Independent NI 43-101 Technical Report and Updated Mineral Resource Estimate for the PureGold Mine, Canada

Report prepared for:

West Red Lake Gold Mines Ltd.

Report prepared by:

srk consulting

SRK Consulting (Canada) Inc.
CAPR002614
June 19, 2023

Independent NI 43-101 Technical Report and Updated Mineral Resource Estimate for the PureGold Mine, Canada

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Signature date: June 19, 2023

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Important Notice

This report was prepared as a National Instrument 43-101 Technical Report for West Red Lake Gold Mines Ltd. (WRLG) by SRK Consulting (Canada) Inc. ("SRK"). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in SRK's services, 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. This report is intended for use by WRLG subject to the terms and conditions of its' contract with SRK and relevant securities legislation. The contract permits WRLG to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to National Instrument 43-101, Standards of Disclosure for Mineral Projects. Except for the purposes legislated under provincial securities law, any other use of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with WRLG. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new Technical Report has been issued.

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1 Executive Summary

1.1 Introduction

This report has been prepared by SRK Consulting (Canada) Inc. ("SRK") on behalf of West Red Lake Gold Mines Ltd. ("WRLG" or the "Company"). SRK has generated a mineral resource estimate for the PureGold Mine deposits with an effective date of December 31, 2021. The results of the estimate were made publicly available by Pure Gold Mining Inc. ("Pure Gold") on August 10, 2022. The purpose of this report is to disclose the change in ownership of the PureGold Mine (formerly known as Madsen Mine) from Pure Gold to WRLG. This Independent Technical Report ("ITR") documents all supporting work, methods used and results relevant to the reported mineral resources and fulfills the reporting requirements in accordance with National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101").

1.2 Property Description and Ownership

On April 17, 2023, WRLG announced that it has entered into a binding letter agreement with Pure Gold and Sprott Resource Lending Corp. ("Sprott") to acquire the PureGold Mine (Madsen Mine) and associated land package through the acquisition of all of the issued and outstanding shares of Pure Gold. WRLG has agreed to pay $6.5 million in cash, issue 28,460,000 common shares and grant a 1.0% secured Net Smelter Royalty ("NSR") on the mine as consideration for the Acquisition. The share and NSR consideration are expected to accrue to Sprott as a fund managed by Sprott is the senior secured lender to Pure Gold. In addition, up to US$10.0 million in deferred consideration is payable upon a change of control of WRLG and WRLG has the right to pay down any part of the deferred consideration prior to any change of control of WRLG. Sprott shall have the right to nominate and appoint a director to WRLG's board, as long as Sprott or an affiliate owns 15% or more of the issued and outstanding shares of WRLG. Upon closing of the Acquisition and the concurrent financing, it is anticipated that Sprott will own approximately 24% of the outstanding shares of the Company.

The PureGold Mine, which is 100% owned by WRLG, is centered around the historical Madsen Mine, which produced 2.5 million ounces of gold at an average grade of 9.7 g/t (7.9 million tonnes) between 1938 and 1976, and again from 1997 to 1999. Pure Gold acquired the dormant mine and surrounding properties in 2014 and conducted exploration, environmental, engineering, and economic studies culminating in a Feasibility Study in 2019. Re-development of the mine was initiated in late 2019 and the mine reached commercial production in August 2021. Production by Pure Gold from January 2021 to the end of December 2021 was 27,438 ounces gold at an average grade of 4.3 g/t. The Mine Property comprises a contiguous group of 251 mining leases, mining patents and unpatented mining claims covering an aggregate area of 4,648 hectares (46.5 km^2). Major infrastructure at the mine site includes paved highway and secondary road access, ample fresh water supply, hydroelectric power from the provincial grid, an operational processing, and tailings facility, two underground access portals and ramps, a 1273 metre shaft and significant underground development along with supporting ancillary surface facilities.

The mine is located in the Red Lake district of northwestern Ontario, approximately 440 km northwest of Thunder Bay, Ontario, 260 km east-northeast of Winnipeg, Manitoba and 10 km south-southwest via provincial highway ON-618 S from the town of Red Lake. The mine is adjacent to the community of Madsen at approximately 93.91 degrees longitude west and 50.97 degrees latitude north. Access to the Mine Property is via the Mine Road off ON-168 S and access to the town of Red Lake is via ON-105 N from the Trans-Canada Highway / ON-17 and via commercial airline flying into the Red Lake Municipal Airport.

1.3 History, Exploration and Drilling

Gold was discovered in the Red Lake area in 1925 and the first claims were staked in the mine area in 1927. Initial development at the Mine Property was focussed on the Madsen No. 1 Vein where a shaft was sunk, and underground exploration commenced in 1936. The Madsen deposit was discovered in 1937 and the Madsen Mine commenced production a year later with sinking of the Madsen No. 2 shaft which ultimately reached a depth of 1,273 m with production from 27 levels. The 8 zone of the Madsen deposit was discovered in 1969. Production in the Madsen Mine was halted in 1974 and the mine was placed into Temporary Suspension in 1976. Production to this time totalled 2.43 million ounces from 7.6 Mt at a recovered grade of 9.91 g/t gold. Little work occurred at Madsen until 1997 when exploration and development resumed along with re-development of some of the project infrastructure. In 1998, Claude Resources (Claude) purchased the project and in 1998–99, produced about 22,000 ounces of gold from the Madsen shaft and the newly developed McVeigh (West) portal but ceased production in October 1999 due to low gold prices and low head grades resulting from excessive mining dilution. From 1999 to 2013 Claude focussed on exploration of the property and compilation and conversion of an extensive hardcopy historical record to digital formats.

Pure Gold (then Laurentian Goldfields) purchased the project in 2014 and embarked on a property-wide geoscience and exploration program to provide a basis for re-development of the mining operation. Work focussed on integrating new geologic mapping and geochemical data with the geological learnings from the 38 years of mining development into a new property-wide geological framework. From 2014 to 2019, Pure Gold conducted extensive exploration drilling programs, developed a new geological model for mineralization which formed the basis for a new Madsen deposit Mineral Resource Estimate (MRE) and discovered and published maiden MREs for three new deposits (Fork, Russet South and Wedge) which were delineated through systematic exploration of the property-scale gold system. In 2017, Pure Gold reconditioned the West portal and completed underground exploration and delineation drilling of a new bulk sample area at the 3-Level of the mine. In 2018, the Company completed ongoing environmental baseline and feasibility-level studies and collected a 7,096 tonne bulk sample from the Madsen deposit. Re-development and construction of the PureGold Mine began in September 2019, with first gold poured at the end of December 2020, and commercial production was declared in August 2021. Through 2021 and into 2022 the operation has deviated substantially from the 2019 Feasibility Study plan including development of the East portal and ramp system and rescheduling of the mine plan as well as mill upgrades to allow for processing of up to 1000 tonnes per day.

The current technical report is based on the MRE for the Mine Property based on work completed to December 31, 2021.

1.4 Geology and Mineralization

The PureGold Mine is located within the Red Lake Greenstone Belt (RLGB) of the Archean Superior Province of the Canadian Shield. The RLGB is approximately 50 km by 40 km and comprises 2.99-2.70 Ga deformed and metamorphosed supracrustal (volcanic and sedimentary) rocks intervening between three main younger granitoid batholiths. The RLGB boasts a prolific 90 year history of gold production. All major gold deposits in the RLGB are hosted within the ca. 2.99-2.96 Ga Balmer Assemblage which includes the RLGB's oldest volcanic rocks that are predominantly comprised of submarine mafic tholeiites and ultramafic komatiites. Gold deposits in the RLGB are classified as orogenic gold deposits (Groves et al., 1998) and characterized by a spatial and temporal association with crustal-scale fault structures. Gold deposition in orogenic gold deposits is typically syn-kinematic and syn- to post-peak metamorphic and is largely restricted to the brittle-ductile transition zone.

Rock units of the RLGB have undergone polyphase deformation and metamorphism. On the Mine Property, this complex deformation history manifests as an early phase of tight upright folding (D1) followed by an overprinting minor folding event and associated widespread foliation development (D2). Significantly, the Madsen, Fork, Russet, and Wedge deposits all occur within planar structures that transect stratigraphy but predate the main phase of penetrative deformation (D2) and amphibolite facies metamorphism. These structures occur as well-defined strike-continuous corridors that broadly parallel major litho-structural breaks dissecting the property, such as the Confederation Assemblage-Balmer Assemblage unconformity and the Russet Lake Ultramafic-Balmer Basalt contact. These early mineralized structures are the main targets for further gold exploration on the Mine Property and although they have been strongly deformed and metamorphosed, they can be effectively identified by a distinct series of mineral phases (alteration), vein styles (blue-grey quartz veins and quartz carbonate veins) and quartz porphyritic intrusions that pre-date gold mineralization and are common within the mineralized corridors.

Superficially, the PureGold Mine deposits appear atypical to the orogenic deposit class in that they are strongly overprinted by deformation and metamorphism, rather than being syn- to post-peak metamorphic in timing. However, when the overprinting deformation is unravelled from the Madsen deposits, they closely fit the orogenic model including: an association with crustal scale structures, occurrence within a classic vein system with steep (shear) and shallow dipping (extension) veins, and an association with pervasive structurally controlled carbonate alteration and quartz-carbonate veining.

1.5 Mineral Processing and Metallurgy

The latest metallurgical program, completed by Base Metallurgical Laboratories Ltd. (BaseMet) in Kamloops, BC in 2018 in support of the Feasibility Study, was carried out on the Madsen deposit with the primary objective of confirming the flowsheet and design criteria using a combination of new testwork, historical data and the existing plant design.

Based on the results from Base Met BL0288 (2018) a primary grind size of 80% passing (P_{80}) 75 µm followed by gravity concentration, 2-hour pre-oxidation, 250 g/t lead nitrate, a 24-hour cyanide leach at a cyanide concentration of 500 ppm and a pH of 10.5, 6-hour carbon-in-pulp (CIP) adsorption, desorption and refining process was incorporated as the basis for the plant design.

The blended average of the samples tested, based on the mine plan, using this method was estimated to achieve an average recovery of 96% Au.

Additional tests, under BaseMet BL0354 (2018), were completed on the three satellite deposits: Fork, Russet and Wedge. The objective of the program was to assess the response of the material using the BL0288 flowsheet and design criteria. The samples were also subjected to Bulk Mineral Analysis (BMA) and comminution test work. The results were similar to the Madsen deposit with fast leach kinetics, higher gravity gold recovery and an estimated recovery in the range of 95%.

The mill has since been rebuilt and additional equipment installed to process the Madsen deposit based on the flowsheet developed in 2018. In December of 2020 the mill was recommissioned and has processed up to 1,000 t/d at the target grind size of P_{80} 75 µm. On average approximately 95% of the gold was recovered in the plant at an average gold head grade of 4.4 g/t from commissioning in 2020 to the end of 2021. The majority of the material processed has been from the McVeigh zone. The future mill feed is expected to come from the Austin and South Austin zones. The Austin and South Austin zones have similar mineralogy to the McVeigh zone, with pyrrhotite followed by pyrite being the dominant sulphide minerals. The results from BL0288 test program indicate the Austin and South Austin samples tested were of moderate hardness, similar to McVeigh samples and can be processed at the target grind size. The Austin and South Austin zones are expected to achieve similar overall results with recoveries of approximately 95%.

1.6 Mineral Resource Estimate

The mineral resource statement for the PureGold Mine deposits is provided in Table 1-1, with an effective date of December 31, 2021. The mineral resources have been adjusted to reflect the removal of all historical and recent production to the end of December 2021. The mineral resources have been classified according to CIM Best Practise Guidelines (November 2019), and are reported as undiluted tonnes at a cut-off grade of 3.38 g/t gold and gold price of US$1800/oz.

The mining activity from the effective date of this technical report until the closure of the PureGold Mine has been deemed immaterial. Based on the mining records, 164,604 tonnes of ore at 3.8 g/t grade were processed, resulting in the production and sale of 20,301 ounces of gold. This production figure is not considered significant for the purpose of this report and the mining activity during the period from January 1, 2022 to the mine closure on October 24, 2022 will not have a material impact on the mineral resource estimates presented in this report.

Since the effective date of this technical report, additional diamond drilling was conducted until the mine closure on October 24, 2022. A total of 688 drill holes and 54,122 m of drilling was completed in 2022. Based on a review of the results of this drilling it has been determined that the information obtained will not have a material impact on the mineral resource estimate presented in this report.

Table 1-1: Mineral Resource Statement, PureGold Mine, Red Lake, Ontario, effective date December 31, 2021

Classification	Deposit - Zone	Tonnes	Gold Grade (g/t)	Gold Troy Ounces
Indicated	Madsen – Austin	4,147,000	6.9	914,200
	Madsen – South Austin	1,696,000	8.7	474,600
	Madsen – McVeigh	388,700	6.4	79,800
	Madsen – 8 Zone	152,000	18.0	87,700
	Fork	123,800	5.3	20,900
	Russet	88,700	6.9	19,700
	Wedge	313,700	5.6	56,100
	Total Indicated	6,909,900	7.4	1,653,000
Inferred	Madsen – Austin	504,800	6.5	104,900
	Madsen – South Austin	114,100	8.7	31,800
	Madsen – McVeigh	64,600	6.9	14,300
	Madsen – 8 Zone	38,700	14.6	18,200
	Fork	298,200	5.2	49,500
	Russet	367,800	5.8	68,800
	Wedge	431,100	5.7	78,700
	Total Inferred	1,819,300	6.3	366,200

Notes:

1) Mineral resources are not mineral reserves and do not have demonstrated economic viability.
2) Mineral resources are reported at a cut-off grade of 3.38 g/t Au
3) Mineral resources are reported using a gold price of US$1800/oz
4) Excludes depletion of mining activity during the period from January 1, 2022 to the mine closure on October 24, 2022 as it has been deemed immaterial and not relevant for the purpose of this report.
5) All figures have been rounded to reflect the relative accuracy of the estimate

1.7 Environment and Permitting

The PureGold Mine is operating in compliance with all provincial and federal environmental legislation. Continued implementation of the existing Management Plans, along with good engineering practices consistent with provincial, federal and global guidance documents and standards, will successfully mitigate any potential environmental concerns with the continued operation of the PureGold Mine. As of the effective date of this technical report, Pure Gold had an executed Project Agreement with the Wabauskang and Lac Seul First Nations and engaged regularly with representatives of these First Nations as well as representatives of the Community Advisory Group to ensure a successful working relationship with all rights holders and other stakeholders.

1.8 Interpretation and Conclusions

The current, previously disclosed mineral resource estimate for the PureGold Mine was generated by SRK with an effective date of December 31, 2021. The estimate includes Indicated mineral resources of 1,653,000 oz of gold (6.9 Mt at an average grade of 7.4 g/t) and Inferred mineral resources of 366,200 oz of gold (1.82 Mt at an average grade of 6.3g/t). These mineral resources are reported at a cut-off grade of 3.38 g/t, use a gold price of US$1800 per ounce, and are constrained by reasonable stope shapes within the Madsen deposit.

This mineral resource estimate is based on verified historical drilling data, along with additional drilling data and underground mine development and production data collected by Pure Gold since 2014. This mineral resource estimate is also predicated on a revised geological and mineralization domain model developed in 2021 that incorporates structural controls on mineralization identified through data analysis, grade control programs and mapping of underground exposures by Pure Gold since 2018.

2 Basis of Technical Report

This report has been prepared by SRK Consulting (Canada) Inc. ("SRK") on behalf of West Red Lake Gold Mines Ltd. ("WRLG" or the "Company"). SRK has generated a mineral resource estimate for the PureGold Mine with an effective date of December 31, 2021. The results of the estimate were published by Pure Gold Mining Inc. ("Pure Gold") on August 10, 2022. The purpose of this report is to disclose the change in ownership of the PureGold Mine (formerly known as Madsen Mine) from Pure Gold to WRLG. This Independent Technical Report ("ITR") documents all supporting work, methods used and results relevant to the reported mineral resources and fulfills the reporting requirements in accordance with National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101").

The PureGold Mine is located in the Red Lake district of northwestern Ontario, approximately 440 km northwest of Thunder Bay, Ontario, 260 km east-northeast of Winnipeg, Manitoba and 10 km south-southwest via provincial highway ON-618 S from the town of Red Lake. The mine is adjacent to the community of Madsen at approximately 93.91 degrees longitude west and 50.97 degrees latitude north. Access to the Mine Property is via the Mine Road off ON-168 S and access to Red Lake town is via ON-105 N from the Trans-Canada Highway / ON-17 and via commercial airline flying into the Red Lake Municipal Airport.

The PureGold Mine, which is 100% owned by WRLG, is centered around the historical Madsen Mine, which produced 2.5 million ounces of gold at an average grade of 9.7 g/t (7.9 million tonnes) between 1938 and 1976, and again from 1997 to 1999. Re-development of the mine was initiated in late 2019 and the mine reached commercial production in August 2021. Production by the company includes an additional 27,438 ounces of gold at an average grade 4.3 g/t, from January 2021 to the end of December 2021. The Mine Property comprises a contiguous group of 251 mining leases, mining patents and unpatented mining claims covering an aggregate area of 4,648 hectares (46.5 km^2). Major infrastructure at the mine site includes paved highway and secondary road access, ample fresh water supply, hydroelectric power from the provincial grid, an operational processing and tailings facility, two underground access portals and ramps, a 1273 metre shaft and significant underground development along with supporting ancillary surface facilities.

2.1 Qualified Person Responsibilities and Site Inspections

The Qualified Persons (QPs) preparing this report are specialists in the fields of geology, metallurgy, exploration, and mineral resource estimation and classification.

None of the QPs or any associates employed in the preparation of this report has any beneficial interest in Pure Gold Mining Inc., WRLG and neither are insiders, associates or affiliates. They are independent of Pure Gold and WRLG. The results of this report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between WRLG and the QPs. The QPs are being paid a fee for their work in accordance with normal professional consulting practice.

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 / associations. The QPs are responsible for the specific report sections as follows in Table 2-1.

Table 2-1: QP Responsibilities and Site Visits

Qualified Person	Company	QP Responsibility / Role	Site Visit	Report Section(s)
Cliff Revering, P.Eng.	SRK	Mineral Resource Estimation	July 4 to 7, 2022	1 to 6, 9 to 12 14 to 27
Wayne Barnett, P.Geo.	SRK	Geology	April 4 to 8, 2022	7, 8
Kelly McLeod, P.Eng.	Allnorth	Metallurgy	December 7, 2017	1.5, 12.5, 13

2.2 Sources of Information

This report is based on information collected by the QPs during site visits and on additional information provided by Pure Gold throughout the course of mineral resource estimation and report preparation. Other information was obtained from the public domain. SRK has no reason to doubt the reliability of the information provided by Pure Gold. This technical report is based on the following sources of information:

- Discussions with Pure Gold on-site personnel and management;
- Inspection of the site, including underground, surface facilities and drill core;
- Review of exploration and historical mining data collected by Pure Gold;
- Previous studies completed on the Project;
- Latest test work completed during the course of this study by Pure Gold or by the QPs or their designates; and
- Additional information from public domain sources.

2.3 Units, Currency and Rounding

The units of measure used in this report are as per the International System of Units (SI) or “metric”, except for Imperial units that are commonly used in industry (i.e., troy ounces (oz.) for the mass of precious metals, US gallons per minute (gpm) for water flow rates).

All dollar figures quoted in this report refer to Canadian dollars (CDN$, CAD$, C$ or $) unless otherwise noted.

Frequently used abbreviations and acronyms can be found in Section 28.

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

SRK has not assessed the legal status of the PureGold Mine and has relied on information provided by the company relating to land title, agreements and encumbrances, permitting and ownership.

4 Property Description and Location

4.1 Mineral Tenure

The PureGold Mine Property comprises a contiguous group of 251 mining leases, mining patent claims and unpatented mining claims covering an aggregate area of 4,648 hectares in northwestern Ontario (Figure 4-1). The Property is centered at 50.97° North latitude and 93.91° West longitude (UTM Projection NAD83, Zone 15 North coordinates 5646000N, 435000E) within the Baird, Heyson and Dome Townships of the Red Lake Mining District. Claim data is summarized in Table 4-1 and shown in Figure 4-2.

Figure 4-1: PureGold Mine Location Map

Source: Pure Gold (2019)

WRLG owns 100% of all mining leases, patents and unpatented claims comprising the Mine Property. Other than the royalties described in Table 4-2, the authors are unaware of any other royalties, back-in rights, payments or other agreements and encumbrances to which the property is subject. None of the royalties described apply to tenure covering the current mineral reserve.

Unpatented mining cell claims confer title to hard-rock mineral tenure only, and claims must be converted to leases before mining can take place. Annual assessment work must be carried out to maintain unpatented mining claims in good standing. Work credits exist on the unpatented claims that form a small part of the Mine Property.

Patented mining claims (“patents”) confer fee-simple rights to hard-rock mineral tenure and allow extraction and sale of minerals. Most of the patents also include the surface rights above the mineral tenure; some easements for municipal services have been granted and a few claims have other surface owners. Patents do not require assessment work but are subject to an annual Mining Land Tax.

Unpatented mining claims can be converted to mining leases which grant the right to extract and sell minerals for a renewable period of 21 years. Surface rights can be granted with the mining lease if they were previously held by the Crown; if not, an agreement with the surface rights owner must be completed as part of the leasing process. Boundaries of mining leases are defined by legal surveys done at the time of lease conversion. Leases do not require assessment work but are subject to annual rent.

Table 4-1: PureGold Mine Property Tenure

Claim No.	No. of Claims	Area (Ha)	Type		Claim No.	No. of Claims	Area (Ha)	Type
Madsen					Nova Co			
PAT-7791 - PAT7826	61	1151	Patented		PAT-9013 - PAT-9020	8	149	Patented
11509A	1	18	Patented		Grouping Total	8	149	
12527A	1	19	Patented		Hager			
PAT-8993 - PAT-8995	3	53	Patented		124250	1	6	Unpatented
MLO-13528	1	15	Patented		135653	1	14	Unpatented
Grouping Total	67	1256			140530	1	14	Unpatented
Starratt - Olsen					188266	1	3	Unpatented
PAT-28016 - PAT-28036	21	330	Patented		194127	1	0	Unpatented
PAT-28038 - PAT-28051	14	282	Patented		216940	1	2	Unpatented
12881A – 12882A	2	30	Patented		231394	1	7	Unpatented
12642A – 12644A	3	55	Patented		263367	1	2	Unpatented
Grouping Total	40	697			303646	1	18	Unpatented
Russet					LEA-107157	1	51	Leased
PAT-7668 - PAT-7681	14	258	Patented		Grouping Total	10	117	
Grouping Total	14	258			Derlak			
My-Ritt					PAT-8024 - PAT-8034	11	219	Patented
PAT-7501 - PAT-7502	2	39	Patented		Grouping Total	11	219	
PAT-7505 - PAT-7510	6	103	Patented		Ava			
Grouping Total	8	142			PAT-7839 - PAT-7857	19	291	Patented
Newman-Heyson					Grouping Total	19	291	
PAT-48726 - PAT-48745	20	386	Patented		Killoran			
MLO-10670 - MLO-10671	2	20	Patented		LEA-109514	1	108	Leased
Grouping Total	22	406			LEA-109622	1	98	Leased
Aiken*					Grouping Total	2	206	
PAT-8158 - PAT-8193	36	666	Patented		Mills			
20586A – 20587A	2	63	Patented		PAT-7827 - PAT-7838	12	178	Patented
Grouping Total	38	729			Grouping Total	12	178	
					Grand Total	251	4648	

Source: McMillan (2021)

Table 4-2: Summary of Royalty Agreements on PureGold Mine Property

Claim No.	No. Claims	Royalty Holder	Royalty
20586A-20587A, 21316A, PAT-7668-7681, PAT-8158- 8193	44	Franco-Nevada Corporation	1% NSR to a maximum of C$1 million
20586A-20587A, 21316A, PAT-7668-7681, PAT-8158- 8193	44	Canhorn Mining Corporation	1% NSR to a maximum of C$1 million
MLO-10670-10671 – MRO, PAT-48726-48745 MR & SR, PAT-7501 MR & SR, PAT-7502 MRO, PAT-7505 MRO, PAT-7506 MR & SR, PAT-7507 – 7510 MRO, PAT-9013-9020 MRO	38	Sandstorm Gold Ltd.	0.5% NSR
PAT-7501 MR & SR, PAT-7502 MRO, PAT-7505 MRO, PAT-7506 MR & SR, PAT-7507-7510 MRO	20	Franco-Nevada Corporation	1.5% on first 1M oz-equiv; 2% on production beyond first 1M oz-equiv
PAT-7501 MR & SR, PAT-7502 MRO, PAT-7505 MRO, PAT-7506 MR & SR, PAT-7507-7510 MRO	8	My-Ritt Red Lake Gold Mines Ltd	3% NSR
PAT-9013-9020 – MR & SR	8	Camp McMann Red Lake Gold Mine Ltd.	3% NSR
PAT-8024-8034	11	Fechi Inc.	3% NSR, 1% purchasable for C$1M
All claims that are part of the PureGold mine property+	251	Sprott Resource Lending Corp.	1% NSR

Source: WRLG (2023)

Note+: 1% NSR to Sprott Resource Lending Corp. is subject to change and closing of the transaction

4.2 Surface and Other Rights

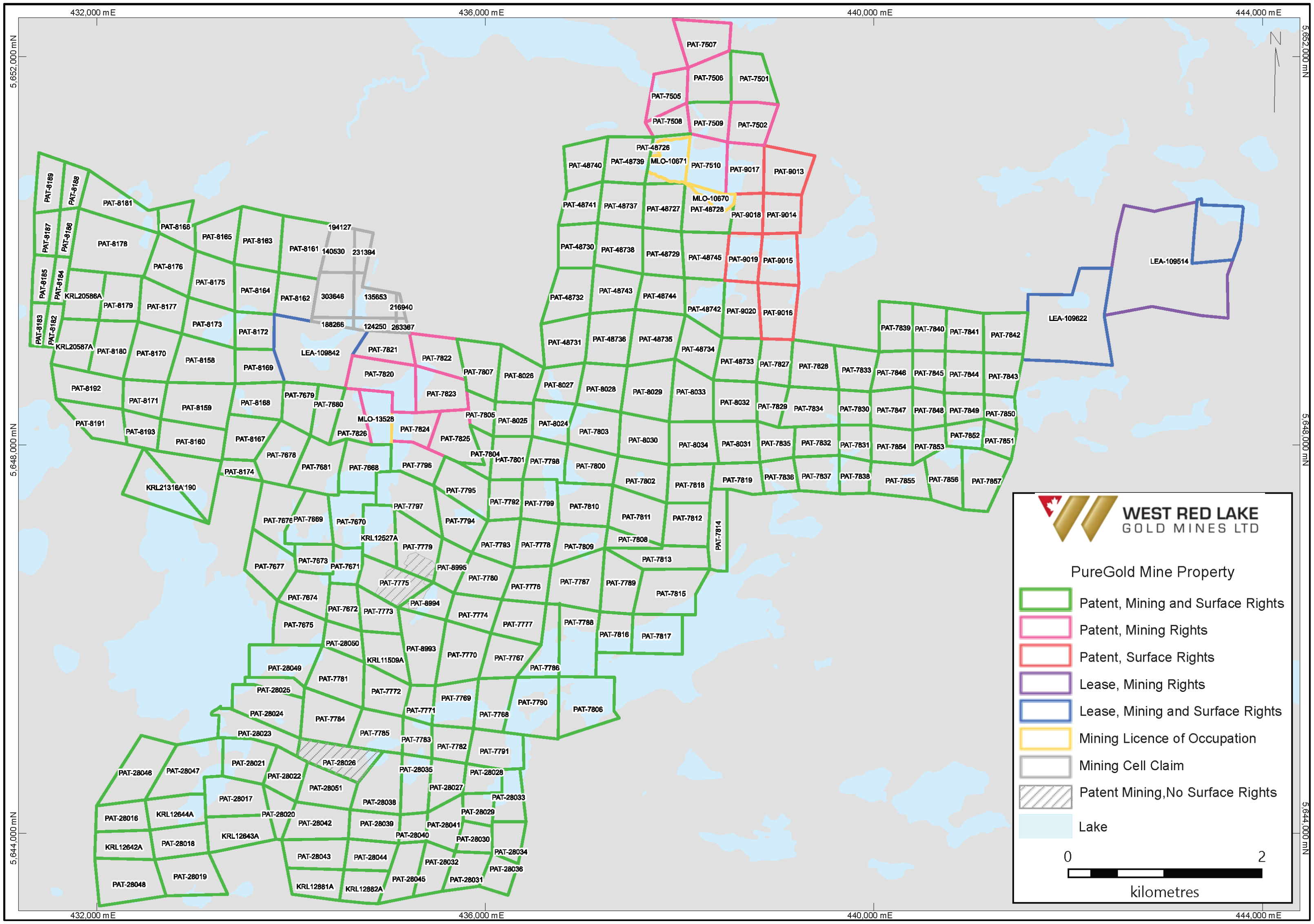
Table 4-3 shows surface rights ownership for Mine Property claims, patents and leases. WRLG owns surface rights as indicated in the table. Where WRLG does not hold surface rights they are predominantly held by the Crown, as administered by the Province of Ontario. Timber rights are reserved to the Crown and water rights are held for the public use. A single trapping tenure is held over the entire property and Pure Gold maintains good relations with the tenure holder. Several registered easements for highway and utility lines cross the property. The authors are aware of no other conferred rights on the Property.

Table 4-3: Summary of Surface Rights

Claim No.	No. Claims	Disposition Type
KRL11509A, KRL12527A, KRL12642A, KRL12643A, KRL12644A, KRL12881A, KRL12882A, KRL20586A, KRL20587A, KRL21316A, PAT-28016 - PAT-28051, PAT-48726 - PAT-48745, PAT-7501 - PAT-7510, PAT-7668 - PAT-7681, PAT-7767 - PAT-7819, PAT-7827 - PAT-7857, PAT-8024 - PAT-8034, PAT-8158 - PAT-8995, PAT-9013 - PAT-9020	229	Patent, surface, and mining rights
LEA-107157, LEA-109622	2	Lease, surface, and mining rights
124250, 135653, 140530, 188266, 194127, 216940, 231394, 263367, 303646	9	Crown retained surface rights
MLO-10670, MLO-10671, MLO-13528	3	Licence of Occupation, surface, and mining rights
LEA-109514	1	Lease, mining rights only
PAT-7820 - PAT-7826	7	Patent, mining rights only

Source: Pure Gold (2021)

Figure 4-2: PureGold Mine Tenure Map



Source: WRLG (2023)

4.3 Environmental Liabilities

WRLG acquired a legacy mine site with a history of almost a century of exploration and mining. A modern closure plan was created for the operation and additional funding was provided by Pure Gold in 2021. Pure Gold has undertaken an extensive site cleanup that has seen significant amounts of waste removed from the site, security and road improvements and revegetation of inactive disturbed areas.

4.4 Permitting

All operational permits are in place for the mine and processing facility in production. The key operational permits are listed in section 20.

4.5 Other Factors and Risks

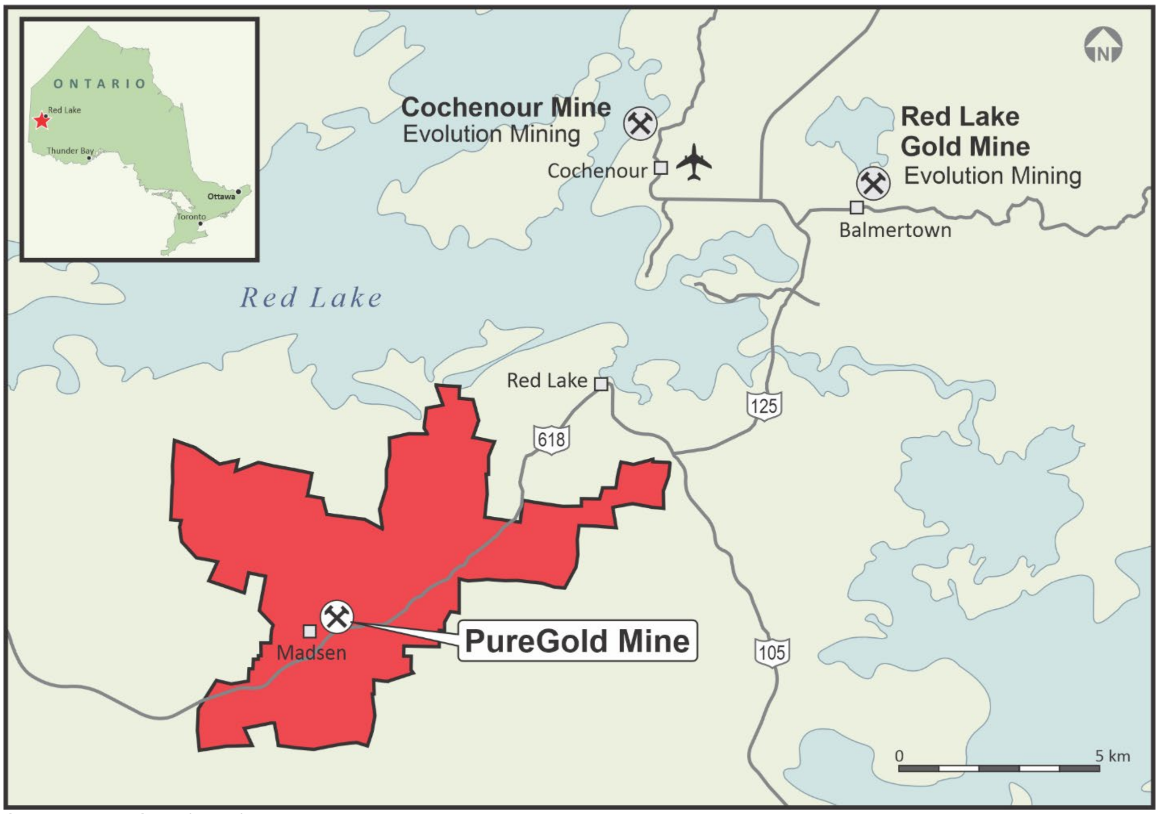
The authors are not aware of any other significant factors and risks that may affect access, title or the right or ability to perform work on the property.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The PureGold Mine is located adjacent the community of Madsen, within the Red Lake Municipality of northwestern Ontario, approximately 565 km by road (430 km direct) northwest of Thunder Bay and approximately 475 km by road (260 km direct) east-northeast of Winnipeg, Manitoba. Red Lake can be reached via Highway 105 from the Trans-Canada Highway 17 (Figure 4-1). Red Lake is also serviced with daily flights from Thunder Bay and from Winnipeg by Bearskin Airlines.

The mine is accessible from Red Lake via Highway 618, a paved secondary road maintained year-round by the Ontario Ministry of Transportation (Figure 5-1). The mine is 10 km southwest of the town of Red Lake. A series of intermittently maintained logging roads and winter trails branching from Highway 618 provide further access to other portions of the Mine Property.

Figure 5-1: Property Location



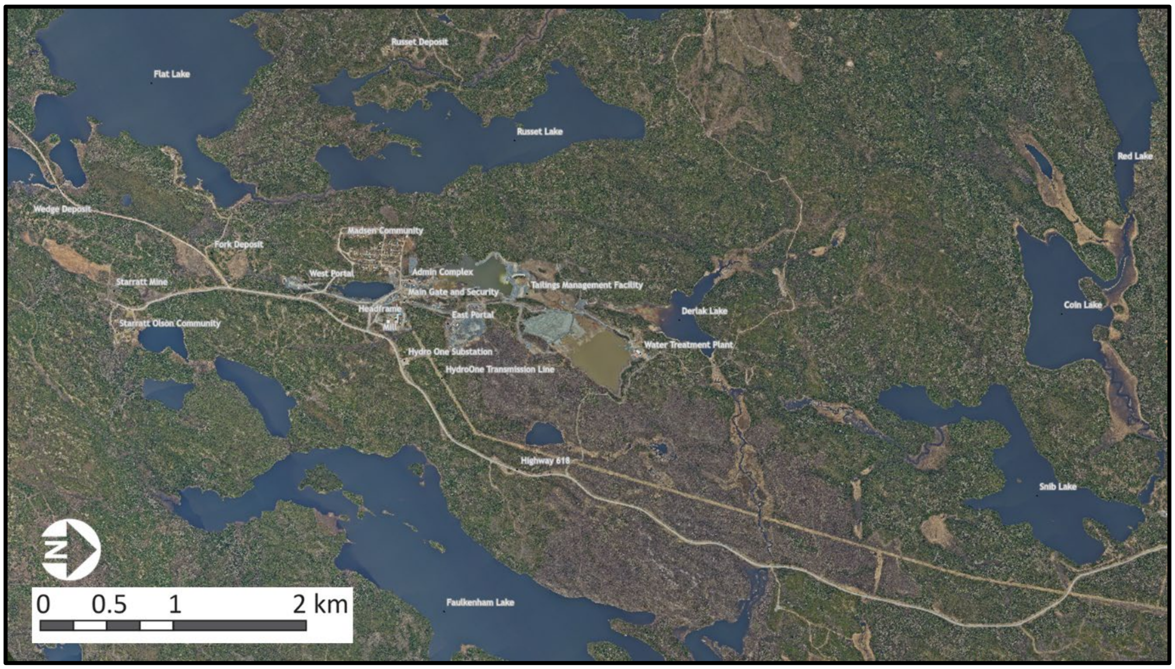
Source: Pure Gold (2022)

5.1 Local Resources and Infrastructure

The Red Lake Municipality, population 4,094 (Statistics Canada 2021 Census) comprises six communities: Red Lake, Balmertown, Cochenour, Madsen, McKenzie Island, and Starratt-Olsen. Mining and mineral exploration is the primary industry in the area, with production from the 800 tonne per day PureGold Mine with approximately 275 local employees and Evolutions Mining's 2300 tonne per day Red Lake gold mine with approximately 800 local employees in 2022 (Evolution Mining, 2022). Other industries include logging and tourism. The Municipality of Red Lake offers a full range of services and supplies for mineral exploration and mining, including both skilled and unskilled labour, bulk fuels, freight, heavy equipment, groceries, hardware and mining supplies. The majority of the PureGold Mine staff live in the surrounding communities and out of town employees stay in local accommodations in Red Lake.

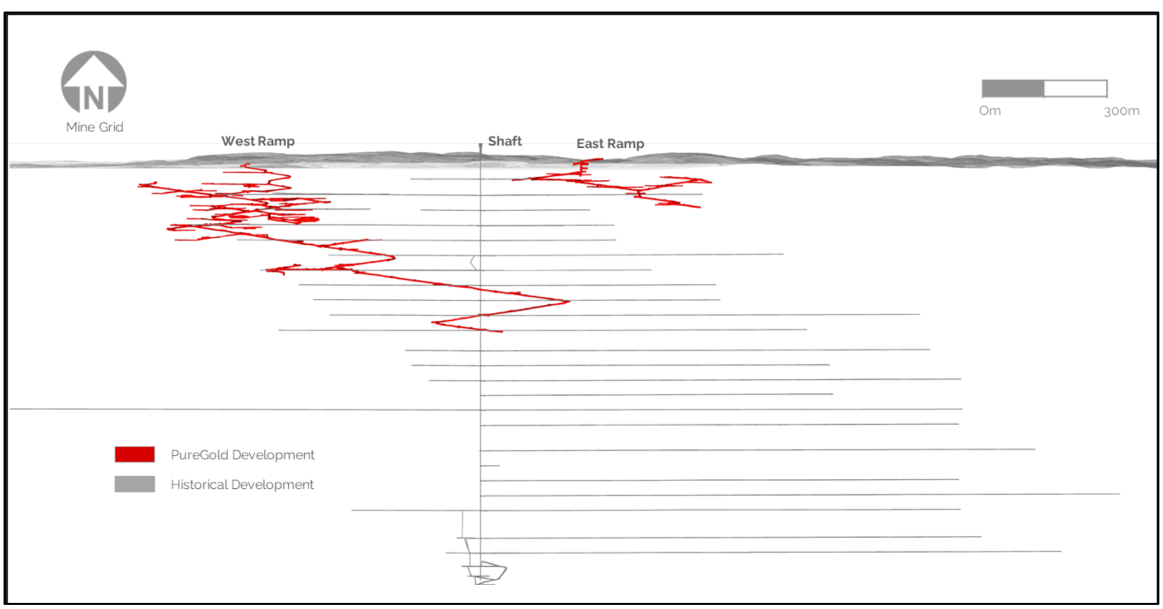
Major infrastructure at the PureGold Mine includes paved highway and secondary road access, ample fresh water supply, hydroelectric power from the provincial grid, an operational processing and tailings facility, two underground access portals and ramps, a 1273 metre shaft and significant underground development along with supporting ancillary surface facilities (Figure 5-2 and Figure 5-3).

Figure 5-2: Surface Infrastructure Overview



Source: Pure Gold (2022)

Figure 5-3: Underground Infrastructure Overview



Source: Pure Gold (2022)

5.2 Physiography and Climate

The terrain within the Mine Property is gentle to moderate (Figure 5-4) with elevations ranging from 360 to about 430 m above sea level. Topography is dominated by glacially scoured southwest-trending ridges, typically covered with jack pine and mature poplar trees. Swamps, marshes, small streams and small to moderate-size lakes are widespread. Rock exposure varies, but rarely exceeds 15% at ground surface and averages between 5% and 10%. Glacial overburden depth is generally shallow, rarely exceeding 20 m, and primarily consists of ablation till, minor basal till, minor outwash sand and gravel, and silty-clay glaciolacustrine sediments. Vegetation consists of thick second growth boreal forest composed of black spruce, jack pine, poplar and birch.

Figure 5-4: Typical Landscape Surrounding the PureGold Mine

Note: Aerial photograph looking north over the mine area. The mine headframe and mill complex are shown in the lower left.
Source: Pure Gold (2020)

The climate in the Red Lake area is described as warm-summer humid continental (climate type Dfb according to the Köppen climate classification system). Mean daily temperatures range from -18°C in January to +18°C in July. Annual precipitation averages 70 cm, mainly occurring as summer showers, though including a total of about two metres of snow. Snow usually starts falling during late October and starts melting during March but is not normally fully melted until late April. Late-season snow in May does occur.

Fieldwork and drilling are possible year-round on the property although certain wetter areas are more easily accessible in the winter when frozen.

6 History

Gold was originally reported in the Red Lake area in 1897 by R.J. Gilbert of the North West Development Company. Intensive exploration of the district followed discovery in 1925 of the gold showings which eventually formed part of the Howey Mine (Lebourdaix, 1957).

Since 1927, a total of 28 mines have operated in the Red Lake Mining District, producing 29 million ounces of gold at an average recovered grade of 15.6 g/t Au. Approximately 89% of this gold was produced from two mine complexes: Red Lake Mine and PureGold Mine (Malegus et al., 2022).

The exploration and mining history of the PureGold Mine is tabulated in Table 6-1.

The Mine Property can be divided into five claim groups with separate histories of mining and exploration prior to amalgamation with the Mine Property over the past forty years: Madsen, Starratt (acquired in 1980), Russet (timing unknown, but acquired between 1989 and 1997), Newman-Madsen (2014) and Derlak (2017). The following sections describe the exploration and mining work carried out by other operators during each main stage of property amalgamation:

- From 1925 until 1980 when the Madsen and Starratt mine properties were combined;
- From 1980 until 1998 when Claude acquired the Madsen, Starratt and Russet properties; and
- From 1998 until 2014 when Laurentian (subsequently renamed Pure Gold) purchased the project and amalgamated the Newman-Madsen claims in 2014 (the Derlak property was added to the property in 2017).

Exploration conducted by Pure Gold after acquisition of the Mine Property in 2014 is described in Section 9.0.

Table 6-1: Exploration and Mining History of the PureGold Mine Project

Year	Activity
1925	Gold discovered at Red Lake
1927	First claims staked in Mine area
1935	Madsen Red Lake Gold Mines incorporated; No. 1 shaft sunk to 175 m
1936	Discovery of Austin Zone
1937	Madsen No. 2 shaft sunk to access Austin Zone. Ultimately reaches to 1273 m with 27 levels
1938	Madsen mill facility initiates 36 years of continuous production
1948	Starratt-Olsen mine opens with production for 8 years
1956	Production halted at Starratt-Olsen mine. Total production of 823,554 tonnes at a recovered grade of 6.19 g/t (163,990 oz Au)
1969	Discovery of the 8 Zone located between levels 22 and 27 of the Madsen Mine
1974	Production halted at Madsen Mine. Total production of 7,593,906 tonnes at a recovered grade of 9.91 g/t (2,416,609 oz Au)
1974	Madsen operation sold to Bulora Corporation
1976	Bulora Corporation files for bankruptcy
1980	E.R. Rowland acquires Madsen and Starratt properties
1990	Red Lake Buffalo Resources acquires Madsen and Starratt properties from Rowland estate; changes name to Madsen Gold Corp. in 1991
1997	Madsen Gold Corp. commences mining and milling at Madsen after moving Dona Lake mill to Madsen. Production of 8,350 ounces gold

Year	Activity
Prior to 1998	Madsen Gold Corp. acquires Aiken and Russet claims and amalgamates with the Madsen and Starratt properties (collectively referred to hereinafter as the Madsen Gold Project)
1998	Claude purchases Madsen Gold Corp. and commences dewatering Madsen workings and mining from the Madsen shaft. Production of 8,930 ounces gold
1998–2000	Claude drills 230 holes (~21,000 m) on the Madsen Gold Project
2001	Placer Dome options the Madsen Gold Project and stops dewatering
2001–2004	Placer Dome drills 115 holes (60,725 m) on the Madsen Gold Project, most on targets outside the Madsen and Starratt mine areas. Discovers Fork and Treasure Box zones
2002	Wolfden acquires the Newman-Madsen Property and explores it in joint venture with Kinross (2002-03; 17 holes; 4,193 m) and Sabina (2004-2011; 48 holes; 18,684 m)
2006	Placer Dome exits Madsen Gold Project, returning it 100% to Claude
2007–2013	Claude drills 346 holes (198,913 m) on the Madsen Gold Project, including >200 holes (>80,000 m) on targets outside the Madsen Mine itself. Dewaters from level 6 (2007) to level 16 (2010) and below; pumping halted in 2013
2012	Sabina purchases 100% interest in Newman-Madsen Property and issues 0.5% NSR to Premier Gold Mines Limited
2012	Sabina drills 13 holes (4,332 m) on Newman-Madsen Property
2014	Laurentian Goldfields Ltd. purchases the Madsen Gold Project from Claude, later renamed PureGold Mine
2014	Laurentian, renamed Pure Gold, purchases the Newman-Madsen Property from Sabina, and amalgamates it into the Mine Property. SRK restates 2009 resource
2014–2018	Pure Gold drills 904 core holes (210,645 m) on the Mine Property
2016	Nordmin completes positive Preliminary Economic Assessment (PEA) for Pure Gold
2017	Pure Gold opens the West Portal and initiates ramp reconditioning
2017	Pure Gold initiates permitting study and environmental baseline work
2017	Pure Gold purchases the Derlak property from Orefinders Resources Inc. and merges it into the Mine Property
2017	Pure Gold completes new resource estimate and positive PEA
2017	Pure Gold completes first Mineral Resource Estimates for Russet South and Fork deposits
2018	Pure Gold completes first Mineral Resource Estimate for the Wedge deposit
2018	Pure Gold completes underground mining and bulk sample program from West ramp
2019	JDS completes positive Feasibility Study for Pure Gold
2019	Pure Gold announces production decision and begins construction on the PureGold Mine and shaft dewatering
2020	Pure Gold commences mining and milling operations; first gold pour
2021	Pure Gold declares commercial production
2022	Pure Gold announces disclosure of an updated mineral resource estimate with an effective date of December 31, 2021
2023	WRLG acquires Pure Gold Mining Inc.

6.1.1 Madsen

The first claims staked in the Madsen area date back to 1927, with no work from this period recorded. Marius Madsen staked part of the Madsen Property in 1934 and Madsen Red Lake Gold

Mines was incorporated in 1935 (Leduc and Sutherland, 1936). Early prospecting uncovered several gold showings in the area. The work initially focused on an auriferous quartz vein hosted by felsic volcanic rock on claim 11505 near High Lake. The No. 1 shaft was sunk to a depth of 175 m on this zone, and four levels were developed. In 1936, Austin McVeigh located a gold-bearing zone (later determined to be part of the McVeigh deposit) on the northern edge of what is now the Process Water Pond. Drilling on this and an adjacent zone in late 1936 delineated the important Austin zone. The underground development of the Madsen No. 2 shaft commenced in 1937 with the sinking of a three-compartment shaft to a depth of 163 m. The shaft eventually reached a depth of 1,273 m with 24 shaft-accessible levels and three additional ramp-accessible levels totaling 27 underground levels (~67 linear km) of development. The original Madsen mill began operating in August 1938 (Brown and Crayston, 1939) and operated continuously until 1974.

Total recorded production from 1938 to 1999 at the Madsen Mine is 7,872,679 tonnes at an average recovered grade of 9.69 g/t Au. This production accounted for 2,452,388 ounces of gold (Malegus et al., 2022). Annual production for the period 1938 to 1976 is summarized in Table 6-2 (excludes data from certain periods).

Table 6-2: Madsen Mine Gold Production (1938 - 1976)

Year	Gold Production (troy ounces)	Tonnage Milled (short tons)	Year	Gold Production (troy ounces)	Tonnage Milled (short tons)
1938	n/a	n/a	1958	123,489	302,200
1939	13,909	65,460	1959	118,805	301,999
1940	25,716	140,674	1960	119,084	306,377
1941	30,088	141,109	1961	106,096	301,031
1942	30,971	145,534	1962	100,878	311,705
1943	39,195	146,346	1963	107,131	306,247
1944	33,733	144,179	1964	n/a	n/a
1945	36,825	127,870	1964	94,869	305,823
1946	25,438	98,472	1965	87,632	94,869
1947	34,977	143,371	1967	70,033	277,566
1948	32,421	143,391	1968	56,196	265,268
1949	35,579	150,779	1969	60,579	238,473
1950	65,444	282,050	1970	40,569	184,530
1951	61,687	302,227	1971	44,497	146,162
1952	67,337	304,251	1972	37,696	138,250
1953	82,596	285,018	1973	29,163	126,070
1954	82,333	286,246	1974	2,102	11,112
1955	104,874	295,713	1975	n/a	n/a
1956	100,995	294,913	1976	2,196	12,840
1957	103,181	305,300			

Note: Production figures extracted from available Madsen Mine annual reports, 1938 to 1976. n/a = data not available.

Source: Cole et al. (2016)

The operation was sold to Bulora Corporation in 1974 and was acquired by E.R. Rowland in 1980.

6.1.2 Starratt and Wedge

The Starratt-Olsen Mine, located approximately 2.2 km southwest of PureGold Mine, operated from 1948 through 1956 and produced approximately 163,990 ounces of gold from 823,554 metric tonnes at an average recovered grade of 6.19 g/t Au (Malegus et al., 2022).

The original staking and prospecting in the Starratt and Wedge areas dates back to 1926 and 1927, soon after gold was discovered in Red Lake (Kilgour and de Wet, 1948). Only minor work was completed at the time and the claims were allowed to lapse. Claims were staked by David Olsen and R.W. Starratt in 1934 and optioned by Val d'Or Mineral Holdings (Val d'Or) in 1935 (Ferguson, 1965). The early exploration focused on three showings termed the Olsen (OL Zone), De Villiers (DV Zone), and Starratt. Trenching at the OL Zone was carried out by Hollinger Consolidated Gold Mines in 1934 with a total of six trenches that returned up to 19.5 g/t Au over approximately 1 m. The property was optioned by Val d'Or, who tested the OL Zone with three diamond drill holes and 34 trenches totalling 295 m, though the trenching returned erratic values and drilling returned low values over narrow widths (Ferguson, 1965).

Early work carried out by Val d'Or at the DV and CK Zones in 1937 consisted of 21 trenches with a total length of ~125 m (samples returned up to 127.9 g/t Au), 1,766.1 m of diamond drilling in 24 drill holes and the sinking of a 13 m shaft with a 5.2 m crosscut at 9.8 m depth (Holbrooke, 1963; Ferguson, 1965; Ferguson et al., 1971). The DV Zone was originally named after a Val d'Or prospector named W. de Villiers who worked the area in the 1930s. Eight additional holes were drilled during the 1940s to test the DV Zone (Panagapko, 1998; 1999)

Initial exploration at Starratt carried out in the late 1930s included 32 diamond drill holes for 2,109.8 m drilled whereas six holes for 184.8 m were drilled to test the OL Zone (Holbrooke, 1963).

Faulkenham Lake Gold Mines Limited held an option on the Property from Val d'Or between 1938 and 1939 and sunk a shaft to 175 ft at Starratt. Hasaga Gold Mines ('Hasaga') then obtained the property and changed the name to Hasaga No. 2 property (Ferguson, 1965). In 1945, Starratt-Olsen Gold Mines was incorporated to take over the property, however Hasaga retained a 50% interest and directed operations (Ferguson, 1965).

Between 1940 and 1944, the property sat idle due to the Second World War, after which exploration resumed with a drilling campaign in 1944 to 1945 with 52 drill holes (for 6,443.2 m) over a strike length of 600 m, with an additional 792 m of underground drilling (Ferguson, 1965). This successful program delineated mineralization that defined the mine reserves and lead to the incorporation of Starratt-Olsen Gold Mines Limited (Panagapko, 1999). Mine development and operations were carried out between 1948 and 1956 (Holbrooke, 1963), including development on the 800, 1000, 1150 and 1475 levels in the CK Zone and extended on the 1475 Level westward to the OL Zone. Production at the Starratt mine ceased in 1956 when all known reserves were exhausted. The company name was changed to Starratt Nickel Mines Limited in 1957.

Minimal work was carried out on the Starratt-Olsen claims between 1958 and 1998 (Holbrooke, 1963). Two diamond drill holes totalling 193.5 m drilled to test the DV Zone in 1961, followed by 19 holes (SN63-01 to SN63-06 and SN64-01 to SN64-13) for 4,104 m in 1963-64 by Dickenson Mines Limited ('Dickenson') that mainly tested the DV Zone and includes three holes drilled to the west at the OL Zone (Holbrooke, 1963; Panagapko, 1998). Highlights from the Dickenson drilling include 6.25 g/t Au over 3.8 m and 4.88 g/t Au over 12.2 m. These results were not followed up on by

Dickenson (Gow, 1989), however Dickenson purchased the property in 1965. E.R. Rowland acquired the property in 1980 and amalgamated it with the Madsen Property.

6.1.3 Russet

The Russet Red Lake Syndicate was formed in 1936 and acquired eight patented mining claims in the southern part of the Russet Lake area and completed limited prospecting work. Russet Red Lake Gold Mines was incorporated in 1943 and acquired the Syndicate’s claims and six additional patent claims. Exploration by Russet Red Lake Gold Mines commenced in 1944 with trenching and 24 short holes on Claims 19181 and 19235 just west of Russet Lake (Crayston and McDonough, 1945). This work focused on a seemingly complexly folded zone of iron formations hosted by mafic volcanic rock that crops out on Claim 19235. Work then shifted about 350 m to the east to explore another zone of gold mineralization hosted by altered mafic volcanic rock near the western contact of the Russet Lake Ultramafic. In 1946 and 1947, a total of 105 shallow holes tested both the Main zone and the No. 3 Zone near Russet Lake (Panagapko, 1999), after which the property remained idle until it was amalgamated with the Aiken ground to the west in 1965.

Aiken Red Lake Gold Mines Limited was incorporated in 1945 and acquired 36 patented mining claims previously held by several smaller prospecting syndicates. Work in 1945 consisted of prospecting, trenching and core drilling on the No. 1 and No. 2 veins located on Claims 18728 and 20585, respectively (Ferguson, 1965). No further work was conducted on the property until it was merged with the Russet South property to the east in 1965.

International Mine Services carried out a three-hole drilling program in the No.3 zone area in 1966 (Kuryliw, 1968a). A further 21 holes were completed on the Russet mineralized zones in 1968, based on a geological and structural re-interpretation (Kuryliw, 1968b).

Five holes in 1969 tested the stratigraphy south of the No.3 zone (Panagapko, 1998). During the winter of 1974, a 22-hole program was completed in the No.3 zone area (Tindale, 1974).

Following up on an electromagnetic anomaly identified from an airborne magnetics and electromagnetics survey carried out by Madsen Gold Mines in 1971, bulldozer-trenching, line-cutting, geological mapping, magnetometer survey, electromagnetic EM-17 horizontal loop survey and chip sampling were conducted in the fall of 1974 (Kuryliw, 1975; Tindale, 1975a, b).

One hole was drilled in the northern part of the property in 1977 to test an EM conductor (Tindale, 1977).

6.1.4 Newman-Madsen

Coin Lake Gold Mines Ltd. (“Coin Lake”) acquired the property historically referred to as My-Ritt from Red Lake Bay Mines Ltd. in 1936. Coin Lake completed an intensive program of stripping and trenching from 1936 to 1939 (Chastko, 1972). During this time, a magnetometer survey was completed and at least 22 holes were drilled.

Between 1943 and 1946, Cockeram Red Lake Gold Mines completed a total of 35 diamond drill holes (5,674 m), testing for gold mineralization along strike from the Madsen Mine (Durocher et al., 1987). Results from these drilling programs are not available. Central Patricia Gold Mines Ltd. drilled an additional 14 core holes in 1943 (Durocher et al., 1987).

An area south of Coin Lake was held as part of a land package owned by Rajah Red Lake Gold Mines Ltd in the mid-1950s. In 1957, the company’s charter was cancelled and ownership of the

Heyson Township claims was transferred to H.A. Newman. The only recorded work on the Heyson Township claims consists of geological and magnetometer surveys completed in 1959 (Howe, 1960). Mespi Mines Ltd. also completed an aeromagnetic survey over the area in 1959.

Assessment file records are scarce for the time period between 1959 and 1971 but it is known that My-Ritt Gold Mines Ltd. held the property at some point during this time period.

In 1971, Cochenour-Willans Gold Mines Ltd. obtained the property from My-Ritt Gold Mines Ltd. and completed VLF-EM, IP, and soil geochemical surveys, followed by three core holes totalling 528 m (Chastko, 1972). However, the exact location of these holes is unknown and results are unavailable.

6.1.5 Derlak

The following information on Derlak is taken from Durocher et al. (1987). The earliest records on the Derlak property indicate that stripping, trenching, magnetometer surveying and diamond drilling were completed by Derlak Red Lake Gold Mines Limited in 1936–1937. Nine holes (~518 m) tested approximately 500 m of strike length along a porphyry dyke. Mineralized shear zones associated with the dyke contact had a maximum width of 12 m and low gold values.

