Val-d'Or East Project

NI 43-101 Technical Report & Preliminary Economic Assessment

Québec, Canada

Effective Date: September 7, 2021

Prepared for: Probe Metals Inc.

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Daniel Gaudreault, P. Eng. – Geologica Groupe-Conseil Inc.
Merouane Rachidi, P. Geo. – GoldMinds Geoservices Inc.
Claude Duplessis, P. Eng. – GoldMinds Geoservices Inc.
Maude Lévesque Michaud, P. Eng. - Lamont Expert Conseil Inc.

CERTIFICATE OF QUALIFIED PERSON
Tommaso Roberto Raponi

I, Tommaso Roberto Raponi, P.Eng., certify that I am employed as a Principal Metallurgist with Ausenco Engineering Canada Inc., with an office address of Suite 1550 - 11 King St West, Toronto, ON M5H 4C7. This certificate applies to the technical report titled "NI 43-101 Technical Report & Preliminary Economic Analysis of the Val-d'Or East Project" that has an effective date of September 7, 2021 (the "Technical Report").

I graduated from the University of Toronto with a Bachelor of Applied Science degree in Geological Engineering with specialization in Mineral Processing in 1984. I am a Professional Engineer registered with the Professional Engineers Ontario (No. 90225970), Engineers and Geoscientists British Columbia (No. 23536) and NWT and Nunavut Association of Professional Engineers and Geoscientists (No. L4508) and with OIQ (OIQ temporary permit No.6043399). I have practiced my profession continuously for over 37 years with experience in the development, design, operation and commissioning of mineral processing plants, focusing on gold projects, both domestic and internationally.

I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.

I have not visited the Val-d'Or East property. I am responsible for Sections 1.1, 1.13, 1.15, 1.17, 1.18, 1.19, 1.21, 1.22, 1.24, 2, 3, 13, 15, 17, 18.1, 18.7, 18.8, 18.9, 18.10, 18.11, 19, 21 (except 21.2.2.1.1 and 21.2.5.1.1), 22, 24, 25.1, 25.5, 25.6, 25.7, 25.8, 25.10, 25.11, 25.12, 25.13.1.1, 25.13.1.3, 25.13.2.2, 25.14, 26.1, 26.3, and 27 of the Technical Report.

I am independent of Probe Metals Inc. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Val-d'Or East Project.

I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: October 20, 2021

"Signed and sealed"

Tommaso Roberto Raponi, P.Eng.

CERTIFICATE OF QUALIFIED PERSON
Ali Hooshiar

I, Ali Hooshiar, P.Eng., certify that I am employed as Geotechnical Mining Engineer with Ausenco Engineering Canada Inc., with an office address of 855 Homer Street, Vancouver, British Columbia, Canada, V6B 2W2. This certificate applies to the technical report titled “NI 43-101 Technical Report & Preliminary Economic Analysis of the Val-d’Or East Project” that has an effective date of September 7, 2021 (the “Technical Report”).

I graduated from Sharif University of Technology with BSc and MSc in Materials Science and Engineering in 2003 and 2006, respectively, and the University of Alberta in 2011 with a PhD in Materials Engineering. I am a Professional Engineer registered with the Engineers and Geoscientists British Columbia (No. 40965), Engineers Yukon, and OIQ (No. 6043599). I have practiced my profession for 18 years with experience in designing tailings and waste rock storage facilities as well as managing geotechnical field investigation and lab testing programs for mining projects across the globe. A summary of the more recent portion of my professional career is as follows:

- Geotechnical Mining Engineer, Ausenco, Canada 2018-present
- Geotechnical Mining Engineer, AECOM, Canada 2013-2017
- Senior Geotechnical Consultant, SRK Consulting Inc., Canada 2011-2013

I have read the definition of “Qualified Person” set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for those sections of the Technical Report that I am responsible for preparing.

I have not visited the Val-d’Or East property. I am responsible for Sections 18.4, 18.5, 18.6, 25.7, 25.13.1.4, 25.13.2.3, 26.5, 26.6, and 26.7 of the Technical Report.

I am independent of Probe Metals Inc. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Val-d’Or East Project.

I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: October 20, 2021

“Signed and sealed”

Ali Hooshiar, P.Eng.

CERTIFICATE OF QUALIFIED PERSON
Jesse Aarsen

I, Jesse J. Aarsen, B.Sc. Mining Engineering, P.Eng., of Penticton, BC, Canada, as an author of this report entitled NI 43-101 Technical Report & Preliminary Economic Analysis of the Val-d'Or East Project" with an effective date of 7 September 2021, prepared for Probe Metals Inc. (the "Issuer") do hereby certify that:

I am a Principal - Mining with Moose Mountain Technical Services, an independent consulting firm, whose address is 1975-1st Avenue South, Cranbrook, BC, Canada, V1C 6Y3.

This certificate applies to the technical report titled "NI 43-101 Technical Report & Preliminary Economic Analysis of the Val-d'Or East Project" dated 7 September 2021" that has an effective date of September 7, 2021 (the "Technical Report").

I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (#38709) and my qualifications include experience applicable to the subject matter of the Technical Report. I am a graduate of the University of Alberta with a B.Sc. in Mining Engineering Co-op Program (2002). I have worked as a mining engineer for a total of 18 years since my graduation from university. My professional practice has included coal mining and base metals (copper, gold, silver) projects, primarily in North and South America.

I am familiar with National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101") and by virtue of my education, past relevant experience and affiliation to a professional registration, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for.

I have visited the Val-d'Or East property on September 27-28, 2021. I am responsible for Sections 1.16, 16, 18.2, 18.3, 21.2.2.1.1, 21.2.5.1.1, 25.4, 25.13.1.2, 25.13.2.1, and 26.4 the Technical Report.

I am independent of Probe Metals Inc. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Val-d'Or East Project.

I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: October 20, 2021

"Signed and sealed"

Jesse Aarsen, P.Eng.

CERTIFICATE OF QUALIFIED PERSON
Alain-Jean Beauregard

I, Alain-Jean Beauregard, P.Geo., certify that I am employed as a Senior Geologist with Geologica Groupe-Conseil Inc. with an office address of 240 Chemin des Pimbinas, La conception, QC, J0T 1M0. This certificate applies to the technical report titled "NI 43-101 Technical Report & Preliminary Economic Analysis of the Val-d'Or East Project" that has an effective date of September 7, 2021 (the "Technical Report").

I graduated from Concordia University with a Bachelor of Applied Science degree in Geology and Mining in 1978. I am a Fellow of the Geological Association of Canada (No. F4951) and a member of the Order of Geologists and Geophysicists of Québec (No. 227), of the Québec Mining Exploration Association (AEMQ), of the Canadian Institute of Mining and Metallurgy (CIMM) and the Prospectors and Developers Association of Canada (PDAC). I have over 43 years of experience in producing more than 1500 technical and financial evaluation reports for government authorities, private and public companies including numerous market value assessments of mining properties from grassroots projects to developed mines, and several companies' entire portfolio of properties. I have been using geophysical data from various surveys (magnetic-electromagnetic (EM), IP-resistivity, radiometric, gravity, etc.) since 1978 for geoscientific compilations, interpretations and recommendations for follow-up exploration work such as selecting priority drill targets in the Archean rock of the Superior Province and the highly metamorphic terrain of the Grenville Province for iron, titanium, uranium, rare earth minerals, graphite, precious and base metals. I have organized and managed several exploration campaigns for gold, base metals and industrial metals, especially in remote areas of Abitibi, but also in other parts of the province of Québec (Labrador Trough, Gaspé Peninsula, James Bay, St-Lawrence River, North Shore, Ungava, etc.), in eastern Canada, Europe, and Africa.

I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.

I visited the Val-d'Or East property on October 8, 2020. I am responsible for Sections 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.12, 1.23, 4, 5, 6, 7, 8, 9, 10, 12, 23, 25.2, 25.3, and 26.2 of the Technical Report.

I am independent of Probe Metals Inc. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Val-d'Or East Project.

I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: October 20, 2021

"Signed and sealed"

Alain-Jean Beauregard, P.Geo.

CERTIFICATE OF QUALIFIED PERSON
Daniel Gaudreault

I, Daniel Gaudreault, P.Eng., certify that I am employed as a Senior Engineer with Geologica Groupe-Conseil Inc. with an office address of 896 Quessy Street, Val-d'Or, QC, J9P 5W9. This certificate applies to the technical report titled "NI 43-101 Technical Report & Preliminary Economic Analysis of the Val-d'Or East Project" that has an effective date of September 7, 2021 (the "Technical Report").

I graduated from the University of Québec with a Geological Engineering degree in 1983. I am a member of the "Ordre des ingénieurs du Québec (No. 39834), of the Québec Mining Exploration Association (AEMQ) and the Prospectors and Developers Association of Canada (PDAC). My relevant experience includes over 38 years in exploration geology. I have been using geophysical data from various surveys (Magnetic, Electromagnetic (EM), IP-resistivity, radiometric, gravity, etc.) since 1983 for geoscientific compilations, interpretations and recommendations for follow-up exploration work such as selecting priority drill targets a in the Archean rock of the Superior Province and the highly metamorphic terrain of the Grenville Province for iron, titanium, uranium, rare earth minerals, graphite, precious and base metals. I have been involved with all aspects of planning, organization and supervision of mineral exploration projects, especially in remote areas of Abitibi, Québec. I have been in charge of teams of professionals and technicians on geological projects in the most severe conditions. I have also completed several geoscientific compilations and technical reports on areas of interest in Québec, Ontario, USA (California & Nevada) and South America (mainly Peru).

I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.

I visited the Val-d'Or East property on October 8, 2020. I am responsible for Sections 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.23, 4, 5, 6, 7, 8, 9, 10, 11, 12, 23, 25.2, 25.3, and 26.2 of the Technical Report.

I am independent of Probe Metals Inc. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Val-d'Or East Project.

I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: October 20, 2021

"Signed and sealed"

Daniel Gaudreault, P.Eng.

CERTIFICATE OF QUALIFIED PERSON
Merouane Rachidi

I, Merouane Rachidi, P.Geo., certify that I am employed as a Geologist with GoldMinds Geoservices Inc. with an office address of Suite 200 – 2999 Chemin Sainte-Foy, QC G1X 1P7. This certificate applies to the technical report titled "NI 43-101 Technical Report & Preliminary Economic Analysis of the Val-d'Or East Project" that has an effective date of September 7, 2021 (the "Technical Report").

I graduated from the University of Québec with a Doctor of Philosophy degree in Geology in 2012. I am a member of good standing of the l'Ordre des Géologues du Québec (No. 1792) and member of Professional Geoscientists Ontario (No. 2998). My relevant experience includes over 8 years in exploration geology, drilling supervision, 3D orebody modelling, mining, and mineral resource estimation.

I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.

I visited the Val-d'Or East property on July 18, 2019. I am responsible for Sections 1.14, 11, 12, 14, 25.2, 25.3, and 26.2 of the Technical Report.

I am independent of Probe Metals Inc. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Val-d'Or East Project.

I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: October 20, 2021

"Signed and sealed"

Merouane Rachidi, P.Geo.

CERTIFICATE OF QUALIFIED PERSON
Claude Duplessis

I, Claude Duplessis, P.Eng., certify that I am employed as a Senior Engineer and Consultant with GoldMinds Geoservices Inc. with an office address of Suite 200 – 2999 Chemin Sainte-Foy, QC G1X 1P7. This certificate applies to the technical report titled "NI 43-101 Technical Report & Preliminary Economic Analysis of the Val-d'Or East Project" that has an effective date of September 7, 2021 (the "Technical Report").

I graduated from the University of Québec with a Bachelor of Applied Science degree in Geological Engineering in 1988. I am a registered member of the Ordre des Ingénieurs du Québec (No. 45523). I am also a registered engineer in the province of Alberta, Ontario, and Newfoundland & Labrador. My relevant experience includes over 25 years of consulting in the field of Mineral Resource estimation, orebody modelling, mineral processing, mine design, mineral resource auditing and geotechnical engineering, cash flow analysis, commodity market and economic analysis.

I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.

I have not visited the Val-d'Or East property. I am responsible for Sections 1.14, 11, 12, 14, 25.2, 25.3, and 26.2 of the Technical Report.

I am independent of Probe Metals Inc. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Val-d'Or East Project.

I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: October 20, 2021

"Signed and sealed"

Claude Duplessis, P.Eng.

CERTIFICATE OF QUALIFIED PERSON
Maude Lévesque Michaud

I, Maude Lévesque Michaud, P.Eng., certify that I am employed as an Engineer with Lamont Inc., with an office address of 51 Quidoz, Sainte-Thérèse, QC, Canada, J7E 4L3. This certificate applies to the technical report titled “NI 43-101 Technical Report & Preliminary Economic Analysis of the Val-d’Or East Project” that has an effective date of September 7, 2021 (the “Technical Report”).

I graduated from the Laval University, Québec City, Qc, in 2010 with a B.Ing. in geological engineering, and from University of Québec in Abitibi-Témiscamingue, Rouyn-Noranda, Qc, in 2016 with a M.Sc.A. in mineral engineering. I am a registered member of the Ordre des Ingénieurs du Québec (OIQ #5015957). I have practiced my profession for 11 years since my graduation. I have been directly involved in exploration fieldworks from grassroots to advanced projects, as well as geochemical and environmental studies.

I have read the definition of “Qualified Person” set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for those sections of the Technical Report that I am responsible for preparing.

I visited the Val-d’Or East property between January 31 and February 2017. I am responsible for Sections 1.20, 20, 25.9, and 26.8 of the Technical Report.

I am independent of Probe Metals Inc. as independence is defined in Section 1.5 of NI 43-101. I have had no previous involvement with the Val-d’Or East Project.

I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: October 20, 2021

“Signed and sealed”

Maude Lévesque Michaud, P.Eng. (OIQ#5015957)

Important Notice

Table of Contents

List of Tables

List of Figures

1 SUMMARY

1.1 Introduction

Probe Metals Inc. (Probe Metals) commissioned Ausenco Engineering Canada Inc. (Ausenco) to compile a preliminary economic assessment (PEA) of the Val-d'Or East Project. The PEA was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and the requirements of Form 43-101 F1.

The responsibilities of the engineering consultants and firms who are providing qualified persons are as follows:

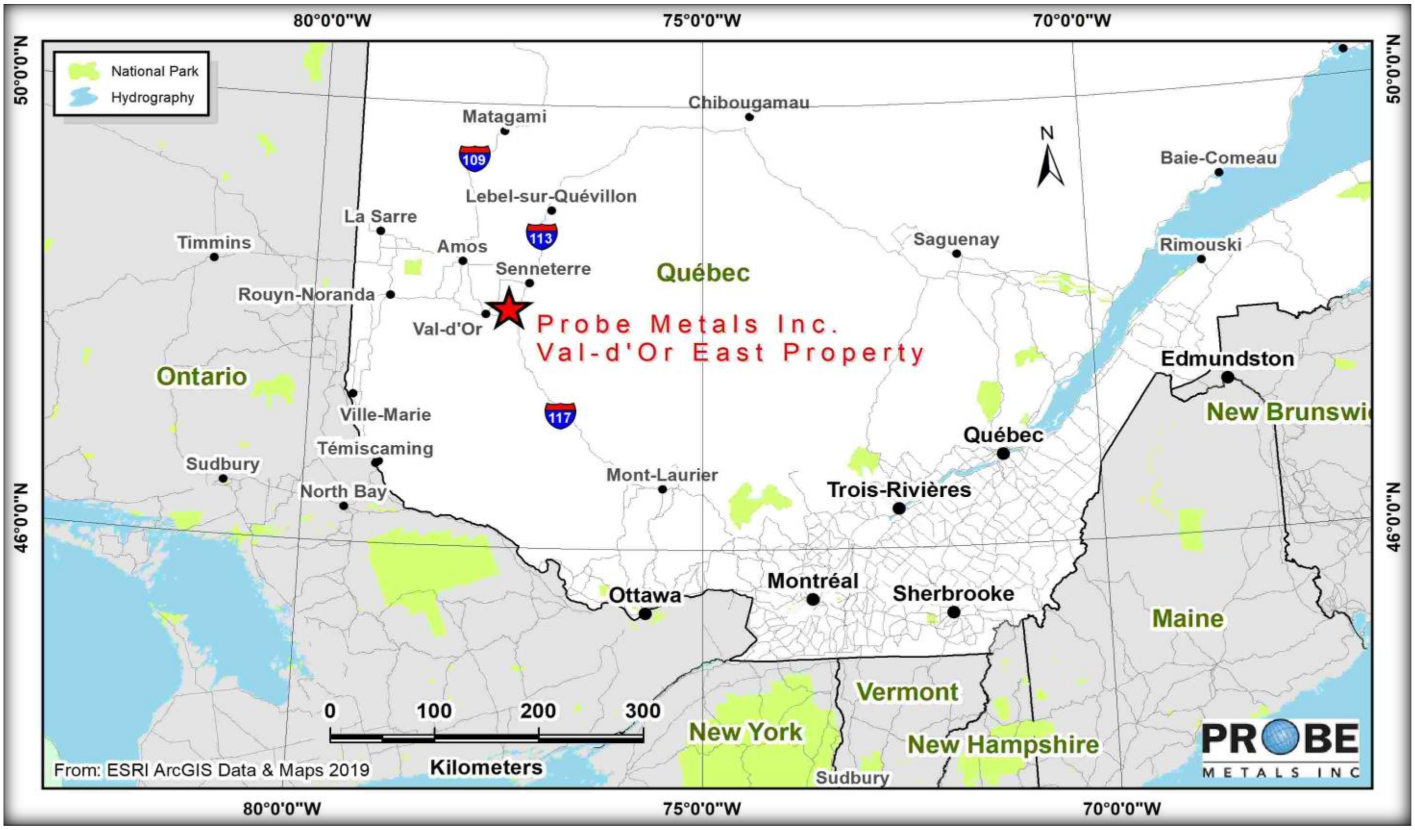
- Ausenco was contracted by Probe Metals to manage and coordinate the work related to the report. Ausenco also developed the PEA-level design and cost estimate for the process plant, general site infrastructure, site water management infrastructure, and conducted an economic analysis.
- Moose Mountain Technical Services (MMTS) was contracted by Probe Metals to design the mine plan and mine production schedule, and to provide mine-related capital and operating costs.
- Geologica Groupe-Conseil Inc. (Geologica) was contracted by Probe Metals to complete work related to property description, accessibility, local resources, geological setting, deposit type, exploration work, drilling, exploration works, sample preparation and analysis, and data verification.
- GoldMinds Geoservices Inc. (GoldMinds) was contracted by Probe Metals to develop the mineral resource estimate.
- Lamont Expert Conseil (Lamont) was contracted by Probe Metals to complete work related to environmental studies, permitting, and social and community impact.

Readers are cautioned that the PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

1.2 Property Description and Ownership

The property is located in Northwestern Québec, approximately 26 kilometres east of the city of Val-d'Or (Figure 1-1). The property is located in portions of the Louvicourt, Pascalis, Senneville and Vauquelin Township in National Topographic System (NTS) map sheets 32C04 and 32C03.

Figure 1-1: Val-d'Or East Property Location



Source: Geologica, 2021.

The property that is the subject of this report consists of three distinct claim blocks. The Pascalis-Courvan-Senore claim block is 100% owned by Probe Metals and is comprised of 401 map-designated mining titles (CDC) and two mining concessions (CM) covering a total area of 16,909.41 hectares (Figure 4-3). The Monique claim block is contiguous to the Pascalis-Courvan-Senore block and is composed of 21 map-designated mining titles (CDC) and one mining lease (BM) covering a total of 550.04 hectares (Figure 4-3). The Lapaska claim block, which is non-contiguous with the Pascalis-Courvan-Senore block, is 100% owned by Probe Metals and is comprised of 21 map-designated mining titles (CDC) covering a total of 352.35 hectares.

Two properties, Cadillac Break East and Megiscane, are not subjects of this report but are part of the Val-d'Or East property. The Cadillac Break East claim block is contiguous with the Lapaska block and is composed of 232 map-designated mining titles (CDC) covering a total of 7,407.8 hectares. Probe Metals has earned a 60% interest in the Cadillac Break East block from O3 Mining Inc. The Megiscane claim block is located 20 km further to the northeast.

1.3 Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Val-d'Or East property can be easily reached from Val-d'Or by travelling approximately 17 km east along Highway 117. The former L.C. Beliveau mine site is approximately 8 km from Highway 117 (6 km north on Perron Road, 2 km east on Pascalis Road, and 200 m south on a gravel road). The former Bussiere mine is also accessible by the Perron Road, about

4 km north from the Highway 117 and then 500 m east on a gravel road. The former Monique mine is about 8 km further east on Highway 117, then north on Carnegie Road for 0.5 km, as shown in Figure 5-1. All the roads are well maintained in all seasons. Several logging roads and trails run through the property, providing easy access to its interior.

The property is very close to the TransCanada Highway (Highway 117). A CN railway line crosses the southern part of the property, connecting east through to Montreal and west through the Ontario Northland Railway to the North American rail network. Val-d'Or has a regional airport with regularly scheduled flights to and from Montreal, and also acts as a hub for flights to the north. Val-d'Or is a six-hour drive north from Montreal, and there is daily bus service between Montreal and the other cities in the Abitibi region. The power lines and telecommunication systems can be easily accessible with the power line feeding the Beaufor mine located only 1 km away from the property limits.

The climate of the Val-d'Or area is continental subarctic and sub-humid (Robitaille and Saucier, 1998). Winters are long and cold, and summers are short. The hottest month is July (17.4°C) and the coldest month is January (-17.2°C) (Government of Canada, 2017a). The temperature is above the freezing point approximately 162 days annually. Total annual rainfall is 929 mm, of which 73% is rain and 27% is snow. The direction of prevailing winds is southwest for most of the year.

Topographic relief on the property is rather flat, ranging from 315 to 355 m above sea level. The area is characterized by low ridges and hills flanked by generally flat areas of glacial outwash and swamps. Overburden thickness varies from 0 to 35 m, with local concentrations of outcrops in a more or less uniformly flat forested plain. The overburden is relatively thin on the different gold zones: 0 to 3 m for Highway, 0 to 10 m for the New Beliveau, 5 to 10 m for the North Zone and the deposits on the Courvan gold trend, and 5 to 15 m for the Monique zones. The overburden consists mainly of sand, gravel, and glacial moraine.

1.4 History

The first claims in the area of the Val-d'Or East property were staked in the fall of 1930. In the southeast part of the Pascalis Block, the first gold occurrences were discovered in 1931. In 1931 and 1932, Noranda excavated a series of trenches and drilled five drill holes on what eventually became known as the No-1 and No-2 showings, pursuant to an option agreement at the time. In 1936, Pascalis Gold Mines completed several drill holes on the No-1 showing, which is today the site of the former L.C. Beliveau mine.

Most of the previous work (prior to Probe Metals) consisted of geological mapping, rock sampling, soil geochemistry, geophysical surveying, trenching, diamond drilling (2,076 holes totalling 303,931 m), the sinking of three shafts (Resenor, L.C. Beliveau, and Bussiere), two underground mining operations (L.C. Beliveau and Bussiere) and the Monique open pit mine. Commercial production at the former L.C. Beliveau mine began in September 1989 and ceased in October 1993 after producing 166,936 ounces of gold. Production statistics averaged 35,296 tonnes per month (i.e., 1,175 t/d for an average annual production of 43,576 ounces of gold per year). Only one mining method was used, namely large diameter longhole open stoping. This low-cost mining method was successfully used due to the excellent geometry of the mineralized zone and the highly competent rock mass, which resulted in low production costs. The average dilution factor during operations was 7%. The average gold recovery was 93.1%.

Commercial production at the former Monique mine began in February 2013 and ceased in January 2015 after producing 51,488 ounces of gold. The average dilution factor during operations was 7% and the average gold recovery was 95.9%.

Commercial production at the former Bussiere mine began in October 1932 and ceased in March 1942 after producing 41,682 ounces of gold. When cyanidation was introduced in 1937, gold recovery was 98%.

1.5 Geology Setting and Mineralization

The Val-d'Or East property is located in the Val-d'Or mining camp within the Southern Volcanic Zone, which is situated in the southeastern part of the Archean Abitibi Greenstone Belt. The Val-d'Or mining camp is well known for its lode gold deposits with more than 25 million ounces of gold produced.

The property is mainly underlain by tholeiitic mafic volcanic rocks in the north and by tholeiitic lavas characterized by the occurrence of very thick volcaniclastic deposits in the south. The orientation of the volcanic rocks on the property ranges from 270° to 292° and dips steeply to the north. Throughout the central portion of the property, the volcanic rocks are crosscut by a series of gabbroic and mafic intrusions along an east-northeast trend. A swarm of subvertical, north-northwest striking diorite dykes also crosscut the volcanic units, and are important hosts of gold mineralization at the Pascalis gold trend. The western portion of the property, formerly the Courvan property, encompasses the eastern contact of the synvolcanic Bourlamaque granodiorite batholith. The contact of the Bourlamaque intrusion is documented to be shallowly dipping to the east, suggesting that this intrusion remains present, eastward under the volcanic rocks, on the Pascalis-Colombiere property.

On the Val-d'Or East property, two main geological settings control the gold mineralization. The first geological setting is associated with quartz-carbonate-tourmaline mesothermal veins both inside and adjacent to dykes and sills which crosscut the volcanic rocks close to east-west trending shear zones. Examples of this type of mineralization on the property are the Pascalis gold trend deposits and the former L.C. Beliveau and Monique mines. The second gold setting is found in the Bourlamaque batholith associated with quartz-carbonate-tourmaline veins that typically have associated coarse-grained, cubic pyrite. The vein systems appear to be spatially related to shear zones and diorite dykes, which crosscut the Bourlamaque batholith. Examples of this type of mineralization on the property are the Courvan gold trend deposits and the former Bussiere mine.

1.6 Deposit Types

Gold mineralization from the Val-d'Or mining camp has been classified as greenstone-hosted quartz-carbonate vein deposits or mesothermal or late-orogenic lode gold deposits associated with shear zones or extensional fractures. The mineralization is associated with regional features (e.g., the Cadillac-Larder Lake Tectonic Zone, regional drag folds, and structural splays), as well as with syn- to late-tectonic intrusive rocks. With the exception of deposits within the large Bourlamaque batholith, gold mineralization is commonly associated with small intrusives and dykes aged 2694 ±2 Ma to 2680 ±4 Ma. The different styles of mineralization range from disseminated sulphides deposits to quartz-tourmaline gold-bearing veins and vein stockwork zones, and the deposits range from early to late tectonic.

Two main geological settings control the gold mineralization in the Val-d’Or East area. The first gold setting is found in the Bourlamaque batholith. Most gold deposits within the Bourlamaque batholith are classified as mesothermal vein-type, which is believed to have formed at 1 to 3 km depth (Poulsen, 1995). The best example is the Beaufor mine, located approximately 2 km north of the property. Since the start of its commercial production in the 1930s, 4,854 kt at an average grade of 7.5 g/t Au were produced, for a total of 1,169 koz of gold recovered (Pelletier & al., 2017). Mineralization consists of quartz-tourmaline-carbonates-pyrite veins shallowly to moderately dipping to the south, hosted in the Bourlamaque granodiorite near the contact with the volcanic rocks of the Dubuisson Formation. As for the Courvan deposits located further south, most of the Beaufor mineralized zones are also located near this contact.

The second geological setting of the Val-d’Or East area consists of quartz-tourmaline mesothermal veins found both inside and adjacent to small intrusives in the altered volcanic rocks. The latter are associated with east-west shear zones. The Pascalis and Monique gold trend zones represent good examples of this style of mineralization. The mineralization observed in the Monique pit area also shows similarities with the mineralization of the old Kerr-Addison mine in Ontario, where gold in competent rocks is found in proximity to ultramafic units near major deformation zones.

1.7 Exploration

In 2020, Probe Metals engaged Abitibi Geophysics from Val-d'Or to conduct an OreVision3DR survey. This survey was performed along 54 profiles (L 72+00E to L 125+00E) to map the resistivity and chargeability properties of the geological formations within the Monique and southern part of Pascalis grid of the Val-d'Or East property.

Abitibi Geophysics applied quality control measures to the collected OreVision3DR data and validated 97.7% of the recorded readings. Most of the readings that did not pass quality control were collected in the heart of an esker; eskers often have a layer of resistive material (sand) directly overlying a more conductive layer. Chargeability readings are affected because of the difficulty in injecting sufficient current into the ground. The most affected lines were L 81+00E to L 91+00E.

The OreVision3DR survey identified distinctive resistive and chargeable axes within the Monique-Pascalis grid. A few shallow resistive zones where basement rocks could be outcropping were found within the southwestern and northwestern corners in the northern part of lines L 88+00E to L 91+00E and L 97+00E, and in the northern part of lines L 111+00E to L 119+00E. The shallow subsurface appears more conductive within most of the western part and the southeastern corner of the survey grid. These zones appear to correspond with low topography areas.

There are several discrete low resistivity trends found on the grid interpreted as potential shear zones (outlined in pink traces on the geophysical interpretation). They are mostly trending between east and east-southeast orientations. Many of the chargeable trends outlined in this study are associated with these low resistivity trends (shear zones) and/or are found within highly resistivity bodies. The target mineralization is associated with quartz rich zones and alteration that may be associated with shear zones.

Following a detailed interpretation of the pseudo-sections and with the help of the recovered vertical sections from the 3D inversion model, 24 distinctive polarizable trends and two isolated sources have been delineated on the Pascalis block. Many of these trends are relatively short, some could plausibly be joined together, and others appear to be the shallower or deeper extensions of neighbouring ones. Some of the northwest-southeast and northeast-southwest faults were also interpreted by Abitibi Geophysics.

1.8 Drilling

From July 2019 to December 2020, Probe Metals completed 279 new drill holes (including seven DDHs for the metallurgical tests) totalling 79,248.75 m on the Pascalis, Courvan and Monique gold trends. A total of 50,667 samples were taken from NQ core size and 3,452 QA/QC controls were inserted during the sampling. The samples were analyzed by ActLabs laboratories in Québec and Ontario and AGAT Laboratory in Ontario. All precious metal analysis were assayed by fire assay (50 g) with atomic absorption or gravimetric finish.

1.9 Sample Preparation, Analyses and Security

The methods for sampling drill core from 1948 to 2008 have changed little over time. Sampling was carried out with sample lengths that typically varied between 0.30 and 1.5 m that did not necessarily coincide with geological boundaries. For drilling programs before 1948, lengths of sampling characteristically show extreme variations from 0.1 to 1.8 m, and sampling was very spotty. A few unreliable holes from this period were discarded for the resource estimates, especially those from the

1930-1940 period. Since 2008, placing sample boundaries at lithological contacts has become standard practice. Each analysis is linked to a geological description in the log. All core sampling between 2008 and 2020 was marked and tagged by a geologist using three-part sample tags supplied by the commercial laboratory. Samples were between 0.5 and 1.5 m in length, and often close to 1 m. A few samples with lengths of less than 0.5 m or more than 1.5 m were taken for different reasons, mainly to understand the distribution of mineralized material. Samples of mineralized material should always be properly bordered by samples of barren material. Should an anomalous value be returned from an isolated sample, the geologist is required to return to the core interval and take additional bordering samples. Samples no more than 1.0 m long were usually taken on the borders of well-mineralized zones to define the mineralized zones more concisely and/or to minimize the extent of sample contamination of non-mineralized intervals by higher-grade mineralized material.

Historical procedures for sample preparation have varied over time. Most drill core samples collected before 2008 were split with manual and hydraulic core splitters. Standard lead fire assay techniques with gravimetric and AA finish were used. No metallic screen analyses were carried out before 2008. For the 2008-2020 exploration programs, a quality control program for sampling and shipping and a QA/QC monitoring program was implemented. Starting in 2008, core logging facilities and a core storage area were established in Val-d'Or and on the former L.C. Beliveau mine site, respectively. Samples were collected and prepared for shipping to the laboratory in a sample room adjacent to the core logging area by a sample technician. After the drill core was sawn, one half was placed into a plastic sample bag along with a sample tag and sealed with a plastic tie wrap. The samples were placed in large rice fibre bags that were sealed and placed on pallets. Samples were picked up at the project site by the commercial laboratory representative or sent directly to the laboratory by the Company.

1.10 Data Verification

The Pascalis, Courvan and Monique historical databases containing diamond drill holes (DDHs) were compiled and imported in GeoticLog format. Probe initially received the Courvan and Monique databases from the previous owner Richmont mines, and reviewed all the coordinates, assay results, and geological data. Other information (Prolog, Excel) is available in paper logs and summarized in the GeoticLog database. Recent drilling campaigns by Probe Metals in 2019-2020 were also integrated in the GeoticLog database.

Geologica and GoldMinds revised, verified, validated and improved the drill hole database, including DDH coordinates, azimuth, dip, hole trajectory and orientation with deviation surveys; validation of all assay results using laboratory certificates and corresponding sample number, core sample mineralized description and interval length, and overlap correction and mineralized intersection averaged assay results.

Probe Metals used an appropriate approach to enter assay results from laboratories in a series of electronic profiles adapted for each type of assay sheet from laboratories. These profiles eliminate the potential for human error during data transfer.

In order to use the historical drill holes to classify resources in the indicated and measured categories, it is important that the location and the assay results be as reliable as those that have been recently drilled by Probe. Thus, an elaborate verification and validation program was performed.

The Pascalis historical drill holes were first verified and validated in 2012 by SGS, as part of the first NI 43-101 mineral resource estimate performed on the New Beliveau, North Zone and Highway deposits. About 5% of the past drilling data was checked through the availability of the old logs. Eighty-two inconsistencies were found from 1,715 assays verified, for an error percentage of about 5%, and these were corrected in the database (SGS NI 43-101 Technical Report, 2013). More recently, prior to the actual resource estimate, an exhaustive review of the historical surface and underground drill holes in the database was carried out. Of the 980 holes drilled after 1980 and located in the resource areas, 779 geological logs containing the gold analyses were checked by Probe Metals. The surveyed coordinates of 766 drill hole collars were found directly in the geological logs and only very few discrepancies were noted. The collars were mostly surveyed by mine technicians. It is important to note that all the surface and underground drill holes in the immediate vicinities of the former underground Beliveau mine were used by Cambior to determine historical mining reserves and to explore the nearby North and Highway deposits. Therefore, the Pascalis historical holes used in the present resource estimate are considered of high quality.

During the spring of 2020, the survey certificates as well as the assay certificates for gold analysis were compiled and verified for all Monique and Courvan historical holes. The collar locations of 110 out of 424 Monique historical holes were retrieved on the field and surveyed in 2010 and 2011 by Richmont Mines, before completing the first NI 43-101 resource estimate on the Monique project. In the case of Courvan project, the collar locations of 23 historic holes out of 92 were retrieved and surveyed in 2004 and 2006 by Richmont Mines. The original survey certificates were retrieved and the coordinates in the database were verified. In addition, a few drill holes were randomly selected by GoldMinds and the collars were located on the field and the coordinates checked by Probe Metal's geologist. This verification gave high confidence in the coordinates and location of the drill hole collars. For the gold assays, all the available original assay laboratory certificates from the historical holes were also retrieved and compiled by GoldMinds. Only few certificates of gold analysis were missing, and the minor differences found between the values in the database and the certificates were corrected. Again, this detailed verification gave high confidence that the assay results in the database were well supported. It was thus decided to use all of the 424 Monique holes and 92 Courvan holes after 1980 to classify the gold resource.

1.11 Mineral Processing and Metallurgical Testing

The results of the Beliveau metallurgical test programs indicate that gold could be extracted by (1) gravity and leaching of gravity tails; or (2) gravity, flotation of gravity tails and leaching of gravity concentrate and flotation concentrate. The absence of a gravity circuit in the flowsheet decreases the performance of the process. The preferred option for a standalone process plant is recovery of gold by gravity and leaching of gravity tails. This provides a minimum overall gold extraction of 95% and is an easier process to control and operate.

Testing completed in 2019 by both Corem and BBA indicates the ore is amenable to X-ray transmission ore sorting with gold recovery ranging from 94% to 99% for mass pulls ranging from 40% to 75%. Based on historical experience with ore sorting applications at other similar deposits, a conservative gold recovery of 75% into a mass recovery of 25% was carried in the ore sorting circuit design.

Additional comminution, leaching, gravity and flotation testing was also conducted in 2021 to assess the relative metallurgical performance of the Beliveau, North Zone, Courvan, Highway, and Monique deposits. With the exception of Highway, all of the deposits exhibited similar metallurgical responses that correlated with head grade. The metallurgical recovery of the Highway deposit was modelled independently of the other deposits.

1.12 Mineral Resource Estimate

1.12.1 Val-d'Or East Mineral Resource Estimates

The mineral resource estimates produced by GoldMinds as part of this technical report are shown in Tables 1-1 to 1-3 and Figure 1-2. Table 1-1 combines the resources of the Pascalis, Courvan and Monique gold trends (shown in Figures 1-3, 1-4 and 1-5, respectively); Table 1-2 lists the resources of the other properties; and Table 1-3 provides a detailed resource estimate. Any mined-out volumes from the former Bussiere, Beliveau, and Monique mines were removed from the estimated resources.

Table 1-1: Val-d'Or East Property (100% Interest)

All Deposits / Category	Pit-Constrained Resources			Underground Resources			Total Resources		
	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)
Measured	5,111,000	2.12	347,600	660,000	2.43	51,500	5,771,000	2.15	399,100
Indicated	21,404,000	1.56	1,072,700	2,602,000	3.08	257,900	24,006,000	1.72	1,330,600
Measured & Indicated	26,515,000	1.67	1,420,300	3,262,000	2.95	309,400	29,777,000	1.81	1,729,700
Inferred	20,702,000	1.58	1,053,800	8,230,000	3.43	906,500	28,932,000	2.11	1,960,400

Source: Geologica & GoldMinds, 2021.

Table 1-2: Val-d'Or East Other Properties

Deposit / Category	Pit-Constrained Resources			Underground Resources			Total		
	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)
Lapaska[1] Total Inferred	512,000	1.47	24,200	460,000	3.19	47,200	972,000	2.28	71,300
Senore Total Inferred	549,000	1.78	31,400	38,000	2.68	3,300	587,000	1,84	34,700
Sleepy[2] Total Inferred				1,113,000	4.70	167,900	1,113,000	4.70	167,900

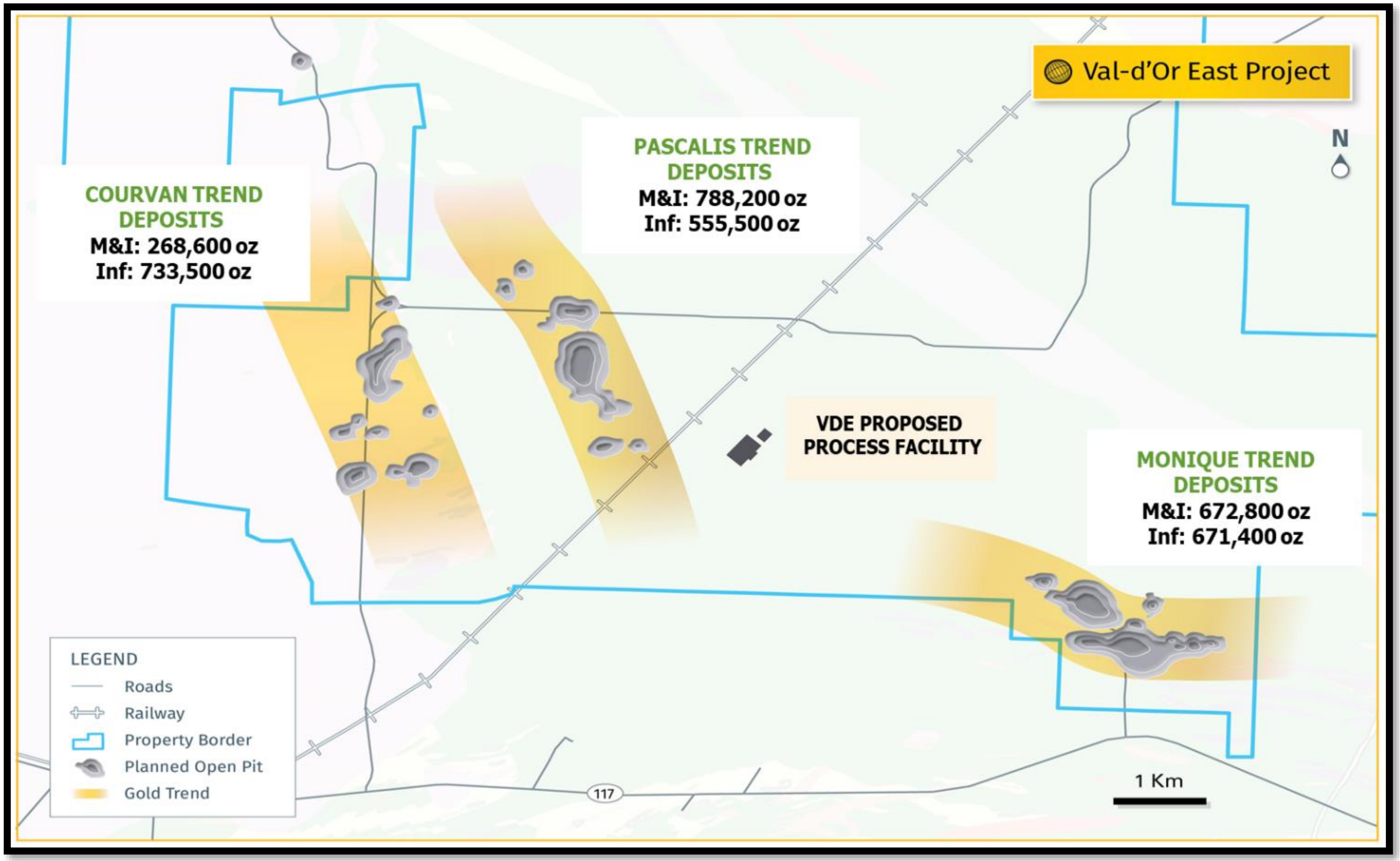
Notes: 1 NI 43-101 Technical Report Val-d'Or East Project – October 2019, 100% interest. 2 NI 43-101 Technical Report Sleepy Project – December 2014, 60% interest. Source: Geologica & GoldMinds, 2021.

Table 1-3: Val-d'Or East Property – Detailed Resources

Deposit / Category	Pit-Constrained Resources			Underground Resources			Total		
	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)
Pascalis Gold Trend									
Measured	4,491,000	2.20	317,300	640,000	2.40	49,400	5,131,000	2.22	366,700
Indicated	6,307,000	1.76	356,500	766,000	2.64	65,000	7,073,000	1.85	421,500
Measured & Indicated	10,798,000	1.94	673,800	1,406,000	2.53	114,400	12,204,000	2.01	788,200
Inferred	6,007,000	1.63	315,500	2,694,000	2.77	239,900	8,701,000	1.99	555,500
Monique Gold Trend									
Measured	--	--	--	--	--	--	--	--	--
Indicated	12,388,000	1.38	548,000	1,231,000	3.15	124,800	13,619,000	1.54	672,800
Inferred	9,082,000	1.41	411,000	2,651,000	3.06	260,400	11,733,000	1.78	671,400
Courvan Gold Trend									
Measured	620,000	1.52	30,300	20,000	3.22	2,100	640,000	1.57	32,400
Indicated	2,710,000	1.93	168,200	604,000	3.50	68,000	3,314,000	2.22	236,200
Measured & Indicated	3,330,000	1.85	198,500	624,000	3.49	70,100	3,954,000	2.11	268,600
Inferred	5,613,000	1.81	327,300	2,885,000	4.38	406,200	8,498,000	2.68	733,500
Lapaska Deposit									
Inferred	512,000	1.47	24,200	460,000	3.19	47,200	972,000	2.28	71,300
Senore Deposit									
Inferred	549,000	1.78	31,400	38,000	2.68	3,300	587,000	1,84	34,700
Sleepy Deposit									
Inferred				1,113,000	4.70	167,900	1,113,000	4.70	167,900

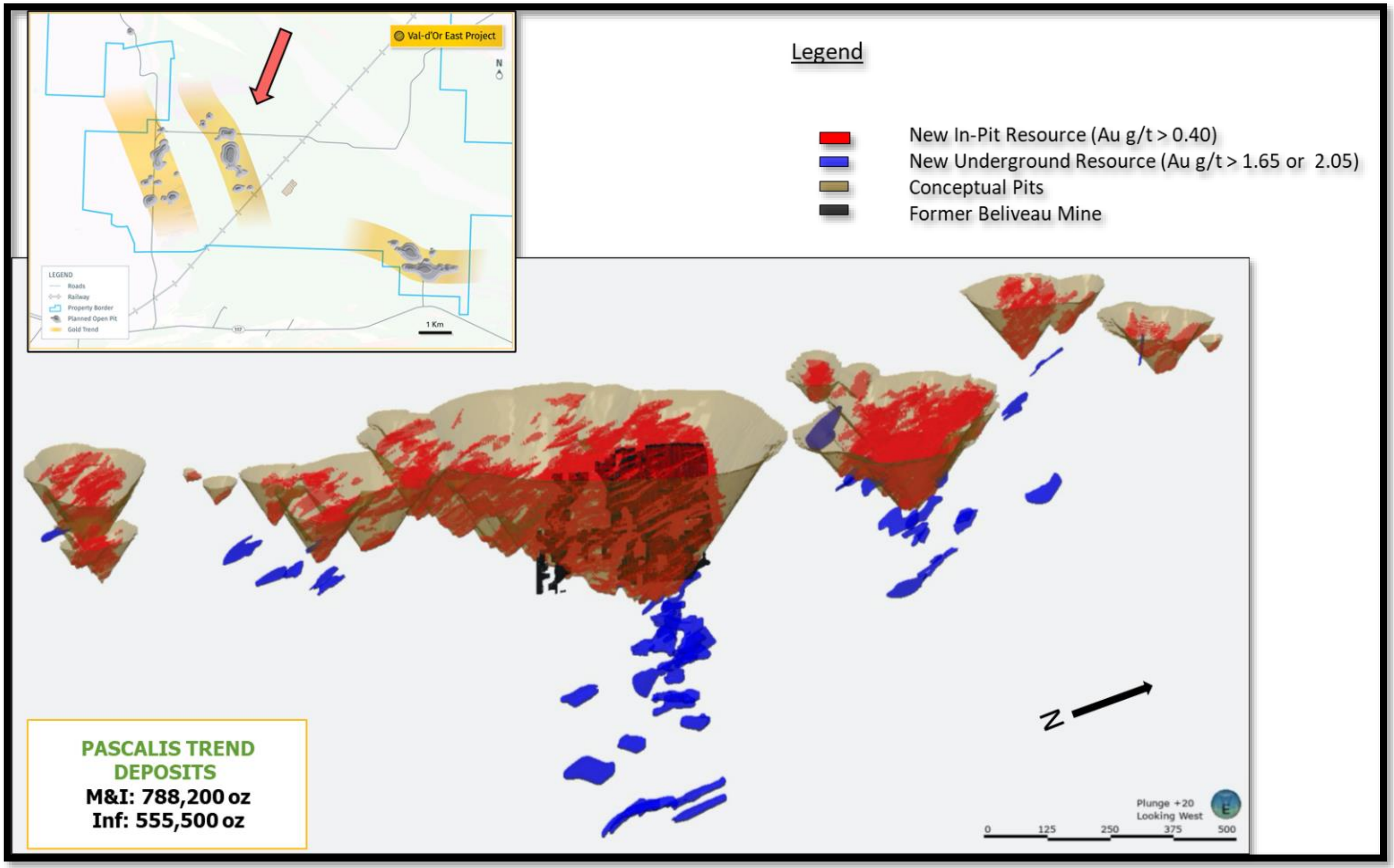
Notes: **1.** Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, market or other relevant issues. The quantity and grade of reported Inferred Resources are uncertain in nature and there has not been sufficient work to define these inferred resources as indicated or measured resources. **2.** The database used for this mineral estimate includes drill results obtained from historical records and up to the recent 2020 drill program. **3.** The pit-constrained updated mineral resources are reported at a cut-off grade of 0.42 g/t Au for the Monique deposit and 0.40 g/t for the other deposits. These cut-offs were calculated at a gold price of US$1,600 with an exchange rate of 1.333 USD/CAD per troy ounce. They were based on the following parameters: mining cost $3.00/t or $3.50/t, processing + G&A costs $21.50/t, transport cost to the central processing facility based on distance on existing roads at $0.15/t.km, Au recovery 95%, pit slopes from 48° to 59° as per the press release of February 23rd, 2021. 4. The underground mineral resources were based on two main mining methods, long-hole retreat at $82/t depending on width of stopes, and mechanized cut and fill at $110/t and the same above ground unit cost as for the pit-constrained scenario, resulting in cut-off grades of 1.65 and 2.05 g/t Au. These cut-off grades were then used to delineate continuous underground mineral shapes above the calculated cut-off grades. Blocks within those underground mineral shapes that are below the cut-off were included as dilution material and the grade reported represents the average of all underground mineral shapes thus delineated. **5.** The geological interpretation of the deposits was based on lithologies and the observation that mineralized domains occur either within or proximal to sub-vertical dykes, deformation zones or as low dipping quartz tourmaline vein sets. **6.** The mineral resource presented here were estimated with a block size of 5 m x 5 m x 5 m for the Monique pit-constrained mineral resource and a block size of 2.5 m x 2.5 m x 2.5 m for all others. **7.** The blocks were interpolated from equal length composites calculated from the mineralized intervals. Prior to compositing, high-grade gold assays were capped (capping maximum ranges from 28 to 100 g/t Au depending on the deposit). Depending on the deposit, the composites were 1.0 m or 1.5 m. **8.** The mineral estimation was completed using the inverse distance to the square methodology utilizing three passes. For each pass, search ellipsoids followed the geological interpretation trends were used. **9.** The mineral resources have been classified under the guidelines of the CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council (2019), and procedures for classifying the reported mineral resources were undertaken within the context of the Canadian Securities Administrators NI 43-101. **10.** In order to accurately estimate the resources, underground voids (shaft, ramp and drifts) and the existing pits were subtracted from the mineralized bodies modelled prior to the pit optimization. **11.** Tonnage estimates are based on measured rock densities by gold trend: 2.82 t/m^3 for the Courvan gold trend, 2.83 for the Pascalis gold trend and 2.88 for the Monique gold trend. Results are presented undiluted and in situ for the pit-constrained resources and diluted for the underground resources. **12.** This mineral resource estimate is dated June 1, 2021 and the cut-off date for the drill hole database used to produce this updated mineral resource estimate is May 8, 2021. Tonnages and ounces in the table are rounded to nearest thousand and hundred respectively. Numbers may not total due to rounding. Source: Geologica & GoldMinds, 2021.

Figure 1-2: Surface Map Pascalis, Courvan and Monique Trends Gold Deposits



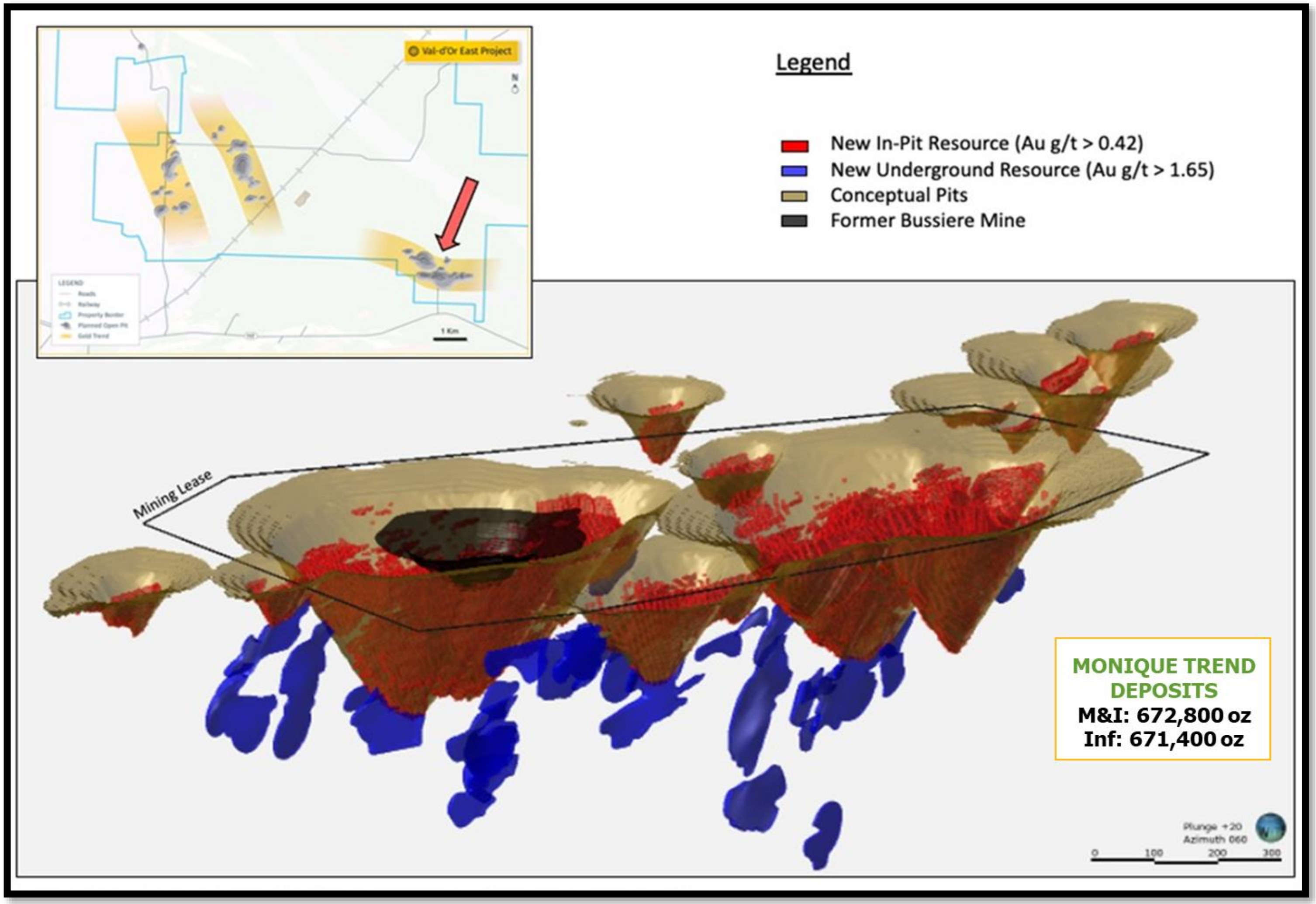
Source: Probe Metals, 2021.

Figure 1-3: Block Model 3D View – Pascalis Gold Trend Area



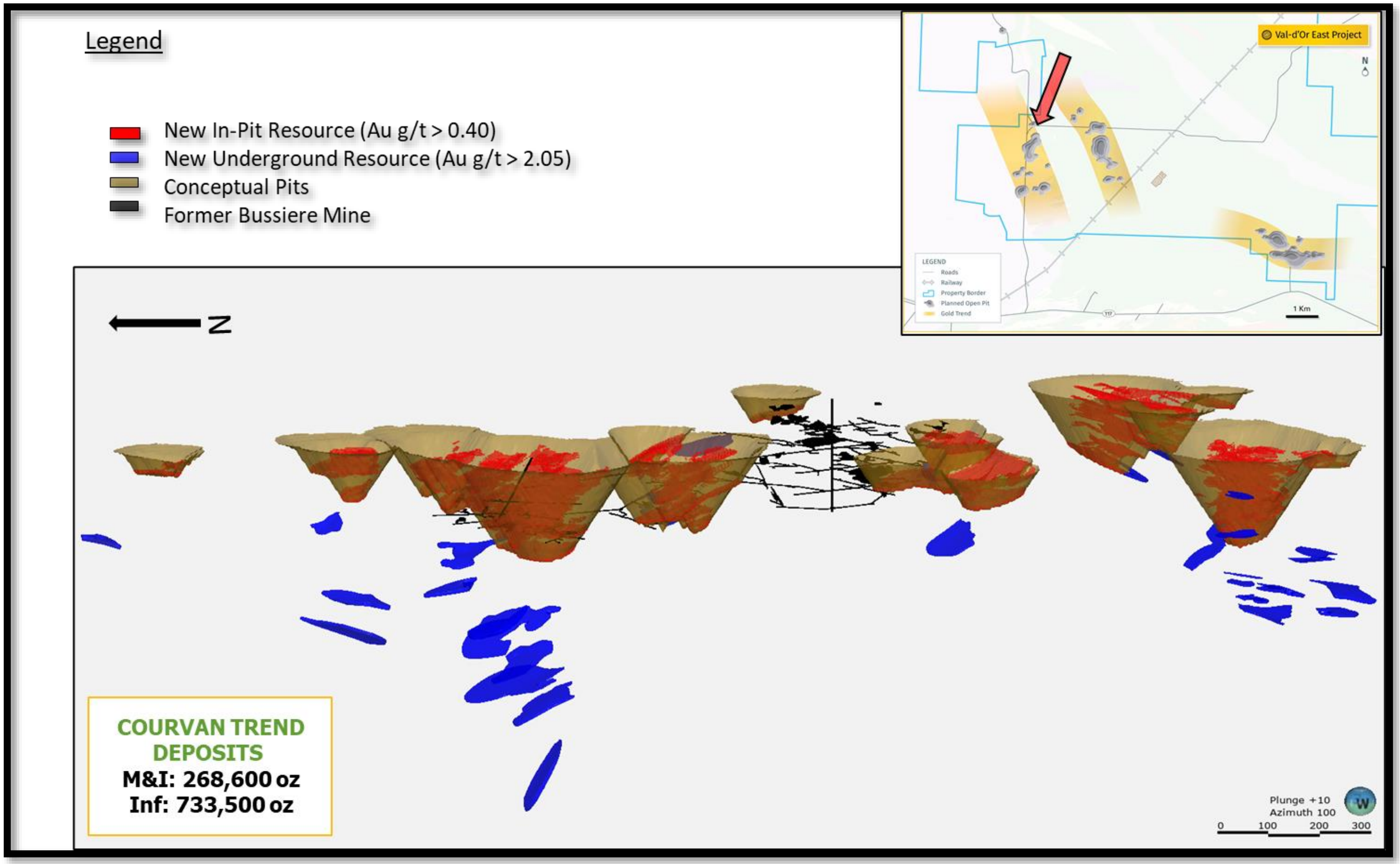
Source: Probe Metals, 2021.

Figure 1-4: Block Model 3D View – Monique Gold Trend Area



Source: Probe Metals, 2021.

Figure 1-5: Block Model 3D View – Courvan Gold Trend Area



Source: Probe Metals, 2021.

In addition to the above stated mineral resource estimate, it was identified that by applying ore sorting to mineralized waste with significantly more conservative gold recoveries than obtained in the metallurgical testwork additional mineral material may be extracted from the mineralized waste and thus become additional mineral resource on the Project. The additional mineral resource from marginal material using ore sorting is presented in Table 1-4.

Table 1-4: Additional Pit Constrained Resource from Ore Sorting

Resources Category	Tonnes	Grade (Au g/t)	Gold (oz)
Measured	996,000	0.32	10,300
Indicated	5,799,000	0.33	60,900
Measured & Indicated	6,795,000	0.33	71,200
Inferred	7,438,000	0.31	75,300

Notes: This additional pit-constrained mineral resource represents low-grade material between a cut-off of 0.25 g/t and the cut-off grade of 0.40 or 0.42 g/t Au of the pit-constrained mineral resource. This lower cut-off was based on the following parameters: ore sorting cost $2.00/t, gold recovery in the ore sorting process of 75% with an overall gold recovery with gravity and leaching at 68%, and mass recovery in the ore sorting process of 40%. Source: Geologica & GoldMinds, 2021.

1.12.2 Additions to the Current Resource Estimate Relative to the 2019 Resource Estimate

The 2019 mineral resource estimate hosted an NI 43-101 measured and indicated resource of 0.87 million ounces of gold and an inferred resource of 2.56 million ounces of gold. Since the 2019 estimate, 74,662 metres have been drilled.

Using a gold price of US$1,600 per ounce, the updated NI 43-101 mineral resource hosts a measured and indicated resource of 1.80 million gold ounces, and an inferred resource of 2.31 million gold ounces, net to Probe Metals, representing an increase of 18% in size and an increase of 108% in the measured and indicated category. A total of 84% of the 2021 measured and indicated resources are pit-constrained.

1.13 Mineral Reserve Estimate

Mineral reserve estimates are not applicable at a PEA-level study.

1.14 Mining Methods

Mining is done utilizing a conventional open pit mining approach using 11 m^3 excavators and 90-tonne class haul trucks on 10 m benches, along with underground mining. Underground mining areas are accessed from the lower portions of the mined-out areas and are mined using mechanized drift and fill (MDF) or longhole retreat (LHR) methods. Mill feed from each open pit or underground mining area is delivered to stockpiles near the pit rims, to the ore-sorting facility, or to the process plant. Material haulage to the process plant of ore-sorted product or stockpile reclaim product is done using smaller highway-sized haul trucks with a 40-tonne capacity. Waste rock and overburden/topsoil storage areas are planned near each pit area.

An annual mill feed rate of 3,650 kt is targeted for the mining schedule. Mill feed is comprised of measured, indicated and inferred resource material (9%, 42% and 49%, respectively). Cut-off grades used in the mine schedule are outlined in the Table 1-5.

Table 1-5: Mine Schedule Cut-off Grades

Destination	Au (g/t)
Ore Sorting	0.25 – 0.8
Direct Feed to Process Plant	≥ 0.8

Source: MMTS, 2021.

Stockpiling is utilized to maximize grades during the first years. Ore sorting of material from the open pits starts in Year 4 of production. A total of 45.2 Mt of material is processed at an average delivered gold grade of 1.88 g/t for a mine production life of 12.5 years. Open pit material comprises 84% of the total mill feed; the remainder is from underground mining. Total waste mined is 367 Mt.

1.15 Recovery Methods

The project flowsheet has been selected based on recovery methods required for processing Val-d'Or East material, supported by preliminary testwork and financial evaluations. The unit operations selected are typical for this industry.

The plant design consists of two construction phases to achieve the best capital and operating costs throughout the life of mine. These phases are as follows:

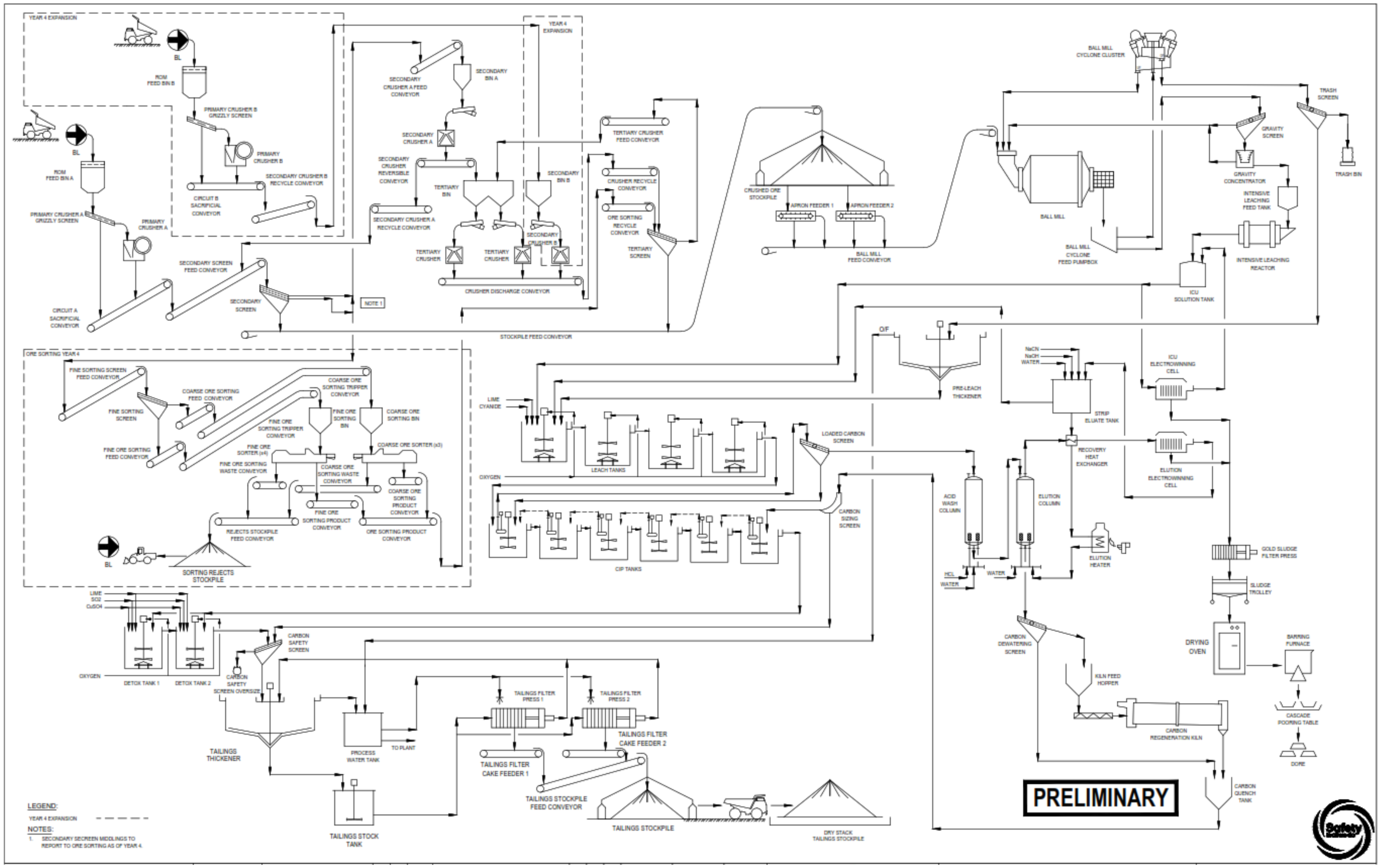
- Phase 1 – Comprises three-stage crushing of run-of-mine (ROM) material, a covered stockpile, ball mill, gravity concentration, leaching, carbon-in-pulp (CIP), carbon acid wash and elution, cyanide destruction of tails, tailings thickening, filtration and dry stacking.
- Phase 2 – Includes Phase 1 equipment with the addition of X-ray transmission (XRT) ore sorters, primary crusher, secondary crusher, fine ore sorting screen, ore sorting waste (rejects) stockpile, and materials handling equipment such as conveyors for upgrading low-grade mineralized material.

The key process design criteria are listed below:

- Phase 1 mill throughput of 10,000 t/d or 3.65 Mt/a
- Phase 2 crushing circuit throughput of 16,746 t/d (10,000 t/d for Circuit A and 6,746 t/d for Circuit B)
- Phase 2 mill throughput of 10,000 t/d or 3.65 Mt/a
- crushing plant availability of 65% or 5,694 h/y
- grinding plant availability of 92% or 8,059 h/y
- tailings filtration plant availability of 82% or 7,183 h/y

An overall process flow diagram showing the unit operations in the selected process flowsheet is presented in Figure 1-6.

Figure 1-6: Val-d'Or East Overall Process Flow Diagram



Source: Ausenco, 2021.

1.16 Infrastructure

The major project facilities include the access road, process plant, waste rock storage facility (WRSF), dry stack tailings facility (DSTF), other infrastructure for tailings management, mill basin, ore stockpile, and the effluent treatment plant. Support facilities also displayed include the gold room, the assay and metallurgical laboratory, truckshop, the maintenance shop and warehouse, the office complex, and the security gatehouse. The overall site layout is shown in Figure 1-7.

1.16.1 Access

Property access is described in Section 1.5. Development of the Courvan and Pascalis pits will require the existing Pascalis and Tiblemont–Louvicourt roads to pass through the blasting radius. Consequently, portions of these two public roads will be relocated so they are at least 1 km away from the open pit blast radius.

1.16.2 Power Supply

Primary power will be supplied to the Val-d'Or East site by Hydro-Québec via a high-voltage overhead transmission line that terminates at the plant's outdoor substation. Emergency power will be generated on site by diesel-powered standby generators that are optimally sized and located near the critical electrical consumers. During the Year 4 expansion to underground mining and ore sorting, a substation and reticulation upgrade is planned.

1.16.3 Dry Stack Tailings Facility

A single DSTF will be constructed west of the process plant for storage of tailings produced from mineral processing. The DSTF will store approximately 45.1 Mt of tailings over the life of the project. Structural stability of the facility will be provided by compacting the tailings in thin lifts along with exterior slopes of 3:1 (H:V) to also limit infiltration of water into the tailings following placement. Surface water run-off and seepage from the facility will be conveyed and stored in sediment/seepage management ponds, to be located northwest and southeast of the DSTF. A progressive engineered cover is considered in closure, to promote surface run-off, mitigate sediment management, and limit seepage.

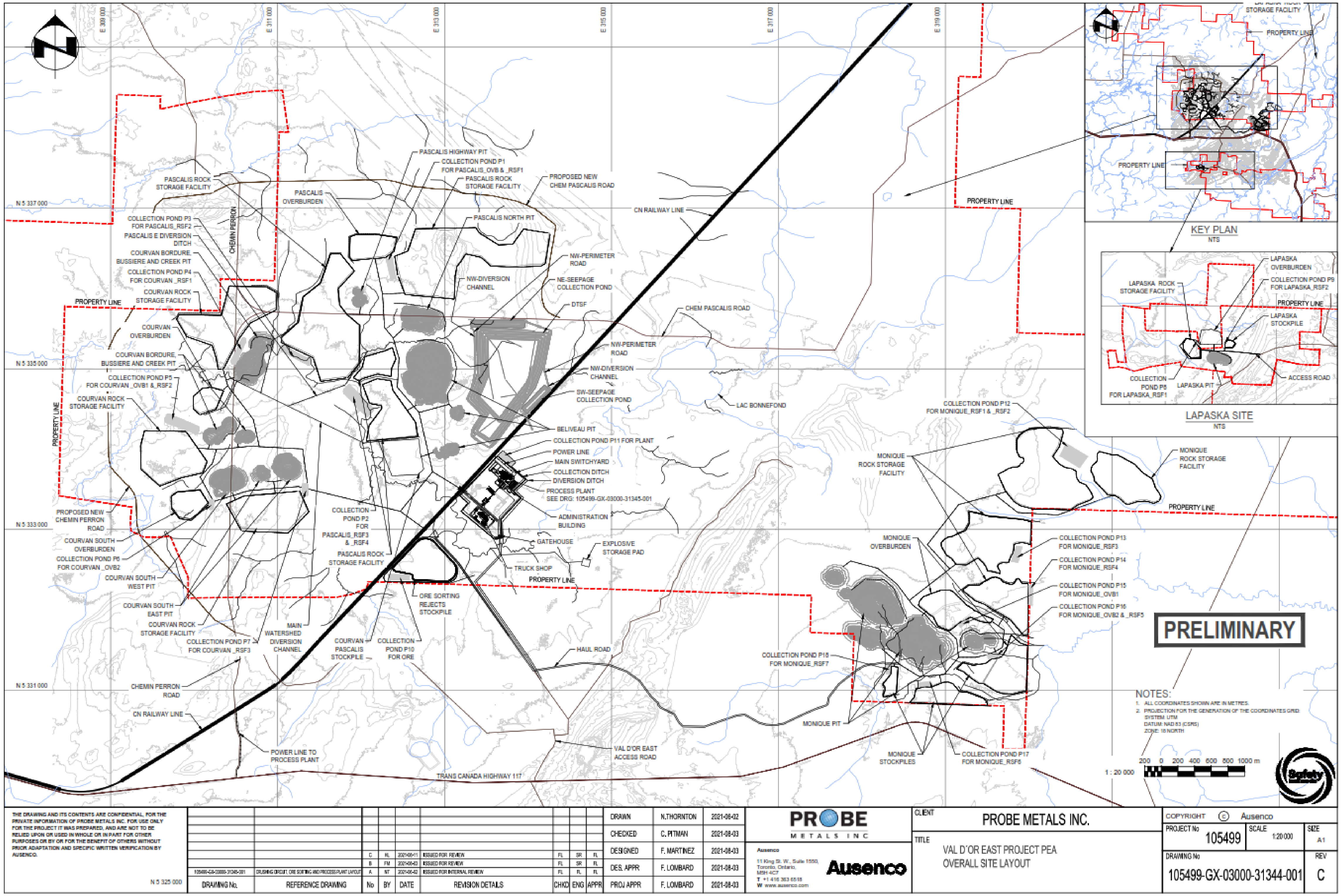
1.16.4 Waste Rock Storage Facility

Waste rock and overburden/topsoil storage facilities are planned at each site for waste materials from the open pit. In general, design considerations assumed an overall reclaimed slope of 2:1 and a swell factor of 30%. All stockpiles and rock storage facilities are planned to avoid existing waterbodies and water courses or fish-bearing streams.

1.16.5 Water Management

The proposed water management structures for the Val-d'Or East project will include a series of diversion channels and ditches, as well as collections ditches and ponds. Contact runoff from the plant site, rock storage facilities, and overburden storage areas will be stored in collection ponds to be either treated and released to the environment or reused for process purposes. A high-level estimate of excavation volumes was also completed using the proposed geometries of the structures and elevation profile along the alignment of channels and ditches.

Figure 1-7: Overall Site Layout



Source: Ausenco, 2021.

1.17 Market Studies and Contracts

Probe Metals has not completed any formal marketing studies regarding gold production from mining and processing Val-d'Or East ore into doré bars. Gold production is expected to be sold on the spot market. Terms and conditions included as part of the sales contracts are expected to be typical of similar contracts for the sale of doré throughout the world.

For this technical report, a conservative gold price of US$1,500/oz was assumed and a CAD:USD exchange rate of 1.00 CAD to 0.75 USD was used.

Probe Metals has not entered into, nor is currently negotiating, any material contracts; however, Probe Metals plans to contract out the transportation and refining of doré gold bars. The PEA assumes a refining and transportation charge of C$2.50/oz of gold and 99.95% payability for gold content, comparable to similar indicative terms reported by other mining operations in the region.

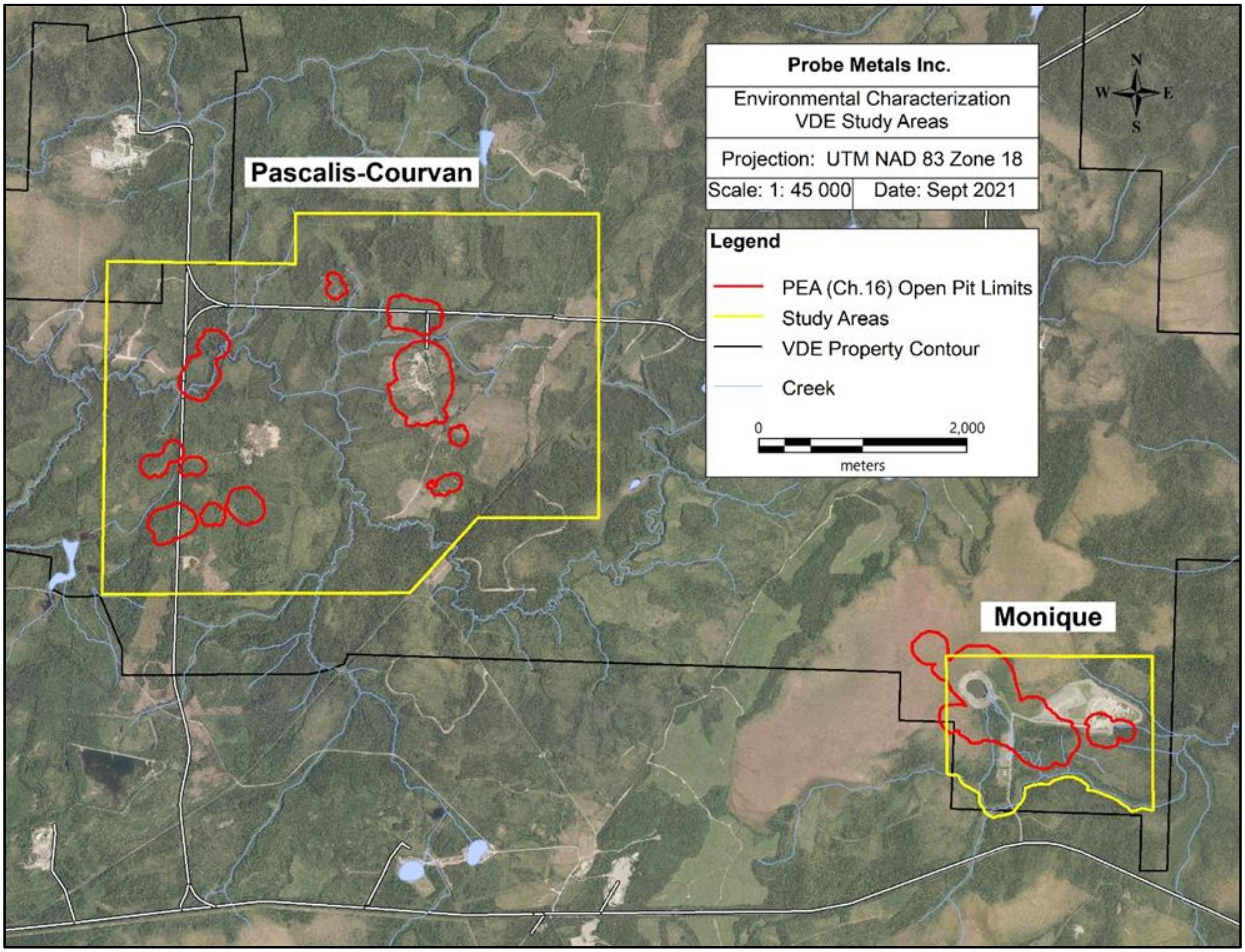
1.18 Environmental Studies, Permitting and Social or Community Impact

The construction, operation, and closure of the mine is subjected to a number of laws and regulation at the federal, provincial, and municipal levels. Under the new *Impact Assessment Act* (IAA 2019), only projects designated by the Regulations Designating Physical Activities (DORS/2019-285) are subjected to the environmental assessment procedure. Thus, an environmental assessment under the IAA 2019 is required for a project that involves the construction, operation, decommissioning, and abandonment of a new gold mine (other than a placer mine) with an ore production capacity of 5,000 t/d or more. This is the case for the Val-d'Or East project.

