	2.69

Note: * this is the correct type code - they were originally numbered from surface downward: Ox, Alt, Fresh, as 1, 2, 3
Source: AVMC (2016)

An assumed bulk density of 2.00 t/m³ was used for overburden. Bulk density data by rock type was assigned to resource blocks by the nearest neighbour assignment, using the mean value for each rock type.

It was noted that the published average bulk density value for Granodiorite is 2.67 t/m³ to 2.79 t/m³ (Carmichael, 1980); and therefore, the value for Eagle at 2.65 t/m³ is reasonable.

12.1.3 RC Versus Core Assays Verification

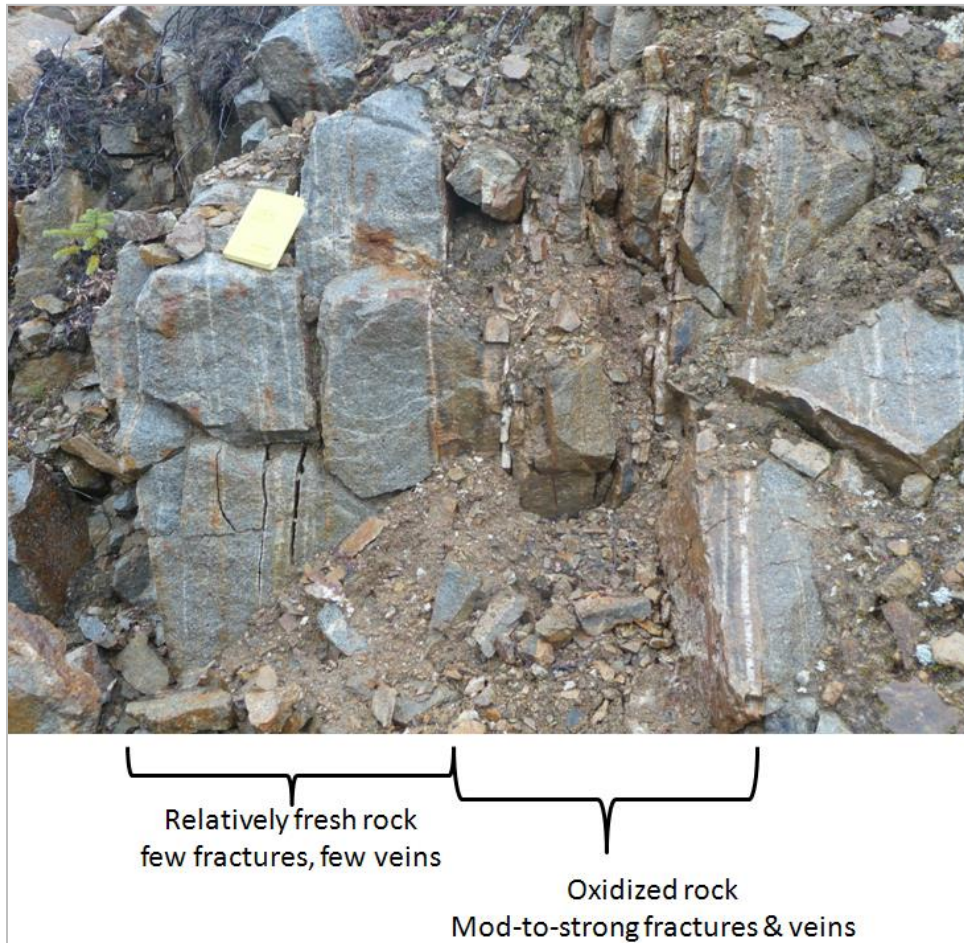
An extensive examination was conducted on core versus RC drilling gold assays for possible bias in RC samples during the 2016 Feasibility study report. The authors concluded that there was no material bias in the sampling method comparing core to RC, or orientation of drilling, above a cut-off of 0.15 to 0.20 g/t Au. The effect was minimal on the resource estimation, as the mineralized shell created for Eagle Gold was based on a modified 0.20 g/t Au grade shell.

12.1.4 Oxidation Surface Verification

For both the Eagle Zone and the Olive Zone, oxidation codes were present in the core logging and the drill hole database and were used to determine metallurgical types with appropriately assigned recoveries.

A review of the oxide codes for Eagle Gold was done for the purpose of the 2012 FS and was updated for the 2016 resource estimate. Observations at site of the core and the surface outcrops suggested that oxide codes in the drill hole logs for Eagle Gold may have been defined based on the relative amount of oxidation noted in the host rocks, not necessarily the amount of oxidation present in gold-bearing veins and fractures. This is of particular concern for the Eagle Zone, as RC drilling comprised a significant portion of the drilling, and oxidation in veins, as opposed to host rock may not be as discernable in RC cuttings. If the vein density is low, yet the rock is still a mineable grade, the core or RC cuttings may appear as a relatively low oxide code, when the veins are indeed well oxidized. Figure 12-1 illustrates the issue.

Figure 12-1: Outcrop - Oxidized Sheeted Quartz Veins in Relatively Fresh Granodiorite



Source: SRK (2011)

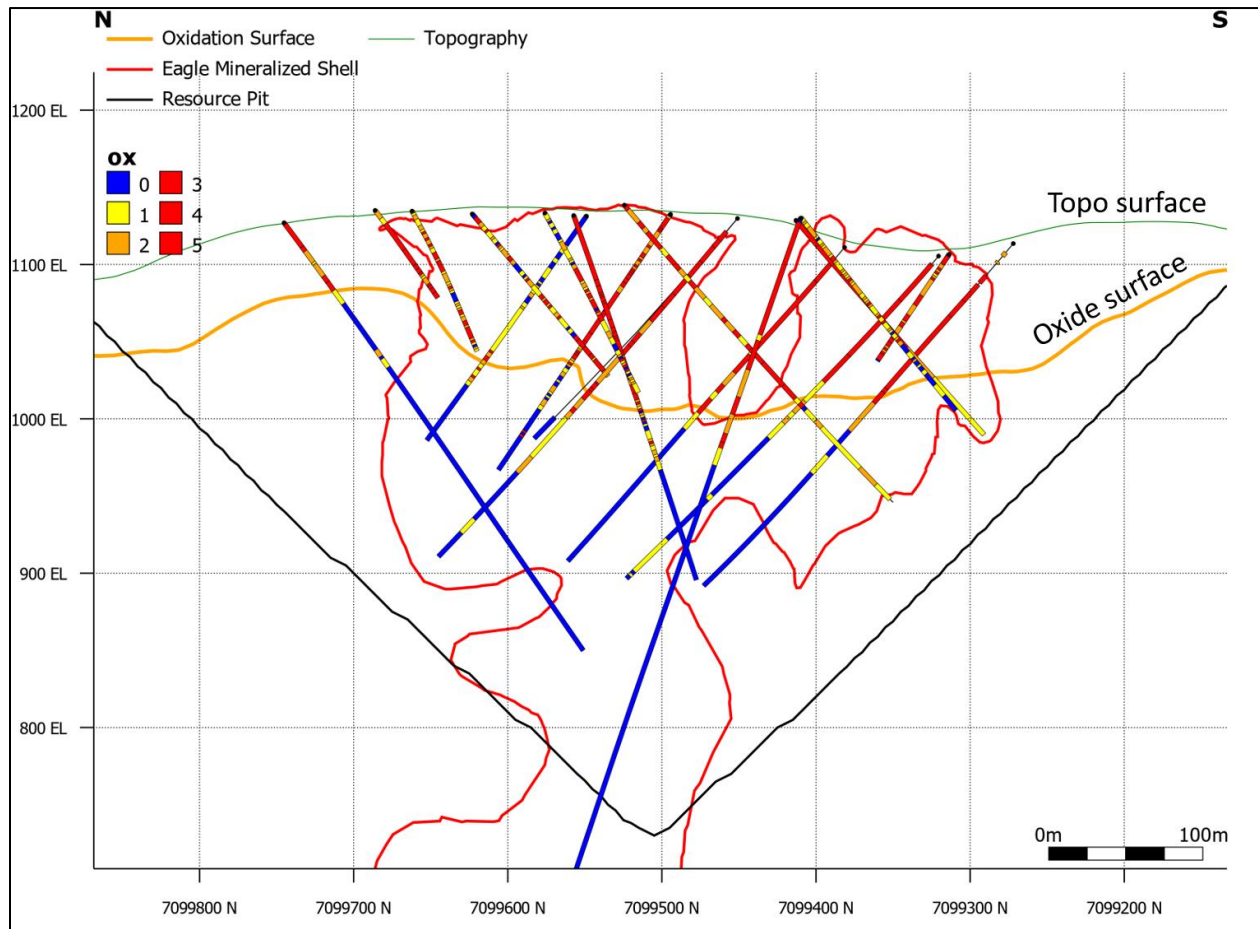
A horizontal drill hole through the outcrop shown in Figure 12-1 would be classified with a mix of oxide codes, yet all the veins and fractures containing quartz and sericite would be classified as oxidized, which is where the gold is located. At a proposed approximate 6.5 mm crush size, intended for the HLP, the oxidized veinlets containing gold will be exposed to leach fluids even if hosted in largely unaltered and un-oxidized Granodiorite.

As the oxidation state of veins and veinlets is important, and the oxidation state of Granodiorite (without veins and veinlets) is generally not, the authors took the approach of determining the base of oxidation as the base of the preponderance of oxide code 3 or greater.

A trace of the interpreted base of oxidation was digitized in a cross-section, linking section to section to create a surface, which was then modified in a long section, and to individual holes, to create the surface used in the model.

This process was updated in 2013 after the last drilling program at the Eagle Zone. Figure 12-2 indicates the drill hole codes for oxidation of three or greater (green) and the interpreted oxidation surface (orange) in cross-section for Eagle Gold.

Figure 12-2: Eagle Cross-Section 459992 E showing Codes and Interpreted Oxidation Surface



Source: VGC (2019)

A general interpretative base of oxidation surface was generated for use in resource modelling. For the area above the interpreted oxide surface, some historical holes have no oxide code and/or low oxide codes (codes Null, 0, and 1), and are surrounded by holes with oxide code 3 or greater. Most of the conflicting low oxide codes are from older RC holes. These low oxide codes (and no oxide codes) are considered non-representative of the oxidation state of the veins.

The base of oxidation roughly mimicked topography, and generally dipped steeply downward to where the mineralization was of higher grade and corresponding to the structural fracture/vein control of mineralization and oxidation.

An oxide surface was created for the 2012 FS resource model. For the 2016 updated resource estimate, the same process was used and incorporated into the 2012 in-fill drilling program data, to update the

oxidation surface. The resulting modified oxide surface changed minimally from the previous 2012 surface. For this 2019 updated resource, further discussion on the oxide surface is found in Section 14.1.4.1.

12.1.5 Summary

Eagle and Olive Zone data verifications included:

- Site verifications of rock types;
- Alteration, oxidation, mineralization in trenches and drill hole core;
- Spot check comparisons with assay data;
- Review of Victoria Gold's bulk density determinations; and
- QA/QC procedures and results for which the QA/QC procedures were in place.

The authors concluded that the databases for both the Eagle Zone and the Olive Zone were valid for use in the resource estimation, and were based on proper drilling, assaying, QA/QC procedures, and database construction. There were no identified data limitations or errors that would have bearing on the quality of the Mineral Resource estimations.

13 Mineral Processing and Metallurgical Testing

Metallurgical test work for the Eagle Zone was initiated in 1995. A feasibility study was published in 2012 by Wardrop, which included metallurgical test campaigns conducted by Kappes, Cassiday & Associates (KCA) and analyses from Metallurgium. Further testing campaigns were completed by KCA and McClelland Laboratories (MLI) as part of an updated 2016 FS. Additional testing and engineering were overseen by Forte through 2019 to re-evaluate the need for agglomeration and further refine leach projections. After the review of all metallurgical test work, an updated ultimate recovery and reagent consumption estimates by ore type were prepared for the Eagle deposit, using a fraction extraction method that estimates heap leach recovery based on the leach pad particle size distribution as a function of time. This first principle approach recognizes that diffusion processes can continue for very long time periods beyond active mining.

Preliminary test work was completed on the nearby Olive Zone between 2014 and 2015; however, no further work has been performed since then.

13.1 Eagle Deposit

Metallurgical test work focused on a series of primary ore types:

- “A” (Weathered Granodiorite, 40% of total contained gold);
- “B” (Fresh to Weakly Altered Granodiorite, 39% of total contained gold);
- “C” (Sericitic, Chloritic, Carbonate Altered Granodiorite, 7% of total contained gold); and
- “E” (Weathered Sediments, 8% of total contained gold).

For the purposes of the study, ore type “D” (Fine-grained Granodiorite) was considered as ore type “B” when calculating the overall recoveries due to its minimal representation.

13.1.1 Compacted Permeability Testing – KCA, 2017

Several additional tests were conducted by KCA on samples from the Eagle deposit, referred to as the Top 20 (T20) and Bottom 20 (B20) samples, to evaluate the various parameters for the initial material to be placed on the heap leach pad. Prior feasibility studies demonstrated the optimal P_{80} to be 6.5 mm. Initial fill material placed in the heap leach pad starts coarser, at 36 mm, then is reduced to 16 mm, and eventually reduced to the optimal size of P_{80} – 6.5 mm. Samples were crushed to the particle size distribution (PSD) P_{80} values ranging from 6.5 mm to 16 mm as determined by Bruno simulation, to mimic various stages of crushing at site. Each compacted permeability test was conducted up to a maximum effective height of 70 m.

KCA used the following test criteria as passing when measuring the response of the various samples:

- Less than 10% slump;
- Measured flows of more than ten times the heap design flow rate;
- Less than 15% pellet break down; and
- Lack of color and clarity of solution.

All T20 and B20 tests passed with minimal slump, however, it should be noted that one of the T20 6.5 mm tests marginally passed for flow rate based on the accepted criteria of ten times the field application rate of 7-10 l/h/m². All other tests comfortably passed based on all criteria without cement addition. Therefore, cement addition is no longer determined to be required, and agglomeration was removed from the process. This is in agreement with the 2012 FS which stated that compacted permeability tests with simulated loads between 0 and 150 m demonstrated good stability and low slump without cement agglomeration.

Table 13-1: Compacted Permeability Results Summary – Top 20

KCA Sample No.	KCA Test No.	Sample Description	Crush Description	Test Phase	Cement Added, kg/MT	Effective Height, meter	Flow Rate, LpHr/m ²	Flow Result Pass/Fail	Incremental Slump, %	Cum. Slump, % Slump	Slump Result Pass/Fail	Overall Pass/Fail
67759 A	67767 A	T20	P ₈₀ 16 mm	Primary	0	0	5,272	Pass	1%	1%	Pass	Pass
				Stage Load		20	5,193	Pass	4%	5%	Pass	Pass
				Stage Load		40	5,106	Pass	2%	7%	Pass	Pass
				Stage Load		70	4,995	Pass	2%	9%	Pass	Pass
67759 B	67767 B	T20	P ₈₀ 16 mm Without minus 200 mesh	Primary	0	0	7,139	Pass	0%	0%	Pass	Pass
				Stage Load		20	7,104	Pass	4%	4%	Pass	Pass
				Stage Load		40	7,104	Pass	2%	6%	Pass	Pass
				Stage Load		70	6,959	Pass	3%	9%	Pass	Pass
67759 C	67768 A	T20	P ₈₀ 12 mm	Primary	0	0	6,629	Pass	1%	1%	Pass	Pass
				Stage Load		20	6,433	Pass	4%	5%	Pass	Pass
				Stage Load		40	6,268	Pass	2%	7%	Pass	Pass
				Stage Load		70	5,971	Pass	2%	9%	Pass	Pass
67759 D	67768 B	T20	P ₈₀ 12 mm Without minus 200 mesh	Primary	0	0	7,023	Pass	0%	0%	Pass	Pass
				Stage Load		20	6,907	Pass	4%	4%	Pass	Pass
				Stage Load		40	6,836	Pass	2%	6%	Pass	Pass
				Stage Load		70	6,612	Pass	2%	8%	Pass	Pass
67759 E	67769 A	T20	P ₈₀ 9 mm	Primary	0	0	6,199	Pass	1%	1%	Pass	Pass
				Stage Load		20	5,857	Pass	4%	5%	Pass	Pass
				Stage Load		40	5,512	Pass	2%	7%	Pass	Pass
				Stage Load		70	4,940	Pass	2%	9%	Pass	Pass
67759 F	67769 B	T20	P ₈₀ 9 mm Without minus 200 mesh	Primary	0	0	6,374	Pass	1%	1%	Pass	Pass
				Stage Load		20	5,932	Pass	3%	4%	Pass	Pass
				Stage Load		40	5,686	Pass	2%	6%	Pass	Pass
				Stage Load		70	5,248	Pass	2%	8%	Pass	Pass
67759 G Sp. A	67770 A	T20	P ₈₀ 6.5 mm	Primary	0	0	4,866	Pass	0%	0%	Pass	Pass
				Stage Load		20	3,384	Pass	3%	3%	Pass	Pass
				Stage Load		40	3,260	Pass	2%	5%	Pass	Pass
				Stage Load		70	2,500	Pass	1%	6%	Pass	Pass
67759 G Sp. B	67770 B	T20	P ₈₀ 6.5 mm	Primary	0	0	2,488	Pass	1%	1%	Pass	Pass
				Stage Load		20	2,488	Pass	2%	3%	Pass	Pass
				Stage Load		40	2,311	Pass	2%	5%	Pass	Pass
				Stage Load		70	1,976	Pass	1%	6%	Pass	Pass
67759 G Sp. C	67770 C	T20	P ₈₀ 6.5 mm	Primary	0	0	3,345	Pass	0%	0%	Pass	Pass
				Stage Load		20	1,617	Pass	3%	3%	Pass	Pass
				Stage Load		40	1,469	Pass	1%	4%	Pass	Pass
				Stage Load		70	1,365	Pass	2%	6%	Pass	Pass
	67771 A	T20		Primary	0	0	8,751	Pass	1%	1%	Pass	Pass

KCA Sample No.	KCA Test No.	Sample Description	Crush Description	Test Phase	Cement Added, kg/MT	Effective Height, meter	Flow Rate, LpHr/m²	Flow Result Pass/Fail	Incremental Slump, %	Cum. Slump, % Slump	Slump Result Pass/Fail	Overall Pass/Fail
67759 H Sp. A			P ₈₀ 6.5 mm Without minus 200 mesh	Stage Load		20	7,671	Pass	2%	3%	Pass	Pass
				Stage Load		40	6,931	Pass	1%	4%	Pass	Pass
				Stage Load		70	5,728	Pass	2%	6%	Pass	Pass
67759 H Sp. B	67771 B	T20	P ₈₀ 6.5 mm Without minus 200 mesh	Primary	0	0	7,930	Pass	0%	0%	Pass	Pass
				Stage Load		20	7,195	Pass	2%	2%	Pass	Pass
				Stage Load		40	6,907	Pass	2%	4%	Pass	Pass
				Stage Load		70	6,150	Pass	1%	5%	Pass	Pass
67759 H Sp. C	67771 C	T20	P ₈₀ 6.5 mm Without minus 200 mesh	Primary	0	0	7,354	Pass	0%	0%	Pass	Pass
				Stage Load		20	6,391	Pass	3%	3%	Pass	Pass
				Stage Load		40	6,006	Pass	1%	4%	Pass	Pass
				Stage Load		70	5,415	Pass	1%	5%	Pass	Pass
67759 I Sp. A	67772 A	T20	P ₈₀ 6.5 mm (No Bruno)	Primary	0	0	2,122	Pass	0%	0%	Pass	Pass
				Stage Load		20	605	Pass	4%	4%	Pass	Pass
				Stage Load		40	866	Pass	1%	5%	Pass	Pass
				Stage Load		70	757	Pass	2%	7%	Pass	Pass
67759 I Sp. B	67772 B	T20	P ₈₀ 6.5 mm (No Bruno)	Primary	0	0	1,336	Pass	1%	1%	Pass	Pass
				Stage Load		20	876	Pass	3%	4%	Pass	Pass
				Stage Load		40	672	Pass	1%	5%	Pass	Pass
				Stage Load		70	472	Pass	2%	7%	Pass	Pass
67759 I Sp. C	67772 C	T20	P ₈₀ 6.5 mm (No Bruno)	Primary	0	0	1,961	Pass	0%	0%	Pass	Pass
				Stage Load		20	1,327	Pass	4%	4%	Pass	Pass
				Stage Load		40	1,377	Pass	1%	5%	Pass	Pass
				Stage Load		70	1,138	Pass	2%	7%	Pass	Pass
67759 J Sp. A	67773 A	T20	P ₈₀ 6.5 mm Without minus 200 mesh (No Bruno)	Primary	0	0	4,607	Pass	0%	0%	Pass	Pass
				Stage Load		20	3,110	Pass	3%	3%	Pass	Pass
				Stage Load		40	2,579	Pass	1%	4%	Pass	Pass
				Stage Load		70	2,007	Pass	2%	6%	Pass	Pass
67759 J Sp. B	67773 B	T20	P ₈₀ 6.5 mm Without minus 200 mesh (No Bruno)	Primary	0	0	5,902	Pass	0%	0%	Pass	Pass
				Stage Load		20	5,101	Pass	3%	3%	Pass	Pass
				Stage Load		40	4,372	Pass	2%	5%	Pass	Pass
				Stage Load		70	3,323	Pass	1%	6%	Pass	Pass
67759 J Sp. C	67773 B	T20	P ₈₀ 6.5 mm Without minus 200 mesh (No Bruno)	Primary	0	0	8,181	Pass	0%	0%	Pass	Pass
				Stage Load		20	6,992	Pass	3%	3%	Pass	Pass
				Stage Load		40	6,283	Pass	1%	4%	Pass	Pass
				Stage Load		70	5,079	Pass	1%	5%	Pass	Pass

Source: Forte Dynamics (2018)

Table 13-2: Compacted Permeability Results Summary – Bottom 20

KCA Sample No.	KCA Test No.	Sample Description	Crush Description	Test Phase	Cement Added, kg/MT	Effective Height, meter	Flow Rate, LpHr/m ²	Flow Result Pass/Fail	Incremental Slump, %	Cum. Slump, % Slump	Slump Result Pass/Fail	Overall Pass/Fail
67758 A	67760 A	B20	P ₈₀ 16 mm	Primary	0	0	5,511	Pass	0%	0%	Pass	Pass
				Stage Load		20	5,288	Pass	4%	4%	Pass	Pass
				Stage Load		40	5,246	Pass	2%	6%	Pass	Pass
				Stage Load		70	4,647	Pass	3%	9%	Pass	Pass
67758 B	67760 B	B20	P ₈₀ 16 mm Without minus 200 mesh	Primary	0	0	6,311	Pass	0%	0%	Pass	Pass
				Stage Load		20	5,253	Pass	4%	4%	Pass	Pass
				Stage Load		40	4,934	Pass	2%	6%	Pass	Pass
				Stage Load		70	4,778	Pass	3%	9%	Pass	Pass
67758 C	67761 A	B20	P ₈₀ 12 mm	Primary	0	0	5,139	Pass	0%	0%	Pass	Pass
				Stage Load		20	5,010	Pass	5%	5%	Pass	Pass
				Stage Load		40	4,866	Pass	2%	7%	Pass	Pass
				Stage Load		70	4,670	Pass	2%	9%	Pass	Pass
67758 D	67761 B	B20	P ₈₀ 12 mm Without minus 200 mesh	Primary	0	0	5,294	Pass	1%	1%	Pass	Pass
				Stage Load		20	5,119	Pass	3%	4%	Pass	Pass
				Stage Load		40	4,976	Pass	2%	6%	Pass	Pass
				Stage Load		70	4,837	Pass	2%	8%	Pass	Pass
67758 E	67762 A	B20	P ₈₀ 9 mm	Primary	0	0	6,584	Pass	0%	0%	Pass	Pass
				Stage Load		20	6,398	Pass	4%	4%	Pass	Pass
				Stage Load		40	6,191	Pass	2%	6%	Pass	Pass
				Stage Load		70	5,837	Pass	2%	8%	Pass	Pass
67758 F	67762 B	B20	P ₈₀ 9 mm Without minus 200 mesh	Primary	0	0	5,934	Pass	1%	1%	Pass	Pass
				Stage Load		20	5,653	Pass	4%	5%	Pass	Pass
				Stage Load		40	5,262	Pass	1%	6%	Pass	Pass
				Stage Load		70	4,414	Pass	3%	9%	Pass	Pass
67758 G Sp. A	67763 A	B20	P ₈₀ 6.5 mm	Primary	0	0	1,621	Pass	0%	0%	Pass	Pass
				Stage Load		20	1,075	Pass	4%	4%	Pass	Pass
				Stage Load		40	1,077	Pass	1%	5%	Pass	Pass
				Stage Load		70	846	Pass	1%	6%	Pass	Pass
67758 G Sp. B	67763 B	B20	P ₈₀ 6.5 mm	Primary	0	0	1,663	Pass	0%	0%	Pass	Pass
				Stage Load		20	1,204	Pass	3%	3%	Pass	Pass
				Stage Load		40	1,093	Pass	1%	4%	Pass	Pass
				Stage Load		70	1,062	Pass	2%	6%	Pass	Pass
67758 G Sp. C	67763 C	B20	P ₈₀ 6.5 mm	Primary	0	0	1,599	Pass	0%	0%	Pass	Pass
				Stage Load		20	701	Pass	3%	3%	Pass	Pass
				Stage Load		40	830	Pass	2%	5%	Pass	Pass
				Stage Load		70	801	Pass	1%	6%	Pass	Pass
	67764 A	B20		Primary	0	0	5,386	Pass	0%	0%	Pass	Pass

KCA Sample No.	KCA Test No.	Sample Description	Crush Description	Test Phase	Cement Added, kg/MT	Effective Height, meter	Flow Rate, LpHr/m ²	Flow Result Pass/Fail	Incremental Slump, %	Cum. Slump, % Slump	Slump Result Pass/Fail	Overall Pass/Fail
67758 H Sp. A			P ₈₀ 6.5 mm Without minus 200 mesh	Stage Load		20	3,721	Pass	3%	3%	Pass	Pass
				Stage Load		40	2,927	Pass	1%	4%	Pass	Pass
				Stage Load		70	2,439	Pass	2%	6%	Pass	Pass
67758 H Sp. B	67764 B	B20	p80 6.5 mm Without minus 200 mesh	Primary	0	0	7,360	Pass	0%	0%	Pass	Pass
				Stage Load		20	6,131	Pass	3%	3%	Pass	Pass
				Stage Load		40	5,741	Pass	1%	4%	Pass	Pass
				Stage Load		70	4,681	Pass	2%	6%	Pass	Pass
67758 H Sp. C	67764 C	B20	p80 6.5 mm Without minus 200 mesh	Primary	0	0	6,459	Pass	0%	0%	Pass	Pass
				Stage Load		20	5,223	Pass	2%	2%	Pass	Pass
				Stage Load		40	4,633	Pass	2%	4%	Pass	Pass
				Stage Load		70	3,687	Pass	1%	5%	Pass	Pass
67758 I Sp. A	67765 A	B20	p80 6.5 mm (No Bruno)	Primary	0	0	2,929	Pass	0%	0%	Pass	Pass
				Stage Load		20	2,440	Pass	3%	3%	Pass	Pass
				Stage Load		40	2,168	Pass	2%	5%	Pass	Pass
				Stage Load		70	1,545	Pass	2%	7%	Pass	Pass
67758 I Sp. B	67765 B	B20	p80 6.5 mm (No Bruno)	Primary	0	0	4,761	Pass	0%	0%	Pass	Pass
				Stage Load		20	3,946	Pass	4%	4%	Pass	Pass
				Stage Load		40	3,353	Pass	2%	6%	Pass	Pass
				Stage Load		70	2,923	Pass	1%	7%	Pass	Pass
67758 I Sp. C	67765 C	B20	p80 6.5 mm (No Bruno)	Primary	0	0	4,019	Pass	1%	1%	Pass	Pass
				Stage Load		20	2,748	Pass	3%	4%	Pass	Pass
				Stage Load		40	2,115	Pass	2%	6%	Pass	Pass
				Stage Load		70	1,747	Pass	2%	8%	Pass	Pass
67758 J Sp. A	67766 A	B20	p80 6.5 mm Without minus 200 mesh (No Bruno)	Primary	0	0	10,108	Pass	0%	0%	Pass	Pass
				Stage Load		20	9,297	Pass	3%	3%	Pass	Pass
				Stage Load		40	8,559	Pass	2%	5%	Pass	Pass
				Stage Load		70	7,371	Pass	1%	6%	Pass	Pass
67758 J Sp. B	67766 B	B20	p80 6.5 mm Without minus 200 mesh (No Bruno)	Primary	0	0	5,242	Pass	0%	0%	Pass	Pass
				Stage Load		20	3,674	Pass	3%	3%	Pass	Pass
				Stage Load		40	2,899	Pass	2%	5%	Pass	Pass
				Stage Load		70	2,072	Pass	1%	6%	Pass	Pass
67758 J Sp. C	67766 C	B20	p80 6.5 mm Without minus 200 mesh (No Bruno)	Primary	0	0	6,646	Pass	0%	0%	Pass	Pass
				Stage Load		20	5,378	Pass	3%	3%	Pass	Pass
				Stage Load		40	4,618	Pass	1%	4%	Pass	Pass
				Stage Load		70	3,647	Pass	1%	5%	Pass	Pass

Source: Forte Dynamics (2018)

13.1.2 Fraction Extraction Recovery Projections

A review of all metallurgical test work performed on the Eagle deposit, including chemical and mineralogical assays, bottle roll and column leach tests, and compacted permeability tests was done to define projected kinetic profiles of ore types A, B, C, and E. In reviewing the test results, the variability in total gold recovery as a function of time and rock type was considered, as differences in recovery, and therefore diffusion rates, were observed by the specific rock type and by the composites, which yielded results that may not necessarily coincide with the sum of individual rock sample results. This artifact may be a result of ore variability of the samples collected, coarse gold influence, or other factors. This composite sample variability from individual rock type performance was also noted in the previous review by Metallurgium.

The current mine plan is to send a small percentage of ore directly to the pad to be leached as ROM. A ROM estimate, as a single ore composite, was also projected given an updated ROM PSD.

Previous testing and analyses by others have already concluded the optimal P_{80} of the ore to be 6.5 mm. Testing and analyses by KCA, JR. Goode & Associates, and Metallurgium have supported this as the optimal crush size.

13.1.2.1 Crushed Ore Projection

In all metallurgical testing campaigns, testing via particular rock type designations was maintained which provided analytical consistency throughout the review. These rock type designations are identified in Table 13-3.

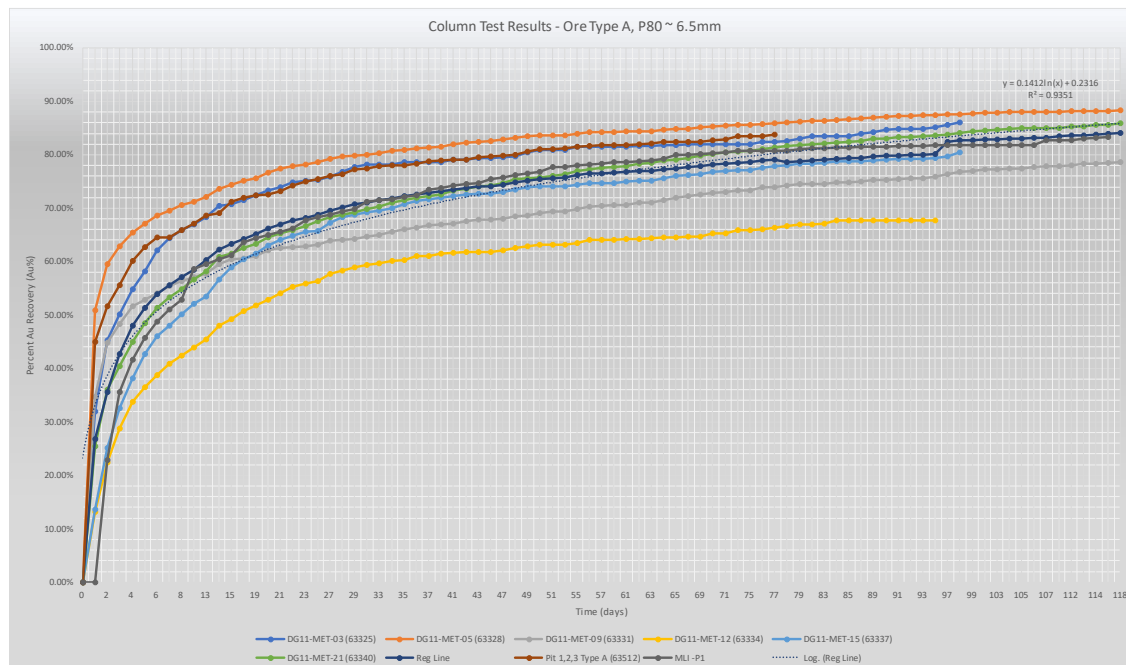
Table 13-3: Ore Type Descriptions

Ore Type	Geological Classification
A	Weathered Granodiorite
B	Fresh to Weakly Altered Granodiorite
C	Sericitic, Chloritic, Carbonate Altered Granodiorite
D	Fine-grained Granodiorite
E	Weathered Sediments

Source: Forte Dynamics (2018)

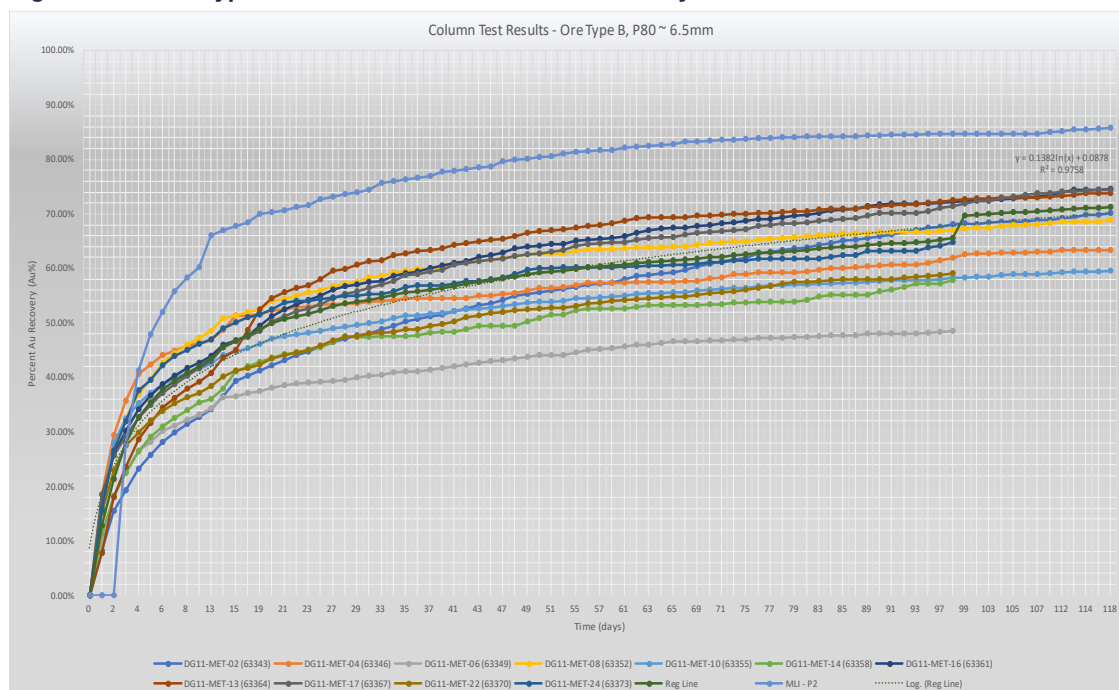
Utilizing actual test data results, all testing performed for Ore Types A, B, C and E were compiled and sorted according to P_{80} (approximately 6.5 mm). Ore Type D was not analyzed in detail as representation of these rock types for the Eagle deposit are expected to be minimal. Figure 13-1 through Figure 13-4 show the column test results for Rock Types A, B, C, and E respectively, with the projected long-term ultimate recoveries for each described further below.

Figure 13-1: Ore Type A P₈₀ ~6.5 mm Column Test Summary



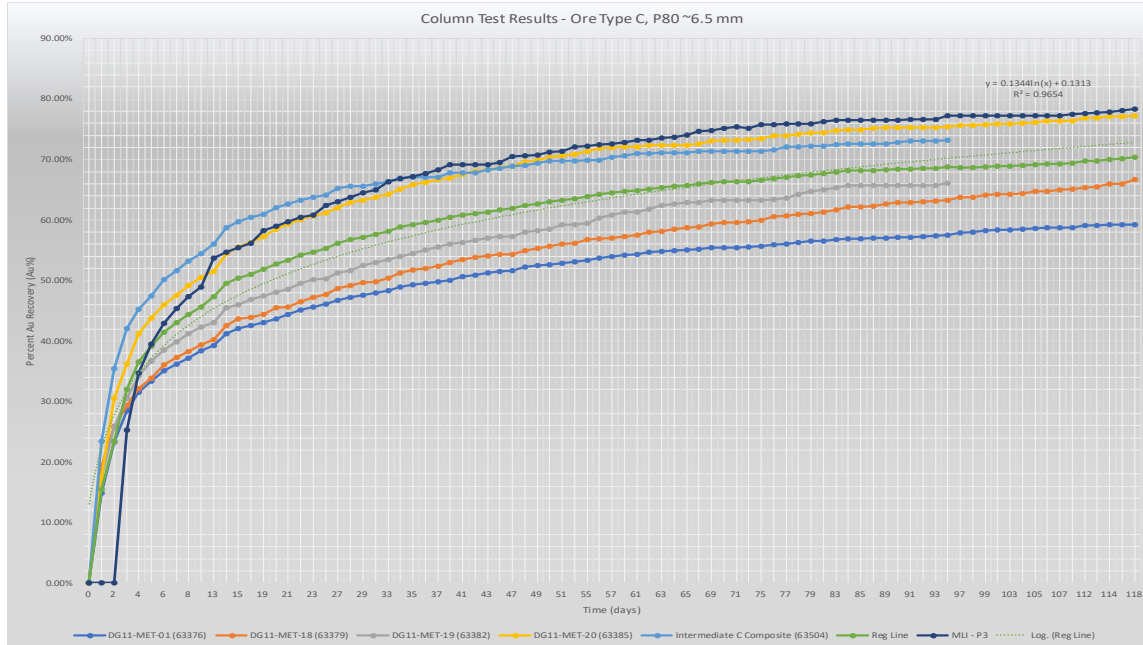
Source: Forte Dynamics (2018)

Figure 13-2: Ore Type B P₈₀ ~6.5 mm Column Test Summary



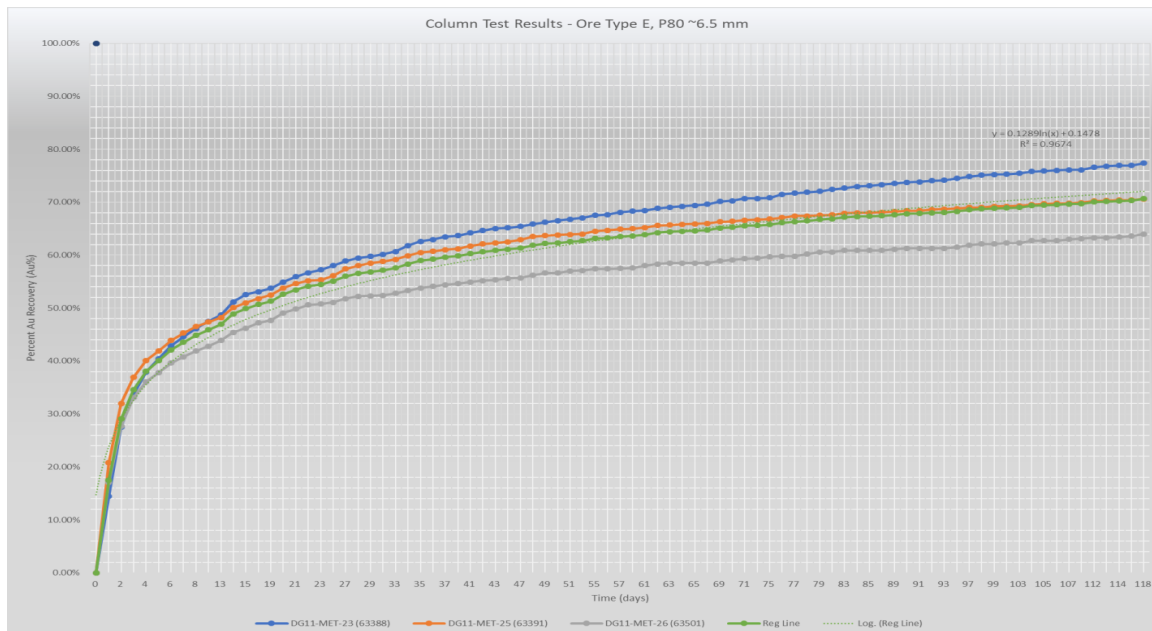
Source: Forte Dynamics (2018)

Figure 13-3: Ore Type C P₈₀ ~6.5 mm Column Test Summary



Source: Forte Dynamics (2018)

Figure 13-4: Ore Type E P₈₀ ~6.5 mm Column Test Summary



Source: Forte Dynamics (2018)

For Ore Type A, recoveries ranged from 66.3% to 85.8%, with a standard deviation of 6.3% from this sample set. Average P₈₀ from this set of column tests was 6.04 mm. It should be noted that while the majority of

the recoveries were approaching asymptotic behavior, slight recovery increases are still seen at the end of the tests, indicating longer leach times would likely yield increased recovery.

For Ore Type B, maximum recoveries ranged from 48.5% to 84.6%, with a standard deviation of 9.3% from this sample set. Average P_{80} from this set of column tests was 6.15 mm. While this rock type has the most samples for analysis, it also has the highest standard deviation indicating an increase in variability, which could indicate the presence of coarse gold or mineralogy and alteration variability. However, gravity recovery gold testing did not show economic viability (Rescan, 2009). It should be noted that while the majority of the recoveries were approaching asymptotic behavior, slight recovery increases are still seen at the end of the tests, indicating longer leach times would likely yield increased recovery.

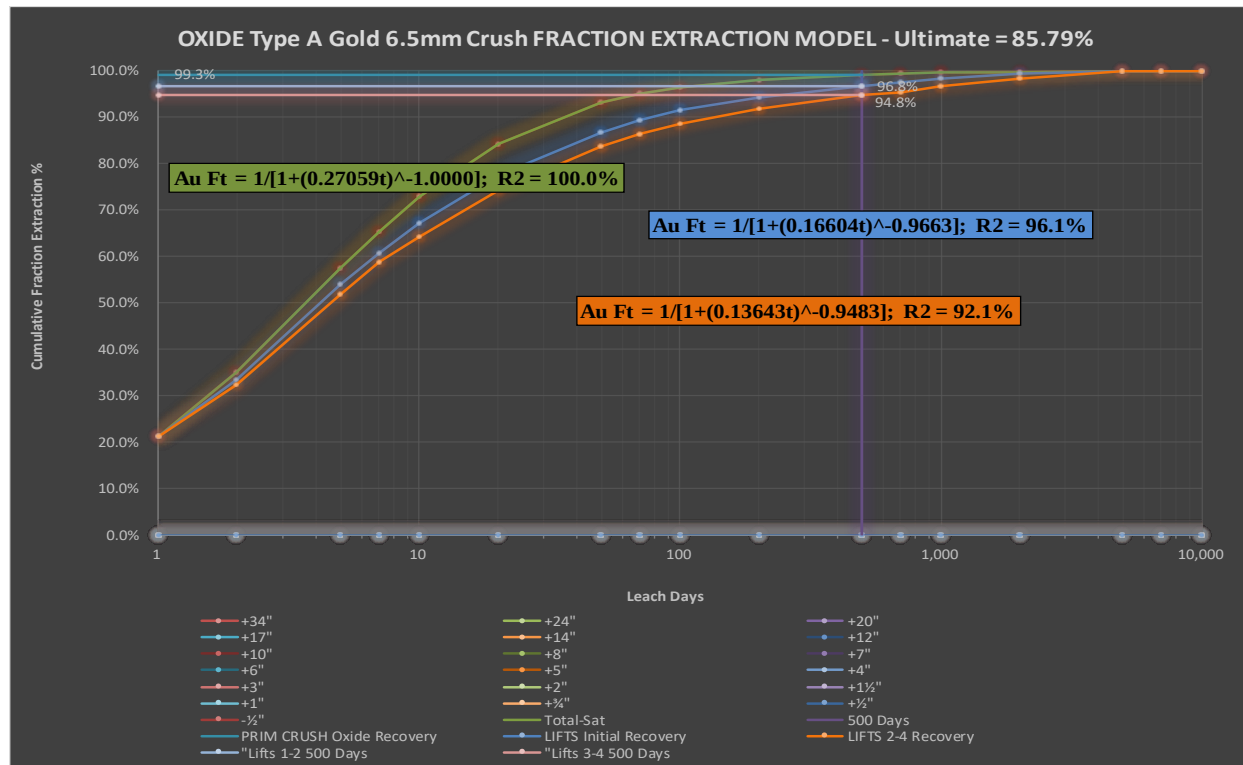
For Rock Type C, maximum recoveries ranged from 57.6% to 77.2%, with a standard deviation of 7.7% from this sample set. Average P_{80} from this set of column tests was 6.10 mm. It should be noted that while the majority of the recoveries were approaching asymptotic behavior, slight recovery increases are still seen at the end of the tests, indicating longer leach times would likely yield increased recovery.

Projections were made of ultimate column test recoveries for each rock type, based on performing a simulated projection of asymptotic behavior of those recovery curves that did not achieve asymptotic behavior, which represented the majority of the tests due to shorter leaching duration. These projections then serve as the basis of an ultimate long-term recovery fraction extraction estimate, based on the diffusion rate of the individual ore types. Diffusivity of the individual particle sizes, assumed to be spherical particles, was modified by an estimate of the fractional porosity and by the tortuosity of the pores, thereby increasing the diffusion path length. The column tests, by respective particles sizes, were separated and analyzed to calculate diffusion. Figure 13-5 through Figure 13-8 provide the resulting fraction extraction graphs for Rock Types A, B, C, and E respectively.

The lower lines on each of the graphs, shown as “blue” and “orange,” represent the anticipated fraction extraction accounting for in-field performance of heap leaching, representing changes in solution to ore contact as lifts are added to the heap leach in actual operations.

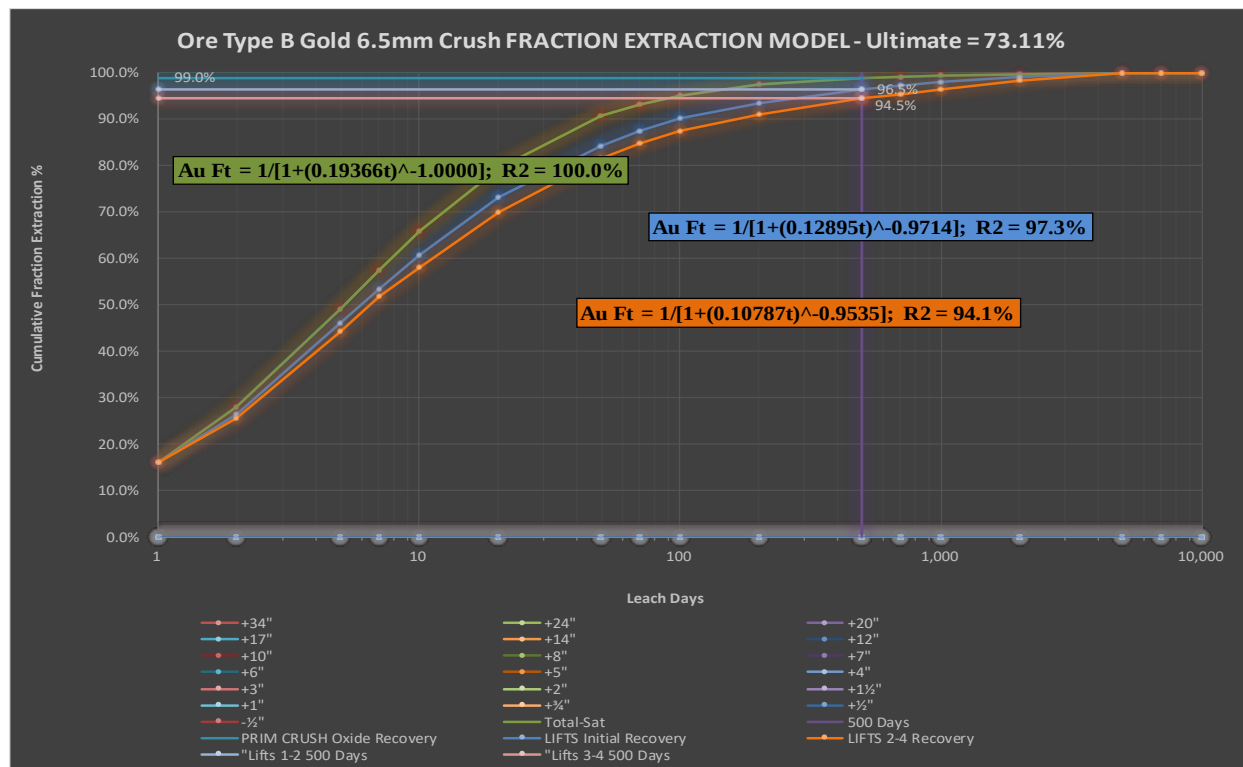
The long-term ultimate recoveries are estimated at 85.8%, 73.1%, 74.9%, and 77.2% for Ore Types A, B, C and E respectively. These values are then multiplied by the fraction extraction equation shown in “blue” for first lift or “orange” for later lifts on each graph to determine an overall projected recovery, which is then multiplied by the head assay grade to obtain projected cumulative recovered troy ounces as a function of time as leaching continues.

Figure 13-5: Ore Type A, P₈₀ 6.5 mm Fraction Extraction



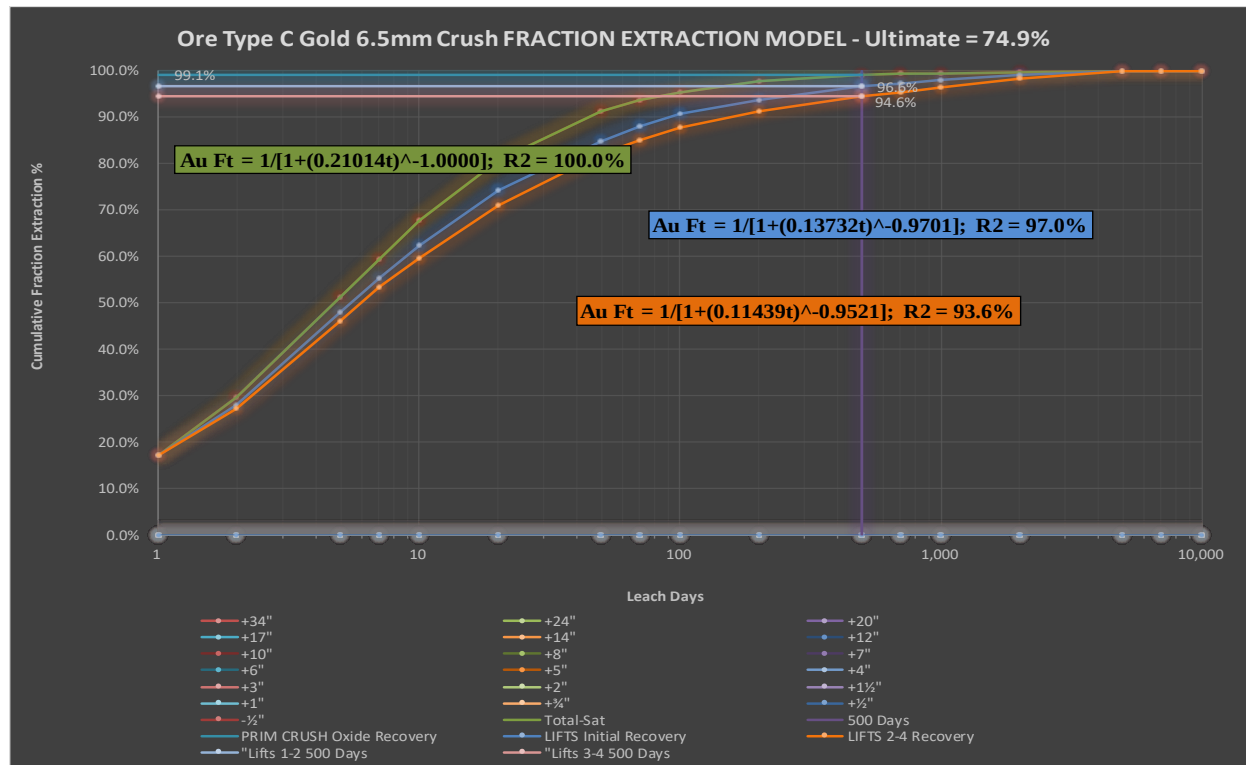
Source: Forte Dynamics (2018)

Figure 13-6: Ore Type B, P₈₀ 6.5 mm Fraction Extraction



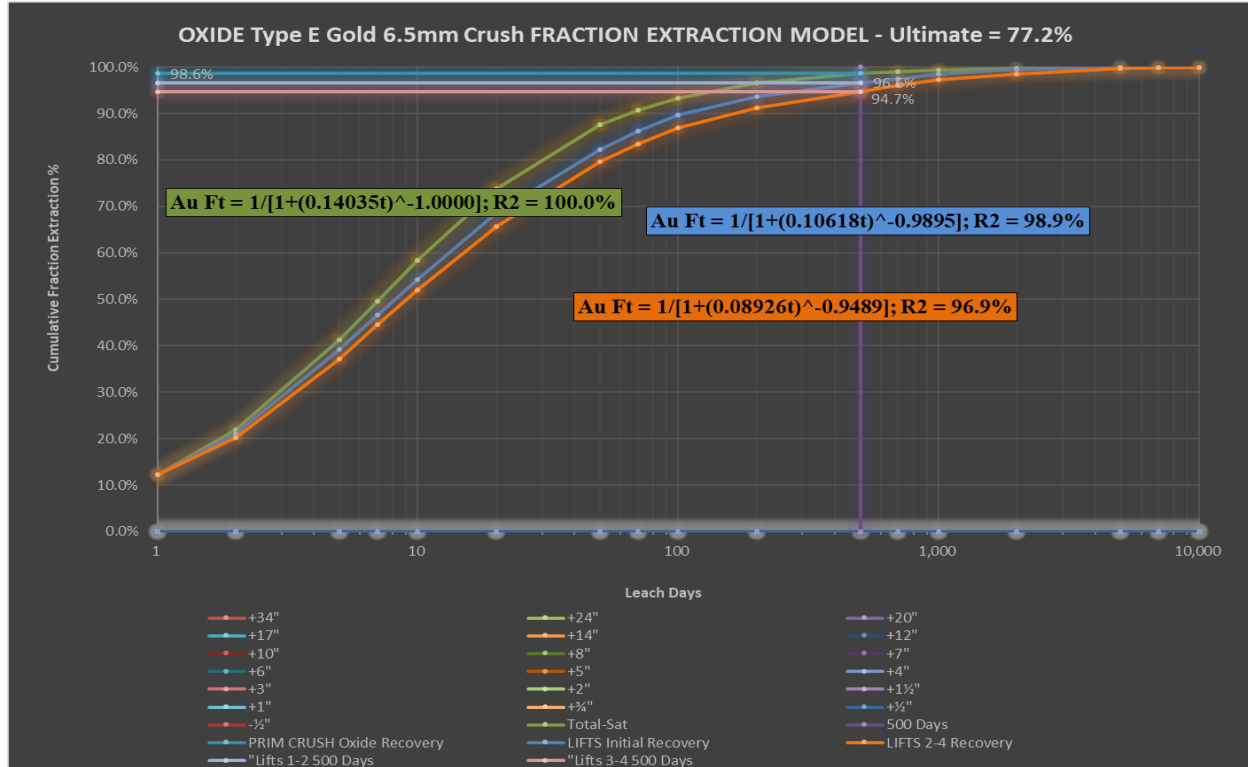
Source: Forte Dynamics (2018)

Figure 13-7: Ore Type C, P₈₀ 6.5 mm Fraction Extraction



Source: Forte Dynamics (2018)

Figure 13-8: Ore Type E, P₈₀ 6.5 mm Fraction Extraction



Source: Forte Dynamics (2018)

13.1.2.2 Run of Mine Estimated Recovery

ROM recoveries have been estimated for Eagle Gold based on test work completed on the project to date. The ROM size distribution was estimated based on data from a nearby project with similar geology as well as simulated data (Table 13-4).

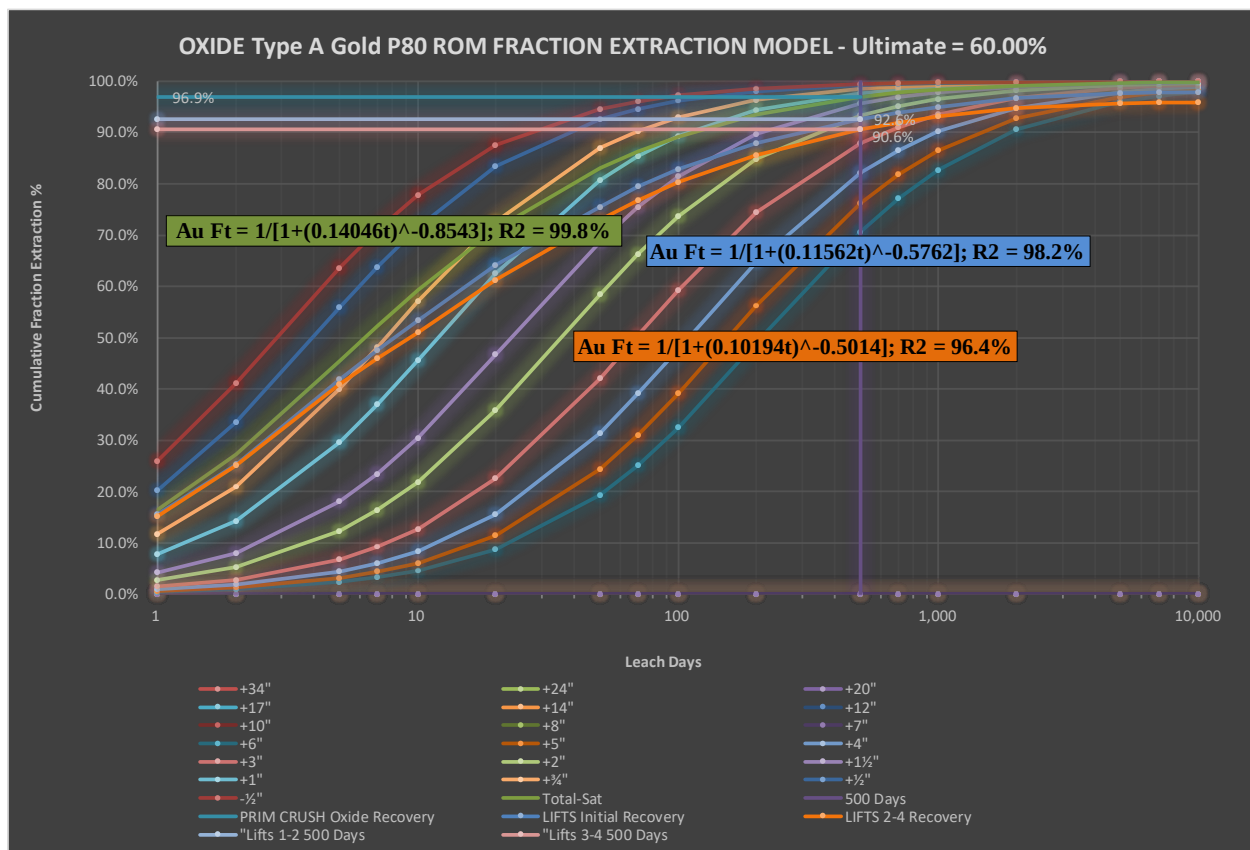
Table 13-4: Estimated Run of Mine Size Distribution

Size (mm)	Cumulative % Passing	% Passing
1.7	8.0	8.0
6	13.0	5.0
12.5	19.0	6.0
25	25.0	6.0
50	36.0	11.0
75	44.0	8.0
100	54.3	10.3
200	75.1	20.8
300	86.5	11.4
400	91.6	5.1

Size (mm)	Cumulative % Passing	% Passing
500	95.3	3.7
610	96.6	1.3
712	97.7	1.1
813	98.6	0.9
914	98.8	0.2
1016	99.3	0.5
1117	99.7	0.4
1200	100.0	0.3
Total		100

Source: Forte Dynamics (2018)

Figure 13-9: Ore Type A, ROM P₈₀ Fraction Extraction



Source: Forte Dynamics (2018)

13.1.3 Reagent Consumption

Test results for cyanide consumption and concludes the consumption of the Eagle ore is generally low, averaging 1.19 kg/t NaCN in the columns. A field scale reduction of 26% to 33% is applied, resulting in an estimated consumption rate of 0.30 to 0.39 kg/t NaCN; similar to the 2016 FS estimate of 0.42 kg/t.

Lime consumption was also generally low, ranging from 1.0 to 1.5 kg/t without the addition of cement/agglomeration. While the sulphide sulfur percentages remain low, at 0 to 0.25%, lime addition of 1.0 kg/t is being used until further operational data is obtained and adjustments can be made if warranted.

13.1.4 Eagle Deposit Metallurgical Summary

Based on all metallurgical data, and the fraction extraction method of projecting recoveries as a function of time, the following metallurgical assumptions are applied to the Eagle Gold Project:

- Ultimate (10,000 day) gold recoveries of:
 - Type “A” – 85.8%
 - Type “B” – 73.1%
 - Type “C” – 74.9%
 - Type “D” (assumed minimal) – no test data available, assumed to be same recovery as Type “B” (73.1%)
 - Type “E” – 77.2%
 - ROM – 60%
- Field cyanide consumption of 0.35 kg/t;
- Lime addition of 1 kg/t;
- Zero cement addition; and
- Primary leach cycle of 45 days, with additional secondary leach at 45 days.

Considering the projected recoveries and using a weighted average of the rock types by respective mine plan contained ounces for Eagle Gold project, 40% Type A, 39% Type B (including Type D), and 15% Type C and others, results in an ultimate long-term recovery of 76.9%. Recoveries projected during operations and residual leaching are presenting in Section 17.

13.2 Olive Metallurgical Test Program

Metallurgical test work was conducted by KCA between 2014 and 2015 on material for the Olive Zone. Samples tested include bulk sample and core material that were deemed representative at the time they were composited with respect to the aim of the particular program embarked upon. Investigations have largely focused on heap leaching.

No additional test work has been completed since the 2016 FS. The methods used by KCA are within industry standards. As such, projections made for Olive during the 2016 FS are still considered valid.

Column leach tests for the KCA February 2015 and June 2015 test programs show similar gold recoveries for oxide material ranging between 67% and 74% at a crush size of 100% passing 9.5 mm (approximately 80% passing 6.3 mm). For heap leach FS purposes, KCA normally discounts laboratory gold extractions by two to three percentage points when estimating field extractions. Based on the column test work results from the two testing programs, the following LOM gold recoveries are estimated for each ore type at Olive by KCA:

- Oxide – 66%;
- Sulphide – 53%; and
- Transition – 55%.

These test results are based on column tests performed for less than 200 days under leach. Applying similar principles as the Eagle results in an estimate of 75.7% recovery for the oxide. Actual oxide recovery for operations including two years of residual leaching is estimated at 73.6%.

14 Mineral Resource Estimates

This Technical Report presents an update to the Mineral Resource Estimate (MRE) for the Eagle Gold deposit (hereafter referred to as the Eagle Zone), which was previously described in the Wardrop 2012 FS and the JDS 2016 FS, as well as at the initial MRE for the Olive Zone gold mineralization, located approximately 2.5 km northeast of the Eagle Zone.

The MRE for the Eagle Zone was prepared by Independent QP, Marc Jutras, P.Eng., M.A.Sc., Principal, Ginto Consulting Inc., The MRE has been classified as "Measured", "Indicated" and "Inferred" according to the Canadian Institute of Mining and Metallurgy (CIM) "CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines" (May 2014).

The MRE for the Olive Zone was prepared by Frank Daviess, MAusIMM, SME (registered member). The MRE has been classified as "Measured", "Indicated" and "Inferred" according to the Canadian Institute of Mining and Metallurgy (CIM) "CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines" (May 2014).

Geological data review and modelling, data verification, and QA/QC was carried out by Qualified Persons Marc Jutras, P.Eng., M.A.Sc, Allan Moran (AIPD CPG) and Paul D. Gray, P.Geo. to support the data incorporated into resource estimations for both the Eagle and Olive mineralized zones. Detailed data verification and QA/QC was carried out to support the data incorporated into the resource estimation.

For the Eagle Zone, the geologic modelling, gold grade estimation, and tabulation of the mineral resources were carried out with the Vulcan® software version 9.1. The exploratory data analysis, variographic study, and validation of the grade estimates were performed with GSLIB-type utilities.

For the Olive Zone, Datamine Studio3 software (Datamine), a commercially available geology and mining software package, was used for examining geological domains, block modelling and grade estimation. The initial geological model was created in Leapfrog and was modified in sections using Datamine. Snowden's Supervisor software was used for exploratory data assessment, analysis of grade variograms, and continuity analysis. The grade estimation was carried out in Datamine.

MRE methods and results are described for both the Eagle and Olive Zones, with more detail provided for the Eagle Zone, as the primary deposit of interest.

14.1 Eagle Zone

14.1.1 Drill Hole Database

The drill hole database was received in Excel format along with 470 CSV and PDF assay certificates from the analytical labs. The digital database included the following file information:

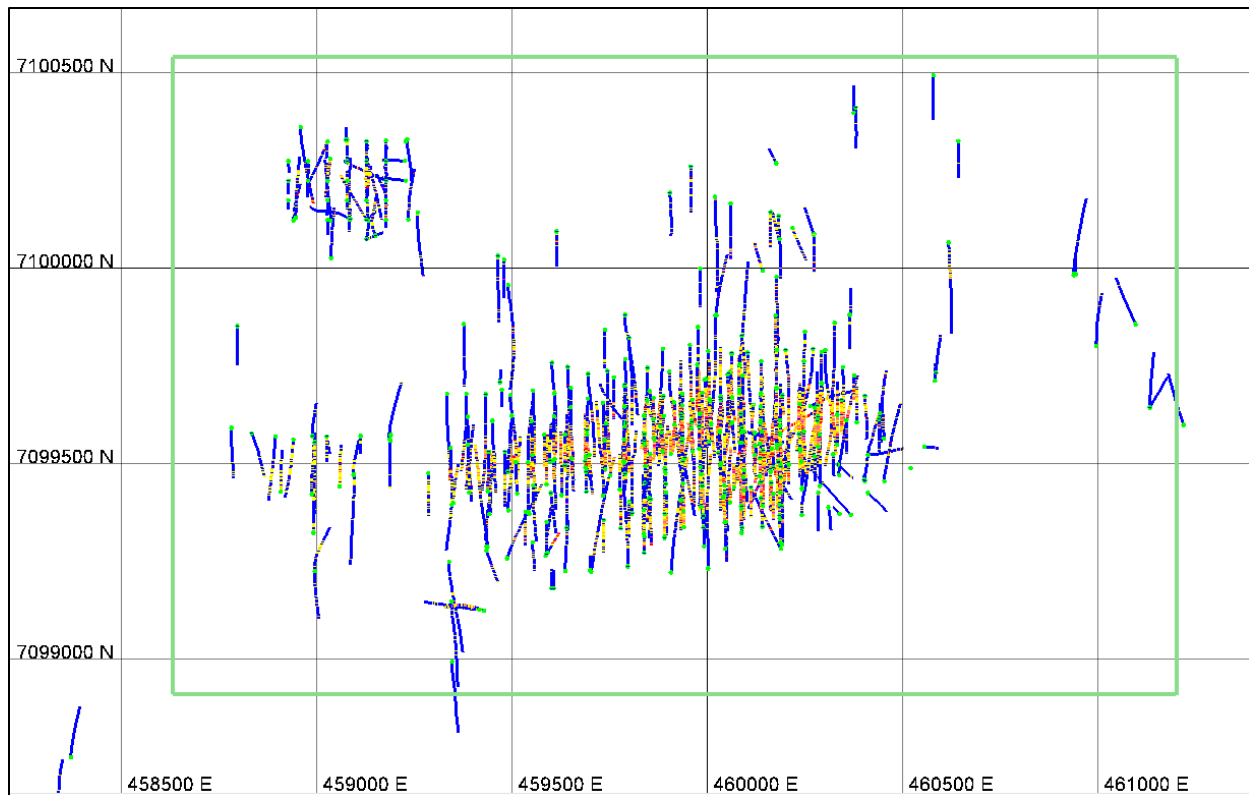
- Collar – drill hole name, easting, northing, elevation, total depth, type, and purpose;
- Survey – drill hole name, depth of survey, azimuth, and dip;
- Assays – drill hole name, from/to, sample ID, certificate number, Au, Ag and other elements from the ICP analysis;

- Geology – drill hole name, from/to, sample ID, degree of oxidation, sericitization, chloritization and silicification, vein type and thickness;
- Lithology – Drill hole name, from/to, rock type (such as overburden, Granodiorite, altered Granodiorite, hornfels, quartzite, and fault zone); and
- Recovery, RQD - Drill hole name, from/to, recovery percentage, RQD percentage.

Included as well in the database were digital copies of surface geological maps, scanned images of cross-sections and long sections, 1 m and 2 m digitized topo, bulk density file data (in Excel format), and standard operating procedures for collar, down hole survey, logging and in-house density determination procedures.

The Eagle Zone database consists of 464 holes, including 299 core holes and 165 reverse circulation holes, for a total of 98,441 meters of drilling. The drill hole database is comprised of 63,552 gold assays in g/t. Following the 2016 Feasibility Study, 66 holes were drilled in the Eagle Zone area in 2017. The location of the drill holes in the Eagle Zone is shown in Figure 14-1.

Figure 14-1: Eagle Zone Drill Hole Locations



Source: Ginto Consulting (2019)

14.1.2 Grade Compositing

The original assays were composited to 1.52 m regular intervals to reflect the most common sampling length of 1.52 m (5 ft) for more than 40% of the assays. This approach ensures that the intrinsic variability of the original assays is respected.

The composite length-to-block height ratio is believed to be adequate with a ratio of 0.304 (1.52 m / 5.0 m). As a general rule, a ratio between 0.5 and 0.2 is satisfactory.

A total of 36,848 composites from 328 holes were obtained in the Main Eagle Zone.

For the 2016 Feasibility Study, a composite length of 2.5 m was selected as the compositing interval. In this update, a 1.52 m composite length was selected to preserve the inherent variability of the sample data and thus avoid introducing smoothing at this stage.

14.1.3 Exploratory Data Analysis

The exploratory data analysis (EDA) is an exercise that allows better understanding of the different geometric and statistical aspects of the data under study. The following discussion is taken from the report Ginto Consulting Inc (2018). "Eagle Gold Project, Yukon Territory, Canada, Mineral Resources Update of the Main Eagle Zone" Prepared for Victoria Gold Corp., Effective Date of December 19, 2018.

14.1.3.1 Drill Hole Spacing and Orientation

A summary of the drill hole spacing statistics is provided in Table 14-1.

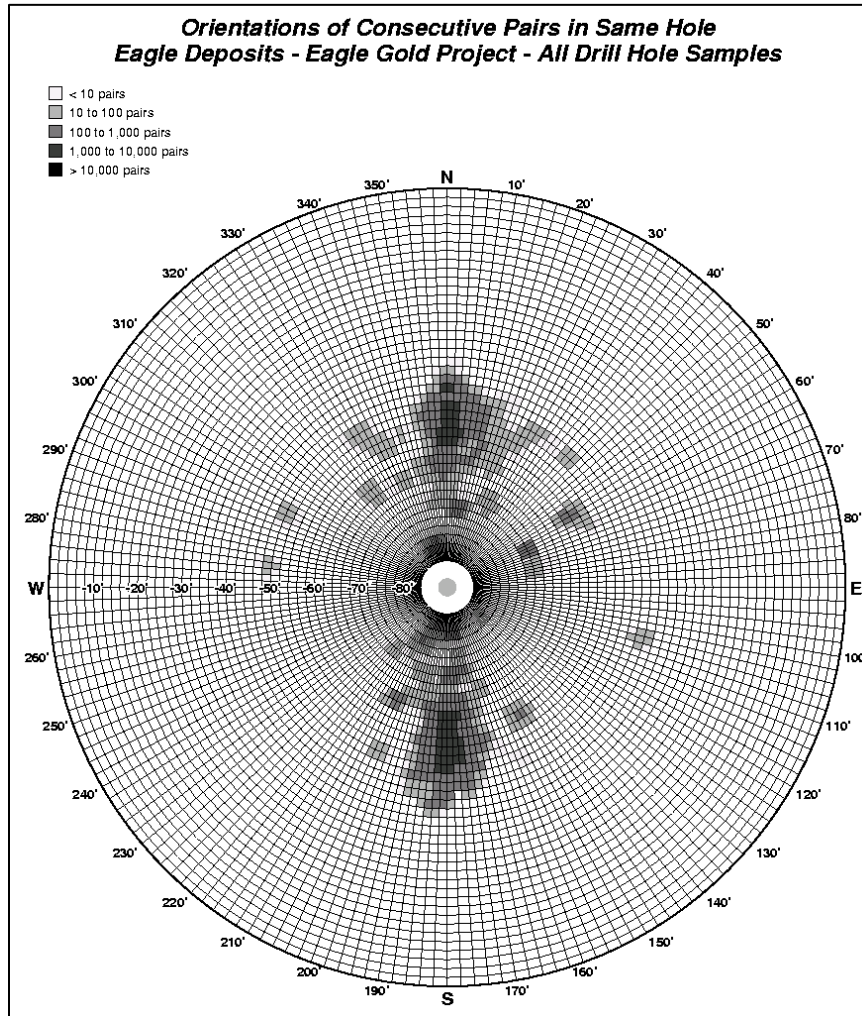
Table 14-1: Drill Hole Spacing Statistics – Main Eagle Zone

Zone	Drill Hole Spacing	
	Average (m)	Median (m)
Eagle Main	20.7	17.7

Source: Ginto Consulting (2019)

The drilling orientation in the Main Eagle Zone is shown in Figure 14-2.