In 1944, Derlak Red Lake Gold Mines Limited drilled another eight diamond drill holes testing below the same zones without success.

Madsen Red Lake Gold Mines Limited optioned Derlak and drilled 13 holes in 1967 with a maximum assay of 2.3 g/t Au.

6.1.6 Fork

Prior to the discovery of the Fork deposit and subsequent definition drilling conducted by Placer Dome and Claude between 2002 and 2009, only minor surface and underground exploration work was completed in the vicinity of the deposit. Between 1936 and 1944 a series of short drill holes tested the southwestern extension of the Madsen Mine Trend towards the Starratt mine property (Panagapko 1998). Several drill holes from these programs encountered altered rock and quartz veins as well as localized brittle and ductile deformation zones within the Fork deposit area. In the late 1950s underground drilling from the 16-Level of Madsen Mine intersected what is now interpreted to be the down dip projection of the Fork deposit. Drill-hole logs report alteration and mineralized intercepts returning 8.23 g/t Au over 0.85 m and 21.26 g/t Au over 1.53 m. Several follow up fans of drill holes were completed into the altered zone, but no further work was reported until the early 2000s.

6.1.7 Faulkenham

Faulkenham Lake Gold Mines Limited explored and developed a gold showing approximately 1 km southwest of the Starratt-Olsen mine during 1936 & 1937, with a shaft sunk to a vertical depth of 344 feet and developed on three levels. No commercial production is recorded from this site, but mined material was left in an ore dump on surface near the shaft site. Three mineralized veins are reported to exist in the area, with the main vein delineated over a strike length of 900 feet, striking 107° with a dip of 85° towards the north. Vein width was variable, pinching and swelling with a maximum reported width of 24 inches. Maximum grade reported for the vein was 0.362 ounces per ton over a width of 16.75 inches (Horwood, 1940).

6.2 1980 – 1998

6.2.1 Madsen / Starratt

E. R. Rowland controlled the combined Madsen-Starratt property from 1980 to 1988 when Red Lake Buffalo Resources acquired the ground from his estate. Under an option agreement, Noranda Exploration (Noranda) carried out mapping and core drilling between 1980 and 1982 (Noranda Exploration Company Limited, 1982). On the Starratt claims, Noranda's 11 holes focused on the down-dip extension of the De Villiers vein. Three of these holes hit significant gold mineralization including an interval returning 16.46 g/t Au over 1.55 m.

Red Lake Buffalo Resources was reorganized into Madsen Gold Corp. ('Madsen Gold') in 1991. Madsen Gold drilled 29 holes (2,480 m) at Starratt in 1998 (Panagapko, 1998).

Madsen Gold purchased a mill from the exhausted Dona Lake Mine, transported it to Madsen and erected it at the current site. Production commenced in June 1997 with 8,350 ounces produced for the year (Blackburn et al. 1998).

6.2.2 Wedge

In 1981, E.W. Rowland optioned the property to Noranda, now host to the Wedge deposit. Noranda conducted geological mapping and diamond drilling over ~170 m of strike length to a depth of ~150 m in nine holes for 1,332.9 m, which focused on the down-dip extension of the DV Zone mineralization. Three holes intersected significant mineralization, up to 15 g/t Au over 1.5 m (Noranda Exploration Company Limited, 1982; Panagapko, 1998; 1999). Despite intersecting encouraging mineralization, Noranda encountered problems intersecting mineralization comparable to that reported from earlier Dickenson drilling, which was apparently due to Noranda surveying their holes using the Madsen Mine Grid, whereas Dickenson used the Starratt Mine Grid (Gow, 1989). Perhaps because of this, Noranda did not recognize a clear correlation between the various phases of work carried out in the DV Zone (Gow, 1989). Furthermore, Noranda's drilling appears to have undercut the mineralization encountered in the Dickenson drilling.

6.2.3 Russet

In 1985, Aiken-Russet Red Lake Mines Ltd. was amalgamated with several other companies to form Canhorn Mining Corporation. The following year, an airborne electromagnetic survey covering the entire Aiken-Russet property was carried out by Aerodat Ltd and outlined several conductors. Additional work in 1986 included line cutting, ground magnetometer and VLF surveys and limited field examinations before the property was optioned to United Reef Petroleum Ltd. (Butella and Erdic, 1986). United Reef Petroleum carried out an exploration program on the Russet property in 1987 and 1988 (Siriunas, 1989) which included airborne and ground geophysical surveys and a 78-hole drilling program. The majority of the drilling focused on the Russet Main and No.3 zones, but drilling was also directed at various other targets on the property.

The Russet property was acquired by Red Lake Buffalo Resources or Madsen Gold prior to 1998 and combined with the Madsen and Starratt properties.

6.2.4 Newman-Madsen

Between 1981 and 1982, Noranda Inc. completed four holes of unknown length in the central part of the Newman-Madsen claims. The location, orientation and results of the drilling are unavailable. No further exploration on the property was reported until 2002, when the property was acquired by Wolfden Resources Corporation (Wolfden).

6.2.5 Derlak

Selco Inc. optioned the Derlak property and completed geological mapping, magnetometer, VLF-EM, HLEM surveys and six diamond drill holes in 1980–81 (Pryslak and Reed, 1981). No significant gold mineralization was located.

The property was reportedly optioned by Seine Explorco Ltd. in 1981 and by Redaurum Red Lake Mines Ltd. in 1985 but the reports have not been located.

Placer Dome optioned the property in 1997 and undertook IP, magnetometer, geological mapping, and rock sampling surveys (Blackburn et al., 1999). Twelve rock samples (probably selective grab samples) exceeded 10 g/t Au on the western part of the property, including a quartz vein that returned 370 g/t Au. Placer Dome drilled four holes on the property in 1998, intersecting weak quartz-carbonate veining in shear zones without significant gold values.

6.3 1998 – 2014

6.3.1 Madsen / Wedge / Starratt / Russet South

After the acquisition of the Mine Property from Madsen Gold in April 1998, Claude began mining portions of the McVeigh and Austin deposits with access from the West portal and ramp and eventually conducted exploration drilling campaigns across the Madsen, Wedge, Starratt and Russet areas.

In 1998, Madsen Gold / Claude extracted 85,417 tonnes from Madsen, of which 81,740 tonnes were milled for a total production of 8,930 ounces of gold at an average recovered grade of 3.43 g/t Au (Blackburn et al., 1999). Mill recovery was estimated to be 86.75%, with a head grade of 3.91 g/t Au. Mining occurred within the Austin zone between levels 2 and 5 of the mine and in the McVeigh zone between surface and 2 Level.

Information available for the final seven months ending October 1999 indicate a mill throughput of 99,726 tonnes at a diluted gold grade of 4.39 g/t Au. Reconciliation revealed a significant grade variance, ascribed to excessive mining dilution (Olson et al., 1999).

The mine and mill complex were put on care and maintenance in October 1999. Total recorded production for the historical Madsen Mine, inclusive of that produced by Claude, during the periods 1938 to 1974 and 1998 to 1999, is 7,872,679 metric tonnes at an average recovered grade of 9.69 g/t Au for a production of 2,452,388 ounces of gold (Malegus et al., 2022).

Following acquisition of the property in 1998, Claude compiled all historical geophysical, geological, geochemical and drilling data on the Mine Property (Panagapko, 1998). As part of their surface exploration work, Claude conducted an IP survey over the southwestern portion of the deposit area, consisting of 11.7 line-km of reconnaissance gradient array surveying, 1.8 line-km of follow up gradient array surveying and 2.3 line-km of follow up pole dipole surveying (Warne et al, 1998). This survey successfully outlined resistivity and chargeability anomalies interpreted to be related to silicification and sulphide mineralization, respectively (Panagapko, 1999).

Between 1998 and 2000, Claude evaluated several near surface targets including the McVeigh West, De Villiers and No. 1 shaft zones (Panagapko, 1999). This involved mapping, stripping, trenching, limited test-mining and drilling of 133 holes. Table 6-3 summarizes the extent and distribution of drilling on the Mine Property, between Claude's purchase of the property in 1998 and acquisition by Pure Gold in 2014.

Table 6-3: Distribution of 1998 - 2013 Drilling on the Mine Property

Operator	Drilling	Area						Total
		Madsen	Starratt	Fork	Russet	Treasure Box	Other	
Claude (1998-2000)	holes	85	33	-	-	-	15	133
	metre	6,417	na	-	-	-	1,296	7,713
Placer Dome (2001-2005)	holes	12	9	16	6	49	6	98
	metres	15,244	4,830	6,160	3,653	24,356	4,315	58,558
Claude (2007-2013)	holes	108	35	105	5	51	10	314
	metres	93,883	19,344	45,179	3,121	13,573	7,439	182,539
Total (1998-2013)	holes	205	77	121	11	100	42	556
	metres	115,598	24,174	51,339	6,774	37,929	13,051	248,865

Source: D. Baker (2017)

At the McVeigh West area, approximately 750 m west of the No. 2 shaft, 80 surface holes explored several new zones of gold mineralization extending to at least 90 m below surface. Exploration drilling in the 2-11N and 2-13N raise areas of the McVeigh Zone confirmed the presence of gold-bearing lenses above the known workings on the second level.

The surface expression of the No. 1 Shaft quartz vein system was stripped, mapped and channel sampled, delineating four mineralized lenses on surface. Three benches were mined for approximately 7,920 tonnes of vein and wall rock. An additional waste stockpile of 5,440 tonnes was generated with a reported average grade of 4.83 g/t gold. Fifteen holes were drilled on the No. 1 Shaft vein and several decimetre-scale zones of gold mineralization were intersected. Most holes, however, encountered either minor or no veining at all.

At the DV Zone, a ~150 m x 10-20 m area was cleared between departures 8400E and 8900E, centred along 6090N SMG, which also uncovered the historical shaft at 8490E-6060N. Claude collected 101 grab samples from the stripped area with 40 samples returning greater than 3.1 g/t Au, including 38 samples collected over 33.5 m to the east of the shaft returning an average of 9.55 g/t Au using a capped gold value of 31.25 g/t. Following these positive results, Claude began test mining of the DV Zone by removing 2,940 tons from two benches. The results of the first bench cut concluded that the gold-bearing veins exposed at surface were faulted off 1 m below surface, however quartz veining was present ~30 m from the western end of the trench and continued over 43 m to the east. Waste slashes were taken along the north wall before the second bench was mined to centre the second bench on the vein. Face samples collected from the first bench returned an average 6.5 g/t Au over 2.5 m from 19 samples over 48.8 m (Panagapko, 1999). Claude subsequently conducted two phases of drilling at DV for 29 holes.

Work carried out at the CK Zone in 1998 began with rock sampling of historical trenches, which returned several high-grade results. Mechanical stripping and detailed mapping was carried out and 34 grab and channel samples were collected. The highest value returned from the east end of the trench was 3.34 g/t Au, whereas nine select grab samples of vein material from the western end of the trench returned an average of 38.2 g/t Au. Four holes were drilled to test for continuity of mineralization at depth, however assays only returned weakly anomalous results (Panagapko, 1999). No additional work was carried out in the area until 2003.

In 2001, Claude granted Placer Dome an option to earn 55% of the Mine Property. Placer Dome failed to complete the option requirements and Goldcorp returned the property to Claude in September 2006 following their acquisition of the Placer Dome Red Lake assets.

Most of Placer Dome's efforts (information taken from Crick, 2003; Dobrotin, 2002, 2003, 2004a, b; Dobrotin and Landry, 2001; Dobrotin and McKenzie, 2003) were directed at drilling the Madsen Mine at depth and other broad property-scale targets. Surface mapping and geochemistry and a 45 km^2 airborne magnetic/gravity survey were also completed.

From 2001 to 2005, Placer Dome drilled 98 holes (Table 6-3) to test the footwall stratigraphy of the main auriferous zones within a mafic-ultramafic sequence up-dip of various targets on the property, including: 8 Zone, Starratt, Treasure Box, Russet, and Fork, among others. Several zones of anomalous gold mineralization were encountered and several of these areas remain as high priority targets. Mobile metal ion and conventional soil sampling to the north, west and around Russet Lake in 2001 outlined five relatively small and low magnitude anomalies. Re-logging of historical drill holes and compilation of historical geochemical, geophysical and drill data led to drilling of eight holes (5,028 m) in 2002 on the northern shore of Russet Lake, in an area now referred to as the Treasure Box zone. Of these eight holes, three intersected visible gold and all eight intersected gold grades ranging from 1 to 48 g/t Au. A further 41 holes (19,328 m) were drilled at Treasure Box in 2003 and 2004, with some of the better composites including 9.6 m at 4.58 g/t Au and 4.2 m at 17.9 g/t Au.

Five holes (2,664 m) were drilled on the western shore of Russet Lake in 2002. Four of the holes intersected gold values ranging from 1 to 14.5 g/t Au with a best intercept of 10.6 g/t Au over 1.22 m. A further three holes (2,356 m) were drilled in this area in 2003, outlining a broad corridor of ductile deformation with gold values from 1 to 8.83 g/t Au over 0.3 to 1.2 m widths.

Nine holes were drilled in the Starratt / Wedge area in 2003, and although visible gold was encountered in some holes, Placer found the widths were generally narrow and the continuity was irregular (Dobrotin, 2004a). Drilling did encounter anomalous gold values along the footwall of the Russet Lake ultramafic contact in a previously unexplored area now known to be the MJ Zone. This previously unidentified gold-bearing structure was originally called the Footwall Zone and the original targeting criteria included a gravity anomaly and a magnetic signature typical of mafic/ultramafic contacts.

After Claude re-acquired the Mine Property operatorship in 2006, they focused mainly on drilling (Table 6-3), historical data compilation, and dewatering and rehabilitation of the Mine. Mine dewatering commenced in 2007 and was discontinued in late 2013. Claude drilled 108 holes in the Mine area, both from surface and underground. Their main targets were the down-dip extension of 8 Zone, the McVeigh target near the southwestern extent of known mineralization, near-surface mineralization northeast of the Austin zone in an area known as Apple, and its down-plunge extension.

Claude drilled 51 holes in the Treasure Box area in 2007 (Malegus et al., 2022), testing the system to depths in excess of 350 m. Anomalous gold values were present throughout, with several narrow high-grade zones associated with quartz-tourmaline veining over a strike length of 165 m. The best intersections included 6.05 m grading 12.94 g/t Au and 1.22 m grading 38.47 g/t Au.

Claude began exploring at Starratt-Olsen again in 2008, drilling 31 holes for 15,505.6 m. The first phase of drilling consisted of 18 holes designed to test for prospective structures along 1,500 m of strike length from approximately the MJ Zone in the southwest up to the 86 Zone in the northeast. All holes were terminated in the post-tectonic Killala-Baird Batholith. The most significant assays returned included 0.4 m of 190.29 g/t Au at Starratt and 0.6 m of 10.49 g/t Au at the MJ Zone.

A follow-up phase of drilling (13 holes for 5,100.7 m) tested the MJ Zone with tightly spaced holes. The drilling outlined two narrow parallel shear zones hosting high-grade gold. These holes targeting the MJ Zone also tested the CK Zone nearer surface and returned several significant gold-bearing intercepts.

Claude drilled an additional four holes in 2010 with three holes drilled to test below the historical Starratt Mine workings, including ST 08-32 (4.0 m of 6.5 g/t Au) proximal to the shaft. ST10-33 was drilled 400 m to the northeast of the Starratt mine shaft and returned 2.0 m of 7.0 g/t Au. No further Claude exploration work was carried out on the Starratt-Olsen claim group.

6.3.2 Newman-Madsen

The Newman-Heyson property was explored under a joint venture between Wolfden and Kinross Gold Corporation (“Kinross”) in 2002 and 2003. In 2002, the joint venture completed line-cutting, ground magnetics, soil geochemical surveys and six drill holes (1,786 m) testing targets in the Dome stock (Klatt, 2003a). Assay results included rare high-grade intersections including hole KRL-02-05 which intersected 9.25 g/t gold over 3.55 m. In 2003, the joint venture drilled 11 holes (2,407 m) on widely spaced targets, but no gold mineralization was encountered (Klatt, 2003b).

In 2004, Wolfden created the Newman-Madsen project by amalgamation of the My-Ritt, Nova Co, and Newman-Heyson properties. Exploration on Newman-Madsen was completed under a joint venture between Wolfden and Sabina Resources Ltd. (“Sabina Resources”), whereby Sabina Resources earned a 50% interest in the property. In 2004, the joint venture completed a drilling program comprising 31 holes (9,531 m) with Wolfden as operator (Toole, 2005). Drilling intersected gold mineralization along a regional structure. In this area, mineralization is spatially associated with an arsenic soil geochemical anomaly related to the Dome stock granodiorite. This mineralized zone was subsequently termed the Evade zone (Toole, 2005).

In 2006 the joint venture drilled four holes (2,964 m) to test targets along or near the Balmer-Confederation unconformity. All holes intersected anomalous gold values highlighted by an intercept of 22.57 g/t Au over 2.0 m in hole DDH NM06-02 (Long, 2007).

In 2010, the joint venture, under the operatorship of Sabina Gold & Silver Corp. (“Sabina”) completed four holes (3,183 m) to test the far northeast extension of the Mine trend stratigraphy at levels significantly deeper than previously explored. Drilling was successful in intersecting the targeted stratigraphy and delineating an area of hydrothermal alteration with significant gold, including a high-grade intercept of 43.51 g/t Au over 0.65 m in hole NM-10-02.

In 2011, the joint venture drilled nine holes (3,006 m) to test targets interpreted to comprise folded mafic and ultramafic rock sequences of the Balmer Assemblage where they are coincident with favourable structures, geochemical signatures, and resistivity anomalies. These targets were selected to test Red Lake Gold Mine High-Grade zone style opportunities and returned a series of anomalous and significant gold values.

In January 2012, Sabina acquired 100% interest in the Newman-Madsen Property for a cash payment of C$500,000 and issuance of a 0.5% net smelter return royalty to Premier Gold Mines Limited. Following this transaction, Sabina drilled 13 holes (4,332 m) testing extensions of the Buffalo mine trend, the Dome Stock contact and the Balmer Assemblage (Sabina Gold and Silver Corp., 2012).

In March 2013, Sabina contracted a 37.4 line-km IP survey using a Volterra-3DIP instrument array in an attempt to delineate the extent of the Buffalo and Madsen trends, and to outline the contact between the Dome stock and the adjacent Balmer Assemblage volcanic rock.

In June 2014 Sabina sold the Newman-Madsen Property to Pure Gold, who amalgamated it into the Mine Property. Table 6-4 summarizes historical drilling on the former Newman-Madsen Project.

Table 6-4: Summary of Drilling on Former Newman-Madsen Project

Operator	Year	No. of Holes	Total Length (m)
Coin Lake Gold Mines Ltd	1930s	~221	unknown
Cockeram Red Lake Gold Mines	1943–1946	45	5,674
Cochenour-Willans Gold Mines Ltd.	1971	3	528
Noranda Inc.	1981–1982	33	unknown
Wolfden Resources Ltd./Kinross Gold Corporation	2002–2003	17	4,193
Wolfden Resources Ltd. / Sabina Resources Ltd	2004–2006	35	12,495
Premier Gold Mines Ltd / Sabina Gold & Silver Corp.	2010–2011	13	6,189
Sabina Gold & Silver Corp.	2012	13	4,332
Totals		~380	~29,200

Source: after Cole et al. (2016)

6.3.3 Derlak

Reddick and Lavigne (2012) reported no further exploration on the Derlak property after 1998. A Titan 3D IP survey and drilling of three holes totalling 1,556 m were completed by Orefinders along with limited fieldwork prior to purchase of the property by Pure Gold in 2017. The core drilled by Orefinders was subsequently relogged by Pure Gold and two of the three holes were confirmed to not have tested the Balmer Formation. In the third hole unsampled intervals with prospective quartz veining and mine style alteration were logged and sampled. Low gold values were returned.

6.3.4 Fork

A mineralized lens near the centre of the Fork deposit was discovered by Placer Dome during exploration programs in 2002–2004. In 2003, two holes (for 1,671 m) were drilled on the northeastern part of the target 500 m along trend from the southwest extent of the McVeigh zone. The original targeting criteria was an intersection between an interpreted flexure in the Russet Lake ultramafic rocks and a planar structure interpreted from field mapping and airborne magnetic survey data. Both drill holes intersected a wide zone of strongly altered and deformed mafic and ultramafic rocks with several gold intercepts highlighted by 4.0 g/t Au over 1.2 m (Dobrotin, 2003).

In 2004, Placer Dome drilled an additional 14 holes (for 4,489 m) at Fork with significant intervals including 6.1 g/t Au over 2.8 m and 47.0 g/t Au over 1.3 m. During this drilling program Placer Dome reported that Fork was composed of several southeast plunging shoot structures. Two of these structures (AD and BC zones) hosted deformed gold-bearing blue grey quartz veins proximal to deformation zones within the Russet Lake Ultramafic. The mineralization style was considered analogous to that of the 8 Zone, though the exploration program was unsuccessful in delineating a connection between the Fork deposit and 8 Zone. Systematic drilling up- and down-dip of the AD and BC zones was recommended (Dobrotin, 2004a).

In 2007, Claude Resources completed 17 drill holes at Fork and followed up with extensive drilling in 2008–2009 (105 holes for 45,179 m) (Lichtblau et al., 2009). Drilling in 2008 focused on infilling at 30 m to 40 m spacing and indicated mineralization was spatially related to two subparallel southeast-dipping shear zones that host narrow, discontinuous gold-bearing vein systems over a strike length of 400 m (Lichtblau et al., 2009). Significant intercepts included 13.91 g/t Au over 8.39 m and 15.77 g/t Au over 7.62 m. Additional drilling in 2009 attempted to demonstrate continuity along the interpreted mineralized structures and define the limits of the known mineralization (Cole et al., 2010). Modelled continuity was interpreted to be poor and no resource estimation was completed.

6.4 Previous Mineral Resource and Mineral Reserve Estimates

6.4.1 Pre-NI 43-101 Mineral Resource and Mineral Reserve Estimates

Annual estimates of mineral resource and mineral reserves inventories for the Madsen Mine were undertaken internally by mine staff. Typically, sampling from exposed development and stoping was used to estimate proven reserves, whereas closely spaced core drilling data were used for estimating probable reserves. Indicated and Inferred resources were extrapolated from wider spaced drill holes. Independent audits were undertaken by ACA Howe in 1998 and 1999 (Patrick, 1999).

6.4.2 Previous NI 43-101 Mineral Resource and Mineral Reserve Estimates

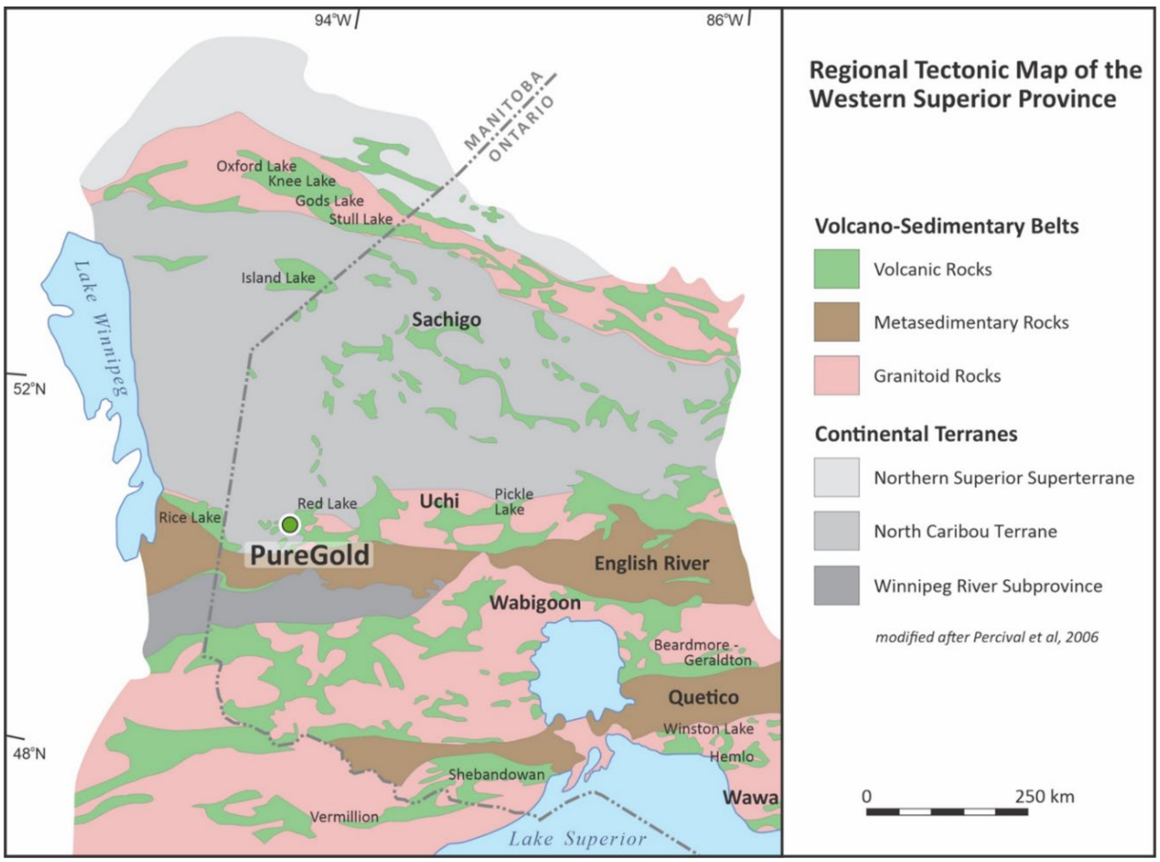
In 2008, Claude commissioned SRK Consulting (Canada) Inc. (SRK) to prepare a resource estimate to NI 43-101 standards (Cole et al., 2010). The 2010 resource estimate was restated for Pure Gold (then Laurentian Goldfields) in 2014 (Weiershäuser et al., 2014) and then used to support a preliminary economic assessment in 2016 (Cole et al., 2016). An updated resource estimate was completed by Pure Gold in 2017 (Jutras et al., 2017) which was used to support a new preliminary economic assessment (Baker et al., 2017) with a different mine design. The 2017 preliminary economic assessment was restated along with new resources from the Fork and Russet deposits during 2018 (Baker et al., 2018). Pure Gold completed an updated resource estimate for the Madsen, Fork, Russet South (Russet), and Wedge deposits in 2019 and this resource estimate was used to support the 2019 Feasibility Study completed by JDS (Makarenko et al., 2019).

7 Geological Setting and Mineralization

7.1 Regional Geology

The PureGold Mine is located within the Western portion of the Archean Superior Province of the Canadian Shield (Figure 7-1). It occupies part of the Uchi domain, which forms the southern margin of the North Caribou terrane along its boundary with the English River belt (Percival et al., 2012). The Uchi Domain is characterized by Mesoarchean and Neoarchean volcanic and plutonic rocks interpreted to have been emplaced within rift and arc-related environments on the continental margin of the Mesoarchean crustal rocks of the North Caribou terrane. The predominantly sedimentary rocks of the English River belt are believed to have accumulated within a synorogenic flysch basin that formed during assembly of the North Caribou terrane with the Winnipeg River terrane to the south during the Uchian Orogeny, ca. 2720-2700 Ma (Percival et al. 2006).

Figure 7-1: Geology of the Western Superior Province



Source: drafted by Pure Gold Mining (2022) after Percival et al. (2006).

7.1.1 Uchi Domain

The Uchi domain (Figure 7-1) is approximately 570 km long by 50 km wide and comprises a series of plutonic rocks discontinuously surrounded by arcuate belts of supracrustal volcano-sedimentary rocks. These supracrustal strata record more than 300 million years of tectonostratigraphic evolution along the southern margin of the North Caribou terrane. The North Caribou basement is inferred to be overlain by 2990–2960 Ma rift-related rocks, 2940–2910 Ma arc volcanic rocks, and cut by 2870–2850 Ma plutonic rocks. The stratigraphic and geochemical characteristics of these Mesoarchean sequences are interpreted to reflect a continental margin setting. A deformation event and unconformity exposed in the Red Lake belt (Sanborn-Barrie et al. 2001) separate the Mesoarchean rocks from Neoarchean strata, the latter including 2745–2734, 2731–2729, and 2722–2719 Ma calc-alkaline volcanic assemblages and younger (<2710 Ma) coarse clastic sedimentary rocks.

Continuously trending packages of supracrustal rocks such as those in the Uchi domain are referred to as greenstone belts. Globally, such Archean belts are responsible for about 18% of historical gold production (Roberts, 1988) and the Uchi domain is a significant contributor. Most Uchi greenstone belts have some recorded historical gold production but all pale by comparison to the well-endowed Red Lake Greenstone Belt which boasts 29.8 million ounces of gold production to the end of 2021 (Malegus et al., 2022).

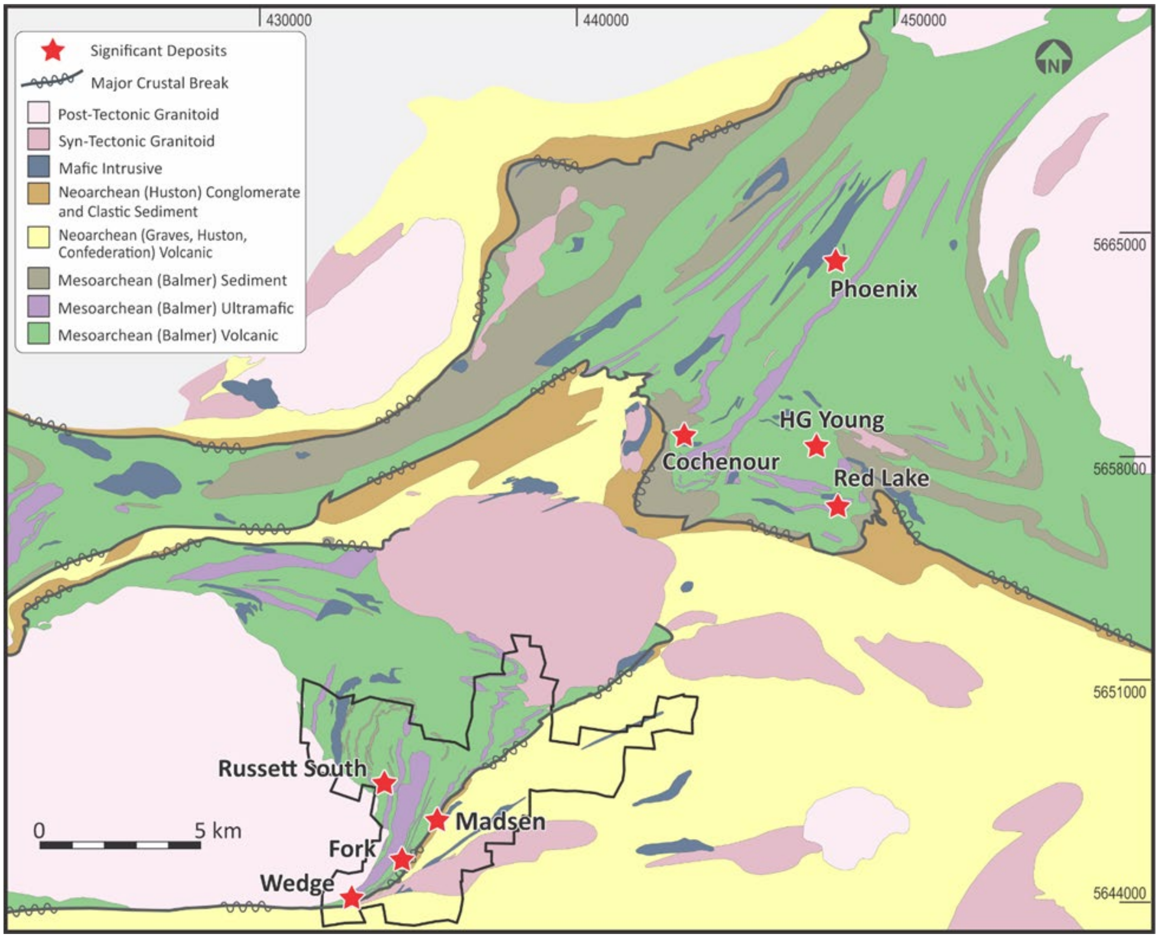
7.1.2 Red Lake Greenstone Belt

The Red Lake Greenstone Belt is approximately 50 by 40 km and comprises a series of ca. 2990–2700 Ma supracrustal rocks intervening between three main younger granitoid batholiths ranging from 7 km to 20 km across (Figure 7-2). The supracrustal rocks have been stratigraphically divided into eight assemblages and the following descriptions of these are taken from Sanborn-Barrie et al. (2004b).

7.1.2.1 Balmer Assemblage (Mesoarchean)

The oldest volcanic rocks in the Red Lake greenstone belt comprise predominately tholeiitic mafic and komatiitic ultramafic rocks of the ca. 2990–2960 Ma Balmer Assemblage. Significantly, all of the belt's major gold resources are hosted in the Balmer Assemblage, near its contact with overlying Neoarchean rocks. The assemblage consists of lower, middle and upper massive to pillowed tholeiitic sequences separated by distinctive felsic and ultramafic volcanic rocks. Minor metasedimentary rocks also occur within the assemblage, mainly as thinly bedded magnetite-chert iron formation.

Figure 7-2: Simplified Geology of the Red Lake Greenstone Belt with Main Deposits



Note: Mine Property is shown with black outline.

Source: drafted by Pure Gold (2019) after Sanborn-Barrie et al. (2004b).

7.1.2.2 Ball Assemblage (Mesoarchean)

Underlying the northwestern portion of the Red Lake Greenstone Belt is the ca. 2940–2920 Ma Ball Assemblage, comprising a thick sequence of metamorphosed intermediate to felsic calc-alkaline flows and pyroclastic rocks.

7.1.2.3 Slate Bay Assemblage (Mesoarchean)

The Slate Bay Assemblage extends the length of the belt and lies disconformably on Balmer and Ball assemblage volcanic rocks. It comprises clastic rocks of three main lithological facies varying from conglomerates, quartzose arenites, wackes, and mudstones. Detrital zircon data indicate that the Slate Bay clastic material is mostly derived from Ball Assemblage rocks with minor input from Balmer Assemblage rocks. Based on the youngest zircon ages, the maximum age of deposition for the Slate Bay Assemblage is ca. 2916 Ma, whereas overlying ca. 2850 Ma volcanic rocks (Trout Bay Assemblage) provide a minimum age for deposition (Corfu et al., 1998; Sanborn-Barrie et al., 2004b).

7.1.2.4 Bruce Channel Assemblage (Mesoarchean)

A thin (<500 m) sequence of calc-alkaline dacitic to rhyodacitic pyroclastic rock, clastic sedimentary rock and banded iron formation is dated at ca. 2890 Ma and assigned to the Bruce Channel

Assemblage. Enriched LREE trace element profiles relative to the Balmer assemblage are interpreted to indicate crustal growth at a juvenile continental margin.

7.1.2.5 Trout Bay Assemblage (Mesoarchean)

The Trout Bay Assemblage was previously correlated with Balmer rocks but represents a distinct sequence in the northwestern part of the belt. It comprises tholeiitic basalt, clastic rock and iron formation. An interbedded, intermediate tuff returned a ca. 2850 Ma age for this assemblage.

7.1.2.6 Confederation Assemblage (Neoarchean)

Following an approximately 100-million-year hiatus in volcanic activity, the Confederation assemblage records a time of widespread calc-alkaline volcanism from ca. 2748–2739 Ma. A ca. 2741 Ma (Lichtblau et al., 2012) quartz-feldspar-porphyritic lapilli tuff along with a localized conglomerate, form a distinctive basal Confederation assemblage unit within the PureGold Mine area.

Overlying the McNeely sequence in the Confederation assemblage is the Heyson sequence of tholeiitic basalts and felsic volcanic rocks. Isotopic and geochemical data suggest the McNeely rocks were formed during a shallow marine to subaerial arc on the existing continental margin with later intra-arc extension and eruption forming the Heyson sequence.

In the Mine area, the strata of the Confederation and Balmer assemblages are in angular unconformity with opposing facing directions. The Balmer Assemblage was, thus, at least tilted and possibly overturned prior to the deposition of the Confederation Assemblage (Sanborn-Barrie et al., 2001). While no definitive structural break has been identified between the two assemblages, the prevalence of hydrothermal alteration and gold mineralization tracing their contact, combined with distinct styles of deformation commonly mapped on either side of the contact, strongly imply some form of structural control from cryptic buried structures.

7.1.2.7 Huston Assemblage (Neoarchean)

Following deposition of the Confederation Assemblage, the Huston Assemblage (deposited approximately between 2742–2733 Ma) records a time of clastic sedimentary rock deposition varying from immature conglomerates to wackes. This molasse-style assemblage follows the regional trace of the unconformity separating the Balmer and Confederation assemblages, and further implies tectonic reactivation of some form of cryptic paleo-structure along this boundary. The Huston Assemblage has been compared to the Timiskaming conglomerates in the Timmins camp of the Abitibi greenstone belt that exhibit a similar spatial association with major tectonostratigraphic breaks and gold (Dubé et al., 2004).

7.1.2.8 Graves Assemblage (Neoarchean)

The ca. 2730 Ma Graves Assemblage comprises andesitic to dacitic pyroclastic tuff on the north shore of Red Lake. It is interpreted to represent the volcanic deposits of a shallow water to subaerial arc complex. It overlies and is locally transitional with the Huston Assemblage.

7.1.2.9 Intrusive Rocks

Intrusive rocks found in the Red Lake Greenstone Belt generally coincide with the various stages of volcanism described in the assemblage sections above. In the simplest interpretation, these intrusive rocks include the subvolcanic feeders to the extrusive volcanism that occurred at the earth’s surface and later magmatic emplacement. These rocks include mafic to ultramafic intrusions during Balmer and Ball time periods, gabbroic sills related to Trout Bay volcanism, felsic dykes and diorite intrusions during the Confederation Assemblage, as well as intermediate to felsic plutons, batholiths, and stocks of Graves Assemblage age.

Confederation-aged magmatic activity evolves from the calc-alkaline suite, reflecting arc-type magmatism, to having sanukitoid affinities, signalling the generation of mantle-derived magmas attributed to slab breakoff (Percival et al., 2012). Syn-kinematic granitoid rocks such as the McKenzie Island, Dome and Faulkenham Lake stocks as well as the Abino granodiorite (2720–2718 Ma) fall into this latter category and were host to past producing gold mines.

The last magmatic event recorded in the belt is from about 2700 Ma and includes a series of potassium-feldspar megacrystic granodiorite batholiths, plutons and dykes, including the post-tectonic Killala-Baird batholith. The contact between Killala-Baird granodiorite and Balmer Assemblage volcanic rocks is well exposed on the Mine Property at Flat Lake.

7.1.2.10 Deformation History

The structural and deformation history of the Red Lake Greenstone Belt is summarized here from the published regional mapping of Sanborn-Barrie (Sanborn-Barrie et al., 2004a; Sanborn-Barrie et al., 2001; Sanborn-Barrie et al., 2000; Sanborn-Barrie et al., 2004b). Note that detailed work on the PureGold Mine Project has produced a refined structural history which is discussed in the next section.

The earliest deformation event (denoted as D_1) involved non-penetrative deformation which resulted in tilting of Balmer Assemblage rocks prior to Confederation volcanism. Evidence for this is cited as opposed younging directions on either side of an angular unconformity between the Balmer and Confederation assemblages near the mine and within the central portions of the Red Lake Belt.

The first stage of penetrative deformation (D_1) (that which has imposed a strong tectonic fabric to the rocks) occurred post Confederation time (after 2.74 Ga). This D_1 event resulted in formation of northerly-trending folds ($F_{1)}$ including a NNE-trending fold that trends through the centre of the Mine Property concordant with the Killala-Baird batholith contact. Sanborn-Barrie suggests that D_1 deformation was completed prior to deposition of the ca. 2.73 Ga Graves Assemblage volcanic rocks since these do not seem to be affected by D_1 structures.

Superimposed on these early structures are E to NE-trending (D_2) structures in the western and central Red Lake Greenstone Belt. These same structures trend SE in the eastern part of the belt. This change in orientation is gradual – consistent with coeval timing rather than an overprinting relationship. Due to the relative absence of mylonitic rocks and strain gradients in these deformation zones, Sanborn-Barrie attributes these structures to a regional bulk strain event, rather than a strongly partitioned crustal-scale shearing event as proposed by an earlier round of researchers (e.g., Andrews et al., 1986, Hugon and Schwerdtner, 1988). The timing of D_2 strain is constrained by the ca. 2.72 Ga Dome Stock which exhibits a weak foliation fabric (S_2) but country rock xenoliths within the pluton also exhibit an intense penetrative S_2. Sanborn-Barrie takes this to mean that the deformation largely predated Dome Stock but continued after stock emplacement which brackets the timing at about 2.72 Ga, linking it to the Uchian orogeny. Since the post 2.70 Ga English River Assemblage conglomerate is deformed by a penetrative.

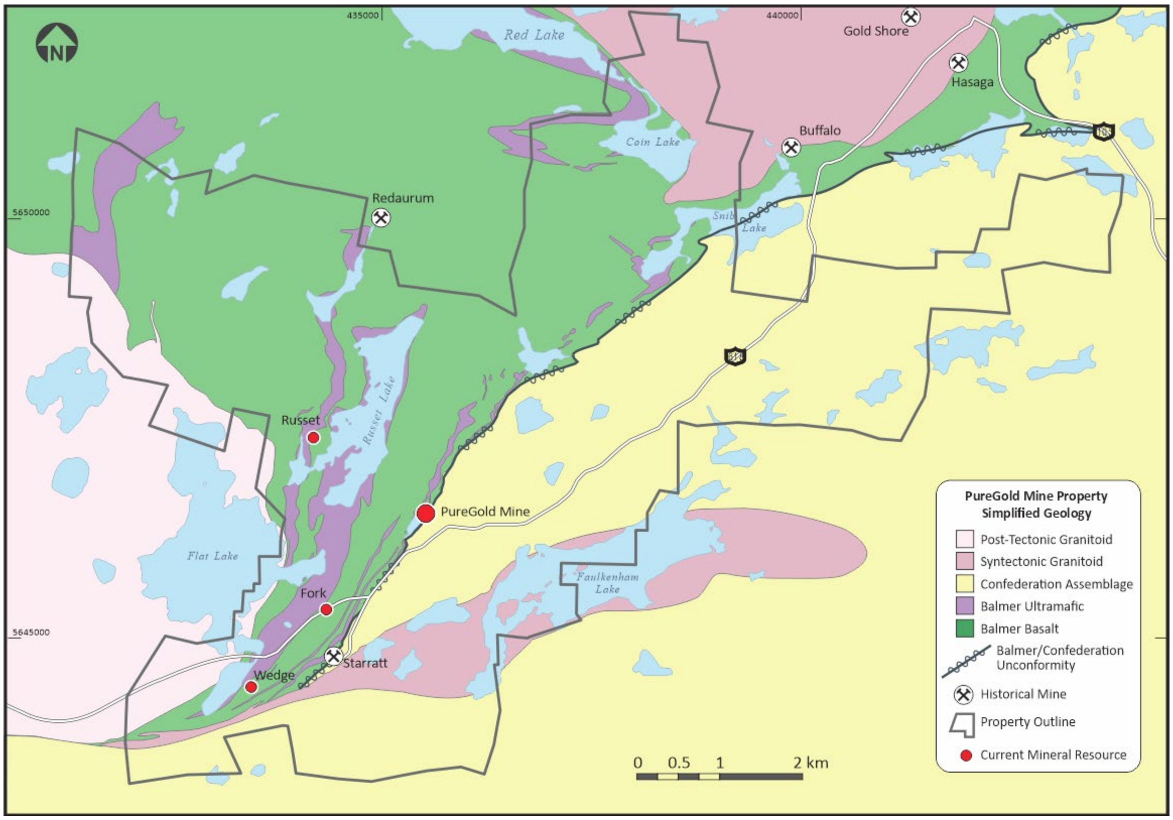
In summary, Sanborn-Barrie's deformation history of the Red Lake Greenstone Belt involves tilting of Balmer stratigraphy (D_0) followed by penetrative foliation development during belt-scale folding (D_1)

post-Confederation time and lastly, widespread overprinting of D_1 structures by localized folding and widespread S_2 foliation.

7.2 Property Geology

The Mine Property is underlain by Balmer, Confederation and Huston Assemblage supracrustal rocks (Figure 7-3). These older rocks are cut by a series of plutonic rocks (post-tectonic Killala-Baird batholith to the west and syn-kinematic Dome and Faulkenham Lake Stocks to the east) and associated smaller sills and dykes.

Figure 7-3: Simplified Geology Map of the Mine Property



Source: Drafted by Pure Gold (2018) after geology by (Baker and Swanton, 2016).

The following sections describe the supracrustal, metasomatic (altered), vein and intrusive rock units delineated by Pure Gold across the Mine Property, and which form the basis of geological mapping and drill core logging databases.

7.2.1 Balmer Assemblage Rocks

The oldest rocks underlying the Mine Property belong to the ca. 2.99–2.96 Ga Balmer Assemblage and comprise: (i) predominantly mafic volcanic and intrusive rocks with minor ultramafic volcanic and intrusive rocks, and (ii) metasedimentary rocks including narrow iron formations which serve as useful stratigraphic markers. Each of the logged and mapped Balmer Assemblage lithologies are described below.

7.2.1.1 Peridotite

Peridotite (PRDT) sills and flows with komatiitic geochemistry are common within the Balmer Assemblage. These ultramafic bodies are commonly altered to serpentine and magnetite or tremolite-actinolite, but primary intrusive and extrusive features have been identified where original textures are preserved. Spatial relationships, chemical discrimination and primary textures have allowed discrimination into two main units: (i) a series of intrusive or largely intrusive sill-like bodies and (ii) an extrusive unit named the Russet Lake Ultramafic. The PRDT intrusive units have not been identified to host gold mineralization but the PRDT extrusive units can be an important host rock, particularly in the 8 Zone in the mine, where cut by the Russet shear host they gold bearing quartz veins.

7.2.1.2 Pyroxenite

Medium- to coarse-grained pyroxenite (PXNT) occurs within composite sills with PRDT (Section 8.2.1) within the Balmer Assemblage. Relict augite has been identified in thin section. The close association of PXNT and PRDT in these sills suggests that PXNT is a product of olivine fractionation during the emplacement of the sills (Mackie, 2016).

7.2.1.3 Iron Formation

Thin (0.1–1 m) iron formation (IRFM) occurs exclusively within the Balmer Assemblage in the mine area within rare clastic sedimentary packages or more commonly between individual basalt flows. Three types are recognized on the Mine Property: chert magnetite iron formation, garnet-rich silicate iron formation, and chert sulphide iron formation. Silicate iron formations seem generally less prospective than sulphide iron formations which generally host low-grade (<1 g/t Au) gold mineralization, with much higher grades (>10 g/t Au) present where intersected by mineralized structures.

7.2.1.4 Metasedimentary Rock

Bedded, clastic metasedimentary rocks (MTSD) of Balmer Assemblage occur as isolated, thin (1–10 m) units hosted within the volcanic package. They typically contain garnet, staurolite, andalusite and amphibole porphyroblasts consistent with an aluminous parent rock.

7.2.1.5 Basalt

Dark green-brown, fine-grained, unaltered basalt (BSLT) is the most common lithology in the Balmer Assemblage. Basaltic flows are typically massive but are locally pillowed, with rare flow top breccias and hyaloclastite. Unaltered basalt has low prospectively for gold mineralization but altered Balmer basalt is the main host to gold mineralization on the Mine Property.

7.2.1.6 Gabbro

Dark grey, massive, equigranular, medium- to coarse-grained gabbro (GBRO) cuts basalt rocks and shows relatively high ratios of MgO:Fe_2O_3 and Ni:Cr relative to younger Confederation gabbro (O'Connor-Parsons, 2015). Gabbro is not known to be prospective for gold mineralization on the Mine Property.

7.2.2 Confederation Assemblage Rocks

7.2.2.1 Felsic Volcanic

Felsic volcaniclastic rock (FVOL) forms the majority of the lower Confederation Assemblage comprising ash, lapilli tuff and juvenile epiclastic rocks sourced from tuffaceous material that commonly directly overlies the quartz crystal-lithic rhyolite tuff (QPXL). FVOL is generally not prospective for gold mineralization at on the Mine Property.

7.2.2.2 Intermediate Volcanic

Dark, lustrous, intermediate volcanic rocks (IVOL) overlie the felsic volcaniclastic rocks of the Confederation Assemblage in the Mine area. This unit comprises massive and locally pillowed or variolitic flows. This unit is not prospective for gold mineralization on the Mine Property.

7.2.2.3 Quartz Crystal and Lithic Rhyolite Tuff

A quartz crystal-rich lithic-crystal tuff (QPXL) forms the majority of the lowest Confederation Assemblage in the Mine area. It has provided a visually distinctive marker interval for both modern and historical geologic study. The unit includes 5–15% quartz phenocrysts and rare flattened lithic fragments in a silica rich, sericitic tuffaceous matrix. QPXL is locally interbedded with lenses of clastic metasedimentary rock and is not prospective for gold mineralization on the Mine Property. A sample of QPXL collected near the West Portal was dated ca. 2741 Ma (Lichtblau et al., 2012).

7.2.2.4 Conglomerate

Locally, a pebble-cobble conglomerate (CONG) demarcates the lowermost Confederation Assemblage, conformably underlying the lithic-quartz crystal tuff. This unit appears to be primarily comprised of reworked Balmer assemblage mafic volcanic rocks and likely represents the base of the Neoarchean package resting upon the angular unconformity with intact Balmer rocks beneath. Similar units are also found locally elsewhere in the stratigraphic sequence, above and below the unconformity; the former of which have locally been ascribed to the Huston Assemblage by Sanborne-Barrie et al. (2004b) and Lichtblau et al. (2012).

7.2.2.5 Metasedimentary Rock

Bedded, clastic metasedimentary rocks (MTSD) are present in both the Balmer and Confederation assemblages as thin (1–10 m) units within volcaniclastic packages. They commonly host garnet, staurolite, andalusite and amphibole porphyroblasts indicating an aluminous parent rock. In the Confederation Assemblage, these units have low gold prospectivity.

7.2.2.6 Basalt

Dark green-brown, fine-grained, unaltered basalt (BSLT) is the most common lithology in the Balmer Assemblage but is less abundant in the Confederation Assemblage. Basaltic flows are typically massive but variations include pillowed, flow top breccia and hyaloclastic textures. Confederation basalt has low prospectively for gold mineralization and is typically massive.

7.2.2.7 Gabbro

Dark grey, massive, equigranular, medium- to coarse-grained gabbro (GBRO) is Fe-rich relative to older Balmer gabbro. None of the gabbros identified are prospective for gold mineralization on the Mine Property.

7.2.3 Veins

7.2.3.1 Quartz-Carbonate Veins

Wispy, discontinuous quartz-carbonate veins (VQCB) commonly fill tension gashes and extensional zones in BSLT and GBRO. They do not carry gold and are not associated with gold-bearing structures.

7.2.3.2 Early Carbonate-Magnetite Veins / Diopside Replacement Veins

White-grey to violet-grey, massive to dismembered, fine-grained, carbonate-magnetite veins (VECB; Figure 7-4), occur only within Balmer Assemblage rocks and were emplaced early in the deformation history based on their degree of deformation and metamorphism. During amphibolite facies metamorphism and metasomatism, these veins were almost completely replaced by a skarn-like assemblage best characterized as light green, massive, coarse crystalline diopside-quartz-amphibole-calcite-biotite veins. This replacement appears to be most pervasive and intense in the eastern parts of the property, perhaps due to thermal contact metamorphism in proximity to the Killala-Baird batholith. Where this process has occurred, the veins are assigned the logging code VNDI as opposed to VECB.

These veins (VECB & VNDI) are the primary vein type associated with gold mineralization. Gold is commonly found in and around these veins at the full range of grades measured on the property, with the best grades coinciding with more siliceous parts of the vein system. Whether this silica (quartz) content is a primary component of the veins or came later in a secondary silicification (+gold) event is unclear.

7.2.3.3 Quartz Veins

Fine-grained, white to translucent quartz-dominant veins (VNQZ) cut both Balmer and Confederation rocks. These veins do not have a clear association with any gold-bearing structures although a few contain gold.

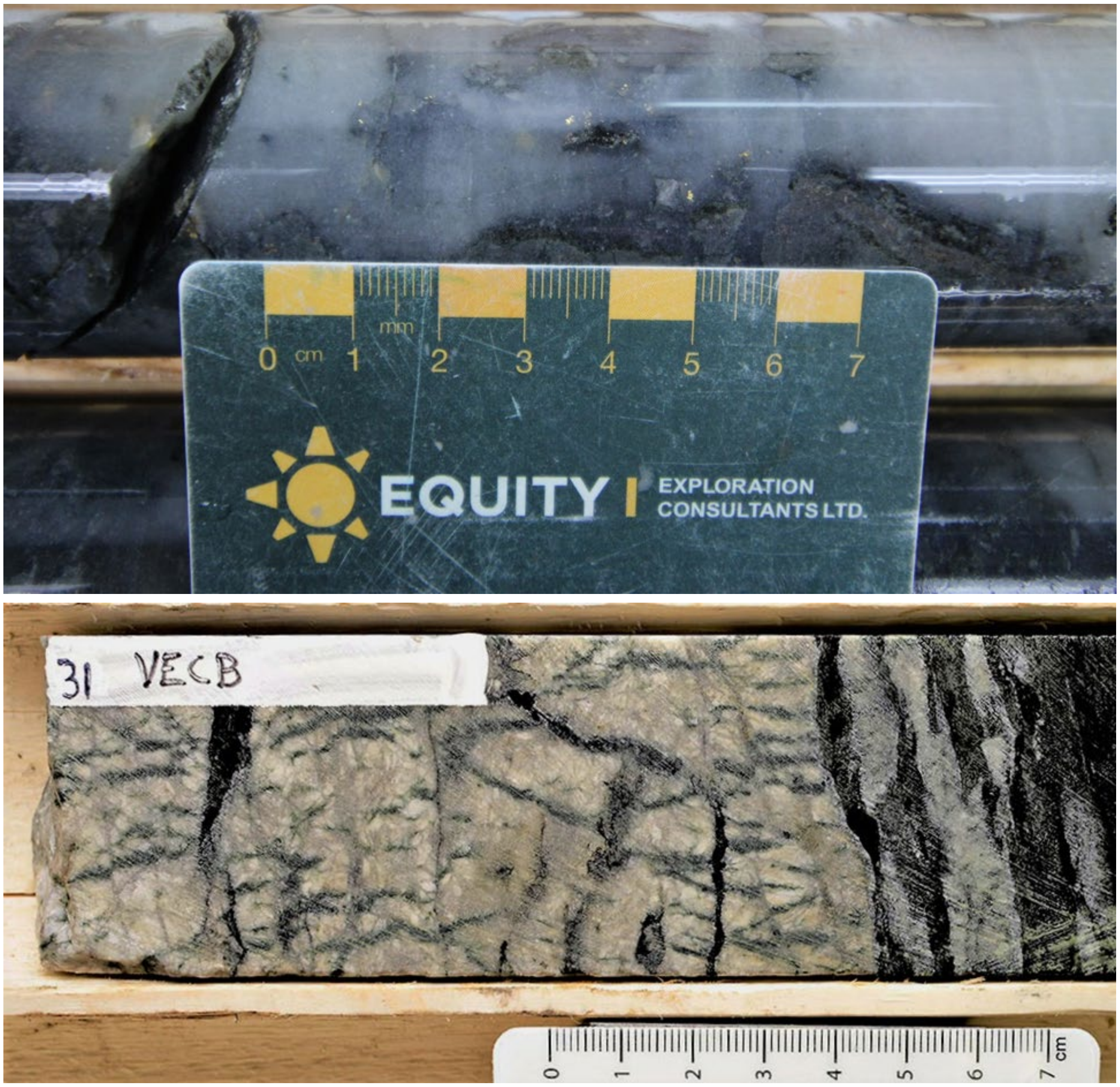
7.2.3.4 Blue-Grey Quartz Veins / Pervasive Silicification

Blue-grey to white, massive, recrystallized quartz veins (VBGQ; Figure 7-4) are associated with gold mineralization at the Wedge, Fork and Russet deposits, and at the 8 Zone in the Mine; they have only been identified within Balmer host rocks. This vein set was folded and/or boudinaged by D_2 deformation, indicating a pre-D_2 or syn-D_2 timing of emplacement. These veins are highly prospective for gold mineralization. Gold is present as unevenly distributed, discrete gold grains within the vein mass. Narrow zones of biotite and amphibole are commonly present on the immediate selvedges to these veins. This vein set is interpreted to correlate with pervasive silicification within the Madsen deposit where discrete individual quartz veins are rare.

7.2.3.5 Quartz-Tourmaline Veins

Quartz-tourmaline veins (VQTM) fill tensional fractures in unaltered basalt and gabbro. At the Treasure Box target and other gold prospects in the region (e.g., Buffalo Mine) these veins host bonanza-grade gold. These veins are common across the Red Lake Greenstone Belt particularly proximal to the Dome Stock suggesting a temporal and genetic relationship. They cut the S_2 foliation, but also occupy shear veins and tension veins within the Dome stock, so are tectonically syn-kinematic. They cut VBGQ and VECB veins at the historical Redaurum Mine as shown in Figure 7-5.

Figure 7-4: Early Veins



Note: Early, blue-grey quartz vein (VBGQ, top) with several flecks of gold. Vein shows typical curviplanar margins consistent with folding and boudinage which is characteristic of these veins and evidence of an early tectonic timing. VBGQ veins are the main gold host at the Fork, Russet South and Wedge deposits. Early carbonate veins (VECB, bottom) are locally widespread proximal to auriferous zones on the Mine Property but rarely contain significant gold. Early timing is evidenced by widespread, locally pervasive to complete replacement by metamorphic mineral phases (principally diopside, chlorite and amphibole). Photos of full drill core (top) and sawn half drill core (bottom).

Source: D. Baker (2018) with photos supplied by Equity Exploration Consultants Ltd. and Pure Gold (2022).

Figure 7-5: Quartz Tourmaline Veins

Note: Gold mineralized Quartz Tourmaline veins (VQTM) cutting deformed gold mineralized VECB and VGBQ at the Redaurum shaft adjacent the Mine Property. The VQTM are indicated by red arrows and the VECB and VGBQ by a blue arrow.