Since 2017, Probe Metals has initiated a series of environmental studies with SNC Lavalin to understand the environmental constraints on portions of the Pascalis and Courvan resource zones. The Pascalis-Courvan area was largely covered by the studies carried out in 2017, 2018 and 2020, for a total of 1,533 ha (Figure 1-8). The actual report is also based on the observations and conclusions of the environmental study completed by Aecom for Richmont Mines in 2010 and 2011, which covered an area of 539 ha including the former Monique open pit mine infrastructures (Aecom, 2011). In all cases, the permitting process would require an understanding of both the physical (surface water, groundwater, air, noise), biological (fauna and flora), and human environments and would also include an evaluation of impacts with proposed mitigation measures.

Consultations and information with stakeholders about the project should include a range of stakeholders, including municipal and political organizations, economic actors, environmental groups, nearby cottagers and homeowners, and the Algonquin Anishinabeg Nation of Lac-Simon. As part of their exploration programs, Probe Metals has started to consult and to inform with some of the stakeholders, including the Algonquin Anishinabeg Nation of Lac-Simon and the nearby cottagers and homeowners.

Figure 1-8: Pascalis-Courvan and Monique Environmental Study Areas



Source: Lamont, 2021.

1.19 Capital and Operating Costs

1.19.1 Capital Cost Estimate

The capital cost estimate conforms to Class 5 guidelines for a PEA-level estimate with a ±50% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International). The capital cost estimate was developed in Q3 2021 Canadian dollars based on Ausenco's in-house database of projects and studies as well as experience from similar operations.

The capital cost estimate includes the cost of open pit and underground development, permanent equipment, equipment packages, modular equipment, material purchase, installation, subcontracts, indirect costs, as well as Owner's costs, and provisions. The cost estimate is based on an engineering, procurement, and construction management (EPCM) implementation approach.

The following information pertains to the estimate:

- expressed in Canadian dollars (C$ or CAD)
- exchange rate of 0.75 (CAD:USD)
- accuracy of ±50%
- no allowance has been made for escalation or exchange rate fluctuations.

The total initial capital cost for the Val-d'Or East Project is C$353 million and the life-of-mine sustaining cost is C$602 million. Closure costs are estimated at C$30 million. The initial capital cost summary is presented in Table 1-6.

Table 1-6: Initial Capital Costs

WBS	WBS Description	Initial Capital Cost (C$M)	Sustaining Capital Cost (C$M)
1000	Mining	71.6	489.7
2000	On-site Infrastructure	50.0	26.9
3000	Process Plant	129.4	36.3
4000	Off-site Infrastructure	4.2	0.0
	Total Directs	255.2	552.9
5000	Project Indirects	9.1	2.8
6000	Project Delivery	31.2	7.9
7000	Owner's Costs	11.4	0.0
8000	Provisions	45.6	38.0
	Total Indirects	97.3	48.7
	Project Total	**352.6**	**601.6**

Source: Ausenco, 2021

1.19.2 Operating Cost Estimate

The operating cost is presented in Q3 2021 Canadian dollars (CAD, C$). The accuracy of the operating cost estimate is ±50%. The estimate includes mining, processing, general and administration (G&A), mobile equipment, and the dry stack tailings facility.

The overall annual life-of-mine processing plant operating cost after the Phase 2 expansion, not including mining, is $59.0 million over the 13-year mine life or $16.19/t of ore milled.

The overall life-of-mine operating cost, including mining, processing, and G&A is $2,658 million or $58.81/t of ore milled.

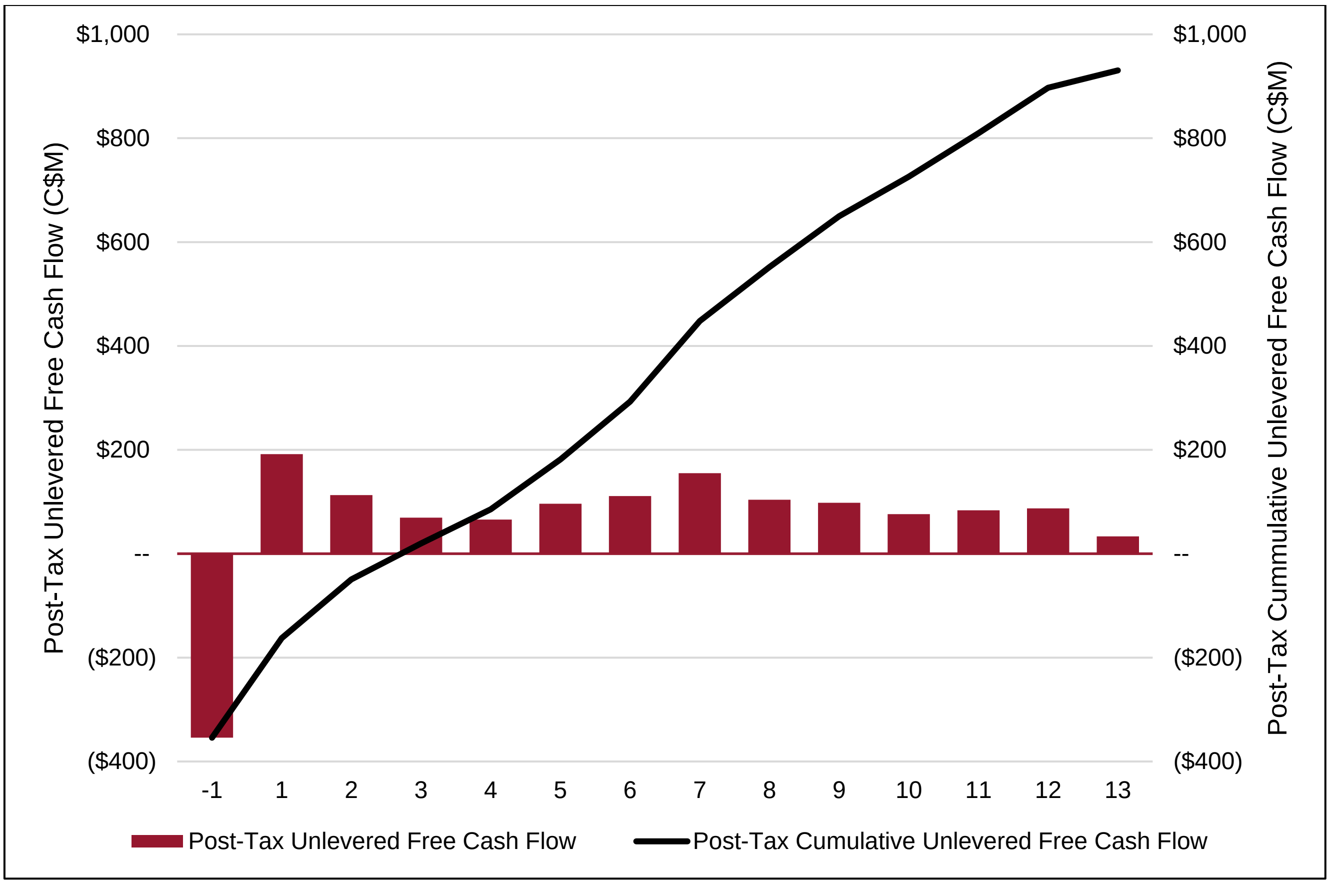
1.20 Economic Analysis

The economic analysis was performed assuming an 5% discount rate. Cash flows have been discounted to the start of construction, assuming that the project execution decision will be made, and major project financing will be carried out at this time.

The pre-tax NPV discounted at 5% is C$991 million; the internal rate of return IRR is 47.2%; and payback period is 1.8 years. On a post-tax basis, the NPV discounted at 5% is C$598 million; the IRR is 32.8%; and the payback period is 2.7 years.

A summary of project economics is shown graphically in Figure 1-9 and listed in Table 1-7.

Figure 1-9: Project Economics



Source: Ausenco, 2021.

Table 1-7: Economic Analysis Summary

General	LOM Total / Avg.
Gold Price (US$/oz)	$1,500
Exchange Rate (CAD:USD)	0.75
Mine Life (years)	12.5
Total Waste Tonnes Mined (kt)	366,924
Total Mill Feed Tonnes (kt)	45,199
Strip Ratio	6.42x
Production	
Mill Head Grade (g/t)	1.88
Mill Recovery Rate (%)	94.7%
Total Mill Ounces Recovered (koz)	2,584
Total Average Annual Production (koz)	207
Operating Costs	
Mining Cost (C$/t Mined)	$4.49
Processing Cost (C$/t Milled)	$13.26
G&A Cost (C$/t Milled)	$2.72
Refining & Transport Cost (C$/oz)	$2.50
Total Operating Costs (C$/t Milled)	$58.81
Cash Costs (US$/oz Au)	$786
AISC (US$/oz Au)	$965
Capital Costs	
Initial Capital (C$M)	$353
Sustaining Capital (C$M)	$602
Closure Costs (C$M)	$30
Salvage Costs (C$M)	($13)
Financials	
Pre-Tax NPV (5%) (C$M)	$991
Pre-Tax IRR (%)	47.2%
Pre-Tax Payback (years)	1.8
Post-Tax NPV (5%) (C$M)	$598
Post-Tax IRR (%)	32.8%
Post-Tax Payback (years)	2.7

Notes: * Cash costs consist of mining costs, processing costs, mine-level G&A, refining charges, and royalties. ** AISC includes cash costs plus sustaining capital, closure costs, and salvage value. Source: Ausenco, 2021.

A sensitivity analysis was conducted on the base case pre-tax and post-tax NPV and IRR of the project, using the following variables: gold price, discount rate, foreign exchange, operating cost, and initial capital cost.

Table 1-8 summarizes the post-tax sensitivity analysis results.

Table 1-8: Post-Tax Sensitivity Summary

Gold Price	Post-Tax NPV (5%)	Initial Capital Cost		Operating Cost		Foreign Exchange	
US$/oz	Base Case	(-20%)	(+20%)	(-20%)	(+20%)	(-20%)	(+20%)
$1,300	$288	$357	$219	$528	$10	$789	($92)
$1,400	$444	$513	$375	$680	$186	$977	$58
$1,500	$598	$667	$529	$831	$357	$1,161	$205
$1,600	$751	$820	$682	$979	$513	$1,344	$340
$1,700	$902	$970	$833	$1,125	$668	$1,525	$470
$1,800	$1,051	$1,120	$982	$1,271	$821	$1,705	$598
Gold Price	Post-Tax IRR (5%)	Initial Capital Cost		Operating Cost		Foreign Exchange	
US$/oz	Base Case	(-20%)	(+20%)	(-20%)	(+20%)	(-20%)	(+20%)
$1,300	19.1%	26.4%	14.2%	29.3%	5.6%	40.8%	-
$1,400	26.2%	35.1%	20.2%	35.6%	14.6%	48.6%	8.0%
$1,500	32.8%	43.3%	25.8%	41.8%	22.6%	56.2%	15.2%
$1,600	39.2%	51.4%	31.2%	47.8%	29.7%	63.7%	21.5%
$1,700	45.5%	59.3%	36.5%	53.7%	36.4%	71.1%	27.3%
$1,800	51.6%	67.0%	41.6%	59.6%	43.0%	78.4%	32.8%

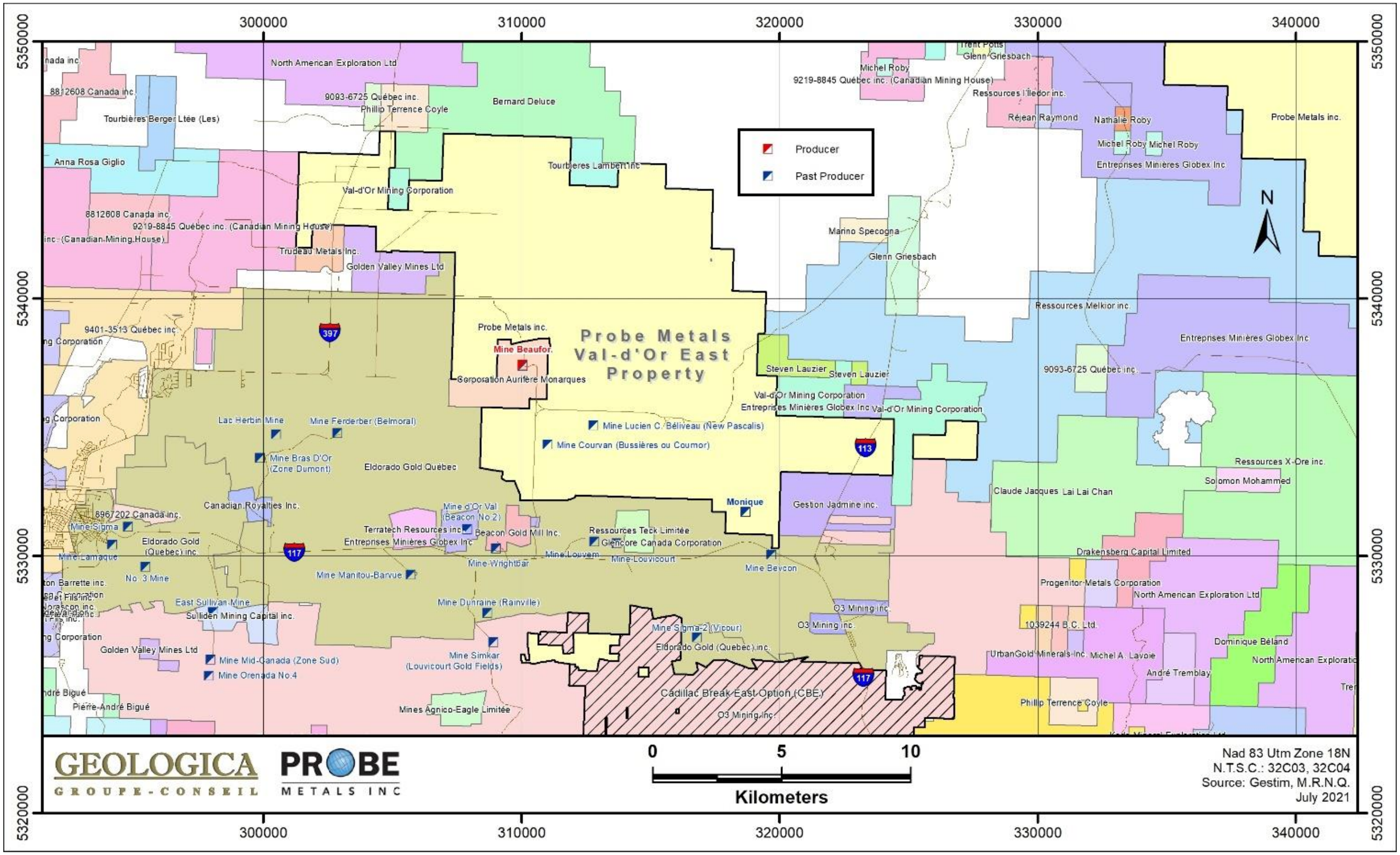
Source: Ausenco, 2021.

1.21 Adjacent Properties

The Val-d'Or East property is conveniently located in the heart of the Val-d'Or mining camp. Several mining companies are in operation around the property (Figure 1-10).

Immediately to the west is the former Beaufor underground mine that produced over 1 million ounces of gold using long hole and room and pillar mining methods. Measured and indicated resources of 431,100 metric tonnes grading 6.68 g/t Au (92,700 ounces of gold) and inferred resources of 134,600 metric tonnes grading 6.96 g/t Au (30,100 ounces of gold) were reported (Monarch Mining Corp., Press Release, January 28, 2021).

Figure 1-10: Adjacent Properties



Source: Geologica, 2021.

Eldorado Gold Québec Inc. owns a large claim block to the south and west of the property on which many past and recent mines have been operated:

- Ferderber Mine – Production (1979-1994): 1,710,102 tonnes at 6.46 g/t Au
- Dumont Mine (Bras d'Or) – Production (1980-1993): 1,106,812 tonnes at 6.24 g/t Au
- Louvem Mine – Production (1970-1978): 2,358,200 tonnes at 0.21% Cu, 5.59% Zn, 34.29 g/t Ag and 0.69 g/t Au
- Bevcon-Buffadisson Mines – Production (1951-1965): 3,493,243 tons at 4.35 g/t Au and 1.9 g/t Ag (407,409 oz Au and 145,500 oz Ag). Recently, a resource estimation (BBA, NI 43-101 Technical Report, dated January 15, 2021) was completed on the Bonnefond South property utilizing a cut-off grade of 0.60 g/t Au. Indicated resource of 7,418,000 tonnes at 1.67 g/t Au (397,100 oz Au) and inferred resource of 3,335,000 tonnes at 2.71 g/t Au (290,800 oz Au) were calculated.
- Louvicourt Mine – Production (1995-2001): 13,865,841 tonnes at 3.52% Cu, 1.53% Zn, 25.88 g/t Ag and 0.92 g/t Au
- Lac Herbin – Production (2008-2016): 1.2 Mt at 4.6 g/t Au (172,650 oz Au).

Several other junior exploration companies and prospectors, such as Golden Valley Mines, Melkior Resources, and Gestion Jasmine Inc., hold claim blocks around the property.

1.22 Other Relevant Data and Information

Probe Metals received all the required work permits to conduct drilling activities, construct access routes for diamond drilling and stripping/trenching activities, as well as to clear lumber on the claims holdings.

The Monique property is the site of the former Monique open pit. Reclamation is still ongoing with re-vegetation of the waste stockpile.

1.23 Conclusions

The total measured and indicated resources for the Val-d'Or East project are estimated at 29.8 Mt at a grade of 1.81 g/t Au for an estimated 1.7 Moz of contained gold. Additional inferred resources are estimated to be 28.9 Mt at a grade of 2.11 g/t Au for a total of 2.0 Moz.

Based on the assumptions and parameters presented in this report, the PEA shows positive economics (i.e., C$598 million post-tax NPV (5%) and 32.8% post-tax IRR). The PEA supports a decision to carry out additional detailed studies.

1.24 Recommendations

1.24.1 Overall

The results presented in this technical report demonstrate that the Val-d'Or East project is technically and economically viable. It is recommended to continue developing the project through additional studies, including a pre-feasibility study. Table 1-9 summarizes the proposed budget to advance the project through the pre-feasibility study stage.

Table 1-9: Proposed Budget Summary

Description	Cost (C$M)
Geology	$20.8
Metallurgical Testing & Recovery Methods	$0.4
Mining	$0.3
Hydrology	$0.1
Site-wide Geotechnical	$1.8
Dry Stack Tailings Facility	$0.2
Environmental and Social	$1.9
Total	$25.5

Source: Ausenco, 2021.

1.24.2 Geology

Geologica and GoldMinds recommend additional work be carried out to continue exploring the property, to enhance the economic potential of the New Beliveau deposit and the rest of the Val-d'Or East Property, and to continue to advance the project with further drilling programs, metallurgical work, and environmental and engineering studies. Additional drilling is recommended to test other known occurrences, to test new target areas, and to continue to assess the overall potential of the property. Geologica and GoldMinds believe the character of the property is of sufficient merit to justify an exploration and development program.

The authors responsible for the relevant portion of this report believe that there is reasonable potential to find new discoveries on the property. Geologica and GoldMinds recommend extending the Pascalis, Courvan and Monique integrated geological and structural model for the overall property and conducting additional exploration work (stripping, mapping, geophysics and drilling) while continuing to de-risk the project in parallel with advanced technical studies and metallurgical investigations.

Additional drilling is recommended to test other known occurrences and new target areas, and to continue to assess the overall potential of the property. Geologica and GoldMinds believe the character of the property is of sufficient merit to justify the recommended exploration and development program described below. The cost for next phase of work (Table 1-9) is estimated to be C$20,815,000, including 15% for contingencies.

1.24.3 Metallurgical Testing & Recovery Methods

Additional ore sorting testwork is recommended in the next project phase as the gold grade is variable; additional testing could confirm the performance and achieve consistent results. Variability tests should be performed on large sample sizes on ores from different deposits and domains.

The following testwork is recommended:

- conduct ore sorting throughput tests to confirm the feed rate that can be maintained without compromising the sorting performance, which may decrease the number of sorters required
- comminution testing should be carried out on the Val-d'or East deposits to determine if they are similar to Beliveau
- prepare a sampling plan that provides representative samples of each zone and their major domains and lithologies using a geo-metallurgical approach
- carry out additional ore competency and grindability tests. Conduct JK Tech SMC tests (Axb) for SAG mill design, Bond ball mill and abrasion index tests for each of samples identified
- conduct E-GRG (extended gravity concentration) testing on composite samples identified
- further cyanide leach testing, without lead nitrate additions, should be carried out to include composites from each deposit to identify optimum grind size, retention time, and reagent addition rates (if gravity concentration is beneficial, leach tests should be conducted on gravity tailings)
- conduct leach tests on variability samples identified using optimized conditions
- carry out cyanide destruction testing on an overall composite sample to establish reagent addition rates and retention time for the required cyanide weak acid dissociable concentration required in the tailings stream
- carry out solids liquids separation testing to establish thickener unit area requirements under optimal flocculant dosage and the slurry flow properties of the thickened solids
- carry out tailings filtration testwork to determine filtration rates and moisture content of filter cake
- cost for the ore sorting component of the recommendation is estimated to be in the range of $50,000 and $75,000; the cost of the remaining typical gold plant testwork is estimated to be $325,000.

1.24.4 Mining

MMTS recommends that the project proceeds to a pre-feasibility study phase that includes the following work programs:

- optimization of open pit and underground pit limits
- detailed phase designs
- drilling and blasting study

- schedule optimization to examine backfill opportunities
- ore sorting cut-off grade optimization
- mining equipment size trade-off study.

The cost of the above work is estimated at C$250,000.

1.24.5 Hydrology

A detailed rainfall runoff model for on-site streams is needed for future phases of the work. The cost of the rainfall runoff model is estimated at C$110,000.

1.24.6 Site-wide Geotechnical

Site-wide (including open pits) geotechnical investigations and laboratory testing program are recommended to support the design of the infrastructure and open pits for the pre-feasibility study phase. Recommended geotechnical work includes the following:

- geotechnical and hydrogeological drilling and test pits program to investigate and confirm foundation conditions (specifically the extent of the colluvial apron), characteristics and depth to bedrock and open pit slope design parameters
- test pits and drilling to confirm suitability and availability of borrow materials for embankment construction
- geophysics to determine groundwater levels, depth to bedrock below the surface and downhole surface (open pit boreholes only)
- laboratory geotechnical testing (including compaction tests) and strength and permeability tests on potential borrow materials for construction and rock strength properties for pit slope design
- laboratory geochemical testing to determine potential reactivity of tailings and from on-going waste characterization studies to determine design options for tailings deposition
- geochemical characterization of tailings.

The estimated cost of the above work is C$1,800,000.

1.24.7 Dry Stack Tailings Facility

The following work on the DSTF is recommended for the next study phase:

- perform deterministic and probabilistic local seismic hazard study for the development of design seismic for infrastructure
- develop seepage predictions and seepage control measures for the DSTF

- update the tailings deposition strategy to optimize material handling, including trafficability of material handling equipment for the DSTF
- carry out a stability analysis for a final stacking plan using updated data about the material properties for the DSTF
- perform a liquefaction assessment with updated information on material properties and updated stacking plan for the DSTF
- develop a design, engineering calculations, and drawings for the DSTF including water management structures
- develop material take-offs for the DSTF.

The estimated cost of the above work is C$180,000.

1.24.8 Environmental and Public Information and Consultation

In anticipation of submitting the Val d'Or East project to an environmental assessment, the following studies should be carried out during the pre-feasibility phase. These studies will also make it possible to ensure that the development of the project limits the impacts on the receiving environment.

- Identify stakeholders and begin public information, consultation and a plan for participation
- Installation of surface water monitoring stations to sample and analyze water for metals and other parameters and to gather information on the flow.
- Begin inventories for fauna, flora and species at risk in predefined study areas.
- Installation of piezometers in a predefined study area to sample groundwater for metals and other parameters and to identify the hydrogeology local and regional contexts.
- Perform the baseline for the soil according with the regulation from the MELCC.
- Perform the geochemical characterization of waste rock, ore, overburden and tailings according with federal and provincial regulations.

The estimated cost of the above work is C$1,900,000.

2 INTRODUCTION

Probe Metals Inc. (Probe Metals) commissioned Ausenco Engineering Canada Inc. (Ausenco) to compile a preliminary economic assessment (PEA) of the Val-d'Or East Project. The PEA was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 (NI 43-101) and the requirements of Form 43-101 F1.

The responsibilities of the engineering consultants and firms who are providing qualified persons are as follows:

- Ausenco was contracted by Probe Metals to manage and coordinate the work related to the report. Ausenco also developed the PEA-level design and cost estimate for the process plant, general site infrastructure, site water management infrastructure, and conducted an economic analysis.
- Moose Mountain Technical Services (MMTS) was contracted by Probe Metals to design the mine plan and mine production schedule, and to provide mine-related capital and operating costs.
- Geologica Groupe-Conseil Inc. (Geologica) was contracted by Probe Metals to complete work related to property description, accessibility, local resources, geological setting, deposit type, exploration work, drilling, sample preparation and analysis, and data verification.
- GoldMinds Geoservices Inc. (GoldMinds) was contracted by Probe Metals to develop the mineral resource estimate.
- Lamont Expert Conseil (Lamont) was contracted by Probe Metals to complete work related to environmental studies, permitting, and social and community impact.

2.1 Terms of Reference

The report supports disclosures by Probe Metals in a news release dated September 7, 2021 entitled "Probe Metals Announces Positive PEA for Val-d'Or East Project; Average Annual Production of 207,000 ounces, After-Tax NPV5% of C$598M, and IRR of 32.8%".

Readers are cautioned that the PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

2.2 Qualified Persons

The qualified persons (QPs) for this technical report are as follows:

- Tommaso Roberto Raponi, P.Eng. (OIQ temporary permit No.6043399) of Ausenco
- Ali Hooshiar Fard, P.Eng. (OIQ No. 6043599) of Ausenco
- Jesse Aarsen, P.Eng. (EGBC No. 38709) of MMTS

- Alain-Jean Beauregard, P.Geo. (OGQ No. 227) of Geologica
- Daniel Gaudreault, P.Eng. (OIQ No. 39834) of Geologica
- Merouane Rachidi, P.Geo. (OGQ No. 1792) of GoldMinds
- Claude Duplessis, P.Eng. (OIQ No. 45523) of GoldMinds
- Maude Lévesque Michaud, P.Eng. (OIQ No. 5015957) of Lamont

By virtue of their education, experience, and professional association, the individuals presented in Table 2-1 are considered QPs as defined by NI 43-101. Report sections for which each QP is responsible are also listed in Table 2-1. The QPs meet the requirement of independence defined in NI 43-101.

Table 2-1: Qualified Person Site Visits

Qualified Person	Professional Designation	Position	Employer	Independent of Probe Metals	Report Section
Tommaso Roberto Raponi	P.Eng.	Senior Mineral Processing Specialist	Ausenco	Yes	1.1, 1.13, 1.15, 1.17, 1.18, 1.19, 1.21, 1.22, 1.24, 2, 3, 13, 15, 17, 18.1, 18.7, 18.8, 18.9, 18.10, 18.11, 19, 21 (except 21.2.2.1.1 and 21.2.5.1.1), 22, 24, 25.1, 25.5, 25.6, 25.7, 25.8, 25.10, 25.11, 25.12, 25.13.1.1, 25.13.1.3, 25.13.2.2, 25.14, 26.1, 26.3, 27
Ali Hooshiar	P.Eng.	Senior Geotechnical Engineer	Ausenco	Yes	18.4, 18.5, 18.6, 25.7, 25.13.1.4, 25.13.2.3, 26.5, 26.6, 26.7
Jesse Aarsen	P.Eng.	Vice President and Principal	MMTS	Yes	1.16, 16, 18.2, 18.3, 21.2.2.1.1, 21.2.5.1.1, 25.4, 25.13.1.2, 25.13.2.1, 26.4
Alain-Jean Beauregard	P.Geo.	Senior Geologist	Geologica	Yes	1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.12, 1.23, 4, 5, 6, 7, 8, 9, 10, 12, 23, 25.2, 25.3, 26.2
Daniel Gaudreault	P.Eng.	Senior Engineer	Geologica	Yes	1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.23, 4, 5, 6, 7, 8, 9, 10, 11, 12, 23, 25.2, 25.3, 26.2
Merouane Rachidi	P.Geo.	Geologist	GoldMinds	Yes	1.14, 11, 12, 14, 25.2, 25.3, 26.2
Claude Duplessis	P.Eng.	Senior Engineer and Consultant	GoldMinds	Yes	1.14, 11, 12, 14, 25.2, 25.3, 26.2
Maude Lévesque Michaud	P.Eng.	Engineer	Lamont	Yes	1.20, 20, 25.9, 26.8

Source: Ausenco, 2021.

2.3 Site Visits and Scope of Personal Inspection

A summary of the site visits completed by the QPs is presented in Table 2-2.

Table 2-2: Qualified Person Site Visits

Qualified Person	Date of Site Visit	Days on Site
Tommaso Roberto Raponi, P. Eng.	Has not visited Site	-
Ali Hooshiar, P.Eng.	Has not visited Site	-
Jesse Aarsen, P.Eng	September 27-28, 2021	2
Alain-Jean Beauregard, P.Geo.	October 8, 2020	1
Daniel Gaudreault, P. Eng.	October 8, 2020	1
Merouane Rachidi, P.Geo.	July 18, 2019	1
Claude Duplessis, P.Eng.	Has not visited Site	-
Maude Lévesque Michaud, P.Eng.	January 31 and February 1, 2017	2

Source: Ausenco, 2021.

2.3.1 Geology

Alain-Jean Beauregard, Daniel Gaudreault, and Merouane Rachidi visited the Val-d'or East project site to review the property geology, drill hole collar locations, and core library.

2.3.2 Mining

Jesse Aarsen, visited the Val-d"Or East project site to review the property access, ground conditions in the mining areas, and historical open pit workings.

2.4 Effective Date

This technical report has a number of significant dates as follows:

- Val-d'or East mineral resource estimate: June 1, 2021
- Financial analysis: September 7, 2021

The effective date of this report is based on the date of the financial analysis, which is September 7, 2021.

2.5 Information Sources & References

This technical report is based on internal company reports, maps, published government reports, and public information as listed in Section 27. Additionally, it is based on information cited Section 3.

2.6 Previous Technical Reports

The Val-d'Or East project has been the subject of previous technical reports, as summarized in Table 2-3.

Table 2-3: Summary of Previous Technical Reports

Reference	Company	Name
Geologica & GoldMinds, 2021	Probe Metals	2021 NI 43-101 Technical Report for VDE Project

Source: Ausenco, 2021.

2.7 Currency, Units, Abbreviations and Definitions

All units of measurement in this report are metric and all currencies are expressed in Canadian dollars (C$ or CAD) unless otherwise stated. Contained gold metal is expressed as troy ounces (oz), where 1 oz = 31.1035 g. All material tonnes are expressed as dry tonnes (t) unless stated otherwise. A list of abbreviations is provided in Table 2-4.

Table 2-4: List of Abbreviations

Acronym/ Abbreviation	Definition	Acronym/ Abbreviation	Definition
ABA	acid base accounting	Agency	Impact Assessment Agency of Canada
AMD	acid mine drainage	ANFO	ammonium nitrate fuel oil
AP	acidity potential	BAPE	Bureau d'audiences publiques sur l'environnement
CCME	Canadian Council of Ministers of the Environment	CND	contaminated neutral drainage
CNWA	*Canadian Navigable Waters Act*	CPNDQ	Centre due patrimoine naturel du Québec
DFO	Fisheries and Oceans Canada	ECCC	Environment and Climate Change Canada
EIA	Environmental Impact Assessment	EIARP	Environmental Impact Assessment and Review Process
EIS	Environmental Impact Statement	EQA	*Environmental Quality Act*
IA	impact assessment	IAA	*Impact Assessment Act, 2019*
LQE	Loi sur la qualité de l'environnement	MDMER	Metal and Diamond Mining Effluent Regulations
MEFCC	Ministry of Environment and Fight Against Climate Change	MELCC	Ministère de l'Environnement et de la Lutte contre les changements climatiques
MERN	Ministère de l'Énergie et des ressources naturelles	MFFP	Ministère de la Faune, des Forêts et des Parcs
NP	neutralization potential	NPR	Neutralization potential ratio
ON	Ontario	PCA	Parks Canada Agency
PM2.5	fine particulate matter	PM10	inhalable particulate matter
Project	Val-d'Or East Project	QC	Québec
SARA	*Species at Risk Act*	TC	Transport Canada
TISG	Tailored Impact Statement Guidelines	DSTF	dry stack tailings facility
µm	micron	km	kilometre
°C	degree Celsius	km^2	square kilometre
°F	degree Fahrenheit	L	litre
°	azimuth/dip in degrees	m	metre
µg	microgram	m	meter
a	annum	M	mega (million)

Acronym/ Abbreviation	Definition	Acronym/ Abbreviation	Definition
Au	gold	m^2	square metre
C$ or CAD	Canadian dollars	m^3	cubic metre
cal	calorie	min	minute
cm	centimetre	masl	metres above sea level
d	day	mm	millimetre
ft	foot or feet	NO_x	nitrogen oxide gases produced by diesel vehicles
g	gram	oz/t, oz/st	ounce per short ton
G	giga (billion)	oz	Troy ounce (31.1035 g)
g/L	gram per litre	ppb	parts per billion
g/t	gram per tonne	ppm	part per million
ha	hectare	%	percent
hp	horse power	s	second
in	inch or inches	ton, st	short ton
kg	kilogram	t, tonne	metric tonne
km	kilometre	US$ or USD	United States dollar
km^2	square kilometre	yr	year

Source: Ausenco, 2021.

3 RELIANCE ON OTHER EXPERTS

3.1 Introduction

The QPs have relied upon the following other expert reports, which provided information regarding mineral rights, surface rights, property agreements, royalties, taxation, and marketing for sections of this Report.

3.2 Property Agreements, Mineral Tenure, Surface Rights and Royalties

The QPs have not independently reviewed ownership of the Project area and any underlying property agreements, mineral tenure, surface rights, or royalties. The QPs have fully relied upon, and disclaim responsibility for, information derived from Probe Metals and legal experts retained by Probe Metals for this information through the following documents: various e-mail exchanges with Probe Metals representatives, excel spreadsheets, previously completed work reports available on the MERN website, and documents filed on SEDAR by Probe Metals.

This information is used in Section 4 of the Report. The information is also used in support of the cut-off grade assumptions (royalties) for the mineral resource estimate (Section 14), and economic analysis (Section 22).

3.3 Taxation

The QPs have fully relied upon, and disclaim responsibility for, information supplied by experts retained by Probe Metals for information related to taxation as applied to the financial model, received by email from Probe Metals on August 30, 2021. This information is used in Section 22.

3.4 Markets

The QPs have not independently reviewed the marketing information. The QPs have fully relied upon, and disclaim responsibility for, information derived from Probe Metals and experts retained by Probe Metals for this information.

This information is used in Section 19 of the Report. The information is also used in support of Section 22.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Location

The Val-d'Or East property, which is the subject of this report, is located in Northwestern Québec, approximately 26 kilometres east of the city of Val-d'Or (Figure 4-1). The property is located in portions of the Louvicourt, Pascalis, Senneville and Vauquelin Townships in National Topographic System (NTS) map sheets 32C04 and 32C03 (Figure 4-2). The approximate UTM coordinates for the geographic centre of the property is 314000E and 5336000N (Zone 18, NAD83).

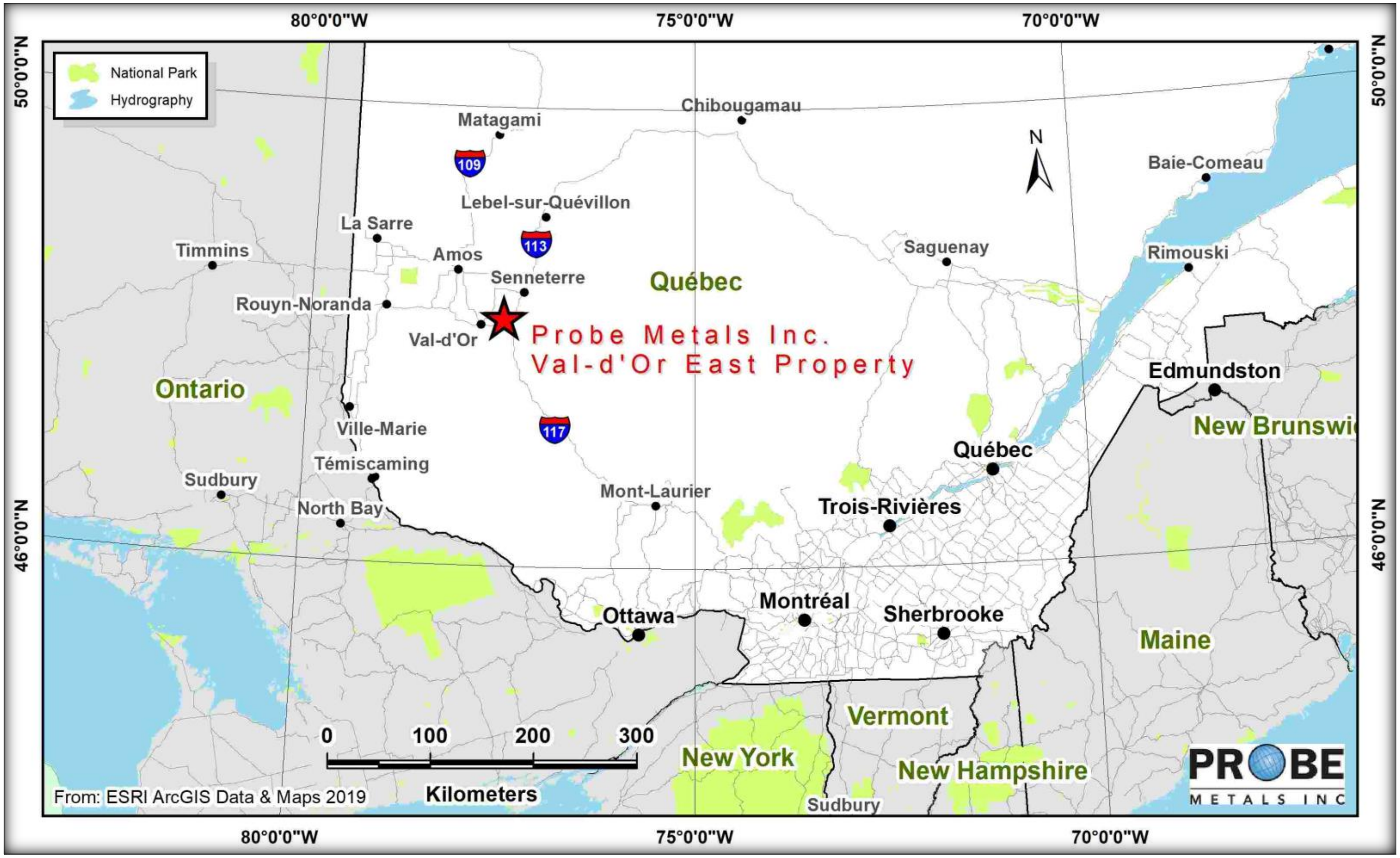
The Val-d'Or East property is the result of the amalgamation of the former Pascalis, Colombière, Beaufor North, Senore, Pascalis Extension, Bonnefond North, Aurbel East, Courvan, Monique, and Lapaska properties. The Company has also earned a 60% interest on the Cadillac Break East property from O3 Mining Inc. (formerly the Sleepy Lake for Alexandria Minerals) following an option agreement signed in 2016.

The Val-d'Or East property consists of three distinct claim blocks. The Pascalis-Courvan-Senore claim block is 100% owned by Probe Metals and is comprised of 401 map-designated mining titles (CDC) and two mining concessions (CM) covering a total area of 16,909.41 hectares (Figure 4-3). The Monique claim block is contiguous to the Pascalis-Courvan-Senore block and is composed of 21 map-designated mining titles (CDC) and one mining lease (BM) covering a total of 550.04 hectares (Figure 4-3). The Lapaska claim block, which is non-contiguous with the Pascalis-Courvan-Senore block, is 100% owned by Probe Metals and is comprised of 21 map-designated mining titles (CDC) covering a total of 352.35 hectares (Figure 4-4).

Two properties, Cadillac Break East and Megiscane, are not subjects of this report but are part of the Val-d'Or East property. The Cadillac Break East claim block is contiguous with the Lapaska block and is composed of 232 map-designated mining titles (CDC) covering a total of 7,407.8 hectares. Probe Metals has earned a 60% interest in the Cadillac Break East block from O3 Mining Inc. The Megiscane claim block is located 20 km further to the northeast.

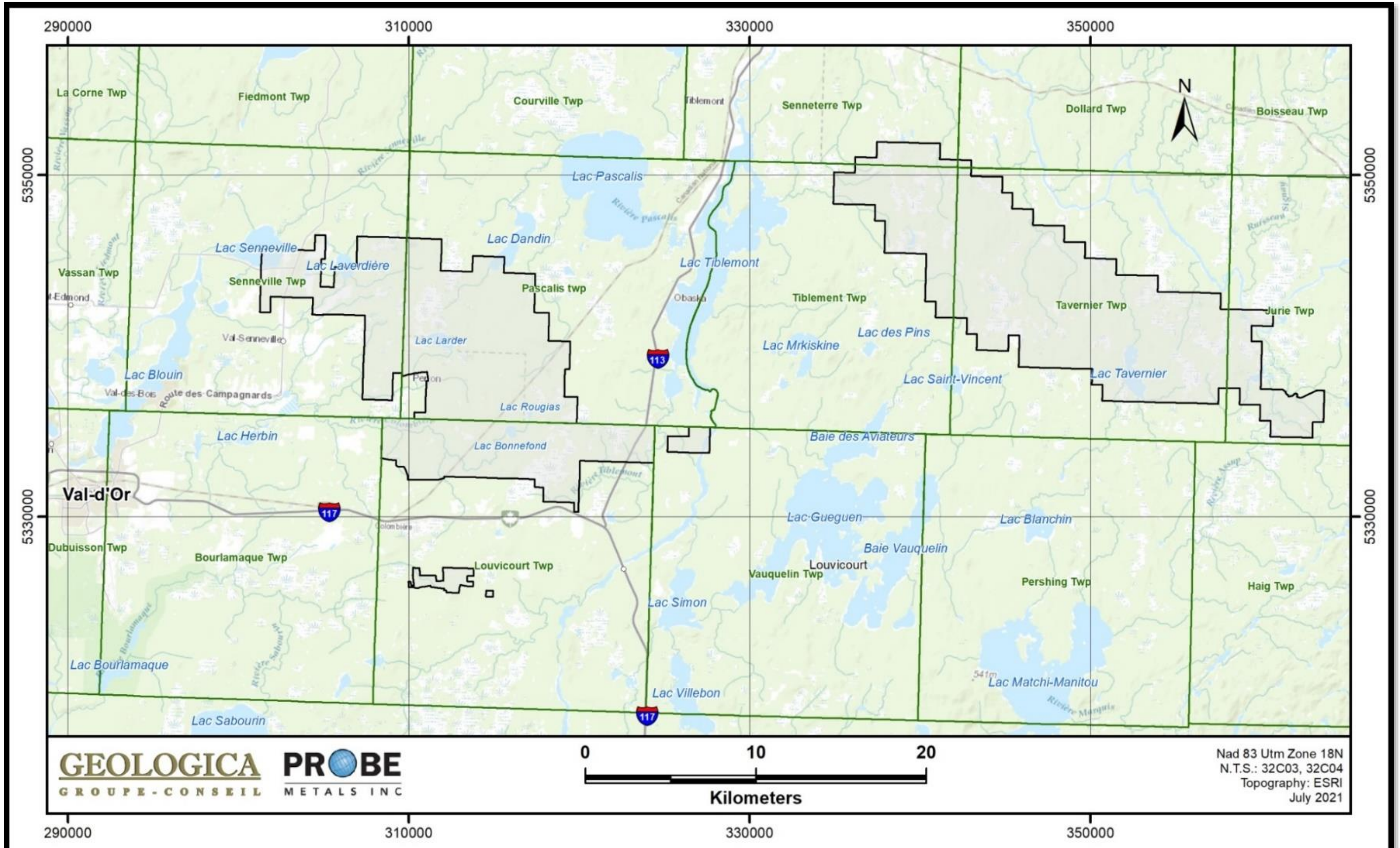
Table 4-1 lists the status of these cells including the claim number, expiry date, area in hectares, excess work credit, and required work and fees. The mining titles have been verified and validated using "GESTIM", the official and public mining title management website operated by the Ministère de l'Énergie et des Ressources Naturelles du Québec.

Figure 4-1: General Project Location



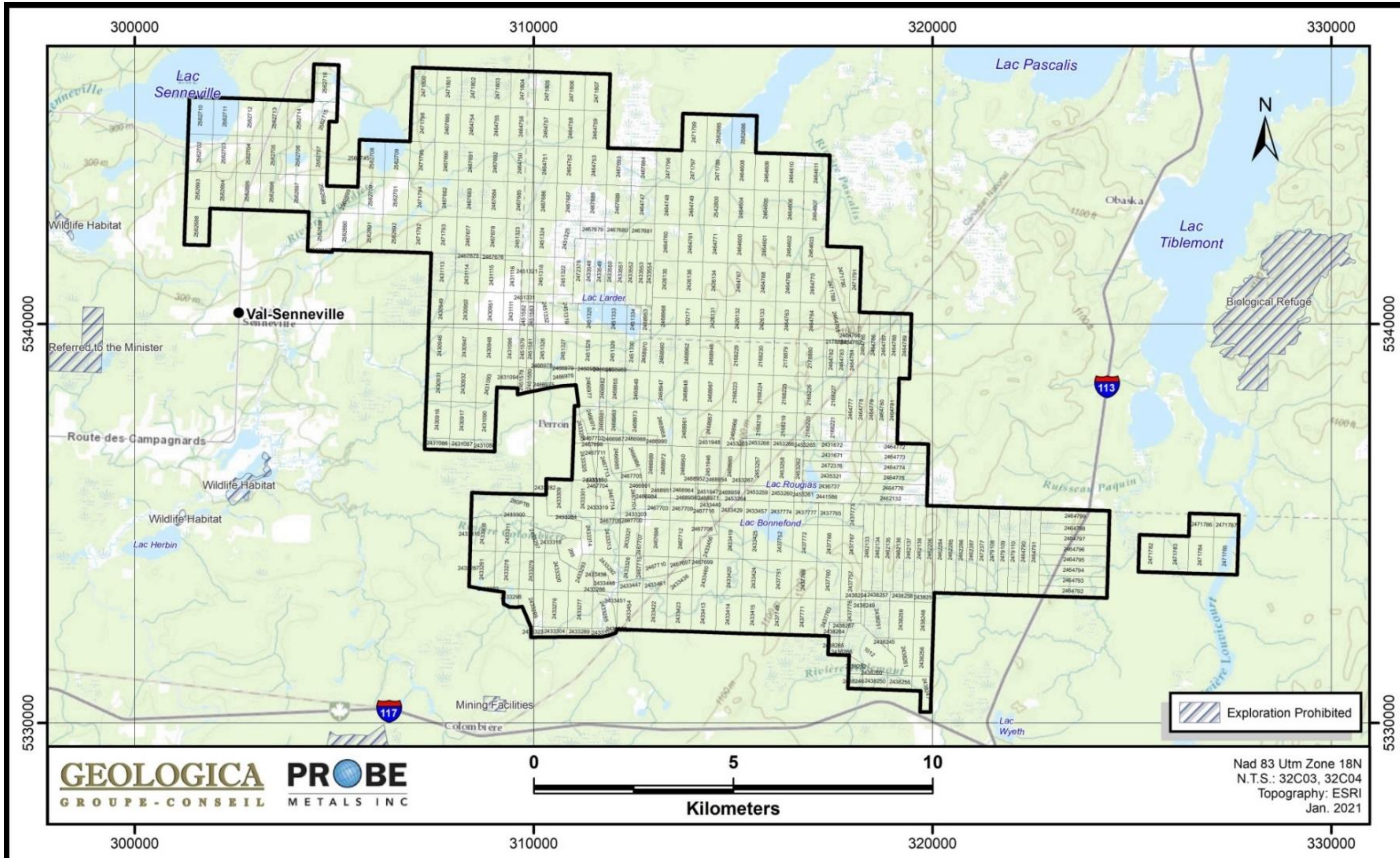
Source: Geologica, 2021.

Figure 4-2: Detailed Location



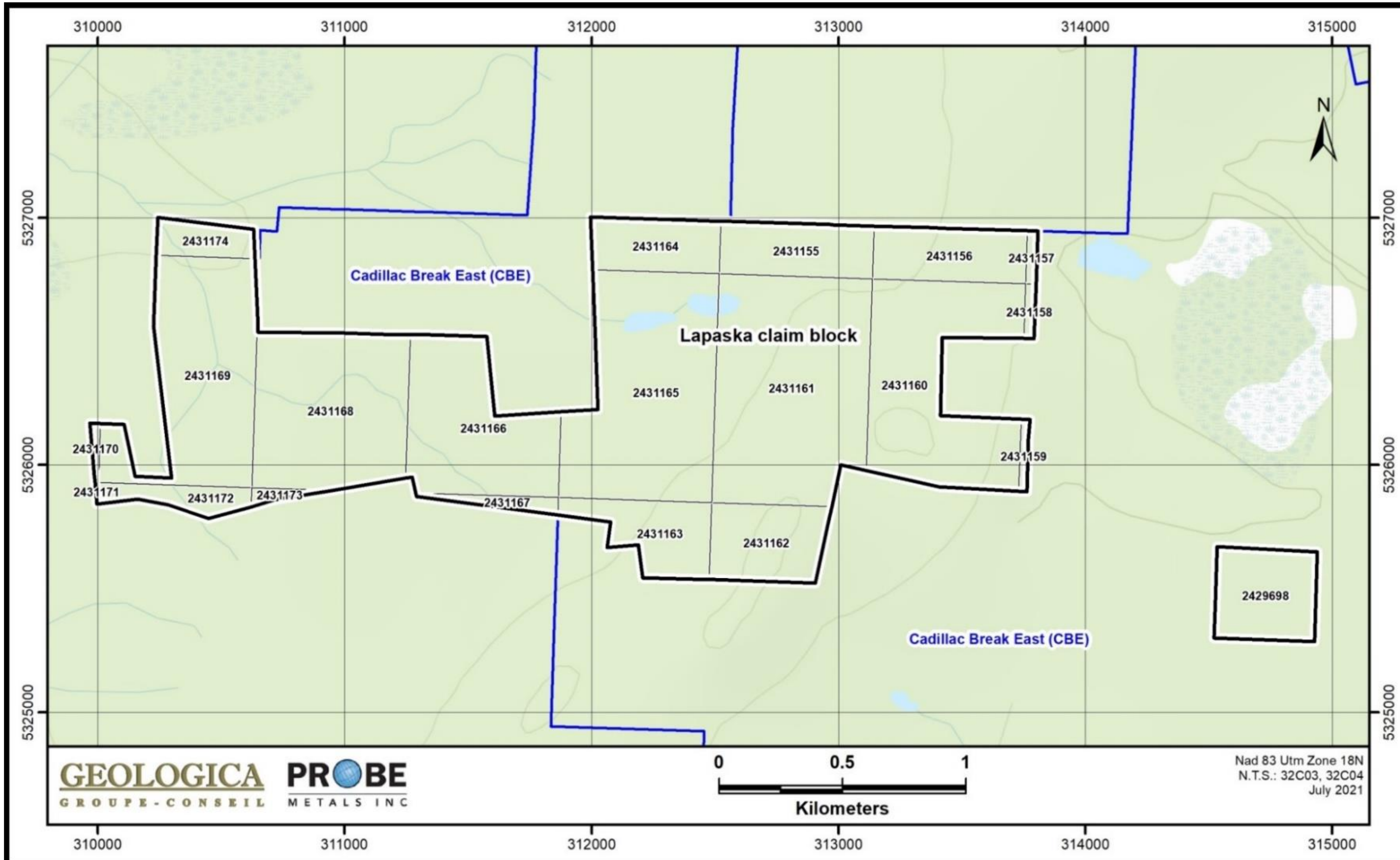
Source: Geologica, 2021.

Figure 4-3: Mining Titles of Val-d'Or East (Pascalis-Courvan-Senore)



Source: Geologica, 2021.

Figure 4-4: Mining Titles of Val-d'Or East (Lapaska)



Source: Geologica, 2021.

Table 4-1: Official Mining Title List

Probe Metals Inc. (95831) 100% (Responsible)							
	Title No.	Expiry Date	Area (Ha)	Excess Work	Required Work	Required Fees	Type of Title
1	1012	2032-02-13 23:59	99.41	$0.00	,		ML
2	102171	2022-11-13 23:59	57.42	$207.69	$2,500.00	$67.00	CDC
3	2168218	2023-07-29 23:59	41.76	$3,834.69	$2,500.00	$67.00	CDC
4	2168219	2023-07-29 23:59	41.75	$5,388.74	$2,500.00	$67.00	CDC
5	2168220	2023-07-29 23:59	41.74	$5,710.16	$2,500.00	$67.00	CDC
6	2168221	2023-07-29 23:59	41.23	$0.00	$2,500.00	$67.00	CDC
7	2168223	2023-07-29 23:59	57.44	$5,234.06	$2,500.00	$67.00	CDC
8	2168224	2023-07-29 23:59	57.44	$3,519.31	$2,500.00	$67.00	CDC
9	2168225	2023-07-29 23:59	57.44	$0.00	$2,500.00	$67.00	CDC
10	2168226	2023-07-29 23:59	57.43	$0.00	$2,500.00	$67.00	CDC
11	2168227	2023-07-29 23:59	56.45	$0.00	$2,500.00	$67.00	CDC
12	2168229	2023-07-29 23:59	57.43	$0.00	$2,500.00	$67.00	CDC
13	2168230	2023-07-29 23:59	57.43	$19.30	$2,500.00	$67.00	CDC
14	2178879	2022-02-02 23:59	57.43	$207.69	$1,800.00	$67.00	CDC
15	2178880	2022-02-02 23:59	57.43	$649.30	$1,800.00	$67.00	CDC
16	2178881	2022-02-02 23:59	13	$448.64	$750.00	$34.25	CDC
17	2426131	2022-04-09 23:59	57.42	$718.38	$1,200.00	$67.00	CDC
18	2426132	2022-04-09 23:59	57.42	$0.00	$1,200.00	$67.00	CDC
19	2426133	2022-04-09 23:59	57.42	$0.00	$1,200.00	$67.00	CDC
20	2426134	2022-04-09 23:59	57.41	$0.00	$1,200.00	$67.00	CDC
21	2426135	2022-04-09 23:59	56.91	$0.00	$1,200.00	$67.00	CDC
22	2426136	2022-04-09 23:59	57.41	$0.00	$1,200.00	$67.00	CDC
23	2429698	2023-01-03 23:59	14.89	$2,468.37	$1,000.00	$34.25	CDC
24	2430916	2022-02-23 23:59	57.45	$45,509.60	$2,500.00	$67.00	CDC
25	2430917	2022-02-23 23:59	57.45	$45,509.60	$2,500.00	$67.00	CDC
26	2430931	2022-02-23 23:59	57.44	$45,501.43	$2,500.00	$67.00	CDC
27	2430932	2022-02-23 23:59	57.44	$45,501.43	$2,500.00	$67.00	CDC
28	2430946	2022-02-23 23:59	57.43	$45,441.70	$2,500.00	$67.00	CDC
29	2430947	2022-02-23 23:59	57.43	$44,500.96	$2,500.00	$67.00	CDC
30	2430948	2022-02-23 23:59	57.43	$46,241.52	$2,500.00	$67.00	CDC
31	2430949	2022-02-23 23:59	57.42	$43,145.10	$2,500.00	$67.00	CDC
32	2430950	2022-02-23 23:59	57.42	$44,441.24	$2,500.00	$67.00	CDC
33	2430951	2022-02-23 23:59	57.42	$45,221.24	$2,500.00	$67.00	CDC
34	2431086	2022-02-23 23:59	17.61	$13,942.08	$1,000.00	$34.25	CDC
35	2431087	2022-02-23 23:59	17.66	$13,982.92	$1,000.00	$34.25	CDC
36	2431088	2022-02-23 23:59	14.78	$11,630.45	$1,000.00	$34.25	CDC
37	2431090	2022-02-23 23:59	48.05	$37,831.40	$2,500.00	$67.00	CDC
38	2431093	2022-02-23 23:59	53.43	$42,974.20	$2,500.00	$67.00	CDC
39	2431094	2022-02-23 23:59	22.44	$25,806.08	$1,000.00	$34.25	CDC
40	2431096	2022-02-23 23:59	39.32	$38,619.18	$2,500.00	$67.00	CDC
41	2431111	2022-02-23 23:59	39.57	$38,823.39	$2,500.00	$67.00	CDC
42	2431113	2022-02-23 23:59	57.41	$39,705.23	$2,500.00	$67.00	CDC
43	2431114	2022-02-23 23:59	52.35	$38,527.59	$2,500.00	$67.00	CDC
44	2431115	2022-02-23 23:59	51.72	$39,005.30	$2,500.00	$67.00	CDC
45	2431116	2022-02-23 23:59	35.2	$27,010.13	$2,500.00	$67.00	CDC
46	2431155	2023-01-03 23:59	13.26	$53,348.07	$1,000.00	$34.25	CDC
47	2431156	2023-01-03 23:59	13.32	$54,591.91	$1,000.00	$34.25	CDC
48	2431157	2023-01-03 23:59	0.93	$4,238.26	$1,000.00	$34.25	CDC
49	2431158	2023-01-03 23:59	0.92	$2,827.35	$1,000.00	$34.25	CDC
50	2431159	2023-01-03 23:59	0.95	$2,949.27	$1,000.00	$34.25	CDC
51	2431160	2023-01-03 23:59	40.43	$169,831.74	$2,500.00	$67.00	CDC
52	2431161	2023-01-03 23:59	55.64	$230,030.81	$2,500.00	$67.00	CDC
53	2431162	2023-01-03 23:59	14.31	$64,175.32	$1,000.00	$34.25	CDC
54	2431163	2023-01-03 23:59	12.91	$60,463.90	$1,000.00	$34.25	CDC
55	2431164	2023-01-03 23:59	11.07	$45,447.80	$1,000.00	$34.25	CDC
56	2431165	2023-01-03 23:59	50.19	$209,496.94	$2,500.00	$67.00	CDC
57	2431166	2023-01-03 23:59	30.67	$124,606.56	$2,500.00	$67.00	CDC
58	2431167	2023-01-03 23:59	2.45	$10,415.63	$1,000.00	$34.25	CDC
59	2431168	2023-01-03 23:59	38.59	$153,066.60	$2,500.00	$67.00	CDC
60	2431169	2023-01-03 23:59	38.89	$154,285.81	$2,500.00	$67.00	CDC
61	2431170	2023-01-03 23:59	0.7	$1,554.49	$1,000.00	$34.25	CDC
62	2431171	2023-01-03 23:59	0.08	$0.00	$1,000.00	$34.25	CDC
63	2431172	2023-01-03 23:59	5.65	$21,671.57	$1,000.00	$34.25	CDC
64	2431173	2023-01-03 23:59	1.14	$3,342.67	$1,000.00	$34.25	CDC
65	2431174	2023-01-03 23:59	5.36	$20,492.99	$1,000.00	$34.25	CDC
66	2431671	2022-07-28 23:59	39.64	$6,470.86	$1,200.00	$67.00	CDC
67	2431672	2022-07-28 23:59	33.59	$6,470.86	$1,200.00	$67.00	CDC
68	2433276	2022-05-04 23:59	57.49	$24,690.67	$2,500.00	$67.00	CDC
69	2433277	2022-05-04 23:59	57.49	$24,690.67	$2,500.00	$67.00	CDC
70	2433278	2022-05-04 23:59	57.48	$69,852.71	$2,500.00	$67.00	CDC
71	2433279	2022-05-04 23:59	57.48	$533,467.90	$2,500.00	$67.00	CDC

Probe Metals Inc. (95831) 100% (Responsible)							
	Title No.	Expiry Date	Area (Ha)	Excess Work	Required Work	Required Fees	Type of Title
72	2433281	2022-05-04 23:59	0.03	$6,928.76	$1,000.00	$34.25	CDC
73	2433282	2022-05-04 23:59	1.03	$748.26	$1,000.00	$34.25	CDC
74	2433284	2022-05-04 23:59	0.8	$29,370.71	$1,000.00	$34.25	CDC
75	2433285	2022-05-04 23:59	46.31	$29,211.10	$2,500.00	$67.00	CDC
76	2433286	2022-05-04 23:59	1.8	$15,790.33	$1,000.00	$34.25	CDC
77	2433287	2022-05-04 23:59	1.18	$748.26	$1,000.00	$34.25	CDC
78	2433289	2022-05-04 23:59	13.94	$11,591.70	$1,000.00	$34.25	CDC
79	2433291	2022-05-04 23:59	57.37	$17,479.99	$2,500.00	$67.00	CDC
80	2433292	2022-05-04 23:59	34.68	$25,312.44	$2,500.00	$67.00	CDC
81	2433293	2022-05-04 23:59	47.28	$134,758.56	$2,500.00	$67.00	CDC
82	2433295	2022-05-04 23:59	23.69	$15,743.29	$1,000.00	$34.25	CDC
83	2433296	2022-05-04 23:59	0.01	$6,922.05	$1,000.00	$34.25	CDC
84	2433297	2022-05-04 23:59	45.32	$77,500.82	$2,500.00	$67.00	CDC
85	2433298	2022-05-04 23:59	18.67	$6,006.87	$1,000.00	$34.25	CDC
86	2433299	2022-05-04 23:59	47.22	$131,838.57	$2,500.00	$67.00	CDC
87	2433300	2022-05-04 23:59	0.01	$748.26	$1,000.00	$34.25	CDC
88	2433301	2022-05-04 23:59	57.24	$71,208.24	$2,500.00	$67.00	CDC
89	2433302	2022-05-04 23:59	1.61	$748.26	$1,000.00	$34.25	CDC
90	2433303	2022-05-04 23:59	0.65	$6,700.89	$1,000.00	$34.25	CDC
91	2433304	2022-05-04 23:59	15.37	$12,071.08	$1,000.00	$34.25	CDC
92	2433308	2022-05-04 23:59	53.41	$16,152.50	$2,500.00	$67.00	CDC
93	2433309	2022-05-04 23:59	56.71	$640,048.68	$2,500.00	$67.00	CDC
94	2433310	2022-05-04 23:59	0.01	$6,922.05	$1,000.00	$34.25	CDC
95	2433311	2022-05-04 23:59	56.78	$17,282.21	$2,500.00	$67.00	CDC
96	2433313	2022-05-04 23:59	50.92	$182,441.08	$2,500.00	$67.00	CDC
97	2433314	2022-05-04 23:59	33.2	$16,548.10	$2,500.00	$67.00	CDC
98	2433315	2022-05-04 23:59	0.01	$6,922.05	$1,000.00	$34.25	CDC
99	2433316	2022-05-04 23:59	1.28	$748.26	$1,000.00	$34.25	CDC
100	2433318	2022-05-04 23:59	18.53	$527,738.75	$1,000.00	$34.25	CDC
101	2433319	2022-05-04 23:59	6.68	$16,775.88	$1,000.00	$34.25	CDC
102	2433320	2022-05-04 23:59	52.12	$479,589.13	$2,500.00	$67.00	CDC
103	2433321	2022-05-04 23:59	39.7	$659,476.05	$2,500.00	$67.00	CDC
104	2433323	2022-05-04 23:59	7.62	$9,473.09	$1,000.00	$34.25	CDC
105	2433324	2022-05-04 23:59	10.92	$10,579.33	$1,000.00	$34.25	CDC
106	2433325	2022-05-04 23:59	47.65	$49,103.89	$2,500.00	$67.00	CDC
107	2433326	2022-05-04 23:59	27.6	$22,503.36	$2,500.00	$67.00	CDC
108	2433413	2022-04-27 23:59	57.49	$202,056.04	$2,500.00	$67.00	CDC
109	2433414	2022-04-27 23:59	57.49	$106,522.30	$2,500.00	$67.00	CDC
110	2433415	2022-04-27 23:59	57.49	$105,949.99	$2,500.00	$67.00	CDC
111	2433419	2022-04-27 23:59	57.47	$106,487.81	$2,500.00	$67.00	CDC
112	2433420	2022-04-27 23:59	57.48	$105,512.75	$2,500.00	$67.00	CDC
113	2433422	2022-04-27 23:59	57.49	$217,669.60	$2,500.00	$67.00	CDC
114	2433423	2022-04-27 23:59	57.49	$134,446.01	$2,500.00	$67.00	CDC
115	2433424	2022-04-27 23:59	57.48	$104,165.05	$2,500.00	$67.00	CDC
116	2433425	2022-04-27 23:59	57.47	$102,893.95	$2,500.00	$67.00	CDC
117	2433429	2022-04-27 23:59	34.05	$71,975.23	$2,500.00	$67.00	CDC
118	2433436	2022-04-27 23:59	36.1	$97,581.17	$2,500.00	$67.00	CDC
119	2433438	2022-04-27 23:59	0.58	$16,537.01	$1,000.00	$34.25	CDC
120	2433440	2022-04-27 23:59	12.95	$37,431.06	$1,000.00	$34.25	CDC
121	2433447	2022-04-27 23:59	19.76	$106,955.47	$1,000.00	$34.25	CDC
122	2433448	2022-04-27 23:59	21.01	$51,764.76	$1,000.00	$34.25	CDC
123	2433451	2022-04-27 23:59	11.18	$34,814.75	$1,000.00	$34.25	CDC
124	2433454	2022-04-27 23:59	57.48	$138,252.31	$2,500.00	$67.00	CDC
125	2433456	2022-04-27 23:59	28.28	$56,155.08	$2,500.00	$67.00	CDC
126	2433457	2022-04-27 23:59	34.2	$60,332.30	$2,500.00	$67.00	CDC
127	2433460	2022-04-27 23:59	53.29	$154,853.84	$2,500.00	$67.00	CDC
128	2433461	2022-04-27 23:59	26.16	$144,465.27	$2,500.00	$67.00	CDC
129	2433548	2022-09-23 23:59	42.61	$207.69	$1,200.00	$67.00	CDC
130	2433549	2022-09-23 23:59	42.63	$207.69	$1,200.00	$67.00	CDC
131	2433550	2022-09-23 23:59	42.6	$207.69	$1,200.00	$67.00	CDC
132	2433551	2022-09-23 23:59	42.71	$207.69	$1,200.00	$67.00	CDC
133	2433552	2022-09-23 23:59	42.61	$619.29	$1,200.00	$67.00	CDC
134	2433553	2022-09-23 23:59	42.54	$619.29	$1,200.00	$67.00	CDC
135	2433554	2022-09-23 23:59	25.22	$619.29	$1,200.00	$67.00	CDC
136	2435321	2022-12-20 23:59	37.45	$207.69	$1,200.00	$67.00	CDC
137	2436737	2023-02-04 23:59	36.13	$207.69	$1,200.00	$67.00	CDC
138	2437748	2022-04-08 23:59	57.49	$63,992.75	$2,500.00	$67.00	CDC
139	2437751	2022-04-08 23:59	57.48	$65,614.24	$2,500.00	$67.00	CDC
140	2437752	2022-04-08 23:59	57.47	$63,551.15	$2,500.00	$67.00	CDC
141	2437757	2022-04-08 23:59	47.9	$54,409.28	$2,500.00	$67.00	CDC
142	2437760	2022-04-08 23:59	57.48	$60,082.82	$2,500.00	$67.00	CDC
143	2437763	2022-04-08 23:59	48.19	$130,276.60	$2,500.00	$67.00	CDC
144	2437765	2022-04-08 23:59	34.61	$39,748.59	$2,500.00	$67.00	CDC

Probe Metals Inc. (95831) 100% (Responsible)							
	Title No.	Expiry Date	Area (Ha)	Excess Work	Required Work	Required Fees	Type of Title
145	2437766	2022-04-08 23:59	57.47	$61,265.91	$2,500.00	$67.00	CDC
146	2437767	2022-04-08 23:59	47.89	$55,282.50	$2,500.00	$67.00	CDC
147	2437769	2022-04-08 23:59	57.48	$63,202.83	$2,500.00	$67.00	CDC
148	2437771	2022-04-08 23:59	57.49	$63,212.77	$2,500.00	$67.00	CDC
149	2437772	2022-04-08 23:59	57.47	$64,193.42	$2,500.00	$67.00	CDC
150	2437773	2022-04-08 23:59	28.94	$37,227.26	$2,500.00	$67.00	CDC
151	2437774	2022-04-08 23:59	34.35	$41,741.16	$2,500.00	$67.00	CDC
152	2437776	2022-04-08 23:59	29.96	$36,629.48	$2,500.00	$67.00	CDC
153	2437777	2022-04-08 23:59	34.49	$41,132.05	$2,500.00	$67.00	CDC
154	2438245	2022-01-24 23:59	4.99	$17,163.61	$1,000.00	$34.25	CDC
155	2438246	2022-01-24 23:59	13.33	$24,501.91	$1,000.00	$34.25	CDC
156	2438247	2022-01-24 23:59	31.96	$66,657.16	$2,500.00	$67.00	CDC
157	2438248	2022-01-24 23:59	45.19	$91,414.25	$2,500.00	$67.00	CDC
158	2438249	2022-01-24 23:59	6.24	$19,502.73	$1,000.00	$34.25	CDC
159	2438250	2022-01-24 23:59	22.97	$50,809.31	$1,000.00	$34.25	CDC
160	2438251	2022-01-24 23:59	53.72	$107,376.32	$2,500.00	$67.00	CDC
161	2438252	2022-01-24 23:59	12.99	$23,865.68	$1,000.00	$34.25	CDC
162	2438253	2022-01-24 23:59	11.72	$29,757.37	$1,000.00	$34.25	CDC
163	2438254	2022-01-24 23:59	2.46	$12,429.27	$1,000.00	$34.25	CDC
164	2438255	2022-01-24 23:59	23.07	$50,996.45	$1,000.00	$34.25	CDC
165	2438256	2022-01-24 23:59	45.13	$91,301.99	$2,500.00	$67.00	CDC
166	2438257	2022-01-24 23:59	14.84	$35,595.78	$1,000.00	$34.25	CDC
167	2438258	2022-01-24 23:59	14.89	$35,689.34	$1,000.00	$34.25	CDC
168	2438259	2022-01-24 23:59	57.49	$178,213.95	$2,500.00	$67.00	CDC
169	2438260	2022-01-24 23:59	7.45	$21,766.99	$1,000.00	$34.25	CDC
170	2438261	2022-01-24 23:59	48.05	$96,766.13	$2,500.00	$67.00	CDC
171	2438264	2022-02-11 23:59	9.3	$283,638.68	$1,000.00	$34.25	CDC
172	2438265	2022-02-11 23:59	12.28	$75,214.99	$1,000.00	$34.25	CDC
173	2438266	2022-02-11 23:59	5.47	$37,843.69	$1,000.00	$34.25	CDC
174	2438267	2022-02-11 23:59	7.09	$163,079.93	$1,000.00	$34.25	CDC
175	2441586	2023-04-13 23:59	33.17	$207.69	$1,200.00	$67.00	CDC
176	2451318	2023-09-20 23:59	57.41	$5,362.52	$2,500.00	$67.00	CDC
177	2451319	2023-09-20 23:59	54.75	$6,354.83	$2,500.00	$67.00	CDC
178	2451320	2023-09-20 23:59	44.36	$6,354.83	$2,500.00	$67.00	CDC
179	2451321	2023-09-20 23:59	22.21	$0.00	$1,000.00	$34.25	CDC
180	2451322	2023-09-20 23:59	45.79	$5,362.52	$2,500.00	$67.00	CDC
181	2451323	2023-09-20 23:59	57.4	$0.00	$2,500.00	$67.00	CDC
182	2451324	2023-09-20 23:59	57.4	$3,461.26	$2,500.00	$67.00	CDC
183	2451325	2023-09-20 23:59	51.34	$2,468.96	$2,500.00	$67.00	CDC
184	2451326	2023-09-20 23:59	38.03	$5,626.39	$2,500.00	$67.00	CDC
185	2451327	2023-09-20 23:59	56.3	$5,626.39	$2,500.00	$67.00	CDC
186	2451328	2023-09-20 23:59	56.18	$13,089.55	$2,500.00	$67.00	CDC
187	2451329	2023-09-20 23:59	56.09	$5,919.11	$2,500.00	$67.00	CDC
188	2451330	2023-09-20 23:59	30.64	$5,170.85	$2,500.00	$67.00	CDC
189	2451331	2023-09-20 23:59	3.99	$0.00	$1,000.00	$34.25	CDC
190	2451332	2023-09-20 23:59	42.84	$5,626.39	$2,500.00	$67.00	CDC
191	2451333	2023-09-20 23:59	44.33	$0.00	$2,500.00	$67.00	CDC
192	2451334	2023-09-20 23:59	24.56	$0.00	$1,000.00	$34.25	CDC
193	2451578	2022-08-27 23:59	13.16	$91,906.00	$1,000.00	$34.25	CDC
194	2451579	2022-08-27 23:59	18.11	$109,258.74	$1,000.00	$34.25	CDC
195	2451580	2022-08-27 23:59	13.17	$91,970.43	$1,000.00	$34.25	CDC
196	2451581	2022-08-27 23:59	18.66	$108,813.24	$1,000.00	$34.25	CDC
197	2451582	2022-08-27 23:59	13.85	$95,559.56	$1,000.00	$34.25	CDC
198	2451583	2022-08-27 23:59	14.58	$92,392.42	$1,000.00	$34.25	CDC
199	2451946	2023-10-28 23:59	48.8	$37,920.81	$1,800.00	$67.00	CDC
200	2451947	2023-10-28 23:59	19.87	$6,732.99	$750.00	$34.25	CDC
201	2451948	2023-10-28 23:59	13.37	$30,049.73	$750.00	$34.25	CDC
202	2453257	2023-10-28 23:59	57.45	$6,773.84	$1,800.00	$67.00	CDC
203	2453258	2023-10-28 23:59	57.45	$5,870.86	$1,800.00	$67.00	CDC
204	2453259	2023-10-28 23:59	23.26	$6,940.68	$750.00	$34.25	CDC
205	2453260	2023-10-28 23:59	23.11	$6,192.42	$750.00	$34.25	CDC
206	2453261	2023-10-28 23:59	7.2	$0.00	$750.00	$34.25	CDC
207	2453262	2023-10-28 23:59	17.98	$5,928.55	$750.00	$34.25	CDC
208	2453263	2023-10-28 23:59	3.41	$6,192.42	$750.00	$34.25	CDC
209	2453264	2023-10-28 23:59	5.23	$6,732.99	$750.00	$34.25	CDC
210	2453265	2023-10-28 23:59	4.92	$5,928.55	$750.00	$34.25	CDC
211	2453266	2023-10-28 23:59	15.7	$4,936.24	$750.00	$34.25	CDC
212	2453267	2023-10-28 23:59	12.68	$6,940.68	$750.00	$34.25	CDC
213	2453268	2023-10-28 23:59	15.69	$6,192.42	$750.00	$34.25	CDC
214	2462132	2023-09-12 23:59	48.75	$0.00	$1,200.00	$67.00	CDC
215	2462133	2023-09-12 23:59	56.88	$5,910.59	$1,200.00	$67.00	CDC
216	2462134	2023-09-12 23:59	56.9	$8,887.51	$1,200.00	$67.00	CDC
217	2462135	2023-09-12 23:59	56.91	$8,887.51	$1,200.00	$67.00	CDC