Figure 14-2: Drill Hole Orientations



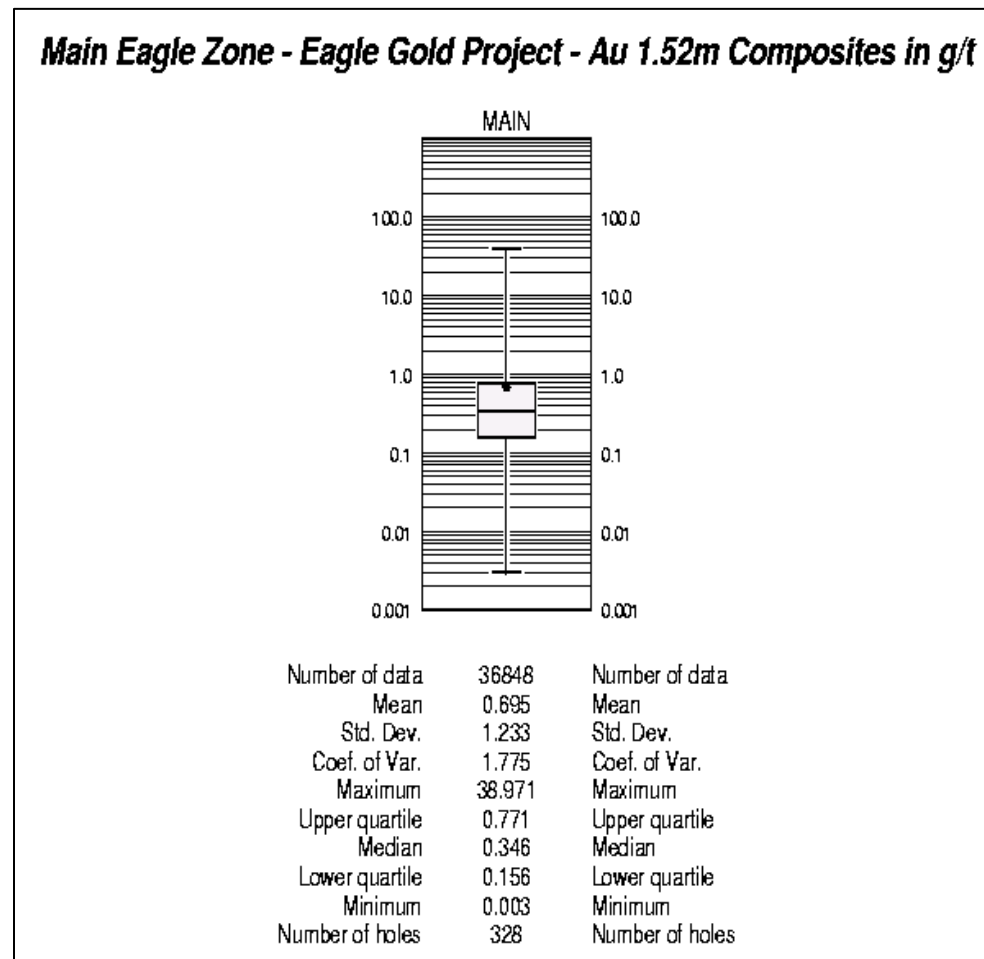
Source: Ginto Consulting (2019)

As seen in Figure 14-2, a great majority of holes are oriented to the north at 0° azimuth and to the south at 180° azimuth, mostly dipping between -50° and -60°. Note that the azimuths are read from the outer circle while the dips are read from the inner circles.

14.1.3.2 Basic Statistics

Basic statistics were conducted on the composite data with histograms, probability plots, and boxplots for the Main Eagle Zone. These various analyses show a positively skewed distribution of gold grade with a well-behaved gold grade population. It is observed that the coefficient of variation (standard deviation divided by the mean) is low with a value of 1.78. Results from the boxplot of the Main Eagle Zone are shown in Figure 14-3.

Figure 14-3: Boxplots of Gold Grade Composites



Source: Ginto Consulting (2019)

14.1.3.3 Capping of High-Grade Outliers

The location of the high-grade outliers was first examined to ensure that they are not related to a high-grade unit that can be modeled separately. It was observed that the high-grade outliers are distributed randomly and can be capped from their corresponding population. The probability plot approach, where the capping threshold is selected at the grade for which the distribution deviates from its main orientation, was utilized in the selection of the capping thresholds. As well, an application named “cutstats” helped in the selection of final capping thresholds. In this utility, a plot comparing correlation coefficients for various cut-offs grades allows for the selection of the capping value at a cut-off grade where there is no correlation between the grades above this cut-off. Another plot, where coefficients of variation (CVs) are compared for various cut-off grades, the capping value is selected by identifying the cut-off grade where a major shift occurs in the distribution of CVs. The resulting compilation of the capping thresholds is listed in Table 14-2. In general, less than 10% of the metal should be affected by the capping process. This was achieved for the Main Eagle Zone with only 1% of the metal content affected, reflecting the more homogeneous nature of the gold population.

Table 14-2: Capping Threshold of High-Grade Outliers

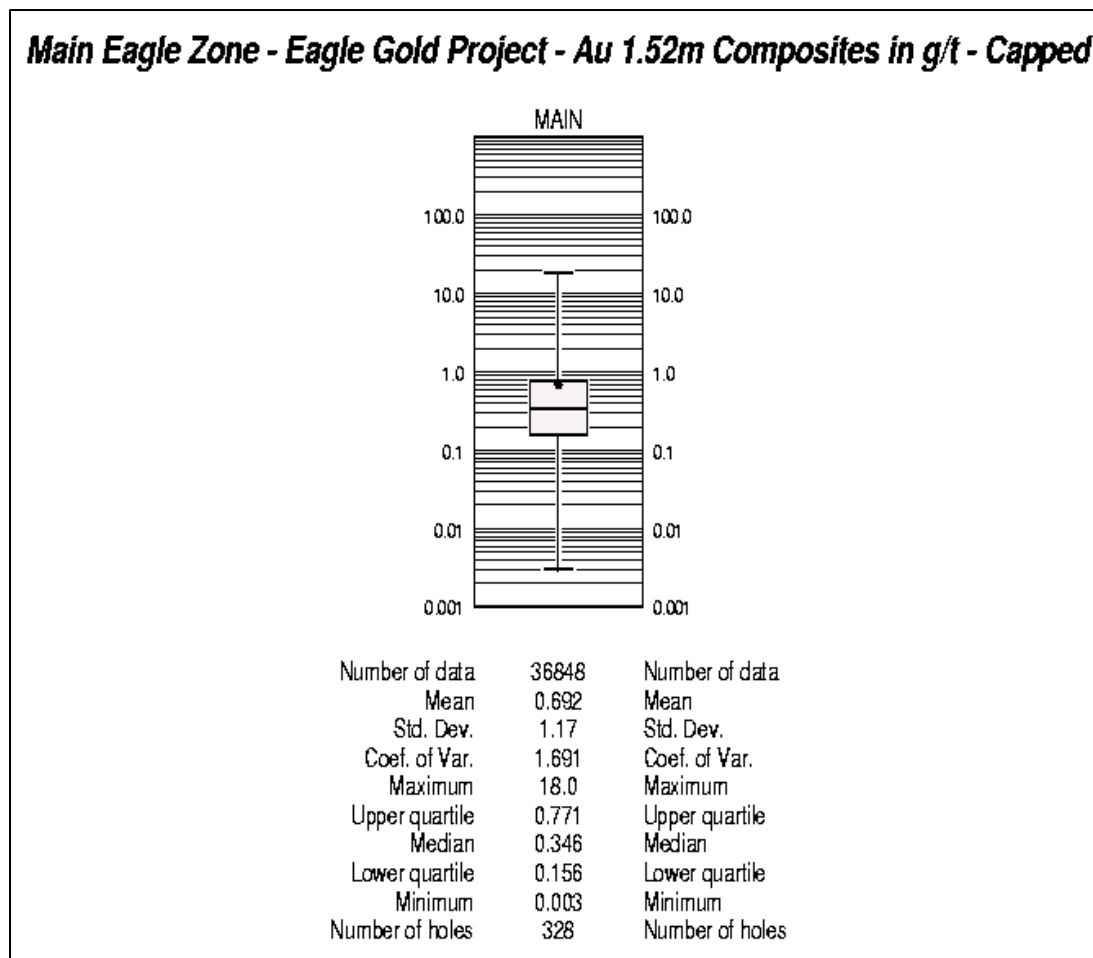
Zone	Capping Threshold Au g/t	% of Metal Capped	# Capped
Eagle Main	18.0	1.0	19

Source: Ginto Consulting (2019)

A boxplot of capped gold composites is shown in Figure 14-4. As seen, the coefficient of variation is low with a value of 1.69. This indicates a more homogeneous distribution of gold grades which in return indicates that ordinary kriging would be a well-suited grade interpolation method.

For the 2016 Feasibility Study, the capping of the higher-grade outliers was applied on the original samples prior to compositing, with a threshold of 16.0 g/t Au. The approach selected for this update was to proceed with the selection of the capping threshold on composited assays, as they represent equally supported data.

Figure 14-4: Boxplots of Capped Gold Composites



Source: Ginto Consulting (2019)

14.1.3.4 Declustering

A polygonal declustering was applied to the composites to provide a better representation of the statistical parameters of the gold grade distribution. In this process a weight is assigned to each composite based on the volume derived from the half-distances to the nearest surrounding composites. Thus, composites in densely drilled areas are assigned smaller volume-weights than those in sparsely drilled areas. In this case an average gold grade of 0.557 g/t was obtained, indicating a reduction of 19% when removing the clustering effect. These results will be helpful when comparing the grade estimate results to the declustered composites in the validation process.

14.1.4 Geology Model

The geology model of the Main Eagle Zone was built as a mineralized envelope with a cut-off grade (COG) of 0.15 g/t Au. After detailed review, it was determined that due to the lack of continuity of geologic controls on gold mineralization available from the data, the selection of a mineralized envelope approach would be the next best alternative. This model was built from first principals without influence of previous modelling and utilized the drill hole database of gold grades and the granodiorite unit as a geologic control on gold mineralization. Interpretations of gold mineralization limits were performed on north-south sections spaced at 25 m intervals. A first set of sectional interpretations was carried out from east to west, followed by a second sweep from west to east. In this latter task, a shadow of the section behind and in front of the current section was observed in order to model smooth transitions of the interpreted shapes from section to section. A final modification of the mineralized shapes consisted in the validation of the near surface contacts to ensure that the envelope limits were located within the granodiorite unit. The interpretations from the 2016 FS were used as a guide in this last stage of the modeling exercise. From the interpretation and the modelling of the mineralized zone, it was observed that the orebody has a consistent geometry that is continuous from one section to the next.

The total volume of the Main Eagle Zone derived from the above modeling approach is presented in Table 14-3 and represents a 25.3% increase over the 2016 Feasibility model.

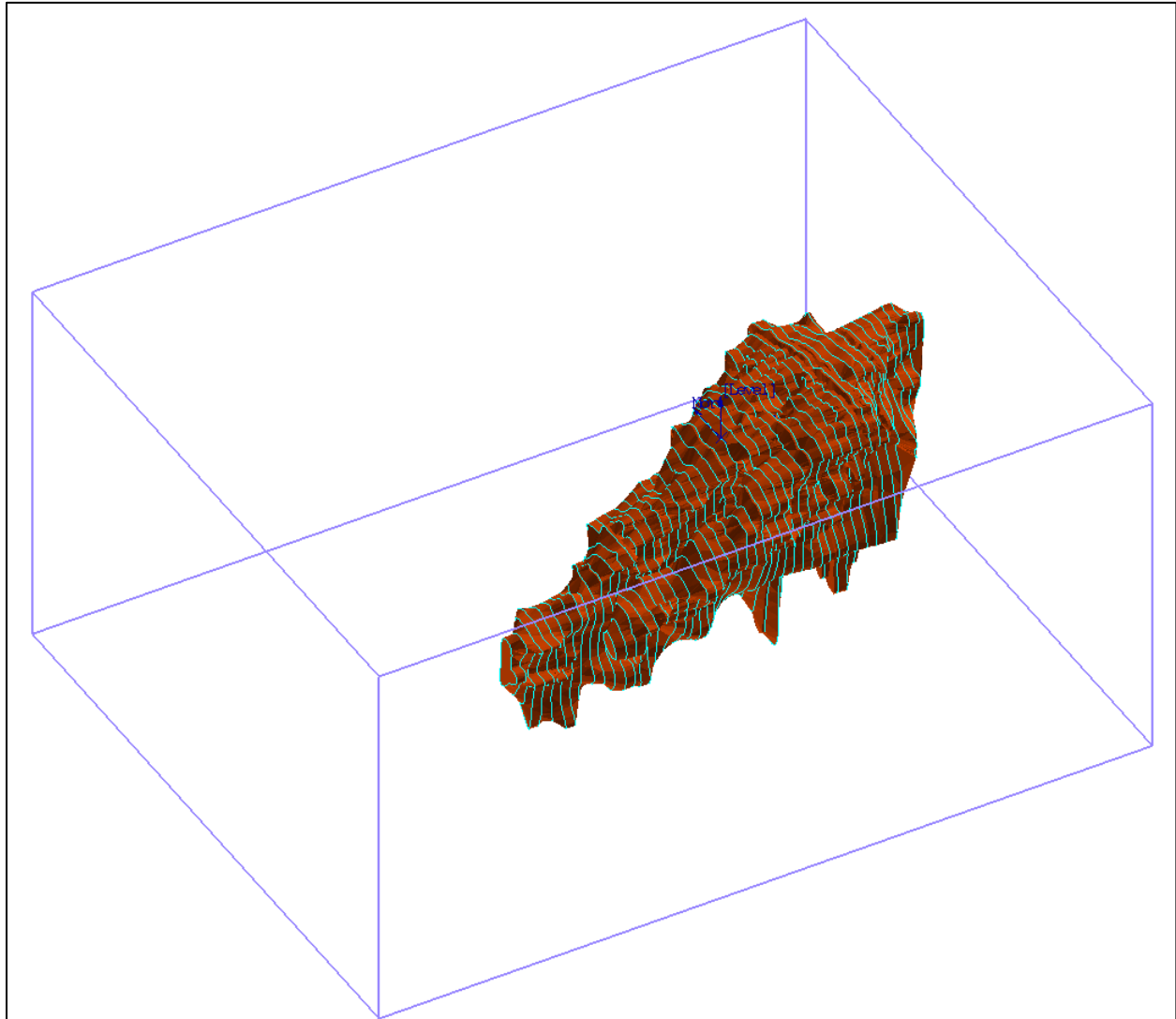
Table 14-3: Wireframe Volumes

Zone	Volume Mm ³
Main Eagle Zone – 2019 Update	101.3
Main Eagle Zone – 2016 Feasibility	80.9

Source: Ginto Consulting (2019)

An example of the gold mineralization wireframe of the Main Eagle Zone is shown in Figure 14-5.

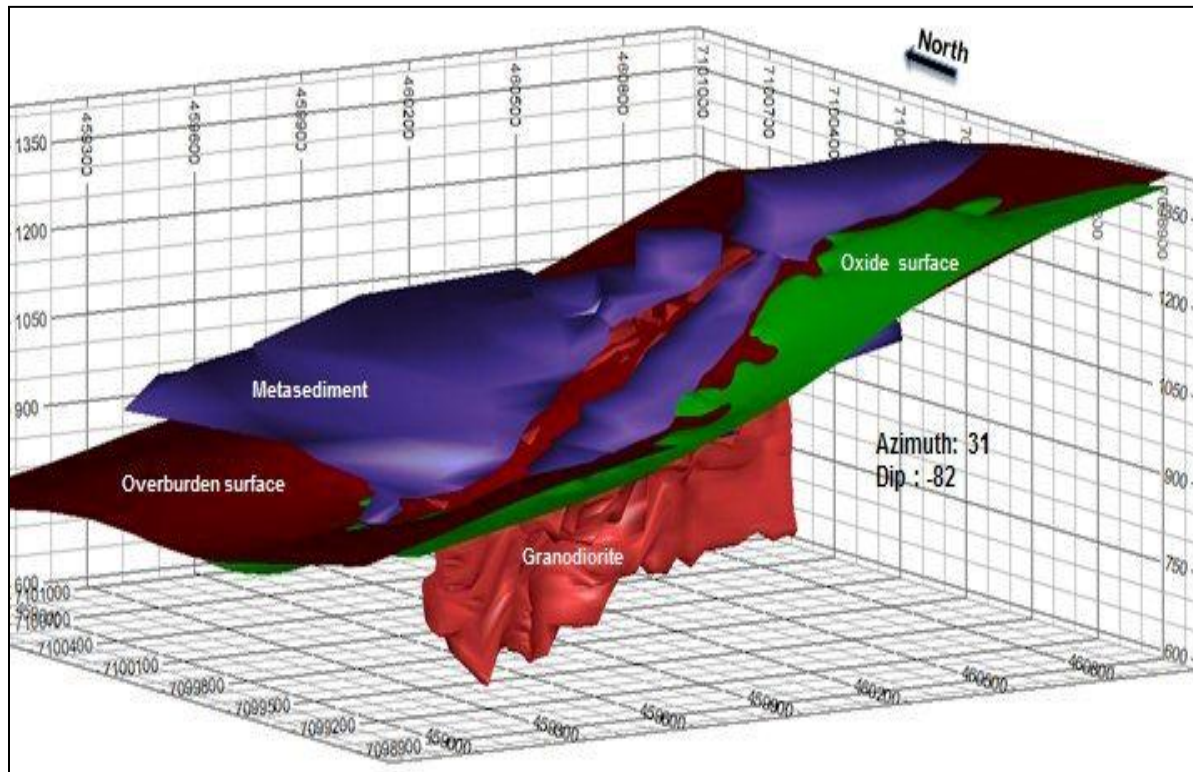
Figure 14-5: Geologic Model – Perspective View Looking Northeast



Source: Ginto Consulting (2019)

Models of the overburden and granodiorite developed by Victoria Gold's geologic team were also provided for the definition of the near surface contact of the mineralized envelope and for the assignment of densities. The Leapfrog® software was used to create overburden surfaces, and metasediment-Granodiorite contacts, as illustrated in Figure 14-6. A topography surface derived for the 2016 Feasibility Study was utilized in this update to edit the block model by restricting estimates to its surface.

Figure 14-6: Oxide, Overburden surface and Metasediment Wireframe



Source: VGC (2019)

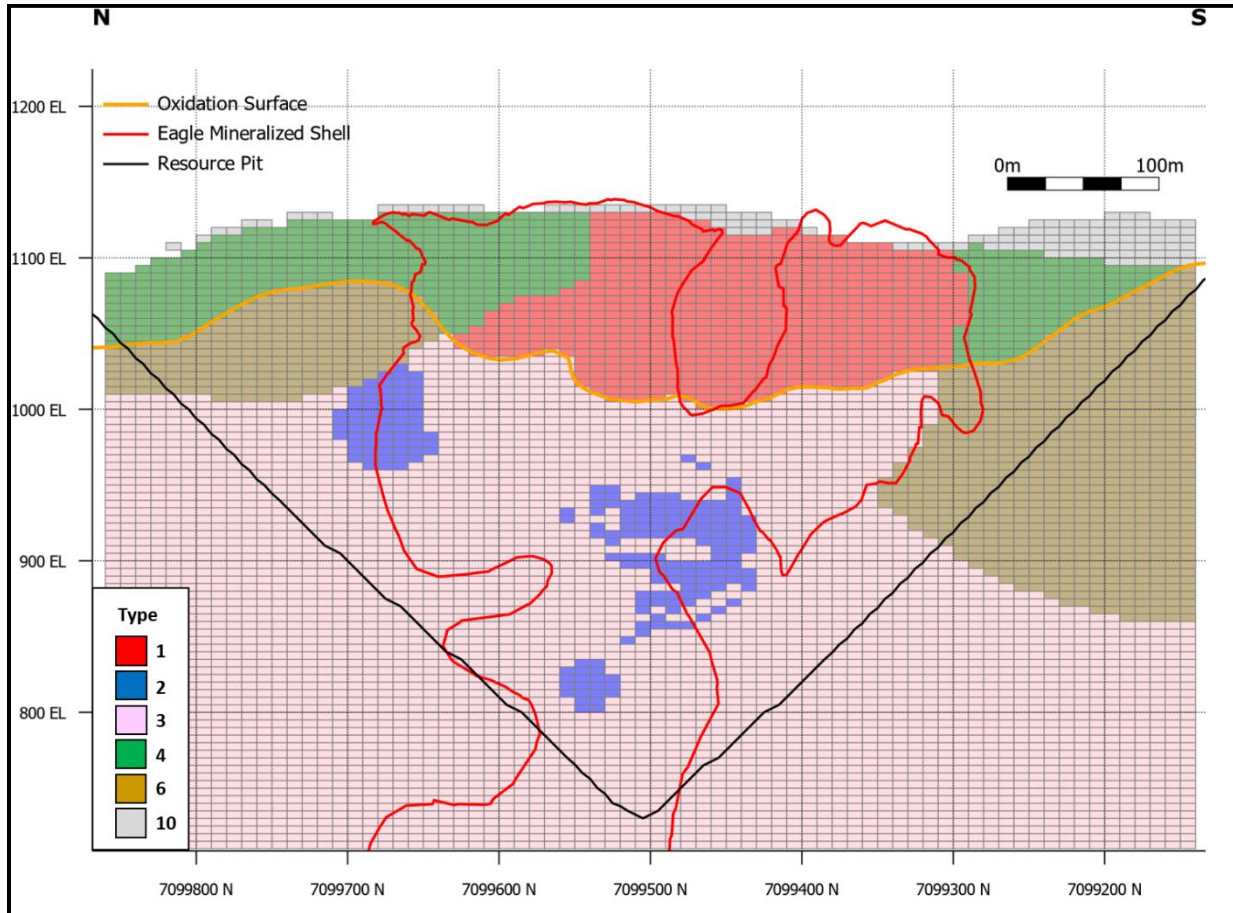
These surfaces and wireframes were imported into Vulcan to code the block model with geo-metallurgical codes, as shown in Table 14-4. Figure 14-7 shows a north to south (N-S) section view for geo-metallurgical codes used in the block model.

Table 14-4: Geo-Metallurgical Codes

Geo-Metallurgical Codes	Description
1.0	oxidized granodiorite
2.0	altered granodiorite
3.0	un-altered granodiorite
4.0	oxidized meta-sediments
6.0	un-altered meta-sediments
10.0	overburden

Source: Ginto Consulting (2019)

Figure 14-7: Different Blocks based on Lithologic/Oxidation/Alteration Model Types, Section 459,845E



Source: VGC (2019)

The lithology codes were assigned to the blocks, first by coding all blocks below the topography surface as Metasediments, then according to their position relative to the oxidation surface. Granodiorite blocks were coded next with overburden last. The type was assigned according to the following conditions and order:

- Type 1 – Oxidized Granodiorite – Granodiorite above the oxidation surface;
- Type 3 – Unaltered Granodiorite – Granodiorite below the oxidation surface and then with a sericite indicator less than or equal to 0.52;
- Type 2 – Altered Granodiorite – Granodiorite below the oxidation surface and sericite indicator greater than 0.52;
- Type 10 – Overburden – above the overburden surface;
- Type 4 – Oxidized Metasediments – within metasediment wireframe and above the oxidation surface; and
- Type 6 – Unaltered Metasediments – within metasediment wireframe and below the oxidation surface.

The sericite alteration of the granodiorite below the oxidation surface was based on the 2016 Feasibility Study, which used an indicator approach to identify altered from unaltered granodiorite.

14.1.4.1 Oxidation Surface

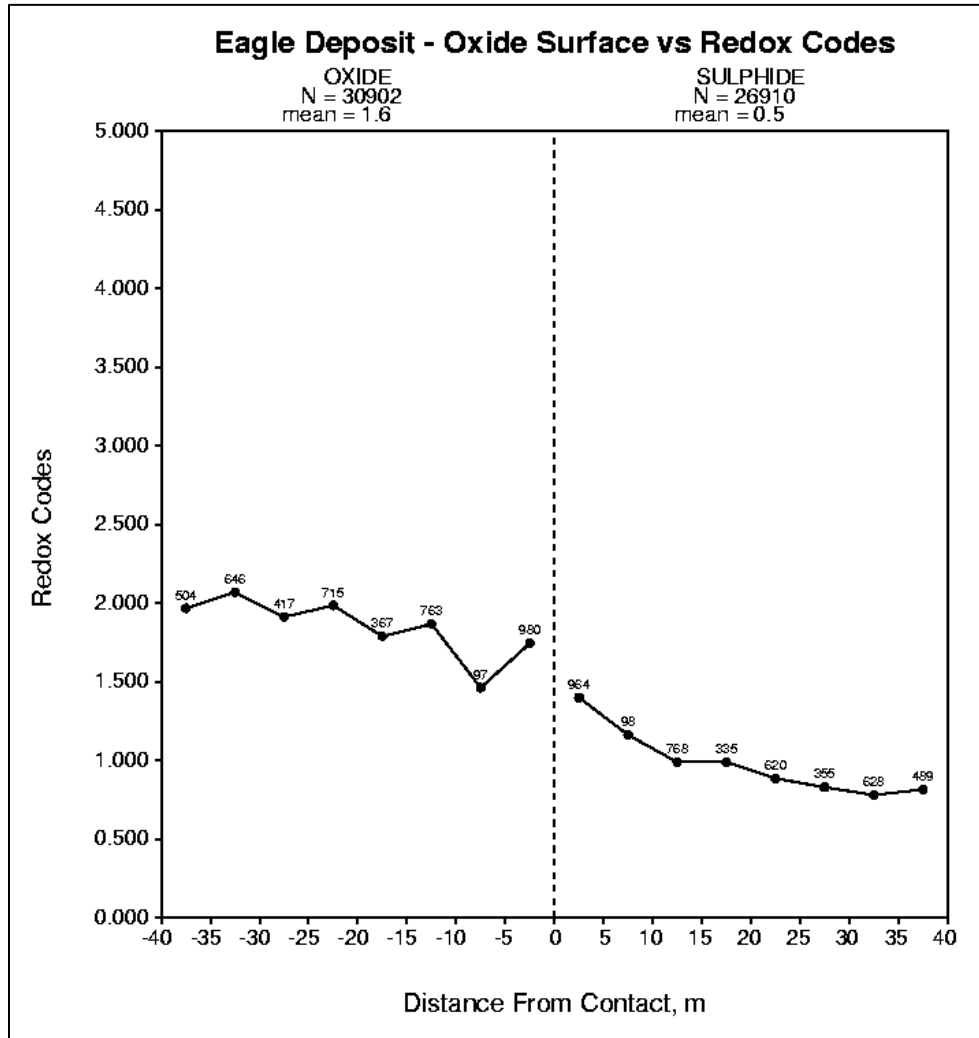
A new surface for the reduced oxidation, defining the contact between oxidized and fresh material, was developed in late 2018 by Victoria Gold and Forte Dynamics using a database of 57,813 coded intervals recorded during the core logging process. An investigative study on the redox and gold recovery data of the Eagle Zone was carried out in August 2018 by Ginto Consulting Inc. using this data as well as a database of 1,221 AuCN/Au gold recoveries, and 48 intervals of metallurgical gold recoveries.

The following metallurgical review is from the report Ginto Consulting Inc (2018). "Eagle Gold Project, Yukon Territory, Canada, Statistical Analysis of Reduced Oxidation State Data and Gold Recoveries" Prepared for Victoria Gold Corp., Effective Date of August 10, 2018.

A first exercise examined the effectiveness of the oxide/sulphide surface with regards to the redox codes from which it was modeled. The redox codes were recorded during the core logging process and represent the oxidation intensity ranging from un-oxidized (code = 0) to strongly oxidized (code = 5). The oxide surface appears to provide an adequate separation overall between the less oxidized (codes 0, 1) and the more oxidized material (codes 2, 3, 4, 5).

The review of the redox codes in the vicinity of the oxide surface (Figure 14-8) indicates a more transitional contact with a slight break close to the contact. As seen in Figure 14-8, the demarcation between fresh and oxidized material is not a sharp boundary. The difference in averages of the redox codes above (avg = 1.6) and below (avg = 0.5) the oxide surface suggests a suitable distinction overall between fresher and more oxidized material.

Figure 14-8: Logged Redox Codes Close to the Oxide Surface

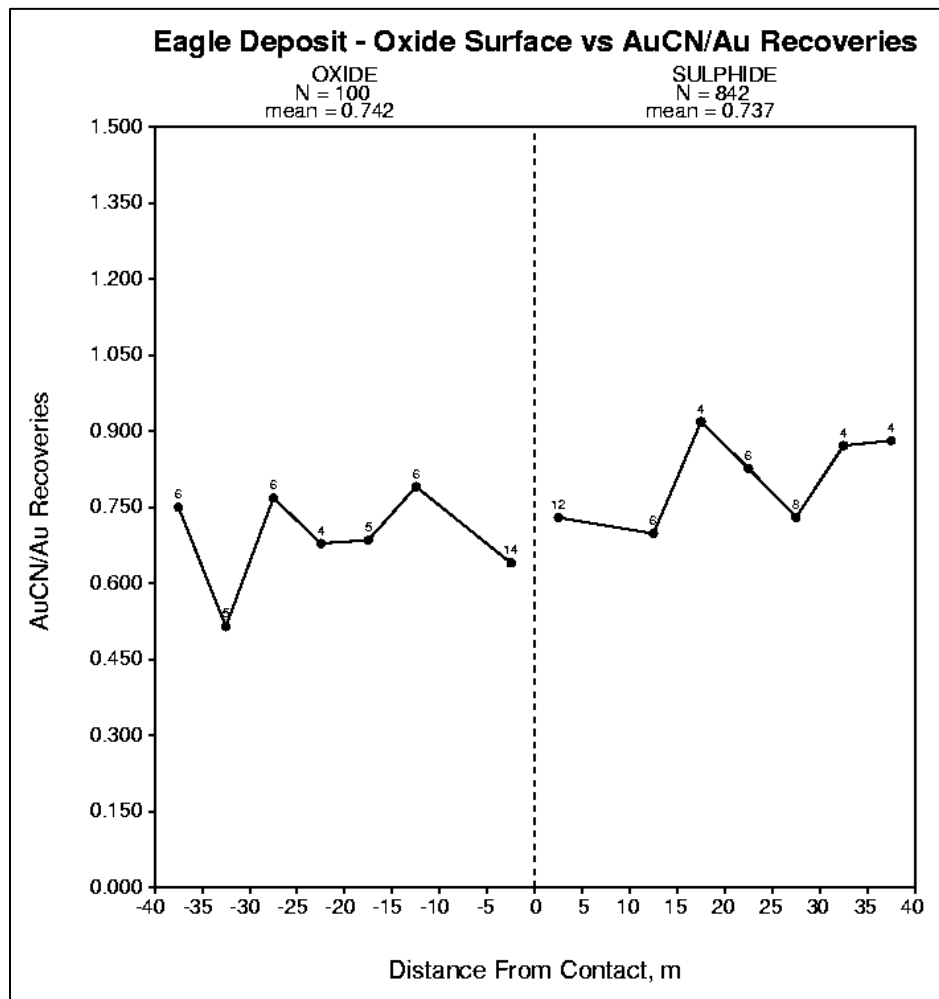


Source: Ginto Consulting (2019)

14.1.4.2 AuCN/Au Recoveries and Oxide Surface

The AuCN/Au recovery data were compared on both sides of the contact in the vicinity of the oxide/sulphide surface (Figure 14-9). As observed from this Figure, there is no sharp break in the gold recovery data near the contact and the averages of gold recovery data above and below are quite similar.

Figure 14-9: AuCN/Au Recoveries Above and Below the Oxide Surface

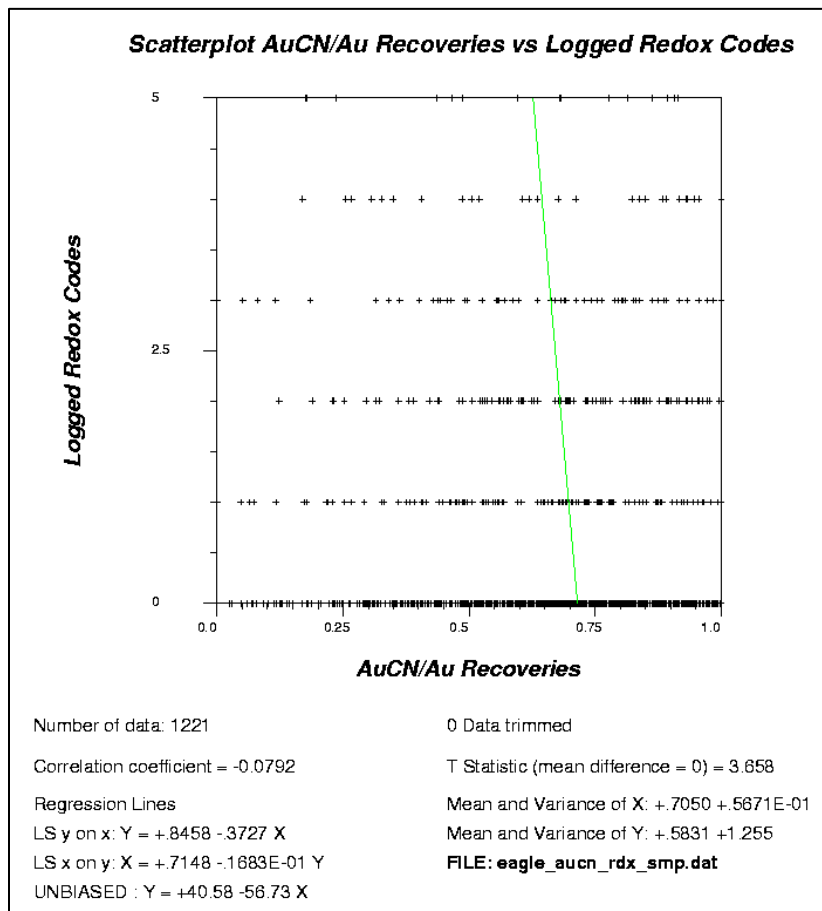


Source: Ginto Consulting (2019)

14.1.4.3 AuCN/Au Recoveries and Logged Redox Codes

In this exercise the logged redox codes were compared to the AuCN/Au recoveries to explore any possible correlation between them. There are 1,221 AuCN/Au recovery data available, 942 from the Eagle Zone deposit and 279 from the Olive Zone deposit. A first step consisted of merging the logged redox codes to the AuCN/Au recovery samples. A scatterplot of the paired data was then calculated. As seen in Figure 14-10, no correlation exists between the logged redox codes and the AuCN/Au recoveries ($p = -0.079$). If anything, there is a very slight trend showing an increase in gold recoveries with less oxidized material – contrary to the anticipated trend.

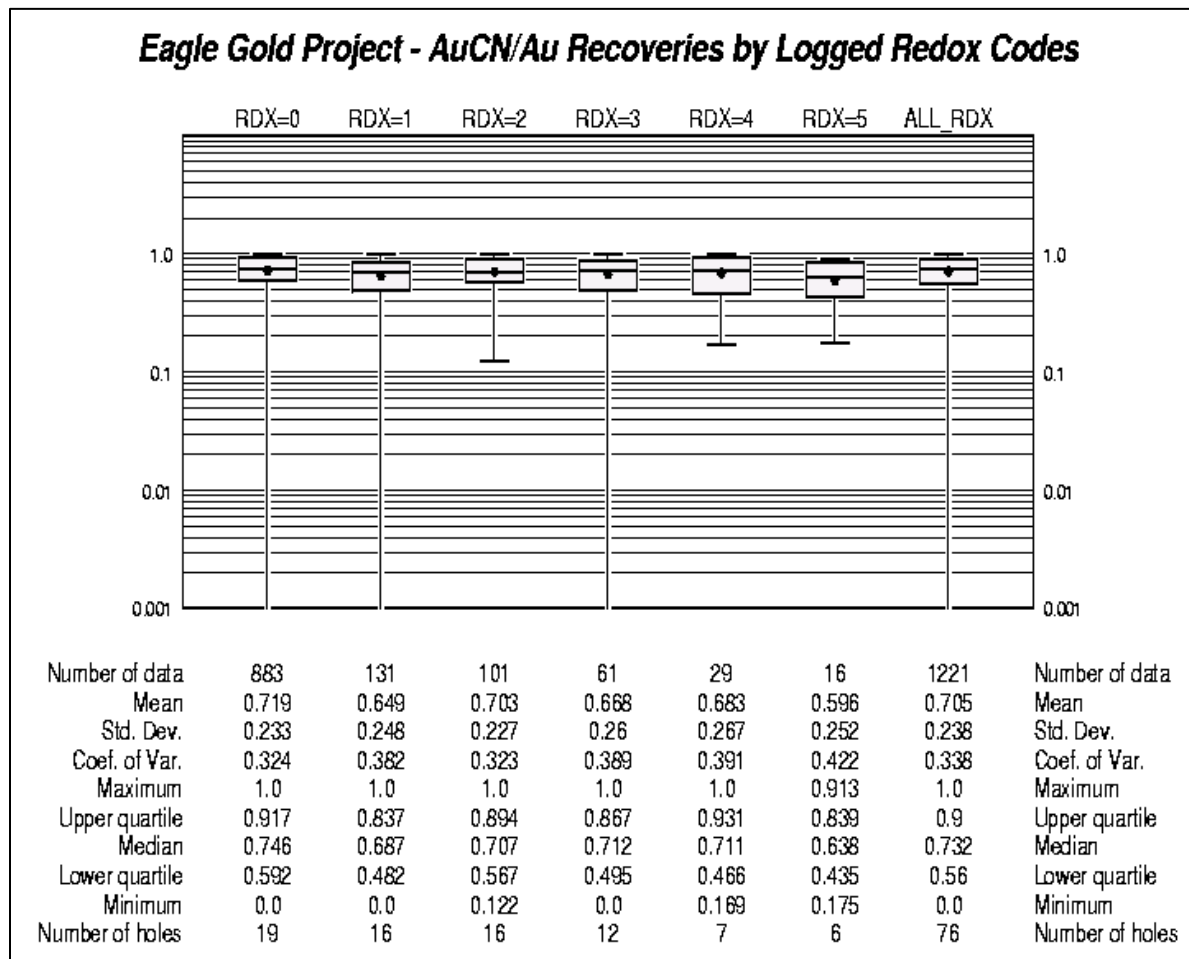
Figure 14-10: Scatterplot of Paired AuCN/Au Recoveries and Logged Redox Codes



Source: Ginto Consulting (2019)

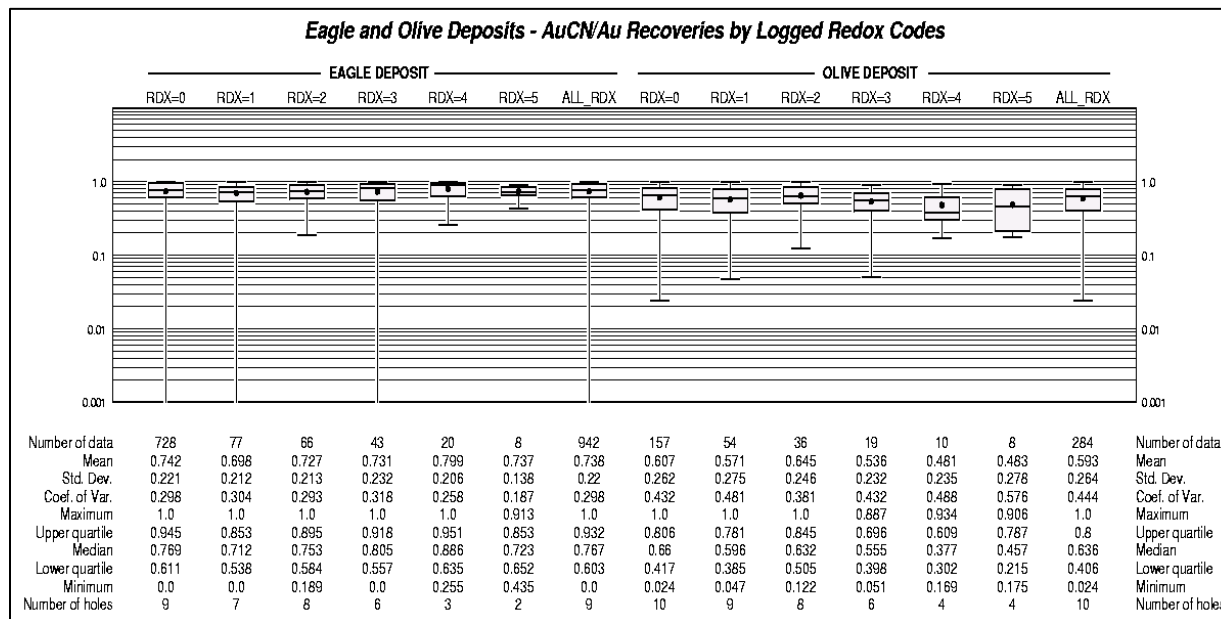
The AuCN/Au recoveries were also statistically compared for each logged redox code on the boxplots of Figure 14-11 for all gold recoveries and on the boxplots of Figure 14-12 for gold recoveries from the Eagle Zone and Olive Zone.

Figure 14-11: Boxplots of AuCN/Au Recoveries by Logged Redox Codes



Source: Ginto Consulting (2019)

Figure 14-12: Boxplots of AuCN/Au Recoveries by Logged Redox Codes – Eagle and Olive Zones



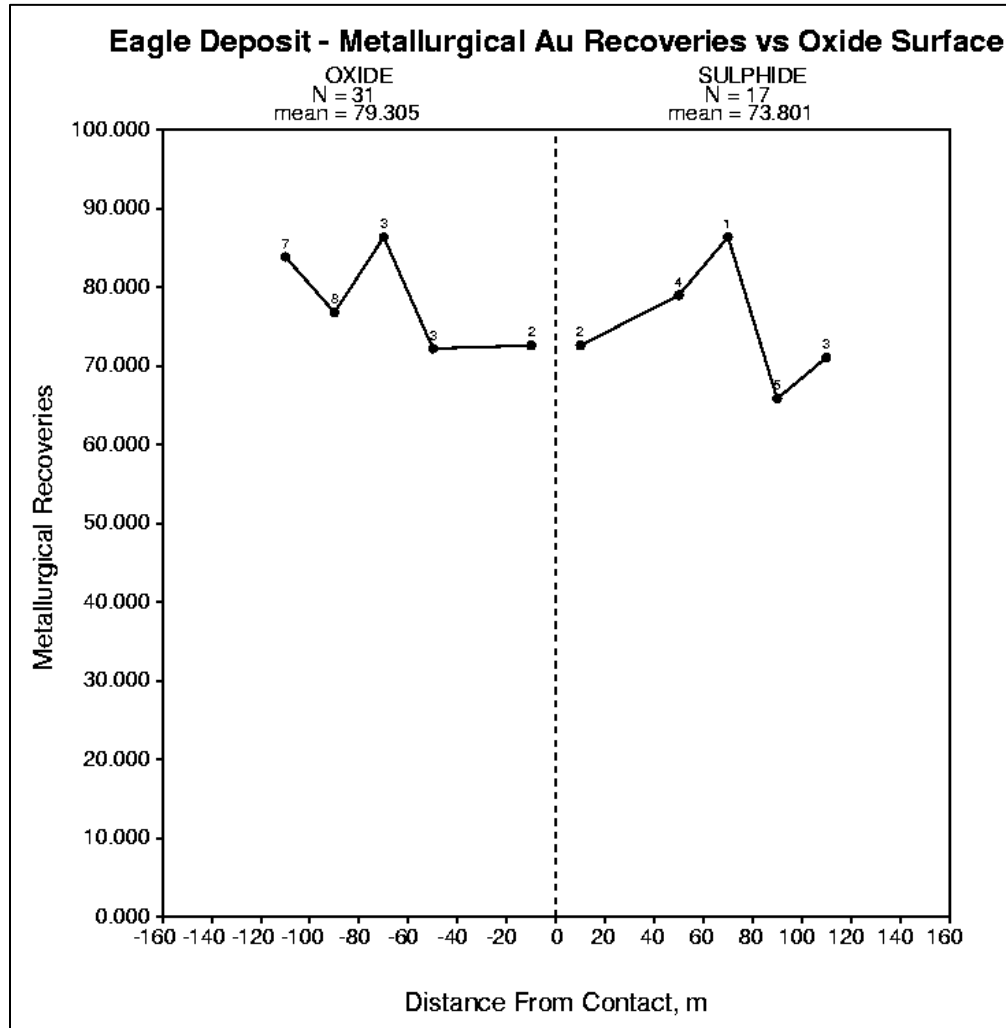
Source: Ginto Consulting (2019)

As seen in Figure 14-11 and Figure 14-12, no clear trends are observed and there are no trends noted where the AuCN/Au recoveries consistently increase with an increase in oxidation intensity. There are indications of a slight trend of increasing average AuCN/Au recoveries with increased oxidation for codes 1 to 4 of the Eagle Zone. It should be mentioned that few AuCN/Au samples are available for the logged categories greater than RDX = 0. Additional data for oxidation intensities 1 to 5 would be welcomed to provide more conclusive observations (> 100 data per intensity class). The AuCN/Au recoveries from the Olive Zone are lower than those from the Eagle Zone.

14.1.4.4 Metallurgical Recoveries and Oxide Surface

A total of 48 sample intervals with metallurgical Au recoveries were determined for the Eagle Zone. To examine these results in conjunction with the oxide surface, a contact plot was performed, where the metallurgical recoveries are compared in the vicinity of the oxide/sulphide contact (Figure 14-13).

Figure 14-13: Metallurgical Au Recoveries Close to the Oxide Surface

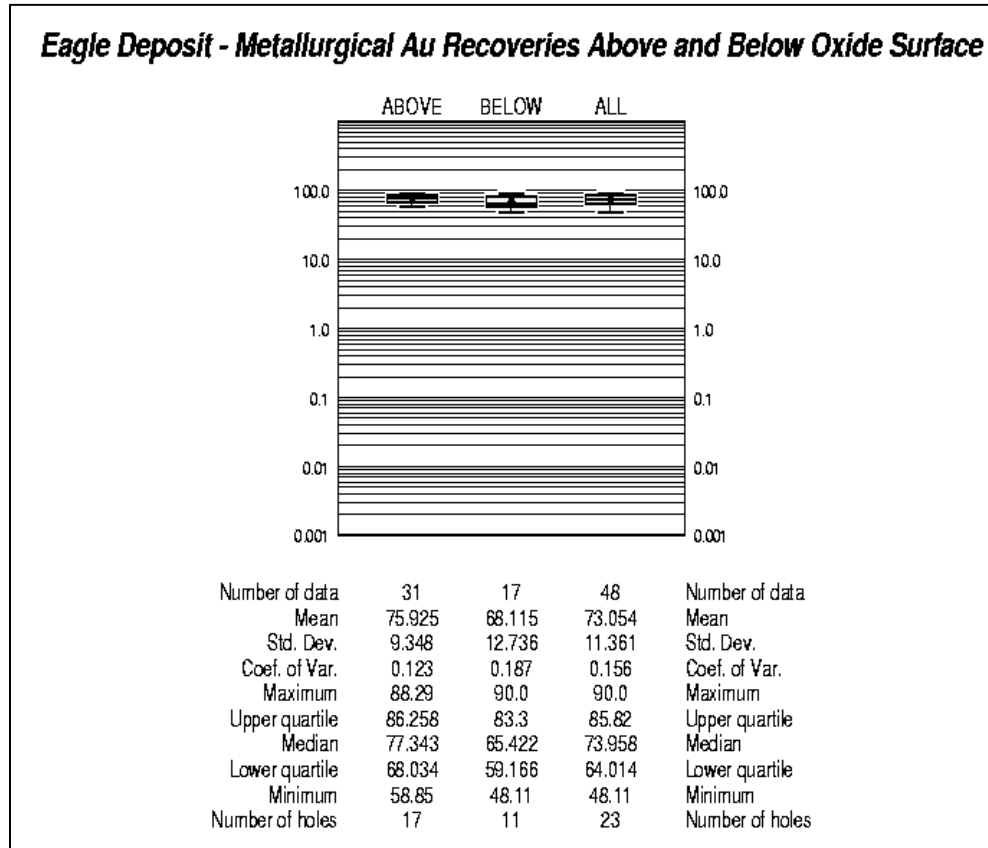


Source: Ginto Consulting (2019)

As seen in Figure 14-13, the oxide/sulphide contact is located in an area of lower Au recoveries and appears to be appropriate. However, the few metallurgical Au recovery data preclude any strong conclusions and thus should be viewed as an indication at this time.

The metallurgical Au recovery data were also statistically compared above and below the oxide / sulphide surface in the boxplots of Figure 14-14.

Figure 14-14: Boxplots of Metallurgical Au Recoveries Above and Below the Oxide Surface



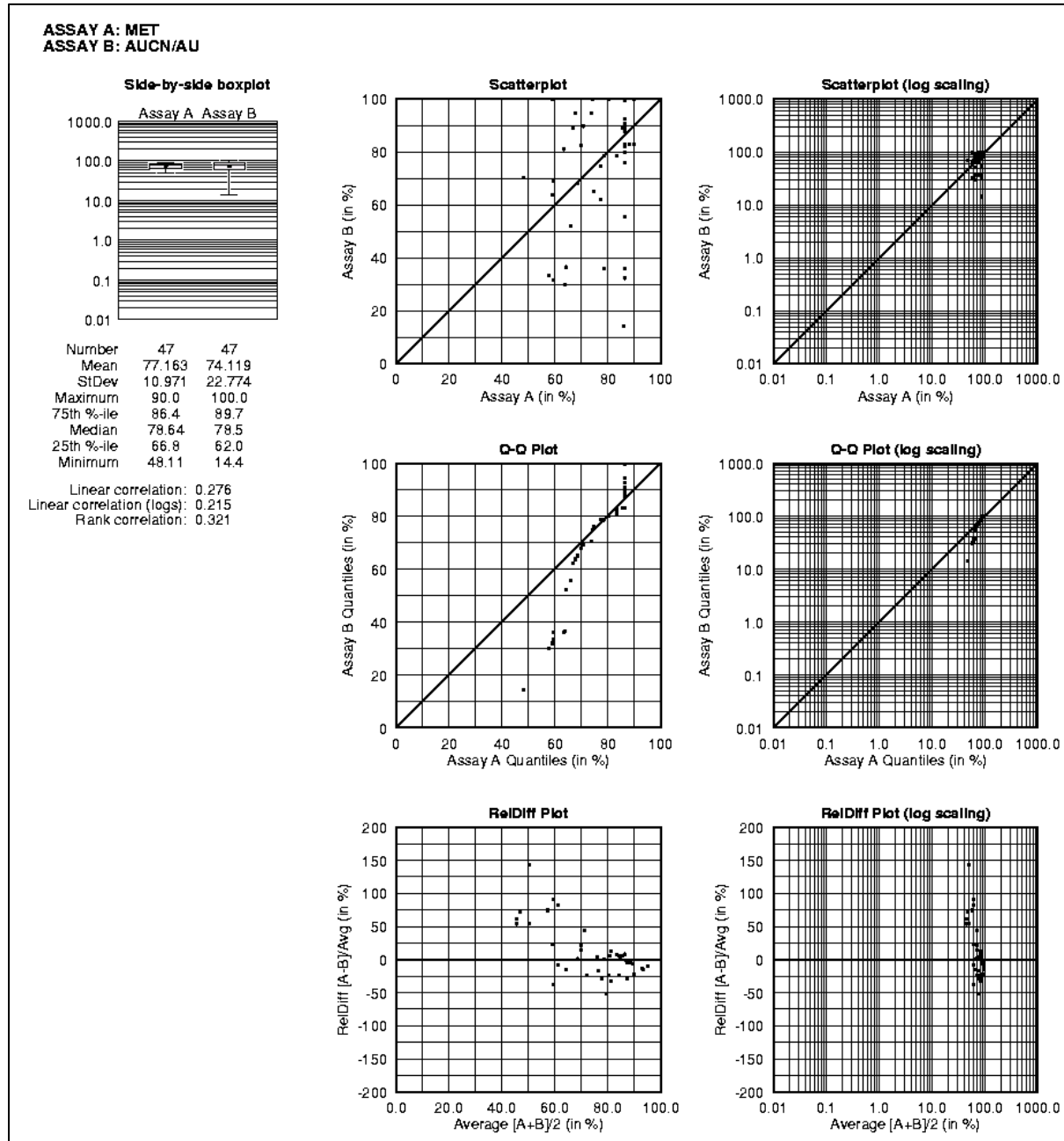
Source: Ginto Consulting (2019)

As seen in Figure 14-14 the length-weighted average is greater above the oxide surface and lesser below, indicating better gold recoveries in the oxide portion of the mineralization.

14.1.4.5 Metallurgical Recoveries and AuCN/Au Recoveries

In this exercise, the metallurgical Au recoveries were compared to the closest AuCN/Au recoveries. Thus, for each metallurgical sample, the closest AuCN/Au sample is selected by a spherical search, creating a database of paired metallurgical and nearest AuCN/Au recoveries. Results were compared from different plots as shown on Figure 14-15.

Figure 14-15: Comparative Plots of Metallurgical and Nearest AuCN/Au Recoveries

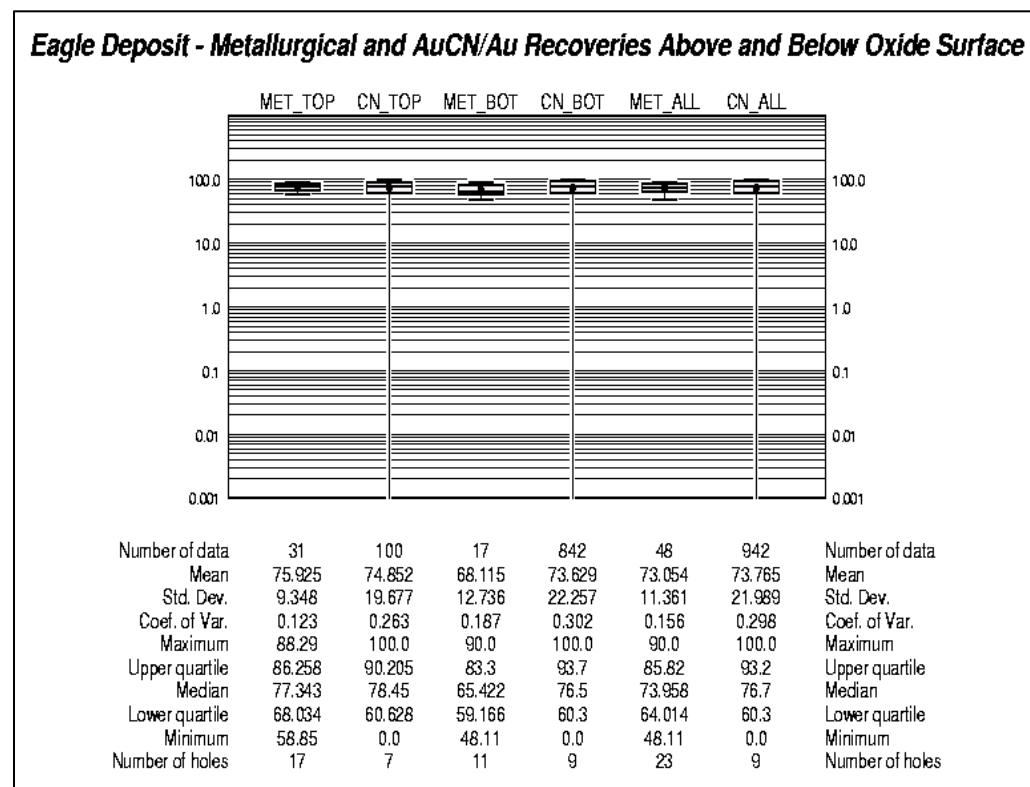


Source: Ginto Consulting (2019)

As observed in Figure 14-15, no global bias exists between the two types of gold recovery data. There is a positive correlation between them ($p = 0.276$), although weaker than anticipated. The paired recoveries are within a separation distance of 176 m, with 25 pairs within 100 m, and 6 pairs within 50 m.

Another comparison that was examined is the statistics of the metallurgical and AuCN/Au recoveries above and below the oxide/sulphide surface. Boxplots from Figure 14-16 summarize the results.

Figure 14-16: Metallurgical and AuCN/Au Recoveries Above and Below the Oxide Surface



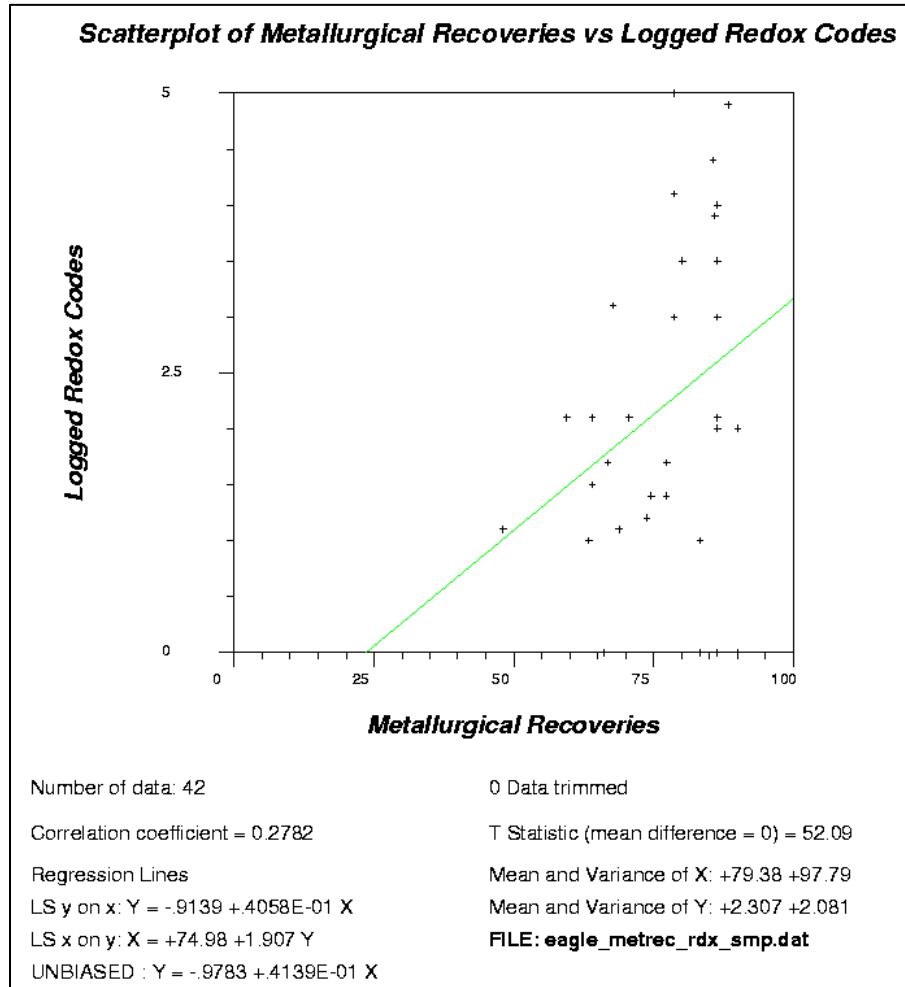
Source: Ginto Consulting (2019)

From Figure 14-16, it can be seen that the metallurgical recoveries provide a slightly better distinction between oxide and sulphide material, with higher average gold recoveries in the oxide portion and lower recoveries in the sulphide portion, when compared to the AuCN/Au recoveries. It should be noted that the averages from both types of gold recoveries are quite similar overall.

14.1.4.6 Metallurgical Recoveries and Logged Redox Codes

The gold recoveries from the metallurgical samples were paired with the corresponding logged redox codes. Due to the longer lengths of some of the metallurgical intervals, the length-weighted average of the redox codes was calculated in those instances. These two types of data were then compared in the scatterplot of Figure 14-17.

Figure 14-17: Scatterplot of Metallurgical Recoveries and Logged Redox Codes

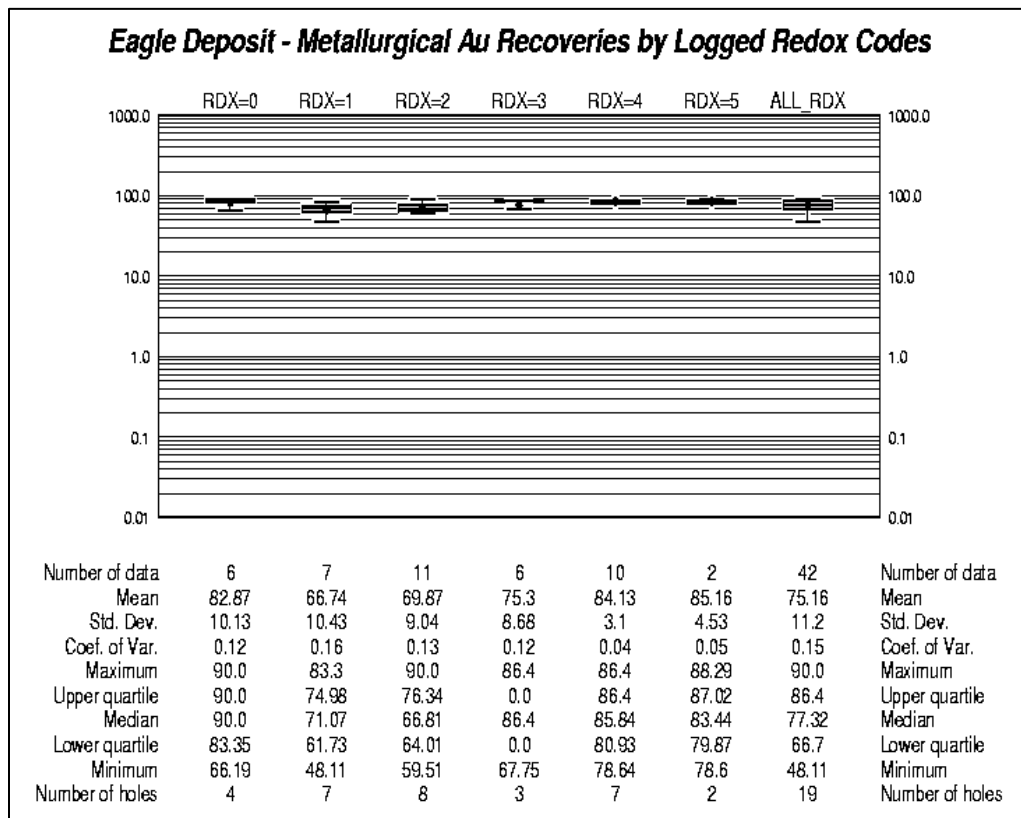


Source: Ginto Consulting (2019)

Comparative results from the scatterplot of Figure 14-17, show a positive correlation of the metallurgical recoveries with the logged redox codes, although relatively weak ($p = 0.278$).

Boxplots of metallurgical recoveries for each logged redox code were also performed (Figure 14-18).

Figure 14-18: Metallurgical Recoveries by Logged Redox Codes



Source: Ginto Consulting (2019)

From the boxplots of Figure 14-18, it can be noted that there is an indication of higher gold recovery averages with an increase of the oxidation intensity, with the exception of the fresh rock (rdx=0).

14.1.5 Block Model

The block model was truncated with a topographic surface and coded for Lithological / Oxidation / Alteration Types. Based on the metallurgical recovery, assignment for blocks was done as described in Table 14-5. Table 14-6 and Table 14-7 provide the details on the block model variables and description.

Table 14-5: Lithologic/Oxidation/Alteration Model Types

type_final	Description	metrec	recov	sg
1	oxidized granodiorite	0.79	0.83	2.62
2	altered granodiorite	0.73	0.75	2.63
3	un-altered granodiorite	0.68	0.71	2.65
4	oxidized meta-sediments	0.68	0.82	2.61
5	un-altered meta-sediments	0.68	0.71	2.69
10	overburden	n/a	n/a	2.00
	other			2.65

Source: Ginto Consulting (2019)

Table 14-6: Block Model Parameters

Parameter	Units	Value
Block Size in X	m	10
Block Size in Y	m	10
Block Size in Z	m	5
X Origin	m	458630
Y Origin	m	7098910
Z Origin	m	385
No. Of Blocks in X		257
No. Of Blocks in Y		163
No. Of Blocks in Z		224

Source: Ginto Consulting (2019)

Table 14-7: Block Model Fields

Variable	Default	Type	Description
xcentre	-	predefined	X Centre
ycentre	-	predefined	Y Centre
zcentre	-	predefined	Z Centre
au_final	-99	float	Au estimate g/t – OK
ag_final	-99	float	Ag estimate g/t - OK
adis_final	-99	float	Average sample distance (m)
class	-99	float	Classification: 1.0=measured, 2.0=indicated, 3.0=inferred
fct_1	0	float	Block fraction in Main Zone (values 0.0 to 1.0)
fct_2	0	float	Block fraction in Extension Zone (values 0.0 to 1.0)
fct_3	0	float	Block fraction in West Zone (values 0.0 to 1.0)
fct_4	0	float	Block fraction in Satellite Zones (values 0.0 to 1.0)
metrec	0	float	Metallurgical recoveries
oxide	100	float	Percent of block above oxide surface (new 2018 contact surface): 100.0=oxide, 0.0=sulphide
recov	0	float	Recovery based on “type” for pit optimization
sg_1	0	float	SG for Eagle Main, by litho/redox and block fraction
sg_2	0	float	SG for Eagle Extension, by litho/redox and block fraction
sg_3	0	float	SG for Eagle West, by litho/redox and block fraction
sg_4	0	float	SG for Eagle Satellites, by litho/redox and block fraction
sg	0	float	SG by lithology and redox for all block model. Does not account for block fractions in mineralized zones
topo	100	float	Percent of block below topo surface (2016): 0.0=air, 100.0=rock
type_final	-99	float	Type: 1-oxgr 2-algr 3-ungr 4-oxms 5-unms 10-ovb
fct_pit2016	0	float	Percent of block outside 2016 resource pit:0.0=inside pit, 100.0=outside pit

Source: Ginto Consulting (2019)

14.1.6 Variogram Analysis and Modelling

A variography study was performed on gold grade composites of the Main Eagle Zone. The objective of this analysis was to spatially establish the preferred directions of gold grade continuity. In turn, the variograms modeled along those directions would be later utilized to select and weigh the composites during the block grade interpolation process. For this exercise, all experimental variograms were of the type relative lag pairwise, which is considered robust for the assessment of gold grade continuity.

Variogram maps were first calculated to examine general gold grade continuities in the XY, XZ, and YZ planes. The next step undertaken was to compute omni-directional variograms and down-hole variograms. The omni-directional variograms are calculated without any directional restrictions and provide a good assessment of the sill of the variogram. As for the down-hole variogram, it is calculated with the composites of each hole along the trace of the hole. The objective of these calculations is to provide information about

the short scale structure of the variogram, as the composites are more closely spaced down the hole. Thus, the modeling of the nugget effect is usually better derived from the down-hole variograms.

Directional variograms were then computed to identify more specifically the three main directions of continuity. A first set of variograms were produced in the horizontal plane at increments of 10 degrees. In the same way a second set of variograms were computed at 10° increments in the vertical plane of the horizontal direction of continuity (plunge direction). A final set of variograms at 10° increments were calculated in the vertical plane perpendicular to the horizontal direction of continuity (dip direction). The final variograms were then modeled with a two-structure spherical variogram. The resulting variogram parameters are presented in Table 14-8, and the modeled variogram in Figure 14-19. For the Main Eagle Zone, it was observed that the best gold grade continuity is vertical, followed by the along strike direction.

Table 14-8: Variogram Model Parameters

Parameters	Main Eagle Zone		
	Principal	Minor	Vertical
Azimuth*	80°	170°	80°
Dip**	0°	0°	-90°
Nugget Effect C_0	0.119		
1 st Structure C_1	0.929		
2 nd Structure C_2	0.321		
1 st Range A_1	8.1m	6.0m	6.0m
2 nd Range A_2	56.4m	25.3m	74.7m

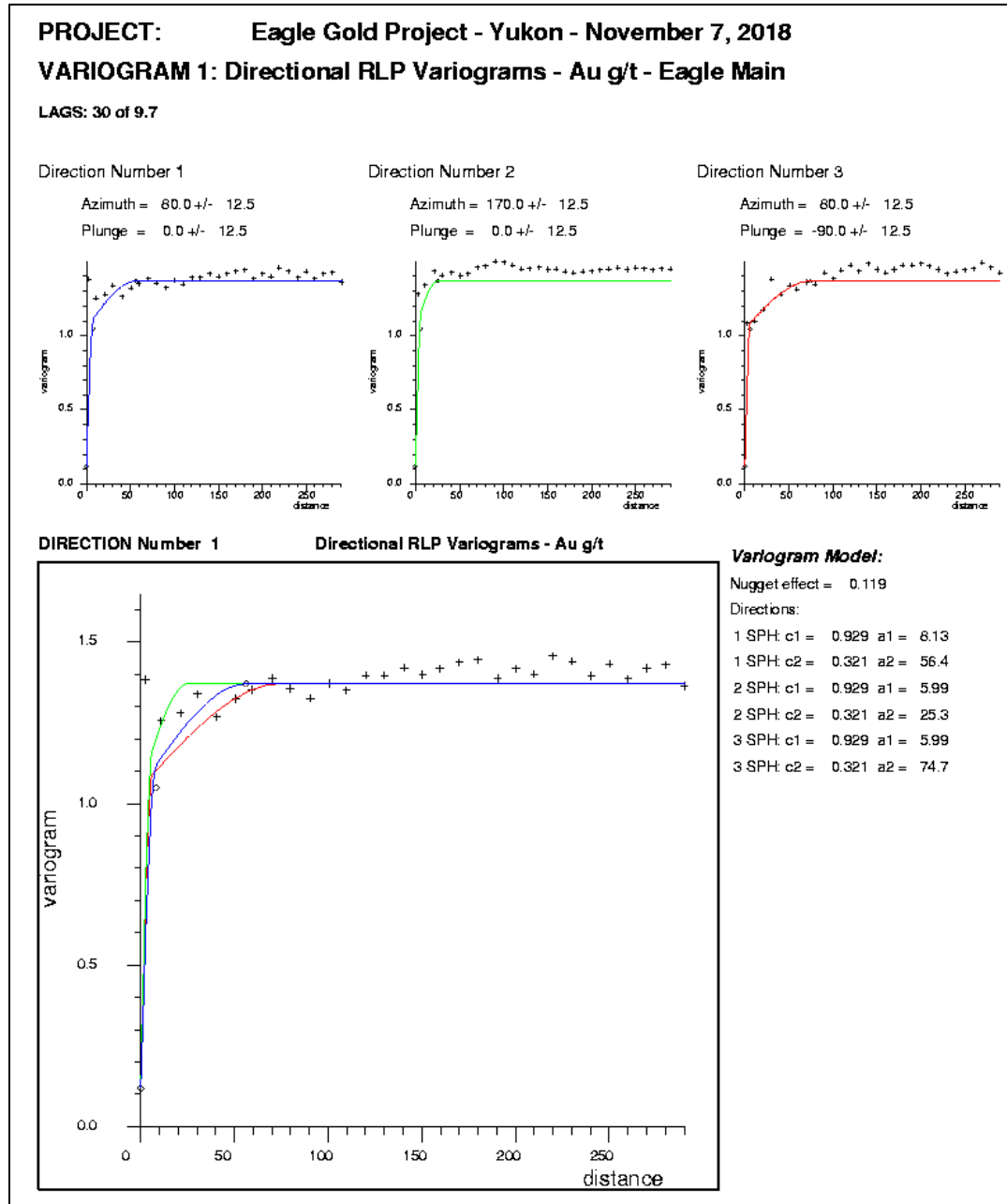
*positive clockwise from north

**negative below horizontal

Source: Ginto Consulting (2019)

This variogram model differs from the Feasibility model in a way that a three-structure spherical model was used in 2016 with different angles and ranges of continuity.

Figure 14-19: Variogram Model



Source: Ginto Consulting (2019)

14.1.7 Grade Estimation

The estimation of gold grades was performed with the ordinary kriging technique (OK) on capped composites. The block model structure consists of an orthogonal model (no rotation) with block dimensions

of 10 m (X) x 10 m (Y) x 5 m (Z). The block grid definition is presented in Table 14-9. It should be noted that the coordinates of the origin of the block model are for the edges of the first block in the model.

Table 14-9: Block Grid Definition

Coordinates	Origin (m)	Rotation (X axis azimuth)	Distance (m)	Block Size (m)	Number of Blocks
Easting (X)	458,630	90° No Rotation	2,050	10	205
Northing (Y)	7,098,910		1,630	10	163
Elevation(Z)	390		1,010	5	202
Number of Blocks		6,749,830			

Source: Ginto Consulting (2019)

A minimum of two and maximum of 12 samples were required to calculate a block estimate. The search ellipsoid was dimensioned and oriented according to the variogram models. A summary of the estimation parameters is shown in Table 14-10.

Table 14-10: Estimation Parameters for Gold

Zone	Estimation method	minimum # of samples	maximum # of samples	search ellipsoid – long axis - azimuth/dip	search ellipsoid – long axis - size	search ellipsoid – short axis - azimuth/dip	search ellipsoid – short axis - size	search ellipsoid – vertical axis - azimuth/dip	search ellipsoid – vertical axis - size
Main Eagle Zone	OK	2	12	80°/0°	56 m	170°/0°	25 m	80°/-90°	75 m

Source: Ginto Consulting (2019)

The grade estimation process consisted of a three-pass approach with the parameters of the first pass as presented in Table 14-10. The estimation parameters of the second and third passes are the same with the exception of an enlarged search ellipsoid by one and a half times and three times the dimensions from the first pass, respectively. In this case, priority was given to estimates from the first pass, followed by estimates from the second pass for un-estimated blocks from the first pass, and finally the estimates of the third pass for un-estimated blocks from the first and second passes. This ensured that all areas of the mineralized zones were estimated, although a high percentage of blocks were estimated in the first pass: 93% for the Main Eagle Zone. Only blocks within the modeled mineralized zone were estimated.