7.2.4 Metasomatized Rocks

Balmer Assemblage rocks vary from weakly foliated and undeformed volcanic rocks with well-preserved fine-scale primary volcanic features (e.g., pillow structures, spinifex texture, varioles) to mafic and ultramafic igneous rock that has been pervasively altered, deformed and metamorphosed such that no primary features are discernible. Such rocks are commonly associated with gold mineralization across the property at all known gold-bearing zones except Treasure Box (which is characterized by late quartz-tourmaline veins without significant wall-rock alteration).

Metasomatized and hydrothermally altered Balmer volcanic rock locally forms coherent units cut by early, planar gold-associated alteration zones as described above. In these most intensely altered rocks the original protolith has been completely recrystalized and primary lithologies are not identifiable. Three codes were developed to describe these most important rocks that are defined by secondary mineral assemblages as described in the following sections.

The distinction between metasomatic mineral phases (those derived from interaction with hydrothermal fluid) and metamorphic mineral phases (those derived from metamorphism generally in an isochemical system) is difficult to discern in these altered units. Regional metamorphism (synchronous with, or late-D_2 deformation) has overprinted the deposits to the degree that the host rocks to the gold-bearing zones are characterized by a complex mineral assemblage that has grown during regional metamorphism and because the host rock surrounding the deposits was altered prior to metamorphism, an assemblage of abundant metamorphic biotite, garnet, amphibole and diopside resulted such that these minerals are useful as proxies for hydrothermally altered Balmer rock. So, these sensu stricto metamorphic minerals are herein treated as alteration indicators and this has proven an effective approach to delineating the alteration envelope surrounding gold mineralization. The three metasomatic rock assemblages identified are described in the following sections.

7.2.4.1 Strongly Altered and Foliated Zone

Strongly altered and foliated zone (SAFZ) refers to coherent domains of rock that are altered and foliated to a degree that the protolith is completely unrecognizable (Figure 7-6). These domains of intense alteration and strong foliation overprint follow early structural corridors that were exploited by gold bearing fluids and delineate areas known to host gold mineralization. Zones of strong silicification within the SAFZ are especially prospective for gold mineralization.

The appearance of SAFZ is variable between different areas of the deposit, with the variability controlled by host rock composition, the character of mineralizing fluids and the degree of post-mineral metamorphism / metasomatism. For example, in the southwestern portion of the McVeigh zone a well-developed SAFZ is generally defined by the presence of 1 cm to 2 cm thick wispy bands or ribbons of cream-brown biotite-potassium feldspar (microcline) separating larger bands and lenses of diopside, green amphibole and (locally) quartz and carbonate. This SAFZ typically contains abundant VECB and VNDI veins which are commonly transposed into the main fabric of the foliation. In contrast, SAFZ present in the northeastern, near surface area of the Austin zone is characterized by strong biotite alteration, moderate foliation, weak to moderate background silicification and narrow (0.5 – 2 cm wide) ptygmaticly folded VECB veins. Throughout the deposit the sulphide content of SAFZ is highly variable but ranges up to 10% pyrite-pyrrhotite-chalcopyrite-arsenopyrite. There is generally very limited to no correlation between sulphide content and gold values, with the exception being fine grained arsenopyrite, which can correlate with gold.

The mapping or logging of SAFZ provides an indicator of intensity of alteration within a deposit-scale controlling structure.

7.2.4.2 Pervasively Altered Basalt

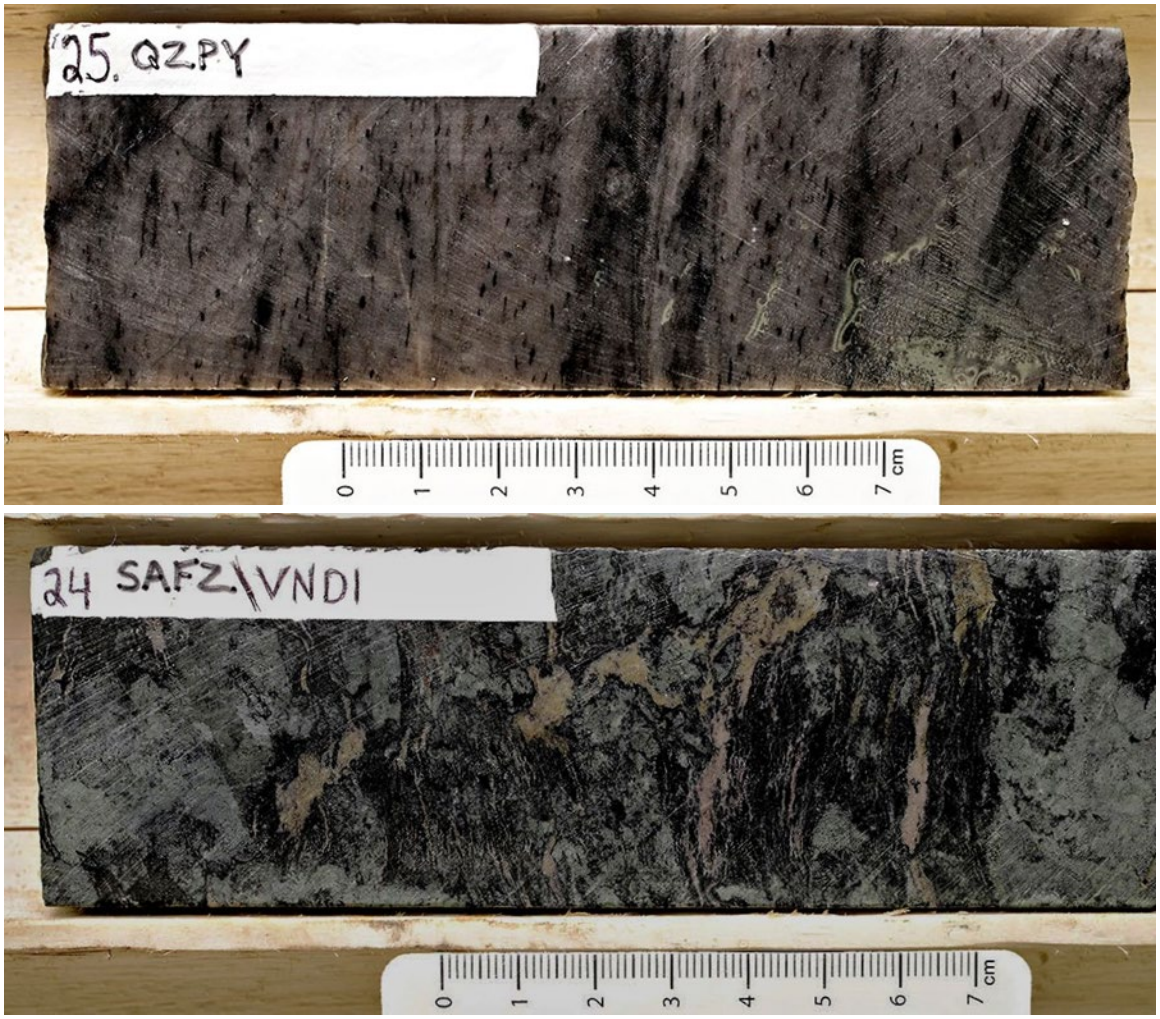
Pervasively altered basalt (BSLA) refers to coherent domains of moderately foliated, pervasively biotite-amphibole altered rock that is generally interpreted to have a mafic volcanic protolith. BSLA is transitional from the more intensely altered and proximal SAFZ. Primary textures can be locally preserved in BSLA.

The BSLA domains are interpreted to represent the marginal envelope of structural alteration corridors that were exploited by hydrothermal gold mineralization. The marginal setting with reduced alteration intensity has moderate potential to host gold mineralization.

7.2.4.3 Biotite-Amphibole Altered Peridotite

Biotite-amphibole altered peridotite (PRBA) refers to domains of moderately to strongly altered and foliated peridotite first identified within the Russet Lake Shear Zone proximal to the 8 Zone. PRBA is interpreted as the ultramafic-derived equivalent of basalt-derived SAFZ and shares a common association with gold as SAFZ, best exemplified in the 8 zone.

Figure 7-6: Key Mineralization Associated Rock Types



Note: Photographs of two distinct rock types that show close relationship to auriferous zones in the Mine. Quartz porphyry (QZPY, top) is characterized as light to dark grey, fine-grained and weakly quartz-phyric. QZPY intrusions occur in concordant to planar gold-bearing zones interpreted to be early shear zones. QZPY pre-date gold mineralization but are not commonly mineralized themselves. They are commonly proximal to gold mineralization. Strongly altered and foliated zones (SAFZ, bottom) are characterized by texturally destructive biotite, diopside and potassium feldspar that are considered to result from a metamorphic overprint of a carbonate altered basalt. SAFZ and veins hosted within it are the main gold hosts at the Mine. Photos are of sawn half drill core.

Source: D. Baker (2018) from photographs supplied by Pure Gold (2018).

7.2.5 Plutonic Rocks

7.2.5.1 Monzonite

Monzonite (MNZT) is grey, unfoliated, medium-grained, equigranular and includes intrusive rocks that are part of the Faulkenham Lake Stock and dykes and sills in Balmer and Confederation rocks thought to have been deposited during emplacement of the Faulkenham. These monzonite bodies are characteristically epidote and hematite altered. The Faulkenham Lake Stock post-dates gold deposition at the mine.

7.2.5.2 Granodiorite

Granodiorite (GRDI) includes white to light grey, unfoliated, medium- to coarse-grained, equigranular plutonic rock of the Killala-Baird Batholith. The post-tectonic ca. 2704 Ma Killala-Baird Batholith post-dates mineralization and therefore is not prospective for gold.

7.2.6 Dykes and Sills

7.2.6.1 Intermediate Intrusive

Intermediate intrusive (IINT) are grey, undeformed, fine- to medium-grained dykes that crosscut both Balmer and Confederation group rocks and cut gold mineralization in the Mine. These dykes have sharp, chilled margins and locally tend to strike concordant to the property-wide foliation suggesting they exploited the S_2 structural grain. IINT have been dated at ca. 2698 Ma from the Madsen deposit and ca. 2696 Ma from the Wedge deposit and provide a minimum age for gold mineralization (Dubé et al., 2004). Their spatial distribution, similar composition and age suggest that they may be genetically related to and sourced from the Killala-Baird Batholith.

7.2.6.2 Mafic Intrusive

Mafic intrusive (MINT) are dark grey, post-tectonic, fine- to medium-grained dykes that cross-cut Balmer and Confederation rocks. They have sharp, typically chilled, margins and post-date mineralization. They are interpreted to be Proterozoic in age.

7.2.6.3 Quartz Feldspar and Feldspar Porphyry

Quartz-feldspar porphyry (QFPY) and feldspar porphyry (FSPY) dykes are intermediate, grey- pink, unfoliated and are only known to cut Balmer rocks. They are interpreted as post-tectonic, likely Killala-Baird Batholith related. They are not prospective for gold mineralization.

7.2.6.4 Hornblende Feldspar Porphyry

Hornblende-feldspar porphyry (HFPY) dykes are intermediate, dark grey-pink and are most common in the Russet Lake area and in the East ramp area of the Mine. HFPY dykes have not been found cutting the Confederation Assemblage; however, they are interpreted to post-date the Confederation Assemblage due to their lack of foliation. It is possible that these dykes are a local phase of the FSPY. These dykes post-date mineralization and are not prospective for gold.

7.2.6.5 Quartz Porphyry

Quartz porphyry (QZPY) refers to a set of felsic, light to medium grey, foliated, quartz-phyric or fine-grained (aphyric) dykes that are spatially associated with gold-bearing zones in the Madsen and Wedge deposits (Figure 7-8). Porphyritic examples contain a few percent rounded, quartz phenocrysts and foliation-parallel biotite aggregates. These dykes are pervasively sericite altered and sodium-depleted (Mackie, 2016). Proximal to gold-bearing zones, early carbonate veins (VECB) cut QZPY dykes and amphibole-quartz-diopside replaces QZPY. Collectively, this is strong evidence that QZPY dykes predate the main gold event. Their stratigraphically discordant nature and parallel occurrence in the same altered structural corridors suggests that these intrusions exploited the same early structures that controlled the gold-bearing hydrothermal systems. Underground exposures confirm that QZPY dykes are locally tightly folded with the penetrative S_2 foliation axial planar to the folds.

7.2.6.6 Russet Mafic Intrusive

The Russet Mafic Intrusive (RSMI) unit occurs as relatively narrow (1 – 20 m thick) intrusive units within the Russet Lake Ultramafic. It is spatially directly associated with the early altered structures hosting gold mineralization. It seems to be a direct correlative for the QZPY in the basaltic host rocks. The RSMI are medium to fine grained, with a rock mass consisting of plagioclase and amphibole; when coarser grained it can have a gabbroic texture.

Silicification is common and can be associated with up to several percent fine grained disseminated pyrite/pyrrhotite. Visible gold is present in some examples, though rare. The unit is anomalously high in TiO_2 (>0.7%) and Na_2O (>3%).

7.2.7 Structural Geology

Given the significant role that deformation-related structures (e.g., shear zones and fault zones) play in transporting and focusing gold-bearing fluids in orogenic gold systems, determining the structural architecture and deformation history of the Mine Property has been a focus of surface exploration work since the property was acquired by Pure Gold (Baker, 2014a, b; Baker and Swanton, 2016; Cooley and Leatherman, 2014a, b, 2015). Additionally, oriented core drilling data along with three-dimensional interpretation of major lithological contacts has constrained the relations between the host stratigraphy, gold-bearing structures and deformation features.

Based on outcrop, underground exposure and drill core observations, most supracrustal rocks exhibit a tectonic foliation which is the most common structural element present across the property. The intensity of this foliation varies widely from a decimetre-scale-spaced planar fabric to an intense, sub-millimetre-spaced schistosity with localized shear-related fabrics. Unaltered mafic rock units such as massive and pillowed Balmer basalt (BSLT) typically do not exhibit strong tectonic foliations. By contrast, felsic units of the Confederation Assemblage (FVOL) and altered Balmer basalt readily develop foliations owing to a bulk chemistry that encourages phyllosilicate (mainly sericite) growth during strain-related recrystallization and metamorphism. Such rheological contrasts have led to a significant amount of strain partitioning throughout the belt, making it difficult to distinguish between deformation events and correlate certain structures, like foliations, regionally. Nevertheless, four distinct deformation events can be recognized on the Mine Property, even if their regional extent is not completely known.

The first phase of deformation, D_1, is poorly defined due to a lack of penetrative foliation. The strongest evidence for D_1 is the property-scale map pattern showing repetition of Balmer stratigraphic units on the east and west sides of the Russet Lake ultramafic body. Opposing pillow top way-up indicators in both ultramafic and mafic rocks (Atkinson, 1993 and Cooley and Leatherman, 2015) indicate that the Russet Lake ultramafic occupies the core of an isoclinal antiform with an overturned western limb. Type II interference folds have also been recognized near the hinge area to the northeast of this large antiform and further south along its eastern limb at the Wedge (86) target; both confirming the overprint of two folding events (F_1 and F_2). Although no widespread penetrative foliation developed during the F_1 folding event, a central high strain zone of intense foliation development has been identified within the hinge of this large antiform and named the Russet Lake Shear Zone.

The second generation of regional deformation (D_2) on the Mine Property includes a conspicuous, penetrative regional foliation (S_2) which is generally consistent with the D_2 structural trends of Sanborn-Barrie et al. (2004b). This foliation consistently transects most units on the Mine Property, including the unconformity with Confederation assemblage rocks. S_2 is axial planar to minor (10s of metres scale) S-shaped folds (F_2) defined by lithological contacts as well as folded mineralized domains within the PureGold Mine (e.g., Horwood, 1940, and current MRE domains).

A third deformation event (D_3) is expressed strictly by locally developed Z-shaped folds (F_3) ranging from centimetres to kilometre scale (e.g., folded ultramafic northwest of Coin Lake). These structures have no associated penetrative fabric, and they fold the S_2 foliation along with the affected stratigraphic units. F_3 folds are consistently Z-shaped, in contrast to the opposing S-shaped asymmetry that is characteristic of F_2 folds.

The youngest deformation (D_4) to affect the Mine Property is localized brittle faulting. Such faults are rare across the property, particularly in the mine area but are common at Starratt where they are characterized by metre-scale intervals of fault breccia and fault gouge recovered in drill core. These are mostly steeply dipping, approximately east-west trending and related to faulting along the southern contact of the Killala-Baird Batholith (e.g., the Liard Lake fault of Sanborn-Barrie et al., 2004b). These faults clearly post-date gold deposition as they locally displace gold mineralized lenses at the north end of Starratt but offsets seem to be less than a few metres.

7.3 Property Mineralization

The following sections summarize the geology, geometry and style of the significant gold-bearing alteration corridors and associated targets present on the Mine Property (Figure 7-7and Figure 7-8). A closer view of the projected distribution of the gold deposits is shown in Figure 7-9.

Figure 7-7: Major Alteration Corridors Associated with Gold Mineralization

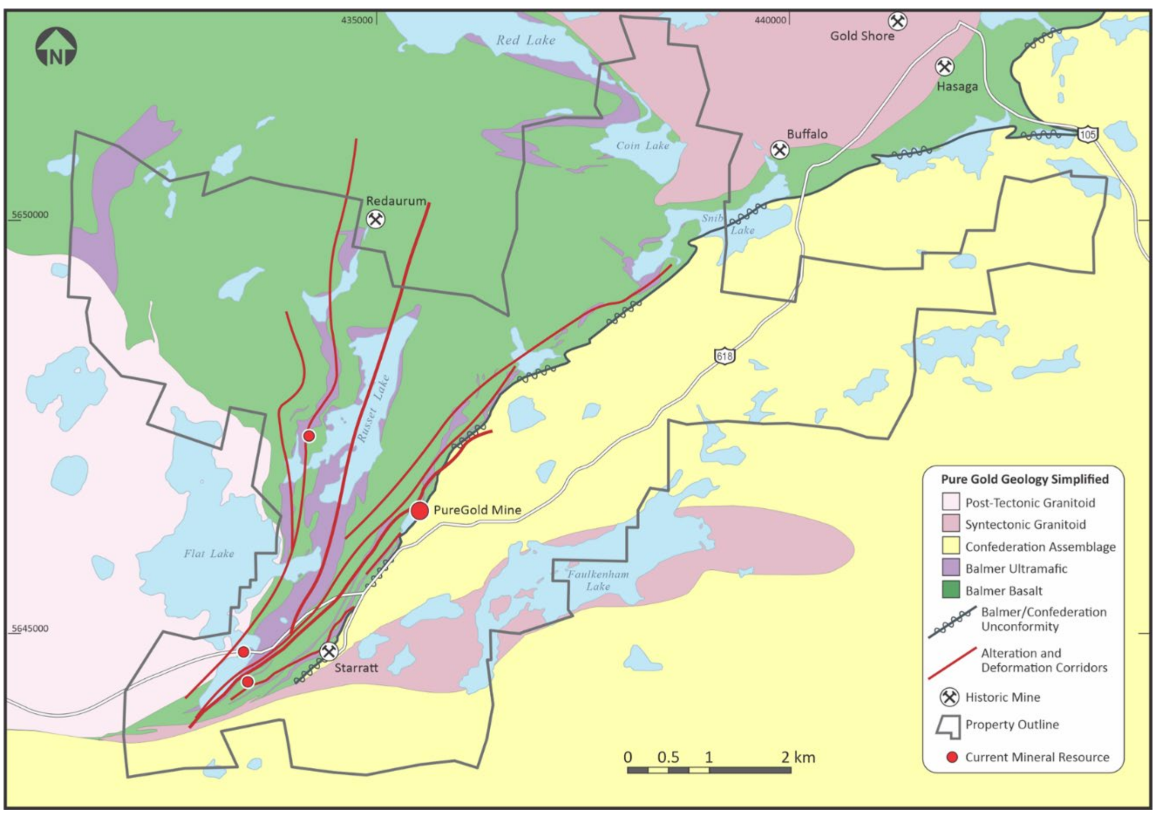
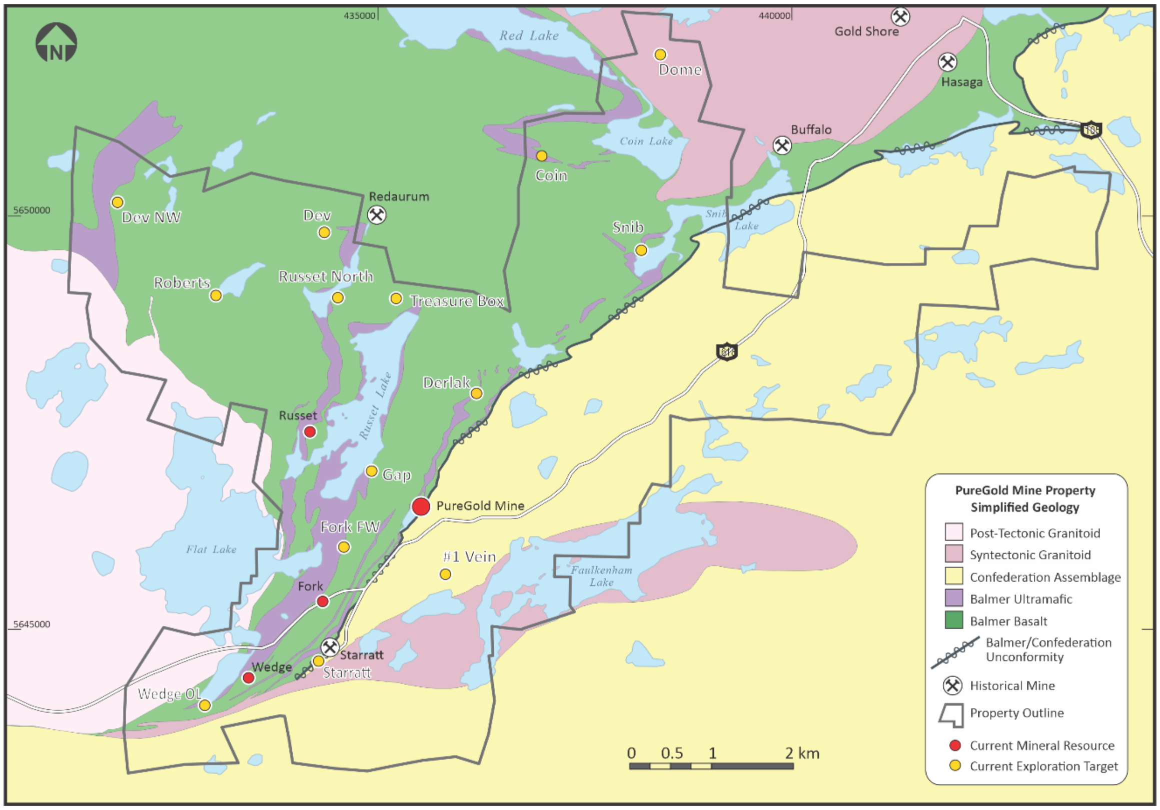
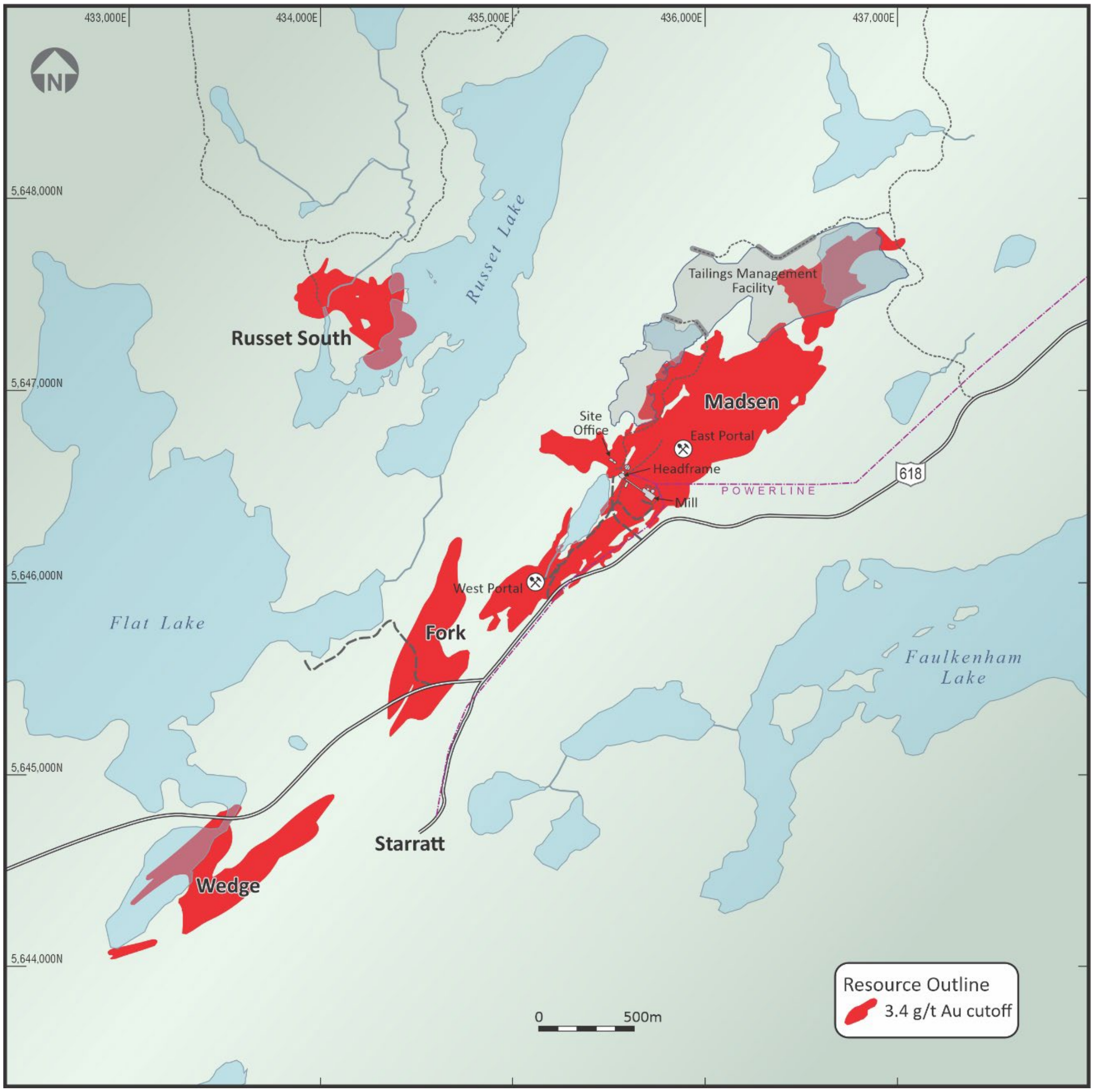


Figure 7-8: Historical Mines, Deposits and Exploration Targets



Note: Summary geological map of the Mine Property showing the targets of recent exploration work by Pure Gold. Property outline shown by solid black line. Source: Pure Gold (2022)

Figure 7-9: Plan Map of PureGold Mine Resource Domains



Source: P. Smerchanski (2022)

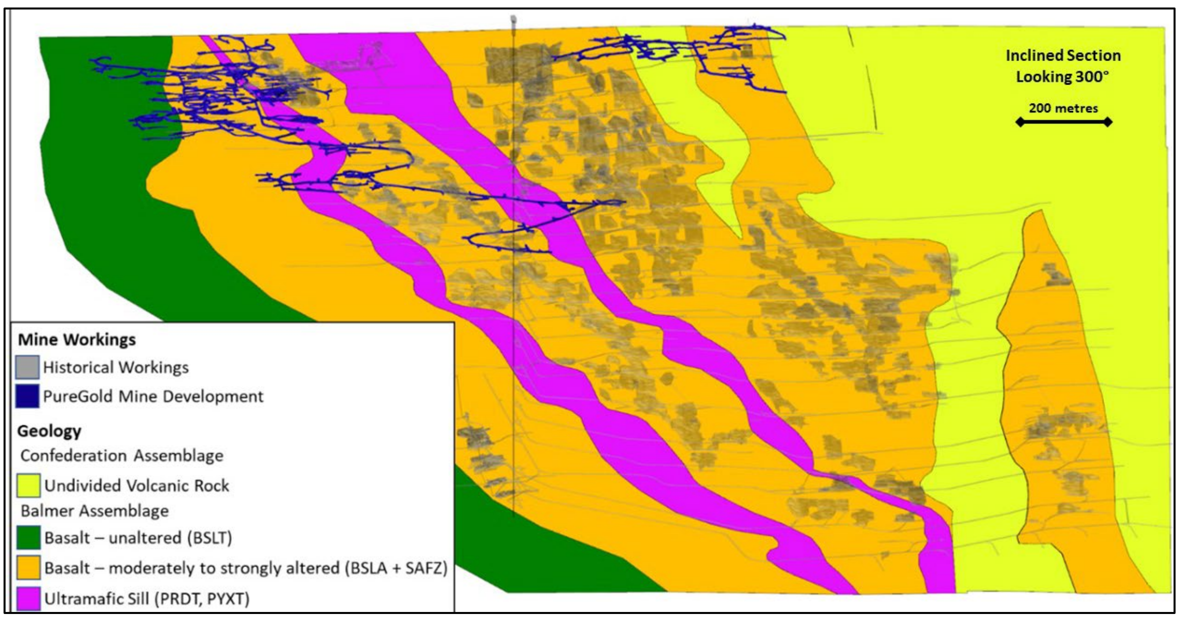
7.3.1 Madsen Deposit – Austin, South Austin and McVeigh Zones

Most of the historical gold production and most of the current mineral resources at the PureGold Mine are within the Austin, South Austin and McVeigh zones which, along with the 8 Zone, comprise the Madsen deposit. At the scale of the property, these zones all lie within much broader, kilometre-scale planar alteration and deformation corridors that have been repeatedly reactivated during gold mineralization and subsequent deformation and metamorphism (Figure 7-7).

The distribution of gold within these planar structures is almost exclusively within variably altered basalt, and enhanced in close proximity to major lithological contacts, such as ultramafic sills, felsic dykes and felsic volcanic strata. The overall plunge of the different deposits occurring close to the Confederation assemblage (e.g., Madsen, Starratt and Wedge) is controlled by the intersection of the mineralized planar structures with the local stratigraphy, as exemplified by its intersection with two barren ultramafic sills in the PureGold mine (Figure 7-10). Here, the northeastern boundary of the Austin zone coincides with the moderately northeast-plunging intersection between the mineralized structure and the Confederation felsic volcanics. The mineralized structure forms horsetail splays of mineralized lenses as it approaches and finally terminates against the felsic volcanic rocks in the deposit hanging wall. Moving southwest, the mineralized structure cuts downward through the Balmer stratigraphy, cutting the two ultramafic sills. The lines of intersection between the (Figure 7-10) mineralized structures and these two sills plunge northeast and form the boundaries of the Austin (between the Confederation felsic volcanics and the first ultramafic sill) and the South Austin (between the two ultramafic sills) zones.

These geometrical features are important for two reasons: (1) they illustrate the fundamental structural control on the overall shape and distribution of the gold bearing system, and (2) the transecting relationship between the mineralized structure and its host stratigraphy contradicts previous interpretations of this deposit's origin as a 'stratabound' gold deposit.

Figure 7-10: Inclined Long Section (oblique view towards the northwest) through the Austin and South Austin Zones with Projected Geology.

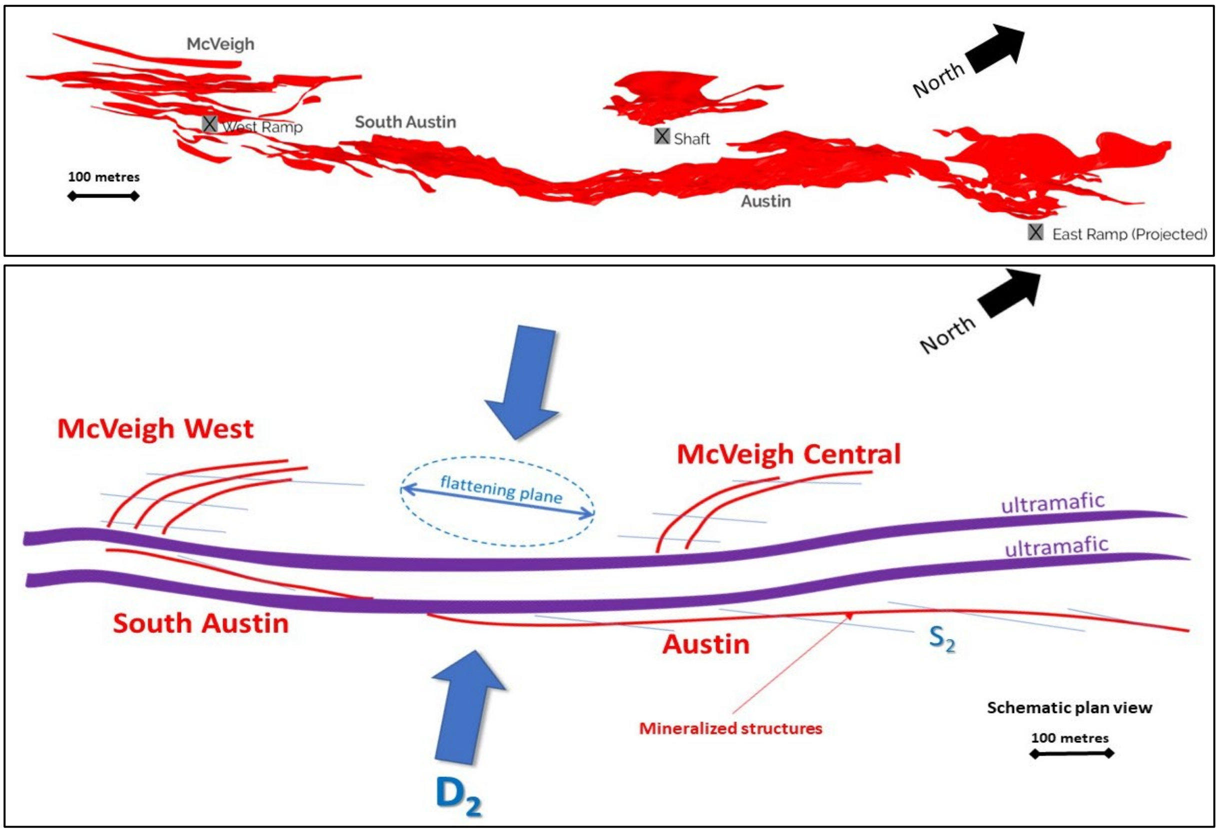


Note: Mined historical stopes (grey) demonstrate gold-bearing zones which show a strong northeast plunge at about 40°. The projected geology shows the strong proximal alteration zones (orange) surrounding high grade gold mineralization (here represented by mined stopes) and, significantly, that these zones are interrupted by ultramafic sills (purple). Long section geology contacts were determined from detailed geological interpretation on 30 level plans from surface to below the deepest developed part of the Mine.
Source: Pure Gold (2022)

Similar to other structurally controlled gold deposits, the Madsen deposit comprises second order footwall splays that exhibit a slightly different structural style to the main Austin/South Austin structure. In the footwall of the second ultramafic sill, the McVeigh zones occur as footwall splays, with a steeper dip and more northerly trend, off the main structure (Figure 7-11).This difference in orientation relative to the main zones results in a reversal in the plunge of their intersection with the host stratigraphy, and thus, the McVeigh mineralized shoots plunge to the southwest, instead of northeast like those in the main zone. This same plunge reversal is repeated at Starratt, which has both northeast- and southwest-plunging shoots on either side of a large ultramafic sill, and at Wedge, which plunges predominantly towards the southwest.

The more northerly orientation of the footwall splays also places them at a higher angle to the flattening plane of the D_2 deformation (schematic plan in Figure 7-11). This angular position makes these zones more susceptible to greater degrees of rotation, folding and transposition during the ~northwest-southeast-directed D_2 shortening event compared to the main zones. The impact of this deformation on the McVeigh zones is reduced continuity and more irregular geometries of the mineralized lenses.

Figure 7-11: Inclined view of the Madsen deposit resource domains showing the angular relationship between the McVeigh footwall splays (West and Central) and the main zone formed by Austin and South Austin. Schematic plan illustrates relationships to D_2 shortening.



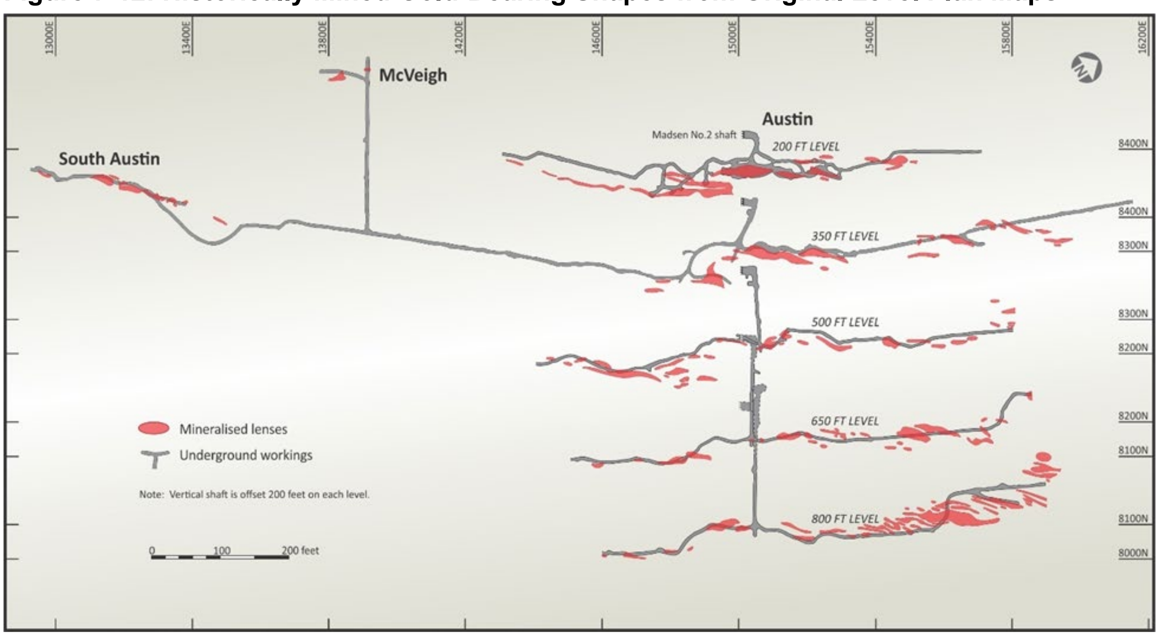
Note: The steeper dip and more northerly trend of the McVeigh zones results in a reversal of the plunge of their intersection with the host stratigraphy, and accounts for the observed reversals in plunge of mineralized shoots in the mine and across the property. In addition, the higher angle of the footwall splays to the flattening plane of the D_2 deformation makes them much more susceptible to rotation, folding and transposition during D_2 than their main zone counterparts.

The Austin and South Austin Zones are open down plunge from the deepest levels of past mine development and from the deepest parts of the current MRE. Drilling in 2011 intersected 14.3 g/t Au over 2.0 m at 825 metres below past mining and drilling by Pure Gold in 2021 returned 1.99 g/t Au over 2.0 m within a package of silicified SAFZ and QZPY lithologies at 500 m down plunge from past mining of the Austin Zone on 18 level and 250 m along strike from past mining on 24 level. Drilling in 2017 by Pure Gold returned 34.6 g/t Au over 4.3 m at 240 m below past mining in the South Austin Zone. Detailed drill core review and geological modelling has confirmed alteration and host rock continuity at these depths.

Viewed in more detail (Figure 7-12) the mineralized zones are comprised of trains of lenticular gold-bearing zones that have been variably rotated into the penetrative S_2 foliation. Locally, gold-bearing bodies show stope-scale S-shaped fold geometries (e.g., the 350-foot level in Figure 7-12) consistent with small-scale folds mapped at surface and interpreted in geological level plans. At smaller scales observed underground and in drill core the structural features indicate intense transposition of a pre-existing gold-bearing vein system into the S_2 orientation. In some cases, the enveloping surface of deformed veins is more shallow-dipping than the overall structure and S_2 foliation, indicating that, prior to its transposition, the vein system included both steep and flat veins – a common feature of structurally-controlled gold vein deposits elsewhere (e.g., Sigma-Lamaque, Val d'Or). Similarly, backing out the transposition deformation of the McVeigh zones (west and central) reveals them to be steeply dipping footwall splays of a moderately dipping structure defined by the Austin and South Austin zones – also a common feature of structurally-controlled veins systems.

Together, these features (i.e., footwall splays, steep and shallow vein structures, strong alignment with structural intersections) elucidate a history of classic brittle-ductile gold-bearing vein emplacement and alteration, strongly influenced by the presence of local competence contrasts within the host stratigraphy. This gold vein system was subsequently overprinted by an intense ductile transposition deformation (D_2), itself accompanied or followed by amphibolite facies metamorphism. Peak metamorphism post-dated the deformation, as evidenced by the lack of fabric development in the metamorphic mineral assemblage (diopside-amphibole-biotite-garnet). The intense deformation and metamorphism has largely obscured the primary morphology and mineralogy of the deposit, which led to varied and unusual interpretations of its origins by previous workers. The current understanding of the deposit provides a predictive basis for short-term grade control models, exploration and delineation drilling and life of mine resource modelling. Confidence in this interpretation grows steadily with increasing mine development and geological observation.

Figure 7-12: Historically Mined Gold-Bearing Shapes from Original Level Plan Maps



Note: Composite level plan maps of gold-bearing lenses drawn from mining control plans during the earliest periods of mining at the PureGold Mine. The gold-bearing zones shown by red shading were demarcated by mine geologists as high-grade zones. Note that these shapes have two orders of control. At a smaller-scale, gold occurs within a series of left-stepping lenses that are transposed within the S2 foliation. At a larger-scale, these lenses collectively define planar structures that are continuous for many 100s of metres. Levels are offset for effect.

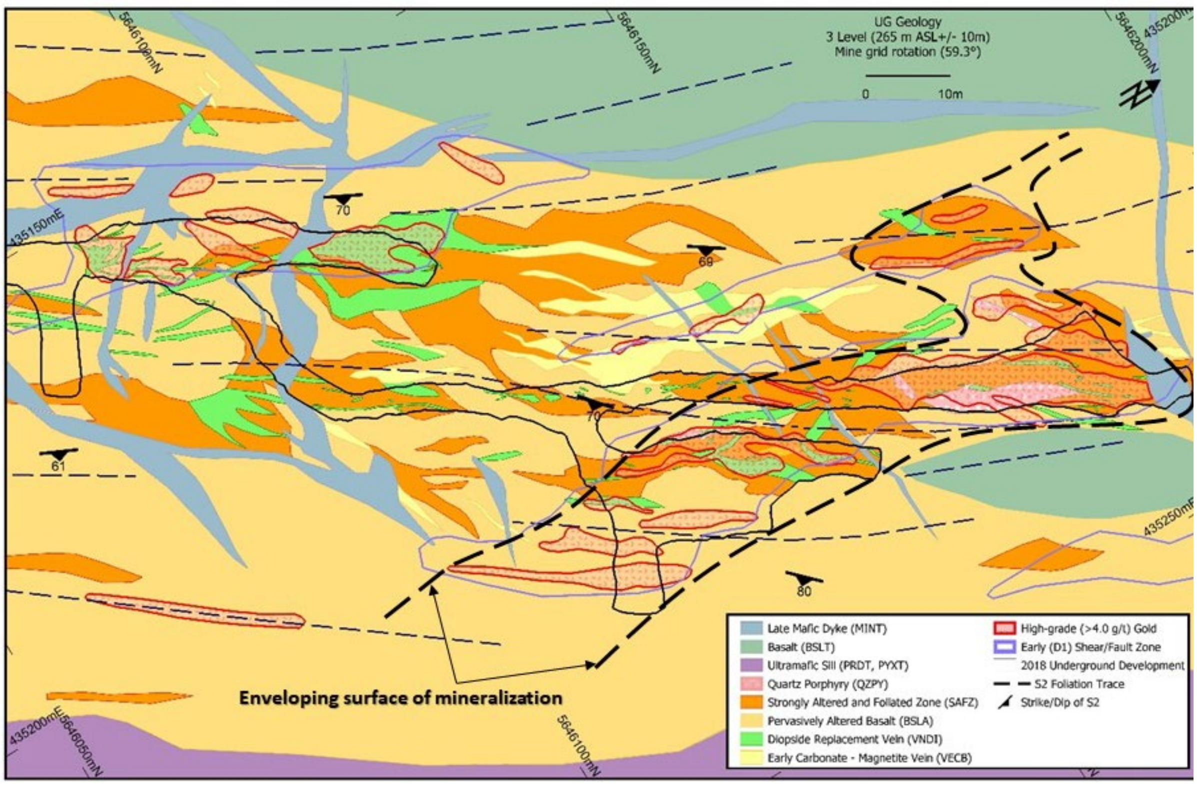
Source: Pure Gold (2018) after Horwood (1940)

The 2018 bulk sample project provided significant, detailed information on a small portion of the McVeigh Zone of the Madsen deposit (Figure 7-13) and a test for the geometries and relations described above. Detailed structural observations and data collection has confirmed the relationships between gold-bearing lenses and the penetrative foliation (S_2). High-grade gold lenses form a similar pattern to that recorded on historical level plans where individual tabular lenses show a left-stepping pattern, but the overall enveloping surface of mineralization is continuous across the S_2 fabric, as seen in the Austin Zone (Figure 7-12 and Figure 7-13).

The penetrative S_2 foliation within the bulk sample area as measured in underground exposures is consistently SE-dipping (average orientation of 038/65, UTM grid) and compares very well with data collected from the same region in oriented drill core.

Small-scale folds within the bulk sample area include tight folds of narrow quartz porphyry dykes and folds of diopside veins. These folds generally plunge -60° towards 110° (UTM) which is similar to the orientation of map-scale folds interpreted from level plan geological interpretations.

Figure 7-13: Geological Level Plan Map of the 2018 McVeigh Zone Bulk Sample



Note: Geological level plan map of the 2018 underground bulk sample area of the McVeigh Zone. Interpretation is derived from historical, exploration, resource and bazooka drill hole data as well as detailed underground back and face mapping. Gold-bearing high-grade outlines are determined from detailed face chip sampling as well as drill core analyses. The pattern that emerged is very similar to that present on many historical underground level plans (e.g. Figure 7-12) that is characterized by high-grade gold-bearing lenses that are aligned and transposed parallel to the penetrative S_2 foliation but that overall are contained in planar zones that are oblique to S_2.

Source: Equity Exploration Consultants Ltd. (2019) after drawing by D. Baker and R. Scott.

In drill core, or at underground face exposures, gold-bearing zones at the PureGold Mine are best identified visually by fine (sub-millimetre) grains of free gold within strong alteration and veining. All high-grade intervals generally contain visible gold on drill core exteriors, although numerous examples exist of high-grade assays where visible gold was only identified within the interior (cut surface) of the core samples. Sulphides (primarily pyrite and pyrrhotite with minor arsenopyrite and chalcopyrite) are relatively common throughout the deposit, though they do not appear to have any direct correlation with gold. It is believed that present sulphide abundance reflects primary sulphide abundance or alteration in the host rock and does not serve as a marker for gold mineralization, suggesting it was not introduced by the mineralizing fluids. Apart from the presence of free gold, pervasive silicification (locally accompanied by discrete quartz veining) and quartz-carbonate (VECB) or diopside (VNDI) veining are the best indicators that a given interval is within a high-grade lens within the mineralized structure.

7.3.2 Madsen Deposit: 8 Zone

The geology and mineralization style of the 8 Zone is somewhat distinct from that of other known zones within the Madsen deposit. Gold in the 8 Zone occurs within strongly altered and veined peridotite of the Russet Lake Ultramafic (see Section 8.2.3) for description of the PRBA unit). By contrast, most gold at the McVeigh, Austin and South Austin Zones is hosted within mafic host rocks proximal to generally barren ultramafic units. The 8 Zone has a planar geometry, strikes generally north-south and dips to the east at approximately 45° which is significantly shallower than the other zones. As it is presently modelled, the 8 Zone is approximately 130 m along strike by 700 m down dip and 30 m in thickness.

Within this mineralized plane, gold occurs in highly deformed, centimetre- to metre-scale blue-grey recrystallized quartz veins (VBGQ) located within a corridor of amphibole-biotite alteration (PRBA) which is generally on the order of tens of metres wide. The more intense zones of alteration occur as 1–10 cm intervals of near-total replacement by biotite, an abundance of blue-green amphibole and a well-developed foliation defined by alignment of biotite.

Relogging of historical core from surface and underground holes drilled by past operators at 8 Zone and throughout the Russet Lake Ultramafic along with new drilling and geologic modelling by Pure Gold has improved the geologic model and understanding of 8 Zone. The deposit lies within the Russet Lake Shear Zone which, significantly, has been modeled along a strike length of 5 km and to nearly 2 km depth (Baker, 2017). This early structure dissects the length of the Russet Lake ultramafic volcanic unit which represents the lowermost Balmer Assemblage rocks on the Mine Property.

7.3.3 Russet Deposit

Gold at the Russet deposit is hosted within folded and/or boudinaged blue-grey quartz veins that are similar to those that are characteristic of the 8 Zone. At Russet, the veins mostly occur within weakly deformed 10 m-scale wide, planar zones proximal to the northern contact of Russet Lake ultramafic volcanic rocks and on both the hanging wall and footwall of a smaller ultramafic sill parallel to this contact. The veins are most commonly hosted within relatively weakly biotite-amphibole altered basalt, though some occur within ultramafic rock and underlying iron formations. Despite the complicated arrangement of individual veins, due to their transposed nature, zones of high vein density, deformation, alteration and gold mineralization can be defined over hundreds of metres of strike length, trending broadly sub-parallel or at low angle to stratigraphy which is itself broadly folded about south-plunging F_2 folds in the Russet Lake area. In places, gold appears to follow spaced axial planar shear zones within a broader F_2 fold, but does not extend far from the zone sub-parallel to stratigraphy. Projected to surface, these zones of high vein density extend over a footprint of approximately 650 m by 650 m and have been defined to a vertical depth of 200 m.

7.3.4 Wedge Deposit: 86, DV, CK, MJ and OL Zones

The Wedge deposit comprises four resource zones (DV, CK, MJ and OL) and one mineralized zone (86) that remains at the exploration target stage. All five zones generally correspond with historical surface showings and mineralized areas (Branson, 2019a). Drilling, core re-logging and interpretation by Pure Gold, however, has shown that these historical zones all lie within a series of early syn- to pre-D_2 structures (Nuttall, 2017).

The DV and CK Zones lie within the same structure that hosts the Fork Main Zone, but about 900 m along strike to the southwest. The intervening area is prospective for potential resource expansion and this area includes the 86 Zone exploration target. The 86 Zone was explored in 1998 by mechanical stripping and recent mapping of these outcrops (Cooley and Leatherman, 2015) suggests that 86 Zone may represent the southern extension of the Fork deposit as the host rocks are continuous and the style of mineralization is similar. Recent drilling by Pure Gold (PG17-359) has tested the current southern limit of the Fork deposit along strike to the north of 86 Zone. At 86 Zone, rock sampling by Pure Gold of outcropping iron formation characterized by banded magnetite, pyrrhotite and amphibole has returned highly anomalous gold values. Drilling directly underneath this surface mineralization in 2017 returned multiple intercepts exceeding 5 g/t Au (up to 22.9 g/t Au over 1.1 m). Gold is hosted in quartz veins spatially associated with both iron formation and altered basalt.

In detail, the DV and CK Zones comprise a series of up to three concordant resource shapes across a collective width of 70 m and a maximum strike length of 700 m. At the DV Zone, gold is hosted within discontinuous quartz ± chlorite-amphibole veins (VBGQ veins) with biotite-amphibole-diopside selvedges and minor pyrite, pyrrhotite, chalcopyrite and arsenopyrite (Branson, 2019b). These veins are hosted in weakly altered mafic volcanic rocks or more commonly within moderately to strongly altered mafic volcanic rock (BSLA or SAFZ). At the CK Zone, the geology and mineralization are comparable to the DV Zone, though the host basalt rocks have been cut by quartz porphyry. A key relationship is that the veins and the enveloping alteration zones are transected by and transposed into the main S_2 foliation of the host rocks – an identical relationship to the Madsen deposit.

The OL Zone exploration target lies about 450 m southwest along strike from the edge of the CK Zone resource shape in an area characterized by deformed gold-bearing quartz veins hosted in zones of deformed quartz porphyry (QZPY) and strongly altered foliated zones (SAFZ). Outcrop stripping, surface rock sampling and diamond drilling by Pure Gold have delineated two parallel trends of alteration and veining separated by approximately 25 m and extending for a strike length of 200 m. The zone is open both along strike and at depth.

The MJ Zone is hosted by two concordant shear zones up to 40 m in width characterized by deformed gold-bearing quartz veins hosted within altered and deformed basalt and peridotite within the Russet Lake Ultramafic. Current drilling has delineated these shear zones over 500 m of strike length and to 320 m depth with the structure remaining open along strike and down-dip.

In addition to being a part of the recognized property-wide structural architecture associated with gold mineralization responsible for mineralization at Madsen, Fork and Russet, the Wedge deposit exhibits similar high-level characteristics to the Madsen deposit (same alteration and structural timing), however gold tends to be more often hosted in discrete quartz veins rather than disseminated within intervals of pervasively silicified rock, as is more common in the Madsen deposit.

The apparent plunge of mineralization along these structures – best demonstrated at the well-tested DV Zone – appears to be associated with the intersection of the structures and major rheological and geochemical contrasts between relatively rigid and massive basalt and adjoining IRFM and ultramafic units (Branson, 2019b). This architecture is comparable to the plunge at the Austin and South Austin zones in the Madsen deposit which are defined by intersection of the mineralized zones and mafic/ultramafic contacts.

7.3.5 Fork Deposit and Fork Footwall Target

The Fork deposit lies within two concordant shear zones spaced 100-150 m apart. These structures strike north-north-easterly and dip about -60°. The upper lens is known as the Main Zone and occurs along a shear zone that is continuous to the southwest with the shear zone that hosts the DV and CK Zones. The distribution of gold within this shear zone is controlled by the intersection with the contacts of minor ultramafic sills and iron formation units within the basalt.

The lower lens has been referred to as the Fork Footwall Zone (and it occurs within the Russet Lake Shear Zone (Baker, 2017). Here the Russet Lake Shear Zone is wholly within ultramafic volcanic rocks of the Russet Lake Ultramafic and gold mineralization is interpreted to be associated with the intersection of the shear with internal flow contacts. Significantly, the Fork Footwall Zone occurs within the same structural/stratigraphic position as the 8 Zone which occurs about 1.8 km down-plunge to the northeast.

A third resource domain (North-South Domain) has been modeled between the Fork Footwall Zone and Fork Main Zone. It is not clear geologically how this relates to the modeled structures but may be a short second-order splay.

The Fork deposit is cut by late, discordant felsic, intermediate, and mafic dikes as in the mine. The mineralized body is curvilinear and is weakly folded by steeply southeast plunging F2 folds. Gold is predominantly associated with deformed quartz veins hosted within an envelope of highly strained and hydrothermally altered rock controlled by shear zones that developed oblique to the host volcanic stratigraphy. Less commonly, gold is found in replacement-style disseminations within altered basalt along and proximal to contacts with interflow iron formation or ultramafic sills. Geochemically, altered rocks at the Fork deposit are sodium-depleted as at the Madsen deposit. The Fork deposit has been drill tested over a 600 m strike length and to a vertical extent of 375 m depth. The mineralized zones are typically 1 m to 5 m thick. The deposit is located approximately 350 m from existing underground development in the West Ramp.

The Fork Footwall target is the sparsely-drilled southwestern extension of the Fork Footwall Zone that particularly targets the intersection of the host Russet Lake Shear Zone structure with the Russet Lake ultramafic and overlying Balmer basalt contact. This 300 m-long target has been tested by 11 drill holes and remains an active target.

7.3.6 Starratt

Gold mineralization at the Starratt target is of the same style as at the PureGold Mine. Gold occurs in similar strongly altered and deformed basalt (SAFZ) with the typical biotite-amphibole-diopside assemblage with local silicification and potassium feldspar alteration. The structural setting is also equivalent to the Madsen deposit whereby mineralized zones occur in planar bodies that cut at low oblique angles across the same ultramafic sills. As in the mine, plunge control of mineralization at Starratt is controlled by the intersection of ultramafic units and these interpreted early structures but at Starratt the plunge is steeper owing to the general steepening of the stratigraphy as the Balmer rocks become constricted between the Killala-Baird Batholith and the Faulkenham Lake stock to the southwest.

Historically, the Starratt and Madsen Mines were operated by different companies and original records from Starratt are fragmented such that the historical drill hole database for Starratt is sparse. No original drill logs are available and the existing drill database has been built largely from fragmented original section and plan maps showing selected data only. Nonetheless, available historical information, surface mapping and geophysical interpretation aided drill-targeting as step-outs from mined out areas in 2016. Gold intercepts in deeper holes (such as 34.0 g/t Au over 2.3 m true thickness in PG16-198) demonstrate that Starratt is open at depth. The mineralized lenses at Starratt extend for approximately 1,200 m strike length, vertical depth of 550 m, with a thickness of 2 m to 15 m.

Since the Starratt and Madsen mines were separated by a tenure boundary during their operational history, the area between these historical mines is under-explored especially given that the area is underlain by Balmer basalts intruded by ultramafic sills. The alteration and host stratigraphy appear continuous between the two mines and Starratt is interpreted to be part of the same mineral system albeit on a parallel shear.

7.3.7 Gap

The Gap zone is an exploration target along the up-plunge projection of the target setting associated with the 8 Zone along both the Russet Lake Shear Zone to the upper (eastern) contact of the Russet Lake Ultramafic towards the Fork deposit footwall domain and up-dip towards the Russet deposit.

Drilling in the portion of the Gap target between the Fork footwall domain and the 8 Zone has shown that gold mineralization is of a similar style to that at the 8 Zone and is characterized by deformed blue-grey quartz veins (VBGQ), biotite-altered peridotite (PRBA) as well as a silicified mafic intrusive (RSMI) that is characteristic of the Russet Lake Shear Zone. Intercepted gold grades were relatively low with individual samples grading up to 9.9 g/t gold, however the presence of gold, even at low levels, on the same structure as both the 8 Zone and the Fork Footwall zone is considered prospective, and the area remains an attractive exploration target.

Likewise, sparse drilling in the panel between the 8 Zone and Russet deposits has consistently intersected gold mineralization hosted in rocks with alteration similar to both of those zones. This portion of the Gap target also remains an attractive exploration target area.