Probe Metals Inc. (95831) 100% (Responsible)							
	Title No.	Expiry Date	Area (Ha)	Excess Work	Required Work	Required Fees	Type of Title
218	2462136	2023-09-12 23:59	56.92	$8,004.35	$1,200.00	$67.00	CDC
219	2462137	2023-09-12 23:59	56.94	$8,004.35	$1,200.00	$67.00	CDC
220	2462138	2023-09-12 23:59	56.95	$8,004.35	$1,200.00	$67.00	CDC
221	2462206	2023-09-13 23:59	57.01	$4,344.59	$1,200.00	$67.00	CDC
222	2462284	2023-09-14 23:59	56.94	$341.43	$1,200.00	$67.00	CDC
223	2462285	2023-09-14 23:59	57	$0.00	$1,200.00	$67.00	CDC
224	2462286	2023-09-14 23:59	57.02	$0.00	$1,200.00	$67.00	CDC
225	2462287	2023-09-14 23:59	57.04	$0.00	$1,200.00	$67.00	CDC
226	2464600	2023-09-26 23:59	57.4	$0.00	$1,200.00	$67.00	CDC
227	2464601	2023-09-26 23:59	57.4	$0.00	$1,200.00	$67.00	CDC
228	2464602	2023-09-26 23:59	57.4	$0.00	$1,200.00	$67.00	CDC
229	2464603	2023-09-26 23:59	54.81	$0.00	$1,200.00	$67.00	CDC
230	2464604	2023-09-26 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
231	2464605	2023-09-26 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
232	2464606	2023-09-26 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
233	2464607	2023-09-26 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
234	2464608	2023-09-26 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
235	2464609	2023-09-26 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
236	2464610	2023-09-26 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
237	2464611	2023-09-26 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
238	2464747	2023-09-28 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
239	2464748	2023-09-28 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
240	2464749	2023-09-28 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
241	2464750	2023-09-28 23:59	57.38	$619.29	$1,200.00	$67.00	CDC
242	2464751	2023-09-28 23:59	57.38	$501.01	$1,200.00	$67.00	CDC
243	2464752	2023-09-28 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
244	2464753	2023-09-28 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
245	2464754	2023-09-28 23:59	57.37	$567.73	$1,200.00	$67.00	CDC
246	2464755	2023-09-28 23:59	57.37	$619.29	$1,200.00	$67.00	CDC
247	2464756	2023-09-28 23:59	57.37	$567.73	$1,200.00	$67.00	CDC
248	2464757	2023-09-28 23:59	57.37	$567.73	$1,200.00	$67.00	CDC
249	2464758	2023-09-28 23:59	57.37	$0.00	$1,200.00	$67.00	CDC
250	2464759	2023-09-28 23:59	57.37	$0.00	$1,200.00	$67.00	CDC
251	2464760	2023-09-28 23:59	57.16	$619.29	$1,200.00	$67.00	CDC
252	2464761	2023-09-28 23:59	57.4	$0.00	$1,200.00	$67.00	CDC
253	2464762	2023-09-28 23:59	0.8	$436.13	$500.00	$34.25	CDC
254	2464763	2023-09-28 23:59	57.42	$0.00	$1,200.00	$67.00	CDC
255	2464764	2023-09-28 23:59	57.42	$0.00	$1,200.00	$67.00	CDC
256	2464765	2023-09-28 23:59	49.55	$0.00	$1,200.00	$67.00	CDC
257	2464766	2023-09-28 23:59	1.33	$111.13	$500.00	$34.25	CDC
258	2464767	2023-09-28 23:59	57.41	$0.00	$1,200.00	$67.00	CDC
259	2464768	2023-09-28 23:59	57.41	$0.00	$1,200.00	$67.00	CDC
260	2464769	2023-09-28 23:59	57.41	$0.00	$1,200.00	$67.00	CDC
261	2464770	2023-09-28 23:59	57.41	$0.00	$1,200.00	$67.00	CDC
262	2464771	2023-09-28 23:59	57.4	$0.00	$1,200.00	$67.00	CDC
263	2464772	2023-09-28 23:59	39.31	$619.29	$1,200.00	$67.00	CDC
264	2464773	2023-09-28 23:59	45.94	$619.29	$1,200.00	$67.00	CDC
265	2464774	2023-09-28 23:59	43.37	$0.00	$1,200.00	$67.00	CDC
266	2464775	2023-09-28 23:59	44.39	$0.00	$1,200.00	$67.00	CDC
267	2464776	2023-09-28 23:59	45.68	$0.00	$1,200.00	$67.00	CDC
268	2464777	2023-09-28 23:59	42.49	$619.29	$1,200.00	$67.00	CDC
269	2464778	2023-09-28 23:59	42.48	$0.00	$1,200.00	$67.00	CDC
270	2464779	2023-09-28 23:59	42.46	$0.00	$1,200.00	$67.00	CDC
271	2464780	2023-09-28 23:59	42.42	$0.00	$1,200.00	$67.00	CDC
272	2464781	2023-09-28 23:59	42.48	$0.00	$1,200.00	$67.00	CDC
273	2464782	2023-09-28 23:59	21.66	$436.13	$500.00	$34.25	CDC
274	2464783	2023-09-28 23:59	21.69	$436.13	$500.00	$34.25	CDC
275	2464784	2023-09-28 23:59	43.06	$0.00	$1,200.00	$67.00	CDC
276	2464785	2023-09-28 23:59	42.46	$0.00	$1,200.00	$67.00	CDC
277	2464786	2023-09-28 23:59	42.47	$0.00	$1,200.00	$67.00	CDC
278	2464787	2023-09-28 23:59	42.44	$0.00	$1,200.00	$67.00	CDC
279	2464788	2023-09-28 23:59	42.44	$0.00	$1,200.00	$67.00	CDC
280	2464789	2023-09-28 23:59	42.4	$0.00	$1,200.00	$67.00	CDC
281	2464790	2023-09-28 23:59	57.08	$0.00	$1,200.00	$67.00	CDC
282	2464791	2023-09-28 23:59	56.74	$0.00	$1,200.00	$67.00	CDC
283	2464792	2023-09-28 23:59	44.9	$0.00	$1,200.00	$67.00	CDC
284	2464793	2023-09-28 23:59	44.81	$0.00	$1,200.00	$67.00	CDC
285	2464794	2023-09-28 23:59	44.82	$0.00	$1,200.00	$67.00	CDC
286	2464795	2023-09-28 23:59	44.9	$0.00	$1,200.00	$67.00	CDC
287	2464796	2023-09-28 23:59	44.85	$0.00	$1,200.00	$67.00	CDC
288	2464797	2023-09-28 23:59	44.85	$0.00	$1,200.00	$67.00	CDC
289	2464798	2023-09-28 23:59	44.9	$0.00	$1,200.00	$67.00	CDC
290	2464799	2023-09-28 23:59	60.97	$0.00	$1,200.00	$67.00	CDC

Probe Metals Inc. (95831) 100% (Responsible)								
	Title No.	Expiry Date	Area (Ha)	Excess Work	Required Work	Required Fees	Type of Title
291	2466974	2023-11-16 23:59	27.77	$34,817.90	$2,500.00	$67.00	CDC
292	2466975	2023-11-16 23:59	21.86	$24,064.53	$1,000.00	$34.25	CDC
293	2466976	2023-11-16 23:59	27.52	$27,003.92	$2,500.00	$67.00	CDC
294	2466977	2023-11-16 23:59	54.21	$54,672.87	$2,500.00	$67.00	CDC
295	2466978	2023-11-16 23:59	0.74	$7,706.80	$1,000.00	$34.25	CDC
296	2466979	2023-11-16 23:59	1.13	$7,805.02	$1,000.00	$34.25	CDC
297	2466980	2023-11-16 23:59	1.25	$14,841.55	$1,000.00	$34.25	CDC
298	2466981	2023-11-16 23:59	12.07	$16,833.21	$1,000.00	$34.25	CDC
299	2466982	2023-11-16 23:59	16.19	$19,389.26	$1,000.00	$34.25	CDC
300	2466983	2023-11-16 23:59	0.37	$6,232.63	$1,000.00	$34.25	CDC
301	2466984	2022-10-09 23:59	2.2	$7,918.29	$1,000.00	$34.25	CDC
302	2466985	2022-10-09 23:59	22.65	$45,080.84	$1,000.00	$34.25	CDC
303	2466986	2022-10-09 23:59	43.41	$59,714.17	$2,500.00	$67.00	CDC
304	2466987	2022-10-09 23:59	9.47	$8,859.72	$1,000.00	$34.25	CDC
305	2466988	2022-10-09 23:59	15.52	$10,378.11	$1,000.00	$34.25	CDC
306	2466989	2022-10-09 23:59	23.12	$13,168.68	$1,000.00	$34.25	CDC
307	2466990	2022-10-09 23:59	6.24	$8,049.07	$1,000.00	$34.25	CDC
308	2466991	2022-10-09 23:59	9.61	$9,778.01	$1,000.00	$34.25	CDC
309	2467675	2023-11-02 23:59	5.06	$436.14	$500.00	$34.25	CDC
310	2467676	2023-11-02 23:59	5.7	$436.14	$500.00	$34.25	CDC
311	2467677	2023-11-02 23:59	57.4	$0.00	$1,200.00	$67.00	CDC
312	2467678	2023-11-02 23:59	57.4	$0.00	$1,200.00	$67.00	CDC
313	2467679	2023-11-02 23:59	26.94	$5,914.28	$1,200.00	$67.00	CDC
314	2467680	2023-11-02 23:59	26.88	$0.00	$1,200.00	$67.00	CDC
315	2467681	2023-11-02 23:59	26.82	$619.30	$1,200.00	$67.00	CDC
316	2467682	2023-11-02 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
317	2467683	2023-11-02 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
318	2467684	2023-11-02 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
319	2467685	2023-11-02 23:59	57.39	$619.30	$1,200.00	$67.00	CDC
320	2467686	2023-11-02 23:59	57.39	$6,533.61	$1,200.00	$67.00	CDC
321	2467687	2023-11-02 23:59	57.39	$6,751.90	$1,200.00	$67.00	CDC
322	2467688	2023-11-02 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
323	2467689	2023-11-02 23:59	57.39	$619.30	$1,200.00	$67.00	CDC
324	2467690	2023-11-02 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
325	2467691	2023-11-02 23:59	57.38	$619.30	$1,200.00	$67.00	CDC
326	2467692	2023-11-02 23:59	57.38	$619.30	$1,200.00	$67.00	CDC
327	2467693	2023-11-02 23:59	57.38	$436.14	$1,200.00	$67.00	CDC
328	2467694	2023-11-02 23:59	57.38	$436.14	$1,200.00	$67.00	CDC
329	2467695	2023-11-02 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
330	2467696	2023-07-14 23:59	57.47	$2,396,407.83	$2,500.00	$67.00	CDC
331	2467697	2023-07-14 23:59	21.39	$220,711.41	$1,000.00	$34.25	CDC
332	2467698	2023-07-14 23:59	6.01	$54,928.07	$1,000.00	$34.25	CDC
333	2467699	2023-07-14 23:59	4.19	$47,910.01	$1,000.00	$34.25	CDC
334	2467700	2023-07-14 23:59	2.26	$97,736.34	$1,000.00	$34.25	CDC
335	2467701	2023-07-14 23:59	54.61	$2,666,759.09	$2,500.00	$67.00	CDC
336	2467702	2023-07-14 23:59	5.99	$61,940.23	$1,000.00	$34.25	CDC
337	2467703	2023-07-14 23:59	33.7	$801,943.53	$2,500.00	$67.00	CDC
338	2467704	2023-07-14 23:59	0.22	$15,394.46	$1,000.00	$34.25	CDC
339	2467705	2023-07-14 23:59	14.04	$361,932.23	$1,000.00	$34.25	CDC
340	2467706	2023-07-14 23:59	29.2	$241,470.95	$2,500.00	$67.00	CDC
341	2467707	2023-07-14 23:59	15.52	$953,173.09	$1,000.00	$34.25	CDC
342	2467708	2023-07-14 23:59	6.55	$58,318.36	$1,000.00	$34.25	CDC
343	2467709	2023-07-14 23:59	33.81	$266,841.48	$2,500.00	$67.00	CDC
344	2467710	2023-07-14 23:59	31.32	$541,434.31	$2,500.00	$67.00	CDC
345	2467711	2023-07-14 23:59	9.8	$92,091.80	$1,000.00	$34.25	CDC
346	2467712	2023-07-14 23:59	57.47	$447,607.50	$2,500.00	$67.00	CDC
347	2467713	2023-07-14 23:59	34.81	$560,706.69	$2,500.00	$67.00	CDC
348	2467714	2023-07-14 23:59	50.79	$1,142,518.55	$2,500.00	$67.00	CDC
349	2467715	2023-07-14 23:59	10.12	$132,070.43	$1,000.00	$34.25	CDC
350	2467716	2023-07-14 23:59	20.97	$177,889.67	$1,000.00	$34.25	CDC
351	2468946	2023-03-20 23:59	57.43	$2,704.13	$2,500.00	$67.00	CDC
352	2468947	2023-03-20 23:59	57.44	$5,190.69	$2,500.00	$67.00	CDC
353	2468948	2023-03-20 23:59	57.44	$4,442.43	$2,500.00	$67.00	CDC
354	2468949	2023-03-20 23:59	57.44	$5,190.69	$2,500.00	$67.00	CDC
355	2468950	2023-03-20 23:59	57.46	$37,013.11	$2,500.00	$67.00	CDC
356	2468951	2023-03-20 23:59	14.16	$104,450.33	$1,000.00	$34.25	CDC
357	2468952	2023-03-20 23:59	5.01	$6,482.99	$1,000.00	$34.25	CDC
358	2468953	2023-03-20 23:59	20.04	$207.70	$1,000.00	$34.25	CDC
359	2468954	2023-03-20 23:59	3.65	$6,690.69	$1,000.00	$34.25	CDC
360	2468955	2023-03-20 23:59	41.25	$5,190.69	$2,500.00	$67.00	CDC
361	2468956	2023-03-20 23:59	2.1	$6,482.99	$1,000.00	$34.25	CDC
362	2468957	2023-03-20 23:59	44.08	$5,190.69	$2,500.00	$67.00	CDC
363	2468958	2023-03-20 23:59	51.21	$5,190.70	$2,500.00	$67.00	CDC

Probe Metals Inc. (95831) 100% (Responsible)							
	Title No.	Expiry Date	Area (Ha)	Excess Work	Required Work	Required Fees	Type of Title
364	2468959	2023-03-20 23:59	18.18	$7,366.16	$1,000.00	$34.25	CDC
365	2468960	2023-03-20 23:59	57.43	$5,119.31	$2,500.00	$67.00	CDC
366	2468961	2023-03-20 23:59	57.45	$5,190.70	$2,500.00	$67.00	CDC
367	2468962	2023-03-20 23:59	57.43	$5,010.16	$2,500.00	$67.00	CDC
368	2468963	2023-03-20 23:59	29.9	$4,983.00	$2,500.00	$67.00	CDC
369	2468964	2023-03-20 23:59	23.65	$6,483.00	$1,000.00	$34.25	CDC
370	2468965	2023-03-20 23:59	44.78	$5,190.70	$2,500.00	$67.00	CDC
371	2468966	2023-03-20 23:59	54.03	$4,442.43	$2,500.00	$67.00	CDC
372	2468967	2023-03-20 23:59	57.44	$5,468.59	$2,500.00	$67.00	CDC
373	2468968	2023-03-20 23:59	57.3	$207.70	$2,500.00	$67.00	CDC
374	2468969	2023-03-20 23:59	0.97	$5,781.72	$1,000.00	$34.25	CDC
375	2468970	2023-03-20 23:59	26.79	$5,170.87	$2,500.00	$67.00	CDC
376	2468971	2023-03-20 23:59	1.57	$6,482.99	$1,000.00	$34.25	CDC
377	2468972	2023-03-20 23:59	34.33	$23,325.02	$2,500.00	$67.00	CDC
378	2468973	2023-03-20 23:59	41.92	$4,982.99	$2,500.00	$67.00	CDC
379	2471782	2022-01-04 23:59	57.47	$310.86	$1,200.00	$67.00	CDC
380	2471783	2022-01-04 23:59	57.47	$310.86	$1,200.00	$67.00	CDC
381	2471784	2022-01-04 23:59	57.47	$310.86	$1,200.00	$67.00	CDC
382	2471785	2022-01-04 23:59	57.47	$310.86	$1,200.00	$67.00	CDC
383	2471786	2022-01-04 23:59	35.81	$310.86	$1,200.00	$67.00	CDC
384	2471787	2022-01-04 23:59	35.81	$310.85	$1,200.00	$67.00	CDC
385	2471788	2024-01-04 23:59	19.57	$0.00	$500.00	$34.25	CDC
386	2471789	2024-01-04 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
387	2471790	2024-01-04 23:59	72.76	$0.00	$1,200.00	$67.00	CDC
388	2471791	2024-01-04 23:59	42.5	$0.00	$1,200.00	$67.00	CDC
389	2471792	2024-01-04 23:59	57.4	$0.00	$1,200.00	$67.00	CDC
390	2471793	2024-01-04 23:59	57.4	$0.00	$1,200.00	$67.00	CDC
391	2471794	2024-01-04 23:59	57.39	$0.00	$1,200.00	$67.00	CDC
392	2471795	2024-01-04 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
393	2471796	2024-01-04 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
394	2471797	2024-01-04 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
395	2471798	2024-01-04 23:59	57.38	$0.00	$1,200.00	$67.00	CDC
396	2471799	2024-01-04 23:59	57.37	$0.00	$1,200.00	$67.00	CDC
397	2471800	2024-01-04 23:59	57.37	$0.00	$1,200.00	$67.00	CDC
398	2471801	2024-01-04 23:59	57.37	$0.00	$1,200.00	$67.00	CDC
399	2471802	2024-01-04 23:59	57.37	$0.00	$1,200.00	$67.00	CDC
400	2471803	2024-01-04 23:59	57.37	$0.00	$1,200.00	$67.00	CDC
401	2471804	2024-01-04 23:59	57.36	$0.00	$1,200.00	$67.00	CDC
402	2471805	2024-01-04 23:59	57.36	$0.00	$1,200.00	$67.00	CDC
403	2471806	2024-01-04 23:59	57.36	$0.00	$1,200.00	$67.00	CDC
404	2471807	2024-01-04 23:59	57.36	$0.00	$1,200.00	$67.00	CDC
405	2472376	2024-01-08 23:59	37.25	$0.00	$1,200.00	$67.00	CDC
406	2472377	2024-01-08 23:59	57.05	$0.00	$1,200.00	$67.00	CDC
407	2472378	2024-01-08 23:59	43.08	$6,874.85	$1,200.00	$67.00	CDC
408	2479108	2022-02-14 23:59	57.05	$207.70	$1,200.00	$67.00	CDC
409	2479109	2022-02-14 23:59	57.05	$207.70	$1,200.00	$67.00	CDC
410	2479110	2022-02-14 23:59	57.06	$207.70	$1,200.00	$67.00	CDC
411	2542800	2022-08-27 23:59	57.39	$207.70	$1,200.00	$67.00	CDC
412	2562685	2022-04-21 23:59	57.37	$207.70	$1,200.00	$67.00	CDC
413	2562686	2022-04-21 23:59	57.37	$207.70	$1,200.00	$67.00	CDC
414	2562687	2022-04-21 23:59	3.38	$207.70	$500.00	$34.25	CDC
415	2562688	2022-04-21 23:59	57.41	$207.70	$1,200.00	$67.00	CDC
416	2562689	2022-04-21 23:59	57.4	$207.70	$1,200.00	$67.00	CDC
417	2562690	2022-04-21 23:59	57.4	$207.70	$1,200.00	$67.00	CDC
418	2562691	2022-04-21 23:59	57.4	$207.70	$1,200.00	$67.00	CDC
419	2562692	2022-04-21 23:59	57.4	$207.70	$1,200.00	$67.00	CDC
420	2562693	2022-04-21 23:59	57.4	$207.70	$1,200.00	$67.00	CDC
421	2562694	2022-04-21 23:59	57.4	$207.70	$1,200.00	$67.00	CDC
422	2562695	2022-04-21 23:59	57.4	$207.70	$1,200.00	$67.00	CDC
423	2562696	2022-04-21 23:59	57.4	$207.70	$1,200.00	$67.00	CDC
424	2562697	2022-04-21 23:59	57.4	$207.70	$1,200.00	$67.00	CDC
425	2562698	2022-04-21 23:59	52.25	$207.70	$1,200.00	$67.00	CDC
426	2562699	2022-04-21 23:59	42.26	$207.70	$1,200.00	$67.00	CDC
427	2562700	2022-04-21 23:59	57.39	$207.70	$1,200.00	$67.00	CDC
428	2562701	2022-04-21 23:59	57.39	$207.70	$1,200.00	$67.00	CDC
429	2562702	2022-04-21 23:59	57.39	$207.70	$1,200.00	$67.00	CDC
430	2562703	2022-04-21 23:59	57.39	$207.70	$1,200.00	$67.00	CDC
431	2562704	2022-04-21 23:59	57.39	$207.70	$1,200.00	$67.00	CDC
432	2562705	2022-04-21 23:59	57.39	$207.70	$1,200.00	$67.00	CDC
433	2562706	2022-04-21 23:59	57.39	$207.70	$1,200.00	$67.00	CDC
434	2562707	2022-04-21 23:59	39.19	$207.70	$1,200.00	$67.00	CDC
435	2562708	2022-04-21 23:59	57.39	$207.70	$1,200.00	$67.00	CDC
436	2562709	2022-04-21 23:59	57.39	$207.70	$1,200.00	$67.00	CDC

Probe Metals Inc. (95831) 100% (Responsible)							
	Title No.	Expiry Date	Area (Ha)	Excess Work	Required Work	Required Fees	Type of Title
437	2562710	2022-04-21 23:59	57.38	$207.70	$1,200.00	$67.00	CDC
438	2562711	2022-04-21 23:59	57.38	$207.70	$1,200.00	$67.00	CDC
439	2562712	2022-04-21 23:59	57.38	$207.70	$1,200.00	$67.00	CDC
440	2562713	2022-04-21 23:59	57.38	$207.70	$1,200.00	$67.00	CDC
441	2562714	2022-04-21 23:59	57.38	$207.70	$1,200.00	$67.00	CDC
442	2562715	2022-04-21 23:59	49.01	$207.70	$1,200.00	$67.00	CDC
443	2562716	2022-04-21 23:59	57.37	$207.70	$1,200.00	$67.00	CDC
444	2562745	2022-04-21 23:59	3.13	$207.70	$500.00	$34.25	CDC
445	295		37.4	$0.00	$0.00		MC
446	280PTB		156.04	$0.00	$0.00		MC
		Total:	17811.8	$23,688,354.94	$683,850.00	$25,587.25	

Notes: CDC: Title staked on map (GESTIM website). MC = Mining concession; ML = Mining Lease. From GESTIM (Québec Government Mining Titles Management), July 2, 2021. Source: Geologica, 2021.

4.2 Ownership, Royalties and Agreements

Several royalties are present within the property. Table 4-2 and Table 4-3 shows these royalties and the parties involved, while Figure 4-5 identifies where these royalties exist over the property.

Table 4-2: Royalties Courvan and Pascalis

Number of Claims	Date of Agreement	Parties Involved	Royalty Terms
37	22-Dec-16	Probe Metals & Glencore Canada Corporation	1% NSR
37	15-Mar-04	Aur Resources Inc. & Alexis Minerals Corporation	2% NSR
22	22-Dec-10	Mines Richmont Inc. & Soquem Inc.	0.38% NSR with 0.38% buyback for C$0.25 million
8	28-Mar-78	Soquem & Abitibi Metal Mines Ltd. (now Concorde)	5% net profit interest to Concorde
17	08-Jul-08	Peter Bambic & Adventure Gold Inc.	3% NSR on 2 claims with 1.5% buyback for C$2 million and 2% NSR with 1% buyback for C$1 million on the rest
20	21-Aug-06	Aur Resources Inc. & Alexis Minerals Corporation	2.5% NSR and an additional 0.75% NSR on 8 claims
28	17-Mar-08	Adventure Gold Inc. & IAMGOLD	2% NSR with 1.0% buyback for C$1 million
2	10-Sep-99	Aurizon Mines Ltd. & Cambior Inc.	2% NSR
8	17-Nov-82	Alain Garneau & Soquem	1% of gross sales
12	06-Dec-16	Dean Boudrias & Probe Metals	1% NSR with 1.0% buyback for C$0.5 million
15	11-Sep-12	Adventure Gold Inc., M. Roby & G. Roby	2% NSR with 1.0% buyback for C$1.0 million
6	31-May-17	Probe Metals & G. Griesbach, J.T. Asihto, C. MacEwen	1% NSR with 1.0% buyback for C$1.0 million
27	14-Apr-99	Louvem & Courvan	2% NSR with 1.0% buyback for C$0.5 million
2	18-Sept-86	Chalim Explorations Ltd. & Direct Exploration Ltée (later transferred to B. Charlebois)	2% NSR

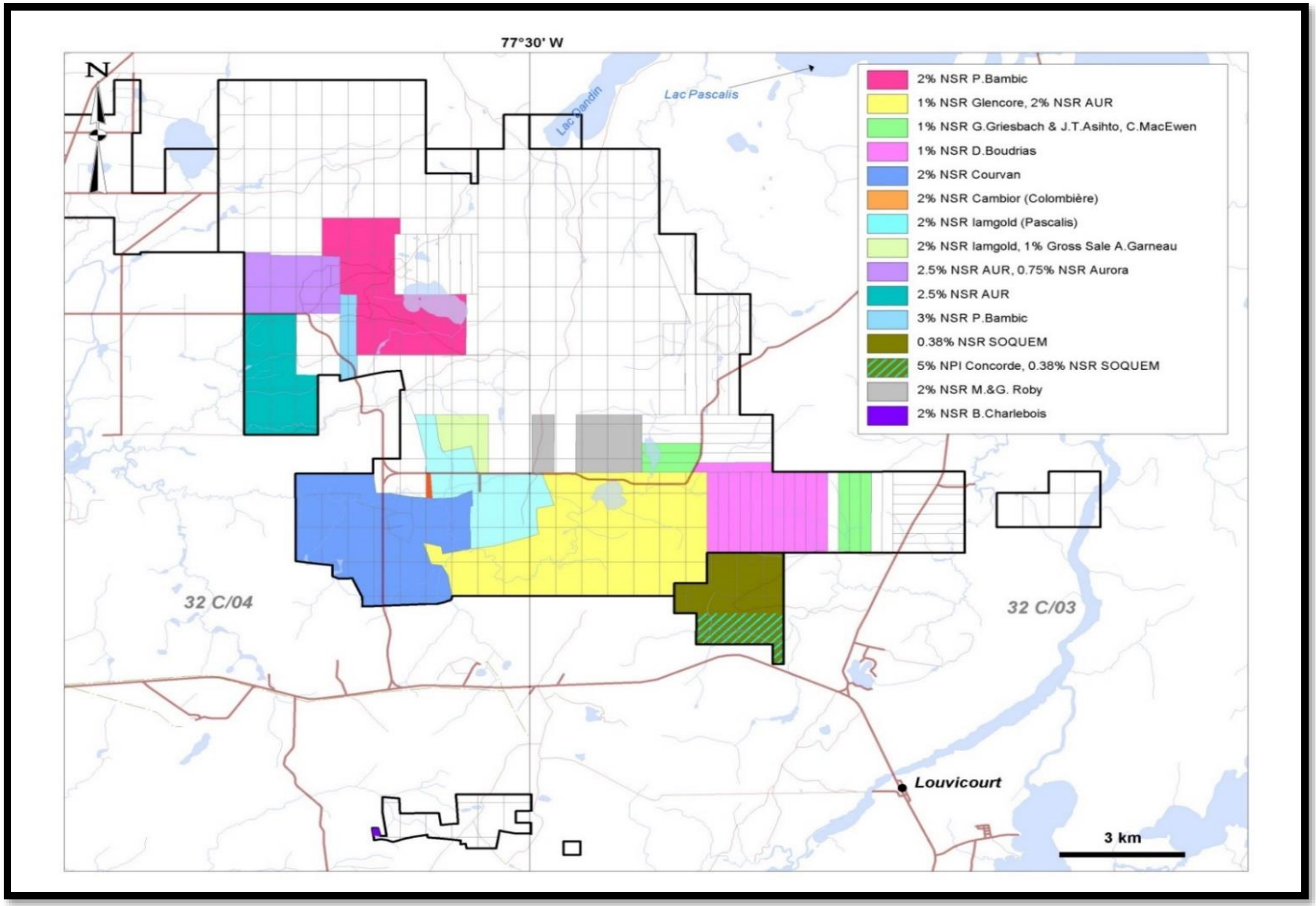
Source: Geologica, 2021.

Table 4-3: Royalties Monique

Number of Claims	Date of Agreement	Parties Involved	Royalty Terms
22	22-Dec-10	Mines Richmont Inc. & Soquem Inc.	0.38% NSR with 0.38% buyback for C$0.25 million
8	28-Mar-78	Soquem & Abitibi Metal Mines Ltd. (now Concorde)	5% net profit interest to Concorde

Source: Geologica, 2021.

Figure 4-5: Property Net Smelter Return (NSR)



Source: Probe, 2021.

4.3 Québec Mining Law

4.3.1 Claim

Under the Québec Mining law, a claim is the only exploration title that can be granted by the government for the exploration of mineral substances on lands in the public domain. It can be obtained in two ways:

- by map designation, henceforth the principal method for acquiring a claim
- by staking on lands that have been designated for this purpose.

A claim is a mineral right that gives its holder a two-year exclusive right to explore a designated territory for any mineral substances that are part of the public domain, with the exception of the following:

- petroleum, natural gas and brine
- sand other than silica sand used for industrial purposes, gravel, common clay used in the manufacture of clay products, and other mineral substance found in its natural state as a loose deposit, as well as inert mine tailings used for construction purposes
- on any part of land that is also subject to an exploration license for surface mineral substances or an exclusive lease to mine surface and every other surface mineral substance.

The claim also allows the holder to explore for mineral substances in mine tailings that are located on public land. Occasionally, the claim can be located on private surface right.

The claim holder may renew the title for a two-year period. To do so they must submit an application for renewal at least 60 days prior to the claim expiry date and pay the required fees, which vary according to the surface area of the claim, its location, and the date the application is received, as follows:

- If received 60 days prior to the claim expiry date, the regular fees apply.
- If received within the 60 days, the fees are doubled.

The claim holder must submit assessment work report and the work declaration form at least 60 days before the claim expiry date. If the remittance of these documents is made within the 60 days, a penalty fee of $25/claim up to a maximum of $250 is applied for late submission. The claim holder must also comply with other renewal conditions.

At the time of renewal, the claim holder may apply any assessment work credits from another of their claims towards the renewal of the claim in question. The center of the claim under renewal must lie within a radius of 4.5 km from the centre of the claim from which the credits are used.

Each claim provides access rights to a parcel of land on which exploration work may be performed. However, the claim holder cannot access land that has been granted, alienated or leased by the province for non-mining purposes—or land that is the subject of an exclusive lease to mine surface mineral substances—without first having obtained the permission of the current holder of these rights.

Furthermore, at the time of issuing claims that lie within the boundaries of a town or on territories identified as provincial reserves, the Ministère des Ressources Naturelles et de la Faune may impose certain conditions and obligations concerning the work to be performed on the claim. The Ministry also reserves the right to modify these conditions in the public's interest.

4.3.2 Mining Lease

To obtain a mining lease, a claim holder must first establish the existence of indicators showing the presence of a workable deposit, and must submit a report certified by an engineer who is a member of the Ordre des ingénieurs du Québec or a geologist who is a member of the Ordre des géologues du Québec, describing the nature, extent and probable value of the deposit, as well as a project feasibility study and a scoping and marketing study regarding processing in Québec.

Mining lease applicants must provide the Ministère de l'Énergie et des Ressources Naturelles du Québec (MERN), at its request, with any document and information relating to the mining project. The MERN may subject the mining lease to conditions designed to avoid conflicts with other uses of the territory.

When entering into the lease, the government may, on reasonable grounds, require maximization of the economic spinoffs within Québec of mining the mineral resources under the lease.

A mining lease will be granted only when:

- the rehabilitation and restoration plan has been approved;
- the certificate of authorization stipulated in Sections 22, 31.5, 165 and 201 of the *Environment Quality Act* has been issued; and
- the project's survey plan has been formalized by the Office of the Surveyor-General of Québec.

Applications must be sent to the registry office.

The initial term of the lease is 20 years. The lease may then be renewed no more than three times for a period of 10 years each time. After the third renewal, it may be renewed for periods of five years.

4.4 Permits and Environmental Liabilities

There are no known environmental concerns or land claim issues pending with respect to the property. It is understood and agreed that the property was received by Probe Metals Inc. "as is" and that Probe Metals Inc. will ensure that all exploration programs on the property are conducted in an environmentally sound manner.

The authors are unaware of any environmental liabilities associated with the claims of the property. However, the authors have not conducted a thorough inspection of these claims. The exploration activities were planned to have a minimum impact on the environment.

Probe Metals Inc. is responsible for obtaining all authorizations and permits from the Ministère de l'Énergie et des Ressources Naturelles du Québec or from the Ministère de l'Environnement et de la Lutte contre les Changements Climatique (MELCC) when applicable.

4.4.1 Mine Site of Monique Property

On November 6, 2013, the Ministère de l'Énergie et des Ressources Naturelles du Québec approved the restoration plan for the mine site of the Monique property, filed in March 2013 by Groupe-Conseil Roche Ltée.

Subsequently, in 2013/2014, Richmont Mines carried out partial reclamation work on the property, including the following:

- removal of buildings and infrastructure
- safety lift around the pit
- scarification and revegetation of infrastructure areas
- sampling and analysis of water, sludge with backfilling and revegetation of the settling basin
- characterization study
- monitoring with survey, sampling with groundwater analysis and annual report.

On July 24, 2020, the Ministère de l'Énergie et des Ressources Naturelles du Québec sent by registered letter a copy of the certificate of release from the obligations to restore the Monique property to Probe Metals Inc. The Monarques Gold Corporation (now called Monarch Mining Corporation) is hereby released of this closure obligation and this responsibility is now transferred to Probe Metals.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 Accessibility

The Val-d'Or East property can be easily reached from Val-d'Or by travelling approximately 17 km east along Highway 117. The former L.C. Beliveau mine site is approximately 8 km from Highway 117 (6 km north on Perron Road, 2 km east on Pascalis Road, and 200 m south on a gravel road). The former Bussiere mine is also accessible by the Perron Road, about 4 km north from the Highway 117 and then 500 m east on a gravel road. The former Monique mine is about 8 km further east on Highway 117, then north on Carnegie Road for 0.5 km, as shown in Figure 5-1 at the end of this section. All the roads are well maintained in all seasons. Several logging roads and trails run through the property, providing easy access to its interior.

The property is very close to the TransCanada Highway (Highway 117). A CN railway line crosses the southern part of the property, connecting east through to Montreal and west through the Ontario Northland Railway to the North American rail network. Val-d'Or has a regional airport with regularly scheduled flights to and from Montreal, and also acts as a hub for flights to the north. Val-d'Or is a six-hour drive north from Montreal, and there is daily bus service between Montreal and the other cities in the Abitibi region. The power lines and telecommunication systems can be easily accessible with the power line feeding the Beaufor mine located only 1 km away from the property limits.

5.2 Local Resources and Infrastructure

Val-d'Or was founded in the 1920s and has been a mining service centre since its inception. Currently, Val-d'Or, with a population of approximately 32,000 persons, is a modern city and one of the largest communities in the Abitibi region of Québec with a long and rich mining heritage. Supplies, labour, and service providers are readily available in the general area (Amos, Rouyn-Noranda and Val-d'Or). Local resources include commercial laboratories, federal government underground mining research office, construction contractors, drilling companies, exploration service companies, engineering and various other consultants, equipment vendors and suppliers.

Several mining operations and gold mills are active in the area, including the following:

- The Aurbel gold mill, held by Eldorado Gold Corporation and located 6 km west (straight line) from the Val d'Or East property, has a capacity of 1,500 metric tonnes per day (t/d) and can be upgraded to 2,500 t/d.
- The Beacon gold mill, held by Monarch Mining Corporation and also located 6 km away, has a capacity of 750 t/d (upgradeable).
- The Sigma-Lamaque gold mine and mill held by Eldorado Gold Corporation, located immediately east of Val d'Or city along the Highway 117 and approximately 20 km west of the property, has a capacity of 2,200 t/d and can be upgraded to 5,000 t/d.
- The Goldex mine and mill operation held by Agnico Eagle Mines Limited, located west of Val d'Or city along the Highway 117 and approximately 27 km west of the property, has a capacity of 8,000 to 10,000 t/d.

- The Kiena mine and mill facility held by Wesdome Gold Mines Ltd., located 5km west of the Goldex mine along the Highway 117 and approximately 32 km from the property, has a capacity of 2,000 t/d.

- The Camflo mill held by Yamana Gold, located about 6 km east of Malartic town along the Highway 117 and located 43 km west of the property, has a capacity of 1,600 t/d.

- The Canadian Malartic mine and mill facility held by AgnicoEagle Mines Limited – Yamana Gold, located immediately south of Malartic town and 48 km west of the property, has a capacity of 55,000 t/d.

The former L.C. Beliveau mine includes a three-compartment shaft (five tonne bucket) measuring 1.83 m x 1.83 m x 340 m depth, approximately 1,625 m of drifting on five levels, ventilation raises, and 660 m of ramp down to the 90 m level. A secured, fenced-in site used to store drill core at the former L.C. Beliveau mine is covered by a lease delivered by the MERN and located in Louvicourt Township, Block H, Lot 1. The surface lease bears the number 819544-00-000.

The former Bussiere mine on the Courvan gold trend includes a 245 m deep shaft and more than 3,000 m of drifting on five levels. The Resenor site also on the Courvan gold trend includes a 152 m deep exploration shaft on three levels.

The former Monique mine includes a 440 m x 350 m wide x 95 m deep open pit that is partially filled with water, as well as a rock pile and an overburden stockpile. Road access to the Monique open pit and its mining lease area is secured by a gate.

5.3 Climate

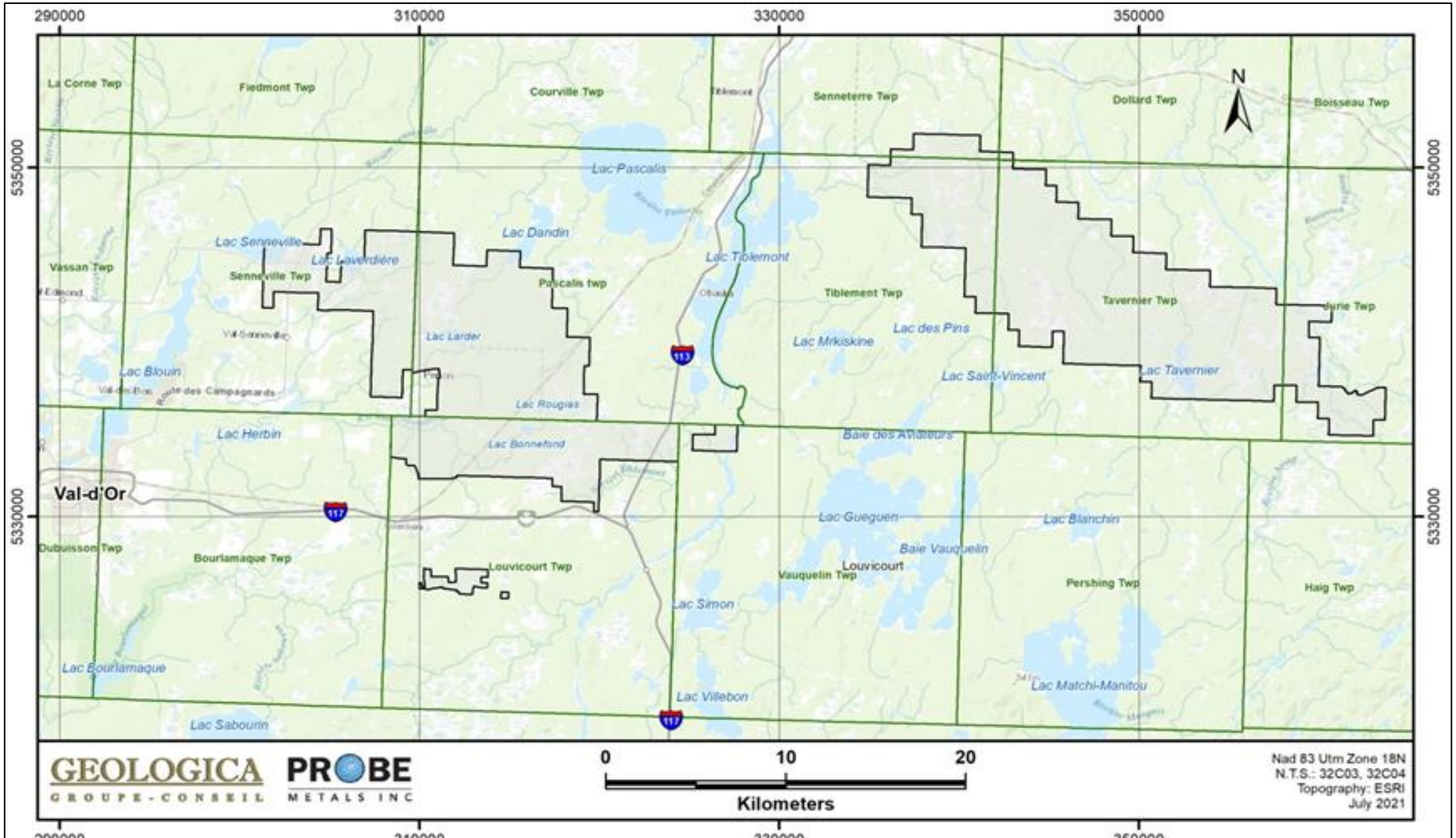
The climate of the Val-d'Or area is continental subarctic and sub-humid (Robitaille and Saucier, 1998). Winters are long and cold, and summers are short. The hottest month is July (17.4°C) and the coldest month is January (-17.2°C) (Government of Canada, 2017a). The temperature is above the freezing point approximately 162 days annually. Total annual rainfall is 929 mm, of which 73% is rain and 27% is snow. The direction of prevailing winds is southwest for most of the year.

The best operating season for basic exploration work (drilling, prospection, mapping, stripping, line cutting, geophysical and geochemical surveys) is over six months (from approximately May to October). Ideal winter drilling conditions last from early January to the end of March.

5.4 Physiography

Topographic relief on the property is rather flat, ranging from 315 to 355 m above sea level. The area is characterized by low ridges and hills flanked by generally flat areas of glacial outwash and swamps. Overburden thickness varies from 0 to 35 m, with local concentrations of outcrops in a more or less uniformly flat forested plain. The overburden is relatively thin on the different gold zones: 0 to 3 m for Highway, 0 to 10 m for the New Beliveau, 5 to 10 m for the North Zone and the deposits on the Courvan gold trend, and 5 to 15 m for the Monique zones. The overburden consists mainly of sand, gravel, and glacial moraine.

Figure 5-1: Detailed Project Location



Source: Geologica, 2021.

6 HISTORY

The information in this section was taken from the MERN (Ministère de l'Énergie et des Ressources Naturelles du Québec), SIGÉOM database, from previous technical reports carried out by past owners, and from information available in the Probe Metals office in Val-d'Or, Québec. A summary of the geological exploration work is presented below.

6.1 History of Courvan-Pascalis-Senore

The first claims in the area of the Val-d'Or East property were staked in the fall of 1930. In the southeast part of the Pascalis Block, the first gold occurrences were discovered in 1931. In 1931 and 1932, Noranda excavated a series of trenches and drilled five drill holes on what eventually became known as the No-1 and No-2 showings, pursuant to an option agreement at the time. In 1936, Pascalis Gold Mines completed several drill holes on the No-1 showing, which is today the site of the former L.C. Beliveau mine and current New Beliveau deposit. The results from trenches and drill holes completed at the time were not sufficiently interesting to justify further work. Between then and the opening of the mine, exploration programs for gold and base metals were conducted by different companies in the Beliveau area. Work included prospecting and geological mapping, diamond drilling, soil geochemistry and ground geophysics (MAG, EM, VLF, I.P).

The first exploration work reported on the Courvan portion of the property was completed by Bussiere & Massicotte prospectors in 1930. In 1932, the Bussiere Mining Company Limited was created and a shaft was sunk to 206 m. Québec Gold Mining Corporation took control of the mine in 1933. The Bussiere deposit was first mined between 1932 and 1935. Cournor Mining Company reopened the mine from 1937 to 1942 and produced 25,971 ounces from Bussiere and Creek zones, for a total historic production of 41,682 ounces of gold (non-compliant with NI 43-101). In 1942, a forest fire destroyed the mine infrastructure and offices at the surface, forcing the permanent closure of the mine. Following the closure of the mine, exploration programs for gold and base metals were conducted by different companies on the Courvan Block, particularly on the Southwest Zone.

6.1.1 Former L.C. Beliveau Mine

Commercial production at the L.C. Beliveau mine began on September 1, 1989 and the mine ceased operations in October 1993 after producing 166,936 ounces of gold. During the pre-production period, from October 1988 to August 1989, 4,789 ounces of gold were produced for a total production of 171,725 ounces of gold recovered and sold.

Table 6-1 shows the production history and the financial summary for this operation, in current dollars and based on an average price of C$506 per ounce. A total of 1,800,298 tonnes grading 3.17 g/t Au for 183,698 ounces of gold in situ were extracted from the mine, which corresponds to an increase of 154% in terms of tonnage and 151% in terms of ounces, compared to the 1988 scoping study. Production statistics averaged 35,296 tonnes per month, or 1,175 tonnes per day, for an average annual production of 43,576 ounces of gold per year.

A three-compartment shaft measuring 1.83 m × 1.83 m × 340 m depth (five tonne bucket) and approximately 1,625 m of drifting on five levels were excavated and used to extract these resources (Figure 6-1). These underground mine workings remain available and may be used in the future.

Table 6-1: Production History and Financial Summary – L.C. Beliveau Mine (1981-1993)

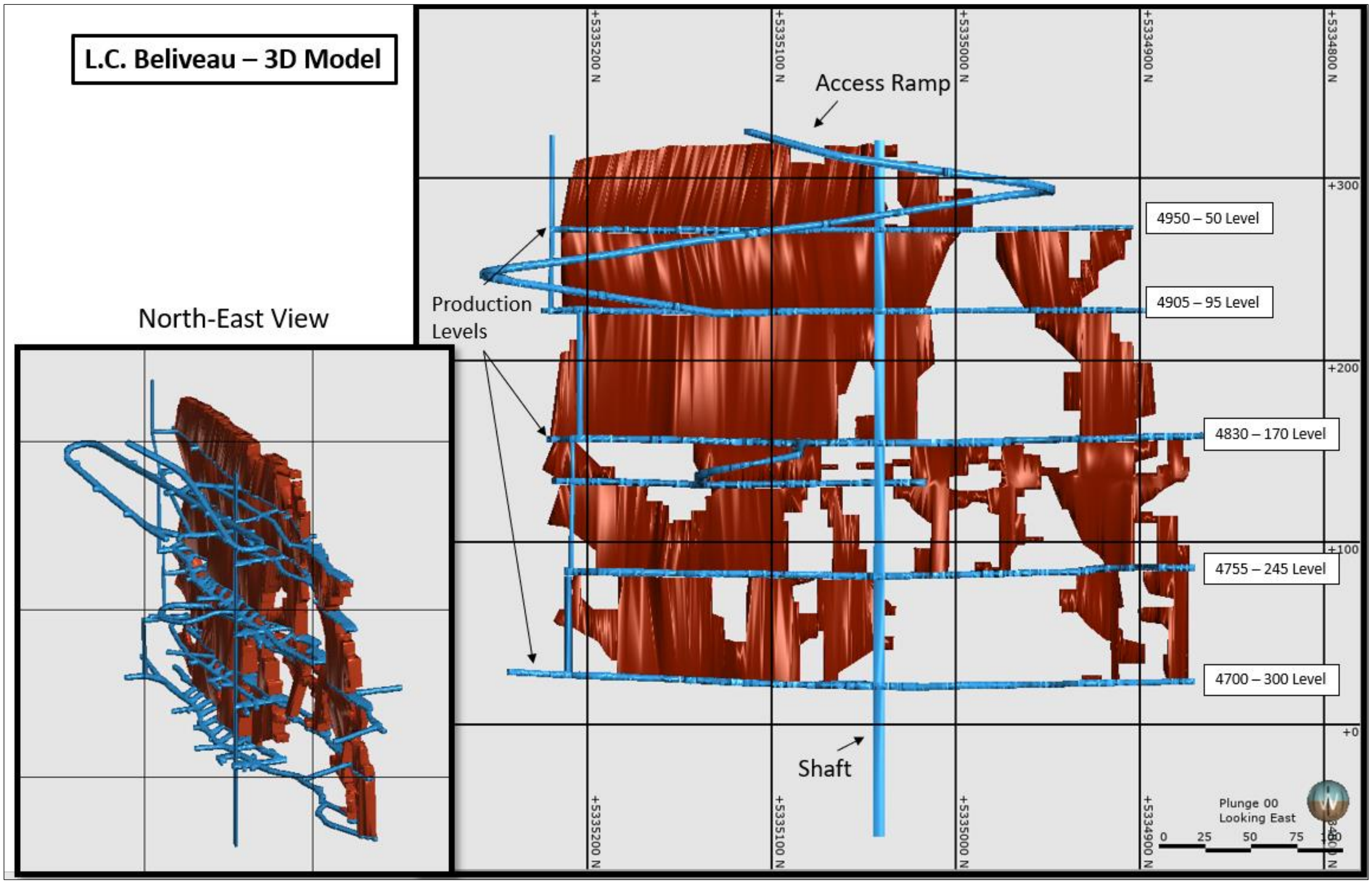
Description	Exploration	Production						Production + Exploration
	1988	1989	1990	1991	1992	1993	Total	
Production								
Tonnes out of the Mine (mt)	35,493	87,884	381,010	394,093	438,377	464,676	1,766,040	1,801,533
Tonnes Processed at the Mill (mt)	35,493	87,884	368,133	404,216	425,785	478,787	1,764,805	1,800,298
Grade (g/t Au)	4.2	3.58	3.68	3.11	2.71	3.1	3.15	
Ounces Mined	4,793	10,115	43,556	40,417	37,098	47,719	178,905	183,698
Recuperation %		91.1	92.87	93.67	93.82	94.22	93.14	
Ounces out of the Mill	4,789	9,207	40,069	37,914	34,762	44,984	166,936	171,725
Average Gold Price (C$)		586	546.5	501.2	467.9	493	507.60	
Revenue (C$)		5,378,176	21,816,802	18,931,804	16,208,437	22,127,983	84,463,202	
Operating and Mill Costs								
Production Cost (Mine)		1,821,437	5,627,613	6,241,326	6,359,295	5,329,404	25,379,075	
Mill and Transportation Cost		1,070,469	3,326,434	2,818,878	2,881,542	3,509,026	13,606,349	
Total Operation Cost		2,891,905	8,758,081	9,228,300	9,108,241	8,998,896	38,985,423	
Cost per Ounce		314.1	218.57	243.4	262.02	200.05	233.54	
Amortizing		1,136,252	4,873,390	4,575,046	4,838,009	8,409,697	23,832,394	
Amortizing by Onces		123.41	121.62	120.67	139.18	186.95	142.76	
Total Costs		4,086,920	13,637,026	13,815,703	13,936,397	18,407,447	63,883,493	
Net Earning		1,288,877	7,759,273	4,923,655	2,226,581	3,465,095	19,663,481	
Deferred Costs		356,156	1,801,246	1,163,803	1,100,915	-570,000	3,852,120	
Cash Flow		2,071,352	11,251,920	8,527,344	6,009,134	12,700,233	40,559,983	

Source: Cambior Inc, Lucien Beliveau Mine Postmortem Report, November 19, 1996.

In 1994, upon closing the Beliveau mine, Cambior estimated possible reserves, described as poorly defined by drilling or inaccessible without the addition of major infrastructure (not compliant with CIM criteria or NI 43-101 disclosure standards), of 298,400 tonnes (undiluted) at a grade of 2.45 g/t Au for 23,500 ounces of gold, located along the extension of the Main Zone below the fifth level of the mine (below 300 m elevation). The method used to estimate reserves was the conventional polygonal method on longitudinal section. Given the geometry of the deposit, the best way to assess the average grade was to drill vertical holes in the centre of the dyke at a 10 m drill spacing along strike. The thickness of the zone was defined by development work and by transverse drilling. The drill hole was sampled along its entire length and analyzed in 1 m intervals by atomic absorption and fire assay. Variography at the time indicated a lateral range of 37 m. The following technical parameters were used:

- density of 2.8 t/m^3
- capping grade of 17.2 g/t Au
- lower cut-off grade of 1 g/t Au
- dilution factor of 7% to 15% at 0 g/t, depending on the stope size.

Figure 6-1: Illustration of the Mining LCB – L.C. Beliveau Mine (1988-1993)



Source: Probe Metals, 2021.

6.1.1.1 Mining Methods and Characteristics

Only one mining method was used, namely large-diameter longhole open stoping. The mineralized zone was opened full width on each level and haulage drifts with drawpoints were developed on the third and fifth levels in the Main Zone and on the fourth and fifth levels in the South Zone so as to minimize development and operational costs. Drilling of long holes approximately 16.5 cm in diameter was carried out from one level to the next; the maximum length of these holes was about 70 m, corresponding to the stope height and the distance between levels. A 3 m × 3.5 m drill spacing was used and blasting was carried out in such a way as to control vibrations. Mining of stopes in the Main Zone began from the north end of the deposit, gradually moving toward the shaft at the south end. Barren zones were left in place and served as pillars. Openings were made using drop raises and stopes were not backfilled.

This low-cost mining method was made possible by the excellent geometry of the mineralized zone and the highly competent rock mass. Figure 6-1 shows the distribution of open stopes and pillars in cross-section. Open stopes extend over more than 300 m vertical by up to 225 m in length by 10 m in width. The average dilution factor during operations was 7%.

6.1.1.2 Geotechnical

Given the extremely competent rock mass, the feasibility study indicated that stope dimensions could reach a maximum of 80 m in length with pillars having a minimum length of 8 m. The operation showed even greater flexibility, as discussed and illustrated in Figure 6-1.

Various studies were also conducted to determine the competency of the rock mass before starting mining operations. Core samples were taken and tested at Golder Associates laboratory in 1985. A Classification Scheme Rock Mass rating of 78 was obtained. This corresponds to a very good quality rock mass allowing large excavation spans to be developed with minimum support.

The magnitude of groundwater inflows is consistent with a relatively unfractured rock mass that is intrinsically impermeable apart from major discontinuities. Inflow would be expected to remain at a low level (Golder, 1985).

6.1.1.3 Metallurgy and Processing

A significant number of metallurgical campaigns were carried out on ore from the former L.C. Beliveau mine, first by Soquem from 1983 to 1985, and then by Cambior from 1987 to 1988. A more detailed summary of the testwork performed and the metallurgical performance is provided in Section 13.

6.1.2 Former Bussiere Mine

Mining concessions 295 and 280 PTB are host to the historic Bussiere mine that produced 41,682 ounces of gold between 1932 and 1942 from 224,547 tonnes of ore with an average recovered grade of 5.77 g/t (production non-compliant with NI 43-101 standards). Annual production statistics presented in Table 6-2 were extracted from a report published by Pierre Trudel (1986) for the Ministère de l'Énergie et des Ressources Naturelles du Québec. It should be noted that the author specifies in his report that the annual production statistics are approximate for the second period of production between 1937 and 1942. During this period, the production numbers for the Bussiere mine were combined with the Beaufor mine, which belonged to the same company, Cournor Mining Company. The company's historical reports mention that around one-third of the ore and one-quarter of the gold produced came from the Bussiere mine. These two facts were taken into consideration when estimating the annual production statistics from 1937 to 1942 (Table 6-2).

Table 6-2: Bussiere Mine Production Statistics

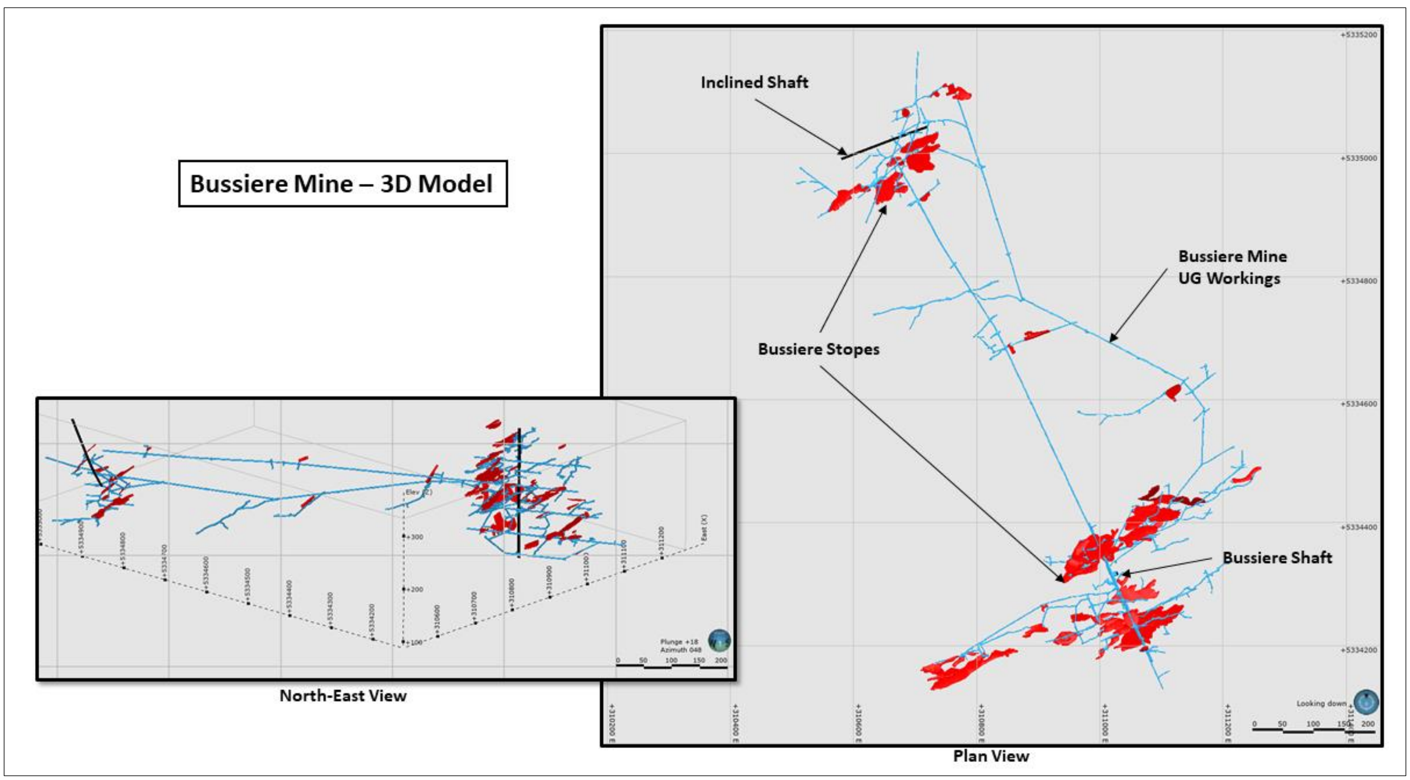
Year	Tonnes Milled (metric)	Recovered Grade (Au g/t)	Ounces Recovered
1932	10,886	5.66	1,982
1933	38,434	6.07	7,500
1934	34,516	4.53	5,039
1935	7,744	4.77	1,190
1937	18,459	3.87	2,300
1938	31,676	7.99	8,151
1939	30,649	5.93	5,841
1940	22,591	5.52	4,018
1941	20,521	5.93	3,921
1942	9,072	5.97	1,740
Total	**224,547**	**5.77**	**41,682**

Source: Geologica, 2021.

In total, more than 40 mineralized zones with between 45 and 77,000 tonnes were extracted up to a vertical depth of 236 m. At the Bussiere mine, ore extraction was done through a 245 m deep main shaft with five production levels (61, 107, 152, 198 and 236 m) and a production rate of 136 t/d. Room and pillar was the principal mining method due to the shape of the deposit, which is composed of tabular zones dipping slightly to the north. Amalgamation was used between 1932 and 1935 with a recovery rate of only 75%. Amalgamation is an old and obsolete concentrating process in which metallic gold or silver, or an alloy of the two, is mixed with mercury, either in an amalgamation drum or on an amalgamation table, where the precious metal bonds with the mercury to form the metal-laden mercury amalgam and the waste (barren) ore pulp is directed to a different stream. When the mine re-opened in 1937, cyanidation was introduced to process the ore and the gold recovery climbed to 98%.

Ore from the Bussiere mine came from two principal zones: Bussiere and Creek. The Creek Zone is situated beneath the Colombiere River, approximately 900 m north of the main shaft. The zone is connected to the Bussiere mine workings by a cross-cut drift that was developed off the 650 level at a depth of 198 m. An inclined vent shaft was also used to extract ore, with stations built at 137 and 168 m depth. The majority of the ore extracted from the mine during the last two years of production came from the Creek Zone and veins 674, 678 and 696, which were discovered during the development of the cross-cut drift. Following the 1942 forest fire, the ore left in place became the subject of numerous resource estimates (not NI 43-101 compliant), the most notable being completed by Jean Lavallée in 1962. Figure 6-2 shows the underground development and stoping areas of the historic Bussiere mine.

Figure 6-2: Illustration of the Mining at the Former Bussiere Mine



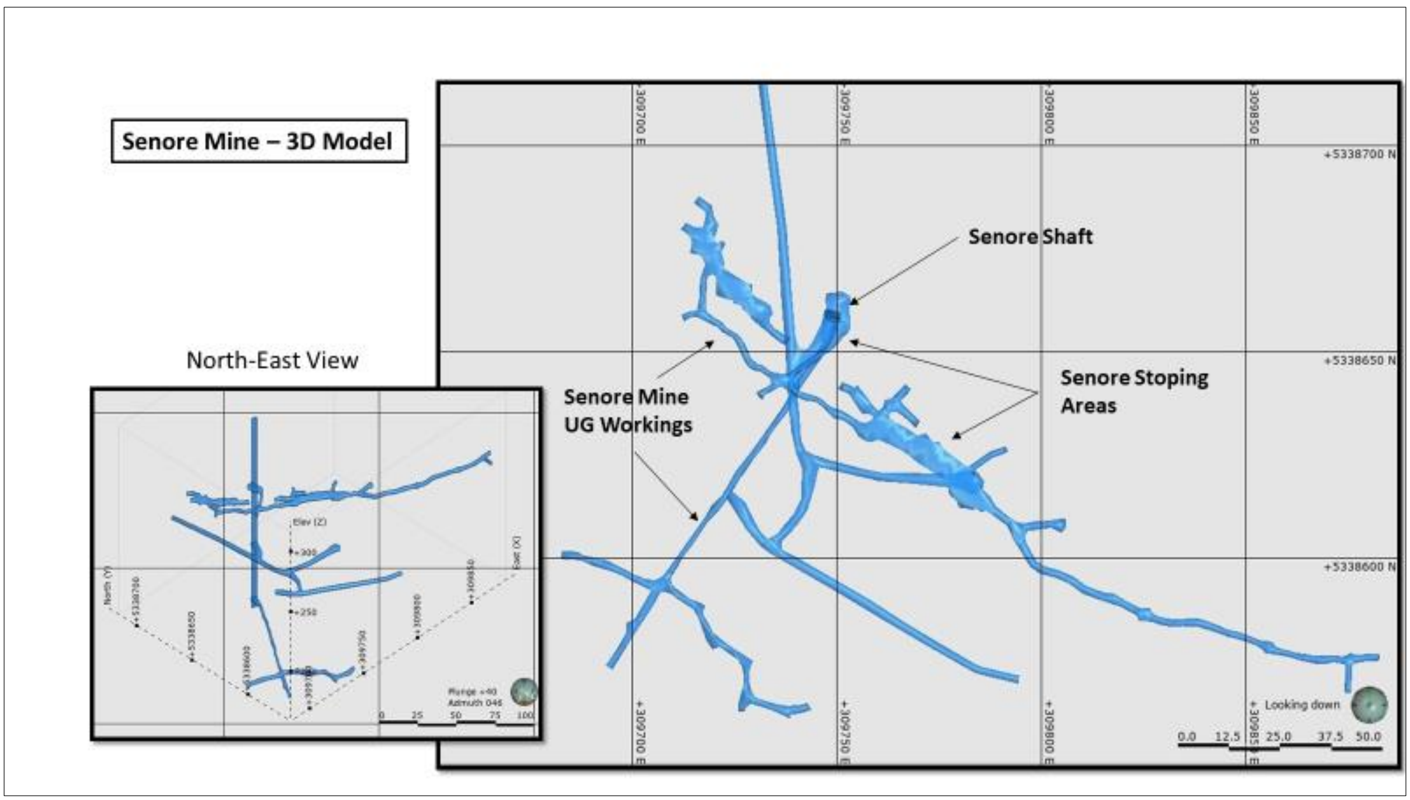
Source: Probe Metals, 2021.

6.1.3 Former Senore Mine

According to the latest technical report on the Senore property (Charboneau, 2008), gold was discovered on the Senore property in 1932 where a shaft was sunk. Subsequently, 5,791 metres of diamond drilling was carried out between 1936 and 1939 by Senore Gold Mines Ltd. The discovery vein was reported to extend for a length of over 183 m (600 feet) striking north at 55°W and dipping 55° to the southwest. This quartz vein forms the core of a 6-metre-wide shear zone that had been traced for 275 m along strike. The quartz core was reported to average 1.5 m in width with an average grade of 8.36 g/t Au, on the basis of six drill holes, to a depth of 76 m (Norrie 1939).

Between 1939 and 1940, a 152-metre shaft was sunk on the Discovery Zone, with levels at 66, 115 and 165 metres (originally 200, 350 and 500 feet). A composite plan of the underground works (Figure 6-3) shows that the main development was on a northwest-striking vein dipping at 55° to the southwest. It also shows a long cross-cut on the 115 m level extending at least 133 metres north of the main vein, suggesting that drilling had defined at least one other target to the north of the shaft. At least 26 underground diamond drill holes were drilled at the 66 and 166 metre levels (Ross, 1940 and 1941).

Figure 6-3: Illustration of the Mining at the Former Senore Mine



Source: Probe Metals, 2021.

The property appears to have lain dormant until 1973 when it was acquired by El Coco Explorations Ltd. (El Coco). Between 1973 and 1979, El Coco conducted magnetic and VLF-EM surveys, basal till geochemistry, and diamond drilling of nine holes totalling 1,253 m, which resulted in the discovery of the North Zone. An additional three drill holes were situated outside the present property in Senneville Township to the west (Bergmann, 1973, 1974, 1975a, 1975b, 1976, 1977, 1978a, 1978b and 1979).

6.2 Former Monique Mine

The pre-production phase at the Monique mine began in February 2013. In order to confirm both the gold recovery for the G Zone mineralization and the grade estimation in the Monique geological block model, Richmont extracted a bulk sample in 2012.

Site preparation for the bulk sampling program started in late 2012 and excavation of the overburden started in February 2013 (Figure 6-4). Blasting of the bulk sample occurred on May 14, 2013 and 8,494 tonnes of G Zone mineralization were treated in the Camflo mill from May 28 to June 3, 2013. A total of 717 ounces of gold were produced with a gold recovery of 95.1%. The calculated head grade of the bulk sample was 2.76 g/t. The second half of the bulk sample was treated from July 1 to 9, 2013 and 950 ounces of gold were produced with a gold recovery of 96%.

The bulk sample on the G Zone mineralization confirmed the block model and the gold recovery rate at the Camflo mill. With the infill drilling completed in 2013, all the resources inside the open pit were considered to be in the indicated category. All the mining permits and the certificate of authorization were obtained for the Monique open pit project.

An economic evaluation was done internally that confirmed the profitability of the project. Following Richmont's decision to proceed with production following the bulk sample results, all of the mineral resources that were estimated within the open pit were considered mineral reserves. An ore recovery factor of 95% and a dilution factor of 10% at a grade of 0 g/t of gold were applied to the measured resources. In July 2013, the proven and probable mineral reserves of the Monique open pit were at 485,737 tonnes at a grade of 2.29 g/t for 35,698 ounces of gold (Adam et al., 2013).

The Monique mine was a small open pit with approximately two years of operation. Richmont decided to use contractors to complete most of the work. The Corporation's Beaufor Mine division provided the required administration, safety, mining engineering and electrical work to support the operation. Figure 6-4 shows the open pit and infrastructure on site.

Waste and ore were drilled and blasted at about 6,000 t/d during the operation. Bench heights were 10 m in waste material and 5 to 10 m in ore. The ore was excavated and stockpiled on two separate ore piles (low and high grade). The ore was transported daily by a contractor and treated at Richmont's Camflo mill near Malartic, Québec. The Camflo mill, with a rated capacity of 1,200 short tons per day, is a Merrill-Crowe conventional type mill with circuits for crushing, grinding, gold cyanidation, and precipitation using zinc powder. The ore was milled in batches on a monthly basis at a rate of approximately 23,500 tons per month.

Commercial production at the Monique mine began on October 1, 2013, and the mine ceased operations on January 17, 2015. Table 6-3 shows the production history. A total of 660,655 tonnes grading 2.47 g/t Au for 51,488 ounces of gold in situ were extracted from the mine.

In 2013, Richmont estimated the underground mineral resources in the indicated category: 107,531 tonnes at a grade of 4.88 g/t for 16,858 ounces of gold. For the high-grade part of the G Zone, access was designed via a ramp from the bottom of the pit. The geological block model allowed the definition of mineral resources on long sections. Details of the underground mineral resource were provided in a previous NI 43-101 Technical Report by Adam et al. (2013).

Figure 6-4: Illustration of the Surface Infrastructure of the Monique Mine (2013-2015)

Source: Geologica, 2021.

Table 6-3: Production History – Monique Mine (2013-2016)

Description	Preproduction	Commercial Production				Total
		2013	2014	2015	2016	
Tonnes Milled	76,374	60,536	283,009	224,673	16,063	660,655
Grade (g/t Au)	1.99	2.35	2.71	2.37	2.31	2.47
Recovery (%)	94.4	93.6	96	96.7	97.5	95.9
Ounces Recovered	5,794	4,274	23,675	16,580	1,165	51,488

Source: Geologica, 2021.

7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Abitibi Greenstone Belt

The property is located in the southern Superior Province of the Canadian Shield which forms the core of the North American continent (Figure 7-1). The property lies in the Val-d'Or mining camp in the Southern Volcanic Zone in the southeastern part of the Archean Abitibi Greenstone Belt (AGB).

The AGB comprises east-trending synclines containing volcanic rocks and intervening domes cored by synvolcanic and/or syntectonic plutonic rocks (gabbro-diorite, tonalite and granite), separated by east-trending turbiditic wacke bands (MERQ-OGS, 1984; Ayer et al., 2002a; Daigneault et al., 2004; Goutier and Melançon, 2007). The volcanic and sedimentary strata usually dip vertically and are separated by abrupt, variably dipping east-trending faults. Some of these faults, such as the Porcupine-Destor Fault, display evidence of overprinting deformation events, including early thrusting and later strike-slip and extension events (Goutier, 1997; Benn and Peschler, 2005; Bateman et al., 2008). Two ages of unconformable successor basins are observed: widely distributed fine-grained clastic rocks in early Porcupine-style basins, followed by Timiskaming-style basins composed of coarser clastic sediments and minor volcanic rocks, largely proximal to major strike-slip faults such as the Porcupine-Destor and Larder Lake–Cadillac Fault Zones and other similar regional faults in the northern Abitibi Greenstone Belt (Ayer et al., 2002a; Goutier and Melançon, 2007). The Abitibi Greenstone Belt is intruded by numerous late-tectonic plutons composed mainly of syenite, gabbro and granite, with lesser lamprophyre and carbonatite dykes. Commonly, the metamorphic grade in the Abitibi Greenstone Belt varies from greenschist to subgreenschist facies (Jolly, 1978; Powell et al., 1993; Dimroth et al., 1983b; Benn et al., 1994), except in the vicinity of most plutons where the metamorphic grade corresponds mainly to the amphibolite facies (Jolly, 1978).

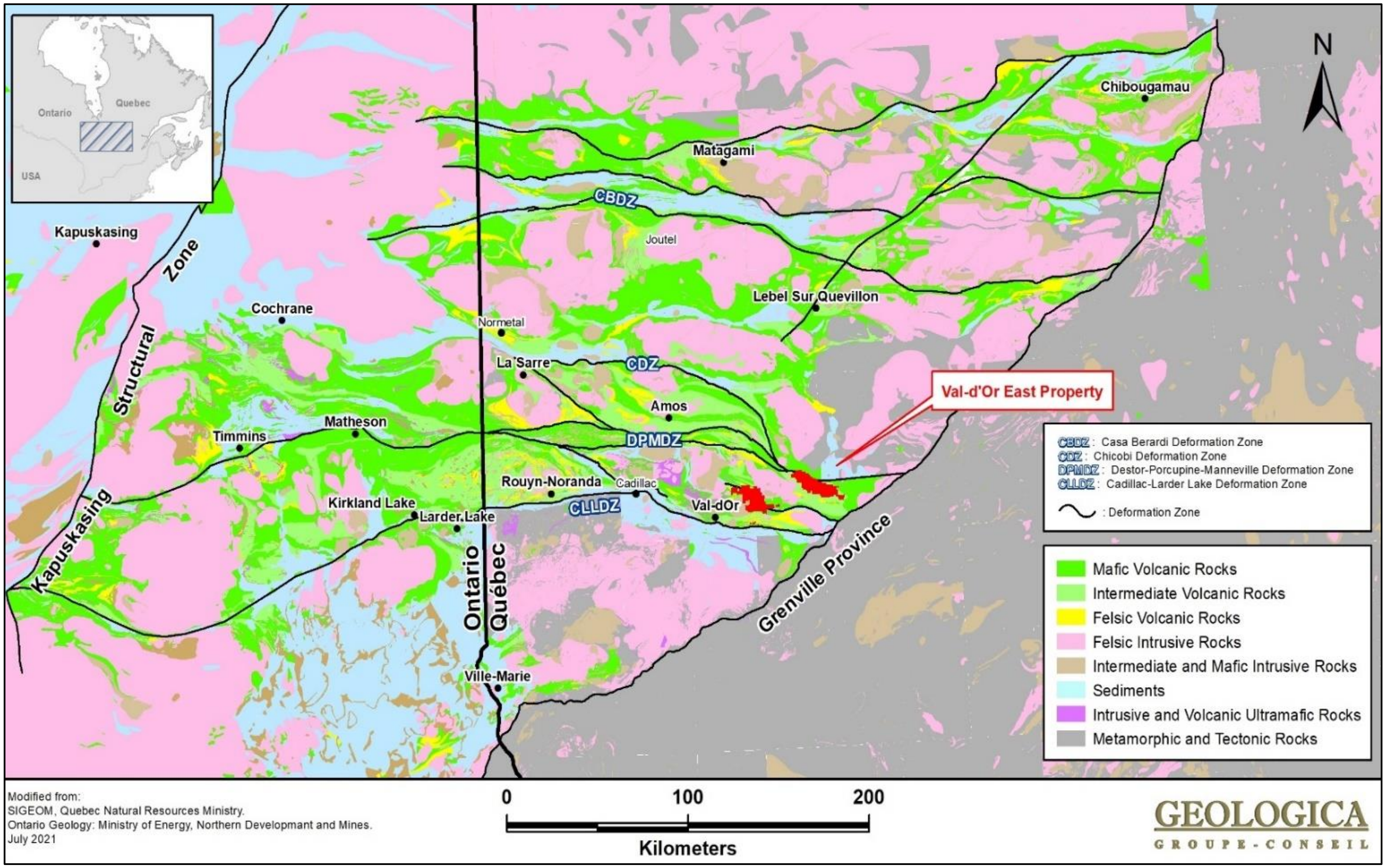
The AGB successor basins are of two types: (1) laterally extensive basins corresponding to the Porcupine Assemblage, with early turbidite-dominated units (Ayer et al., 2002a); and (2) later and aerially more restricted alluvial-fluvial or Timiskaming-style basins (Thurston and Chivers, 1990).

The geographic limit between the northern and southern parts of the AGB has no tectonic significance but is similar to the limits between the internal and external zones of Dimroth et al. (1982) and those between the Central Granite-Gneiss and Southern Volcanic Zones of Ludden et al. (1986). The boundary between the Northern and Southern parts passes south of the wackes of the Chicobi and Scapa Groups, with a maximum depositional age of 2698.8 ± 2.4 Ma (Ayer et al., 1998, 2002b).

The Abitibi Subprovince is bounded to the south by the Larder Lake–Cadillac Fault Zone, a major crustal structure that separates the Abitibi and Pontiac Subprovinces (Chown et al., 1992; Mueller et al., 1996a; Daigneault et al., 2002, Thurston et al., 2008).

The Abitibi Subprovince is bounded to the north by the Opatica Subprovince, a complex plutonic-gneiss belt formed between 2800 and 2702 Ma (Sawyer and Benn, 1993; Davis et al. 1995). It is mainly composed of strongly deformed and locally migmatized tonalitic gneisses and granitoid rocks (Davis et al., 1995).

Figure 7-1: Map of Abitibi Greenstone



Source: Geologica, 2021.

7.2 Regional Geology

The geology of the Val-d'Or area was previously described by Latulippe (1976), Imreh (1984), and by Rocheleau et al. (1987). The stratigraphic scheme from these authors was subdivided into two principal groups: the Lower Malartic Group (containing the La Motte-Vassan, Jacola, and Dubuisson Formations) located in the northern portion, and the Upper Malartic Group (containing the Val-d'Or and Heva Formations) located in the southern portion of the region. The Lower and Upper Malartic Groups are bordered by two major deformation zones, the Larder Lake-Cadillac Tectonic Zone (LLCTZ) to the south and the Garden Island Tectonic Zone (GITZ) to the north (Figure 7-2).

Volcano-sedimentary units of the Malartic Group are found to the south and those of the Garden Island Formation to the north, associated with the breaks. South of the Malartic Group, the Piché Group forms tectonic slices along the Larder Lake-Cadillac Tectonic Zone. The Piché Group is defined by talc-chlorite and locally carbonate schists, for which the protolith corresponds to magnesian basaltic to komatiitic flows, with local olivine cumulate or spinifex textures and highly altered to tremolite and carbonate.