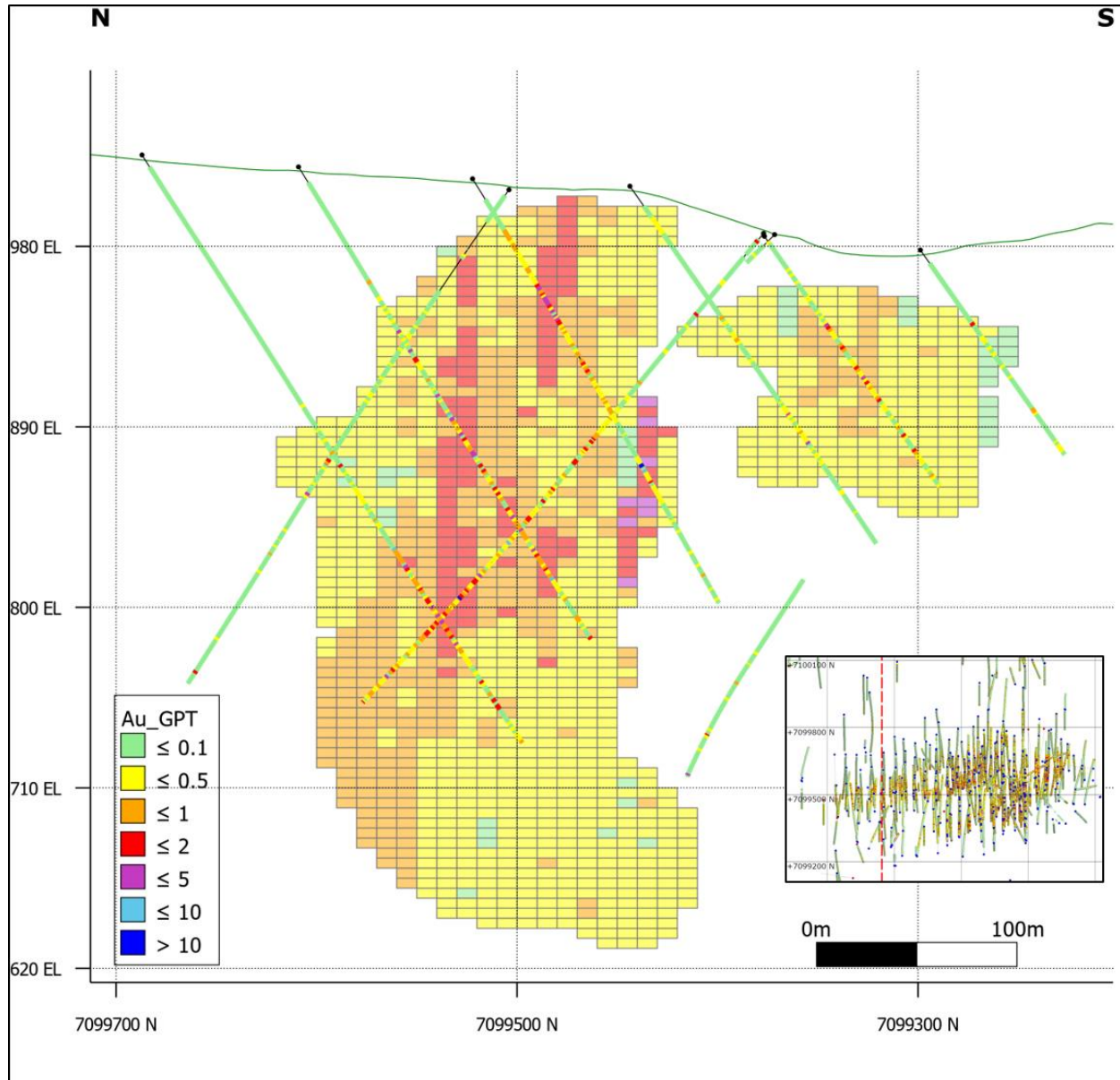
14.1.8 Validation of Gold Grade Estimates

Validation tests were carried out on the estimates to examine the possible presence of a bias and to quantify the level of smoothing/variability.

14.1.8.1 Visual Inspection

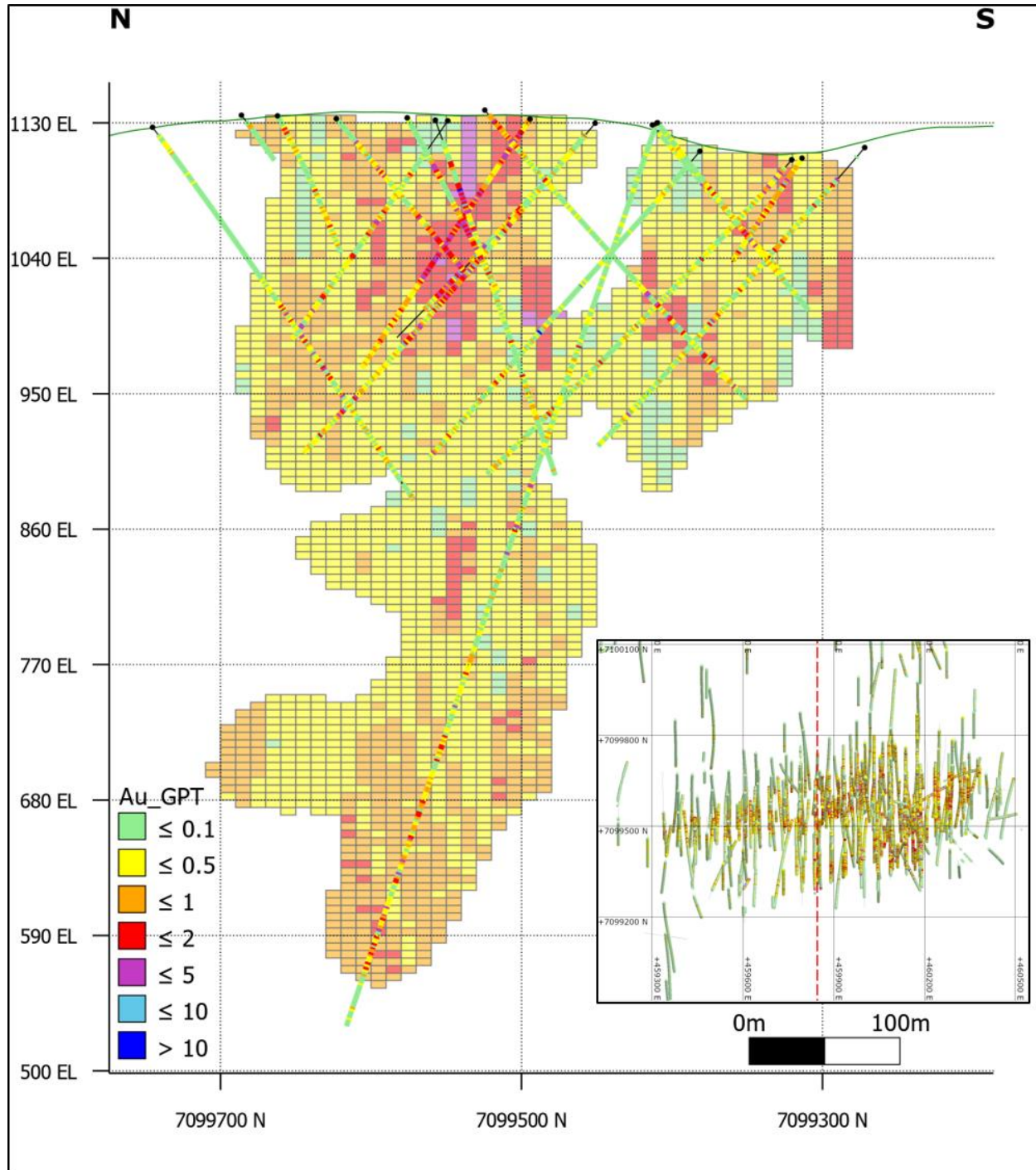
A visual inspection of the block estimates with the drill hole grades on plans and cross-sections was performed as a first check of the estimates. Observations from stepping through the estimates along the different planes indicated that there was overall a good agreement between the drill hole grades and the estimates. The orientations of the estimated grades were also according to the projection angles defined by the search ellipsoid. Examples of cross-sections for gold grade estimates of the Main Eagle Zone deposit are presented in Figure 14-20, Figure 14-21 and Figure 14-22.

Figure 14-20: Section 459,545E Looking East



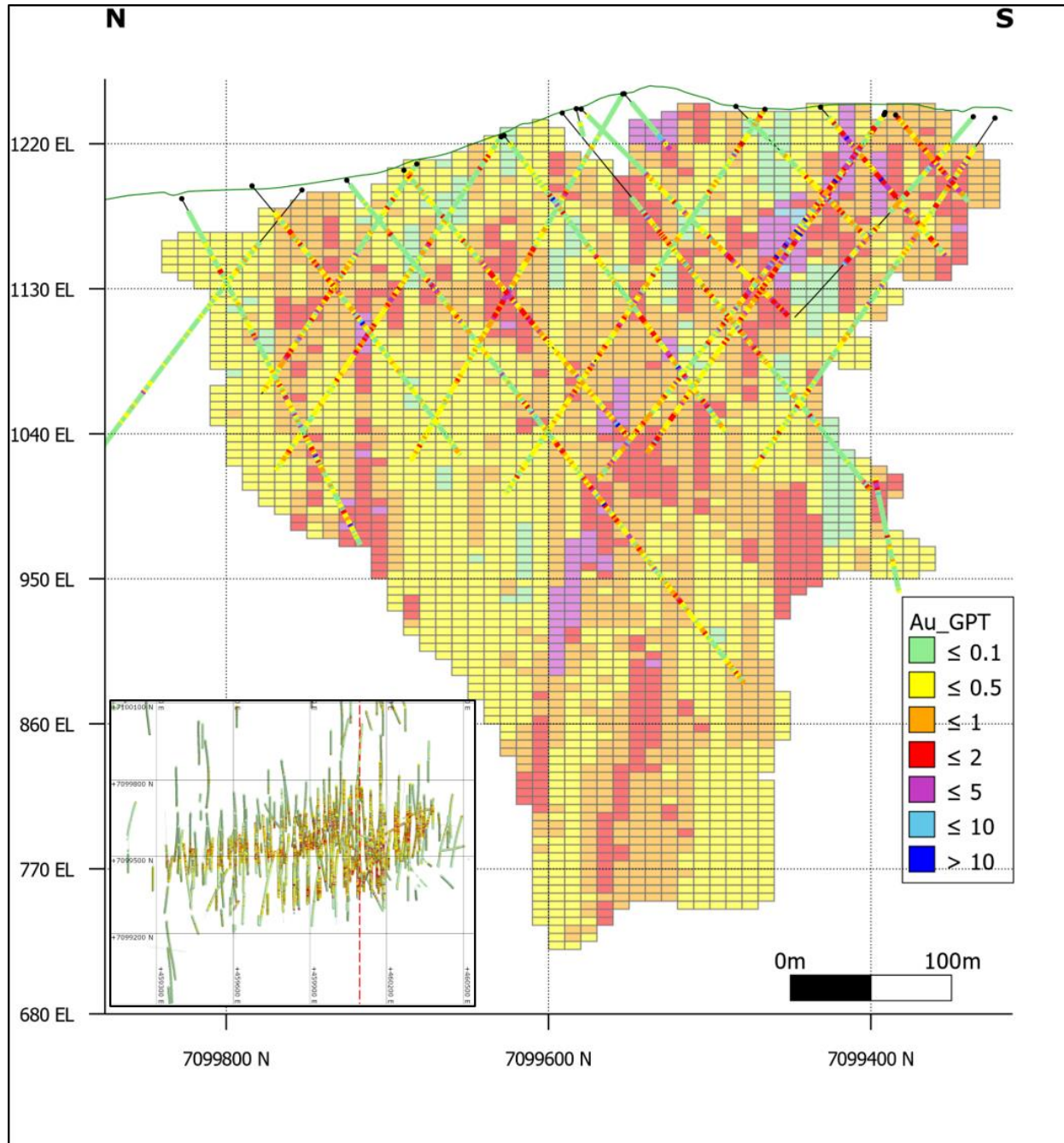
Source: VGC (2019)

Figure 14-21: Section 459,845E Looking East



Source: VGC (2019)

Figure 14-22: Section 460,095E Looking East



Source: VGC (2019)

14.1.8.2 Global Bias Test

The comparison of the average gold grades from the declustered composites and the estimated block grades examines the possibility of a global bias of the estimates. As a guideline, a difference between the average gold grades of more than $\pm 10\%$ would indicate a significant over- or under-estimation of the block grades and the possible presence of a bias. It would be a sign of difficulties encountered in the estimation process and would require further investigation. A polygonal declustered method with a bounding solid corresponding to the estimated volume was utilized for this exercise.

Results of the average gold grade comparison are presented in Table 14-11 for the Main Eagle Zone.

Table 14-11: Average Gold Grade Comparison – Polygonal-Declustered Composites with Block Estimates

Statistics	Declustered Composites	Block Estimates
Average Gold Grade g/t	0.557	0.561
Difference	0.7%	

Source: Ginto Consulting (2019)

As seen in Table 14-11, the average gold grades between the declustered composites and the block estimates are well within the limits of the tolerance levels of acceptability. It can thus be concluded that no significant global bias is present in the gold grade estimates.

14.1.8.3 Local Bias Test

A comparison of the grade from composites within a block with the estimated grade of that block provides an assessment of the estimation process close to measured data. Pairing of these grades on a scatterplot gives a statistical valuation of the estimates. It is anticipated that the estimated block grades should be similar to the composited grades within the block, however without being of exactly the same value. Thus, a high correlation coefficient will indicate satisfactory results in the interpolation process, while a medium to low correlation coefficient will be indicative of larger differences in the estimates and would suggest a further review of the interpolation process. Results from the pairing of composited and estimated grades within blocks pierced by a drill hole are presented in Table 14-12 for the Main Eagle Zone.

Table 14-12: Gold Au Comparison for Blocks Pierced by a Drill Hole – Paired Composite Grades with Block Grade Estimates

Data	Average Gold Grade g/t	Correlation Coefficient
Composites	0.659	0.759
Block Estimates	0.667	
Difference	1.2%	

Source: Ginto Consulting (2019)

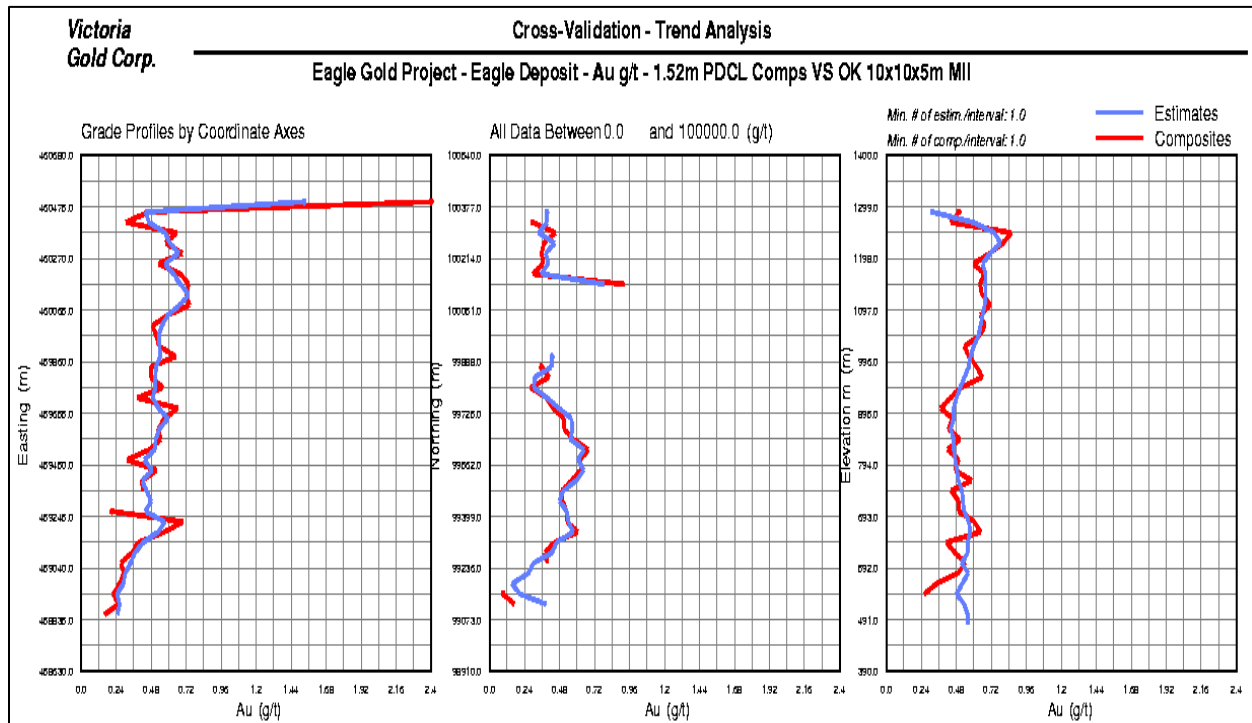
As seen in Table 14-12 for gold, the block grade estimates are very similar to the composite grades within blocks pierced by a drill hole, with high correlation coefficients, indicating satisfactory results from the estimation process.

14.1.8.4 Grade Profile Reproducibility

The comparison of the grade profiles of the declustered composites with that of the estimates allows for a visual verification of an over- or under-estimation of the block estimates at the global and local scales. A qualitative assessment of the smoothing/variability of the estimates can also be observed from the plots. The output consists of three graphs displaying the average grade according to each of the coordinate axes (east, north, elevation). The ideal result is a grade profile from the estimates that follows that of the declustered composites along the three coordinate axes, in a way that the estimates have lower high-grade peaks than the composites, and higher low-grade peaks than the composites. A smoother grade profile for the estimates, from low to high grade areas, is also anticipated in order to reflect that these grades represent larger volumes than the composites.

Gold grade profiles are presented in Figure 14-23 for the Main Eagle Zone.

Figure 14-23: Gold Grade Profiles of Declustered Composites and Block Estimates



Source: Ginto Consulting (2019)

From the plots of Figure 14-23, it can be seen that the grade profiles of the declustered composites are well reproduced by those of the block estimates and consequently that no global or local bias is observed. As anticipated, some smoothing of the block estimates can be seen in the profiles, where estimated grades are higher in lower grade areas and lower in higher grade areas.

14.1.8.5 Level of Smoothing/Variability

The level of smoothing/variability of the estimates can be measured by comparing a theoretical distribution of block grades with that of the actual estimates. The theoretical distribution of block grades is derived from

that of the declustered composites, where a change of support algorithm is utilized for the transformation (Indirect Lognormal Correction). In this case, the variance of the composites' grade population is corrected (reduced) with the help of the variogram model, to reflect a distribution of block grades (10m x 10m x 5m). The comparison of the coefficient of variation (CV) of this population with that of the actual block estimates provides a measure of smoothing. Ideally a lower CV from the estimates by 5 to 20% is targeted as a proper amount of smoothing. This smoothing of the estimates is desired as it allows for the following factors: the imperfect selection of ore blocks at the mining stage (misclassification), the block grades relate to much larger volumes than the volume of core (support effect), and the block grades are not perfectly known (information effect). A CV lower than 5 to 20% for the estimates would indicate a larger amount of smoothing, while a higher CV would represent a larger amount of variability. Too much smoothing would be characterized by grade estimates around the average grade, where too much variability would be represented by estimates with abrupt changes between lower and higher-grade areas.

Results of the level of smoothing/variability analysis are presented in Table 14-13 for the gold grade estimates. As observed in this Table, the CVs of the gold estimates are within the targeted range of acceptability. It is thus concluded that the amount of smoothing of the block grade estimates is of an adequate level.

Table 14-13: Level of Smoothing/Variability of Gold Estimates

CV – Theoretical Block Grade Distribution	CV – Actual Block Grade Distribution	Difference
0.920	0.841	-8.7%

Source: Ginto Consulting (2019)

14.1.9 Resource Classification

The 2019 Mineral Resource was classified as measured, indicated, and inferred based on the variogram ranges of the second structure. The average distance of samples from the block center was utilized as the classification criterion. Measured, indicated, and inferred resources were assigned to the estimates of the Main Eagle Zone. The distances to categorize the resources into the different classes are provided in Table 14-14.

Table 14-14: Classification Distances

Mineralized Zone	Measured	Indicated	Inferred
Main Eagle Zone	≤ 17.0 m	> 17.0 m and ≤ 52.0 m	> 52.0 m

Source: Ginto Consulting (2019)

14.1.9.1 Editing of the Block Model

The block model was edited to the topography surface, where the block percentage below the topography surface was stored into a variable. All estimates above topography were removed from the resource calculations.

14.1.9.2 Mineral Resource Calculations

14.1.9.2.1 Bulk Density

The mineral resource was calculated for 10 m (X) x 10 m (Y) x 5 m (Z) blocks with specific gravity (SG) values based on lithology, alteration, and reduced oxidation state. Table 14-15 presents the different SG values utilized for the resource's tonnage calculation.

Table 14-15: Specific Gravity

Lithology/Alteration/Redox	Specific Gravity
1- oxidized granodiorite	2.62
2- fresh granodiorite	2.65
3- altered granodiorite	2.63
4- oxidized meta-sediments	2.61
5- fresh meta-sediments	2.69
10- overburden	2.00

Source: Ginto Consulting (2019)

These SG values were derived for the Feasibility Study and were utilized in the tonnage calculations for this resource update.

As detailed in Section 12.1.2 (Table 12-1), 1,210 samples analyzed by ALS Chemex and in-house by Victoria Gold for bulk density were checked with 300 determinations by SGS labs. The mean values by rock type, using all data determinations, were used for the resource estimation.

14.1.9.2.2 Mineral Resource Constraint

With the objective to satisfy the NI 43-101 requirement of reporting a mineral resource that provides "reasonable prospects for economic extraction", a pit shell was optimized to constrain the mineral resources. A summary of the resource pit constraining parameters is shown in Table 14-16. The constraining pit shell optimized with the Lerchs-Grossman algorithm is shown in Figure 14-24 for the Eagle Zone.

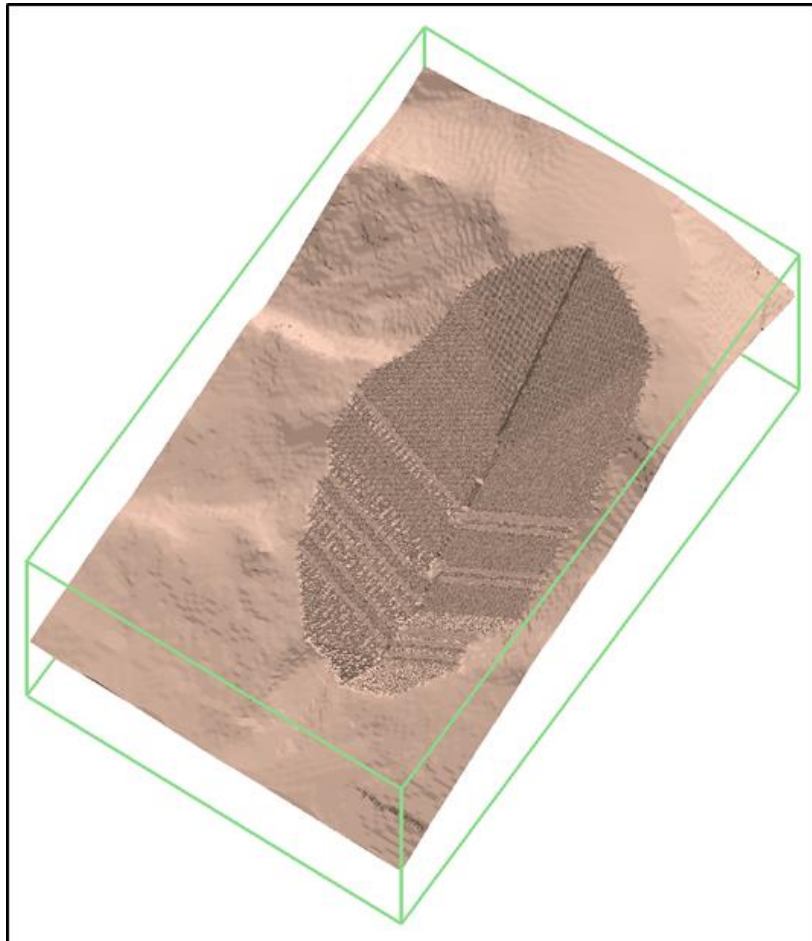
Table 14-16: Mine Resource Constraining Parameters

Parameters*	Open Pit
Gold Price	\$1,700/oz
Mining Cost	\$1.50/t
Processing + G&A Costs	\$4.50/t
G&A Cost	\$2.50/t
Heap Leach Recoveries	Between 71% to 82%
Pit Slopes	45°

*All dollar amounts in US\$

Source: Ginto Consulting (2019)

Figure 14-24: Mineral Resource Open Pit Shell – Perspective View Looking Northeast



Source: Ginto Consulting (2019)

The 2019 pit constrained mineral resources for the Eagle Zone are presented in Table 14-17.

Table 14-17: Pit Constrained Mineral Resources* at a 0.15 g/t Au Cut-Off

Zone	Measured			Indicated		
	Tonnage tonnes	Avg Au Grade g/t	Content oz	Tonnage tonnes	Avg Au Grade g/t	Content oz
Main Eagle Zone	37,357,065	0.708	850,349	179,976,417	0.613	3,547,048
Zone	Measured + Indicated			Inferred		
	Tonnage tonnes	Avg Au Grade g/t	Content oz	Tonnage tonnes	Avg Au Grade g/t	Content oz
Main Eagle Zone	217,333,482	0.629	4,397,397	21,476,534	0.523	361,124

*The mineral resources of the Eagle Zone do not account for mining depletion. Up to the effective date of the mineral resources, 2.44M t at 0.82 g/t Au containing 64,500 ounces of gold were mined.

*Using the 2019 Resource Pit Shell – Effective November 15, 2019

Source: Ginto Consulting (2019)

The mineral resources at various gold grade cut-offs are presented in Table 14-18, Table 14-19, Table 14-20 and Table 14-21 for Measured, Indicated, Measured + Indicated, and Inferred resources, respectively. Grade-tonnage curves for the Measured + Indicated resources are shown in Figure 14-25.

Table 14-18: Pit Constrained Measured Mineral Resources* at various Au Cut-Off Grades

Au Cut-Off (g/t)	Tonnage (tonnes)	Avg Au Grade (g/t)	Au Content (oz)
0.05	39,462,473	0.677	858,942
0.10	38,883,827	0.686	857,599
0.15	37,357,065	0.708	850,349
0.20	34,806,741	0.747	835,940
0.25	31,980,366	0.793	815,357
0.30	29,340,993	0.840	792,401
0.35	26,772,087	0.890	766,061
0.40	24,367,721	0.940	736,434
0.45	22,092,190	0.994	706,019
0.50	20,027,095	1.047	674,149
0.55	18,206,931	1.099	643,318
0.60	16,435,563	1.156	610,848
0.65	14,887,493	1.211	579,638
0.70	13,469,410	1.267	548,676
0.75	12,189,726	1.325	519,279
0.80	11,114,738	1.378	492,424
0.85	10,112,251	1.432	465,567
0.90	9,181,601	1.489	439,546
0.95	8,335,188	1.546	414,301

Au Cut-Off (g/t)	Tonnage (tonnes)	Avg Au Grade (g/t)	Au Content (oz)
1.00	7,613,274	1.600	391,636

*The mineral resources of the Eagle Zone do not account for mining depletion. Up to the effective date of the mineral resources, 2.44M t at 0.82 g/t Au for 64,500 ounces of gold were mined.

*Using the 2019 Resource Pit Shell – Effective November 15, 2019

Source: Ginto Consulting (2019)

Table 14-19: Pit Constrained Indicated Mineral Resources* at various Au Cut-Off Grades

Au Cut-Off (g/t)	Tonnage (tonnes)	Avg Au Grade (g/t)	Au Content (oz)
0.05	190,639,944	0.585	3,585,591
0.10	188,022,642	0.592	3,578,680
0.15	179,976,417	0.613	3,547,048
0.20	165,669,771	0.650	3,462,164
0.25	148,942,956	0.698	3,342,461
0.30	134,038,665	0.745	3,210,534
0.35	118,898,024	0.799	3,054,305
0.40	105,357,317	0.853	2,889,380
0.45	93,792,932	0.906	2,732,054
0.50	83,070,436	0.962	2,569,287
0.55	73,852,728	1.016	2,412,411
0.60	65,296,198	1.074	2,254,671
0.65	56,679,119	1.142	2,081,039
0.70	50,426,373	1.200	1,945,494
0.75	45,017,318	1.257	1,819,306
0.80	40,289,707	1.314	1,702,082
0.85	36,090,250	1.371	1,590,810
0.90	32,373,672	1.428	1,486,316
0.95	28,967,269	1.487	1,384,872
1.00	25,948,565	1.546	1,289,775

*The mineral resources of the Eagle Zone do not account for mining depletion. Up to the effective date of the mineral resources, 2.44M t at 0.82 g/t Au for 64,500 ounces of gold were mined.

*Using the 2019 Resource Pit Shell – Effective November 15, 2019

Source: Ginto Consulting (2019)

Table 14-20: Pit Constrained M+I Mineral Resources* at various Au Cut-Off Grades

Au Cut-Off (g/t)	Tonnage (tonnes)	Avg Au Grade (g/t)	Au Content (oz)
0.05	230,102,417	0.601	4,444,533
0.10	226,906,469	0.608	4,436,278
0.15	217,333,482	0.629	4,397,396

Au Cut-Off (g/t)	Tonnage (tonnes)	Avg Au Grade (g/t)	Au Content (oz)
0.20	200,476,512	0.667	4,298,103
0.25	180,923,322	0.715	4,157,818
0.30	163,379,658	0.762	4,002,936
0.35	145,670,111	0.815	3,820,366
0.40	129,725,038	0.869	3,625,814
0.45	115,885,122	0.923	3,438,073
0.50	103,097,531	0.978	3,243,435
0.55	92,059,659	1.033	3,055,728
0.60	81,731,761	1.090	2,865,519
0.65	71,566,612	1.156	2,660,677
0.70	63,895,783	1.214	2,494,170
0.75	57,207,044	1.272	2,338,586
0.80	51,404,445	1.328	2,194,506
0.85	46,202,501	1.384	2,056,377
0.90	41,555,273	1.441	1,925,862
0.95	37,302,457	1.500	1,799,172
1.00	33,561,839	1.559	1,681,410

*The mineral resources of the Eagle Zone do not account for mining depletion. Up to the effective date of the mineral resources, 2.44M t at 0.82 g/t Au for 64,500 ounces of gold were mined.

*Using the 2019 Resource Pit Shell – Effective November 15, 2019

Source: Ginto Consulting (2019)

Table 14-21: Pit Constrained Inferred Mineral Resources* at various Au Cut-Off Grades

Au Cut-Off (g/t)	Tonnage (tonnes)	Avg Au Grade (g/t)	Au Content (oz)
0.05	23,169,588	0.493	367,245
0.10	22,584,100	0.503	365,226
0.15	21,476,534	0.523	361,124
0.20	19,617,975	0.555	350,056
0.25	17,338,474	0.599	333,909
0.30	15,292,366	0.642	315,646
0.35	13,303,849	0.69	295,133
0.40	11,476,581	0.74	273,046
0.45	9,870,951	0.791	251,030
0.50	8,507,651	0.842	230,310
0.55	7,263,923	0.896	209,252
0.60	6,020,792	0.963	186,411
0.65	4,611,191	1.066	158,038

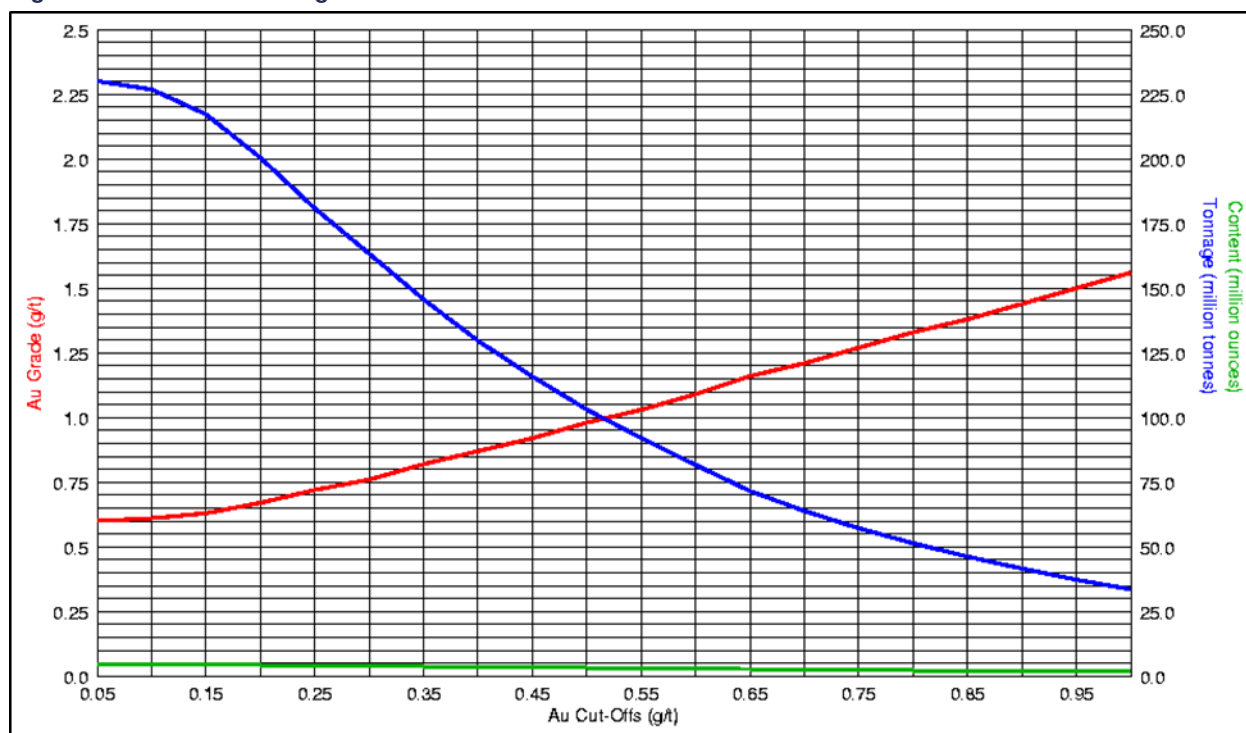
Au Cut-Off (g/t)	Tonnage (tonnes)	Avg Au Grade (g/t)	Au Content (oz)
0.70	3,953,608	1.131	143,763
0.75	3,328,585	1.207	129,169
0.80	2,857,849	1.278	117,425
0.85	2,464,337	1.351	107,040
0.90	2,188,573	1.411	99,284
0.95	1,765,704	1.527	86,686
1.00	1,562,401	1.599	80,322

*The mineral resources of the Eagle Zone do not account for mining depletion. Up to the effective date of the mineral resources, 2.44M t at 0.82 g/t Au for 64,500 ounces of gold were mined.

*Using the 2019 Resource Pit Shell – Effective November 15, 2019

Source: Ginto Consulting (2019)

Figure 14-25: Grade-Tonnage Curves of M+I Gold Mineral Resources



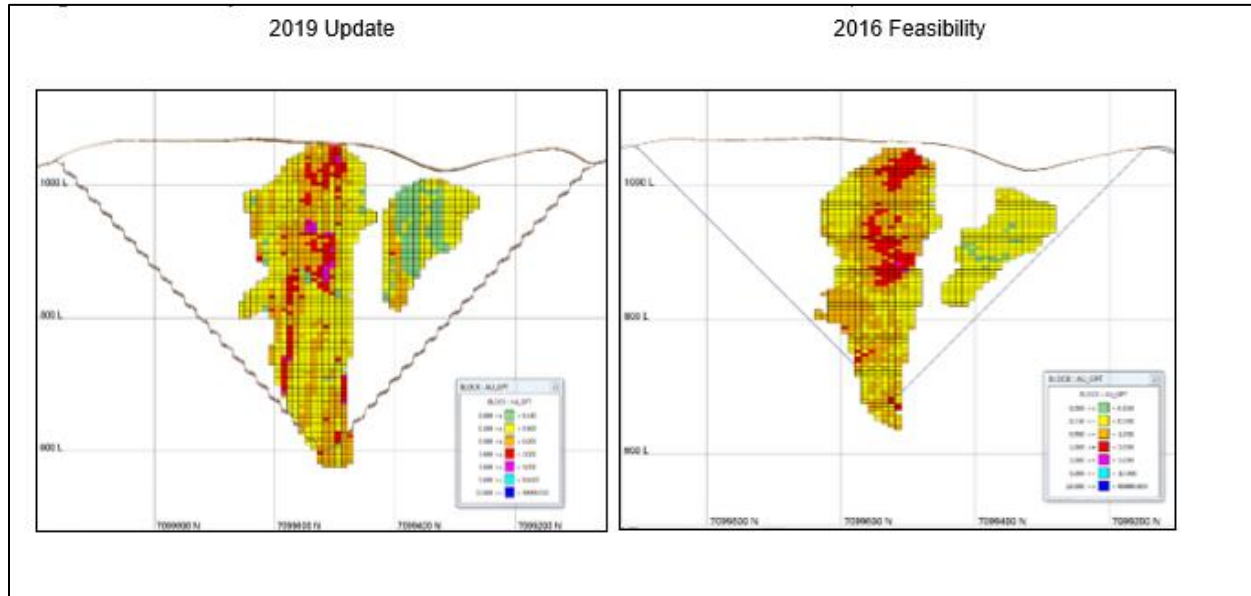
Note: Using the 2019 Resource Pit Shell

Source: Ginto Consulting (2019)

14.1.10 Comparison with the 2016 Feasibility Study

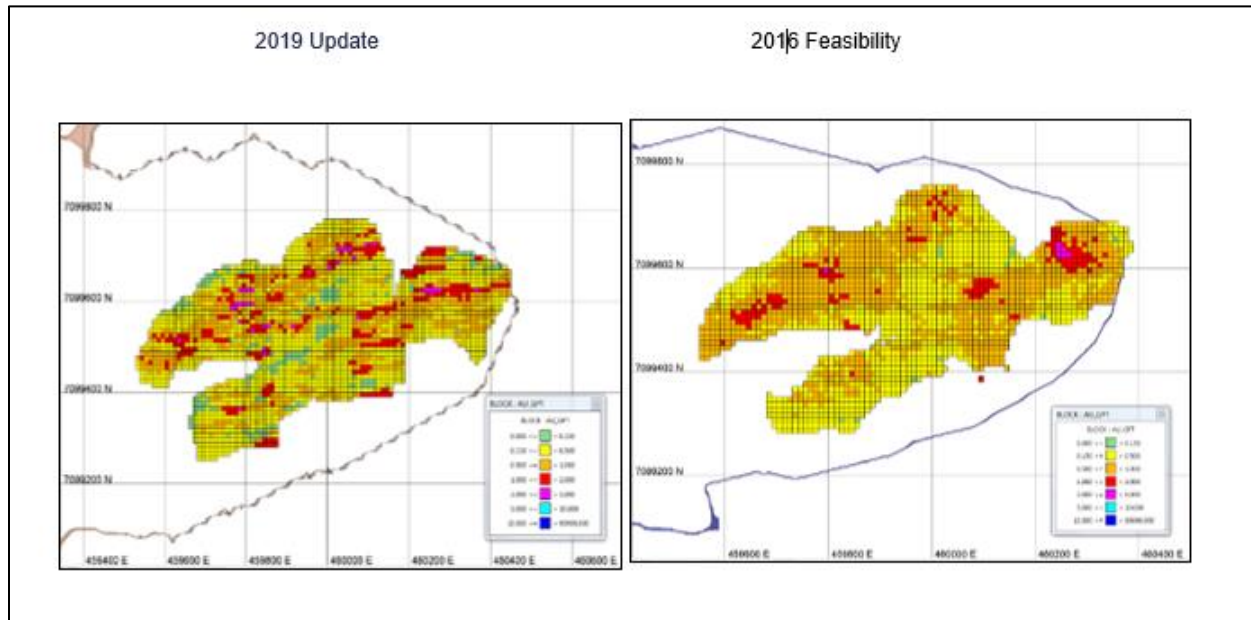
A visual comparison was first made between the gold grade estimates of the 2016 Feasibility and the updated resources. The principal change in the updated estimate occurs in the orientation of the estimates projected away from drill hole data. In the latest model, the gold grades are oriented in a more vertical fashion. Examples from both models are shown in Figure 14-26, Figure 14-27 and Figure 14-28.

Figure 14-26: Comparison of Gold Grade Estimates – North-South Section 459,680E



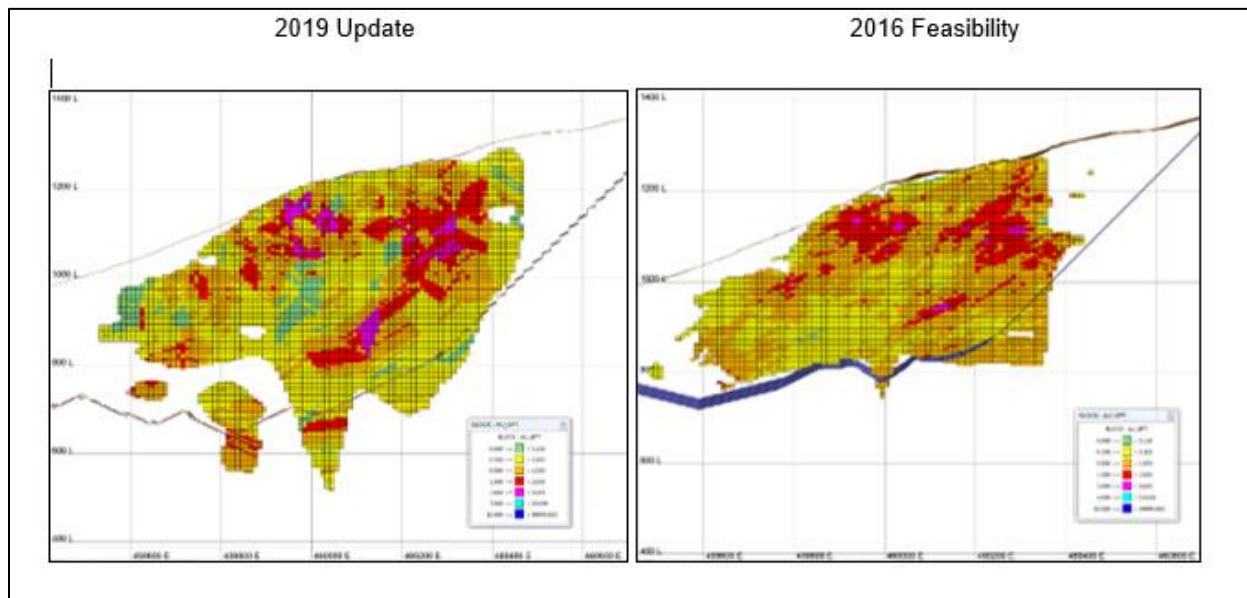
Source: Ginto Consulting (2019)

Figure 14-27: Comparison of Gold Grade Estimates – Level Plan 1,000EL



Source: Ginto Consulting (2019)

Figure 14-28: Comparison of Gold Grade Estimates – East-West Section 7,099,600N



Source: Ginto Consulting (2019)

The mineral resources from the updated model are compared to those of the 2016 Feasibility study in Table 14-22. From this table it can be seen that the mineral resources were increased by 21.1% for the measured and indicated gold content and reduced by 30.8% for the inferred gold content.

Table 14-22: Mineral Resources from the Updated Model and 2016 Feasibility Study – Pit Constrained – 0.15 g/t Au Cut-Off

Estimates	Measured			Indicated		
	Tonnage (tonnes)	Avg Au Grade (g/t)	Content (oz)	Tonnage (tonnes)	Avg Au Grade (g/t)	Content (oz)
2016 Feasibility	29,400,000	0.805	761,000	151,310,000	0.590	2,870,000
2019 Update	37,357,065	0.708	850,349	179,976,417	0.613	3,547,048
Difference	+27.1%	-12.0%	+11.7%	+18.9%	+3.9%	+23.6%
Zone	Measured + Indicated			Inferred		
	Tonnage (tonnes)	Avg Au Grade (g/t)	Content (oz)	Tonnage (tonnes)	Avg Au Grade (g/t)	Content (oz)
2016 Feasibility	180,720,000	0.625	3,631,000	17,430,000	0.492	276,000
2019 Update	217,333,482	0.629	4,397,397	21,476,534	0.523	361,124
Difference	+20.3%	+0.6%	+21.1%	+23.2%	+6.3%	+30.8%

Source: Ginto Consulting (2019)

It should be noted that mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources estimated will be converted into

mineral reserves. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. However, there are no currently known issues that negatively impact the stated mineral resources.

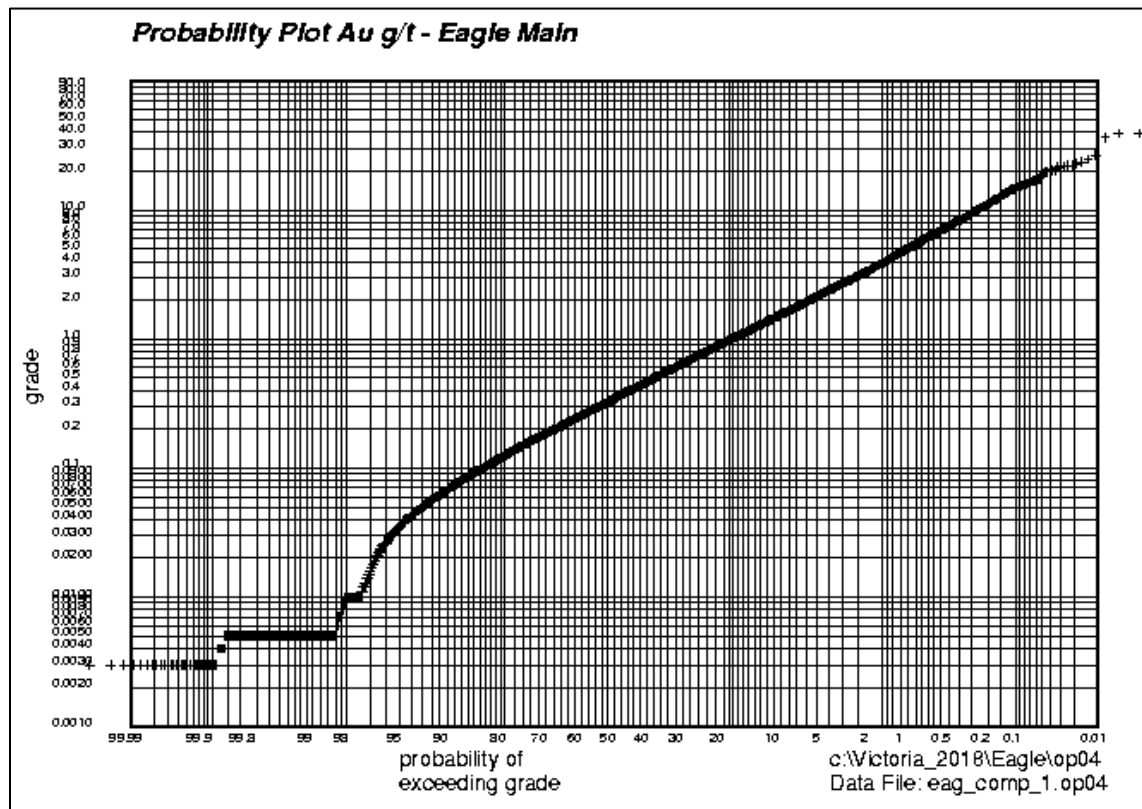
The CIM definitions were followed for the classification of indicated and inferred mineral resources. The inferred mineral resources have a lower level of confidence than that applying to indicated mineral resources and must not be converted to mineral reserves. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.

14.1.11 Eagle Resource Discussion

14.1.11.1 Higher Grade Zones

During the building of the mineralized envelope, a special focus was directed at possibly identifying areas of higher gold grades that could be separated from the lower grade mineralization. From this exercise, it was observed on screen that although regions of higher grades exist, the higher-grade intercepts are more intermixed with lower grades and not found as distinct zones that can be modeled separately. Statistically, the lower coefficients of variation indicate a more homogeneous distribution of gold grades within the mineralized envelope. As well the distribution of gold grades on a probability plot indicate a well-behaved population, as seen in Figure 14-29.

Figure 14-29: Probability Plot of Gold Grades Within the Mineralized Envelope



Source: Ginto Consulting (2019)

14.1.11.2 Changes from the 2016 Feasibility Model

Since the 2016 FS, 58 holes were drilled in 2017 in the Main Eagle Zone, including four deep holes. The four deeper holes have indicated a continuation of the mineralization at depth in the Main Eagle Zone. With this new information at hand, an update of the mineral resource was initiated in October of 2018.

A new interpretation of the mineralized zone at the Main Eagle Zone was carried out from first principles. When compared to the 2016 FS mineralized zone, the updated model is slightly wider on the periphery and deeper in the areas of the new deeper holes. The overall shape of two mineralized lobes on the western portion joining in the central area and forming a single orebody in the eastern half was maintained.

A slightly different approach to compositing was adopted in the update with the selection of a smaller composite length (1.52 m instead of 2.5 m). The capping was carried out on the composites, compared to the capping of the original samples performed for the 2016 FS.

As for the 2016 FS, ordinary kriging on capped composites was selected as the interpolation method of gold grades. A different set of parameters was used in the updated version with less restrictions applied to the sample selection strategy (no octant or maximum of holes restrictions). The orientation and dimensions of the search ellipsoids were different in both cases, which seems to explain the differences observed in the configuration of the block estimates. The updated resources display gold grade estimates that are projected in a more vertical orientation and along strike direction. The feasibility estimates have shown block grades trending to the north-west, dipping to the north and plunging to the west. A follow-up on these differences is suggested to better understand the source of these changes.

The classification scheme planned for the resource update was mainly based on the average sample distance away from the block center. A set of two distances based on the variogram range were utilized to separate measured, indicated, and inferred resources. For the 2016 FS resource, a combination of the number of holes, the kriging variance, and the slope regression were applied in the classification strategy. Differences in the resources' tonnage, grade, and content might be explained in part by these different approaches.

A new reduced oxidation surface was developed in late 2018 and utilized for the resource update. This surface, which defines the contact between oxidized and fresh rock, is used in the assignment of the specific gravity values for the resource's tonnage calculations.

14.1.11.3 Resource Update

The validation tests performed on the update of the mineral resource in the Main Eagle Zone, have shown satisfactory results, indicating that no global or local bias is present, and that the level of smoothing/variability is adequate.

The geometric configuration of the gold grade estimates appears to be in line with the geological understanding of the mineralization. For such it is believed that the updated estimates are a reasonable representation of the gold mineralization of the Main Eagle Zone.

The constraining of the updated mineral resource with current pit optimization parameters is suggested to provide a more accurate quantification of the mineral resource.

14.2 Olive Zone

14.2.1 Drill Hole Database

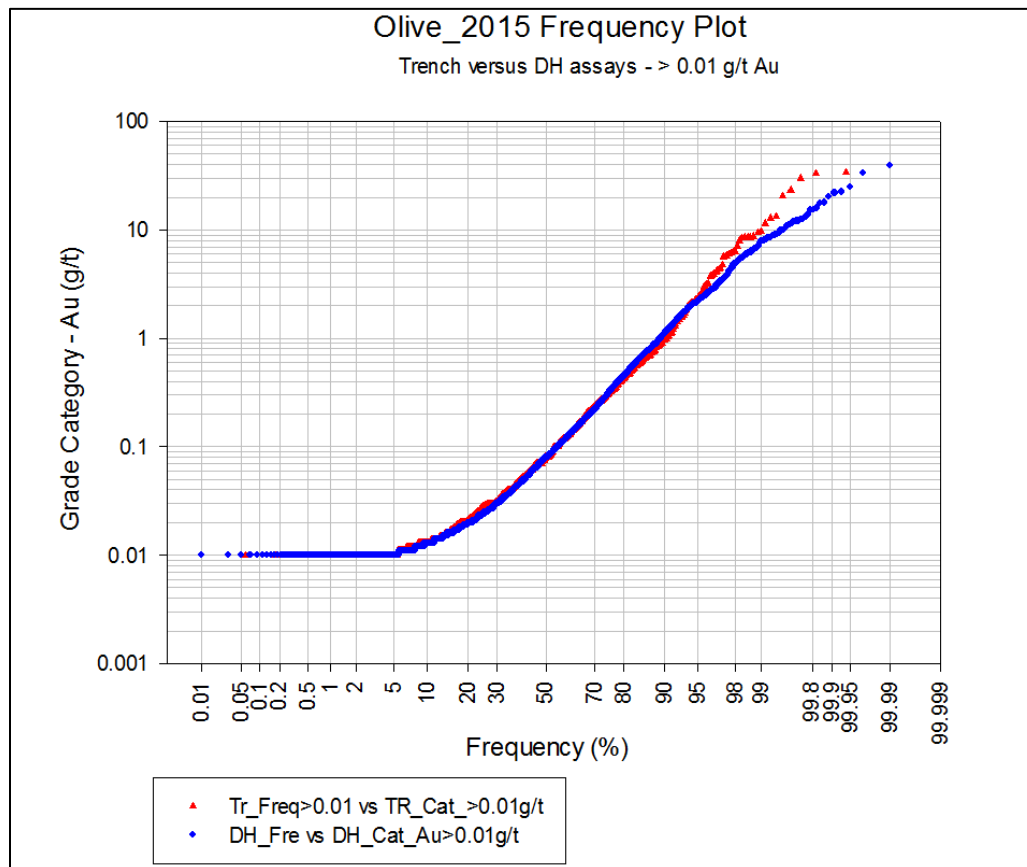
The drill hole database was received in Excel format. The digital database included the following file information:

- Collar – Drill hole name, easting, northing, elevation, total depth, type, purpose;
- Survey – Drill hole name, depth of survey, azimuth, dip;
- Assays – Drill hole name, from, to, sample id, certificate number, Au, Ag and other elements from the ICP analysis;
- Geology – Drill hole name, from, to, sample ID, degree of oxidation, sericitization, chloritization and silicification, vein type and thickness;
- Lithology – Drill hole name, from, to, rock type (such as overburden, Granodiorite, altered Granodiorite, hornfels, quartzite, and fault zone); and
- Recovery, RQD - Drill hole name, from, to, recovery %, RQD %.

In addition to this data, digital copies of surface geological maps, 2 m digitized topo, bulk density file data (in Excel format), and QA/QC files were supplied.

A database of 291 holes was provided including 221 core, nine RC drill holes and 61 trenches. Geology information from all the holes was used for geological interpretation and geological modelling. Trench data was considered to be acceptable for grade estimation; the data distribution curves were all nearly identical, and only diverged a bit above about 5 g/t Au, which constituted less than 5% of the trench data (Figure 14-30). Trenches were used as sub-horizontal pseudo-drill holes. Table 10-3 in Section 10 – Drilling provides a breakdown of drilling and trenching details by type and year completed for Olive.

Figure 14-30: CF Plot of Au Grades, Trench and DH



Source: AVM (2016)

14.2.2 Exploratory Data Analysis

EDA was carried out for Olive in the same manner as for Eagle (See Section 14.1.3).

RC drilling accounted for eight holes and 792 m of total drilling, or 2% of the total meterage, and there was both insufficient data to run core-versus-RC analysis and an insignificant amount of data to materially affect the database. The assumption was that RC drilling for Olive was not biased with respect to core, based on the analysis of RC core versus for Eagle.

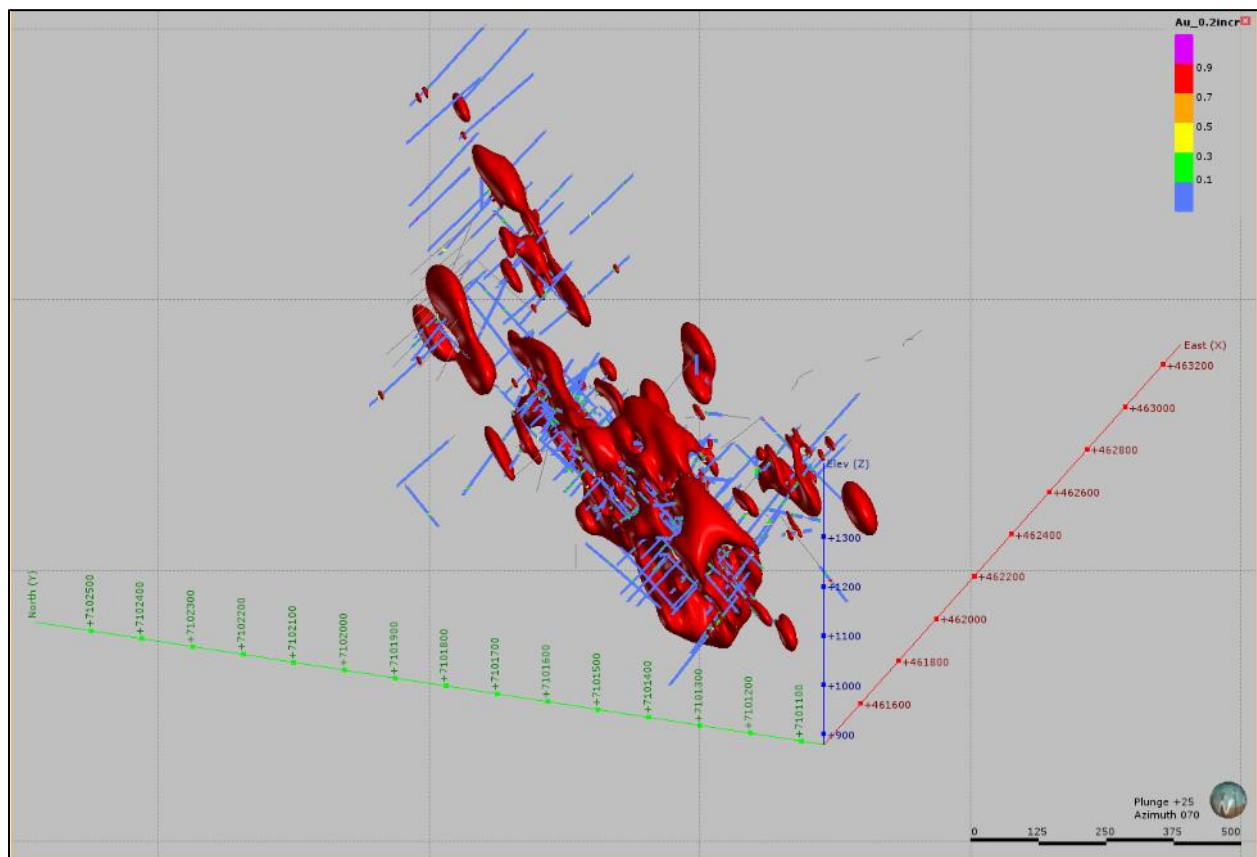
A visual inspection of vein density and its correlation with gold assays was carried out, in an attempt to determine if the density of the veining or the geological modelling of the vein zones could aid in the deposit modelling. It was concluded that, while there was a general direct relationship of sulphide and quartz vein density to the general location of gold mineralization, the gold grades were geologically not directly related by a 1:1 ratio to the vein intensity, which is logged as vein density (cm/m of sample). The resource modelling is therefore based on the modelling of gold grades and not on lithology, structure, or quartz veining. At Olive, approximately 98% of the mineralization is hosted in granodioritic intrusive rock types.

Leapfrog software was used to define the extent of the mineralization, as a mineralized shell, based on drill hole composite data (Figure 14-31). Unlike Eagle, the mineralization raw data, primarily at 1.5 m intervals,

was a mix of higher grades and lower grades in a shotgun pattern, such that direct grade indicated hole-to-hole continuity was not apparent, and shells were not very meaningful.

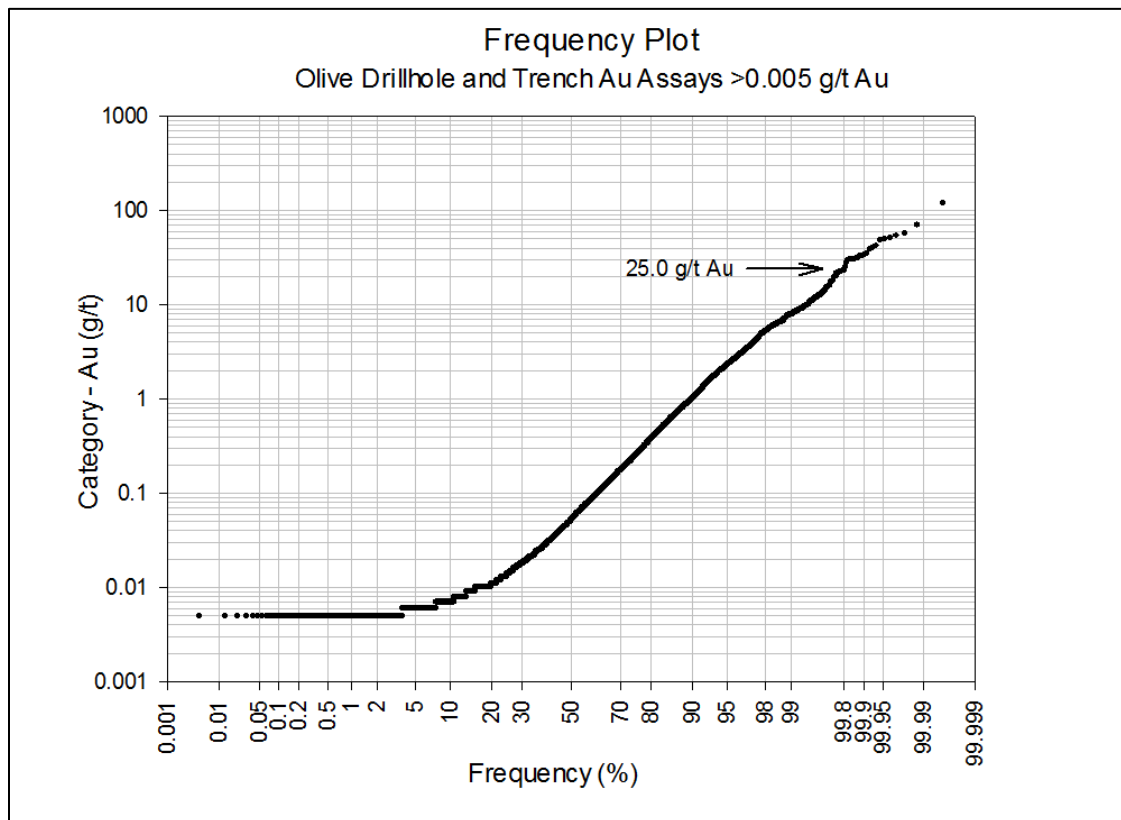
Compositing to 5 m and snapping to composites greater than 0.10 g/t Au, defined a linear zone of mineralization with hole-to-hole continuity, and provided boundary limits to capture mineralization. The wireframe shape was exported from Leapfrog to Datamine and used to select a relevant assay population for grade estimation; a total of 8,216 sampled and analyzed intervals were within the mineralized shell. All "missing" values for Au and Ag were set to zero prior to compositing. Frequency distribution plots were constructed to identify capping thresholds for both gold and silver of 25 g/t and 60 g/t, respectively. Figure 14-32 shows the frequency plot for gold. Values in excess of these were set back to these thresholds prior to compositing.

Figure 14-31: Olive 3D Mineralized Wireframe Solid - Perspective View



Source: AVM (2016)

Figure 14-32: Olive Frequency Plot for Au in Mineralized Shell



Source: AVM (2016)

14.2.3 Compositing

Within the grade shell the average sample intervals were 1.5 m; the envisioned vertical mining selectivity was 5 m, and a 2.5 m interval was selected for compositing. Comparative statistics are displayed in Table 14-23.

Table 14-23: Au g/t Comparative Statistics

	Number	Min.	Max.	Mean	Variance	Standard Dev.	CV
All assays	21643	0	118	0.295	3.429	1.852	6.28
Capped assays within mineralized shell	8190	0	25	0.663	4.342	2.084	3.14
2.5 m Composites	4776	0	25	0.638	2.289	1.513	2.37

Source: AVM (2016)

The CV for all assays was high, reflecting the grade variation of the raw data. Capping and segregation within the shell resulted in a significant reduction, and with compositing to 2.5 m, the final CV of 2.37 suggested that linear estimation was acceptable for grade estimation with this population.

14.2.4 Geological Model

Leapfrog software was used for implicit geological modelling of drill hole codes for lithology, resulting in a simple 3D model of intrusive (Granodiorite) metasediments with minor overburden cover. Structural controls to mineralization are likely present and control the overall orientation of the mineralized shell and the veining internal to that shell; however, they were not definable from drilling codes. Post-mineral off-setting faults were not identified. Interpreted structures were therefore useful as exploration tools, but not as limiting features to the mineralization at Olive Zone.

Similar to the work at Eagle Zone, Leapfrog software was used to create oxidation surfaces using Ox codes from the core logging. A base of oxidation surface and base of mixed or transition material surfaces were created as further described in Section 12, Data Verification.

Rock/Lithologic type and oxidation type wireframes were created in Leapfrog and imported into Datamine to code the block model with geo-metallurgical code as shown in Table 14-24 and Table 14-25. These codes were primarily used to assign bulk densities, as discussed in Section 14.2.6, and for the assignment of a recovery variable used during the pit optimization discussed in Section 14.2.10.

Table 14-24: Rock/Lithologic Codes

Code	Type
1	Granodiorite
2	Metasediments
3	Overburden

Source: AVM (2016)

Table 14-25: Oxidation Codes

Code	Type	Recovery (Decimal %)
1	Oxide	0.66
2	Mixed/transition	0.55
3	Sulphide	0.52

Source: AVM (2016)

14.2.5 Block Model

A block model was created using Datamine Studio3 with the spatial characteristics as described in Table 14-26.

Table 14-26: Block Model Spatial Characteristics

Direction	Minimum (m)	Maximum (m)	10 m x 10 m x 5 m Blocks: number of	
Easting	461,250	463,250	200	Columns
Northing	7,100,760	7,102,550	179	Rows
Elevation	875	1,400	105	Levels

Source: AVM (2016)

The relevant block model fields for resource estimation and reporting are tabulated in Table 14-27. For pit optimization purposes, all model blocks were 10 m X 10 m X 5 m, with no sub-cells or partial blocks. At the topographic interface “percent below topo” is represented by a fractional code varying from 0 (air) to 1 (in place). “Air” blocks were created such that each possible position in the model matrix has a record.

Table 14-27: Block Model Fields

Relevant Block Model Fields	
XC	Easting Coordinate of Block Centroid
YC	Northing Coordinate of Block Centroid
ZC	Elevation Coordinate of Block Centroid
MIN	1=inside mineralized shell, 0 otherwise
OX	1=Oxide,2=Mix/transition,3=Sulphide
ROCK	1=Granodiorite, 2=Metasediments,3=Overburden
DEN	Bulk Density
AUKRG	Au g/t, estimated with ordinary kriging
AGID2	Ag g/t, estimated with inverse distance squared
CLASS	1=Measured,2=Indicated,3=Inferred
REC	Recovery for pit optimization
TOPO	1=Inplace,0=Air
TOPO%	Percentage below topography from 0 to 1

Source: AVM (2016)

14.2.6 Bulk Density

Bulk Density measurements for Olive Zone were conducted by Victoria Gold on core samples. Over 770 measurements were taken on core for Granodiorite, 70 for metasediments, 69 for oxidized material, 252 for mixed or transition material, and 582 for sulphide or fresh material.

Victoria Gold's method of measuring weights in water and air has proven at Eagle Zone to be accurate relative to outside analytical lab measurements.

Bulk density mean values by rock/oxidation type were assigned for resource tonnage calculation as tabulated on Table 14-28.

Table 14-28: Bulk Density by Rock & Oxidation Code

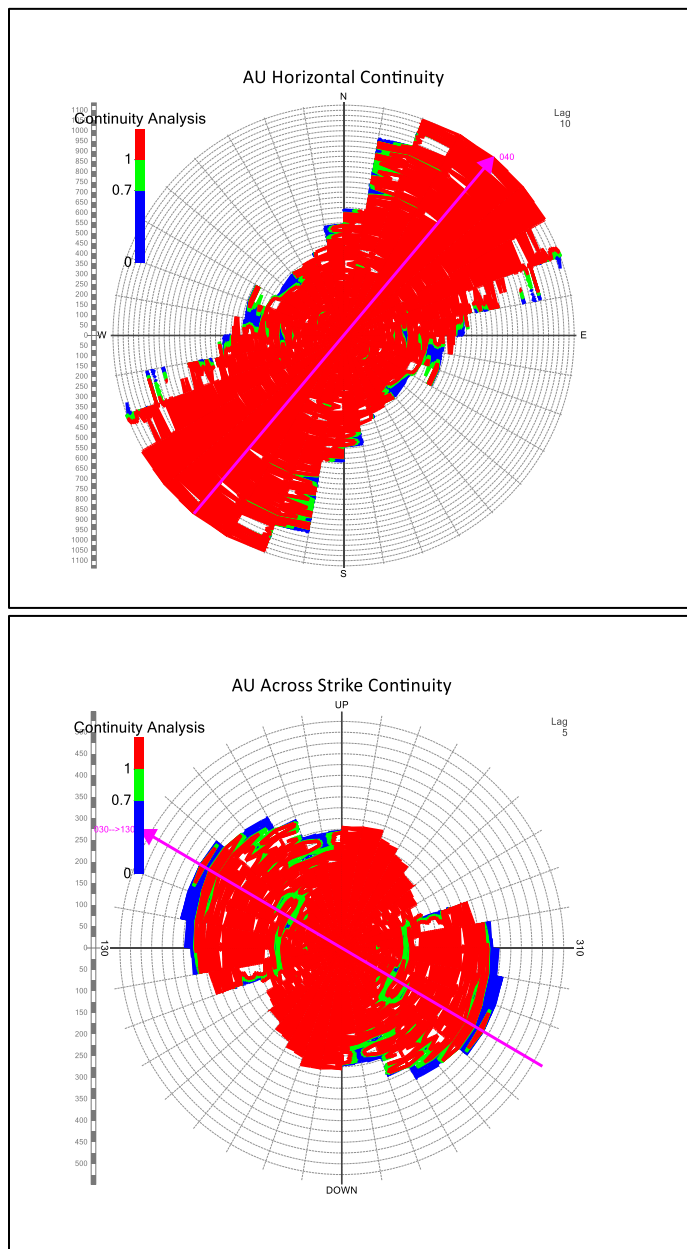
Rock	Oxidation	Density (t/m ³)
3	All	2.00
1	1	2.61
1	2	2.67
1	3	2.68
2	1	2.61
2	2	2.69
2	3	2.70

Source: AVM (2016)

14.2.7 Variogram Analysis and Modelling

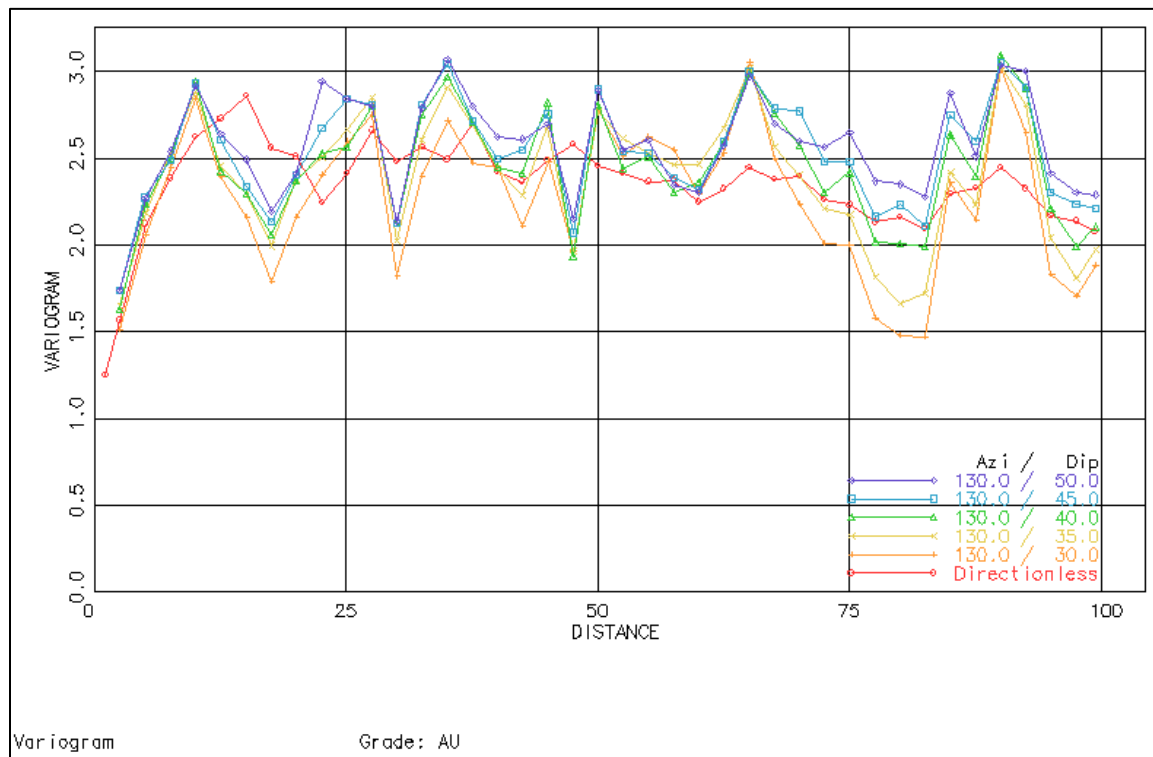
Snowden Supervisor and Datamine software was used to create ordinary and pair-wise relative directional and isotropic variograms on gold 2.5 m composites. Only composites within the mineralized shell were used for variogram analysis. Fan diagrams were created (Figure 14-33), and an analysis of a series of fans in the horizontal-strike, across-strike, vertical, and dips planes was made. Each fan, made up of variogram contours, was analyzed to select the direction of maximum continuity in the fan. While anisotropy can be interpreted from the results, well behaved variograms were difficult to achieve, given the variation of even the segregated capped and composited grades (Figure 14-34). For grade estimation with ordinary kriging (OK) the isotropic variogram (Figure 14-35) was fitted with a spherical model as tabulated on Table 14-29.