7.3.8 Derlak

This target is defined as the area approximately 1 – 2 km northeast along strike of the Austin and South Austin zones of the Madsen deposit in a similar setting; within high altered altered basalt intruded by an altered felsic dyke (QZPY) between the hanging wall of an ultramafic sill and the footwall of the unconformity with the Confederation Assemblage. The target extends from surface to a vertical depth of approximately 2 km.

On surface it is underlain by anomalous gold in soil samples and pervasive biotite alteration with well developed foliation (BSLA) in stripped outcrops. Drill testing of this area has produced no significant gold assays, but did intersect similar alteration as at surface with the additional favorable indicator of the presence of a QZPY unit. This alteration corridor has been sparsely tested over a strike length of approximately 600 m.

The target has also been tested at a vertical depth of approximately 1.5 km, at a point approximately 750 m down plunge of the mine. The presence of anomalous acoustic impedance reflectors in the 2020 2D seismic survey data suggestive of continuity with the mine alteration and proximity to anomalous gold values at the northeast end of 18 and 22 Levels and in drillhole AD12-03 provided support for a target that was tested by drilling of two deep drillholes. Both drillholes intersected intense mine-style alteration including silicification, altered felsic porphyry (QZPY) and anomalous gold (up to 2 g/t Au) at the target depth. Further drilling is planned as funding allows.

The presence of favorable alteration, lithologies and anomalous gold values over such a large area directly along strike of the mine makes the Derlak zone an attractive area for future exploration work.

7.3.9 #1 Vein

Prior to discovery and mining of the main Madsen deposit, gold mineralization was discovered and developed as exploratory workings at the Madsen #1 Vein, located within the Confederation Assemblage approximately 1 km south of the No. 2 headframe. Surface work conducted by Pure Gold has confirmed the presence of gold mineralization (often associated with visible gold) in quartz veins which follow a NE-SW trend for several hundred meters. Current work also confirms the validity of a series of grab samples taken by Claude Resources which showed consistent gold mineralization along the trace of the surface exposure of the #1 Vein during a program of limited surface mining in the 1990s.

Drilling by Pure Gold at the #1 Vein target intersected quartz veins containing visible gold within an altered felsic intrusive unit to a vertical depth of 135 m and over a strike length of approximately 100 m. Assay values up to 9.4 g/t Au over 2.0 m were intercepted. The majority of this drilling was planned in close proximity to the historical #1 Vein mine workings and the workings were intersected in several drillholes. The drilling by Pure Gold (to the end of 2021) has served to establish an understanding of the nature of mineralization at the #1 Vein and provided a starting point for future exploration activities in this area.

7.3.10 Dev Northwest

The Dev Northwest Target is an early-stage exploration target defined by anomalous gold in soil samples, alteration in outcrop and gold mineralization in quartz veins. Follow-up prospecting and mapping on a large gold-in-soil anomaly at the end of the 2015 field season identified quartz veining and silicification in iron carbonate and banded amphibole-biotite altered basalt. Anomalous gold values were returned from limited outcrop grab sampling. In 2017 further mapping, trenching and channel sampling work was completed (Leidl, 2018). Strongly altered BSLA and SAFZ shear zones and prominent sheeted arrays of intersecting quartz veins were identified. The area was re-examined in 2019 and it was recommended that drill testing be conducted on both the vein and alteration zones to test for significant density of gold bearing veins on and around the contact with a nearby ultramafic unit (Swanton et al, 2019).

7.3.11 Dev

At the Dev Target, a large D_2 fold defined by magnetic anomalies is cut by several axial planar shear zones. Banded iron formation defines at least three stratigraphic marker units which may fold back on themselves to define an F_1 fold hinge (Cooley and Leatherman, 2015). MMI (Mobile Metal Ion) soil data define a significant multi-element, gold-associated anomaly covering a 1500 m by 200 m area (Baker and Swanton, 2016). Programs of mechanized stripping in 2016 and 2019 determined that the most prospective portion of this large soil anomaly is the northeastern corner, where several large zones of iron carbonate veining are present on the margins of deformed iron formation. Both iron formation and iron carbonate veins are locally silicified and channel samples from the 2019 program returned up to 6.5 g/t Au. As these veins are interpreted to be the same as those which host the adjacent Redaurum historical mine (Evolution Mining), follow up drill testing of the zones was recommended (Swanton et al., 2019).

7.3.12 Snib

Historically, this area was part of the Newman Madsen Property acquired by Pure Gold in 2014. Pure Gold completed MMI soil sampling over the Snib target which returned anomalous gold in soil values at the northern and southern limits of Snib Lake. These areas are underlain by quartz veining at the contact of folded ultramafic units. Additionally, shearing and strong carbonate alteration are present north of the lake (Cooley and Leatherman, 2015). Historical core drill holes testing the unconformity between the Balmer and the Confederation Assemblages returned intercepts of 22.56 g/t Au over 2.0 m from drill hole NM06-02 and 43.51 g/t Au over 0.65 m from drill hole NM-10-02, both within the Confederation Assemblage. There is approximately 1000 m of poorly tested strike length between the two drill intercepts noted above and the area remains a viable exploration target due to the presence of alteration, proximity to an ultramafic unit and the Balmer-Confederation unconformity and the gold occurrences.

7.3.13 Treasure Box

The Treasure Box Target near the north end of Russet Lake is characterized by discontinuous en echelon extensional quartz-tourmaline veins and stockwork veins that locally contain visible gold. Vein swarms vary from 10 m to 70 m wide but individual veins are generally <40 cm thick. Gold in the wall rock adjacent to the veins is negligible. The veins are hosted in a package of moderately altered and weakly deformed basalt and gabbro. The most extensively tested portion of the target was drilled by Placer Dome and Claude to delineate a package of mineralized veins over a strike length of 165 m and to a vertical depth of 250 m with a typical thickness of 35 m. Work by Pure Gold during 2019 recognized that this zone forms part of a larger trend of veining extending nearly for 1 km west of the zone of dense drilling, encompassing several additional stripped outcrops and isolated historical drillholes (Swanton et al, 2019). Drilling of the main Treasure Box target by Pure Gold in 2020 successfully intercepted gold mineralization directly outside the footprint of previous drilling (up to 19.2 g/t Au over 1 m), adding significantly to the understanding of mineralization in the area and demonstrating it to be open to depth and along strike. Additional drilling along the western strike extension of the zone intercepted the same veining system seen in outcrop and is a positive indicator of the exploration potential of the trend.

7.3.14 Dome

This is an early-stage exploration target located along the southwest margin of the granodioritic Dome Stock comprising gold in quartz-tourmaline veins. Historical drilling intercepted 1.8 g/t Au over a composite length of 24 m, including 22.6 g/t Au over 0.9 m. Historical work indicates near surface potential for mineralization over a significant strike length. This mineralization is similar in style to that at the adjacent and past-producing Buffalo and Red Lake Goldshore mines on the Hasaga property held by Equinox Gold, as well as Yamana Gold’s North Madsen project.

7.3.15 Roberts

The Roberts target is located along a curvilinear north-striking, east-dipping iron formation on the west side of Robert's Lake in the northwestern portion of the Mine Property. Gold occurs in deformed quartz veins and in sulphidized wall rock adjacent to veins hosted within basalt and sulphide-facies interflow iron formations (Jones 2016). The iron formation beds have been traced for hundreds of meters to the north of the Roberts trenches and for over 1 km to the stripped outcrops at the Roberts South showing. Channel samples from exposed trenches returned up to 10 g/t Au over 2.0 m and isolated grab samples returned up to 59 g/t Au. Since 2017, Pure Gold has drilled fifteen holes over a strike length of 125 m, testing directly beneath surface mineralization with the best intercepts grading 3.7 g/t Au over 5.0 m (including 9.8 g/t over 1.0 m) and 2.8 g/t over 3 m (including 7 g/t over 1 m). No testing below 60 m vertical depth has been completed. As drill testing has been confined to a relatively small section of the overall Roberts trend and has been successful in demonstrating the presence of gold mineralization, there is potential for additional exploration success along the trend and at depth.

7.3.16 Russet North

The Russet North target has a similar geological setting to the Russet Deposit. This target comprises 100 m of north-south striking iron formation where gold appears to be localized along a folded iron formation-basalt contact. Surface sampling (rocks and soils) as well as drilling has been completed. Drilling intercepted up to 5.5 g/t Au over 1.0 m.

7.3.16.1 Coin

The Coin target is situated at the far northern extent of the Mine Property, within a region of tight folding defined by east-west axis folds and ultramafic sills cutting Balmer basalt. Anomalous geochemical results from soil and rock sampling in the area is suggestive of mineralization in proximity to the hinges of these folds. Recent drill intercepts and historical drill results from nearby holes on the Evolution mining property to the immediate West make this area an attractive exploration target.

8 Deposit Types

Gold mineralization on the PureGold Mine Property is localized along major structural trends, similar to other deposits found throughout the Red Lake district and ranging in scale from localized showings to past-producing or currently producing mines. Based on extensive work, Pure Gold has made considerable advances in the geological understanding of these deposits and have developed a new interpretation that deviates from those of past workers (e.g., Dube et al., 2000). As of the effective date of this report, the deposits are now classified as Archean orogenic gold deposits (Groves et al., 1998) though they have been intensely modified by deformation and metamorphism following gold deposition.

8.1 Characteristics

Following Kerrich et al. (2000), orogenic gold deposits are typically associated with crustal-scale fault structures, although the most abundant gold mineralization is typically hosted by lower-order splays from these major structures. Deposition of gold is generally syn-kinematic, syn- to post-peak metamorphism and is largely restricted to the brittle-ductile transition zone. However, deposition over a much broader range of pressure-temperature conditions (200–650°C; 1–5 kbar) has been demonstrated. Host rocks are highly variable, but typically include mafic and ultramafic volcanic rocks, banded iron formation, sedimentary rocks and more rarely granitoid rocks. Alteration mineral assemblages are dominated by quartz, carbonate, mica, albite, chlorite, pyrite, scheelite and tourmaline, although there is much inter-deposit variation.

8.2 Mineralization Model

8.2.1 PureGold Mine Style Gold Mineralization

Controls on mineralization at the mine are consistent with a typical orogenic gold system. Many deposit-scale features such as control by lithological / structural contacts and association with felsic dykes are typical in these systems. Smaller-scale features have been used to support the interpretation that the PureGold Mine deposits are an unusual or end-member type of orogenic gold system. For example, Dubé et al. (2000) conclude that the Madsen deposit is a disseminated, stratabound deposit that shares similarities with mafic-hosted gold-skarns and also with higher-temperature Australian deposits. Recent work, however, indicates that, apart from its early timing of emplacement prior to the dominant regional deformation and metamorphism, PureGold Mine shares many characteristics with typical orogenic gold deposits, including the Red Lake Mine.

All significant gold mineralization on the Mine Property is demonstrably early relative to the most significant, penetrative deformation (D_2) and metamorphic events. Quartz veins at 8 Zone, Wedge and Russet are boudinaged, recrystallized, folded and overprinted by the penetrative S_2 foliation. Mineralized bodies of the Austin, South Austin and McVeigh Zones are locally folded and transposed into S_2. In addition to this intense deformation overprint, the mineralized veins and alteration have been subject to the relatively high temperatures of amphibolite facies metamorphism, which led to extensive recrystallization and growth of the skarn-like mineral assemblage of diopside-amphibole-quartz-biotite. By contrast, more typical deposits of the orogenic gold deposit class are characterized by lower temperature greenschist facies mineral assemblages. It is this intense deformation combined with the amphibolite grade metamorphism that obscured the primary features of the PureGold Mine style gold mineralization and led to suppositions of a syngenetic, or other atypical origins for the deposit. However, numerous structural and petrological features identified by Pure Gold contradict such interpretations and support an orogenic gold deposit classification.

At the property-scale, the mineralized zones follow planar corridors defined by patterns of gold mineralization, alteration and high strain that are continuous on a kilometer-scale (e.g., Austin/ South Austin Zones are planar and continuous over an area of at least 600 by 2,000 m). These planar structures transect their host Balmer stratigraphy and the Balmer/ Confederation Assemblage unconformity at a low angle, which refutes the possibility of a syngenetic or stratabound origin. This corridor is also host to discontinuous, coplanar lenses of quartz porphyritic felsic dykes, which predate mineralization but preferentially host significant rinds of mineralization along their contacts – a further indication of an epigenetic origin and structural control for the mineralization.

At the deposit scale, primary local control controls on the localization of gold mineralization include competence contrasts between different lithologies, in particular felsic dykes and ultramafic sills, but also iron formations, which is a common feature of structurally-controlled hydrothermal deposits of all types. These competence contrasts manifest deposit scale controls on the shape and plunge of the deposits at their intersections with mineralizing structures. Reversals in the plunge direction of mineralized shoots are thereby linked to the primary orientations of vein emplacement relative to their host stratigraphy - originally moderately-dipping structures host shoots that tend to plunge east (e.g. Austin & South Austin), whereas originally steep-dipping and more northerly-trending structures tend to plunge southwest (e.g. McVeigh & Wedge). Also, the presence of shallow-dipping veins within the original vein structure, as evidenced by the shallower dip of enveloping surfaces around tightly-folded veins, in conjunction with moderately- and/or steeply-dipping structures is another feature common in structurally-controlled gold vein systems.

Petrologically, the skarn-like alteration assemblage of the mine style mineralization is an unusual feature in gold vein systems, but is now recognized here as a metasomatic overprint on the original quartz-carbonate (+sericite?) vein and alteration mineral assemblage. Numerous examples of preserved quartz-carbonate veins and vein remnants with biotite-rich reaction rims inside massive diopside-amphibole-altered rock have been found, clearly indicating the primary alteration assemblage to be quartz-carbonate rich, as is more typical of orogenic gold deposits. The skarn minerals (diopside, amphibole, biotite and garnet) therefore represent the recrystallized equivalents of the original alteration assemblage, grown at higher temperatures following emplacement.

Thus, the main components of the Madsen deposit mineralization model include:

- Significant gold deposition occurred prior to the main, belt-scale deformation event (D_2) within largely planar structures that have been nearly completely recrystallized by overprinting deformation and metamorphism. An original, pre-D_2 shape of the gold bearing structural/vein system included a dominant moderately-dipping structure (Austin, South Austin) with subsidiary steeply-dipping footwall splays (McVeigh West and Central), as well as relatively minor shallow dipping veins;
- Geometrically, gold deposits were folded by small-scale, localized folds and were structurally dismembered by transposition and rotation into the penetrative S_2 foliation;
- Pervasive, but incomplete replacement of the original quartz-carbonate vein/alteration mineral assemblage to a metasomatic skarn-like assemblage of diopside-amphibole-biotite-garnet – i.e. both assemblages are intimately associated with gold.

- Effective exploration drill targeting requires anticipation of these shapes and expectation of a heterogeneous gold system.

8.2.2 Planar, Quartz-Sulfide Vein-hosted Gold

The second style of gold mineralization found on the Mine Property is hosted by discrete, planar quartz veins with little associated alteration. Setting and orientation of these veins is variable – multiple examples occur proximal to iron formation, but they are also present in both Balmer-age mafic and Confederation-age felsic host rocks. The orientation of these veins is often – though not universally – roughly parallel to the axial plane of D_2 folds. In cases where the veins do not display this orientation, they typically track sub-parallel to a stratigraphic feature such as an iron formation. The key features which distinguish these veins from the earlier veins described above are their lack of associated alteration and co-incident quartz porphyry or non-quartz vein material (e.g., ankerite/diopside). The timing of this vein style is not well constrained, but if the #1 Vein is included in the set, a post-Confederation age is required. The localized association with D_2 axial planes suggests that they were emplaced synchronous with the D_2 deformation event. Examples of this style include Dev NW, Roberts and the #1 Vein.

8.2.3 Quartz-Tourmaline Vein-hosted Gold

The third style of gold mineralization is associated with quartz-tourmaline veins. These veins show evidence for emplacement under a brittle tectonic setting and typically occur as en echelon vein arrays. As such, these veins have short strike lengths and vein orientations are somewhat chaotic, displaying only a rough alignment of orientations within swarms along large (km-scale) trends. Despite being generally narrow (cm to 10’s of cm scale) the veins can host high gold grades making swarms of sufficient density an attractive exploration target. Where they are present in the same location as pre-D_2 ankerite-quartz veins (e.g., Redaurum deposit), they show a clear cross-cutting relationship with those earlier veins. They do not show evidence of deformation during D_2, suggesting that they post-date that tectonic event. These veins are part of the same system that forms the historical Buffalo deposit, which has been interpreted to be associated with emplacement of the Dome Stock. The primary example of this style on the Mine Property is the Treasure Box showing.

8.3 Concepts Underpinning Exploration at the PureGold Mine

Exploration for gold at on the Mine Property focuses on identifying the planar structures (or shear zones) which were active during gold deposition. Since gold is very heterogeneously distributed within these structures assessing targets using gold assay data alone will not yield reliable results. Several features in addition to the presence of elevated gold have been identified to demarcate these important structures, including assemblages of alteration mineral phases (i.e., SAFZ and PRBA lithological codes), strong deformation and the presence of the distinctive early VBGQ veins which are characteristically deformed. Importantly, these structures are locally very subtle but careful drill core logging – including relogging of all available historical drill core – has allowed a property scale 3D model of these structures to be built. These structures form the first-order target for exploration drilling and stepping out from known high-grade gold results within these structures forms the second-order targeting criteria. Structural complexities such as jogs or interactions with lithological contacts are also targeted.

9 Exploration

A summary of the historical exploration work completed between 1928 and 2013 is discussed in Section 4.

Since acquiring the Mine in 2014, Pure Gold has completed several focused surface exploration campaigns (Table 9-1) comprised of geological mapping and rock and soil sampling with a focus on gaining understanding of gold mineralization on the Mine Property. An airborne geophysical survey was completed across the property in 2014 to aid in geologic mapping, structural interpretation and targeting. MMI soil sampling was completed across the property from 2014 to 2017. Field programs of mechanical overburden stripping, mapping and rock sampling were completed at the Russet South deposit in 2015, the Dev, Dev Northwest and Roberts targets in 2016 and 2017, the Wedge deposit in 2018 and the Wedge-OL, Dev and Derlak targets in 2019. In addition to this outcrop-scale work, all soil geochemical anomalies detected during the MMI soil sampling campaigns were prospected during the 2017 and 2018 field seasons. During the 2019 field season a systematic evaluation of all surface exploration targets generated by previous work was conducted and the results used to inform follow-up exploration drilling programs in late 2019 and 2020.

Extensive re-logging programs were conducted in 2017 and 2018, in which core drilled by previous operators was geologically logged in a manner consistent with the current geological understanding and coding scheme, re-sampled where appropriate, and photographed. Following this, the core was transported off-site to a newly constructed core storage area on the Russet Lake access road.

A 2D seismic survey was conducted in 2020 with the aim of demonstrating the viability of seismic techniques to detect the structures which host mineralization on the Mine Property; results were successful in imaging features associated with both the 8 Zone and Austin / South Austin zones of mineralization. Drilling testing of a target emerging from this work (Derlak) intersected low grade gold mineralization within the same lithological and alteration package associated with the actively mined Austin zone, though at 750 m further down plunge.

The recent exploration programs have been successful in contributing significant new geoscience data relied on in concert with extensive historical datasets to develop a new geological model for gold mineralization on the property. The sampling programs have delineated new gold anomalous zones in all target areas described in section 8.3 and identified new high-grade gold surface mineralization at several targets. New drilling targets have been developed and significant high-grade gold-bearing drill intercepts have resulted at Starratt, Fork, Wedge, Treasure Box and Russet South.

Table 9-1: PureGold Mine Exploration other than drilling 2014 – 2022

Exploration Technique	Year(s)	Target or Prospect	Quantity	Reference
Airborne magnetic survey	2014	Property-wide	1,702.8 line km	CGG (2014)
Drill collar location survey	2014	Property-wide	221 drill collars	Pure Gold database
Geological mapping, rock sampling	2014	Madsen deposit/unconformity, Fork, Madsen North	123 rock	Cooley and Leatherman (2014a)
Geological mapping, rock, and soil sampling	2014	Property-wide & Russet grid sampling	37 rock 117 B horizon soil 505 MMI soil 123 lithogeochem	Baker (2014a)
Geological mapping, rock sampling	2014	Derlak Lake towards Red Lake, Buffalo	79 rock	Cooley and Leatherman (2014b)
Geological mapping, rock, and soil sampling	2014	Mapping at Russet and No. 1 Shaft; MMI sampling at Madsen South, Pumphouse, SPfold and Dev grids	29 rock 2,021 MMI soil 8 lithogeochem	Baker (2014b)
Geological mapping, rock sampling	2015	Flat Lake, Dev, Hasaga, Buffalo, DeVillier, Snib Lake, McVeigh, Coin Lake, Fork, Shore	410 rock, most analysed by portable XRF only	Cooley and Leatherman (2015)
Mechanical stripping, geological mapping, rock sampling	2015	Russet, Dev, Russet North	202 rock, 72 channel, 3,234 MMI soil	Baker and Swanton (2016)
Petrography	2015, 2016	Russet, Madsen	67 thin polished sections	Ross (2015), Leitch (2016)
Mechanical stripping, rock sampling	2015	Russet	78 rock	Pure Gold database
Mechanical stripping, geological mapping, rock sampling	2016, 2017	Dev, Dev Northwest, Roberts, Roberts South	296 rock	Jones (2016), Pure Gold database
Soil sampling	2016	Property-wide	2481 soil	Pure Gold database
Geological mapping, rock sampling	2017	Property-wide	143 rock	Pure Gold database
Soil sampling	2017	Derlak	686 soil	Pure Gold database
Geological mapping, rock sampling, mechanical stripping	2018	Wedge	125 rock	Pure Gold database
Historical core re-logging	2017, 2018	Property-wide	595 holes 271,429 m	Nuttall (2017), Bultitude (2018)
Geological mapping, rock sampling, mechanical stripping	2019	Property-wide	388 rock	Swanton et al. (2019), Pure Gold database
2D seismic survey	2020	Property Wide	3 lines, 35 km	HiSeis (2020)

9.1 Airborne Geophysics and Imagery

In May, 2014 Pure Gold commissioned CGG Canada Services, Ltd (CGG) of Mississauga, Ontario to complete a high resolution magnetic airborne geophysical survey over the entire Madsen Property (CGG, 2014). The purpose of the survey was to provide geophysical support for detailed mapping of the geology and structure of the property. In 2020, Hardrock Geophysics Inc was commissioned to produce a high resolution unconstrained 3D magnetic inversion of this data, the results of which model magnetic susceptibility down to a depth of approximately 600 m below the average surface elevation on the property (Penney, 2020).

In June, 2016 Pure Gold commissioned KBM Resources, Ltd (CGG) of Mississauga, Ontario to complete a high resolution LIDAR and orthoimagery survey over most of the Madsen Property to provide new high resolution color orthoimagery and topographic control to an absolute vertical accuracy of 15 cm and orthoimage resolution of 0.1m (Mizon, 2016).

In June, 2017 Pure Gold purchased Pleiades 1B color satellite imagery from Skywatch which covers the entire Madsen Property and surrounds at 0.5 m resolution.

A new LiDAR survey was flown, again covering the majority of the property, in October 2019 by KBM Resources, in order to provide updates to both the air photo and elevation data for the new surface infrastructure constructed to that point.

Similarly, another LiDAR survey update was conducted in May 2022 by KBM Resources covering the entirety of PureGold property and the surrounding areas. Mean vertical accuracy of this survey is 0.016 m and orthoimage resolution is 0.1 m (Mizon, 2022).

9.2 Survey Control

During 2014 Pure Gold completed a property-wide program to survey a selection of historical drill hole locations to improve confidence in using historical drill hole data. Location data were collected with a Trimble ProXRT™ differential GPS receiver with Omnistar real-time correction, which achieved sub-metre precision. In all, 221 historical collars were surveyed from across the property. Many Madsen Gold Corp. historical collars could not be located due to casing being removed.

During 2017, D.S. Dorland Ltd. (Dorland) re-established the mine grid surface survey controls and created a new transformation conversion between the latest federal datum NAD83 CSRS 2010 UTM 15 CGVD 2013 and the historical Imperial Mine Grid (IMG) to the Metric Mine Grid (MMG) (Dorland, 2017). The transformation is a traditional four parameter two-dimensional similarity transformation which has been augmented with additional parameters to ensure that the centre of rotation and scale is at the average location of the surface control points. The mine grid is rotated 59.303861° counterclockwise from UTM North. Following this work, Dorland conducted an underground control survey from the established surface controls down the Madsen ramp to 2 level, adjusted the surface and underground control surveys and placed new wall control points.

In 2018, Pure Gold surveyors continued to establish and maintain the underground survey control network as development proceeded during test mining.

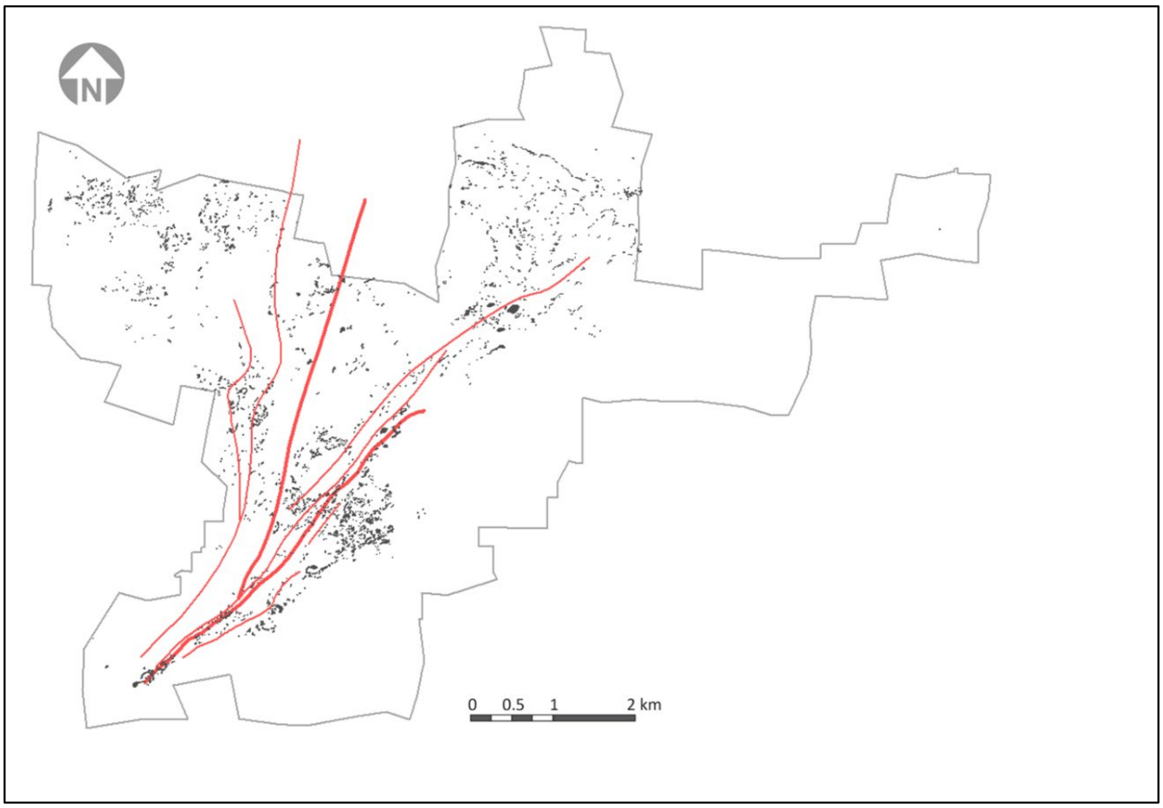
9.3 Geological Mapping

Several geological mapping campaigns were completed during the 2014 and 2015 summer field seasons as detailed in reports by Michael Cooley, Lamont Leatherman and Darcy Baker (Cooley and Leatherman, 2014a, b; Baker, 2014a, b; Cooley and Leatherman, 2015; Baker and Swanton, 2016). During the 2017 season, a comprehensive property-wide mapping and prospecting campaign was initiated, designed primarily to follow up on soil and surface rock anomalies (Leidl, 2018). In 2018, mapping and prospecting was largely restricted to the Wedge area in the southwest corner of the property. Detailed mapping of mechanically stripped outcrops in the Wedge, Derlak and Dev areas was conducted in 2019 in conjunction with sampling of these outcrops (Swanton et al., 2019).

GPS-enabled field computers were used to map locations and shapes of outcrop exposures and to collect data on lithology, alteration and structure which has resulted in a database of more than 4,000 individual bedrock outcrops across the property. Figure 9-1 shows the Pure Gold mapped outcrops including mechanically stripped outcrops.

The resultant property-wide geological map is summarized in Figure 9-1. Mapping has defined structural features (foliations, folds) relating to different deformation events and constrained the timing of gold mineralization relative to these events.

Figure 9-1: Pure Gold Outcrop Mapping



Note: Mapped outcrop locations in black and target alteration corridors in red.
Source: Pure Gold (2022)

9.4 Mechanical Stripping

A series of six outcrops were stripped with an excavator by Pure Gold in 2015 to provide bedrock exposure over key areas where previous drilling had intersected near-surface gold mineralization. Stripped areas were mapped and sampled in detail. The exposure revealed several structural relations and indications of the timing of gold mineralization that were not previously apparent in drill core (Baker and Swanton, 2016).

A reconnaissance outcrop stripping program was completed in the Dev and Roberts areas in 2016 to follow up on a series of gold anomalies in surface grab samples and MMI soil samples. Several prospective zones with similar mineralization style to the Russet deposit were identified and follow-up was recommended (Jones, 2016). More extensive stripping of these outcrops and others in the Dev, Dev Northwest and Roberts areas was conducted in 2017, with channel and grab samples from several of these new exposures returning gold values significant enough to justify further work, including drilling.

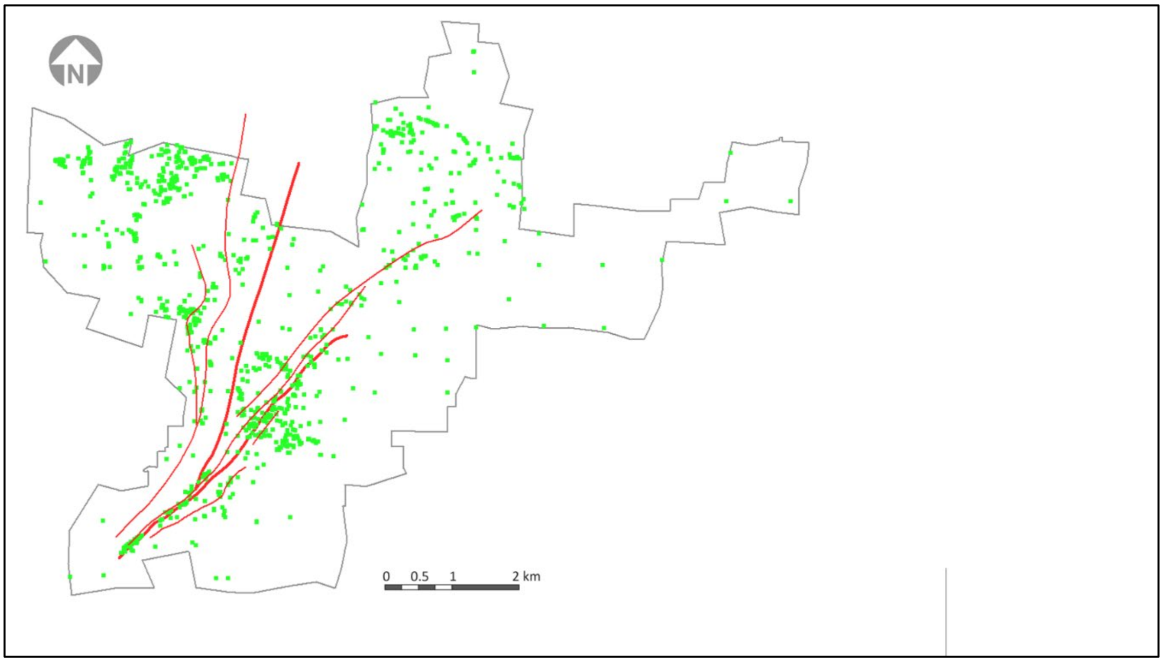
Outcrop stripping in the Wedge DV Zone was carried out in 2018 to provide improved surface geological mapping of the deposit. Four outcrop areas were stripped and mapped with channel and grab samples collected from these outcrops returning values from 0 to 25.9 g/t Au.

A program of further outcrop stripping was conducted in 2019 with the objective of advancing prioritized exploration targets identified from previous programs. A total of five outcrops were stripped and mapped during this program; two in the Wedge-OL area, two in the Dev area and one in the Derlak area. These areas have all been reclaimed by seeding with native species where conditions allowed.

9.5 Rock Geochemistry

Up to the end of 2021, Pure Gold has collected and analyzed approximately 2,271 surface rock samples using 4 acid ICP-MS for lithogeochemistry and fire assay for gold. Rock sample locations are shown in Figure 9-2. The samples were collected to determine the composition and alteration state of the main lithologic units encountered during mapping, and to determine gold content. Numerous grab and channel samples were collected at natural outcrops and those exposed during mechanical stripping. Industry best practice techniques are applied to the collection of grab and channel samples, however due to the selective nature of the sample collection the results are not considered in themselves to be representative of average gold content of the sampled zone but are rather used as one guide to the prospectivity of a target prior to drilling.

Figure 9-2: Pure Gold Rock Sample Locations



Note: Rock sample locations in green and target alteration corridors in red.
Source: Pure Gold (2022)

9.6 Soil Geochemistry

Two soil sampling techniques were trialed by Pure Gold: conventional, B-horizon soil sampling and Mobile Metal Ion (MMI) soil sampling. During the first sampling program in 2014, both types of samples were collected at the same widely-spaced sites across the property. Subsequent surveys focused on collecting follow-up soil samples using only the MMI technique which was deemed to be the most appropriate for most sample sites (Arne, 2014).

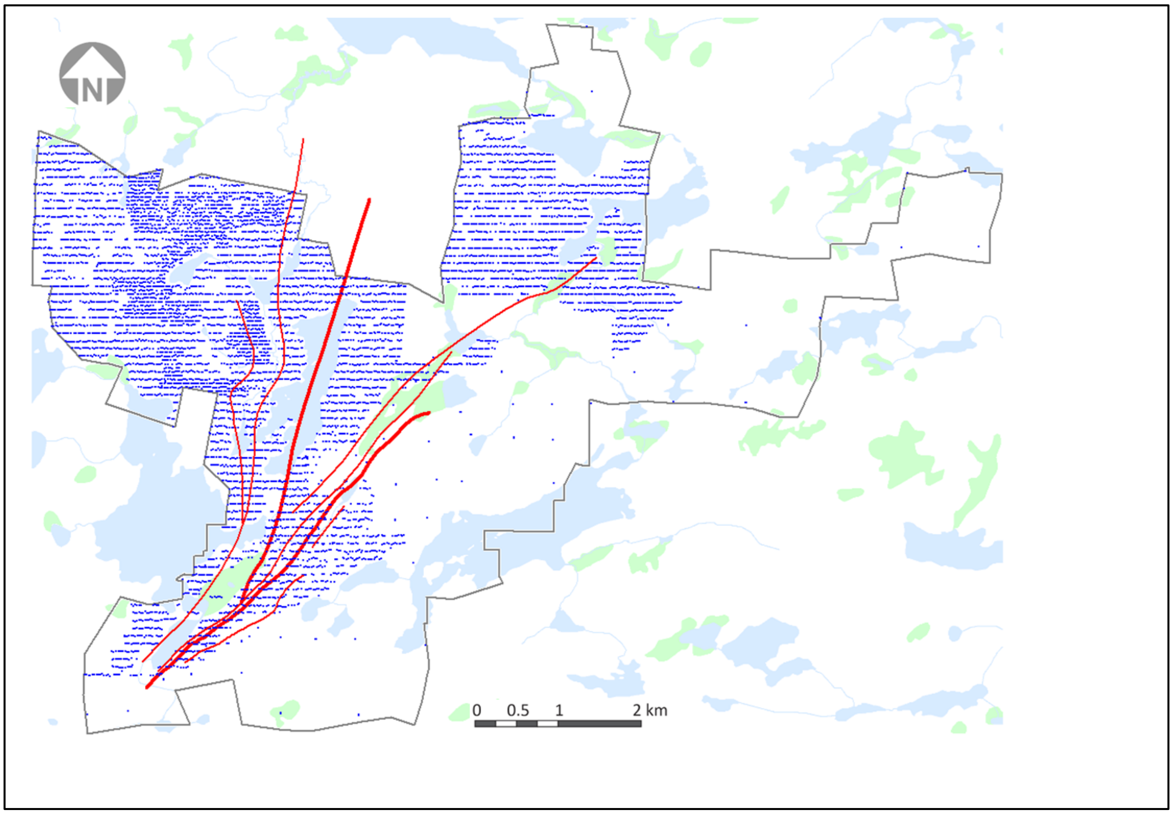
MMI soil samples were collected in plastic Ziploc bags from a continuous interval between 10 cm and 25 cm below the organic/inorganic interface. Undecomposed organic material was avoided and excluded from the sample. Depending on the depth to the organic/mineral soil interface and the amount of groundwater, samples were collected with a hand auger or by digging a small pit. Sites were photographed, marked with Tyvek tags and data recorded in field notebooks to be entered into Pure Gold’s sample template. Location data was recorded on handheld Garmin GPSs.

Conventional B-horizon soil samples were collected in paper kraft bags from the B soil horizon using a shovel or auger. Undecomposed organic material was avoided and excluded from the sample. Sites were photographed, marked with Tyvek tags and data recorded in field notebooks to be entered into Pure Gold’s spreadsheet template. Location data was recorded on handheld Garmin GPSs.

For the initial, property-wide soil sampling program, sample locations were spaced about 1,000 to 500 m apart. For subsequent, follow-up programs MMI samples were collected along east-west grid lines spaced 100 m apart. Sample spacing along these lines was 25 m although sampling sites were modified slightly as appropriate to select a suitable location. Soil sample locations are shown in Figure 9-3.

To the effective date Pure Gold has collected 8,972 MMI soil samples covering the majority of the property that is underlain by Balmer Assemblage rocks. Several regions of anomalous gold exist, including some which are not explained by bedrock geology (these are explained in greater detail in Section 7.3. Given the extremely sensitive nature of the MMI technique, some areas of anomalous gold near historical mine sites may be due to contamination by tailings transported by wind or surface water.

Figure 9-3: Pure Gold Soil Sample Locations



Note: soil survey locations blue and target alteration corridors in red.
Source: Pure Gold (2022)

9.7 Historical Drill Core Relogging

An extensive historical drill core relogging campaign was initiated in 2017 and completed in 2018. The program focused on drill core produced by Placer Dome and Claude between 2001 and 2010. In total, approximately 271,000 m from 595 drill holes were photographed and recoded, which updated the historical logging codes to the Pure Gold logging scheme. Additionally, several thousand new core samples were collected and analyzed for gold and multi-element ICP geochemistry. Magnetic susceptibility was recorded for 10 holes through the 8 Zone. The processed core was moved to a new core storage site on the Russet Road.

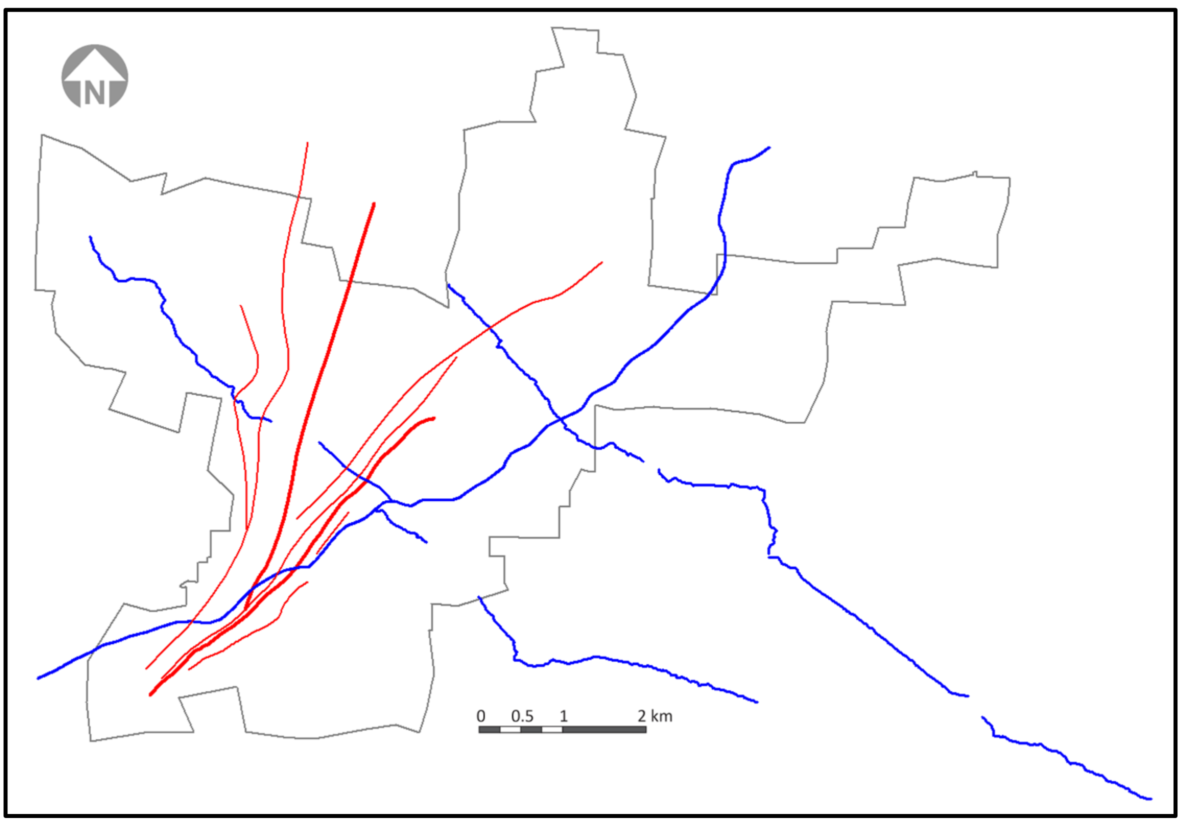
9.8 Petrography

Pure Gold has undertaken several petrographic studies of samples selected to characterize timing of mineralization, alteration phases and igneous precursors (Ross, 2015; Leitch, 2016; Ross, 2016). The results of this work have been integrated along with lithogeochemical studies to refine core logging and the geologic mapping scheme.

9.9 Seismic Survey

A 2D seismic survey was conducted in 2020 by HiSeis, an Australian company specializing in usage of seismic surveys for hard rock mineral exploration. Three lines were surveyed, for a total of approximately 35 line-km of data with data reported to a depth of 5 km below surface. Two of the lines were oriented northwest-southeast, approximately perpendicular to the strike of stratigraphy and mineralization while the third was oriented northeast-southwest, generally parallel to these trends. The NE-SW line was conducted along Highway 618 and the Suffel Lake Road, paralleling the Balmer-Confederation unconformity and spatially overlapping the unconformity for approximately 1 km. The NW-SE trending lines were conducted along a combination of existing bush roads and newly cut access lines. The southern line was surveyed such that it crosses the trend of the Madsen deposit at the location of both the headframe and the 8 Zone, making it well placed to image both the upper portions of the Austin / South Austin zones and the 8 Zone at depth. The northern line crossed the trend of the alteration corridor hosting the Madsen deposit approximately 1 km northeast of the furthest extent of developed stopes from the PureGold Mine, making it well placed to image any possible along-strike continuity of the deposit (Figure 9-4). The survey identified acoustic impedance repsonses interpreted to represent alteration associated with gold mineralization. Results were successfully used for drill targeting at Derlak and have substantially contributed to refining the design for a planned 3D survey.

Figure 9-4: 2D Seismic Survey



Note: 2020 Seismic survey lines in blue and target alteration corridors in red.
Source: Pure Gold (2022)

9.10 Test Mining and Underground Bulk Sample

Pure Gold collected an underground bulk sample of the McVeigh zone of the Madsen deposit in 2018 during a test mining program designed to gauge lateral and vertical continuity of gold mineralization, to validate the resource model, to provide additional geotechnical information and to assess applicability of potential mining methods. A total of 172 mining faces were blasted from the bottom of the existing ramp between 2 Level and 3 Level for approximately 370 m of new development. Of these faces, 128 were under geology control including 16 slashes and five bench faces. Thirteen raise faces were also blasted from two separate raises. Each face was geologically mapped, photographed and sampled. Two parallel sampling lines were typically completed across each face using a pneumatic chipper. After each blast, ~2.0 kg muck samples were collected in a regular pattern with five individual muck samples taken from every second scoop bucket resulting in one muck sample for every three tonnes of mined material. Each blast typically had an average of about 25 muck samples collected, and all samples from each round were averaged to determine if a particular round met the 4.0 g/t gold cut-off. Additionally, each mining face had test sludge holes drilled into the walls approximately one metre back from the face. A total of 3,008 muck samples, 1,698 chip samples and 208 test hole samples were collected. Additional (excluding QAQC samples, which were systematically inserted into each sample batch) were collected.

The test mining was advanced using a single-boom hydraulic jumbo drill, typically with one round blasted per day. Blasted rock was mucked using scoop trams with varying bucket capacities (including 2, 3.5 and 6 cubic yards), which was then loaded into a 30 tonne capacity haul truck. Underground survey control was maintained using a total station. In all, 4,953 tonnes of high-grade (>4.0 g/t gold) material was mined and stockpiled in a secure underground location, while the 2,143 tonnes of lower-grade (1-4 g/t gold) material was mined and stockpiled in a secure location on surface. Some un-mineralized mine rock was trucked to surface and placed on the existing un-mineralized mine rock storage area, while the remaining un-mineralized mine rock was used for backfill in historical underground workings.

As mining progressed, drift walls were tested on a minimum of 3 m spacing with a core drill to identify potential for additional gold mineralization. The holes were drilled ~10–20 m horizontally with a Bazooka air drill which returns EW size (25.4 mm or 1 inch) core samples which were logged and photographed prior to whole core sampling. A total of 1,976 m of Bazooka core drilling was completed in 153 holes and 1,711 samples (excluding QAQC) were collected.

9.11 Ongoing Exploration Targets

The mineralized zones described in Section 8.3 are all subject to ongoing exploration as targets.

9.12 Sampling Methods and Quality

The rock and soil sampling by Pure Gold has been systematic and completed according to a clear set of documented procedures that meet or exceed industry best practices. Rock samples provide an indication of the presence of gold but are biased by available bedrock exposure and sample selection. Similarly, soil samples provide an indication of elevated gold within the overburden, but this material can be transported and is not necessarily indicative of underlying bedrock.

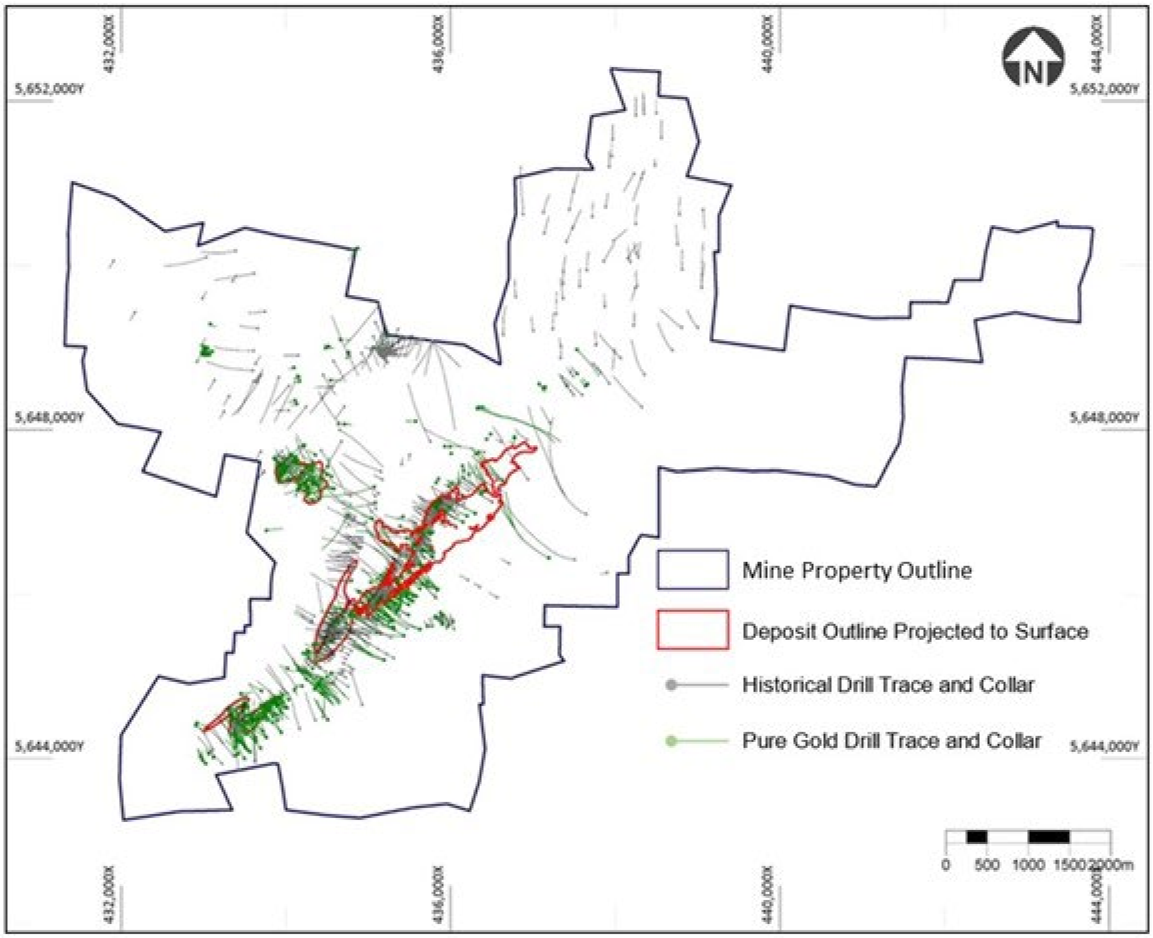
9.13 Interpretation

The Madsen Gold Project surface (non-drilling) exploration dataset comprises systematic, property-wide, multifaceted information carefully collected using modern techniques. Combining surface geophysical (magnetic and seismic), geochemical and geological information with historical data and drilling data has allowed for a property-wide geologic map which has formed an important input for sub-surface three-dimensional geologic interpretation supported by the drilling dataset. Delineation of several new surface targets has resulted from compilation of the surface data sets. The surface dataset continues to be refined and informed by infill geological mapping supported by mechanical stripping and by diamond drilling. In the current state it forms a valuable base for geologic interpretation and extrapolation in support of exploration.

10 Drilling

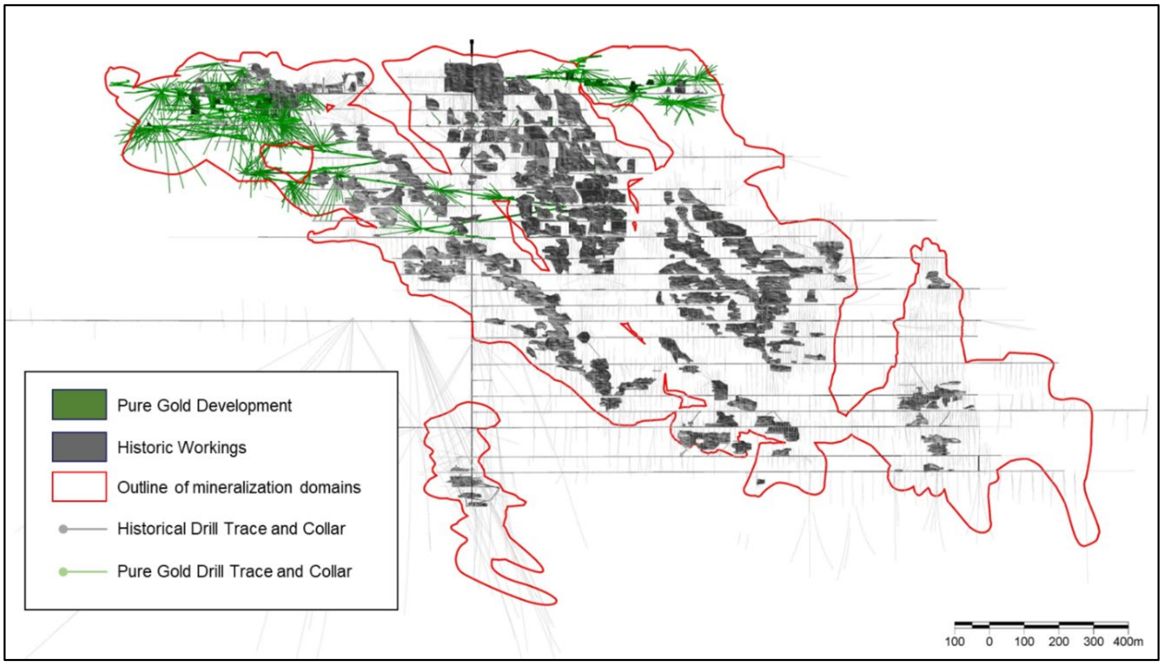
A summary of drill holes used in resource estimation is provided in Table 10-1. Figure 10-1 provides a plan map and Figure 10-2 provides a long section view showing drill holes completed by Pure Gold and previous operators. Documentation of procedures and methods of drilling is sparse prior to the 1990s.

Figure 10-1: Plan map showing the location and direction (traces) of surface drill holes completed by Pure Gold and by previous operators



Source: Pure Gold (2022)

Figure 10-2: Longitudinal section view (looking 300°) of the PureGold Mine showing location of underground diamond drilling, development, and outlines of mineralization domains



10.1 Historical Drilling

All historical exploration and production drill testing on the Mine Property to date has been by diamond drill coring. Underground drilling from 1937 to 1999 at Madsen Mine employed whole core sampling and most core intervals were sampled for fire assay gold analysis at the onsite-mine laboratory. Core was generally sampled at 5- foot intervals. The near complete drill log collection preserved at the mine site office attests to a very systematic approach to surface and underground drilling by Madsen Red Lake Gold Mines during the era of mining at Madsen. Early collar locations are referenced to the Imperial Mine Grid and holes are systematically identified according to the level where it was collared and the grid easting. Use of this grid system persisted by other operators until about 2000 at which time recreational-grade GPS equipment was used to collect collar coordinates for surface drillholes and from 2009 onward a differential GPS system was used.

According to archived drill logs, Madsen Gold Corp's drilling campaigns in 1998 recovered BQ-sized core and drilling was completed by Newmac Industries. Downhole survey data was collected by acid dip tests or Sperry Sun.

10.2 Placer Dome

Placer Dome completed drilling programs between 2001 and 2004 (Dobrotin 2002, 2003, 2004a, 2004b, Dobrotin and McKenzie, 2003) across the Madsen property. All drilling returned NQ-sized core and was completed by Major Dominik Drilling with a Major 50 or Boyles 37 rig. Downhole surveys were completed using a combination of acid dip tests, Maxibor and EZShot methods. Drill collar locations were recorded by handheld GPS equipment in NAD27 for early programs, but a differential GPS was used in 2004.

10.3 Wolfden and Sabina

Drilling programs on the Newman-Madsen Property between 2003 and 2011 (Klatt, 2003a, 2003b; Toole, 2005; Long, 2007) returned NQ-sized core and was completed by Chibougamau Diamond Drilling Ltd. Generally, downhole surveys were completed using Flexit™ single shot tools and holes were lined up with a handheld Brunton compass.

10.4 Claude

According to information on drill logs and internal written procedures, Claude Resources' drilling programs returned NQ-sized core and was completed by Bradley Brothers Limited. Collar location coordinates were collected with a differential Leica GS50™ DGPS in NAD27. Downhole surveys were completed with Flexit™ and EZShot™ tools and later with DeviFlex™ gyroscopic tools.

10.5 Pure Gold

From project acquisition through December 31, 2021, Pure Gold has drilled a total of 1,723 diamond drill holes for 345,539 m. These totals include both exploration drilling outside the footprint of the PureGold Mine and definition drilling to support mining operations. Core size and drilling location are summarized in Table 10-1.

Since the effective date of this Technical Report, additional diamond drilling was conducted until the mine closure on October 24, 2022. A total of 688 drill holes and 54,122 m of drilling was completed in 2022. Based on a review of the results of this drilling it has been determined that the information obtained will not have a material impact on the mineral resource estimate presented in this report.

Drilling within the Madsen deposit was aimed at characterizing the historically mined zones using modern methodologies and on extending the strike and dip extents of known mineralization. Targeted exploration drilling occurred within and adjacent to all of the current resource domains with a focus on resource growth. Additionally, several target areas across the property were tested including Starratt, Fork, Russet and Wedge and initial drill holes tested several regional targets.

Drill holes completed within the resource domains confirmed data contained in the historical mine compilation and allowed a thorough study of the structural geology, geochemistry and alteration of the gold-bearing zones. Information acquired through the latest drilling and supported by surface work is consistent with interpretations that the gold mineralization at PureGold Mine developed early in the tectonic history of the belt and has been deformed and folded.

Surface drilling was completed by Major Drilling in 2014 and early 2015 and Hy-Tech drilling from early 2015 to present, with the exception of short PQ-sized holes drilled in 2018 as part of the geotechnical program for the tailings facility which were drilled by Boart Longyear. Hy-Tech drilling conducted underground drilling in 2017, 2018, 2020 and part of 2021. For the latter part of 2021 underground diamond drilling was conducted by Boart Longyear. Additionally, in-house Pure Gold staff conducted a portion of the diamond drilling during 2020 and early 2021.

Most surface holes (except the 14 geotechnical holes) were drilled with NQ-sized equipment and core was placed in wooden core boxes. Drill collar casings were preserved and covered with caps labelled with the drill hole name and marked with wooden stakes. Hole collar locations were surveyed post-completion by Pure Gold staff or contractors. From 2014 through 2021 the holes were surveyed using a Trimble ProXRT™ differential GPS receiver with Omnistar™ real-time correction; from late 2021 until present a Trimble R2™ differential GPS receiver was used. Both tools are able to achieve sub-metre precision. Underground holes were drilled with a variety of core sizes and drill rigs. All EW core and a minor amount of AQTK core was drilled with an air powered Bazooka rig, with the majority of AQTK diameter core drilled with an air-powered VAG drill rig. All BQ and NQ diameter core was drilled with electric hydraulic rigs. For all types of underground drilling, core was placed in wooden core boxes at the rig and delivered to surface for logging and sampling. Hole collar locations were marked by the drill crews with numbered metal tags to identify each hole, and then surveyed post-drilling by Pure Gold mine survey staff with the same survey equipment and controls used in all other aspects of mine surveying.