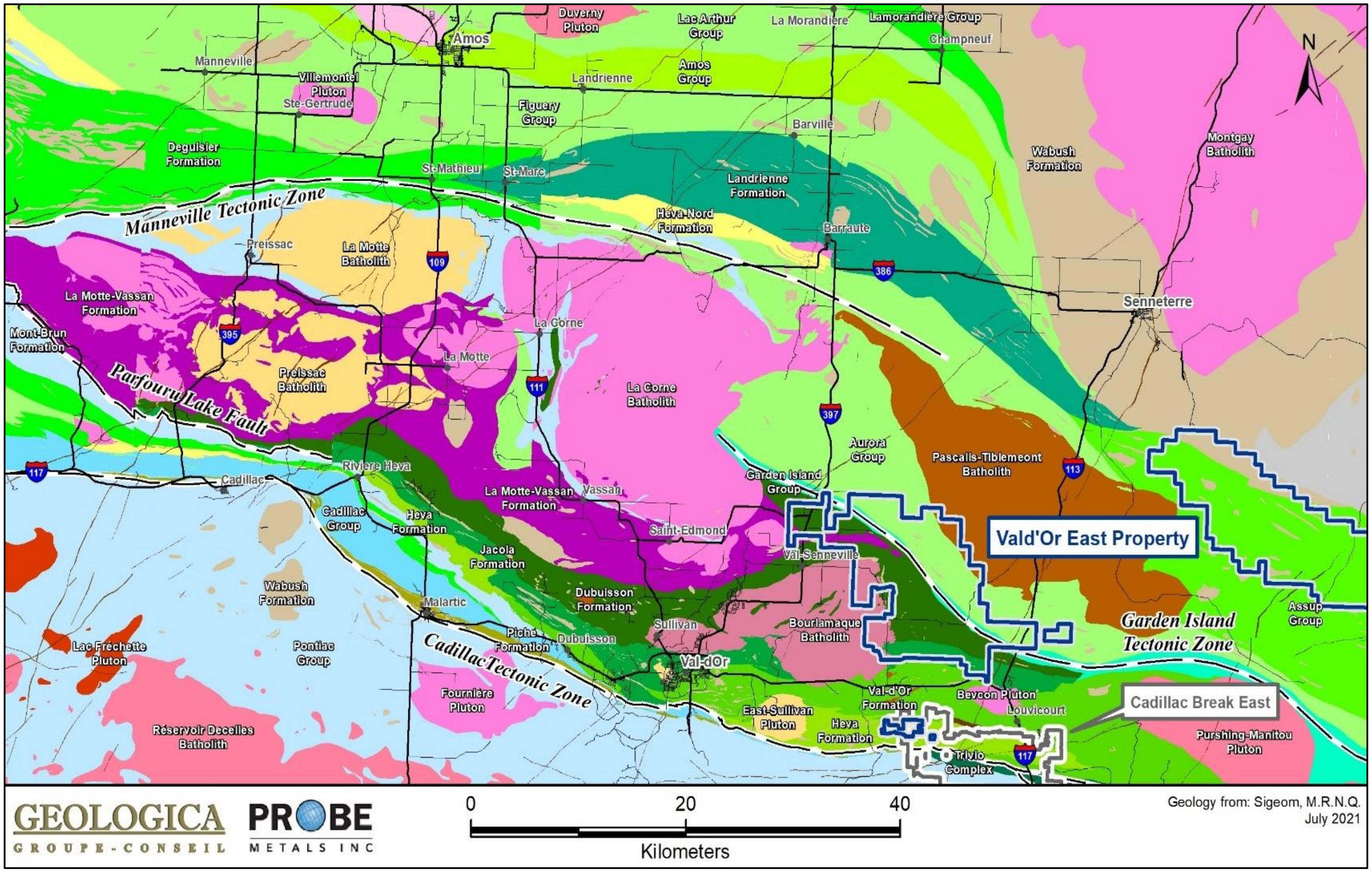
Recent work by the MERN (MB 98-01, DV 99-03) and a Ph.D. thesis by Russell Scott (2005) have led to an updated subdivision of the local stratigraphy. The Malartic Block is subdivided into two stratigraphic groups based on regional tectonics and volcano-sedimentary stratigraphy, namely the Malartic Group (Lower from historical division) and the Louvicourt Group (Upper from historical division). The Malartic Group, at the base, corresponds to an Archean ocean platform in an extensional regime associated with mantle plume volcanism (Scott, 2005). It consists of komatiitic and tholeiitic lavas, basaltic effusive rocks, sills and dykes. It is divided into three formations: La Motte-Vassan, Dubuisson, and Jacola. The overlying Louvicourt Group represents a change in tectonic regime—a shift from a divergent zone to a convergent (subduction) zone, with the formation of an arc complex. This group may reach 7.5 km thick, and the units trend east-west with a steep dip. The group is subdivided into two formations, the Val-d'Or (3.5 to 5.5 km) and the Heva (1.5 to 2 km).

The Dubuisson Formation, composed of tholeiitic and komatiitic lavas, is represented by a series of sequential suites of flows, mainly basaltic with ultramafic komatiites, magnesian basalts, and picritic flows. The Jacola Formation is a deep-water subaqueous plain composed of tholeiitic lavas with komatiites and magnesian basalts. The transition between the Jacola Formation, composed of mafic to ultramafic rocks, and the Val-d'Or Formation, composed of intermediate to felsic rocks, is gradual. The transition zone is characterized by the appearance of very thick volcaniclastic deposits of tholeiitic affinity. The property straddles rocks of the Dubuisson Formation to the north and rocks of the Jacola Formation to the south.

There is an intimate relationship between the Jacola, Val-d'Or and Heva Formations that illustrates the evolving tectonic regime. The Jacola Formation occurs at the base of the sequence, a deep marine environment in an extensional regime (mid-ocean ridge) controlled by mantle plume volcanism. There is some overlap between the onset of arc construction (Val-d'Or Formation) and the waning stages of plume volcanism (Jacola Formation). Finally, lavas associated with arc volcanism were buried by abundant lavas produced by tectonic rifting (Heva Formation). The Val-d'Or arc is a south-facing monoclinal volcano-sedimentary sequence. Volcanism evolved, initially associated with a mantle plume and eventually shifting to subduction-related volcanism.

The Val-d'Or Formation is a subaqueous volcano-sedimentary arc comprising several sequences of intermediate to felsic lavas. The latter are discontinuous interstratified, and show a progression from tholeiitic to calc-alkaline affinities. These sequences consist of massive, pillowed, brecciated and occasionally vesicular lava flows.

Figure 7-2: Regional Geology



Source: Geologica, 2021.

The Heva Formation is characterized by a return to an extensional regime. It is composed of bimodal effusive volcanic rocks with local volcaniclastic deposits. It includes iron-rich tholeiitic basalts and differentiated synmagmatic sills. Mafic units are intercalated with thin intermediate to felsic pyroclastic units and chert horizons as well as bedded volcaniclastic sediments. A distinct marker horizon at the contact between the Val-d'Or and Heva formations, traced over 30 km, consists of dark grey, magnetic, spherulitic felsic lavas of tholeiitic affinity. Above this marker horizon lies a polymict brecciated tuff unit with mafic and felsic clasts. Toward the top of the formation, massive to pillowed mafic lavas occur, with gabbro sills and dykes. Volcanic and sedimentary units of the Cadillac, Trivio, and Piché groups are structurally imbricated with the Heva Formation and occur at the southern end of the Malartic Block.

Several large granitoid intrusions have been emplaced into the local stratigraphy. The Bourlamaque batholith is a synvolcanic granitoid intrusion (2700 ± 1 Ma) interpreted as the source of volcanism for the Val-d'Or Formation. Compositionally described as quartz diorite to granodiorite with a transitional affinity, that lies west of the property. The Bourlamaque batholith hosts several gold deposits including the Beaufor and Lac Herbin mines and several past producers (Ferderber/Belmoral, Dumont, Dorval, and Courvan). The Bevcon pluton, similar to the Bourlamaque batholith but more differentiated with a tonalitic composition and a transitional affinity, was introduced higher up in the stratigraphy. Finally, the alkaline monzonitic East Sullivan stock (Central Post) was emplaced late (2684 ± 1 Ma), post-deformation (Taner, 1996). In the area, numerous alkaline granodioritic to tonalitic intrusives are also present, as well as subconformable to unconformable subvolcanic to post-kinematic sills, and a suite of pre- to late-tectonic quartz-feldspar porphyry dykes.

The Upper and Lower Malartic groups or the Malartic and Louvicourt groups have an overall east-west strike and dip steeply to the north. The sequence becomes younger in age to the south. Recent geological work where interference fold patterns are observed demonstrates that at least two phases of ductile deformation have affected the supracrustal rocks in the Val-d'Or area. The first episode involved folding about north-south oriented fold axis. The second episode re-folded the sequence about east-west trending fold axis and was the dominant folding event. The main D2 deformation event is characterized by a penetrative east-west schistosity steeply dipping to the north and by anastomosing shear zones (Desrochers and Hubert, 1996). Variably plunging east-west F2 folds are recognized and locally produced reversals of younging directions. A late D3 event is outlined by a set of north-northwest- and northeast-trending brittle faults.

The metamorphic grade of the Malartic Group volcanic stratigraphy is middle greenschist facies, as indicated by a chlorite-epidote-carbonate mineral assemblage in mafic rocks. The regional metamorphic grade increases towards the south to upper greenschist facies in the vicinity of the Larder Lake-Cadillac Tectonic Zone, and to amphibolite facies further south.

7.3 Local Geology

The Val-d’Or East property is situated within the Val-d’Or mining camp located in the eastern segment of the southern part of the Abitibi Subprovince at its boundary with the Pontiac Subprovince. In this region, the Lader Lake-Cadillac Tectonic Zone (LLCTZ) marks the separation between these two subprovinces. The orientation of the volcanic rocks on the property is generally east-west trending and subvertical. The property is mainly underlain by tholeiitic mafic volcanic rocks of the Dubuisson Formation in the north (Pascalis area), by tholeiitic lavas of the Jacola Formation in the centre-east (Monique area) and by felsic to mafic volcanics of the Héva and Val-d’Or Formations in the south (Lapaska area). The western portion of the property (Courvan area) encompasses the eastern contact of the synvolcanic Bourlamaque granodiorite batholith. The contact of the Bourlamaque intrusion is documented to be shallowly dipping to the east, suggesting that this intrusion remains present, eastward under the volcanic rocks, on the Pascalis area (Jebrak et al., 1991). Throughout the central portion of the property, the volcanic rocks are cross-cut by a series of gabbroic and mafic intrusions along an east-northeast trend. In the Pascalis area, a swarm of subvertical, northwest-striking, metre-scale, diorite dykes also cross-cut the volcanic units.

From south to north, the property is underlain by the lithologies of the Heva Formation (HF), Val-d'Or Formation (VDF), Jacola Formation (JF), Dubuisson Formation (DF), La Motte-Vassan Formation (LVF), Landrienne Formation (LAN), and the Garden Island Group (GIG). The main intrusions are the Bourlamaque, Pascalis-Tiblemont, and La Corne batholiths with several gabbroic dykes and sills (Figure 7-3).

7.3.1 Volcanic, Volcaniclastic and Sedimentary Units

7.3.1.1 Val-d'Or Formation

The Val-d'Or Formation (2704 ± 2 Ma) is 1 to 3 km thick and comprises submarine volcaniclastic deposits formed by autoclastic and/or pyroclastic mechanisms. These deposits include 1 to 20 m of brecciated and pillowed andesite flows with feldspar and hornblende porphyries. The flows are intercalated with amalgamated volcaniclastic beds 5 to 40 m thick. The pillows exhibit a variety of forms, from strongly amoeboid to lobed. Lobed pillows are 1 to 10 m long and 0.5 to 1.5 m high and have a vesicularity index of 5% to 40%. The volcaniclastic beds are composed of lapilli tuff, lapilli and blocks tuffs, and to a lesser extent, fine to coarse tuffs.

7.3.1.2 Jacola Formation

The Jacola Formation (2706 ± 2) lies north of the VDF. It consists of a cyclic package comprising, from bottom to top, komatiitic flows, basalts, and mafic volcaniclastics. The sequences may be complete or truncated. Komatiitic lavas are observed in the form of massive flows with local spinifex textures, but primary textures are generally destroyed by dynamic metamorphism. Magnesian basalts are also present along whit the komatiite units. Ultramafics are easily identified by their characteristic pale-medium grey colour. Basaltic flows are massive, pillowed and sometimes in the form of flow breccias and hyaloclastites. In the center of the property (enclosing the A, B and I zones), there is a wide unit of mafic to intermediate volcaniclastics varying from debris flows to coarse lapilli-blocky tuffs.

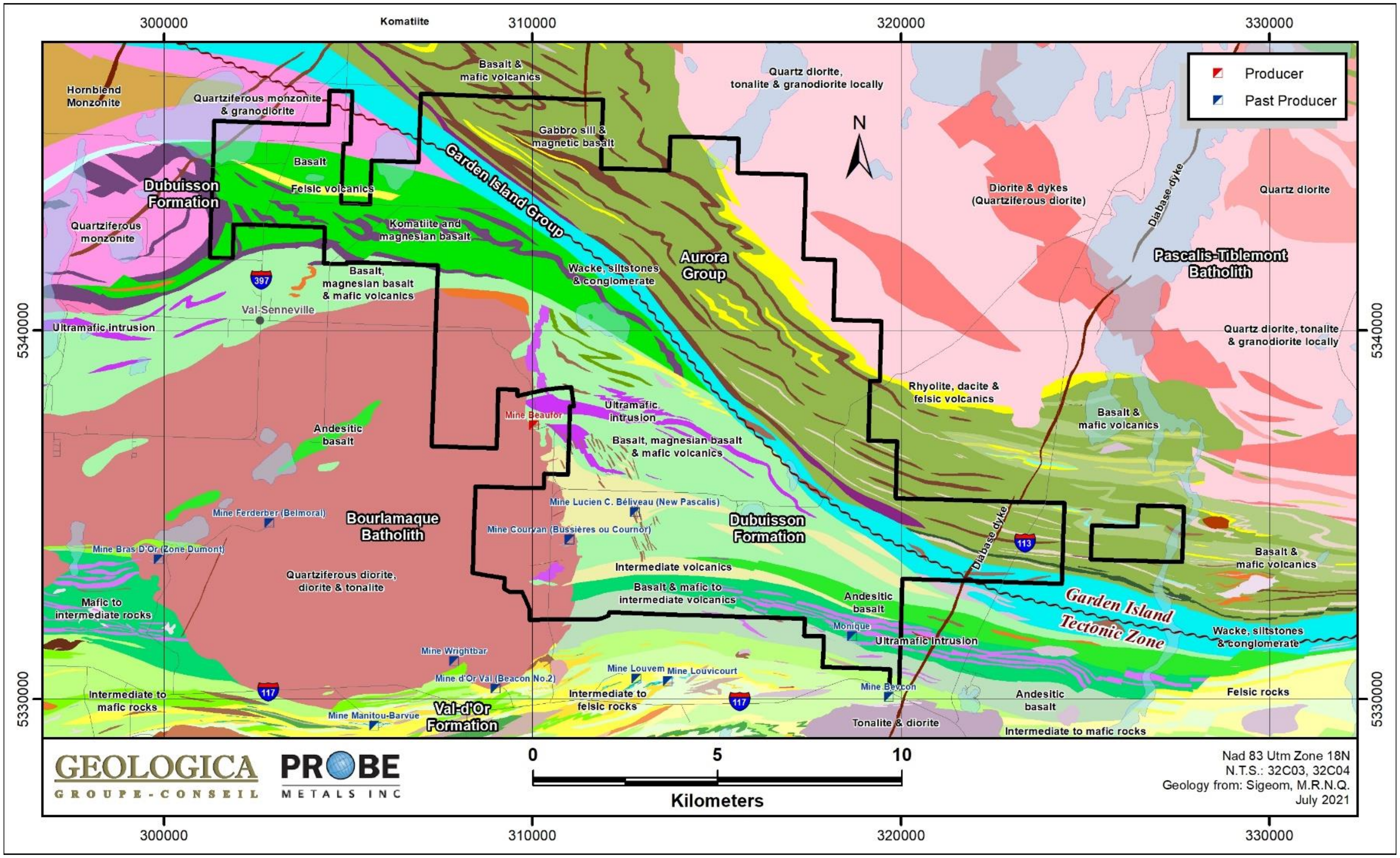
7.3.1.3 Dubuisson Formation

The Dubuisson Formation (2708 ± 2 Ma) consists mainly of pillowed and massive basalt with various interbedded komatiitic flows (Imreh, 1980). Ultramafic and mafic flows are similar to those described in the LVF (see below), but in different proportions. A thick unit of mafic volcanoclastic rocks (agglomerate) is observed on the property in the Pascalis area.

7.3.1.4 La Motte-Vassan Formation

The La Motte-Vassan Formation crops out on the north side of Lac De Montigny and has variable apparent thickness, up to a maximum of 6 km. The LVF consists of komatiites, tholeiitic basalts, and magnesian basalts. The base of the sequence is mostly represented by komatiites with some minor intercalated basalt. However, a decrease in the proportion of komatiites is observed toward the top of the sequence (Imreh, 1984). Komatiites are mainly found in two morphofacies: (1) classic sheet flow with spinifex textures or tube-shaped flows; and (2) mega-pillows. The basalt flows are usually massive or pillowed; more rarely, they are brecciated (Imreh, 1980). The age of the LVF (2714 ± 2 Ma) suggests it may be contemporaneous with the upper part of the Kidd-Munro Assemblage.

Figure 7-3: Property Geology



Source: Geologica, 2021.

7.3.1.5 Landrienne Formation

The Landrienne Formation is composed of abundant ultramafic lavas, mafic-felsic volcanics (Sanschagrin and Leduc 1979, Goutier 1997), and numerous tonalitic to monzonitic intrusions. These units are oriented east-west and have a moderate to low dip towards the north. They show a polarity systematically facing south. Two of the rhyolitic complexes of this formation, which define tholeiitic suites, yielded U-Pb zircon ages of 2718.7 ± 0.7 Ma and 2716.2 ± 0.8 Ma (V. McNicoll in Pilot et al., 2009). These ages, as well as the close spatial association observed between ultramafic lavas and rhyolitic complexes of this formation, evoke several significant comparisons with the Kidd Munro assemblage (Bleeker et al., 1999; Berger, 2002; Ayer et al., 2002).

7.3.1.6 Garden Island Group

This group is mainly composed of sandstone, siltstone, and mudstone thinly and graded bedded (1 to 15 cm width). In the extreme western part of the property, some thin lenses of petromicte conglomerate were observed. Within this conglomerate, the pebbles and sub-rounded blocks are often flattened and mostly composed of felsic to mafic volcanic fragments as well as some felsic intrusive fragments. On the property, the Garden Island Group sedimentary units consist of argillites, greywackes, and conglomerates that mark a discontinuity in contact with volcanics and should be carefully prospected on or near their contact zones. Just like at Eleonore (Virginia Gold), the permeable sediments play an important sock or buffer and/or blotter role when in contact with younger massive intrusives.

7.3.1.7 Héva Formation

The Héva formation consists of dark green massive and pillowed mafic flows occurring with greyish white crudely bedded felsic lapilli tuff and thin-bedded tuff, and plagioclase-phyric crudely bedded felsic to intermediate volcanic rocks. Younging direction is generally to the south, based on normal grading within individual tuff beds. Felsic volcanic rocks in the Héva formation yielded an age of 2702 ±1 Ma (Pilote et al., 1999).

7.3.2 Intrusive Units

7.3.2.1 Diorite Dykes Swarm and Sills

Along the Pascalis gold trend (PGT), the gold mineralization is spatially associated with a main swarm of northwest-trending subvertical diorite dykes. The metric to deca-metric diorite dykes are homogeneous, massive, and fine-grained. The fact that the diorite dykes have a calc-alkaline affinity precludes any genetic link with mafic country rocks of tholeiitic affinity assigned to the Dubuisson Formation. Several east-west trending diorite dykes cross-cut the Bourlamaque batholith. Parallel dioritic dykes and sills are also observed in the Monique and Lapaska areas.

7.3.2.2 Gabbroic Dykes and Sills

Some lenses of gabbro (locally diorite) are often observed within the volcanic units with occasional sulphides of pyrite and/or pyrrhotite. These units are medium-grained and ferromagnesian-rich in composition. On the property, the gabbro dykes and/or sills were observed to be in contact with their host mafic volcanics in the eastern part of the property; they could most probably be co-magmatic with the Pascalis-Tiblemont batholith.

7.3.2.3 Porphyritic Dykes

Two main types of subvertical east-west-trending porphyritic dykes are observed within the property. The first type consists of metric grey porphyritic dykes with feldspars phenocrysts of 2 mm to 4 mm, observed in the New Beliveau and Monique areas. In the Lapaska area, large porphyry dykes and bodies with feldspars phenocrysts larger than 4 mm cuts across the volcanics.

7.3.2.4 Bourlamaque Batholith

The Bourlamaque batholith consists mainly of homogeneous quartz diorite-granodiorite, locally cross-cut by dioritic, mafic, and aplitic dykes (Taner and Trudel, 1989; Belkabir et al., 1993; Vu, 1985). The quartz diorite generally underwent strong mineralogical transformation owing to regional deformation and metamorphism (regional greenschist facies). As a result, three petrographic facies may be distinguished: undeformed, deformed and hydrothermally altered facies (i.e., there are areas of undeformed quartz diorite preserved within the batholith, but mildly deformed areas generally possess a cataclastic foliation parallel to the regional schistosity, and more intense deformation is restricted to mylonitic shear zones in which the quartz diorite has been completely recrystallized and intensely chloritized). These chlorite-rich zones were interpreted by Vu (1985), and Robert et al. (1994) as dykes of melanocratic diorite that are spatially associated with the main ore zones in the Ferderber (Belmoral), Dumont, and Beaufor gold mines. Dioritic dykes exist within the Bourlamaque batholith, as do aplitic and felsic dykes. However, not all dykes appear to be related to the gold mineralization, except where the intensity of dyke activity increases near and in the shear zones (Taner and Trudel, 1989) as well explained by Robert et al. (1994).

7.3.2.5 Pascalis-Tiblemont Batholith

This intrusive rock consists of elliptic form of 340 km^2 and is oriented northwest-southeast. It is generally differentiated and the lithology varies from tonalite to diorite in the central part to gabbro-diorite to gabbro in the surround of the batholith. On the property in the extreme eastern part, the Pascalis-Tiblemont batholith is mainly dominated by gabbroic to dioritic intrusive facies.

7.3.2.6 La Corne Batholith

This intrusive unit is located in the extreme limit northwest of the property. Several intrusive phases compose this intrusion, that took place between 2680 and 2642 Ma. The early facies, which are the most common, consist of diorite, granodiorite, and hornblende monzonite. The molybdenum (Mo) mineralization in the Preissac Lake area is associated with this early phase. The late phase, representing the central-northern part of the batholith of La Corne, is composed of biotite monzogranite and muscovite-biotite monzogranite, dated at 2642 Ma (Machado et al., 1991). The northern part of this batholith is particularly rich in amphibolitized enclaves. This late phase contains most of the spodumene pegmatites in this area, including a former lithium mine.

7.3.3 Structural Features

7.3.3.1 Pascalis Gold Trend

The Pascalis gold trend (PGT) encompasses the New Beliveau, North and Highway deposits. The general orientation of the volcanic units is N270° to N290°, with a steep to sub-vertical dip to the north. The mineralized zones are controlled by east-west to east-northeast oriented structures, consisting of shear zones moderately to steeply dipping south and sub-vertical faults (e.g., New Beliveau northern fault). These structures controlling the mineralization extends from the Bourlamaque batholith and continue to the east into the volcanic rocks and cross-cut a large north-northwest trending dyke swarm associated with the PGT. New Beliveau, North and Highway deposits along the PGT are characterized by important shallowly south-dipping stacked quartz-tourmaline-carbonate-pyrite gold veins envelopes cross-cutting the dykes, volcanic rocks and a magnetic gabbro intrusion (Highway). The mineralized zones are developed within complex east-west to east-northeast trending shear zones systems. The extensional veins have been formed by the filling of extensional fractures, while the shear veins are subparallel to these gold-bearing structures. PGT mineralization is cross-cut by series of syn- to late-tectonic trending faults. These late faults are particularly well-documented at the former L.C. Beliveau mine, where they offset diorite dykes with a sinistral movement and metre-scale displacements. More significant displacements probably occur along strike but are not measured. The recent drilling at New Beliveau as identified several large faults that apparently offset the diorite dyke and vein styles mineralization.

7.3.3.2 Courvan Gold Trend

In the Courvan area, the contact between the volcanic rocks and the Bourlamaque pluton is intersected and displaced by a series of major east-northeast oriented structures, consisting of syn-mineralization shear zones and late faults both steeply dipping to the north to sub-vertical. The Courvan deposits are mainly composed of extensional quartz-tourmaline-carbonate veins envelopes developed between these structures that are hosted in highly foliated and altered zones within the granodiorite. Unlike the Pascalis gold trend deposits which contain mineralized zones only dipping to the south, the structural data shows that the Courvan gold-bearing veins are mainly shallowly dipping to the north and also locally to the south. In the case of the Southeast deposits, the mineralized zones are dipping only to the south. Mineralized shear veins moderately to steeply dipping north are also associated with the east-northeast structures within the batholith. The dioritic dykes that cross-cut the Bourlamaque granodirite have an orientation sub-parallel to the east-northeast structures, but are dipping between 45° to 75° in the opposite direction to the south. The latter are displaced by the east-northeast structures and can also host extensional or shear quartz-tourmaline-carbonate veins. The east-northeast structures and diorite dykes are two elements that have a significant control on the setting of gold mineralization in the Courvan deposits.

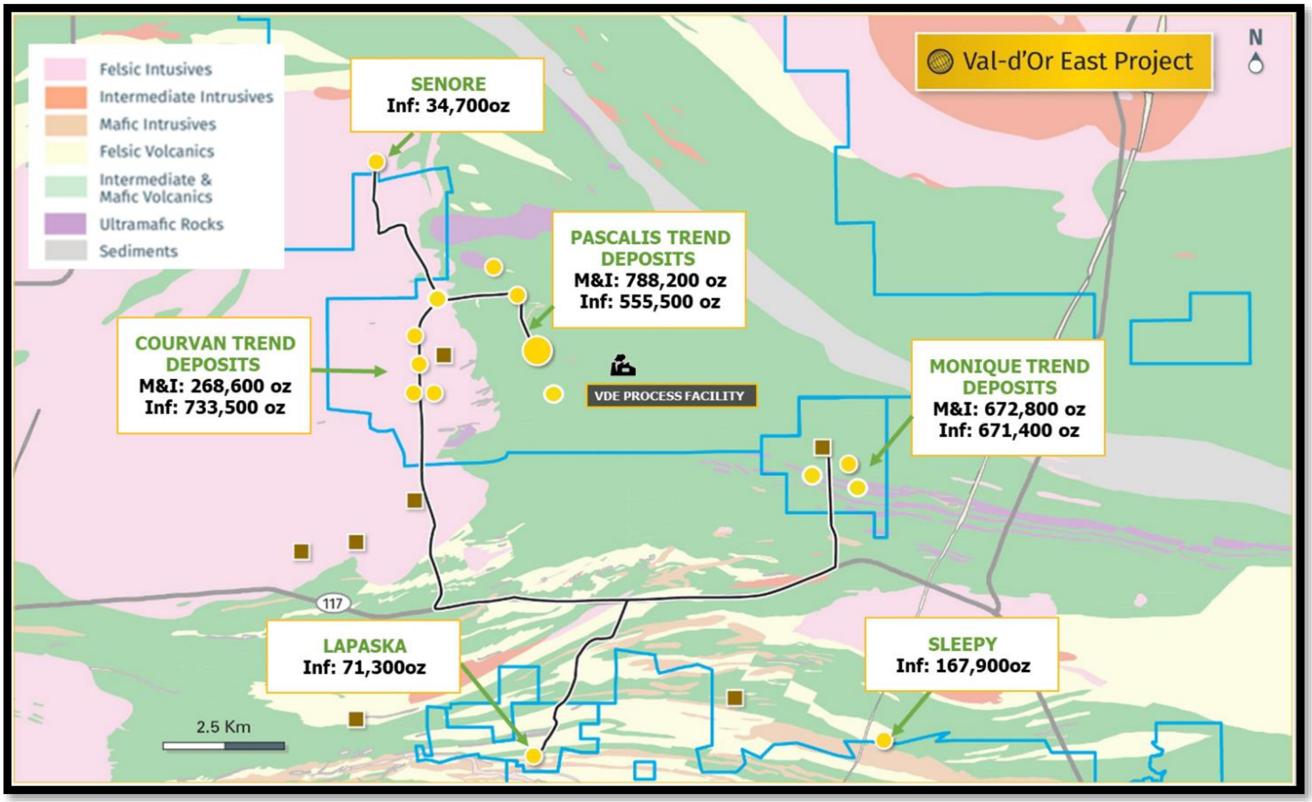
7.3.3.3 Monique Gold Trend

The orientation of the lithological contacts is N270°E to N292°E, with a steep 75° to 85° dip to the north. The Monique gold trend (MGT) is characterized by large deformation zones that are roughly parallel to the rock units and may reach up to 50 m wide. Strongly sheared and altered feldspar porphyritic dykes are often observed within the gold-bearing shear zones. Mineralized gold-rich zones are associated with the development of those shears and overprint them by mineral replacements along strong veining. Several fault zones with gouge can be seen in places; however, many are late faults not associated with the mineralization events and cross-cut at high angles the mineralized zones and the host lithologies. Folding observed is minor in term of intensity and size, as there are open folds mostly under 1 m wave length or 5 to 20 cm intrafoliation folds associated with a small crenulation.

7.4 Mineralization

Most of the gold resources on the Val-d'Or East Project have been delineated in three areas: Pascalis gold trend deposits, Courvan gold trend deposits, and Monique gold trend deposits (Figure 7-4). A description of the gold mineralization types is presented in this section. Gold-bearing zones are defined as mesothermal lode gold deposits. These generally consist of a complex system of veins composed of quartz, carbonate, and tourmaline with disseminated and/or blebby pyrite. The auriferous zones are commonly associated with shear zones and extensional fractures. Mineralization is concentrated in veins and/or in adjacent lithologies that are strongly altered due to hydrothermal fluid circulation.

Figure 7-4: Gold Zones on Val-d'Or East Property



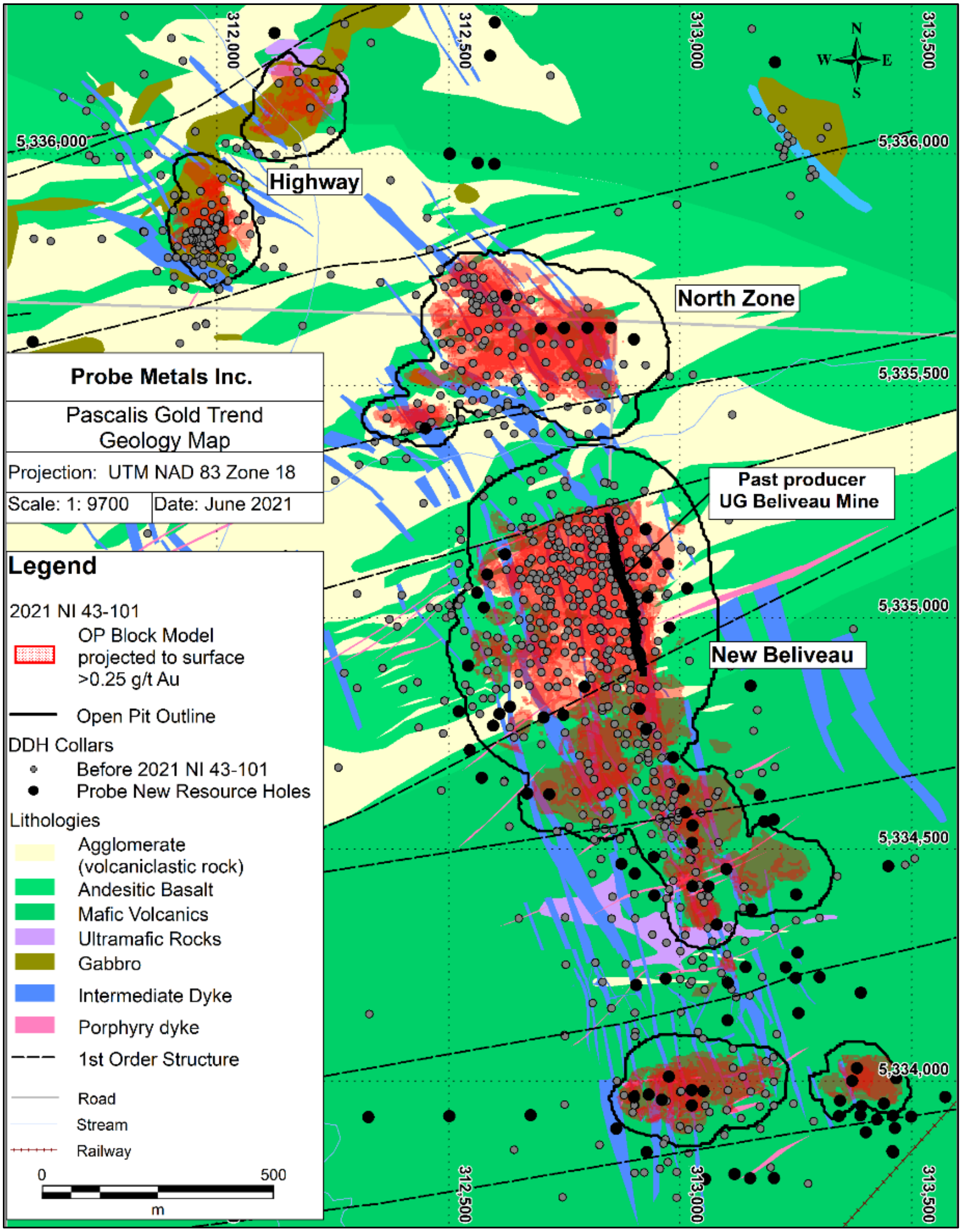
Source: Probe Metals, 2021.

7.4.1 Pascalis Gold Trend

The Pascalis gold trend hosts the New Beliveau, North Zone and Highway deposits. The New Beliveau and North Zone deposits are centered on a series of north-northwest trending sub-vertical intermediate dykes, forming a swarm identified over 3 km long, 1 km wide and 1 km deep (Figure 7-5). The latter have an important role for the setting of gold mineralization of the New Beliveau and North Zone deposits, consisting of structurally controlled quartz-tourmaline-carbonate-pyrite veins hosted in fine-grained intermediate dykes, basalts and intermediate to mafic volcanoclastic rocks. The Highway mineralization is similar but is hosted in a distinct magnetic gabbro intrusion. The intermediate dykes as well as the gabbro intrusion are younger and intersect the volcanic units.

The New Beliveau deposit, which encompasses the past producer L.C. Beliveau mine, is hosted within a sub-vertical microdiorite dyke oriented at N345° and perpendicular to the trend of volcanic formations. It is located about 2 km east of the Bourlamaque batholith margin. At the former L.C. Beliveau Mine, three parallel dykes named West, Main and East constitute the main swarm of diorite dykes. The thickness of the individual dykes varies from 5 to 15 m individually, but reaches 30 m combined. At the mine, 90% of the veins and gold mineralization is hosted inside the Main dyke. With an average thickness of 10 m, the mineralized zones were originally traced to 580 m vertical depth over a 300 m strike length. A ductile-brittle fault zone cuts and ends the mine to the north. Its displacement is not known but it does exhibit oblique striations plunging to the west, suggesting a possible sinistral movement with uplift of the south block relative to the north block. This suggests an extension at depth towards the west.

Figure 7-5: Pascalis Gold Trend Geology and Mineralization



Source: Probe Metals, 2021.

Since 2008, at least nine additional parallel dykes were identified to the west and east. The New Beliveau deposit has historically been divided into different zones. However, drilling completed by Probe Metals has established connections between the Main Beliveau mine area with the historical “Zone 2” and the 2017 “South Zone” discovery, located southward. The New Beliveau deposit is now continuous for a strike length of over 1,400 m and has been defined locally to a depth of 1,100 m. The deposit is bounded to the north and south by subparallel east-northeast trending faults. Three other subparallel east-west to east-northeast oriented faults divide the deposit into four structural blocks that result in minor lateral offsets of the diorite dykes.

The gold mineralization is associated with quartz-tourmaline-pyrite veins and the surrounding altered wall rocks (Figure 7-6). The deposits are composed of multiple superimposed mineralized envelopes with a tabular shape shallowly dipping to the south. Two main types of gold-bearing veins can be observed in the mineralized zones. The dominant system consists of sigmoidal extensional veins, oriented ± east-west and shallowly to moderately dipping 10° to 60° to the south. They represent about 80% of the mineralized veins. The second type is composed of shear veins developed along moderately to sub-vertical shear zones. A third set is recognized, consisting of sub-horizontal and weakly mineralized veins representing less than 5% of the vein material.

The extensional and shear veins form 3 to 20 m thick tabular shaped mineralized envelopes with orientations varying between 90° to 110° and dips of 25° to 35° to the south. They can reach a few hundred metres laterally in an east-west direction as well as in the axis of the dip. The mineralized zones are composed of 5% to 30% centimetric to metric quartz-tourmaline-carbonate veins associated with 1% to 2% fine to coarse euhedral pyrite along vein margins, locally reaching up to 5% to 10%, and more rarely with traces of chalcopyrite. Pyrite is mainly found in the immediate altered rock walls and within the veins in a lesser proportion. The alteration is composed of tourmaline-silica-carbonates in the intermediate dykes or silica-sericite-albite-carbonates in volcanic rocks (basalts, agglomerates) as well as in the Highway gabbro intrusion (Figures 7-7, 7-8 and 7-9). Free gold grains can be observed in veins and at the surface or in fractures within coarse euhedral pyrite crystals.

Two types of gold mineralization based on the host lithologies are recognized in the New Beliveau and North Zone deposits. They consist of dyke and volcanic mineralization types, representing about 40% and 60% of the in-pit resource in terms of volume, respectively.

Figure 7-6: New Beliveau Rock Exposures (Source: Probe Metals, 2021)

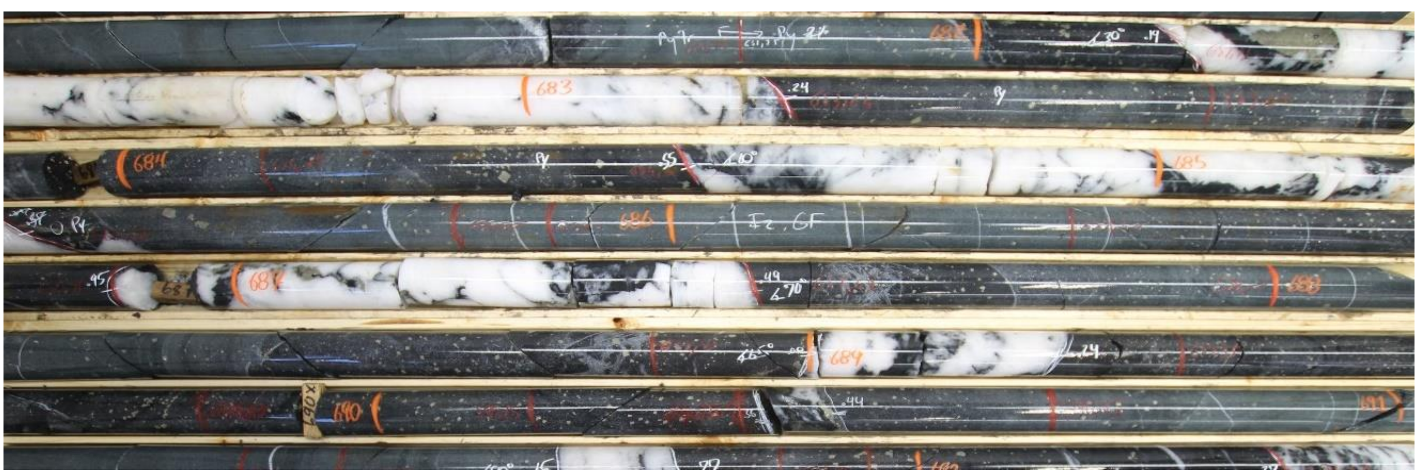
A: Outcrop west of former Beliveau mine showing shallow dipping south mineralized veins in volcanics.

B: Extensional veins in dyke near former Beliveau mine.

C: Shear vein cross-cutting dyke and volcanics.

D: High-grade gold mineralization in diorite dyke – 80% tourmaline and 15% pyrite.

Figure 7-7: Example of Dyke Zone

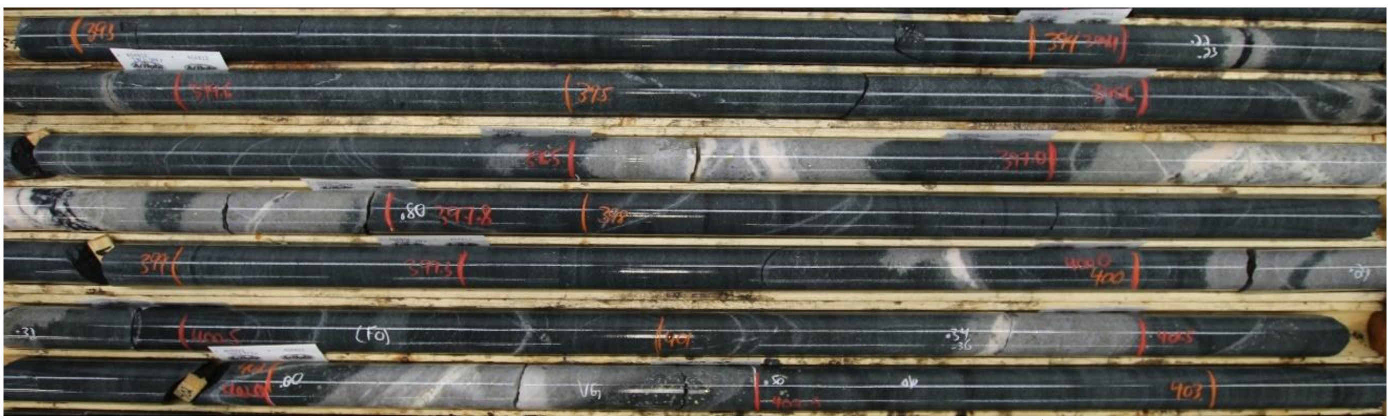


Notes: Extension of Main Dyke L.C. Beliveau at depth from the New Beliveau deposit showing quartz-tourmaline-carbonates veins with coarse pyrite and tourmaline-silica-carbonates alteration (PC-17-197, 681-692.5m, 5.49 g/t Au over 8.46 m between 682.19-690.65 m). Source: Probe Metals, 2021.

Figure 7-8: Example of Volcanic Zone from the North Deposit

Note: Shows quartz-tourmaline-carbonates veins with pyrite and silica-sericite-carbonates alteration hosted in mafic volcanoclastic rocks, namely agglomerates (PC-18-328, 4.25 g/t Au over 8.70 m between 305.30-314.00 m. Source: Probe Metals, 2021.

Figure 7-9: Quartz-Tourmaline-Carbonates Veins

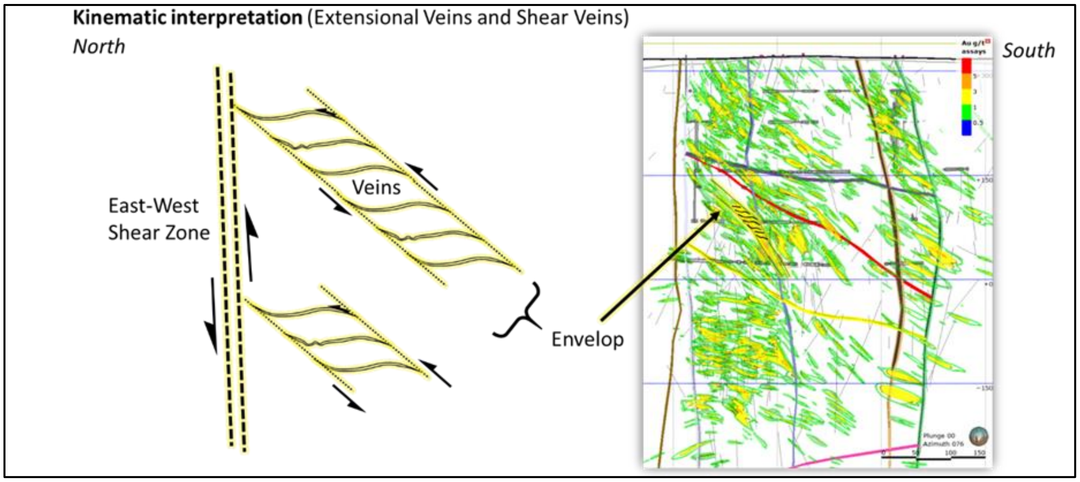


Note: Shows coarse pyrite and silica-sericite-albite-carbonates alteration hosted in Highway gabbro intrusion (PC-17-187ext, 6.29 g/t Au over 13.40 m between 389.10-402.50 m). Source: Probe Metals, 2021.

For this resource estimate, 57 volcanic and three dyke zones were interpreted from the surface to 900 m depth in the New Beliveau deposit, and 25 volcanic and three dyke zones up to 500 m depth in North deposit. All the deposits remain open to the west, east, south, and at depth. The volcanic mineralized zones intersect the intermediate dykes at an almost perpendicular angle. The intensity of fracturing and the frequency of gold veins generally increase in and near the intermediate dykes, due to their higher rock competency compared to the adjacent volcanic rocks. The concentration and grain size of pyrite, as well as the gold grades associated with intermediate dykes, are on average higher than in volcanic rocks. The size of euhedral pyrite crystals increases significantly and easily reaches 1 to 2 cm in the dyke style mineralization. The New Beliveau and North Zone deposits are therefore composed of sub-vertical dyke and shallow-dipping volcanic zones, delimited to the north and south by east-west to east-northeast structures (Figure 7-10).

The Highway showing was the first significant gold occurrence discovered on the property in 1931. It is located 1,000 m northwest of the former L.C. Beliveau. The gold mineralization is similar to the vein system at the New Beliveau deposit, with the notable exception that the veins are hosted within a competent gabbroic unit instead of diorite dykes. The mineralized system comprises 24 subparallel tabular zones dipping 30° to 40° to the south and striking 75° to 90°. Two zones steeply dipping to the south were also interpreted. For now, the Highway gold system can be traced over 400 m east-west by 500 m north-south and to a depth of 500 m. The Highway zone remains open to the south, east, and at depth.

Figure 7-10: 3D Structural Model of the New Beliveau Deposit, View to the East



Source: Faure, S., 2018.

7.4.2 Courvan Gold Trend

The Courvan gold trend (CGT) extends over 2.5 km along the Bourlamaque eastern margin and up to 2 km inside the batholith in its southern part (Figure 7-11). The CGT comprises the Bussiere, Creek, Bordure, Southwest, and Southeast deposits. The latter is opened to the west, north, south and at depth. Gold mineralization is structurally controlled by several major shear zones and faults, striking 250° and dipping 75° to the north to sub-vertical, dividing the CGT into structural blocks.

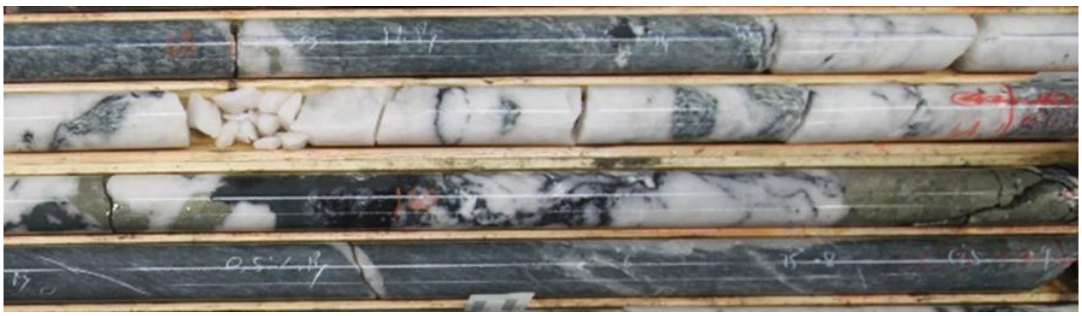
The mineralized zones consist of envelopes containing 5% to 30% centimetric to metric quartz-tourmaline-carbonates-pyrite ± chalcopyrite veins, mainly in extension, with a sub-horizontal to moderate dip to the north, or to the south in the case of the Southeast deposit (Figure 7-12). Auriferous veins are primarily hosted in a granodiorite phase of the Bourlamaque batholith and, to a lesser extent, in metre-scale east-west oriented sheared diorite dykes that cross-cut the granodiorite intrusion. Typical mineralization is composed of 1% to 10% pyrite and rare chalcopyrite contained within veins, as well as in the rock walls altered in silica, sericite, carbonates ± K-feldspar-albite over a thickness of a few centimetres to few metres. High grades are often associated with the presence of coarse pyrite clusters and/or locally native gold, similar to the Beaufor mine (Figure 7-13). High-grade zones are also locally associated with quartz-tourmaline-carbonates-pyrite hydrothermal breccias (Figure 7-14). Free gold is sometimes found on the surface of coarse pyrite crystals or in fractures within them. Chalcopyrite is the second notable metallic mineral in the mineralized zones. Historical production indicates also that silver was produced from the mine with a ratio of gold to silver of 7:1.

Quartz-tourmaline-carbonate veins form echelon networks with a sub-horizontal to moderate dip to the north. When the frequency and grade of individual veins are high enough, they can form tabular mineralized envelopes with an average thickness of 3 to 15 m and strike up to a few hundred metres in an east-west direction as well as in the dip direction. A second type of gold veins sub-parallel to the shear zones is also observed. They have an average direction at N250° and a dip of 70° towards the north-west. Historically, they represented a small proportion of the ore extracted from the Bussiere mine. The mineralized zones are primarily hosted in the Bourlamaque granodiorite and show rather limited extensions in the volcanic rocks. The vein systems indeed seem to develop better in the granodiorite offering better competence compared to volcanic rocks. Diorite dykes injected in the granodiorite can also contain mineralized veins, but they represent less than 2% of the mineralized zones of the deposits (Figure 7-15).

Figure 7-11: Typical Courvan Mineralized Zone

Note: Shows quartz-tourmaline-carbonates veins with coarse and silica-sericite-K feldspars-carbonates alteration in Bussiere zone (CO-18-31, 5.08 g/t Au over 8.00 m between 33.50-41.50 m). Source: Probe Metals, 2021.

Figure 7-12: High-Grade Decimetric Pyrite Blebby Masses in Quartz-Tourmaline-Carbonates Veins in Creek Zone



Note: CO-18-59, 17.1 g/t Au over 1.50 m between 64.10-65.60 m. Source: Probe Metals, 2021.

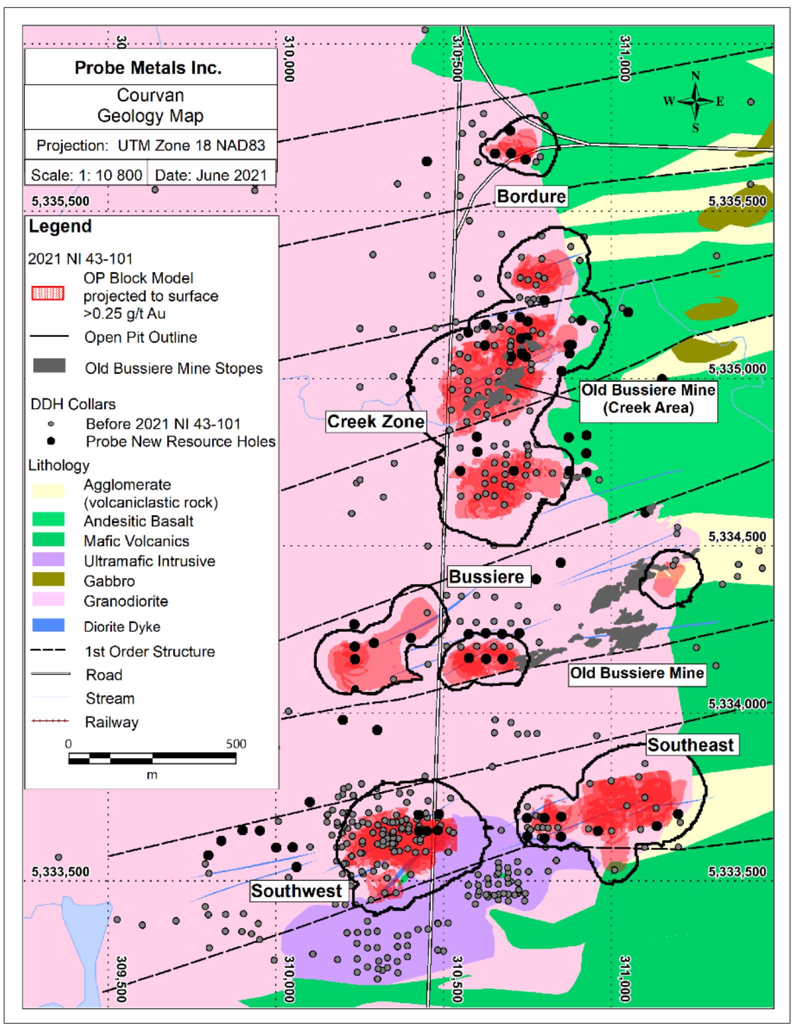
Figure 7-13: High-Grade Quartz-Tourmaline-Carbonates-Pyrite Hydrothermal Breccia in Creek Zone

Note: CO-18-64, 9.6 g/t Au over 9.1 m between 105.00-111.00 m. Source: Probe Metals, 2021.

Figure 7-14: Mineralized Veins in Diorite Dyke

Note: CO-18-39, 0.35 g/t Au over 3.00 m between 173.00-176.00 m. Source: Probe Metals, 2021.

Figure 7-15: Courvan Gold Trend Geology and Mineralization

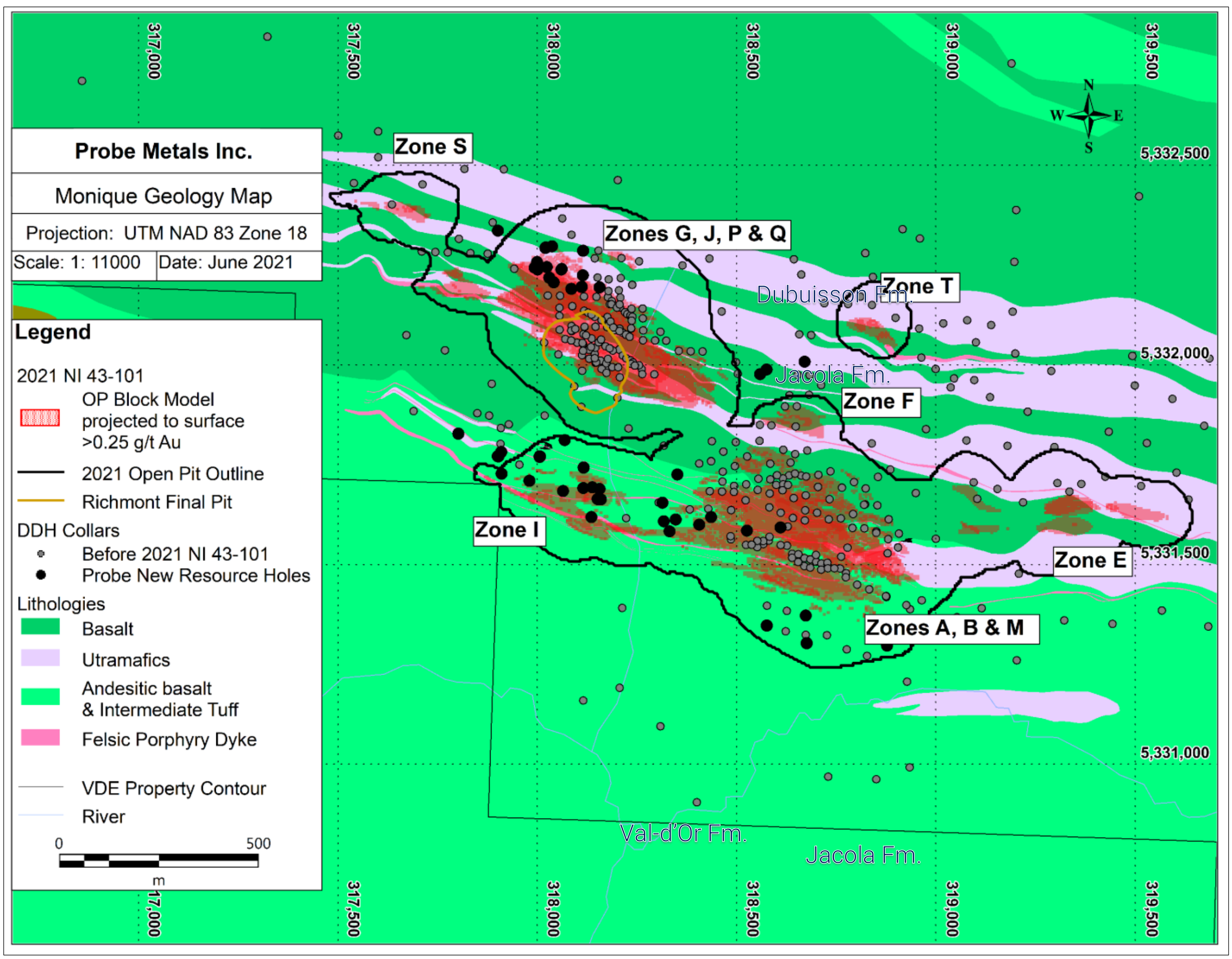


Source: Probe Metals, 2021.

7.4.3 Monique Gold Trend

The Monique gold trend (MGT) hosts 17 important gold zones, including the G Zone from the former Monique mine open pit and numerous other gold occurrences intercepted by drilling. Inside the MGT, gold-bearing zones are related to mesothermal lode gold deposits and found principally along two main west-northwest trending sub-parallel deformation corridors in the Jacola Formation, about 150 to 200 m wide and extending over 2.5 km along strike (Figure 7-16). The first G-J-P deformation corridor is located in the center part of the property and follows roughly the contact between an ultramafic unit to the north and basalts to the south. This corridor contains the former Monique open pit. The second A-B-I-M corridor, approximately 150 m to the south, encompasses the upper portion of the southern volcanic domain composed of mafic to andesitic-basalt flows, volcaniclastics, and hyaloclastites. Both corridors are injected by multiple metric feldspar (± quartz) porphyritic intermediate dykes, often containing gold mineralization. The interpreted mineralized zones have general orientations of N270-290° with dips of 70° to 82 ° to the north.

Figure 7-16: Monique Gold Zones and Local Geology



Source: Probe Metals, 2021.

The mineralized zones of the MGT consist of shear veins and/or a stockwork of quartz-tourmaline-carbonates veins with disseminated to coarse pyrite. The auriferous zones are commonly associated with shear zones and extensional fractures. Mineralization is concentrated in veins or in adjacent lithologies which are strongly altered due to hydrothermal fluid circulation. The mineralized zones are found mainly in volcanic units and dykes exhibiting chlorite, carbonate, sericite, albite, fuchsite, and silica alteration. The quartz vein systems are mainly parallel to the stratigraphy and to the deformation zones. Gold is generally associated with 1% to 5% finely disseminated pyrite, and visible gold is common in the quartz and carbonate veins and veinlets. The zones vary in thickness between 2 to 10 m in general and reach up to 30 m. Mineralized zones can extend more than 900 m laterally and they have been traced by drilling to a vertical depth up to 600 m.

Three main structural types of gold-bearing mineralization are observed, primarily consisting of (1) replacements and veins subparallel to shear zones; (2) vein arrays associated with riedels, detachment surfaces and late faults/fractures 10° to 25° relative to shear foliation, and (3) extensional/conjugated sub-horizontal veins secant to the shear envelope.

Also, three gold events with their own vein and alteration mineral assemblages are noted in the MGT. The first stage is showed by carbonate-fuchsite-albite-silica replacements and quartz-rich shear veins which come with fine-grained disseminated light brownish yellow pyrite. This mineralization is cross-cut by the less deformed quartz-iron dolomite-albite vein arrays and stockwork which is characterized by low or absence of fuschite and calcite (bleached) along with fine to coarse clear yellow pyrite crystals. In general, 1% to 7% pyrite is found within veins and up to 15% in the iron dolomite-albite-sericite wall rocks. The presence of free gold in these veins is common. Finally, typical Val-d'Or quartz-tourmaline-carbonate veins set mainly in extensional low angle fractures and small shear extension structures cross-cut the first and second stage veins. This late vein system account for less than 5% of the gold mineralization. Pyrite and gold content vary as alteration minerals in the host rocks, however gold content show a strong correlation with the amount of pyrite.

Based on the host lithology, four main types of mineralization are observed on the Monique project, as follows:

1. The most significant mineralization in terms of resource volume (65%) is hosted in basalts: Zones A, B, G and M (Figure 7-17). The predominant alterations at the walls of the quartz-carbonate-albite ± tourmaline veins comprise magnesium-iron carbonate, albite and sericite ±fuschite. Some metric felsic feldspar porphyritic diorite intrusion may be found in this mineralization type.

2. The mineralization hosted in large, altered feldspar porphyry dykes is the second in importance (Zones A, B, I and J) and represents about 15% of the gold mineralization. Mineralization consists of 1% to 3% disseminated pyrite associated with quartz-carbonate-albite ± tourmaline veins and strong carbonatation, albitization and sericitization, as well as some fuschite, silica and local hematitization (Figure 7-18).

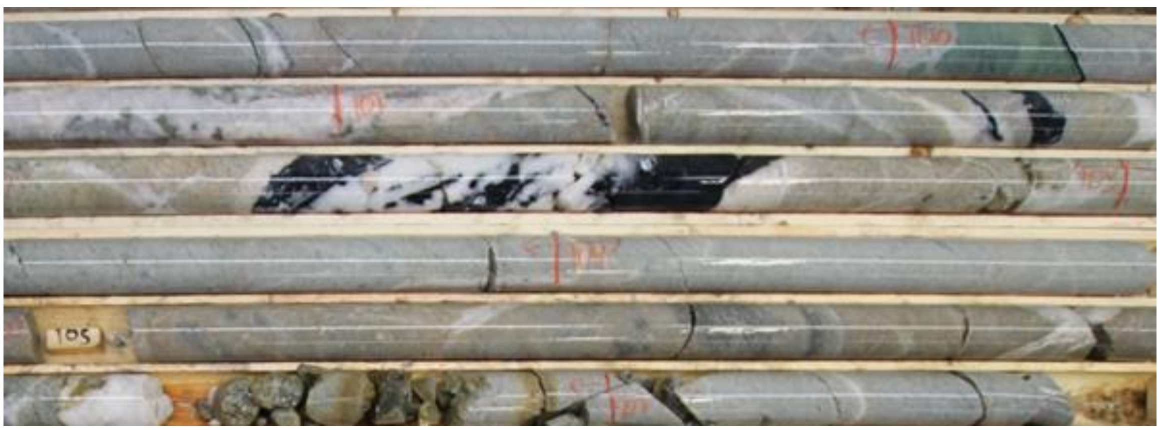
3. A significant proportion of the J Zone is also in strongly deformed and sheared ultramafic volcanic rocks. Mineralization is composed of traces to 2% disseminated pyrite associated with 1 to 3 cm quartz-carbonate-fuchsite veins along the schistosity with silica-fuschite-carbonates alteration (Figure 7-19). The grades associated with this type of mineralization, which represent approximately 10% of the gold mineralization, are generally lower.

4. The gold mineralization can be hosted also in synvolcanic diorite-gabbro dykes, as found in the P and J zones. Again, pyrite is found within quartz-iron-dolomite-albite ± late tourmaline veins as well as sericitized, carbonatized and albitized wall rocks (Figure 7-20). This type accounts for approximately 5% of the volume of mineralization.

Figure 7-17: M Zone in Basalts

Note: MO-19-16, part of an interval grading 5.9 g/t Au over 11.5 m between 184.00-195.50 m. Source: Probe Metals, 2021.

Figure 7-18: I Zone in Felsic Feldspar Porphyry Dyke

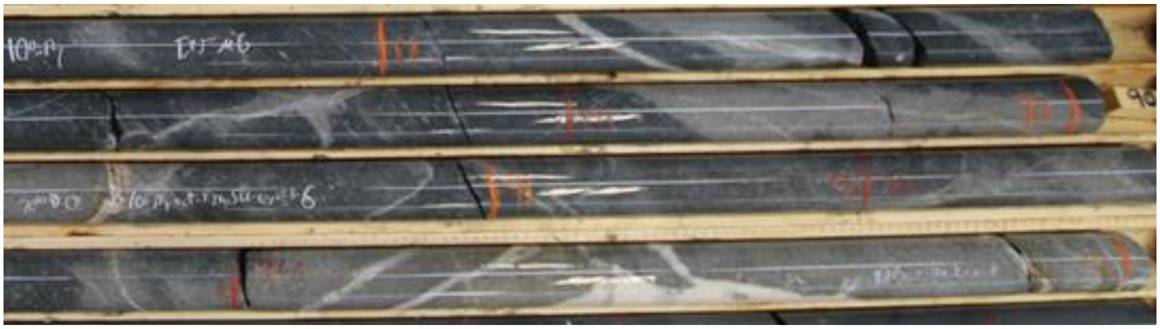


Note: MO-20-41, 7.8 g/t Au over 7.00 m between 100.00-107.00 m. Source: Probe Metals, 2021.

Figure 7-19: J Zone in Ultramafic Volcanics

Note: MO-18-09, 0.9 g/t Au over 7.0 m between 390.00-397.00 m. Source: Probe Metals, 2021.

Figure 7-20: P Zone in a Diorite Dyke

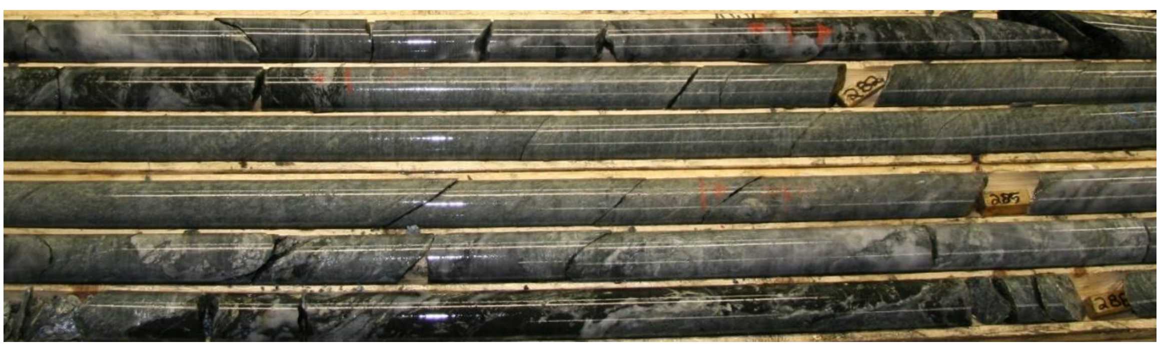


Note: MO-20-53, 2.4 g/t Au over 5.70 m between 87.60-93.30 m. Source: Probe Metals, 2021.

7.4.4 Senore Zones

The Senore gold zones are located in the northwest part of the property, within the Bourlamaque batholith, near the contact with the volcanic rocks. The vein-type mineralization is hosted by several shear zones with orientations of 125°/55° south or 070°/90°. The mineralized zones range from 1 m up to 20 m thick and are intersected to maximum vertical depths of 220 m. Gold mineralization is associated with centimetric to decimetric blebs of pyrite in quartz-carbonate-tourmaline veins. Diorite dykes are locally present in the shear zones. Mineralization consists of less than 3% pyrite, pyrrhotite, and disseminated chalcopyrite. Traces of fuchsite and molybdenite are also observed in the deformed granodiorite (Figure 7-21).

Figure 7-21: Sheared Diorite Dyke and Quartz Veins at Senore



Note: SE-08-09 between 280.50 to 288.00 m. Source: Probe Metals, 2021.

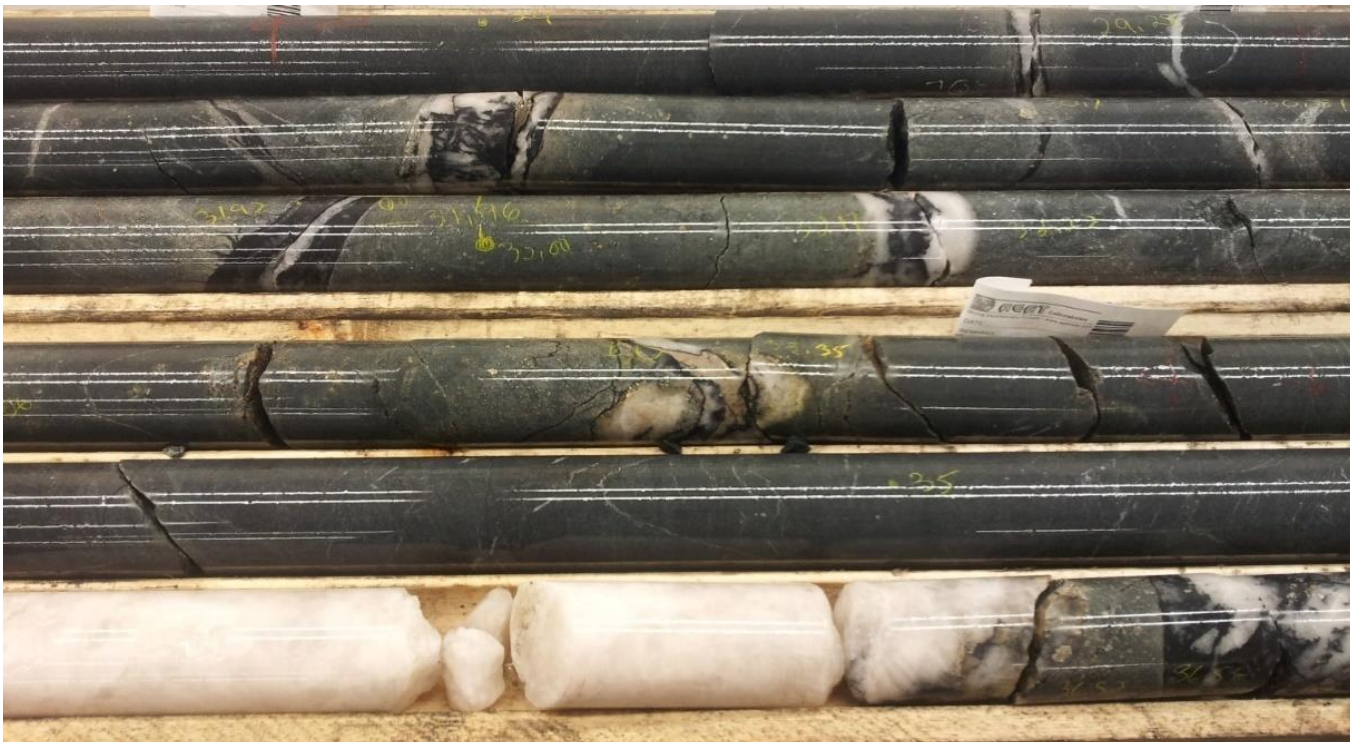
7.4.5 Lapaska

Gold mineralization is contained within centimeter-scale quartz-tourmaline veins and veinlets hosted by a massive dacitic unit (Figure 7-22). This dacitic unit is approximately 30 to 40 m wide and is bordered by spherulitic dacitic units. Competency differences between massive and spherulitic dacites could explain why fracturing occurred and was later filled in by mineralized veins and veinlets. The wall rock of the veins shows silicification, sericitization, and sometimes hematization, with disseminated fine-grained pyrite (Figure 7-22).

Three vein systems occur within the Central Zone. The dominant mineralized vein system is a set of tension veins oriented north and dipping 25° to 65° to the east. The second set is the conjugated system oriented south and dipping west. The veins in this second system are less abundant than the first. Both vein systems are contained in an envelope with maximum north-south thickness of 40 m. A third vein system associated with a minor shear zone, oriented north-east and dipping approximately 60° to the east, was mapped in the underground openings and was intersected by 2008 drilling. The maximum extension of these veins is not well known but is probably of a maximum of 40 to 50 m.

Mineralization consists of gold, bismuth, tellurides, chalcopyrite and pyrite in quartz-carbonate-tourmaline veins and veinlets. The zone is traced over a strike length of 750m and remains open to the east and west and at depth.

Figure 7-22: Quartz-Carbonate-Tourmaline Tension Veins with Silica and Sericite Alteration and 1-2% Pyrite in a Dacitic Unit



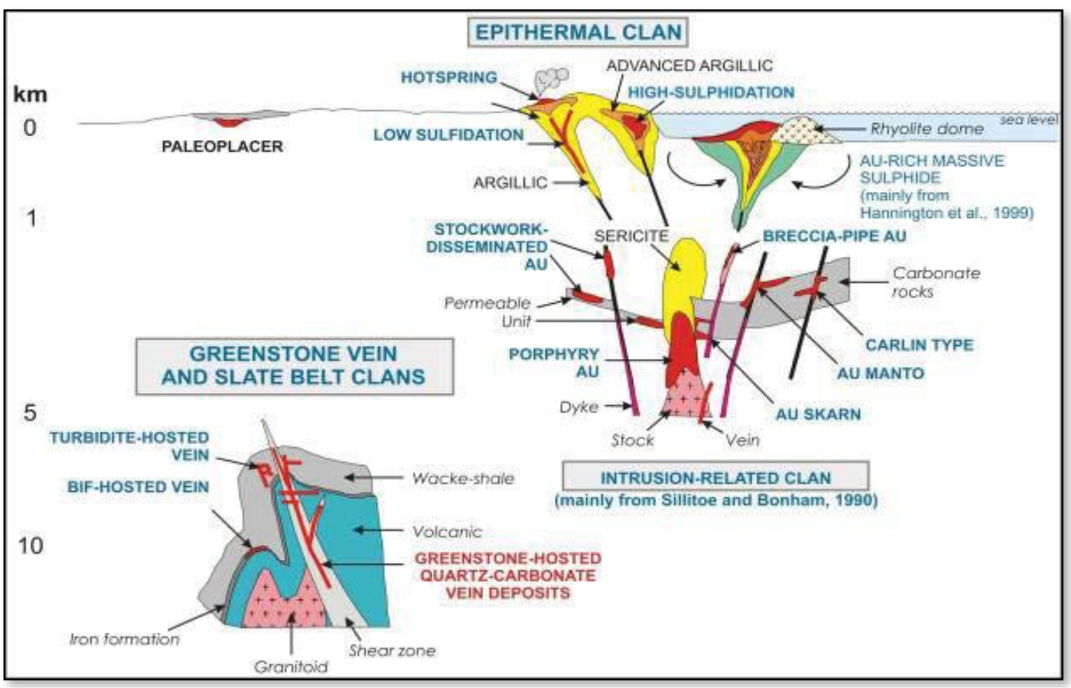
Note: LP-11-27, interval between 29-36 m showing part of an intercept of 2.84 g/t Au over 53.6 m. Source: Probe Metals, 2021.

8 DEPOSIT TYPES

The Val-d'Or mining camp is well known for its lode gold deposits and copper, zinc, silver, and gold volcanogenic (VMS) deposits. The property area is no exception. Within the Val-d'Or mining camp, approximately 37 mines have produced more than 25 million ounces of gold from 140 million tonnes milled. The data cannot be compiled in detail because several of the mines operated under different names at different times, and in some cases, two or more mines were incorporated into a single operation. Copper and zinc were also produced from five base metal mines. The majority of historical production comes from orogenic lode-type gold deposits extracted by underground mines. The Sigma-Lamaque mines alone extracted 55,913,187 tonnes at 5.3 g/t Au, for a total of 9,498,880 ounces (Girard et al., 2017). More recently in 2019, Eldorado Gold began commercial production at the Lamaque mine (Triangle Zone), which contains proven and probable reserves of 4,087,000 tonnes at 7.25 g/t Au totaling 953,000 ounces (Eldorado Gold, 2019).

Gold mineralization from the Val-d'Or mining camp has been classified as greenstone-hosted quartz-carbonate vein deposits or mesothermal or late-orogenic lode gold deposits associated with shear zones or extensional fractures (Figure 8-1). The mineralization is associated with regional features (e.g., the Cadillac-Larder Lake Tectonic Zone, regional drag folds, and structural splays), as well as with syn- to late-tectonic intrusive rocks. With the exception of deposits within the large Bourlamaque batholith, gold mineralization is commonly associated with small intrusives and dykes aged 2694 ±2 Ma to 2680 ±4 Ma. The different styles of mineralization range from disseminated sulphides deposits to quartz-tourmaline gold-bearing veins and vein stockwork zones, and the deposits range from early to late tectonic.

Figure 8-1: Inferred Crustal Levels of Gold Deposition Showing Different Types of Lode Gold Deposits and the Inferred Deposit Clan

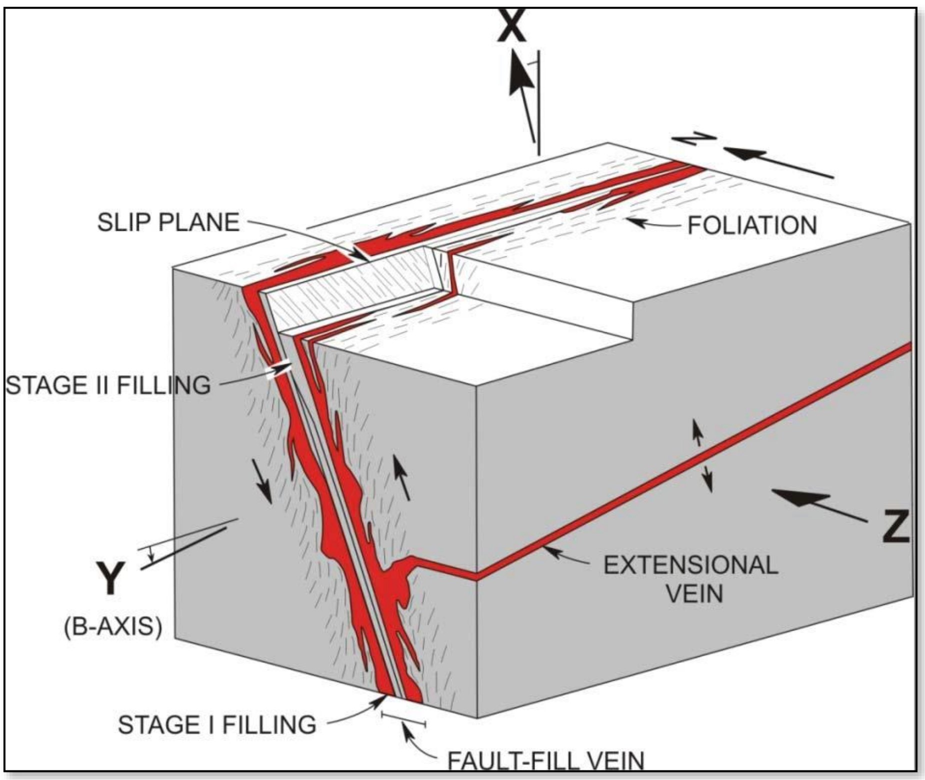


Source: From Dubé et al., 2001; Poulsen et al., 2000.

Generally, lode gold deposits (gold from bedrock sources) occur dominantly in terranes with an abundance of volcanic and clastic sedimentary rocks of a low to medium metamorphic grade (Poulsen, 1996). Greenstone-hosted quartz-carbonate vein deposits are a subtype of lode-gold deposits (Poulsen et al., 2000). They correspond to structurally controlled, complex epigenetic deposits hosted in deformed metamorphosed terranes (Dubé and Gosselin, 2007).

Greenstone-hosted quartz-carbonate vein deposits consist of simple to complex networks of gold-bearing, laminated quartz-carbonate fault-fill veins in moderately to steeply dipping, compressional brittle-ductile shear zones and faults with locally associated shallow-dipping extensional veins and hydrothermal breccias. They are hosted by greenschist to locally amphibolite facies metamorphic rocks of dominantly mafic composition and formed at intermediate depth in the crust (5 to 10 km). They are distributed along major compressional to trans-tensional crustal-scale fault zones (Figure 8-2) in deformed greenstone terranes of all ages, but are more abundant and significant, in terms of total gold content, in Archean terranes. Greenstone-hosted quartz-carbonate veins are thought to represent a major component of the greenstone deposit clan (Dubé and Gosselin, 2007). They can coexist regionally with iron formation-hosted vein and disseminated deposits, as well as with turbidite-hosted quartz-carbonate vein deposits.