Figure 14-33: Variogram Fan diagrams



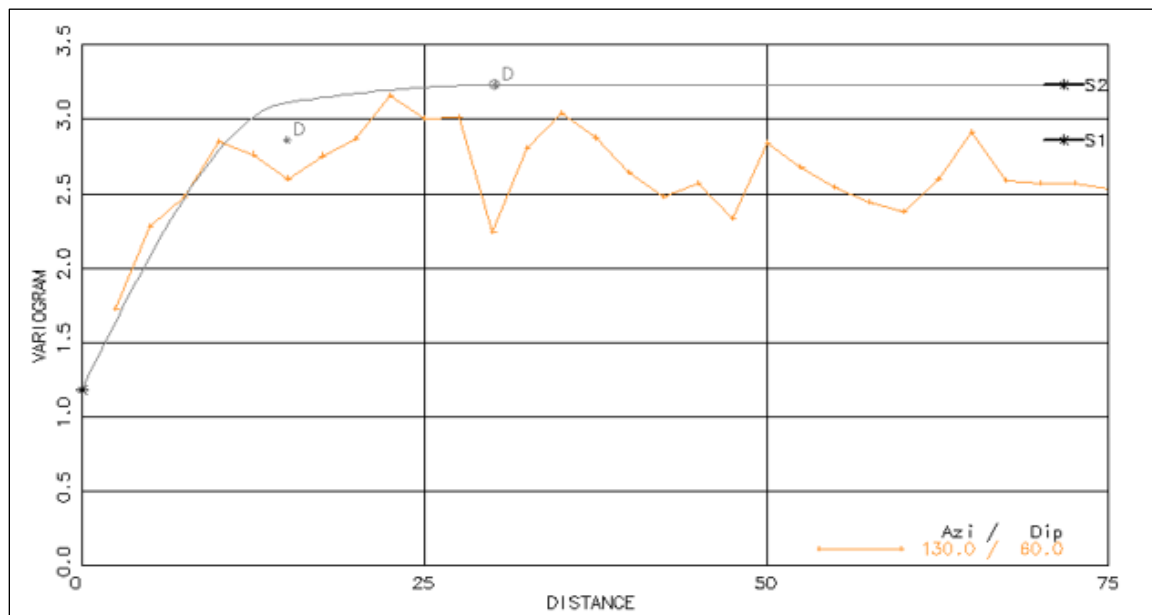
Source: AVM (2016)

Figure 14-34: Anisotropic Variography



Source: AVM (2016)

Figure 14-35: Isotropic Variogram



Source: AVM (2016)

Table 14-29: Kriging Parameters

Kriging Parameters (Au g/t)					
	Range (metres)				
Structure	Search Orientation	X	Y	Z	Nugget 1.2 Spatial Variance C
1	Isotropic	15	15	15	1.7
2	Isotropic	30	30	30	0.4

Source: AVM (2016)

14.2.8 Estimation Method and Mineral Resource Classification

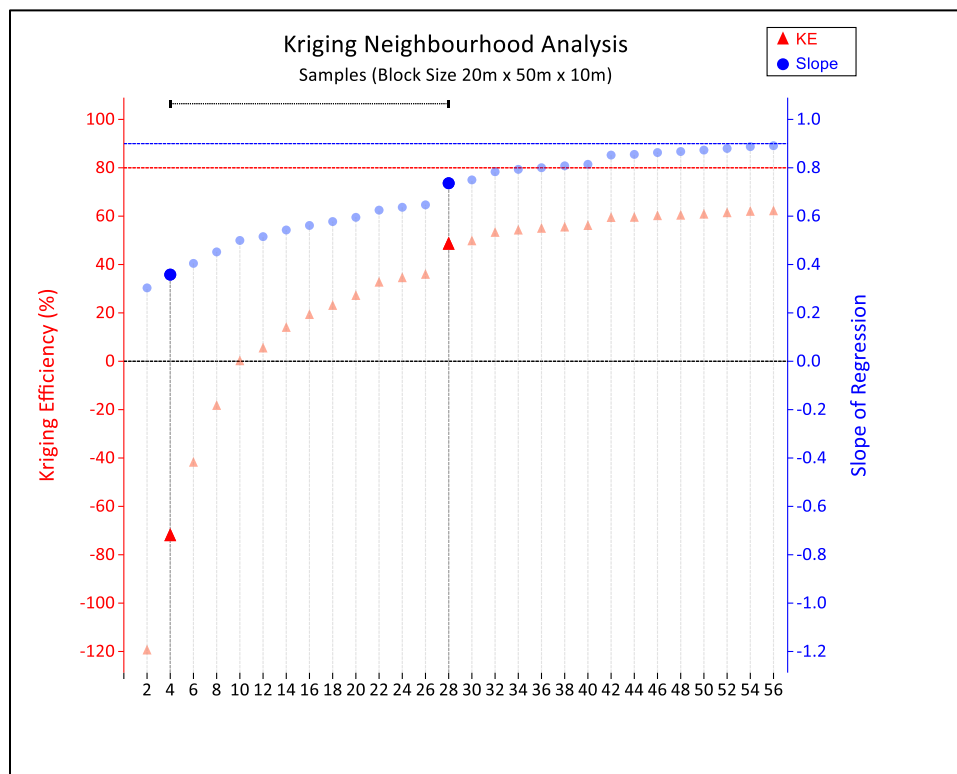
The search neighbourhood strategy used for the grade estimation of gold, with ordinary kriging, and silver, with inverse distance squared is displayed on Table 14-30. Only blocks not estimated with the first search volume (SVOL) were estimated with a subsequent expanded search. For all volumes, a minimum of four composites were required, with a maximum of two from any given hole. This forces the estimation to use a minimum of two drill holes. The minimum and maximum number of the 2.5 m composites, used for estimation in the search ellipse, was justified with KNA undertaken using Snowden Supervisor software (Figure 14-36).

Table 14-30: Search Neighbourhood Strategy Au g/t

Search Volume	Orientation	X (m)	Y (m)	Z (m)	Minimum Number of Composites	Maximum from One Drill hole
1	Isotropic	15	15	15	4	2
2	Isotropic	30	30	30	4	2
3	Isotropic	75	75	75	4	2

Source: AVM (2016)

Figure 14-36: Kriging Neighbourhood Analysis Minimum and Maximum Number of Samples



Source: AVM (2016)

The utilization of the minimum of four 2.5 m composites for estimation, along with the nested SVOLs, effectively preserved the grade variation of the data. Estimation with a minimum of two drill holes was justified by the drilling pattern and utilization of the mineralization shell. Sectional drilling, generally at 25 m spacing across the apparent strike of the mineralization, was bounded by the shell, preventing extrapolation beyond the limits of information. Table 14-31 summarizes the confidence classification; Measured and Indicated classes were effectively constrained to blocks positioned between the drilling sections.

Table 14-31: Confidence Classification

Class	Search Volume	Minimum Number Of Composites	Maximum From One Drill hole
Measured	1	4	2
Indicated	2	4	2
Inferred	3	4	2

Source: AVM (2016)

14.2.9 Model Validation

The following checks were carried out to validate model:

- A visual check in plan and section against drill hole composited values. Grade variation had been preserved and the confidence classification was acceptable;
- Comparison between block grades estimated by ordinary kriging and alternative estimators; Au g/t estimated by both methods was essentially the same (Table 14-32); and
- Swath diagrams, Figure 14-37, where nearest neighbour estimation (green) displays similar variations to ordinary kriging (red).

Table 14-32: Inverse to the Distance Squared (ID2) vs Ordinary Kriging (OK) Comparison

ID2 – Ave. Au Grade (g/t)	OK – Ave. Au Grade (g/t)	Difference (%)
0.7245	0.7215	0.41

Source: AVM (2016)

Figure 14-37: Easting and Northing Swath Diagrams



Source: AVM (2016)

14.2.10 Mineral Resource Statement

The current Olive Mineral Resources are reported at a cut-off grade of 0.40 g/t Au. The cut-off is supported by the following parameters.

- Mining cost of C\$ 2.00/t;
- Processing cost of C\$5.00/t;
- G&A cost of C\$1.00/t;
- Au recoveries of 69%, 58% and 52% for oxidized rock, transition or mixed oxide-sulphide, and sulphide-bearing Granodiorite, respectively (3% above anticipated actual recoveries); and
- Au price of US\$1,700, exchange rate of 0.75.

The resulting calculated cut-off grade for the highest-recovery material is 0.12 g/t Au. Mining is anticipated to be conducted to a 0.20 g/t Au cut-off grade, and the reporting at a 0.40 g/t Au cut-off grade was done to offset the lower recoveries at Olive and to provide higher grade material to the project.

The Mineral Resources are confined within a conceptual pit shell based on the same parameters used for the cut-off grade and 45° slopes; the pit shell optimized on Measured + Indicated + Inferred Resources. Table 14-33 presents the Olive Zone Measured, Indicated and Inferred Mineral Resources.

Table 14-33: Measured, Indicated and Inferred Mineral Resources for Olive Zone

Class	Cut-off grade (g/t Au)	Tonnes (M t)	Au (g/t)	Ag (g/t)	Ounces Au (k oz)	Ounces Ag (k oz)
Measured	0.4	1.97	1.19	2.31	75	146
Indicated	0.4	7.55	1.05	2.05	254	498
Meas.+ Ind.	0.4	9.51	1.07	2.11	329	645
Inferred	0.4	7.33	0.89	1.70	210	402

Notes:

1. Mineral Resources are reported in accordance with Canadian Securities Administrators (CSA) National Instrument 43-101 (NI 43-101) and have been estimated in conformity with generally accepted Canadian Institute of Mining, Metallurgy and Petroleum (CIM) "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines. CIM definitions were followed for Mineral Resources;
2. In-Pit Mineral Resources are estimated at a cut-off of 0.40 g/t, with mining and processing costs and pit parameters as per the text of this report;
3. Metal prices used for this estimate were US\$1,700/oz Au, at an 0.75 exchange rate;
4. High-grade caps were applied as per the text of this report;
5. Specific gravity (bulk density) was assigned for each block based on measurements taken from core specimens;
6. Mineral Resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding;
7. Resources are reported on a 100% basis for Victoria Gold controlled lands; and
8. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues, although the authors are not aware of any such issues.

Source: AVM (2016)

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Mineral resource estimates do not account for mineability, selectivity, mining loss and dilution. These mineral resource estimates include Inferred Mineral Resources that are normally considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as Mineral Reserves.

There is also no certainty that these Inferred Mineral Resources will be converted to Measured or Indicated categories through further drilling, or into Mineral Reserves, once economic considerations are applied.

14.2.11 Mineral Resource Sensitivity

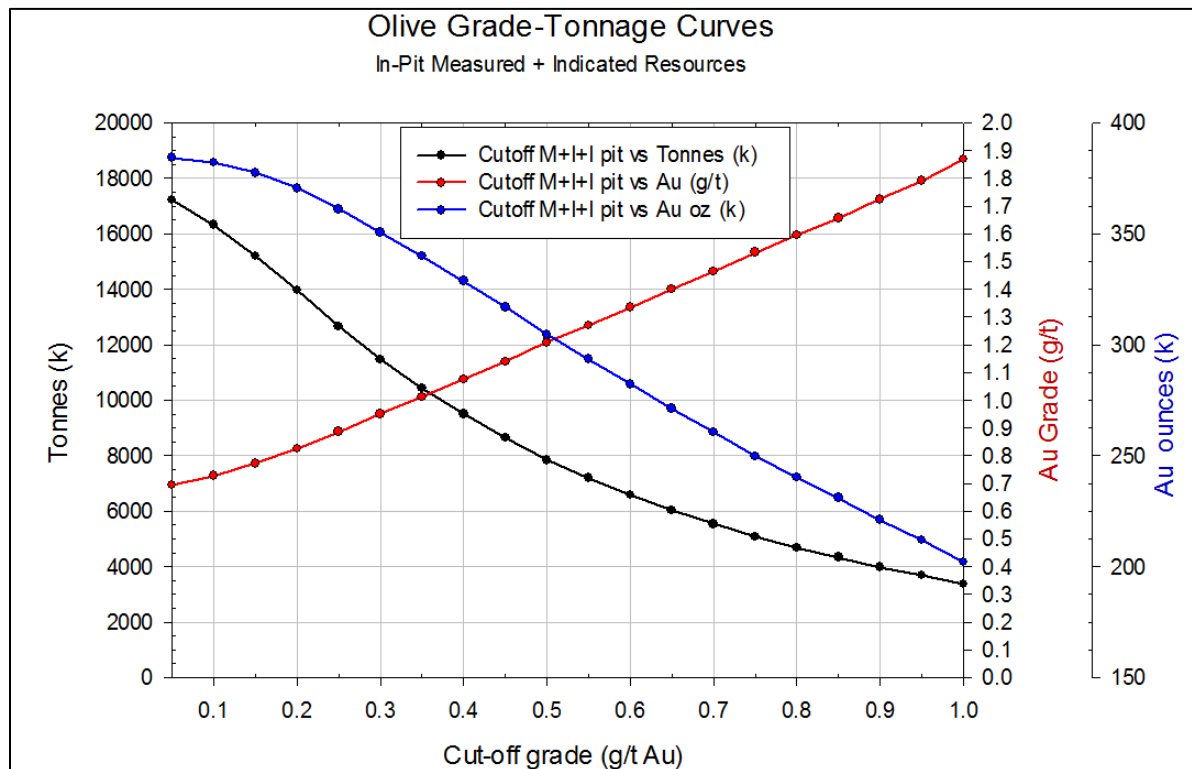
The Measured +Indicated Mineral Resources at COGs between 0.0 to 1.0 g/t Au are shown in Table 14-34. Figure 14-38 displays grade-tonnage sensitivity data graphically.

Table 14-34: Olive Zone Grade Tonnage Sensitivity Data for Measured + Indicated Resources at various COGs

Cut-Off (Au g/t)	Tonnes (Million tonnes)	Au (g/t)	Ag (g/t)	Au oz (Million ounces)	Ag oz (Million ounces)
0.05	17.21	0.69	1.67	0.384	0.927
0.1	16.33	0.73	1.72	0.382	0.902
0.15	15.21	0.77	1.78	0.378	0.870
0.2	13.97	0.82	1.84	0.371	0.829
0.25	12.66	0.89	1.92	0.361	0.781
0.3	11.47	0.95	1.98	0.351	0.730
0.35	10.45	1.01	2.04	0.340	0.686
0.4	9.51	1.07	2.11	0.329	0.645
0.45	8.65	1.14	2.18	0.317	0.606
0.5	7.84	1.21	2.25	0.305	0.567
0.55	7.19	1.27	2.32	0.294	0.536
0.6	6.58	1.33	2.36	0.282	0.500
0.65	6.02	1.4	2.42	0.271	0.468
0.7	5.54	1.46	2.41	0.261	0.430
0.75	5.07	1.53	2.44	0.250	0.398
0.8	4.68	1.6	2.48	0.240	0.373
0.85	4.34	1.66	2.51	0.231	0.351
0.9	3.99	1.72	2.55	0.221	0.327
0.95	3.68	1.79	2.61	0.212	0.308
1	3.37	1.87	2.65	0.202	0.286

Source: AVM (2016)

Figure 14-38: Grade Tonnage Curves for the Olive Zone – Measured + Indicated Resources



Source: AVM (2016)

Table 14-35: Olive In-Pit Mineral Resource Breakdown by Rock and Oxidation Type and Classification at a 0.40 g/t Cut-Off

Class	Tonnes (M t)	Au (g/t)	Ag (g/t)	Au oz (k oz)	Ag oz (k oz)
Granodiorite					
Measured	1.96	1.19	2.31	75	145
Indicated	7.41	1.04	2.07	249	493
Inferred	7.13	0.89	1.72	205	395
Metasediments					
Measured	0.01	1.11	0.92	0	0
Indicated	0.13	1.19	1.11	5	5
Inferred	0.18	0.78	0.75	4	4
Overburden/Weathered Rock					
Measured	0.01	1.42	4.04	0	1
Indicated	0.01	0.66	4.02	0	1
Inferred	0.02	1.37	3.59	1	3
Oxide					
Measured	0.39	1.38	2.81	17	35
Indicated	0.68	1.32	3.07	29	67
Inferred	0.21	1.55	4.42	10	30
Mix					
Measured	0.9	1.24	2.58	36	75
Indicated	3.52	1.04	2.24	118	253
Inferred	2.81	0.97	2.57	88	232
Sulphide					
Measured	0.68	1.01	1.68	22	37
Indicated	3.34	0.99	1.66	106	178
Inferred	4.31	0.81	1.01	112	140

Source: AVM (2016)

14.3 Summary Conclusions

14.3.1 Eagle Zone

The MRE for the Eagle Zone follows industry best practices. The database is sufficiently verified to allow for the update of the resource estimation, and adequately represents the mineralization.

This update of the mineral resources was performed from first principles and includes the addition of 58 holes drilled in 2017, following the 2016 Feasibility Study. From the re-modeling exercise it was observed that the mineralized domain was consistent from one section to the next and confirmed the overall geologic model of the 2016 FS. Four deeper holes drilled at Eagle in 2017 have indicated that gold mineralization continues at depth.

Statistics carried out on the composited gold grades have shown a well-behaved population within the mineralized domain with a low coefficient of variation of 1.78. The assessment of gold grade continuity from the variograms has shown better grade continuity vertically and along strike (80° azimuth). Grade estimation parameters were therefore set to reflect these orientations and ranges of better continuity.

When compared to the 2016 FS, the updated mineral resources show an increase of 21.1% of gold ounces and an increase of 0.6% of the average gold grade, for the measured and indicated categories. The updated inferred mineral resources showed an increase of 30.8% of gold ounces and an increase of 6.3% of the average gold grade when compared to the 2016 FS resources.

The validation tests performed on the updated mineral resources have shown satisfactory results, indicating that no global or local bias is present, and that the level of smoothing/variability is adequate. The geometric configuration of the gold grade estimates appears to be in line with the geological understanding of the mineralization. For such it is believed that the updated mineral resource estimates are a reasonable representation of the gold mineralization of the Eagle Zone.

14.3.2 Olive Zone

There has been no economic extraction from the Olive Zone as of the effective date of this Study no new drilling. Accordingly, the resource estimate for the Olive Zone has not been updated in this Study.

The resource estimation methodology employed for the Olive Zone is consistent with industry best practices. The database is sufficiently verified to allow for resource estimation at a FS level, and adequately represents the mineralization.

The Mineral Resource estimation for the Olive Zone is robust, such that further improvements are not indicated as necessary. The Olive Zone gold mineralization has a very short range variography and a higher CV than Eagle Zone, representing a scattered mix of higher and lower grades. This grade distribution pattern could possibly benefit from non-linear estimation methods, such as indicator kriging or uniform conditioning, to provide a better local block estimate. The Olive Zone mineralization should be further evaluated upon completion of drilling at the Shamrock area.

15 Pre-Production Mining Reserves Estimates

The mineral reserve documented in this section was estimated based on Canadian Institute of Mining (CIM) guidelines that defines mineral reserves as “the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A mineral reserve includes diluting materials and allowances for losses that may occur when the material is mined.”

Mineral Reserves are those parts of Mineral Resources which, after the application of all mining factors, result in an estimated tonnage and grade which, in the opinion of the Qualified Person(s) (QP) making the estimates, is the basis of an economically viable Project after taking account of all relevant processing, metallurgical, economic, marketing, legal, environment, socio-economic and government factors. Mineral Reserves are inclusive of diluting material that will be mined in conjunction with the mineral reserves and delivered to the treatment plant or equivalent facility. The term ‘mineral reserve’ need not necessarily signify that extraction facilities are in place or operative or that all governmental approvals have been received. It does signify that there are reasonable expectations of such approvals.

To convert Mineral Resources to mineral reserves estimates of gold price, mining dilution, process recovery, refining/transport costs, royalties, mining costs, processing, and general and administration costs were used to estimate cut-off grades (COG) for each deposit. Along with geotechnical parameters, the COG formed the basis for the selection of economic mining blocks.

The QPs have not identified any known legal, political, environmental, or other risks that would materially affect the potential development of the mineral reserves.

The estimated Proven and Probable Mineral Reserves total 155M t at 0.65 g/t Au, containing 3,261k oz Au prior to mining activities (Table 15-1).

Table 15-1: Open Pit Mineral Reserves by Deposit (Pre-Mining)

Area	Classification	Ore (M t)	Diluted Grade (g/t)	Contained Gold (k oz)
Eagle	Proven	30	0.71	694
	Probable	118	0.63	2,366
	Total	148	0.64	3,061
Olive	Proven	2	1.02	58
	Probable	5	0.93	142
	Total	7	0.67	200
Eagle + Olive	Total	155	0.65	3,261

Notes:

1. A gold price of US\$1,275/oz is assumed.
2. Reserve based on original topo with no depletion from preproduction/ramp up period up to the effective date.
3. A US\$:C\$ exchange rate of 0.75
4. Cut-off grades, dilution and recovery factors are applied as per open pit mining method.

Source: VGC (2019)

15.1 Open Pit Mineral Reserve Basis of Estimate

The mineral reserve for the property is based on the mineral resource estimate completed by Qualified Person Marc Jutras with an effective date of November 15, 2019 for the Eagle and Olive zones.

The mineral reserves were developed by examining each deposit to determine the optimum and practical mining method. Cut-off grades (COGs) were then determined based on appropriate mine design criteria and the adopted mining method. A shovel and truck open pit mining method was selected for the various deposits. Only Measured and Indicated Mineral Resources were included in the optimization process. Inferred resources were considered as waste.

A thorough analysis of the optimized shells was then conducted in order to select the shells to be used as guides to the subsequent detailed pit designs.

15.1.1 Site Topography and Climatic Conditions

Mine planning for the project considered the northern climate environment, permafrost, and a remote camp situation, as well as the physical characteristics of the ore and waste rock.

Mine topography, including the WRSA and heap leach pad areas, was provided digitally by Victoria Gold in UTM NAD83, Zone 8 coordinates. The Topography was supplied as a digital file with contour intervals of 1 m and was used for all pit design calculations and engineering estimates. Volumetric estimates were derived from design surfaces intersecting the topographic surface.

15.1.2 Resource Model

The 3D resource block models for the Eagle and Olive deposits used in this resource/reserve update were prepared by Qualified Person Marc Jutras and explained in detail in the Mineral Resource Estimate. The models comprise parameters that describe lithology, in-situ density, ore and waste types, resource classification, ore and waste percentage, oxidation type, and gold grade.

15.2 Open Pit Optimization

The optimization process generates a series of nested pit shell surfaces for the purpose of designing open pits across the various deposits. The Lerchs-Grossmann algorithm in the NPVS software package was used for the optimization and associated analysis. The resulting nested pit shells were generated by varying the revenue factor (gold price factor) applied to the base case values.

15.2.1 Optimization Input Parameters

Table 15-2 below summarizes the parameters used for each deposit.

Pit shell generation was not constrained by any existing infrastructure as the only existing features are exploration access roads. All of the major infrastructure facilities planned for the project (waste rock storage facilities, heap leach pads, offices, maintenance shops, fuel storage, processing facilities, permanent camp, and water storage ponds) will be external to the ultimate pit designs and their area of influence.

Table 15-2: Mine Planning Optimization Input Parameters

Parameter	Unit	Eagle Deposit	Olive Deposit
Revenue, Smelting & Refining			
Gold price	US\$/oz Au	\$1,275	
Exchange Rate	C\$:US\$	0.75	
Payable metal	%	99.5	
TC/RC/Transport	C\$/oz Au	10	
Royalty @ 1% NSR	C\$/oz Au	17	
Net gold value per ounce	C\$/oz	1,665	
Net gold value per gram	C\$/g	53.51	
OPEX Estimates			
OP Waste Mining Cost	C\$/t waste mined	2.39	
OP Ore Mining Cost (Crush)	C\$/t ore mined	2.39	
OP Ore Mining Cost (ROM)	C\$/t ore mined	2.69	-
Strip Ratio (estimated)	W:O	0.82	2.5
OP Mining Cost	C\$/t leached	4.35	8.05
Crush HL Pad			
Heap Leach Processing, Water Treatment, Rinsing	C\$/t leached	4.65	
G&A	C\$/t leached	1.56	
Total OPEX Cost (excluding mining)	C\$/t leached	6.21	7.7
Total OPEX Cost (including mining)	C\$/t leached	10.56	15.75
ROM HL Pad			
Heap Leach Processing, Water Treatment, Rinsing	C\$/t leached	3.4	-
G&A	C\$/t leached	1.56	-
Total OPEX Cost (excluding mining)	C\$/t leached	5.26	-
Total OPEX Cost (including mining)	C\$/t leached	9.31	-

Parameter	Unit	Eagle Deposit	Olive Deposit
Recovery and Dilution			
External Mining Dilution	%	3.6	9
Mining Recovery	%	95	
Crush Gold Recovery			
Type1 - Oxide Granodiorite	%	86	-
Type 2 - Altered Granodiorite	%	75	-
Type 3 - Unaltered Granodiorite	%	73	-
Type 4 - Oxide Medasediments	%	73	-
Type 6 - Unaltered Medasediments	%	68	-
Oxide	%	-	66
Mixed	%	-	55
Sulphide	%	-	52
ROM Gold Recovery			
All	%	60	-

Note: These parameters differ slightly from those used in the economic model due to subsequent, more detailed estimation work but the differences are not considered material

Source: JDS (2019)

15.2.1.1 Gold Price

The gold price used to in the pit optimization analyses was set at US\$1,275/oz. This price represents the gold price average from 2016 to 2019. Sensitivities to these metal prices were conducted for the pit optimization analysis.

15.2.1.2 Royalties

Royalties were defined as 1% on payable gold (i.e. 1% of (revenue minus offsite costs)).

15.2.1.3 Mining Cost Assumptions

Open pit optimization was performed using an average mining cost of \$2.39/t of material mined. An owner-operated truck/shovel fleet was assumed.

The mining cost was calculated from first principles based on equipment required for the mining configuration of the operation, as well as a comparison to similar sized open pit gold operations in the region. Northern labour rates and quotes from equipment suppliers, and explosives suppliers were taken into consideration. The open pit mining costs encompass pit and dump operations, delivery of the ore to the crusher and the heap leach pad, road maintenance, mine supervision and technical services.

15.2.1.4 Gold Recovery

Metallurgical recovery models were created to predict the recovery of gold within each deposit as well as the various oxidation types.

The overall gold recovery estimation was weighted and based on the percentage of ore from each deposit in the heap leach blended feed. These values were used to determine the Mineral Reserves.

15.2.1.5 Processing and Selling Costs

Processing and General & Administrative (G&A) operating costs were developed for the treatment of ore. The battery limits for the determination of the heap leach process operating costs commence from the crushing facilities and continue through to the Adsorption-Desorption-Recovery (ADR) carbon plant.

The pit optimization was performed using a reference processing cost of \$4.65/t of ore leached for crushed ore and \$3.40/t for ROM ore. G&A costs were estimated at 1.56/t of ore leached.

Offsite costs, which include transport insurance and gold refining costs, were estimated at \$10.00/oz of gold.

15.2.1.6 Dilution, Ore Losses and Bench Height

As input to the initial pit limit optimization and subsequent mine scheduling, and in order to reflect the selectivity of the mining method chosen when compared to the block model parameters, external mining dilution was calculated and applied to the various deposits.

This external mining dilution was based on calculating the number of waste blocks adjacent to an ore block in the mineral inventory block model (utilizing Hexagon Mining MineSight™ “four side contact routine”). Only blocks which were contained within a given zone (in this case a resource classification of Indicated) and above a given gold cut-off grade were considered as ore blocks.

The number of waste block face contacts, with ore block faces for each block, was calculated on each horizontal plane in the model. The number of waste faces (or edges) may vary from zero (i.e. block is surrounded by ore blocks) to four (i.e. block is totally surrounded by waste blocks). Dilution was estimated using the number of waste edges for each block, an assumed grade of zero for all waste and a width of dilution of 0.3 to 0.5 m for each edge.

The results of the analysis are summarized, by deposit, in Table 15-3. The analysis resulted in external dilutions of 3.6% and 9% being applied to the Eagle and Olive deposits, respectively.

Table 15-3: Open Pit Dilution Estimate by Deposit

# of waste edges	Eagle				Olive			
	# of blocks	Distribution (%)	Dilution applied (%)	Contribution to total external dilution (%)	# of blocks	Distribution (%)	Dilution applied (%)	Contribution to total external dilution (%)
0	62,885	73	0	0	2,320	24	0	0.0
1	15,451	18	10	2	2,561	26	6	1.6
2	6,406	7	20	1	2,818	29	12	3.5
3	839	1	30	0	1,559	16	18	2.9
4	76	0	40	0	485	5	24	1.2
Total	85,657	100		3.6%	9,743	100		9%

Source: VGC (2019)

15.2.1.7 Pit Slope Geotechnical Analysis and Recommendations

Pit slope geotechnical design criteria were most recently developed by SRK Consulting (U.S.), Inc. (SRK) as part of the 2016 FS. The SRK (2016) pit slope design was based primarily on geotechnical characterization and testing conducted by BGC Engineering Inc. (BGC, 2012) as part of a 2012 FS. This previous geotechnical work was reviewed by JDS and has served as the basis for the reserve update. No additional field data collection or laboratory testing have been completed for the pit since the BGC (2012) work programs.

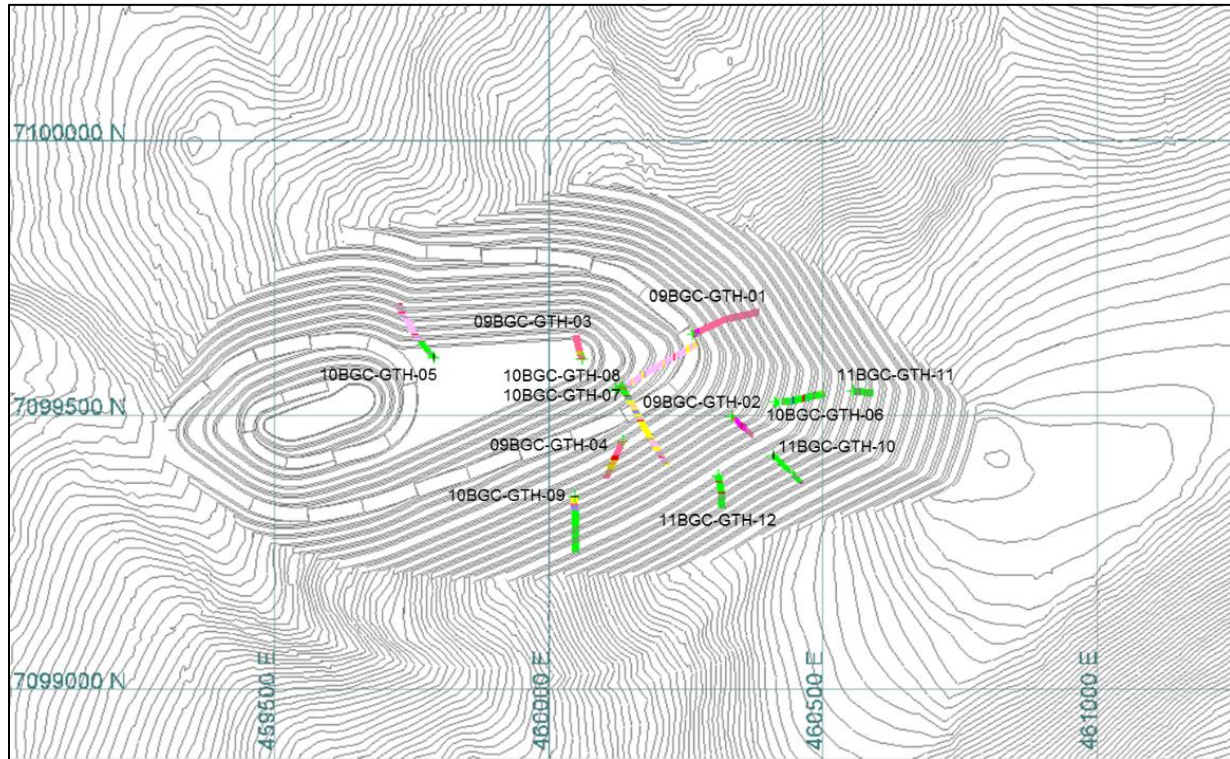
15.2.1.7.1 *Geotechnical Field and Laboratory Investigations*

Geotechnical field investigations were previously carried out by BGC (2012a and 2014) in support of the previous feasibility study including geotechnical mapping, geotechnical drilling and core logging, oriented core measurements, hydrogeologic testing, installation of borehole instrumentation to measure groundwater pressures and laboratory testing of rock core samples. A total of thirteen geotechnical diamond drill holes were completed within the Eagle pit between 2009 and 2011.

A total of approximately 3,320 m of rock core was logged between the thirteen holes. The geotechnical core was oriented by BGC using the Reflex ACE Core Orientation Tool. Historical geotechnical data, as well as outcrop mapping and geotechnical logging of exploration holes, were also considered during the programs. The locations of the 13 geotechnical drill holes are shown on Figure 15-1 along with the ultimate feasibility Eagle pit design. Rock core samples were selected from the geotechnical drill holes for laboratory testing including uniaxial compressive strength, Brazilian tensile strength, small scale direct shear, and index testing.

Eight of the geotechnical drill holes were instrumented with grouted-in vibrating wire piezometers (VWPs) to measure groundwater elevations in the proposed open pit area. An additional six VWPs were installed in two instrument nests installed specifically for hydrogeological characterization of the rock mass.

Figure 15-1: Location of Geotechnical Drill holes at Eagle Pit



Source: JDS (2019)

Basic geotechnical core logging and laboratory strength testing have also been carried out at Olive pit. A total of 9 geotechnical diamond drill holes were geotechnically logged and oriented under the supervision of Mining Plus (2015) totaling 1,027 m in length. In addition, a total of 22 diamond resource drill holes were oriented by StrataGold geologists during the 2016 resource drilling campaign. As discussed by SRK (2016) additional geotechnical drilling and characterization will likely be necessary prior to mining Olive pit; however, the existing geotechnical database is considered suitable for a feasibility-level of characterization.

15.2.1.7.2 Rock Mass Characterization

The BGC (2012) geotechnical program for the Eagle pit included rock mass characterization and structural geology interpretations. Based on the results of this work the Eagle pit rock mass was divided into five geotechnical units which follow the main geological units and weathering/alterations patterns. The five geotechnical units defined include the following:

- Surface weathered intrusive;
- Clay-altered intrusive sub-unit;
- Intrusive;
- Surface weathered metasediments; and
- Metasediments.

While the term ‘clay-altered’ was used by BGC (2012) loosely to describe a particular, weaker intrusive rock mass noted in the logging, it is understood from Victoria Gold that the deposit actually has very little, if any, clay alteration and that sericite alteration may be a better description for this material.

The unweathered/unaltered rocks, which make up the majority of the rock mass in the open pit, are Medium Strong to Very Strong based on the ISRM (1981) suggested methods and of Fair to Good rock mass quality according to the Bieniawski (1976) rock mass rating (RMR) system. The surface weathered rocks are Medium Strong to Very Strong; the quality of the rock mass varies from Poor to Good. The clay altered intrusive rocks are Weak to Very Strong; the rock mass quality varies from Poor to Fair. Metasedimentary rocks in the pit area are strongly foliated with the foliation dipping on average 30° towards west-southwest.

The geotechnical quality of the intrusive rock mass anticipated to comprise the Olive pit slopes are Strong to Very Strong intact rock strengths and Fair to Good rock mass quality. For the purpose of design, the intrusive rocks have been grouped together and the metasedimentary rocks have been grouped together as the primary control on stability of the pit slopes is structural rather than rock mass.

Subsequent to the 2016 FS, a structural geology review and 3-D interpretation was carried out for the project by SRK (2017) to better understand the potential impacts of the structures on the geotechnical design parameters. The current pit design has been reviewed relative to the proposed structures and stability analyses have been updated where necessary. Although there are a high number of structural intersections interpreted within the Eagle pit, the current structural model does not indicate high risk of large-scale slope instabilities.

The Olive pit is believed to have significantly fewer major fault structures compared to Eagle. The few structures that have been interpreted at Olive are believed to be steeply dipping and therefore not expected to have adverse impacts on pit wall stability for the current pit design.

15.2.1.7.3 *Slope Stability Analysis*

As part of the 2016 FS update, opportunities were identified that could advance the previous 2012 geotechnical design parameters, potentially resulting in less conservative slope angles and reduced stripping. Detailed probabilistic bench design analyses were conducted incorporating the natural variability in discontinuity properties, through statistical distributions that were defined, based primarily on the original BGC (2012) discontinuity characterization and strength testing information. The probabilistic analyses suggested that less conservative bench design parameters could be used than were originally indicated in the previous 2012 FS.

Bench design analyses were accomplished using the software program SBlock (Esterhuizen, 2004) and an acceptability criteria of a maximum probability of failure of 30%, and a minimum catch bench width equal to approximately the 80th percentile cumulative catch bench width (i.e. 80% reliability). The primary conclusions from the analyses follow:

- Based on the current final pit design and the structural trends identified to date, a majority of the Eagle and Olive pits are not anticipated to be heavily impacted by structurally controlled instabilities. A maximum achievable bench face angle (BFA) of 70° has been assumed for these areas based on data uncertainties and operational constraints;
- The highest risk of bench-scale instability at Eagle occurs along northeast dipping walls in the intrusives where a high likelihood of planar and wedge instabilities are anticipated. Walls oriented in this direction represent a very small portion of the overall pit design;

- West dipping bench faces and lower interramp slopes in the Eagle pit metasedimentary rocks are anticipated to be controlled by the dominant foliation or bedding discontinuities, as well as potential wedges formed by the intersection of two discontinuity sets. A maximum BFA of 60° has been assumed for this section of the pit; and
- Achievable BFA and lower interramp slope angles in the northwest Olive pit intrusive rock are anticipated to be controlled by the intersection of combinations of discontinuity sets. Analysis results indicate achievable bench face angles of equal to or greater than the maximum assumed bench face angle of 70°.

Bench stability analyses are based solely on geologic structure and do not directly consider effects of weathering, alteration, blasting or excavation techniques. Depending on the quality of blasting and excavation techniques, achievable BFA might be reduced from the theoretical angles determined by these analyses. When taking these operational effects into consideration, it is rare to achieve effective BFA greater than about 70° to 75°, unless there is a steeper structure controlling the bench geometry.

Limit equilibrium slope stability analyses were conducted using Slide (Rocscience, 2015) to confirm stability of the interramp and overall slope angles assuming the maximum bench face angles. A total of six critical sections were selected to verify stability of the ultimate pit designs; four at Eagle (Figure 15-2) and two at Olive.

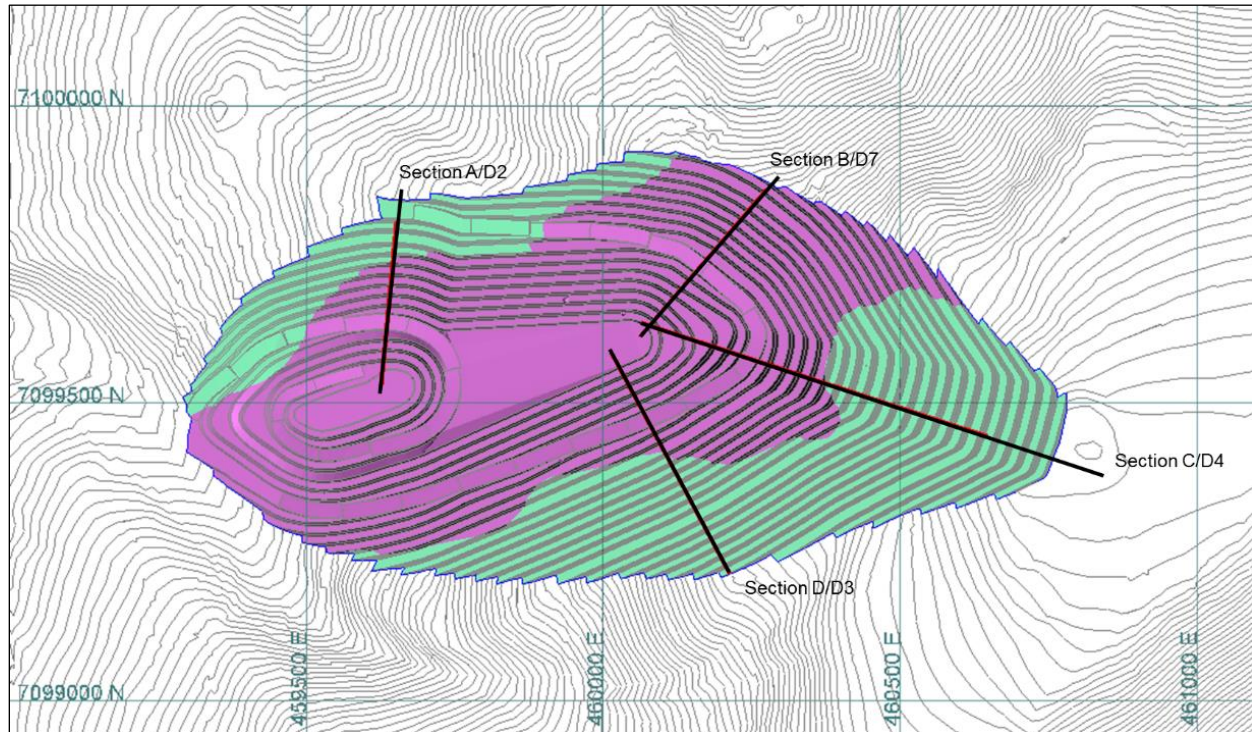
Rock mass shear strengths were developed for each rock type based largely on the BGC (2012) investigation using the Hoek-Brown (Hoek, et al., 2002) rock mass shear strength criteria. For sections where dominant geologic structure such as rock mass jointing or foliation were oriented adversely for pit wall stability, an anisotropic strength model was used that assigns a weaker shear strength in the direction parallel to the joints or foliation. Rock mass properties for each rock type at Eagle are summarized in Table 15-4.

Table 15-4: Rock Mass Properties

Geomechanical Unit	Mohr-Coulomb		Continuity Coefficient k	Generalized Hoek-Brown				Unit Weight (kN/m³)
	Phi (deg)	Coh. (kPa)		GSI	UCS (MPa)	m	D	
CINT ¹ Rock Mass	-	-		47	51	15	0.7	26.4
CINT ¹ Rock Mass ESM (Joint Strength)	32	431	0.5	-	-	-	-	26.4
Metasediments Rock Mass	-	-	-	55	83	17	0.7	27.3
Metasediments Rock Mass ESM (Fol. Strength)	34	179	0.8	-	-	-	-	27.3
Soil Overburden	35	0	-	-	-	-	-	20.0
Fault Zone	30	0	-	-	-	-	-	19.0

¹ CINT = Clay-Altered Intrusive based on BGC (2012).

Figure 15-2: Location of Critical Slope Stability Cross Sections - Eagle Pit



Source: JDS (2019)

Results of the interramp and overall slope stability analyses for the bench configuration based slope angles indicate safety factors between 1.3 and 1.8 for the Eagle pit, and between 1.3 and 3.4 for Olive pit. These values meet or exceed the minimum acceptable safety factor of 1.3 for static loading conditions.

Results from the Eagle Pit analyses are summarized in Table 15-5 based on the 2016 FS final pit configuration. Analyses have not been updated for the current final pit configuration, but results are anticipated to be similar given the wall orientations and slope heights have not changed significantly. The distribution of rock types anticipated to be exposed in the final pit walls is also anticipated to be very similar to the 2016 design.

Table 15-5: Results of Overall / Interramp Slope Stability Modeling: Eagle Final Pit

Pit	Section	Slope ¹	Slope Design		Safety Factor			
			Height ² (m)	Angle ² (°)	FOS (Ru=0.9)	Approx. Depth ³ (m)	FOS (125 m depress.)	Approx. Depth ³ (m)
Eagle	A	OSA	235	43	1.8	70	1.8	75
		ISA	175	49	1.7	50	-	-
	B	OSA	290	42	1.7	75	1.6	80
		ISA	200	49	1.7	50	-	-
	C	OSA	470	39	1.3	130	1.4	140
		ISA	410	39	1.3	130	-	-
	D	OSA	380	44	1.5	150	1.4	280
		ISA	305	49	1.4	60	-	-

¹ OSA indicates Overall Slope Angle and ISA indicates Interramp Slope Angle.

² Slope heights and slope angle reported for ISA include the geotechnical berms in the measurements.

³ Number reported is approximate horizontal distance between slope face and critical failure surface.

Source: JDS (2019)

15.2.1.7.4 Pit Slope Geotechnical Design Criteria

Recommended slope design parameters for the final Eagle and Olive Final pits are summarized in Table 15-6. The Eagle final pit design recommendations are also shown graphically on Figure 15-3. The recommendations are based on the dip direction of the pit wall (e.g. for an east-west trending, south facing pit wall, the slope dip direction would be 180° azimuth).

Table 15-6: Recommended Slope Design Parameters for Final Pit

Pit	Sector	Max. Slope Height (m)	Wall Dip Direction		Bench Face Angle (°)	Bench Height (m)	Bench Width (m)	Max. ISA ¹ (°)
			From (°)	To (°)				
Eagle	North	225	130	200	70	20	10	49
	Northeast	280	200	265	70	20	10	49
	East (above elev.1,095 m)	280	265	305	60	20	14	38
	East (below elev. 1,095 m)	210	265	305	60	20	12	40
	South	375	350	85	70	20	10	49
Olive	Southeast	180	90	260	70	20	10	49
	Northwest	110	260	90	70	20	10	49

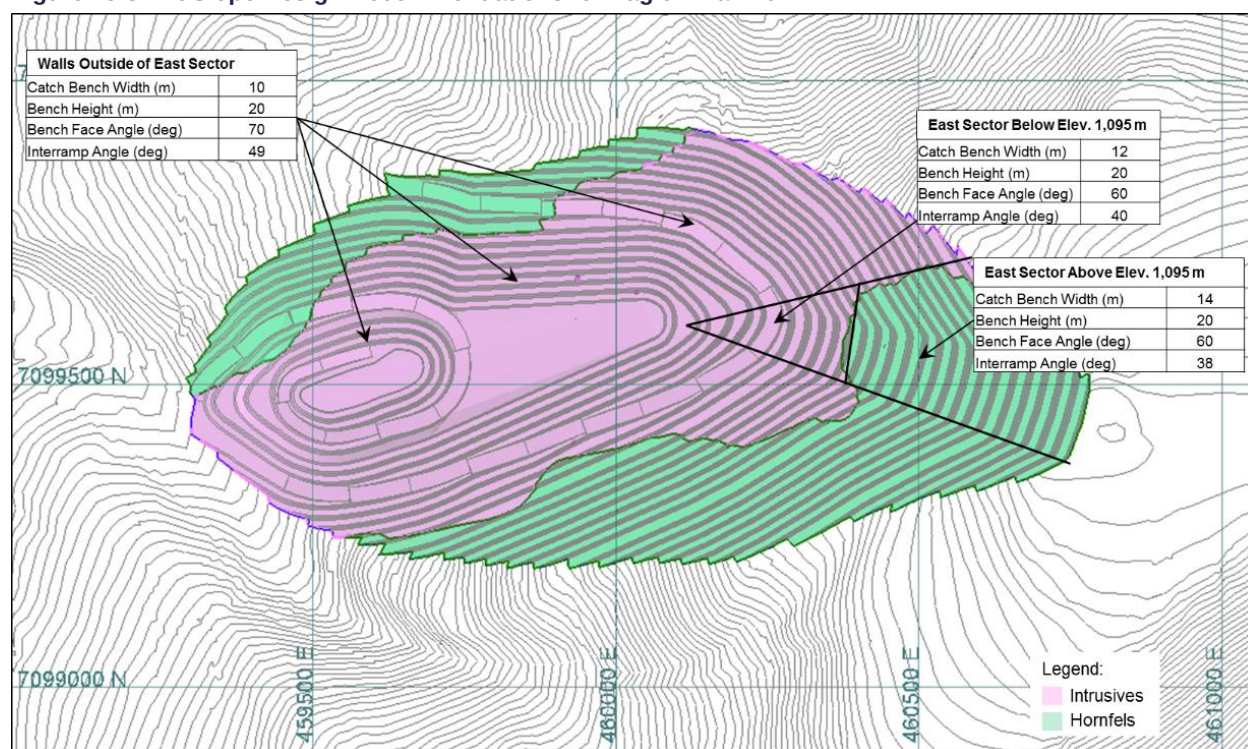
¹ ISA indicates Interramp Slope Angle

Source: JDS (2019)

Slightly more conservative slope angles are being used for the Eagle Phase 1 pit due to the high degree of weathering and intense fracturing of the rock forming at least the upper portion of the Phase 1 pit walls. The Eagle Phase 1 slope angles are summarized in Table 15-7. Based on the geotechnical evaluation

discussed above, rock exposed in the final pit walls is anticipated to be of significantly better geotechnical quality.

Figure 15-3: Pit Slope Design Recommendations for Eagle Final Pit



Source: JDS (2019)

Table 15-7: Slope Design Parameters for Eagle Phase 1 Pit

Sector	Wall Dip Direction		Bench Face Angle (°)	Bench Height (m)	Bench Width (m)	Max. ISA ¹ (°)
	From (°)	To (°)				
North & Northeast	0	265	65	10	6	43.2
East	265	305	55	10	6.5	36.5
South, Southeast & Southwest	350	85	65	10	6	43.2

¹ ISA indicates Interramp Slope Angle

Source: JDS (2019)

The recommendations for Eagle pit are based on full depressurization occurring to a minimum distance of 125 m behind the pit wall. BGC (2012 and 2014) recommends the installation of 250 m horizontal drains to accomplish the 125 m depressurized zone and provides additional specifications for horizontal drain construction and installation. The level of depressurization will be monitored by previously installed piezometer BH-BGC-11-73 during the initial, Phase 1 pit development. Additional piezometers will be required prior to commencement of the Phase 2 pushback and as the pit progresses towards its final configuration.

15.2.1.7.5 *Recommendations for Additional Pit Geotechnical Work*

Geological and geomechanical bench face mapping programs should be undertaken to verify that the geologic structural conditions encountered are consistent with the assumptions used in the analyses, and to identify local variations in conditions that may increase the risk of instabilities. Data collection should concentrate on developing a geotechnical database that will facilitate further refinement of the bench design and optimization of interramp and overall slope angles. Particularly important information includes discontinuity persistence, spacing and variations in orientation as well as assessments of blast performance. The 3D structural model should be regularly updated as mining progresses and additional field mapping data is acquired.

A slope monitoring program should be designed and implemented to ensure that slopes are behaving as anticipated and provide sufficient warning should movements occur. The monitoring program should include, at a minimum, a network of survey prisms monitored that are analyzed regularly.

15.2.2 **Open Pit Optimization Results**

JDS generated a series of optimized shells for the two deposits based on varying revenue factors. The results were analyzed with shells chosen as the basis for ultimate limits and preliminary phase selection.

The results of the pit optimization evaluation for varying revenue factor values are summarized in Table 15-8, Figure 15-4 and Figure 15-5 for the Eagle deposit. Note that the NPV in this optimization summary does not take into account capital expenditures and is used only as a guide in shell selection and determination of the mining shapes. There was no additional pit optimization analysis for the Olive deposit and the Olive pit optimization analysis completed from the previous feasibility update was carried over to this technical report.

NPVS produces both a best case (i.e., mine out shell 1, the smallest shell, and then mine out each subsequent shell from the top down, before starting the next shell) and a worst case (mine each bench completely to final limits before starting next bench) scenarios. These two scenarios provide a bracket for the range of possible outcomes.

The shells were produced based on varying revenue factors (0.3 through to 1.3 of base case) to produce the series of nested shells and their respective NPV results.

To better determine the optimum shell on which to base the phasing and scheduling, and to gain a better understanding of the mineability of each deposit, the various pit shells were analyzed in a preliminary schedule. The schedule assumed a combined (crush plus ROM ore) nominal production rate of 33,700 t/d ore. No stockpiles were used in the analysis and no capital cost estimate (CAPEX) was considered.

Based on the analysis of the shells and preliminary schedule, shells were chosen as the base case ultimate shell for each deposit. In all cases, ultimate shells were selected not only on the basis of maximizing NPV, but also minimizing the addition of increasingly lower grade and higher strip ratio ore (i.e. higher incremental strip ratios) that generate only a minimal improvement on the overall NPV. In addition, pit phases were also selected for Eagle based on the optimization results and used as the basis for the detailed ultimate pit and phase designs. Pit Shell #30 (Revenue Factor of 0.68) was selected as a basis of detailed design for Eagle.

A similar exercise was conducted on the Olive deposit. The pit optimization results are summarized in Table 15-9, and shown graphically in Figure 15-6 and Figure 15-7.

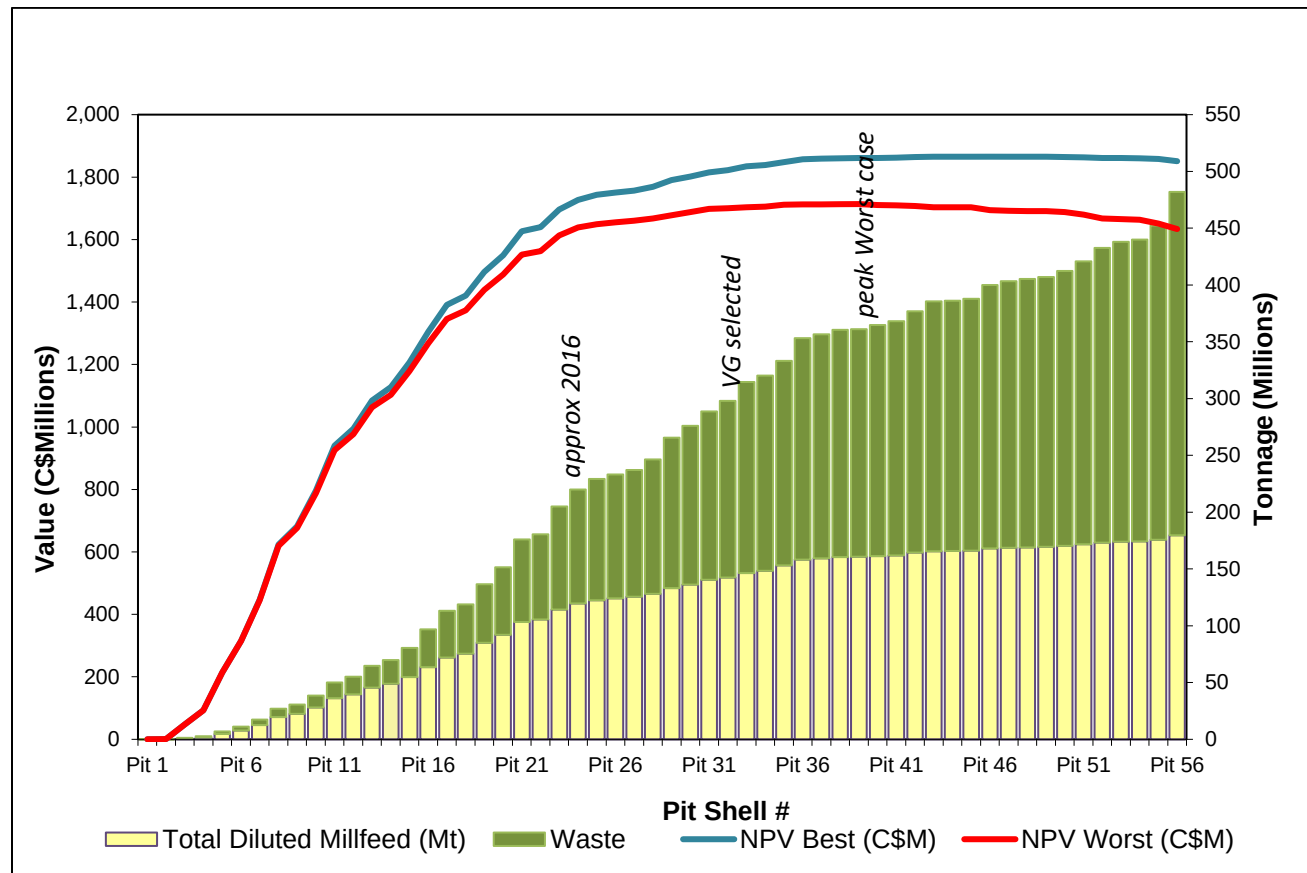
Table 15-8: Eagle Deposit Pit Optimization Results

LG Shells			Total Mill Feed			Material			Cashflows				Incremental Output								
Pit	RevFac	Life	Mill Feed	Au	Au	Waste	Strip R	Total	TCF	NPV Best	NPV Worst	NPV Avg	Mill feed	Waste	Strip Ratio	NPV Best	NPV Worst	NPV Avg	NPV Best	NPV Worst	NPV Avg
(#)		(yrs)	(M t)	(g/t)	(M oz)	(M tonnes)	(w:o)	(M tonnes)	(C\$M)	(C\$M)	(C\$M)	(C\$M)	(kt)	(kt)	(w:o)	(C\$M)	(C\$M)	(C\$M)	(%)	(%)	(%)
Pit 1	0.10	0.0	0.0	2.13	0.00	0.0	0.1	0.0	0	0	0	0	0.0	0.0	0.07	0.2	0.2	0.2	100%	100%	100%
Pit 2	0.12	0.0	0.0	2.85	0.00	0.0	1.5	0.0	1	1	1	1	0.0	0.0	1.9	0.8	0.8	0.8	384.4%	384.4%	384.4%
Pit 3	0.14	0.1	0.8	1.55	0.04	0.5	0.7	1.3	47	47	47	47	0.8	0.5	0.6	46.4	46.4	46.4	4496.1%	4495.9%	4496.0%
Pit 4	0.16	0.2	1.7	1.48	0.08	1.1	0.7	2.8	93	93	93	93	0.9	0.6	0.7	45.4	45.4	45.4	95.9%	95.8%	95.9%
Pit 5	0.18	0.4	4.8	1.22	0.19	2.2	0.5	7.0	216	214	214	214	3.1	1.1	0.3	121.1	120.9	121.0	130.4%	130.3%	130.3%
Pit 6	0.20	0.7	7.8	1.14	0.28	3.3	0.4	11.1	321	316	315	315	3.0	1.1	0.4	101.9	101.5	101.7	47.6%	47.5%	47.6%
Pit 7	0.22	1.2	12.6	1.04	0.42	4.9	0.4	17.5	459	447	445	446	4.8	1.6	0.3	131.2	130.0	130.6	41.5%	41.2%	41.4%
Pit 8	0.24	1.8	19.7	0.97	0.61	7.4	0.4	27.1	650	624	619	622	7.1	2.5	0.4	176.8	174.4	175.6	39.6%	39.2%	39.4%
Pit 9	0.26	2.1	22.3	0.94	0.68	8.3	0.4	30.6	715	682	677	680	2.6	0.9	0.4	58.6	57.5	58.0	9.4%	9.3%	9.3%
Pit 10	0.28	2.6	28.1	0.90	0.82	10.5	0.4	38.6	844	797	788	793	5.8	2.2	0.4	114.6	111.3	112.9	16.8%	16.4%	16.6%
Pit 11	0.30	3.4	36.4	0.86	1.01	13.6	0.4	49.9	1,011	941	926	933	8.3	3.1	0.4	143.8	137.4	140.6	18.1%	17.4%	17.7%
Pit 12	0.32	3.7	39.7	0.85	1.08	15.5	0.4	55.2	1,075	994	977	986	3.3	2.0	0.6	53.4	51.6	52.5	5.7%	5.6%	5.6%
Pit 13	0.34	4.2	45.7	0.83	1.22	19.1	0.4	64.8	1,186	1,085	1,063	1,074	6.0	3.6	0.6	90.6	85.5	88.1	9.1%	8.8%	8.9%
Pit 14	0.36	4.5	48.9	0.82	1.28	20.9	0.4	69.7	1,239	1,127	1,103	1,115	3.2	1.7	0.5	42.8	40.4	41.6	3.9%	3.8%	3.9%
Pit 15	0.38	5.1	55.0	0.80	1.41	25.5	0.5	80.4	1,340	1,207	1,179	1,193	6.1	4.6	0.8	79.1	75.4	77.3	7.0%	6.8%	6.9%
Pit 16	0.40	5.9	63.5	0.78	1.59	33.2	0.5	96.7	1,469	1,305	1,269	1,287	8.5	7.8	0.9	98.0	89.9	93.9	8.1%	7.6%	7.9%
Pit 17	0.42	6.7	71.9	0.76	1.76	41.2	0.6	113.1	1,588	1,391	1,346	1,369	8.5	7.9	0.9	86.7	77.6	82.2	6.6%	6.1%	6.4%
Pit 18	0.44	7.0	75.4	0.75	1.82	43.3	0.6	118.7	1,630	1,421	1,373	1,397	3.5	2.1	0.6	29.7	27.1	28.4	2.1%	2.0%	2.1%
Pit 19	0.46	7.9	85.0	0.73	1.99	51.5	0.6	136.5	1,740	1,496	1,439	1,468	9.6	8.2	0.9	75.2	66.1	70.6	5.3%	4.8%	5.1%
Pit 20	0.48	8.5	92.0	0.72	2.12	59.5	0.6	151.4	1,821	1,550	1,488	1,519	7.0	8.0	1.1	53.7	48.9	51.3	3.6%	3.4%	3.5%
Pit 21	0.50	9.6	103.4	0.70	2.33	72.5	0.7	175.9	1,943	1,627	1,552	1,589	11.4	13.1	1.1	76.7	63.3	70.0	5.0%	4.3%	4.6%
Pit 22	0.52	9.8	105.6	0.70	2.36	74.9	0.7	180.4	1,965	1,640	1,563	1,601	2.1	2.3	1.1	13.1	11.7	12.4	0.8%	0.8%	0.8%
Pit 23	0.54	10.6	114.3	0.69	2.53	90.8	0.8	205.1	2,059	1,696	1,613	1,655	8.7	15.9	1.8	56.4	49.9	53.1	3.4%	3.2%	3.3%
Pit 24	0.56	11.1	119.7	0.68	2.63	100.3	0.8	220.0	2,113	1,727	1,638	1,683	5.4	9.6	1.8	31.3	25.3	28.3	1.8%	1.6%	1.7%
Pit 25	0.58	11.4	122.5	0.68	2.69	106.8	0.9	229.3	2,141	1,743	1,650	1,697	2.8	6.4	2.3	16.1	11.2	13.6	0.9%	0.7%	0.8%
Pit 26	0.60	11.5	124.0	0.68	2.71	109.0	0.9	233.1	2,153	1,750	1,656	1,703	1.5	2.3	1.5	6.7	6.0	6.3	0.4%	0.4%	0.4%
Pit 27	0.62	11.6	125.4	0.68	2.74	111.6	0.9	237.0	2,164	1,756	1,661	1,708	1.4	2.6	1.9	6.2	4.9	5.6	0.4%	0.3%	0.3%
Pit 28	0.64	11.9	128.1	0.68	2.79	118.4	0.9	246.6	2,187	1,769	1,667	1,718	2.7	6.8	2.5	12.4	6.8	9.6	0.7%	0.4%	0.6%
Pit 29	0.66	12.4	133.1	0.67	2.89	132.6	1.0	265.7	2,228	1,791	1,678	1,734	5.0	14.2	2.9	22.1	10.4	16.3	1.3%	0.6%	0.9%
Pit 30	0.68	12.7	136.3	0.67	2.94	139.6	1.0	275.9	2,249	1,802	1,688	1,745	3.2	7.0	2.2	11.4	10.2	10.8	0.6%	0.6%	0.6%
Pit 31	0.70	13.0	140.5	0.67	3.01	148.3	1.1	288.8	2,274	1,815	1,698	1,757	4.2	8.7	2.1	13.0	10.2	11.6	0.7%	0.6%	0.7%
Pit 32	0.72	13.2	142.4	0.67	3.05	155.6	1.1	297.9	2,288	1,823	1,701	1,762	1.9	7.3	3.9	7.2	2.7	5.0	0.4%	0.2%	0.3%
Pit 33	0.74	13.6	146.3	0.66	3.12	168.2	1.1	314.6	2,312	1,834	1,704	1,769	4.0	12.7	3.2	12.0	3.0	7.5	0.7%	0.2%	0.4%

LG Shells			Total Mill Feed			Material			Cashflows				Incremental Output								
Pit	RevFac	Life	Mill Feed	Au	Au	Waste	Strip R	Total	TCF	NPV Best	NPV Worst	NPV Avg	Mill feed	Waste	Strip Ratio	NPV Best	NPV Worst	NPV Avg	NPV Best	NPV Worst	NPV Avg
(#)		(yrs)	(M t)	(g/t)	(M oz)	(M tonnes)	(w:o)	(M tonnes)	(C\$M)	(C\$M)	(C\$M)	(C\$M)	(kt)	(kt)	(w:o)	(C\$M)	(C\$M)	(C\$M)	(%)	(%)	(%)
Pit 34	0.76	13.8	148.3	0.66	3.15	171.9	1.2	320.3	2,320	1,839	1,706	1,772	2.0	3.7	1.9	4.2	2.0	3.1	0.2%	0.1%	0.2%
Pit 35	0.78	14.2	153.2	0.65	3.21	179.9	1.2	333.2	2,338	1,847	1,712	1,780	4.9	8.0	1.6	8.8	6.1	7.4	0.5%	0.4%	0.4%
Pit 36	0.80	14.7	158.4	0.65	3.29	194.9	1.2	353.3	2,359	1,857	1,713	1,785	5.2	14.9	2.9	10.0	0.9	5.5	0.5%	0.1%	0.3%
Pit 37	0.82	14.8	159.3	0.65	3.31	197.4	1.2	356.7	2,362	1,859	1,713	1,786	0.9	2.6	3.0	1.6	-0.2	0.7	0.1%	0.0%	0.0%
Pit 38	0.84	14.9	160.6	0.64	3.32	199.9	1.2	360.5	2,366	1,861	1,713	1,787	1.4	2.5	1.8	1.7	0.8	1.2	0.1%	0.0%	0.1%
Pit 39	0.86	14.9	160.7	0.64	3.33	200.4	1.2	361.1	2,366	1,861	1,713	1,787	0.1	0.5	3.6	0.2	-0.1	0.1	0.0%	0.0%	0.0%
Pit 40	0.88	15.0	161.3	0.64	3.34	203.6	1.3	364.9	2,368	1,862	1,711	1,786	0.6	3.2	5.8	0.9	-2.3	-0.7	0.0%	-0.1%	0.0%
Pit 41	0.90	15.0	161.9	0.64	3.35	206.3	1.3	368.2	2,369	1,862	1,710	1,786	0.6	2.7	4.4	0.7	-1.2	-0.3	0.0%	-0.1%	0.0%
Pit 42	0.92	15.3	164.3	0.64	3.38	212.6	1.3	376.9	2,373	1,864	1,708	1,786	2.5	6.3	2.6	1.7	-1.9	-0.1	0.1%	-0.1%	0.0%
Pit 43	0.94	15.4	165.7	0.64	3.41	220.0	1.3	385.7	2,375	1,865	1,703	1,784	1.4	7.4	5.4	1.1	-4.4	-1.6	0.1%	-0.3%	-0.1%
Pit 44	0.96	15.4	165.9	0.64	3.41	220.4	1.3	386.3	2,375	1,865	1,703	1,784	0.1	0.5	3.3	0.1	-0.2	-0.1	0.0%	0.0%	0.0%
Pit 45	0.98	15.4	166.2	0.64	3.42	221.8	1.3	388.0	2,376	1,865	1,703	1,784	0.3	1.3	3.8	0.1	-0.3	-0.1	0.0%	0.0%	0.0%
Pit 46	1.00	15.6	168.1	0.64	3.45	232.0	1.4	400.1	2,376	1,865	1,694	1,780	1.9	10.3	5.5	0.1	-8.6	-4.3	0.0%	-0.5%	-0.2%
Pit 47	1.02	15.7	168.8	0.64	3.46	234.6	1.4	403.4	2,376	1,865	1,693	1,779	0.7	2.6	3.8	0.0	-1.7	-0.9	0.0%	-0.1%	-0.1%
Pit 48	1.04	15.7	169.0	0.64	3.46	236.2	1.4	405.2	2,376	1,865	1,691	1,778	0.2	1.6	6.9	-0.1	-1.6	-0.8	0.0%	-0.1%	0.0%
Pit 49	1.06	15.7	169.4	0.64	3.47	237.5	1.4	406.9	2,375	1,865	1,691	1,778	0.4	1.3	3.2	-0.1	-0.4	-0.2	0.0%	0.0%	0.0%
Pit 50	1.08	15.8	170.5	0.64	3.48	241.8	1.4	412.3	2,374	1,865	1,688	1,776	1.1	4.3	4.0	-0.6	-2.9	-1.8	0.0%	-0.2%	-0.1%
Pit 51	1.10	15.9	171.6	0.63	3.50	249.1	1.5	420.7	2,372	1,863	1,680	1,772	1.2	7.3	6.3	-1.1	-8.2	-4.7	-0.1%	-0.5%	-0.3%
Pit 52	1.12	16.1	173.1	0.63	3.53	259.6	1.5	432.7	2,368	1,862	1,668	1,765	1.4	10.6	7.4	-1.8	-11.5	-6.6	-0.1%	-0.7%	-0.4%
Pit 53	1.14	16.2	174.0	0.63	3.54	264.1	1.5	438.1	2,366	1,861	1,665	1,763	0.9	4.4	4.9	-0.9	-2.8	-1.9	-0.1%	-0.2%	-0.1%
Pit 54	1.16	16.2	174.2	0.63	3.55	265.8	1.5	440.1	2,365	1,860	1,664	1,762	0.3	1.7	6.3	-0.4	-1.3	-0.9	0.0%	-0.1%	0.0%
Pit 55	1.18	16.3	175.8	0.63	3.58	276.7	1.6	452.5	2,359	1,858	1,651	1,755	1.5	10.9	7.0	-2.6	-12.7	-7.6	-0.1%	-0.8%	-0.4%
Pit 56	1.20	16.7	179.7	0.63	3.64	302.3	1.7	482.0	2,344	1,851	1,634	1,742	3.9	25.6	6.5	-6.9	-17.4	-12.2	-0.4%	-1.1%	-0.7%

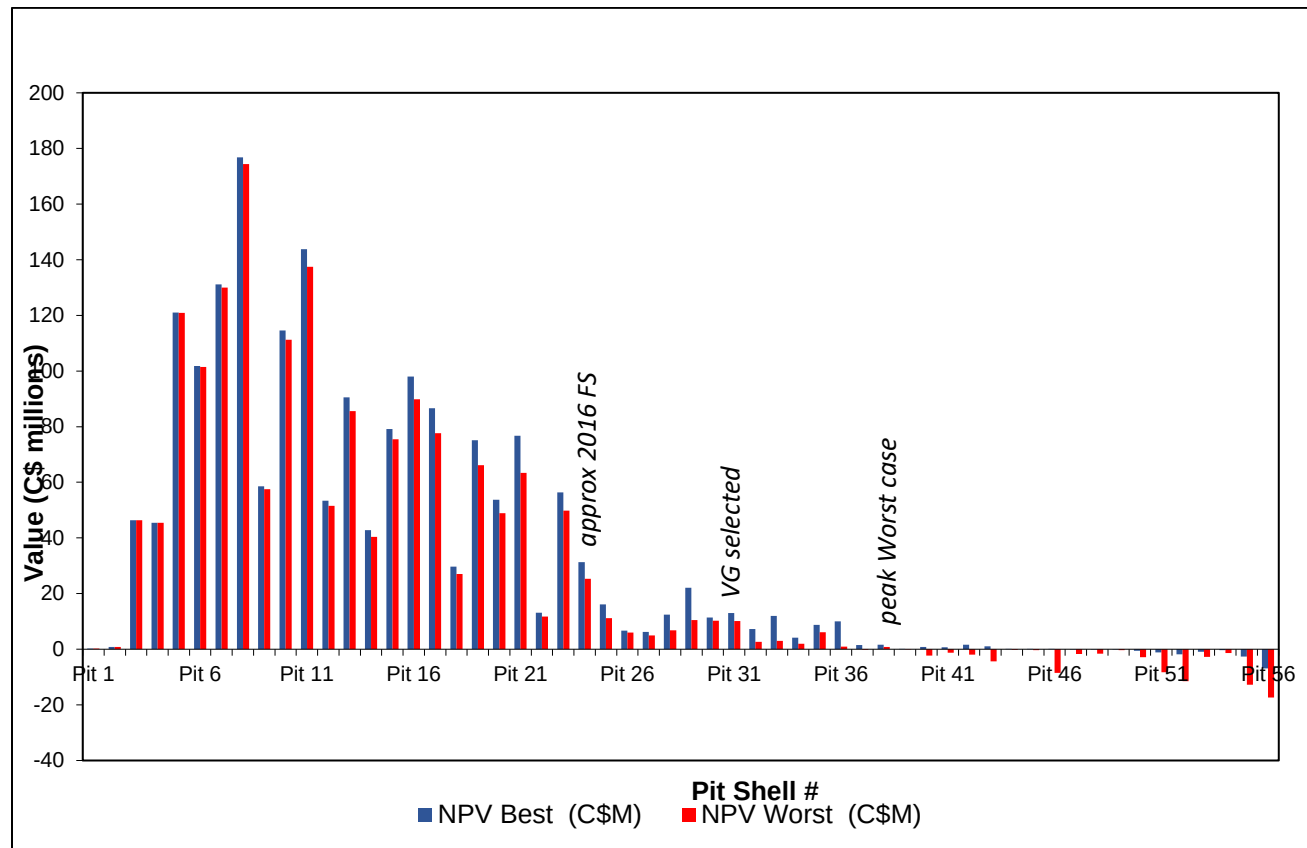
Source: JDS (2016)