Down-hole surveys in 2014 and 2015 were initially completed with a Reflex EZ-Shot tool every 20 to 30 m. Drill holes were re-surveyed at completion with a Reflex Gyro survey tool from hole bottom to top. Starting azimuths for the gyroscopic instruments and drill alignments were determined with an azimuth pointing system (APS) GPS based compass in 2014 and 2015. In 2016, survey procedures were improved through the replacement of the APS with gyrocompass devices (initially the Reflex TN-14™, which was subsequently replaced with a DeviCo Devialigner™) for drill alignments and initial gyro orientations and with north seeking downhole gyro tools for all downhole surveying. Survey procedures for surface exploration remained constant from 2014 until present, with north seeking single shot surveys taken every 30 m and continuous surveys with initial alignment taken by north seeking gyrocompass done upon completion of drilling. Definition drilling followed the same procedures until late 2021, at which point the procedure was changed such that only a single continuous survey with the downhole gyroscopic surveying tool was completed.

All surface exploration drillcore drilled by Pure Gold from 2014 to present was oriented using a Reflex ACTIII™ core orientation tool. Definition drillcore (either surface or underground) was not oriented.

All surface drilling sites were cleared of any cut timber and debris, and sites outside the active mine site were re-contoured and re-seeded with a native seed mix post-drilling.

All drill holes were logged, photographed, and sampled at the mine following the procedures described in sections 10.5.1 to 10.5.2. All data collected during core processing was stored in the Reflex Hub™ (formerly ioHub) cloud database until early 2018 when the database was moved to a Pure Gold managed Datashed™ SQL database.

Table 10-1: Pure Gold diamond drilling totals showing core size, year, and drill location

	Year drilled:	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total to December 31,2022
Core Size		Surface									
NQ	# of Holes	26	27	235	202	143	101	86	151	187	1,158
	Total Meters	6,895	5,909	82,525	81,118	33,884	27,246	26,943	25,491	15,862	305,873
HQ	# of Holes						1				1
	Total Meters						135				135
PQ	# of Holes					14					14
	Total Meters					262					262
Core Size		Underground									
EW	# of Holes					153		56	24		233
	Total Meters					1,976		1,723	553		4,251
AQTK	# of Holes							3	164		167
	Total Meters							68	11,598		11,666
BQ	# of Holes								172	501	673
	Total Meters								14,018	38,260	52,278
NQ	# of Holes				58	53		54			165
	Total Meters				12,180	5,842		5,174			23,196
TOTAL	# of Holes	26	27	235	260	363	102	199	511	688	2,411
	Total Meters	6,895	5,909	82,525	93,298	41,965	27,381	33,907	51,660	54,122	397,662

Source: Pure Gold (2022)

Figure 10-3: Representative cross-section through the 8 Zone / Shaft area of the PureGold Mine. Coordinates displayed in local Metric Mine Grid (MMG). 30 m thick cross section looking 030° (090° MMG)

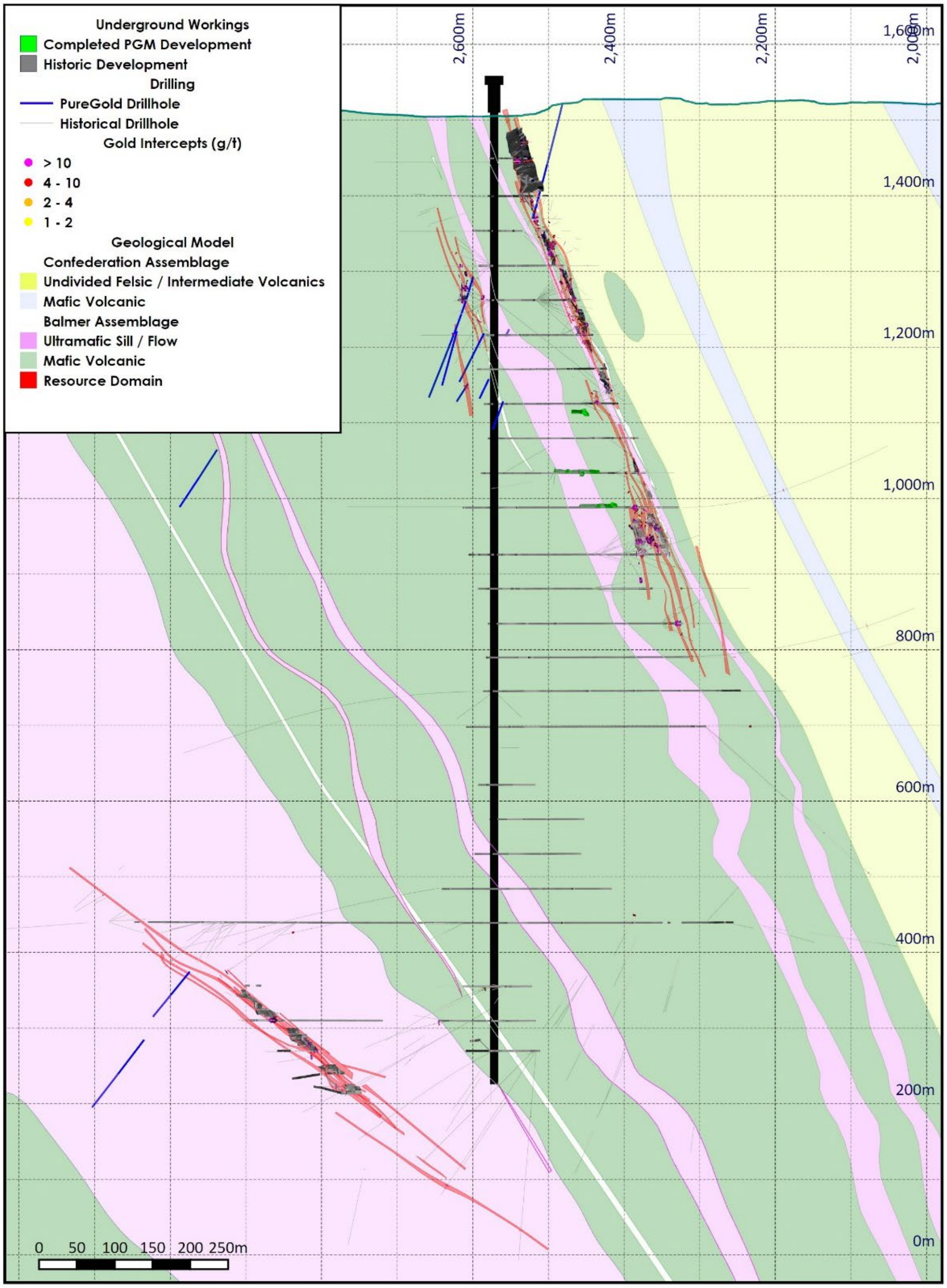


Figure 10-4: Representative cross-section through the East Portal area of the PureGold Mine showing mineralized domains within the Austin Zone. Coordinates displayed in local Metric Mine Grid (MMG). 30 m thick cross section looking 030° (090° MMG)

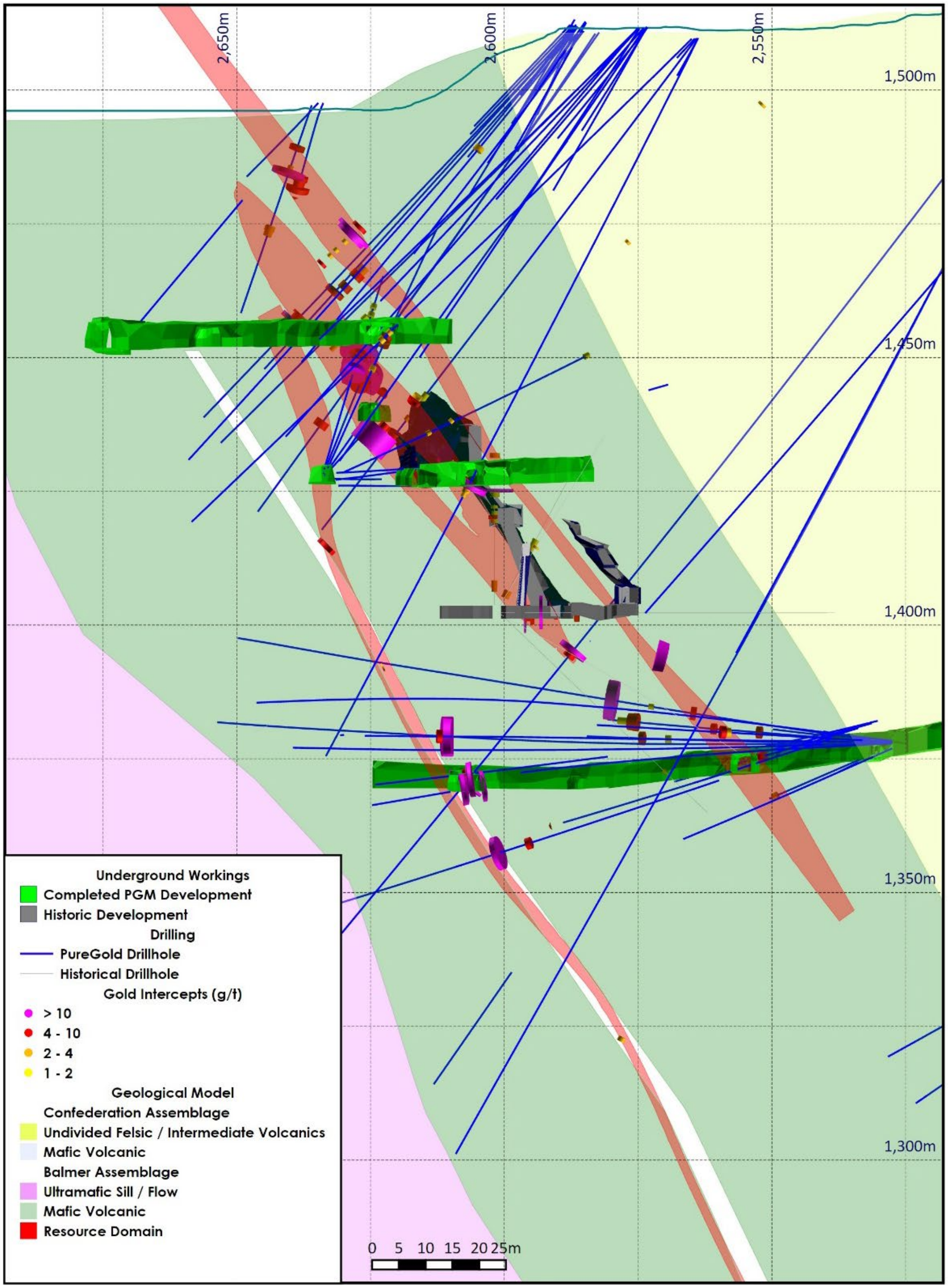
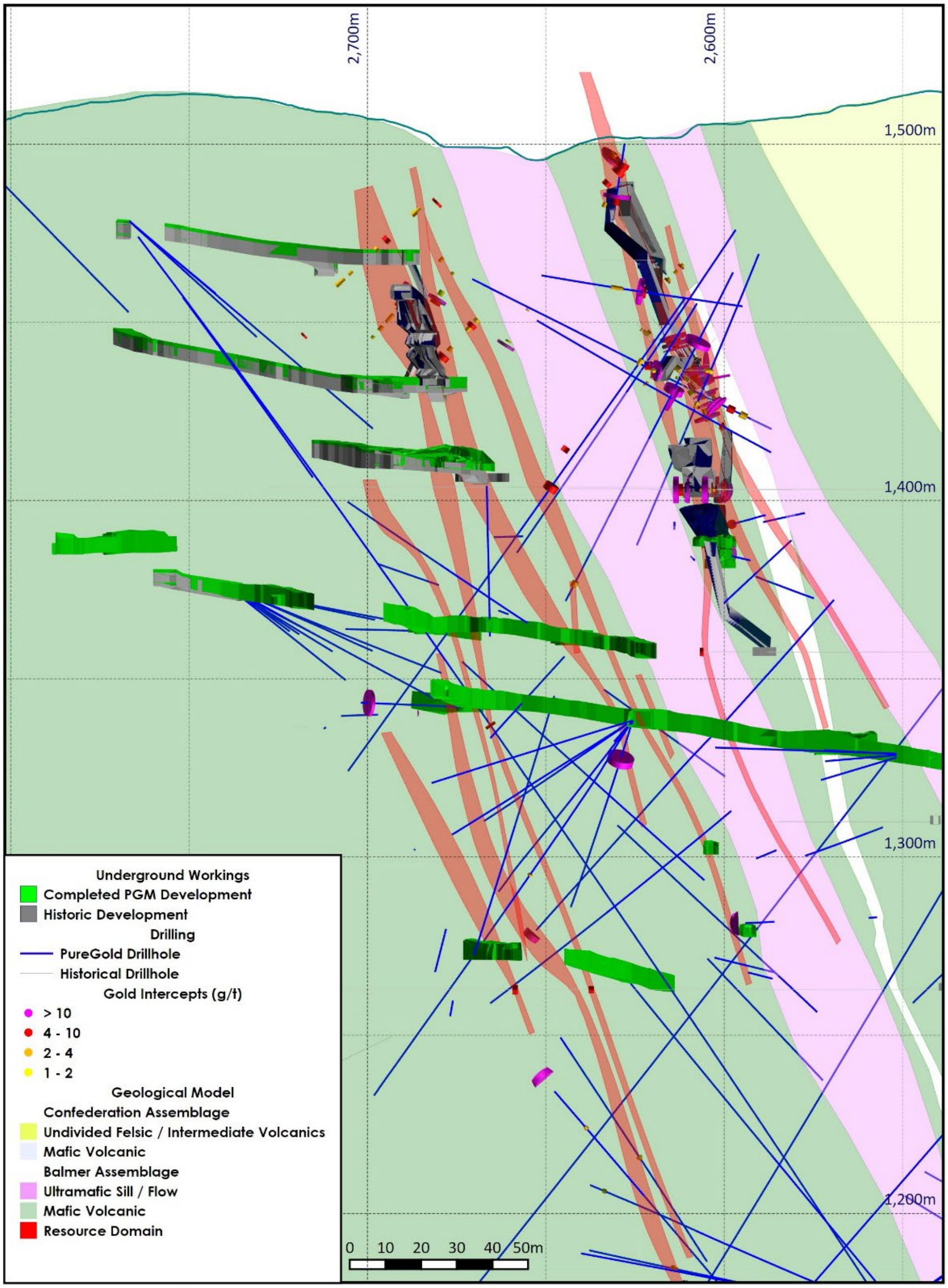


Figure 10-5: Representative cross section through the West Portal area of the PureGold Mine showing mineralized domains within the McVeigh and South Austin Zones. Coordinates displayed in local Metric Mine Grid (MMG). 30 m thick cross section looking 030° (090° MMG)



10.5.1 Core Processing

Upon initiation of drilling on a hole, the senior geologist assigns a logging geologist and (if required) a geotechnician to the hole. Data collection responsibility for each hole is tasked to the logging geologist and supervised by the project geologist. It is the responsibility of the senior geologist to validate all drill hole data and ensure transfer to the database on completion of the logging and sampling.

10.5.2 Geological Quick Logging

Immediately following delivery of core from the drill rig to the core shack at morning shift change, the logging geologist assigned to each drill hole completes a quick log of geology and mineralization and the results of the quick log are entered into an online tracking sheet. Observations and interpretation are discussed at daily meetings to enable consistent interpretation and adjustments for the planning of subsequent holes. The emphasis is on the mineralized zones and the potential to host gold.

10.5.3 Geotechnical Procedures

All drill core is prepared by a technician prior to geological logging. Procedures vary depending whether the drilling is classed as exploration or definition. For exploration drilling, this preparation work includes reassembly and orientation of drill core pieces, checking and correction of block errors, drawing bottom of hole core orientation marks on core, measuring offset angles of bottom of hole marks, recording loss of orientation lines and placing down-hole metre marks, as well as measuring recovery, rock quality designation and magnetic susceptibility. All downhole measurements are collected to the nearest centimetre. Procedures are largely the same for definition drilling, except that orientation, RQD and magnetic susceptibility are not recorded.

Each core box is permanently labelled with details of drill hole number, box number and depth interval engraved onto an aluminum tag affixed to the end of the tray. Box intervals are recorded into an Excel file and retained.

10.5.4 Geological Logging

All drill core geologically logged by Pure Gold was logged directly into a laptop or tablet computer using Reflex Logger™ software until late 2017 and LogChief™ from 2018 until present. Additionally, geological boundaries and annotations are marked on the core using china markers on the portion of the core to be retained after cutting and sampling. Due to the focus on mineralization, any major structures (primarily large or gold-hosting veins) are reported both in the lithology table as well as in the structure or vein tables. Lithologies are split out for intervals that are greater than 1 m in core length and/or of geological significance. Individual veins 30 cm wide or greater, are logged separately. The focus of the geologic logging is to highlight the gold associated alteration zones and to capture lithology, vein and structural data.

10.5.5 Structural Data

All exploration drilling by Pure Gold used Reflex ACTIII™ core orientation tools. All core intervals in the Balmer Assemblage target units are oriented with a bottom of core mark. Representative average foliation measurements are logged downhole every 10 to 20 m or on major changes in orientation. Strike and dip of key structural features including vein and lithologic contacts, fold axes and lineations are recorded using alpha, beta and gamma angles and software are used to calculate and plot the true strike and dip of structural features. The structural data are then visualized in Leapfrog Geo™ or Micromine™ software.

Core orientation is not performed for core drilled as part of definition programs.

10.5.6 Core Photography

After sample lay-out (but prior to sawing) all drill core is photographed both wet and dry using a professional grade digital camera in a fixed mount with standardized camera settings, lighting and layout. HoleID, core box number, depth blocks, cut lines and sample marks and tags are visible in the photographs. Digital photograph files are renamed to include the hole number, box numbers and depths.

10.5.7 Core Sampling

Sample intervals are laid out by the logging geologist as part of the logging workflow. Samples are not to exceed 2.0 m in length and must be at least 0.5 m in length. The recommended length for samples in zones of mineralization is 1.0 m so as to aid in regularity of composite calculation, though exceptions can be made in cases of dilution by post-mineral units within a mineralized interval. Sample boundaries are set up so as to not to cross lithological contacts, except in cases where it is not possible to maintain minumum sample lengths while respecting these contacts; in such cases sampling may cross lithological contacts. Sample selection from exploration drilling includes all Balmer Assemblage rocks and any altered or veined Confederation Assemblage rocks as well as the lowermost 30 m of Confederation Assemblage against the Balmer Assemblage contact. Sample selection from definition drilling follows the sdame guidelines and also excludes ultramafic sills to reduce assay volumes.

Core from exploration drilling is sawn in half with a diamond blade core saw along lines marked by the logging geologist. Core samples from definition drilling are sampled as whole core.

10.5.8 Core Storage

After logging, photographing and sampling, the remaining exploration core is cross-stacked, strapped and stored in ordered rows on pallets at a core storage facility on the Madsen project site. All returned pulps and coarse reject material from the assay labs are tarped and also stored in this area for a period of time deemed appropriate (generally 1 year), after which point the pulps and rejects are discarded.

10.6 Summary

Diamond (core) drilling is the most appropriate test method for the Mine and this technique has been applied by all operators since early exploration and mining. Historical drilling is tightly-spaced (nominally drilled at 6 m centres) within mined-out areas but other largely non-mined areas show evidence of alteration and elevated gold and have been drilled at much broader spacing. Core recovery measurements of individual drill runs completed by Pure Gold averages 99.6%, indicating that core recovery is not a factor in the accuracy or reliability of logging, sampling and assay results. Pure Gold's methodology and procedures meet or exceed typical industry standards and historical operators generally operated at standards in line with the times. As such, the drilling conducted on the Mine Property has produced a reliable geological and geochemical database.

11 Sample Preparation, Analyses, and Security

11.1 Sampling

Sampling procedures and methods have evolved significantly over the long history of exploration and mining at the PureGold Mine and specific procedures also varied among operators. Sample preparation, analyses and security are accordingly described separately below based on time period and/or project operator.

SRK is of the opinion that, based on historical information available, the historical sampling, sample preparation, security and analytical procedures were generally in-line with best practices for their time and the sampling, sample preparation, security and analytical procedures undertaken by Pure Gold meet or exceed modern best practices. The historical procedures and those undertaken by Pure Gold are adequate for modern targeting, modelling and resource estimation.

11.1.1 Historical Sampling

Drill core, chip and muck sample preparation, analysis and security procedures for historical samples taken during the operation of the mine are not documented and therefore difficult to review. Samples were assayed for gold at the mine laboratory but no information exists regarding laboratory certifications or preparation and assaying procedures. ISO 9000 series standards were first published in 1987, and the ISO 17025 standard was first published in 1999 and as such could not have been applied. Assay results are hand-written or typed on paper logs, level maps and sections. These paper documents have been well catalogued and preserved in an orderly manner at the site.

Sample preparation, analysis and security procedures for limited historical samples taken by Central Patricia Gold Mines and Cockeram Red Lake Gold Mines between 1943 and 1946 and by Noranda Inc. in 1981 and 1982 are unknown. No information exists regarding laboratory certifications but as indicated in the preceding paragraph, such early work predates applicable ISO standards. The preparation and assaying techniques are not documented. These holes are generally not within current resource areas.

11.1.2 Placer Dome

Placer Dome used two primary laboratories for assaying drill core samples collected from the mine. All samples from 2001 to 2006 were assayed by XRAL Laboratory in Toronto, Ontario or ALS Chemex Laboratory in Vancouver, British Columbia. Samples were analyzed for gold by fire assay and 32 or 37 multielement packages with Aqua Regia acid digest. Drill core sample lengths range from 0.7 to 5 feet.

11.1.3 Wolfden and Sabina

Wolfden submitted drill core samples to Accurassay Laboratories in Thunder Bay, Ontario. Accurassay received ISO 17025 accreditation in 2002 from the Standards Council of Canada. It is unknown which analytical methods were covered under this accreditation.

At Accurassay, samples were prepared using a standard rock preparation procedure consisting of drying, weighing, crushing, splitting, and pulverization. Prepared samples were assayed for gold, platinum, palladium, and rhodium as well as for a suite of base metals using ICP-MS.

Procedures followed by Sabina are recorded in more detail. In 2010 and 2011 Sabina submitted drill core samples to SGS Laboratories (SGS) in Red Lake for sample preparation and analysis. SGS was accredited by the Standard Council of Canada (SCC) to ISO 17025:2005 (accredited laboratory number 598) for gold analysis by fire assay.

All samples were delivered by Sabina personnel to SGS. Sample preparation and assay analysis included crush to 75% passing 2 mm and then pulverizing a 250 g split to 85% passing 75 µm. Samples were assayed by fire assay with an atomic absorption spectroscopy (AAS) finish on 50 g aliquots. A duplicate sample was assayed by SGS as part of their assaying procedures.

In 2012, Sabina submitted drill core samples to Activation Laboratories Ltd. (Actlabs) in Red Lake for sample preparation and analysis. Actlabs was accredited to ISO 9001:2008 by Kiwa International Cert GmbH (certificate number 1109125). Samples were crushed to 90% passing 2 mm after which a 250 g split was pulverized to 95% passing 105 µm. Samples were assayed by fire assay with AAS finish using a 30 g aliquot.

11.1.4 Claude

Claude used four primary laboratories between 2006 and 2012 for drill core analysis. SGS Laboratory in Red Lake and TSL Laboratory located in Saskatoon, Saskatchewan were used from 2006 to May 2008, until Claude identified performance issues with samples submitted to the SGS Laboratory in Red Lake and as a result stopped submitting samples to this laboratory. Starting in 2009, Claude submitted drill core samples to Accurassay Laboratories in Thunder Bay, Ontario but experienced lengthy delays in receiving results. Then in 2010, Claude submitted all drill core samples to ALS Limited (ALS) in Thunder Bay for sample preparation and to ALS Vancouver for assaying. All these laboratories are accredited ISO/IEC Guideline 17025 by the Standards Council of Canada for conducting certain testing procedures, including the procedures used for assaying samples submitted by Claude. These laboratories also participate in proficiency testing programs.

These laboratories all used standard rock sample preparation procedures involving coarse crushing dried sample, pulverization of 500 g subsamples to 90% passing 150 mesh screens (105 µm).

All core samples were assayed for gold using a standard fire assay procedure on pulverized subsamples with an atomic absorption finish. Samples assaying more than 1.0 g/t Au were re-analyzed by fire assay with a gravimetric finish. Samples assaying greater than 5.0 g/t Au were re-analyzed using screen metallic fire assay procedures.

11.1.5 Pure Gold

During 2014, 2015, 2016, 2018 and 2019 Pure Gold submitted all exploration drill core and surface rock samples to ALS Minerals (ALS) Laboratory in Thunder Bay and Vancouver for sample preparation and analysis, respectively. During these programs, Pure Gold submitted pulp duplicate samples to SGS Laboratory in Burnaby, British Columbia for check assay testing. In 2017, Pure Gold submitted all drill core and surface rock samples to SGS Minerals Services (SGS) in Red Lake for sample preparation and gold analysis, with additional analyses conducted at SGS's Vancouver facility. Owing to capacity limitations in Red Lake, some samples were diverted to the SGS Laboratories in Lakefield and Burnaby for preparation and analysis after being delivered to the Red Lake laboratory. During the 2018 underground bulk sample program, Pure Gold submitted all underground drill core, muck and chip samples to the SGS laboratory in Red Lake for sample preparation and gold analysis. During the 2020 and 2021 surface exploration drilling programs samples were submitted to both ALS and SGS for analysis, while core from definition drilling programs (both surface and underground) during 2021 was submitted to SGS. Table 11-1 summarizes analytical labs used by Pure Gold by year and sample source.

Table 11-1: Summary of analytical labs used by Pure Gold by year and sample source

	Sample Source		
Year	**Exploration Drilling & Surface Sampling**	**Definition Drilling**	**Chip, Muck and Testhole Sampling**
2014	ALS		
2015	ALS		
2016	ALS		
2017	SGS	SGS	
2018	ALS	SGS	SGS
2019	ALS		
2020	ALS & SGS		SGS
2021	ALS & SGS	SGS	SGS

The ALS laboratory in Vancouver is ISO 9001:2008 and CAN-P-1579 and CAN-P-4E (ISO/IEC 17025:2005) certified by the Standards Council of Canada (SCC) for the analytical methods used on the mine samples (accredited lab 579). The SGS laboratory is CAN-P-1579, CAN-P-1587, and CAN-P-4E (ISO/IEC 17025:2005) certified by the SCC for the analytical methods used on the mine samples (accredited lab 744).

Samples were dried and crushed to 70% of the sample passing a 2 mm screen (method CRU-31). Initial crushing was followed by a Boyd rotary split of a 1 kg subsample (method SPL-22Y), and pulverization of the split in a ring mill to better than 85% of the ground material passing through a 75 µm screen (method PUL32).

Sample pulps were shipped by ALS from the Thunder Bay preparation laboratory to the ALS laboratory in Vancouver for analysis. Assays for gold were by a 30 g aliquot fire assay followed by aqua regia (HNO3-HCl) digestion and measurement by atomic absorption spectroscopy (AAS, method Au-AA23). Samples in which the gold concentration exceeded 5 ppm were re-assayed from the same pulp by method Au-GRA21, fire assay of a 30 g aliquot, parting with nitric acid (HNO3) followed by gravimetric gold determination. In cases of significant visible gold in samples, the complete interval including shoulder samples was re-assayed by metallic screen fire assay (method Au-SCR24). This method was also manually selected in some instances in 2014 and 2015 where high assay values were returned from Au-GRA21 results. In addition to the gold assays, multi-element geochemical trace level analyses were completed by induction coupled plasma-atomic emission spectroscopy (ICP-AES, method ME-ICP61) following digestion by hydrofluoric (HF), nitric (HNO3) and perchloric (HClO4) acids followed by a hydrochloric (HCl) acid leach.

As routine external quality control methods for the samples re-assayed by method Au-SCR24 were not practical, for this method Pure Gold relied on the internal quality control performed by ALS and a comparison with the initial assays by methods Au-AA23 and Au-GRA21.

The SGS laboratory in Red Lake is CAN-P-1579 and CAN-P-4E (ISO/IEC 17025:2005) certified for the analytical methods used on the mine samples (accredited lab 598). The SGS laboratory in Vancouver is CAN-P-1587, CAN-P-1579 and CAN-P-4E (ISO/IEC 17025:2005) certified for the analytical methods used on the mine samples (accredited lab 744). The SGS laboratory in Lakefield is CAN-P-1579 and CAN-P-4E (ISO/IEC 17025:2005) certified for the analytical methods used on the mine samples (accredited lab 184).

Samples were submitted with the preparation code G_PRP89, as part of which samples were dried and weighed (method G_WGH79) and crushed to 75% of the sample passing a 2 mm screen (method G_CRU21, method G_CRU22 where sample weight is >3.0 kg). Initial crushing was followed by a split (to obtain a sample weight of 1.0–1.5 kg), and then pulverization of the split in a chromium steel bowl to better than 85% of the ground material passing through a 75 µm screen (method PUL47).

Analysis for gold was conducted at the SGS laboratory in Red Lake. During 2017, 2018, 2020 and part of 2021 analysis was by a 30 g fire assay with an atomic absorption spectroscopy finish (methods GE_FAA313 & GE_FAA30V5). In cases where the assay value returned >5 ppm Au, a follow up gravimetric analysis was conducted (30 g fire assay with a gravimetric finish, method GO_FAG303). In cases where gold was identified during core logging, a screen metallic gold analysis was conducted in addition to the AAS and gravimetric analytical procedures (screen to 106 µm followed by fire assay, method codes GO_FAS31K and GO_FAS51K for samples <1 kg and >1 kg respectively). During late 2021 and 2022, this suite of methods was streamlined to using method GE_FAA30V10 for all gold analyses, with GO_FAG30V (a replacement code for the method GO_FAG303 used previously) triggered if a value of >100 ppm Au was returned.

In addition to the gold assays, 49-element geochemical trace level analyses were completed in the Burnaby laboratory by induction coupled plasma-atomic emission spectroscopy (ICP-AES) and induction coupled plasma mass spectrometry (ICP-MS) following digestion by hydrofluoric (HF), nitric (HNO_3), perchloric ($HClO_4$) and hydrochloric (HCl) acids (method GE_ICM40B).

Table 11-2: Summary of analytical methods and labs used by Pure Gold for drillcore analysis

Year	Lab					
	ALS			SGS		
	Preparation	Gold Analysis	Multi-element	Preparation	Gold Analysis	Multi-element
2014	PREP31	Au-AA23, Au-GRA21, Au-SCR24	ME-MS61			
2015	PREP31	Au-AA23, Au-GRA21, Au-SCR24	ME-MS61			
2016	PREP31	Au-AA23, Au-GRA21, Au-SCR24	ME-MS61			
2017	PREP31	Au-AA23, Au-GRA21, Au-SCR24	ME-MS61	G_PRP89	GE_FAA313, GO_FAG303, GO_FAS31K, GO_FAS51K	GE_ICM40B
2018	PREP31	Au-AA23, Au-GRA21, Au-SCR24	ME-MS61	G_PRP89	GE_FAA313, GO_FAG303, GO_FAS31K, GO_FAS51K	GE_ICM40B
2019	PREP31	Au-AA23, Au-GRA21, Au-SCR24	ME-MS61			
2020	PREP31	Au-AA23, Au-GRA21, Au-SCR24	ME-MS61	G_PRP89	GE_FAA313, GO_FAG303, GO_FAS31K, GO_FAS51K	GE_ICM40B
2021	PREP31	Au-AA23, Au-GRA21, Au-SCR24	ME-MS61	G_PRP89	GE_FAA30V5, GE_FAA30V10, GO_FAG30V, GO_FAS30M	

11.2 Sample Security

11.2.1 Historical Sampling

During the historical sampling period sample security procedures employed are unknown.

11.2.2 Claude

Claude implemented chain of custody and sample security procedures in 2006 as documented and directly observed by Cole et al. (2010). Procedures generally involved sample handling by appropriately qualified staff, controlling access to sampling facilities and documentation of sample dispatch and receipt at laboratories.

11.2.3 Pure Gold

Currently (and during the 2014–2021 drilling programs), PureGold Mine personnel employ the following security and chain of custody procedures:

i. Core is placed in wooden core boxes by drilling contractors, covered with wooden lids, and sealed with fiber tape;

ii. Core boxes are delivered to the logging facility by drill crew members at twice daily shift changes via truck or mine equipment;

iii. Core shack personnel open and sort core boxes for logging;

iv. Core awaiting logging or sampling is stored in wooden racks in the core shack;

v. Core is sampled and bagged into pre-labelled sample bags by samplers under the supervision of core logging geologists and the project geologist or by the geologists themselves;

vi. Sample bags are placed inside pre-labelled rice sacks;

vii. Rice sacks containing bagged samples are sealed and palletized (or placed within plastic shipping totes or dedicated collection points) within the core shack;

viii. Palletized containers of rice sacks are shipped directly from the core shack to laboratory preparation facilities. For programs utilizing ALS, Manitoulin Transport of Winnipeg, Manitoba transported pallets to the ALS Minerals laboratory in Thunder Bay, Ontario for sample preparation. For programs utilizing SGS, samples bags are collected from the PureGold Mine site directly by SGS personnel and driven to their Red Lake facility;

ix. Access to the core logging facility is restricted to authorized staff; and

x. Analytical instructions are included with each shipment with copies sent by email. ALS and SGS are instructed to report any discrepancies between sample lists as shipped and as received at the laboratory.

11.3 Quality Assurance and Quality Control Programs

Quality control measures are typically set in place to ensure the reliability and trustworthiness of exploration data. These measures include written field procedures and independent verifications of aspects such as drilling, surveying, sampling and assaying, data management and database integrity. Appropriate documentation of quality control measures and regular analysis of quality control data are important as a safeguard for project data and form the basis for the quality assurance program implemented during exploration.

Analytical control measures typically involve internal and external laboratory control measures implemented to monitor the precision and accuracy of the sampling, preparation and assaying processes. They are also important to prevent sample mix-up and monitor the voluntary or inadvertent contamination of samples. Assaying protocols typically involve regular duplicate and replicate assays and insertion of quality control samples. Check assaying is typically performed as an additional reliability test of assaying results. This typically involves re-assaying a set number of sample rejects and pulps at a secondary umpire laboratory.

Several operators prior to 2009 make mention of the existence of quality control programs but provide few details. Implementation of rigorous analytical quality control measures for PureGold Mine geochemical samples began in 2009 by Claude. Original records of these programs are sparse but SRK had direct access to the Claude work program and has reported on the procedures adopted and results obtained (Cole et al., 2010).

11.3.1 Historical Period

Analytical quality control measures implemented by operators during early exploration activities or at the mine laboratory during the operation of the PureGold Mine (1936–1976) are unknown. Analytical quality control measures implemented by Claude between 1998 and 2000 are undocumented.

11.3.2 Placer Dome

Placer Dome annual project reports indicate that analytical quality control measures were implemented, however the details of these measures and the analytical quality control data were not transferred to Claude in 2006 and as such no documentation is available.

11.3.3 Wolfden and Sabina

Wolfden and Sabina implemented external analytical quality control measures on drill core sample analysis. The procedures are unknown and data prior to 2006 are unavailable. Implemented measures from 2006 included insertion of control samples (blank and standard reference material) into the sample stream on regular intervals. A sample blank was inserted every 25 samples and a standard inserted every 75 samples.

The blank material was sourced from an outcrop in the southwest corner of Wolfden's Bonanza/Follansbee property. Representative samples of this material were assayed by Accurassay Laboratories to ensure suitability. The performance of the blank material is unknown.

A 2006 drilling report noted that two different standards were used, SK21 that had a certified assay of 4.048 g/t Au and SN16 that had a certified assay of 8.367 g/t Au. Certificates are not available and the source of the standards is unknown. The report suggests performance issues with standard SK21 as the average assay value was approximately 10% higher than the accepted value. However, only 21 assay results are available which is too few to extract meaningful statistical information from the results.

Sabina submitted blank and standard material in the sample stream of at a rate of one quality control sample in every 20 samples. No information is available detailing the type and source of the reference material.

11.3.4 Claude

The exploration work conducted by Claude after 2006 was carried out using a quality assurance and quality control program in line with industry best practices. Standardized procedures were used in all aspects of exploration data acquisition and management including mapping, surveying, drilling, sampling, sample security, assaying and database management (Cole et al, 2010).

Claude relied partly on the internal analytical quality control measures implemented by the primary laboratories. Assay results for quality control samples inserted by the primary laboratories were submitted with routine assaying results and reviewed for consistency by Claude personnel.

Additionally, Claude implemented external analytical quality control measures to monitor the reliability of the assaying results delivered by the primary laboratories. External control samples (blanks, field or CRM samples or field duplicate) were inserted at a rate of approximately 13% within each batch of samples submitted for preparation and assaying.

Field duplicate samples were inserted at a rate of one in 50 for all batches of drilling samples submitted for assaying. Duplicate core samples were collected by splitting in half the remaining split core over the same length.

For the drilling program in 2009, Claude used four reference control samples purchased from Rocklabs. The silica sand blank material was sourced from Accurassay.

In 2010, Claude changed some of the standard reference materials used during the drill programs. A total of seven gold standards were alternated. Certified blanks included material from Rocklabs and Canadian Resource Laboratories.

A blank and a standard were inserted every 20 samples. The inserted standard typically alternated between three medium- to low-grade standards (SG40, SL46 and SH41). In addition, a high-grade standard and a blank were inserted after any sample containing visible gold.

No independent laboratory check assay tests are documented. Field duplicate samples were collected at a rate of one in 50 samples. Laboratory duplicate samples were not collected.

11.3.5 Pure Gold

For all Pure Gold drilling programs, PureGold Mine personnel implemented a Quality Assurance and Quality Control (QAQC) program comprising of insertion of blank, CRM and duplicate samples into the drill core or rock sample streams. Results of gold analyses on these samples are monitored and corrective measures implemented where deficiencies are identified.

Field duplicate and preparation duplicate samples are alternately inserted every 20 samples. Field duplicates are obtained by quartering the core and submitting the two quarters in sequence to the laboratory. Preparation duplicates consist of a second split of the coarse reject of the selected sample and are collected by the laboratory during the sample crushing stage. Preparation duplicates are assigned the sample number immediately succeeding the original and in shipping are represented by a labeled empty bag containing the assigned sample tag. A list of preparation duplicates and instructions for preparation are included with each sample submittal form.

Blank sample material consists of commercially available marble landscape rock. An average weight of 2 kg is submitted for each blank sample. Blank samples are routinely inserted every 20th sample, with two additional blanks inserted following samples containing visible gold.

Standards used by Pure Gold between 2014 and 2022 ranged from low-, medium- and high-grade standards for routine analysis, with a higher-grade gold standard for samples with visible gold. These standards were selected to cover all potential analytical gold methods. Pre-packaged packets are used where available. Three primary standards were inserted on a rotating basis in roughly equal proportions every 20th sample, and the fourth high-grade standard was inserted when visible gold was identified in core. The standards used in these categories varied, dictated largely by availability of standards from commercial suppliers. Standard IDs, along with the supplier and certified gold values are listed in Table 11-3. Pure Gold requested extra cleaning of both crusher and pulverizer (ALS Codes: WSH-21 and WSH-22) during sample preparation of samples collected from within mineralized intervals (including shoulder samples).

Table 11-3: CRMs used by Pure Gold (2014–2022)

Supplier	Standard ID	Year(s) in use	Use Case	Gold Assays (ppm Au)	
				Certified Value	SD
CDN Labs	CDN-GS-1M	2016–2017	Low Grade	1.07	0.05
CDN Labs	CDN-GS-1T	2017-2021	Low Grade	1.08	0.05
CDN Labs	CDN-GS-1V	2017, 2019 - 2021	Low Grade	1.02	0.1
CDN Labs	CDN-GS-22	2016–2021	High Grade following VG	22.94	0.56
CDN Labs	CDN-GS-5F	2014–2015	High Grade	5.27	0.17
CDN Labs	CDN-GS-6E	2016–2021	High Grade	6.06	0.15
CDN Labs	CDN-GS-16	2017, 2019 - 2021	High Grade following VG	16.48	0.63
Ore Research	OREAS 17c	2014–2015	Medium Grade	3.04	0.08
Ore Research	OREAS 214	2016–2021	Medium Grade	3.03	0.08
Ore Research	OREAS6pc	2015	Low Grade	1.52	0.07
Ore Research	OREAS214	2016 - 2021	High Grade	3.03	0.082
Ore Research	OREAS216B	2017, 2020 - 2021	Hight Grade	6.66	0.158
Ore Research	OREAS 221	2017, 2020 - 2021	Low Grade	1.06	0.036
Ore Research	OREAS 222	2021	Low Grade	1.22	0.033
Ore Research	OREAS 226	2017, 2020 - 2021	High Grade	5.45	0.126
Ore Research	OREAS 229b	2020 - 2021	High Grade	11.95	0.288
Ore Research	OREAS 241	2021 - 2021	High Grade	6.91	0.309
Ore Research	OREAS 242	2021 - 2021	High Grade	8.67	0.215
Ore Research	OREAS 243	2021	High Grade	12.39	0.306
Rocklabs	SG56	2014–2016	Low Grade	1.027	0.01
Rocklabs	SH55	2016	Low Grade	1.375	0.05
Rocklabs	SL61	2015–2016	High Grade	5.931	0.06
Rocklabs	SQ 36	2014–2016	High Grade following VG	30.04	0.02
Rocklabs	SQ87	2016	High Grade following VG	30.87	0.21

Source: Pure Gold (2022)

As part of its QAQC program, Pure Gold has regularly commissioned independent specialists to report on performance of QAQC samples. Overall compliance rates for these samples are acceptable but given the considerable number of quality control samples submitted, numerous areas for improvement have been high-lighted by these independent reviewers and recommendations have been made to Pure Gold management. These have been addressed through sample re-analysis, discussion with laboratory management and through improvements in core shack and sampling protocols. For example, some carry-over of gold was detected within blank samples in

2016 but with the insertion of extra blank samples and requests for quartz washes of crushing equipment, this effect has been largely mitigated.

All Pure Gold drilling data has been verified as it was loaded to the Datashed™ database, including quality control samples. Reports illustrating performance of quality control samples are automatically generated through this process. A review of these reports indicates acceptable performance. Failures were identified and addressed by Pure Gold upon receipt of analytical certificates.

To monitor database integrity, Pure Gold routinely commissioned independent drill hole database reviews. Mackie (2015, 2017) reviewed sub-sets of drill holes completed by various operators and concluded that the drill hole database is of high quality and reliability and is a reasonable rendition of historic data. In 2019, Pure Gold commissioned a third independent review on the database (Murphy, 2019). Murphy identified some discrepancies between the Datashed™ database and an earlier database version, but all such issues were explained by further investigation and were concluded to be minor and generally attributable to the process of data migration to Datashed™. Murphy concluded that the database and structure were acceptable and a reasonable rendition of the historical and modern data.

As of the effective date of this technical report, SRK shares the opinions of Mackie and Murphy that the PureGold Mine database is of high quality, reliable and considers it appropriate for geological targeting and resource estimation.

12 Data Verification

Owing to the long history of exploration and production at the mine, there have been numerous campaigns of data verification, validation and reconciliation. The most comprehensive recorded verification effort (Cole et al., 2010) was conducted during the digitization of the mining-era hardcopy drill logs, prior to Pure Gold's acquisition of the property. This work was initiated by Claude in 1998, advanced by Placer Dome from 2002–2006 and completed by Claude with assistance from SRK during 2008 and 2009. The result was a modern digital database comprising 13,617 historical drill holes with lithological intervals and 550,687 gold assays. This database has been the foundation for drill-targeting, geological interpretation and mining by Pure Gold and has been substantially added to and verified since 2014.

12.1 Performance of CRM, Blank and Duplicate Samples

Pure Gold provided a database with historical and Pure Gold QAQC sample data, including certified reference materials (N = 32,163), blanks (N = 19,666) and duplicates (N = 20,592). Table 12-1 summarizes CRM Performance.

12.1.1 Certified Reference Materials

Data for the 32,163 Certified Reference Materials (CRMs) provided by Pure Gold include "external" CRM samples inserted by the operators as well as "internal" standards inserted by the analytical laboratories. The following summary provides an overview for a subset of CRMs inserted by Pure Gold between 2014-2021 into the sample streams of drill holes that start with "PG", "PGB", "PGC", PGP", "PGT", or "PGU" (i.e., all holes drilled by Pure Gold). The total number of CRMs in this subset is 10,197 (here referred to as the "2014-21 PG subset") of which 333 were CRMs that had fewer than 100 insertions and 204 are considered to be erroneously labelled or mishandled. These CRMs were removed from the subset to take the total down to 9,660.

First pass calculation of Z-scores showed a "failure" rate of 5% (N = 482), where a "failure" is defined as any CRM analysis returning a Z-score of >3 or <-3. Particularly high failure rates were recorded for CDN-GS-22 (12%) as well as OREAS standards OREAS 216b (11%), OREAS 222 (22%), OREAS 226 (12%) and OREAS 229b (11%). Z-scores for these 9,660 CRMs average 0.17 and 95% of the data averages 0.15, indicating that, overall, there is no systematic bias. There is some positive or negative bias on shorter time scales (Figure 12-1).

CRMs therefore indicate that analyses are unbiased and sufficiently accurate.

12.1.2 Blanks

The 2014-21 PG subset also includes 10,676 blank samples, 85 (0.8%) of which exceed a threshold of 10 times the lower detection limit (LDL) that is typically used to indicate contamination (Figure 12-2). Some of these anomalous blanks include a sample that returned 7 g/t Au, and 58 others that returned between 0.1 to 5.8 g/t Au. Most of these samples can be readily explained by high-grade results in the preceding samples which is typical laboratory performance where samples are characterized by coarse gold. Pure Gold has implemented a procedure of inserting multiple sequential blanks following samples where gold has been visually identified by the logging geologist to address this contamination. Typically, the contamination tails off through the multiple blanks. Other contaminated blanks are in fact duplicates of core samples mislabelled as blanks and may also reflect sample handling errors (Equity Exploration Consultants Ltd., 2022).

12.1.3 Duplicates

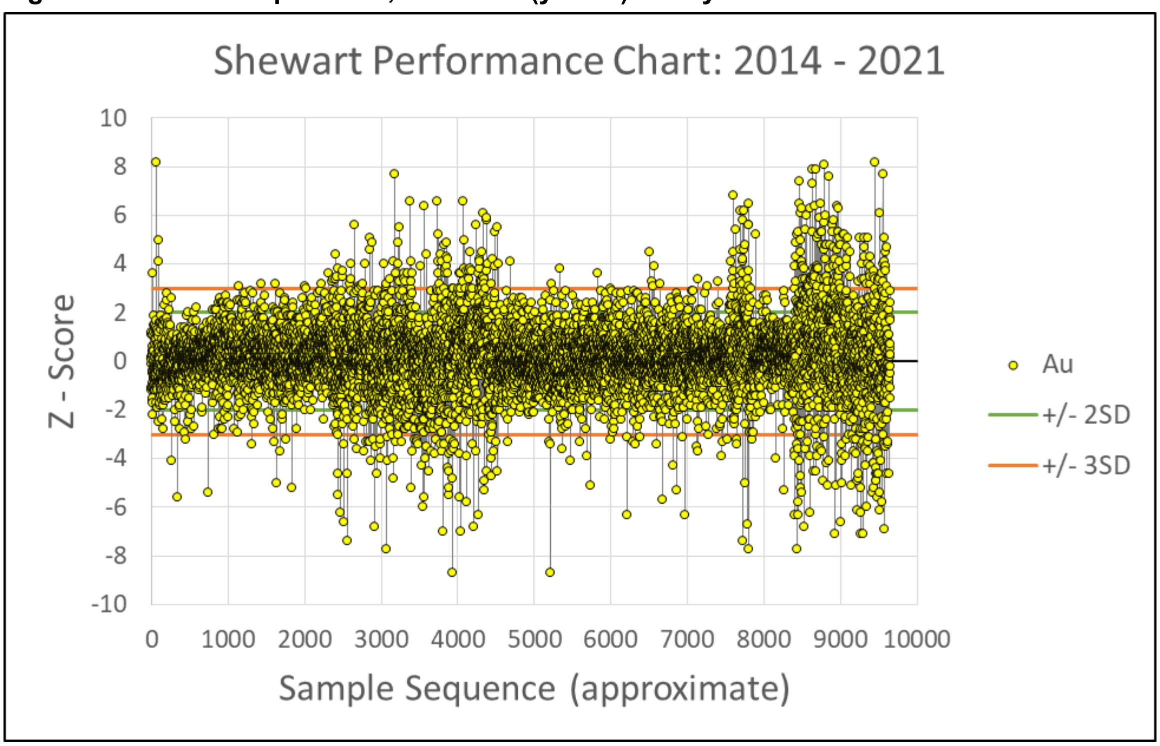
The 2014-21 PG subset also include 17,401 duplicates, comprising 3,825 core (or field), 5,991 crush (or preparation) and 7,585 pulp (or lab) duplicate samples. All core duplicate pairs show a correlation coefficient (ρ) of 0.83 and an average coefficient of variance (CV_{AVR}) of 39%, which is at the upper limit of "acceptable" as defined by Abzalov (2008). The CV_{AVR} can be improved to 36% by eliminating duplicate pairs where at least 1 sample returned below detection. Removal of three additional outliers improves ρ from 0.83 to 0.85, and r^2 from 0.69 to 0.73 (Table 12-2).

Crush duplicates show a slightly stronger correlation (ρ = 0.88) than the core duplicates, and slightly better CV_{AVR} of 33%. This is consistent with the increased homogeneity of crush duplicates relative to core. Elimination of pairs with at least one sample below detection improves CV_{AVR} to 28% so that it falls within the "acceptable" range for orogenic gold deposits. Removal of two outliers improves ρ to 0.93 and r^2 from 0.94 to 0.96 (Table 12-2).

Pulp duplicates show a stronger correlation (ρ = 0.97) than crush duplicates and slightly better CV_{AVR} of 29%, although still above the 10-20% range considered best practice to be acceptable by Abzalov (2008). This is consistent with the increased homogeneity of pulp duplicates relative to crush duplicates. Removal of all duplicate pairs with at least 1 sample below detection, as well as one poorly correlated outlier, improves correlation to ρ = 1 and CV_{AVR} to 22%.

Duplicate pairs with outliers and samples below detection removed show the expected trend of improved duplication from core through crush to pulp duplicates (Table 12-2). CV_{AVR} for core and crush duplicate pairs fall within the "acceptable" values of Abzalov (2008), with CV_{AVR} for pulp duplicates just above the 20% "acceptable" limit.

Figure 12-1: Shewart plot for 9,660 CRMs (yellow). No systematic bias is indicated



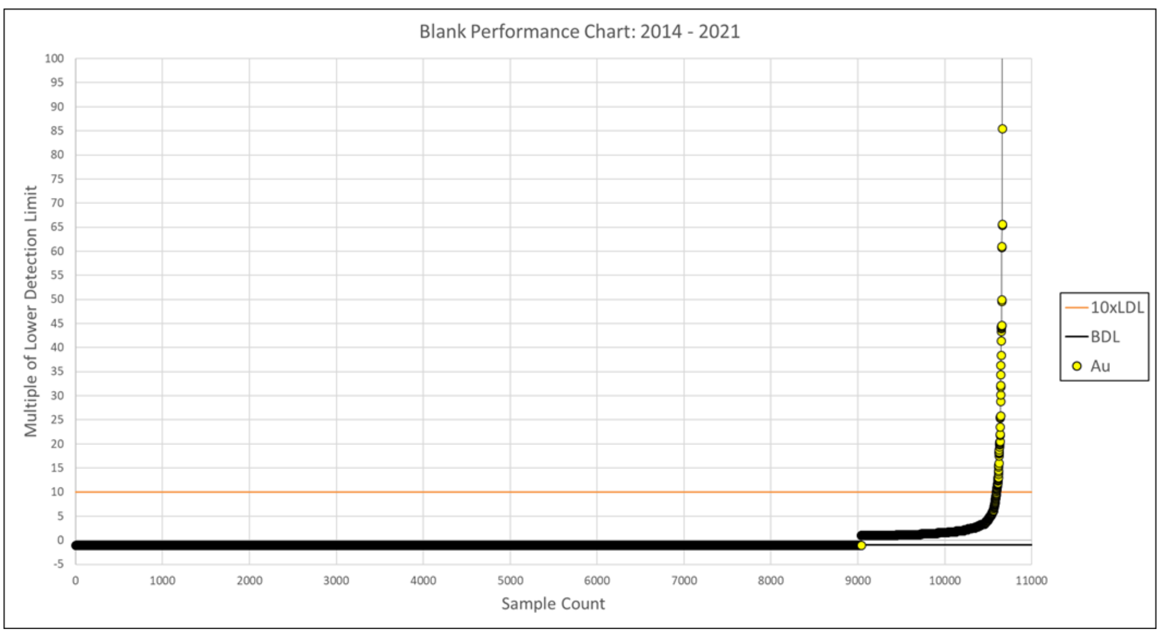
Source: Equity Exploration Consultants Ltd. (2022)

Table 12-1: Overview of CRM Performance for a Subset of 6,100 Samples, with Failure Rates Calculated using the Standard Deviation (SD) of current results

Supplier	CRM ID	Certified Mean	SD	N in subset	N failures	Failure %
CDN Labs	CDN-GS-1M	1.07	0.045	1108	21	1.9%
CDN Labs	CDN-GS-1T	1.08	0.05	898	20	2.2%
CDN Labs	CDN-GS-1V	1.02	0.049	367	22	6.0%
CDN Labs	CDN-GS-22	22.94	0.56	260	31	11.9%
CDN Labs	CDN-GS-5F	5.27	0.17	111	4	3.6%
CDN Labs	CDN-GS-6E	6.06	0.17	2089	87	4.2%
OREAS	OREAS 214	3.03	0.082	2179	89	4.1%
OREAS	OREAS 216b	6.66	0.16	793	88	11.1%
OREAS	OREAS 221	1.06	0.04	450	7	1.6%
OREAS	OREAS 222	1.22	0.03	161	35	21.7%
OREAS	OREAS 226	5.45	0.13	480	59	12.3%
OREAS	OREAS 229b	11.95	0.29	142	15	10.6%
Rocklabs	SG56	1.027	0.033	225	1	0.4%
Rocklabs	SH55	1.375	0.045	208	2	1.0%
Rocklabs	SL61	5.931	0.177	189	1	0.5%
Total				**9660**	**482**	**5.0%**

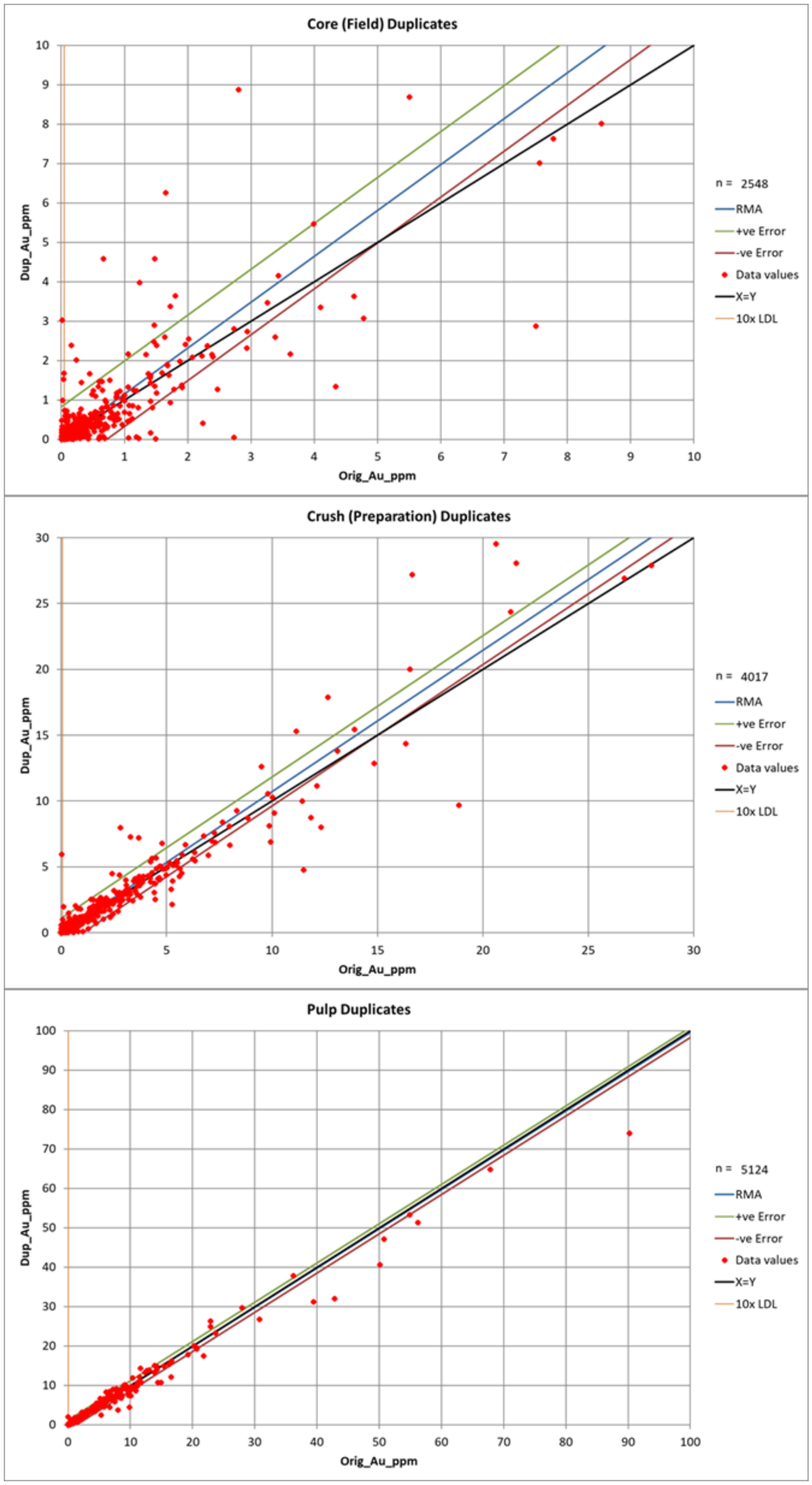
Source: Equity Exploration Consultants Ltd. (2022)

Figure 12-2: Blank Assays for Pure Gold's 2014-2021 Drilling. 10X detection limit threshold used as indicating a blank failure.