Figure 8-2: Schematic Diagram Geometric Relationships between the Structural Elements of Veins and Shear Zones and the Deposit-Scale Strain Axes



Source: Robert, 1990.

Two main geological settings control the gold mineralization in the Val-d'Or East area. The first gold setting is found in the Bourlamaque batholith. Most gold deposits within the Bourlamaque batholith are classified as mesothermal vein-type, which is believed to have formed at 1 to 3 km depth (Poulsen, 1995). The best example is the Beaufor mine, located approximately 2 km north of the property. Since the start of its commercial production in the 1930s, 4,854,000 tonnes at an average grade of 7.5 g/t Au were produced, for a total of 1,169,000 ounces of gold recovered (Pelletier et al., 2017). Mineralization consists of quartz-tourmaline-carbonates-pyrite veins shallowly to moderately dipping to the south, hosted in the Bourlamaque granodiorite near the contact with the volcanic rocks of the Dubuisson formation. As for the Courvan property deposits located further south, most of the Beaufor mineralized zones are also located near this contact. The main gold-bearing veins are closely associated with the presence of dioritic dykes intersecting the granodiorite and pre-dating the mineralization. At the scale of the deposit, the setting of mineralization is controlled by faults oriented at N110° with a steep dip to the north (ex. Perron fault, Beaufor fault) and shear zones oriented at N070° moderately to steeply dipping south (ex. Central, South and West Shear faults). Gold veins seem to intensify when these two structural families meet (Richard, 2011). The Ferderber Mine (Belmoral) is located approximately 8 km west of the old Bussiere mine (Courvan), inside the Bourlamaque batholith and the Ferderber shear corridor. This auriferous ductile shear zone has a N070° direction and an average dip of 65° to 70° to the southeast. The Ferderber mine produced 1,703,425 tonnes at 6.89 g/t Au between 1979 and 1994 for a total of 362,000 ounces of gold (Rigg, D., 2017). The mineralized zones of the Ferderber mine are composed of quartz-tourmaline-carbonates-pyrite ± chalcopyrite veins confined within the shear zone. The mineralization is mainly hosted in a sheared and altered granodiorite, as well as in shreds of sheared mafic rocks.

The second geological setting of the Val-d'Or East area consists of quartz-tourmaline mesothermal veins found both inside and adjacent to small intrusives in the altered volcanic rocks. The latter are associated with east-west shear zones. The Pascalis and Monique gold trend zones represent good examples of this style of mineralization. The mineralization observed in the Monique pit area also shows similarities with the mineralization of the old Kerr-Addison mine in Ontario, where gold in competent rocks is found in proximity to ultramafic units near major deformation zones.

9 EXPLORATION

9.1 Geophysical Survey

In 2020, Probe Metals engaged Abitibi Geophysics from Val-d'Or to conduct an OreVision3DR survey. This survey was performed along 54 profiles (L 72+00E to L 125+00E) to map the resistivity and chargeability properties of the geological formations within the Monique and southern part of Pascalis grid of the Val-d'Or East property.

Abitibi Geophysics applied quality control measures to the collected OreVision3DR data and validated 97.7% of the recorded readings. Most of the readings that did not pass quality control were collected in the heart of an esker; eskers often have a layer of resistive material (sand) directly overlying a more conductive layer. Chargeability readings are affected because of the difficulty in injecting sufficient current into the ground. The most affected lines were L 81+00E to L 91+00E (Figure 9-1).

The OreVision3DR survey identified distinctive resistive and chargeable axes within the Monique-Pascalis grid. A few shallow resistive zones where basement rocks could be outcropping were found within the southwestern and northwestern corners in the northern part of lines L 88+00E to L 91+00E and L 97+00E, and in the northern part of lines L 111+00E to L 119+00E. The shallow subsurface appeared to be more conductive within most of the western part and the southeastern corner of the survey grid. These zones appear to correspond with low topography areas.

There are several discrete low resistivity trends found on the grid interpreted as potential shear zones (outlined in pink traces on the geophysical interpretation in Figure 9-1). They are mostly trending between east and east-southeast orientations. Many of the chargeable trends outlined are associated with these low resistivity trends (shear zones) and/or are found within highly resistivity bodies. The target mineralization is mainly quartz-rich zones and alteration that may be associated with shear zones.

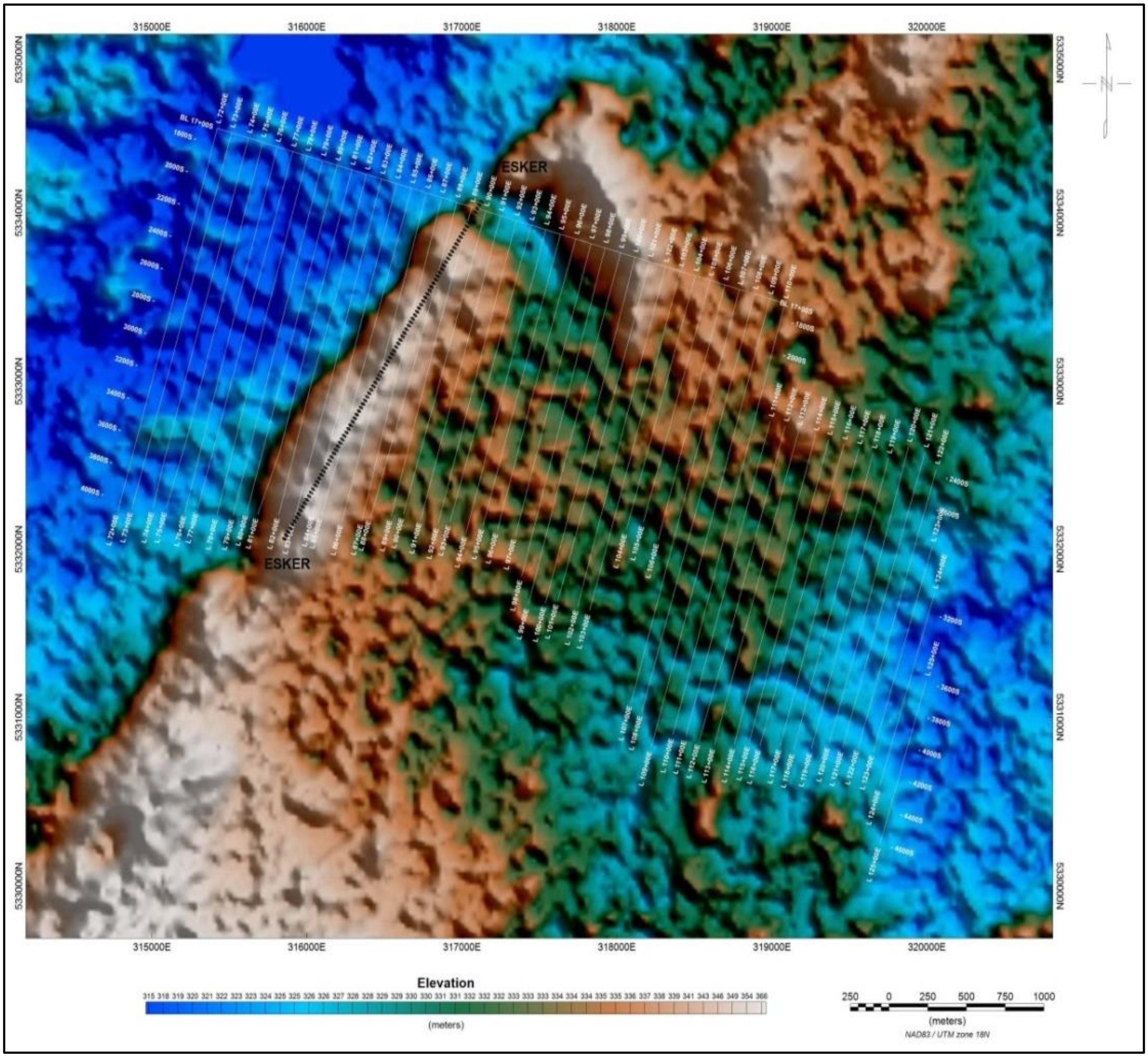
Following a detailed interpretation of the pseudo-sections and with the help of the recovered vertical sections from the 3D inversion model, 24 distinctive polarizable trends and two isolated sources have been delineated on the Pascalis block (Figure 9-2). Many of these trends are relatively short, some could plausibly be joined together, and others appear to be the shallower or deeper extensions of neighbouring ones. Some of the northwest-southeast and northeast-southwest faults were also interpreted by Abitibi Geophysics.

9.2 3D Geological Modelling

In 2020, Probe engaged InnovExplo from Val-d'Or to produce new lithological and structural models on the Courvan block and to update the Pascalis model. Using these models, Probe Metals geologists created 3D mineralization envelopes.

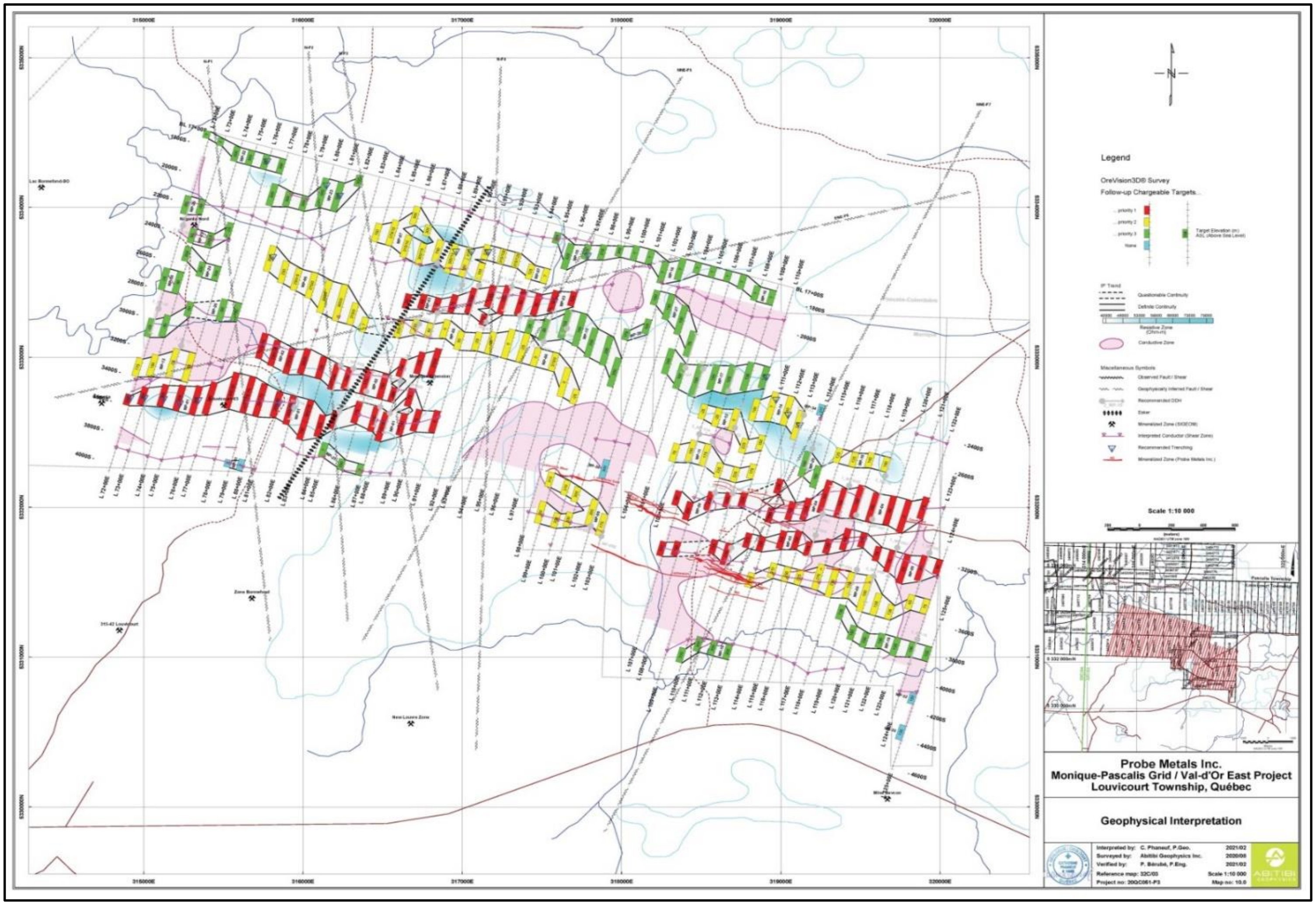
Four main lithological units were identified from the 3D Courvan geological compilation: the Bourlamaque batholith, basalt, an ultramafic plug, and a series of diorite dykes (Figure 9-3). The main structural features consist of a series of E-W to WSW-ENE oriented ductile-brittle faults and shear zones. The 3D model shows the geological features (brittle faults, diorite dykes, basalt / Bourlamaque batholith contact) that control and constrain the gold mineralization.

Figure 9-1: Shaded Topographic Grid Outlining the Dominant Glacial Deposit



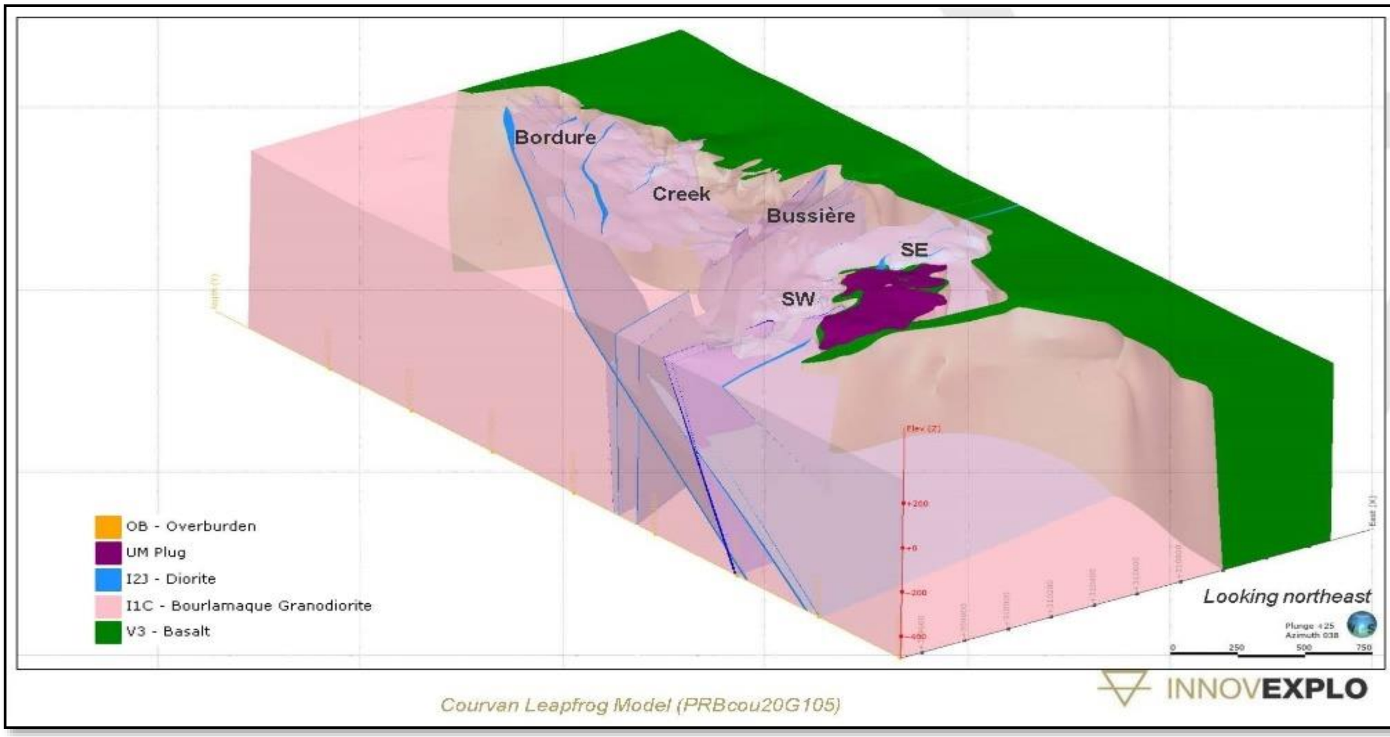
Source: Abitibi Geophysics, 2021.

Figure 9-2: Monique-Pascalis South Geophysical Interpretation



Source: Abitibi Geophysics, 2021.

Figure 9-3: Courvan 3D Geological Model



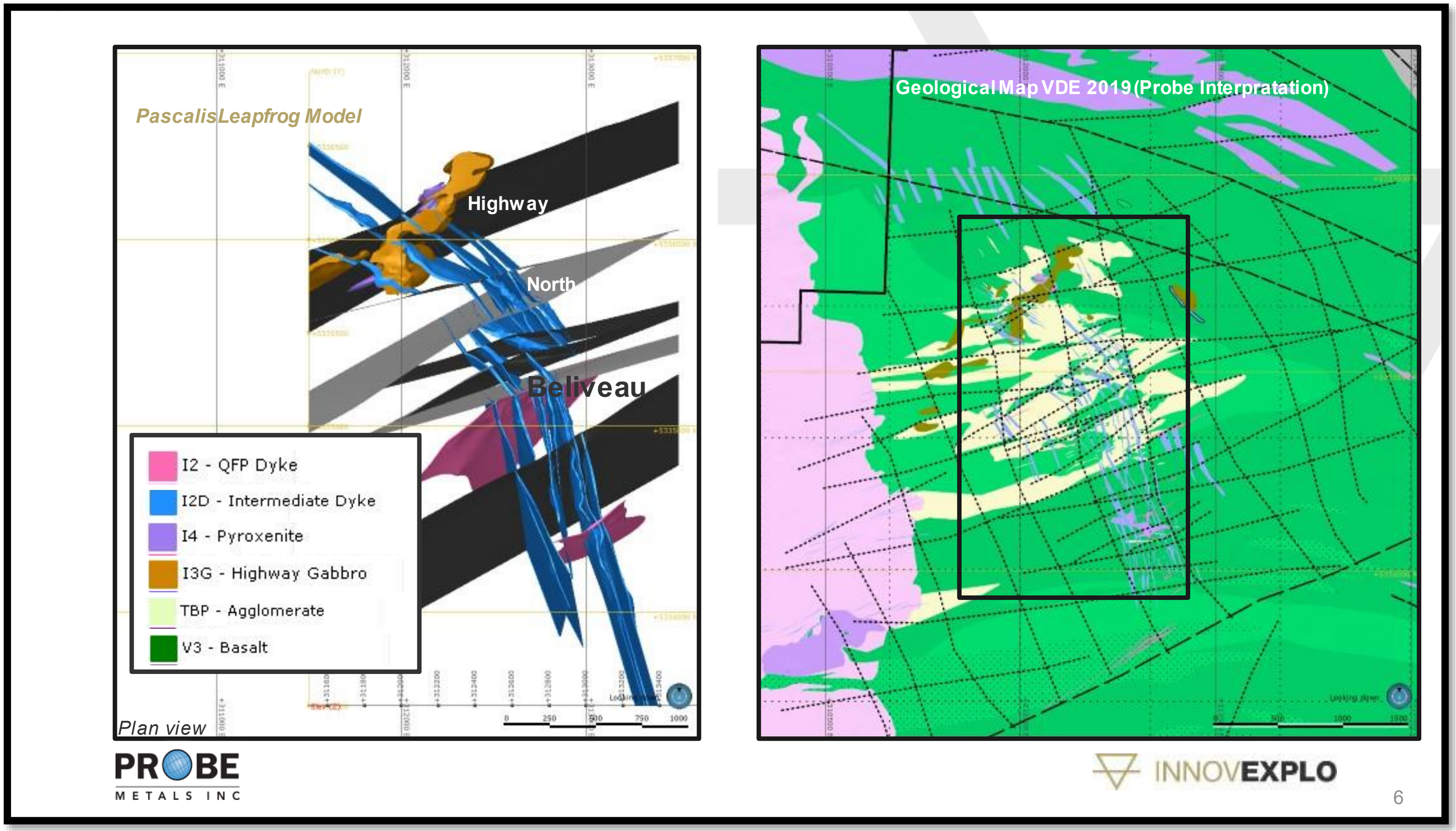
Source: Extract from InnovExplo, 2021.

Six main lithological units were identified using the 3D Pascalis geological compilation: diorite dyke swarm, basalt, agglomerate, gabbro, pyroxenite plugs, and FP-QFP dykes (Figure 9-4). The main structural features consist of a series of E-W to WSW-ENE oriented ductile-brittle faults and shear zones. The 3D model shows the geological features which control and constrain the gold mineralization, including brittle faults, shears, diorite dykes and the Highway gabbro intrusion.

For Courvan and Pascalis, mineralization models (envelopes) were completed based on a multivariable approach that included gold intercepts of > 2.0 metres and above 0.5 g/t Au, favorable vein types, favorable alteration, and favorable mineralization (Figures 9-5 and 9-6). These envelope orientations were based on structural data (e.g., Televiewer, oriented core and historically mined stopes).

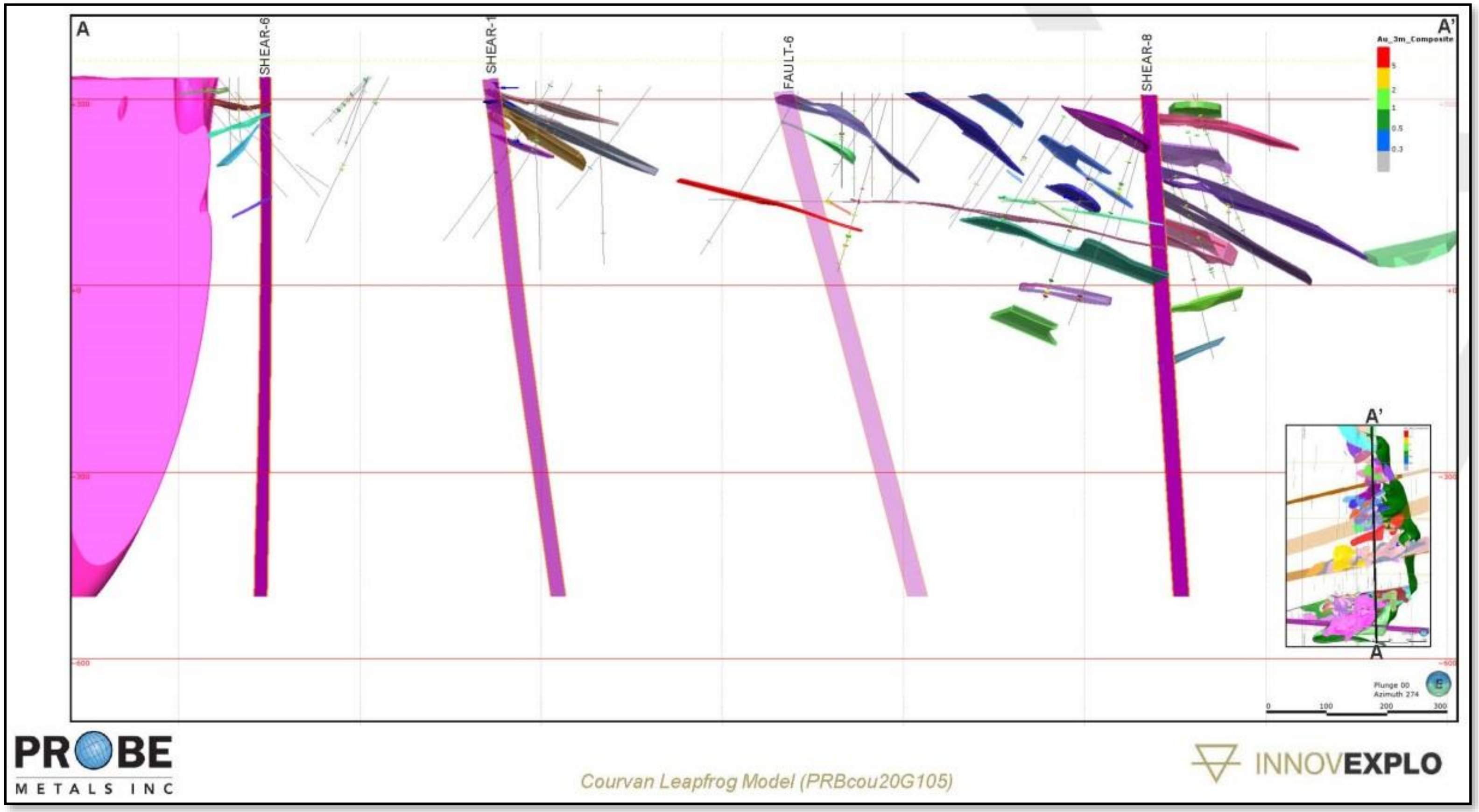
Following this compilation, InnovExplo concluded that gold envelopes at 500 ppb (0.5 g/t Au) resulting from the mineralization models can be used as domains for the upcoming mineral resource estimate. Contact plots suggest that these envelopes constrain the higher values within each zone and could be used as a hard boundary between the high and low values. The lithological, structural, and mineralization models can also be used to support future exploration programs.

Figure 9-4: Pascalis 3D Geological Model



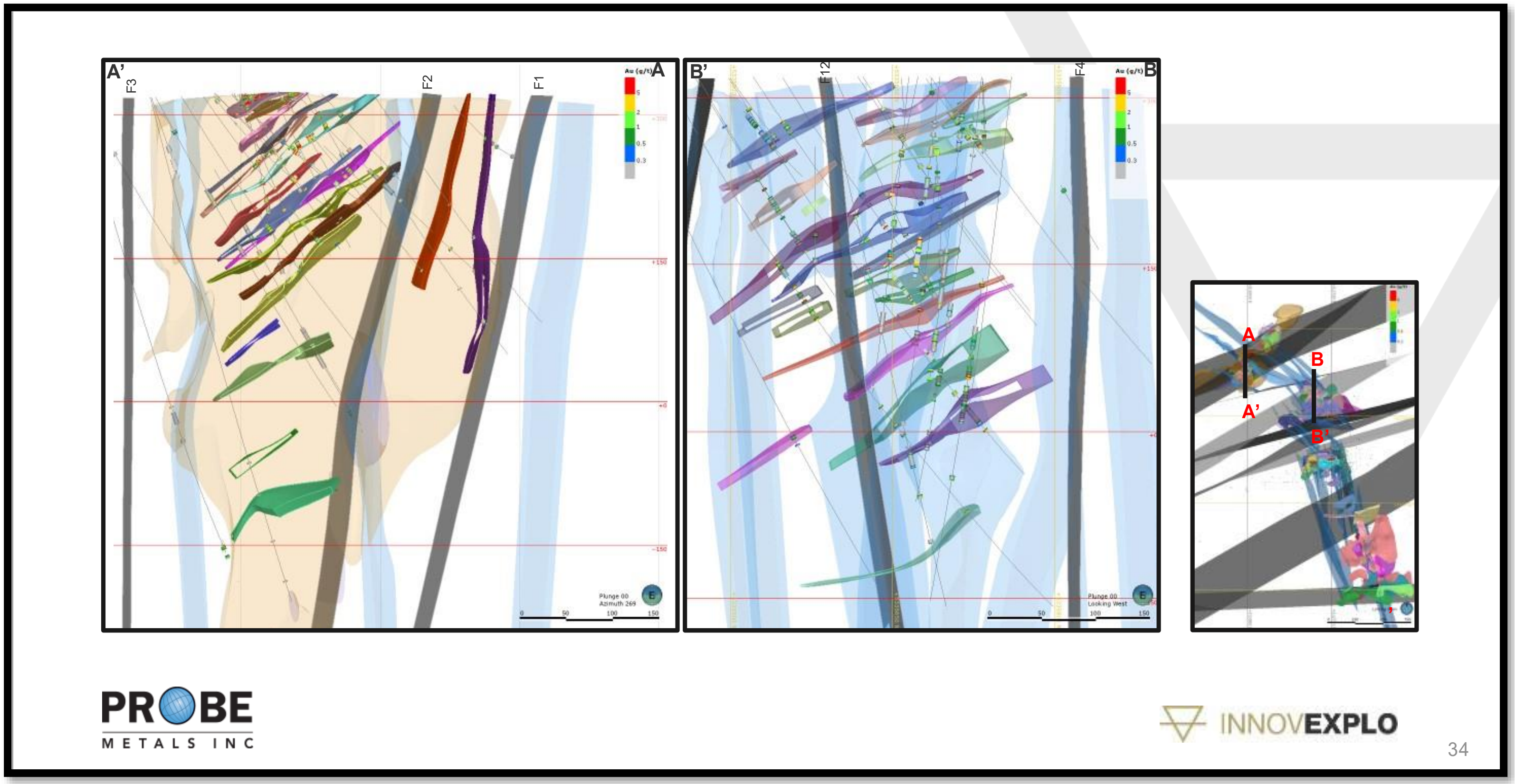
Source: Extract from InnovExplo, 2021.

Figure 9-5: North-South Section of Mineralization at Courvan



Source: Extract from InnovExplo, 2021.

Figure 9-6: North-South Section of Mineralization at North and Highway



Source: Extract from InnovExplo, 2021.

10 DRILLING

10.1 2019-2020 Drilling Program on Val-d'Or East Property

In 2019-2020 (after the previous NI 43-101 with an effective date of July 25, 2019), Probe Metals completed 288 new drill holes (including seven drill holes for the metallurgical tests in New Beliveau and Monique deposits) totaling 81,799.45 metres (Table 10-1) on the Courvan, Pascalis and Monique gold trends. A total of 52,773 assay intervals (62,165.22 m) were taken from NQ core size and 2,617 QA/QC control samples. The samples were analyzed by ActLabs and Agat laboratories in Québec and Ontario, respectively (see Section 11 for details). All precious metal analyses were assayed by fire assay (50 g) with atomic absorption or gravimetric finish.

Table 10-1: Summary of Drilling 2019-2020

Area Property Zone	Drill Hole Count	Meterage	Samples (Assay)	Samples (QA/QC)
New Beliveau	90	26,952.75	19,001	1279
North Zone	10	1,971	1,184	83
Highway	1	324	251	17
Exploration Pascalis	24	6,936	4,342	285
Courvan	85	26,049.3	15,849	1,144
Monique	71	18,233.7	12,146	847
Metallurgical Tests (New Beliveau + Monique)	7	1332.7	-	-
Total	**288**	**81,799.45**	**52,773**	**3,655**

Source: Geologica, 2021.

10.2 Methodology and Planning

The drill holes are planned on cross-sections in Leapfrog Geo or Geotic Mine software. Each hole drilled by Probe Metals at Val-d'Or East (Monique, Courvan and Pascalis) has a unique identification number.

Most of the time, for the New Beliveau and North zones, the holes are drilled from south to north to intersect the mineralized veins as close as possible to perpendicular and to follow the dyke-style mineralization along strike when outside the volcanic units. Some drill holes were drilled east to west to locate and evaluate dyke thicknesses, and some were sub-vertical to evaluate the stacked vein system at depth. The presence of mining infrastructure can complicate drilling under the extension of the former L.C. Beliveau mine. For the exploration drilling, drill holes are of different orientations.

At Courvan, the drill holes are oriented either north (to intersect south-dipping vein systems) or south (to intersect north-dipping vein systems). All drill holes at Courvan are planned to intersect vein systems at an optimal angle as close to true width as possible. Similar to Beliveau, the presence of historical mining underground infrastructures sometimes complicate drill hole planning at Courvan.

For the Monique property, the drill holes were oriented mainly south to intersect the mineralized zones steeply dipping to the north. The spacing and location of all drill holes was influenced by the density of previous historical drilling and access limitations caused by swampy areas on the property.

10.3 Geology and Analysis

According to a pre-established standard for the Val d'Or East project, a detailed description of the drill core is carried out under the supervision of experienced and qualified personnel who are members of the OIQ (Ordre des ingénieurs du Québec) or the OGQ (Ordre des géologues du Québec) prior to sampling, using Geotic Log core logging software. The drill core is described at Probe Metals' core laboratory in Val-d'Or. Various drilling parameters, including down-hole surveys, are also compiled into the database.

The length and location of samples is controlled by the geology (i.e., geological unit, alteration package, or mineralized zone). The sampled intervals of drill core are sawn in half to preserve a sample of core-witness at the mine site. Once the sample results are returned from the laboratories, the results are integrated into the geological database and plotted on sections and plans at the appropriate scale.

10.4 Core Storage

Drill cores for the 2019-2020 drilling programs for Monique, Courvan and Pascalis are stored at the former Beliveau or Monique mine sites, or at Probe Metals' office located in Val d'Or. Each stored core box is identified with an aluminum tag that has the unique drill hole information embossed on it (including the drill hole number, the box number, and the core interval stored in the box). Boxes belonging to individual drill holes are stored consecutively in a core rack or on pallets. An inventory is kept for each core rack and is copied into an electronic database by the geology department.

10.5 Collar Surveying

Drill holes from 2019-2020 were spotted by Probe Metals personnel using a GPS system. Once the drilling campaign was completed, the surveyor (J.-L. Corriveau) returned to the collar location of the drill hole and directly measured the final coordinates using a real-time high-precision GPS unit. These data are entered into both a handwritten drill hole registry and an electronic databank. The local grid references were converted into Universal Transverse Mercator (UTM) coordinates (NAD83, Zone 18) to establish the correlation. All the 2019-2020 drill holes were capped and identified on the drill site.

10.6 Down-Hole Surveying

During the 2019-2020 surface drilling programs by Probe Metals, deviation was measured using a multishot instrument such as a Flexit SmartTool or Reflex EZ-Shot with readings taken every 30 m down the hole, and azimuth readings referenced to magnetic north during the drilling. After completion of the hole, the driller would pull out the rod and survey the hole every 3 m with the multishot instrument. This information was downloaded on a USB key and transferred directly into the database. Data were verified for magnetic interference and validated.

All north directions in the database reference true north. Most of the surface diamond drill holes used 3-metre-long NQ diameter core barrels with one 18-inch stabilizing shell.

10.7 Core Recovery

During the 2019-2020 drilling program, rock quality designation (RQD) was completed over 29 holes for Courvan and 9 holes for Monique, totaling 9263.5 m. The core recovery in mineralized zones is over 95%, which is very good.

10.8 Significant Results

10.8.1 Courvan Gold Trend

During the recent 2020 drilling program on the Courvan property, the first 20 drill holes have discovered a new zone west of the Bussiere mine. Discovery drill hole CO-20-129, located 850 m west of the historical Bussiere mine shaft, intersected significant stacking of veins close to surface with 1.3 g/t Au over 15.5 metres. New drilling continues to expand the mineralized zones at Courvan, including the identification of a stacked set of shallow-dipping east-west auriferous veins adjacent to sheared mafic dykes cross-cutting the Bourlamaque granodiorite batholith. Auriferous veins intersected are characterized predominantly by sulphide-bearing quartz-carbonate-tourmaline veins and gold is generally associated with decimeter-scale pyrite masses in veins and 1% to 5% finely disseminated pyrite in the host rocks.

Recent drilling has also permitted the expansion of the Bussiere West and Southeast zones along strike and at shallow depth. Drill holes CO-20-138 and CO-20-139 tested the near-surface extension to the east of the Southeast Zone and returned significant mineralization. Drill hole CO-20-139 returned the best assay results from the Southeast Zone to date, with a high-grade interval of 8.9 g/t Au over 10.8 m. Infill drilling with three holes (CO-20-131 to -133) in the Creek Zone also returned very positive results with an intercept grading up to 6.8 g/t Au over 14.1 m.

Drill hole CO-20-144 targeted a gap in the Southwest Zone and intersected significant gold mineralization including 8.8 g/t Au over 7.0 m.

Drill hole CO-20-150, collared in the northwestern area of the Creek Zone, was the first test of the exploration potential at depth under the identified resource and returned very encouraging gold values from five new structures with 3.9 g/t Au over 5.5 m, 15 g/t Au over 2 m and 4.1 g/t Au over 4.2 m.

Drill holes CO-20-155 to -163 tested near-surface extensions of the stacked gold structures west of the former Bussiere mine, while drill holes CO-20-170 to -172 tested extensions to the north of the mine. The best results came from the northern extension of the former Bussiere mine system, which has seen limited drilling in the past. Gold mineralized structures that were intersected—particularly those in drill holes CO-20-171 and -172—are open and warrant further follow-up drilling near surface and at depth. Drill holes CO-20-164 to -169 and extension holes CO-20-131 and -146 were completed to test the Creek Zone near surface to the east and its exploration potential at depth. The best results came from drill holes CO-20-146 and -131, with drill hole CO-20-146 intersecting 14.8 g/t Au over 7.5 m.

Significant drilling results from the recent (2020) drilling program for Courvan are reported in Table 10-2.

Table 10-2: 2019-2020 Significant Drilling Results for the Courvan Gold Trend

DDH No.	From (m)	To (m)	Length (m)	Au (g/t)	Zone
CO-19-110	356.50	357.50	1.00	12.91	Southwest
CO-19-113	172.80	174.80	2.00	8.21	Southwest
CO-19-114	55.00	56.00	1.00	2.44	Southwest
	141.40	142.40	1.00	12.30	
	157.00	158.00	1.00	3.18	
CO-19-117	203.00	204.00	1.00	5.42	Creek Zone
CO-19-118	194.20	195.20	1.00	12.30	Creek Zone
	222.00	223.00	1.00	4.24	
CO-19-126	19.50	20.50	1.00	14.71	Creek Zone
CO-19-127	33.50	34.50	1.00	3.75	Creek Zone
CO-19-127	50.00	60.00	10.00	1.20	
Including	58.00	59.00	1.00	5.52	
CO-19-127	69.00	71.10	2.10	1.34	
	74.30	76.50	2.20	1.71	
	105.70	106.70	1.00	2.02	
CO-20-128	42.00	43.00	1.00	2.97	Creek Zone
	84.20	85.20	1.00	3.55	
CO-20-129	61.00	76.50	15.50	1.27	Bussiere West Discovery
Including	69.50	70.50	1.00	13.60	
CO-20-131	252.00	255.20	3.20	4.13	Creek Zone
Including	254.20	255.20	1.00	11.80	
CO-20-131	315.50	316.50	1.00	2.79	
	326.20	327.20	1.00	3.02	
	400.30	401.30	1.00	7.26	
CO-20-131	436.80	441.60	4.80	2.96	
Including	436.80	437.80	1.00	6.06	
CO-20-131	473.50	475.90	2.40	4.98	
Including	475.20	475.90	0.70	9.16	
CO-20-131	669.50	670.50	1.00	2.77	
CO-20-132	73.70	74.70	1.00	3.63	Creek Zone
	79.20	80.20	1.00	2.39	
	104.00	105.30	1.30	1.93	
CO-20-133	21.00	25.00	4.00	1.09	Creek Zone
CO-20-133	106.40	110.40	4.00	2.45	
Including	107.40	108.40	1.00	5.33	
CO-20-133	168.00	182.10	14.10	6.78	
Including	168.00	170.00	2.00	25.10	
Including	178.80	180.80	2.00	21.10	
CO-20-137	120.00	121.00	1.00	9.15	Bussiere West Discovery
	168.80	169.90	1.10	5.12	
CO-20-138	105.30	110.00	4.70	1.07	Southeast
	203.00	204.00	1.00	7.34	
CO-20-139	102.40	113.00	10.60	0.88	Southeast
	121.20	122.30	1.10	2.43	
	130.10	131.50	1.40	2.32	
	161.30	165.40	4.10	2.92	
	178.00	179.00	1.00	2.17	
CO-20-139	183.00	194.80	11.80	8.22	
Including	184.00	185.00	1.00	9.14	
Including	190.80	191.40	0.60	28.60	
Including	191.40	192.10	0.70	42.10	
Including	192.10	193.30	1.20	16.80	
CO-20-140	52.00	53.00	1.00	4.88	Southeast
	156.00	157.00	1.00	1.84	
CO-20-141	59.00	60.00	1.00	2.27	Southeast
CO-20-142	199.30	200.30	1.00	2.66	Exploration (IP anomaly)
CO-20-144	104.00	105.20	1.20	5.33	Southwest
	190.50	192.00	1.50	2.50	
	212.80	213.80	1.00	3.71	
	232.00	233.00	1.00	2.48	
CO-20-146	381.70	384.00	2.30	2.16	Creek Zone
	397.30	398.00	0.70	2.28	
CO-20-146	438.50	441.50	3.00	14.37	
Including	440.50	441.50	1.00	39.80	
CO-20-146	454.80	456.50	1.70	3.38	
	497.80	498.80	1.00	3.16	
	500.20	504.20	4.00	1.82	
	526.10	527.70	1.60	22.99	
	559.70	560.50	0.80	5.02	
	607.50	608.50	1.00	2.75	
	609.50	610.50	1.00	6.33	
	626.30	627.30	1.00	4.97	
	634.30	636.30	2.00	2.41	
	664.50	666.60	2.10	3.85	
	722.50	723.50	1.00	21.50	
	727.00	728.00	1.00	2.22	
CO-20-146	752.80	765.00	12.20	9.42	
Including	752.80	753.50	0.70	12.80	
Including	755.20	756.10	0.90	63.30	
Including	759.00	759.60	0.60	38.50	
Including	759.60	760.30	0.70	14.40	
CO-20-147	16.30	17.30	1.00	2.47	Creek Zone
	159.20	160.20	1.00	3.51	
	172.00	174.00	2.00	3.58	
CO-20-148	19.30	23.30	4.00	2.88	Creek Zone

DDH No.	From (m)	To (m)	Length (m)	Au (g/t)	Zone
Including	22.30	23.30	1.00	7.44	
CO-20-148	36.60	41.00	4.40	10.25	
Including	37.70	39.00	1.30	32.20	
CO-20-148	49.20	50.20	1.00	1.40	
	113.50	115.50	2.00	5.76	
	250.00	251.00	1.00	5.39	
CO-20-149	73.30	78.20	4.90	2.71	Creek Zone
Including	74.30	75.20	0.90	10.70	
CO-20-149	153.30	156.00	2.70	4.94	
Including	153.30	154.00	0.70	14.80	
CO-20-149	290.00	293.20	3.20	2.49	
CO-20-150	318.50	321.50	3.00	4.09	Creek Zone
Including	319.50	320.50	1.00	11.40	
CO-20-150	332.70	333.70	1.00	2.89	
	343.00	344.50	1.50	2.77	
	355.70	356.70	1.00	5.34	
CO-20-150	372.50	378.00	5.50	3.85	
Including	376.00	377.00	1.00	9.07	
	377.00	378.00	1.00	5.03	
CO-20-150	391.50	392.50	1.00	2.45	
	405.50	406.70	1.20	4.40	
CO-20-150	481.50	483.50	2.00	14.99	
Including	482.50	483.50	1.00	28.00	
CO-20-150	526.00	527.00	1.00	7.51	
	578.40	579.40	1.00	60.30	
	650.50	653.50	3.00	2.90	
	657.10	658.00	0.90	2.16	
CO-20-151	112.80	113.80	1.00	4.63	Creek Zone
CO-20-151	126.50	133.20	6.70	7.16	
Including	131.20	132.20	1.00	8.14	
Including	132.20	133.20	1.00	25.30	
CO-20-151	141.60	142.80	1.20	10.99	
CO-20-152	22.00	23.00	1.00	6.78	Creek Zone
	47.00	48.10	1.10	15.85	
	131.00	132.00	1.00	2.87	
	142.40	145.30	2.90	2.14	
CO-20-155	15.50	21.00	5.50	1.96	Bussiere Zone
Including	17.00	18.00	1.00	6.80	
CO-20-155	32.00	35.00	3.00	1.32	
	45.50	46.50	1.00	1.49	
CO-20-156	137.00	139.00	2.00	1.42	Bussiere Zone
CO-20-157	94.10	97.00	2.90	1.28	Bussiere Zone
	165.50	167.00	1.50	4.12	
CO-20-158	112.00	113.00	1.00	1.42	Bussiere Zone
	121.90	122.70	0.80	10.20	
	135.50	136.50	1.00	13.50	
	145.40	146.40	1.00	1.05	
CO-20-161	9.40	10.40	1.00	2.68	Bussiere West Discovery
	55.00	56.10	1.10	2.15	
CO-20-161	153.00	160.50	7.50	2.37	
Including	159.70	160.50	0.80	20.20	
CO-20-161	231.00	232.00	1.00	1.70	
CO-20-161	293.00	294.00	1.00	4.11	
CO-20-162	6.50	7.50	1.00	1.22	Bussiere West Discovery
	49.50	53.50	4.00	2.20	
	65.70	66.70	1.00	1.33	
	87.70	88.70	1.00	2.26	
	120.50	121.50	1.00	7.66	
CO-20-165	305.80	306.80	1.00	2.87	Creek Zone
CO-20-166	245.00	250.00	5.00	1.01	Creek Zone
	265.20	268.00	2.80	1.30	
CO-20-168	52.00	53.00	1.00	6.95	Creek Zone
	65.00	66.00	1.00	3.25	
	147.00	150.00	3.00	5.09	
	242.30	243.30	1.00	1.23	
CO-20-168	278.20	283.30	5.10	6.95	
Including	280.80	281.80	1.00	25.50	
CO-20-168	353.00	362.00	9.00	1.96	
	393.80	394.80	1.00	2.33	
	410.50	415.00	4.50	1.65	
	432.00	433.50	1.50	1.08	
CO-20-169	53.70	54.70	1.00	2.10	Creek Zone
	165.50	168.00	2.50	1.10	
CO-20-170	247.70	249.00	1.30	2.36	Bussiere East
CO-20-171	116.00	117.50	1.50	2.19	Bussiere East
CO-20-171	130.00	141.90	11.90	5.26	
Including	130.70	131.50	0.80	46.00	
Including	141.20	141.90	0.70	26.30	
CO-20-171	164.90	177.90	13.00	7.50	
Including	168.30	169.00	0.70	23.30	
CO-20-171	285.50	287.50	2.00	4.88	
CO-20-172	11.30	12.30	1.00	3.88	Bussiere East
	38.50	40.50	2.00	3.19	
CO-20-172	53.50	57.50	4.00	6.15	
Including	53.50	54.40	0.90	18.20	
Including	55.40	56.40	1.00	6.14	
CO-20-172	80.60	82.60	2.00	1.93	
	97.80	98.80	1.00	13.00	

<table>
<tr><th>DDH No.</th><th>From (m)</th><th>To (m)</th><th>Length (m)</th><th>Au (g/t)</th><th>Zone</th></tr>
<tr><td>CO-20-172</td><td>160.20</td><td>164.00</td><td>3.80</td><td>4.00</td><td rowspan="3"></td></tr>
<tr><td>Including</td><td>160.20</td><td>161.20</td><td>1.00</td><td>8.85</td></tr>
<tr><td>CO-20-172</td><td>372.50</td><td>373.50</td><td>1.00</td><td>2.79</td></tr>
<tr><td rowspan="5">CO-20-172x</td><td>11.50</td><td>16.00</td><td>4.50</td><td>2.06</td><td rowspan="5">Bussiere East</td></tr>
<tr><td>37.00</td><td>38.00</td><td>1.00</td><td>2.85</td></tr>
<tr><td>48.00</td><td>49.00</td><td>1.00</td><td>2.96</td></tr>
<tr><td>52.00</td><td>55.90</td><td>3.90</td><td>1.97</td></tr>
<tr><td>78.00</td><td>80.00</td><td>2.00</td><td>4.43</td></tr>
<tr><td rowspan="3">CO-20-175</td><td>54.00</td><td>55.00</td><td>1.00</td><td>3.91</td><td rowspan="12">Creek Zone</td></tr>
<tr><td>152.00</td><td>153.00</td><td>1.00</td><td>8.80</td></tr>
<tr><td>230.00</td><td>231.60</td><td>1.00</td><td>9.77</td></tr>
<tr><td>CO-20-175</td><td>239.50</td><td>244.00</td><td>4.50</td><td>2.20</td></tr>
<tr><td>Including</td><td>239.50</td><td>240.20</td><td>0.70</td><td>7.52</td></tr>
<tr><td rowspan="2">CO-20-175</td><td>287.50</td><td>289.50</td><td>2.00</td><td>2.99</td></tr>
<tr><td>306.00</td><td>307.00</td><td>1.00</td><td>5.37</td></tr>
<tr><td>CO-20-175</td><td>312.00</td><td>314.60</td><td>2.60</td><td>2.80</td></tr>
<tr><td>Including</td><td>314.00</td><td>314.60</td><td>0.60</td><td>9.04</td></tr>
<tr><td rowspan="3">CO-20-175</td><td>457.00</td><td>458.00</td><td>1.00</td><td>3.16</td></tr>
<tr><td>468.50</td><td>471.00</td><td>2.50</td><td>2.62</td></tr>
<tr><td>611.70</td><td>614.10</td><td>2.40</td><td>2.96</td></tr>
<tr><td>CO-20-176</td><td>148.00</td><td>150.80</td><td>2.80</td><td>8.04</td><td rowspan="4">Creek Zone</td></tr>
<tr><td>Including</td><td>148.00</td><td>149.00</td><td>1.00</td><td>21.80</td></tr>
<tr><td>CO-20-176</td><td>212.70</td><td>215.00</td><td>2.30</td><td>5.16</td></tr>
<tr><td>Including</td><td>213.40</td><td>214.00</td><td>0.60</td><td>15.20</td></tr>
<tr><td>CO-20-177</td><td>14.80</td><td>15.90</td><td>1.10</td><td>2.54</td><td rowspan="4">Creek Zone</td></tr>
<tr><td>CO-20-177</td><td>116.70</td><td>119.70</td><td>3.00</td><td>3.72</td></tr>
<tr><td>Including</td><td>118.70</td><td>119.70</td><td>1.00</td><td>7.83</td></tr>
<tr><td>CO-20-177</td><td>154.00</td><td>155.00</td><td>1.00</td><td>7.03</td></tr>
<tr><td rowspan="5">CO-20-178</td><td>61.60</td><td>62.60</td><td>1.00</td><td>2.05</td><td rowspan="5">Creek Zone</td></tr>
<tr><td>285.70</td><td>286.30</td><td>0.60</td><td>3.58</td></tr>
<tr><td>329.70</td><td>330.70</td><td>1.00</td><td>15.40</td></tr>
<tr><td>418.00</td><td>418.80</td><td>0.80</td><td>26.90</td></tr>
<tr><td>624.00</td><td>625.00</td><td>1.00</td><td>8.32</td></tr>
<tr><td>CO-20-180</td><td>44.10</td><td>45.10</td><td>1.00</td><td>2.60</td><td>Southeast</td></tr>
<tr><td>CO-20-181</td><td>83.50</td><td>84.50</td><td>1.00</td><td>12.80</td><td>Southeast</td></tr>
<tr><td rowspan="2">CO-20-183</td><td>147.30</td><td>149.30</td><td>2.00</td><td>6.10</td><td rowspan="2">Southeast</td></tr>
<tr><td>196.00</td><td>198.00</td><td>2.00</td><td>1.22</td></tr>
<tr><td>CO-20-184</td><td>186.50</td><td>187.50</td><td>1.00</td><td>4.37</td><td>Southeast</td></tr>
</table>

Source: Geologica, 2021.

10.8.2 Pascalis Gold Trend

During the 2019-2020 drilling program, resource expansion drill holes and infill drill holes were completed to extend near-surface gold mineralization 600 m south of the former Beliveau mine, to the east and west of the Main Dyke (PC-19-575, and PC-20-597 to -604). Drill holes were carried out to test the extensions of the new discovery in drill hole PC-19-564 that returned 1.1 g/t Au over 30.7 m from the southeast part of the Pascalis gold trend (PC-19-577, -579, -580 and PC-20-593 to -596). Drill holes were completed to test the extension of the new discovery in drill hole PC-559, which returned 3.5 g/t Au over 22.7 m, from the northeast part of the Pascalis gold trend (PC-19-570 to -574; PC-576 and -578). During the program, 55 exploration drill holes were also drilled to test induced polarization (IP) anomalies and other geological targets, including potential gold-bearing structures between the Pascalis and the Courvan gold trends.

Recent drilling has identified new mineralization within and near the margins of the New Beliveau and the North deposits. Of the 71 shallow holes that focused on identifying or confirming near-surface mineralization, 62 returned gold intercepts above 0.5 g/t Au over 5 m. Only nine did not return significant results. The best expansion drilling results came from the extension to the west, south and east of the Beliveau deposit (56.1 g/t Au over 1.1 m in PC-20-638) and from the extension of the North deposit to the northeast (96.6 g/t Au over 0.5 m in PC-20-672). Infill drilling in the main dyke, 500 meters south of the former Beliveau mine, also returned significant results (11 g/t Au over 7.2 m in PC-20-658). Gold mineralized structures that were intersected, particularly in the southern part of the Beliveau deposit, warrant follow-up drilling near surface and all the zones are still open at depth.

Generally, the geology and geometry of the new mineralized zones southeast and northeast of the trend are similar to those observed along the Pascalis gold trend, and consist of shallow dipping tension vein networks closely associated with sub-vertical east-west deformation zones and north-northwest trending dykes.

Significant drilling results for the recent (2019-2020) drilling program for the Pascalis gold trend are reported in Table 10-3.

Table 10-3: 2019-2020 Significant Drilling Results for the Pascalis Gold Trend

DDH No.	From (m)	To (m)	Length (m)	Au_Fin (g/t)	Zone
PC-19-559	213.30	228.90	15.60	4.81	Northeast Extension
Including	220.50	221.50	1.00	27.30	
PC-19-559	233.00	234.00	1.00	2.51	
PC-19-561	58.50	60.00	1.50	2.14	Exploration
PC-19-563	96.70	107.30	10.60	1.16	New Beliveau South
Including	106.30	107.30	1.00	8.19	
PC-19-563	149.50	150.50	1.00	3.03	
	177.30	178.30	1.00	2.93	
PC-19-564	15.00	42.70	27.70	1.16	New Beliveau SE
Including	15.00	16.00	1.00	6.82	
Including	37.40	38.40	1.00	6.07	
Including	39.70	40.70	1.00	5.53	
PC-19-564	150.50	151.50	1.00	4.76	
PC-19-565	19.90	21.90	2.00	2.65	New Beliveau South
PC-19-565	42.90	50.90	8.00	2.86	
Including	42.90	43.90	1.00	17.20	
Including	49.90	50.90	1.00	5.04	
PC-19-565	66.80	69.80	3.00	6.41	
Including	68.80	69.80	1.00	12.20	
PC-19-565	76.80	77.80	1.00	15.60	
PC-19-565	88.20	99.50	11.30	3.34	
Including	93.50	94.50	1.00	26.40	
Including	98.50	99.50	1.00	9.21	
PC-19-565	263.50	264.50	1.00	2.04	
PC-19-565	274.20	280.00	5.80	2.04	
Including	274.20	275.20	1.00	4.77	
Including	279.00	280.00	1.00	6.36	
PC-19-570	344.80	347.00	2.20	1.33	North Extension
	351.60	352.60	1.00	2.77	
PC-19-571	44.00	49.20	5.20	4.28	North Extension
Including	47.20	48.20	1.00	4.72	
Including	48.20	49.20	1.00	16.30	
PC-19-571	130.20	131.20	1.00	2.39	
PC-19-574	180.80	182.30	1.50	2.44	North Extension
	190.60	192.60	2.00	3.65	
PC-19-575	80.90	81.90	1.00	2.64	New Beliveau South
PC-19-575	307.50	314.00	6.50	1.83	
Including	307.50	308.50	1.00	8.84	
PC-19-575	322.00	329.00	7.00	1.24	
Including	322.00	323.00	1.00	6.26	
PC-19-576	54.50	55.50	1.00	10.60	North Extension
	128.00	129.00	1.00	3.49	
PC-19-577	53.00	54.00	1.00	12.50	New Beliveau SE
PC-19-579	41.50	42.50	1.00	2.32	New Beliveau SE
	98.10	99.10	1.00	4.58	
	127.00	128.00	1.00	2.59	
	157.50	158.50	1.00	4.05	
PC-19-580	44.20	47.80	3.60	2.28	New Beliveau SE
Including	44.20	45.20	1.00	5.28	
PC-19-580	133.00	134.50	1.50	5.01	
PC-19-584	213.50	214.50	1.00	7.07	Exploration
PC-20-587	59.00	60.00	1.00	10.60	Exploration
PC-20-594	18.30	22.00	3.70	15.36	New Beliveau SE
Including	18.30	18.90	0.60	94.10	
PC-20-594	76.50	85.00	8.50	1.20	
Including	76.50	77.05	0.55	6.95	
Including	83.00	85.00	2.00	2.41	
PC-20-594	90.40	93.00	2.60	3.00	
Including	92.00	93.00	1.00	6.55	
PC-20-594	109.60	110.10	0.50	16.10	
PC-20-595	26.60	27.10	0.50	2.62	New Beliveau SE
PC-20-595	33.00	41.00	8.00	2.11	
Including	37.00	38.00	1.00	4.47	
PC-20-595	46.00	47.00	1.00	5.22	
	52.10	53.00	0.90	9.42	
PC-20-596	108.00	109.00	1.00	1.67	New Beliveau SE
	113.00	114.00	1.00	2.77	
	116.00	117.00	1.00	3.64	
PC-20-596	257.00	262.00	5.00	2.42	
Including	261.00	262.00	1.00	7.15	
PC-20-597	252.00	252.50	0.50	3.40	New Beliveau South
PC-20-598	94.00	95.00	1.00	5.95	New Beliveau South

DDH No.	From (m)	To (m)	Length (m)	Au_Fin (g/t)	Zone
	279.00	286.00	7.00	2.80	
Including	279.00	280.00	1.00	4.57	
Including	285.00	286.00	1.00	10.09	
PC-20-600	328.50	329.50	1.00	5.11	New Beliveau South
PC-20-600	428.50	431.75	3.25	3.16	
Including	430.40	431.00	0.60	8.84	
PC-20-601	242.00	250.00	8.00	1.37	New Beliveau South
Including	245.00	246.00	1.00	3.73	
PC-20-603	164.00	175.00	11.00	1.70	New Beliveau South
Including	164.00	165.00	1.00	8.23	
Including	173.00	174.00	1.00	5.49	
PC-20-603	282.00	283.00	1.00	4.38	
	290.50	291.50	1.00	2.32	
	325.00	325.85	0.85	2.70	
PC-20-603	372.00	377.00	5.00	3.90	
Including	376.00	377.00	1.00	18.40	
PC-20-604	87.30	88.30	1.00	5.19	New Beliveau South
PC-20-604	106.80	116.00	9.20	5.90	
Including	106.80	107.80	1.00	49.10	
PC-20-605	203.10	204.10	1.00	3.48	New Beliveau South
PC-20-608	95.70	96.70	1.00	6.54	New Beliveau South
PC-20-608	108.80	112.80	4.00	5.08	
Including	108.80	109.80	1.00	18.70	
PC-20-608	219.30	220.30	1.00	11.06	
PC-20-611	233.00	234.00	1.00	2.45	Exploration (Resistivity anomaly)
PC-20-612	331.10	332.10	1.00	2.74	New Beliveau South
PC-20-612	387.20	395.60	8.40	1.37	
Including	388.00	389.00	1.00	4.69	
Including	394.60	395.60	1.00	5.06	
PC-20-612	575.80	585.50	9.70	2.04	
Including	580.80	581.60	0.80	10.30	
Including	584.50	585.50	1.00	4.37	
PC-20-612	611.60	613.60	2.00	8.74	
PC-20-612	649.50	653.50	4.00	3.27	
Including	652.50	653.50	1.00	6.52	
PC-20-612	663.70	664.50	0.80	3.65	
	675.20	677.90	2.70	4.75	
	683.30	684.30	1.00	3.96	
	689.30	690.30	1.00	4.06	
	696.60	697.60	1.00	2.11	
	836.50	837.50	1.00	3.21	
	871.10	872.10	1.00	2.19	
	882.70	883.40	0.70	3.74	
	892.40	893.40	1.00	7.74	
PC-20-614	282.00	283.00	1.00	2.19	Exploration (South Zone)
	295.00	296.00	1.00	3.72	
	339.00	340.00	1.00	2.61	
PC-20-615	321.50	332.00	10.50	3.42	New Beliveau South
Including	321.50	322.10	0.60	8.16	
Including	322.10	323.00	0.90	20.00	
PC-20-618	147.00	148.00	1.00	2.91	New Beliveau
PC-20-619	81.00	82.00	1.00	6.39	New Beliveau
	97.00	98.00	1.00	4.81	
PC-20-620	20.50	21.50	1.00	2.82	New Beliveau
	28.20	29.20	1.00	2.65	
PC-20-621	37.00	50.00	13.00	1.62	New Beliveau South
Including	42.00	43.00	1.00	7.14	
PC-20-621	168.00	169.00	1.00	4.27	
	176.00	178.00	2.00	2.44	
PC-20-623	77.70	78.70	1.00	2.84	Exploration
PC-20-624	270.00	271.00	1.00	4.17	New Beliveau
PC-20-627	16.00	17.00	1.00	2.87	New Beliveau South
	136.00	137.00	1.00	23.80	
PC-20-629	60.00	61.00	1.00	2.06	Exploration
	182.75	183.75	1.00	2.44	
PC-20-630	266.20	267.20	1.00	2.21	New Beliveau
PC-20-632	117.80	118.80	1.00	136.00	New Beliveau
	193.50	194.50	1.00	3.14	
	227.30	228.30	1.00	6.74	
	301.80	302.80	1.00	13.80	
PC-20-633	36.00	37.00	1.00	8.30	New Beliveau South
PC-20-636	181.20	182.00	0.80	3.19	New Beliveau South

DDH No.	From (m)	To (m)	Length (m)	Au_Fin (g/t)	Zone
	317.00	318.00	1.00	2.05	
	387.00	388.00	1.00	2.58	
PC-20-637	171.00	172.00	1.00	2.52	New Beliveau
	190.00	191.00	1.00	4.68	
	195.70	197.00	1.30	20.39	
PC-20-638	39.80	40.80	1.00	2.79	New Beliveau
	81.00	82.00	1.00	2.45	
	107.00	108.10	1.10	56.60	
PC-20-639	147.00	148.00	1.00	2.40	New Beliveau South
PC-20-640	65.50	66.50	1.00	3.62	New Beliveau SE
PC-20-641	318.30	319.30	1.00	5.31	New Beliveau
PC-20-643	131.00	131.50	0.50	2.55	New Beliveau SE
PC-20-644	18.50	21.50	3.00	8.24	New Beliveau
PC-20-644X	19.00	22.00	3.00	3.95	New Beliveau
PC-20-645	314.00	318.60	4.60	1.79	New Beliveau South
Including	317.10	318.10	1.00	5.61	
PC-20-646	15.70	16.20	0.50	8.76	
PC-20-647	34.00	47.00	13.00	1.54	North Zone
Including	35.00	36.00	1.00	13.30	
PC-20-647	70.00	72.00	2.00	3.81	
PC-20-649	93.00	94.00	1.00	13.10	North Zone
	120.20	121.20	1.00	2.90	
PC-20-650	52.90	56.00	3.10	1.59	New Beliveau South
Including	55.40	56.00	0.60	5.18	
PC-20-654	173.20	173.70	0.50	2.56	New Beliveau South
PC-20-655	184.00	185.00	1.00	5.59	New Beliveau
PC-20-657	271.50	272.50	1.00	2.04	New Beliveau
PC-20-658	64.50	65.10	0.60	2.33	New Beliveau South
	83.00	84.00	1.00	2.22	
	206.00	206.50	0.50	10.30	
	227.70	228.40	0.70	4.62	
	232.60	233.80	1.20	4.37	
	268.30	275.50	7.20	11.00	
	275.00	275.50	0.50	149.00	
	311.90	312.80	0.90	2.65	
	328.90	332.10	3.20	2.02	
	349.40	350.00	0.60	2.33	
	362.30	363.00	0.70	4.33	
	390.10	392.80	2.70	1.95	
	396.90	397.70	0.80	3.26	
PC-20-659	168.00	169.00	1.00	6.19	New Beliveau
PC-20-660	115.00	118.00	3.00	7.81	New Beliveau
Including	115.00	116.00	1.00	15.20	
PC-20-661	102.30	102.80	0.50	4.67	New Beliveau SE
PC-20-661	226.50	230.50	4.00	2.50	
Including	229.60	230.50	0.90	8.89	
PC-20-663	105.80	106.80	1.00	2.47	New Beliveau SE
PC-20-665	238.20	243.50	5.30	3.47	New Beliveau (North of PC-17-205)
Including	240.30	240.80	0.50	17.10	
PC-20-666	344.70	346.00	1.30	3.61	New Beliveau
	389.60	393.60	4.00	1.85	
	414.00	417.00	3.00	3.01	
	581.40	582.00	0.60	2.88	
PC-20-668	438.10	447.00	8.90	1.27	New Beliveau
Including	445.00	446.00	1.00	4.13	
PC-20-668	469.00	471.10	2.10	5.96	
	481.00	483.00	2.00	2.49	
PC-20-669	310.00	311.00	1.00	3.32	New Beliveau SE
PC-20-670	181.00	182.00	1.00	3.53	New Beliveau SE
PC-20-672	162.60	163.10	0.50	96.60	North Zone
PC-20-675	43.00	44.00	1.00	3.95	North Zone
PC-20-675	186.90	192.10	5.20	3.70	
Including	187.80	188.80	1.00	15.49	
PC-20-675	210.00	211.00	1.00	2.61	

Source: Geologica, 2021.

10.8.3 Monique Gold Trend

During the recent 2020 drilling program, the first nine drill holes of the program (MO-20-33 to -41) were designed to test for expansion of mineralized zones along strike and at depth, and all were successful in further delineating the gold zones. Drill hole MO-20-33 was designed to test the A and B gold zones at depth. This drill hole intersected the zones where predicted and represents some of the best assay results from the A Zone to date, with a wide interval of 5.2 g/t Au over 14 m. Drill hole MO-20-41 was designed to test the western extension of the I Zone and intersected 4.5 g/t Au over 14 m at 80 m depth. This drill hole is located 150 m west of an historical hole (MO-130-04) which returned 14.1 g/t Au over 9.1 m. A new high-grade gold discovery parallel to the I Zone was made in drill hole MO-20-39, which returned 18.4 g/t Au over 2.3 m. The zone was intersected less than 25 vertical meters from surface.

Drill holes MO-20-42 to -45 and -47 to -53 were designed to test the gold zones at shallow depth northwest of the former Monique open pit. Results indicate that the gold mineralization continues to show good grade, thickness, and continuity along strike and at shallow depth. When drilling this area, the new P Zone was intersected at the beginning of the holes. It is a significant gold-bearing quartz-carbonate-pyrite vein stockwork in a diorite sill, parallel and 50 to 75 m north of the J-L Zones.

Drill holes MO-20-57, -59, -60, -61 and -64 have permitted to test the I and I hanging wall zones between the surface to 200 m depth; MO-20-55, -56 and -58 have tested the A, B and F Zones between 300 to 575 m depth; and MO-20-62, -63 and -65 verified the J, G and new P Zones between the surface to 300 m depth. Two drill holes (MO-46 and 54) returned significant intercepts at depth of the A Zone.

Eleven drill holes (MO-20-66 to -68, -70, -72, -73, -75, -76, -78, -80 and -81) were designed to test the A, B, I and M Zones between the surface to 200 m depth and eight drill holes (MO-20-69, -71, -74, -77, -79, and -82 to -84) were designed to test the J, G, P and L Zones between the surface to 275 metres depth.

At the end of the drilling program, eight drill holes (MO-20-86 to -93) were designed to test the I Zone between the surface to 200 m depth, three drill holes (MO-20-94 to -96) were designed to test the M Zone between the surface to 225 m depth and one of these drill holes has permitted to test the P Zone near surface.

Significant drilling results for the recent 2020 drilling program are reported in Table 10-4.

Table 10-4: 2020 Significant Drilling Results for the Monique Gold Trend

Drill Hole No.	From (m)	To (m)	Length (m)	Au (g/t)	Zone/Host Rock
MO-20-33	606.00	609.00	3.00	2.89	B / Volcanics
	699.00	713.00	14.00	5.16	A / Volcanics & Felsic Int
including	703.00	706.10	3.10	15.04	A / Felsic Intrusive
including	709.30	713.00	3.70	5.79	A / Volcanics & Felsic Int
MO-20-34	207.80	210.80	3.00	3.40	M / Volcanics
	231.50	235.60	4.10	2.79	I / Volcanics
MO-20-35	190.00	195.00	5.00	1.01	I / Felsic Intrusive
MO-20-36	146.00	156.00	10.00	1.34	I / Felsic Intrusive
MO-20-37	60.00	67.60	7.60	1.12	I / Volcanics & Felsic Int
MO-20-38	87.00	94.90	7.90	1.47	I / Felsic Intrusive
MO-20-39	26.50	28.80	2.30	18.39	- / Felsic Intrusive
	133.00	147.00	14.00	1.61	I / Volcanics & Felsic Int
MO-20-40	36.00	37.00	1.00	5.17	I / Felsic Intrusive
MO-20-41	94.00	108.00	14.00	4.45	I / Volcanics & Felsic Int
including	100.00	102.00	2.00	7.97	I / Felsic Intrusive
including	105.00	107.00	2.00	18.3	I / Felsic Intrusive
MO-20-42	93.00	100.20	7.20	0.80	P/Volcanics
	240.00	255.00	15.00	1.62	L/Felsic Int.- Volcanics
including	252.50	255.00	2.50	7.76	L/Volcanics
MO-20-43	37.50	51.00	13.50	0.73	P/Diorite
	56.00	78.50	22.50	1.39	P/Diorite
including	71.00	73.50	2.50	7.03	P/Diorite
MO-20-43	84.50	88.30	4.50	1.11	P/Diorite
	221.30	226.50	5.20	2.56	J/Diorite
including	224.70	226.50	1.80	4.12	J/Diorite
MO-20-44	31.80	67.10	35.30	1.10	P/Diorite
including	35.80	37.30	1.50	8.55	P/Diorite
including	66.00	67.10	1.10	7.54	P/Diorite
MO-20-44	183.00	191.70	8.70	4.16	J/Diorite-Volcanics
including	185.00	186.00	1.00	27.40	J/Volcanics
MO-20-46	492.20	502.00	9.80	2.77	A/Volcanics
including	492.20	497.20	5.00	4.78	A/Volcanics
MO-20-47	40.60	56.30	15.70	1.11	P/Diorite-Volcanics
including	41.60	45.60	4.00	1.98	P/Diorite-Volcanics
MO-20-47	195.90	198.90	3.00	13.97	J/Volcanics
including	195.90	196.90	1.00	34.30	J/Volcanics
MO-20-48	130.20	135.30	5.10	1.45	P/Diorite
	248.60	249.60	1.00	12.20	L/Volcanics
	266.30	279.40	13.10	3.48	J/Diorite-Felsic Int.
including	266.30	271.40	5.10	8.10	J/Diorite-Felsic Int.
MO-20-51	141.50	152.80	11.30	1.65	L/Volcanics
including	141.50	148.70	7.20	2.39	L/Volcanics
MO-20-53	87.60	93.30	5.70	2.36	P/Diorite
including	89.60	91.30	1.70	6.45	P/Diorite
MO-20-54	219.50	223.70	4.20	1.95	F/ Diorite-Volcanics
	618.10	621.80	3.70	8.21	A/Felsic Int.- Volcanics
including	619.80	620.80	1.00	28.50	A/ Volcanics
MO-20-55	433.30	434.00	0.70	23.80	F / Volcanics
	442.00	443.50	1.50	7.71	New / Volcanics
	528.40	531.00	2.60	2.99	New / Volcanics
	558.40	560.80	2.40	3.83	A / Volcanics
	650.10	657.40	7.30	1.28	B / Felsic Int.
MO-20-56	510.10	511.10	1.00	5.26	A / Volcanics
MO-20-57	52.50	62.10	9.60	0.47	I HW / Felsic Int.
	80.00	89.10	9.10	0.56	I / Felsic Int.
MO-20-58	30.40	31.20	0.80	5.82	New / Volcanics
	348.50	350.00	1.50	9.81	F / Volcanics
	697.80	703.60	5.80	4.34	B / Volcanics
including	702.70	703.60	0.90	24.80	B / Volcanics
MO-20-59	112.60	119.30	6.70	3.57	I HW / Felsic Int.
including	116.50	117.50	1.00	9.24	I HW / Felsic Int.
MO-20-59	140.30	151.10	10.80	1.41	I / Felsic Int.
MO-20-60	137.00	139.90	2.90	1.72	I HW / Felsic Int.
MO-20-61	261.00	281.60	20.60	1.76	I / Felsic Int.
including	273.90	274.90	1.00	10.80	I / Felsic Int.
including	280.00	281.60	1.60	5.24	I / Felsic Int.
MO-20-62	117.00	120.00	3.00	1.89	P / Volcanics - Int.
MO-20-63	263.20	270.30	7.10	2.16	J / Volcanics
including	266.30	267.30	1.00	8.94	J / Volcanics
MO-20-63	278.70	284.00	5.30	2.83	G / Felsic Int.
MO-20-64	44.90	50.90	6.00	0.95	I HW / Volcanics
	97.10	108.70	11.60	0.88	I / Felsic Int.
MO-20-65	303.00	327.50	24.50	4.14	J / Volcanics - Felsic Int.
including	303.00	312.50	9.50	9.20	J / Volcanics - Felsic Int.
MO-20-66	28.20	39.90	11.70	1.05	B / Volcanics
	99.10	108.40	9.30	1.13	I / Felsic Dyke
	163.00	171.20	8.20	1.09	M / Gabbro & Volcanics
MO-20-67	21.90	38.00	16.10	1.37	I / Felsic Dyke
Including	28.90	33.80	4.90	2.62	I / Felsic Dyke
MO-20-68	116.10	130.80	14.70	1.27	I / Felsic Dyke
MO-20-69	48.50	50.00	1.50	2.97	P / Volcanics
MO-20-70	65.00	67.90	2.90	20.79	I / Felsic Dyke
	172.20	180.50	8.30	1.01	I / Felsic Dyke
MO-20-71	71.50	74.50	3.00	1.25	P / Volcanics
	164.00	211.30	47.30	0.99	J-L / Volcanics
Including	174.50	180.20	5.70	3.15	L / Volcanics

Drill Hole No.	From (m)	To (m)	Length (m)	Au (g/t)	Zone/Host Rock
Including	189.50	193.00	3.50	2.99	J / Diorite
MO-20-71	217.30	222.40	5.10	1.07	G / Volcanics
MO-20-72	193.90	205.40	10.50	1.00	I / Felsic Dyke
MO-20-73	97.70	107.70	10.00	1.13	I / Felsic Dyke
Including	99.70	100.70	1.00	5.54	I / Felsic Dyke
MO-20-74	81.40	90.20	8.80	0.96	P / Volcanics
Including	86.40	87.40	1.00	4.98	P / Volcanics
MO-20-74	102.90	106.70	3.80	1.33	P / Volcanics
MO-20-75	166.50	172.90	6.40	1.01	I / Felsic Dyke
MO-20-76	48.50	53.50	5.00	3.76	A / Volcanics
Including	49.50	51.50	2.00	8.90	A / Volcanics
MO-20-76	123.20	124.50	1.30	13.18	I / Felsic Dyke
	212.60	225.10	12.50	1.53	I / Felsic Dyke
MO-20-77	109.00	121.00	12.00	2.47	P / Volcanics
Including	109.00	110.00	1.00	24.10	P / Volcanics
MO-20-78	89.10	97.80	8.70	0.87	I / Felsic Dyke
MO-20-79	46.60	66.50	19.90	0.47	P / Volcanics
	46.60	47.20	0.60	10.26	P / Volcanics
	136.50	139.50	3.00	2.88	J / Diorite
MO-20-80	59.00	70.40	11.40	2.05	I / Felsic Dyke
Including	61.00	62.00	1.00	11.72	I / Felsic Dyke
MO-20-81	63.90	70.90	7.00	1.10	I / Felsic Dyke
Including	65.90	67.90	2.00	2.14	I / Felsic Dyke
MO-20-81	76.40	77.10	0.70	1.96	I / Felsic Dyke
MO-20-82	35.50	48.10	12.60	1.51	P / Volcanics
Including	36.50	37.40	0.90	16.00	P / Volcanics
MO-20-82	119.70	123.80	4.10	0.85	L / Volcanics
	135.30	141.50	6.20	0.96	L / Felsic dyke
	272.50	275.50	3.00	1.76	- / Volcanics
MO-20-83	118.00	119.00	1.00	3.76	P / Volcanics
	326.50	331.50	5.00	1.90	- / Volcanics
	347.50	354.40	6.90	1.77	- / Volcanics
Including	348.50	349.40	0.90	7.14	- / Volcanics
MO-20-84	100.00	103.00	3.00	1.42	P / Volcanics
Including	101.00	102.00	1.00	2.35	P / Volcanics
MO-20-84	198.00	199.10	1.10	2.18	- / Volcanics
	225.50	231.50	6.00	4.52	L / Volcanics
Including	230.50	231.50	1.00	15.20	L / Volcanics
MO-20-84	243.40	264.90	21.50	2.69	J / Diorite
Including	251.90	255.90	4.00	8.48	J / Diorite
	251.90	252.90	1.00	27.30	J / Diorite
	261.90	263.90	2.00	5.01	J / Felsic Dyke
	262.90	263.90	1.00	6.54	J / Felsic Dyke
MO-20-84	300.40	307.50	7.10	1.28	G / Volcanics
Including	303.40	305.60	2.20	2.53	G / Volcanics
MO-20-86	62.20	67.20	5.00	0.94	I / Felsic Dyke
MO-20-87	73.80	86.60	12.80	1.47	I / Felsic Dyke
MO-20-88	139.00	140.00	1.00	11.90	I HW / Felsic Dyke
	190.30	202.20	11.90	1.76	I / Felsic Dyke
MO-20-89	67.40	70.40	3.00	3.71	- / Volcanics
	157.20	157.90	0.70	7.11	I HW / Felsic Dyke
	213.50	231.40	17.90	2.85	I / Felsic Dyke
Including	227.60	228.60	1.00	40.20	I / Felsic Dyke
MO-20-90	40.70	50.70	10.00	2.40	I / Felsic Dyke
MO-20-91	46.80	54.60	7.80	0.48	I HW / Felsic Dyke
	92.70	95.50	2.80	8.33	I / Felsic Dyke
	148.90	153.00	4.10	1.40	- / Volcanics
MO-20-92	101.60	105.10	3.50	0.47	I / Felsic Dyke
MO-20-93	23.20	33.60	10.40	7.27	I / Felsic Dyke
Including	27.40	28.00	0.60	81.7	I / Felsic Dyke
MO-20-93	50.30	51.30	1.00	8.67	M / Volcanics
MO-20-94	87.30	92.30	5.00	2.56	M / Volcanics
	122.00	129.00	7.00	1.05	- / Volcanics
MO-20-95	251.10	259.10	8.00	2.27	M/ Volcanics
Including	251.10	252.10	1.00	13.00	M/ Volcanics

Source: Geologica, 2021.