Figure 15-4: Eagle Deposit Pit Optimization - Overall Summary



Source: JDS (2016)

Figure 15-5: Eagle Deposit Pit Optimization - Incremental Results



Source: JDS (2016)

Table 15-9: Olive Deposit Pit Optimization Results

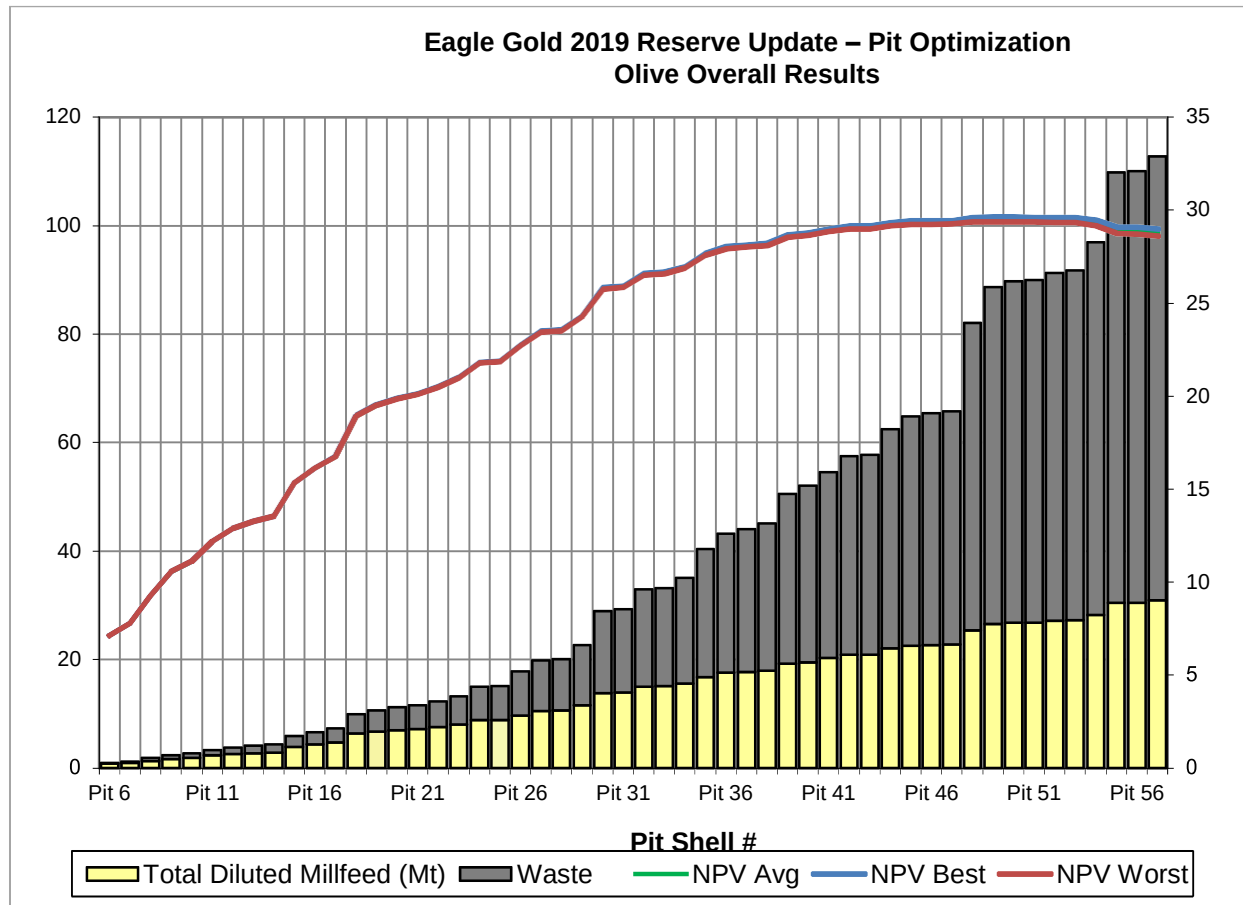
LG Shells			Total Millfeed				Material		Cash Flows						Incremental Output			
Pit	RevFac	Life	Mill Feed	Au	Au	Waste	Strip R	Total	TCF	NPV Best	NPV Worst	NPV Avg	Mill feed	Waste	Strip Ratio	NPV Best	NPV Worst	NPV Avg
Pit 6	0.14	0.0	0.24	3.43	0.03	0.0	0.2	0.3	25	25	25	25	0.2	0.0	0.17	24.5	24.5	24.5
Pit 7	0.16	0.0	0.28	3.25	0.03	0.1	0.2	0.3	27	27	27	27	0.0	0.0	0.6	2.2	2.2	2.2
Pit 8	0.18	0.0	0.38	2.88	0.04	0.2	0.4	0.5	32	32	32	32	0.1	0.1	0.9	5.1	5.1	5.1
Pit 9	0.20	0.0	0.50	2.56	0.04	0.2	0.4	0.7	36	36	36	36	0.1	0.0	0.4	4.3	4.3	4.3
Pit 10	0.22	0.1	0.56	2.45	0.04	0.2	0.4	0.8	38	38	38	38	0.1	0.0	0.4	1.9	1.9	1.9
Pit 11	0.24	0.1	0.68	2.25	0.05	0.3	0.4	1.0	42	42	42	42	0.1	0.1	0.6	3.8	3.8	3.8
Pit 12	0.26	0.1	0.76	2.15	0.05	0.3	0.5	1.1	44	44	44	44	0.1	0.0	0.6	2.4	2.4	2.4
Pit 13	0.28	0.1	0.80	2.11	0.05	0.4	0.5	1.2	46	46	45	45	0.0	0.0	1.2	1.3	1.3	1.3
Pit 14	0.30	0.1	0.84	2.07	0.06	0.4	0.5	1.3	47	46	46	46	0.0	0.0	0.7	1.0	1.0	1.0
Pit 15	0.32	0.1	1.13	1.79	0.07	0.6	0.5	1.7	53	53	53	53	0.3	0.2	0.5	6.2	6.2	6.2
Pit 16	0.34	0.1	1.27	1.70	0.07	0.7	0.5	1.9	55	55	55	55	0.1	0.1	0.6	2.7	2.7	2.7
Pit 17	0.36	0.1	1.39	1.64	0.07	0.8	0.5	2.1	58	58	57	58	0.1	0.1	0.8	2.2	2.2	2.2
Pit 18	0.38	0.2	1.85	1.46	0.09	1.1	0.6	2.9	65	65	65	65	0.5	0.3	0.6	7.4	7.4	7.4
Pit 19	0.40	0.2	1.97	1.43	0.09	1.2	0.6	3.1	67	67	67	67	0.1	0.1	0.9	2.0	2.0	2.0
Pit 20	0.42	0.2	2.05	1.40	0.09	1.2	0.6	3.3	68	68	68	68	0.1	0.1	0.9	1.2	1.2	1.2
Pit 21	0.44	0.2	2.11	1.39	0.09	1.3	0.6	3.4	69	69	69	69	0.1	0.0	0.8	0.9	0.9	0.9
Pit 22	0.46	0.2	2.21	1.36	0.10	1.4	0.6	3.6	71	70	70	70	0.1	0.1	1.0	1.3	1.3	1.3
Pit 23	0.48	0.2	2.33	1.34	0.10	1.5	0.7	3.9	72	72	72	72	0.1	0.2	1.4	1.7	1.7	1.7
Pit 24	0.50	0.2	2.57	1.29	0.11	1.8	0.7	4.4	75	75	75	75	0.2	0.3	1.1	2.7	2.7	2.7
Pit 25	0.52	0.2	2.59	1.29	0.11	1.8	0.7	4.4	75	75	75	75	0.0	0.0	1.5	0.3	0.3	0.3
Pit 26	0.54	0.3	2.82	1.26	0.11	2.4	0.8	5.2	78	78	78	78	0.2	0.5	2.3	3.0	3.0	3.0
Pit 27	0.56	0.3	3.08	1.22	0.12	2.7	0.9	5.8	81	81	80	80	0.3	0.3	1.3	2.5	2.5	2.5
Pit 28	0.58	0.3	3.10	1.22	0.12	2.7	0.9	5.8	81	81	81	81	0.0	0.0	2.0	0.2	0.2	0.2
Pit 29	0.60	0.3	3.38	1.18	0.13	3.2	1.0	6.6	84	83	83	83	0.3	0.5	1.8	2.5	2.5	2.5
Pit 30	0.62	0.4	4.04	1.12	0.14	4.4	1.1	8.5	89	89	88	88	0.7	1.2	1.8	5.2	5.2	5.2
Pit 31	0.64	0.4	4.08	1.11	0.15	4.5	1.1	8.5	89	89	89	89	0.0	0.0	1.2	0.3	0.3	0.3
Pit 32	0.66	0.4	4.37	1.09	0.15	5.2	1.2	9.6	92	91	91	91	0.3	0.8	2.6	2.4	2.3	2.4
Pit 33	0.68	0.4	4.41	1.09	0.15	5.3	1.2	9.7	92	91	91	91	0.0	0.0	0.7	0.2	0.2	0.2
Pit 34	0.70	0.4	4.56	1.08	0.16	5.7	1.2	10.2	93	92	92	92	0.1	0.4	2.9	1.0	1.0	1.0
Pit 35	0.72	0.5	4.88	1.07	0.17	6.9	1.4	11.8	95	95	94	95	0.3	1.2	3.8	2.4	2.4	2.4
Pit 36	0.74	0.5	5.12	1.05	0.17	7.5	1.5	12.6	97	96	96	96	0.2	0.6	2.4	1.3	1.2	1.2
Pit 37	0.76	0.5	5.18	1.05	0.18	7.7	1.5	12.9	97	96	96	96	0.1	0.2	3.1	0.3	0.3	0.3
Pit 38	0.78	0.5	5.25	1.05	0.18	7.9	1.5	13.1	97	97	96	97	0.1	0.2	3.2	0.3	0.3	0.3
Pit 39	0.80	0.5	5.60	1.03	0.19	9.1	1.6	14.8	99	98	98	98	0.3	1.3	3.6	1.6	1.5	1.5
Pit 40	0.82	0.5	5.68	1.03	0.19	9.5	1.7	15.2	99	99	98	98	0.1	0.3	4.2	0.4	0.3	0.4
Pit 41	0.84	0.5	5.91	1.01	0.19	10.0	1.7	15.9	100	99	99	99	0.2	0.5	2.3	0.7	0.6	0.6
Pit 42	0.86	0.6	6.09	1.01	0.20	10.7	1.8	16.8	101	100	99	100	0.2	0.7	3.8	0.6	0.5	0.5

LG Shells			Total Millfeed				Material		Cash Flows						Incremental Output			
Pit	RevFac	Life	Mill Feed	Au	Au	Waste	Strip R	Total	TCF	NPV Best	NPV Worst	NPV Avg	Mill feed	Waste	Strip Ratio	NPV Best	NPV Worst	NPV Avg
Pit 43	0.88	0.6	6.11	1.00	0.20	10.7	1.8	16.8	101	100	99	100	0.0	0.0	1.2	0.0	0.0	0.0
Pit 44	0.90	0.6	6.44	0.99	0.20	11.8	1.8	18.2	101	101	100	100	0.3	1.1	3.2	0.6	0.6	0.6
Pit 45	0.92	0.6	6.59	0.98	0.21	12.3	1.9	18.9	102	101	100	101	0.2	0.5	3.4	0.2	0.2	0.2
Pit 46	0.94	0.6	6.63	0.98	0.21	12.4	1.9	19.1	102	101	100	101	0.0	0.1	3.6	0.0	0.0	0.0
Pit 47	0.96	0.6	6.66	0.98	0.209	12.5	1.88	19.2	102	101	100	101	0.0	0.1	3.1	0.0	0.0	0.0
Pit 48	0.98	0.7	7.39	0.96	0.23	16.5	2.2	23.9	102	101	101	101	0.7	4.0	5.4	0.6	0.4	0.5
Pit 49	1.00	0.7	7.76	0.95	0.24	18.1	2.3	25.9	102	102	101	101	0.4	1.5	4.2	0.1	0.0	0.0
Pit 50	1.02	0.7	7.82	0.95	0.24	18.4	2.3	26.2	102	102	101	101	0.1	0.3	4.7	0.0	0.0	0.0
Pit 51	1.04	0.7	7.84	0.95	0.24	18.4	2.4	26.3	102	102	101	101	0.0	0.1	3.9	0.0	0.0	0.0
Pit 52	1.06	0.7	7.92	0.94	0.24	18.7	2.4	26.6	102	101	101	101	0.1	0.3	3.1	-0.1	-0.1	-0.1
Pit 53	1.08	0.7	7.96	0.94	0.24	18.8	2.4	26.8	102	101	101	101	0.0	0.1	3.2	0.0	0.0	0.0
Pit 54	1.10	0.8	8.23	0.93	0.25	20.0	2.4	28.3	102	101	100	100	0.3	1.2	4.5	-0.5	-0.6	-0.5
Pit 55	1.12	0.8	8.88	0.91	0.26	23.1	2.6	32.0	101	100	99	99	0.6	3.1	4.8	-1.2	-1.5	-1.3
Pit 56	1.14	0.8	8.90	0.91	0.26	23.2	2.6	32.1	100	100	98	99	0.0	0.1	4.2	0.0	0.0	0.0
Pit 57	1.16	0.8	9.03	0.91	0.26	23.9	2.6	32.9	100	99	98	99	0.1	0.7	5.1	-0.3	-0.4	-0.4

Note: Pit Shell #47 (Revenue Factor 0.96) was selected as a basis of detailed design for Olive.

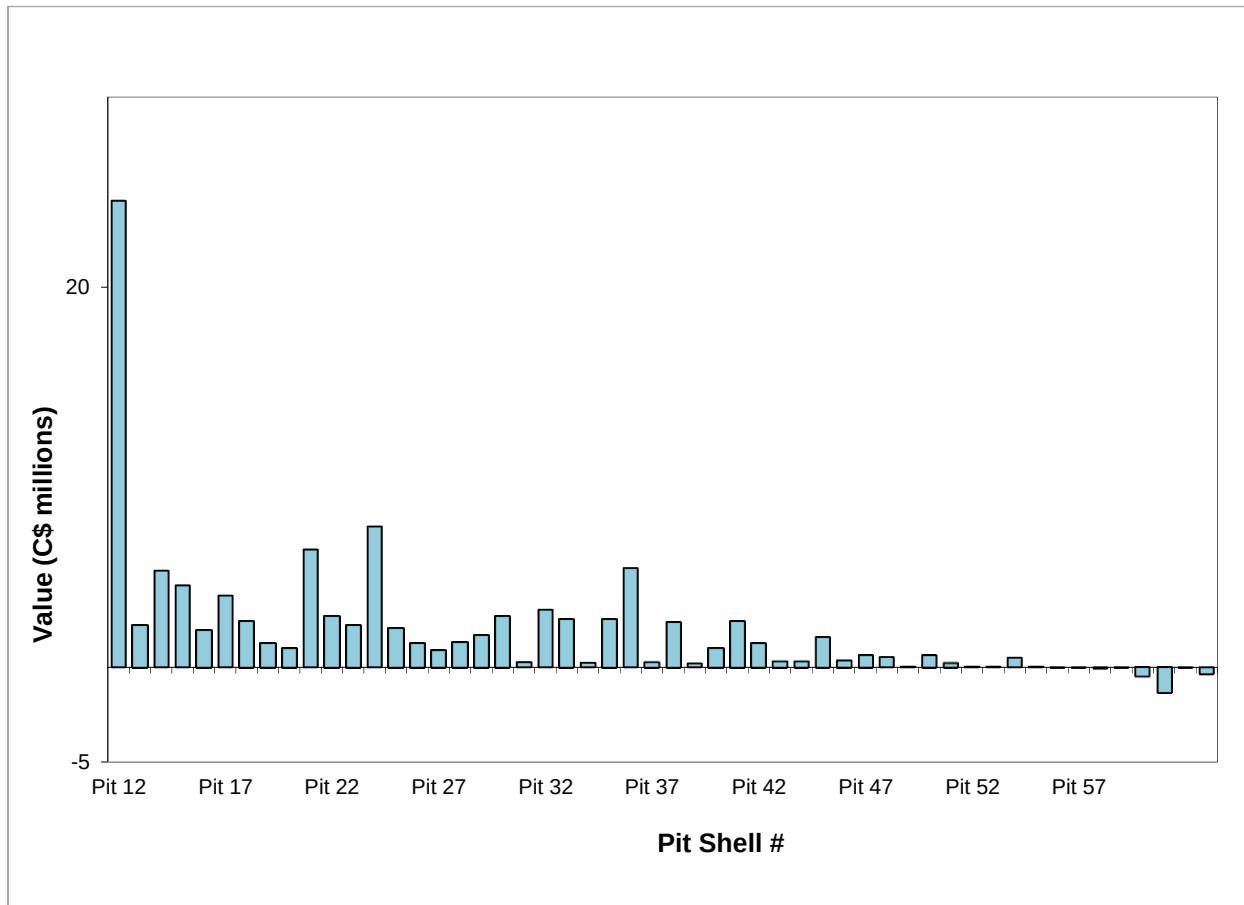
Source: JDS (2016)

Figure 15-6: Olive Deposit Pit Optimization - Overall Summary



Source: JDS (2016)

Figure 15-7: Olive Deposit Pit Optimization - Incremental Results



Source: JDS (2016)

15.3 Mine Design

Detailed pit design involves the conversion of the optimized pit shells into an operational open pit mine design. Table 15-10 gives the main parameters used in determining the pit designs.

Table 15-10: Pit Design Parameters

Description	Value
Ultimate Pit Design Parameters – All Pits	
Bench Height	10 m (single, working) 20 m (double; final pit configuration)
Face Angle	60° to 70° (double bench, final pit)
Berm Width	10 m to 12 m
Inter-ramp Angle (IRA)	38° to 49°
Ramp Width – Double lane	26 m (total excavation)

Description	Value
Ultimate Pit Design Parameters – All Pits	
Ramp Width - Single lane -lower benches	20 m
Ramp Gradient – Double lane	10
Ramp Gradient – Single lane – lower benches	12
Overall Angle (OSA)	36° to 45°

Source: VGC (2019)

15.3.1 Haul Road and Ramp Design Parameters

Eagle Gold site roads fall into two categories as summarized in Table 15-11. All site roads are considered private roads and access will be controlled by Victoria Gold.

Table 15-11: Eagle Gold Road Design Criteria

Type	Design Vehicle	Overall Width	Maximum Gradient
In-pit haul Road	Largest mine truck (136 t)	26 m	10% standard
			12% for pit bottom access
Site Road (light vehicle traffic)	Standard operating vehicles (light trucks, crew transport, supply and delivery vehicles, service vehicles and occasional use by heavy equipment)	8 to 10.4 m	8%*

*Site roads will be field designed to take advantage of existing infrastructure and terrain.

Source: VGC (2019)

The primary haulage roads are required between the various open pit deposits and the primary ore crusher, waste rock facilities, ROM heap leach pad, construction areas and maintenance facilities. Roads are planned to be, as far as practical, constructed using all-fill techniques, utilizing waste rock sourced from the open pits, to achieve design alignment and grade. Roads within the ultimate waste rock storage facilities are designed to be all-fill construction. Dust control on the roads will be done using water trucks, with the addition of chemical suppressants as needed.

The main in-pit haul roads and ramps are designed to have an overall road allowance of 26 m in width. The selected road allowance is adequate for accommodating three times the width of the largest haul truck (136 t), with additional room for drainage ditches and safety berms as summarized in Table 15-12.

Table 15-12: In-Pit Haulage Road Design Parameters

Item	Metres
Truck (136 t) operating width	6.3
Running surface – 3 x truck width	18.9
Berm height (Three-quarters tire height)	2.2
Berm width at 45° slopes	4.5
Ditch width	2
Total Road Allowance	26

Source: VGC (2019)

Ramps are designed with a maximum grade of 10% (steepened to 12% for final access to lower portions of the open pits). Ex-pit roads are designed to allow access to roads connecting the various pits to the crusher and waste dumps and are planned to be a maximum of 30 m wide (i.e. an all-fill road).

15.3.2 Open Pit Designs

Detailed mine designs were undertaken for the Eagle and Olive zones with plan views of each open pit design shown in Figure 15-8 and Figure 15-9.

For the Eagle pit, in order to maintain access to the primary crusher (elevation 1,050 masl), and access to the ROM heap leach pad, a haul road spirals down to the bottom of the western side of the pit. This haul road also connects to the external access road which leads to the truck shop. No final haul roads are designed along the final highwall above the crusher elevation in order to minimize waste stripping requirements.

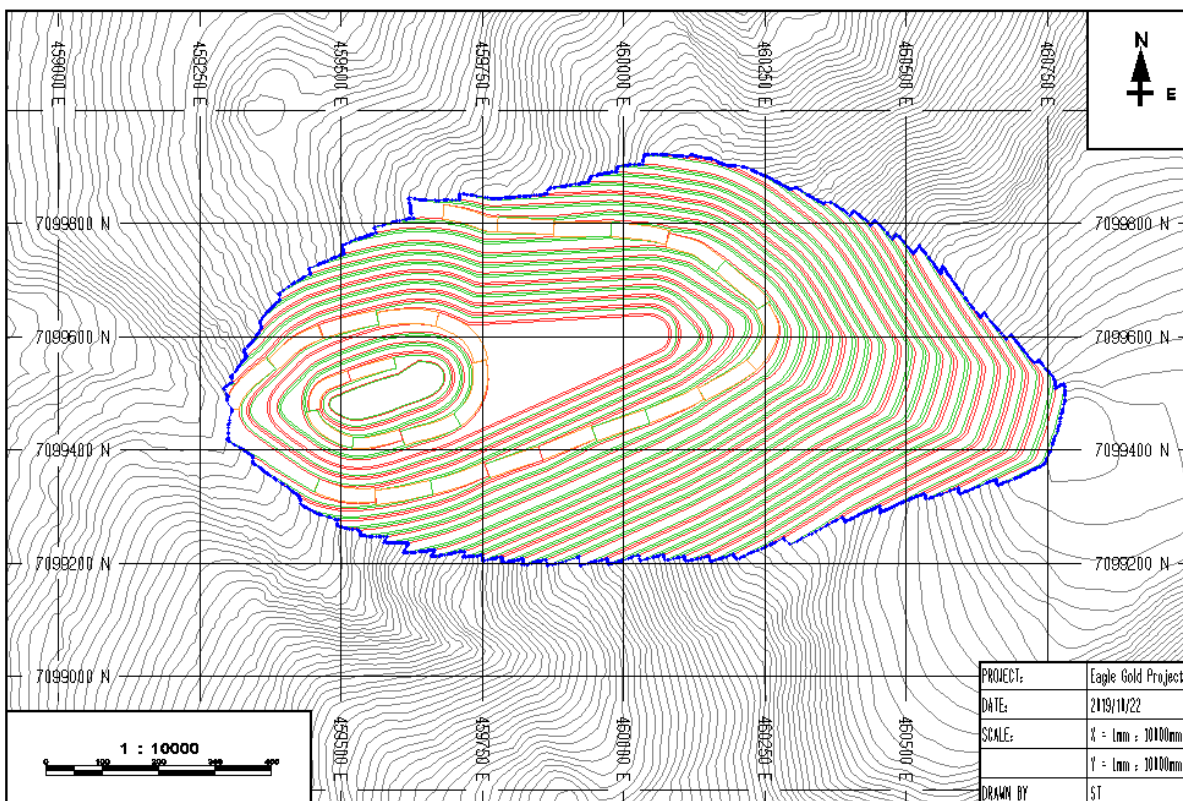
At Olive, haul roads are designed to spiral down to the pit bottoms. These ramps tie into the access road to the WRSA located to the south of the pit and further to the primary crusher adjacent to the Eagle pit.

Table 15-13: Open Pit Dimensions

Open Pit	Length (m)	Width (m)	Maximum Depth (m)
Eagle	1,500	710	600 (east highwall)
Olive	850	200	180 (southeast highwall)

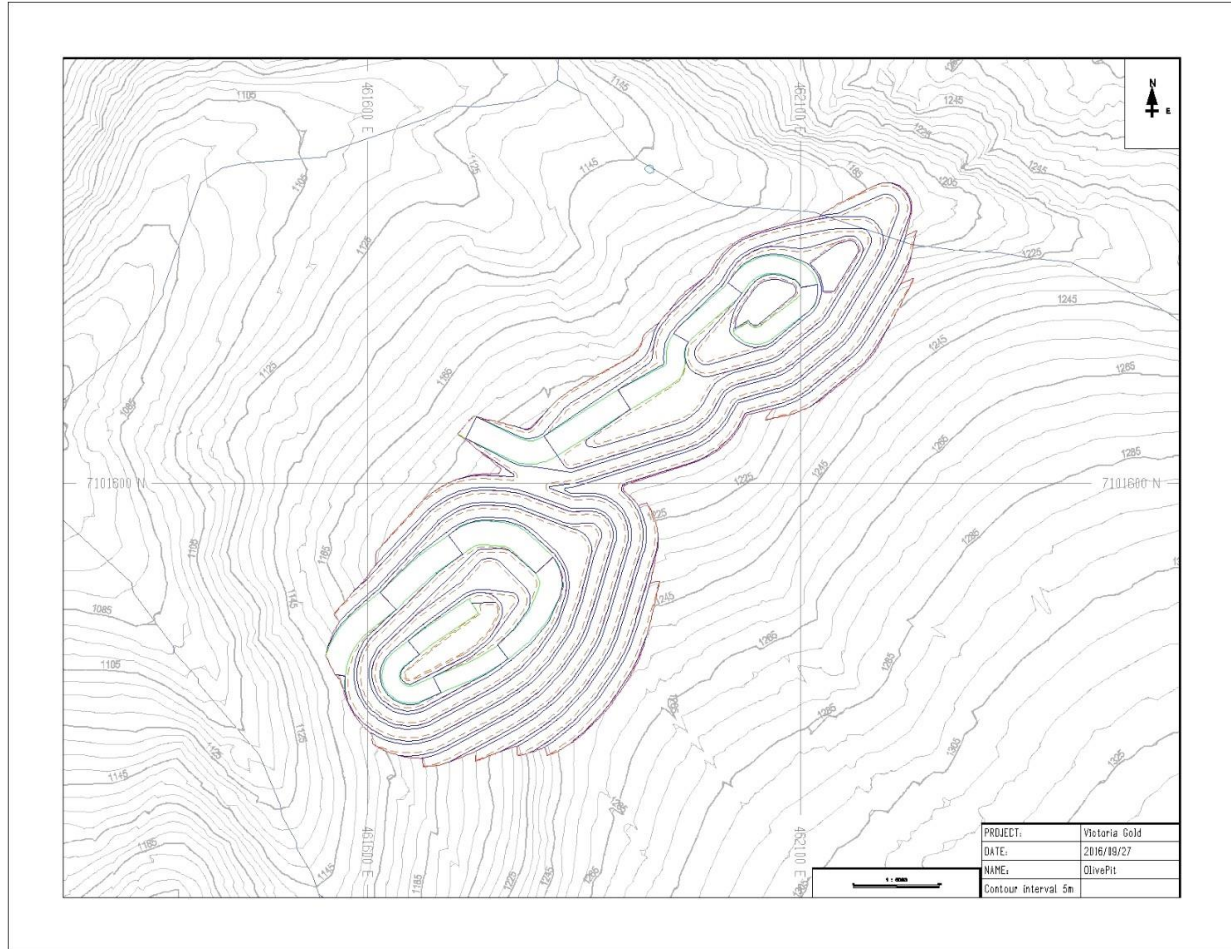
Source: VGC (2019)

Figure 15-8: Eagle Final Pit Design



Source: VGC (2019)

Figure 15-9: Olive Final Pit Design



Source: VGC (2019)

15.4 Cut-Off Grade and Resource Classification Criteria

Once pit shapes were established, marginal COG were used to determine the total amount and grade of ore in each pit. The marginal, or incremental, COG is specific to the mining method and is defined as the minimum grade at which mineralized material, already located at the pit rim (i.e. contained within the pit and already mined), pays for all additional costs incurred if it is sent for processing. According to this definition, the marginal COG for each deposit and oxidation type is summarized in Table 15-14 and this corresponds to a break-even grade that excludes mining costs. The open pit Mineral Reserves comprise all mineralized material with grades equal to or above this marginal COG.

Table 15-14: Cut-off Grades by Deposit and Material Type

Rock Type	Direct Crushed Feed - Break Even COG	Direct Crush Feed - Incremental COG*	Direct ROM Hauled to HLP - Incremental COG*	Rehandled ROM Stockpile to HLP - Incremental COG*
	(g/t)	(g/t)	(g/t)	(g/t)
Eagle- Oxide Granodiorite	0.25	0.15	0.15	0.20
Eagle- Altered Granodiorite	0.29	0.17	0.15	0.20
Eagle-Unaltered Granodiorite	0.30	0.17	0.15	0.20
Eagle-Oxide Metasediments	0.30	0.17	0.15	0.20
Eagle-Unaltered Metasediments	0.32	0.19	0.15	0.20
Olive - Oxide	0.46	0.20	not defined	not defined
Olive - Mixed	0.56	0.24	not defined	not defined
Olive - Sulphide	0.58	0.25	not defined	not defined

Notes:

1. Direct Crushed Feed Break Even COG: Bottom Break even cut-off grade for material that are fed direct from the pit to the Primary Crusher/Primary Crusher Pad.
2. Direct Crush Feed Incremental COG: Bottom Incremental cut-off grade for material that are fed directly from the pit to the Primary Crusher that covers leaching and crushing costs only.
3. Direct ROM Hauled to HLP Incremental COG: Bottom Incremental cut-off grade for material that are placed directly from the pit to the heap leach facility that covers leaching costs and extra incremental haulage only.
4. Rehanded ROM Stockpile Incremental COG: Bottom incremental cut-off grade for material that are placed directly from the pit to the ROM stockpile that covers leaching, ROM re-handling and extra incremental haulage costs only. * Incremental material is only fed when production targets are met, and spare plant capacity is available.

Source: VGC (2019)

15.5 Open Pit Mineral Reserves Estimate Statement

The Eagle Gold open pit mineral reserves are presented in Table 15-15 and Table 15-16.

Table 15-15: Open Pit Mineral Reserves by Deposit (Pre-Mining)

Area	Classification	Ore (M t)	Diluted Grade (g/t)	Contained Gold (koz)
Eagle	Proven	30	0.71	694
	Probable	118	0.63	2,366
	Total	148	0.64	3,061
Olive	Proven	2	1.02	58
	Probable	5	0.93	142
	Total	7	0.67	200
Eagle + Olive	Total	155	0.65	3,261

Notes:

1. A gold price of US\$1,275/oz is assumed.
2. Reserve based on original topo with no depletion from preproduction/ramp up period up to the effective date.
3. A US\$:C\$ exchange rate of 0.75.
4. Cut-off grades, dilution and recovery factors are applied as per open pit mining method.

Source: VGC (2019)

Table 15-16: Open Pit Mineral Reserves by Ore Type (Pre-Mining)

Type	Area	Ore (Mt)	Diluted Grade (g/t)	Contained Gold
Crushed Ore	Eagle	114	0.77	2,818
	Olive	7	0.95	200
	Total	121	0.78	3,018
Run of Mine Ore	Eagle	35	0.22	243
	Olive	-	-	-
	Total	35	0.22	243
Crushed + ROM	Total	155	0.65	3,261

Notes:

1. A gold price of US\$1,275/oz is assumed. A US\$:C\$ exchange rate of 0.75.
2. Cut-off grades, dilution and recovery factors are applied as per open pit mining method.
3. Reserve based on original topo with no depletion from preproduction/ramp up period up to the effective date.

Source: VGC (2019)

16 Mining Methods

16.1 Introduction

The Eagle Gold Mine comprises the Eagle and Olive deposits which are planned to be extracted by open pit shovel and truck mining methods.

Mining activities began in Q2 2019 and have moved a total (ore and waste) of 5.7M t up to November 15, 2019.

Industry-standard mining methods, equipment, dilution calculations and production rates were applied in the planning process.

16.2 Open Pit Mining

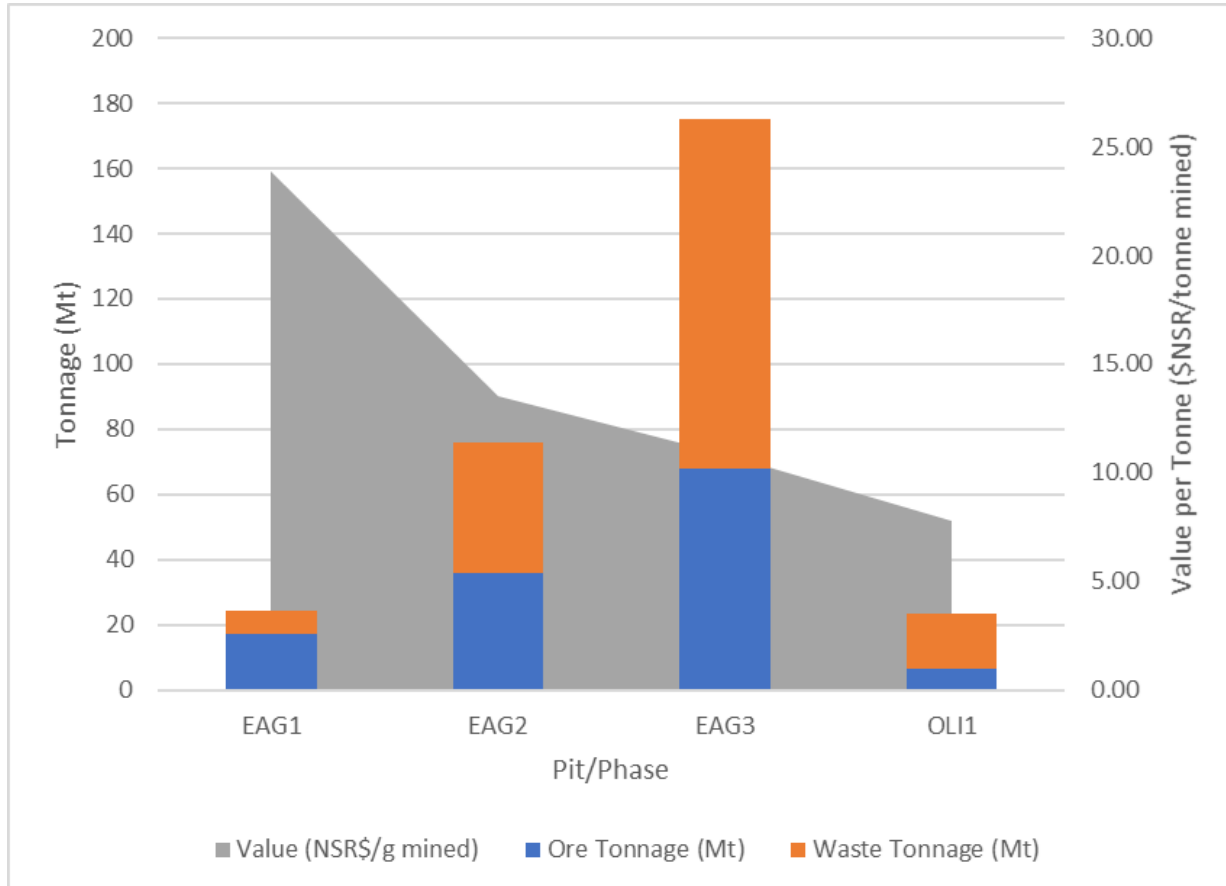
16.2.1 Open Pit Phase Design

For the Eagle pit, a total of three phases or pushbacks are designed in order to optimize the mine schedule and maximize the project value. For the Olive pit, no additional pushbacks or phases were allowed for in the mine plan development due to its relatively small footprint.

The mining schedule maximizes economic returns and achieves the target crush heap leach throughput target of 10.95M t/a through concurrent mining of the various phases and deposits. The open pit mining sequence, which is based on mining higher value material early on in the mine life, begins with the various phases of the Eagle pit, with Olive pit being mined during the latter part of the mine plan.

Figure 16-1 further summarizes the pit and phase designs for each of the deposits, illustrating ore / waste mined tonnages and contained NSR value. The contained value (which drives the optimized mining sequence) is based on the mine design criteria taking into account net metal price and heap leach gold recoveries.

Figure 16-1: Open Pit Summary



Source: VGC (2019)

16.2.2 Waste Materials

Geochemical characterization studies to identify and quantify the potential for metal leaching and acid rock drainage (ML/ARD) for waste and ore associated with the project were included in the feasibility studies conducted in 1995/1996 by New Millennium Mining Ltd.; in 2007 baseline studies by StrataGold; and in a more comprehensive program completed in 2010 by Stantec. These evaluations have indicated that the waste and ore associated with the project are likely to be non- acid generating. Minor proportions may have some propensity, albeit likely low, to generate localized acidity and therefore likely feasible, nor necessarily of any significant benefit, to sort the small proportion of waste that may have a low potential to generate acid from the vast majority that is anticipated to be non-acid generating. Therefore, waste rock will be placed in the waste rock storage facilities without regard to chemical composition.

Waste rock material produced from the Eagle and Olive pits was divided into three categories, as outlined in Table 16-1.

Table 16-1: Open Pit Waste Rock Definitions

Type	Definition
Metasedimentary	Rock which is highly weathered and foliated and generally shows poor mechanical properties
Intrusive	Rock exhibiting a similar weathering pattern as the metasedimentary but has a noticeably higher inherent strength and a higher structural integrity
Miscellaneous	Includes topsoil (thickness from 0.2 to 0.5 m) and colluvium (thickness from 2 to 7 m).

Source: VGC (2019)

Table 16-2 summarizes the waste material to be mined by material type. Note that no significant amounts of overburden are expected within the various open pits.

Table 16-2: Open Pit Waste Rock Summary (Pre-Mining)

Deposit	Type	Waste (M t)
Eagle	Metasedimentary	89.1
	Intrusive	38.9
	Total	128.0
Olive	Metasedimentary	2.5
	Intrusive	14.4
	Total	16.9
Total	Metasedimentary	53.8
	Intrusive	62.5
	Total	144.9

Source: VGC (2019)

16.3 Mine Production Schedule

16.3.1 Summary

The basic criteria used for the development of the LOM production schedule are to:

- Maximize NPV of the project;
- Maximize the value in the early years of the operation through the use of stockpiles (when no stacking of heap leach) and concurrent open pit mining of the various phases at Eagle;
- Ensure crush heap leach ore loading does not exceed 10.8M t/a;
- Maximize pit production rate per period according to the geometry of the phases and the number of shovels that can work within that geometry. Resultant maximum total yearly mine open pit production is 31.7M t (LOM average 26.3M t/year);
- Establish a primary crushed and a ROM stockpile to accommodate mining throughout the year including the winter period (January through March) when there is no ore stacking of the heap leach pads;

- Reduce crushed ore down to 1.7M t to the 90-day winter stockpile during non-stacking months and increase primary crusher throughput to 34,000 t/d during stacking months to minimize re-handling requirements.
- Crush ore to be conveyed to the primary and secondary HLP, while ROM ore to be hauled to the primary and secondary HLP;
- Convey all crush ore to the secondary HLP (near Olive deposit) once the primary HLP crush capacity is met (Year 7);
- Haul 6M t ROM ore to the Primary HLP and remaining ROM ore to the secondary HLP; and
- Plan on operating the open pit mine 365 days per year (allowing for ten non-operating days per year due to weather delays).

16.3.2 Heap Leach Feed Schedule and Constraints

The heap leach loading rate is a function of the mining production schedule, capital cost constraint and operating cost optimization. Stacking of the heap leach pads is planned to occur 275 days per annum. Primary crushing is planned to occur throughout the year, but no stacking is planned to occur during the coldest months of the year, January through March. An average annual throughput of 10.95M t has been assumed for the crushed ore while the ROM ore is to be stacked as it is produced from the mine.

16.3.3 Pit Sequencing

Pit sequence focuses on achieving the required heap leach feed production rate, mining of higher value material early in the mine life, while balancing gold grade and strip ratios.

16.3.4 Mine Plan and Open Pit Production Schedule

Table 16-3 is a summary of ore (for crush and ROM) and waste rock movement by year and by pit for the LOM production schedule along with the heap leach feed schedule. Note that the mine plan shown here only shows from January 1, 2020 to the end of mine life. This is based on mining actuals up to November 15, 2019 plus a forecast until the end of 2019. Mined quantities are expected to be 4.1M t of ore and 4.0M t of waste.

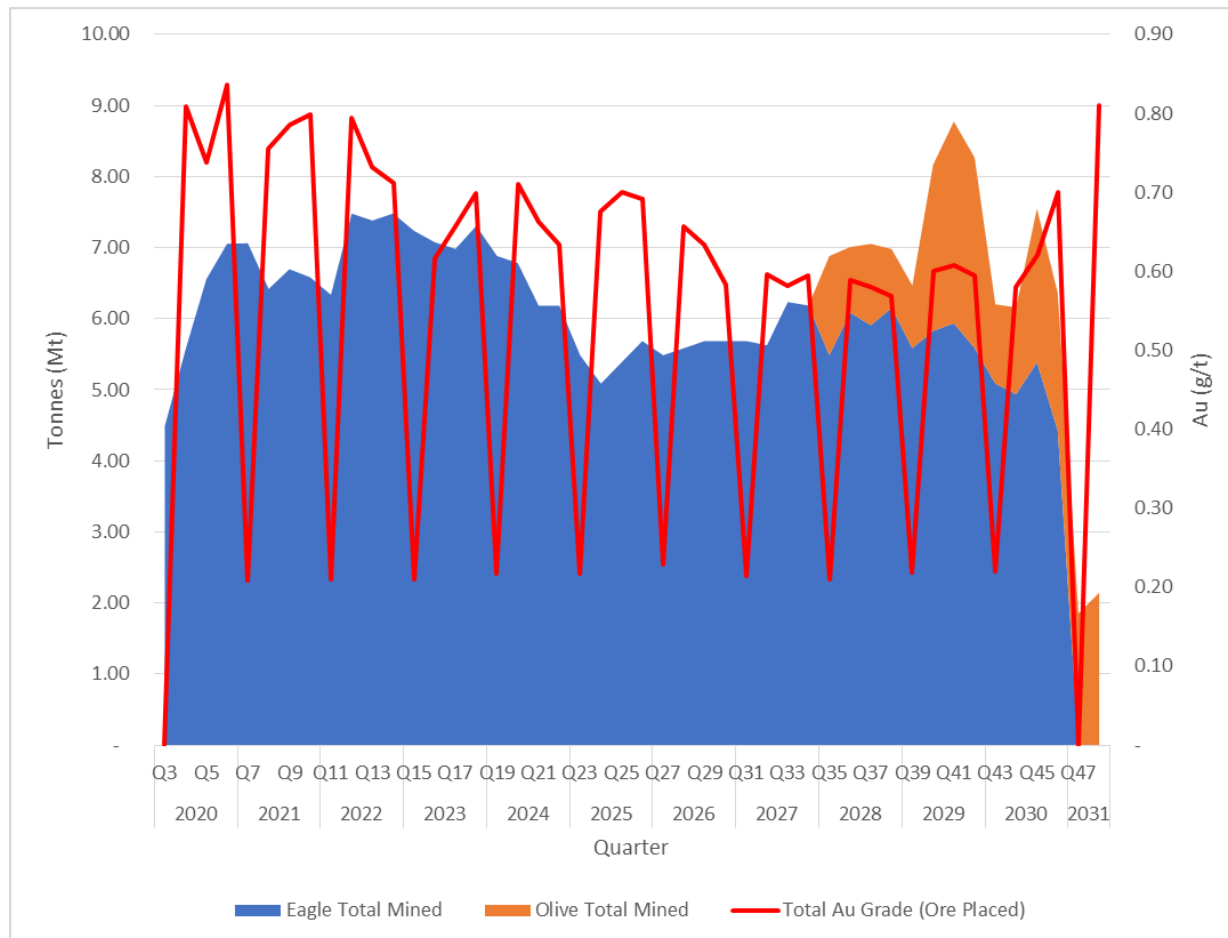
Table 16-3: LOM Production Schedule

Description	Unit	Total	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
EAGLE														
Crush Ore	Mt	110.4	9.9	9.2	10.6	10.6	10.6	10.6	10.6	10.7	10.4	8.6	8.8	
Crush Gold Grade	g/t	0.77	0.85	0.87	0.83	0.76	0.77	0.80	0.73	0.69	0.67	0.74	0.75	
Crush Contained Gold	k oz	2,726.4	271.9	259.9	280.7	259.4	260.2	271.6	247.6	238.2	223.6	202.9	210.3	
ROM Ore	Mt	32.1	1.0	1.8	2.2	3.1	2.6	3.1	3.1	3.3	3.9	4.1	3.8	
ROM Gold Grade	g/t	0.22	0.21	0.22	0.21	0.21	0.21	0.22	0.22	0.21	0.21	0.22	0.22	
ROM Contained Gold	k oz	222.7	6.8	12.5	15.4	21.5	18.1	22.2	22.1	22.4	26.3	28.5	26.9	
Total Ore	Mt	142.5	10.9	11.0	12.8	13.7	13.2	13.7	13.7	14.0	14.2	12.7	12.6	
Total Gold Grade	g/t	0.64	0.79	0.77	0.72	0.64	0.66	0.67	0.61	0.58	0.55	0.50	0.56	
Total Contained Gold	k oz	2,949.1	278.8	272.4	296.1	280.9	278.3	293.9	269.6	260.6	249.9	231.5	237.2	
Waste	Mt	128.0	13.5	17.2	15.9	14.9	12.9	8.0	8.7	9.9	9.4	10.3	7.3	
Strip Ratio	wt:ot	0.90	1.23	1.56	1.24	1.09	0.98	0.58	0.64	0.71	0.66	0.81	0.58	
OLIVE														
Crush Ore	Mt	6.5									0.4	2.2	2.0	1.9
Crush Gold Grade	g/t	0.95									1.18	1.07	0.92	0.81
Crush Contained Gold	k oz	199.7									15.4	75.4	58.9	50.0
Waste	Mt	16.9									3.9	6.5	4.4	2.1
Strip Ratio	wt:ot	2.60									9.62	2.97	2.22	1.08
TOTAL MINE														
Crush Ore	Mt	116.9	9.9	9.2	10.6	10.6	10.6	10.6	10.6	10.7	10.8	10.8	10.8	1.9
Crush Gold Grade	g/t	0.78	0.85	0.87	0.83	0.76	0.77	0.80	0.73	0.69	0.69	0.80	0.78	0.81
Crush Contained Gold	k oz	2,876.0	271.9	259.9	280.7	259.4	260.2	271.6	247.6	238.2	239.0	278.3	269.2	50.0
ROM Ore	Mt	32.1	1.0	1.8	2.2	3.1	2.6	3.1	3.1	3.3	3.9	4.1	3.8	-
ROM Gold Grade	g/t	0.22	0.21	0.22	0.21	0.21	0.21	0.22	0.22	0.21	0.21	0.22	0.22	-
ROM Contained Gold	k oz	222.7	6.8	12.5	15.4	21.5	18.1	22.2	22.1	22.4	26.3	28.5	26.9	-
Total Ore	Mt	149.0	10.9	11.0	12.8	13.7	13.2	13.7	13.7	14.0	14.6	14.9	14.6	1.9
Total Gold Grade	g/t	0.66	0.79	0.77	0.72	0.64	0.66	0.67	0.61	0.58	0.56	0.64	0.63	0.81
Total Contained Gold	k oz	3,149	278.8	272.4	296.1	280.9	278.3	293.9	269.6	260.6	265.2	306.9	296.1	50.0
Waste	Mt	144.9	13.5	17.2	15.9	14.9	12.9	8.0	8.7	9.9	13.3	16.8	11.7	2.1
Strip Ratio	wt:ot	0.97	1.23	1.56	1.24	1.09	0.98	0.58	0.64	0.70	0.91	1.13	0.80	1.08
Total Material	Mt	293.9	24.5	28.3	28.7	28.6	26.0	21.6	22.4	23.9	27.9	31.7	26.3	4.0
Total Mined	t/day		66,997	77,511	78,573	78,369	71,332	59,306	61,494	65,022	67,163	66,191	54,363	22,093

Source: VGC (2019)

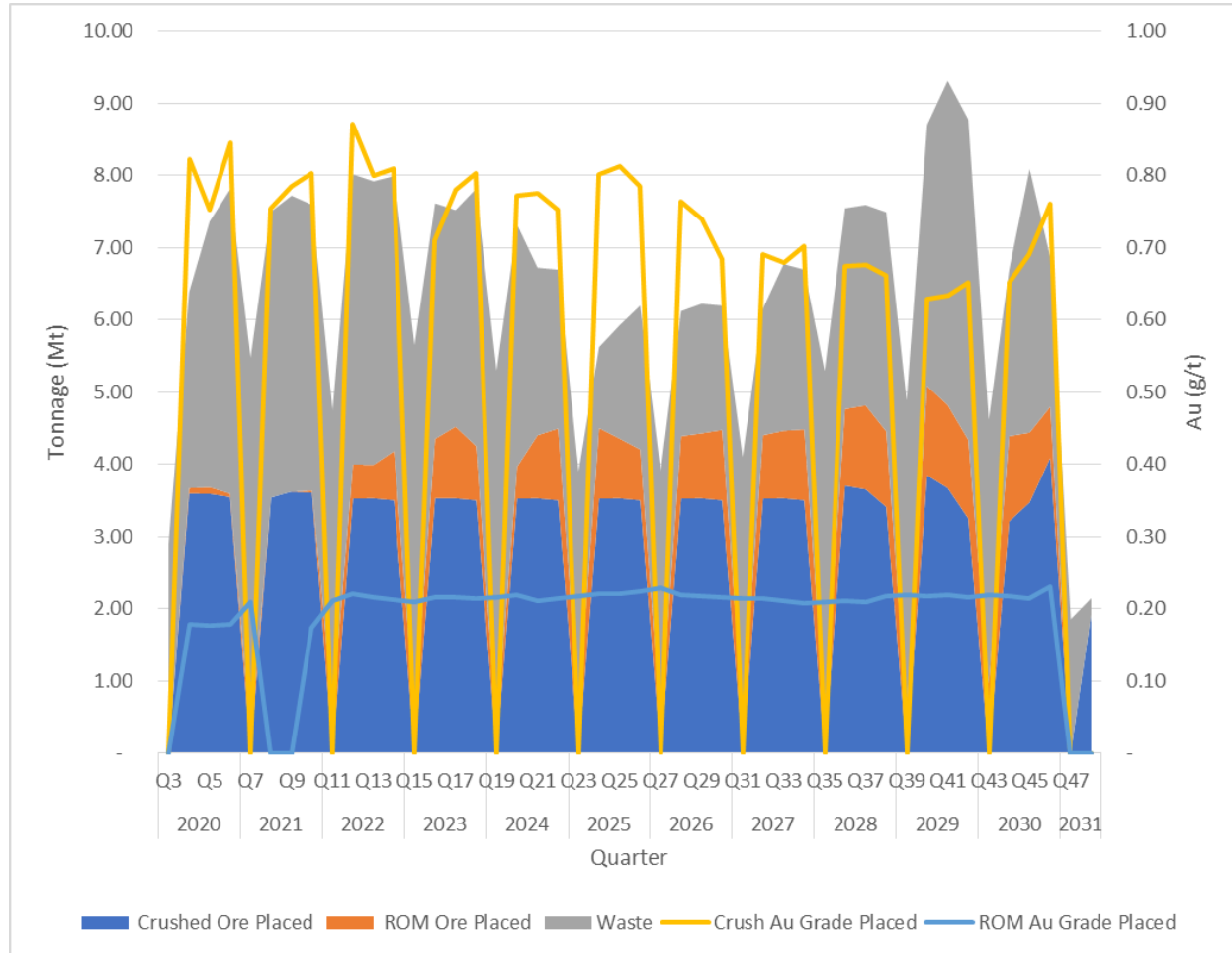
Figure 16-2 and Figure 16-3 summarize quarterly ore / waste tonnages and gold grades. Figure 16-4 illustrates the material movement by phase and pit. Figure 16-5 displays annual ore tonnes and recovered gold. Additional scheduling optimization work is required to transition the Olive production into the mine plan.

Figure 16-2: Quarterly, Total Mined Tonnages and Gold Grade of Ore Placed



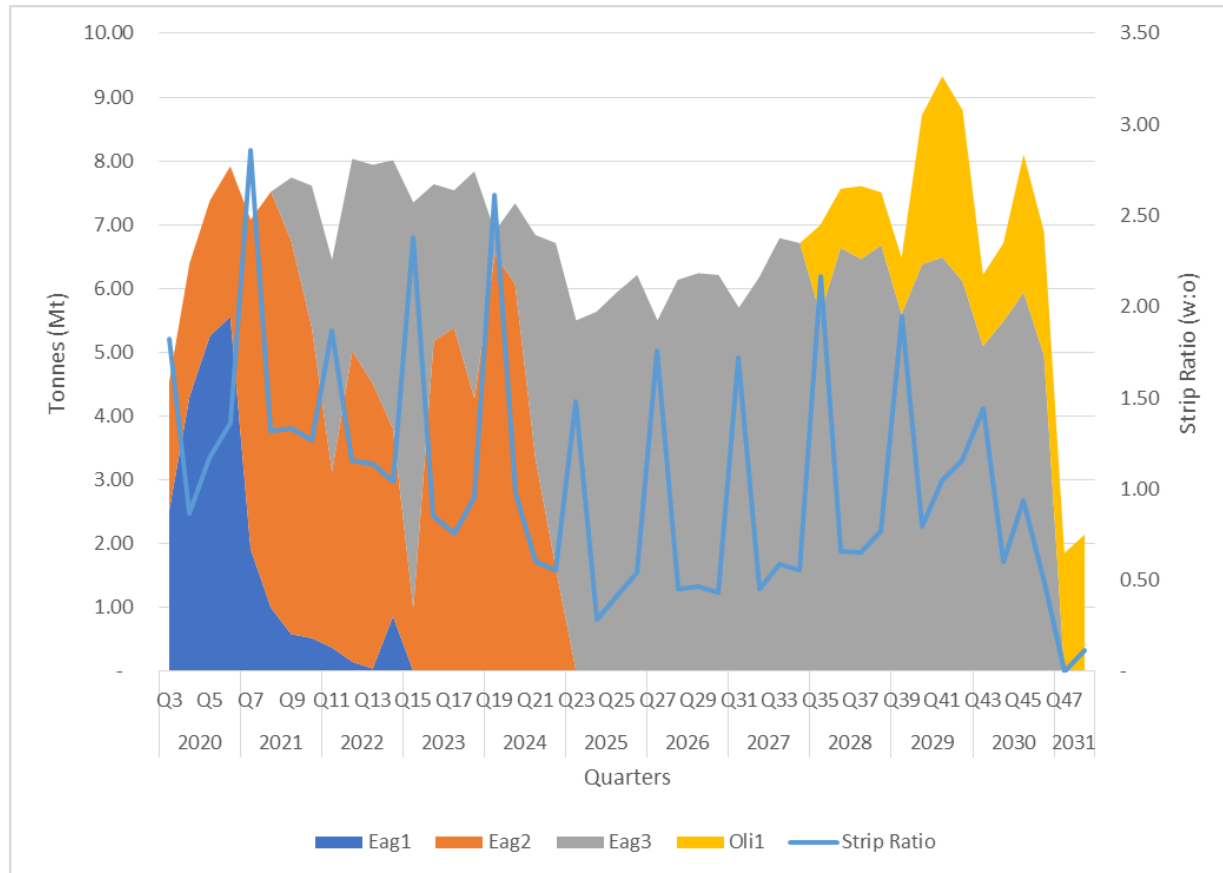
Source: VGC (2019)

Figure 16-3: Quarterly Mined Ore and Waste Tonnages and Gold Grades by Type



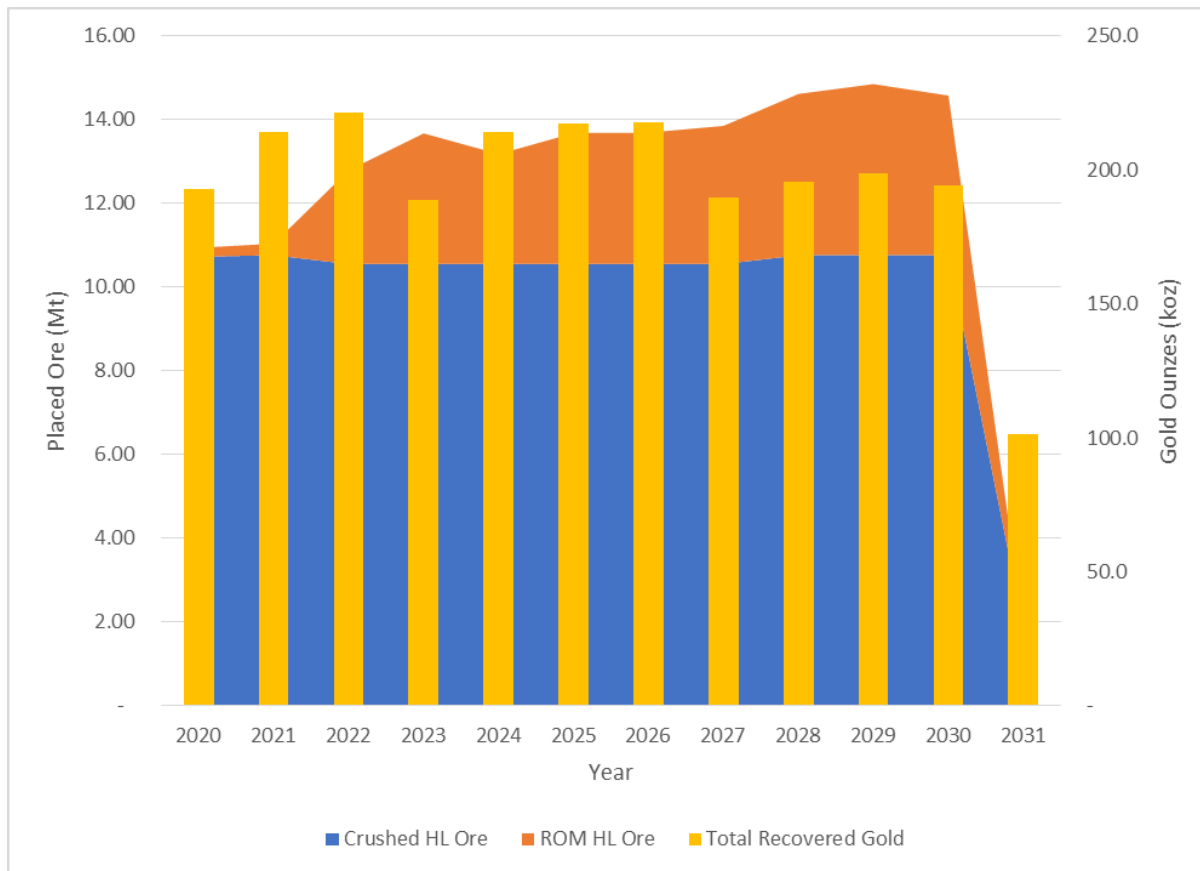
Source: VGC (2019)

Figure 16-4: Total Phase Ore and Waste Tonnages, Strip Ratio



Source: VGC (2019)

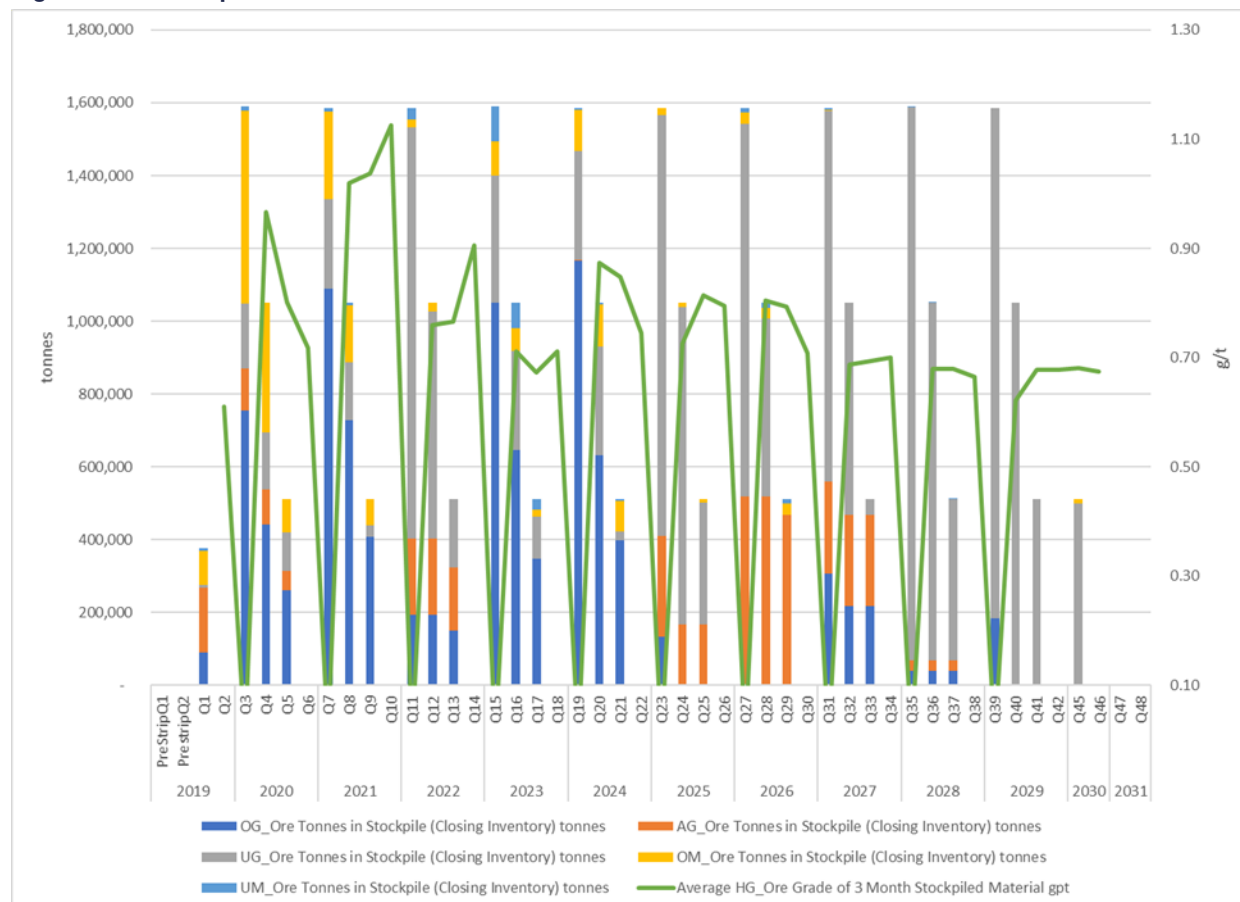
Figure 16-5: Mine Ore Tonnages and Recovered Gold



Source: VGC (2019)

Figure 16-6 illustrates the quarterly stockpile closing balances for the 90-day winter stockpile. The seasonal nature of the heap leach stacking requirements versus the continuous mining operation results in variable closing stockpile balances. The stockpile closing balances peak in the first quarter of every year since no heap leach stacking occurs in this period. The mine schedule is such that the stockpiles are depleted during the remainder of each year.

Figure 16-6: Stockpile Balance



Source: VG (2019)

16.3.5 Open Pit Development

Year 2019: Completed pre-stripping the Eagle pit and transitioned into production phase. A gradual ramp in production was incorporated into the mine plan. Approximately 4.1M t of ore and 4.0M t of waste is expected to be mined from the Eagle Pit by the end of the 2019.

Year 2020: First year of full production with heap leach stacking and processing after preproduction and ramp up period have completed. During the active stacking period, crush ore is to be conveyed to the primary HLP while ROM ore is hauled. Open pit mining at Eagle continues in Phase 1 with waste stripping starting in Phase 2. A total of 10.9M t of ore is scheduled to be mined in the year while the ROM access to be constructed. Mined gold grade for the year will average 0.79 g/t. Waste rock totaling 13.5M t will be produced for a strip ratio of 1.23:1.

Year 2021: Mining in Eagle Phase 1 and 2 will continue with waste stripping of Phase 3 commencing. The focus will be to mine through a waste hump through 2021 from Phase 2 while continue to feed the crusher with Ore from Phase 1. Average gold head grade over the period is expected to be 0.77 g/t at the target crush HL production rate of 9.2M t/a supplemented by 1.8M t of ROM that can be either crushed or hauled directly to the primary HLP. 17.2M t of waste rock is planned to be mined for a strip ratio of 1.56:1.

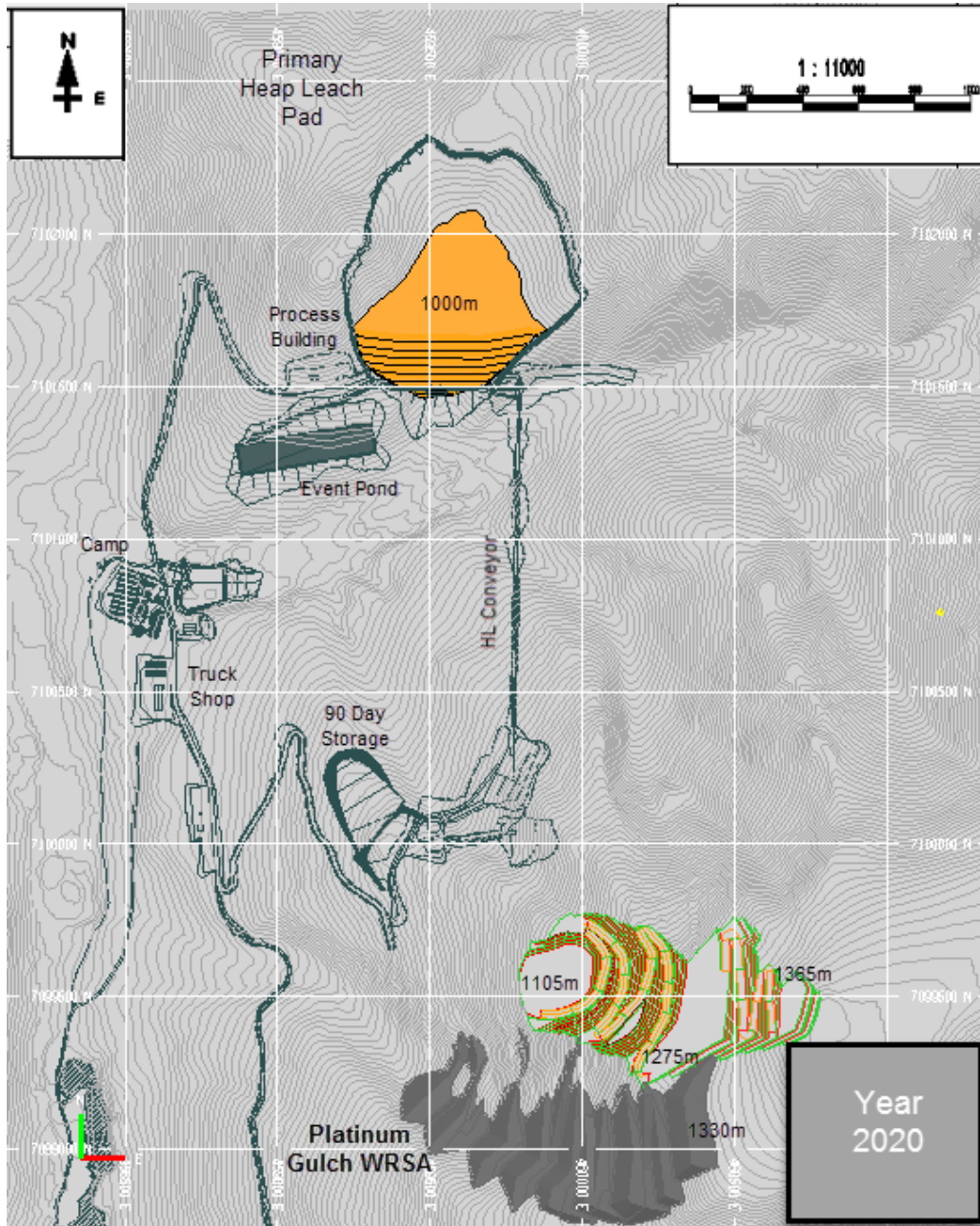
Years 2022-2024: Mining at the Eagle Phase 1 be completed in late 2022, with Phase 2 ending in 2024, while Phase 3 continues over the entire period. ROM material is expected to start hauling to the secondary HLP at the start of 2024. Crush gold head grade is expected to average 0.79 g/t. The waste produced over the three-year period is planned to total 43.7M t with a total of 39.7M t of total heap leach ore feed for an average strip ratio of 1.22:1.

Years 2025 to 2027: The primary HLP is expected to reach the crush ore capacity in 2027 and remainder of crush ore is conveyed to the secondary HLP near the Olive deposit. The ROM ore will continue to be hauled to the primary and secondary HLP throughout the mine life. A total of 41.2M t of heap leach feed will be mined (crush + ROM ore). Gold head grades are estimated to average 0.62 g/t and total waste produced from the Eagle pit is estimated to be 26.6M t.

Years 2028 to 2031: Mining at Eagle Phase 3 is completed in 2030. The Olive open pit commences in 2028 and is completed at the middle of 2031. Overall gold head grades average 0.64 g/t with strip ratios increasing to 0.98:1 with the mining of the Olive pit.

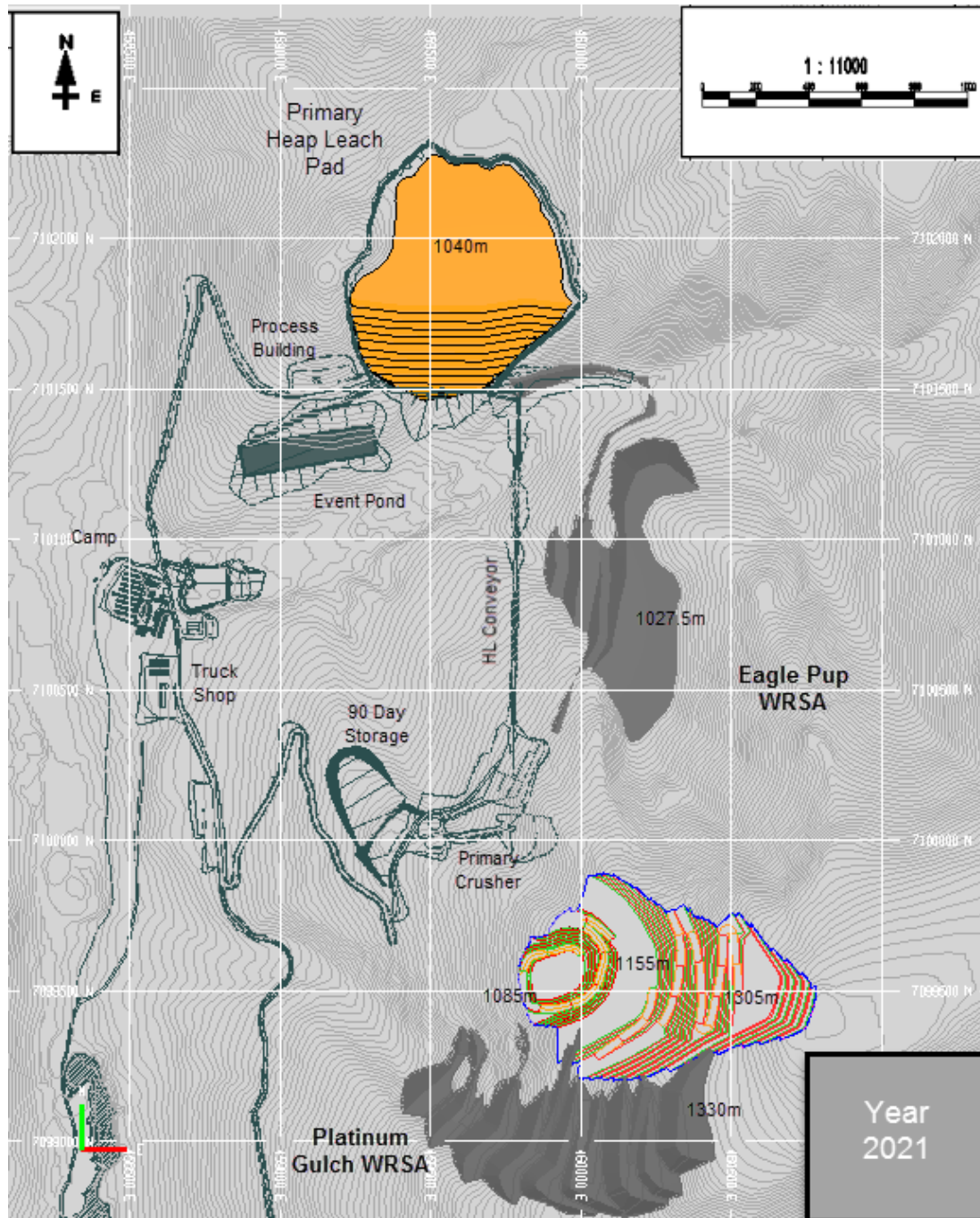
Figure 16-7 to Figure 16-15 provide layout drawings with the status of the open pit configuration, waste rock facility, as well as heap leach facility advance, at the end of each year for both the Eagle and Olive deposits. These figures display haul roads but exclude secondary roads.