Source: Equity Exploration Consultants Ltd. (2022)

Figure 12-3: Scatter [plots Showing Original and Duplicate Assays (with samples <detection, outliers removed) for Core, Crush and Pulp Duplicates



Source: Equity Exploration Consultants Ltd. (2022)

Table 12-2: Summary Statistics for Duplicate Samples

Duplicate Type	All data				<dl, outliers removed			
	N	ρ	R^2	CV_{AVR}	N	ρ	R^2	CV_{AVR}
Core or Field	3825	0.83	0.69	39%	2548	0.85	0.73	36%
Crush or Preparation	5991	0.94	0.88	33%	4017	0.96	0.93	28%
Pulp or Lab	7585	0.98	0.97	29%	5124	1.00	0.99	22%

Source: Equity Exploration Consultants Ltd. (2022)

12.2 Database Validation based on Logged Lithological Intervals

The drill hole database includes over 259,500 downhole lithological intervals coded according to schemes current to the era of drilling as digitized during database construction. Given that the database contains drill holes spanning over 85 years of exploration and lithological coding schemes varied with time, some interpretation of historical codes was required prior to geological interpretation. Upon acquisition of the project, Pure Gold constructed a code equivalence table and recoded the database using the modern coding scheme, whilst also preserving historical codes. The recoded scheme was deemed useful and sufficiently consistent to accurately interpret the most important geological units, including the lower Confederation Assemblage contact, altered rocks, ultramafic sills and quartz porphyry intrusive rocks. Several minor changes to the recoding of the historical lithological codes have been made to refine the interpreted codes. The historical codes continue to be preserved in a separate database field.

12.3 Drill Hole Location and Survey Data

During 2014 Pure Gold completed a property-wide program to survey a selection of historical drill hole locations to improve confidence in using historical drill hole data. Location data were collected with a Trimble ProXRT differential GPS receiver with Omnistar real-time correction, which achieved sub-metre precision. In all, 221 historical collars were surveyed from across the property. Many Madsen Gold Corp. historical collars could not be located due to casing being removed.

As described in Section 9.2, Pure Gold has completed a property-wide program to confirm the location of historical drill hole locations. Earlier surface and underground drill hole locations cannot be confirmed but, in general, the database coordinates of underground drill hole collars are consistent with the geological units encountered in Pure Gold drilling and there is no evidence that any systematic shift or errors exist in the database. Importantly, this confirmation has largely been completed in UTM coordinate space which tests the conversion from the historical local coordinate system (Imperial Mine Grid).

Conversely at the Russet deposit, most pre-1998 drill hole collars seem poorly located based on logged lithologies and could not be located or positively identified on the ground primarily due to lack of locatable suitable geo-reference points on the local grids. Since these could not be systematically surveyed and therefore verified, the early historical intercepts for Russet have not been used in the estimation of the resource, which has relied entirely on holes drilled by Pure Gold, Claude and Placer Dome.

Downhole survey methods for the earliest (mostly underground) drilling were rudimentary compared with modern gyroscopic survey methods. Historical drill logs indicate that a variety of methods were employed or in some cases, no downhole surveying was completed. Magnetic survey methods are problematic on the Mine Property owing to highly magnetic rock types (ultramafic and iron formation units) which prompted Claude and Pure Gold to implement gyroscopic downhole tool technology. As such, the locations of the downhole drill traces will have variable precision based on the era of drilling, the survey method used and the length of hole (longer holes deviate more). Given that most underground drilling – and particularly the closely-space resource definition holes – are short holes, deviation is expected to be small. The longer exploration holes tend to be more recent holes which are well-surveyed by modern gyroscopic tools. Pure Gold has also re-surveyed (downhole) many important holes drilled by previous operators which only had magnetic survey data. Underground mining since 2018 has exposed many exploration and resource definition drill holes and their known locations were generally in agreement with locations calculated from downhole surveys.

SRK is of the opinion that the collar locations for the historical drill hole database are well-compiled, have been translated accurately from mine grid coordinates and are adequate for mineral resource estimation. Downhole survey data exhibit variable precision in line with the technology used at the time of drilling, but most recent drill holes have been surveyed with high-precision gyroscopic tools. As of the effective date of this technical report, all Pure Gold completed drill holes have been located with sub-meter differential GPS or Total Station (for underground holes) and surveyed downhole with modern gyroscopic survey tools.

12.4 Summary

The PureGold Mine drilling database is compiled from historical and modern work that spans over 80 years. Records of quality control or data handling procedures are poorly documented prior to 2009. Approximately 11 years of sporadic effort was required to capture and translate the available historical hard-copy records into a modern digital database (Cole et al., 2010). Use and verification of this database shows that it is of high quality, largely free of errors and highly effective even if assessment of the original data collection methods is not possible. Work by Pure Gold has been conducted with clear data handling protocols and an industry-standard quality control program making verification of these data simpler.

Given the long history at the PureGold Mine, the geographic, geological and analytical data housed in the PureGold Mine database is highly robust, well-organized, easy to use and effective for interpretation work and decision-making and is appropriate for use in mineral resource estimation.

As of the effective date of this technical report, SRK has reviewed and analyzed the results of data verification programs conducted by previous QP's and by Pure Gold and accepts the results of these programs. Based on the review of previous data verification programs and analysis, along with additional data verification conducted by SRK, SRK is of the opinion that the PureGold Mine drill hole database is adequate to support the current geological interpretation of the PureGold Mine deposits and to support the estimation of mineral resources.

12.5 Metallurgy Data

In 2018 approximately 870 kg of drill core intervals from the Madsen deposit were collected by Pure Gold. A review of the location of the drill holes and intervals collected were plotted against the areas to be mined and were found to be spatially representative with sufficient variability in gold head grade. Intervals chosen for the 2018 test program were sent to BaseMet Laboratories in Kamloops, BC for test work in support of the 2019 Feasibility Study. The drill core intervals were used to create variability composites that represented the five different zones in the Madsen deposit and composites representing the Years -1, 1, Years 2, 3 and Years 4 to 7, based on the PEA mine schedule. In 2018 approximately 179 kg of drill core intervals from a number of drill holes at varying depths and gold head grades were collect to create composites representing three satellite deposits; Fork, Russett and Wedge. A preliminary investigation by BaseMet was completed to assess the metallurgical performance using the PureGold Mine flowsheet. For this study the gold performance of the samples tested in 2018 were compared to the operational data collected by Pure Gold from the restart of the mill in December of 2020 to the end of 2021. The month end reports from this period and gold recoveries achieved from the zones processed through the plant were reviewed by the QP. As of the effective date of this technical report, in the QP's opinion there is sufficient information to predict the potential gold recoveries for the Madsen deposit that will be mined in the future.

13 Mineral Processing and Metallurgical Testing

13.1 Introduction

Base Metallurgical Laboratories Ltd (BaseMet) in Kamloops, BC completed a metallurgical test program for the Madsen deposit during 2018, and summary results were previously reported in the Feasibility Study Technical Report ((Makarenko et al., 2019). A full breakdown of the results can be found in the Base Metallurgical Laboratories Report titled “Metallurgical Testing for the Madsen Gold Project” BL0288” (Issued: 21 September 2018).

In addition to the Madsen deposit program BL0288 flowsheet, confirmation tests were completed under BaseMet BL0354 (2018) on the three satellite zones: Fork, Russet and Wedge. Leach extraction for all three zones was above 95% with higher gravity gold recoveries. The samples were also subjected to Bulk Mineral Analysis (BMA) indicating the main sulphide minerals are pyrrhotite and pyrite. Bond Ball Mill Work Index test results using a closing screen sizing of 106 µm ranged from 13.4 to 14.4 kWh/t. The results indicate the mineralized material is moderately hard, similar to other zones tested.

The mill has since been refurbished and additional equipment installed to achieve a target primary grind size of 80% passing (P_{80}) 75 µm followed by gravity concentration, 2-hour pre-oxidation, 24-hour cyanide leach, 6-hour carbon-in-pulp (CIP) adsorption, desorption, gold refining and cyanide destruction. In December of 2020 the mill was recommissioned and has processed up to 1,000 t/d at the target grind size. A review of the month end reports indicates the plant recovered approximately 95% of the gold and processed material with an average gold head grade of 4.4 g/t.

13.2 Fork, Russet and Wedge Deposits – Test Program BL0354

Based on the BL0288 test work flowsheet and reagent regime completed on the Madsen deposit, confirmatory test work was performed on three metallurgical sample composites from Fork, Russet and Wedge deposits. The leach results are summarized in Table 13-1 and are similar to recoveries from the Madsen deposit.

Table 13-1: Summary of Leach Results

Sample ID	Head Grade	Gold Extraction – Percent Cumulative over Time, h					Reagent Consumption, kg/t	
	g/t	0	2	6	24	48	NaCN	Lime
Fork	4.15	58.1	89.4	95.7	95.8	97.0	0.28	0.68
Russet	5.98	60.4	90.3	97.0	98.3	98.5	0.17	0.70
Wedge	10.8	71.8	95.0	97.8	98.2	98.4	0.24	0.74

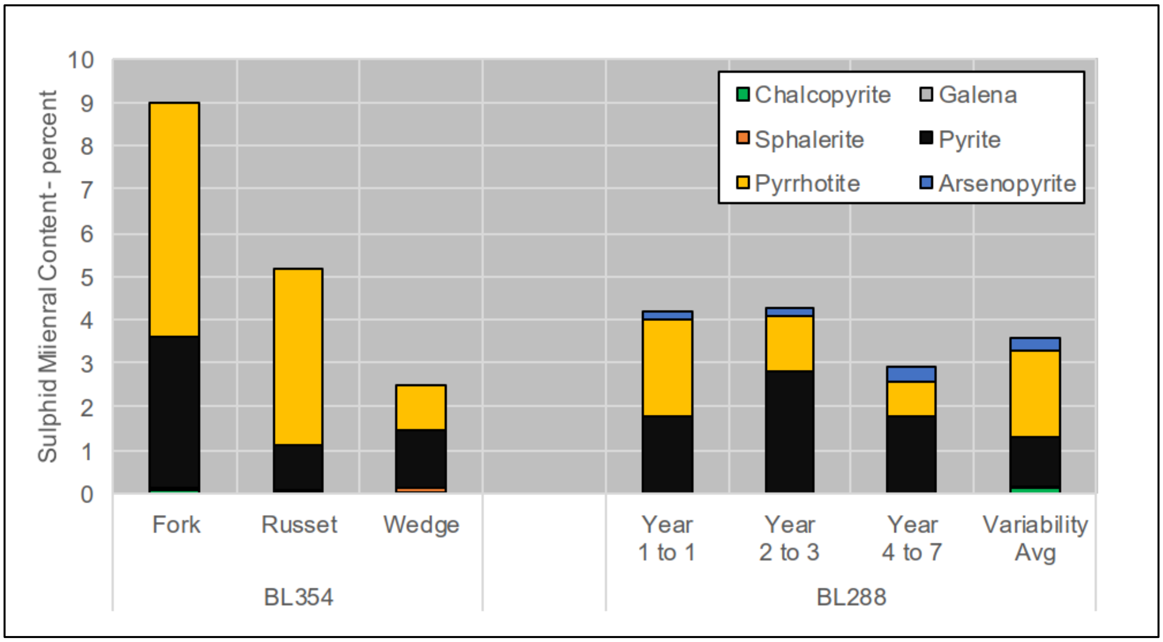
Source: BaseMet (2018)

It should be noted that the Wedge deposit sample measured a higher head grade than is predicted to be processed based on the 2022 resource model. The results from the BL0288 test work did not show a significant correlation between head grade and gold extraction nor has the data compiled from the month end reports. The gold extraction achieved from the three satellite deposits was above 95%. Sodium cyanide consumption was low, averaging 0.23 kg/t and lime consumption averaged approximately 0.76 kg/t for these samples.

13.2.1 Mineralogy

Drill core representing the Fork, Russet and Wedge deposits were provided for metallurgical test work at BaseMet. The drill core was used to create three global composites. The samples were sent out for BMA, with results showing sulphide mineral content was dominated by pyrrhotite and then pyrite, similar to the Madsen deposit. A summary of the results for these composites with a comparison to the results from BL0288 are shown in Figure 13-1.

Figure 13-1: Sulphur Mineral Content



Source: BaseMet (2018) BL0354 and BL0288

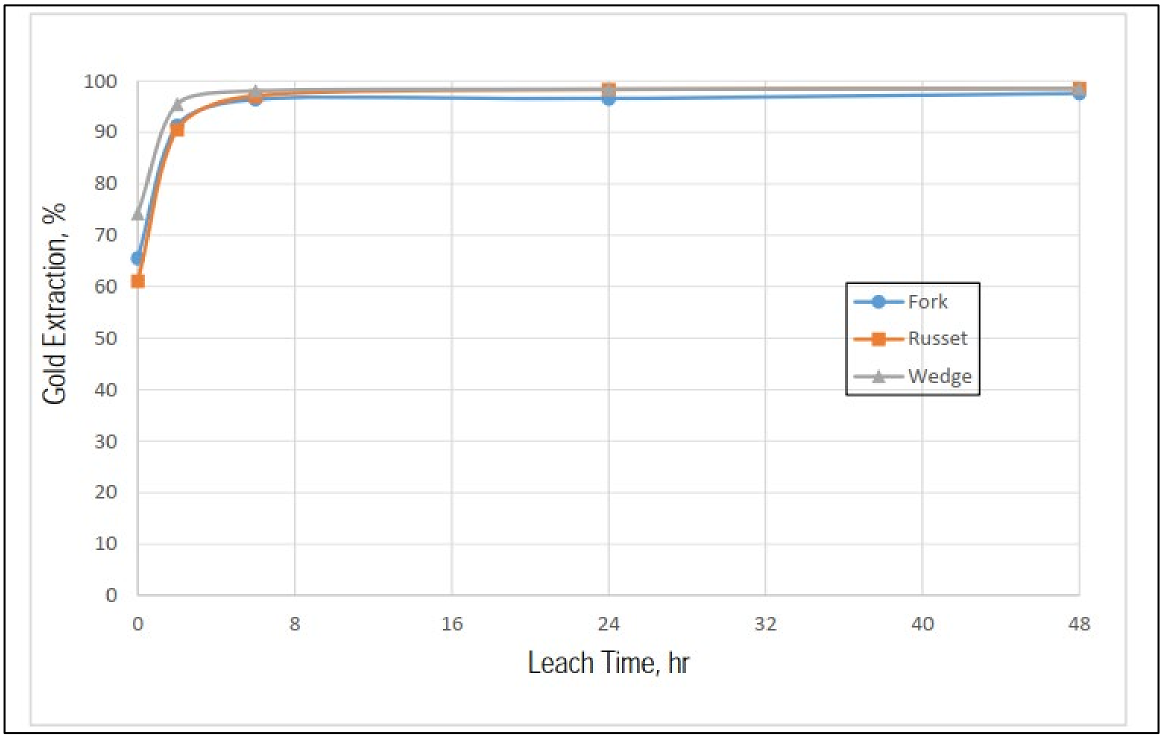
13.2.1.1 Comminution

BaseMet completed Bond Ball mill (BWi) and Abrasion (Ai) test work on the three Satellite composites. The comminution results indicate the material is moderately hard with the BWi ranging from 13.4 kWh/t to 14.4 kWh/t at a closing screen size of 106 µm. The abrasion index ranged from 0.250 to 0.281 gram similar to the Madsen deposit.

13.2.1.2 Gravity - Leach Summary

Gravity leach test work results demonstrate high gravity recovery to the pan concentrate ranging from 61.1% to 74.3%. The final results from these samples indicate gold extraction in the range of 96.5% to 98.3% can be achieved in 24 hours with over 61% of the gold recovered in the gravity circuit. Leach kinetics for these three composites was fast with most of the gold extracted in the first 8 to 10 hours. The gold extraction versus time is illustrated below in Figure 13-2.

Figure 13-2: Gold Extraction vs Time

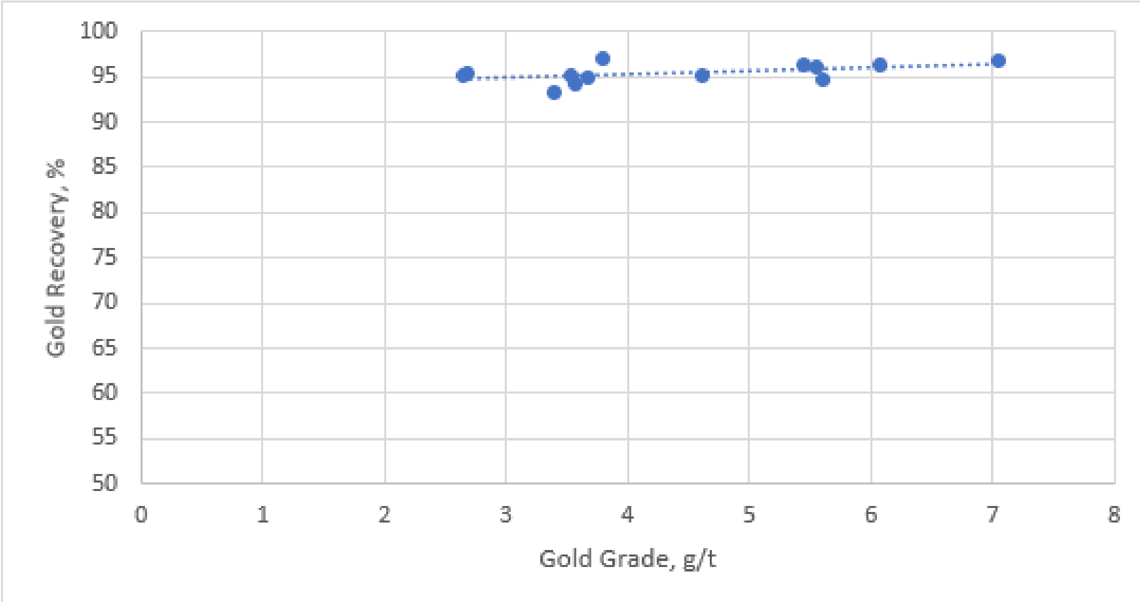


Source: BaseMet (2018) BL0354

13.3 Mill End of Month Reports

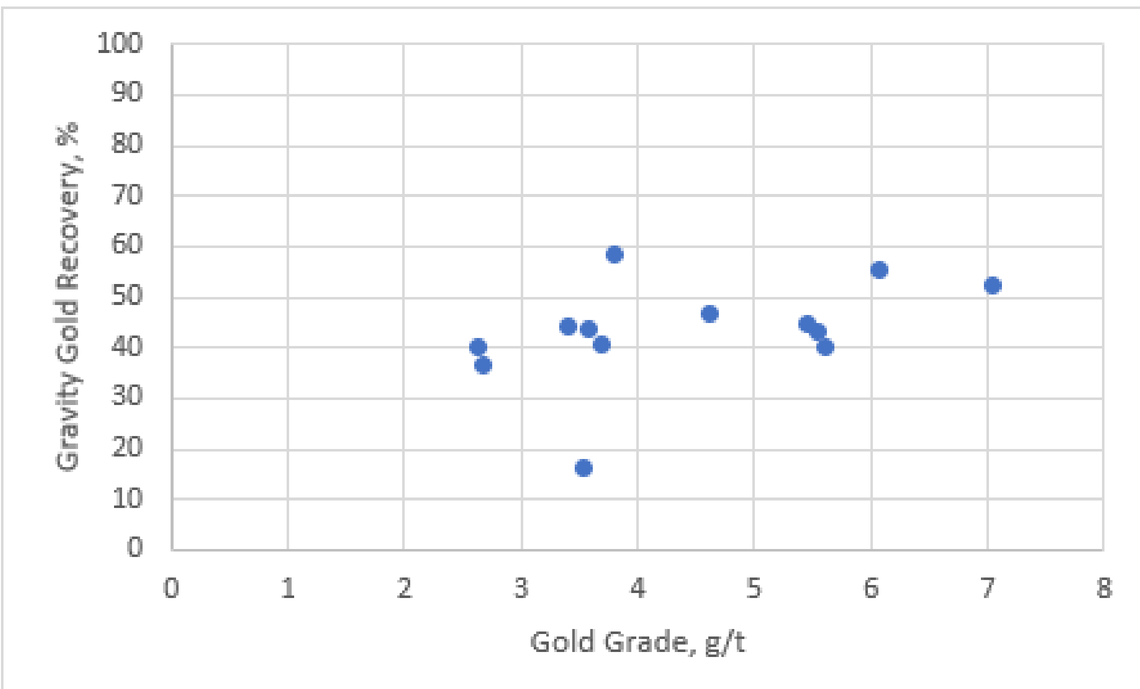
The mill has been operating since December 2020 at an average production rate of 530 t/d and processing up to 1,000 t/d. The main source of material was mined from the McVeigh zone, with minor contributions from Austin and South Austin zones. The material processed has ranged in gold head grade from 2.3 g/t to 6.5 g/t with an average gold overall extraction of approximately 95% at the target grind size of 75 µm. The average gravity recovery was in the range of 44%. The results are comparable to the gold extractions achieved in the BaseMet (2018) BL0288 test program. Figure 13-3 shows the relationship between head grade and overall gold recovery. As observed from the 2018 test work results there does not appear to be a significant correlation between the head grade and overall gold recovery. Similarly, the gravity gold component does not vary significantly with head grade as shown in Figure 13-4.

Figure 13-3: Gold Head Grade vs Overall Recovery



Source: Pure Gold End of Month Reports (2020-2022)

Figure 13-4: Gold Head Grade vs Gravity Gold Recovery



Source: Pure Gold End of Month Reports (2020-2022)

The reagent consumptions recorded in the monthly reports were approximately 0.4 g/t for NaCN and 0.6 g/t for Lime. The 2018 test work was in the same range for reagent consumption.

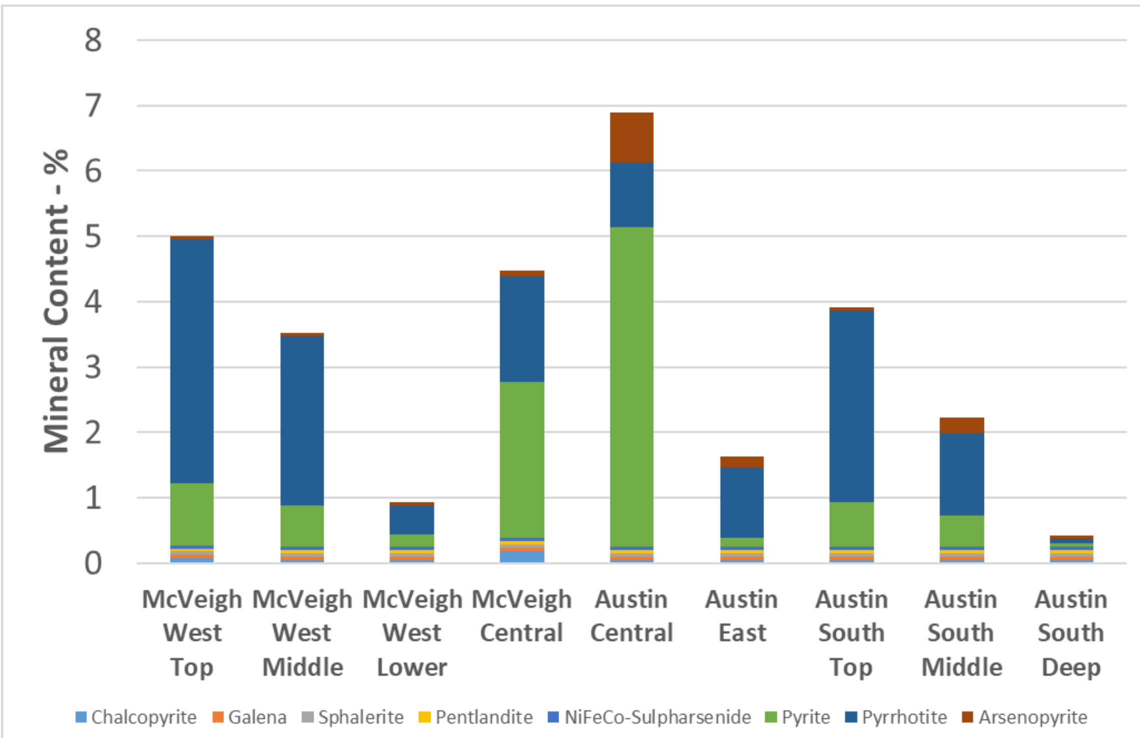
13.4 Ore Sorting

Ore Sorting has been investigated at a high level and is in progress. No data is available to report on.

13.5 Relevant Results

The material that is planned to be mined going forward will include Austin and South Austin. Based on a comparison of the results achieved in the BaseMet (2018) BL0288 test program and the existing operational data the plant is expected to perform with similar overall recoveries. As was observed with the McVeigh zone the dominant sulphide minerals from the BMA test work were pyrrhotite and pyrite for the Austin zones. The results are shown in Figure 13-5.

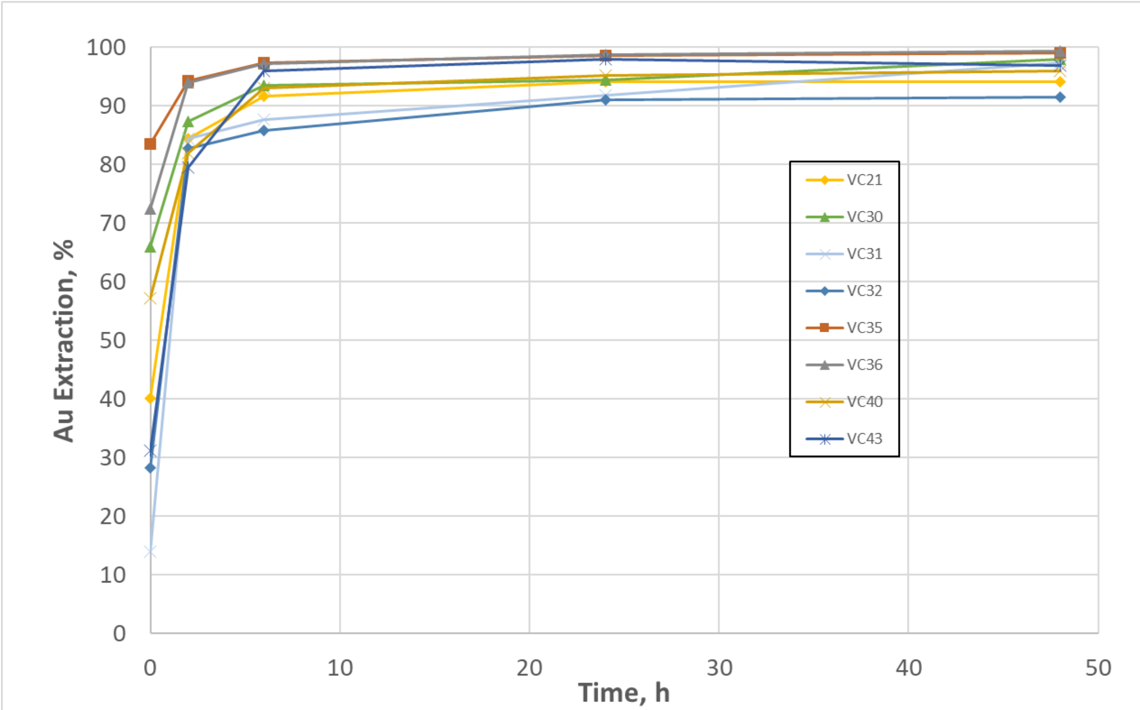
Figure 13-5: Sulphide Mineral Content



Source: BaseMet (2018) BL0288

The BWi for the Austin variability samples tested ranged from 14.2 to 17.1 kWh/t at a P_{80} of 75 µm. The BL0288 leach extraction test results recorded for the Austin variability composites ranged from 91.7 to 98.7% over 24 hours. Figure 13-6 illustrates the leach performance of the Austin variability composites.

Figure 13-6: Gold Extraction vs Time



Source: BaseMet (2018) BL0288

The Austin variability composites gravity gold component from BL0288 averaged 49% which is slightly higher than the McVeigh zone material processed in the plant. Comparing the Austin test work results with the McVeigh samples tested and reviewing the performance of the McVeigh material that has been processed in the mill, the gold extraction is expected to be in the range of 95% with low NaCN and Lime consumptions for the Austin zone.

14 Mineral Resource Estimates

14.1 Introduction

The mineral resource statement presented herein represents a previously disclosed mineral resource estimate ("MRE") prepared for the PureGold Mine, with an effective date of December 31, 2021, in accordance with the Canadian Securities Administrators' National Instrument 43-101. The mine comprises the Madsen, Fork, Russet and Wedge deposits as depicted in Figure 14-1. The previous mineral resource estimate prepared for the mine with an effective date of February 5, 2019 was prepared by Ginto Consulting Inc. (see Makarenko et al., 2019).

The mineral resource models prepared by SRK consider a total of 13,621 boreholes which intersect the interpreted mineralized domains. A total of 13,192 boreholes are located within the Madsen deposit, 110 within the Fork deposit, 119 within the Russet deposit and 200 within the Wedge deposit. As well, 20,682 production chip samples collected during recent mining operations between 2018 and 2021, and 5,750 historical chip samples (circa 1969 to 1974) were used for mineral resource estimation. The mineral resource estimation work was completed by Mr. Cliff Revering, P.Eng., and peer reviewed by Dr. Oy Leuangthong, P.Eng. The effective date of the mineral resource statement is December 31, 2021.

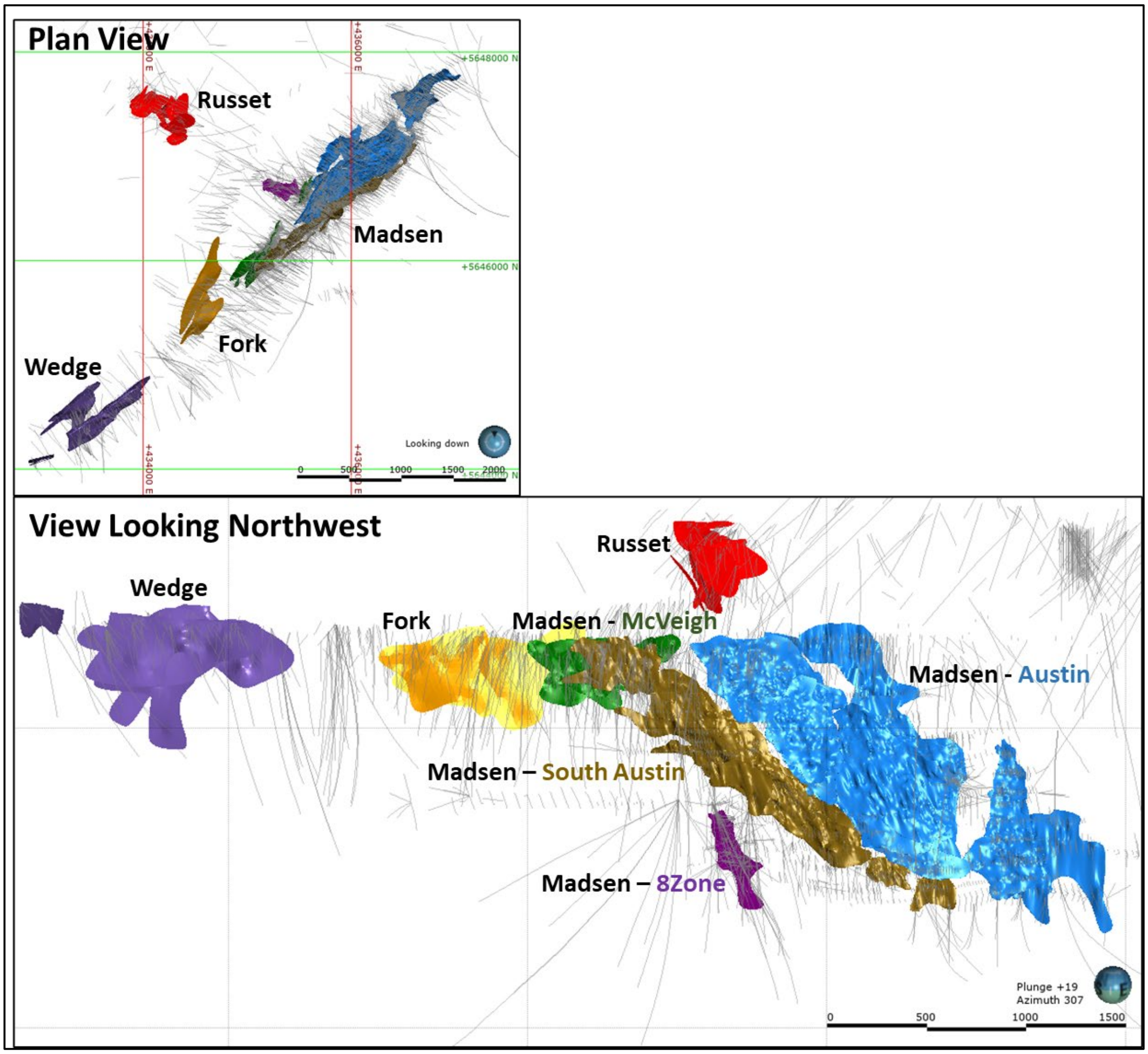
Since the effective date of this technical report, additional diamond drilling was conducted until the mine closure on October 24, 2022. A total of 688 drill holes and 54,122 m of drilling was completed in 2022. Based on a review of the results of this drilling it has been determined that the information obtained will not have a material impact on the mineral resource estimate presented in this report.

This section describes the resource estimation methodology and summarizes the key assumptions considered by SRK. In the opinion of SRK, the resource estimate reported herein is a reasonable representation of the gold mineral resources found in the PureGold Mine at the current level of drilling and sampling. The mineral resources have been estimated in conformity with generally accepted CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" (November 2019) and are reported in accordance with the Canadian Securities Administrators' National Instrument 43-101. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resources will be converted into mineral reserves.

The database used to develop the geological model and mineral resource estimates for the PureGold Mine has been reviewed by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret the geology and mineralization controls of the PureGold Mine and that the assay data are sufficiently reliable to support the estimation of mineral resources.

Seequent's Leapfrog Geo™ software was used to construct the geological model for the mine, and Maptek's Vulcan™ and Seequent's Leapfrog Edge™ software were used for mineral resource estimation.

Figure 14-1: Location map of PureGold Mine deposits - zones (with drill hole traces in grey)



14.2 Resource Database

The mine drillhole database contains 16,406 drill holes totalling over 1.3 Mm of drilling (Table 14-1); 2,488 of these drill holes (identified as Exploration and Production holes in Table 14-1) were drilled by Pure Gold between 2014 and 2021 totalling 351,356 m of drilling. The database contains 761,206 gold (Au) assays that have been amassed from drill holes to the end of 2021, of which 167,815 were drilled by Pure Gold since 2014.

Table 14-1: Drill Hole Database Summary

Program Type	Number of Holes	Total Meters	Au Assays
Exploration	1,190	319,292	141,991
Historical	13,958	992,745	593,391
Production	1,258	32,064	25,824
TOTALS	**16,406**	**1,344,101**	**761,206**

In addition to the drilling data available for the 2021 MRE update, a production chip samples database was provided by Pure Gold. A total of 26,432 production chip samples with associated Au assays were used in the MRE process, of which 20,682 were collected by Pure Gold since mining recommenced in 2018 (Table 14-2). The majority of Pure Gold chip samples are located in the McVeigh and South Austin zones, where mining activities by Pure Gold have been focused. An additional 5,750 historical chip samples from the 8 Zone were also incorporated into the 2021 MRE update. Historical chip samples from the Austin and South Austin areas of the mine were excluded from the MRE workflow due to uncertainty with data quality and verification; these are also excluded from the total presented in Table 14-2.

Table 14-2: Production Chip Sample Database Summary

Year	Number of Chip Samples	Total Sample Length (m)
Historical	5,750	4,598
2018	1,698	1,064
2020	3,588	2,371
2021	15,396	11,869
TOTALS	26,432	19,901

14.3 Geological Model

The geological models used as the basis for the 2021 MRE were updated in 2021 by Pure Gold with assistance from SRK. These incorporated additional geological understanding of the mineralization controls obtained through underground mining and geological data collection programs during active mine production from 2018 to 2021. Three-dimensional modeling of the mineral resource domains was conducted using Leapfrog Geo^{TM} software and generally used a 3 g/t Au cut-off and 2 m minimum width criteria for mineralization domain interpretation. Areas of lower grade and/or waste material were incorporated into the mineralized domain model to facilitate interpretation of mineralization continuity related to vein packages across the deposit area.

The Madsen deposit is the largest of the deposits and comprises 4 zones identified as the Austin, South Austin, McVeigh and 8Zone, and has a total of 50 separate mineralized domains. The Fork, Russet and Wedge deposits each have a total of 3, 15 and 6 individual mineralized domains, respectively. Table 14-3 provides a volume summary of the mineralized domains within each deposit. Historical mining of the Madsen deposit was focused within the Austin and South Austin zones, with relatively minor production from the McVeigh and 8 zones, as depicted in Figure 14-2.

Figure 14-2: Geological model of the mine deposits, including historical mine development and mined stopes in the Madsen deposit

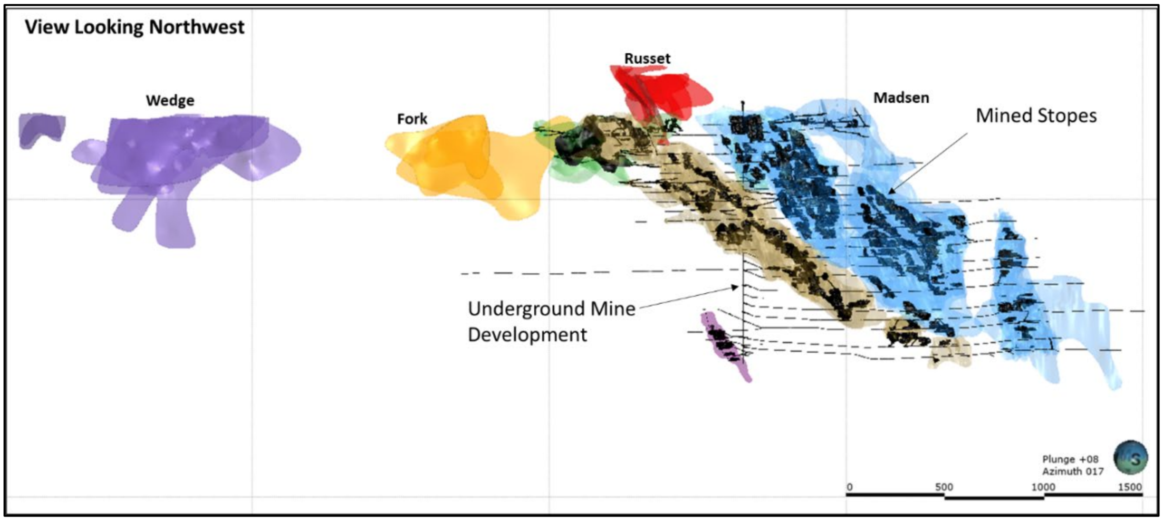


Table 14-3: Mineralized domain volume summary

Deposit	Zone	Domain	Volume m^3 (000)
Madsen	Austin	111	1,690.2
Madsen	Austin	112	1,322.4
Madsen	Austin	113	662.4
Madsen	Austin	114	391.5
Madsen	Austin	115	293.8
Madsen	Austin	121	533.8
Madsen	Austin	122	992.3
Madsen	Austin	123	1,300.4
Madsen	Austin	124	1,121.8
Madsen	Austin	131	295.5
Madsen	Austin	132	371.4
Madsen	Austin	133	312.6
Madsen	Austin	134	270.0
Madsen	Austin	135	74.4
Madsen	Austin	141	335.7
Madsen	Austin	142	407.8
Madsen	Austin	151	375.4
Madsen	South Austin	301	113.8
Madsen	South Austin	302	42.6
Madsen	South Austin	303	41.7
Madsen	South Austin	304	80.2
Madsen	South Austin	305	105.6
Madsen	South Austin	311	0.2
Madsen	South Austin	312	153.5
Madsen	South Austin	313	123.1

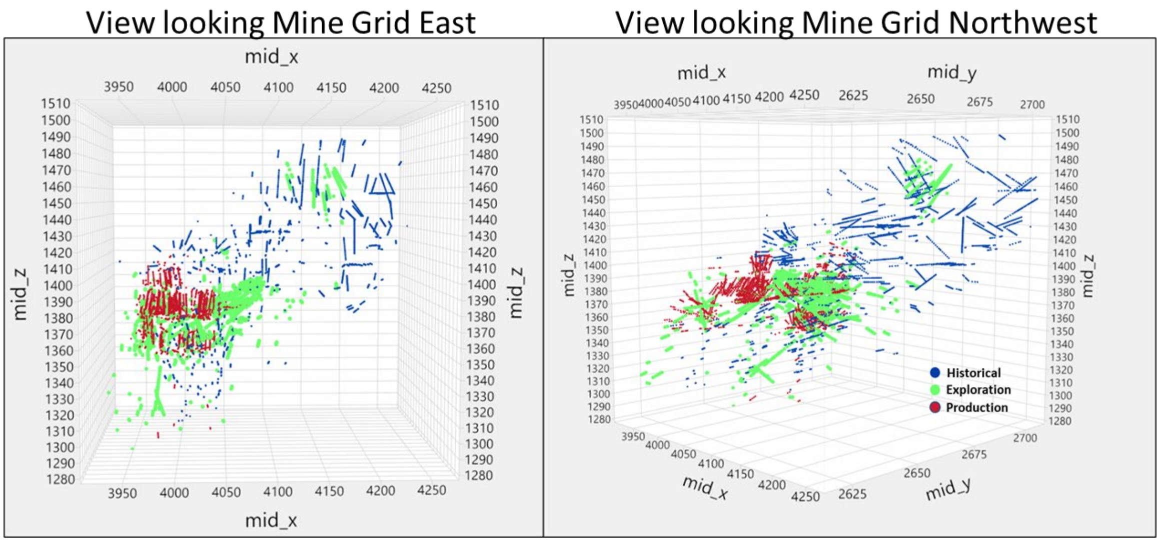
Deposit	Zone	Domain	Volume m^3 (000)
Madsen	South Austin	321	1,218.5
Madsen	South Austin	322	1,226.5
Madsen	South Austin	323	311.9
Madsen	South Austin	324	270.1
Madsen	South Austin	331	53.5
Madsen	South Austin	332	62.9
Madsen	South Austin	333	38.8
Madsen	McVeigh	211	141.2
Madsen	McVeigh	212	131.8
Madsen	McVeigh	213	181.0
Madsen	McVeigh	214	35.7
Madsen	McVeigh	215	7.3
Madsen	McVeigh	216	2.6
Madsen	McVeigh	217	356.3
Madsen	McVeigh	218	229.5
Madsen	McVeigh	219	60.9
Madsen	McVeigh	220	127.3
Madsen	McVeigh	221	151.6
Madsen	McVeigh	222	143.1
Madsen	McVeigh	223	81.8
Madsen	McVeigh	224	238.4
Madsen	8 Zone	810	133.6
Madsen	8 Zone	820	62.7
Madsen	8 Zone	830	104.2
Madsen	8 Zone	840	84.3

Deposit	Domain	Volume m^3 (000)
Fork	FW	852.0
Fork	HW	395.8
Fork	NS	305.9
Russet	V1	71.1
Russet	V2	29.0
Russet	V3	136.7
Russet	V4	41.5
Russet	V5	5.7
Russet	V6	112.4
Russet	V7	175.6
Russet	V8	104.8
Russet	V9	21.4
Russet	V10	123.3
Russet	V11	23.2
Russet	V12	81.1
Russet	V13	34.2
Russet	V14	64.3
Russet	V15	108.3
Wedge	DVCK_1	486.8
Wedge	DVCK_2	1,046.4
Wedge	DVCK_3	904.8
Wedge	MJ_1	739.7
Wedge	MJ_2	415.1
Wedge	MJ_3	365.1

14.4 Historical Data Comparisons

To assess the compatibility of historical assay data relative to recent assay data collected by Pure Gold, SRK compared datasets within several mineralized domains. As an example, Figure 14-3 provides a summary of assay data within the Madsen – McVeigh Zone mineralized domain 213. Assay data was segregated into three data populations: 1) Pure Gold Exploration, 2) Pure Gold Production and 3) Historical assays. As seen in Figure 14-3, Pure Gold Production assays (red) are clustered within mined stope locations and were collected for the purpose of grade control ahead of mining, whereas Pure Gold Exploration (green) and Historical (blue) assays are more comparable datasets spatially. The assay summary statistics for the three data populations provided in Figure 14-3 demonstrate that Pure Gold Exploration and Historical assay data populations have similar average grade characteristics and grade distributions, whereas the Pure Gold Production data population is biased high, relative to the Exploration and Historical data, due to its preferential location within mined stopes targeted above an economic cut-off grade. It should be noted that the summary statistics provided in Figure 14-3 are length-weighted and have incorporated a grade cap of 187 g/t Au to mitigate the impact of high-grade outliers within the data populations.

Figure 14-3: Pure Gold and historical assay data comparison within the Madsen – McVeigh Zone mineralized domain 213



Summary Statistics (length weighted)

Quantiles

		Exploration	Historical	Production
100.0%	maximum	187.00	187.00	187.00
99.5%		65.50	63.72	100.00
97.5%		18.79	16.87	32.90
90.0%		5.70	5.83	8.68
75.0%	quartile	1.72	1.99	2.63
50.0%	median	0.21	0.34	0.38
25.0%	quartile	0.04	0.17	0.08
10.0%		0.01	0.09	0.02
2.5%		0.00	0.00	0.01
0.5%		0.00	0.00	0.00
0.0%	minimum	0.00	0.00	0.00

Summary Statistics

	Exploration	Historical	Production
Mean	2.79	2.52	4.66
Std Dev	10.36	8.02	15.07
Std Err Mean	0.24	0.18	0.29
Upper 95% Mean	3.26	2.87	5.22
Lower 95% Mean	2.33	2.16	4.10
N	1745.00	2978.00	2959.00

14.5 Compositing

14.5.1 Madsen

Assay samples for the Madsen deposit were composited to 1.52m (5 ft) lengths within the mineralized domain boundaries, and all residual composites smaller than 0.76m in length were added to the adjacent composite interval. As shown in Figure 14-4 over 95% of all drill hole assay sample lengths were collected using a 1.52m sample length or smaller, and therefore supported the selection of a 1.52m composite length.

Production chip samples used in the estimation process were predominately sampled at a 0.80m sample length or smaller (Figure 14-3) therefore were also composited to a 1.52m composite length.

Figure 14-4: Madsen deposit drill hole assay sample length distributions (by mineralized zone)

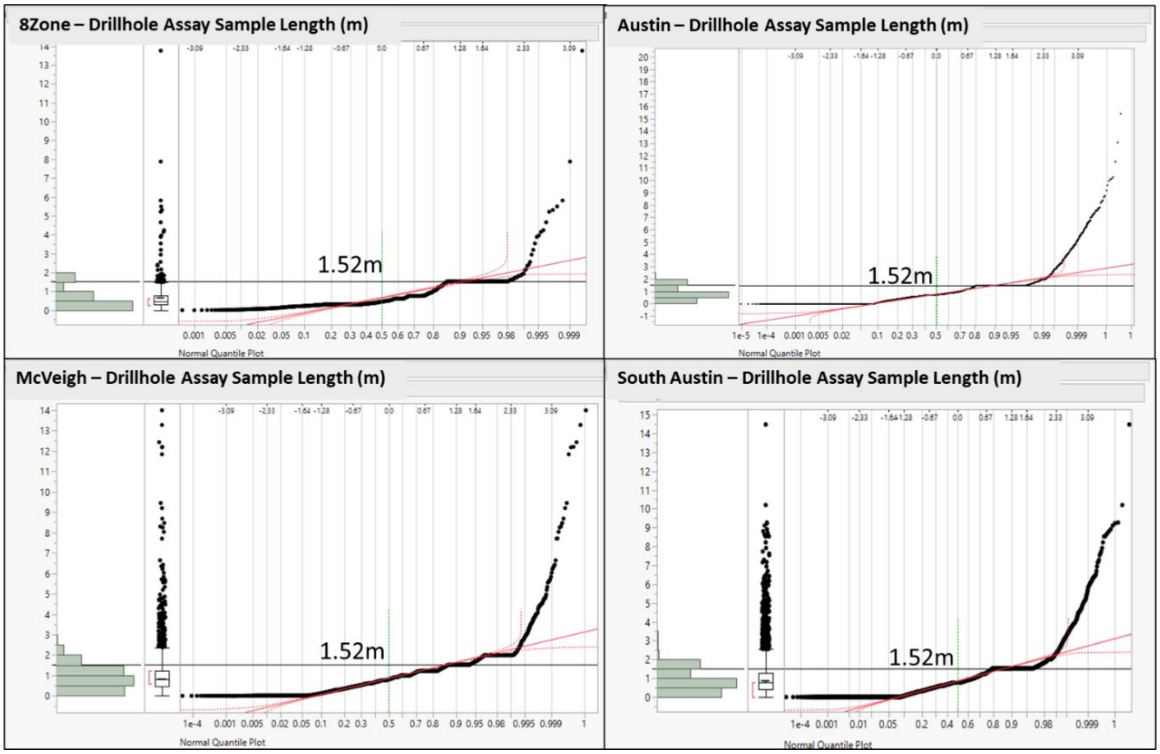
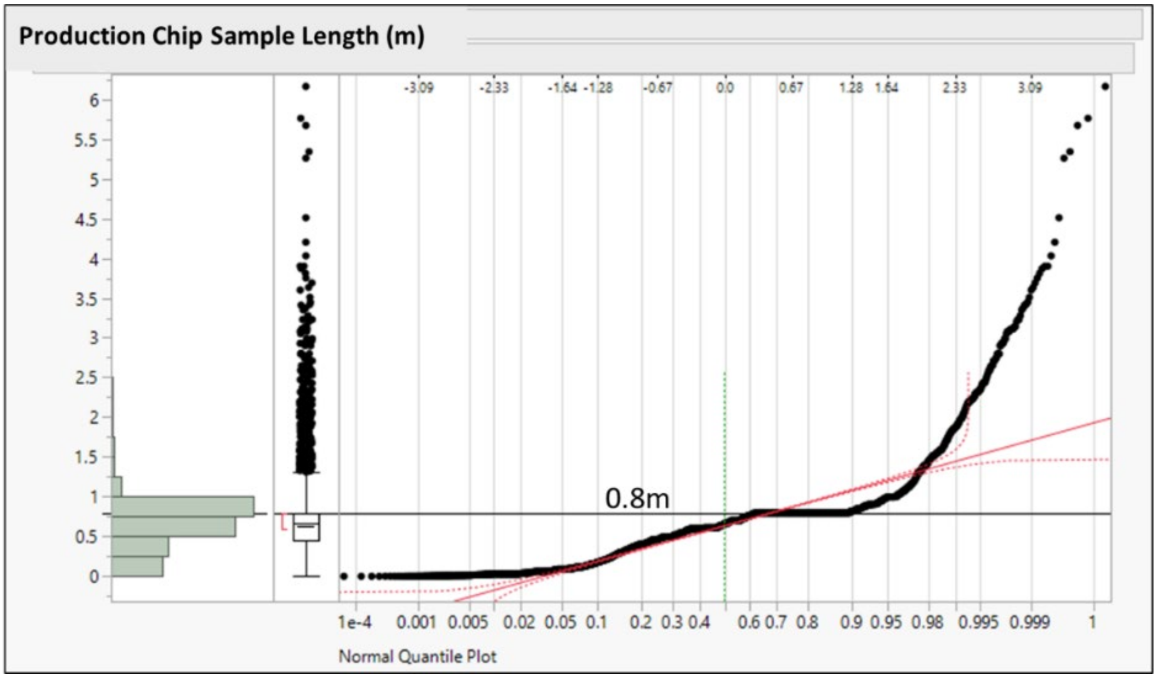


Figure 14-5: Madsen deposit – production chip sample assay length distributions



Summary statistics of drill hole and production chip samples raw assay data (by mineralized domain) for the Madsen deposit are provided in Table 14-4 and Table 14-5, respectively, with summary statistics for the composited (uncapped) assay data provided in Table 14-6.