11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

The 2021 mineral resource estimate is supported by surface diamond drill core. These rock samples have been collected in large majority by Probe Metals (2016-2020) and through historical drilling by Adventure Gold Inc., Cambior Inc., and Soquem.

Between December 1, 2016, and December 31, 2021, Probe Metals took 204,761 samples from 889 new drill holes for the Pascalis, Courvan, and Monique projects (Table 11-1). Between 2013 and the summer of 2016, 1,463 samples were taken by Adventure Gold from 15 drill holes, 634 channel samples and 30 grab samples. Between 2008 and 2012, 17,938 samples were also taken by Adventure Gold from 87 drill holes, 124 channel samples and 168 grab samples.

Over the past 10 years, the samples were shipped to three different and independent commercial assay laboratories. In the 2008-2011 programs, samples were sent mostly to Techni-Lab SGB Abitibi (ActLabs) in Ste-Germaine-Boule, Abitibi, and to ALS Chemex in Val-d'Or. The samples from the 2011-2015 programs were sent to ActLabs and to AGAT Laboratories, located in Mississauga, Ontario. The samples from the Probe Metals 2016-2020 programs were predominantly sent to ActLabs, with analysis done in Ancaster or other cities across Canada (St-Germaine-Boule, Timmins, North Bay, Kamloops, Dryden, Thunder-Bay, Geraldton), to ALS Chemex in Val-d'Or, and to AGAT Laboratories in Mississauga.

11.1 Core Sample Collection

The methods for sampling drill core from 1948 to 2008 have changed little over time. Sampling was carried out with sample lengths that typically varied between 0.30 and 1.5 m that did not necessarily coincide with geological boundaries. For drilling programs before 1948, lengths of sampling characteristically show extreme variations from 0.1 to 1.8 m, and sampling was very spotty. A few unreliable holes from this period were discarded for the resource estimates, especially those from the 1930-1940 period. Since 2008, placing sample boundaries at lithological contacts has become standard practice. Each analysis is linked to a geological description in the log. All core sampling between 2008 and 2020 was marked and tagged by a geologist using three-part sample tags supplied by the commercial laboratory. Samples were between 0.5 and 1.5 m in length, and often close to 1 m. Very few samples with lengths of less than 0.5 m or more than 1.5 m were taken for different reasons, mainly to understand the distribution of mineralized material. Samples of mineralized material should always be properly bordered by samples of barren material. Should an anomalous value be returned from an isolated sample, the geologist is required to return to the core interval and take additional bordering samples. Samples no more than 1.0 m long were usually taken on the borders of well-mineralized zones to define the mineralized zones more concisely and/or to minimize the extent of sample contamination of non-mineralized intervals by higher-grade mineralized material.

Historical procedures for sample preparation have varied over time. Most drill core samples collected before 2008 were split with manual and hydraulic core splitters. Standard lead fire assay techniques with gravimetric and AA finish were used. No metallic screen analyses were carried out before 2008. For the 2008-2020 exploration programs, a quality control program for sampling and shipping and a QA/QC monitoring program was implemented. Starting in 2008, core logging facilities and a core storage area were established in Val-d'Or and on the former L.C. Beliveau mine site, respectively. Samples were collected and prepared for shipping to the laboratory in a sample room adjacent to the core logging area by a sample technician. After the drill core was sawn, one half was placed into a plastic sample bag along with a sample tag and sealed with a plastic tie wrap. The samples were placed in large rice fibre bags that were sealed and placed on pallets. Samples were picked up at the project site by the commercial laboratory representative or sent directly to the laboratory by the Company.

Table 11-1: Sample Distribution by Laboratory and Drilling Programs

2009-2020 Exploration Programs							
Years	No. of Drill Holes	No. of Samples	Average Sample Length	% Sampled	Laboratory	Drilling Areas	Company
2009	13	2,122	0.84	53	Techni-Lab, ALS Chemex	Pascalis	Adventure Gold Inc.
2010	2	321	0.97	52	Techni-Lab	Pascalis	Adventure Gold Inc.
2011	19	6,530	0.93	82	Techni-Lab, AGAT	Pascalis	Adventure Gold Inc.
2012	38	7,251	0.97	57	AGAT	Pascalis	Adventure Gold Inc.
2014	15	1,873	1.06	49	ActLabs, AGAT	Pascalis	Adventure Gold Inc.
2016	24	6,285	1.1	54	ActLabs	Pascalis	Probe Metals Inc.
2017	202	57,069	1.09	69	ActLabs	Pascalis	Probe Metals Inc.
2018	338	76,953	1.32	91	ActLabs, ALS Chemex	Pascalis, Courvan, Monique	Probe Metals Inc.
2019	114	23,036	1.27	88	ActLabs	Pascalis, Courvan, Monique	Probe Metals Inc.
2020	226	41,418	1.16	74	ActLabs, AGAT	Pascalis, Courvan, Monique	Probe Metals Inc.
Total	991	222,858	-	-	-	-	-

Source: Geologica, 2021.

11.2 Core Sampling

After the drill core samples have been selected, the method for taking core samples is as follows:

1. The core is washed with fresh water.
2. Once the geology and location of the samples have been described, the geologist carefully marks the start and end of each sample directly on the core with a coloured wax crayon while the core is still intact in the core box.
3. A sample tag of waterproof paper and indelible ink is placed at the end of the sample interval. Each sample number is unique.
4. The core is generally sampled over intervals that vary between 50 and 150 cm, often with a length of 1 m.
5. Samples are generally measured to the nearest tenth of a meter, but sample intervals must coincide with major lithological boundaries.
6. The whole core is split in half using a diamond saw.
7. As the core sample is cut in half lengthwise, the samples chosen for assay are collected in individual plastic sample bags. The other identical half-core witness sample is replaced carefully in the box in its original orientation (the correct end of the core up hole, for example). One of the two sample tags is placed in the plastic bag, which is then securely stapled shut.
8. The other identical sample tag is stapled to the core box at the end of the marked sample interval.

A sample request form is completed prior to dispatch of the samples. The request specifies the name of the laboratory, the person making the request, the date, the sample series, the elements to be assayed (gold, almost exclusively), the units in which the results should be reported (grams per tonne), the analytical method, and any special instructions. The results are sent to the president, vice-president, chief operating officer, senior geologist, and project geologist.

11.3 Core Sample Quality and Sample Representativeness

Because the mineralization in the core is generally intact, with low possibility of loss due to washout, samples recovered through diamond drilling are of high quality. Nevertheless, while drilling in highly broken ground and fault zones, the core can be ground in parts over short lengths and no representative samples can be recovered from those intervals. Overall, drill core samples recovered from the Val-d'Or East property (including historical samples) can be considered representative of the rock in the subsurface from which it is extracted.

11.4 Analyses

Final sample preparation and assaying was conducted at commercial and independent laboratories (AGAT Laboratories in Mississauga, ActLabs in Ancaster or various other cities across Canada (St-Germaine-Boule, Timmins, North Bay, Kamloops, Dryden, Thunder-Bay, Geraldton)), and ALS Chemex in Val-d'Or. Samples were assayed for gold using fire assay (50 g) techniques with atomic absorption (AA) finish. If the assay value was above 3 ppm, then the sample pulp was re-assayed using a gravimetric finish. Some samples, including those with visible gold, were marked for metallic screening analysis. Rejects and pulps are preserved by the laboratory and stored at the former L.C. Beliveau mine site or at the core shack facility (recent pulps).

11.5 Laboratory Certification

Over the past 10 years, assays were produced in certified laboratories. All divisions of ActLabs are certified ISO 17025. ALS Chemex is also certified ISO 17025 for fire assay with AA finish and gravimetric finish. AGAT Laboratories Mining Division is accredited ISO/IEC 17025 by the Standards Council of Canada. Note that ISO 9001 certification is a generic management standard that can be applied to any business or administration. ISO 17025 was written to incorporate ISO 9001 requirements that are relevant to the scope of testing and calibration services as well as specifying the technical requirements for technical competence.

11.6 Analytical Procedures

This section briefly describes the successive stages of drill core analysis for the two laboratories used in 2019 and 2020.

11.6.1 ActLabs

11.6.1.1 Sample Preparation

Preparation for the drill core samples included standard industry practice of crushing the drill core sample to 85% + passing 10 mesh (2 mm) sieve and then grinding using rings to 90% + passing 200 mesh (0.075 mm) sieve. Samples were crushed using T.M. Engineering Rhino jaw crushers to obtain fine material and then passed through a riffle splitter to obtain a sub-sample. An A T.M. Engineering ring pulverizer was used to obtain the pulp, before a 50-g sub-sample was taken.

11.6.1.2 Analytical Procedure

Samples were assayed for gold using fire assay techniques with AA finish. If the assay value was above 3 ppm, the sample was re-assayed using a gravimetric finish; if the sample contained visible gold, the sample was assayed using metallic screen techniques. Rarely, metallic screen finish was also used in cases where there was sufficient discrepancy between the AA and gravimetric values.

11.6.2 AGAT Laboratories

11.6.2.1 Sample Preparation

The samples picked up by an AGAT representative were inspected, compared to the chain of custody, and logged into the AGAT LIMS program. Deviations from the chain of custody were noted in AGAT's Sample Integrity Report and sent immediately to the client via email and posted on the client's Web Mining account. Specified samples were dried to 60°C. The samples were crushed to 75% passing 10 mesh (2 mm) and split to 250 g using a Jones riffle splitter or rotary split. The 250 g samples were pulverized to 85% passing 200 mesh (75 µm). A Rocklabs Boyd crusher with RSD Combo or T.M. Terminator crushers and TM-2 pulverizers were routinely used in sample preparation. All equipment was cleaned using quartz and air from a compressed air source. Blanks, sample replicates, duplicates, and internal reference materials (both aqueous and geochemical standards) were routinely used as part of AGAT's quality assurance program.

11.6.2.2 Analytical Procedure

The first gold assays were conducted by lead fusion fire assay with inductively coupled plasma optical emission spectroscopy (ICP-OES) finish (50 g). Prepared samples were fused using accepted fire assay techniques, cupelled, and parted in nitric acid and hydrochloric acid. PerkinElmer 7300DV and 8300DV ICP-OES instruments were used in the analysis. If the result was over 3 g/t Au, the determination of gold was completed by lead fusion fire assay with gravimetric finish (50 g). Prepared samples were fused using accepted fire assay techniques. Samples are cupelled, parted in nitric acid and weighed. A Mettler Toledo XP6 microbalance was used in the analysis. For the metallic screen – gold analysis (MS), all the samples (75% passing 2 mm) were pulverized using a ring and puck to ensure approximately 80% to 90% passing 75 µm. Either Mettler-Toledo microbalances or PerkinElmer 7300DV and 8300DV ICP-OES instruments were used in the analysis. The material on top of the screen was referred to as the “plus” (+) fraction and the material passing through the screen is referred to as the “minus” (-) fraction. Both the “plus” fraction and “minus” fraction weights were recorded. The entire plus fraction was sent for fire assay determination while two (30 g) replicates of the minus fraction were taken for fire assay determination. Either gravimetric gold determination or an ICP-OES analytical finish was used. Gold assay results were reported for both plus and minus fractions, weights of both fractions, and the calculated total gold of the sample. The calculation for total gold is as follows:

$$\text{Total gold (g/t)} = \frac{\text{Au(-)(g/t)} \times \text{Wt(-)} + \text{Au(+)(g/t)} \times \text{Wt(+)}}{\text{Wt(-)} + \text{Wt(+)}}$$

Blanks, sample replicates, duplicates, and internal reference materials (both aqueous and geochemical standards) were routinely used as part of AGAT’s quality assurance program for any type of analysis. For specific gravity measurements, a gas pycnometer was used. Based on ASTM D5550-06, prepared samples were placed into a sample holder cup where ultra high purity (UHP) helium (He) was used as a displacing fluid. Density was determined using Boyle’s Law based on the displacement of helium from each sample. A Quantachrome Pentapyc 5200e instrument was used in the analysis. Sample replicates, duplicates, blanks (determined from an empty sample holder cup) and reference materials (an object with a known volume) were routinely used as part of AGAT’s quality assurance program.

11.7 Quality Control and Quality Assurance Monitoring

The reported figures and numbers within this section are from the recent 2019 to 2020 drilling program for the Val-d'Or East property and include all sampling not previously reported in the October 2019 NI 43-101 technical report for the Pascalis-Courvan and Monique properties (Probe Metals Inc., 2019). Evaluation of QA/QC data addresses the three principal concerns of analytical determination protocols, namely contamination, accuracy, and precision, as measured by the results obtained from field and analytical blanks and standards, certified reference materials (CRM) and blanks, in addition to the regular samples submitted to the laboratory. QA/QC results internal to the laboratories were not considered in this section. Probe Metals has maintained a QA/QC procedure similar to the one used in previous years. No systematic re-assaying by another laboratory was carried out.

11.7.1 QA/QC Procedure 2019-2020

For the 2019 and 2020 QA/QC program two standards and one blank were inserted sequentially at a minimum of one every 20 samples with discretion given to the geologist as to the precise placement of each. Blanks are often placed after samples with significant mineralization. A pulp duplicate of a regular sample was systematically taken approximately every 100 samples. Results from standards and blanks were closely monitored on a daily to weekly basis and were recorded in a logbook in which all errors and actions taken were entered. Failures from the 2019-2020 drilling program were documented in the logbook and promptly investigated. Blanks that returned above 20 ppb Au were considered on a case-by-case basis for re-assay of a minimum of five adjacent samples on either side. Standards that fell above or below three standard deviations from the mean were considered on a case-by-case basis for re-assay of a minimum of five adjacent samples to either side. Many of the errors noted in the logbook were clerical involving mislabeling and were resolved. Brief internal monthly to quarterly reports summarizing this QA/QC work were implemented and circulated among employees during the drilling period. These reports occasionally included consideration of Nelson rules (Nelson, 1984) for detecting non-random conditions. Samples with initial results of greater than 3 g/t Au were re-assayed with the fire assay/gravimetric finish method. A metallic screening method was used where visible gold was observed at the discretion of the geologist. Systematic sampling using the metallic screening analysis method was implemented at Courvan in 2020 for intervals with more significant mineralization. This was done at the discretion of the geologist to reduce the chance of nugget effect influencing the more significant results.

Since the October 2019 NI 43-101 technical report, Probe Metals has inserted 1137 blanks, 678 pulp duplicates, and 2198 standards (Table 11-2). QA/QC samples account for 6.6% of the total. Four-hundred and seventeen samples with initial results greater than 3 g/t Au were re-assayed with the fire assay/gravimetric finish method. Four-hundred and seventy-eight samples were analyzed using the metallic screening method.

Table 11-2: Sampling Summary for 2019-2020 Drilling at Pascalis, Courvan and Monique not Previously Reported

Description	Pascalis	Courvan	Monique	Totals
Metres Drilled (m)	43,123	30,882	17,955	91,960
Samples	29,486	18,877	12,146	60,509
Length Sampled (m)	34,131	23,777	14,262	72,170
Percent Sampled (%)	79.1	77.0	79.4	–
Total QA/QC Samples	1,973	1,260	780	4,013
Standards	1,085	683	430	2,198
Blanks	547	369	221	1,137
Pulp Duplicates	341	208	129	678
Samples Analyzed by Gravimetric Method (GV)	177	113	127	417
Samples Analyzed by Metallic Screening Method (MS)	34	380	64	478

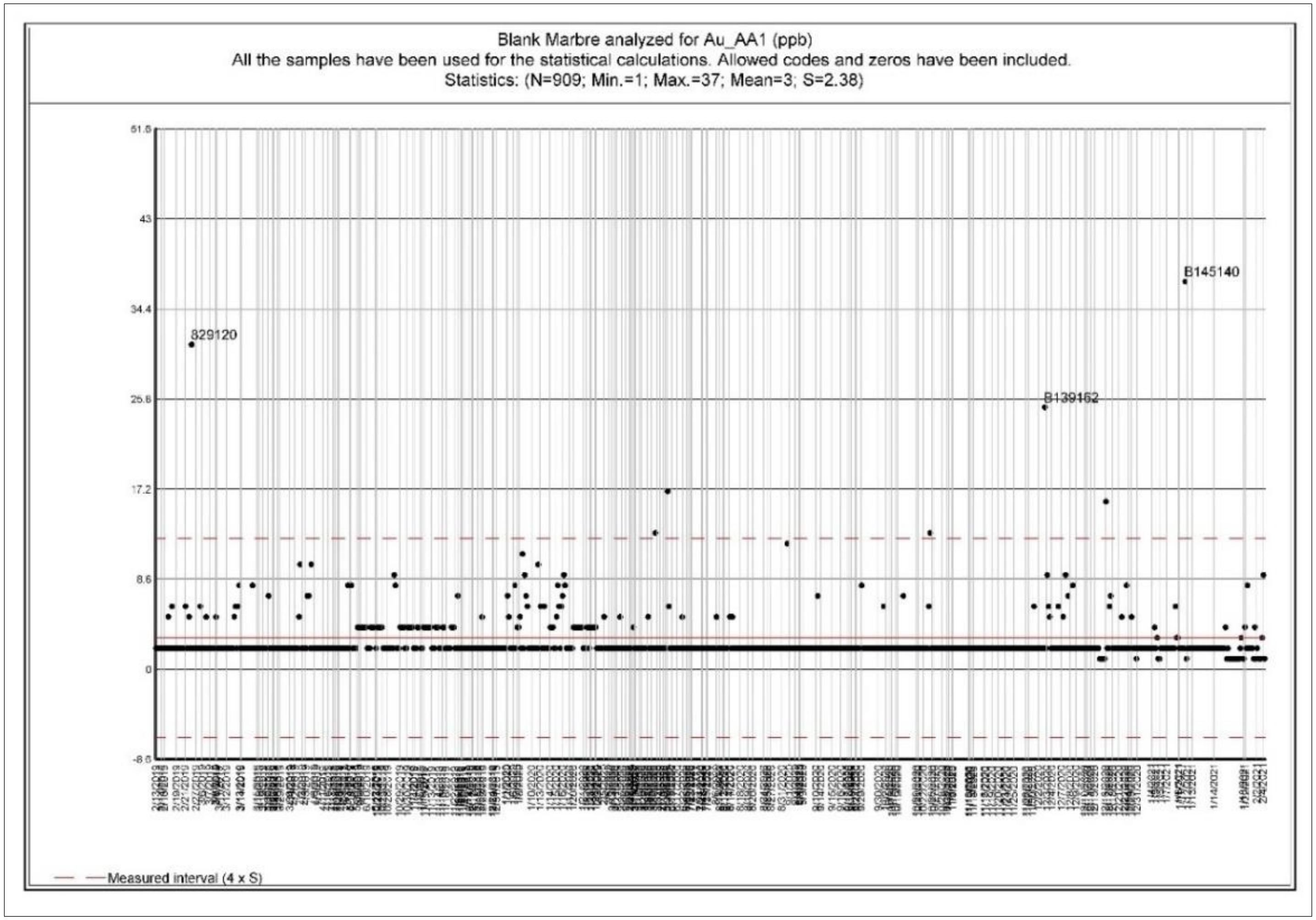
Source: Geologica, 2021.

11.7.2 QA/QC Standards and Blanks Analysis

Blank material used by Probe Metals came from one source: crushed marble obtained from a local hardware store. For the 2019-2020 program, fewer than 0.5% of blanks (5 out of 1137) returned values between 20 and 40 ppb Au. The results that fell above 20 ppb Au were considered on a case-by-case basis for a possible re-assay of the samples around these blanks; however, no re-assay was necessary as the samples concerned were of very low gold values. Cross-sample contamination appears to be very low, and the results are considered acceptable. Figure 11-1 shows the results from the blank analysis for Pascalis and Courvan and Figure 11-2 shows the results from the blank analysis for Monique.

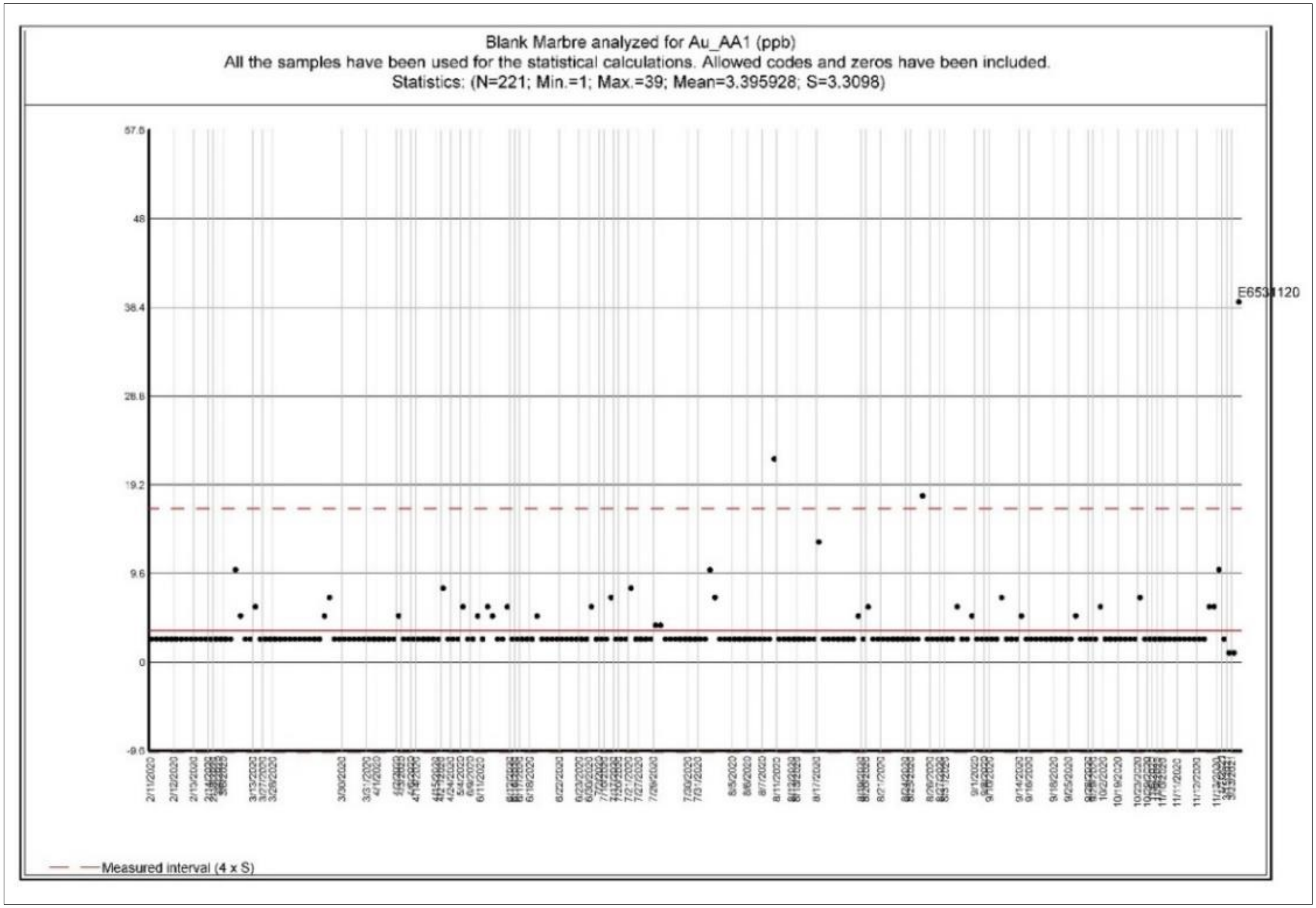
During the 2019-2020 drilling period, seven different standards from CDN Resource Laboratories Ltd. were used at the Pascalis, Courvan, projects (Table 11-3) and five different standards were used at the Monique project (Table 11-4). The mean results are accurate (up to 1.8% difference between theoretical and measured grade). The standard deviations obtained from the various standards are typically much less than those stated by the manufacturer.

Figure 11-1: Assay Results for Blanks for Pascalis and Courvan



Source: Geologica, 2021.

Figure 11-2: Assay Results for Blanks at Monique



Source: Geologica, 2021.

Table 11-3: Summary for Standards used by Probed Metals at Pascalis and Courvan

Standards	Mean Grade (g/t)	Standard Deviation (g/t)	Number of Assays	Measured Mean Grade (g/t)	% Difference (Grade)	Measured Standard Deviation (g/t)	% Difference (Standard Deviation)
CDN-GS-P7L	0.709	0.07	160	0.708	-0.14	0.04	-41.0139
CDN-GS-P7M	0.725	0.07	198	0.722	-0.41	0.06	-14.9385
CDN-GS-P8G	0.818	0.06	420	0.803	-1.83	0.05	-15.1167
CDN-GS-2U	2.12	0.13	624	2.12	0.00	0.10	-19.4923
CDN-GS-2S	2.38	0.16	166	2.37	-0.42	0.13	-19.2563
CDN-GS-3T	3.05	0.19	155	3.06	0.33	0.16	-14.4211
CDN-GS-5R	5.29	0.34	45	5.35	1.13	0.28	-16.5588

Source: Geologica, 2021.

Table 11-4: Summary for Standards used by Probed Metals at Monique

Standards	Mean Grade (g/t)	Standard Deviation (g/t)	Number of Assays	Measured Mean Grade (g/t)	% Difference (Grade)	Measured Standard Deviation (g/t)	% Difference (Standard Deviation)
CDN-GS-P7M	0.725	0.07	28	0.714	-1.52	0.05	-28.5583
CDN-GS-P8G	0.818	0.06	133	0.805	-1.59	0.06	-5.66667
CDN-GS-2U	2.12	0.13	176	2.11	-0.47	0.10	-19.7595
CDN-GS-3T	3.05	0.19	64	3.06	0.33	0.15	-22.8421
CDN-GS-5R	5.29	0.34	29	5.32	0.57	0.23	-32.2647

Source: Geologica, 2021.

Five standards assayed by Probe Metals (0.2% of the total) were either above or below three standard deviations from the theoretical mean. Sample 850040 returned more than three times the mean of the CDN-GS-P7M standard, but no significant results were observed nearby and no action was taken. The results are considered acceptable. The results for Pascalis-Courvan and Monique projects are summarized in Figures 11-3 to 11-16 on the following pages.

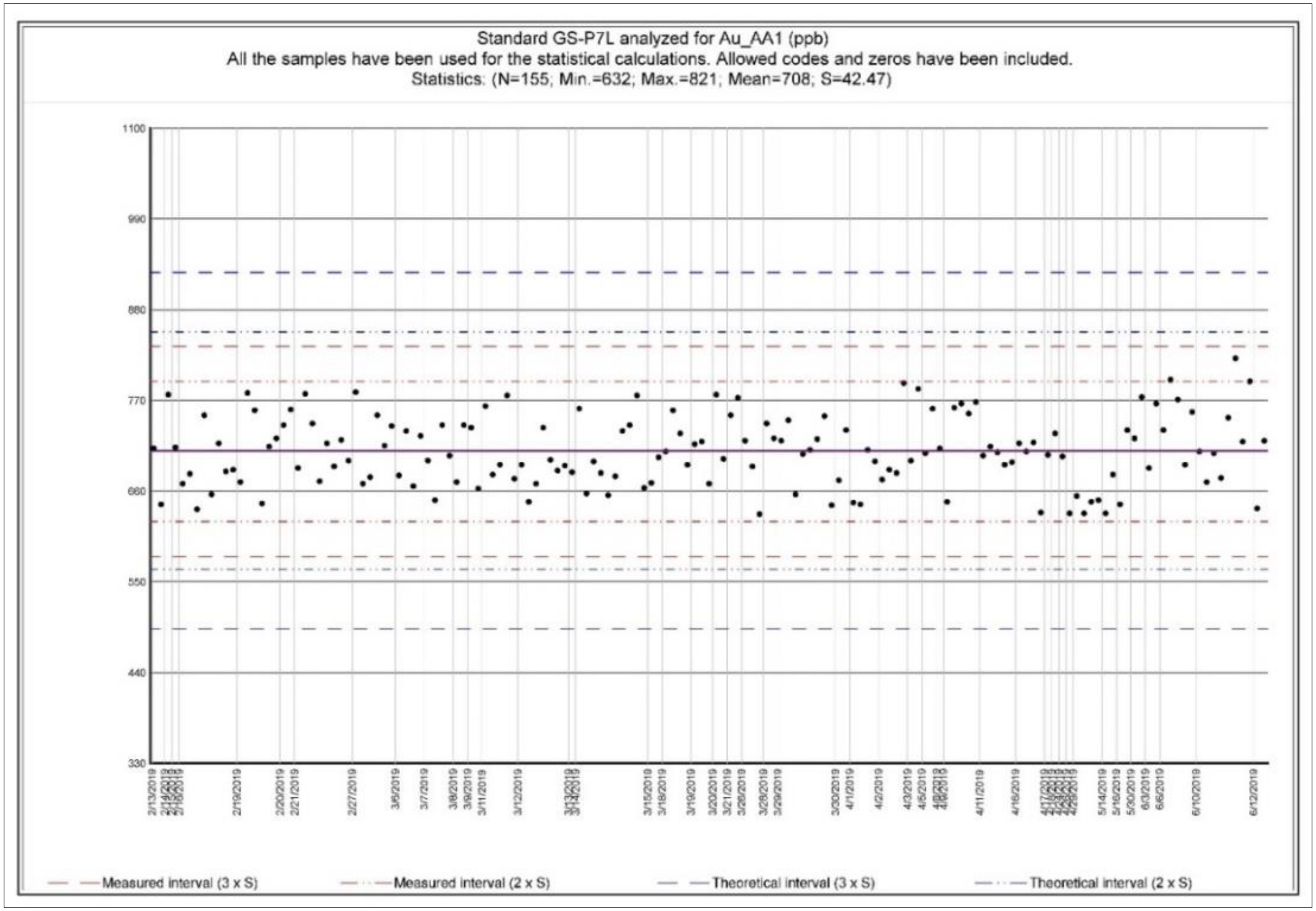
Approximately 1.1% of regular samples had corresponding pulp duplicates (Figures 11-17 and 11-18). Comparison between samples and their pulp duplicates using linear regression for the 2019-2020 period yields a good correlation with a slope approaching 1.

11.8 Conclusion

A systematic QA/QC monitoring program has been in place of the Pascalis, Courvan, Monique gold trends for all drilling from 2008-2020. Assay results of all the standards were in the acceptable limits for nearly all the samples. The accuracy and precision of the results of the data set herein are in accordance with the manufacturers' stated values. Results from inserted blanks suggests low cross-sample contamination. These results lend confidence to the validity of the sample program.

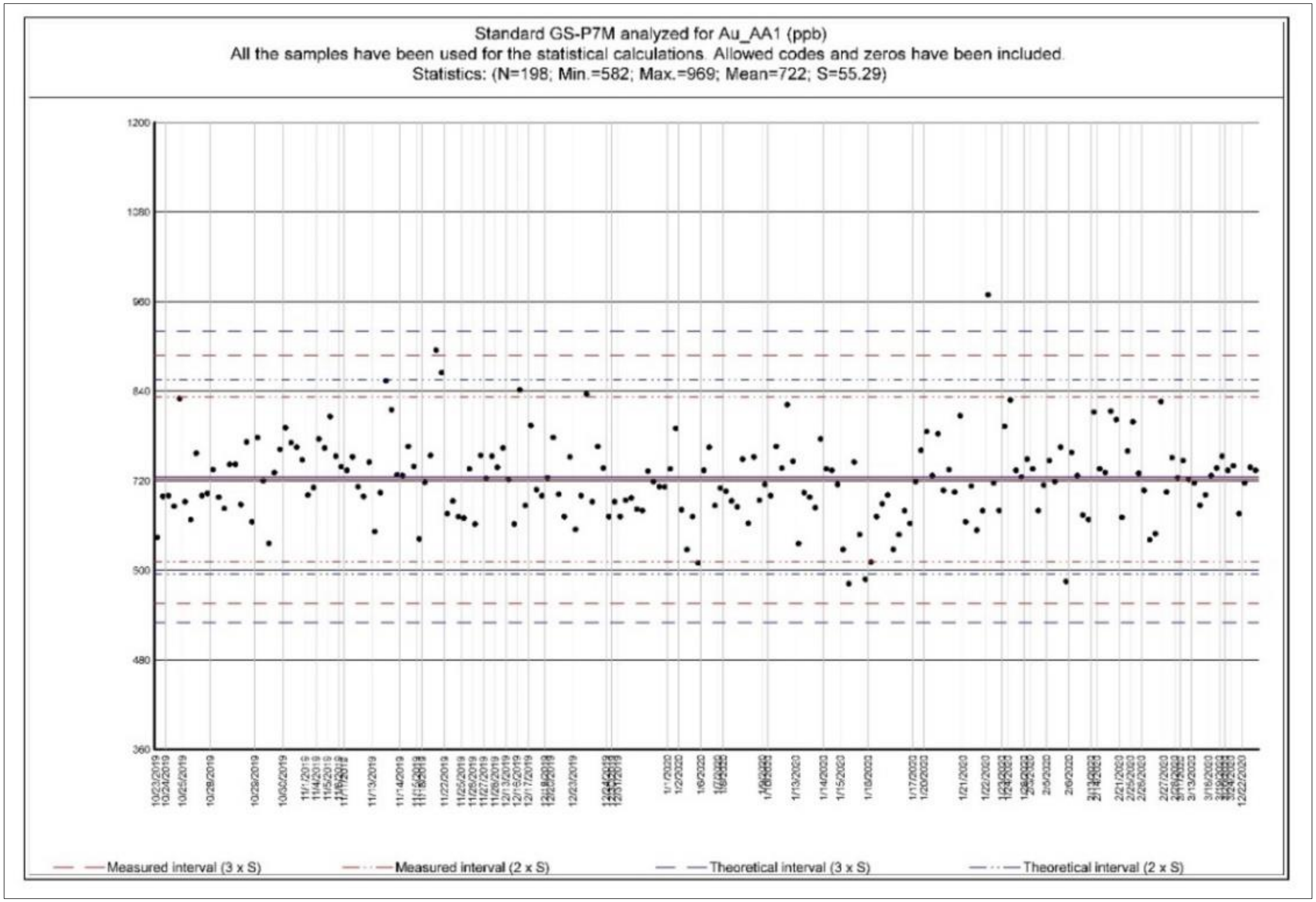
Geologica and GoldMinds considered that the Pascalis, Courvan and Monique drill hole database was suitable to be used in mineral estimation studies and believe that the sample preparation, analysis, security and QA/QC procedures employed are adequate for the purpose of this report, and that the accuracy and quality of assays used in this report are confirmed. The authors did not visit the independent laboratories cited above but the laboratories have a reliable industry reputation and complete their work in a professional manner.

Figure 11-3: Results for Standard CDN-GS-P7L for the Pascalis and Courvan Projects (2019-2020)



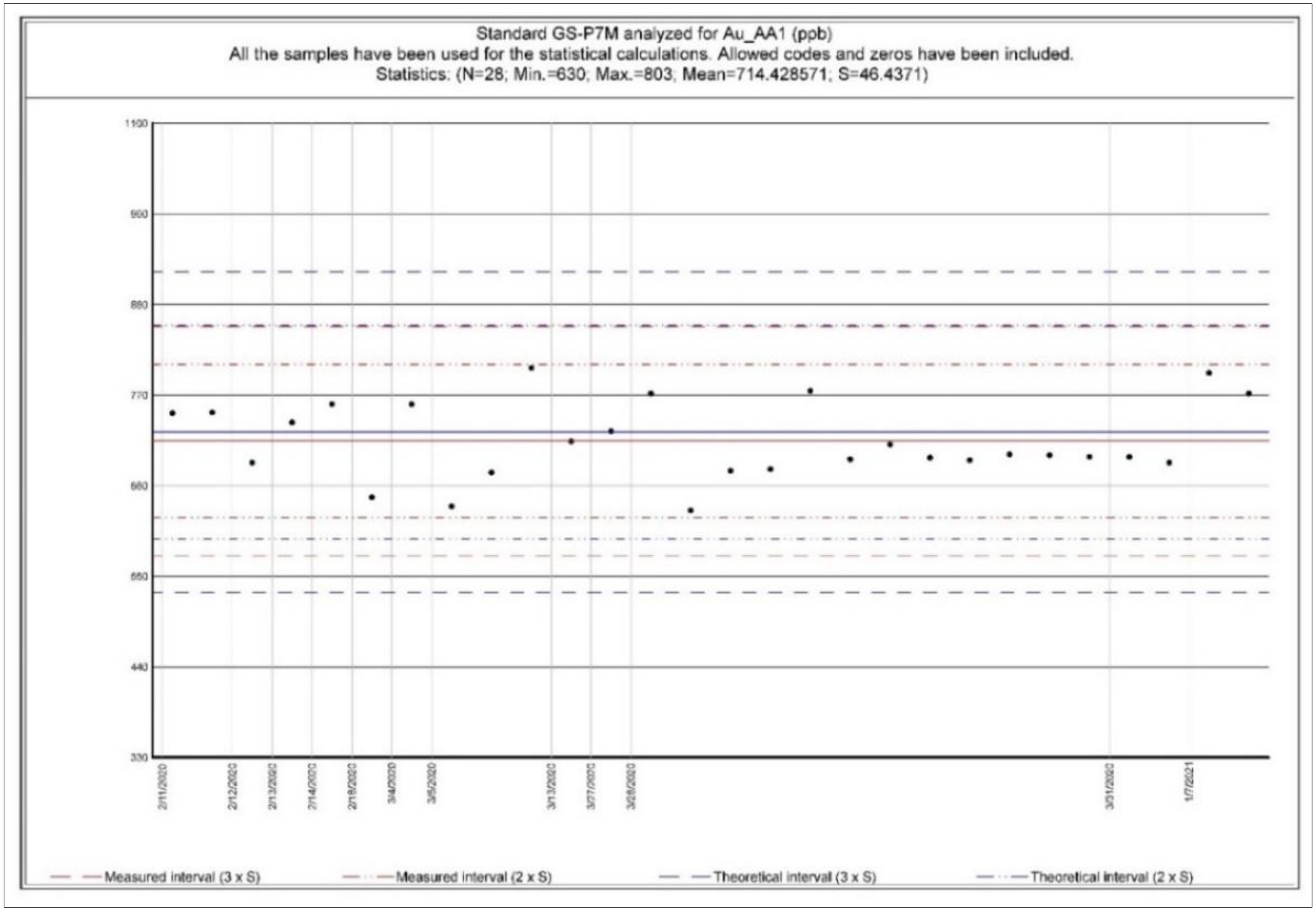
Source: Geologica, 2021.

Figure 11-4: Results for Standard CDN-GS-P7M for the Pascalis and Courvan



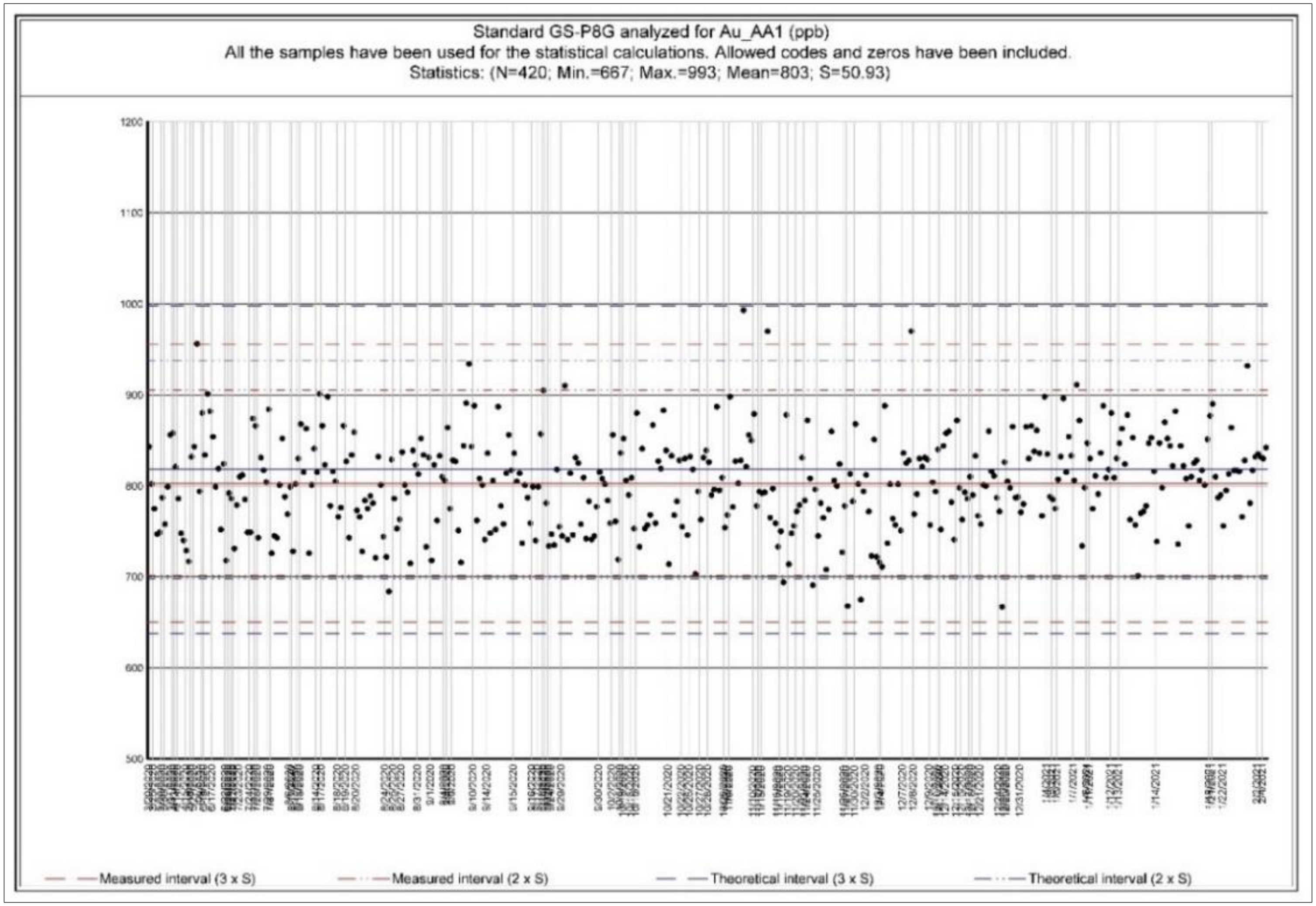
Source: Geologica, 2021.

Figure 11-5: Results for Standard CDN-GS-P7M for the Monique Project (2019-2020)



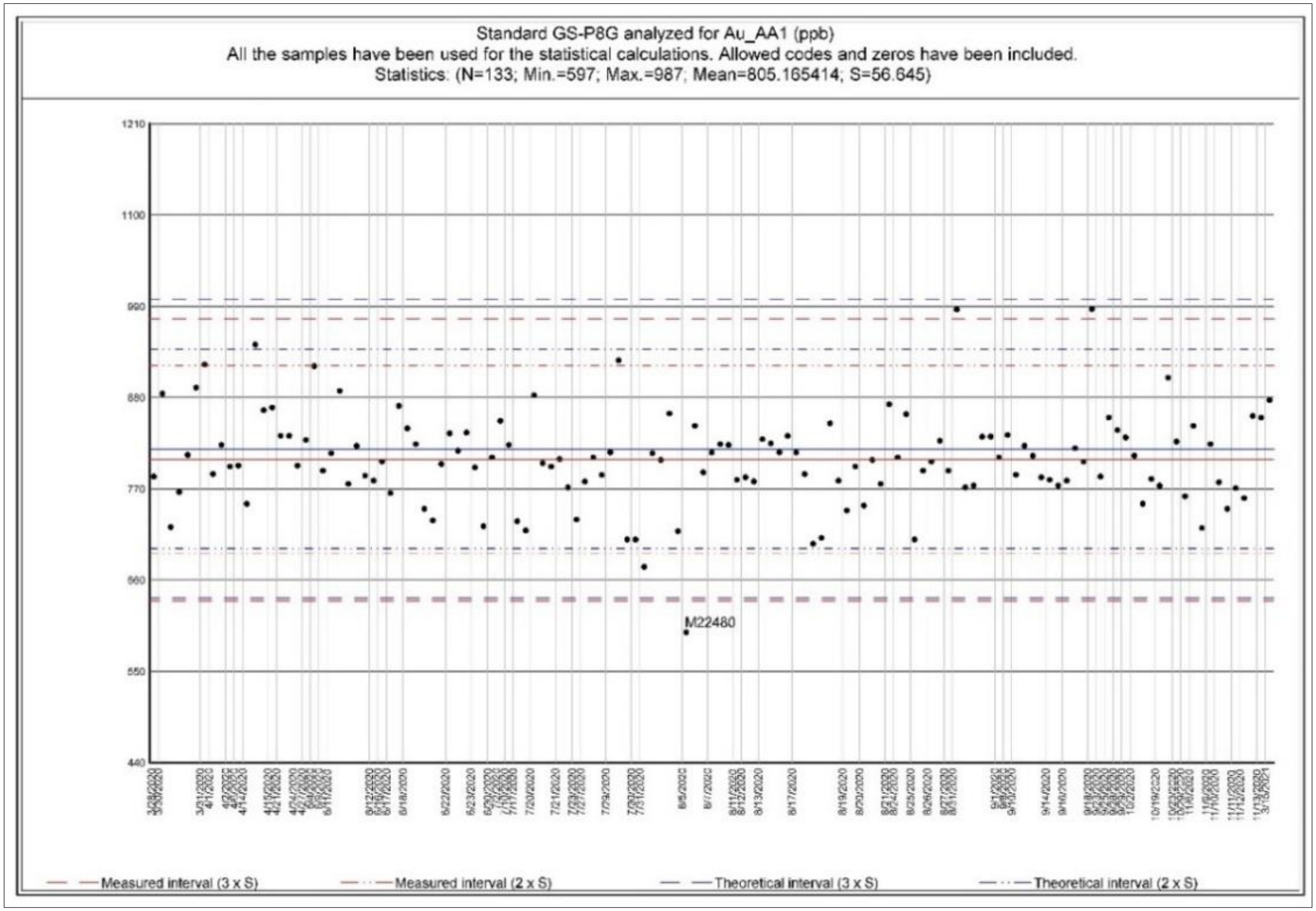
Source: Geologica, 2021.

Figure 11-6: Results for Standard CDN-GS-P8G for the Pascalis and Courvan Projects (2019-2020)



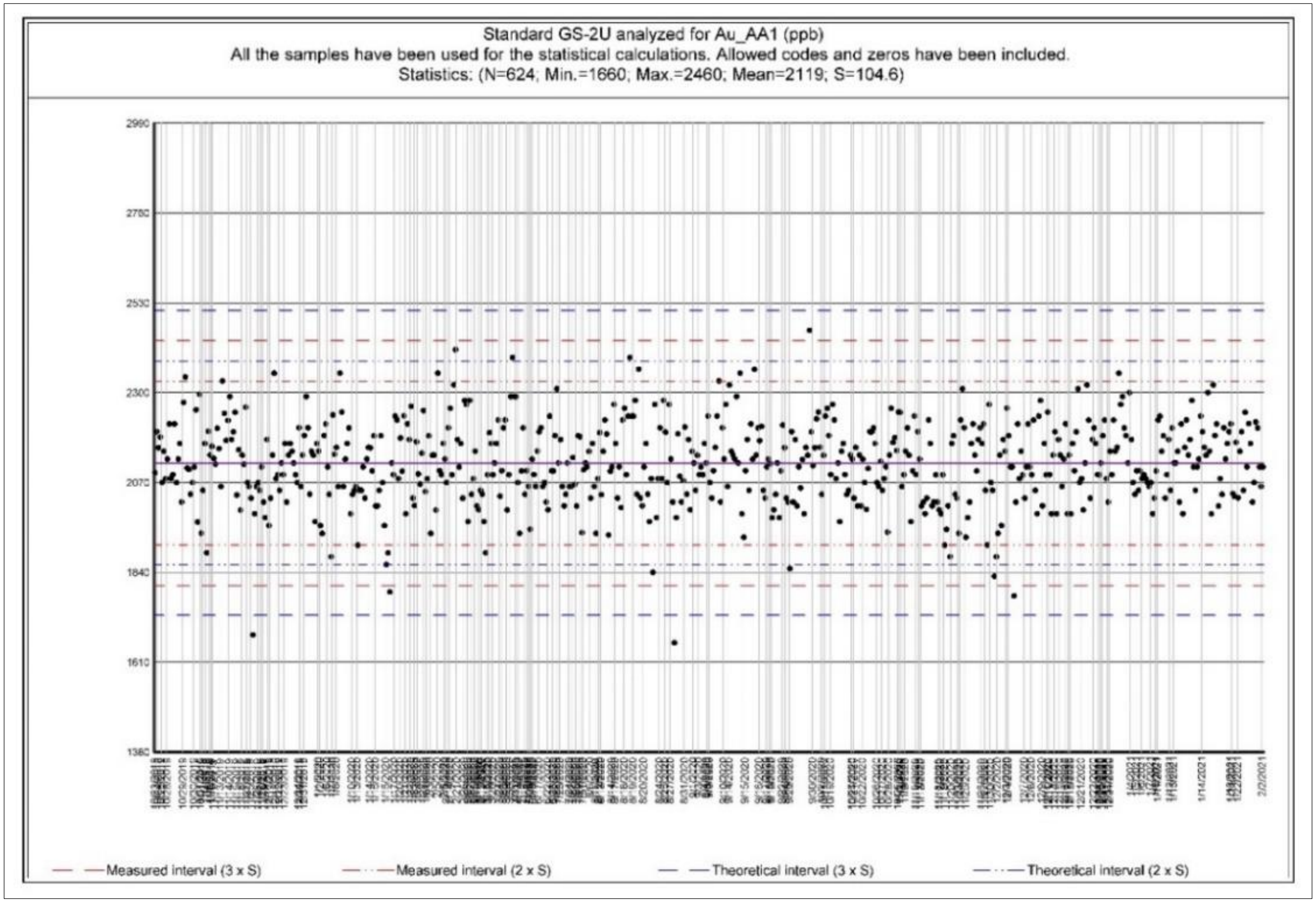
Source: Geologica, 2021.

Figure 11-7: Results for Standard CDN-GS-P8G for the Monique Project (2019-2020)



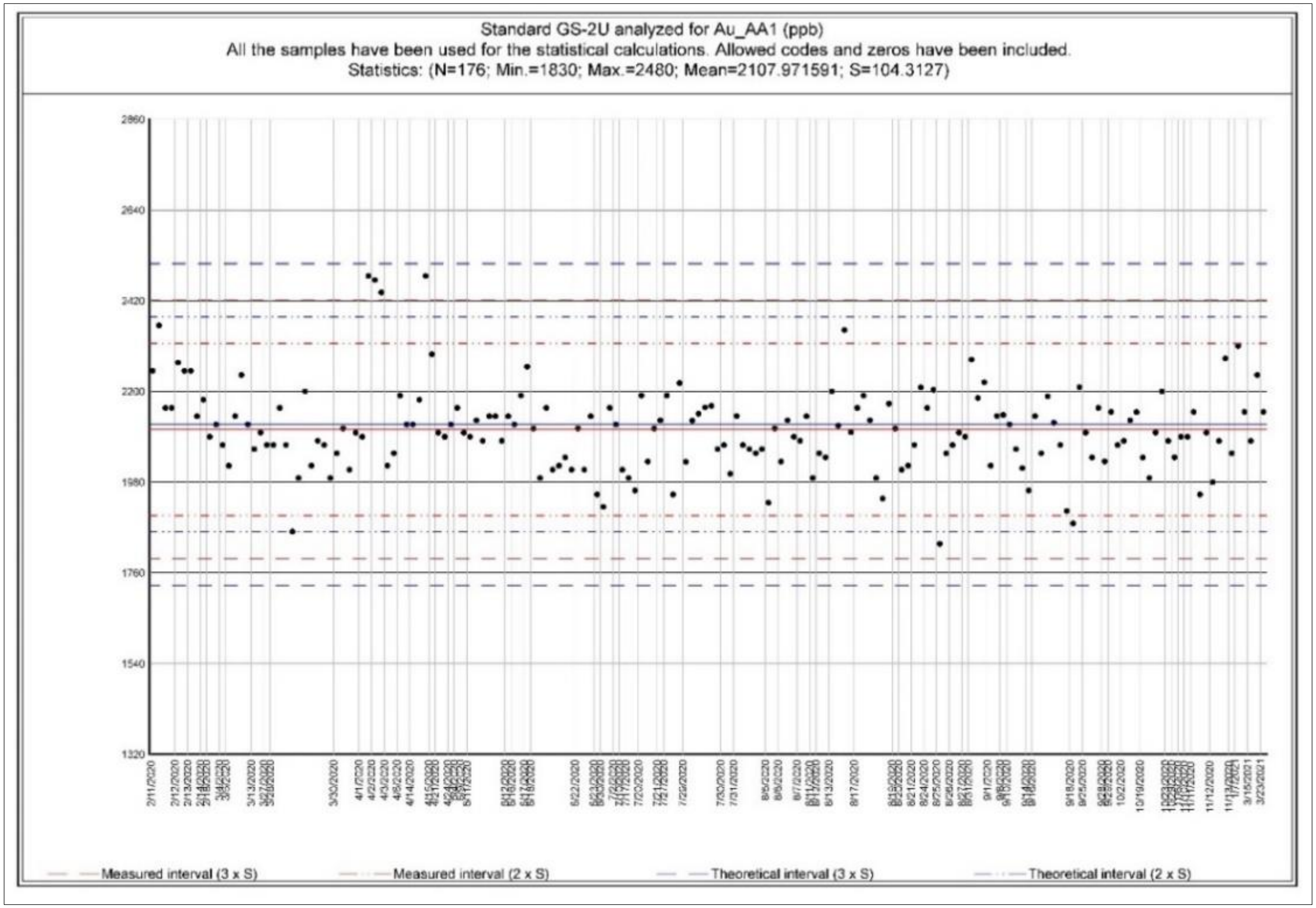
Source: Geologica, 2021.

Figure 11-8: Results for Standard CDN-GS-2U for the Pascalis and Courvan Projects



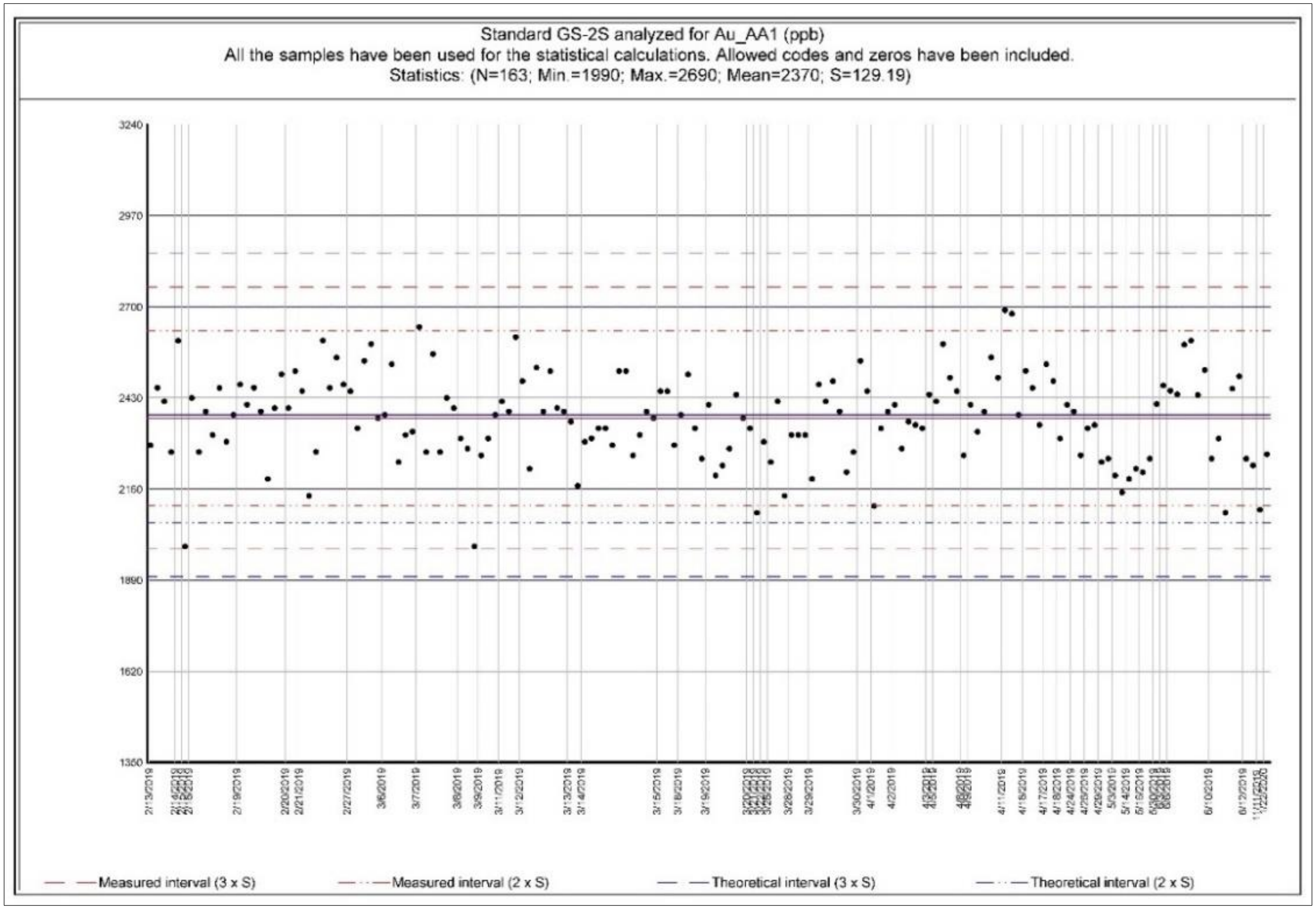
Source: Geologica, 2021.

Figure 11-9: Results for Standard CDN-GS-2U for the Monique Project (2019-2020)



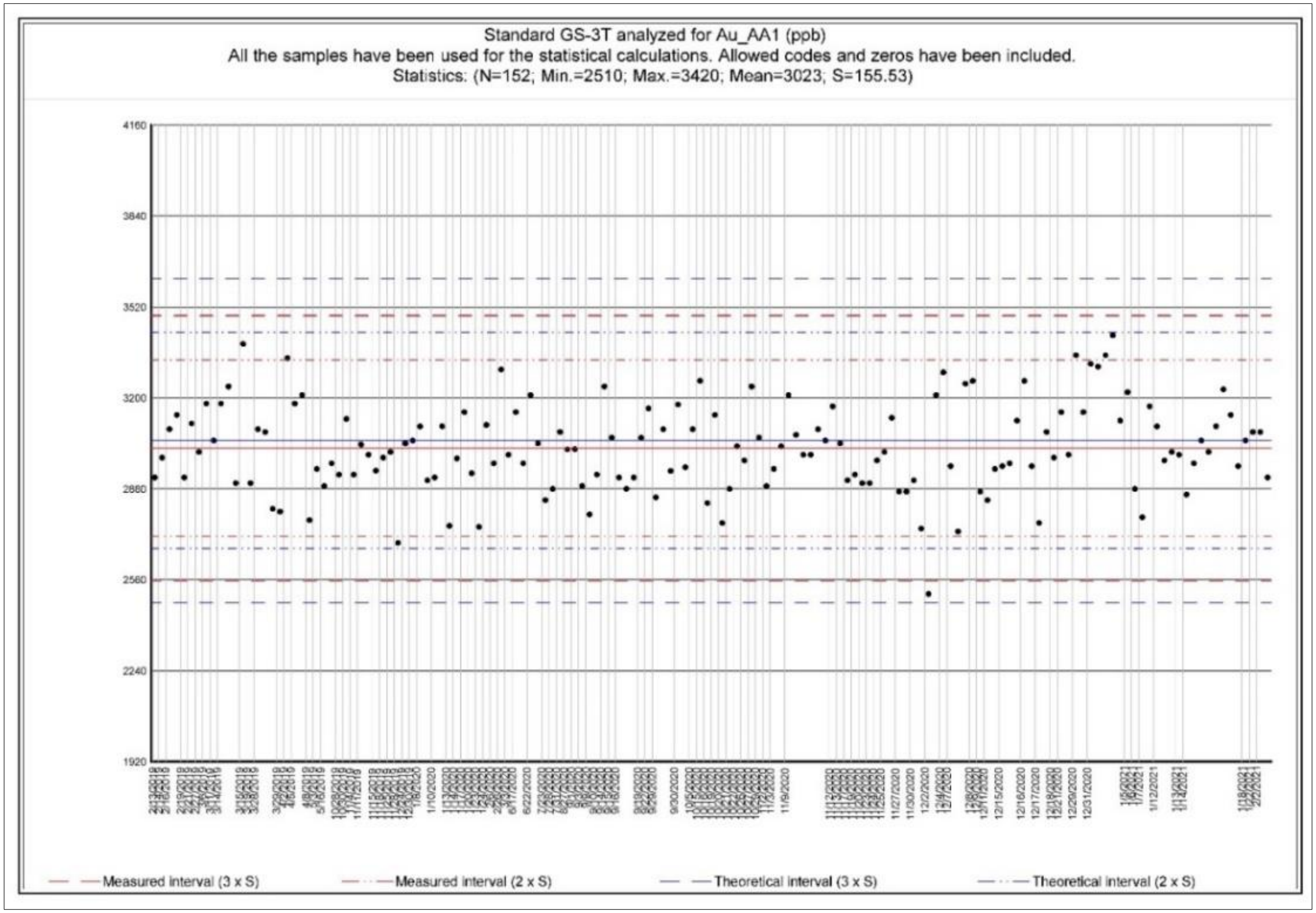
Source: Geologica, 2021.

Figure 11-10: Results for Standard CDN-GS-2S for the Pascalis and Courvan Projects (2019-2020)



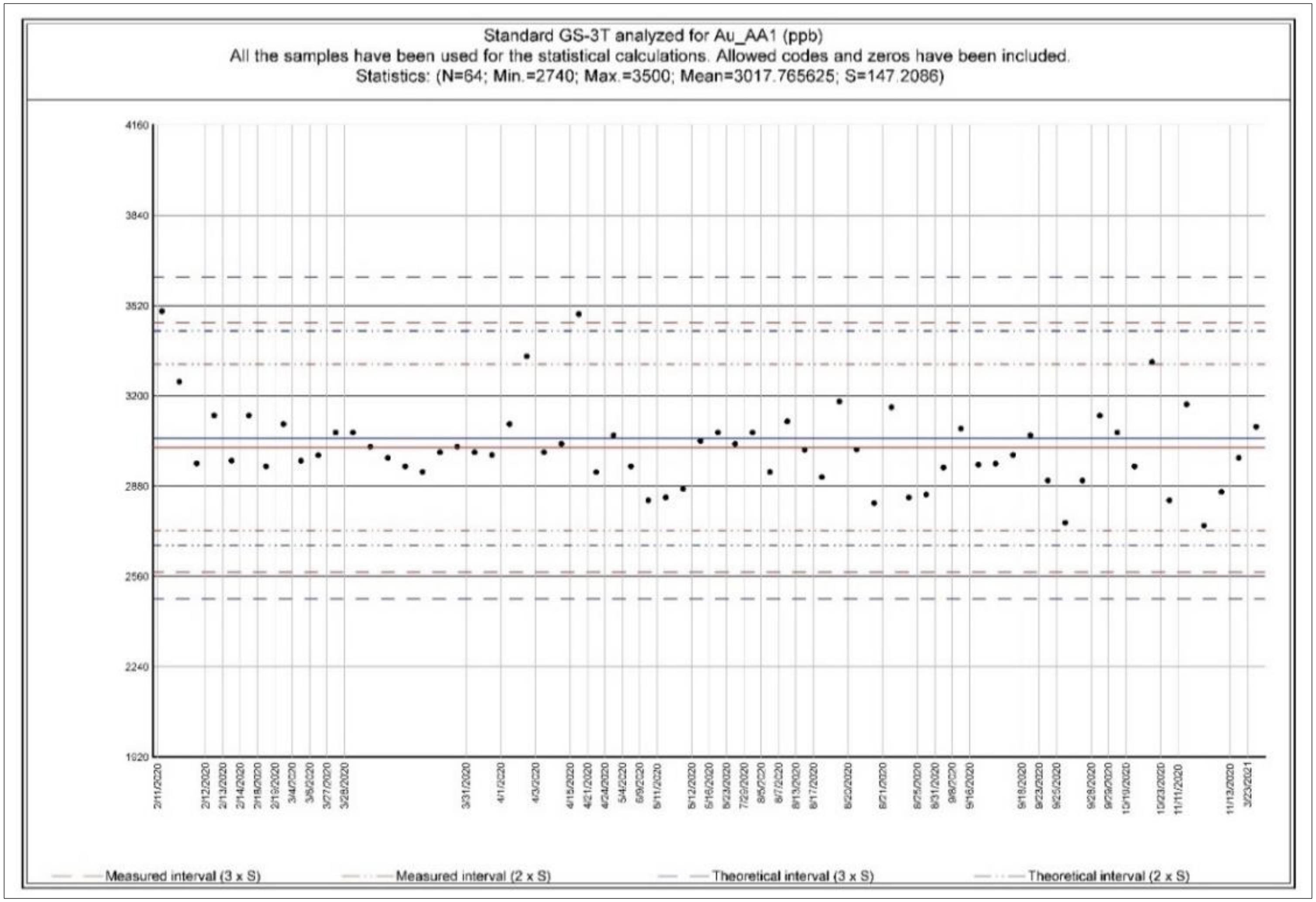
Source: Geologica, 2021.

Figure 11-11: Results for Standard CDN-GS-3T (AA Method) for the Pascalis and Courvan Projects (2019-2020)



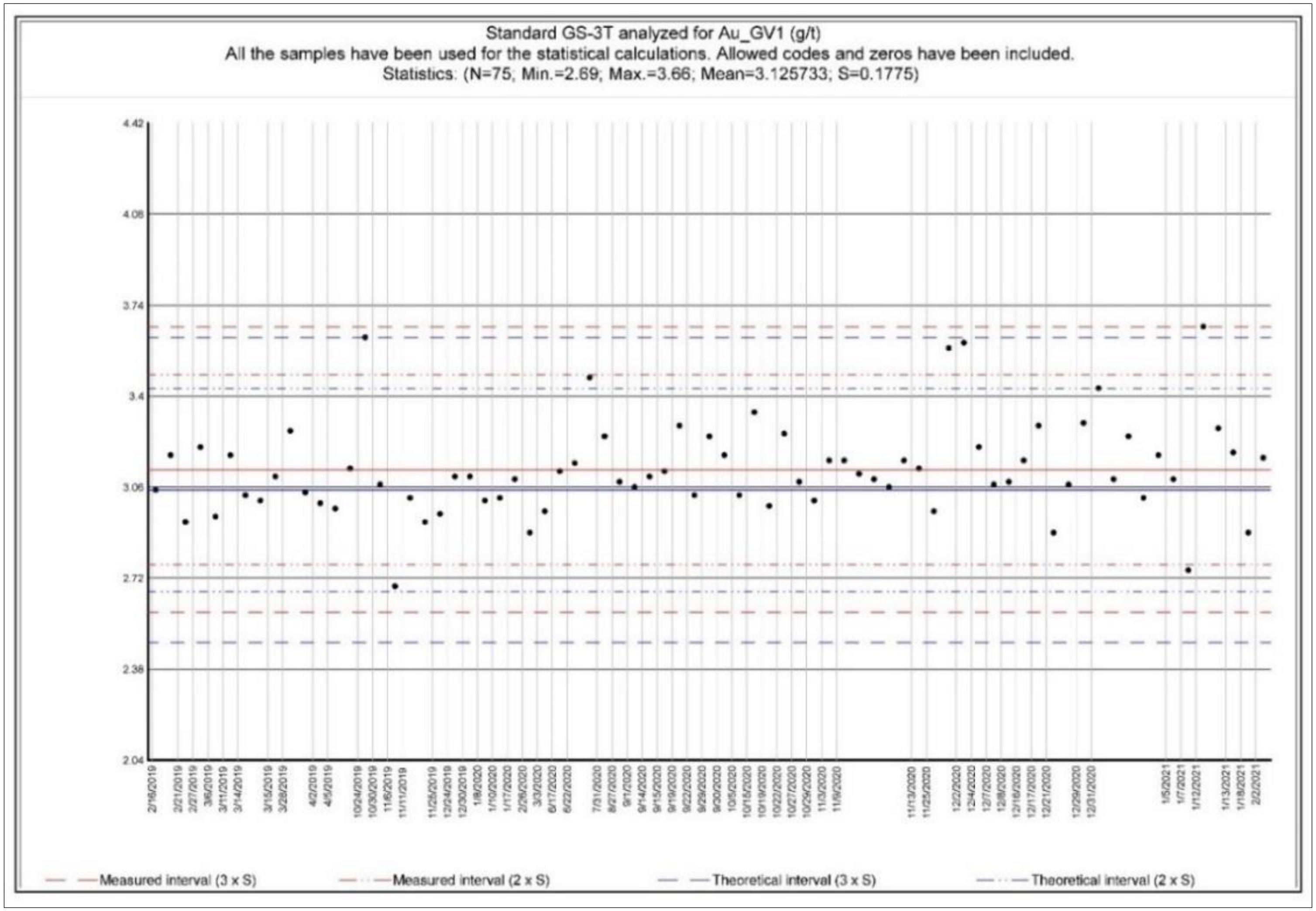
Source: Geologica, 2021.

Figure 11-12: Results for Standard CDN-GS-3T (AA Method) for the Monique Project (2019-2020)



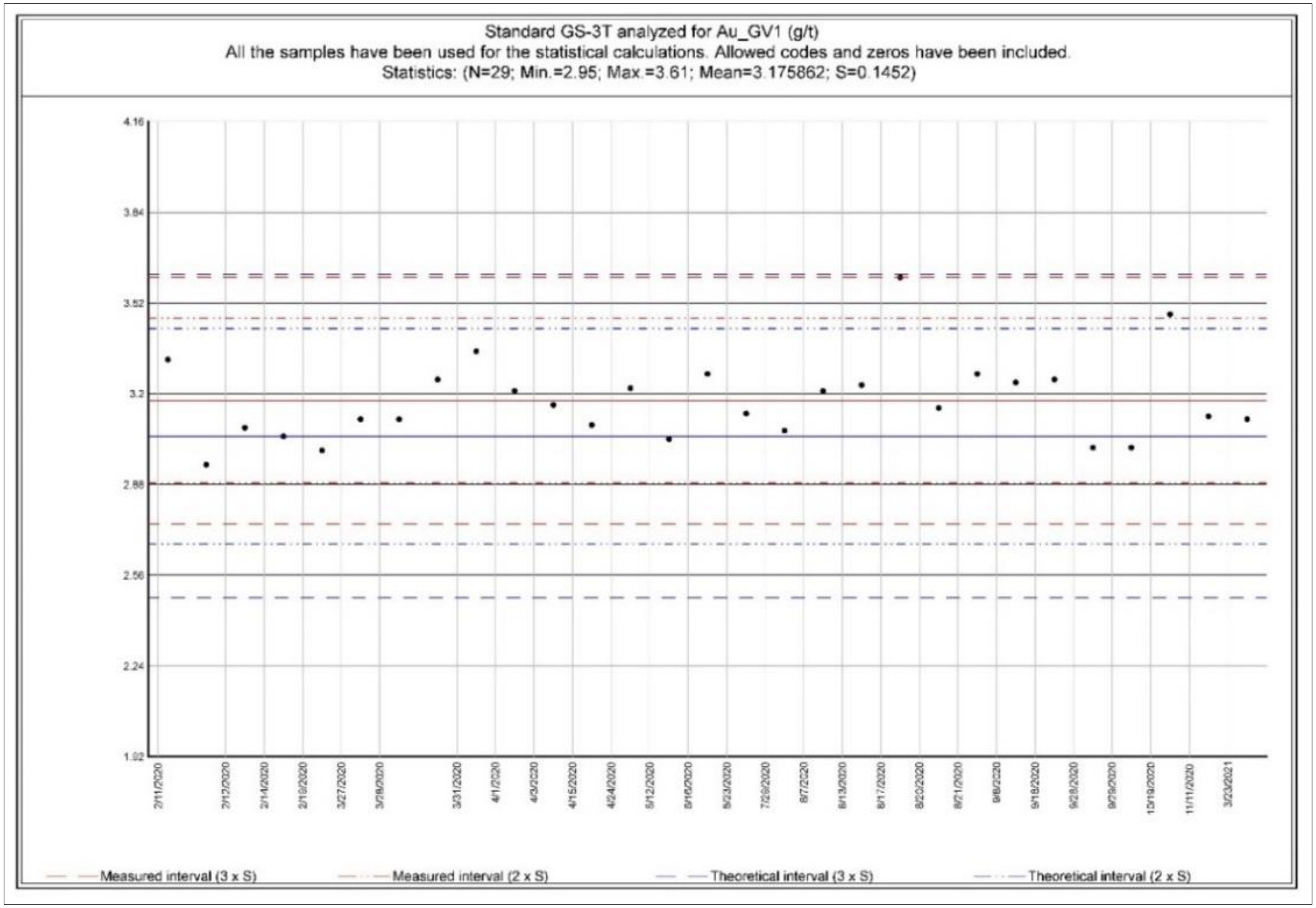
Source: Geologica, 2021.

Figure 11-13: Results for Standard CDN-GS-3T (GV Method) for the Pascalis and Courvan Projects (2019-2020)



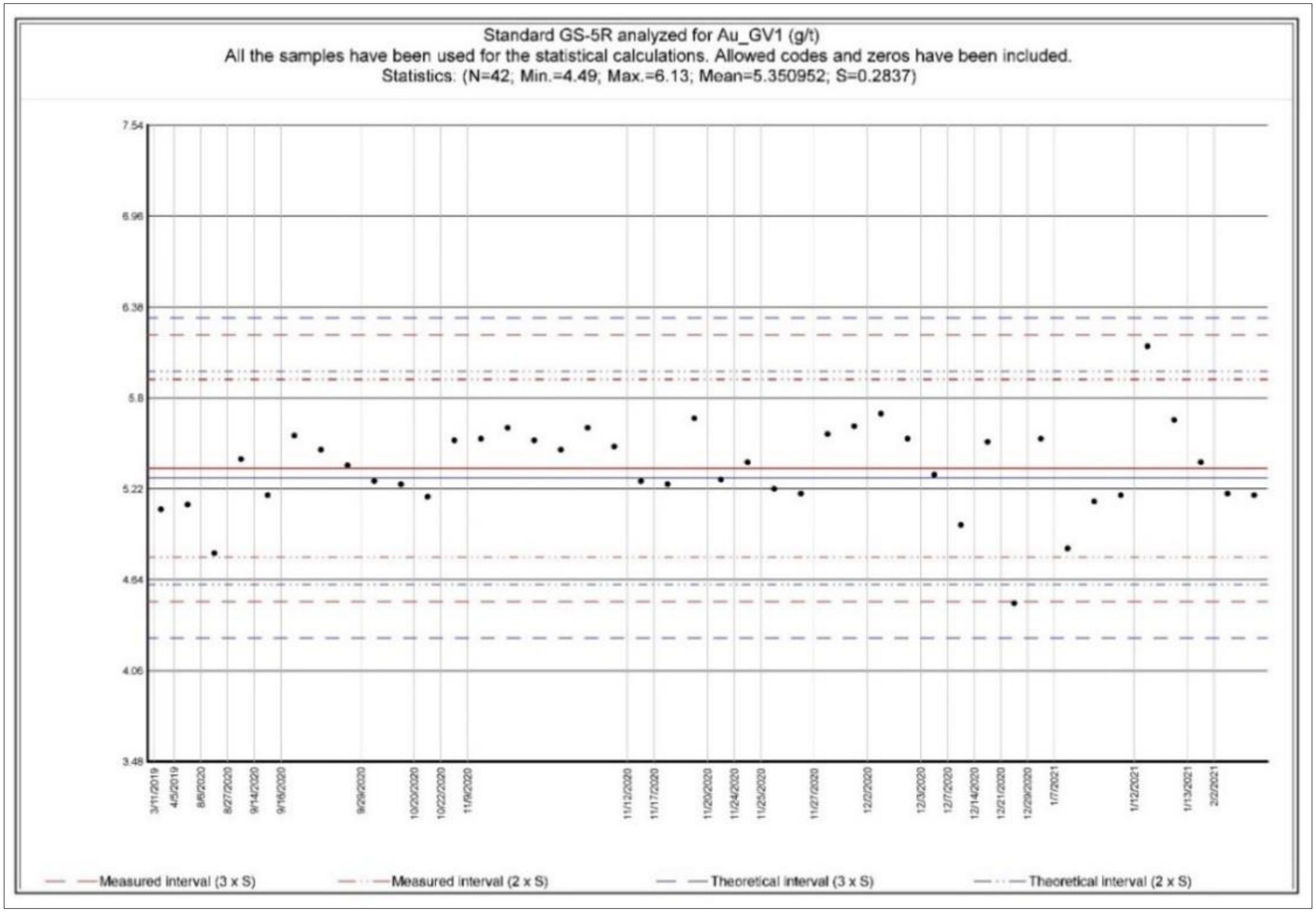
Source: Geologica, 2021.