Figure 16-7: Annual Map Year - 2020 – Eagle



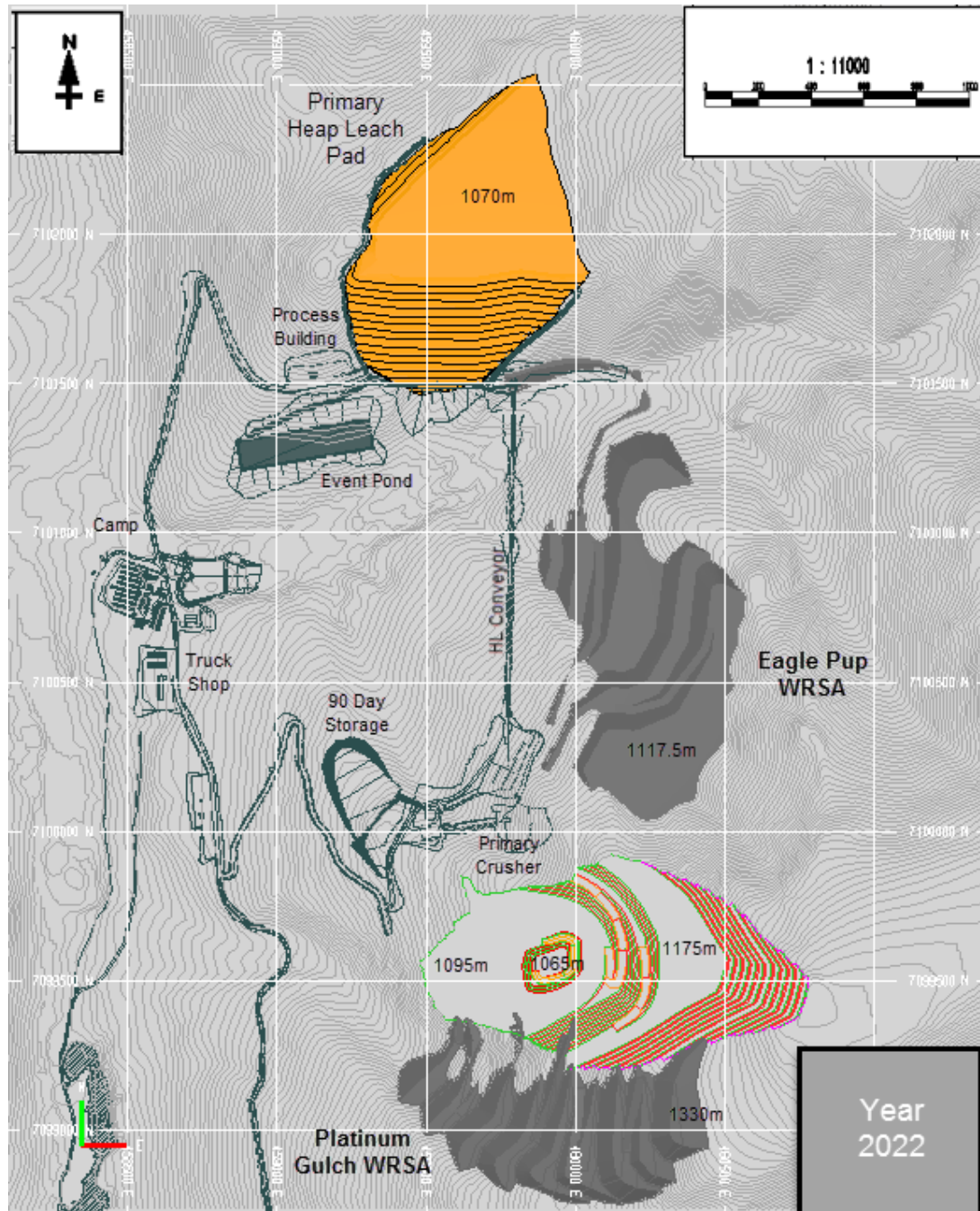
Source: VGC (2019)

Figure 16-8: Annual Map Year 2021 – Eagle



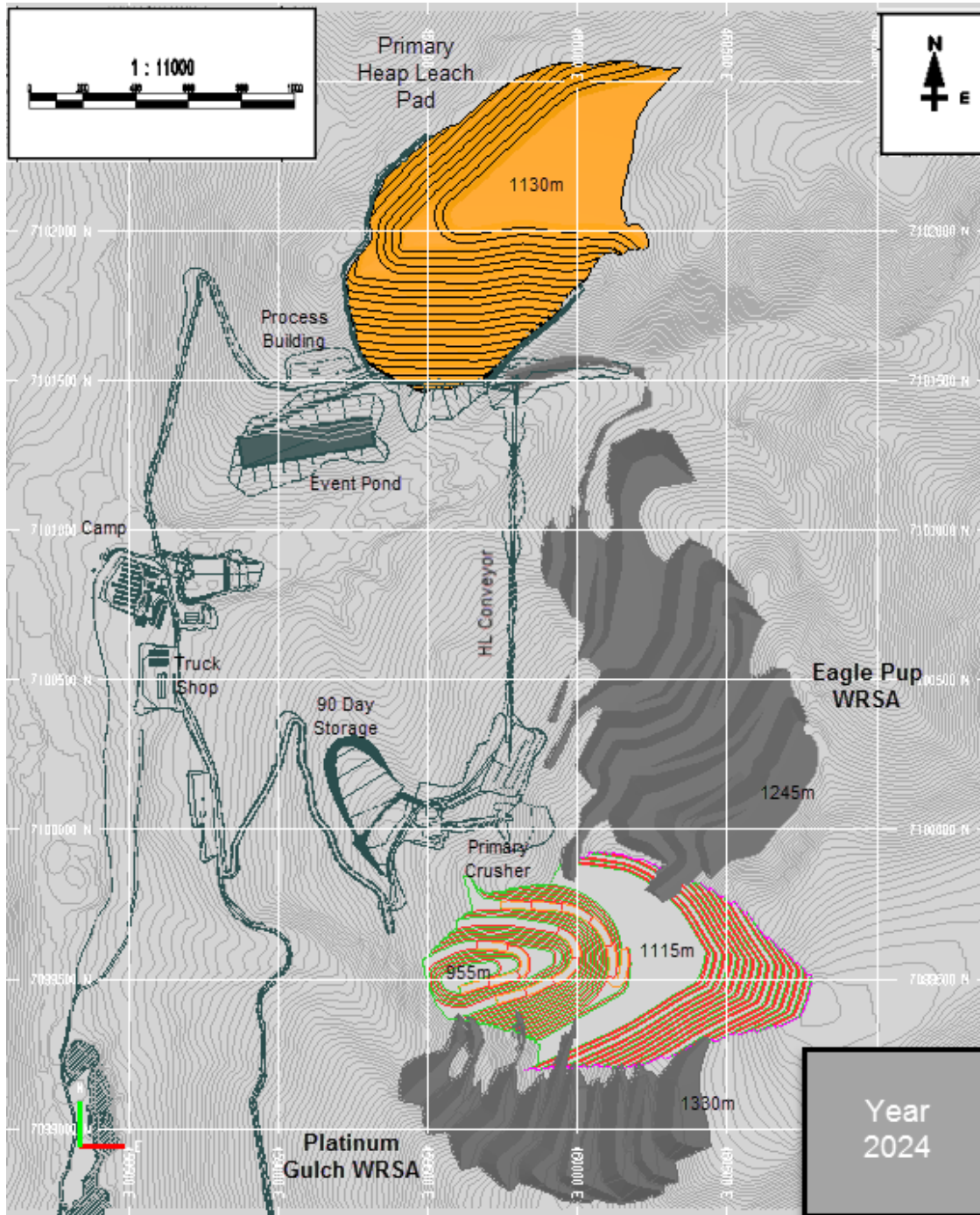
Source: VGC (2019)

Figure 16-9: Annual Map Year 2022 – Eagle



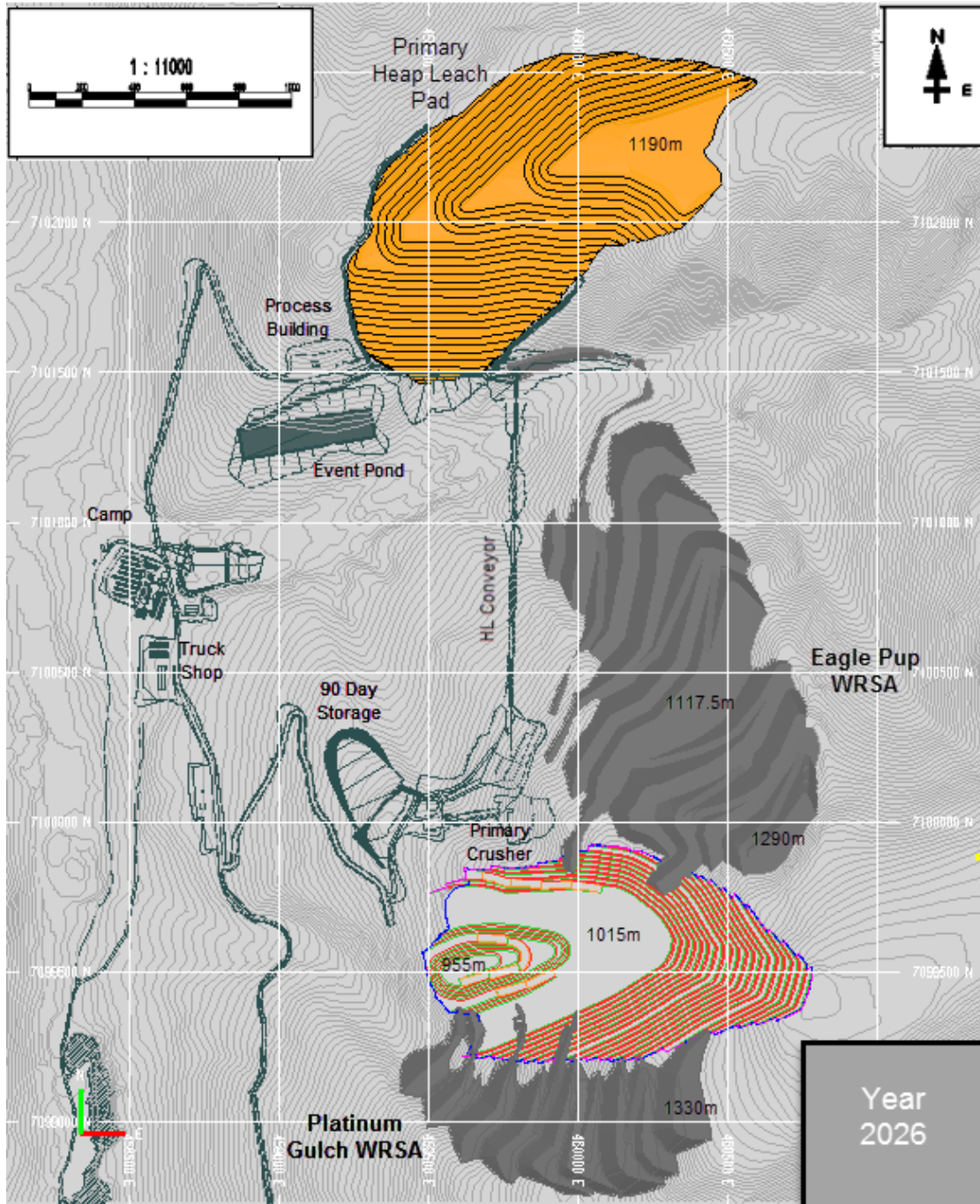
Source: VGC (2019)

Figure 16-10: Annual Map Year 2024 – Eagle



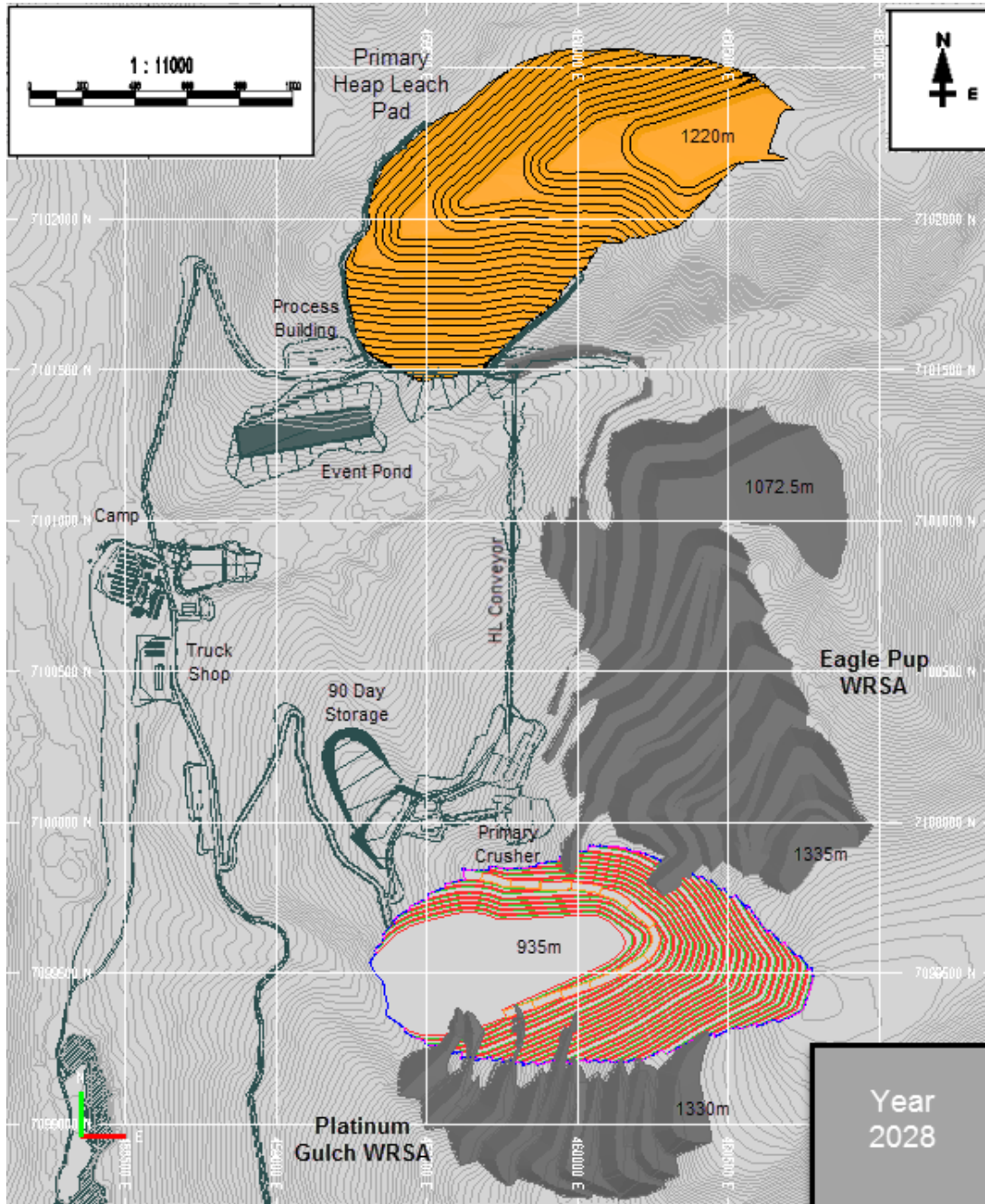
Source: VGC (2019)

Figure 16-11: Annual Map Year 2026 – Eagle



Source: VGC (2019)

Figure 16-12: Annual Map Year 2028 – Eagle



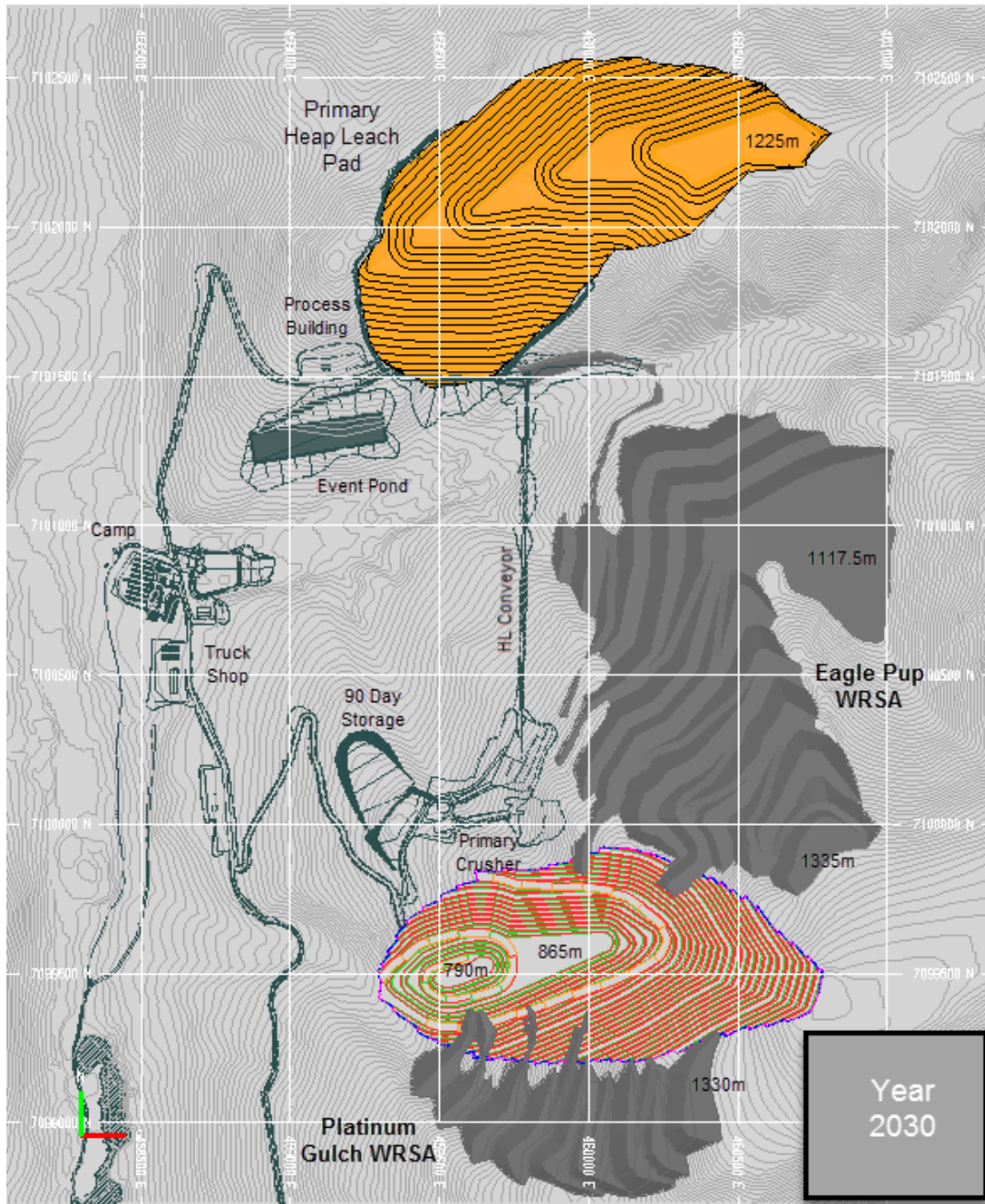
Source: VGC (2019)

Figure 16-13: Annual Map Year 2029 – Olive



Source: VGC (2019)

Figure 16-14: Annual Map - Year 2030 – End of Mine Life - Eagle



Source: VGC (2019)

Figure 16-15: Annual Map Year 2031 – End of Mine Life – Olive



Source: VGC (2019)

16.3.6 Waste Rock Scheduling

16.3.6.1 Waste Rock Storage Area Geotechnical Analysis and Recommendations

Geotechnical investigation and design of the Eagle Pup and Platinum Gulch WRSAs was originally carried out by BGC (2012b, 2012c and 2012d) as part of the 2012 FS. The work program consisted of field and laboratory characterization, slope stability analyses and provision of design recommendations.

Subsequent to the 2016 FS update, a geotechnical and permafrost characterization program was conducted by Tetra Tech (2018) which was designed to characterize permafrost conditions at the WRSAs and 90-Day storage area. The investigation consisted of sonic drilling of 13 holes, installation of thermistor strings and testing of frozen and unfrozen overburden soils. The result of the permafrost investigation was a map delineating areas where unfrozen, ice-poor and ice-rich soils are anticipated.

The previous work has been reviewed by JDS and served as the basis for the current FS update analyses and design recommendations.

16.3.6.1.1 *Foundation Conditions*

Beneath a 0.2 m and 0.3 m thick veneer of organics, the WRSAs and 90-day stockpile are typically covered with approximately 1 to 10 m of colluvium. The colluvium depth is typically shallow near the upper valleys and ridge tops and deepens towards lower elevations and valley bottoms. The colluvium soils are variable in composition ranging from boulders and cobble with silt and sand, to silty sand with gravel and cobble.

Frozen ground is common across much of the mine site; however, ice-rich or potentially thaw-unstable soils are not extensive and are typically localized in drainage bottoms and some north facing slopes. Where present, ice-rich soils are removed from the facility footprints and placed in designated ice-rich storage areas.

16.3.6.1.2 *Geotechnical Design*

Slope stability analyses for the WRSAs and 90-day stockpile have been updated by JDS (2019) based on the BGC (2012) material properties and the results of the 2018 permafrost investigation. Limit equilibrium analyses were carried out for several critical sections selected to represent idealized worst-case geometries and foundation conditions for the interim and final designs. Each section was analyzed for static and pseudostatic loading conditions.

The Eagle Pup and Platinum Gulch WRSA are considered to fall under the moderate failure consequence and high geotechnical data confidence category according to the Hawley & Cuning (2017) guidelines. This category corresponds to minimum recommended safety factors of 1.2 to 1.3 for static and 1.0 to 1.05 for pseudostatic loading conditions under the guidelines.

Results of the updated slope stability modeling indicate acceptable static safety factors of 1.2 to 1.6 (1.0 to 1.3 pseudostatic) for Platinum Gulch and 1.3 to 1.9 (1.1 to 1.6 pseudostatic) for the Eagle Pup WRSA. The 90-day stockpile analyses also indicate safety factors that meet or exceed the minimum requirements, after potentially ice-rich materials are removed from a localized area in the northern portion of the footprint.

The stability analyses assumed the piezometric surface to be coincident with the pre-mine ground surface for portions of slope stability sections near or in drainage valley bottoms. The water table was considered to be 5 m below the pre-mine ground surface for portions of slope stability sections that are on hillsides, up slope and out of the drainage bottoms. Both WRSAs will have rock drains constructed beneath that have been designed to handle the 200-year precipitation event.

The Eagle Pup WRSA construction sequence was developed mostly bottom up for overall stability and to buttress the ice-rich lobate feature in the upper Eagle Pup drainage as recommended by BGC (2012). Sequencing of Platinum Gulch WRSA is intended to be mostly bottom up where possible but is currently being revised to optimize haulage distances and stability conditions.

Victoria Gold is currently considering an expansion of the Eagle Pup WRSA to the north into Stewart Gulch for additional storage capacity. Geotechnical conditions have not yet been investigated in this area but currently there is no information that indicates conditions are different than what has already been encountered within the current WRSA footprints. Geotechnical field investigation will be necessary to confirm foundation conditions in this area if the option to expand into Stewart Gulch is selected. A geotechnical evaluation will also be required to confirm foundation conditions at the Olive WRSA. For the purpose of the feasibility study, conditions at Olive have been assumed to be similar to those encountered at Eagle Pup and Platinum Gulch.

16.3.6.2 Waste Rock Scheduling

Eagle waste rock will be hauled to one of two waste rock storage areas immediately to the south (Platinum Gulch WRSA) and north (Eagle Pup WRSA) of the open pit which results in short haul distances. Olive waste rock will be hauled to a waste rock storage area immediately south-west of the open pit (Olive WRSA).

Total waste material removed from the pits from 2020 to end of LOM totals 145M t. The Platinum Gulch WRSA has a design capacity of 22M t and Eagle Pup 106M t. The Olive WRSRA is designed for 17M t. Suitable waste rock will be used for road construction, lay down areas, as well as the base of the heap leach pad.

Each WRSA is planned to be constructed in a bottom-up approach by placing material at its natural angle of repose (approximately 1.5H:1V) with appropriate catch benches spaced approximately every 45 m vertically resulting in final slopes of 2.5:1. A 40% swell factor is assumed with a 10% compaction factor. Segregation of the various waste material types, if deemed necessary, will be managed given the extent of the various WRSA designs.

The Platinum Gulch WRSA is planned to have an ultimate crest elevation of 1,330 masl, a maximum height of 386 m and a footprint of 36 ha. The larger Eagle Pup WRSA has a footprint of 132 ha, an ultimate crest elevation of 1,335 masl with a maximum height of 415 m. Olive WRSA ultimate crest elevation is 1,225 masl for a maximum height of 165m and a footprint of 32 ha.

Table 16-4 summarizes annual waste volumes allocated to the various WRSAs.

Table 16-4: Annual Waste Allocations by Destination (in M t)

Destination	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Platinum Gulch WRSA	13.54	4.94										
Eagle Pup WRSA		12.35	15.92	14.96	12.88	7.98	8.77	9.90	9.44	10.30	7.28	-
Olive WRSA									3.89	6.54	4.43	2.08
TOTAL	13.5	17.3	15.9	15.0	12.9	8.0	8.8	9.9	13.3	16.8	11.7	2.1

Source: VGC (2019)

16.4 Mine Equipment Selection

16.4.1 Introduction

The open pit mining activities for the Eagle Gold Project are undertaken by an owner-operated fleet with conventional drill, blast, load and haul, considering bulk excavation of waste using hydraulic excavators, and bulk-selective loading of ore using hydraulic excavators or a front-end loader. Given the overall scale of operations and equipment requirements, a diesel-powered fleet has been selected.

16.4.2 General Operating Parameters

The open pits are designed with 10 m benches in both waste and ore headings with adequate phase geometry to achieve a maximum production rate of 31M t/year. Mining is scheduled to advance sequentially through the pits and various internal phases with several phases active at any one time. Given the required production rate and pit geometries, vertical advance rates average eight benches per year, with frequent requirement for ramp development and opening of new benches.

Time definitions, work regime structure, and standard standby and delay parameters were applied to the mine equipment selection.

Equipment effective utilizations were based on vendor recommendations, factors and values from the feasibility report. Effective utilizations are 65% for the drilling equipment, 57% for the loading equipment, 61% for the hauling equipment, and 65% for support and auxiliary equipment.

Further equipment time studies are planned to be executed during operations as part of continuous improvement campaign to improve overall equipment utilization.

16.4.3 Blasthole Drilling and Blasting

Based on the selected bench height (drilling occurs on 10 m high benches) and the production schedule requirements, a production drill with a 190 mm hole diameter was selected for both waste and ore. Drill pattern details are shown in Table 16-5.

Table 16-5: Drill Pattern Design

Item	Unit	Waste	Ore
Diameter	mm	190	190
Dry density (in situ)	t/m ³	2.6	2.6
Drill bench height	m	10	10
Burden	m	6	5.6
Spacing	m	6.8	6.4
Sub drill	m	1.5	1.5
Total hole length	m	11.5	11.5
Stemming	m	4.6	4.6
Tonnes/hole	t	1073	943
Drilling factor	t/m	93	82
Penetration rate	m/hr	33	26

Source: VGC (2019)

To ensure the recommended bench face angles (BFA) and inter-ramp angles (IRA) are met, the final wall perimeter will be pre-split using the Epiroc SmartRoc D65 drill and buffered by wall control blasting techniques. Operating costs were included to cover the additional cost of this small-diameter (114 mm) drill.

The blast design assumes the use of a 65% ANFO / 35% Emulsion blend for dry holes, and a 30% ANFO / 70% Emulsion blend for wet holes. Given the climatic conditions of the project area, 20% wet blast holes were assumed. Table 16-6 summarizes the blasting parameters for both ore and waste based on ANFO and Emulsion blend and dry/wet hole loading assumptions. Orica has been contracted to provide ANFO and blasting accessories. The contractor will also supply the explosives plant and mixing equipment in the third quarter of 2020.

Table 16-6: Blasting Parameters

Item	Unit	Waste	Ore
Column Charge	m	6.9	6.9
Column Charge	kg	236	236
Powder factor	kg/t	0.22	0.25

Source: VGC (2019)

16.4.4 Loading

Diesel hydraulic excavators were selected as the primary loading equipment, supported by front-end loaders (FEL) and a smaller hydraulic backhoe. The main criterion for loading equipment selection is the ability to effectively load trucks with payloads of 136 t, while allowing for somewhat selective mining. As such, front shovels with a 22 m³ bucket primarily undertake the mining of ore and waste material, while the 12 m³ FELs and smaller excavator complement the main shovel fleet (e.g. lower, confined benches of the open pits). The performance of the primary loading units was calculated on the basis of the operational equipment productivities and the truck loading times for both ore and waste material.

The number of passes and fill factors are summarized in Table 16-7. In addition to the loading time, the loading unit productivities include waiting, maneuver and unproductive time estimates. Based on these parameters, annual production capacity was estimated for each type of loading unit for each period of the mine plan.

Table 16-7: Loading Parameters

Item	Unit	Value
Dry density (in situ)	t/m ³	2.6
Material swell factor	%	40
Hydraulic Excavator		
Bucket Size	m ³	22
Bucket Fill Factor	%	95
Size of truck to load	t	134.6
Avg. buckets to load	#	3.8
Avg. bucket cycle time	sec	40
Avg. spot time	sec	30
Total time to load	min	3.1

Item	Unit	Value
Front-end Wheel Loader		
Bucket Size	m ³	11.5
Bucket Fill Factor	%	95
Size of truck to load	t	134.6
Avg. buckets to load	#	7.2
Avg. bucket cycle time	sec	60
Avg. spot time	sec	30
Total time to load	min	7.8

Source: VGC (2019)

16.4.5 Hauling

The truck fleet for the project was selected to match the selected loading fleet, and resulted in the final selection of CAT 785 trucks with a payload of 136 t. Haulage profiles were estimated for the mine plan for every bench over the mine life and for each material type (waste/ore). Requirements for haulage of ROM ore to the primary heap leach pad were also accounted for. Hexagon MineSight MSSO software was used to create a haulage model which determined truck requirements and productivities.

Table 16-8 summarizes the haul cycle parameters used in calculating truck productivities. Truck performance was calculated for every loading unit and period of the mine plan. It reflects travel time and other fixed times of the load / haul / dump cycle.

Table 16-8: Haulage Cycle Parameters

Description	Unit	Value
Rated payload	tonnes	136
Dump time at crusher / stockpile	min/load	1.5
Dump time at waste dump	min/load	1.0
Stopped time (non-hauling)	% of Net operating hour	10
Overall Effective utilization	%	61

Source: VGC (2019)

16.4.6 Support and Auxiliary Equipment

The support and auxiliary equipment selection were made considering the size and type of the primary loading and hauling fleet, the geometries of the various open pits, and the number of roads and WRSA's that would be in operation at any given time.

The auxiliary equipment fleet is comprised of track dozers (CAT D10), graders (CAT 16M) and water trucks (90 m³).

The following items were also included in the list of support equipment:

- Fuel trucks for the supply of diesel fuel to all the hydraulic diesel excavators, dozers, and drills;
- Lube truck for the supply of lubricants, hydraulic fluids, cooling water to all open pit equipment;
- Mobile mechanical trucks for preventative and corrective maintenance conducted in the field;

- Low-boy transporter trailer (100 t weight capacity) for transportation of dozers, drills, small backhoe and major equipment components;
- Light vehicles for supervisors/technical personnel; and
- Mobile lights for lighting of pits, waste dumps and construction areas.

16.5 Mine Equipment Requirements

16.5.1 Summary

An annual summary of the open pit fleet requirement is shown in each relevant section below categorized by mining function. In terms of equipment replacements, equipment suppliers provided estimates for equipment life, and where information was lacking, industry standards were used. Given the 10-year mine life, it is estimated that limited replacements will be necessary; these include the FEL's, track dozers, wheel dozer and grader.

All open pit equipment maintenance on site will be carried out with Victoria Gold personnel using the company's own installations. Work on site would consist of mainly preventative maintenance and major component exchange. Given the estimated mine life, no major rebuilds for new equipment are anticipated. However, should they be required, it is anticipated that they would be performed on site by contractors.

16.5.2 Use-of-Time Definitions and Work Schedules

The time model used for calculating open pit equipment hours is shown in Table 16-9.

Table 16-9: Time Model Structure

Total Available Hours			
Available Hours			Maintenance
Operational Hours		Standby	
Effective Hours	Operational Losses		

Source: VGC (2019)

The definitions used in the time model are:

Total available hours

- Hours in a calendar year: At 24 h/d and 365 d/a, the total available hours are 8,760/a;

Available hours

- Total available hours less maintenance hours per piece of equipment;

Maintenance hours

- Includes waiting for maintenance personnel, waiting for maintenance equipment or spare parts, travel time to and from the shop, actual maintenance time, movements and waiting time within the shop;

Standby hour

- The unit is mechanically operable but is not manned or used (e.g. schedule loss, safety meetings, meals, breaks, blasting, shift change, weather outages, refueling, and training);

Operational hours

- Available hours less standby time; used for costing purposes;

Operational loss hours

- The equipment is operating but not performing its specific production duty (drill rig setup, shovel/drill moves, cleaning of work faces);

Effective hours

- Operational hours less standby time;
- The criteria for lost time have been applied through the following factors:
- Mechanical availability - (measure of maintenance down time), is expressed as available hours divided by total available hours.
- Use of availability – operational hours divided by available hours;
- Operating efficiency – effective hours divided by operational hours; and
- Overall effective utilization – product of mechanical availability, utilization, operator efficiency and operational losses.

On this basis, the target equipment availability and utilization were defined for each of the major equipment units shown in Table 16-10.

Table 16-10: Equipment Effective Utilization

Open Pit Equipment	Mechanical Availability (%)	Use of Availability (%)	Effective Utilization (%)
Production Drills (CAT 6290)	85	90	65
Production Shovels (CAT 6040)	85	96	57
Front End Loaders (CAT 993)	85	96	57
Haul Trucks (CAT 785)	85	96	61

Source: VGC (2019)

16.5.3 Drilling

Two types of blast hole drilling are envisioned for the open pit mines:

- Blast pattern drilling to allow for fragmenting of rock (in both ore and waste) for mining; and
- Wall stability control and secondary drilling as required.

Production drilling is planned to be performed on 10 m benches by CAT 6290 production drills with drill holes of 190 mm diameter in both waste and ore.

Penetration rates were calculated using industry-standard formulas based on estimated rock hardness (ore and waste material) and drill hole diameter. The required operating hours for the drills were calculated from

the scheduled mining volumes, drill pattern size and penetration rates. The annual drill requirements are shown in Table 16-11.

Table 16-11: Annual Drilling Requirements

Description	Units	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OP Waste Mined	Mt/year	13.5	17.2	15.9	14.9	12.9	8.0	8.7	9.9	13.3	16.8	11.7	2.1
OP Ore Mined	Mt/year	10.9	11.0	12.8	13.7	13.2	13.7	13.7	13.9	14.6	14.9	14.6	1.9
Total OP Material Mined	Mt/year	24.5	28.3	28.7	28.6	26.0	21.6	22.4	23.7	27.9	31.7	26.3	4.0
Production Drills (CAT 6290)													
Ore	metres/year	109,577	104,458	140,515	150,187	144,747	150,269	150,390	152,155	160,532	163,113	160,109	21,089
Waste	metres/year	127,185	166,378	153,192	143,977	123,982	76,792	84,389	95,261	128,331	162,264	112,794	20,045
Wall Control:	metres/year	-											
Drill Fleet Required	#	2	2	2	2	2	2	2	2	2	3	3	1
Auxiliary Drill (SmartRoc D65)													
Ore	metres/year	14,329	11,606	15,613	16,687	16,083	16,697	16,710	16,906	17,837	18,124	17,790	2,343
Waste	metres/year	17,584	18,486	17,021	15,997	13,776	8,532	9,377	10,585	14,259	18,029	12,533	2,227
Wall Control:	metres/year	12,787	35,773	60,040	46,160	36,053	42,320	46,067	46,773	45,987	47,200	64,240	0
Drill Fleet Required	#	1	1	1	1	1	1	1	1	1	1	1	1

Source: VGC (2019)

16.5.4 Blasting

The blast design assumes the use of a 65% ANFO / 35% Emulsion blend for dry holes, and a 30% ANFO / 70% Emulsion blend for wet holes. Given the climatic conditions of the project area, 20% wet blast holes were. In order to limit the use of emulsion and, where possible in wet conditions (assumed to be limited given climatic conditions at site), dewatering of the blast holes would be undertaken and / or bag liners used. An explosives supplier is planned to be contracted to provide ANFO and blasting accessories. The contractor would also supply the explosives plant and mixing equipment. The owner provides fuel oil, explosives magazines and delivery trucks. The owner's personnel are responsible for loading and pattern tie-ins.

16.5.5 Loading

Primary loading will be performed by CAT 6040 which are diesel front shovels with a 22 m³ bucket. A CAT 993 (front-end wheel loader with an 11.5 m³ bucket) and a Cat 390F (4.5 m³ excavator) are used for secondary loading, rehandle and shovel support.

The productivities of the excavators and wheel loader were calculated with respect to the selected haul trucks and are summarized in Table 16-12.

Table 16-12: Loading Unit Productivity

Item	Units	Ore/Waste	
		CAT 6040 Shovel	CAT 993 FEL
In-situ density	t/m ³	2.6	2.6
Swell factor	Loose:bank	1.4	1.4
Loose material density	t/ m ³	1.9	1.9
Bucket size	m ³	22	13
Bucket fill factor	%	95	95
Tonnes per bucket	t	38.1	22.5
Size of truck to load	t	134.6	134.6
Total time to load truck	min	2.98	6.58
Theoretical avg. truck loads per hour	#	17	8
Loading productivity	t/d	45,554	20,644
Loading productivity	t/gross op. hour	1,898	860

Source: VGC (2019)

Operating hours for the loading fleet were estimated by the amount of material to be moved within a specified period and the associated productivities. Fleet size was then calculated using total operating hours for the period and the operating hours per unit within the period. Operating hours and fleet size are shown in Table 16-13.

16.5.6 Hauling

Primary haulage will be carried out by CAT 785 which are 136 t payload haul trucks.

In order to calculate required production haul truck hours, haulage profiles were calculated by bench and period, for the various open pit deposits taking into account material destination and type. Hexagon Minesight MSSO software was used to establish a haulage network model which can determine truck requirements and productivities. All hours were then summarized by period for the determination of truck fleet size and truck additions.

The annual haul truck requirements are shown in Table 16-14.

Table 16-13: Annual Loading Equipment Requirements

Description	Units	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OP Waste Mined	Mt/year	13.51	17.25	15.88	14.93	12.85	7.96	8.75	9.88	13.30	16.82	11.69	2.08
OP Ore Mined	Mt/year	10.95	11.04	12.80	13.68	13.18	13.69	13.70	13.86	14.62	14.85	14.58	1.92
Ore Rehandle	Mt/year	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	0.00
Total OP Material Moved	Mt/year	26.04	29.88	30.27	30.19	27.62	23.23	24.03	25.32	29.51	33.26	27.86	4.00
CAT 6040, 22 m³ Front Shovel													
Total Production	Mt/year	19.49	23.60	25.06	24.90	22.64	18.64	19.36	20.50	24.21	27.56	22.73	3.50
Shovel Fleet Required	#	2	2	2	2	2	2	2	2	2	2	2	1
CAT 993, 11.5 m³ Wheel Loader													
Total Production	Mt/year	4.17	3.17	3.62	3.70	3.39	3.01	3.09	3.23	3.72	4.11	3.55	0.40
Total Rehandle	Mt/year	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	0.00
Loader Fleet Required	#	2	2	2	2	2	2	2	2	2	2	2	1

Source: VGC (2019)

Table 16-14: Annual Haulage Equipment Requirements

Description	Units	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
OP Waste Mined	Mt/year	13.51	17.25	15.88	14.93	12.85	7.96	8.75	9.88	13.30	16.82	11.69	2.08
OP Ore Mined	Mt/year	10.95	11.04	12.80	13.68	13.18	13.69	13.70	13.86	14.62	14.85	14.58	1.92
Ore Rehandle	Mt/year	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	0.00
Total OP Material Moved	Mt/year	26.04	29.88	30.27	30.19	27.62	23.23	24.03	25.32	29.51	33.26	27.86	4.00
CAT 785, 136t Haul Truck													
Total Net Operating Hours	NOH/year	48,212	64,386	55,758	55,013	65,546	46,495	41,795	59,951	71,380	76,229	74,233	11,353
Truck Fleet Required	#	9	11	11	11	11	9	9	12	13	15	15	5

Source: VGC (2019)

16.5.7 Ancillary Equipment

The main function of the support equipment is described below.

CAT D10T track dozer: to be primarily used for shovel support and clean-up, WRSA maintenance, road construction, stockpile maintenance, highwall cleaning and other activities as needed.

CAT 16M grader: to be used primarily for road maintenance and pit and dump floor maintenance, road construction.

The selected ancillary equipment is shown in Table 16-15.

Table 16-15: Open Pit Mine Ancillary Equipment

Description	Number
CAT D10T - class track dozer	4
CAT 16M - class grader	2

Source: VG (2019)

16.5.8 Equipment Replacement Criteria

Given the estimated 10-year life of the project, only a limited number of equipment replacements are envisioned. Major equipment component rebuilds will be planned to reduce the number of equipment replacement purchases.

The estimated useful equipment lives supplied by Equipment vendors are shown in Table 16-16.

Table 16-16: Equipment Life Estimates

Equipment Unit	Operating Life (hours)
Major Equipment	
CAT 6290 - Blasthole drill (229 mm)	50,000
Epiroc SmartRoc D65 - Blasthole drill (114 mm)	50,000
CAT 6040 - Diesel hydraulic front shovel	70,000
CAT 993 - Front-end Wheel loader	50,000
CAT 785 - Haul truck	70,000
Support Equipment	
CAT D10T - Track dozer	35,000
CAT 16M - Motor grader	56,000

Source: VG (2019)

16.5.8.1 Schedule of Equipment Purchases

The schedule of equipment purchases (including replacement units) is shown Table 16-17. The years shown are the first year of use for each unit.

Table 16-17: Schedule of Equipment Purchases

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
CAT 785 Truck (136t)			2									
CAT 993 (11.5m ³)							1	1				
CAT D10T Track Dozers	1					2	2					
CAT 16M Grader								1				

Source: VGC (2019)

16.6 Mine Personnel and Organization Structure

16.6.1 Basis

The Mine operates on a 24-hour/day, 7-days/week and 365-days/year schedule. Operations and maintenance personnel work two 12-hour shifts per day. Production, maintenance and technical services personnel operate on a 2-week in / 2-week out rotation.

With the exception of the blasting crew, all hourly labour and supervisory personnel rotate between day and night shifts. Management and technical staff work the day shift only, with the exception of grade control technicians, who share the same shift rotation as the production crews.

Equipment operator labour requirements are based on the number of equipment units, operating requirements and shift rotations. Maintenance labour requirements are based on the number of equipment units to be maintained, estimates of mechanical availability, and estimates on the ratio of maintenance labour requirements to the number of units for each open pit fleet type.

16.6.2 Personnel Activities

The mining operation is headed by the mine manager, who reports to the general manager.

Under the direction of the mine manager, the mine operations department is responsible for the mining operation. This includes drilling, blasting, loading, and hauling of ore and waste, waste rock storage facility operations, haul road construction and maintenance, and mine dewatering. Each crew is led by a mine shift foreman.

The mine maintenance department, responsible for maintaining all open pit mine mobile equipment, reports to the maintenance manager. Maintenance crews work the same shift schedule as the production crews. Each maintenance crew is led by a maintenance shift foreman. A mine operations and maintenance general foreman is planned. The engineering department is led by the technical service superintendent and is responsible for providing short, medium- and long-term mining plans.

The geology department, under the senior geologist, is responsible for updating the resource models, calculating ore resources and reserves, and undertaking ore grade control.

Annual personnel requirements are summarized in Table 16-18.

Table 16-18: Annual Personnel Requirements

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Mine Operations												
Drillers	8	8	8	8	8	8	8	8	8	8	8	4
Blasters	4	4	4	4	4	4	4	4	4	4	4	2
Blasting helpers	4	4	4	4	4	4	4	4	4	4	4	2
Shovel/loader operators	16	16	16	16	16	16	16	16	16	16	16	8
Haul truck drivers	36	40	36	44	44	30	30	44	44	49	47	18
Track dozer operators	16	16	16	16	16	16	16	16	16	16	16	8
Grader operators	8	8	8	8	8	8	8	8	8	8	8	8
Water/ancillary truck drivers	2	2	2	2	2	2	2	2	2	2	2	2
Labourer/trainees	6	6	6	6	6	6	6	6	6	6	6	4
Subtotal Mine Operations	100	104	100	108	108	94	94	108	108	113	111	56
Mine Maintenance												
Heavy equipment mechanics	8	12	12	12	12	12	12	12	12	12	12	8
Welders/mechanics	4	6	6	6	6	6	6	6	6	6	6	3
Lube/PM mechanics/light duty mech.	8	8	8	8	8	8	8	8	8	8	8	3
Tiremen	3	3	3	3	3	3	3	3	3	3	3	3
Labourers/trainees	12	12	12	12	12	12	12	12	12	12	12	12
Subtotal Mine Maintenance	35	41	41	41	41	41	41	41	41	41	41	29
Technical/Supervisory												
Mine Manager	1	1	1	1	1	1	1	1	1	1	1	1
Maintenance Manager	1	1	1	1	1	1	1	1	1	1	1	1
Mine Crew Supervisors	10	10	10	10	10	10	10	10	10	10	10	6
Training Coordinators	3	3	3	3	3	3	3	3	3	3	3	2

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Mine Shift Foremen	2	2	2	2	2	2	2	2	2	2	2	2
Maintenance planner	2	2	2	2	2	2	2	2	2	2	2	2
Maintenance General foreman	1	1	1	1	1	1	1	1	1	1	1	1
Technical Service Superintendent	1	1	1	1	1	1	1	1	1	1	1	1
Senior mine engineer	2	2	2	2	2	2	2	2	2	2	1	1
Mine engineers	3	3	3	3	3	3	3	3	3	3	3	2
Geotechnical engineer	1	1	1	1	1	1	1	1	1	1	1	1
Mine technicians	2	2	2	2	2	2	2	2	2	2	2	2
Surveyors	2	2	2	2	2	2	2	2	2	2	2	2
Survey assistants	2	2	2	2	2	2	2	2	2	2	2	1
Mine clerk	2	2	2	2	2	2	2	2	2	2	2	1
Senior geologist	1	1	1	1	1	1	1	1	1	1	1	0
Mine geologists	2	2	2	2	2	2	2	2	2	2	2	2
Technicians/ore control	2	2	2	2	2	2	2	2	2	2	2	2
Subtotal Technical/Supervisory	40	40	40	40	40	40	40	40	40	40	39	30
Total Personnel	175	185	181	189	189	175	175	189	189	194	191	115

Source: VGC (2019)

17 Process Description/Recovery Methods

This section describes the recovery methods used for the Eagle Gold project for the crushing, HLP and process facilities. Flowsheet development, operating parameters and design criteria were based on results from metallurgical test work presented in Section 13. The gold recovery process was designed on the basis of leaching approximately 13M t of ore per year with an average gold head grade of 0.64 g/t (ROM and crushed ore combined) at an overall gold recovery of 77%.

The three-stage crushing plant operates at a nominal primary crushing rate of 29,500 t/d, 365 days per year and a secondary and tertiary crushing rate of 39,200 t/d, 275 days per year. During the coldest part of the year (January through March), fine crushing and HLP loading activities are suspended. Barren solution, made up of a cyanide-caustic mixture, is pumped at a nominal rate of 2,070 m³/h to a network of supply piping and drip emitters on the HLPs. Pregnant solution is collected in a sump near the bottom of the HLPs and pumped to the 8 t/d carbon ADR plant for gold extraction and the production of gold doré.

The gold ore processing facilities include the following unit operations:

Crushing and Ore Handling

- Primary crusher: a gyratory crusher with a stationary rock breaker in open circuit, producing a final product P₈₀ of approximately 115 mm;
- Secondary crusher: a vibrating screen and cone crusher operating in open circuit, producing a final product P₈₀ of approximately 21 mm;
- Tertiary crushers: three vibrating screens and three cone crushers operating in reverse closed circuit, producing a final product P₈₀ of 6.5 mm, and;
- Heap placement: crushed material is conveyed to the HLP by overland conveyor.

Heap Leach Pad

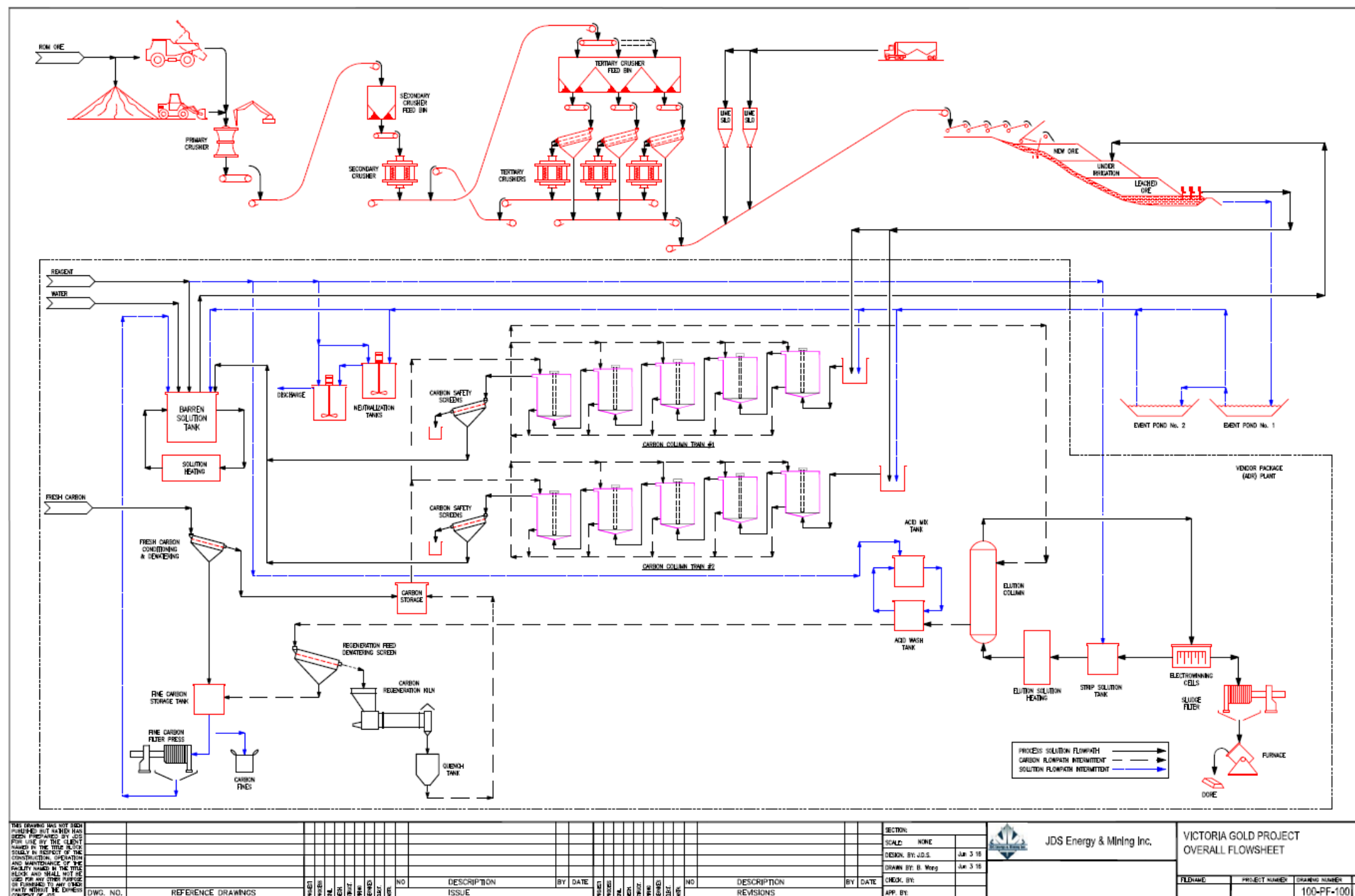
- Crushed ore stacking and spreading is by a series of grasshoppers to a radial stacker;
- Ore leaching over a geomembrane liner system; and
- Barren and pregnant solution delivery and recovery piping systems.

ADR Plant

- Carbon-in-Column (CIC) Adsorption: adsorption of solution gold onto carbon particles in a series of cascading carbon columns;
- Desorption: acid wash of carbon to remove inorganic foulants, elution of carbon to produce a gold-rich solution, carbon stripping to recover gold into solution and thermal regeneration of carbon to remove organic foulants; and
- Gold recovery: gold electrowinning (sludge production), filtration, drying, and smelting to produce gold doré.

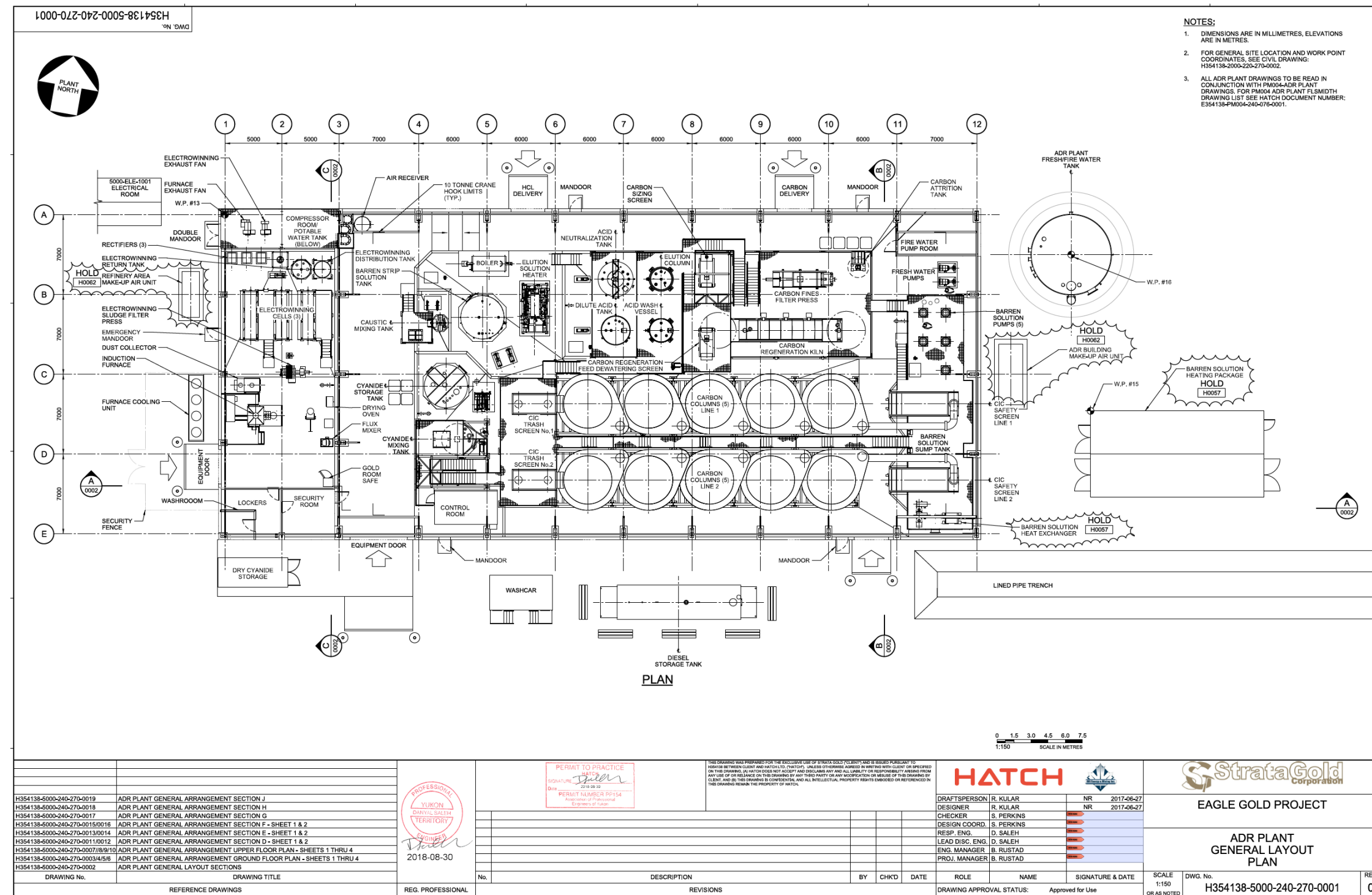
A process flowsheet and process plant layout are presented in Figure 17-1 and Figure 17-2.

Figure 17-1: Process Flowsheet



Source: JDS (2019)

Figure 17-2: Process Plant Layout



Source: Hatch (2019)

17.1 Process Design Criteria

The process design criteria developed during the Feasibility Study is presented below, updated with any minor modifications, and includes mass balance detail the annual ore production, major flows, and plant availability. This criterion will be continually updated as necessary throughout operations. The key process design criteria are summarized in Table 17-1.

Table 17-1: Process Design Criteria

General	Unit	Value
Crushing Plant Operation - Primary	d/y	365
	t/d	29,500
Crushing Plant Operation – Secondary and Tertiary	d/y	275
	t/d	39,200
Crushing Plant Operation	h/d	20
Heap Loading and Spreading Method	-	Grasshoppers and Radial Stacker
Heap Loading Operation	d/y	275
Heap Loading Operation	t/d	39,200
Heap Loading Operation	h/d	20
Average LOM Feed Grade	g /t Au	0.64
Overall LOM Recovery	%	77
Ore Characteristics		
Specific Gravity (Average)	t/m ³	2.65
Dry Crushed HL feed Bulk Density	t/m ³	1.72
Bond Crusher Work Index (Oxide)	kWh/t (Eagle)	6.9
Abrasion Index (Oxide)	g (Eagle)	0.218
Lime Consumption	kg/t ore	1.0 to 1.5
Cyanide Consumption	kg/t ore	0.35
Crushing		
Days per Week	d	7
Days per Year - Primary	d	365
Days per Year – Secondary and Tertiary	d	275
Shifts per Day	shifts	2
Shift Length	h	12
Crusher Availability	%	85
Hours per Day	h	20
Primary Crusher		
Type		Gyratory
Size	-	MK-II 50-65
Closed Side Setting	mm	140
Motor	kW	375

General	Unit	Value
Product Size, 80 % Passing	mm	115
Secondary Crushing Feed Conveyor		
Type		Belt (Covered)
Width	mm	1,372
Motor	kW	149
Secondary Crusher Screen		
Type		Vibrating, Double Deck
Size	mm	2,400 x 6,100
Screen Deck Aperture	mm	30/75
Motor	kW	55
Secondary Crusher		
Type		Standard Medium Cone Crusher
Size		MP1250
Motor	kW	932
Closed Side Setting	mm	35
Tertiary Crushing Feed Conveyor		
Type		Belt (Covered)
Width	mm	2134
Motor	kW	373
Tertiary Crusher Screen		
Number		3
Type		Vibrating, Double Deck
Size	mm	4,200 x 8,500
Screen Deck Aperture	mm	18/10
Motor	kW	93
Tertiary Crusher		
Number		3
Type		Standard Fine Cone Crusher
Size		MP1250 or equivalent
Motor	kW	932
Closed Side Setting	mm	12
Overland Conveyors to HLP 1		
Type		Belt (Covered)
Width	mm	1,219
Motor	kW	264
Feed Size, 80 % Passing	mm	6.5
Heap Leach Pad		
Ultimate Design	mt	152,200,000 (nominal)

General	Unit	Value
		78,700,000 (Primary HLP)
		73,500,000 (Secondary HLP)
Slope Stability, factor of safety		1.3 static
		1.0 pseudo-static
Ultimate Height, toe to crest	m	150 (Primary HLP)
		120 (Secondary HLP)
Lift Height	m	10 (nominal)
Heap Slope, Overall	h:v	2.5:1
Leach Cycle, Primary	d	45
Solution Application Rate	l/hr/m ²	7-10
Solution Flow Rate	m ³ /h	2,070
Area Under Leach	m ²	296,000
Ponds and Diversion Channels for Heap		
Design storm event for peak flow rate, 100-yr, 24-hr	mm	72
Design storm event for pond storage, 24-hr PMP	mm	256
Freeboard in ponds	mm	500
Pregnant Solution	-	Sump with pumping to the Plant
Pumping		
Number of Units Installed		8 (5 future)
Number of Units Operating		3 (5 future)
Type	mm x mm	450 x 760
Motor	kW	186
Barren Solution		
Tank Dimensions	m x m	17.5 x 17.5
Pumping		
Number of Units Installed		10 (7 future)
Number of Units Operating		2 (9 future)
Type		Krebs millMAX-e™ Model 20x18-47 or equiv.
Motor	kW	932
Barren Solution Heating		
Type	-	Boiler (Diesel-fired)
Years Required	y	1 and 7
Carbon-in-Columns		
Quantity per Train	-	5
Number of Trains	-	2
Tank Dimension	m x m	4.6 x 5.2

General	Unit	Value
Capacity per Train	m ³ /h	1,037
Carbon Acid Wash		
Power - Pumps	kW	11
Carbon Capacity	mt	8
Dilute Acid Tank Dimensions	m x m	2.2 x 2.3
Carbon Stripping (Elution)		
Power - Pumps	kW	15
Carbon Capacity	mt	8
Barren Strip Tank Capacity	m ³	24
Barren Strip Tank Dimensions	m x m	3.0 x 4.0
Heat Skid – Strip Solution Heating		
Capacity	M btu/h	3.2
Diesel Fuel Consumption	l/h	12
Electrowinning Cells		
Number of Cells	-	2
Power	kW	15
Capacity	m ³	3.54
Regeneration Furnace		
Capacity	t	5
Power	kW	15
Fuel Consumption	l/h	5.7
Capacity and Dimensions	t (mm x mm x mm)	8 (11,500 x 2,500 x 2,500)
Drying Oven		
Power	kW	35
Doré Furnace		
Type	-	Induction (1 M btu/hr, 660 kg)
Power	kW	100

*Excludes the 2.5M t low grade stockpile
Source: JDS (2019)

17.2 Process Description

17.2.1 Crushing

ROM ore is trucked from the open pits and dumped directly into a primary feed hopper. The primary crusher, a 375-kW gyratory crusher, crushes ROM material from a maximum feed size of 1,000 mm down to a P_{80} of approximately 115 mm.

The primary crushing plant is designed to operate 365 days per year at a rate of 29,500 t/d. During the winter months, January to March, the crushed material will be conveyed and stacked on the winter stockpile. Between April, up to the end of December, the primary crusher product is fed directly onto the secondary crushing feed conveyor. The material from the winter stockpile is reclaimed at a rate of 470 t/h by front-end loader (FEL), and conveyed to the secondary crushing feed conveyor for a combined feed of 39,200 t/d.

If the crushing plant is down, the mine haul trucks dump onto the ROM stockpile. A FEL will be used to reclaim the ROM material and deliver the material to the dump pocket. The ROM stockpile can also be used to feed the crusher, if the mining operations are suspended.

Ore from the secondary crushing feed conveyor is transported to the secondary vibrating double deck screen. Screened undersize material is conveyed to the tertiary crushing feed conveyor. The screened oversize feeds the 932-kW secondary cone crusher. The secondary cone crusher product discharges onto the tertiary crushing feed conveyor.

Ore from the tertiary crushing feed conveyor is transported to the tertiary ore stockpile. The material from the stockpile is reclaimed by belt feeders to three tertiary vibrating double deck screens. The oversize material from the screens feeds the tertiary crushers, each installed with 932 kW motors. The crusher product returns to the tertiary crusher feed conveyor. The undersize material, with a target P_{80} of 6.5 mm, is transferred by overland conveyors to the HLP for stacking, by a series of grasshoppers that feed a radial stacker.

Lime is added to the stockpile feed conveyor from the 200-t lime silo by screw conveyor for pH control, at a rate of 1 kg/t to 1.5 kg/t.

17.2.2 Heap Leach Pad

The primary HLP can accommodate approximately 90M t of ore and is located approximately 1.2 km north of the Eagle pit. The primary HLP is located in the Ann Gulch catchment. The base of the primary HLP confining embankment is located at an elevation of 880 masl, and at full height in Phase 3 of the primary HLP, the heap will extend up Ann Gulch to an elevation of approximately 1,225 masl at the top of the planned ore stack.

The proposed secondary HLP will accommodate the remaining estimated 73.5M t of ore (with possibly double the capacity potential) and will be located approximately 3 km east of the Eagle pit near the Olive pit. The secondary HLP will be located in the Bawn Boy catchment. The base of the secondary HLP confining embankment is located in the upper portion of the basin at an elevation of 1,300 masl, and at full height in Phase 2, the secondary HLP will extend to an elevation of approximately 1,470 masl at the top of the planned ore stack.

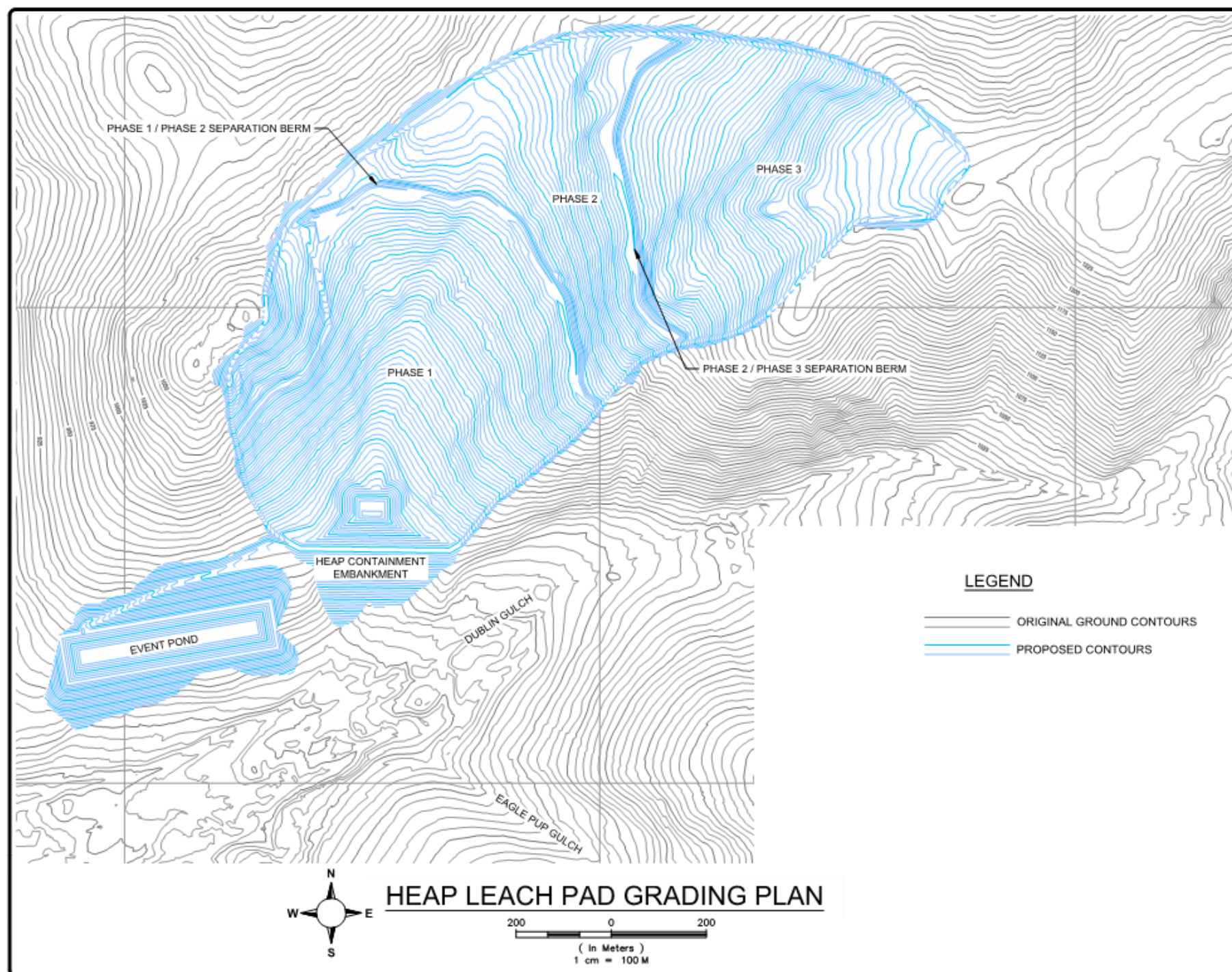
Each HLP comprises a number of elements:

- An earth/rock-filled embankment, to provide stability to the base of the HLP;

- A lined storage area for the ore to be leached;
- A pregnant leach solution (PLS) collection system;
- An in-heap sump for collection and pumping of PLS;
- Events ponds to contain excess solution in extreme events; and
- Leak detection recovery and monitoring systems to ensure the containment of PLS.

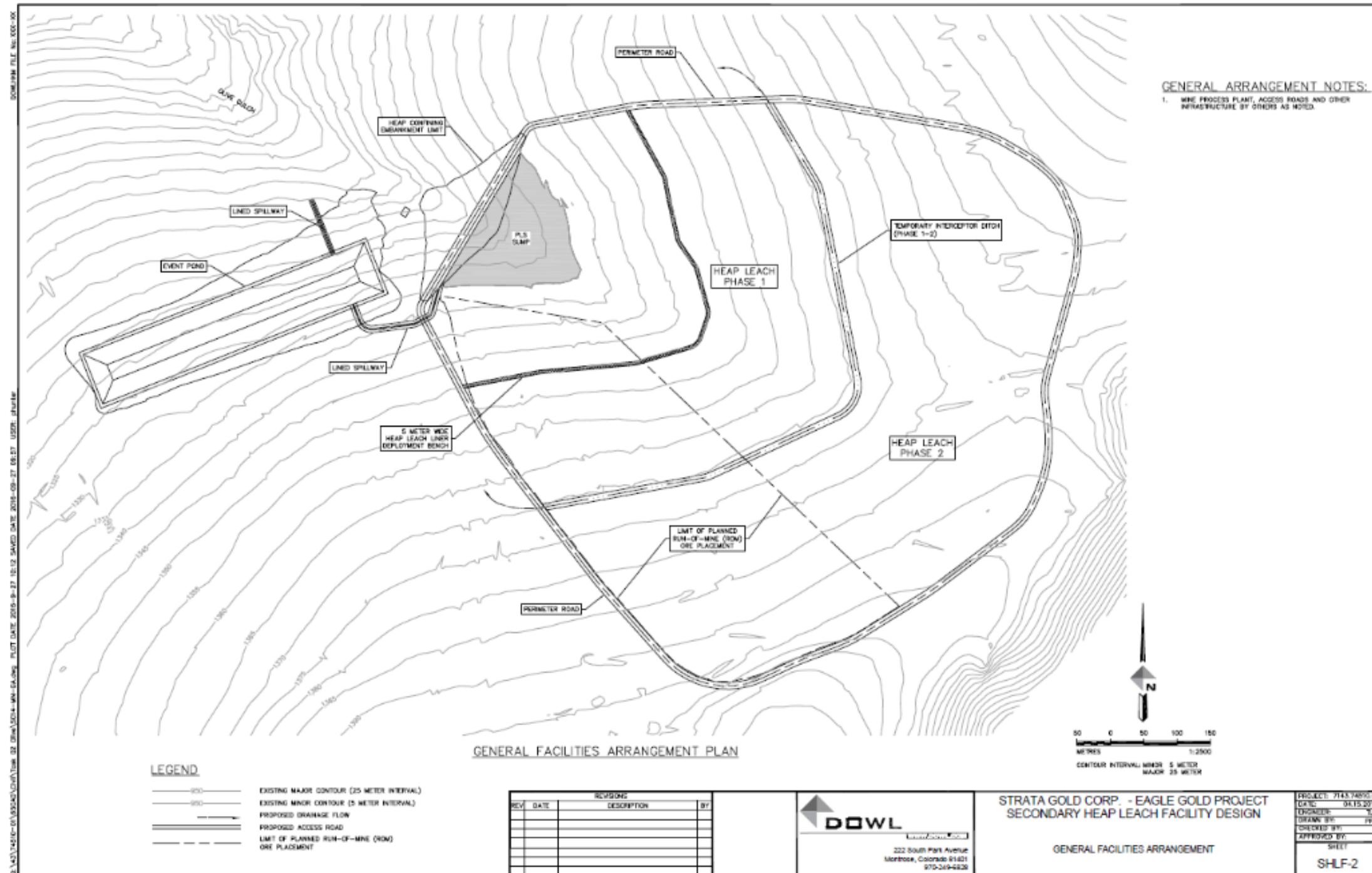
The primary HLP is constructed in phases. Phase 1 will accommodate approximately 22.0M t of ore, Phase 2 will accommodate 26.0M t and Phase 3 will accommodate the remainder of the tonnage for a total of 78.7M t. The secondary HLP will be constructed in phases with each phase accommodating approximately 24.3M t of ore. The initial phase of the primary HLP was constructed and began operating in Year 1 of the mine plan. The secondary HLP will be constructed and begin operations during Year 8. The primary HLP and secondary HLP are illustrated in Figure 17-3 and Figure 17-4, respectively.

Figure 17-3: Primary HLP



Source: DOWL (2019)

Figure 17-4: Secondary HLP



Source: DOWL (2019)

The liner for the HLPs and events ponds consists of a composite geomembrane and underlying geosynthetic clay liner (GCL) which was used in lieu of a 300 mm thick layer of compacted low-permeability material due to the lack of suitable on-site soils in sufficient quantities. The GCL soil liner provides an equivalent secondary containment to that of a 300 mm minimum thick low permeability soil layer, offering a hydraulic conductivity of 1×10^{-6} cm/sec or lower.

Free-draining granular material was placed on top of the HLP liner together with a network of collection pipes to collect and drain process solutions and storm infiltration, and to minimize hydraulic heads on the liner, thereby reducing the risk of leakage. Piezometers are installed within the liner cover fill at strategic locations to monitor the hydraulic head on the liner system.

The PLS sump area to the elevation of the HLP embankment crest has a double-geomembrane liner installed over a GCL liner together with a leak detection and recovery system (LDRS). The LDRS was installed between the two geomembranes to monitor and contain any leaks through the top geomembrane.

The events ponds are lined with a double-geomembrane liner installed over a GCL liner together with a LDRS. This allows them to contain excess solutions for short durations, if required.

Temporary runoff interceptor ditches or berms are constructed for each phase of the HLPs in order to collect storm water runoff from entering the heap. The interceptors are constructed and in operation before construction of each HLP phase. The temporary interceptors are constructed at the up-gradient limit of each phase of the HLP as the liner will tie into the access road adjacent to the ditches. Once the HLP is ready for the next phase, the temporary interceptor ditch will be filled and regraded for placement of the liner for the next phase.