Table 14-4: Madsen deposit drill hole raw gold assay (g/t) summary statistics (length-weighted, by mineralized domain)

Mineralized Domain	Domain Code	# of Samples	Mean	StDev	Min	Max	CV
Austin_HG1_V1	111	22,149	5.12	25.82	0.00	4,395.4	5.04
Austin_HG1_V2	112	15,685	4.02	10.11	0.00	964.8	2.52
Austin_HG1_V3	113	4,573	1.26	4.69	0.00	238.9	3.72
Austin_HG1_V4	114	3,072	2.28	7.07	0.00	279.1	3.10
Austin_HG1_V5	115	1,499	1.37	4.24	0.00	167.3	3.10
Austin_HG2_V1	121	2,881	1.36	5.13	0.00	149.5	3.77
Austin_HG2_V2	122	9,499	3.54	11.37	0.00	648.0	3.21
Austin_HG2_V3	123	14,676	4.38	26.03	0.00	2,534.7	5.94
Austin_HG2_V4	124	10,366	2.24	11.93	0.00	750.9	5.31
Austin_HG3_V1	131	3,558	2.88	7.32	0.00	173.5	2.54
Austin_HG3_V2	132	4,447	4.28	16.13	0.00	1,309.4	3.77
Austin_HG3_V3	133	3,824	3.86	13.34	0.00	720.0	3.46
Austin_HG3_V4	134	2,503	3.15	10.53	0.00	573.9	3.34
Austin_HG3_V5	135	252	2.75	9.15	0.00	160.5	3.33
Austin_HG4_V1	141	2,213	1.59	4.39	0.00	123.4	2.76
Austin_HG4_V2	142	2,031	1.67	9.84	0.00	332.8	5.88
Austin_HG5_V1	151	1,007	3.09	13.34	0.00	438.9	4.32
McVeigh_HG1_3565_FW	211	66	2.99	7.37	0.00	55.2	2.47
McVeigh_HG1_3565_HW	212	25	5.26	18.69	0.00	79.4	3.55
McVeigh_HG1_BSZ	213	7,682	3.93	23.76	0.00	1,175.0	6.05
McVeigh_HG1_FW	214	1,433	1.37	8.10	0.00	264.9	5.90
McVeigh_HG1_FW2	215	312	0.94	2.85	0.00	33.9	3.03
McVeigh_HG1_FW3	216	133	0.51	1.45	0.00	12.0	2.83
McVeigh_HG1_HW	217	2,406	2.18	5.41	0.00	100.0	2.49
McVeigh_HG1_HW2a	218	1,677	3.89	37.73	0.00	2,406.8	9.71
McVeigh_HG1_HW2b	219	1,411	2.39	9.45	0.00	221.1	3.96
McVeigh_HG1_MAIN	220	1,824	2.17	8.71	0.00	251.1	4.02
McVeigh_HG2_V1	221	1,900	3.28	11.24	0.00	333.3	3.43
McVeigh_HG2_V2	222	1,763	3.22	8.77	0.00	222.9	2.72
McVeigh_HG2_V3	223	1,325	1.17	4.07	0.00	137.5	3.49
McVeigh_HG2_V4	224	561	5.02	92.07	0.00	3,884.6	18.33
SouthAustin_A3_V1	301	184	0.91	1.28	0.00	6.2	1.40
SouthAustin_A3_V2	302	603	3.23	14.81	0.00	213.3	4.59
SouthAustin_A3_V3	303	261	4.29	14.48	0.00	133.7	3.38
SouthAustin_FINGA	304	752	3.82	9.13	0.00	188.9	2.39
SouthAustin_FW_V1	305	1,807	6.32	29.64	0.00	857.8	4.69
SouthAustin_HG1_V1	311	2,228	2.57	11.58	0.00	382.0	4.51
SouthAustin_HG1_V2	312	2,170	2.73	12.36	0.00	543.8	4.52
SouthAustin_HG1_V3	313	1,133	1.73	6.94	0.00	100.0	4.01
SouthAustin_HG2_V1	321	13,516	6.14	31.74	0.00	2,063.3	5.17
SouthAustin_HG2_V2	322	10,996	4.10	18.84	0.00	977.1	4.60
SouthAustin_HG2_V3	323	2,951	1.53	6.28	0.00	197.5	4.11
SouthAustin_HG2_V4	324	2,785	3.52	15.06	0.00	578.1	4.28
SouthAustin_HG3_V1	331	737	6.65	20.49	0.00	559.5	3.08
SouthAustin_HG3_V2	332	1,129	11.77	80.06	0.00	2,390.7	6.80
SouthAustin_HG3_V3	333	506	3.07	19.73	0.00	582.2	6.42
8Zone_V1	810	1,269	13.88	130.30	0.00	6,661.0	9.39
8Zone_V2	820	715	6.86	61.16	0.00	2,731.9	8.91
8Zone_V3	830	682	0.75	6.97	0.00	377.1	9.29
8Zone_V4	840	616	1.90	11.92	0.00	486.2	6.25

Table 14-5: Madsen deposit chip sample raw gold assay (g/t) summary statistics (length-weighted, by mineralized domain)

MinDomain	Domain Code	of Sample	Mean	StDev	Min	Max	CV
Austin_HG1_V2	112	5	0.21	0.20	0.01	0.56	0.93
Austin_HG1_V5	115	34	12.11	48.07	0.06	350.02	3.97
Austin_HG4_V1	141	76	1.64	4.24	0.00	27.51	2.58
Austin_HG4_V2	142	526	2.92	8.26	0.00	138.53	2.83
McVeigh_HG1_3565_FW	211	62	0.23	0.37	0.00	1.96	1.60
McVeigh_HG1_3565_HW	212	33	0.50	1.05	0.00	8.92	2.08
McVeigh_HG1_BSZ	213	3302	7.83	49.62	0.00	2022.78	6.34
McVeigh_HG1_FW	214	579	3.92	46.17	0.00	1235.29	11.79
McVeigh_HG1_FW2	215	26	0.05	0.04	0.01	0.24	0.74
McVeigh_HG1_FW3	216	17	0.09	0.21	0.01	1.01	2.46
McVeigh_HG1_HW	217	1324	2.95	15.88	0.00	1019.84	5.39
McVeigh_HG1_HW2a	218	605	6.39	71.31	0.00	2259.66	11.16
McVeigh_HG1_HW2b	219	465	3.60	12.79	0.00	189.69	3.56
McVeigh_HG1_MAIN	220	1328	2.13	4.52	0.00	91.50	2.12
SouthAustin_HG1_V1	311	869	10.91	154.99	0.00	5083.89	14.20
SouthAustin_HG1_V2	312	137	0.68	0.99	0.01	9.04	1.45
SouthAustin_HG1_V3	313	52	1.90	3.42	0.00	22.42	1.80
SouthAustin_HG2_V1	321	231	2.35	6.45	0.00	66.90	2.74
SouthAustin_HG2_V2	322	48	0.52	0.76	0.01	4.47	1.47
SouthAustin_HG2_V3	323	75	1.29	7.51	0.01	72.69	5.82
SouthAustin_HG2_V4	324	58	2.12	3.52	0.01	25.34	1.66
8Zone_V1	810	3993	26.05	153.57	0.00	8003.94	5.89
8Zone_V2	820	1808	23.98	101.51	0.00	2685.59	4.23
8Zone_V3	830	162	3.10	6.56	0.00	70.63	2.11
8Zone_V4	840	37	3.31	3.55	0.00	16.46	1.07

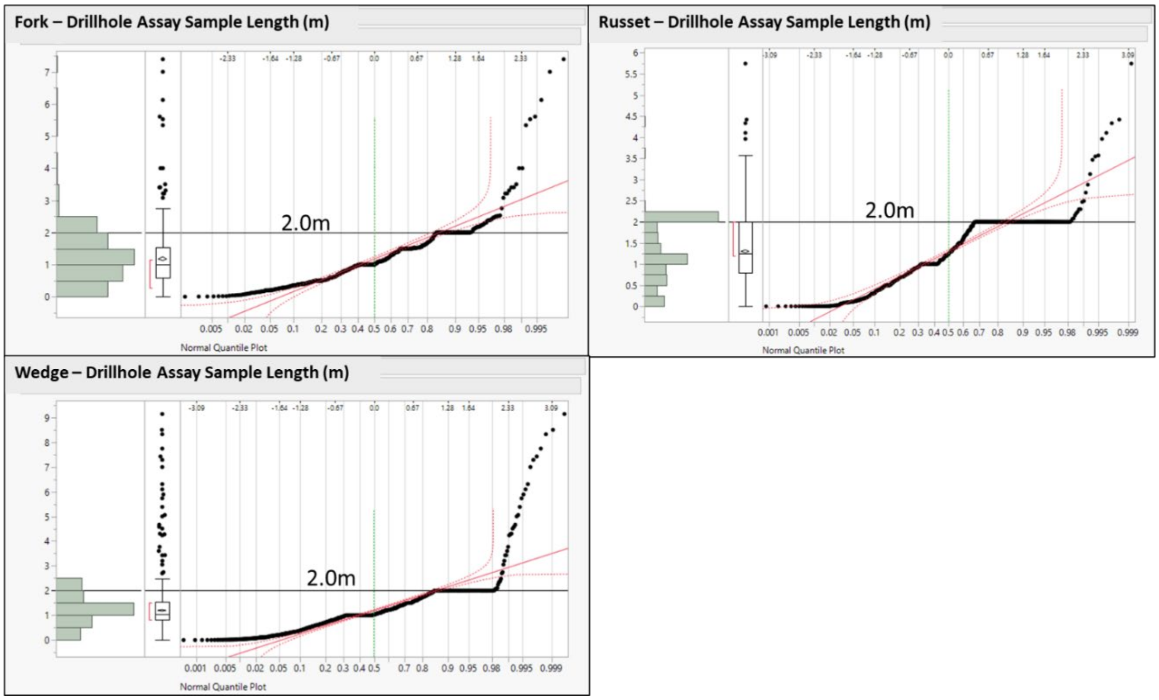
Table 14-6: Madsen deposit 1.52m composited gold summary statistics (g/t, uncapped, by mineralized domain)

MinDomain	Domain Code	# of Comps Total	# of Comps DDH	# of Comps Chips	Mean (uncapped)	StDev	Min	Max	CV
Austin_HG1_V1	111	12141	12141	0	5.11	19.14	0.00	1098.80	3.75
Austin_HG1_V2	112	8042	8040	2	4.01	8.84	0.00	250.30	2.21
Austin_HG1_V3	113	3003	3003	0	1.28	3.11	0.00	73.52	2.43
Austin_HG1_V4	114	1581	1581	0	2.27	5.74	0.00	118.31	2.53
Austin_HG1_V5	115	956	940	16	1.56	5.76	0.00	149.58	3.70
Austin_HG2_V1	121	1660	1660	0	1.38	4.26	0.00	93.60	3.10
Austin_HG2_V2	122	5276	5276	0	3.56	8.57	0.00	219.52	2.41
Austin_HG2_V3	123	8623	8623	0	4.40	22.69	0.00	1698.47	5.16
Austin_HG2_V4	124	6536	6536	0	2.24	8.01	0.00	288.19	3.58
Austin_HG3_V1	131	1786	1786	0	2.92	6.58	0.00	143.66	2.25
Austin_HG3_V2	132	2149	2149	0	4.24	10.02	0.00	181.30	2.36
Austin_HG3_V3	133	1976	1976	0	3.85	8.59	0.00	118.00	2.23
Austin_HG3_V4	134	1357	1357	0	3.13	8.25	0.00	142.90	2.64
Austin_HG3_V5	135	122	122	0	2.74	6.52	0.00	38.68	2.38
Austin_HG4_V1	141	1218	1189	29	1.58	3.65	0.00	44.38	2.30
Austin_HG4_V2	142	1489	1247	242	1.87	8.73	0.00	270.75	4.66
Austin_HG5_V1	151	519	519	0	3.08	10.89	0.00	229.58	3.53
McVeigh_HG1_3565_FW	211	64	38	26	1.89	5.09	0.00	36.88	2.69
McVeigh_HG1_3565_HW	212	29	16	13	2.90	11.04	0.00	59.04	3.81
McVeigh_HG1_BSZ	213	5776	4395	1381	4.77	22.89	0.00	679.22	4.80
McVeigh_HG1_FW	214	1095	824	271	1.96	16.76	0.00	519.33	8.55
McVeigh_HG1_FW2	215	208	201	7	0.94	2.62	0.00	26.99	2.79
McVeigh_HG1_FW3	216	78	78	0	0.44	1.53	0.00	12.00	3.44
McVeigh_HG1_HW	217	1831	1302	529	2.42	7.12	0.00	169.94	2.94
McVeigh_HG1_HW2a	218	1157	895	262	4.50	31.78	0.00	868.45	7.07
McVeigh_HG1_HW2b	219	936	743	193	2.61	9.67	0.00	148.71	3.70
McVeigh_HG1_MAIN	220	1612	1102	510	2.22	7.28	0.00	193.50	3.28
McVeigh_HG2_V1	221	1002	1002	0	3.28	11.86	0.00	333.26	3.62
McVeigh_HG2_V2	222	932	932	0	3.31	7.65	0.00	88.91	2.31
McVeigh_HG2_V3	223	755	755	0	1.17	3.24	0.00	38.28	2.76
McVeigh_HG2_V4	224	287	287	0	4.37	51.93	0.00	879.26	11.88
SouthAustin_A3_V1	301	105	105	0	0.94	1.37	0.00	6.17	1.46
SouthAustin_A3_V2	302	340	340	0	3.24	12.97	0.00	175.99	4.01
SouthAustin_A3_V3	303	140	140	0	4.48	14.57	0.00	133.71	3.25
SouthAustin_FINGA	304	339	339	0	3.88	9.08	0.00	73.87	2.34
SouthAustin_FW_V1	305	989	989	0	6.46	24.54	0.00	462.02	3.80
SouthAustin_HG1_V1	311	1646	1274	372	4.55	56.66	0.00	2141.28	12.45
SouthAustin_HG1_V2	312	1240	1183	57	2.64	8.31	0.00	160.11	3.15
SouthAustin_HG1_V3	313	650	629	21	1.86	6.27	0.00	61.80	3.37
SouthAustin_HG2_V1	321	7550	7445	105	6.05	23.26	0.00	1038.78	3.85
SouthAustin_HG2_V2	322	6574	6554	20	4.09	14.51	0.00	425.37	3.55
SouthAustin_HG2_V3	323	1792	1756	36	1.51	5.30	0.00	122.04	3.51
SouthAustin_HG2_V4	324	1372	1350	22	3.46	12.43	0.00	149.80	3.59
SouthAustin_HG3_V1	331	338	338	0	6.79	16.16	0.00	165.83	2.38
SouthAustin_HG3_V2	332	519	519	0	11.91	74.11	0.00	1470.48	6.22
SouthAustin_HG3_V3	333	256	256	0	3.07	10.98	0.00	134.19	3.57
8Zone_V1	810	1963	488	1475	21.52	98.63	0.00	1968.24	4.58
8Zone_V2	820	919	236	683	18.60	82.68	0.00	1410.82	4.44
8Zone_V3	830	443	388	55	1.07	4.26	0.00	59.85	3.96
8Zone_V4	840	279	264	15	1.87	5.78	0.00	73.05	3.09

14.5.2 Fork, Russet and Wedge Deposits

Assay samples for the Fork, Russet and Wedge deposits were composted to 2.0m lengths due to the use of larger sample lengths in these deposits as shown Figure 14-6. Composites were generated within the mineralized domain boundaries, and all residual composites smaller than 1.0m in length were added to the adjacent composite interval.

Figure 14-6: Satellite deposits drill hole assay sample length distributions (by deposit)



Summary statistics of the raw assay data (by mineralized domain) for the Fork, Russet and Wedge deposits are provided in Table 14-7, with summary statistics for the composited (uncapped) assay data provided in Table 14-8.

Table 14-7: Fork, Russet and Wedge drill hole raw gold assay (g/t) summary statistics (length-weighted, by mineralized domain)

Deposit	Mineralized Domain	# of Samples	Au_gpt	StDev	Min	Max	CV
Fork	FW	190	0.92	5.02	0.0025	61.12	5.48
Fork	HW	294	1.74	6.70	0.0025	169.09	3.85
Fork	NS	244	2.09	9.97	0.0025	125.19	4.77
Russet	V1	67	2.45	5.54	0.0025	35.90	2.26
Russet	V2	47	2.83	9.82	0.0025	56.20	3.47
Russet	V3	154	0.52	2.82	0.0025	23.20	5.41
Russet	V4	47	5.93	22.21	0.005	132.00	3.74
Russet	V5	28	2.93	8.22	0.0025	42.20	2.81
Russet	V6	130	3.42	12.97	0.0025	115.83	3.79
Russet	V7	206	0.70	5.88	0.0025	80.72	8.44
Russet	V8	188	0.36	2.18	0.0025	17.67	6.13
Russet	V9	26	1.00	2.63	0.0025	11.25	2.64
Russet	V10	123	1.73	4.70	0.0025	27.20	2.72
Russet	V11	36	3.88	12.33	0.0025	83.80	3.18
Russet	V12	49	4.46	9.93	0.0025	46.40	2.22
Russet	V13	7	6.24	9.02	0.0025	19.65	1.45
Russet	V14	61	0.87	1.96	0.0025	9.15	2.26
Russet	V15	39	1.95	3.82	0.023	13.75	1.96
Wedge	DVCK_1	484	1.65	10.52	0.0025	132.47	6.38
Wedge	DVCK_2	626	1.04	3.87	0.0003	37.49	3.70
Wedge	DVCK_3	561	2.06	17.64	0.0003	354.00	8.56
Wedge	MJ_1	196	0.58	3.52	0.0025	32.90	6.07
Wedge	MJ_2	129	3.11	14.55	0.0025	185.62	4.67
Wedge	MJ_3	80	2.33	11.07	0.0025	94.60	4.75

Table 14-8: Fork, Russet and Wedge deposits 2.0m composited gold summary statistics (g/t, uncapped, by mineralized domain)

Deposit	Mineralized Domain	# of Comps	Au_gpt	StDev	Min	Max	CV
Fork	FW	124	0.75	2.89	0.00	29.08	3.88
Fork	HW	149	1.69	5.00	0.00	50.48	2.96
Fork	NS	146	2.10	6.26	0.00	45.24	2.98
Russet	V1	25	2.46	5.50	0.01	35.90	2.23
Russet	V2	18	2.92	8.45	0.00	35.68	2.89
Russet	V3	122	0.52	2.02	0.00	21.59	3.87
Russet	V4	17	6.68	18.99	0.01	76.02	2.84
Russet	V5	11	2.93	6.69	0.01	20.13	2.29
Russet	V6	60	3.51	9.56	0.00	44.62	2.72
Russet	V7	164	0.70	3.37	0.00	40.37	4.84
Russet	V8	143	0.36	1.65	0.00	17.52	4.63
Russet	V9	11	1.00	1.90	0.01	5.65	1.90
Russet	V10	65	1.73	3.89	0.00	27.20	2.24
Russet	V11	14	3.87	8.43	0.01	31.87	2.18
Russet	V12	23	4.57	8.30	0.00	35.75	1.81
Russet	V13	5	6.24	8.30	0.00	19.00	1.33
Russet	V14	27	0.89	1.73	0.00	6.69	1.93
Russet	V15	29	1.95	2.93	0.03	13.75	1.50
Wedge	DVCK_1	281	1.68	7.84	0.00	76.41	4.67
Wedge	DVCK_2	369	1.05	3.12	0.00	33.48	2.97
Wedge	DVCK_3	320	2.07	16.48	0.00	354.00	7.97
Wedge	MJ_1	148	0.58	2.63	0.00	28.65	4.53
Wedge	MJ_2	75	3.05	10.74	0.00	108.50	3.51
Wedge	MJ_3	53	2.16	9.61	0.00	94.60	4.45

14.6 Evaluation of Outliers

Grade capping is a technique used to mitigate the potential effect that a small population of high-grade sample outliers can have during grade estimation. These high-grade samples are not considered to be representative of the general sample population and are therefore “capped” to a level that is more representative of the general data population. Although subjective, grade capping is a common industry practice when performing grade estimation for deposits that have significant grade variability.

Outlier analysis for the Madsen deposit was conducted on the 1.52m composites and on 2.0m composites for the Fork, Russet and Wedge deposits. Grade capping analysis was conducted separately for each mineralized domain. Histograms and normal quantile plots were generated for each data population and used to assess appropriate grade capping thresholds. Composites were capped prior to grade estimation. A summary of grade capping thresholds and capped summary statistics are provided in Table 14-9 and Table 14-10.

Table 14-9: Madsen deposit grade (g/t) capping summary comparison of 1.52m gold composites

MinDomain	Domain Code	# of Comps	# Comps Capped	Au_g/t (capped)	StDev (capped)	Min	Max (capped)	CV (capped)	% Grade Reduction
Austin_HG1_V1	111	12141	18	4.78	10.26	0.00	130.00	2.15	6%
Austin_HG1_V2	112	8042	4	3.97	8.18	0.00	122.00	2.06	1%
Austin_HG1_V3	113	3003	11	1.20	2.04	0.00	17.00	1.71	7%
Austin_HG1_V4	114	1581	6	2.14	4.13	0.00	33.00	1.93	6%
Austin_HG1_V5	115	956	8	1.31	2.30	0.00	15.00	1.76	16%
Austin_HG2_V1	121	1660	5	1.28	2.95	0.00	29.00	2.30	7%
Austin_HG2_V2	122	5276	9	3.49	7.51	0.00	74.00	2.16	2%
Austin_HG2_V3	123	8623	8	4.12	11.44	0.00	174.00	2.78	6%
Austin_HG2_V4	124	6536	12	2.14	6.31	0.00	75.00	2.95	5%
Austin_HG3_V1	131	1786	15	2.75	4.86	0.00	29.00	1.77	6%
Austin_HG3_V2	132	2149	15	3.93	7.04	0.00	50.00	1.79	7%
Austin_HG3_V3	133	1976	9	3.73	7.50	0.00	55.00	2.01	3%
Austin_HG3_V4	134	1357	4	2.96	6.38	0.00	53.00	2.15	5%
Austin_HG3_V5	135	122	2	2.53	5.49	0.00	25.00	2.17	8%
Austin_HG4_V1	141	1218	2	1.56	3.44	0.00	30.00	2.20	1%
Austin_HG4_V2	142	1489	24	1.39	2.97	0.00	15.00	2.13	26%
Austin_HG5_V1	151	519	5	2.62	4.12	0.00	22.00	1.57	15%
McVeigh_HG1_3565_FW	211	64	2	1.39	2.44	0.00	8.00	1.76	27%
McVeigh_HG1_3565_HW	212	29	1	1.20	2.80	0.00	10.00	2.34	59%
McVeigh_HG1_BSZ	213	5776	23	4.12	12.14	0.00	122.00	2.95	14%
McVeigh_HG1_FW	214	1095	9	1.27	3.59	0.00	28.00	2.82	35%
McVeigh_HG1_FW2	215	208	4	0.77	1.61	0.00	7.00	2.08	18%
McVeigh_HG1_FW3	216	78	1	0.36	0.93	0.00	5.00	2.63	19%
McVeigh_HG1_HW	217	1831	8	2.22	4.40	0.00	37.00	1.98	8%
McVeigh_HG1_HW2a	218	1157	8	2.93	6.96	0.00	55.00	2.38	35%
McVeigh_HG1_HW2b	219	936	12	2.10	5.05	0.00	32.00	2.40	20%
McVeigh_HG1_MAIN	220	1612	6	2.06	4.84	0.00	40.00	2.36	7%
McVeigh_HG2_V1	221	1002	2	2.97	5.63	0.00	46.00	1.89	9%
McVeigh_HG2_V2	222	932	9	3.06	5.77	0.00	36.00	1.89	8%
McVeigh_HG2_V3	223	755	8	1.04	2.23	0.00	13.00	2.14	11%
McVeigh_HG2_V4	224	287	2	1.31	3.01	0.00	19.00	2.30	70%
SouthAustin_A3_V1	301	105	0	0.94	1.37	0.00	6.17	1.46	0%
SouthAustin_A3_V2	302	340	10	1.91	3.45	0.00	16.00	1.81	41%
SouthAustin_A3_V3	303	140	2	3.50	8.02	0.00	40.00	2.29	22%
SouthAustin_FINGA	304	339	9	3.40	6.71	0.00	29.00	1.97	12%
SouthAustin_FW_V1	305	989	4	5.93	18.09	0.00	161.00	3.05	8%
SouthAustin_HG1_V1	311	1646	4	2.78	9.05	0.00	99.00	3.25	39%
SouthAustin_HG1_V2	312	1240	2	2.50	6.23	0.00	69.00	2.49	5%
SouthAustin_HG1_V3	313	650	4	1.78	5.65	0.00	43.00	3.17	4%
SouthAustin_HG2_V1	321	7550	8	5.76	16.16	0.00	238.00	2.81	5%
SouthAustin_HG2_V2	322	6574	5	3.94	11.50	0.00	152.00	2.92	4%
SouthAustin_HG2_V3	323	1792	2	1.46	4.47	0.00	57.00	3.06	3%
SouthAustin_HG2_V4	324	1372	6	3.33	11.14	0.00	96.00	3.35	4%
SouthAustin_HG3_V1	331	338	5	6.01	11.26	0.00	55.00	1.87	11%
SouthAustin_HG3_V2	332	519	7	7.29	12.41	0.00	63.00	1.70	39%
SouthAustin_HG3_V3	333	256	5	2.18	4.53	0.00	23.00	2.08	29%
8Zone_V1	810	1963	9	17.72	49.70	0.00	400.00	2.80	18%
8Zone_V2	820	919	9	14.22	37.84	0.00	260.00	2.66	24%
8Zone_V3	830	443	3	0.83	1.54	0.00	11.50	1.86	23%
8Zone_V4	840	279	2	1.73	4.38	0.00	36.00	2.52	7%

Table 14-10: Fork, Russet and Wedge deposits grade (g/t) capping summary comparison of 2.0m gold composites

Deposit	Mineralized Domain	# of Comps	# of Comps Capped	Au_g/t (capped)	StDev (capped)	Min	Max (capped)	CV (capped)	% Grade Reduction
Fork	FW	124	5	0.51	1.66	0.00	5.00	3.26	32%
Fork	HW	149	2	1.39	4.06	0.00	14.00	2.93	18%
Fork	NS	146	5	1.66	5.71	0.00	18.00	3.45	21%
Russet	V1	25	2	1.98	4.62	0.01	9.70	2.33	20%
Russet	V2	18	2	1.63	5.24	0.00	11.50	3.21	44%
Russet	V3	122	1	0.47	2.21	0.00	10.00	4.71	10%
Russet	V4	17	1	2.50	5.39	0.01	11.00	2.15	63%
Russet	V5	11	1	0.90	1.95	0.01	3.00	2.16	69%
Russet	V6	60	3	2.54	8.54	0.00	21.00	3.36	28%
Russet	V7	164	2	0.43	1.37	0.00	5.20	3.17	38%
Russet	V8	143	1	0.28	1.36	0.00	6.80	4.83	21%
Russet	V9	11	0	1.00	2.76	0.01	5.65	2.77	0%
Russet	V10	65	1	1.63	4.73	0.00	13.40	2.90	6%
Russet	V11	14	1	1.99	3.41	0.01	6.20	1.71	49%
Russet	V12	23	2	3.17	5.90	0.00	11.80	1.86	31%
Russet	V13	5	1	3.76	5.32	0.00	8.00	1.41	40%
Russet	V14	27	2	0.80	1.96	0.00	4.20	2.46	11%
Russet	V15	29	1	1.72	2.94	0.03	7.20	1.71	12%
Wedge	DVCK_1	281	5	1.05	4.49	0.00	17.50	4.28	38%
Wedge	DVCK_2	369	1	1.04	4.15	0.00	23.00	4.01	1%
Wedge	DVCK_3	320	2	1.38	7.49	0.00	51.50	5.43	33%
Wedge	MJ_1	148	3	0.35	1.21	0.00	4.00	3.45	40%
Wedge	MJ_2	75	3	2.00	4.70	0.00	14.50	2.35	34%
Wedge	MJ_3	53	2	1.34	3.19	0.00	12.50	2.39	38%

14.7 Variography

Grade continuity analysis of gold mineralization was conducted using capped composites for each mineralized domain. Variogram analysis was conducted using Seequent's Leapfrog Edge^{TM} software. Variogram parameters used for grade interpolation are provided in Table 14-11 and Table 14-12. Normal score variograms were generated for mineralized domains that contained limited assay composites, and for smaller mineralized domains no variograms could be generated due to insufficient data.

Table 14-11: Madsen deposit variogram parameters (by mineralized domain)

Mineralized Domain	Domain Code	Vulcan Rotations			Normalised Nugget	Structure 1					Structure 2				
						Normalised sill	Structure	Range (m)			Normalised sill	Structure	Range (m)		
		Bearing	Plunge	Dip				Major	Semi-major	Minor			Major	Semi-major	Minor
Austin_HG1_V1	111	300	49	48	0.30	0.49	Spherical	5.528	5	3.5	0.21	Spherical	43	30	10
Austin_HG1_V2	112	299	49	48	0.30	0.55	Spherical	5	7.5	4	0.15	Spherical	40	20	11.2
Austin_HG1_V3*	113	297	49	48	0.12	0.50	Spherical	2.5	2	5.5	0.38	Spherical	23	23	12
Austin_HG1_V4	114	29	59	-28	0.30	0.38	Spherical	10	3	7	0.32	Spherical	23	23	9
Austin_HG1_V5	115	347	64	8	0.30	0.60	Spherical	3.5	19	6.5	0.10	Spherical	30	22.8	7.8
Austin_HG2_V1*	121	9	61	-2	0.31	0.50	Spherical	5	3	8	0.19	Spherical	26	21	11
Austin_HG2_V2	122	57	47	-43	0.30	0.63	Spherical	11.4	9	6	0.07	Spherical	45	45	13
Austin_HG2_V3	123	343	62	21	0.25	0.59	Spherical	6	4	2.5	0.16	Spherical	35	25	8
Austin_HG2_V4	124	341	61	21	0.30	0.57	Spherical	4	7	4	0.13	Spherical	35	35	10
Austin_HG3_V1	131	340	62	25	0.30	0.51	Spherical	5	11	4	0.19	Spherical	30	30	10
Austin_HG3_V2	132	32	64	-23	0.30	0.53	Spherical	4.5	10	2.6	0.17	Spherical	35	35	7
Austin_HG3_V3	133	350	65	17	0.25	0.51	Spherical	4	3	4.5	0.24	Spherical	26	20	9
Austin_HG3_V4	134	332	62	30	0.25	0.50	Spherical	6	3	3	0.25	Spherical	33	15	7.05
Austin_HG3_V5	135	311	54	34	No Variogram										
Austin_HG4_V1	141	333	54	23	0.20	0.69	Spherical	6.5	6	6	0.11	Spherical	20	20	10
Austin_HG4_V2	142	66	30	-50	0.15	0.69	Spherical	4	4	4	0.16	Spherical	25	12	8
Austin_HG5_V1*	151	68	58	-45	0.31	0.62	Spherical	5	12	5	0.07	Spherical	35	35	16
McVeigh_HG1_3565_FW	211	356	75	4	No Variogram Model										
McVeigh_HG1_3565_HW	212	301	56	48	No Variogram Model										
McVeigh_HG1_BSZ	213	66	65	-68	0.25	0.57	Spherical	3.5	1.6	1	0.18	Spherical	15	10	7
McVeigh_HG1_FW	214	77	34	-63	0.30	0.59	Spherical	3	6	3.5	0.11	Spherical	15	15	7
McVeigh_HG1_FW2	215	355	66	11	No Variogram										
McVeigh_HG1_FW3	216	324	47	39	No Variogram										
McVeigh_HG1_HW	217	62	56	-47	0.30	0.24	Spherical	3	5	1.5	0.46	Spherical	20	13	5
McVeigh_HG1_HW2a	218	60	58	-45	0.30	0.60	Spherical	2	4	6	0.10	Spherical	20	15	10
McVeigh_HG1_HW2b*	219	16	67	-7	0.11	0.75	Spherical	5	2	4	0.15	Spherical	15	20	10
McVeigh_HG1_MAIN	220	79	36	-66	0.25	0.54	Spherical	7	3	4.5	0.21	Spherical	20	15	10
McVeigh_HG2_V1	221	274	29	69	0.30	0.47	Spherical	8	5	3	0.23	Spherical	34	30	15
McVeigh_HG2_V2	222	55	54	-58	0.20	0.48	Spherical	2.5	3	3	0.32	Spherical	25	15	5
McVeigh_HG2_V3*	223	280	43	72	0.09	0.59	Spherical	10	4	7	0.31	Spherical	30	15	8
McVeigh_HG2_V4	224	14	68	-27	No Variogram Model										
SouthAustin_A3_V1	301	318	69	54	No Variogram Model										
SouthAustin_A3_V2	302	339	74	34	No Variogram Model										
SouthAustin_A3_V3	303	330	61	32	No Variogram Model										
SouthAustin_FINGA	304	334	61	29	No Variogram Model										
SouthAustin_FW_V1	305	64	70	-48	0.20	0.63	Spherical	3.72	5	5	0.17	Spherical	15	15	7
SouthAustin_HG1_V1	311	96	19	-69	0.25	0.51	Spherical	2	1	3	0.25	Spherical	15	9	5
SouthAustin_HG1_V2	312	47	62	-33	0.30	0.63	Spherical	3.5	4	3.1	0.07	Spherical	15	15	8
SouthAustin_HG1_V3*	313	52	61	-37	0.21	0.56	Spherical	5.5	6	5	0.23	Spherical	28	28	9
SouthAustin_HG2_V1	321	301	51	68	0.25	0.61	Spherical	7	5	8	0.14	Spherical	30	30	12
SouthAustin_HG2_V2	322	323	63	39	0.25	0.53	Spherical	4.5	4	4	0.22	Spherical	30	22	9
SouthAustin_HG2_V3	323	297	47	68	0.30	0.61	Spherical	3	8	3	0.09	Spherical	15	15	9
SouthAustin_HG2_V4*	324	298	50	66	0.21	0.64	Spherical	5.5	3	3	0.15	Spherical	20	15	9
SouthAustin_HG3_V1	331	325	57	33	No Variogram Model										
SouthAustin_HG3_V2*	332	299	44	52	0.35	0.55	Spherical	14	2	6	0.10	Spherical	33	18	12
SouthAustin_HG3_V3	333	308	51	45	No Variogram Model										

*Denotes Normal Score Variogram Model

Table 14-12: Fork, Russet and Wedge deposits variogram parameters (by mineralized domain)

Deposit	Mineralized Domain	LF Directions			Normalised Nugget	Structure 1					Structure 2				
		Dip	Dip Azimuth	Pitch		Normalised sill	Structure	Range (m)			Normalised sill	Structure	Range (m)		
								Major	Semi-major	Minor			Major	Semi-major	Minor
Fork	FW	70	115	92	No Variogram Model										
Fork	HW	61	122	40	0.25	0.75	Spherical	40	20	15	No 2nd Strcuture				
Fork	NS	81	109	77	0.2	0.80	Spherical	40	30	15	No 2nd Strcuture				
Russet	V1	34	134	93	No Variogram Model										
Russet	V2	38	133	10	No Variogram Model										
Russet	V3	67	36	121	No Variogram Model										
Russet	V4	39	141	85	No Variogram Model										
Russet	V6	31	116	67	No Variogram Model										
Russet	V7	49	134	56	No Variogram Model										
Russet	V8	44	97	99	No Variogram Model										
Russet	V10	37	129	50	No Variogram Model										
Russet	V11	35	121	72	No Variogram Model										
Russet	V12	38	157	52	No Variogram Model										
Russet	V14	36	105	141	No Variogram Model										
Russet	V15	57	33	105	No Variogram Model										
Wedge	DVCK_1	60	147	22	0.05	0.36	Spherical	25	24	17	0.59	Spherical	50	30	18
Wedge	DVCK_2	67	147	135	0.1	0.32	Spherical	20	27	22	0.58	Spherical	125	55	22
Wedge	DVCK_3	73	142	112	0.1	0.45	Spherical	17	36	10	0.44	Spherical	125	70	20
Wedge	MJ_1	63	146	115	No Variogram Model										
Wedge	MJ_2	68	145	169	0.1	0.90	Spherical	90	70	15	No 2nd Strcuture				
Wedge	MJ_3	70	147	143	No Variogram Model										

14.8 Block Model Configuration

Separate block models were generated for the Madsen, Fork, Russet and Wedge deposits, with block model configuration details summarized in Table 14-13. All block models were generated using a parent block size of 5 x 3 x 5m and were sub-blocked to 0.5 x 0.5 x 0.5m resolution for the Madsen deposit and 0.3125 x 0.375 x 0.3125m resolution for the Fork, Russet and Wedge deposits for volumetric reporting. Grade interpolation was conducted at the parent block size of 5 x 3 x 5m.

Table 14-13: Block model Configuration Parameters

Parameters	Deposit	X (m)	Y (m)	Z (m)
Parent Block Size	Madsen	5	3	5
Sub-Block Size		0.5	0.5	0.5
Base Point*		3500	1910	-100
Boundary Size		2900	1242	1700
Rotation		90°		
Parent Block Size	Fork	5	3	5
Sub-Block Size		0.3125	0.375	0.3125
Base Point**		434180	5645175	-220
Boundary Size		485	1230	660
Rotation		110°		
Parent Block Size	Russet	5	3	5
Sub-Block Size		0.3125	0.375	0.3125
Base Point**		433800	5647060	-15
Boundary Size		760	681	445
Rotation		90°		
Parent Block Size	Wedge	5	3	5
Sub-Block Size		0.3125	0.375	0.3125
Base Point**		433110	5643750	-310
Boundary Size		1515	639	760
Rotation		50°		
**Coordinates specified in local metric mine grid reference datum ("MMG")*				
***Coordinates specified in UTM NAD83 reference datum*				

14.9 Grade Estimation

Gold grades were interpolated into the block models predominantly using ordinary kriging ("OK") where sufficient sample density was available, or inverse distance ("ID2") for mineralized domains that had insufficient sample density to generate robust variograms. Grade estimation for each domain was conducted using multiple passes, with successively expanding search criteria in subsequent estimation passes. Locally varying anisotropy ("LVA") models were used for grade estimation within the Madsen, Fork and Wedge deposits, to align search orientations more accurately with the geometry of the mineralized domains. LVA was not used within the Russet deposit due to the generally simple geometries of the mineralized domains within the deposit.

Chip samples collected within production stopes and used for block grade estimation within the Madsen deposit were restricted to a 7.5 x 7.5 x 5m search ellipse (i.e., Pass 1) to mitigate the area of influence of these samples to the immediate vicinity of the production stopes. All subsequent estimation passes used only drill hole assay samples to estimate block grades.

A summary of the estimation parameters used for grade interpolation in the Madsen, Fork, Russet and Wedge deposits is provided in Table 14-14 and Table 14-15. As noted in Table 14-15, a secondary outlier restriction technique (i.e., clamping) was used during the estimation process for the Russet V6 and Wedge DVCK_3 mineralized domains to mitigate the potential for over-estimation of grade within these domains. Gold grades were capped to the thresholds listed beyond the distance percentage of the search ellipse range.

Table 14-14: Madsen Deposit Estimation Parameters

Zone	Mineralized Domain	Interpolant	Estimation Pass	LVA	Ellipsoid Ranges			Number of Samples			Data Source Used
					Maximum	Intermediate	Minimum	Minimum	Maximum	Max per Hole	
Austin	All domains excluding 135	OK	Pass 1	yes	15	15	7.5	8	12	3	DDH, Chips
			Pass 2	yes	30	30	10	8	12	3	DDH
			Pass 3	yes	60	60	15	4	6	3	
			Pass 4	yes	90	90	20	2	6	3	
	135	ID2	Pass 1	yes	15	15	7.5	8	12	3	DDH, Chips
			Pass 2	yes	30	30	10	8	12	3	DDH
			Pass 3	yes	60	60	15	4	6	3	
			Pass 4	yes	90	90	20	2	6	3	
McVeigh	211, 212, 215, 216, 224	ID2	Pass 1	yes	15	15	7.5	8	12	3	DDH, Chips
			Pass 2	yes	30	30	10	8	12	3	DDH
			Pass 3	yes	60	60	15	4	6	3	
			Pass 4	yes	90	90	20	2	6	3	
	217,219, 221, 222, 223	OK	Pass 1	yes	15	15	7.5	8	12	3	DDH, Chips
			Pass 2	yes	30	30	10	8	12	3	DDH
			Pass 3	yes	60	60	15	4	6	3	
			Pass 4	yes	90	90	20	2	6	3	
	213, 214, 218, 220,	OK	Pass 1	yes	7.5	7.5	5	12	24	3	DDH, Chips
			Pass 2	yes	15	15	7.5	8	12	3	DDH
			Pass 3	yes	30	30	10	8	12	3	
			Pass 4	yes	60	60	15	4	6	3	
			Pass 5	yes	90	90	20	2	6	3	
South Austin	301, 302, 303, 304, 331, 333	ID2	Pass 1	yes	15	15	7.5	8	12	3	DDH, Chips
			Pass 2	yes	30	30	10	8	12	3	DDH
			Pass 3	yes	60	60	15	4	6	3	
			Pass 4	yes	90	90	20	2	6	3	
	305, 312,313, 321, 322, 323, 324, 332,	OK	Pass 1	yes	15	15	7.5	8	12	3	DDH, Chips
			Pass 2	yes	30	30	10	8	12	3	DDH
			Pass 3	yes	60	60	15	4	6	3	
			Pass 4	yes	90	90	20	2	6	3	
	311	OK	Pass 1	yes	7.5	7.5	5	12	24	3	DDH, Chips
			Pass 2	yes	15	15	7.5	8	12	3	DDH
			Pass 3	yes	30	30	10	8	12	3	
			Pass 4	yes	60	60	15	4	6	3	
			Pass 5	yes	90	90	20	2	6	3	
8 Zone	810	OK	Pass 1	yes	7.5	7.5	5	12	24	3	DDH, Chips
			Pass 2	yes	15	15	7.5	8	12	3	DDH
			Pass 3	yes	30	30	10	8	12	3	
			Pass 4	yes	75	75	20	4	6	2	
	820	OK	Pass 1	yes	7.5	7.5	5	12	24	3	DDH, Chips
			Pass 2	yes	15	15	7.5	8	12	3	DDH
			Pass 3	yes	30	30	10	8	12	3	
			Pass 4	yes	60	60	20	4	6	2	
	830, 840	OK	Pass 1	yes	7.5	7.5	5	12	24	3	DDH, Chips
			Pass 2	yes	15	15	7.5	8	12	3	DDH
			Pass 3	yes	30	30	10	8	12	3	
			Pass 4	yes	60	60	20	4	6	2	
			Pass 5	yes	90	90	25	2	6	2	

Table 14-15: Fork, Russet and Wedge Estimation Parameters

Deposit	Mineralized Domain	Interpolant	Estimation Pass	LVA	Ellipsoid Ranges			Number of Samples			Outlier Restrictions		
					Maximum	Intermediate	Minimum	Minimum	Maximum	Max per Hole	Method	Distance	Threshold
Fork	FW	ID2	Pass 1	yes	40	40	10	6	9	3	None		
		ID2	Pass 2	yes	80	80	20	6	9	3	None		
		ID2	Pass 3	yes	120	120	20	4	6	2	None		
		ID2	Pass 4	no	120	120	20	1	3	1	None		
Fork	HW, NS	OK	Pass 1	yes	40	20	15	6	9	3	None		
		OK	Pass 2	yes	80	40	20	6	9	3	None		
		OK	Pass 3	yes	120	60	20	4	6	2	None		
		OK	Pass 4	no	120	60	20	1	3	1	None		
Russet	V1, V2, V4, V10, V11, V12, V14, V15	ID2	Pass 1	no	50	30	20	6	9	3	None		
		ID2	Pass 2	no	100	60	25	6	9	3	None		
		ID2	Pass 3	no	100	60	25	4	6	2	None		
		ID2	Pass 4	no	100	60	25	1	3	1	None		
Russet	V3, V7, V8	ID2	Pass 1	no	50	30	20	6	9	3	None		
		ID2	Pass 2	no	100	60	25	6	9	3	None		
		ID2	Pass 3	no	150	90	30	4	6	2	None		
		ID2	Pass 4	no	150	90	30	1	3	1	None		
Russet	V6	ID2	Pass 1	no	50	30	20	6	9	3	None		
		ID2	Pass 2	no	100	60	25	6	9	3	Clamp	50%	8.7
		ID2	Pass 3	no	100	60	25	4	6	2	Clamp	50%	8.7
		ID2	Pass 4	no	100	60	25	1	3	1	Clamp	50%	8.7
Wedge	DVCK_1	OK	Pass 1	yes	50	30	18	6	9	3	None		
		OK	Pass 2	yes	75	45	25	6	9	3	None		
		OK	Pass 3	yes	100	60	25	4	6	2	None		
		OK	Pass 4	no	100	60	25	1	3	1	None		
Wedge	DVCK_2	OK	Pass 1	yes	63	26	15	6	9	3	None		
		OK	Pass 2	yes	125	55	22	6	9	3	None		
		OK	Pass 3	yes	188	83	33	4	6	2	None		
		OK	Pass 4	no	188	83	33	1	3	1	None		
Wedge	DVCK_3	OK	Pass 1	yes	63	35	15	6	9	3	None		
		OK	Pass 2	yes	125	70	20	6	9	3	Clamp	50%	13.5
		OK	Pass 3	yes	188	105	25	4	6	2	Clamp	34%	13.5
		OK	Pass 4	no	188	105	25	1	3	1	Clamp	34%	13.5
Wedge	MJ_1, MJ_3	ID2	Pass 1	yes	50	30	20	6	9	3	None		
		ID2	Pass 2	yes	100	60	25	6	9	3	None		
		ID2	Pass 3	yes	150	90	30	4	6	2	None		
		ID2	Pass 4	no	150	90	30	1	3	1	None		
Wedge	MJ_2	OK	Pass 1	yes	45	35	15	6	9	3	None		
		OK	Pass 2	yes	90	70	15	6	9	3	None		
		OK	Pass 3	yes	135	105	20	4	6	2	None		
		OK	Pass 4	no	135	105	20	1	3	1	None		

14.10 Density

A total of 5,924 specific gravity (SG) measurements have been collected across the mine deposit area, of which 2,636 were collected by Claude Resources (circa 2012) and an additional 3,288 have been collected by Pure Gold (Figure 14-7). Both data sets of SG measurements were obtained from drill core using the water displacement method.

Summary statistics of SG measurements grouped by company data set and major rock type are provided in Figure 14-8. Principal host lithologies for mineralization are identified as "BSLA" and "SAFZ". A total of 591 SG measurements are located within the mineralized wireframes of the mine deposits (577 located within the Madsen deposit) and have an average SG value of 2.94. Therefore, a global density value of 2.94 g/cm^3 is used for the mineral resource estimates for all deposits.

Figure 14-7: Specific gravity sample locations by Company

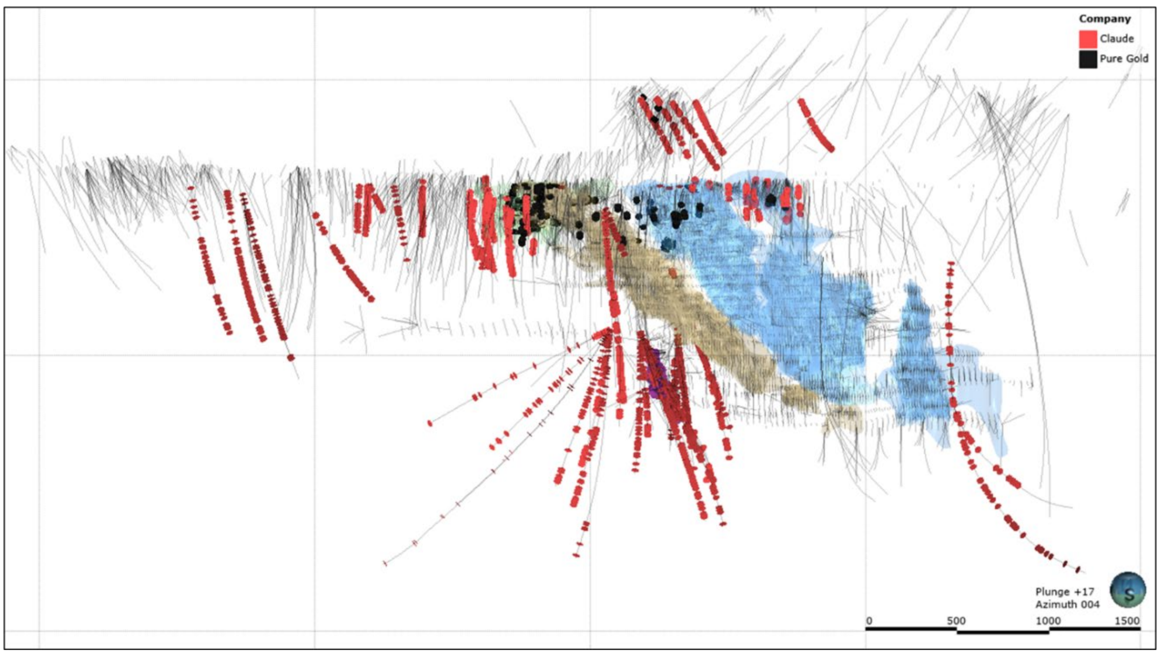
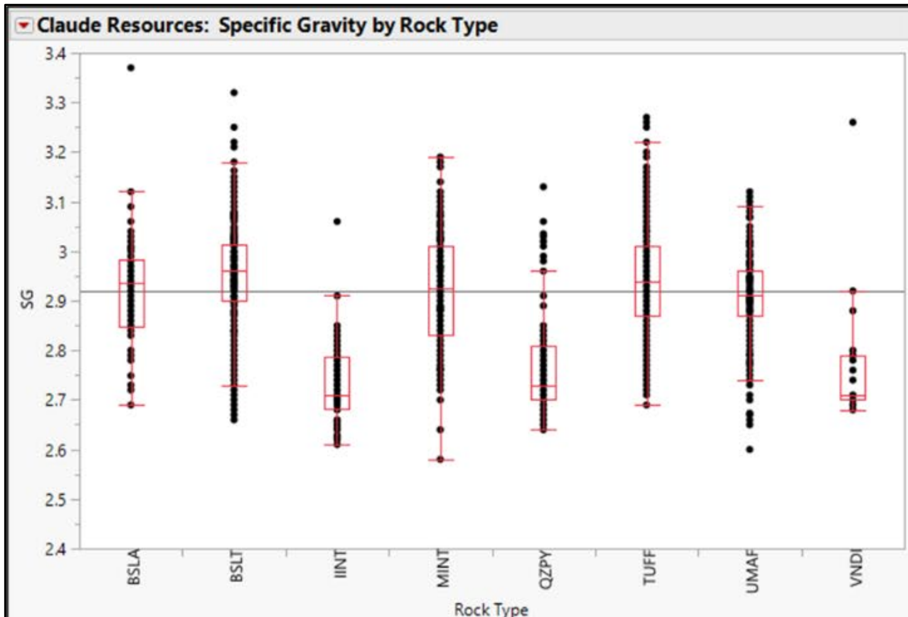
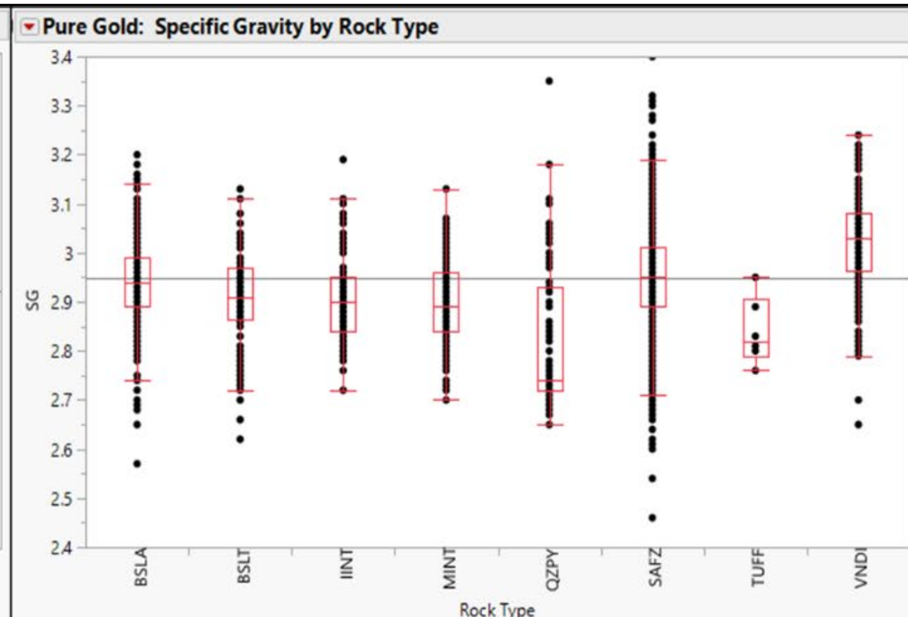


Figure 14-8: Summary of Specific Gravity by Rock Type





Company	Rock Type	Number of Samples	Mean	StDev	Minimum	Median	Maximum	Company	Rock Type	Number of Samples	Mean	StDev	Minimum	Median	Maximum
Claude	BSLA	78	2.92	0.11	2.69	2.94	3.37	Pure Gold	BSLA	468	2.94	0.10	2.57	2.94	3.85
Claude	BSLT	712	2.95	0.11	2.10	2.96	3.32	Pure Gold	BSLT	113	2.90	0.10	2.62	2.91	3.13
Claude	IINT	64	2.73	0.08	2.61	2.71	3.06	Pure Gold	IINT	107	2.91	0.09	2.72	2.90	3.19
Claude	MINT	404	2.92	0.11	2.58	2.93	3.19	Pure Gold	MINT	141	2.90	0.09	2.70	2.89	3.13
Claude	QZPY	87	2.77	0.11	2.64	2.73	3.13	Pure Gold	QZPY	81	2.82	0.14	2.65	2.74	3.35
Claude	TUFF	539	2.94	0.10	2.69	2.94	3.27	Pure Gold	SAFZ	1770	2.95	0.10	2.37	2.95	3.52
Claude	UMAF	458	2.91	0.08	2.60	2.91	3.12	Pure Gold	TUFF	6	2.84	0.07	2.76	2.82	2.95
Claude	VNDI	19	2.77	0.14	2.68	2.71	3.26	Pure Gold	VNDI	244	3.02	0.10	2.65	3.03	3.24

14.11 Model Validation

Block model validation was conducted using multiple techniques, including;

- Visual inspection of estimated block grades relative to composite grades.
- Swath plot analysis of grade profiles between ordinary kriged (OK) and nearest-neighbour (NN) block estimates.
- Statistical comparison of global average estimated block grades and declustered composite grades, per mineralization domain.
- Change of support analysis

Cross-sectional comparisons of interpolated block grades vs sample composites for the Madsen deposit are provided in Figure 14-9 and Figure 14-10. Reasonable correlation between the block estimates and composite data can be observed.

Swath plot comparisons of interpolated Au grades from the OK and NN models for several large, mineralized domains within the Madsen deposit are provided in Figure 14-11 to Figure 14-12 Reasonable correlation between the OK and NN models is observed on these plots, with the OK models showing a greater level of smoothing in the grade profile which is to be expected for this estimation technique.

Figure 14-13 provides a comparison of global average estimated Au grades between OK and NN models by deposit-zone and mineralized domain. Generally, there is good agreement between the OK and NN estimated Au grades. For some volumetrically smaller mineralized domains, such as Madsen-8 Zone domain 820, a more pronounced discrepancy is observed between OK and NN models associated with search distance restrictions placed on historical production chip samples within the OK estimation workflow. For mineralized domains within the Russet deposit, discrepancies between the OK and NN models are associated with low numbers of sample composites within the domains and the smoothing effect of the OK estimation technique.

Change of support analysis was conducted on several larger zones within the Madsen deposit to evaluate the volume-variance relationship (i.e., “smoothing”) between the declustered sample composites and estimated block grades. A discrete Gaussian model was used to generate grade distributions of the declustered sample composites at the same support as the block model, and then plotted relative to the block model grade distributions on Q-Q and grade-tonnage plots as shown in Figure 14-14 and Figure 14-5 for Madsen-Austin Zone domains 111 and 123, respectively. In both examples there is good correlation between the block support adjusted, declustered sample composites (i.e., Declus+COS) and block model (BM) grade distributions, thus indicating an appropriate amount of smoothing in the block model grade estimates.