Figure 11-14: Results for Standard CDN-GS-3T (GV method) for the Monique Project (2019-2020)



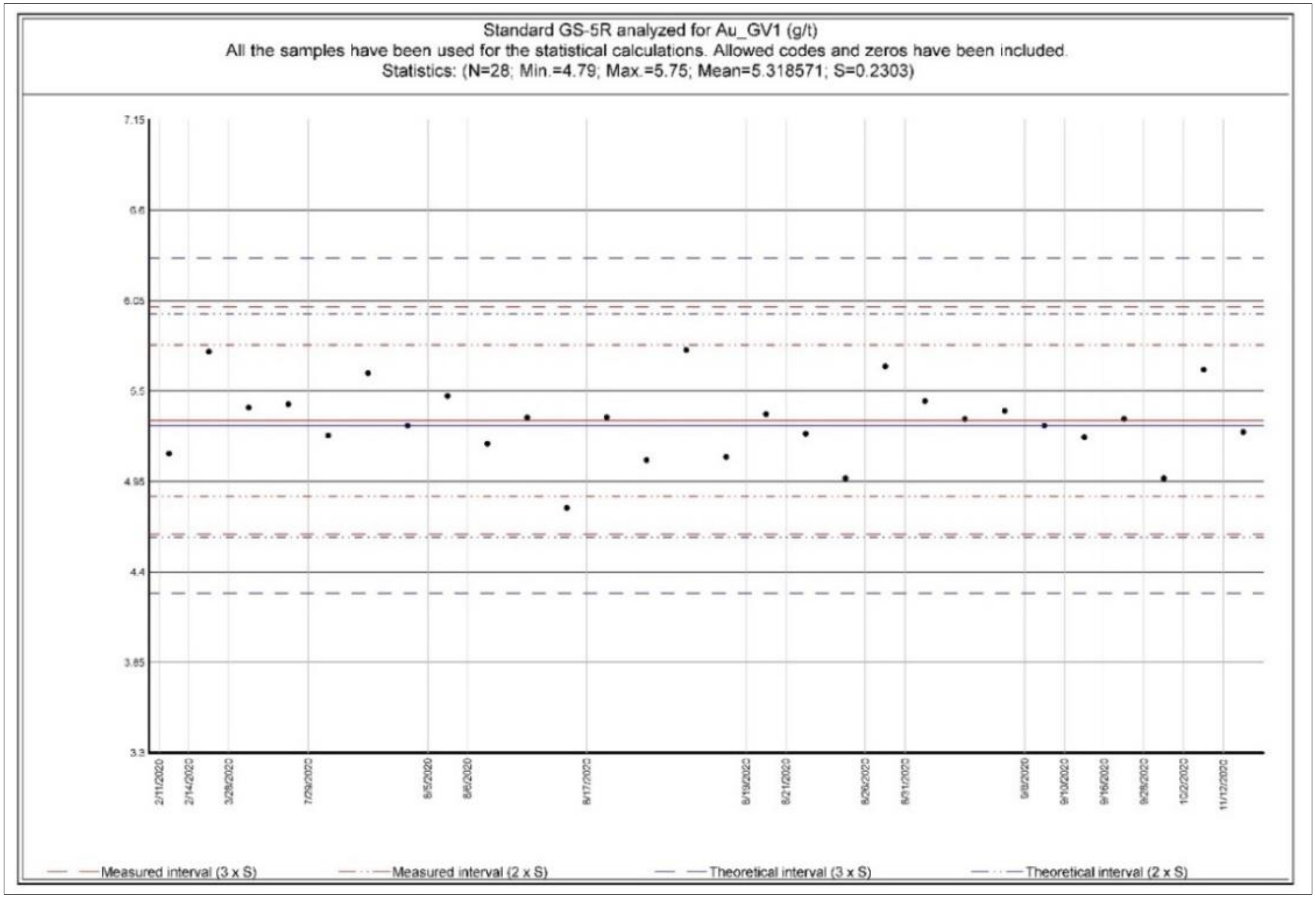
Source: Geologica, 2021.

Figure 11-15: Results for Standard CDN-GS-5R for the Pascalis and Courvan Projects (2019-2020)



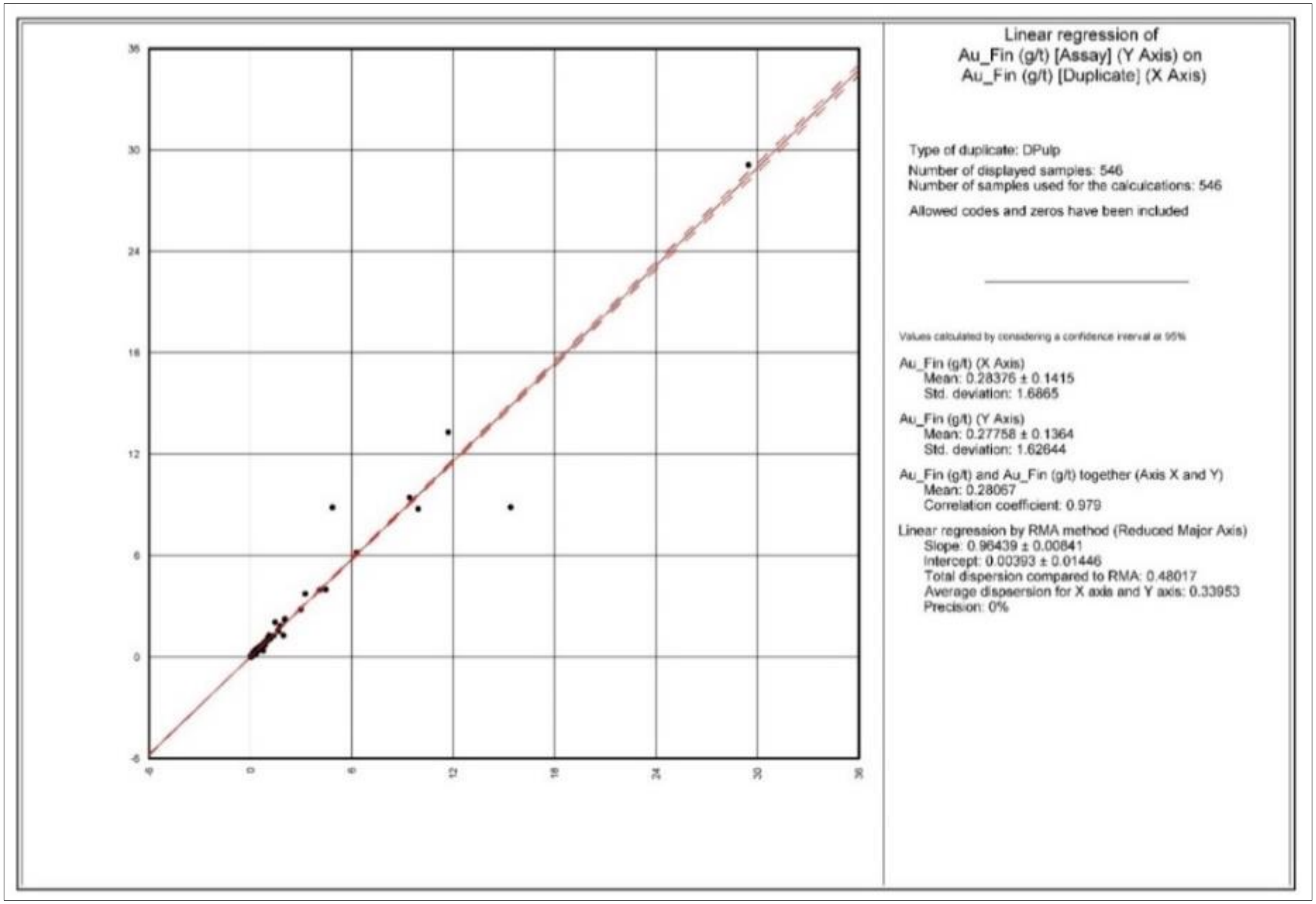
Source: Geologica, 2021.

Figure 11-16: Results for Standard CDN-GS-5R for the Monique Project (2019-2020)



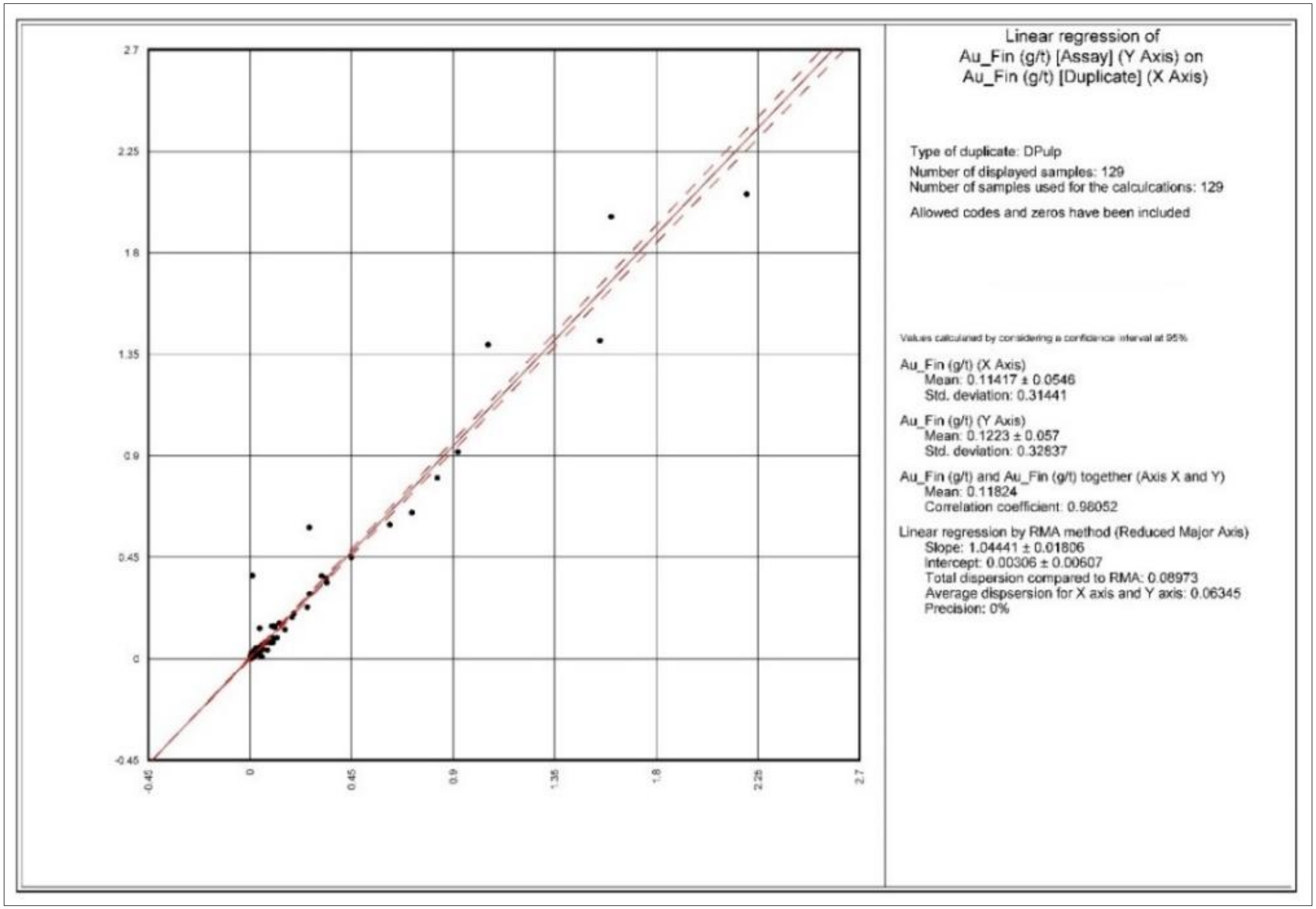
Source: Geologica, 2021.

Figure 11-17: Linear Regression of Samples and their Respective Pulp Duplicates for the Pascalis and Courvan Projects (2019-2020)



Source: Geologica, 2021.

Figure 11-18: Linear Regression Samples and their Respective Pulp Duplicates for the Monique Project (2019-2020)



Source: Geologica, 2021.

12 DATA VERIFICATION

Part of the historical information used in this report was taken from reports produced before the implementation of NI 43-101 standards in Canada. Little is known about sample preparation or analytical and security procedures for the historical work in the reviewed documents.

Geologica and GoldMinds have reviewed and verified the existing data of all available past and recent reports. According to elements reported in the statutory documents, sampling work and the analysis thereof appear to have been done according to standards in force at that time and are still valid today.

12.1 Database

The Pascalis, Courvan and Monique historical databases containing diamond drill holes (DDHs) were compiled and imported in GeoticLog format. Probe initially received the Courvan and Monique databases from the previous owner Richmont mines, and reviewed all the coordinates, assay results, and geological data. Other information (Prolog, Excel) is available in paper logs and summarized in the GeoticLog database. Recent drilling campaigns by Probe Metals in 2019-2020 were also integrated in the GeoticLog database.

Geologica and GoldMinds revised, verified, validated and improved the drill hole database, including DDH coordinates, azimuth, dip, hole trajectory and orientation with deviation surveys; validation of all assay results using laboratory certificates and corresponding sample number, core sample mineralized description and interval length, and overlap correction and mineralized intersection averaged assay results.

Probe Metals used an appropriate approach to enter assay results from laboratories in a series of electronic profiles adapted for each type of assay sheet from laboratories. These profiles eliminate the potential for human error during data transfer.

In order to use the historical drill holes to classify resources in the indicated and measured categories, it is important that the location and the assay results be as reliable as those that have been recently drilled by Probe. Thus, an elaborate verification and validation program was performed.

The Pascalis historical drill holes were first verified and validated in 2012 by SGS, as part of the first NI 43-101 mineral resource estimate performed on the New Beliveau, North and Highway deposits. About 5% of the past drilling data was checked through the availability of the old logs. Eighty-two inconsistencies were found from 1,715 assays verified, for an error percentage of about 5%, and these were corrected in the database (SGS NI 43-101 Technical Report, 2013). More recently, prior to the actual resource estimate, an exhaustive review of the historical surface and underground drill holes in the database was carried out. Of the 980 holes drilled after 1980 and located in the resource areas, 779 geological logs containing the gold analyses were checked by Probe Metals. The surveyed coordinates of 766 drill hole collars were found directly in the geological logs and only very few discrepancies were noted. The collars were mostly surveyed by mine technicians. It is important to note that all the surface and underground drill holes in the immediate vicinities of the former underground Beliveau mine were used by Cambior to determine mining reserves and to explore the nearby North and Highway deposits. Therefore, the Pascalis historical holes used in the present resource estimate are considered of high quality.

During the spring of 2020, the survey certificates as well as the assay certificates for gold analysis were compiled and verified for all Monique and Courvan historical holes drilled after 1980. The collar locations of 110 out of 424 Monique historical holes were retrieved on the field and surveyed in 2010 and 2011 by Richmont Mines, before completing the first NI 43-101 resource estimate on the Monique project. In the case of Courvan project, the collar locations of 23 historic holes out of 92 were retrieved and surveyed in 2004 and 2006 by Richmont Mines. The original survey certificates were retrieved and the coordinates in the database were verified. In addition, a few drill holes were randomly selected by Goldminds and the collars were located on the field and the coordinates checked by Probe Metal's geologist (Figures 12-1 and 12-2). This verification gave high confidence in the coordinates and location of the drill hole collars. For the gold assays, all the available original assay laboratory certificates from the historical holes were also retrieved and compiled by Goldminds. Only few certificates of gold analysis were missing, and the minor differences found between the values in the database and the certificates were corrected. Again, this detailed verification gave high confidence that the assay results in the database were well supported. It was thus decided to use all of the 424 Monique holes and 92 Courvan holes after 1980 to classify the gold resource.

Figure 12-1: Drill Set-up of Historic Drill Hole CO-87-006

Source: Desormeaux, 2021.

Figure 12-2: Drill Set-up of Historic Drill Hole 84_21

Source: Desormeaux, 2021.

12.2 Field Visit

A recent field visit was carried out by Geologica (A.J. Beauregard and D. Gaudreault) in November 2020 on the Val-d'Or East property (Figures 12-3 and 12-4). The authors also reviewed and resampled selected drill cores from the 2020 drilling program.

Figure 12-3: Drill Set-up of MO-20-33

Source: Gaudreault, 2020.

Figure 12-4: Drill Set-up of MO-20-78

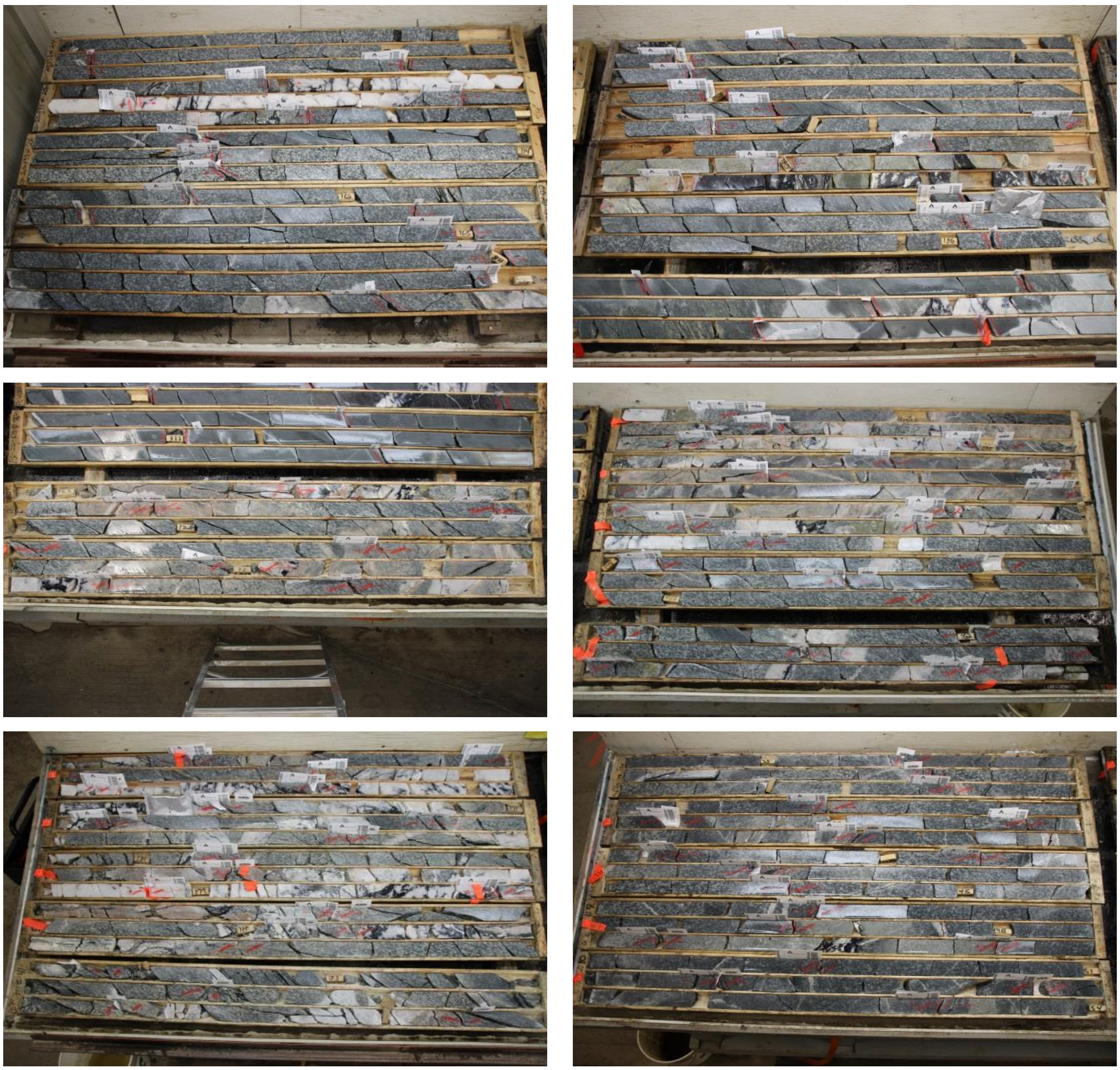
Source: Gaudreault, 2020.

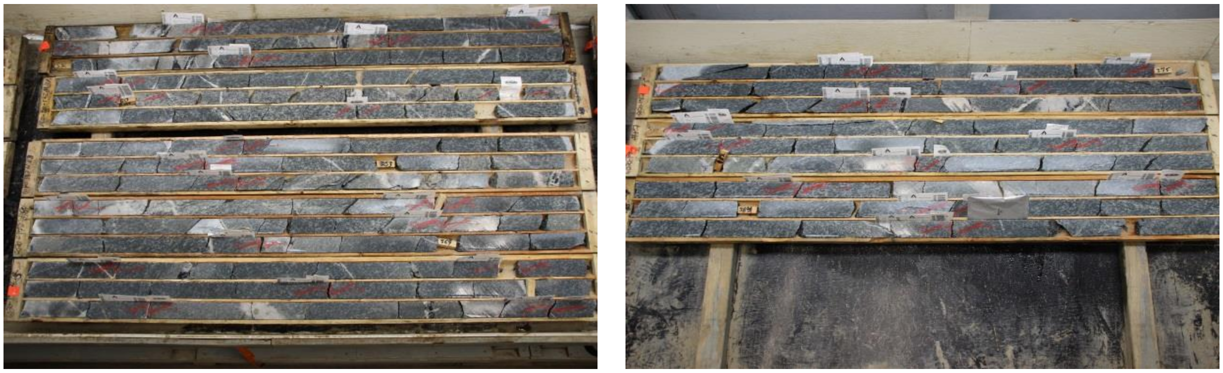
12.3 Resampling of Some Diamond Drill Holes

12.3.1 Courvan and Pascalis

In January 2021, Geologica collected and sent for analysis a total of 175 samples of second-half drill core from drill holes PC-20-595, -615 and -665 for Pascalis, and CO-20-133, -171 and -172 for Courvan (completed by Probe Metals in 2020), as well as eight QA/QC blanks and standards (see Figures 12-5 and 12-6).

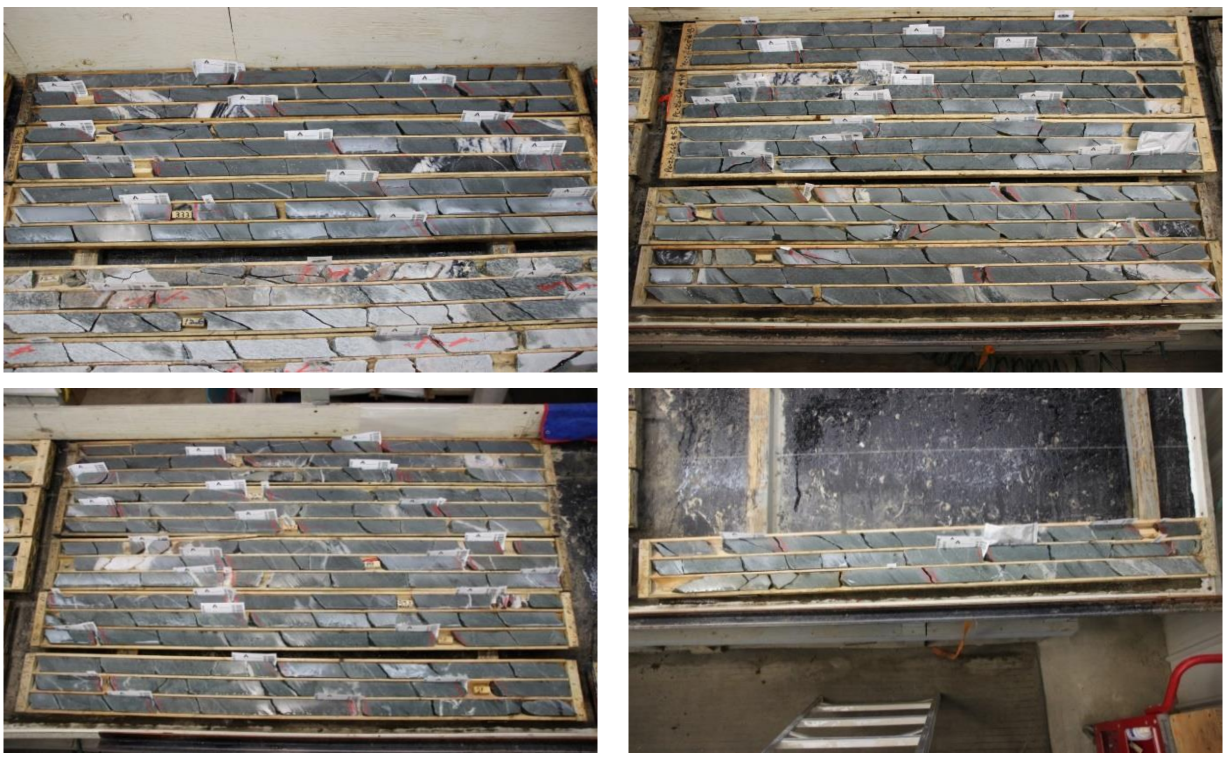
Figure 12-5: Resampling of Some 2020 Courvan Drill Cores





Source: Gaudreault, 2020.

Figure 12-6: Resampling of Some 2020 Pascalis Drill Cores



Source: Gaudreault, 2021.

The samples were collected independently of Probe Metals, kept secure, and sent to the ALS Canada assay laboratory in Val-d'Or, Québec. The samples were analyzed by the fire assay method, using aliquots of 30 g, and finished by atomic absorption. The samples that returned values greater than 1 g/t Au were re-assayed using a gravimetric finish. Sample preparation included crushing to 70% less than 2 mm, riffle splitting a 200 g fraction, and pulverizing to 85% less than 75 µm. Table 12-1 compares assay results from Probe and Geologica.

Table 12-1: Comparable Assay Results between Probe Metals and Geologica for the Resampling of some Drill Cores

Probe Metals							Geologica				
Property	DDH No.	From (m)	To (m)	Length (m)	Sample No.	Au (g/t)	From (m)	To (m)	Length (m)	Sample No.	Au (g/t)
Pascalis	PC-20-595	25.00	26.00	1.00	872953	0.002	25.00	26.00	1.00	A0364300	0.005
Pascalis	PC-20-595	26.00	26.60	0.60	872954	0.002	26.00	26.60	0.60	A0364301	0.005
Pascalis	PC-20-595	26.60	27.10	0.50	872955	2.620	26.60	27.10	0.50	A0364302	3.930
Pascalis	PC-20-595	27.10	28.00	0.90	872956	0.386	27.10	28.00	0.90	A0364303	0.650
Pascalis	PC-20-595	28.00	29.00	1.00	872957	0.473	28.00	29.00	1.00	A0364304	0.166
Pascalis	PC-20-595	29.00	30.00	1.00	872958	0.056	29.00	30.00	1.00	A0364305	0.041
								BLANK		A0364306	0.006
Pascalis	PC-20-595	30.00	31.00	1.00	872959	1.250	30.00	31.00	1.00	A0364307	1.380
Pascalis	PC-20-595	31.00	32.00	1.00	872961	0.418	31.00	32.00	1.00	A0364308	0.505
Pascalis	PC-20-595	32.00	33.00	1.00	872962	0.120	32.00	33.00	1.00	A0364309	0.065
Pascalis	PC-20-595	33.00	34.00	1.00	872963	2.710	33.00	34.00	1.00	A0364310	0.577
Pascalis	PC-20-595	34.00	35.00	1.00	872964	1.090	34.00	35.00	1.00	A0364311	0.391
Pascalis	PC-20-595	35.00	36.00	1.00	872965	1.310	35.00	36.00	1.00	A0364312	0.772
Pascalis	PC-20-595	36.00	37.00	1.00	872966	1.720	36.00	37.00	1.00	A0364313	1.385
Pascalis	PC-20-595	37.00	38.00	1.00	872967	4.470	37.00	38.00	1.00	A0364314	6.370
Pascalis	PC-20-595	38.00	39.00	1.00	872968	0.304	38.00	39.00	1.00	A0364315	0.276
Pascalis	PC-20-595	39.00	40.00	1.00	872969	2.950	39.00	40.00	1.00	A0364316	4.350
Pascalis	PC-20-595	40.00	41.00	1.00	872970	2.330	40.00	41.00	1.00	A0364317	2.830
Pascalis	PC-20-595	41.00	41.60	0.60	872971	0.174	41.00	41.60	0.60	A0364318	0.198
Pascalis	PC-20-595	41.60	42.20	0.60	872972	0.055	41.60	42.20	0.60	A0364319	0.096
Pascalis	PC-20-595	42.20	43.00	0.80	872973	0.008	42.20	43.00	0.80	A0364320	0.007
Pascalis	PC-20-595	43.00	44.00	1.00	872974	0.015	43.00	44.00	1.00	A0364321	0.015
Pascalis	PC-20-595	44.00	44.50	0.50	872975	0.609	44.00	44.50	0.50	A0364322	0.738
Pascalis	PC-20-595	44.50	45.30	0.80	872976	0.738	44.50	45.30	0.80	A0364323	1.075
Pascalis	PC-20-595	45.30	46.00	0.70	872977	0.172	45.30	46.00	0.70	A0364324	0.129
Pascalis	PC-20-595	46.00	47.00	1.00	872978	5.220	46.00	47.00	1.00	A0364325	1.195
Pascalis	PC-20-595	47.00	48.00	1.00	872979	0.009	47.00	48.00	1.00	A0364326	0.009
Pascalis	PC-20-595	48.00	49.00	1.00	872981	0.141	48.00	49.00	1.00	A0364327	0.007
Pascalis	PC-20-595	49.00	50.00	1.00	872982	0.002	49.00	50.00	1.00	A0364328	0.008
Pascalis	PC-20-595	50.00	51.00	1.00	872983	0.005	50.00	51.00	1.00	A0364329	<0.005
Pascalis	PC-20-595	51.00	51.60	0.60	872984	0.006	51.00	51.60	0.60	A0364330	<0.005
Pascalis	PC-20-595	51.60	52.10	0.50	872985	0.041	51.60	52.10	0.50	A0364331	0.020
Pascalis	PC-20-595	52.10	53.00	0.90	872986	9.420	52.10	53.00	0.90	A0364332	5.880
Pascalis	PC-20-595	53.00	54.00	1.00	872987	0.028	53.00	54.00	1.00	A0364333	0.011
Pascalis	PC-20-595	54.00	55.00	1.00	872988	0.007	54.00	55.00	1.00	A0364334	0.006
								STANDARD		A0364335	0.997
Pascalis	PC-20-615	319.30	320.40	1.10	880392	0.034	319.30	320.40	1.10	A0364269	0.025
Pascalis	PC-20-615	320.40	321.50	1.10	880393	0.310	320.40	321.50	1.10	A0364270	0.170
Pascalis	PC-20-615	321.50	322.10	0.60	880394	8.160	321.50	322.10	0.60	A0364271	0.933
Pascalis	PC-20-615	322.10	323.00	0.90	880395	20.000	322.10	323.00	0.90	A0364272	8.680
Pascalis	PC-20-615	323.00	324.00	1.00	880396	0.130	323.00	324.00	1.00	A0364273	0.060
Pascalis	PC-20-615	324.00	325.00	1.00	880397	1.610	324.00	325.00	1.00	A0364274	1.995
Pascalis	PC-20-615	325.00	326.00	1.00	880398	4.630	325.00	326.00	1.00	A0364275	3.660
Pascalis	PC-20-615	326.00	327.00	1.00	880399	0.043	326.00	327.00	1.00	A0364276	0.100
Pascalis	PC-20-615	327.00	328.00	1.00	880401	0.103	327.00	328.00	1.00	A0364277	0.016
Pascalis	PC-20-615	328.00	329.00	1.00	880402	0.568	328.00	329.00	1.00	A0364278	1.640
Pascalis	PC-20-615	329.00	330.00	1.00	880403	3.130	329.00	330.00	1.00	A0364279	4.220
Pascalis	PC-20-615	330.00	331.00	1.00	880404	0.351	330.00	331.00	1.00	A0364280	0.401
Pascalis	PC-20-615	331.00	332.00	1.00	880405	2.460	331.00	332.00	1.00	A0364281	6.770
Pascalis	PC-20-615	332.00	333.00	1.00	880406	0.028	332.00	333.00	1.00	A0364282	0.056
Pascalis	PC-20-615	333.00	334.00	1.00	880407	0.014	333.00	334.00	1.00	A0364283	0.016
Pascalis	PC-20-615	334.00	335.00	1.00	880408	0.002	334.00	335.00	1.00	A0364284	0.012
Pascalis	PC-20-665	235.50	236.50	1.00	B138869	0.002	235.50	236.50	1.00	A0364285	<0.005
Pascalis	PC-20-665	236.50	237.50	1.00	B138870	0.019	236.50	237.50	1.00	A0364286	0.005
Pascalis	PC-20-665	237.50	238.20	0.70	B138871	0.031	237.50	238.20	0.70	A0364287	0.04
Pascalis	PC-20-665	238.20	239.30	1.10	B138872	4.130	238.20	239.30	1.10	A0364288	5.230
Pascalis	PC-20-665	239.30	240.30	1.00	B138874	2.030	239.30	240.30	1.00	A0364289	0.990
Pascalis	PC-20-665	240.30	240.80	0.50	B138875	17.100	240.30	240.80	0.50	A0364290	0.536
Pascalis	PC-20-665	240.80	241.60	0.80	B138877	1.690	240.80	241.60	0.80	A0364291	0.624
Pascalis	PC-20-665	241.60	242.10	0.50	B138878	0.037	241.60	242.10	0.50	A0364292	0.027
Pascalis	PC-20-665	242.10	242.60	0.50	B138879	0.206	242.10	242.60	0.50	A0364293	0.897
Pascalis	PC-20-665	242.60	243.50	0.90	B138880	2.020	242.60	243.50	0.90	A0364294	4.850
Pascalis	PC-20-665	243.50	244.00	0.50	B138882	0.012	243.50	244.00	0.50	A0364295	0.030
Pascalis	PC-20-665	244.00	244.90	0.90	B138883	0.012	244.00	244.90	0.90	A0364296	0.083
Pascalis	PC-20-665	244.90	246.00	1.10	B138884	0.013	244.90	246.00	1.10	A0364297	0.008
Pascalis	PC-20-665	246.00	247.00	1.00	B138885	0.006	246.00	247.00	1.00	A0364298	0.012
								STANDARD		A0364299	5.240
Courvan	CO-20-133	105.40	106.40	1.00	850977	0.005	105.40	106.40	1.00	A0364201	<0.005
Courvan	CO-20-133	106.40	107.40	1.00	850978	1.114	106.40	107.40	1.00	A0364202	0.475
Courvan	CO-20-133	107.40	108.40	1.00	850979	5.330	107.40	108.40	1.00	A0364203	0.214
Courvan	CO-20-133	108.40	109.40	1.00	850981	0.632	108.40	109.40	1.00	A0364204	0.178
Courvan	CO-20-133	109.40	110.40	1.00	850982	2.720	109.40	110.40	1.00	A0364205	0.697
Courvan	CO-20-133	110.40	111.50	1.10	850983	0.138	110.40	111.50	1.10	A0364206	0.066
Courvan	CO-20-133	111.50	113.00	1.50	850984	0.007	111.50	113.00	1.50	A0364207	<0.005
Courvan	CO-20-133	113.00	114.50	1.50	850985	0.002	113.00	114.50	1.50	A0364208	0.018
Courvan	CO-20-133	114.50	116.00	1.50	850986	0.002	114.50	116.00	1.50	A0364209	<0.005
Courvan	CO-20-133	163.50	165.00	1.50	846522	0.007	163.50	165.00	1.50	A0364210	<0.005
Courvan	CO-20-133	165.00	166.50	1.50	846523	0.007	165.00	166.50	1.50	A0364211	<0.005
Courvan	CO-20-133	166.50	168.00	1.50	846524	0.010	166.50	168.00	1.50	A0364212	0.018
Courvan	CO-20-133	168.00	169.00	1.00	846525	10.350	168.00	169.00	1.00	A0364213	7.330
Courvan	CO-20-133	169.00	170.00	1.00	846526	39.840	169.00	170.00	1.00	A0364214	59.800
Courvan	CO-20-133	170.00	171.00	1.00	846527	0.080	170.00	171.00	1.00	A0364215	0.079
Courvan	CO-20-133	171.00	172.50	1.50	846528	0.009	171.00	172.50	1.50	A0364216	0.011
Courvan	CO-20-133	172.50	174.00	1.50	846529	0.005	172.50	174.00	1.50	A0364217	1.740
Courvan	CO-20-133	174.00	175.50	1.50	846530	0.002	174.00	175.50	1.50	A0364218	<0.005
Courvan	CO-20-133	175.50	176.80	1.30	846531	0.005	175.50	176.80	1.30	A0364219	0.007
Courvan	CO-20-133	176.80	177.80	1.00	846532	0.002	176.80	177.80	1.00	A0364220	0.006
Courvan	CO-20-133	177.80	178.80	1.00	846533	0.002	177.80	178.80	1.00	A0364221	<0.005
Courvan	CO-20-133	178.80	179.80	1.00	846534	29.100	178.80	179.80	1.00	A0364222	20.400
Courvan	CO-20-133	179.80	180.80	1.00	846536	13.100	179.80	180.80	1.00	A0364223	6.270
Courvan	CO-20-133	180.80	182.10	1.30	846537	2.413	180.80	182.10	1.30	A0364224	1.600
Courvan	CO-20-133	182.10	183.10	1.00	846538	0.132	182.10	183.10	1.00	A0364225	0.082
Courvan	CO-20-133	183.10	184.50	1.40	846539	0.008	183.10	184.50	1.40	A0364226	0.019

Probe Metals							Geologica				
Property	DDH No.	From (m)	To (m)	Length (m)	Sample No.	Au (g/t)	From (m)	To (m)	Length (m)	Sample No.	Au (g/t)
								STANDARD		A0364227	1.095
Courvan	CO-20-171	123.50	124.50	1.00	B134331	0.080	123.50	124.50	1.00	A0364228	0.080
Courvan	CO-20-171	124.50	125.50	1.00	B134333	0.050	124.50	125.50	1.00	A0364229	0.026
Courvan	CO-20-171	125.50	127.00	1.50	B134334	0.055	125.50	127.00	1.50	A0364230	0.048
Courvan	CO-20-171	127.00	128.00	1.00	B134335	0.015	127.00	128.00	1.00	A0364231	0.012
Courvan	CO-20-171	128.00	129.00	1.00	B134336	0.430	128.00	129.00	1.00	A0364232	0.997
Courvan	CO-20-171	129.00	130.00	1.00	B134337	0.540	129.00	130.00	1.00	A0364233	0.926
Courvan	CO-20-171	130.00	130.70	0.70	B134338	3.140	130.00	130.70	0.70	A0364234	0.287
Courvan	CO-20-171	130.70	131.50	0.80	B134339	46.000	130.70	131.50	0.80	A0364235	34.100
								BLANK		A0364236	<0.005
Courvan	CO-20-171	131.50	133.00	1.50	B134341	0.015	131.50	133.00	1.50	A0364237	0.081
Courvan	CO-20-171	133.00	134.10	1.10	B134342	0.015	133.00	134.10	1.10	A0364238	0.205
Courvan	CO-20-171	134.10	135.10	1.00	B134343	0.550	134.10	135.10	1.00	A0364239	0.160
Courvan	CO-20-171	135.10	136.10	1.00	B134344	0.700	135.10	136.10	1.00	A0364240	0.15
Courvan	CO-20-171	136.10	137.10	1.00	B134345	0.015	136.10	137.10	1.00	A0364241	0.486
Courvan	CO-20-171	137.10	138.10	1.00	B134347	0.066	137.10	138.10	1.00	A0364242	0.116
Courvan	CO-20-171	138.10	139.50	1.40	B134348	0.148	138.10	139.50	1.40	A0364243	0.143
Courvan	CO-20-171	139.50	140.50	1.00	B134349	2.850	139.50	140.50	1.00	A0364244	3.490
Courvan	CO-20-171	140.50	141.20	0.70	B134350	1.120	140.50	141.20	0.70	A0364245	0.743
Courvan	CO-20-171	141.20	141.90	0.70	B134351	26.300	141.20	141.90	0.70	A0364246	5.920
Courvan	CO-20-171	141.90	142.90	1.00	B134353	0.470	141.90	142.90	1.00	A0364247	0.351
Courvan	CO-20-171	142.90	144.00	1.10	B134354	0.380	142.90	144.00	1.10	A0364248	0.148
Courvan	CO-20-171	144.00	145.00	1.00	B134355	0.015	144.00	145.00	1.00	A0364249	0.055
Courvan	CO-20-171	145.00	146.00	1.00	B134356	0.015	145.00	146.00	1.00	A0364250	0.034
Courvan	CO-20-171	163.00	163.90	0.90	B134372	0.015	163.00	163.90	0.90	A0364251	0.055
Courvan	CO-20-171	163.90	164.90	1.00	B134373	0.380	163.90	164.90	1.00	A0364252	6.710
Courvan	CO-20-171	164.90	165.70	0.80	B134374	81.300	164.90	165.70	0.80	A0364253	61.600
Courvan	CO-20-171	165.70	166.50	0.80	B134376	6.070	165.70	166.50	0.80	A0364254	14.050
Courvan	CO-20-171	166.50	167.60	1.10	B134377	0.015	166.50	167.60	1.10	A0364255	0.068
Courvan	CO-20-171	167.60	168.30	0.70	B134378	0.120	167.60	168.30	0.70	A0364256	0.247
Courvan	CO-20-171	168.30	169.00	0.70	B134379	23.300	168.30	169.00	0.70	A0364257	0.111
Courvan	CO-20-171	169.00	170.10	1.10	B134381	0.440	169.00	170.10	1.10	A0364258	4.050
Courvan	CO-20-171	170.10	171.10	1.00	B134382	1.670	170.10	171.10	1.00	A0364259	0.891
								STANDARD		A0364260	5.420
Courvan	CO-20-171	171.10	172.10	1.00	B134383	0.530	171.10	172.10	1.00	A0364261	0.636
Courvan	CO-20-171	172.10	173.30	1.20	B134384	0.050	172.10	173.30	1.20	A0364262	0.042
Courvan	CO-20-171	173.30	174.30	1.00	B134385	0.320	173.30	174.30	1.00	A0364263	0.046
Courvan	CO-20-171	174.30	175.80	1.50	B134386	0.015	174.30	175.80	1.50	A0364264	0.140
Courvan	CO-20-171	175.80	176.90	1.10	B134387	2.380	175.80	176.90	1.10	A0364265	0.132
Courvan	CO-20-171	176.90	177.90	1.00	B134388	5.450	176.90	177.90	1.00	A0364266	0.281
Courvan	CO-20-171	177.90	178.90	1.00	B134390	0.410	177.90	178.90	1.00	A0364267	0.892
Courvan	CO-20-171	178.90	180.20	1.30	B134391	0.015	178.90	180.20	1.30	A0364268	0.067
Courvan	CO-20-172	35	36.5	1.5	B134564	0.018	35	36.5	1.5	A0364336	0.005
Courvan	CO-20-172	36.5	37.5	1	B134565	0.024	36.5	37.5	1	A0364337	0.019
Courvan	CO-20-172	37.5	38.5	1	B134566	0.015	37.5	38.5	1	A0364338	0.009
Courvan	CO-20-172	38.5	39.5	1	B134567	2.63	38.5	39.5	1	A0364339	10.350
Courvan	CO-20-172	39.5	40.5	1	B134569	3.74	39.5	40.5	1	A0364340	2.180
Courvan	CO-20-172	40.5	41.3	0.8	B134570	0.85	40.5	41.3	0.8	A0364341	0.886
Courvan	CO-20-172	41.3	42.2	0.9	B134571	0.015	41.3	42.2	0.9	A0364342	0.449
Courvan	CO-20-172	42.2	43	0.8	B134572	0.015	42.2	43	0.8	A0364343	0.055
Courvan	CO-20-172	43	44.5	1.5	B134573	0.026	43	44.5	1.5	A0364344	0.021
Courvan	CO-20-172	44.5	46	1.5	B134574	0.055	44.5	46	1.5	A0364345	0.216
Courvan	CO-20-172	46	47.4	1.4	B134575	0.024	46	47.4	1.4	A0364346	0.022
Courvan	CO-20-172	47.4	48.4	1	B134576	1.18	47.4	48.4	1	A0364347	0.544
Courvan	CO-20-172	48.4	49.4	1	B134577	0.35	48.4	49.4	1	A0364348	0.495
Courvan	CO-20-172	49.4	50.4	1	B134578	0.015	49.4	50.4	1	A0364349	0.024
Courvan	CO-20-172	50.4	51.5	1.1	B134579	0.016	50.4	51.5	1.1	A0364350	0.018
Courvan	CO-20-172	51.5	52.5	1	B134580	0.035	51.5	52.5	1	A0364351	0.040
Courvan	CO-20-172	52.5	53.5	1	B134581	0.015	52.5	53.5	1	A0364352	0.019
Courvan	CO-20-172	53.5	54.4	0.9	B134582	18.2	53.5	54.4	0.9	A0364353	3.930
Courvan	CO-20-172	54.4	55.4	1	B134584	0.015	54.4	55.4	1	A0364354	0.117
Courvan	CO-20-172	55.4	56.4	1	B134585	6.14	55.4	56.4	1	A0364355	1.800
Courvan	CO-20-172	56.4	57.5	1.1	B134586	1.89	56.4	57.5	1.1	A0364356	0.737
Courvan	CO-20-172	57.5	58.5	1	B134587	0.015	57.5	58.5	1	A0364357	0.084
Courvan	CO-20-172	58.5	60	1.5	B134588	0.002	58.5	60	1.5	A0364358	<0.005
Courvan	CO-20-172	361.2	362.5	1.3	B134837	0.086	361.2	362.5	1.3	A0364359	0.066
Courvan	CO-20-172	362.5	364	1.5	B134838	0.199	362.5	364	1.5	A0364360	0.128
Courvan	CO-20-172	364	365	1	B134839	0.137	364	365	1	A0364361	0.105
Courvan	CO-20-172	365	366	1	B134840	0.29	365	366	1	A0364362	0.098
Courvan	CO-20-172	366	367.5	1.5	B134841	0.241	366	367.5	1.5	A0364363	0.138
Courvan	CO-20-172	367.5	368.5	1	B134842	0.252	367.5	368.5	1	A0364364	0.830
Courvan	CO-20-172	368.5	369.5	1	B134844	0.188	368.5	369.5	1	A0364365	0.240
Courvan	CO-20-172	369.5	370.5	1	B134845	1	369.5	370.5	1	A0364366	0.996
Courvan	CO-20-172	370.5	371.5	1	B134846	0.091	370.5	371.5	1	A0364367	0.076
Courvan	CO-20-172	371.5	372.5	1	B134847	0.45	371.5	372.5	1	A0364368	0.336
Courvan	CO-20-172	372.5	373.5	1	B134848	2.79	372.5	373.5	1	A0364369	4.720
Courvan	CO-20-172	373.5	374.2	0.7	B134850	0.015	373.5	374.2	0.7	A0364370	0.106
								BLANK		A0364371	<0.005
Courvan	CO-20-172	374.2	375	0.8	B134851	0.5	374.2	375	0.8	A0364372	0.361
Courvan	CO-20-172	375	376	1	B134852	0.036	375	376	1	A0364373	0.014
Courvan	CO-20-172	376	377	1	B134853	0.209	376	377	1	A0364374	0.297
Courvan	CO-20-172	377	378	1	B134854	0.238	377	378	1	A0364375	0.168
Courvan	CO-20-172	378	379.5	1.5	B134855	0.56	378	379.5	1.5	A0364376	0.130
Courvan	CO-20-172	379.5	380.5	1	B134856	0.16	379.5	380.5	1	A0364377	0.046
Courvan	CO-20-172	380.5	381.5	1	B134857	0.47	380.5	381.5	1	A0364378	0.229
Courvan	CO-20-172	381.5	382.6	1.1	B134859	0.015	381.5	382.6	1.1	A0364379	0.060
Courvan	CO-20-172	382.6	383.6	1	B134860	0.18	382.6	383.6	1	A0364380	0.212
Courvan	CO-20-172	383.6	384.5	0.9	B134862	0.015	383.6	384.5	0.9	A0364381	0.119
Courvan	CO-20-172	384.5	386	1.5	B134863	0.088	384.5	386	1.5	A0364382	0.065
								STANDARD		A0364383	5.770

Source: Geologica, 2021.

The results confirm the presence of gold in the mineralized intervals sampled, but the correlation between the original and 25% of the second half core sampling is generally moderate (between 15% and 93% for the correlation coefficient). Geologica interprets this to be the result of the nugget effect of the free gold, which is common for these deposits.

12.3.2 Monique

In December 2020, Geologica collected and sent for analysis 41 samples of second-half drill core from holes MO-20-41, -48 and -65 completed by Probe Metals in 2020 and two standards (Figure 12-7) The samples were collected independently of Probe Metals, kept secure, and sent to the ALS Canada assay laboratory in Val-d'Or, Québec. The samples were analyzed by the fire assay method, using aliquots of 30 g, and finished by atomic absorption. The samples that returned values greater than 1 g/t Au were re-assayed using a gravimetric finish.

Sample preparation included crushing to 70% less than 2 mm, riffle splitting a 200 g fraction, and pulverizing to 85% less than 75 µm. Table 12-2 compares assay results from Probe and Geologica.

Figure 12-7: Resampling of Monique Property Recently Drilled Core in Probe's Core Shack in Val-d'Or, Québec

Source: Gaudreault, 2021.

Table 12-2: Comparable between Probe Metals and Geologica for some Drill Holes realized by Probe Metals

Probe Metals							Geologica				
Project	DDH No.	From (m)	To (m)	Length (m)	Sample No.	Au (g/t)	From (m)	To (m)	Length (m)	Sample No.	Au (g/t)
Monique	MO-20-41	99.00	100.00	1.00	M16607	0.262	99.00	100.00	1.00	W939601	0.397
Monique	MO-20-41	100.00	101.00	1.00	M16608	5.730	No core available				
Monique	MO-20-41	101.00	102.00	1.00	M16609	10.200	101.00	102.00	1.00	W939602	4.29
Monique	MO-20-41	102.00	103.00	1.00	M16610	0.390	102.00	103.00	1.00	W939603	0.357
Monique	MO-20-41	103.00	104.00	1.00	M16611	1.180	103.00	104.00	1.00	W939604	0.83
Monique	MO-20-41	104.00	105.00	1.00	M16612	0.462	104.00	105.00	1.00	W939605	0.555
Monique	MO-20-41	105.00	106.00	1.00	M16613	21.500	105.00	106.00	1.00	W939606	4.46
Monique	MO-20-41	106.00	107.00	1.00	M16614	15.100	106.00	107.00	1.00	W939607	41.3
Monique	MO-20-41	107.00	108.00	1.00	M16615	0.261	107.00	108.00	1.00	W939608	0.738
Monique	MO-20-41	108.00	109.00	1.00	M16616	0.065	108.00	109.00	1.00	W939609	0.09
Monique	MO-20-41	109.00	110.50	1.50	M16617	0.070	109.00	110.50	1.50	W939610	0.416
Monique	MO-20-48	262.50	264.00	1.50	M19579	0.019	262.50	264.00	1.50	W939611	0.014
Monique	MO-20-48	264.00	265.30	1.30	M19581	0.013	264.00	265.30	1.30	W939612	0.013
Monique	MO-20-48	265.30	266.30	1.00	M19582	0.015	265.30	266.30	1.00	W939613	0.127
Monique	MO-20-48	266.30	267.30	1.00	M19583	24	266.30	267.30	1.00	W939614	5.66
Monique	MO-20-48	267.30	268.30	1.00	M19584	0.356	267.30	268.30	1.00	W939615	0.779
Monique	MO-20-48	268.30	269.30	1.00	M19585	6.62	268.30	269.30	1.00	W939616	7.1
Monique	MO-20-48	269.30	270.30	1.00	M19586	1.47	269.30	270.30	1.00	W939617	1.225
Monique	MO-20-48	270.30	271.40	1.10	M19587	8.06	270.30	271.40	1.10	W939618	14.5
Monique	MO-20-48	271.40	272.40	1.00	M19588	0.592	271.40	272.40	1.00	W939619	0.185
Monique	MO-20-48	272.40	273.40	1.00	M19589	0.198	272.40	273.40	1.00	W939620	0.035
Monique	MO-20-48	273.40	274.40	1.00	M19590	0.031	273.40	274.40	1.00	W939621	0.128
Monique	MO-20-48	274.40	275.40	1.00	M19591	0.008	274.40	275.40	1.00	W939622	0.007
Monique	MO-20-48	275.40	276.40	1.00	M19592	0.009	275.40	276.40	1.00	W939623	0.008
Monique	MO-20-48	276.40	277.40	1.00	M19593	0.137	276.40	277.40	1.00	W939624	0.007
Monique	MO-20-48	277.40	278.40	1.00	M19594	2.63	277.40	278.40	1.00	W939625	3.83
Monique	MO-20-48	278.40	279.40	1.00	M19595	0.688	278.40	279.40	1.00	W939626	2.42
							STANDARD OREAS 603b			W939627	5.23
Monique	MO-20-65	300.00	301.50	1.50	M23224	0.755	300.00	301.50	1.50	W939628	1.235
Monique	MO-20-65	301.50	303.00	1.50	M23225	0.009	301.50	303.00	1.50	W939629	0.018
Monique	MO-20-65	303.00	303.90	0.90	M23226	9.41	303.00	303.90	0.90	W939630	2.64
Monique	MO-20-65	303.90	304.90	1.00	M23227	9	303.90	304.90	1.00	W939631	10.35
Monique	MO-20-65	304.90	305.90	1.00	M23228	29.82	304.90	305.90	1.00	W939632	16.15
Monique	MO-20-65	305.90	306.90	1.00	M23229	20.37	305.90	306.90	1.00	W939633	4.65
Monique	MO-20-65	306.90	307.90	1.00	M23230	3.81	306.90	307.90	1.00	W939634	4.02
Monique	MO-20-65	307.90	308.80	0.90	M23231	2.197	307.90	308.80	0.90	W939635	2.08
Monique	MO-20-65	308.80	309.70	0.90	M23232	1.234	308.80	309.70	0.90	W939636	1.36
Monique	MO-20-65	309.70	310.60	0.90	M23233	1.526	309.70	310.60	0.90	W939637	0.961
Monique	MO-20-65	310.60	311.50	0.90	M23234	0.45	310.60	311.50	0.90	W939638	0.378
Monique	MO-20-65	311.50	312.50	1.00	M23236	11.04	311.50	312.50	1.00	W939639	0.443
Monique	MO-20-65	312.50	314.00	1.50	M23237	0.002	312.50	314.00	1.50	W939640	0.011
Monique	MO-20-65	314.00	315.50	1.50	M23238	0.122	314.00	315.50	1.50	W939641	0.088
Monique	MO-20-65	315.50	316.60	1.10	M23239	0.251	315.50	316.60	1.10	W939642	1.86
							STANDARD OREAS 21e			W939643	0.005

Source: Geologica, 2021.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Introduction

Metallurgical testwork programs were carried out on Val-d'Or East samples in 2017-2021. The 2019 testwork consisted of ore sorting amenability testwork, while the 2021 testwork was performed for this PEA and examined the following:

- physical properties characterization
- mineralogy
- gravity amenability tests
- gravity recoverable gold tests
- cyanidation with grind size assessment
- flotation tests.

13.2 Source of Testwork Information

The following sources of technical and project information were referenced in developing the process plant design criteria for the PEA:

- Probe Metals Inc., April 9, 2021. Metallurgical Testwork for the Val-d'Or East Project Corem Final Report No: T2789
- BBA, October 30, 2019. Preliminary Ore Sorting Testwork Report, Document 319004-000000-49-ERA/R00 (1)

The first report is from the metallurgical testwork program that was carried out at Corem in Québec City, Québec, from July 2020 to January 2021 to support the PEA associated with the Val-d'Or East project.

Eight composites were created by Probe, either from drill core intervals or from products generated from ore sorting testwork. Composites were created from drill core intervals for each Beliveau, Courvan, Monique, Highway and North Zone (a total of five composites). Three additional composites were created from ore sorting products from 2017-2019 testing. The samples were composited from the main ore sorting concentrate, a low-grade ore sorting concentrate, and a recreated feed to the ore sorting tests.

The second report was completed by BBA on ore sorting that was conducted during 2017-2019, when the opportunity to apply particle ore sorting technology to the Val-d'Or East project was investigated. An initial investigation was done to assess its potential on the mineralization from the New Beliveau deposit in 2017 with a preliminary assessment called "first inspection". The results were sufficiently encouraging to move to the next stage, the industrial-scale "performance test". Those tests were completed in November 2018 on mineralized material from the New Beliveau deposit.

13.3 2019 Ore Sorting Testwork Results

Ore sorting is a preconcentration technique to scan, classify, and concentrate the ROM material by using sensor-based methods. Ore sorting offers the potential to reject waste and low-grade material from the mill feed. Mining projects can use this technology to enrich the mill feed head grades and/or process less mill feed for a given mining rate to reduce total plant operating costs per unit of metal.

To assess the opportunity, Probe Metals conducted two sorting tests from 2017-2019. The initial first inspection test conducted in 2017 on the New Beliveau samples provided encouraging results, so further tests on the New Beliveau samples were conducted in an industrial-scale performance test in 2018. It was assumed that sorter performance on samples from other deposits would be similar, so the analysis was extended to other deposits.

The objective of incorporating ore sorting at the Val-d'Or East project is to increase gold production without employing capital intensive methods. With ore sorting, since the uneconomic material will be rejected early from the feed stream, the rejected mass can be replaced with additional preconcentrated material in the mill feed. Thus, the quantity of feed reporting to the ball mill and downstream remains unchanged but the grade of the feed is higher, leading to an increase in gold production without having to expand the plant.

In the ore sorting performance test, a bulk sample of 12 tonnes was collected from the north-central part of the New Beliveau deposit. The purpose of the bulk sample was to collect a representative higher grade mill feed sample targeting 2 g/t Au to 3 g/t Au and containing volcanic and dyke mineralization, including a mix of high-grade (HG), low-grade (LG), very-low-grade (VLG), and waste rocks.

The tests were completed at Tomra's facility in Germany using x-ray transmission (XRT) and laser scanners. The feed samples were screened into two sizes: 12 to 25 mm and 25 to 75 mm. Material below 12 mm was screened out as it is not suitable for sorting in the machine. Table 13-1 shows the XRT sorting results for various tests conducted on the two size fractions. Three tests were conducted on the 12 to 25 mm material and five tests were conducted on the 25 to 75 mm material.

Table 13-1: XRT Sorting Results – Bulk Samples

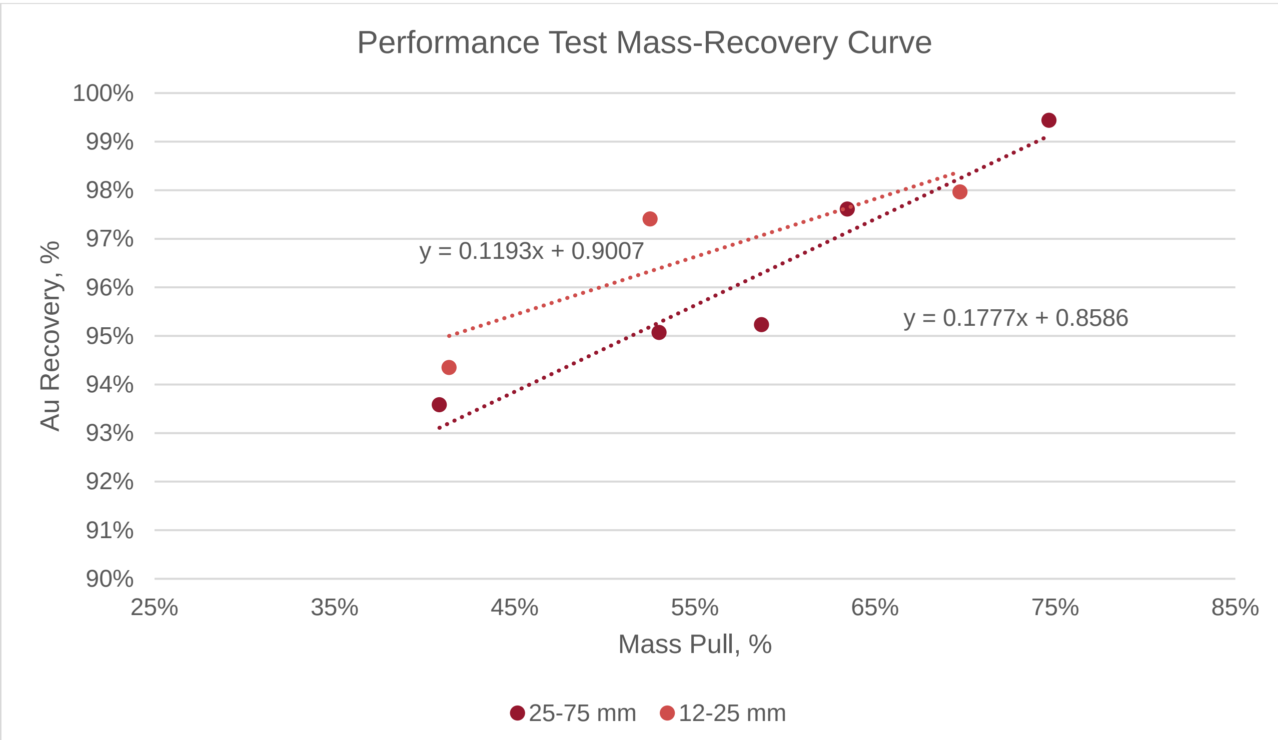
Test ID	Particle Size (mm)	Mass Distribution (%)			Au Grade (g/t)				Au Distribution (%)	
		Product	Waste	Fines	Feed	Product	Waste	Fines	Product*	Waste
1.1	12-25 mm	69.5	30.5	-	3.60	5.07	0.24	-	97.9	2.1
2.1	12-25 mm	53.3	46.7	-	3.69	6.74	0.20	-	97.4	2.6
3.1	12-25 mm	41.3	58.7	-	3.19	7.27	0.32	-	94.2	5.8
4.1	25-75 mm	74.3	25.5	0.2	3.75	5.02	0.08	5.39	99.7	0.2
5.1	25-75 mm	63.1	36.7	0.2	2.49	3.85	0.16	3.15	97.9	2.1
6.1	25-75 mm	58.2	41.4	0.3	1.80	2.93	0.21	1.94	95.1	4.9
7.1	25-75 mm	52.6	47.2	0.3	2.85	5.16	0.31	4.17	95.5	4.5
8.1	25-75 mm	40.5	59.2	0.3	4.05	9.34	0.38	6.54	93.9	6.1

*The product gold distribution values presented include the fines that were recovered by screening the XRT waste material. Source: BBA, 2019, 319004-000000-49-ER/R00 (1) Table 15.

The 2019 BBA report presents the results of the ore sorting tests. The results show an overall gold recovery of 94% to 99% for sorting 100% of the ROM material. Based on Ausenco's experience in other projects as well as Tomra's comment in the report, the recoveries achieved are very high when compared to other similar gold projects. Ausenco thus proposed the use of a lower recovery in designing the ore sorting circuit.

Results from the performance test are presented in Figure 13-1.

Figure 13-1: Mass Pull vs. Gold Recovery for the Bulk Sample



Source: Ausenco, 2021.

From testwork evaluation, it was found that sorting all ROM material, as in the BBA report, added marginal value at a very high risk. A small decrease in sorter recovery (~2% to 4%) would make the economics negative and there would be a risk in recovery loss during scale-up. Due to the highly variable nature of gold deposits and presence of free gold at Val-d'Or East, the risk of recovery loss is high.

To reduce recovery loss risk during scale-up, Ausenco recommends the application of "near ore" sorting (material mined at or just below the cut-off grade). This includes sorting zones where the grade is approximately 0.38 g/t Au to 0.8 g/t Au. Sorting of only the near ore material increases the value of the feed at a lower risk. This strategy results in feeding higher grade ore to the mill early and bringing the cashflow forward, resulting in a positive impact on the NPV.

As a conservative estimate, Ausenco, through discussions with Probe, nominated that in the near ore sorting scenario, 25% of the mass of the material fed to the sorter would be recovered to achieve a gold recovery of 75%. From the results in Figure 13-1, it can be seen that the selected 75% Au recovery and 25% mass recovery to concentrate are sufficiently conservative for the purposes of this study. Using the line of best fit for each size fraction, the expected gold recovery at 25% mass recovery is 90% and 93% for the 12 to 25 mm and 25 to 75 mm fractions, respectively. As a result, Ausenco's recommendation of 25% mass recovery and 75% recovery are conservative.

13.4 2021 Corem Testwork and Results

13.4.1 Comminution

Comminution tests were performed by Corem on three samples: on Beliveau-dyke and Beliveau-volcanic mineralization from the Beliveau deposit, and on the ore sorting concentrate (OSC) principal, which is the ore sorting composite from Beliveau. The OSC principal sample only had enough material for bond rod mill work index (RWI) testing and bond ball mill work index (BWI) testing. Testing for the other samples included crusher work index (CWI), Bond abrasion index (Ai) and SMC testing (Axb). The results of comminution testing are summarized in Table 13-2.

Table 13-2: Val-d'Or Comminution Test Results

Sample ID	CWI (kWh/t)	RWI (kWh/t)	BWI (kWh/t)	Ai (g)	Axb
Beliveau-Dyke	20	12.9	11.7	0.1883	**29.3**
Beliveau-Volcanic	16.9	13	11.6	0.0734	37.2
OSC Principal		12.4	10.3		
Average	**18.45**	**12.8**	**11.2**	**0.1309**	32.8

Source: Corem, 2021.

The comminution criteria used in the Val-d'Or design is in boldface in Table 13-2. The average values were used except in the case of Axb, where the lowest value (i.e., the hardest ore) was used as a conservative estimate given the limited number of sample results available.

Comminution testing should be carried out on the other Val-d'Or East deposits in the next project phase to determine if they have similar comminution characteristics as Beliveau.

13.4.2 Gravity Recovery

As a part of the 2020 testwork program, Corem conducted gravity amenability tests (GAT) and gravity recoverable gold (GRG) tests on the Val-d'Or samples. The GAT testwork showed very high gold recoveries, suggesting that the ore is amenable to continuous gravity recovery. The GRG test results are shown in Table 13-3. The GRG results show that the samples are amenable to gravity gold recovery within the grinding circuit.

Given these results, Ausenco has selected 50% Au recovery by gravity for use in the PEA, with 0.05% gravity concentrator weight recovery.

13.4.3 Cyanide Leach

As a part of the 2020 testwork program, Corem conducted cyanidation tests on the GAT and GRG tailings to assess the impact of grind size. Since the GAT tails had extremely low gold grades, the results from these tests were ignored. Cyanidation tests for grind size assessment on gravity tailings were carried out on a single sample for each composite that was reground after each cyanidation step. Table 13-4 and Figure 13-2 show the gold recovery as a function of grind size for each deposit.

A conservative interpretation of the test results suggests an optimal leach residence time of 48 hours and an optimal grind size of 80% passing (P_{80}) of 75 µm, which was selected for the process design criteria.

Table 13-3: Gravity Recoverable Gold Test Results

Composite	Stage	GRG (%)	Feed Grade (g/t)	Concentrate Grade (g/t)	Tails Grade (g/t)	Con. Mass (%)	Feed (%-75 µm)
OSC ROM	1	20.8	3.62	279.7	2.76	0.31	18.9
	2	29.9	3.26	316.4	2.02	0.39	50.0
	3	26.7	2.06	192.0	0.95	0.58	78.2
	Total	77.5	4.16	258.7	0.95	1.29	(-)
OSC Principal	1	21.4	6.74	538.6	5.14	0.30	21.4
	2	33.8	5.95	701.2	3.41	0.37	49.5
	Total	55.2	7.55	626.4	3.41	0.67	(-)
Highway	1	23.4	3.82	90.5	3.40	0.48	14.8
	2a	16.9	1.94	52.6	1.63	0.60	30.2
	2b	13.8	1.11	36.1	0.86	0.72	45.9
	Total	54.2	1.85	59.7	0.86	1.79	(-)
Monique	1	23.1	1.57	94.7	1.14	0.46	18.3
	2	46.3	1.45	165.6	0.58	0.72	47.5
	Total	69.4	1.87	127.7	0.58	1.17	(-)
Courvan	1	22.4	2.14	142.0	3.40	0.46	17.6
	2a	36.4	2.45	218.6	1.63	0.49	32.1
	2b	13.1	1.21	60.1	0.86	0.72	44.5
	Total	71.9	2.91	148.1	0.86	1.66	(-)

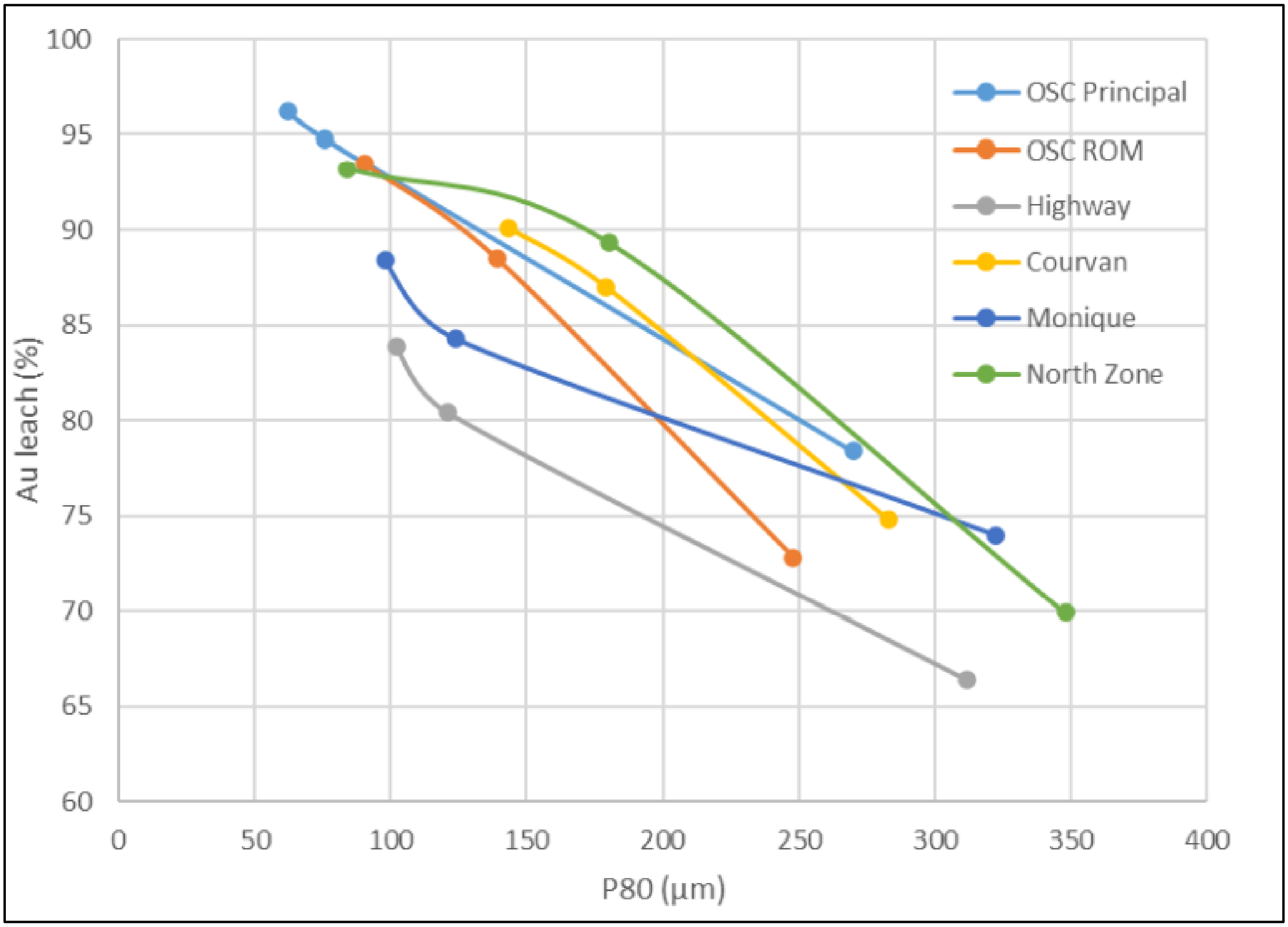
Source: Corem, 2021.

Table 13-4: Cyanidation on Gravity Recoverable Gold Tailings

Composite	Test ID	Measured P_{80} (µm)	Au Leached (g/t)			CN tailings (g/t)	Calculated Feed (g/t)	Final Au Leached (%)
			24 hours	48 hours	72 hours			
OSC Principal	BRT4	270	2.46	2.64	2.58	0.760	3.34	78.4
	BRT5	76	0.56	0.54	-	0.19	0.73	16.4
	BRT6	62	0.05	-	-	0.116	0.16	1.4
				Cumulative	**3.17**	**0.116**	**3.29**	**96.2**
OSC ROM	BRT4	248	1.37	1.52	1.53	0.650	2.18	72.8
	BRT5	139	0.33	0.33	-	0.225	0.56	15.7
	BRT6	90.3	0.11	-	-	0.149	0.25	5.0
				Cumulative	**1.97**	**0.149**	**2.10**	**93.5**
Highway	BRT4	312	0.51	0.57	0.57	0.285	0.86	66.4
	BRT5	121	0.09	0.12	-	0.174	0.29	14.0
	BRT6	102	0.03	-	-	0.126	0.16	3.5
				Cumulative	**0.72**	**0.126**	**0.86**	**83.9**
Courvan	BRT4	283	0.75	0.81	0.74	0.296	1.03	74.8
	BRT5	179	0.12	0.12	-	0.126	0.25	12.2
	BRT6	143	0.03	-	-	0.102	0.13	3.1
				Cumulative	**0.89**	**0.102**	**0.98**	**90.1**
Monique	BRT4	322	0.47	0.53	0.54	0.215	0.76	74.0
	BRT5	124	0.08	0.08	-	0.089	0.16	10.3
	BRT6	98	0.03	-	-	0.073	0.10	4.1
				Cumulative	**0.65**	**0.073**	**0.73**	**88.4**
North Zone	BRT4	348	0.45	0.53	0.54	0.203	0.74	69.9
	BRT5	180	0.17	0.15	-	0.083	0.23	19.4
	BRT6	84	0.03	-	-	0.057	0.09	3.9
				Cumulative	**0.72**	**0.057**	**0.77**	**93.3**

Source: Corem, 2021.

Figure 13-2: Gold (%) Recovery at Progressively Coarser Grind Size for Cyanidation on GRG Tailings



Source: Corem, 2021.

13.4.4 Flotation

The potential of bulk sulphide flotation was tested in duplicate on GRG stage 2 tailings from the New Beliveau OSC ROM sample. The results of the flotation testwork are summarized in Table 13-5. The testwork results showed amenability to flotation and the low sulphur content in flotation tailings suggested that sulphides were efficiently floated.

Flotation was not included in the selected process flowsheet for this project since gravity and whole ore leach provided favourable recoveries and flotation would have been an increased project cost.

Table 13-5: Summary of Flotation Test Results

Test	Product	Cumulative Flotation Time (min)	Mass (%)	Cumulative Mass (%)	S (%)	Au (g/t)	Cumulative Au (g/t)	Au Distribution (%)	Cumulative Au Distribution (%)
1	Rougher 1 Concentrate	1	1.3	1.3	-	97.4	97.4	58.9	58.9
	Rougher 2 Concentrate	2	0.8	2.1	-	60.2	83.3	22.2	81.1
	Rougher 3 Concentrate	4	0.6	2.7	-	37.6	73.4	10.1	91.2
	Rougher 4 Concentrate	8	1.5	4.2	-	10.2	51.2	6.8	98.0
	Scavenger	13	2.	6.3	-	1.14	34.2	1.1	99.1
	Tail	-	93.7	100.0	0.02	<0.02	2.18	0.9	100.0
	Calculated Feed	-	100.0	-	-	2.18	-	100.0	-
2	Rougher 1 Concentrate	1	2.2	2.2	-	61.2	61.2	64.0	64.0
	Rougher 2 Concentrate	2	0.9	3.0	-	38.0	54.5	16.0	80.0
	Rougher 3 Concentrate	4	1.1	4.1	-	23.2	46.3	12.1	92.1
	Rougher 4 Concentrate	8	1.8	5.9	-	6.23	34.4	5.2	97.4
	Scavenger	13	2.2	8.1	-	.64	25.4	1.8	99.1
	Tail	-	91.9	-	-	0.02	2.1	0.9	100.0
	Calculated Feed	-	-	-	0.03	2.08	-	100.0	-

Source: Corem, 2021.

13.5 Conclusions

For the PEA, further analysis was performed to assess the differences between deposits, the impact of grind, and head grade. It can be concluded that all deposits are behaving similarly and can be grouped together, with some adjustments for the Highway deposit, which is a small percentage of the overall resource.

Due to the coarse to very coarse nature of the GRG, the process design criteria will be based on treating 90% of the grinding mill recirculating load through the gravity circuit, with modelling indicating an average of 55% gravity gold recovery under those conditions. This result aligns well with the 50% gravity recovery achieved by Cambior when they mined the Beliveau deposit from 1989 to 1993. The PEA will conservatively assume 50% gravity recovery.

In addition, the leach test results were analyzed and reviewed to establish leach gold recoveries. It was identified that the New Beliveau, North Zone, Courvan and Monique deposits have similar responses and that their leach gold recoveries can be correlated to head grade. The relationship below has been established from the test results.

Two recovery equations were derived from test results. One equation applies to all deposits except Highway, while the other applies only to the Highway deposit, as seen in Equations 1 and 2. Typical plant losses or impact of scale-up of gravity recoverable gold for plant operating conditions (typically about 0.8%) are included in the equations.

Val-d'Or East Recovery Equation for New Beliveau, North Zone, Courvan and Monique, used for Financial Modelling

$$Recovery = 0.5 + 0.5\left(0.9507 - \frac{0.0374}{Au\ Head\ Grade/(1-0.5)}\right) - 0.008 \quad (1)$$

$$Recovery = 0.5 + 0.5\left(0.9507 - \frac{0.0374}{Au\ Head\ Grade/(1-0.5)}\right) - 0.008$$

Val-d'Or East Recovery Equation for Highway deposit, used for Financial Modelling

$$Recovery = 0.5 + 0.5\left(0.9507 - \frac{0.0874}{Au\ Head\ Grade/(1-0.5)}\right) - 0.008 \quad (2)$$

$$Recovery = 0.5 + 0.5\left(0.9507 - \frac{0.0874}{Au\ Head\ Grade/(1-0.5)}\right) - 0.008$$

The promising results obtained from the mineral sorting testwork have shown that the technology warrants further investigation for inclusion in the process flowsheet as a pre-concentration step. A preliminary evaluation of a processing flowsheet with mineral sorting has indicated that the downstream processing tonnage could be reduced by 45%.