The diversion ditches are sized for the 100-year, 24-hour event, and armoured with riprap. The ditches are backfilled or removed at the end of each phase in order to tie in the HLP liner system and pipework. In the event of an emergency or other unforeseen circumstance in which pumping of solution ceases, or in the event of excessive surface runoff from the HLP, discharge of excess water or solution is directed in a controlled manner through a lined spillway to the events pond. Solution levels within the heap leach are kept low during normal operations. However, during emergency situations, the HLP spillway will prevent overtopping of the embankment, and will maintain containment of the solution at all times. The HLP spillway is designed to safely convey the flow represented as one third between the 1,000-year event and the probable maximum flood (PMF). The event ponds will incorporate internal and outlet spillways to safely pass the PMF peak flows after attenuation through the pond.

The events ponds are sized to provide containment storage for a Probable Maximum Flood (PMF) Event plus 24 hours of draindown from the heap after the in-heap pond has reached its maximum capacity.

The primary HLF events ponds have a combined operational storage capacity of approximately 340,000 m³ with 1 m of freeboard. The combined storage capacity of the primary HLF events ponds (without freeboard) is 300,000 m³.

17.2.3 Ore Stacking Plan

Ore is stacked on the HLP in cells with a series of grasshopper conveyors and a radial stacker. The tonnage on each lift was calculated based on the HLP lift volumes and an average expected bulk density. The total annual tonnage and volumes are listed in the Table 17-2 below.

Table 17-2: Total Annual Tonnage

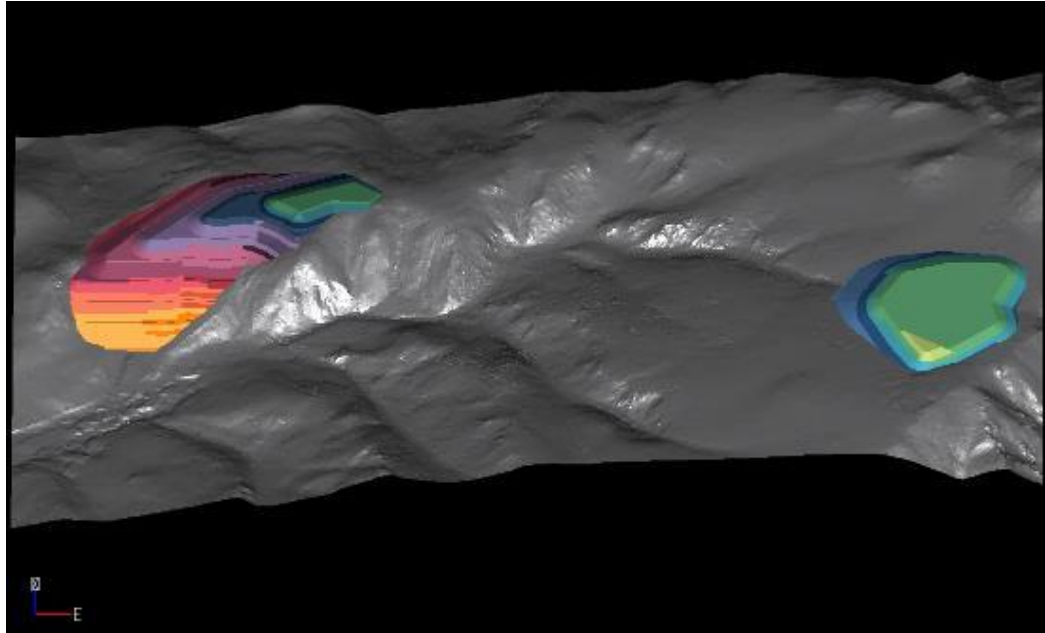
Year	Primary Heap Leach (Ann Gulch)			Secondary Heap Leach (Bawn Boy)	TOTAL
	Crush	ROM	Subtotal	Crush	
1	2.9	0.3	3.2	-	3.2
2	9.9	1.0	10.9	-	10.9
3	9.2	1.8	11.0	-	11.0
4	10.6	2.2	12.8	-	12.8
5	10.6	3.1	13.7	-	13.7
6	10.6	2.6	13.2	-	13.2
7	10.6	3.1	13.7	-	13.7
8	0.2	-	-	13.5	13.7
9	-	-	-	14.0	14.0
10	-	-	-	14.6	14.6
11	-	-	-	14.9	14.9
12	-	-	-	14.6	14.6
13	-	-	-	1.9	1.9
TOTAL	64.8	13.9	78.7	73.5	152.2

Source: VGC (2019) Current mine plan with actuals

The final stacking plan for both heap leach pads of Eagle and Olive is shown in Figure 17-5.

Figure 17-5: Final Stacking Plan

LEGEND	Y01	Y02	Y03	Y04	Y05	Y06	Y07	Y08	Y09	Y10	Y11
Crushed											
ROM											



Source: JDS (2016)

17.2.4 Leaching and Barren Solution Delivery

17.2.4.1 Barren Solution

Piping and Pumping

The barren solution is pumped by a series of five pumps to the HLP from the barren solution sump, located in the plant. At full flow, barren solution will be pumped at a nominal rate of 2,070 m³/h, where it connects into the HLP distribution system. The system included a leak detection system, including a moisture sensing cable, tied into the plant distributed control system, DCS. On the HLP, the barren solution will be transferred to the drip emitter header pipes.

Barren solution is applied to the heap using drip emitters. The emitters are buried at least 1 m to reduce the likelihood of freezing. The emitter lines are ripped into the ground approximately 1 m apart, running along the length of each cell and on the slopes of the lifts.

Solution Heating

The ADR plant design allows for barren solution to be heated by a diesel-fired boiler, located adjacent to the plant building, to maintain the thermal balance in the HLP, if required. The boiler is designed to provide 10 M btu/h (British thermal unit per hour) to heat the solution during the initial loading period, before the HLP mass is significant enough to maintain an internal thermal balance.

17.2.4.2 Pregnant Solution

The pregnant solution is pumped from the collection sump at the toe of the HLP to the ADR plant. The pipeline has been sized for a nominal flowrate of 2,070 m³/h. The pregnant solution pipe was run on surface for approximately 400 m to the plant from the HLP, and approximately 4 km from the secondary HLP.

17.2.4.3 Cold Weather Considerations

A review and comparison of heap leaching operations in cold climates indicates year-round leaching operations at the Eagle Gold project site is feasible. Design provisions are incorporated to add and maintain heat in the process solutions applied to the heap.

Since ore particle size, ambient temperatures, delivered ore moisture, and snowfall may play a role in the ability to stack in winter, the project has adopted the following mitigation measures:

- Selected an in-valley heap configuration to create a heat sink;
 - Use of an in-heap solution pond for PLS storage;
 - Sizing of the fine ore crushing operation to allow increased production rate during warm months;
 - Incorporation of 90-day ore storage area;
 - Sizing of the starter HLP to accommodate more than one year of ore production, allowing advanced stacking for at least the first winter season;
 - Provision for a D9 track dozer, equipped with a ripper assembly, to rip any frozen ore prior to resuming leaching in the spring;
 - Heating of barren solution;
 - In-heap temperature monitoring;
 - Burying drip emitter lines;
 - Heat-tracing and insulating the barren tank;
 - Heat-tracing and/or insulating (or burying) pipelines; and
- Generators for back-up power supply to pumps and emergency process equipment.

17.2.4.4 Events Ponds

Lined events ponds, external to the HLPs, were constructed to temporarily store excess process solution that may occur during upset conditions, freshet, and excess precipitation events. The solution contained in these ponds will be recycled back into the heap leach circuit when normal operation resumes. The ponds are sized to contain peak intensity storm events as well as repetitive wet years and/or periods. The pond construction includes a leak detection and recovery system underneath the main liner system.

17.2.4.5 Leachate Solution Collection System

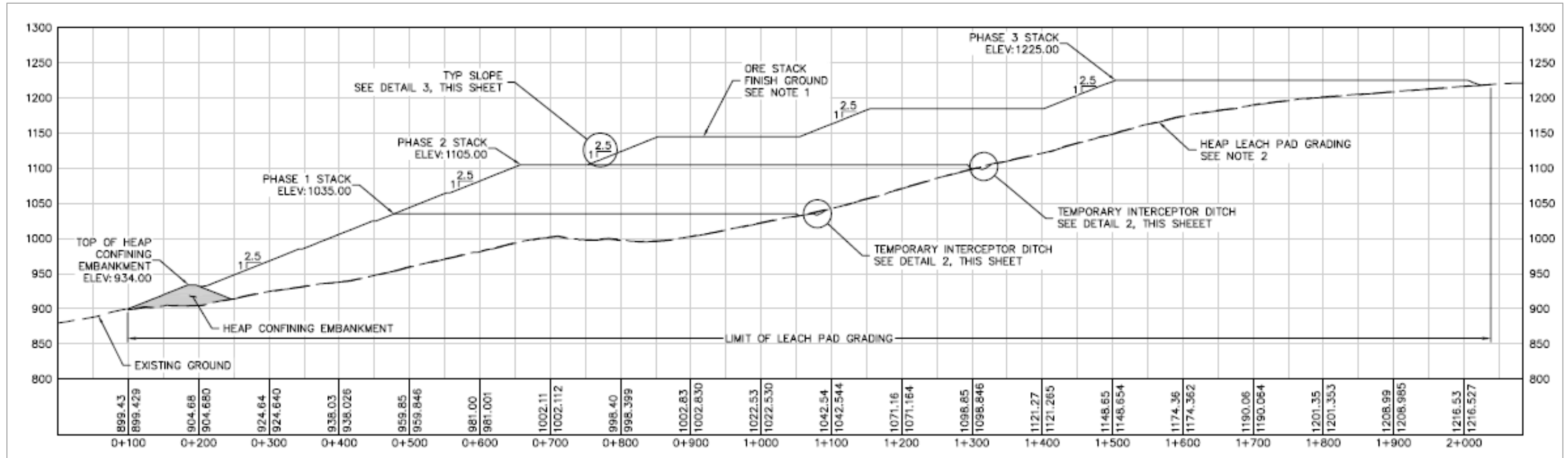
The HLP consists of an engineered liner system in the heap leach facility with the lower section of the HLP acting as an in-heap pond for the primary storage of PLS.

Located above this liner system is a 0.6 m (minimum thickness) layer of drainage rock (all passing 38 mm) which was designed to transmit the PLS to the collection system. This drainage rock serves to efficiently transmit the PLS and protect the primary liner from damage by rocks and/or equipment which might otherwise contact the liner.

The leachate collection piping system consists of a piping network embedded within the drain rock. The collection pipe network consists of a series of drainpipes, spaced and arranged in a “herringbone” pattern around the larger pipes that conveys the collected fluid (i.e. PLS and storm water flows).

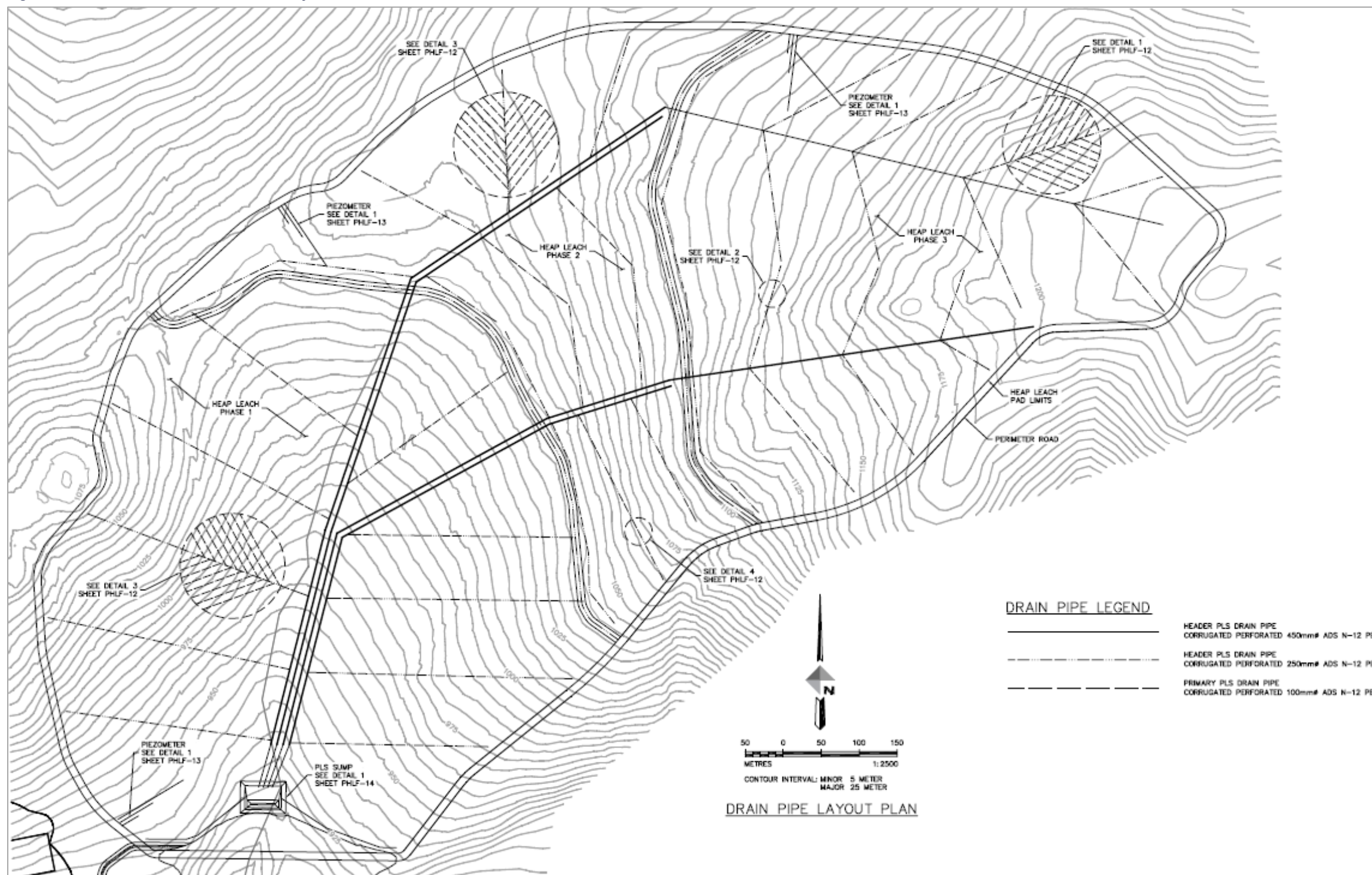
Within the PLS sump, there are three submersible pumps operating and two spares available. The pregnant pumps are each installed with 112 kW motors. Each pump is inserted into an angled pipeline, which connects the collection lines, mechanical pump, and related electrical and control components. These pumps serve to convey the pregnant solution to the process plant.

Figure 17-6: HLP Cross Section



Source: JDS (2019)

Figure 17-7: Leachate Solution Collection System



Source: DOWL (2016)

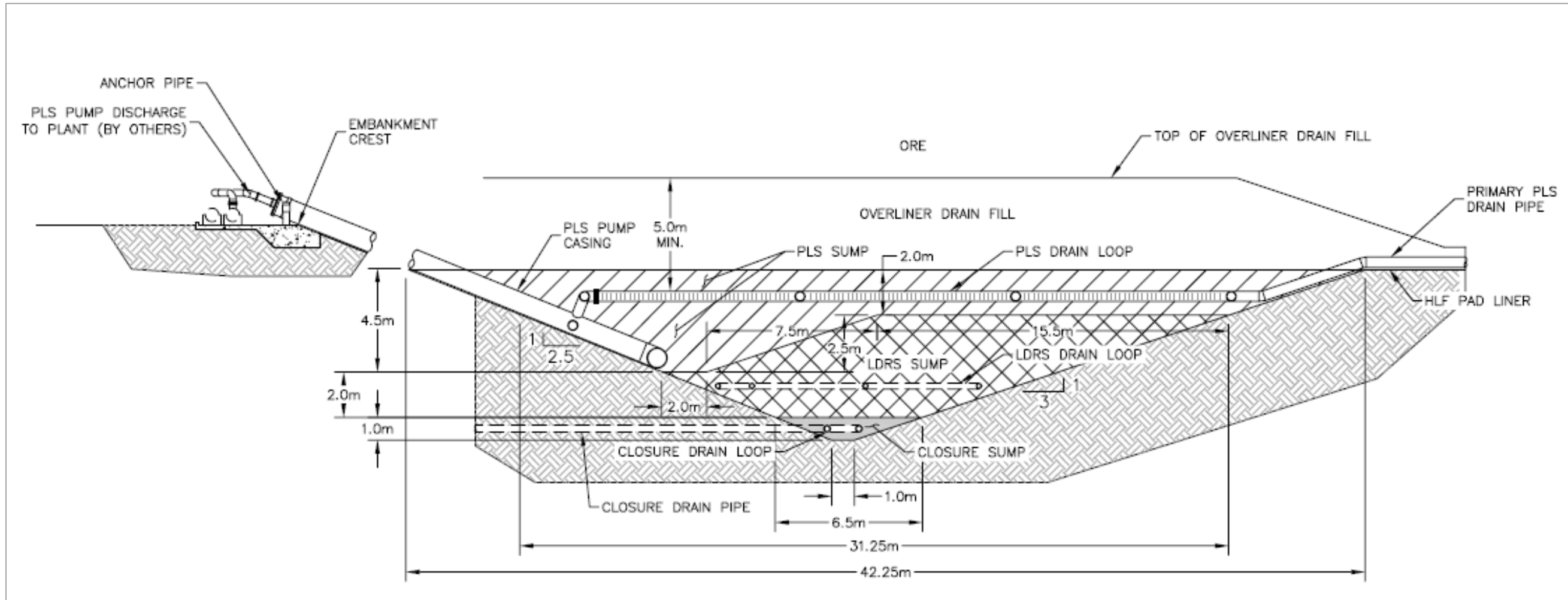
17.2.4.6 Leak Detection and Recovery System

There are two safety systems installed and designed to detect, contain and pump back any leakage resulting from a possible liner failure before any contamination can reach the groundwater.

A leak detection and recovery system (LDRS) was installed between the upper and lower geomembrane liners, from the sump level to the embankment crest, where the hydrostatic head is greatest (Figure 17-8). If a leak were to occur, the drain system would collect the PLS via drainpipes, connected to a collection monitoring sump, located in the HLP. The sump was installed with monitoring instruments to provide early alerts to the presence of flow. Collected solution would be pumped back to the ADR plant or the HLP.

There is a secondary drainage system below the liner system throughout the entire HLP area. A leak would trigger an early alert via monitoring instruments. The drain system would collect the PLS, direct it to an external collection monitoring sump located downstream of the events ponds, and then pump it back to the ADR plant or the HLP.

Figure 17-8: LDRS Detail



Source: JDS (2019)

17.2.5 Process Plant

Pregnant solution is pumped from the HLP sump to the ADR plant. The system is constructed to distribute flow between the two trains of cascading carbon-in-columns (CIC). The solution passes down each train with carbon flowing countercurrent up the train. The carbon collects the gold as it moves from the last column to the first column, depleting the solution of residual gold by the end of the train. The barren solution flows from the last carbon column to the barren solution sump and is pumped back to the HLP.

17.2.6 Carbon Adsorption

The carbon adsorption circuit consists of two trains of five cascading carbon columns. The pregnant solution is pumped to the carbon adsorption circuit across a stationary trash screen for removal of any debris from the HLP. The solution flows countercurrent to the movement of carbon from column 1 to column 5. The solution overflow from the final column discharges onto a safety screen in order to recover any carbon that may be flushed from the circuit. The barren solution discharges from the safety screen into the barren solution sump. Cyanide solution, caustic solution, antiscalant and make-up water are added to the barren sump as needed. On average, 8 t of loaded carbon from the first carbon columns (4 t from each train) are pumped to the acid wash and stripping circuits each day. The carbon is advanced up the train, with reactivated carbon added to the fifth column.

17.2.7 Desorption and Gold Refining

17.2.7.1 Carbon Acid Wash

The loaded carbon is transferred to the acid wash vessel and treated with a dilute nitric acid solution to remove calcium, magnesium, sodium salts, silica, and fine iron particles. The dilute acid solution is pumped into the bottom of the acid wash vessel, exiting through the top of the vessel back to the dilute acid tank, with solution recirculating until the wash is complete. At the conclusion of the acid wash cycle, a dilute caustic solution is used to neutralize the acidity.

17.2.7.2 Carbon Stripping (Elution)

After acid washing, the loaded carbon is transferred to the strip vessel where the adsorbed gold is removed using the ZADRA process. The strip vessel holds approximately 8.0 t of carbon. During elution, solution containing approximately 1.5% sodium hydroxide and 0.2% sodium cyanide, at a temperature of 140°C and 450 kilopascals (kPa), is circulated through the strip vessel. Solution exits the top of the vessel and is cooled below its boiling point by the heat recovery heat exchanger. Heat from the outgoing pregnant solution is transferred to the incoming cold barren solution.

A diesel-powered boiler is used as the primary solution heater to maintain the barren solution at 140°C. The cooled pregnant solution flows by gravity to the electrowinning cells. At the conclusion of the strip cycle, the stripped carbon is pumped to the carbon-regeneration circuit.

17.2.7.3 Carbon Regeneration

The stripped carbon from the strip vessel is pumped to the vibrating dewatering or carbon-sizing screens. The dewatering screen removes the transfer water and fine carbon particles ahead of the regeneration kiln. Oversize carbon from the screen discharges by gravity into the carbon-regeneration kiln-feed hopper. Screen undersize carbon drains into the carbon-fines tank and is filtered and bagged for disposal. The 333

kg/h diesel-fired horizontal kiln treats 8.0 t of carbon per day at approximately 650°C. The regeneration-kiln discharge is transferred to the carbon quench tank by gravity, where it is cooled and pumped back into the CIC circuit.

To compensate for carbon losses by attrition, new carbon is added to the carbon attrition tank. New carbon and fresh water are mixed to break off any loose pieces of carbon prior to being combined with the reactivated carbon in the carbon holding tank, which is transferred into column 5 of each CIC train.

17.2.7.4 Refining

Pregnant solution flows by gravity from the elution vessel to a secure gold room. The solution flows through three electrowinning cells operating in parallel. Gold is plated onto knitted-mesh steel wool cathodes in the electrowinning cells. Loaded cathodes are power washed to remove the gold-bearing sludge. The sludge is filtered to remove excess moisture and then dried in an oven. From the oven, the gold material is mixed with fluxes consisting of borax, silica, nitre and soda ash before being smelted in an induction furnace to produce gold doré and slag. The doré is transported to an off-site refiner for further purification. Slag is processed to remove entrained gold prills and re-melted in the furnace. The doré bars are weighed and stored in a vault prior to secure off-site transportation.

17.2.8 Reagents

Sodium cyanide briquettes are delivered to site in sea containers holding 1 t super sacks. The briquettes are mixed with caustic and water in the cyanide mix tank and subsequently transferred to the cyanide solution storage tank. The concentrated cyanide solution is added to the barren tank at a rate of 0.35 kg/t of ore. Cyanide is used in the carbon strip circuit at a concentration of 0.2%.

Sodium Hydroxide (caustic) is supplied to site in 25 kg bags. The caustic is mixed and stored for distribution to the cyanide mixing, acid wash, and strip circuits. The caustic is used to adjust pH of the solution prior to mixing cyanide. It is also used to neutralize the acid in the acid wash circuit. A solution of 1.5% caustic is mixed with barren solution in the carbon strip circuit for elution.

Nitric acid and antiscalant solutions are supplied to site in 208 L drums and 1 t totes, respectively. The solutions are metered directly from the drums and totes for distribution in the plant.

Quicklime is delivered to the site in bulk by trucks and stored in a 200-t lime silo. The lime is delivered at a rate of approximately 1.3 kg/t of ore by screw feeder onto the heap leach feed conveyor during heap loading operations.

17.2.9 Laboratory

The assay and metallurgical laboratory is equipped to perform sample preparation and assays by AA, fire assay, and cyanide (CN) soluble analyses. The facility is designed to prepare and analyze approximately 3,000 samples per month. The laboratory facility supports exploration, mining, minor environmental sampling, total suspended solids (TSS) monitoring, and process operations. The majority of the environmental samples will be sent off-site to an accredited laboratory for third party reporting. The laboratory has space available for process optimization and test program as well.

17.3 Gold Production Model

The gold production model was developed from a combination of metallurgical test work, the mine production schedule, the stacking volumes on the primary HLP and secondary HLP and the barren solution application rate.

17.3.1 Gold Model Development

17.3.1.1 Metallurgical Test Work

The raw column leach test data for each rock type was compiled to produce average recovery curves for expected pad performance reflecting full-scale operations with a 10 m lift height. The leach curves for all Eagle ore types were used within the model to track recovery by lithology through time, based on the metallurgical data and fraction extraction estimates presented in Section 13.

The expected leaching of ore was coupled with the expected gold recovery to calculate the total amount of gold recovered from the ore. From the metallurgical data, a formula was developed that represents the gold recovered from the heap as a function of time and lithology.

The grade and recovery for each rock type are discussed in Section 13. Table 17-3 below shows the rock types and their assigned gold recovery.

Table 17-3: Recovery by Rock Type

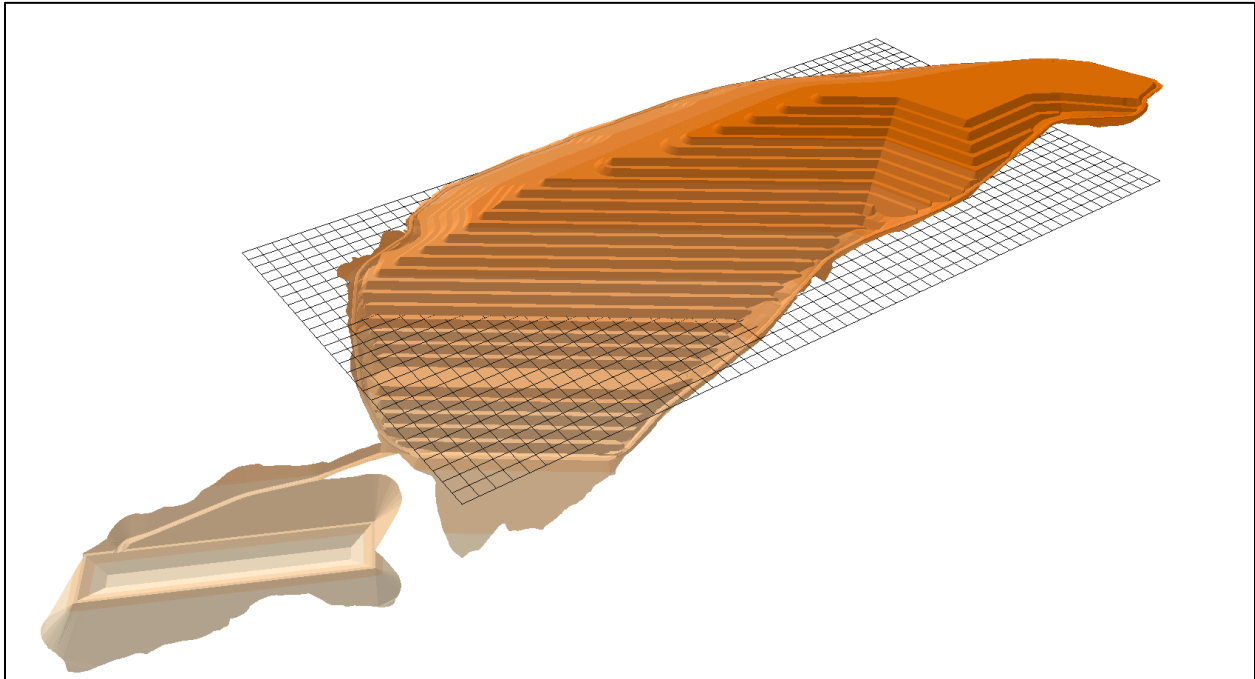
Gold Recovery (%)			
*Eagle – Ultimate Recoveries		**Olive – Ultimate Recoveries	
Type A - Weathered Granodiorite	85.8%	Total	75.7%
Type B - Fresh to Weakly Altered Granodiorite	73.1%		
Type C - Sericitic, Chloritic, Carbonate Altered Granodiorite	74.9%		
Type E - Weathered Metasediments	77.2%		
Run of Mine	60.0% ^a		

* Source: Forte Dynamics, 2018

** Source: KCA 2016

A geomet model was created including a discretized heap leach model to estimate recovery off of the leach pad as a function of time. The discretized heap leach model grid consists of cells or blocks with the dimensions of 30 by 30 m by a 10 m thick to represent the lift height. There is a total of 26,180 cells, and 1,540 vertical columns. Each cell contains lithology weighted by the tonnage of the respective rock type, each rock types associated metallurgical response data, and physical characteristics of the ore to model the hydrodynamics. Figure 17-9 displays a high-level example of the discretized model. This approach to modeling time response recovery of heap leach pads contains much more rigor than how projections were made previously.

Figure 17-9: Discretized Heap Leach Pad

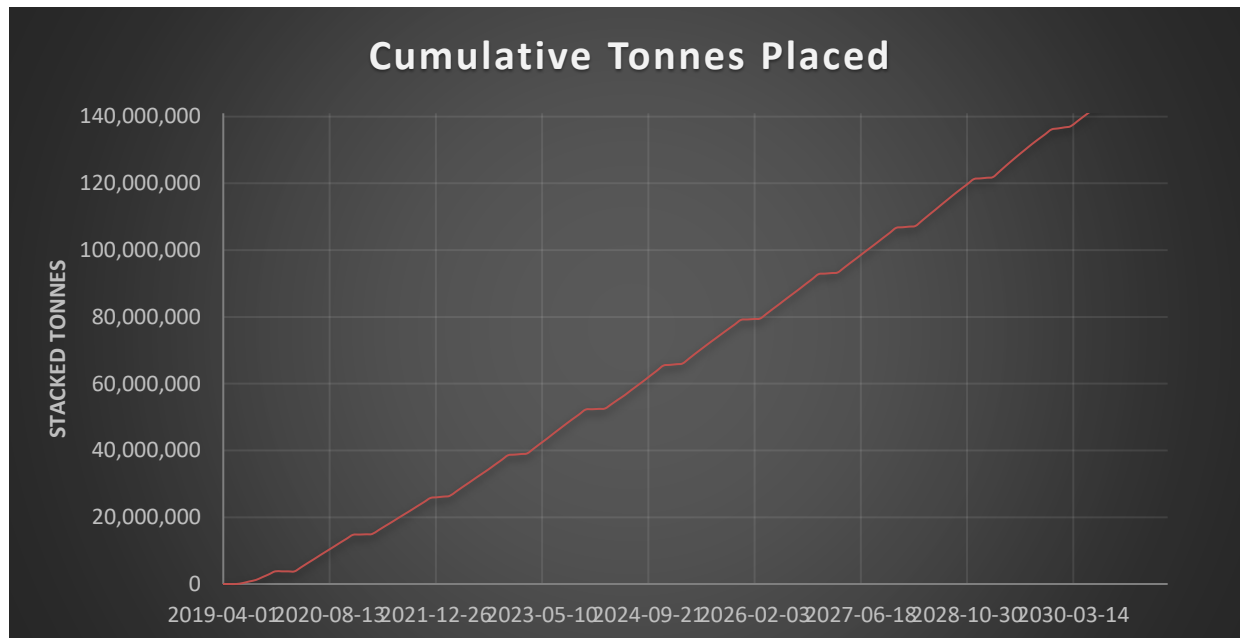


Source: Forte Dynamics (2019)

17.3.1.2 Gold Production Schedule

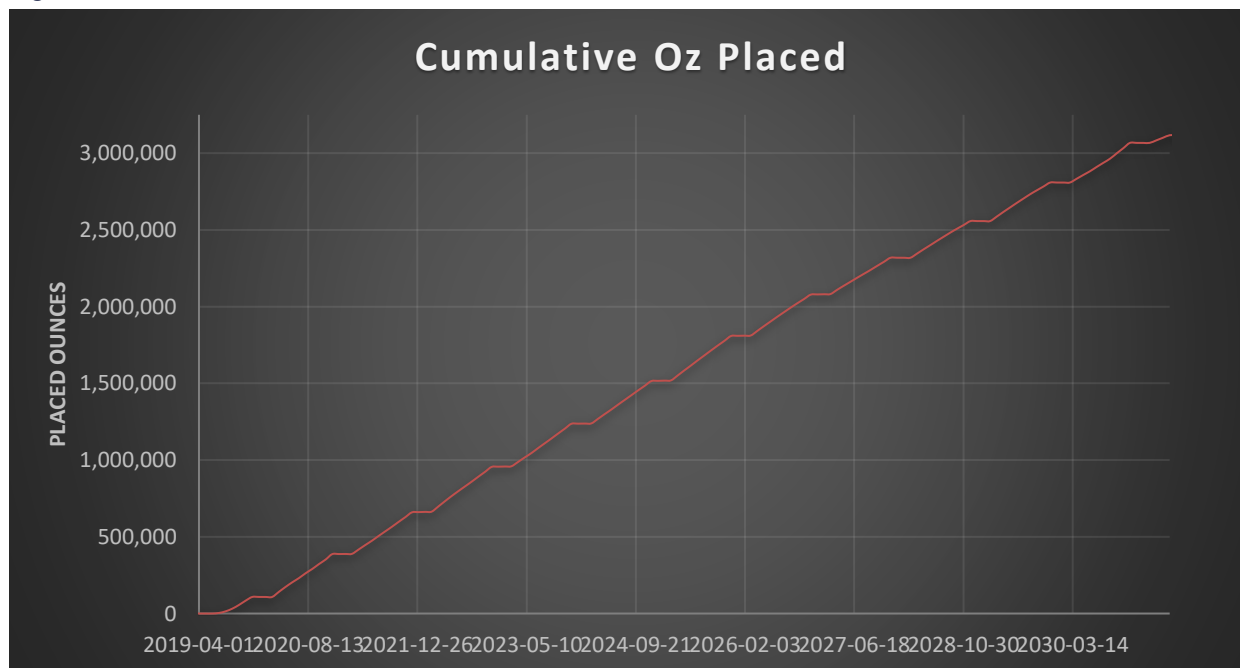
The quarterly mine production schedule provided the quarterly tonnage and grade for each rock type being delivered to the HLPs. This information is used with the heap leach model to produce gold recovery through time. Figure 17-10 and Figure 17-11 show the cumulative tonnes and ounces placed through time.

Figure 17-10: Cumulative Tonnes Placed



Source: Forte Dynamics (2019)

Figure 17-11: Cumulative Ounces Placed

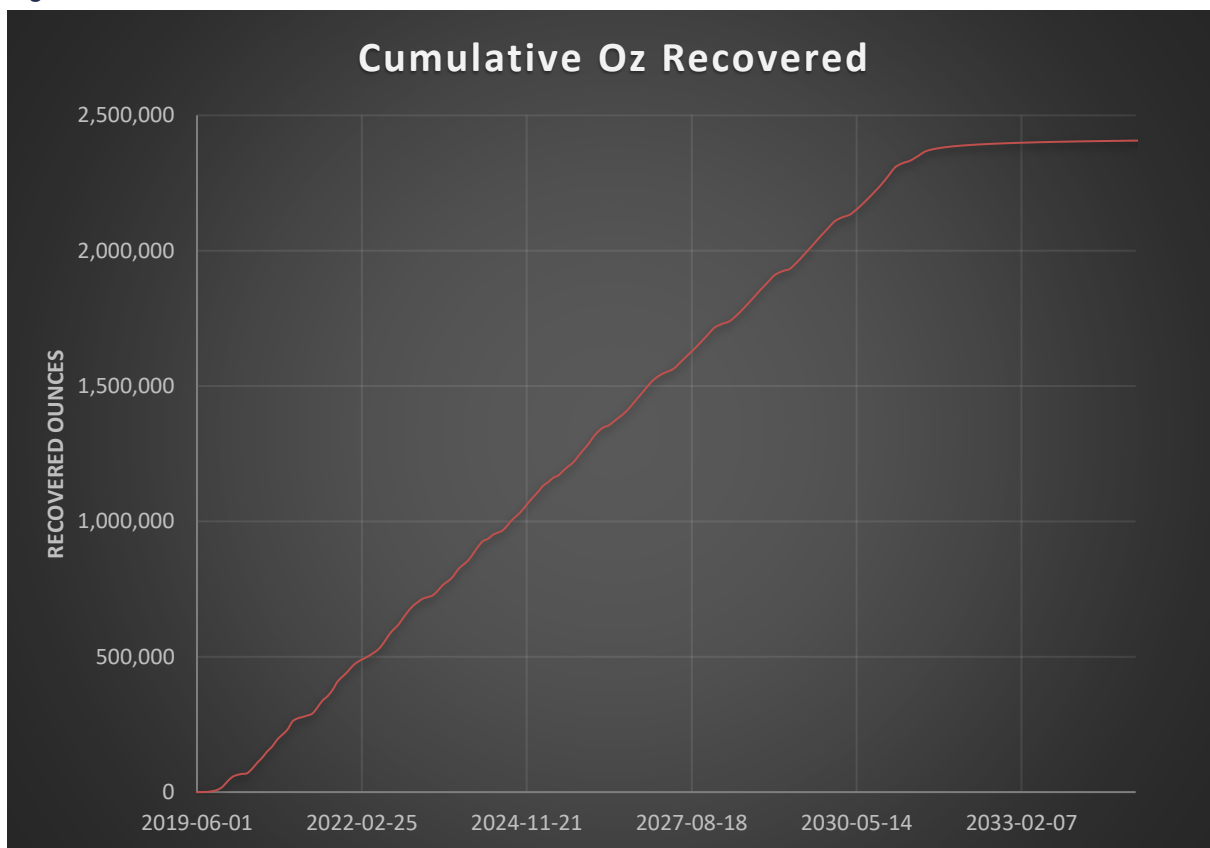


Source: Forte Dynamics (2019)

17.3.1.3 Gold Model

A gold model was developed to simulate stacking and leaching operations for the Eagle Project. This model utilizes the mine plan coupled with planned operations to simulate gold recovery through time. The model also tracks the solution inventory of stored gold in solution within the pad through time to more accurately represent the remaining recoverable inventory. This model utilizes hydrodynamics and kinetics together to provide a more accurate representation of operations for the Eagle Project. Figure 17-12 shows the cumulative ounces recovered for the Eagle Project.

Figure 17-12: Cumulative Ounces Recovered



Source: Forte Dynamics (2019)

The total gold contained in each cell, and the total amount recoverable, is calculated using the tonnage, and recovery kinetics for each lithology. The model then calculates the gold recovered in each cell over time, depending on the leaching hydrodynamics. Each cell experiences a primary leach time of 45 days, and the remaining gold is recovered through secondary leaching operations. A solution application rate of 7-10 l/h/m² and a total flowrate of 2,070 m³/hr is utilized within the model to simulate both primary and secondary leaching depending on the availability of fresh ore and loading operations. As time progresses, the model calculates the gold heap leach inventory and the gold recovered in solution for more accurate tracking or recoverable of inventory).

18 Project Infrastructure and Services

18.1 General Site Arrangement

The Eagle Gold Mine development included the construction of various ancillary facilities and related infrastructure the locations for which were selected to take advantage of local topography, to accommodate environmental considerations, and reduce capital and operating costs.

Current mine facilities and infrastructure include:

- A primary heap leach pad, comprised of a sump, a lined storage area, an in-heap storage area, pumping wells, events ponds, diversion ditches, leak detection, recovery and monitoring systems;
- Fresh water supply systems to treat and distribute process, fire, and potable water;
- Access and site roads;
- Water treatment infrastructure, including potable and sewage treatment infrastructure;
- Power supply and distribution, including:
 - A 43.5 km long, 69 kV power supply line from the Yukon Energy Corporation's power grid McQuesten switching station, approximately 25 km southeast of the property;
 - 13.8 kV power distribution from the mine site substation to all the facilities; and
- Process control and instrumentation communication systems.
- Ancillary facilities, including:
 - Warehouse, cold storage and laydown areas;
 - Mine dry;
 - Administration buildings;
 - On-site fuel storage for diesel, gasoline & propane;
 - On-site explosive storage and magazines;
 - Assay laboratory;
 - Temporary and permanent camp accommodations complete with recreation area, commissary, first aid and laundry facilities;
 - An incinerator; and
 - Guard shack and entrance gate;

Future mine facilities and infrastructure will include:

- A secondary heap leach pad, comprised of a sump, a lined storage area, an in-heap storage area, pumping wells, events ponds, diversion ditches, leak detection, recovery and monitoring systems;

- Water treatment infrastructure, including a Mine Water Treatment Plant (MWTP) with cyanide detoxification capacity; and
- Ancillary facilities, including a truck shop.

The location of the main project facilities is shown in Figure 18-1.

Figure 18-1: Project Infrastructure



Source: VGC (2019)

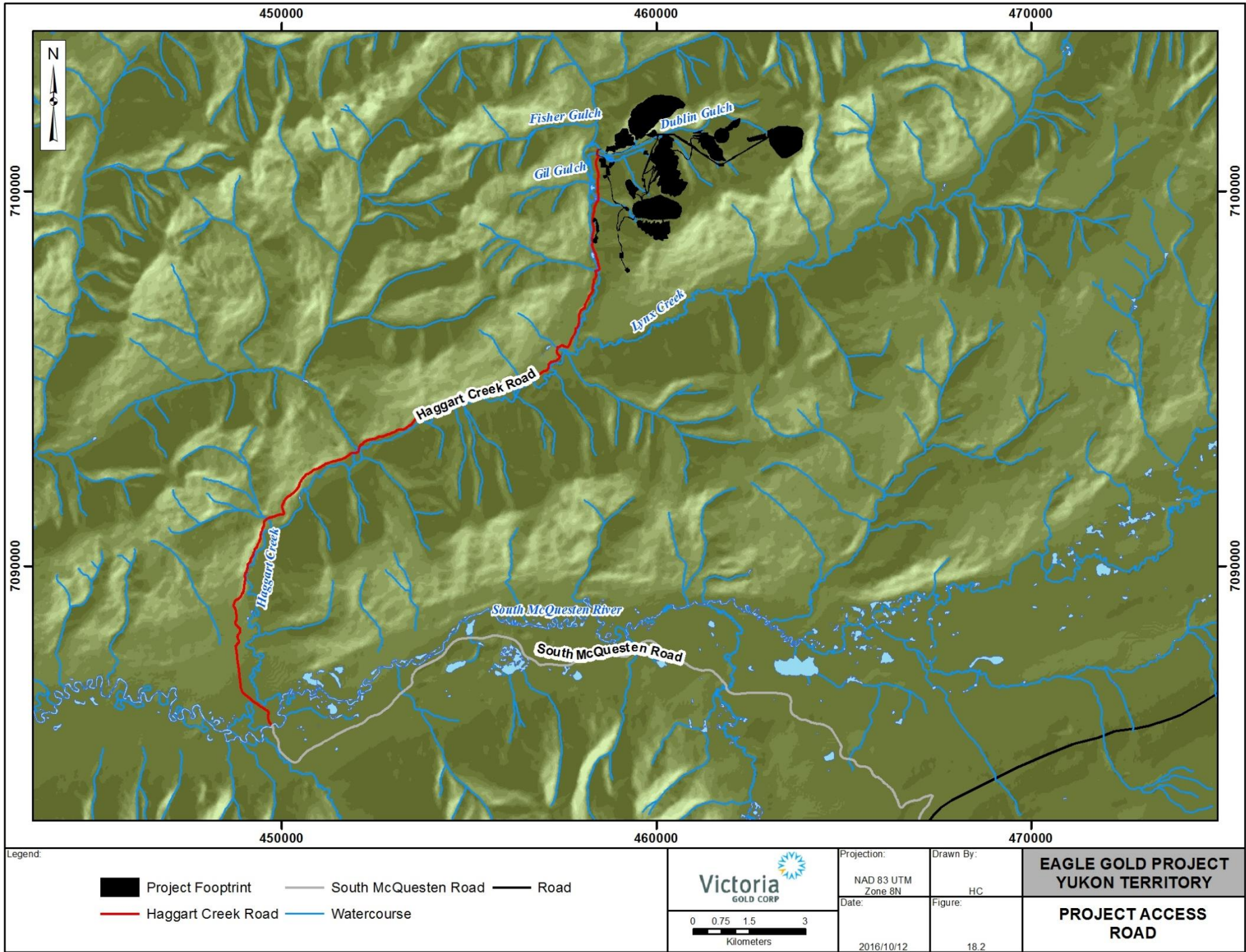
18.2 Roads

18.2.1 Access Road

Paved and gravels roads—including the Silver Trail Highway (Highway 11), the South McQuesten Road and the Haggart Creek Road (HCR) provide access to the project site (Figure 18-2). Some work was undertaken during construction to upgrade sections of the HCR.

Victoria Gold assumes responsibility for maintenance of the HCR throughout the LOM, and during closure; however, funding and/or work share agreements with the Yukon Department of Highways and Public Works are being utilized by Victoria Gold for maintenance activities and are assumed to continue.

Figure 18-2: Project Access Road



Source: VGC (2019)

18.2.2 Site Roads

A network of site roads has been, and will continue to be constructed throughout the mine site as required. Roads are divided into three categories depending on use: haul roads, service roads, and access roads. Haul roads currently include the Eagle pit haul road, which connects the Eagle pit to the primary crusher, and roads required to connect the pit to the waste rock storage areas.

The main haul roads have a running width of three times the width of a haul truck with a 2 m high berm, where a drop-off exists above 3 m adjacent to the road. Ditching is provided on the side of the road for drainage. The road sub-base and base requirements are governed by the quality of the subgrade. The maximum haul road grade is 10%. Secondary haul roads are constructed as required and built to suit conditions and use.

Service roads with a running surface of two times the width of a haul truck, and 2 m high berms, connect the Eagle pit to the truck shop area for maintenance purposes. Ditching is provided adjacent to this road as required for drainage. The maximum grade of these roads is 10%.

Access Roads, with 8.5 m running surfaces are constructed to connect other areas of site such as the explosive and magazine storage areas and the ADR plant.

Additional access roads, e.g. for maintenance of the overland conveyor have sufficient width to allow for vehicle access. Ditching and surface grading is provided for all site roads as required, to facilitate drainage and safe usage.

18.3 Buildings and Structures

18.3.1 Fuel Storage Facilities

Diesel fuel, primarily for the mine fleet and power generation, is stored within a bermed containment area located near the power generating plant. Future storage for the mine fleet will be provided adjacent to the truck shop.

Diesel and propane storage facilities are located at the ADR plant as the fuel sources for the solution heating boilers and the regeneration kiln.

Diesel and gasoline for light vehicles, and propane storage tanks for the camp facilities, are located adjacent to the permanent camp.

18.3.2 Explosives Storage

18.3.2.1 On-site Explosives Manufacture and Storage

The explosives manufacture plant, a pre-engineered building provided by the explosives supply contractor, is located southwest of the Eagle pit. Access to the plant is controlled by a locked gate to prevent unauthorized access.

18.3.2.2 Explosives Magazine Storage

The explosives magazines, prefabricated Sea Can-type structures, provided by the explosives supply contractor are located south the explosive manufacturing facility. Access to the area is controlled by a locked gate.

18.3.3 Pre-Engineered Buildings

Pre-engineered buildings have been constructed for the Primary Crusher building, the Secondary / Tertiary Crusher Building, and the ADR plant. Future pre-engineered buildings include the truck shop.

Building construction comprises a structural steel frame, steel girts and purlins and intermediate structural members. Walls are either uninsulated or insulated metal wall panels with insulated roof panels.

18.3.4 Modular Buildings

Modular buildings have been used for the accommodation facility, administration offices, assay lab, ERT building and incinerator.

Each building includes heating, ventilation, and air conditioning (HVAC), electrical, piping, fire detection and fire suppression systems as required.

18.4 Power

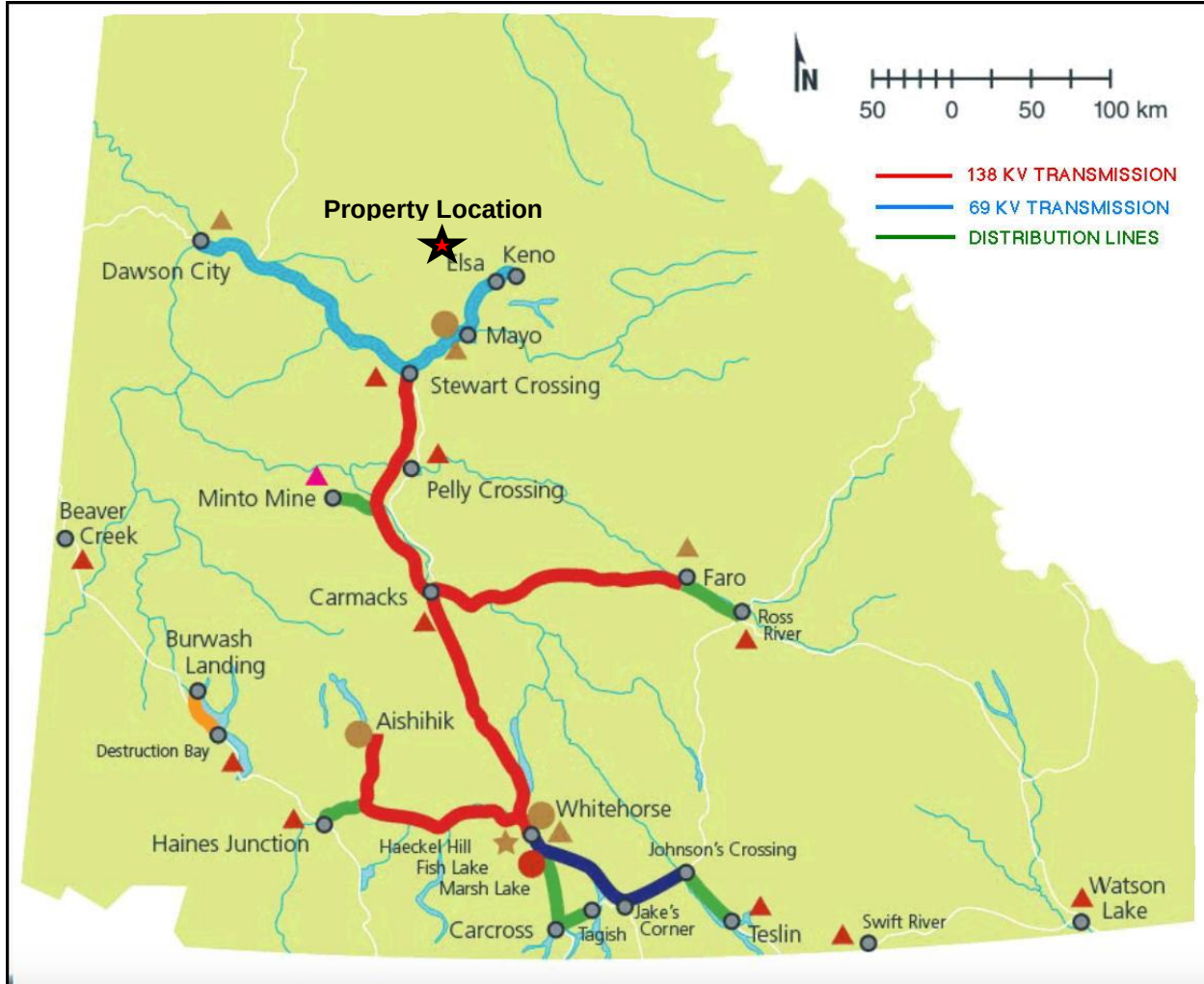
18.4.1 Utility Power Supply

The primary electric power for the Eagle Gold project is provided from the Yukon Energy Corporation (YEC) Grid. YEC generates most of the Yukon's electricity supply, and sells wholesale power to ATCO Electric Yukon, and directly to customers in several communities, plus directly supplies large industrial customers. YEC's primary source of power is hydro generation with facilities including the Whitehorse hydro plant, the Aishihik hydro plant, located about 110 km northwest of Whitehorse, and the Mayo A and B hydro plants (Figure 18-3).

YEC has back-up diesel generation primarily in Whitehorse but also has facilities in Faro, Dawson and Mayo. YEC also has LNG fueled generators in Whitehorse.

YEC owns and operates the Yukon power grid. The grid runs from Dawson YT, its most northern region on the grid, to Whitehorse, its most southern connection.

Figure 18-3: Yukon Electricity Grid (Map by YEC)



Source: YEC (2019)

18.4.2 Project Transmission Line

Electric power for the project is provided from the YEC 69 kV transmission line between Mayo and Keno via the new McQuesten switching station, which was constructed as part of the Eagle Gold Mine capital project. The switching station is located at the turn-off from the Silver Trail Highway to the South McQuesten mine access road. The Mayo to Keno line is currently planned to be replaced in 2020.

The dedicated 69 kV transmission line for the mine runs 43.5 km from the McQuesten switching station, to a 69 to 13.8 kV step down substation located at the mine site. The line generally runs parallel to the existing access road. It follows the South McQuesten Road to the crossing of the South McQuesten River, and then along the Haggart Creek Road to the mine site. There are several sections where the line deviates somewhat from the road in order to improve constructability, contribute to safety, and improve the long-term reliability of the circuit, while at the same time reducing costs.

18.4.3 Eagle Gold Main Substation

The site main 69 kV step-down substation contains an incoming line termination structure, a main incoming circuit switcher (combined breaker and motorized isolating switch) and areal 69 bus work to deliver 69 kV power to two step-down transformers, each with a primary circuit switcher. The transformers are connected to the secondary 13.8 kV metalclad switchgear via cable bus. This switchgear, located in the diesel power plant modular E-house, includes the transformer main secondary circuit breakers, and in addition to the diesel plant generator circuit breakers, it includes circuit breakers for site 13.8 kV power distribution, via overhead lines to the crushing and processing plants, pumping installations, and ancillary facilities.

The two main power transformers are outdoor, oil filled type, designed to CSA Standard C88. They are each rated 69 kV to 13.8 kV, 10/13.5/15 MVA, ONAN/ONAF1/ONAF2 with automatic on-line tap changers. At their maximum fan cooled rating, full redundant capacity is provided. Included are 69 kV station class surge arresters for each transformer and for the incoming line.

Each main power transformer has a secondary neutral grounding resistor, and thus the 13.8 kV distribution system is 3-wire high resistance grounded, providing for both increased safety and system availability, as is standard for mining installations. All loads on the 13.8 kV system are 3-phase 3-wire, or if single phase, utilize two bushing transformers with a 13.8 kV primary rating.

The E-house also mounts a 120-volt DC battery bank for use by both the power plant and substation switchgear and houses the main substation control and protection panel. Note that the utility metering will be located at McQuesten.

An automatically switched 13.8 kV power factor correction capacitor bank is fed from the E-house to provide power factor correction as required by YEC, and to assist in voltage control, particularly during starting of large motors

18.4.4 Diesel Generation

Three modular, diesel generator sets and associated modular E-houses are installed at the project site to provide 4.95 MW continuous power for standby (emergency power) to critical loads such as for the accommodations, offices etc. and for essential process loads, in particular to provide freeze protection. The generators also provide supplemental generation as may be required, especially in winter.

The diesel generator set modules are fully insulated with Arctic rated heating and ventilating systems. Each unit includes a day tank, starting batteries, a local control panel, motor control centres (MCC) and other accessories. The E-house contains the generator circuit breakers and the master protection and control equipment.

The diesel generating station central E-house also includes the main substation transformer secondary 13.8 kV circuit breakers, site distribution circuit breakers, the station 120-volt battery bank, the station protection and control panels, and the generating plant and substation combined station service transformers. Separate switched grounding resistors are provided for emergency operation. The station 13.8 kV switchgear is split into two sections (with a normally closed tie breaker) to provide additional emergency serviceability. Mounting the substation equipment in the generating plant E-house eliminated the need for a second E-house and reduced field wiring and installation costs.

The diesel plant is PLC controlled and designed for automatic unattended operation, with power import / export controls for paralleling with the YEC system. Human Machine Interface (HMI) operator stations are included as well as hard wired emergency operator controls. A fibre optic connection is provided to the

process plant so that a remote monitoring HMI can be located there. It is to be noted that the station includes the additional functionality as required, to operate continuously in parallel with the utility, as may be required at times.

18.4.5 Site Power Distribution

18.4.5.1 General

Large-capacity power loads are serviced by pad-mounted transformers and dedicated electrical buildings housing switchgear, MCCs and control systems equipment. Small-capacity power loads are be serviced by pole-mounted transformers and electrical and control equipment installed in rooms within the administration, camp and other buildings, or in outdoor-rated enclosures.

18.4.5.2 13.8 KV

Power is distributed through the site at 13.8 kV via overhead power lines to the primary and secondary / tertiary crusher buildings, the ADR building, the HLP, the camp and other support areas.

18.4.5.3 4,160 V

Large motors such as crushers, barren and pregnant solution pumps and large conveyors are fed from 4,160 V. This voltage is also be used for distribution to local 600 V MCCs via transformers.

18.4.5.4 600 V

Low voltage MCC, switchboards and panels are provided as required throughout the facility. Process loads are powered via 600 V MCCs which are located in close as proximity to the associated equipment.

18.5 Water

18.5.1 Water Supply

18.5.1.1 Water Supply Infrastructure

The freshwater system supplies fresh water to the ADR facility area and the camp facility.

Fresh water is pumped from an aquifer via ground wells located in the Dublin Gulch valley, to a common process water / fire water tank located near the ADR building and to the water treatment plant at the camp.

18.5.2 Water Management

The water management infrastructure includes all structures related to the collection, diversion, conveyance and storage of surface water passing through the project footprint.

The water management infrastructure items are listed in the sub-sections below.

18.5.2.1 Water Diversion Structures

Sources of water that have not been influenced by mining activities (non-contact water) are diverted around mining disturbances. Separation of contact and non-contact waters reduces the downstream impact of mining activities and it is more economical to minimize the quantity of water that requires treatment.

The network of diversion structures includes long term fixed diversion ditches, and temporary diversion ditches. Each of these structures is described below.

- Non-contact Water Diversion Ditches – a number of diversion ditches have been established during construction to divert non-contact runoff. These channels are typically V-shaped or trapezoidal in cross-section, with rock or vegetated channel lining to prevent erosion. Additional erosion protection is provided as required at slope breaks and channel bends.
- These ditches are generally sized to convey the 10-year 24-hour peak storm for the watershed size; however, ditches located upslope of key mine infrastructure are sized to convey the runoff from a 100-year 24-hour storm event.
- Temporary Non-contact Water Diversion Ditches – at various stages of the mine life temporary (generally consisting of six months to a year) diversions will be required. Construction and maintenance of these structures will be consistent with that of permanent diversion structures.
- Contact Water Interception Structures – contact water is intercepted down gradient of areas that have been disturbed by construction and mining activities. These facilities are optimally located at converging topographic low points to facilitate drainage by gravity. However, they may consist of side-hill ditches that intercept overland sheet flow. These channels are typically V-shaped or trapezoidal in cross-section with rock or geosynthetic channel lining to prevent erosion. Additional erosion protection as required is added at slope breaks and channel bends.
- Similar to diversion ditches, both permanent and temporary interceptor ditches are required.
- Contact Water Interceptor Ditches – typical interceptor ditches include roadside swales that intercept sediment-laden water from heavily trafficked areas. Runoff collected by these interceptor ditches is generally routed to the Lower Dublin Gulch Pond.
- Temporary Contact Water Interceptor Ditches – at various stages of the mine life temporary (generally consisting of six months to a year) interceptor ditches will be required. Construction and maintenance of these structures will be consistent with that of permanent interceptor structures.

18.5.2.2 Water Storage

The Lower Dublin Gulch Pond is designed to:

- Accumulate all contact runoff and seepage generated in the areas disturbed by mining activities;
- Provide quiescent storage to promote sedimentation; and
- Harvest contact water for re-use in the heap leach process circuit.

The Lower Dublin Gulch Pond is equipped with a primary riser-pipe outlet to prevent the release of sediment-laden water, prior to discharge to the environment. Manually operated slide gates allow the mine operators to hold back collected runoff when poor water quality prohibits discharge to the environment, or when additional site water is required for process make-up. Secondary discharge capability is provided by riprap-armoured, broad-crested weirs and spillways notched into the pond. The outlet works provide the capability to safely discharge pond water that will accumulate during extreme runoff events or emergency events.

This approach is consistent with general industry standard practices for mine water management.

18.5.3 Water Treatment

Active (mechanical and chemical) water treatment facilities are, or will be, provided as a part of the project and include:

- Potable water treatment plant (PWTP);
- Septic system with leach field for sanitary sewage;
- Cyanide detoxification to treat excess water discharged from the HLP; and
- MWTP to treat site drainage collected at the Lower Dublin South pond and to further treat HLP discharge after it is processed through the CDP. This facility will be constructed in year 3 of operations.

Cyanide detoxification and MWTP will operate until the water quality of site and HLP drainage is suitable for discharge through passive treatment facilities while maintaining compliance with water quality discharge standards. Water management practices will be used to provide for compliance with water quality discharge standards.

18.6 Process Control and Instrumentation

18.6.1 Overview

The plant control system consists of a Distributed Control System (DCS) with PC based Operator Interface Stations (OIS) located in control rooms at the primary crusher and the main control room in the ADR plant.

The DCS, in conjunction with the OIS, perform all equipment and process interlocking, control, alarming, trending, event logging, and report generation. DCS Input/Output (I/O) cabinets are located in electrical rooms throughout the plant and interconnected via a plant wide fibre optic network.

Field instrumentation consists of microprocessor based “smart” type devices. Instruments are grouped into process areas and wired to local field instrument junction boxes located within those areas. Signal trunk cables connect the field instrument junction boxes to DCS I/O cabinets.

Intelligent type MCCs are located in the electrical rooms throughout the plant. MCC remote operation and monitoring is via industrial communications protocol interface to the DCS.

Programmable logic controllers or other third-party control systems supplied as part of mechanical packages are interfaced to the plant control system via Ethernet network interfaces.

18.6.2 Communication

A number of integrated systems are provided for on- and off-site communication at the Eagle Gold project site.

A trunked radio system consisting of handheld, mobile and base radios provides wide area coverage for on-site communication by operations.

The VoIP telephone system features four-digit dialing within the mine site, access code-based long-distance calling, and voice mail services. For connectivity, the telephone system utilizes the site local area network (LAN).

The site LAN provides consolidated services into a single network infrastructure. Computers, cameras, telephones and any IP device requiring connection to the corporate network utilize the LAN. Further to the hardwired portion of the LAN, wireless access points are placed in common areas such as the recreation hall, administration area, dining area and mine offices.

External voice and data communications are provided via the fiber optic line to the McQuesten Switching Station then over microwave radio link.

19 Market Studies and Contracts

No detailed marketing study was performed for the Study.

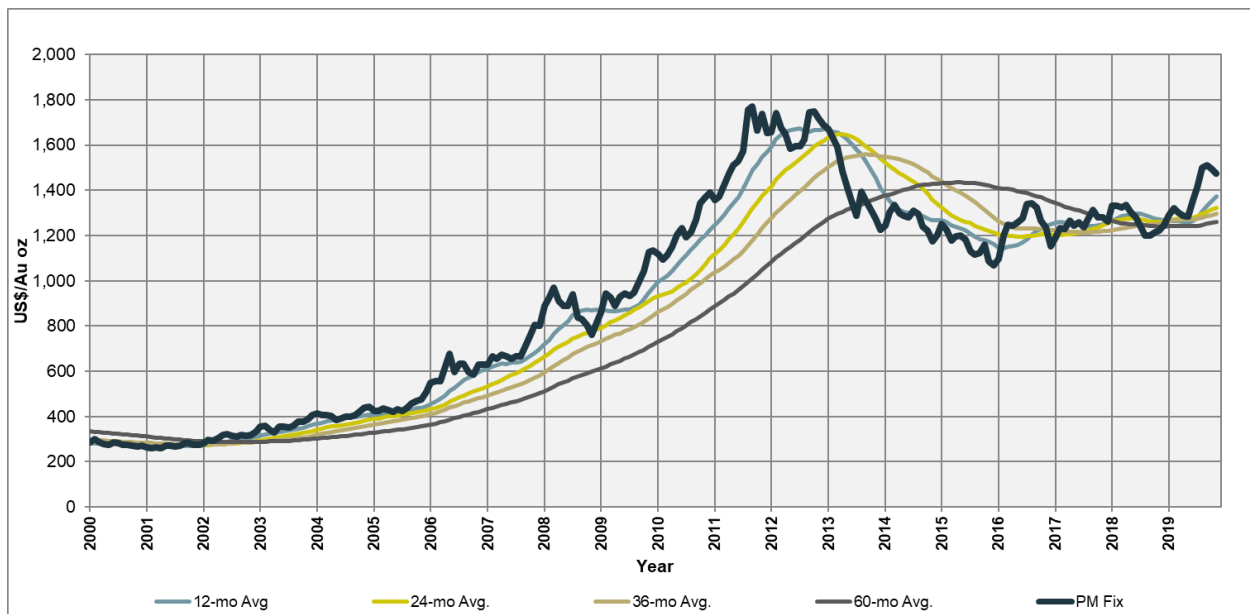
Gold is a very well understood commodity that is highly liquid and readily sold on open markets around the world (London, New York, Tokyo, and Hong Kong).

The price used in the economics for the project is US\$1,300/oz. This closely aligns with a three-year trailing average price of gold (US\$1,297/oz as of November 15, 2019). See Figure 19-1 for historic gold prices.

The exchange rate assumed for this Study is US\$0.75=C\$1. This is likewise similar to the three-year trailing average rate (0.77 as of November 15, 2019). See Figure 19-2 for the historic exchange rate.

Mine agreements and royalties are discussed in Section 4.4.

Figure 19-1: Trailing Average Spot Gold Prices



Source: Kitco (2019)

Figure 19-2: Trailing Average Exchange Rates (US\$ to C\$)



Source: Bank of Canada (2019)

20 Environmental Studies, Permitting and Social or Community Impact

20.1 Environmental Assessment and Permitting

20.1.1 Overview

Prior to construction or operational activities taking place in Yukon, a mining project essentially has to complete three major steps: the collection of a robust environmental and socio-economic baseline dataset; the successful completion of an assessment and a positive record of decision regarding potential effects of the project on valued environmental and socio-economic components; and, the application for and acquisition of regulatory approvals.

Victoria Gold concluded all three major steps for the project and has received positive Decision Documents upon the completion of the assessment of the project under the Yukon Environmental and Socio-Economic Assessment Act (YESAA) in 2013. Victoria Gold also holds both a Quartz Mining Licence and a Type A Water Use Licence that collectively allow for the construction, operation and closure of the Eagle Gold project.

20.1.2 Completed Environmental Assessment

In December 2010, Victoria Gold submitted a project proposal to the Yukon Environmental and Socio-Economic Assessment Board (YESAB) to begin the environmental assessment process of the Eagle Gold Project. The Project assessed by the YESAB included consideration of the construction and operation of the Eagle open pit, the Ann Gulch HLP, the two WRSAs located north and west of the open pit, and all facilities and activities required to support mining operations.

On February 19, 2013 the Executive Committee of the YESAB concluded its assessment of the project pursuant to the YESAA. As a result of the assessment, the Executive Committee recommended to the Decision Bodies that the project be allowed to proceed without a review, subject to the terms and conditions identified in the Screening Report and Recommendation for Project Assessment 2010-0267.

On April 6, 2013 Yukon Government (YG) exercised its authority as per YESAA s.75 or s.76 to issue a Decision Document for the project. The YG Decision Document, premised on the commitments made by Victoria Gold as detailed in the Screening Report and Recommendation, agreed with the 123 terms and conditions (recommendations) proposed by the YESAB Executive Committee without variation.

On April 19, 2013 a consolidated Decision Document was completed by federal decision bodies as required under YESAA s.74(1). Fisheries and Oceans Canada, Natural Resources Canada and Transport Canada, in their capacity as the federal decision bodies identified for the project and pursuant to s.76(1)(a) of YESAA, issued a Decision Document which accepted the recommendation that the project be allowed to proceed without a review, subject to the terms and conditions identified in section 19.0 of the Screening Report and Recommendation.

The federal decision bodies were in agreement with the rationale for the recommendation as expressed in the Screening Report and Recommendation.

The completion of the environmental assessment allowed Victoria Gold to enter the regulatory phase for the project.

20.1.3 Quartz Mining License

On September 20, 2013, the YG Department of Energy, Mines and Resources (EMR) issued a Quartz Mining License (QML) for the project. The scope of authorization involves the development, production, reclamation and closure of the Eagle open pit mine and gold extraction through heap leaching involving ore crushing, cyanide leaching and a carbon adsorption, desorption and recovery in accordance with the terms and conditions set out in the QML and the approved plans listed in the QML.

The QML is structured such that additional or updated Project plans and designs can be submitted to EMR, and subsequently approved under the QML, if they remain within the scope of activities considered through the environmental assessment. The construction and operational activities related to the Eagle deposit undertaken to date have been approved under the QML.

Mining of the Olive deposit and construction and operation of the secondary heap leach pad, Olive waste rock dump, and associated facilities that are not currently considered in the QML will require amendment to the QML upon receipt of positive Decision Documents through the YESAA process.

20.1.4 Type A Water Use License

On December 3, 2015, the Yukon Water Board issued a Type A Water Use License (WUL) for the project. The Type A WUL specifies the quantity of water that can be used for all aspects of the project and includes criteria that must be met for discharge of water from the project site. The Type A WUL includes the approval of a range of plans and activities that are also contemplated in the QML and affirms that the plan for construction, operation and closure of the project represents industry standard practice and can move forward subject to certain terms and conditions.

On August 23, 2019, the Yukon Water Board issued an amended Type A WUL for the Project. The amended Type A WUL authorizes the construction and operational activities related to the Eagle Gold deposit.

Both the Type A WUL and QML require the submission of detailed reclamation and closure plans that describe the measures an applicant will take to return the mine site to functional and sustainable ecosystems. Victoria Gold has submitted these reclamation and closure plans which described the covering and revegetation of all disturbance land surfaces, except for the open pits, the draindown, rinsing and treatment of the HLP, the treatment of mine contact waters, and the subsequent monitoring of the project to ensure closure objectives are met.

The reclamation and closure planning required by the regulatory agencies also requires the submission of estimates for a third party to undertake the proposed reclamation activities as described in Section 4.5.

20.1.5 Additional Environmental Assessment and Permitting

The YESAA includes certain triggers related to the alteration of a project which subsequently require additional assessment of a project to ensure environmental and socio-economic values can be protected. The inclusion of the Olive pit, the olive WRSA, and the secondary HLP in the mine plan will mean that these activities have to be assessed by the YESAB.

The assessment of these activities does not impact Victoria Gold's ability to continue with previously assessed and licensed work (i.e. mining the Eagle Zone and the use of the WRSAs and HLP primarily associated with Eagle material). Based on the current mine plan, the completion of the three major steps to mine approval in Yukon can feasibly be accomplished well in advance of these facilities being required.

20.1.6 Additional Federal and Territorial Permits, Licenses and Authorizations

Table 20-1 provides a list of the federal and territorial act, regulations and guidelines that may apply to the project at various stages of development, operations and closure.

Table 20-1: List of Relevant Federal and Territorial Acts, Regulations and Guidelines

Applicable Legislation/Regulations	Permit – Approval	Responsible Agency	Expiry Date
Quartz Mining Act	Quartz Mining License	Energy Mines and Resources, Yukon Government	September 20, 2040
Quartz Mining Act Quartz Mining Land Use Regulations	Class IV Mining Land Use Approval	Energy Mines and Resources, Yukon Government	May 10, 2021
Waters Act Waters Regulation	Water License – Type A	Yukon Water Board	September 10, 2040
Waters Act Waters Regulation	Water License – Type B	Yukon Water Board	September 10, 2040
Highways Act Highways Regulations	Work in Highway	HPW, Yukon Government	July 31, 2020 and July 4, 2043
Territorial Lands (Yukon) Act Land Use Regulations Quarry Regulations	Land Use Permit Quarry Permit	Energy Mines and Resources, Yukon Government	March 21, 2020 Annual permit
Environment Act Air Emission Regulations Special Waste Regulations Solid Waste Regulations Storage Tank Regulations Contaminated Sites Regulations	Air Emissions Permit Special Waste Permit Land Treatment Facility Permit Commercial Dump Permit	Environment Yukon, Yukon Government Community Services, Yukon Government	December 31, 2024 December 31, 2028
Forest Protection Act Forest Protection Regulations	Burning Permit	Community Services, Yukon Government	Annual permit
Highways Act Bulk Commodity Haul Regulations Highways Regulations	Highways Hauling Permit	HPW, Yukon Government	
Yukon Historic Resources Act	Archaeological Sites Permit	Tourism and Culture, Yukon Government	
Dangerous Goods Transport Act	Permit – certificate for transport of dangerous goods	HPW, Yukon Government	

Applicable Legislation/Regulations	Permit – Approval	Responsible Agency	Expiry Date
Explosives Act and Regulations	Blasting permit, Magazine License, Factory License, ANFO Certificate, Purchase and Possession Permit, Permit to Transport Explosives	Natural Resources Canada, Explosives Regulatory Division and Minerals and Metals Sector	
Occupational Health and Safety Act Occupational Health & Safety Regulations	Blaster's Permit	Workers' Compensation Health and Safety Board	
Species at Risk Act	N/A	Environment Canada	
Wildlife Act	N/A	Environment Yukon, Yukon Government	
Canadian Environmental Protection Act	N/A	Environment Canada and Health Canada	
Migratory Birds Convention Act Regulations Respecting the Protection of Migratory Birds	N/A	Environment Canada	
Building Standards Act Electrical Protection Act	Building Permit, Plumbing Permit	Community Services, Building Safety, Yukon Government	Granted for mine camp.
Gas Burning Devices Act	Gas Installation Permit Gas Burning Devices Permit	Community Services, Building Safety, Yukon Government	Granted for mine camp
Boiler and Pressure Vessel Act	Pressure Vessel Boiler Permit	Community Services, Building Safety, Yukon Government	Granted for mine camp
Yukon Public Health and Safety Act Regulations Respecting Public Health	Compliance with Public Health Regulations	Health and Social Services, Environmental Health Services	

Source: VGC (2019)

20.2 Environmental and Socio-economic Baseline Studies

From 2007 onwards, Victoria Gold and its predecessor, StrataGold has prepared (and now maintains) a comprehensive set of baseline studies for climate, hydrology, soils, surficial geology, vegetation, wildlife, groundwater, water quality, aquatic ecology, socio-economic conditions, historical, and paleontology resources. The baseline characterization included historical data sets collected from 1993 to 1996 and was supported by regional analyses. As the Eagle Project moved into construction in 2017 and more recently (July 2019) into mine operations, additional water and climate data have been and are currently being collected. While some of this data is still indicative of baseline conditions, much of data now collected is more reflective of an operating mine.