Figure 14-9: Cross-section comparison of interpolated Au grades vs Au composites in the Madsen Deposit along Mine Grid 4900 Easting (looking east)

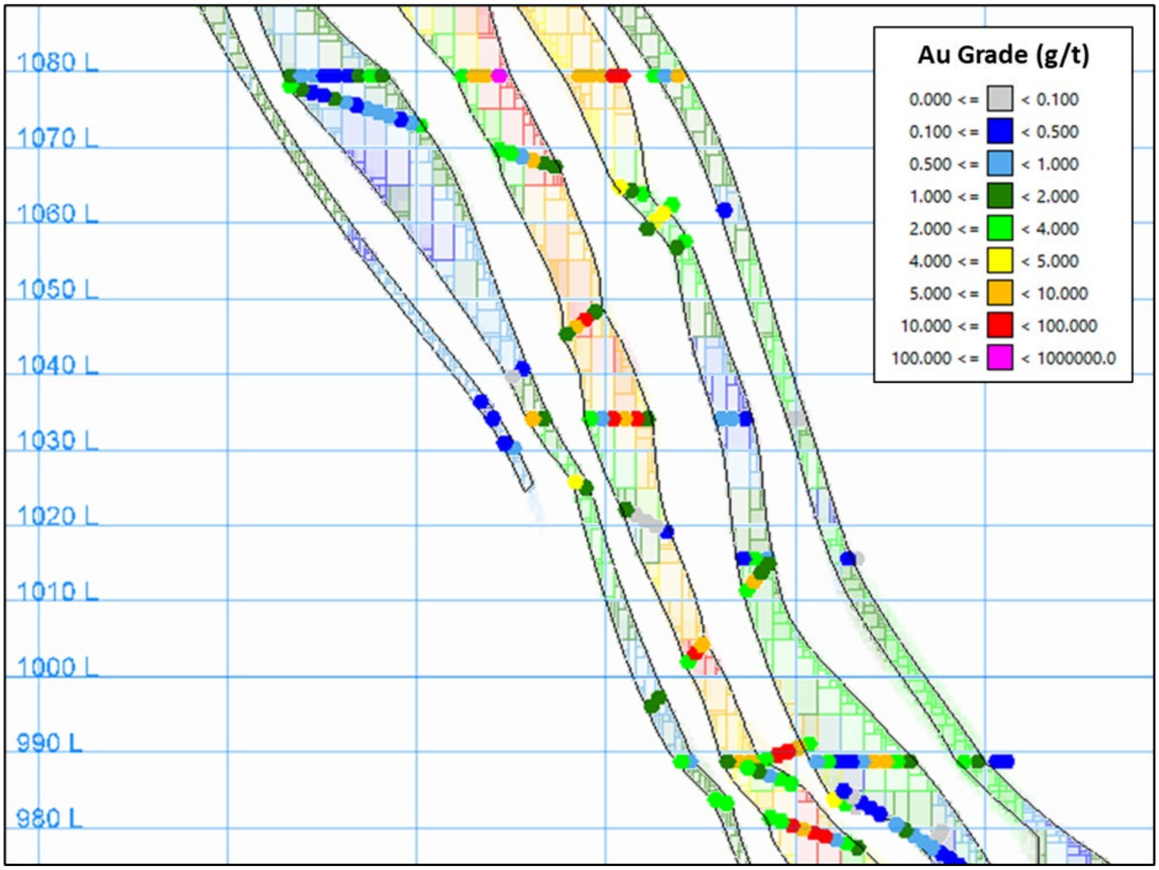


Figure 14-10: Cross-section comparison of interpolated Au grades vs Au composites in the Madsen Deposit along Mine Grid 5400 Easting (looking east)

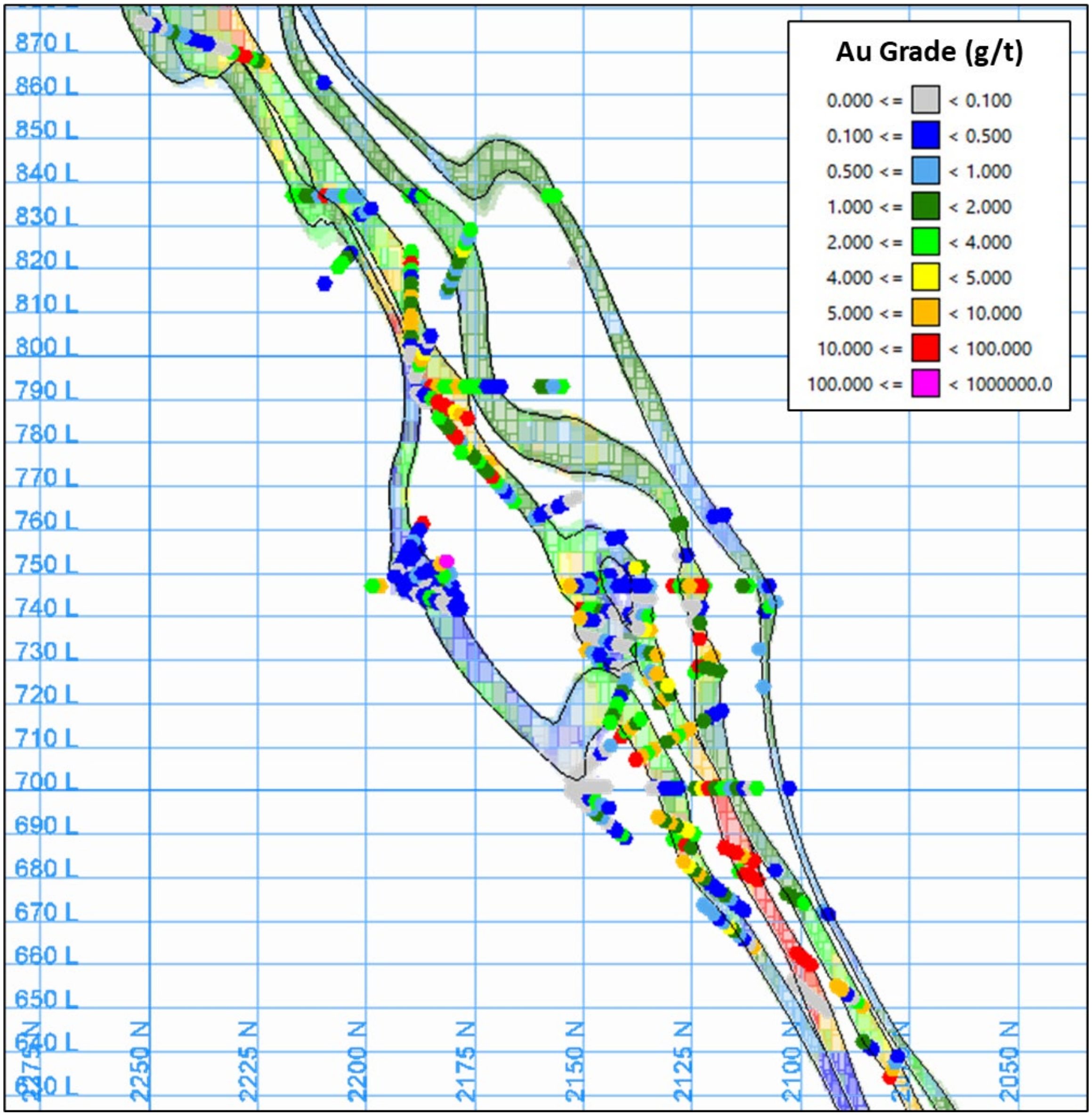


Figure 14-11: Madsen Deposit – Austin Zone Mineralized Domain 111 swath plot comparison of Au (g/t) grade for OK and NN block model estimates

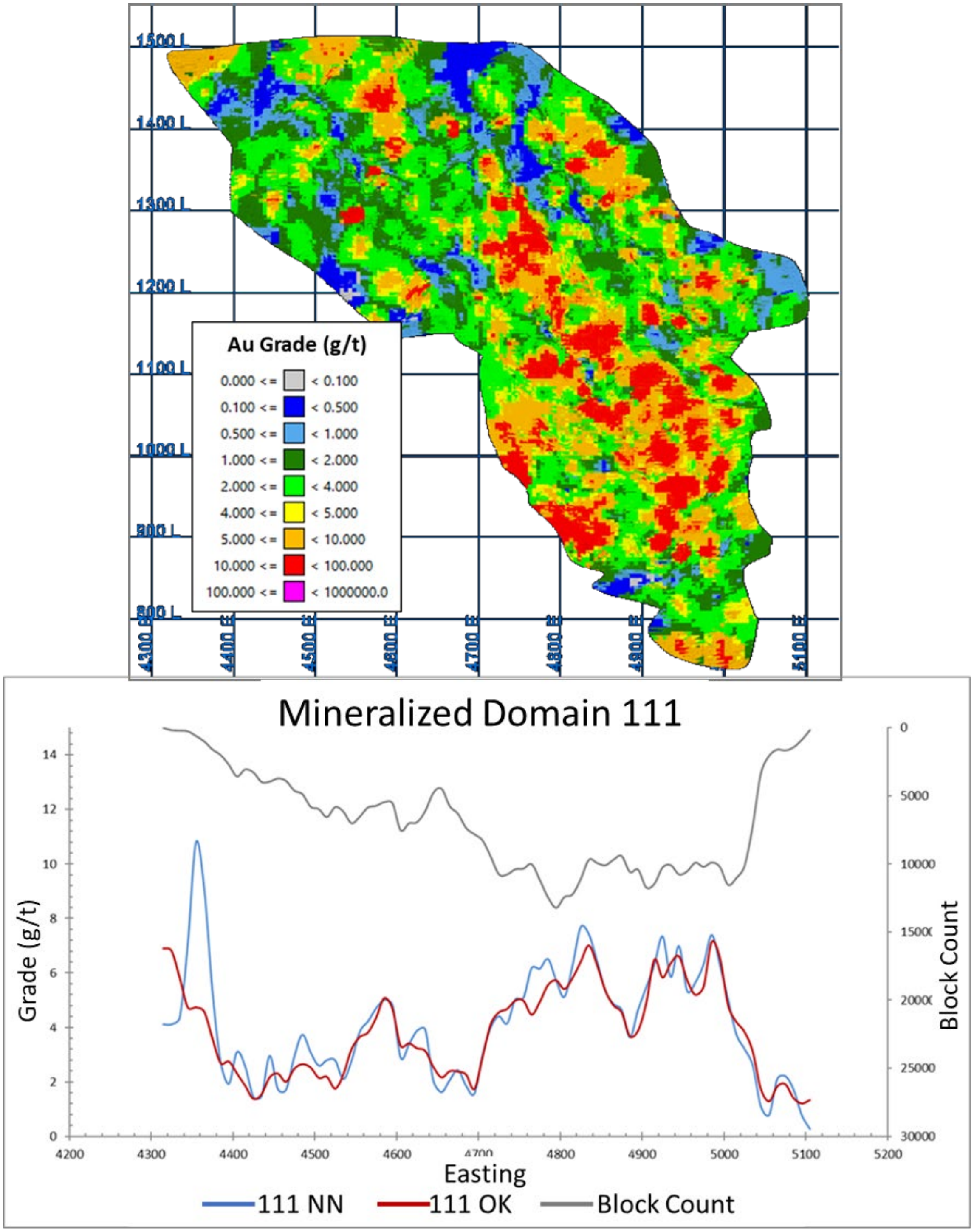


Figure 14-12: Madsen Deposit – Austin Zone Mineralized Domain 123 swath plot comparison of Au (g/t) grade for OK and NN block model estimates

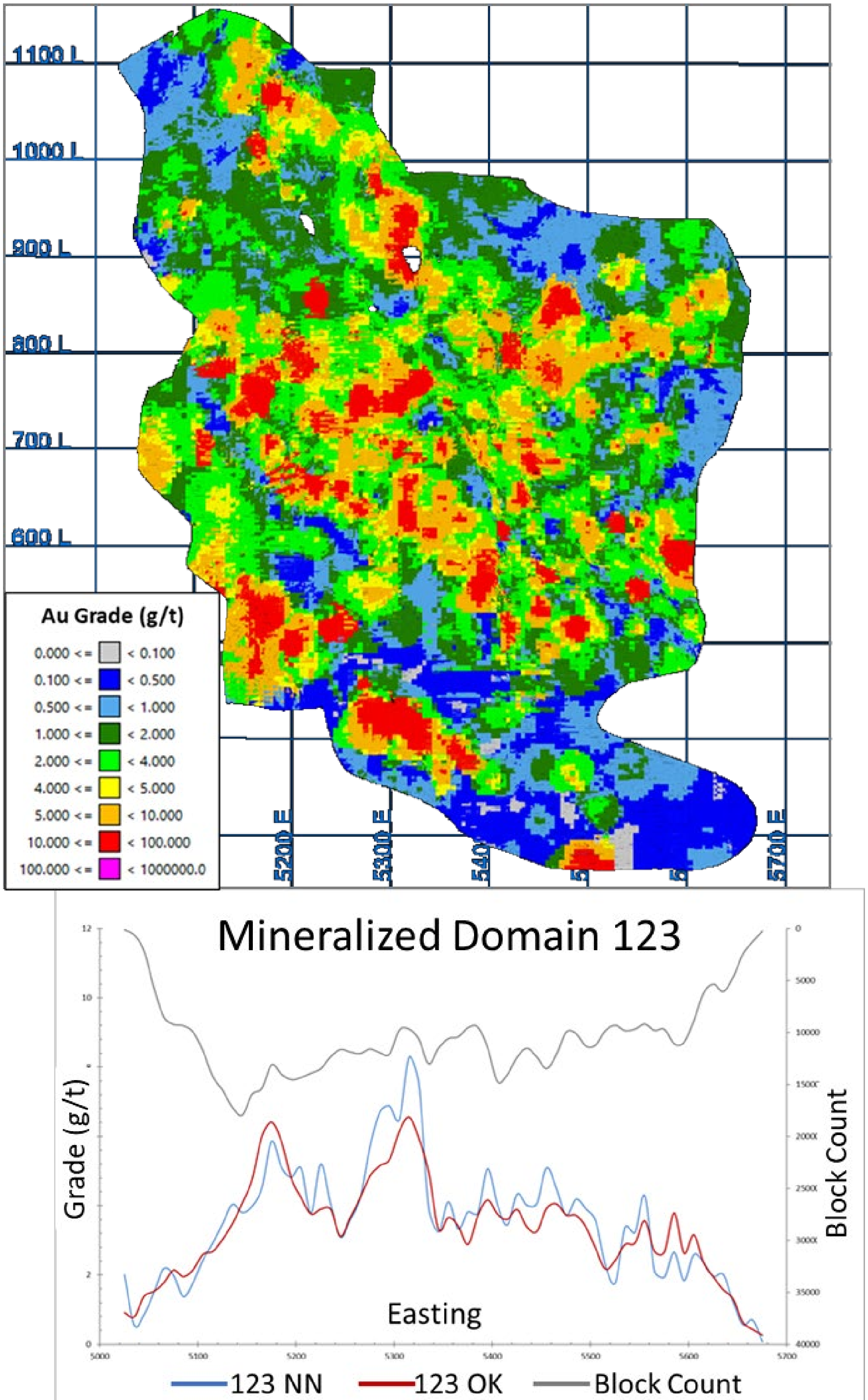


Figure 14-13: Madsen Deposit – South Austin Zone Mineralized Domain 321 swath plot comparison of Au (g/t) grade for OK and NN block model estimates

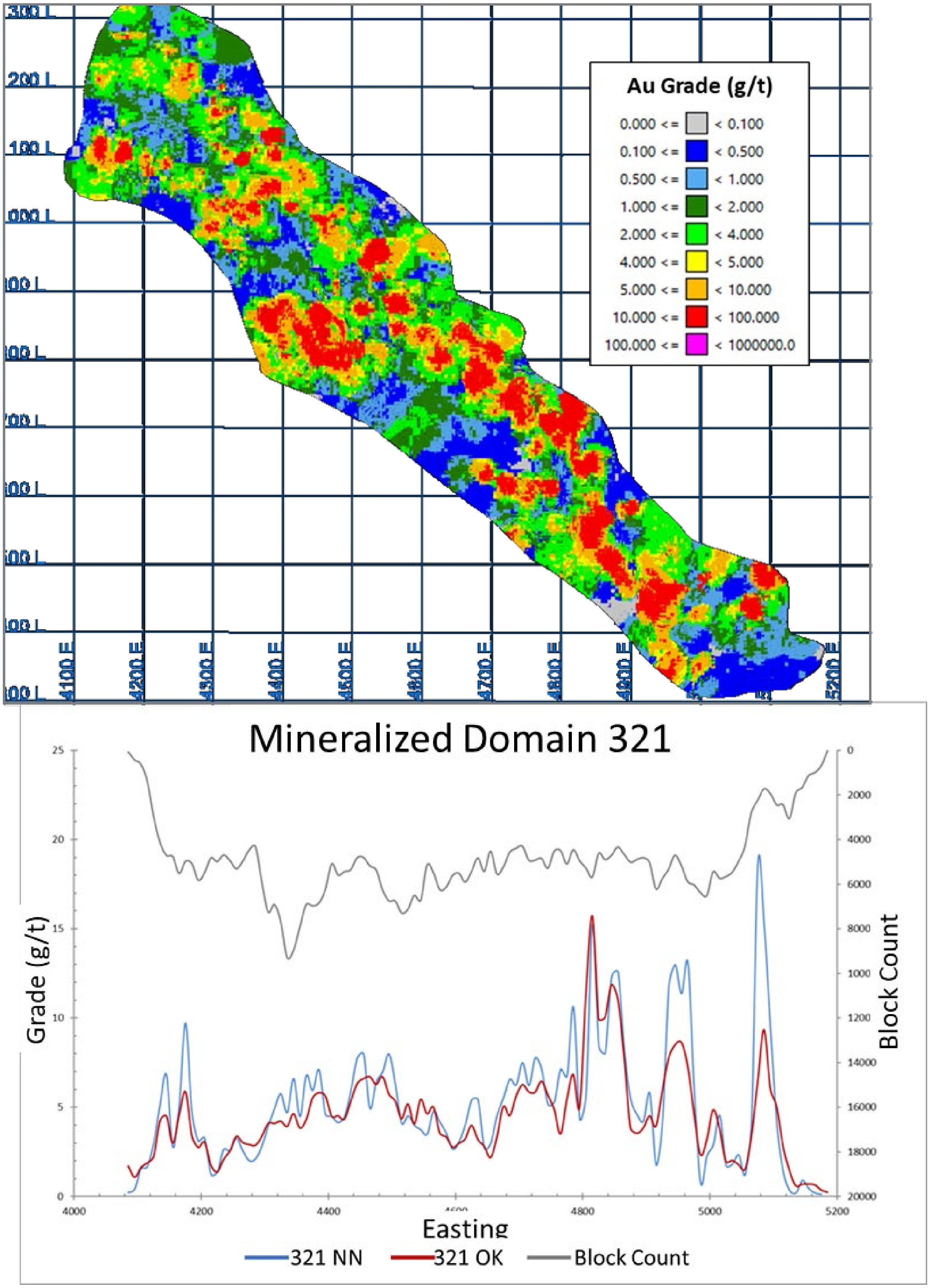


Figure 14-14: Global average grade (Au g/t) comparison between ordinary kriged (OK) and nearest-neighbour (NN) estimated grades by deposit-zone and mineralized domain

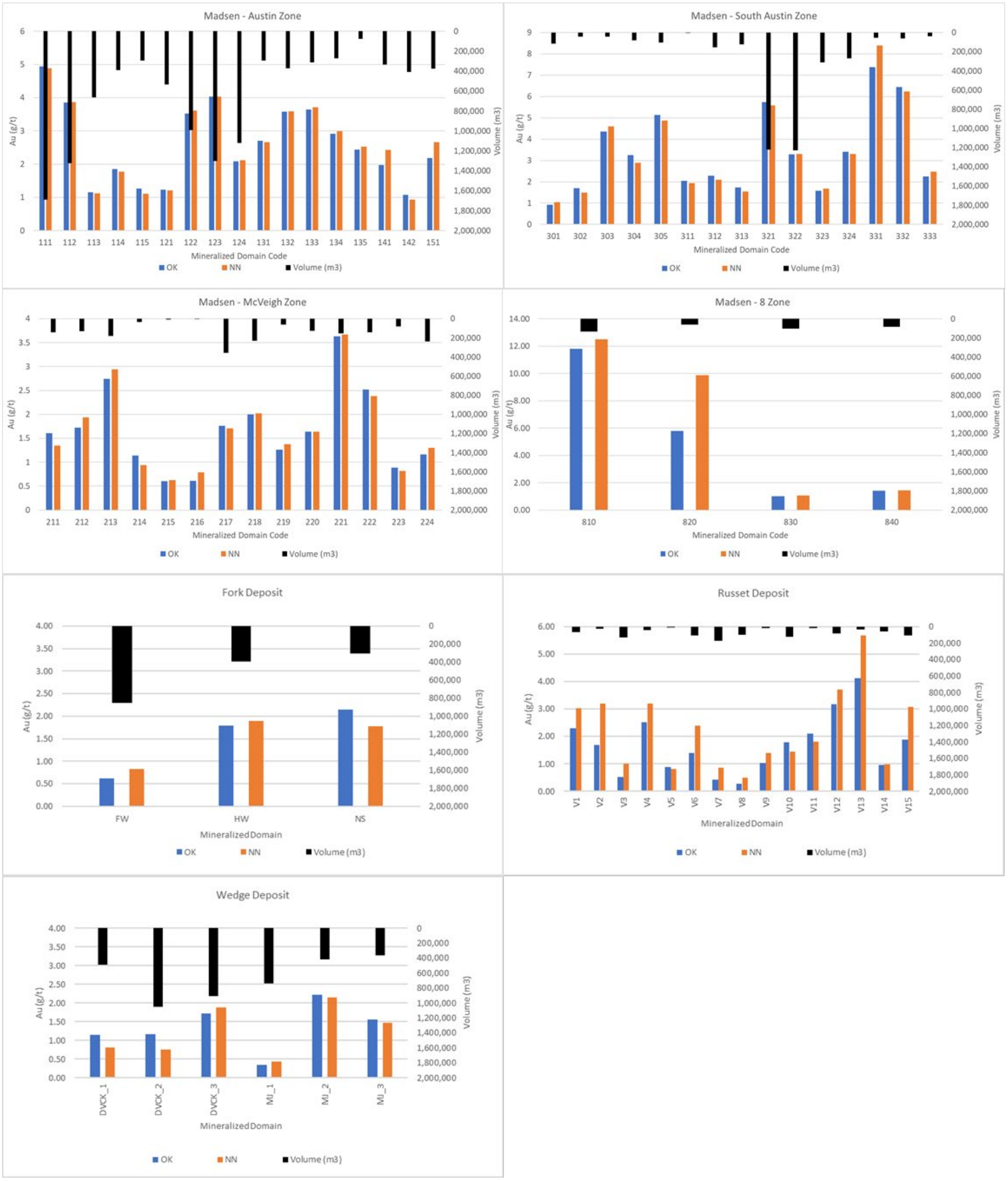


Figure 14-15: Madsen Deposit – Austin Zone Mineralized Domain 111 Change of Support Analysis

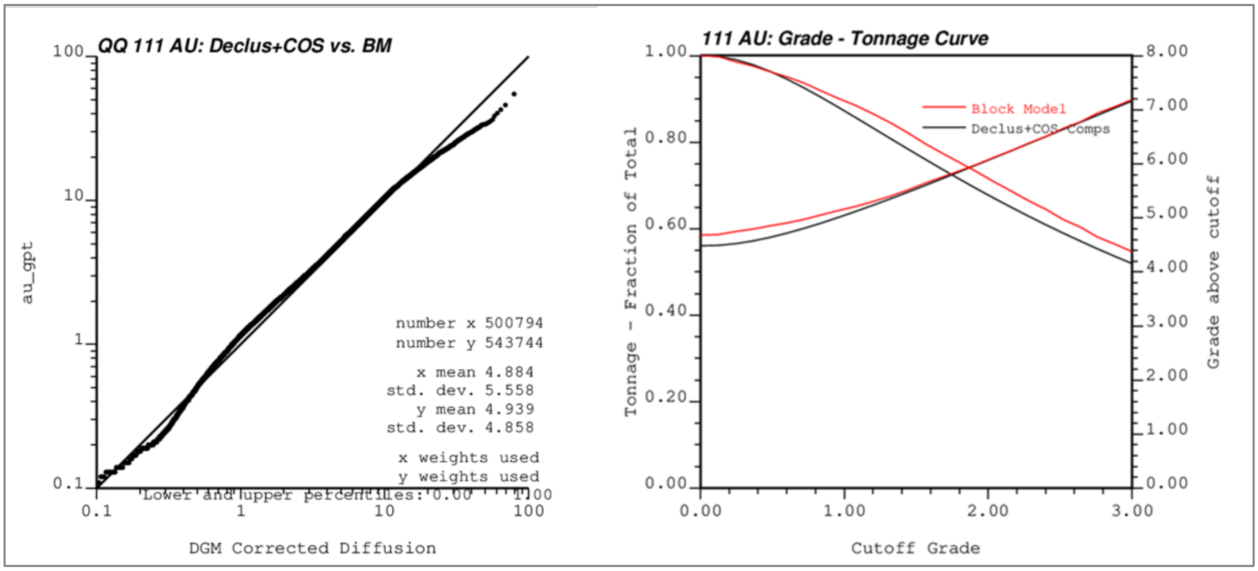
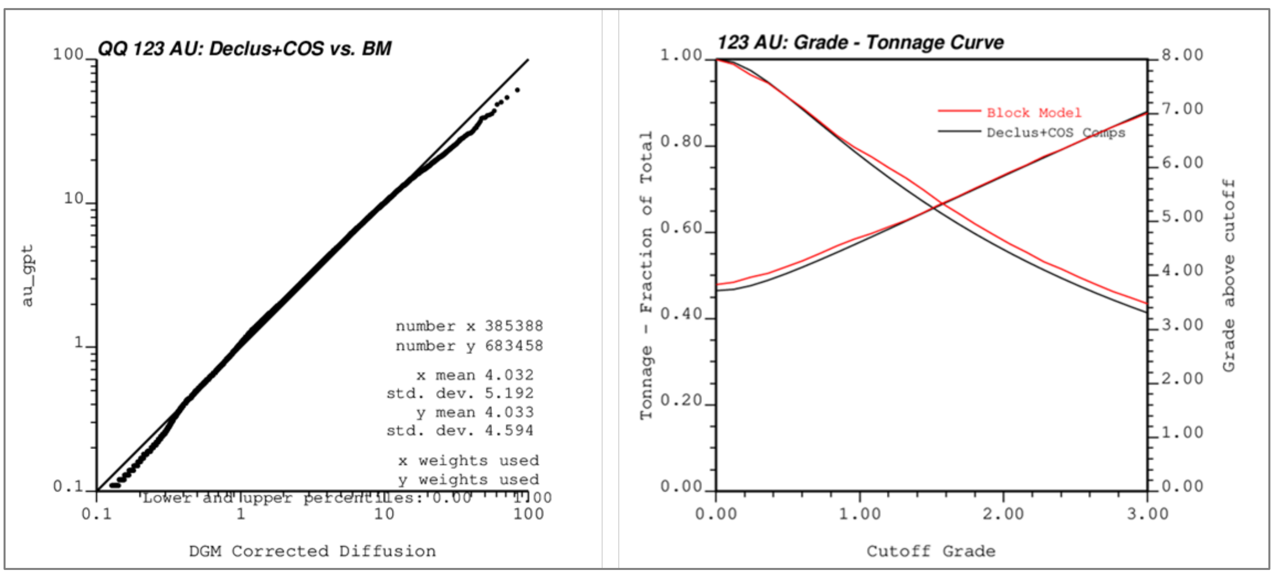


Figure 14-16: Madsen Deposit – Austin Zone Mineralized Domain 123 Change of Support Analysis



14.12 Mineral Resource Classification

Block model quantities and grade estimates for the mine were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) by Cliff Revering, P.Eng., an independent qualified person for the purpose of National Instrument 43-101.

Mineral resource classification is typically a subjective concept, and industry best practices suggest that resource classification should consider both the confidence in the geological continuity of the mineralized structures, the quality and quantity of exploration data supporting the estimates and the geostatistical confidence in the tonnage and grade estimates. Appropriate classification criteria should aim at integrating these concepts to delineate semi-contiguous areas of similar resource categories. SRK is satisfied that the geological models honour the current geological information and knowledge. The location of the samples and the assay data are sufficiently reliable to support resource evaluation. Mineral resource classification criteria considered the following components:

- Quality of the data used to support mineral resource estimation;
- Confidence in the geological interpretation of the mineralized zones;
- Average drill hole spacing within the deposits, and
- Estimation parameters including the number of drill holes and assay composites used to estimate a block.

Madsen deposit blocks were classified within the Indicated resource category in areas where the average drill hole spacing was 25m or less, and blocks were estimated with a minimum of two drill holes and at least 4 assay composites. All other estimated blocks were classified in the Inferred resource category. McVeigh Zone mineralized domains 211, 212 and 216 were classified entirely as Inferred mineral resources due to limited data available within these mineralized domains.

Wedge deposit blocks were classified within the Indicated resource category in areas where the average drill hole spacing was 40m or less, and blocks were estimated with a minimum of two drill holes and at least 3 assay composites. Additional Wedge deposit blocks were classified as Inferred mineral resources provided they did not satisfy Indicated resource criteria and the average drill hole spacing was 80m or less. The MJ1 mineralized domain was classified entirely as an Inferred resource due to limited available data.

Fork deposit blocks within mineralized domains HW and NS were classified within the Indicated resource category in areas where the average drill hole spacing was 40m or less, and blocks were estimated with a minimum of two drill holes and at least 3 assay composites. Blocks within mineralized domain FW and all other blocks within domains HW and NS were classified as Inferred mineral resources.

Russet deposit blocks within mineralized domains V1, V6, V10 and V12 were classified within the Indicated resource category in areas where the average drill hole spacing was 40m or less, and blocks were estimated with a minimum of two drill holes and at least 3 assay composites. Blocks within these domains were classified as Inferred mineral resources provided they did not satisfy Indicated resource criteria and the average drill hole spacing was 80m or less. Mineralized domains V2, V3, V4, V7, V8, V11, V14 and V15 were classified as Inferred mineral resources due to limited available data within these domains. All other mineralized domains were excluded from the classified mineral resource.

The classification criteria used for the Fork, Russet and Wedge deposits reflect the reduced geological complexity associated with the interpreted mineralized domain geometries within these deposits compared to Madsen.

14.13 Mineral Resource Statement

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

"(A) concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on

the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge".

The "reasonable prospects for eventual economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account extraction scenarios and processing recoveries. SRK considers that portions of the mine are amenable for underground extraction.

To determine the quantities of material offering "reasonable prospects for eventual economic extraction" within the Madsen deposit, SRK used a stope optimizer and reasonable mining assumptions to evaluate the proportions of the block model (Indicated and Inferred blocks) that could be "reasonably expected" to be mined from the underground mine. The mining parameters were selected based on review of the existing underground mine operation and are summarized in Table 14-16. The reader is cautioned that the results of this analysis are used solely for the purpose of testing the "reasonable prospects for eventual economic extraction" by an appropriate mining method and do not represent an attempt to estimate mineral reserves. There are no mineral reserves for the PureGold Mine, and the results of this analysis are used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting cut-off grade.

Table 14-16: Assumptions used for defining reasonable prospects for economic extraction

Parameter	Value	Unit
Gold Price	$1,800	US$ per ounce
Foreign Exchange Rate	1.30	CAD/USD
Stope Heights	3, 6 & 12	metres
Stope Length	10	metres
Minimum Stope Width	2	metres
Maximum Stope Width	20	metres
UG Mining Costs	$108.60	C$ per tonne mined
Process Costs	$73.30	C$ per tonne of feed
G&A Costs	$54.10	C$ per tonne of feed
Mining Recovery	95%	percent
Process Recovery	95%	percent
Cut-off Grade	3.38	g/t Au

MSO shapes were not generated for the Fork, Russet and Wedge deposits, however the same resource cut-off grade determined for the Madsen deposit was applied for resource reporting purposes. In general, the distribution of classified blocks above a cut-off grade of 3.38 g/t are located with multiple contiguous to semi-contiguous zones within each mineralized domain.

The mineral resource statement for the PureGold Mine deposits is provided in Table 14-17, with an effective date of December 31, 2021. The mineral resources have been adjusted to reflect the removal of all historical and recent production to the end of December 2021 and are reported as undiluted mineral resources at the stated cut-off grade of 3.38 g/t Au.

The mining activity from the effective date of this technical report until the closure of the PureGold Mine has been deemed immaterial. Based on the mining records, 164,604 tonnes of ore at 3.8 g/t grade were processed, resulting in the production and sale of 20,301 ounces of gold. This production figure is not considered significant for the purpose of this report and the mining activity during the period from January 1, 2022 to the mine closure on October 24, 2022 will not have a material impact on the mineral resource estimates presented in this report.

Since the effective date of this technical report, additional diamond drilling was conducted until the mine closure on October 24, 2022. A total of 688 drill holes and 54,122 m of drilling was completed in 2022. Based on a review of the results of this drilling it has been determined that the information obtained will not have a material impact on the mineral resource estimate presented in this report.

Table 14-17: Mineral Resource Statement, PureGold Mine, Red Lake, Ontario, effective date December 31, 2021

Classification	Deposit - Zone	Tonnes	Gold Grade (g/t)	Gold Troy Ounces
Indicated	Madsen – Austin	4,147,000	6.9	914,200
	Madsen – South Austin	1,696,000	8.7	474,600
	Madsen – McVeigh	388,700	6.4	79,800
	Madsen – 8 Zone	152,000	18	87,700
	Fork	123,800	5.3	20,900
	Russet	88,700	6.9	19,700
	Wedge	313,700	5.6	56,100
	Total Indicated	6,909,900	7.4	1,653,000
Inferred	Madsen – Austin	504,800	6.5	104,900
	Madsen – South Austin	114,100	8.7	31,800
	Madsen – McVeigh	64,600	6.9	14,300
	Madsen – 8 Zone	38,700	14.6	18,200
	Fork	298,200	5.2	49,500
	Russet	367,800	5.8	68,800
	Wedge	431,100	5.7	78,700
	Total Inferred	1,819,300	6.3	366,200

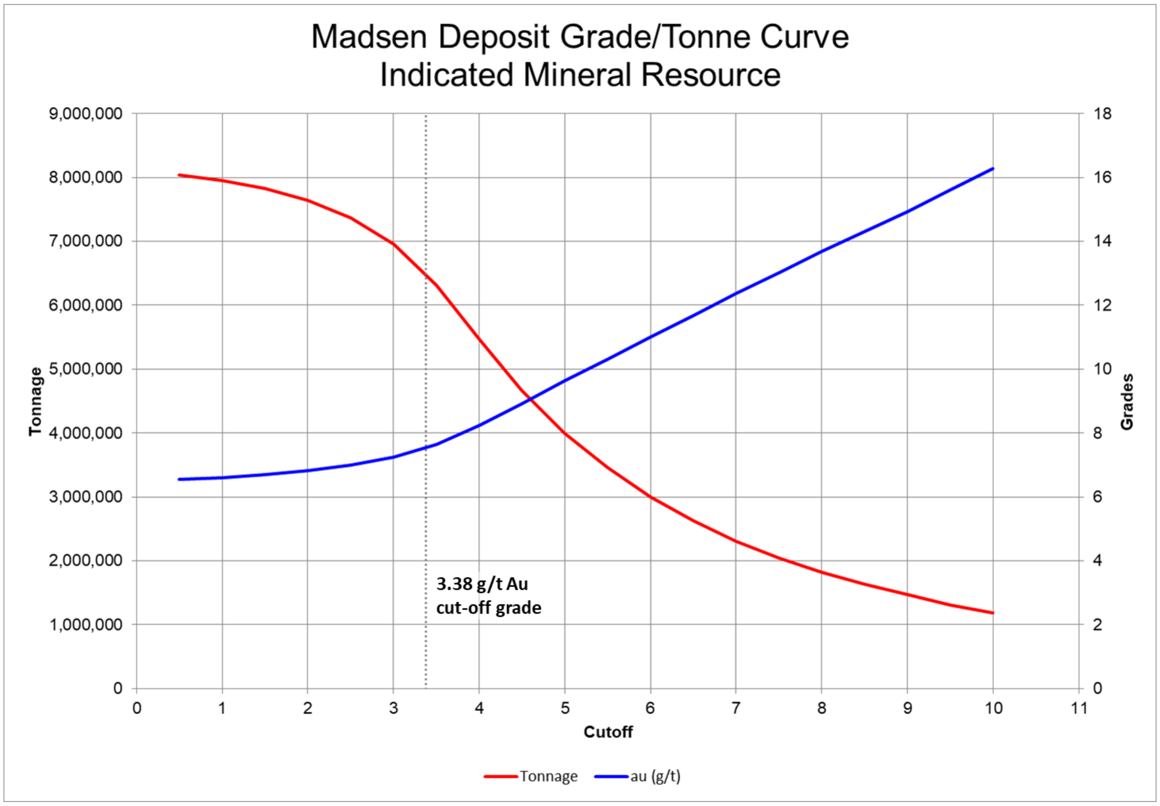
Notes:

1) Mineral resources are not mineral reserves and do not have demonstrated economic viability.
2) Mineral resources are reported at a cut-off grade of 3.38 g/t Au
3) Mineral resources are reported using a gold price of US$1800/oz
4) Excludes depletion of mining activity during the period from January 1, 2022 to the mine closure on October 24, 2022 as it has been deemed immaterial and not relevant for the purpose of this report.
6) All figures have been rounded to reflect the relative accuracy of the estimate

14.14 Grade Sensitivity Analysis

The PureGold Mine mineral resources are sensitive to the selection of the reporting cut-off grade. Figure 14-17 provides a grade-tonnage curve for the Madsen deposit Indicated mineral resource estimate.

Figure 14-17: Grade Tonnage Curve for the Madsen Deposit (Indicated mineral resource)



14.15 Reconciliation to Previous Mineral Resource Estimate

The previous mineral resource estimate for PureGold Mine was prepared by Ginto Consulting Inc. with an effective date of February 5, 2019 (see Makarenko et al., 2019). A comparison of the current and previous mineral resource estimates is provided in Table 14-18.

Comparison between the two mineral resource estimates shows similar tonnages for Indicated and Inferred resources, however with a reduction in the average gold grade and contained gold content within the current mineral resource estimate. This reduction in average grade and contained gold content is reflective of the operational experience gained through active mining since 2020 and changes incorporated into the 2021 MRE update, including a revised geological interpretation, additional drilling and production data, revised grade capping analysis and estimation parameters, revised mineral resource classification criteria and a lower cut-off grade for mineral resource reporting.

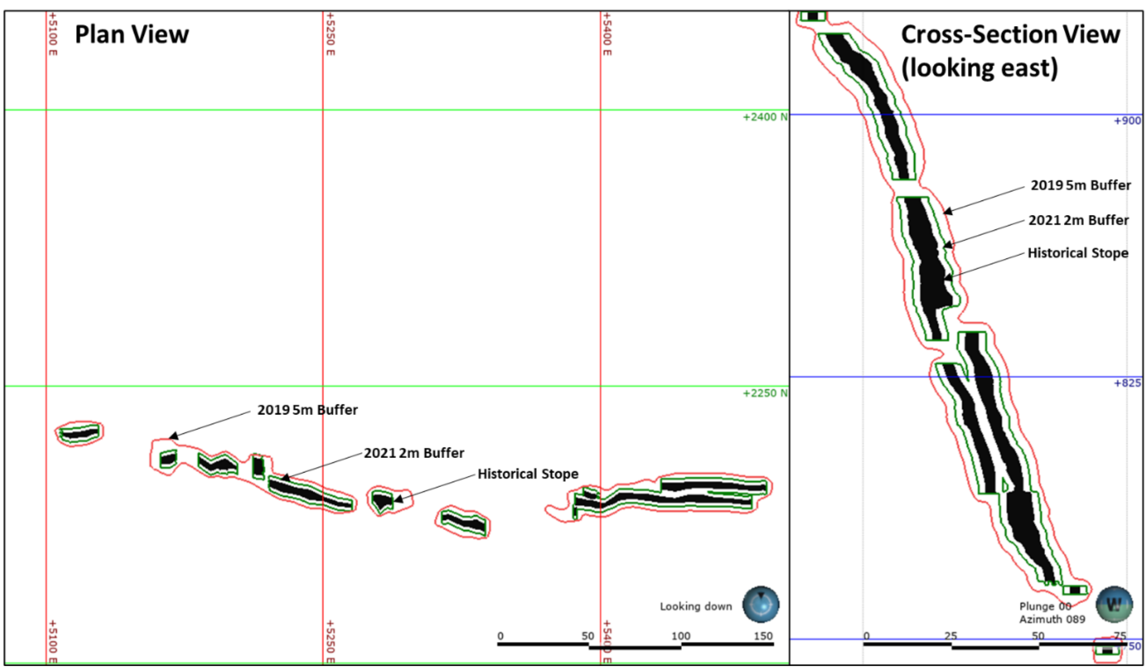
Table 14-18: Summary comparison of the current and previous mineral resource estimate

Indicated Mineral Resource	December 31, 2021 MRE	February 5, 2019 MRE
Tonnes	6,909,900	7,196,000
Gold Grade (g/t)	7.4	8.9
Gold Troy Ounces	1,653,000	2,063,000

Inferred Mineral Resource	December 31, 2021 MRE	February 5, 2019 MRE
Tonnes	1,819,300	1,880,000
Gold Grade (g/t)	6.3	7.7
Gold Troy Ounces	366,200	467,000

Additional changes incorporated into the 2021 MRE update included modification of the buffer or exclusion zone around historical stopes from a 5m buffer (in all directions) to a 2m buffer applied to the hanging and footwall for historical stopes (Figure 14-18), and inclusion of a 20m crown pillar. Test mining adjacent to historical stopes during 2020 and 2021 by Pure Gold demonstrated that successful extraction of mineralization adjacent to historical stopes (along strike and down dip) was feasible and supported the removal of an exclusion zone along strike and down dip of historical stopes.

Figure 14-18: Comparison of 2019 and 2021 buffer zones around historical stopes.



14.16 Recommendations

The following recommendations are provided to advance the understanding of the geology, mineralization controls and mineral resource for the PureGold Mine;

- Additional delineation drilling within the Fork, Russet and Wedge deposits is required to further delineate mineralization continuity, particularly higher-grade mineralization, and to support potential upgrading of Inferred resources to higher confidence levels.
- Continue to incorporate underground mapping, structural data analysis and production grade control data into updated interpretations of Madsen deposit mineralization domains to support mineral resource estimation.
- Continue with current grade control practices in areas of active mine production to support mine planning and forecasting.

Conditional simulation should be implemented to better quantify uncertainty associated with geological complexity and grade variability within the current mineral resource model. Further risk assessments associated with mine planning and forecasting activities could then be conducted to support improved life-of-mine decisions.

15 Mineral Reserve Estimate

SRK has not carried out any estimation of mineral reserves based on the current mineral resource estimates presented in Section 14.

16 Mining Methods

SRK has not completed any assessment of mining methods as part of this study. The mineral resource estimates presented in Section 14 have not been converted to current mineral reserves through a Pre-Feasibility or Feasibility Study.

17 Recovery Methods

This section is not applicable as SRK has not completed any assessments of recovery methods.

18 Project Infrastructure

SRK has not completed any current assessment or planning for project infrastructure

19 Market Studies and Contracts

SRK has not completed any current market studies or assessment of contracts currently in place relevant to the PureGold Mine.

20 Environmental Studies, Permitting and Social or Community Impacts

20.1 Introduction

The PureGold Mine is a newly re-developed gold mining and processing operation centered around the historical Madsen Mine. The Madsen Mine operated between 1938 and 1976 and again between 1997 and 1999. The site was re-developed by Pure Gold from 2014 to 2020 and entered commercial production in 2021. A tailings management facility (TMF) was constructed at the site during the 1990's and upgraded during 2021. Inputs to the TMF include surface runoff from natural areas, surface contact water, mine discharge water, mill discharge water and treated municipal sewage effluent from the community.

20.2 Environmental Considerations

Mining and processing operations at the mine began in mid-December of 2020 following receipt of a provincial environmental assessment clearance and an amended Environmental Compliance Approval (#6724-BTYNWG) (Pure Gold, 2022). Baseline environmental studies completed and a wealth of historical data reviewed to support the opening of the mine recognize concentrations of metals and nutrients that are elevated in comparison to provincial and federal water quality guidance. These elevated concentrations are a result of both the historical tailings deposits from previous operations on the brownfields site and also from high natural levels of the elements in surface and ground waters in the region and have been integrated into the site wide monitoring and closure requirements of the operation.

In 2021, upgrades to the tailings management facility were completed and consisted of raising the tailings pond dams, construction of the Polishing Pond Dam 1 buttress and installation of the water treatment plant. These activities were completed in accordance with current mine waste management guidance and industry good practice.

The site has operated in compliance with all federal and provincial legislation through the implementation of several environmental management plans, including: Metal Leaching/Acid Rock Drainage Management Plan, Surface Water Quality Management Plan, Groundwater Management Plan and the Operational Water Quality Monitoring Plan.

The mine has operated in compliance with the conditions of its Environmental Compliance Approval throughout its first year of operations with a few minor exceptions. These exceptions were attributed to start-up upset conditions associated with the introduction of new procedures, staffing, and training difficulties created by the Covid -19 pandemic. The mine is currently operating in compliance with the approvals, permits and authorizations listed in Table 20-1.

Table 20-1: Approvals, permits and authorizations

Permit	Permit Number	Provincial Ministry	Valid From Date	Valid To Date
Amended Environmental Compliance Approval - TMF Discharge	9280-C2XNTQ	MECP	May 28, 2021	N/A
Environmental Compliance Approval - Dust, Air, and Noise Emissions	5217-BPXK2E	MECP	July 17, 2020	July 17, 2030
Permit to Take Water - #2 Shaft Dewatering	0202-AHJL45	MECP	January 13, 2017	January 13, 2027
Permit to Take Water - Process Pond	6834-BVBRSJ	MECP	February 11, 2021	February 11, 2031
Species at Risk - Myotis	RL-C-001-17	MNRF	July 26, 2017	December 31, 2026

Continued implementation of the existing Management Plans, along with good engineering practices consistent with provincial, federal and global guidance documents and standards, will successfully mitigate any potential environmental concerns with the operation of the PureGold Mine.

20.3 Social considerations

The operation is located within the traditional territories of the Wabauskang and Lac Seul First Nations. A Project Agreement between the two First Nations and Pure Gold Mining Inc. was executed in June 2019. The agreement establishes a framework of cooperation between the mining company and the First Nations to ensure a mutual benefit to all parties throughout all phases of the mining operation.

Pure Gold has developed and implemented a First Nation and Community Engagement Management Plan focused on the continued development of working relationships with both First Nations and the local communities.

Pure Gold has also established a Standard Operating Procedure for community concerns and inquiries as well as a Community Advisory Group. This advisory group meets regularly to proactively discuss project activities and planned changes as well as any community concerns. As of the effective date of this report, Pure Gold also had a positive working relationship with the Municipality of Red Lake to cooperatively plan mine access and camp planning, and there were no significant community concerns raised during 2022 (WRLG 2023).

21 Capital Cost Estimate

No capital and operating cost estimates have been made by SRK.

22 Economic Analysis

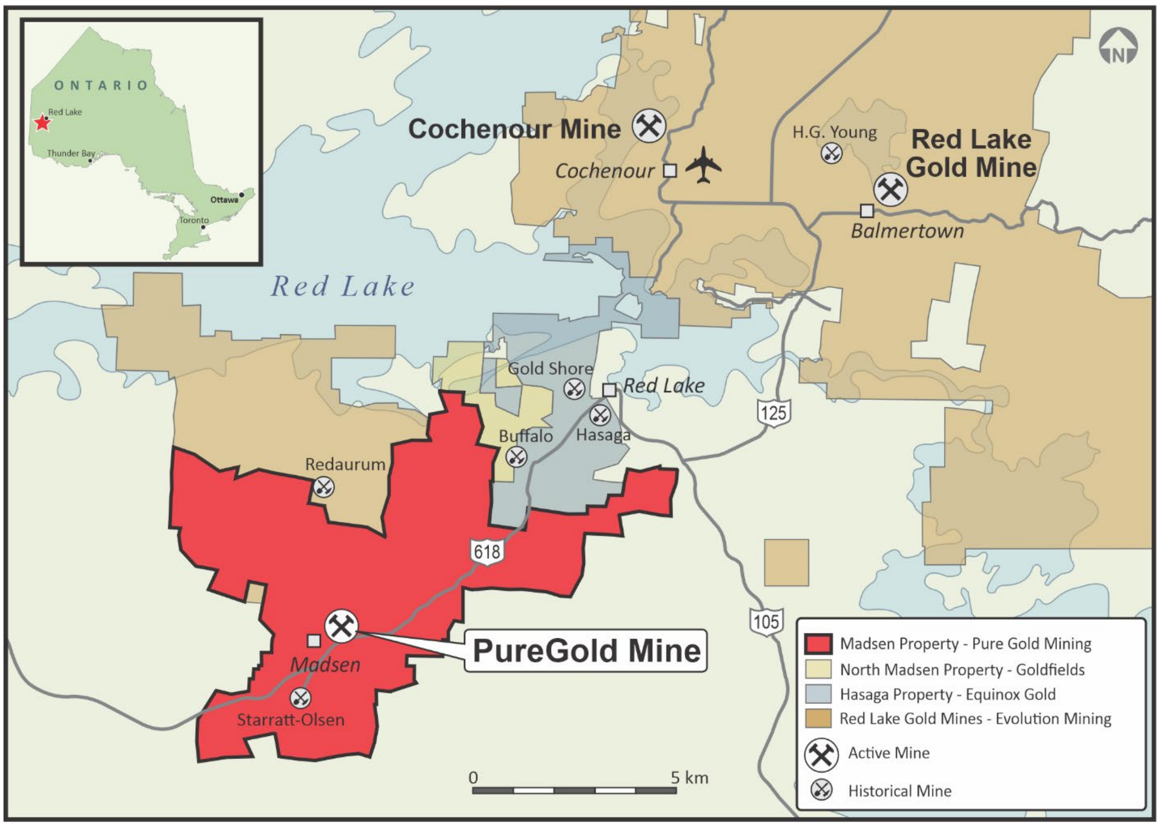
No economic analysis has been made by SRK.

23 Adjacent Properties

Relevant information is provided herein for three adjacent and adjoining properties to the PureGold Mine – the Hasaga Property of Equinox Gold (Equinox) (Jourdain et al., 2017); the North Madsen Property of Yamana Gold Inc. (Yamana) (McCracken and Utiger, 2014); and the Red Lake Gold Mine Property of Evolution Mining (Goldcorp Inc., 2017). These properties are shown on Figure 23-1.

SRK has been unable to verify the information provided with respect to the adjacent properties which was obtained from publicly disclosed documents as indicated above and such information is not necessarily indicative of the mineralization on the PureGold Mine Property. The proximity and geologic similarities between these adjacent properties and PureGold Mine does not mean that equivalent results will be obtained on the PureGold Mine Property.

Figure 23-1: Location of PureGold Mine and Adjacent Properties



Source: Pure Gold (2022)

23.1 Hasaga Property – Equinox Gold

In 2020 Equinox Gold acquired the Hasaga Property which is contiguous to the PureGold Mine Property on the northeast boundary (Figure 23-1). The property contains three past producing mines – the Gold Shore, Buffalo and Hasaga Mines. The combined historical gold production of these three historical operations is reported to be 240,970 ounces (Malegus et al., 2022). Active exploration on this property is ongoing. Table 23-1 summarizes the recent mineral resource statement for the Hasaga Property.

Table 23-1: Mineral Resource Estimate, Hasaga Property

Category	Tonnage	Grade (g/t)	Gold Troy Ounces
Indicated Resources	42,294,000	0.83	1,124,000
Inferred Resources	25,143,000	0.78	631,000

Source: Jourdain et al. (2017)

As a results of the acquisition, WRLG now holds a 1.0% net smelter return royalty on the southwestern portion of the Hasaga Property (Buffalo Claims), which was previously held by Pure Gold. The proximity and geologic similarities of Hasaga does not mean that equivalent results will be obtained on the PureGold Mine Property.

23.2 North Madsen Property – Yamana Gold

Recently, Yamana Gold has been exploring their North Madsen Property which is contiguous along the northeast boundary of Pure Gold's Mine Property. The North Madsen Property has been explored since 1925, however no gold production has resulted. Table 23-2 summarizes the recent mineral resource estimate of McCracken and Utiger (2014). Most of the resources in all categories are hosted in the Main (41) Zone. The Main Zone mineralization is hosted within the Dome Stock granodiorite and is associated with shear zones and overprinting quartz-tourmaline veins (McCracken and Utiger, 2014). The proximity and geologic similarities of the North Madsen Property does not mean that equivalent results will be obtained on the PureGold Mine Property.

Table 23-2: Mineral Resource Estimate, North Madsen Property

Category	Tonnage	Grade (g/t)	Gold Ounces
Measured Resources	16,728,310	1.3	685,891
Indicated Resources	6,230,600	1.0	202,862
Measured and Indicated Resources	22,958,910	1.2	888,752
Inferred Resources	10,138,000	1.2	383,936

Source: McCracken and Utiger (2014)

23.3 Red Lake Gold Mine Property – Evolution Mining

Evolution's Red Lake Gold Mine Property is contiguous to the PureGold Mine Property on the northern boundary and the PureGold Mine and the Red Lake mine complex are approximately 16 km apart. The Red Lake Gold Mine is the largest mining operation in the Red Lake mining district and has been in continuous operation since 1948. Evolution Mining acquired the property in 2020 and expanded it in 2021 to 709km2. In 2022, the workforce comprised 800 local employees. Mines on what is now the Red Lake Gold Mine Property have produced more than 25.1 million ounces of gold to 2022 including gold production of 109,592 ounces in 2021 (Malegus et al., 2022). Active exploration is ongoing across the property. Table 23-3 provides Reserve and Resource estimates for the Red Lake operation as recently disclosed by Evolution Mining (2022).

Table 23-3: Mineral Resource Estimate, Red Lake Gold Mine

Category	Tonnage	Grade (g/t)	Gold Ounces
Probable Reserves	13,100,000	7.00	2,935,000
Indicated Resources	31,800,000	7.14	7,303,000
Measured and Indicated Resources	31,800,000	7.14	7,303,000
Inferred Resources	53,600,000	6.82	11,742,000

24 Other Relevant Data and Information

All relevant data and information have been included in this report.

25 Interpretation and Conclusions

The current, previously disclosed mineral resource estimate for the PureGold Mine was generated by SRK with an effective date of December 31, 2021. The estimate includes Indicated mineral resources of 1,653,000 oz of gold (6.9 Mt at an average grade of 7.4 g/t) and Inferred mineral resources of 366,200 oz of gold (1.82 Mt at an average grade of 6.3g/t). These mineral resources are reported at a cut-off grade of 3.38 g/t, use a gold price of US$1800 per ounce, and are constrained by reasonable stope shapes within the Madsen deposit.

This mineral resource estimate is based on verified historical drilling data, along with additional drilling data and underground mine development and production data collected by Pure Gold since 2014. This mineral resource estimate is also predicated on a revised geological and mineralization domain model developed in 2021 that incorporates structural controls on mineralization identified through data analysis, grade control programs and mapping of underground exposures by Pure Gold since 2018.

Since the effective date of this technical report, additional diamond drilling was conducted until the mine closure on October 24, 2022. A total of 688 drill holes and 54,122 m of drilling was completed in 2022. Based on a review of the results of this drilling it has been determined that the information obtained will not have a material impact on the mineral resource estimate presented in this report.

26 Recommendations

26.1 Future Work

It is recommended that future work at PureGold be focused on exploration diamond drilling to expand and increase confidence within the Austin, South Austin, and McVeigh resource areas, with particular emphasis on areas with higher grade and tonnage potential, as well as better geologic continuity. The drilling program should include both expansion drilling to increase the overall mineral resource and infill drilling to convert more of the Inferred mineral resource into Measured and Indicated categories, thereby enhancing the overall value of the deposit. To facilitate this, the majority of exploration drilling for the remainder of 2023 will be conducted from underground at PureGold mine, with additional underground development required to support the drilling program.

Mine site personnel will maintain site in a state for an efficient restart by:

- Maintaining local community and indigenous relationships
- Dewatering underground workings
- Continuing to treat and discharge water via the water treatment plant
- Ensuring that all environmental permits remain in compliance

Table 26-1 provides a cost estimate for the recommended work to be carried out.

Table 26-1: Cost estimate for recommended work

Item	Cost Estimate (C$ M)
Underground development to support drilling – approx. 550 m	$4.0
Additional infill and expansion drilling – approx. 7,000 m	$1.5
Total	**$5.5**

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28 Units of Measure, Acronyms and Abbreviations

Symbol / Abbreviation	Description
'	minute (plane angle)
"	second (plane angle) or inches
°	degree
%	percent
°C	degrees Celsius
2D	two-dimensional
3D	three-dimensional
amsl	above mean sea level
ARD	acid rock drainage
Au	gold
AQTK	drill core diameter of 35.5 mm
BQ	drill core diameter of 36.5 mm
C$	dollar (Canadian)
Ca	calcium
CIM	Canadian institute of mining and metallurgy
cm	centimetre
cm^2	square centimetre
cm^3	cubic centimetre
d	day
DGPS	differential global positioning system
dmt	dry metric ton
E	East
EA	environmental assessment
EIS	environmental impact statement
ft	foot
g	gram
g/cm^3	grams per cubic metre
g/t	grams per tonne
Ga	billion years
gpm	gallons per minute (us)
GSC	Geological Survey of Canada
ha	hectare (10,000 m^2)
ha	hectare
HG	high grade
HLEM	horizontal loop electro-magnetic
HoleID	drill hole identifier
HQ	drill core diameter of 63.5 mm
Hz	hertz
ICP-MS	inductively coupled plasma mass spectrometry
in	inch
in^2	square inch

Symbol / Abbreviation	Description
in^3	cubic inch
kg	kilogram
km	kilometre
km/h	kilometres per hour
km^2	square kilometre
L	litre
LOM	life of mine
m	metre
M	million
Mm	million metres
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
masl	metres above mean sea level
mg	milligram
mg/L	milligrams per litre
min	minute (time)
mL	millilitre
mm	millimetre
Mm^3	million cubic metres
MMER	metal mining effluent regulations
MMI	Mobile metal ion leach
MSO	Mining Stope Optimizer
Mt	million metric tonnes
N	North
NAD	North American datum
NE	Northeast
NW	Northwest
NI 43-101	national instrument 43-101
NQ	drill core diameter of 47.6 mm
ON-105 N	Ontario Provincial Highway 105 North
ON-168 S	Ontario Provincial Highway 168 South
ON-17	Ontario Provincial Highway 17
oz	troy ounce
p80	Mesh size at which 80% of material passes
pH	quantitative measure of acidity
P.Eng.	professional engineer
P.Geo.	professional geoscientist
PEA	preliminary economic assessment
PFS	preliminary feasibility study

Symbol / Abbreviation	Description
ppb	parts per billion
PQ	drill core diameter of 85 mm
ppm	parts per million
psi	pounds per square inch
QA/QC	quality assurance/quality control
QP	qualified person
ROM	run of mine
RQD	rock quality designation
s	second (time)
South	South
Southeast	Southeast
Southwest	Southwest
S.G.	specific gravity
SG	specific gravity
SMG	historical Starratt Mine Grid
t	metric tonne (1,000 kg)
t/a	tonnes per year
t/d	tonnes per day
TCR	total core recovery
TFFE	target for further exploration
TMF	tailings management facility
tph	tonnes per hour
US	United States
US$	dollar (American)
UTM	Universal Transverse Mercator (projection)
V	volt
VAG	Air powered diamond drill
W	West
XRF	X-Ray Flouresence
μm	micron (micrometre)

29 Date and Signature Page

This technical report was written by the following “Qualified Persons” and contributing authors. The effective date of this technical report is December 31, 2021.

Qualified Person	Signature	Date
Cliff Revering, P.Eng.	“Original signed”	June 19, 2023
Wayne Barnett, P. Geo.	“Original signed”	June 19, 2023
Kelly McLeod, P.Eng.	“Original signed”	June 19, 2023

Reviewed by

“Original signed”

Gary MacSporran, M.Sc., P.Eng., MAusIMM,
Project Reviewer

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

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APPENDIX A
Qualified Person Certificates

Certificate of a Qualified Person

To accompany the report entitled: “Independent NI 43-101 Technical Report and Updated Mineral Resource Estimate for the PureGold Mine, Canada”, prepared for West Red Lake Gold Mines Ltd (“Issuer”) dated June 19, 2023, with an effective date December 31, 2021 (the “Technical Report”).

I, Cliff Revering, do hereby certify that:

1. I am a Principal Consultant (Geological Engineering) with the firm of SRK Consulting (Canada) Inc. (SRK) with a business address at Suite 600, 350 3rd Ave. North, Saskatoon, Saskatchewan, Canada.
2. I am a graduate of the University of Saskatchewan in 1995 with B.E. in Geological Engineering and completed a Citation in Applied Geostatistics from the University of Alberta. My relevant experience includes more than 27 years employment in the mining industry, related to exploration, mine operations and project evaluations, with a specialization in geological modelling, mineral resource and reserve estimation, production reconciliation, grade control, exploration and production geology, and mine planning.
3. I am a professional Engineer registered with the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS#9764).
4. I have read the definition of qualified person set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association, and past relevant work experience, I fulfil the requirements to be a qualified person for the purposes of National Instrument 43-101.
5. I am independent of the Issuer as defined in Section 1.5 of National Instrument 43-101.
6. I am a co-author of this report and responsible for sections 1.0 to 6.0, 9.0 to 12, and 14 to 27.0, and accept professional responsibility for these sections of the technical report.
7. SRK Consulting (Canada) Inc. was retained by West Red Lake Gold Mines Ltd. to update the report reflecting a change in the ownership of the PureGold Mine, located in the Red Lake district of northern Ontario, Canada.
8. I personally inspected the subject property on July 4 to 7, 2022.
9. I had prior involvement with the subject property by acting as Qualified Person for Pure Gold Mining Inc. NI 43 101 entitled “Independent NI 43-101 Technical Report and Updated Mineral Resource Estimate for the PureGold Mine, Canada” dated September 23, 2022 and having an effective date of December 31, 2021.
10. As at the effective date of the technical report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
11. I have read National Instrument 43-101, Form 43-101F1 and confirm that this technical report has been prepared in accordance therewith.

Saskatoon, Saskatchewan June 19, 2023

["signed and sealed"]

Cliff Revering, PEng, CPAG, BE.

Principal Consultant (Geological Engineering)

Certificate of a Qualified Person

To accompany the report entitled: "Independent NI 43-101 Technical Report and Updated Mineral Resource Estimate for the PureGold Mine, Canada", prepared for West Red Lake Gold Mines Ltd ("Issuer") dated June 19, 2023, with an effective date December 31, 2021 (the "Technical Report").

I, Wayne Barnett, do hereby certify that:

1. I am a Principal Consultant (Geologist) with the firm of SRK Consulting (Canada) Inc. (SRK) with a business address at 320 Granville Street, Vancouver, BC, Canada.
2. I am a graduate of the University of Cape Town in 1998 with a Masters in Geology, and a graduate of the University of Kwa Zulu Natal in 2006 with a PhD in Structural Geology. My relevant experience includes more than 25 years employment in the mining industry, related to exploration, mine operations and project evaluations, with a specialization in structural geology, geological modelling, and applied geotechnical engineering.
3. I am a professional Geologist registered with the association of Engineers and Geoscientists of British Columbia (registration #43723).
4. I have read the definition of qualified person set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association, and past relevant work experience, I fulfil the requirements to be a qualified person for the purposes of National Instrument 43-101.
5. I am independent of the Issuer as defined in Section 1.5 of National Instrument 43-101.
6. I am a co-author of this report and responsible for sections 7.0 to 8.0 and accept professional responsibility for these sections of the technical repor.
7. SRK Consulting (Canada) Inc. was retained by West Red Lake Gold Mines Ltd. to update the report reflecting a change in the ownership of the PureGold Mine, located in the Red Lake district of northern Ontario, Canada.
8. I personally inspected the subject property on April 4 to 8, 2022.
9. I had prior involvement with the subject property by acting as Qualified Person for Pure Gold Mining Inc. NI 43 101 entitled "Independent NI 43-101 Technical Report and Updated Mineral Resource Estimate for the PureGold Mine, Canada" dated September 23, 2022 and having an effective date of December 31, 2021.
10. As at the effective date of the technical report, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.
11. I have read National Instrument 43-101, Form 43-101F1 and confirm that this technical report has been prepared in accordance therewith.

Vancouver, British Columbia, June 19, 2023

["signed and sealed"]

Wayne Barnett, P.Geo. Principal Consultant (Geology)

CERTIFICATE OF QUALIFIED PERSON

To accompany the report entitled: "Independent NI 43-101 Technical Report and Updated Mineral Resource Estimate for the PureGold Mine, Canada", prepared for West Red Lake Gold Mines Ltd ("Issuer") dated June 19, 2023, with an effective date December 31, 2021 (the "Technical Report").

I, Kelly McLeod, P. Eng., do hereby certify that:

1. I am currently employed as a Metallurgical Engineer with Allnorth with an office at Suite 1200 – 1100 Melville Street, Vancouver, British Columbia, V6E 4A6;
2. I am a graduate of McMaster University with a Bachelors of Engineering, Metallurgy, 1984. I have practiced my profession intermittently since 1984 and have worked for the last 15 years consulting in the mining industry in metallurgy and process design engineering;
3. I am a Professional Metallurgical Engineer registered with the APEGBC, P.Eng. #15868.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101. I am independent of the issuer, vendor, property and related companies applying all of the tests in Section 1.5 of NI 43-101;
5. I am independent of the Issuer as defined in Section 1.5 of National Instrument 43-101.
6. I am responsible for Sections 1.5, 12.5 and 13 of the report;
7. I visited the Pure Gold Mine site on December 7, 2017;
8. I had prior involvement with the subject property by acting as Qualified Person for Pure Gold Mining Inc. NI 43 101 entitled "Independent NI 43-101 Technical Report and Updated Mineral Resource Estimate for the PureGold Mine, Canada" dated September 23, 2022 and having an effective date of December 31, 2021; and for NI 43-101 entitled "Madsen Gold Project Technical Report, Feasibility Study for the Madsen Deposit Red Lake, Ontario, Canada" with an effective date of February 5, 2019.
9. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading; and
10. I have read NI 43-101, and the Technical Report has been prepared in accordance with NI 43-101 and Form 43-101F1.

Vancouver, British Columbia, June 19, 2023

["signed and sealed"]

Kelly McLeod, P. Eng.