Data collection programs have covered various geographical extents, depending on the component under study. In general, each technical discipline defined local and regional study areas to frame the spatial scope of their assessment. Data collection was focused within the footprint and surrounding areas of the project for the local study areas; regional study areas were defined based on information such as species ranges,

watershed boundaries, geologic units, and community administrative boundaries, depending on the component under study.

To support the assessment and licensing of components of the project related to the Olive Zone, it is anticipated that some additional work in the disciplines of hydrology, water quality, groundwater flow and groundwater quality will be required.

Victoria Gold commenced the additional data collection in 2016 to support the inclusion of the Olive Zone and associated facilities in future amendments to their existing permits.

20.2.1 Climate

The Dublin Gulch area is characterized by a “continental” type climate with moderate annual precipitation and a large temperature range. Summers are short and can be hot, while winters are long and cold with moderate snowfall. Rainstorm events can occur frequently during the summer and may contribute between 30 to 40% of the annual precipitation. Lower elevations are typically snow-free before May, while snow remains in higher elevations until mid-June. Frost action may occur at any time during the spring, summer or fall.

Regional climatic data are available from several stations in the area including Mayo, Keno Hill, Dawson, Klondike and Elsa, as well as other relevant long-term data from other areas within Yukon (e.g. Whitehorse). Historical climatic information of the Project site was available from 1993 to 1996. Climate data collection was renewed in August 2007 at the Potato Hills climate station site (1,420 masl), and a second climate station (Camp station - 778 masl) was installed in August 2009 near the existing camp. Both stations remain active. Climate data from the Potato Hills and Camp climate stations are collected at 15-minute intervals.

20.2.1.1 Temperature

The recorded mean annual temperatures have ranged from -1.9 to -4.7°C for the Camp station and -2.7 to -5.1°C for the Potato Hills Station. July is typically the warmest month with mean July temperatures at the Camp station ranging from 12.2 to 14.0°C and from 8.1 to 12.6°C at the Potato Hills station during the period of record. The coldest temperatures are generally experienced in January and the Camp station recorded a range of monthly mean temperatures from -13.1 to -25.2°C and the Potato Hills station recorded a range of monthly mean temperatures of -9.2 to -19.8°C for the month of January (Lorax 2019).

During the period in which the Potato Hills and Camp stations have collected data simultaneously, the higher Potato Hills station has generally reported colder temperatures than the lower Camp station; however, autumn and winter temperature inversions do occur at the site as is common in mountainous regions, and the Camp station has a much larger range in recorded temperature. The maximum recorded 15-minute temperature on-site was 31.7°C at the Potato Hills station and the minimum recorded temperature was -46.4°C at the Camp station (Lorax 2019).

20.2.1.2 Precipitation

The estimated mean annual precipitation at the Project site ranges from 375 to 581 mm for the Camp and Potato Hills stations respectively. While mean annual rainfall totals are similar for the two stations (223 and 255 mm respectively), snow water equivalent values, calculated during site snow surveys, show significantly lower annual maximum values of 79 to 161 mm for the camp station compared to higher annual maximum values of 167 to 410 mm near the Potato Hills station. Rainfall, snowfall, and surface lying

moisture and snow are natural dust suppressants and as such, the area is not prone to prolonged dusty periods (Lorax 2019).

Based on the regional and local data, monthly precipitation totals are highest in July and lowest in February. Snowfall typically begins in late September and continues until May.

20.2.1.3 Wind Speed and Direction

The predominant wind direction at the site climate stations is from the north, and west-northwest, for the Camp and Potato Hills stations, respectively. Wind speeds average 1.2 m/s at the Camp station, and 2.4 m/s at the Potato Hills station, on an annual basis. The maximum recorded gust speed at the Camp station was 23.5 m/s, and 23.9 m/s at the Potato Hills station (Lorax 2019).

20.2.2 Surficial Geology and Soils

20.2.2.1 Surficial Geology

The surficial geology of the project area has been substantially affected by historic glaciation over 200,000 years ago, including two major glaciation episodes in the Quaternary period; the pre-Reid (~2.5Ma-400ka BP) and the Reid (~200 ka BP) (Bond 1997; 1998a; b). In each case, ice likely originated from the Ogilvie and Wernecke Mountains, with glaciations being more extensive during the pre-Reid period.

Preservation of pre-Reid glacial deposits and landforms is rare. A few intact deposits and diorite erratics at high elevations are the only records left (Bond 1998a). Glacial deposits from the Reid glaciation are moderately preserved. Colluvium, alluvium, and small areas of shallow organics drape the Reid glacial sediments and the interglacial sediments throughout the area.

Dominant surficial materials within the project area are weathered bedrock and colluvium. Competent bedrock outcrops are rare, as sufficient geologic time has passed to allow extensive weathering of exposed rock.

20.2.2.2 Soils

The largest influence on soil development in the area of the project is climate, and the resulting permafrost which is discontinuous throughout the area. Despite over 200,000 years of soil development, pedogenic processes have been slow due to the cold climate and to the short growing season for vegetation, resulting in a predominance of ice-affected and relatively undeveloped soils (Cryosols and Brunisols).

Non-frozen soils encountered in the area of the Project include Brunisols, minor areas of Luvisols (on fine-textured till), and Gleysols (on poorly and imperfectly drained materials). The majority of the soil textures in the area are sandy silt to silty sand loam matrix with angular or tabular coarse fragments ranging from gravels to boulders.

Soil in the project area is limited for reclamation suitability primarily by high coarse-fragment content, due to development of soils from weathered bedrock. Rooting depths are on average 50 cm, but can reach depths of over 120 cm.

20.2.2.3 Permafrost

The project site is located in a region of widespread discontinuous permafrost (Brown, 1979). On the regional scale, permafrost distribution is typically controlled by mean annual temperature and precipitation,

whereas on a local scale it is controlled by vegetation, surface sediments, soil moisture, slope aspect, and snow depth. Within the project area, frozen ground occurs typically on north- and east-facing slopes, and within poorly drained areas lower in the valleys. The distribution and thickness of frozen ground is highly variable across the site.

Frozen ground, when observed, is generally encountered immediately below the organic cover. Ground temperatures have been measured with thermistors installed on-site in 1995-1996, and 2009-2019. The measured ground temperatures showed the frozen ground to be relatively warm when observed, typically between 0°C and -1°C.

20.2.3 Hydrology

The hydrology of the region is generally characterized by large snowmelt runoffs during freshet in May, which quickly taper off to low summer stream flows interspersed with periodic increases in stream flow associated with intense rainfall events during July and August. The pattern of low stream flows punctuated by high stream flows associated with rain fall events continues throughout the summer to autumn when freeze up beings in October. In larger streams, base flows are maintained below river/creek ice throughout the winter by groundwater contributions. Smaller streams tend to dry up during the late summer or fall, as flow generally goes subsurface when the groundwater table drops to seasonally low levels. Aufeis (or overflow) ice may build in certain places in stream channels if groundwater emerges during winter.

20.2.4 Surface Water Quality and Aquatic Biota

The water quality study area includes the Haggart Creek, Dublin Gulch and Eagle Creek basins, which have been subject to placer mining in the past and the Lynx Creek basin, which has not been subject to placer mining. A total of 21 monitoring stations have been sampled within the study area during the StrataGold and Victoria Gold baseline data collections program. Additional monitoring sites were added as part of construction and operational monitoring programs. Sites within the Haggart Creek, Dublin Gulch, and Eagle Creek drainage basins were selected upstream and downstream of the proposed project footprint, where possible. Lynx Creek drains a large catchment to the south of the project area that will be unaffected by development activities.

All sites, except those located in Dublin Gulch, had high acid buffering capacity, as indicated by high alkalinity, calcium, and hardness. Turbidity and total suspended solids levels tended to be low with some exceptions noted at several sites depending on season and year. Nutrient levels tended to be low and suggestive of oligotrophic levels, with measurable amounts of nitrate, and low levels of phosphate and dissolved organic carbon.

Metals levels and naturally high arsenic concentrations in water and sediment, in addition to abundances and taxonomic compositions of periphyton and benthic invertebrates are consistent with a mineralized area and reflect previous disturbance of substrates during placer mining.

Metals data for the fine (less than 63 µm) sediment fraction were similar to the water quality data in terms of high levels of arsenic at all sites as well as cadmium, chromium, copper, lead, mercury, and zinc at certain times. For periphyton, chlorophyll levels suggest oligotrophic conditions. The highest richness, diversity, and evenness indices were recorded in Haggart Creek, suggesting better water quality than in Dublin Gulch, Eagle Pup, or Lynx Creek.

20.2.5 Groundwater

20.2.5.1 Hydrogeologic Setting

There are two principal water-bearing units in the Project area: deeper relatively low-permeability bedrock and the near surface moderately permeable surficial deposits. Surficial material at the Project site consists of a thin veneer of organic soils underlain by colluvium (i.e., a loose heterogeneous mass of soil material), glaciofluvial (i.e., originating from rivers associated with glaciers) deposits, or till (a glacial deposit). Below these clastic (or transported broken fragments of rock) units are either metasedimentary or Granodiorite bedrock, which is deeply weathered in places. The elongated Granodiorite stock (ore bearing unit) has intruded the surrounding host metasediment. The surficial material thickness and physical properties varies significantly throughout the area. Recorded depths to bedrock in the project area range from 0 m to greater than 20 m.

The Dublin Gulch valley contains large amounts of fluvial (i.e., river deposited) materials that were considerably reworked by placer mining operations. Extensive stockpiles of placer deposits comprised of sub-rounded metasediment and Granodiorite clasts, ranging in size from sands to boulders, and fine-grained material (i.e., that are located in former placer settling ponds) are present adjacent to the Dublin Gulch and Eagle Creek watercourses. A till blanket covered with a colluvial veneer is located along the south valley wall in Dublin Gulch valley and extends southward in the Haggart Creek valley. A recent alluvial (i.e., a water-laid clastic deposit) fan is present where Dublin Gulch meets Haggart Creek.

Discontinuous permafrost is also present, especially on the north-facing slopes and affects the connectivity between the deep and shallow water-bearing zones in places.

20.2.5.2 Groundwater Occurrence

Generally, groundwater has been observed deeper (approximately >6 m below ground) at higher elevations and shallow to artesian in lower elevations and in valley bottoms. Springs and seeps have been observed in a few locations where valley bottoms have narrowed. These are typically associated with the re-emergence of a stream from channel deposits (i.e., a gaining reach). In these instances (e.g., Eagle Pup, Stewart Gulch), thin alluvium overlying shallow bedrock is the likely cause of the emergence. Groundwater levels within the lower Dublin Gulch valley have been observed to have seasonally delayed trends due to higher groundwater levels during spring freshet and/or associated with rainstorms and lower groundwater levels during dry summer periods.

20.2.5.3 Groundwater Flow

Groundwater flow in the bedrock occurs in fractures and fault zones, while preferentially flowing through more permeable (and porous) sediments within the surficial deposits. General orientation of groundwater flow contours mimic the topography of the site as groundwater flows from the highest areas to lowest. Throughout most of the area the groundwater divides of each sub-basin approximately coincide with the surface water divides (i.e., groundwater from the Eagle Pup and Suttles Gulch drain to Eagle Creek, while groundwater from Ann and Stewart Gulch Basins drain to Dublin Gulch). In the lower Dublin Gulch valley, the groundwater divide between the Eagle Creek and Dublin Gulch basins in the placer tailings is not clearly defined.

Groundwater recharge occurs at higher elevations throughout the Dublin Gulch-Eagle Creek drainage basin and ultimately discharges to surface water (in some cases as seeps and springs) at lower elevations in the

valley or directly to surface streams, or ultimately into Haggart Creek. The main groundwater flow in conjunction with the highest groundwater elevations is expected to occur during the snowmelt in late spring (e.g., May to June) after thawing of the active soil zones.

20.2.5.4 Surface Water - Groundwater Connectivity

Base flow values represent the groundwater contributions to streams. Groundwater contributes to stream flows where the groundwater table elevation intersects the ground surface, typically these intersections are located in stream channel invert (e.g., Eagle Pup appears in mid-channel where the valley is well confined by bedrock); however, they also appear as seepage from slopes within the placer deposits of the lower Dublin Gulch valley. Groundwater from the lower Dublin Gulch valley likely contributes a measurable portion of the baseflow to Haggart Creek. The baseflow contributions to the streams maintain flow in the larger creeks during the drier months of the year (including winter flows).

20.2.5.5 Groundwater Flow Properties

Hydraulic conductivities ranged from 10⁻³ m/s to 10⁻⁷ m/s in the surficial material, and from 10⁻⁵ m/s to 10⁻⁸ m/s in the bedrock. The hydraulic conductivity of the colluvial, alluvial, and till deposits was generally higher than that of the placer material, and the variable hydraulic conductivity seen in the bedrock is typical of fractured crystalline rock, which showed decreasing hydraulic conductivity with depth. The test data did not demonstrate a measurable difference in the hydraulic conductivities of Granodiorite and metasedimentary rock. This suggests that the flow properties of both rock types are similar.

20.2.6 Groundwater Quality

The groundwater quality data suggests that the chemical composition of groundwater depends on the local and up-gradient rock-types. The following parameters naturally exceeded the CCME and/or CSR guidance (used for reference only) in the project area: aluminum, arsenic, cadmium, copper, iron, lead, molybdenum, nickel, selenium, silver, and/or zinc. The CSR guideline values apply to both surface and groundwater, whereas the CCME guidelines only apply to surface water.

However, as groundwater ultimately discharges to surface water bodies, the CCME guideline values were considered for reference.

The groundwater samples were classified based on their major ion chemical composition, taking into account the major anions and cations. Calcium is the dominate cation in most groundwater samples from the site; however, for some sample locations magnesium concentrations exceeded calcium. Carbonate was the dominate anion in all samples and was particularly high in some samples.

The exceedances do not imply that the groundwater at the site is contaminated; only that background concentrations of these parameters are higher than typically found in other natural sites in Canada, and merely reflect the natural geologic and hydrogeologic conditions within these specific areas of the project area.

Comparison of the multiple years of groundwater data indicated that groundwater quality parameters were generally in the same range and that seasonal trends were not apparent over the years sampled.

20.2.7 Fisheries

Baseline fish and fish habitat information was gathered from existing consultant reports, government databases, and the results of field studies conducted for the project prior to StrataGold's claim ownership. Field studies were completed for watercourses located within the local project area to obtain biophysical habitat data, determine fish presence and abundance, and characterize fish populations (i.e., size, age, and tissue metal concentrations).

At least 11 fish species are known to occur in the South McQuesten River watershed, including Chinook salmon (*Oncorhynchus tshawytscha*), Arctic grayling (*Thymallus arcticus*), northern pike (*Esox lucius*), longnose sucker (*Catostomus catostomus*), Arctic lamprey (*Lampetra camtschatica*), burbot (*Lota lota*), slimy sculpin (*Cottus cognatus*), round whitefish (*Prosopium cylindraceum*), inconnu (*Stenodus leucichthys*), lake whitefish (*Coregonus clupeaformis*), and rainbow trout (*Oncorhynchus mykiss*) (DFO 2010). No freshwater fish species on Schedules 1 or 2 of the Federal Species at Risk Act (SARA) are present in the South McQuesten River watershed or the entire Yukon Territory (Government of Canada 2012). Haggart and Lynx creeks are both known to contain five fish species: Chinook salmon, Arctic grayling, round whitefish, burbot, and slimy sculpin (DFO 2010). Ironrust Creek, Dublin Gulch and Eagle Pup are known to be inhabited by Arctic grayling and slimy sculpin (Hallam Knight Piésold 1996b, DFO 2010).

Fish tissues (from both Arctic grayling and slimy sculpin) were tested for metal concentrations in three of the fish bearing water courses. Although metal concentrations in tissues were high, they did not, with the exception of selenium concentrations in Arctic grayling liver, exceed the lower limits set by BC Guidelines for the Protection of Aquatic Life.

20.2.8 Wildlife

The project site is located in the Mayo Lake-Ross River Ecoregion and contains two ecological zones, Subalpine and Forested. Both of these zones serve as habitat for wildlife. To characterize wildlife use of these areas, existing literature, field studies and discussions with wildlife biologists in the region and with the NND was conducted.

A total of 31 individual species were recorded using data from all sources. Mammals present include two ungulate species (moose, woodland caribou), two bear species (black bear, grizzly bear), and an assortment of small to medium size mammals including gray wolf, wolverine, red fox, American marten, snowshoe hare, and lemming. Moose was the most commonly detected mammal species. It was found across all survey types and a wide range of habitat types, indicating a relatively wide distribution in the area. Most detections were in lower-elevation forested habitat zones likely used all year long.

These areas contain riparian areas, marshes, and deciduous forest stands which contain preferred food sources and offer thermal protection in winter. The study's moose detections are consistent with the reports from the NND—the area provides winter habitat for moose and is important for moose hunting. Aerial and ground surveys and telemetry data suggest that while woodland caribou make some use of the study area, it does not represent core habitat for them.

Snowshoe hare, red squirrel, and ptarmigan were the most commonly detected mammal species after moose. This is of interest as all three species represent potential prey for a range of larger mammals (e.g. lynx, wolf, and red fox), and raptor species such as Golden Eagle. While formal bird surveys have not been carried out, eighteen bird species were detected in the study area including Golden Eagle, Gyrfalcon, Trumpeter Swan, Dusky Grouse, Common Raven, Ptarmigan, and Grey Jay.

20.2.9 Vegetation

Two ecological zones were delineated in the baseline study areas: the Subalpine zone and the Forested (Boreal) zone. The majority of project activities occur in the Forested zone. The Subalpine zone occurs on the ridge tops and high plateaus above approximately 1,225 masl. Tree cover is discontinuous or absent at this elevation, and the vegetation is dominated by dwarf birch, willows, ericaceous shrubs, herbs, mosses, and lichens. The highest points within the three study areas are 1,520 masl. These upper elevations are dominated by dwarf-shrub, heath and lichen communities.

The Forested zone, which is part of the northern boreal forest (Boreal Cordillera Ecoregion), includes the valley bottoms, and the slopes of the mountains below the treeline. The elevation range of this zone in the three study areas is 600 masl up to the Subalpine zone, about 1,225 masl. Open canopy stands of black spruce are generally present on moist sites and on the lower portions of north-facing slopes. However, coniferous dominated forests consisting of white and black spruce are found along creeks and rivers and on well drained sites. Ericaceous shrubs and feather mosses are most common in the understory of the coniferous forests. On the upper slopes, open subalpine fir stands are predominant with trees becoming smaller and more spread out with increasing elevation; the cover of willows, dwarf birch and ericaceous shrubs increase as the canopy opens. Mixed forests, consisting of white spruce, trembling aspen, and Alaska birch are also present on warm aspects or near-mesic sites that have been disturbed by forest fire. Small deciduous stands dominated by aspen (warm aspects) and Alaska birch are also occasionally present in the study area.

While no existing rare plants were found through queries of government databases past surveys, one rare plant, island purslane (*Koenigia islandica*), was found in the study area, a 2 m by 2 m patch of *Koenigia islandica* L. (island purslane). This plant is considered “imperiled” in Yukon. All foliar samples analyzed contained metal concentrations below levels considered toxic for cattle.

20.2.10 Social Environment

20.2.10.1 First Nation of Na-Cho Nyäk Dun

The FNNND (which translates as Big River People) represents the most northerly community of the Northern Tutchone language and culture group in the Yukon. In the Northern Tutchone language, the Stewart River is called Na-Cho Nyäk, meaning Big River. The FNNND is culturally affiliated with the Northern Tutchone people of the Pelly Selkirk, and the Carmacks Little Salmon First Nations; these three First Nations form the Northern Tutchone Tribal Council. The FNNND constitutes much of the community of Mayo, and their Traditional Territory covers 162,456 km² of land (131,599 km² in Yukon and 30,857 km² in Northwest Territories). Under the 1993 land claims agreement, the First Nation owns 4,739.68 km² of settlement lands.

Traditionally, FNNND citizens lived and trapped throughout the area surrounding Mayo.

As a self-governing First Nation (under the FNNND Final Agreement and Self-Government Agreements), the FNNND has the ability to make laws on behalf of their citizens and their lands. Under their Final Agreement, FNNND owns the minerals under all Category A Settlement Lands and receives royalties from any mining on this land. For mining activity elsewhere in the FNNND Traditional Territory, including on Category B Settlement Lands, the FNNND Government shares in a portion of any mineral royalties collected by the Yukon Government.

20.2.10.2 Comprehensive Cooperation and Benefits Agreement

VGC and the FNNND signed a comprehensive Cooperation and Benefits Agreement (CBA) on October 17, 2011. The CBA replaced an earlier Exploration Cooperation Agreement and applies to the Eagle Gold mine development and exploration activities conducted by VGC (including subsidiaries) anywhere in FNNND Traditional Territory located south of the Wernecke Mountains.

The objectives of the CBA are to:

- Promote effective and efficient communication between VGC and the FNNND in order to foster the development of a cooperative and respectful relationship and FNNND support of VGC's exploration activities and the project;
- Provide business and employment opportunities, related to the project, to the FNNND and its citizens and businesses in order to promote their economic self-reliance;
- Establish a role for the FNNND in the environmental monitoring of the project and the promotion of environmental stewardship;
- Set out financial provisions to enable the FNNND to participate in the opportunities and benefits related to the project; and
- Establish a forum for VGC and the FNNND to discuss matters related to the project and resolve issues related to implementation of the CBA.

20.2.10.3 Village of Mayo

The village of Mayo is located 407 km north of Whitehorse and 235 km east of Dawson City. Mayo is situated at the confluence of the Mayo and Stewart Rivers within the Traditional Territory of the FNNND. Historically, the site of Mayo was used as a traditional camp by the FNNND.

Prior to becoming a service centre for significant mining activity in the area, Mayo was established as a river settlement as it was the farthest navigable point up the Mayo and Stewart Rivers by steamboat. The permanent community of Mayo Landing was established in 1903 (Bleiler, et al. 2006), and was incorporated as a village in 1984.

The administration of the village of Mayo consists of a mayor, a Chief Administrative Officer, and four councillors. For planning purposes, the village of Mayo uses a population of 466 persons (although this figure includes those who live outside the village boundaries). This figure also includes both the Aboriginal population (FNNND citizens and other Aboriginal people) and the non-Aboriginal population. In 2010, the village had an annual budget of approximately \$3.4 million and employed seven full-time and two part-time staff. In the summer season, as many as 12 to 15 other individuals are employed by the village, including students.

Property taxes and grants in lieu provided by other levels of government comprise some of the municipal revenue of the village of Mayo.

20.2.10.4 Employment and Economic Opportunities

There are a number of quartz mining claims, exploration projects, and proposed mining projects in the region. Minerals of interest include gold, silver, zinc, lead, and copper. Recently, the Mayo area has experienced a surge in mineral exploration and development (e.g., Alexco Resource Corporation's

proposed Bellekeno Mine [silver] and other Keno Hill Silver District interests; ATAC Resources' Rau Gold project), and the Elsa Reclamation and Redevelopment Company's (a subsidiary of Alexco Resource Corp.) reclamation and closure of historical mines in the district.

Placer mining continues to be a major contributor to the economy of the area. The majority of Mayo area placer mining operations are family-run, some for three or more generations. Following the mining downturn in the 1980s, it was realized that diversification to include tourism, outfitting, recreation, and other economic activities would reduce Mayo's reliance on a mineral-based economy.

Mayo's economy is beginning to focus on the provision of various services, including government services, to its residents and to individuals living in the surrounding area (village of Mayo 2006). Tourism is becoming a growing segment of the local economy.

20.2.10.5 Traditional Activities and Culture

The FNNND prepared a 5-year strategic heritage development plan (FNNND 2007) that identified priorities relating to traditional knowledge, language, heritage sites and special places, a cultural centre, governance policy and guidelines development. An implementation plan was also prepared. While FNNND staff noted that the plan is somewhat dated, it is still used as a planning guide by FNNND.

At community meetings, FNNND citizens noted the importance of several areas in the vicinity of the project for traditional activities including hunting, fishing, trapping, and gathering. FNNND elders and staff indicated that citizens still rely on traditional foods—berries, fish, moose, deer, small game, and birds—as a significant portion of their diet. These traditional foods are shared with those who may not be able to obtain it directly (e.g., single mothers, elders).

Hunting, fishing, and harvesting are also very important aspects of Northern Tutchone culture and diet, and for continued monitoring of the land. Northern Tutchone people have always relied heavily on the foods of the forests and the rivers. Moose, caribou, sheep, grouse and fish, as well as many types of plants and berries are harvested and preserved to last through the seasons.

The FNNND also offers a number of on the land programs, including daytrips for medicine gathering, fishing and hunting camps for youth, and an archaeological camp, as well as some longer trips. Programs for jigging, beading and other craft work are also offered.

Ongoing activities organized by the FNNND include:

- Traditional food lunches at the school;
- Teacher cultural orientation;
- Participation at other First Nation events (Moosehide Gathering, May Gathering);
- Traditional pursuits funding to assist people to get out on the land;
- Old Village Day, Aboriginal Day, Self-Government Day; and
- Elders in the school and daycare.

Recent initiatives include:

- Renewed linkages with Fort Good Hope (NWT) families;
- Hide tanning workshop;

- Knife making workshop; and
- Wind River canoe trip.

20.2.10.6 Historic and Paleontological Resources

An archaeological and historic assessment was conducted in 1995 for the then-proposed Dublin Gulch Mine site (Greer 1995). The study included a field assessment on a large project area that encompassed the proposed mine location. During the studies, no archaeological or historic period sites were identified; all areas favourable for pre-contact human occupation were deemed to have been destroyed by the extensive placer mining activity in the area, and all structures identified within the project area were all determined to be related to mining activities over the past 50 years.

Field surveys found that most of the valley fill at Dublin Gulch and Haggart Creek has been reworked by placer mining. There is no sign of any remaining source layer for the Dublin Gulch Pleistocene fossil locality, and no additional fossil vertebrate material was found.

Organic layers at the top of the surficial sequence in Dublin Gulch contain plant and arthropod material and yielded conventional (calibrated) radiocarbon ages of approximately 10,000 to 13,000 years before present. These late Pleistocene to early Holocene dates indicate the sediments were deposited during climatic warming following the McConnell Glaciation. A large piece of wood recovered from intact surficial deposits along the access road yielded a conventional (calibrated) radiocarbon age of approximately 2,700 years before present, which is late Holocene.

Remnant intact surficial deposits that have not been disturbed by placer gold mining occur along the south side of Dublin, along Ann Gulch, and at Secret Creek (along access road).

21 Capital and Operating Costs

21.1 Capital Costs

21.1.1 Mine Development Capital Costs

The initial capital used to construct the Eagle Gold Mine was spent between August 2017 and July 2019. Capital expenditures for the Project included:

- Earthworks for process facilities, infrastructure, roads, HLF embankment and events pond, and water management structures;
- Pre-production mining;
- Process facilities including:
- Primary crusher building and coarse ore storage;
- Secondary / Tertiary crusher building;
- Conveyor systems;
- ADR plant; and
- Heap Leach facility.
- Warehouse and laydown areas;
- Fuel farm;
- McQuesten Switching Station and 69kV power line to the mine site;
- On-site 4.95mW power generation facility; and
- Camp and supporting infrastructure.

The initial capital phase of the project was completed in Q3 2019 and ahead of schedule. Total capital cost of the Project phase was reported as \$487.2M.

21.1.2 Sustaining Capital Costs

Since production commenced in mid-June 2019, ongoing capital expenditures identified to sustain operations or further develop the mine's process and infrastructure have been developed. Sustaining capital expenditures over the life-of-mine include:

- Expansion of the HLF liner and pipework system;
- Construction of a truck shop;
- Purchase of additional or replacement surface mining equipment;
- Purchase of additional or replacement HLF grasshopper / stacker equipment;
- Replacement of light vehicles;

- Construction of a Water Treatment Facility;
- Value added infrastructure development projects identified to improve the operation as a whole; and
- Purchase of critical spares.

LOM capital projects at the Eagle Gold Mine are forecasted on an annual basis with an emphasis placed on the upcoming budgeting year. Capital cost assumptions in this report reflect the current life of mine assumptions and design criteria for the mine as a whole.

Table 21-1: Sustaining Capital Costs

Category	LOM (M \$)
Long Lead Procurement	10.5
Construction Contracts	119.1
Construction Support Contracts	3.3
General Field Indirects	0.7
Freight	2.3
Engineering & EPCM	26.7
HME Equipment	12.0
Total Capital Costs (net of closure)	174.5
Closure (Net of Salvage)	35.0
Total Capital Costs (w/ closure)	209.5

Source: VGC (2019)

21.2 Operating Costs

Operating costs include all normal, recurring costs of production including:

- Open pit mining (labour, maintenance, fuel, explosives, technical services);
- Processing (process consumables, maintenance);
- Site & Associated Corporate Support;
- Power generation;
- Site services, support and logistics;
- Site labor; and
- Corporate and administrative functions.

Operating budgets are based on first principal calculations provided by each respective department as well as historical cost trending. Budgets are updated in detail annually to reflect changes in markets, consumable prices and site-specific operating parameters. Annual budgets are scrutinized internally by department heads, senior management and strategic business planners to ensure costs align with business objectives and sufficient detail is present. Operating budgets are finalized to ensure adequate time for the procurement process to take place prior to winter.

The Eagle Gold Mine operating costs consist of both variable and fixed cost items. Variable costs have a linear correlation to cost drivers such as open pit production, equipment hours or process throughput, while fixed costs do not.

For the mineral reserves in this report and the schedule of mining and processing envisioned for them, Table 21-2 depicts modeled estimates of the associated operating costs for 2020 and the remainder of Eagle Mine's production schedule in Canadian dollars and in real terms.

Table 21-2: Operating Cost Summary

Category	Average/Year* (M\$)	LOM (M\$)	\$/t leached
Mining	65.6	721.3	4.84
Processing	65.8	724.0	4.86
G&A	37.0	406.9	2.73
TOTAL	168.4	1,852.2	12.43

Note: *Includes full production years only
Source: VGC (2019)

21.2.1 Labour

The labour rates have been built up from first principles and actuals. The Eagle Mine maintains strict records relating to salary and hourly information payable to each employee. Actual salary and hourly rates being incurred in operations have been applied to the identified positions in the financial model. The resulting burden costs were taken against Victoria Gold's base labour amounts to determine a per-person average. This resulted in approximately 38%. This percentage has been applied to all labour costs across the model.

21.2.2 Mine Operating Cost

Mining costs have been updated based on the new planned material movement distribution from the updated mining schedule along with the associated personnel and equipment requirements. Actual costs and rates have been incorporated into this operating cost estimate for the following items: fuel consumption, explosives, tire replacement, Kal Tire and Finning contractor maintenance costs.

21.2.3 Process Operating Cost

Processing costs have been updated to reflect the actual costs for labour, liners, fabric belt wear, idler replacement, power consumption, screens, pumps, barren line and HDPE piping, compressor operation, and assay lab operations.

The HL barren solution heating system has yet to be operated. As such, there is not further information available relative to its operating costs.

Unit prices for lime and cyanide were reviewed based on per kg costs from the latest billings and are costed as FOB mine site. These reagents are the largest cost drivers.

21.2.4 G&A Operating Cost

Actual costs have been incorporated into the economic model for the following G&A components: employee travel, camp and catering costs, freight, health and safety, medical and security, light vehicle leasing, fuel

consumption of site service vehicles, surface infrastructure power consumption, facilities maintenance, HR functions, legal and regulatory activities, bank fees, insurance, IT services, and site communications.

Actual costs were also incorporated for the operation of the site office, the Whitehorse office, and 50% of the Vancouver office. No costs were included for the operation of the Toronto office.

22 Economic Analysis

An engineering economic model was developed to estimate annual cash flows and sensitivities. Pre-tax estimates of project values were prepared for comparative purposes, while after-tax estimates were developed to approximate the true investment value. It must be noted, however, that tax estimates involve many complex variables that can only be accurately calculated during operations and, as such, the after-tax results are only approximations.

Sensitivity analyses were performed for variation in metal price, foreign exchange rate, head grades, operating costs, capital costs, and discount rates to determine their relative importance as project value drivers.

This technical report contains forward-looking information regarding projected mine production rates, construction schedules and forecasts of resulting cash flows as part of this study. The head grades are based on sufficient sampling that is reasonably expected to be representative of the realized grades from actual mining operations. Factors such as the ability to obtain permits, to construct and operate a mine, or to obtain major equipment or skilled labour on a timely basis, to achieve the assumed mine production rates at the assumed grades, may cause actual results to differ materially from those presented in this economic analysis.

The economic analysis is presented in 2019 Canadian dollars (C\$) and has been run with no inflation (constant dollar basis).

22.1 Assumptions

All costs and economic results are reported in Canadian dollars (C\$), unless otherwise noted. Gold pricing is reported in US dollars (US\$). Table 22-1 outlines the planned LOM tonnage and grade estimates.

Table 22-1: LOM Plan Summary

Parameter	Unit	Value
Mine Life	Years	13
Total Ore	M t	149
Strip Ratio	w:o	0.97
Average Au Head Grade	g/t	0.66
Au Payable	LOM k oz	2,406
	Average k oz/yr*	219

Notes: *Includes full production years only
Source: VGC (2019)

Other economic factors used in the economic analysis include the following:

- Discount rate of 5% (sensitivities using other discount rates have been calculated for each scenario);
- NPV calculated assuming a mid-year accounting period;
- Closure cost of \$35 M (net of salvage value);

- Nominal 2019 dollars;
- No inflation;
- Taxes (discussed in Section 22.4);
- Numbers are presented on a 100% ownership basis and do not include financing costs;
- Revenues, costs, taxes are calculated for each period in which they occur rather than actual outgoing/incoming payment;
- Costs from operations incurred in the pre-production period have been capitalized; and
- Exclusion of sunk costs (i.e. exploration and resource definition costs, engineering fieldwork and studies costs, environmental baseline studies costs, construction etc.) However, pre-development and sunk costs are utilized for tax deductions.
- This economic model excludes any servicing of the debt incurred to finance the Project.

22.2 Project Financing

Victoria Gold announced the details of project financing in two news releases:

- “Victoria Gold Announces Comprehensive \$500 M Financing Package for Eagle and Continuation of Construction Activities”, March 8, 2018; and
- “Victoria Gold Announces Execution of Definitive Documentation for the Eagle Financing Package and Closing of Equity and Royalty (First Tranche)”, April 16, 2018.

On March 8, 2018 Victoria Gold entered into an agreement with Orion Mine Finance (“Orion”), Osisko Gold Royalties Ltd (“Osisko”) and Caterpillar Financial Services Limited (“Caterpillar Financial”) for a construction financing package totaling approximately \$505 M aggregate to fund the construction of the Eagle Gold Project comprising:

- A term sheet for the sale to Osisko of a 5% NSR royalty for proceeds of \$98 M provided in two tranches of \$49 M each. Following delivery to Osisko of 97,500 ounces of refined gold, the NSR royalty will fall to 3%;
- The purchase by Osisko, on a private placement basis, of 100 M common shares of Victoria at a price of \$0.50 per common share for proceeds of \$50 M;
- A senior secured project finance debt facility with Orion in the principal amount of US\$75 M. The interest rate for this debt facility is 3-month LIBOR plus 5.00%. The debt facility has a two-year interest holiday in which interest will accrue and be capitalized reducing cash payments during the construction period. Principal and accrued interest is to be repaid in 15 quarterly installments beginning 24 months after the close of the facility;
- A subordinated loan facility of US\$100 M available from closing for a period of two years. The interest rate for this debt facility is 3-month LIBOR plus 6.70%. The debt facility also has a two-year interest holiday in which interest will accrue and be capitalized reducing cash payments during the construction period. Principal is due at maturity on March 31, 2024;

- The purchase by Orion, on a private placement basis, of 150 M common shares of Victoria at a price of \$0.50 per common share for proceeds of \$75 M;
- An equipment financing facility with Caterpillar Financial for up to US\$50 M (C\$63 M). The is a six-year amortizing facility provided to support the acquisition of primarily new Cat® equipment for mining operations; and
- A private placement of Victoria common shares to two separate subscribers for a total of \$125 M.

In connection with the financings provided by Orion, Victoria issued Orion a combination of 25 M Victoria share purchase warrants with a strike price of \$0.625 and gold call options of 20,000 oz at a strike price of US\$ 1,485 /oz, both of which have a five-year term. Orion was also granted offtake rights to purchase up to 25% of the annual gold production at prevailing market prices.

22.3 Revenues & NSR Parameters

Mine revenue is derived from the sale of gold doré into the international marketplace.

The market conditions for gold were re-assessed using a trailing average rate for 2019. Gold has been priced at US\$1,300/oz in the model. It is expected that there will be variability in the price of gold throughout the planned mine life. For the purposes of the model, this variability was not incorporated and has been disregarded.

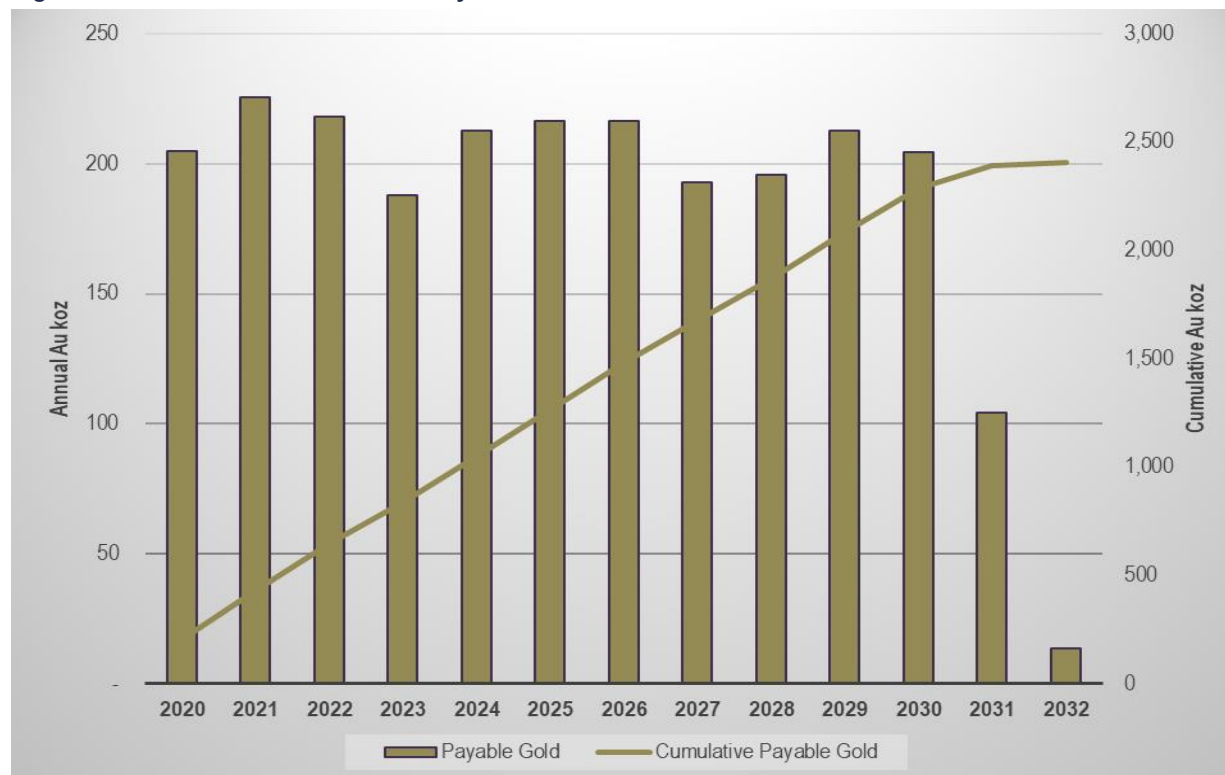
Gold production and sale began in September 2019 and is expected to continue for 13 years. Table 22-2 outlines the market terms used in the economic analysis. Figure 22-1 illustrates the annual payable gold and cumulative payable gold by project year.

Table 22-2: NSR Assumptions used in the Economic Analysis

Assumptions	Unit	Value
Au Payable	%	99.975
Au Refining Charge	US\$/oz	10.00

Source: VGC (2019)

Figure 22-1: Annual and Cumulative Payable Gold Production



Source: VGC (2019)

All costs and revenues are assumed to be paid and received in the period that they are incurred and produced. Cash from gold production is assumed to be received during the month it is produced. There is no working capital in the model.

22.4 Taxes

The Project has been evaluated on an after-tax basis in order to reflect a more indicative, but still approximate, value of the Project. Both Yukon Mining Quartz Tax and Federal and Territorial Income Tax were applied to the project. A detailed tax analysis was completed in order to derive the after-tax valuation of the Project. Specific assumptions and methodology in the analysis includes the following:

Yukon Mining Quartz Tax

- Yukon Mining Quartz Tax has been evaluated as part of the after-tax analysis. The Crown tax applies to all ore, minerals, or mineral bearing substances mined in the Yukon on a calendar year basis;
- The tax is calculated based on the value of the output mine which is the value of minerals produced exceeded by the various deductions allowable; and
- The tax rate ranges from 0% to 12% based on the taxable revenue from saleable gold minus deductions.

Federal and Territorial Corporate Income Tax

- Federal tax rate of 15% and a Yukon 12% rate were used to calculate income taxes.

Mineral Property Tax Pools

- Canadian Exploration Expense (CEE) and Canadian Development Expense (CDE) tax pools were used with appropriate opening balances to calculate income taxes.

Capital Cost Allowance (CCA)

- Specific capital cost class CCA rates were applied and used to calculate the appropriate CCA the company can claim during the entire life of the project.

Total LOM taxes for the project amount to \$491 M.

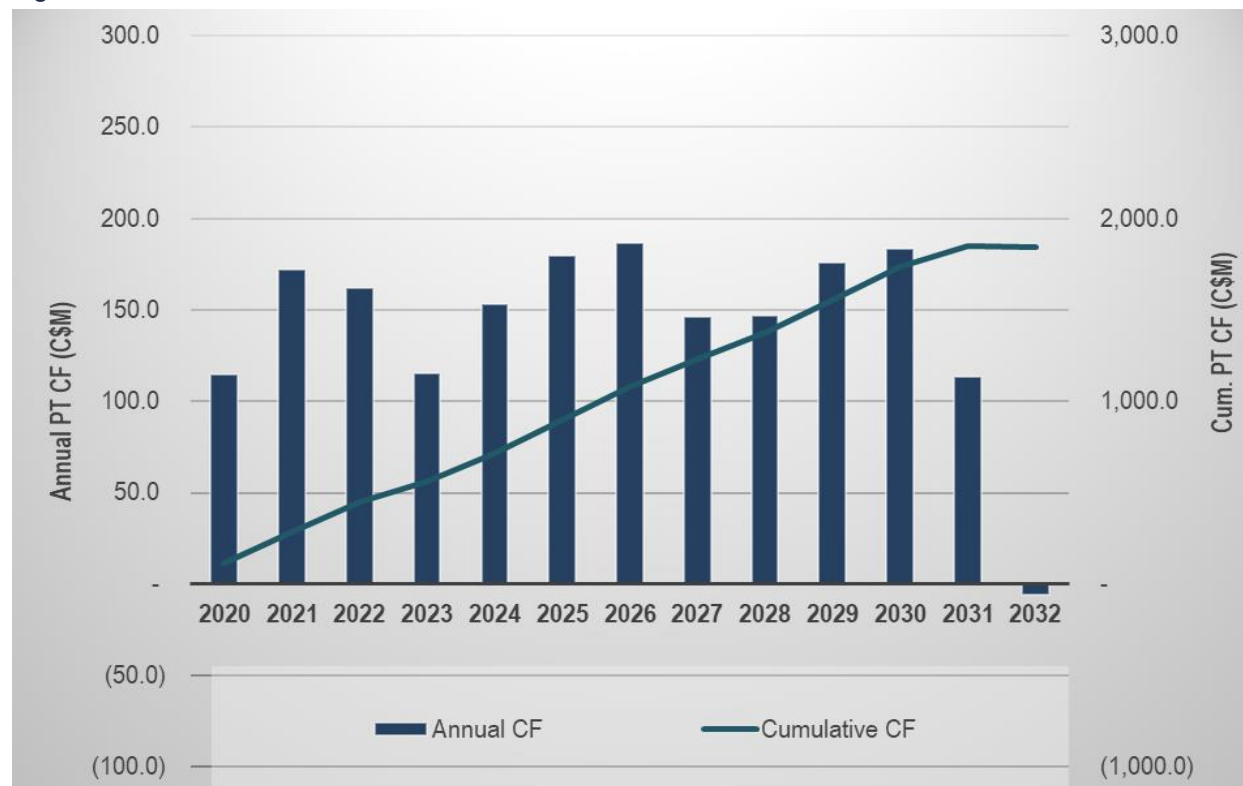
22.5 Third-Party Royalties

Third party royalties have been considered in the economic analysis. A total of \$233 M of third-party royalties are payable over the LOM. Details related to the third-party royalties are outlined in Section 19 of the report.

22.6 Results

The Eagle Gold Mine has a pre-tax net present value at 5% (NPV_{5%}) of C\$1,389 M. This analysis excludes debt repayment obligations. Figure 22-2 shows the projected cash flows used in the economic analysis. Table 22-3 shows the detailed results of this evaluation.

Figure 22-2: Annual and Cumulative Pre-Tax Cash Flows



Source: VGC (2019)

Table 22-3: Summary of Eagle Mine Economic Results

Category	Unit	Value
Net Revenues	M \$	3,904.4
Operating Costs	M \$	1,852.2
Cash Flow from Operations	M \$	2,052.3
Capital Costs*	M \$	209.5
Operating Cost	US\$/oz	577
Cash Cost°	US\$/oz	660
Net Pre-Tax Cash Flow	M \$	1,842.8
Pre-Tax NPV_{5%}	M \$	1,388.6
Total Taxes	M \$	491.0
Net After-Tax NPV_{5%}	M \$	1,034.2

(*) Includes Sustaining, closure and reclamation capital costs, but excludes pre-production costs

° Cash Cost formula: (Refining Costs + Third Party Royalties + Operating Costs) / Payable Au oz

Source: VGC (2019)

22.7 Sensitivities

A sensitivity analysis was performed to test project value drivers on the project's NPV using a 5% discount rate. The results of this analysis are demonstrated in Table 22-4 and Table 22-5. The Project proved to be most sensitive to changes in gold price followed by, foreign exchange rate, head grade and operating costs. The project showed least sensitivity to capital costs. Where a given variable is analyzed, all other inputs are held constant at their expected values.

Table 22-4: Pre-Tax NPV_{5%} Sensitivity Results (M \$)

	-15%	-10%	-5%	100%	5%	10%	15%
Gold Price	938	1,088	1,238	1,389	1,539	1,690	1,840
F/X Rate	1,897	1,709	1,540	1,389	1,252	1,127	1,014
Head Grade	941	1,090	1,240	1,389	1,538	1,687	1,837
OPEX	1,603	1,531	1,460	1,389	1,318	1,246	1,175
CAPEX	1,412	1,404	1,396	1,389	1,381	1,374	1,366

Source: VGC (2019)

Table 22-5: After-Tax NPV_{5%} Sensitivity Results (M \$)

	-15%	-10%	-5%	100%	5%	10%	15%
Gold Price	744	841	938	1,034	1,131	1,227	1,323
F/X Rate	1,359	1,239	1,131	1,034	946	866	793
Head Grade	746	843	939	1,034	1,130	1,226	1,321
OPEX	1,173	1,127	1,081	1,034	988	942	881
CAPEX	1,057	1,050	1,042	1,034	1,027	1,019	1,012

Source: VGC (2019)

After-tax NPV's were evaluated using a wider range of sensitivities to different combinations of gold price and exchange rate. The sensitivities were calculated between gold prices from \$1,000 to \$2,000/oz and exchange rates between 0.60 to 0.90 US\$:C\$. The results are presented in Table 22-6 and Table 22-7 in C\$ M and US\$ M respectively.

Table 22-6: After-Tax NPV_{5%} Sensitivity to Gold Price and FX Rate (C\$ M)

FX	Au Price (US\$/oz)										
US\$:C\$	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
0.90	310	454	592	725	850	974	1,098	1,222	1,345	1,468	1,592
0.85	390	539	683	817	948	1,079	1,210	1,341	1,471	1,602	1,732
0.80	479	633	779	919	1,058	1,197	1,336	1,475	1,614	1,752	1,891
0.75	576	736	886	1,034	1,183	1,331	1,479	1,627	1,775	1,923	2,070
0.70	685	848	1,007	1,166	1,325	1,483	1,642	1,800	1,959	2,117	2,275
0.65	804	976	1,147	1,318	1,489	1,659	1,830	2,000	2,171	2,341	2,511
0.60	939	1,124	1,310	1,495	1,680	1,864	2,049	2,234	2,418	2,602	2,787

Source: VGC (2019)

Table 22-7: After-Tax NPV_{5%} Sensitivity to Gold Price and FX Rate (US\$ M)

FX	Au Price (US\$/oz)										
US\$:C\$	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
0.90	279	408	532	653	765	877	968	1,099	1,210	1,321	1,432
0.85	332	458	580	694	806	917	1,029	1,140	1,251	1,362	1,473
0.80	383	506	623	735	847	958	1,069	1,180	1,291	1,402	1,513
0.75	432	552	664	776	887	998	1,109	1,220	1,331	1,442	1,553
0.70	480	593	705	816	927	1,038	1,149	1,260	1,371	1,482	1,592
0.65	522	634	745	857	968	1,079	1,189	1,300	1,411	1,522	1,632
0.60	563	675	786	897	1,008	1,119	1,229	1,340	1,451	1,561	1,672

Source: VGC (2019)

A sensitivity analysis of the pre-tax and after-tax results was performed using various discount rates. The results of this analysis are demonstrated in Table 22-8. The cash flow model is shown in Table 22-9.

Table 22-8: Discount Rate Sensitivity Test Results on NPV

Discount Rate (%)	Pre-Tax NPV (M \$)	After-Tax NPV (M \$)
0	1,843	1,352
5	1,389	1,034
7	1,254	939
10	1,087	822

Source: VGC (2019)

Table 22-9: Cash Flow Model

	Unit	LOM	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
METAL PRICE & EXCHANGE RATE																		
Au	US\$/oz	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Exchange Rate	US\$:C\$	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PRODUCTION SCHEDULE																		
Ore	k tonnes	149,022	10,946	11,042	12,797	13,678	13,182	13,685	13,696	14,019	14,620	14,855	14,581	1,921	-	-	-	-
Grade	g/t	0.66	0.79	0.77	0.72	0.64	0.66	0.67	0.61	0.58	0.56	0.64	0.63	0.81	-	-	-	-
Au Contained	koz	3,149	279	272	296	281	278	294	270	260	265	307	296	50	-	-	-	-
Waste	ktonnes	144,862	13,464	17,249	15,882	14,927	12,854	7,961	8,749	9,876	13,305	16,823	11,694	2,078	-	-	-	-
Strip Ratio	w:o	0.97	1.23	1.56	1.24	1.09	0.98	0.58	0.64	0.70	0.91	1.13	0.80	1.08	-	-	-	-
Total Mined	ktonnes	293,885	24,409	28,292	28,679	28,605	26,036	21,647	22,445	23,895	27,925	31,678	26,275	3,999	-	-	-	-
HEAP SCHEDULE																		
Ore to Heap	ktonnes	149,022	10,946	11,042	12,797	13,678	13,182	13,685	13,696	14,019	14,620	14,855	14,581	1,921	-	-	-	-
Grade	g/t	0.66	0.79	0.77	0.72	0.64	0.66	0.67	0.61	0.58	0.56	0.64	0.63	0.81	-	-	-	-
Au Recovered	koz	2,406	205	226	218	188	213	216	216	193	196	213	205	104	14	-	-	-
PAYABLE METALS																		
Total Recovered Au	koz	2,406	205	226	218	188	213	216	216	193	196	213	205	104	14	-	-	-
Payable Au	%	99.975%	99.975%	99.975%	99.975%	99.975%	99.975%	99.975%	99.975%	99.975%	99.975%	99.975%	99.975%	99.975%	99.975%	-	-	-
	koz	2,405	205	226	218	188	213	216	216	193	196	213	205	104	14	-	-	-
	US\$M	3,126.8	266.5	293.2	283.7	244.1	276.3	281.3	281.3	250.5	254.3	276.4	266.0	135.4	17.8	-	-	-
	C\$M	4,169.0	355.3	390.9	378.2	325.5	368.5	375.1	375.1	334.0	339.0	368.5	354.6	180.5	23.7	-	-	-
Refining Costs	US\$/payable oz	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	-	-	-
	C\$M	32.1	2.7	3.0	2.9	2.5	2.8	2.9	2.9	2.6	2.6	2.8	2.7	1.4	0.2	-	-	-
NIV	C\$M	4,137.0	352.6	387.9	375.3	323.0	365.6	372.2	372.2	331.4	336.4	365.7	351.9	179.1	23.5	-	-	-
Royalties	C\$M	232.5	21.2	23.3	22.5	19.4	21.9	22.3	22.3	19.9	20.2	17.3	14.1	7.2	0.9	-	-	-
Net Smelter Return (NSR) after Royalties	C\$M	3,904.4	331.4	364.6	352.8	303.6	343.7	349.9	349.9	311.6	316.2	348.3	337.8	172.0	22.6	-	-	-
OPEX																		
Mining	C\$/t mined	2.45	2.74	2.21	2.22	2.22	2.47	2.58	2.46	2.58	2.49	2.43	2.42	4.46	-	-	-	-
	C\$M	721.3	66.9	62.6	63.7	63.5	64.2	55.8	55.1	61.7	69.4	77.0	63.6	17.8	-	-	-	-
Processing	C\$/t leached	4.86	6.77	5.76	5.05	4.71	4.79	4.88	4.91	4.70	4.37	4.19	3.36	5.47	-	-	-	-
	C\$M	724.0	74.1	63.5	64.6	64.5	63.1	66.8	67.2	65.9	63.9	62.2	49.1	10.5	8.6	-	-	-
G&A	C\$/t leached	2.73	3.64	3.22	2.74	2.50	2.64	2.54	2.53	2.44	2.32	2.24	1.92	8.33	-	-	-	-
	C\$M	406.9	39.9	35.6	35.1	34.2	34.8	34.7	34.6	34.3	33.9	33.2	28.0	16.0	12.6	-	-	-
Total Opex	C\$M	1,852.2	180.8	161.7	163.4	162.1	162.1	157.3	157.0	161.9	167.2	172.4	140.7	44.3	21.2	-	-	-
	C\$/payable oz	770	882	717	749	863	763	727	725	840	855	811	688	426	1,551	-	-	-
	C\$/t leached	12.43	16.52	14.64	12.77	11.85	12.30	11.49	11.46	11.55	11.44	11.61	9.65	23.08	-	-	-	-
Net Operating Cashflow	C\$M	2,052.3	150.6	202.9	189.3	141.5	181.6	192.6	192.9	149.7	149.0	175.9	197.1	127.6	1.4	-	-	-
CAPEX																		
Capital Costs																		
Long Lead Procurement	C\$M	10.5	1.6	0.6	0.3	2.5	3.1	0.8	1.6	-	-	-	-	-	-	-	-	-
Pre-Purchased Equipment	C\$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Construction Contracts	C\$M	119.1	11.9	23.2	25.3	19.4	21.7	8.5	3.9	3.0	2.2	-	-	-	-	-	-	-

	Unit	LOM	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Construction Support Contracts	C\$M	3.3	1.6	0.4	0.4	0.2	0.2	0.2	0.1	0.1	0.1	-	-	-	-	-	-	-
General Field Indirects	C\$M	0.7	-	0.2	0.2	0.1	0.1	0.1	-	-	-	-	-	-	-	-	-	-
Freight	C\$M	2.3	-	0.2	0.3	0.8	0.4	0.2	0.2	0.1	0.1	-	-	-	-	-	-	-
Engineering	C\$M	26.7	21.2	0.4	1.0	3.4	-	-	0.7	-	-	-	-	-	-	-	-	-
HME Equipment	C\$M	12.0	-	5.6	-	-	3.2	3.2	-	-	-	-	-	-	-	-	-	-
Subtotal - Capital Costs	C\$M	174.5	36.2	30.6	27.5	26.4	28.7	13.0	6.5	3.2	2.4	-	-	-	-	-	-	-
CAPEX incl. Contingency	C\$M	174.5	36.2	30.6	27.5	26.4	28.7	13.0	6.5	3.2	2.4	-	-	-	-	-	-	-
CLOSURE COSTS																		
Closure Estimate (Net of Salvage)	C\$M	35.0	-	-	-	-	-	-	-	-	-	-	14.0	14.0	7.0	-	-	-
Total Closure Costs	C\$M	35.0	-	-	-	-	-	-	-	-	-	-	14.0	14.0	7.0	-	-	-
TAXES																		
Income Taxes																		
Income Taxes	C\$M	322.1	-	-	17.6	23.3	34.4	38.7	40.5	31.5	32.6	37.6	42.0	25.9	(1.1)	(0.3)	(0.2)	(0.2)
Yukon Quartz Tax	C\$M	168.9	9.9	16.0	14.1	9.0	13.6	16.5	17.5	13.8	13.9	16.7	17.4	10.6	-	-	-	-
Total Taxes	C\$M	491.0	9.9	16.0	31.7	32.3	48.0	55.1	58.0	45.3	46.4	54.3	59.4	36.5	(1.1)	(0.3)	(0.2)	(0.2)
CASH FLOWS																		
Pre-Tax																		
Net Pre-Tax Cashflow	C\$M	1,842.8	114.4	172.3	161.8	115.1	152.9	179.6	186.4	146.5	146.6	175.9	183.1	113.6	(5.6)	-	-	-
	US\$M	1,382.1	85.8	129.2	121.4	86.3	114.6	134.7	139.8	109.9	110.0	131.9	137.4	85.2	(4.2)	-	-	-
Cumulative Net Cashflow	C\$M	1,842.8	114.4	286.8	448.6	563.7	716.5	896.1	1,082.5	1,229.0	1,375.7	1,551.6	1,734.7	1,848.4	1,842.8	1,842.8	1,842.8	1,842.8
	US\$M	1,382.1	85.8	215.1	336.5	422.7	537.4	672.1	811.9	921.8	1,031.8	1,163.7	1,301.1	1,386.3	1,382.1	1,382.1	1,382.1	1,382.1
After-Tax																		
Net Post-Tax Cashflow	C\$M	1,351.8	104.6	156.3	130.2	82.7	104.9	124.5	128.5	101.2	100.2	121.7	123.7	77.2	(4.5)	0.3	0.2	0.2
	US\$M	1,013.8	78.4	117.3	97.6	62.0	78.6	93.3	96.4	75.9	75.1	91.2	92.8	57.9	(3.4)	0.2	0.2	0.1
Cumulative Net Cashflow	C\$M	1,351.8	104.6	260.9	391.1	473.8	578.6	703.1	831.6	932.8	1,033.0	1,154.7	1,278.4	1,355.5	1,351.0	1,351.4	1,351.6	1,351.8
	US\$M	1,013.8	78.4	195.7	293.3	355.3	434.0	527.3	623.7	699.6	774.7	866.0	958.8	1,016.6	1,013.3	1,013.5	1,013.7	1,013.8
ECONOMIC INDICATORS																		
Pre-Tax																		
Pre-Tax NPV @ 5%	C\$M	1,388.6																
	US\$M	1,041.4																
Pre-Tax NPV @ 0%	C\$M	1,842.8																
	US\$M	1,382.1																
After-Tax																		
After-Tax NPV @ 5%	C\$M	1,034.2																
	US\$M	775.6																
After-Tax NPV @ 0%	C\$M	1,351.8																
	US\$M	1,013.8																

Source: VGC (2019)

23 Adjacent Properties

There are no adjacent properties pertaining to this Project.

24 Other Relevant Data and Information

There is no other relevant data and information to present in this Technical Report.

25 Interpretations and Conclusions

The QPs are satisfied with the status of the mineral tenure, regulatory permits, environmental and social stewardship and workplace quality. Results of this Technical Report demonstrate that the Project has positive economics and presents a positive outlook moving forward.

The geological setting, mineralization and structures are well understood and will continue to be defined as exploration proximal to the open pit is conducted. A high level of diligence from the mine's technical team will continue to refine this knowledge as the mine is developed.

Classification of mineral resources into indicated and inferred categories is consistent with CIM Definition and Standards on Mineral Resources and Mineral Reserves.

The mine engineering design, operating parameters and economic assumptions provide a credible basis for the conversion of mineral resources into mineral reserves. Forward looking views of pricing and exchange rates were established and approved at the corporate level and are considered reasonable by the QPs.

Standard industry practices, equipment and processes were used in this study. The authors of this report are not aware of any unusual or significant risks, or uncertainties that could affect the reliability or confidence in the Project based on the data and information made available.

25.1 Risks

Most mining projects are exposed to risks that might impact the economics of the project to varying degrees. Most risks are external and largely beyond the control of the project proponents. They can be difficult to anticipate and mitigate although, in many instances, some reduction in risk might be achieved by regular reviews and interventions over the life of the project.

External risks are things such as the political situation in the project region, metal prices, exchange rates and government legislation. These external risks are generally applicable to all mining projects.

Table 25-1 summarizes the significant project risks for the Eagle Gold Mine, including the potential impacts, and possible mitigations.

The typical risks associated with open pit mining related to dilution, geotechnical and hydrogeological conditions, equipment availability and productivity, and personnel productivity are generally similar to those expected at other operations.

Although measures to mitigate many of these issues have been identified and applied in the Technical Study, risk identification and review of mitigations will continue to be a priority during operations.

Table 25-1: Main Project Risks

Risk	Explanation/Potential Impact	Possible Risk Mitigation
OPEX	<i>The ability to achieve the estimated OPEX costs are important elements of project success.</i>	<i>Further cost estimation accuracy as well as further investigation of cost reduction measures will mitigate over-runs.</i>
	<i>If OPEX increases then the NSR cut-off would increase and, all else being equal, the size of the mineable resource would reduce yielding fewer mineable tonnes.</i>	
Engineering Assumptions	<i>Geotechnical and hydrogeological assessments of pit, HLPs and infrastructure stability are important and if conditions are worse than assumed are encountered modifications may impact ore tonnes, WRSA capacity, strip ratio etc.</i>	<i>Ongoing monitoring of slopes will be conducted, and adaptive management plans utilized as needed.</i>
	<i>Crushing, HLP and ADR plant performance and all other unit operations have all been designed using engineering analyses that are based on small but representative samples that may be different than reality.</i>	<i>Ongoing consideration of potential variances in engineering assumptions during operations.</i>
Metallurgical Recoveries	<i>Recoveries from the HLP are lower than expected.</i>	<i>Additional sampling, test work and operational experience to be completed.</i>
Ability to Attract Experienced Professionals	<i>The ability to attract and retain competent, experienced professionals is a key success factor for the project.</i>	<i>Current manpower market conditions are favourable and establishing quality construction and operations teams should not be an issue.</i>
	<i>High turnover or the lack of appropriate technical and management staff at the project could result in difficulties meeting project goals.</i>	

Source: JDS (2019)

25.2 Opportunities

Several opportunities have been identified and merit further investigation. The main opportunities are summarized in Table 25-2.

Table 25-2: Identified Project Opportunities

Opportunity	Explanation	Potential Benefit
Expansion of Mineable Resources	<i>The Mineral Resource has not been fully delineated at Olive and there is an opportunity to expand the mineable resource.</i>	<i>Increased mine life.</i>
	<i>At Eagle and Olive, there is a considerable amount of mineralized material left in the floor and walls of the pits that could be mined should the COG drop as a result of lower OPEX or increased gold price (in C\$ terms),</i>	
Increased Production	<i>Increased production may be possible based on stacking the HLPs all year long rather than seasonally for nine months of the year.</i>	<i>If stacking is performed year-round (as it is at Kinross's Fort Knox mine near Fairbanks, Alaska) it would provide additional revenue although the mine life would be shortened unless additional ore could be defined.</i>
Optimize Mine Plan	<i>Further optimization of the mine plan including equipment and manpower may yield improved results in terms of grade profile, waste removal timing, etc.</i>	<i>Improved mining costs and or improved grade profile</i>

Source: JDS (2019)

At the time of this report, no permitting, detailed engineering, or detailed economic analysis has been published to conclude the economic feasibility of these opportunities.

26 Recommendations

As the Project continues to develop, management should strive towards continuous improvement of operations through the following initiatives:

- Year-round stacking;
- Continued near-mine exploration with a focus on the Potato Hills Trend, which hosts the Olive, Shamrock and other targets;
- Reduction of operating costs;
- Reduction or elimination of rehandling of ore on the leach pad;
- Further refinement of water management and water treatment; and
- Improvement upon production targets.

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28 Units of Measure, Abbreviations and Acronyms

Symbol/Abbreviation	Description
'	Minute (Plane Angle)
"	Second (Plane Angle) or Inches
°	Degree
°C	Degrees Celsius
3D	Three-Dimensions
A	Ampere
a	Annum (Year)
AA	Atomic Absorption
ac	Acre
ADR	Adsorption-Desorption-Recovery
AES	Atomic Emission Spectroscopy
amsl	Above Mean Sea Level
ANFO	Ammonium Nitrate/Fuel Oil
ARD	Acid Rock Drainage
Au	Gold
B20	Bottom 20 Samples
BD	Bulk Density
BFA	Bench Face Angles
BTU	British Thermal Unit
BV/h	Bed Volumes Per Hour
C\$	Dollar (Canadian)
Ca	Calcium
CBA	Cooperation and Benefits Agreement
CCA	Capital Cost Allowance
CDE	Canadian Development Expense
CDP	Cyanide Detoxification Plant
CEE	Canadian Exploration Expense
CF	Cumulative Frequency
cfm	Cubic Feet Per Minute
CHP	Combined Heat and Power Plant
CIC	Carbon-In-Column
CIM	Canadian Institute of Mining and Metallurgy
CIM	Canadian Institute of Mining
cm	Centimetre
CM	Construction Management

Symbol/Abbreviation	Description
cm ²	Square Centimetre
cm ³	Cubic Centimetre
COG	Cut-Off Grades
Cr	Chromium
CSA	Canadian Securities Administrators
Cu	Copper
CV	Coefficient of Variation
d	Day
d/a	Days per Year (Annum)
d/wk	Days per Week
dB	Decibel
dBa	Decibel Adjusted
DCS	Distributed Control System
DGPS	Differential Global Positioning System
dmt	Dry Metric Ton
EA	Environmental Assessment
EDA	Exploratory Data Analysis
EMR	Energy, Mines and Resources
EP	Engineering and Procurement
EPCM	Engineering, Procurement and Construction Management
FEL	Front-End Loader
FISS	Fisheries Information Summary System
FOB	Free on Board
FOC	Fisheries and Oceans Canada
FS	Feasibility Study
ft	Foot
ft ²	Square Foot
ft ³	Cubic Foot
ft ³ /s	Cubic Feet Per Second
g	Gram
G&A	General and Administrative
g/cm ³	Grams Per Cubic Metre
g/L	Grams Per Litre
g/t	Grams Per Tonne
gal	Gallon (Us)
GCL	Geosynthetic Clay Liner
GJ	Gigajoule
GPa	Gigapascal

Symbol/Abbreviation	Description
gpm	Gallons Per Minute (US)
GSC	Geological Survey of Canada
GTZ	Glacial Terrain Zone
GW	Gigawatt
h	Hour
h/a	Hours Per Year
h/d	Hours Per Day
h/wk	Hours Per Week
ha	Hectare (10,000 M2)
HCR	Haggart Creek Road
HG	High Grade
HLP	Heap Leaching Pads
HMI	Human Machine Interface
hp	Horsepower
HPGR	High-Pressure Grinding Rolls
HPW	Highways and Public Works
HQ	Drill Core Diameter Of 63.5 Mm
HSE	Health, Safety and Environmental
HVAC	Heating, Ventilation, and Air Conditioning
Hz	Hertz
ICMC	International Cyanide Management Code
ICP	Inductively Coupled Plasma
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
in	Inch
in ²	Square Inch
in ³	Cubic Inch
IP	Internet Protocol
IRR	Internal Rate of Return
JDS	JDS Energy & Mining Inc.
K	Hydraulic Conductivity
k	Kilo (Thousand)
KCA	Kappes, Cassiday & Associates
KE	Kriging Efficiency
kg	Kilogram
kg	Kilogram
kg/h	Kilograms Per Hour
kg/m ²	Kilograms Per Square Metre
kg/m ³	Kilograms Per Cubic Metre

Symbol/Abbreviation	Description
km	Kilometre
km/h	Kilometres Per Hour
km ²	Square Kilometre
KNA	Kriging Neighbourhood Analysis
kPa	Kilopascal
kt	Kilotonne
kV	Kilovolt
KV	Kriging Variance
kVA	Kilovolt-Ampere
kW	Kilowatt
kWh	Kilowatt Hour
kWh/a	Kilowatt Hours Per Year
kWh/t	Kilowatt Hours Per Tonne
L	Litre
L/min	Litres Per Minute
L/s	Litres Per Second
LAN	Local Area Network
LDD	Large-Diameter Drill
LDRS	Leak Detection and Recovery System
LG	Low Grade
LG	Lerchs- Grossman
LOM	Life of Mine
m	Metre
M	Million
m/min	Metres Per Minute
m/s	Metres Per Second
m ²	Square Metre
m ³	Cubic Metre
m ³ /h	Cubic Metres Per Hour
m ³ /s	Cubic Metres Per Second
Ma	Million Years
mamsl	Metres Above Mean Sea Level
MAP	Mean Annual Precipitation
masl	Metres Above Mean Sea Level
Mb/s	Megabytes Per Second
mbgs	Metres Below Ground Surface
mbs	Metres Below Surface
mbsl	Metres Below Sea Level

Symbol/Abbreviation	Description
MCC	Motor Control Centres
mg	Milligram
mg/L	Milligrams Per Litre
min	Minute (Time)
mL	Millilitre
Mm ³	Million Cubic Metres
MMER	Metal Mining Effluent Regulations
mo	Month
MPa	Megapascal
MRE	Mineral Resource Estimate
M t	Million Metric Tonnes
MVA	Megavolt-Ampere
MW	Megawatt
MWMT	Meteoric Water Mobility Tests
MWTP	Mine Water Treatment Plant
NAD	North American Datum
NG	Normal Grade
Ni	Nickel
NI 43-101	National Instrument 43-101
Nm ³ /h	Normal Cubic Metres Per Hour
NPVS	NPV Scheduler
NQ	Drill Core Diameter of 47.6 Mm
NRC	Natural Resources Canada
OIS	Operator Interface Stations
OP	Open Pit
ORE	Ore Research and Exploration
OREAS	Ore Research & Exploration Assay Standards
OSA	Overall Slope Angles
oz	Troy Ounce
P.Geo.	Professional Geoscientist
Pa	Pascal
PAG	Potentially Acid Generating
PEA	Preliminary Economic Assessment
PEP	Project Execution Plan
PFS	Preliminary Feasibility Study
PLC	Programmable Logic Controller
PLS	Pregnant Leach Solution
PMF	Probable Maximum Flood

Symbol/Abbreviation	Description
ppb	Parts Per Billion
ppm	Parts Per Million
PSD	Particle Size Distribution
psi	Pounds Per Square Inch
QA/QC	Quality Assurance/Quality Control
QKNA	Qualitative Kriging Neighbourhood Analysis
QMA	Quartz Mining Act
QML	Quartz Mining License
QMS	Quality Management System
QP	Qualified Person
QQ	Quartile-Quartile
RC	Reverse Circulation
RMR	Rock Mass Rating
ROM	Run-Of-Mine
rpm	Revolutions Per Minute
RQD	Rock Quality Designation
s	Second (Time)
S.G.	Specific Gravity
SARA	Species at Risk Act
Scfm	Standard Cubic Feet Per Minute
SEDEX	Sedimentary Exhalative
SG	Specific Gravity
SMR	South McQuesten Road
SRK	SRK Consulting Services Inc.
SVOL	Search Volume
t	Tonne (1,000 Kg) (Metric Ton)
T20	Top 20 Samples
t/a	Tonnes Per Year
t/d	Tonnes Per Day
t/h	Tonnes Per Hour
TBD	To be Determined
TCR	Total Core Recovery
tph	Tonnes Per Hour
ts/hm ³	Tonnes Seconds Per Hour Metre Cubed
TSS	Total Suspended Solids
US	United States
US\$	Dollar (American)
UTM	Universal Transverse Mercator

Symbol/Abbreviation	Description
V	Volt
VEC	Valued Ecosystem Components
VoIP	Voice Over Internet Protocol
VSEC	Valued Socio-Economic Components
w/w	Weight/Weight
WAD	Weak-Acid-Dissociable
WBS	Work Breakdown Structure
wk	Week
wmt	Wet Metric Ton
WRSA	Waste Rock Storage Area
WUL	Water Use License
YEC	Yukon Energy Corporation
YESAA	Yukon Environmental and Socio-Economic Assessment Act
YESAB	Yukon Environmental and Socio-Economic Assessment Board
YG	Yukon Government
µm	Microns
µm	Micrometre

Scientific Notation	Number Equivalent
1.0E+00	1
1.0E+01	10
1.0E+02	100
1.0E+03	1,000
1.0E+04	10,000
1.0E+05	100,000
1.0E+06	1,000,000
1.0E+07	10,000,000
1.0E+09	1,000,000,000
1.0E+10	10,000,000,000