14 MINERAL RESOURCE ESTIMATES

14.1 Resource Database

The drill hole database used for the current mineral resource estimation is composed of historical data (surface diamond drill holes and underground drill holes) and recent data (mainly surface diamond drill holes and channel samples) provided by Probe as excel spreadsheets exported from Geotic Log. The database includes all the properties: Pascalis (New Beliveau, Highway, North Zone), Courvan (Bussiere, Creek, Bordure, Southeast, Southwest) and Monique.

The cut-off date for the database was May 8, 2021. It contained 3,005 valid drill hole collars, including extensions, wedges and abandoned holes, with a total footage of 636,438.94 m and 319,729 assay intervals totalling 350,193.83 m. Two-hundred and eighty-one new holes were added from the last 2019 mineral resource estimate, with a total footage of 80,466.75 m and 52,773 assay intervals totalling 62,165.22 m.

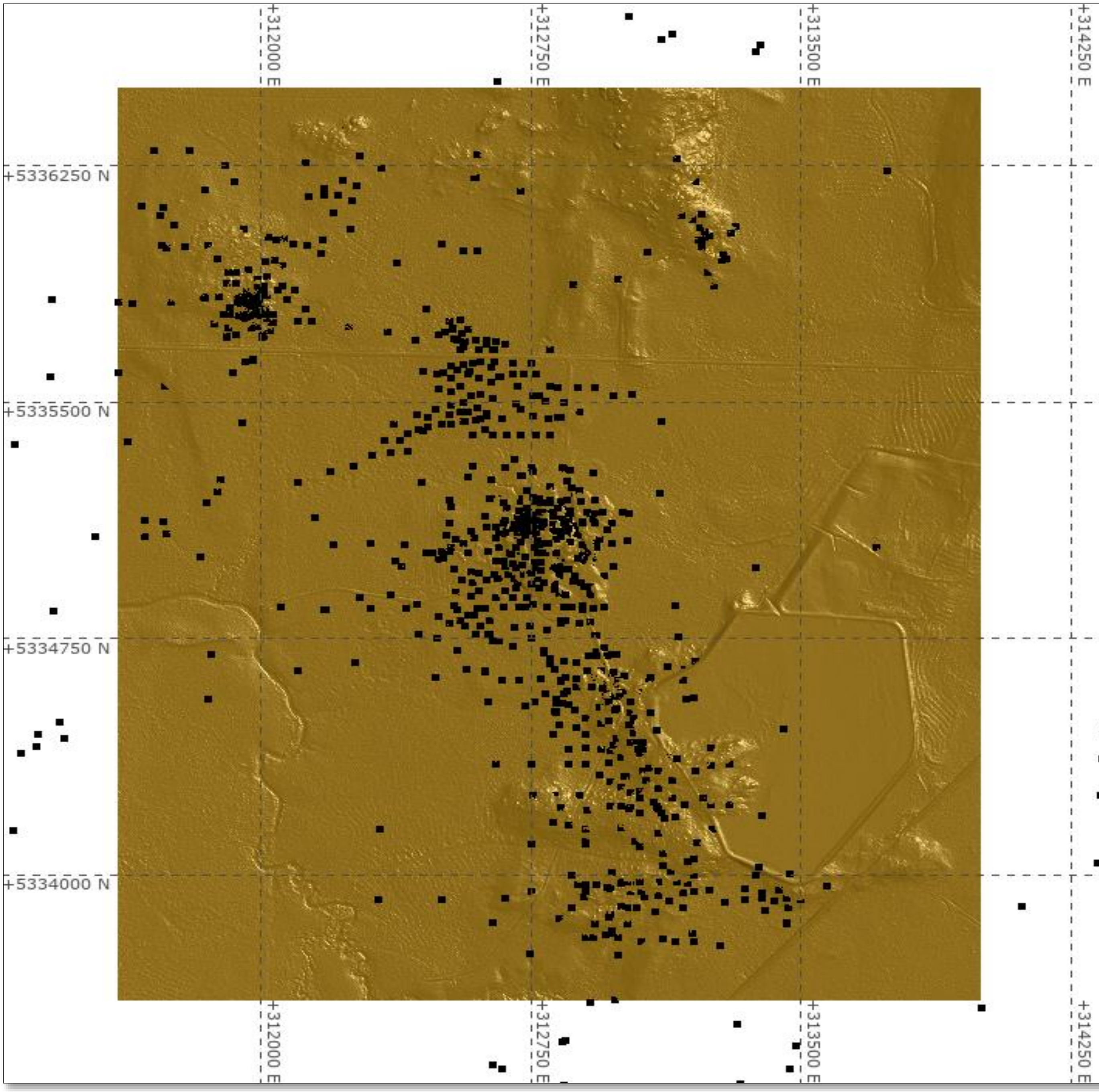
GoldMinds verified and validated the database used for the current mineral resource estimate. The drill holes with no assays in the historical database were removed from consideration. These were generally underground holes drilled between 1991 and 1992 which was the period that preceded the end of the exploitation of the New Beliveau mine, and which were not assayed. After the verification/correction of the compiled data, GoldMinds considered the database suitable for mineral resource estimation.

14.2 Topography and Bedrock-Overburden Surfaces

Topographic surfaces were created from 2017 Lidar survey on the property using MapInfo and Leapfrog softwares. Three different topographic surfaces were used for each of the areas: Pascalis (Figure 14-1), Courvan and Monique. The topographic surfaces were then locally modified using some collars information. The total topography surfaces cover approximately 21.45 km^2.

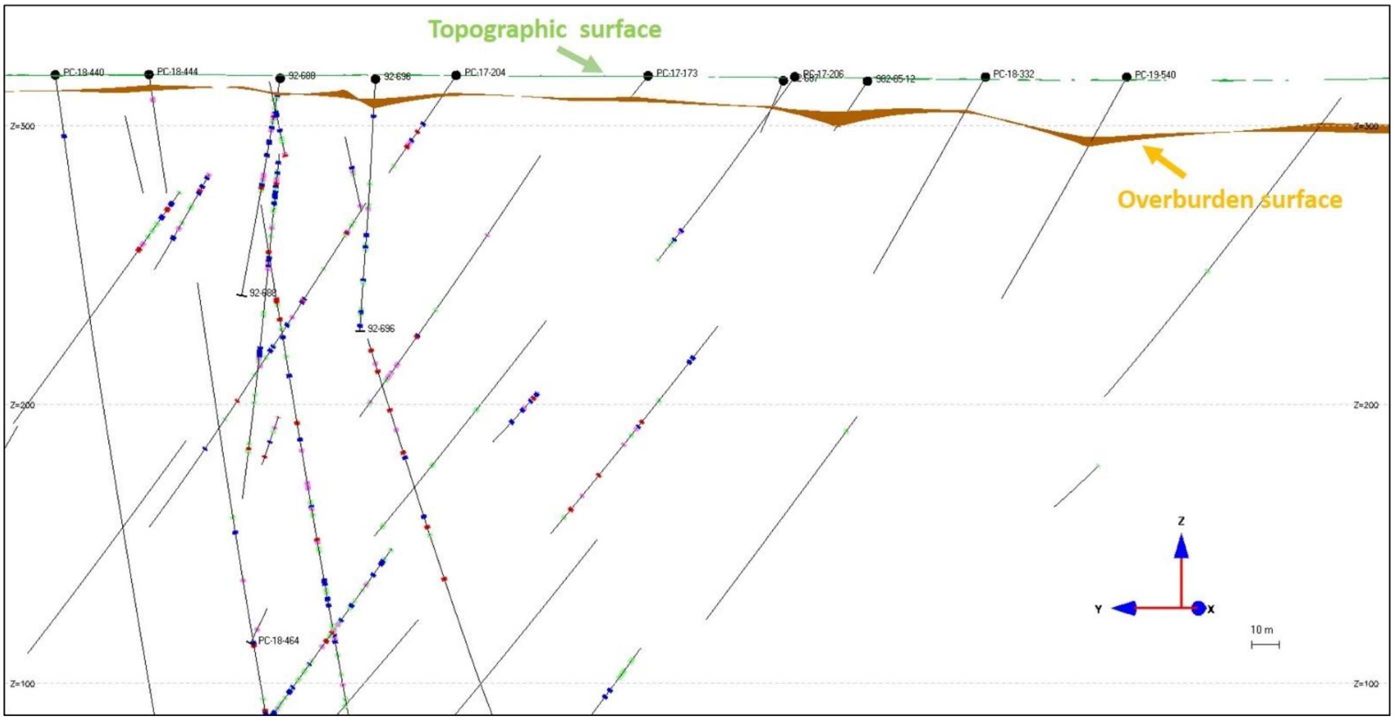
For each area, the bedrock-overburden surface was generated in Leapfrog using the lower intercepts of the overburden-coded lithology field of the drill hole database (Figure 14-2). This surface has been extended further in order to facilitate the cutting of the block model and the pit optimization.

Figure 14-1: Plan View showing the Topographic Surface and Drill Hole Collars of the Pascalis Area



Source: GoldMinds, 2021.

Figure 14-2: Section View (looking West) at New Beliveau zone showing Topographic and Overburden Surface



Source: GoldMinds, 2021.

14.3 Resource Estimation Procedures (Methodology)

The current mineral resources estimate was prepared using Leapfrog and Genesis softwares. Leapfrog was used for the creation of the mineralized bodies (3D modelling) based on geological interpretation. The Genesis software was used for the database validation, the creation of the mineralized intervals, and the mineral resource estimation. The resource estimation was completed using the inverse distance to the square methodology and the search ellipsoids used followed the geological interpretation trends.

14.4 Geological Interpretation

Open pit and underground geological models were created by Probe's geologists. The geological models were built based on the different types of mineralization and included key structures hosting and constraining gold mineralization along the Pascalis gold trend (New Beliveau, North Zone and Highway), Courvan gold trend (Southwest, Southeast, Bordure, Bussiere and Creek), Monique gold trend and Lapaska, Senore and Sleepy deposits. The geological model is used for the mineralized zones interpretation, mainly based on lithologies, veins and structures. Interpretation was initially made from geological cross-sections and then completed in Leapfrog software, where selections of mineralization intervals were combined to generate 3D wireframes.

The mineralized zones wireframes were generated in Leapfrog from drill hole intercepts. The selection of the intercepts was based on rules of minimum thickness and minimum grade, varying depending on the deposits. Intercepts below the minimum grade were also considered. Values of zero were applied to drill hole intersections not assayed within a mineralized zone. The wireframes were then validated by a geologist and inserted into Genesis software for mineral resource estimation.

The wall material wireframes were modelled by GoldMinds using the mineralized intervals not included within the open pit mineralized zones. The wall wireframes were restricted to the optimized open pit shell. Only the wall material within the pit wireframes was kept.

The mineralized zones and wall material were estimated separately (the estimation/classification methods are different for both) and were merged after with a priority given to the mineralized zones.

14.4.1 Pascalis Gold Trend

The New Beliveau and North deposits comprise two geological models each, one for the open pit and the second for the underground resource optimization. Two types of mineralized zones were modelled in New Beliveau and North deposits, consisting of north-northwest oriented sub-vertical dyke zones and east-west oriented vein envelopes shallowly dipping to the south mainly hosted in volcanic rocks (volcanic bulk zones).

For the New Beliveau open pit model, three dykes and 53 volcanic bulk wireframes were modelled, and for North, three dykes and 19 volcanic bulk wireframes were modelled. Drill hole intercepts with a minimum thickness of 3 m and a minimum grade of 0.2 g/t Au were used to create the wireframes. Both dykes and volcanic bulk wireframes were used for the pit optimization.

For the New Beliveau underground model, the same dykes and volcanic bulk wireframes were used, plus four additional volcanic bulk zones (BE_12, _13, _14 and _16) between an elevation of +23 to -271 m. For North, the same dykes were used, but the volcanic bulk wireframes were modelled differently with intercepts having a minimum of 2 m and a grade of 0.5 g/t Au.

For Highway, the same geological model was used for the open pit and the underground resource estimate. A total of 26 wireframes were interpreted, consisting of 24 subparallel tabular zones dipping 30-40° to the south and two zones steeply dipping to the south, mainly hosted within the Highway gabbro intrusion. Drill hole intercepts with a minimum thickness of 2 m and a minimum grade of 0.5 g/t Au were used to create the wireframes.

14.4.2 Monique Gold Trend

For Monique property, two different sets of wireframes (pit and bulk) were modelled and used separately for the open pit and underground resource optimizations. The latter have dips of 70-82° to the north and general orientations of N270-290°, and are hosted in basalts, ultramafic volcanics, porphyry dykes or diorite intrusions. Seventeen pit wireframes were interpreted up to a maximum vertical depth of around 600 m from the surface. Drill hole intercepts with a minimum thickness of 4 m and a minimum grade of 0.2 g/t Au were used to create the wireframes. Twenty underground bulk wireframes were modelled up to a maximum depth of 770 m from the surface (Z -435 elevation), using intercepts with a minimum thickness of 4 m and a minimum grade of 1.0 g/t Au.

14.4.3 Courvan Gold Trend

For the Courvan gold trend, only one set of wireframes was created for each of the five deposits and used for both the open pit and underground resource optimizations. A total of seventy-seven wireframes, generally oriented east-west and shallowly dipping north or south, were interpreted up to a maximum vertical depth of around 800 m in the Creek deposit. Drill hole intercepts with a minimum thickness of 2 m and grading a minimum of 0.5 g/t Au were selected to create the mineralized zones.

14.5 Specific Gravity

An average fixed specific gravity (SG) was used for each gold trend to calculate the mineral resource tonnages from the volumetric estimates of the block models (Table 14-1). The Pascalis, Monique and Courvan properties exhibit different geology settings and rock types. The specific gravities were estimated from density measurements with the pycnometer method on drill core samples (pulps) from all the rock types. Both mineralization and waste rocks samples were collected in order to determine the average specific gravities.

Table 14-1: Gold Trend Specific Gravity

Gold Trend	Specific Gravity (t/m^3)
Pascalis	2.83
Monique	2.88
Courvan	2.82

Source: GoldMinds, 2021.

14.5.1 Pascalis Gold Trend

A total of 135 density measurements from six drill holes were completed in 2012 on the New Beliveau deposit. It is important to note that the New Beliveau and North deposits have the same lithologies. The Highway gabbro specific gravity was not evaluated, but it is assumed that it is close to the basalts, considering that they have a similar mineralogy. Summary statistics of the SG data were evaluated for intermediate dykes (I2D) and volcanic rocks (V3B & BP). The results are presented in Table 14-2.

Table 14-2: Specific Gravity by Rock Type, Pascalis Gold Trend

Lithologies	Number of Measurements	Average	Standard Deviation
Volcanic Waste (V3B/BP)	82	2.832	0.055
Volcanic Mineralization (V3B/BP)	25	2.872	0.073
Dyke Waste (I2D)	13	2.772	0.042
Dyke Mineralization (I2D)	15	2.824	0.041

Source: GoldMinds, 2021.

Analysis by lithologies has indicated that basalts (V3B) and agglomerates (BP) are not statistically different and can be merged in one lithology. However, there is a statistical difference between V3B/BP and I2D. Mineralization and waste are statistically different for both intermediate dykes and volcanic rocks. As a result, we could differentiate the specific gravity between mineralization and waste of dykes and volcanic rocks. However, for the current mineral resource estimate, it was decided to use the average value of 2.83 t/m^3 for all rock types.

14.5.2 Courvan Gold Trend

For the Courvan gold trend, 107 density measurements from 26 drill holes were completed in 2020 (Table 14-3). The samples were collected in the Courvan SW, SE, Bussiere and Creek zones. All the Courvan deposits have the same lithological units, except for the peridotite that is only observed in the SW and SE conceptual open pits. For this reason, the results are presented by lithologies (Table 14-3). Since the mineralization is mainly hosted in granodiorite (>98%), mineralization samples were only taken in this unit.

Table 14-3: Specific Gravity by Lithologies, Courvan Gold Trend

Lithologies	Number of Measurements	Average	Standard Deviation
Bourlamaque Granodiorite Mineralization (I1C)	15	2.83	0.05
Bourlamaque Granodiorite Waste (I1C)	71	2.81	0.05
Bourlamaque Diorite (I2R)	2	2.85	0.06
Diorite Dyke (I2J)	8	2.85	0.04
Aplite (I1F)	2	2.82	0.02
Basalt (V3B)	4	2.84	0.02
Peridotite (I4I)	5	2.90	0.04

Source: GoldMinds, 2021.

Analysis has indicated that the lithologies observed in the Bourlamaque batholith (I1C, I2R, I2J and I1F) are not statistically different and have specific gravities similar to the basalt (V3B). Analysis also demonstrates that the mineralization and waste of the granodiorite unit (I1C) are quite similar. Considering that the granodiorite is the dominant lithology (>95%) of the Courvan gold trend, it was decided to use the average value of 2.82 t/m^3 (average of mineralization and waste I1C) for the current mineral resource estimate. However, a specific gravity of 2.90 t/m^3 could be assigned to the I4I unit in the future.

14.5.3 Monique Gold Trend

In 2020, 100 samples from 24 drill holes were collected across the Monique conceptual pit limits in the G, I, J, M and P zones. The density measurements of the 52 samples collected by Richmont in 2011 in the mineralization and waste of the G zone were evaluated separately. Those measurements were not spatially distributed and were taken only in two holes (116_01 and 118_01) in continuous sections of 27 and 18 m, respectively, and consisted only of basalts. Consequently, this study was not representative of the material within the 2021 conceptual pit. The 2020 program covered all the six main lithologies composed of basalts (V3B), ultramafic volcanics (V4), intermediate tuff (T2), porphyry dykes (I1Z), diorite (I2J) and gabbro (I3A). Mineralization was collected in all the lithologies except the gabbro. The results are presented in Table 14-4.

The 2021 measurements were initially grouped by lithologies and no statistical differences were found between mineralization and waste material for each unit, except for the intermediate tuff that represents less than 5% of the total volume of rocks. The difference can be explained by the highly variable nature of the rock composed of heterogeneous clasts. Basalt (including G Zone), gabbro, intermediate tuff and diorite lithological units can be grouped together with an average specific gravity of 2.90 t/m^3. There is a statistical difference between the V3B/T2/I2J/I3A group (2.90 t/m^3), ultramafic volcanics (2.95 t/m^3) and porphyry dykes (2.81 t/m^3). The average SG of these three lithological units is 2.886 t/m^3. For the current mineral resource estimate of Monique, it was thus decided to use a specific gravity of 2.88 t/m^3. However, in the future, it would be beneficial to model the V4 and I1Z units and to assign a higher and lower specific gravity values respectively.

Table 14-4: Specific Gravity by Rock Type, Monique Gold Trend

Lithologies	Number of Measurements	Average	Standard Deviation
Basalt Mineralization G Zone Richmont 2011	36	2.853	0.02
Basalt Waste G Zone Richmont 2011	16	2.853	0.021
Basalt Mineralization (V3B)	11	2.928	0.059
Basalt Waste (V3B)	45	2.893	0.059
Ultramafic Mineralization (V4)	2	2.945	0.021
Ultramafic Waste (V4)	9	2.953	0.028
Porphyry Dyke Mineralization (I1Z)	2	2.835	0.035
Porphyry Dyke Waste (I1Z)	9	2.801	0.038
Diorite Mineralization (I2J)	2	2.935	0.007
Diorite Waste (I2J)	9	2.93	0.051
Intermediate Tuff Mineralization (T2)	2	2.94	0.028
Intermediate Tuff Waste (T2)	8	2.845	0.042
Gabbro Waste (I3A)	1	2.93	0.020

Source: GoldMinds, 2021.

14.6 Pit Geotechnical Parameters

Geotechnical design criteria were developed to determine the relevant design constraints for Val-d'Or East deposits. This involved a review of the geotechnical drill hole database, a geomechanical site characterization, and open pit stability analysis. The analysis was conducted by RockEng Inc. and Probe Metals (RockEng, 2021).

14.6.1 Methodology

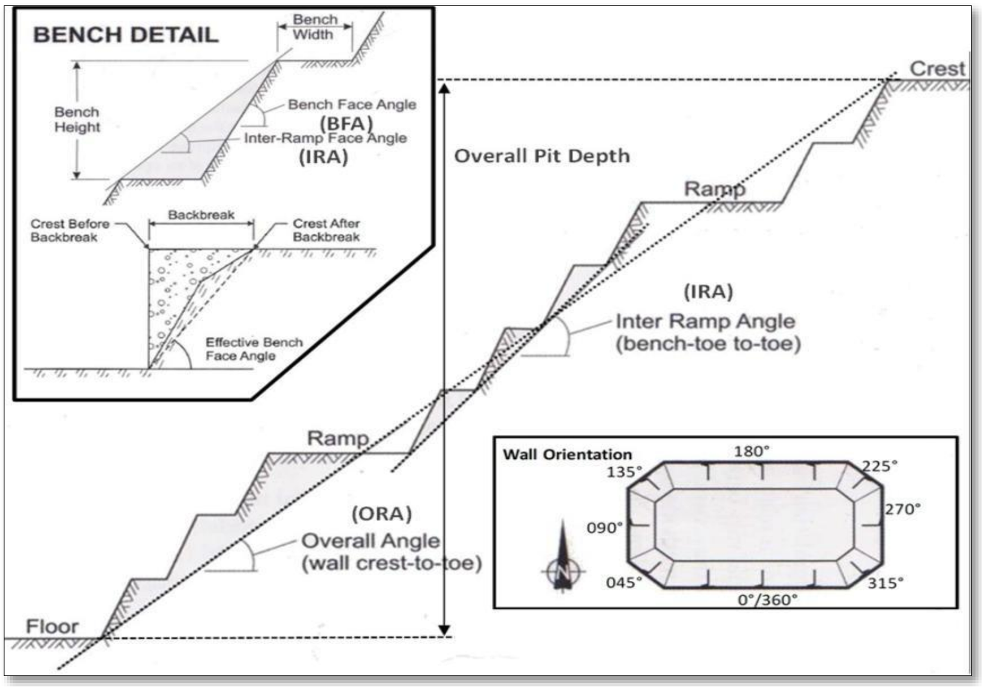
Probe Metals acquired geotechnical data from drill holes spatially relevant to each deposit of the Pascalis, Courvan and Monique gold trends.

Statistical analyses of the available geotechnical data were used to perform a geomechanical site characterization, which included the following:

- small-scale structural trends (jointing)
- rock mass classification
- field estimation of intact rock strength
- empirical estimation of rock mass strength.

The geomechanical site characterization for each of the deposits of the Val-d'Or East project (RockEng, 2021) was used to evaluate bench design, (bench face angles, bench height and catch bench requirements,) and inter-ramp slope angle (IRA) constraints, necessary to ensure wall stability for open pit mining of each deposit. See the figure below for a visual representation of the inter-ramp slope angle (IRA) that will be presented in the results section, including orientation.

Figure 14-3: Inter-Ramp Slope Angle



Source: RockEng, 2021.

14.6.2 Results

All deposits showed better IRA and rock strength than initially considered for significant portions of the open pits. Highlights of the key design criteria by deposit are presented below, while the results are summarized in Table 14-5 compared to the previous resource estimate in 2019.

Courvan Gold Trend

- The Bussiere and Creek deposits can support an IRA of up to 59° for most wall orientations, with the exception of up to 53° in SW to SSW walls.
- The SW deposit can support an IRA of up to 59° in all wall orientations.
- The SE deposit can support an IRA of up to 59° in most wall orientations, with the exception of 49° in North walls and 53° in NW walls.

Pascalis Gold Trend

- The New Beliveau and South Beliveau deposits can support an IRA of up to 59°, with the exception of up to 52° in NW to NNW walls.
- The North Zone deposit can support an IRA of up to 59° with the exception of 52° in SE to SSW walls.
- The Highway deposit can support an IRA of up to 59° with the exception of 50° in NW walls.

Monique Gold Trend

- The Monique AB deposit can support an IRA of 59°, with the exception of 48° in the SSW to South walls.
- The Monique I deposit can support an IRA of 59°, with the exception of 52° in the SSW to SSE walls.
- The Monique GJ deposit can support an IRA of 59°, with the exception of the following:
    - maximum IRA of 52° in the SE to SSW walls
    - maximum IRA of 54° in the SSW to SW walls
    - maximum IRA of 55° in the NW walls

Table 14-5: Wall Orientation and IRA (degrees)

Deposit	Previous Design	New Design Criteria	
	All	Main	Exception(s)
Pascalis Gold Trend			
Beliveau South & New Beliveau	55°	59°	From 115° to 155° : 52°
North Zone	55°	59°	From 300° to 015° : 52°
Highway	55°	59°	From 120° to 160° : 50°
Courvan Gold Trend			
Creek and Bussiere	55°	59°	From 310° to 350° : 53°
South West	55°	59°	
South East	55°	59°	From 110° to 150° : 53°
			From 150° to 190° : 49°
Monique Gold Trend			
GJ Zone	46°	59°	From 015° to 035° : 54°
			From 095° to 115° : 55°
			From 310° to 015° : 52°
I Zone	46°	59°	From 340° to 020° : 52°
AB Zone	46°	59°	From 330° to 010° : 48°

Source: GoldMinds, 2021.

14.7 Compositing and High-Grade Capping

14.7.1 Compositing

The block model grade interpolation is conducted on composited assay data to minimize any bias introduced by varying sample length (Figures 14-4 and 14-5).

For Monique, Courvan SE and SW, composites of 1.5 m length were used, created from the assay table, starting from the collar to the end of each drill hole. The last composite kept at the end of the mineralized intercept has a minimum length of 1.0 m.

Figure 14-4: Composite Settings for Monique and Courvan SE & SW

Settings	
Mode	Calculated Length
Min Sample Length	0.1
Length of intervals	1.5
Min intervals length	1
Round	Round Closest
Dilution	
Using Dilution	Yes

Source: GoldMinds, 2021.

For New Beliveau, North, Highway, Bordure, Bussiere and Creek, composites of 1.0 m length were used, created from the assay table, starting from the collar to the end of each drill hole. The last composite kept at the end of the mineralized intercept has a minimum length of 0.5 m.

Figure 14-5: Composite Settings

Settings	
Mode	Calculated Length
Min Sample Length	0
Length of intervals	1
Min intervals length	0.5
Round	Round Closest
Dilution	
Using Dilution	Yes

Source: GoldMinds, 2021.

All intervals within the mineralized zones that are not assayed were given a value of zero during the compositing routine. Table 14-6 shows the composites used for mineral estimation by zones.

Table 14-6: Composites used for Block Grade Estimation

Properties	Composites Open pit Model	Composites Underground Model
New Beliveau	79,635 (Dykes) 27,318 (Volcanic)	27,824
North	13,350 (Dykes) 5,563 (Volcanic)	3,193
Highway	22,017	2,006
Monique	16,047	8,301
Courvan SW	2,728	
Courvan SE	570	
Bussiere	1,164	
Creek	2,256	
Bordure	963	

Source: GoldMinds, 2021.

14.7.2 Capping

The blocks were interpolated from equal length composites calculated from the drill hole intercepts within the wireframes only. Prior to compositing, high-grade capping values for gold were applied on assays data to limit the influence of high-grade values during the estimation.

High-grade capping values were established by zone (capping maximum ranges from 28 to 100 g/t Au depending on the deposit). Table 14-7 shows the capping value for each zone.

The capping grade values were defined using two criteria:

- The log normal distribution of grades (g/t Au) showing intermittent grade bins and distant values from the main population (Figure 14-6, Figure 14-7 and Figure 14-8).
- The coefficient of variation must be approximately 2.0.

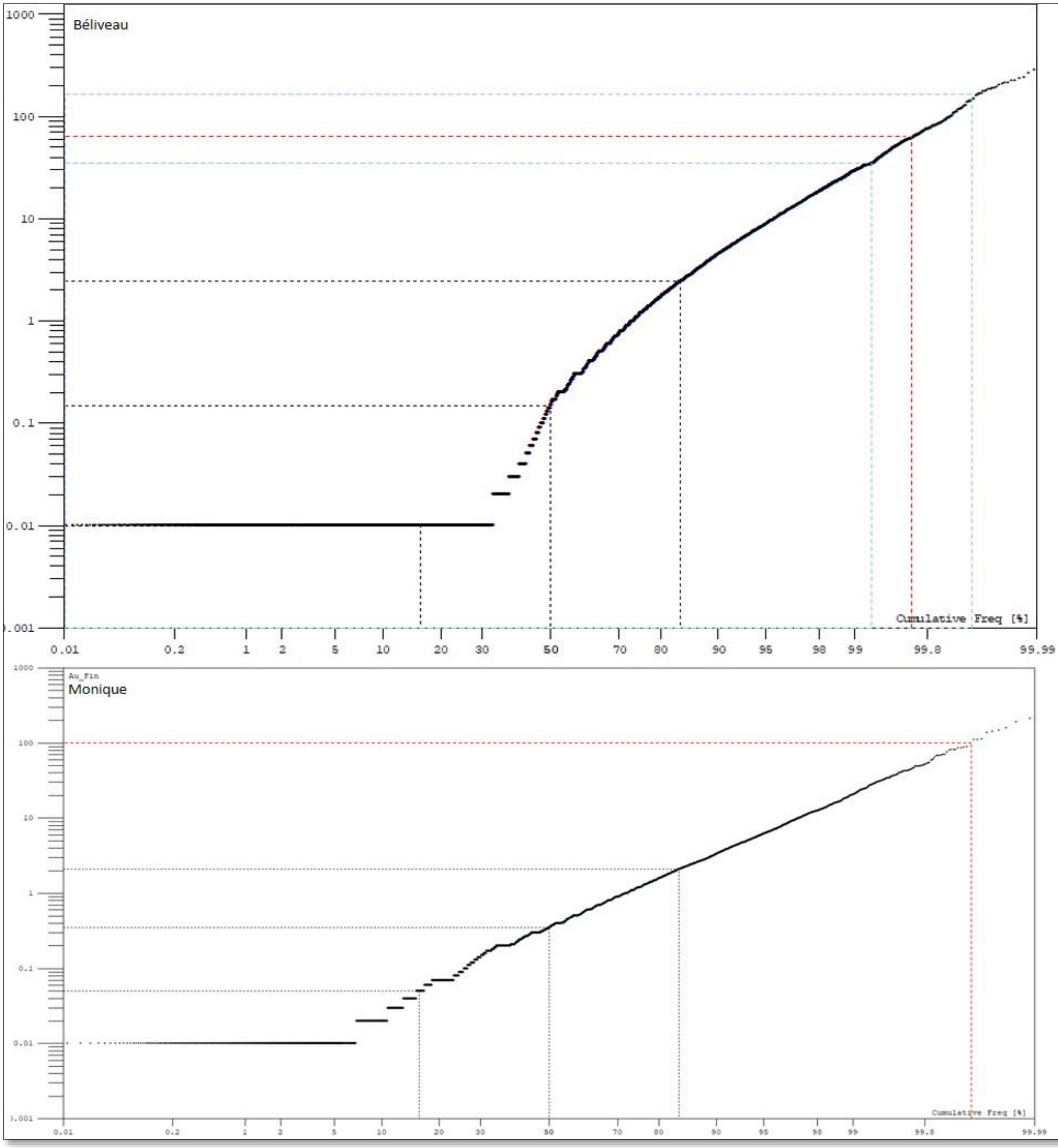
The cumulative frequency on the figures supports the capping values for each property. These capping values are subjective and were chosen in such a way to stay conservative.

Table 14-7: Capping Values used for Each Property

Properties	Capping Value (g/t Au)
New Beliveau	62
North	38
Highway	30
Monique	100
Courvan SW, SE, Bordure, Bussiere and Creek	28

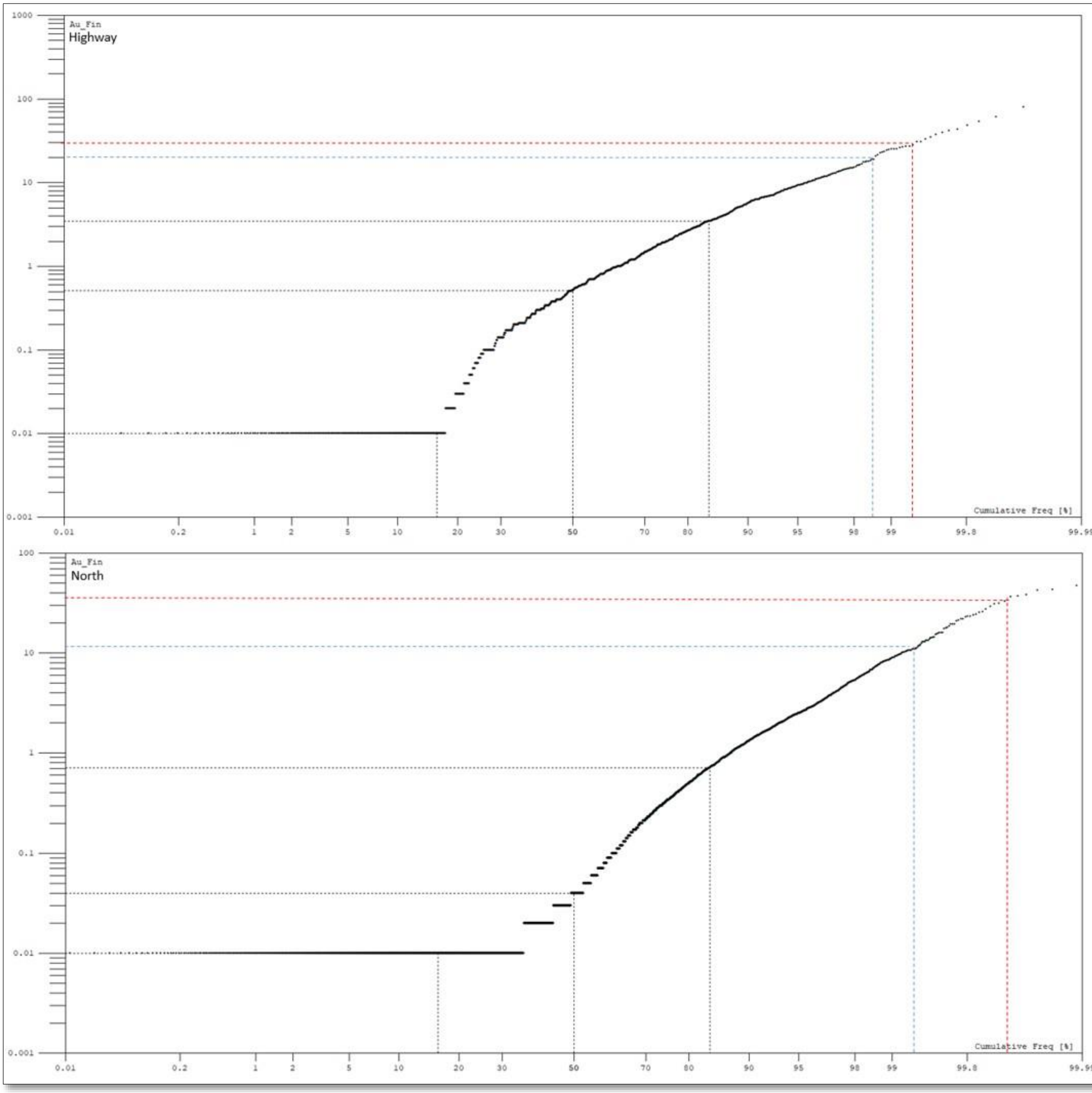
Source: GoldMinds, 2021.

Figure 14-6: The Log Normal Distribution of Assays Data for New Beliveau and Monique



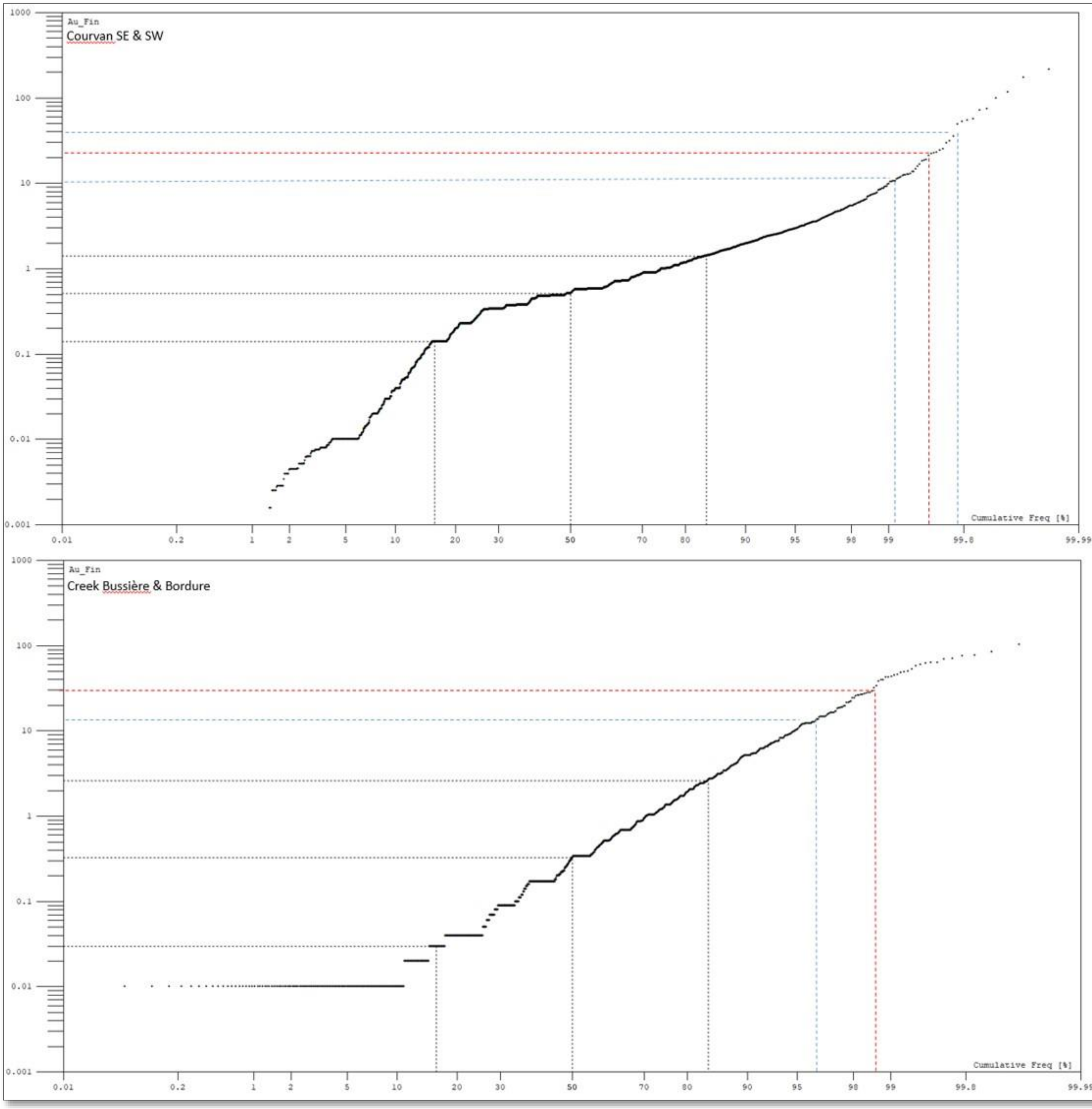
Source: GoldMinds, 2021.

Figure 14-7: The Log Normal Distribution of Assays Data for Highway and North



Source: GoldMinds, 2021.

Figure 14-8: The Log Normal Distribution of Assays Data for Courvan SE & SW and Creek, Bussiere, Bordure



Source: GoldMinds, 2021.

14.7.3 Statistical Analysis

The assay values of the Val-d'Or East project were exported for statistical analysis (Table 14-8). GoldMinds compiled and reviewed the basic statistics of the gold assays within the mineralized envelopes.

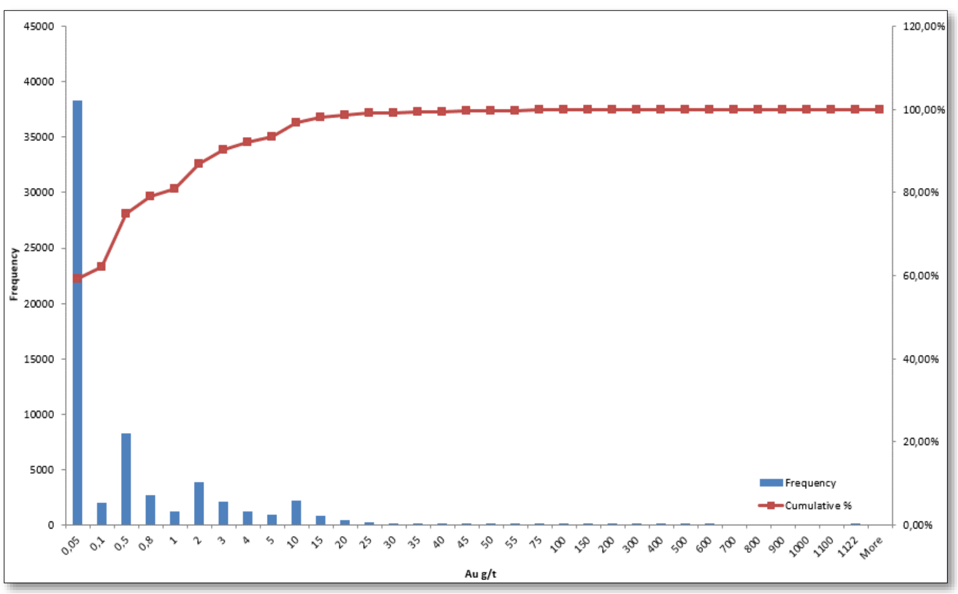
Table 14-8: Statistics on Raw Assays Presented by Deposit

Description	Min (g/t Au)	Max (g/t Au)	Mean (g/t Au)	Median	CV	Number of Caps
Monique	0.00	751.50	1.29	0.20	5.82	0
Monique Capped	0.00	100.00	1.23	0.20	3.76	12
Highway	0.00	101.60	2.11	0.47	2.65	0
Highway Capped	0.00	30.00	1.97	0.47	2.09	14
North	0.00	97	0.40	0.01	5.01	0
North Capped	0.00	38	0.39	0.01	4.53	6
New Beliveau	0.00	1 121.54	1.48	0.01	5.89	0
New Beliveau Capped	0.00	62.00	1.35	0.01	3.67	132
Courvan SE & SW	0	1 147	2.57	0.17	7.75	0
Courvan SE & SW Capped	0	28	1.73	0.17	2.69	75
Creek, Bussiere & Bordure	0.00	171.45	2.10	0.17	3.98	0
Creek, Bussiere & Bordure Capped	0.00	30.00	1.68	0.17	2.79	38

Source: GoldMinds, 2021.

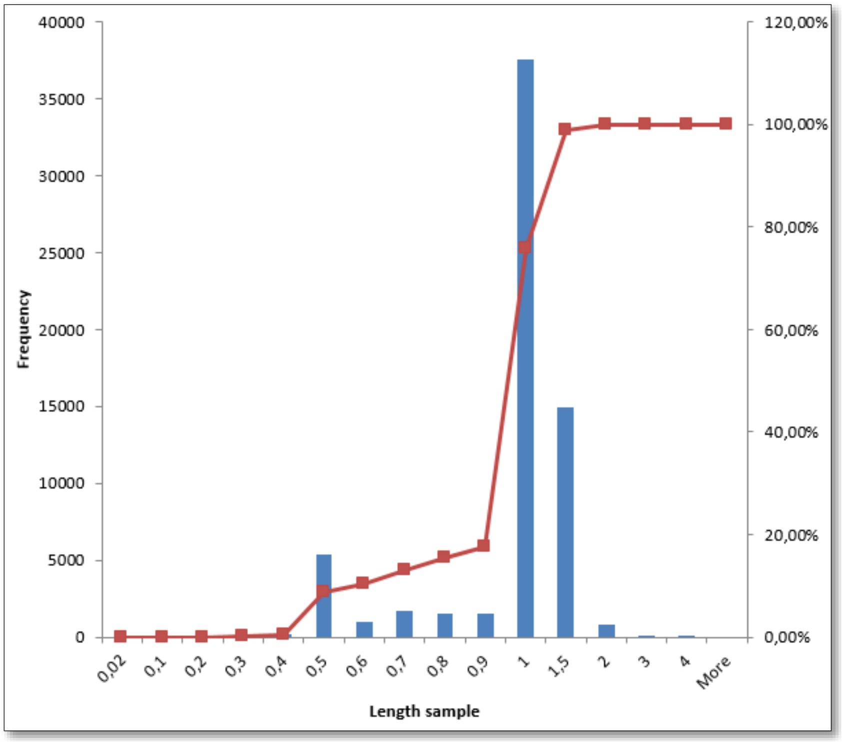
Table 14-8 above presents the selection of the capping limits for each zone and a summary of the assays statistical analysis for each zone. GoldMinds compiled and reviewed the basic statistics of the gold mineralization and these statistics are shown in Figures 14-9 to Figure 14-18.

Figure 14-9: Histogram showing Au Assays g/t, New Beliveau



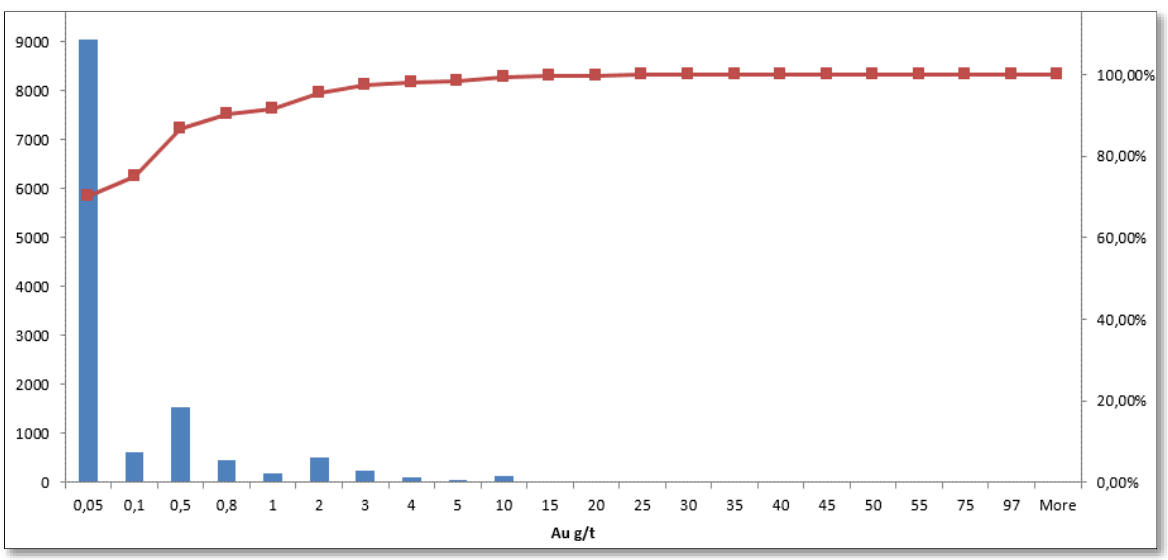
Source: GoldMinds, 2021.

Figure 14-10: Histogram showing all Assays Length in Meters, New Beliveau



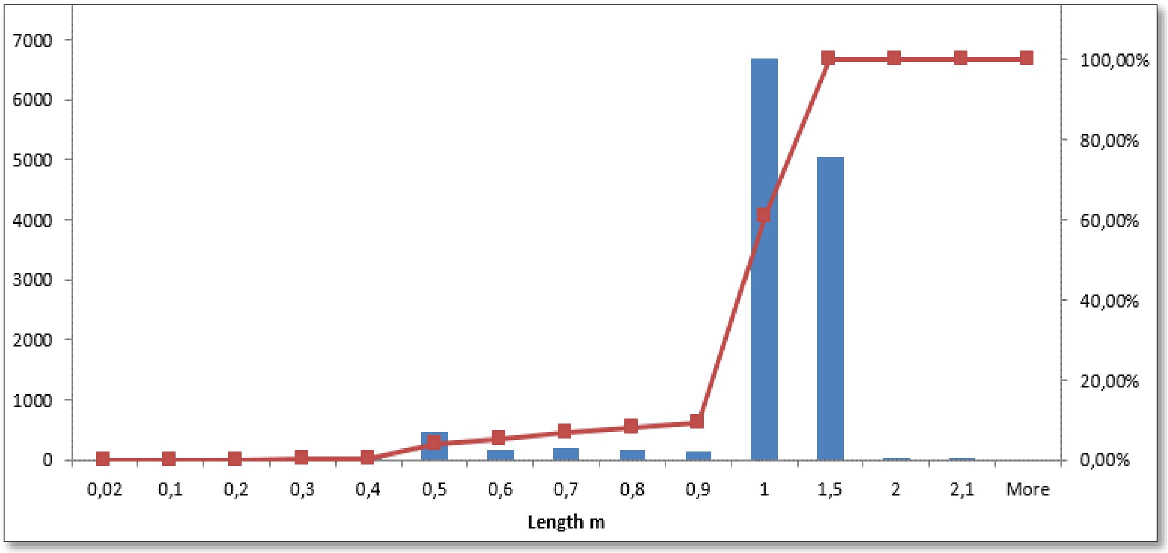
Source: GoldMinds, 2021.

Figure 14-11: Histogram showing Au Assays (g/t), North



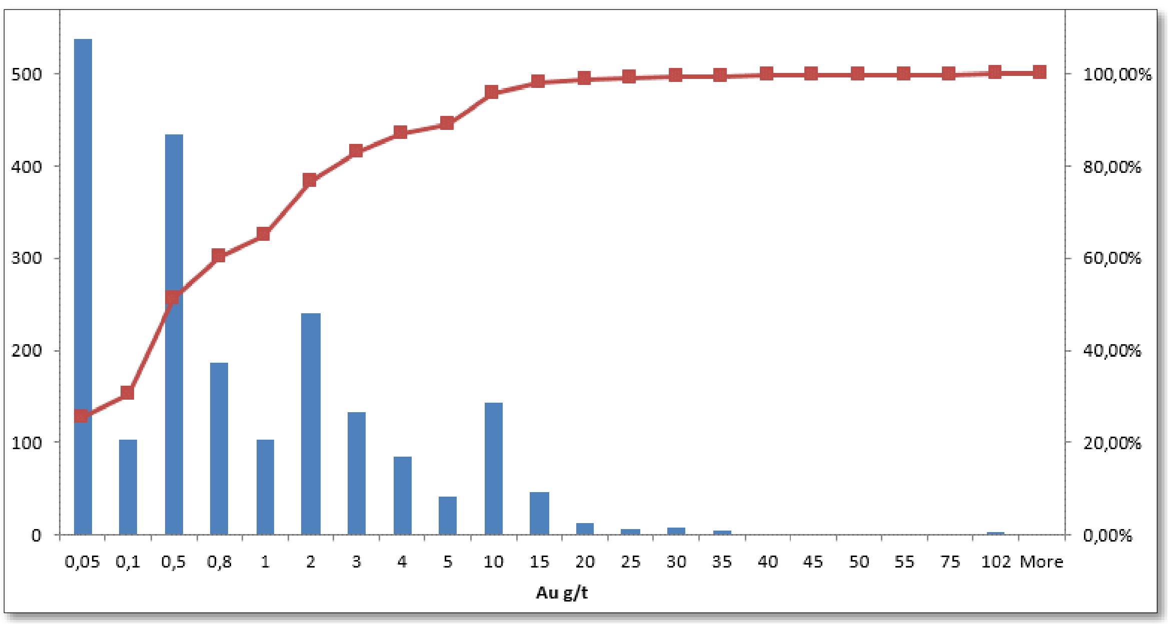
Source: GoldMinds, 2021.

Figure 14-12: Histogram showing all Assays Length in Meters, North



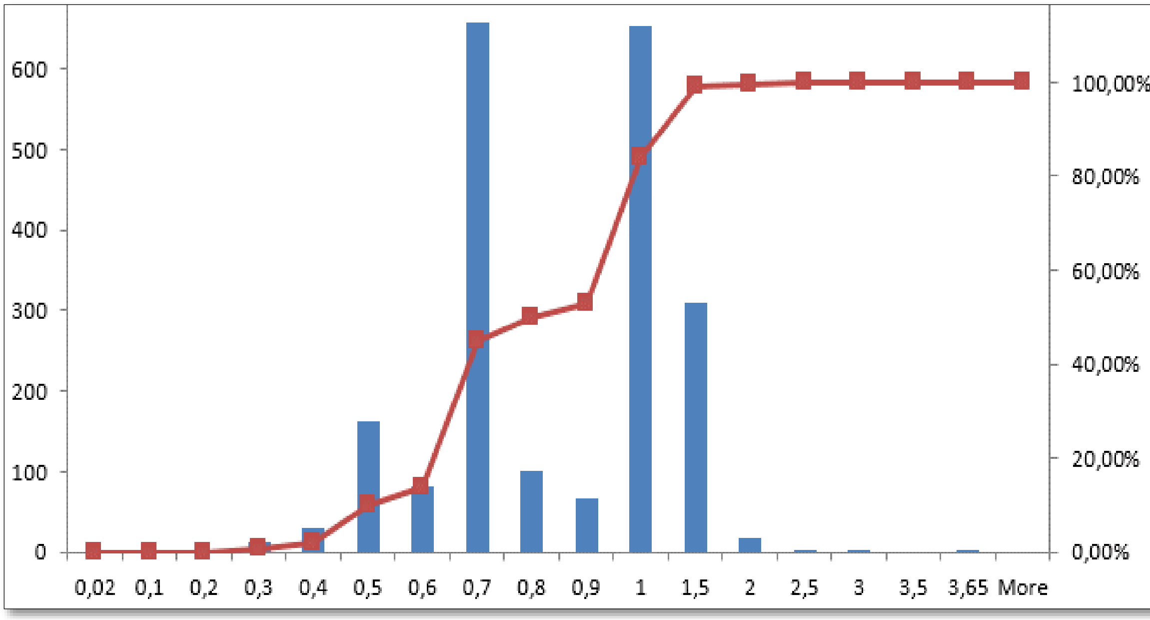
Source: GoldMinds, 2021.

Figure 14-13: Histogram showing Au Assays (g/t), Highway



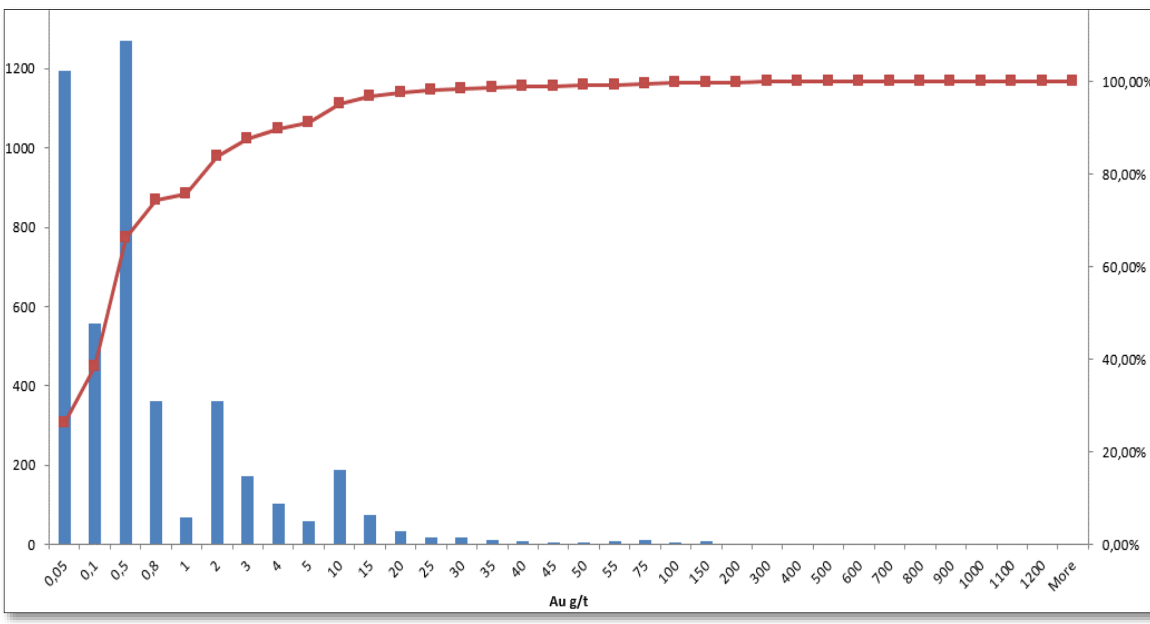
Source: GoldMinds, 2021.

Figure 14-14: Histogram showing Assays Length in Meters, Highway



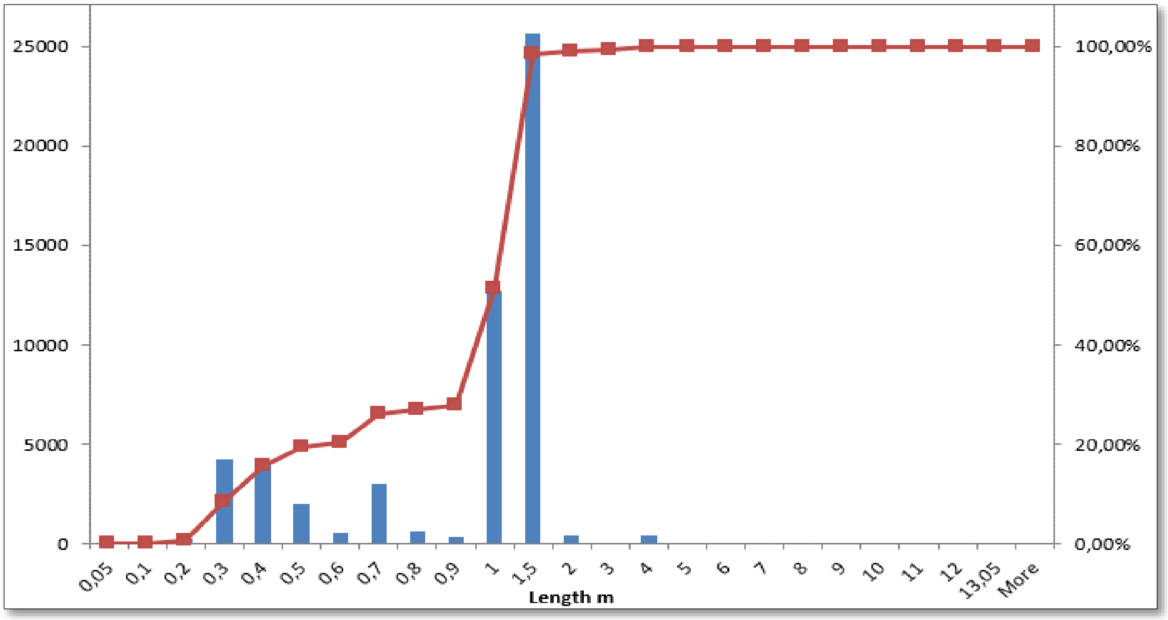
Source: GoldMinds, 2021.

Figure 14-15: Histogram showing Au Assays (g/t), Courvan SE and SW



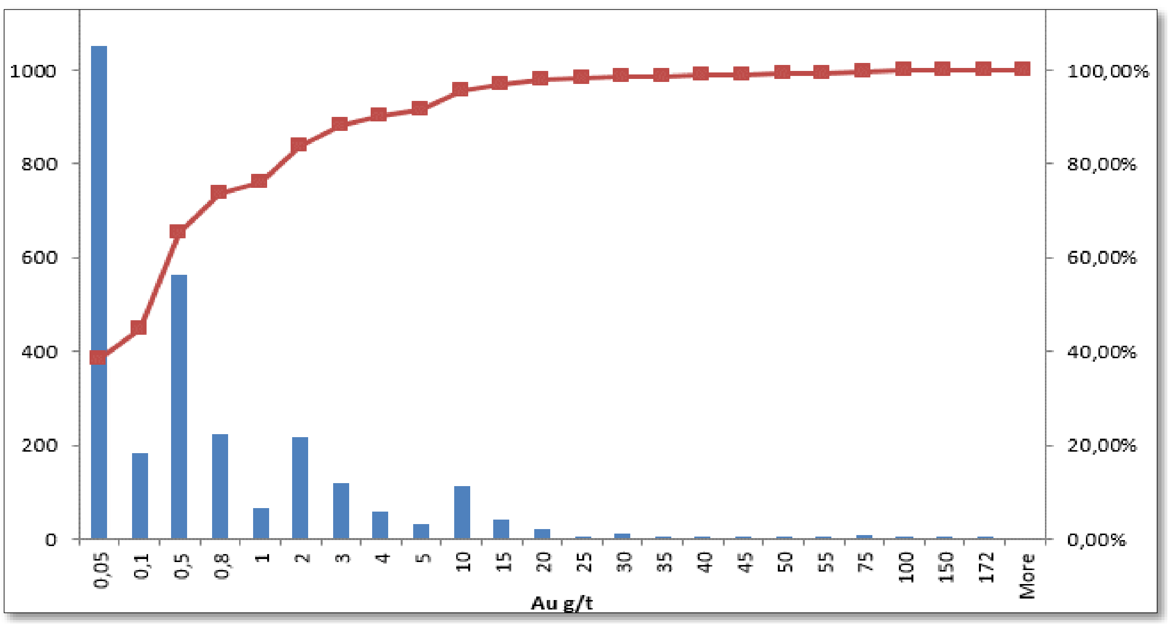
Source: GoldMinds, 2021.

Figure 14-16: Histogram showing all Assays Length in Meters, Courvan SE and SW



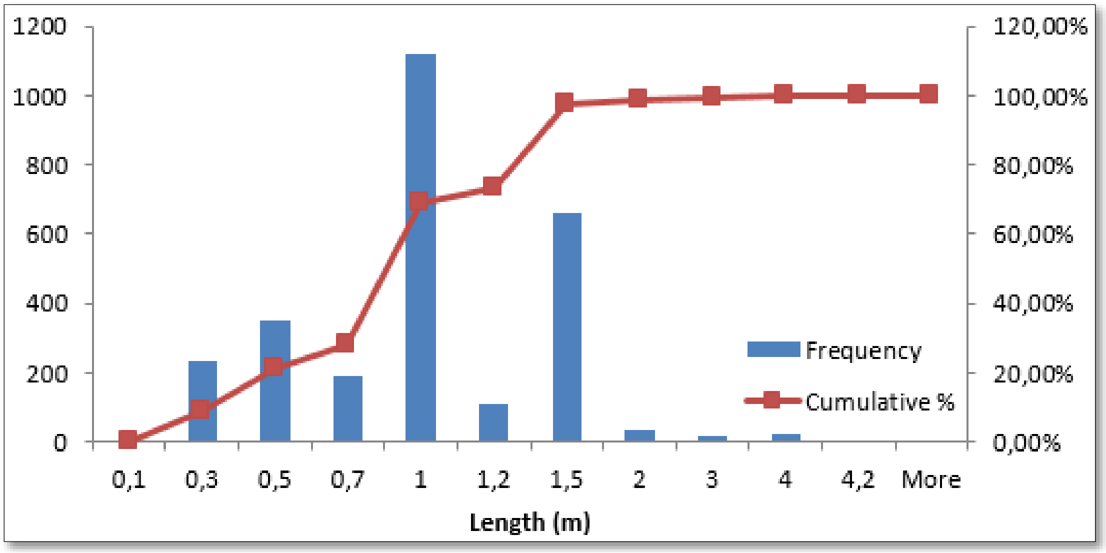
Source: GoldMinds, 2021.

Figure 14-17: Histogram showing all Assays Au g/t, Creek, Bussiere and Bordure



Source: GoldMinds, 2021.

Figure 14-18: Histogram showing Assays Length in Meters, Creek, Bussiere and Bordure



Source: GoldMinds, 2021.

14.7.4 Search Ellipsoid

Search ellipsoids were created to select the composites (point data) used for the estimation of the block grades. Tables 14-9 and 14-10 present the search ellipsoids with their axis lengths and orientations (Figures 14-19 to 14-21). The median is the intermediate axis, the major is the long axis and the minor is the short axis. The size of the ellipsoids increases along every axis after each pass and are bigger for the third pass.

Table 14-9: Search Ellipsoid List for Dyke and Bulk Mineralized Zones (New Beliveau, North and Highway)

Ellipsoids	Azimuth	Dip	Major (m)	Median (m)	Minor (m)
Dyke New Beliveau Pass 1	00	-30	30	20	10
Dyke New Beliveau Pass 2	00	-30	60	40	20
Dyke New Beliveau Pass 3	00	-30	120	80	30
Volcanic Bulk New Beliveau pass 1	00	-30	30	20	10
Volcanic Bulk New Beliveau pass 2	00	-30	60	40	20
Volcanic Bulk New Beliveau pass 3	00	-30	120	80	30
Dyke North Pass 1	320	-30	30	20	05
Dyke North Pass 2	320	-30	60	40	10
Dyke North Pass 3	320	-30	120	80	15
Volcanic Bulk North & Highway Pass 1	320	-30	20	30	10
Volcanic Bulk North & Highway Pass 2	320	-30	40	60	20
Volcanic Bulk North & Highway Pass 3	320	-30	80	120	30

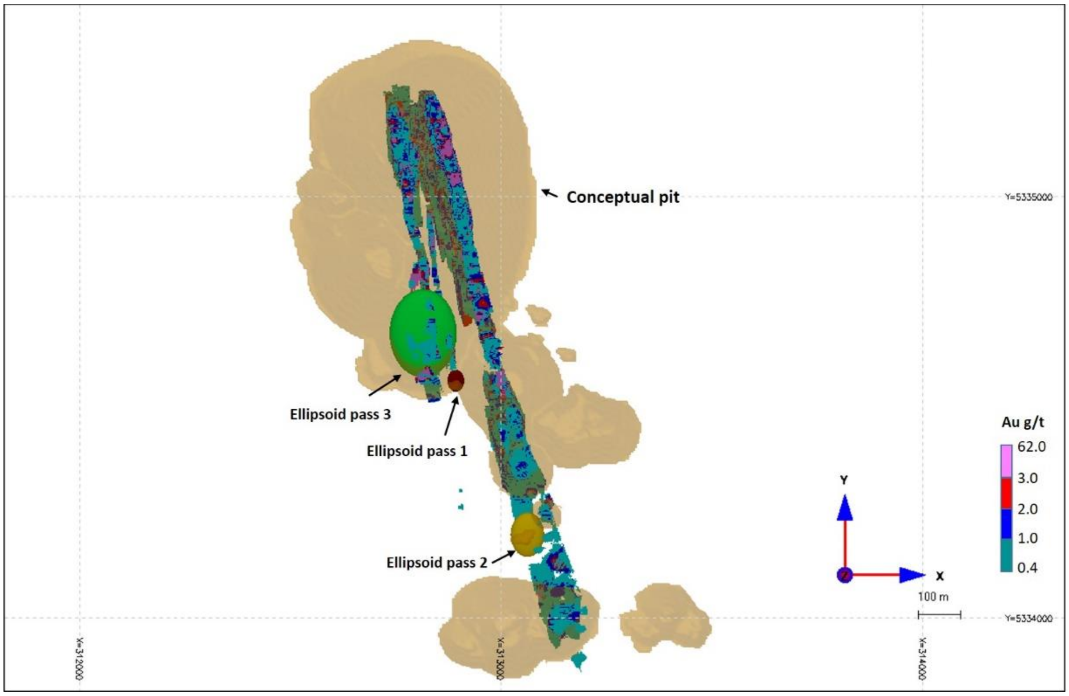
Source: GoldMinds, 2021.

Table 14-10: Search Ellipsoid List for Monique Open Pit and Underground Models

Ellipsoids	Azimuth	Dip	Major	Median	Minor
Pit-UG Bulk_A_Pass01	270	-75	35	15	15
Pit-UG Bulk_A_Pass02	270	-75	65	50	35
Pit-UG Bulk_A_Pass03	270	-75	80	60	35
Pit-UG Bulk_B_Pass01	290	-75	25	10	10
Pit-UG Bulk_B_Pass02	290	-75	60	40	30
Pit-UG Bulk_B_Pass03	290	-75	80	60	30
Pit-UG Bulk_E_Pass01	277	-75	25	10	10
Pit-UG Bulk_E_Pass02	277	-75	60	30	25
Pit-UG Bulk_E_Pass03	277	-75	80	60	25
Pit-UG Bulk_F_Pass01	285	-75	15	15	25
Pit-UG Bulk_F_Pass02	285	-75	60	50	30
Pit-UG Bulk_F_Pass03	285	-75	85	70	30
Pit-UG Bulk_G_Pass01	290	-78	25	10	10
Pit-UG Bulk_G_Pass02	290	-78	60	40	25
Pit-UG Bulk_G_Pass03	290	-78	80	60	25
Pit-UG Bulk_I_Pass01	280	-80	25	10	10
Pit-UG Bulk_I_Pass02	280	-80	60	40	20
Pit-UG Bulk_I_Pass03	280	-80	80	60	20
Pit-UG Bulk_I_HW_Pass01	285	-75	25	10	10
Pit-UG Bulk_I_HW_Pass02	285	-75	60	40	20
Pit-UG Bulk_I_HW_Pass03	285	-75	80	60	20
Pit-UG Bulk_Q_Pass01	300	-80	25	10	10
Pit-UG Bulk_Q_Pass02	300	-80	65	40	20
Pit-UG Bulk_Q_Pass03	300	-80	80	55	20
Pit-UG Bulk_S_Pass01	285	-80	25	10	10
Pit-UG Bulk_S_Pass02	285	-80	65	45	20
Pit-UG Bulk_S_Pass03	285	-80	85	65	20
Pit-UG Bulk_T_Pass01	285	-80	25	10	10
Pit-UG Bulk_T_Pass02	285	-80	25	10	10
Pit-UG Bulk_T_Pass03	285	-80	25	10	10
Pit-UG Bulk_P_Pass01	295	-70	25	10	10
Pit-UG Bulk_P_Pass02	295	-70	60	45	20
Pit-UG Bulk_P_Pass03	295	-70	80	55	20
Pit-UG Bulk_M_FW_Pass01	272	-80	25	10	10
Pit-UG Bulk_M_FW_Pass02	272	-80	60	40	20
Pit-UG Bulk_M_FW_Pass03	272	-80	80	55	20
Pit-UG Bulk_L_Pass01	290	-80	25	10	10
Pit-UG Bulk_L_Pass02	290	-80	60	40	20
Pit-UG Bulk_L_Pass03	290	-80	80	60	20
Pit-UG Bulk_J_Pass01	295	-80	25	10	10
Pit-UG Bulk_J_Pass02	295	-80	60	45	20
Pit-UG Bulk_J_Pass03	295	-80	80	55	20

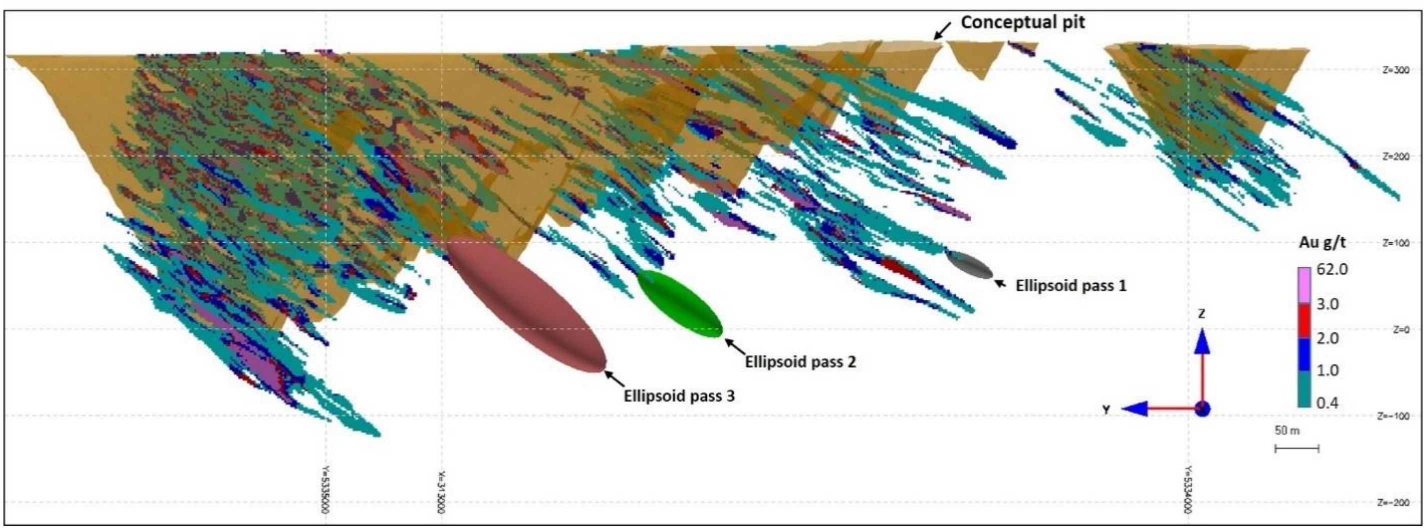
Source: GoldMinds, 2021.

Figure 14-19: Plan View showing Search Ellipsoids Orientation of Dykes Mineralized Zones, New Beliveau



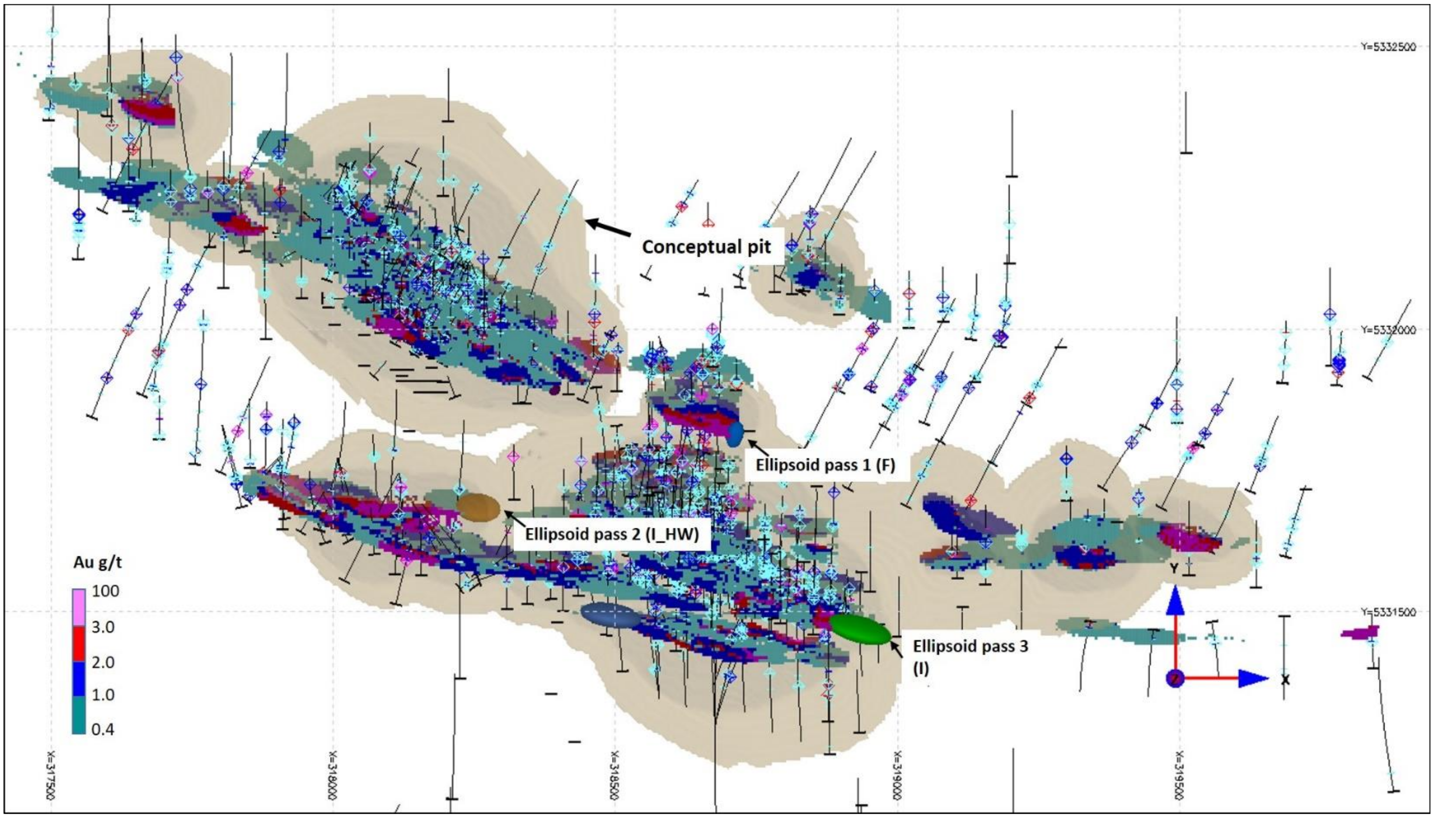
Source: GoldMinds, 2021.

Figure 14-20: Section View looking East showing Search Ellipsoids Orientation of Volcanic Bulk Mineralization, New Beliveau



Source: GoldMinds, 2021.

Figure 14-21: Plan View showing Search Ellipsoids with Block Models, Monique



Source: GoldMinds, 2021.

For the New Beliveau dykes and volcanic bulk envelopes, the long axis is plunging with a shallow dip of 30° to the south, sub-parallel to the main extensional quartz-tourmaline-carbonates vein system. For the North dykes and volcanic bulk envelopes, as well for the Highway envelopes, the long axis is plunging with a shallow dip of 30° to the southeast. Search ellipsoids have a fixed orientation and dip only for the estimation of dykes (New Beliveau, North). Ellipsoid orientations and dips are variable for the other wireframe estimations (New Beliveau, North, Highway), which are following the form of the mineralized zones.

For Monique pit and underground bulk wireframes, the ellipsoids are oriented 270-300° and the long axis is steely dipping to the north-northeast. Ellipsoid orientations and dips are variable for all the wireframes estimation, which are following the form of the mineralized zones.

For Courvan, the ellipsoids long axis is generally plunging and shallowly dipping to the north (Table 14-11 and Figure 14-22 on the following page). Ellipsoid orientations and dips are also variable for all the wireframes estimation.

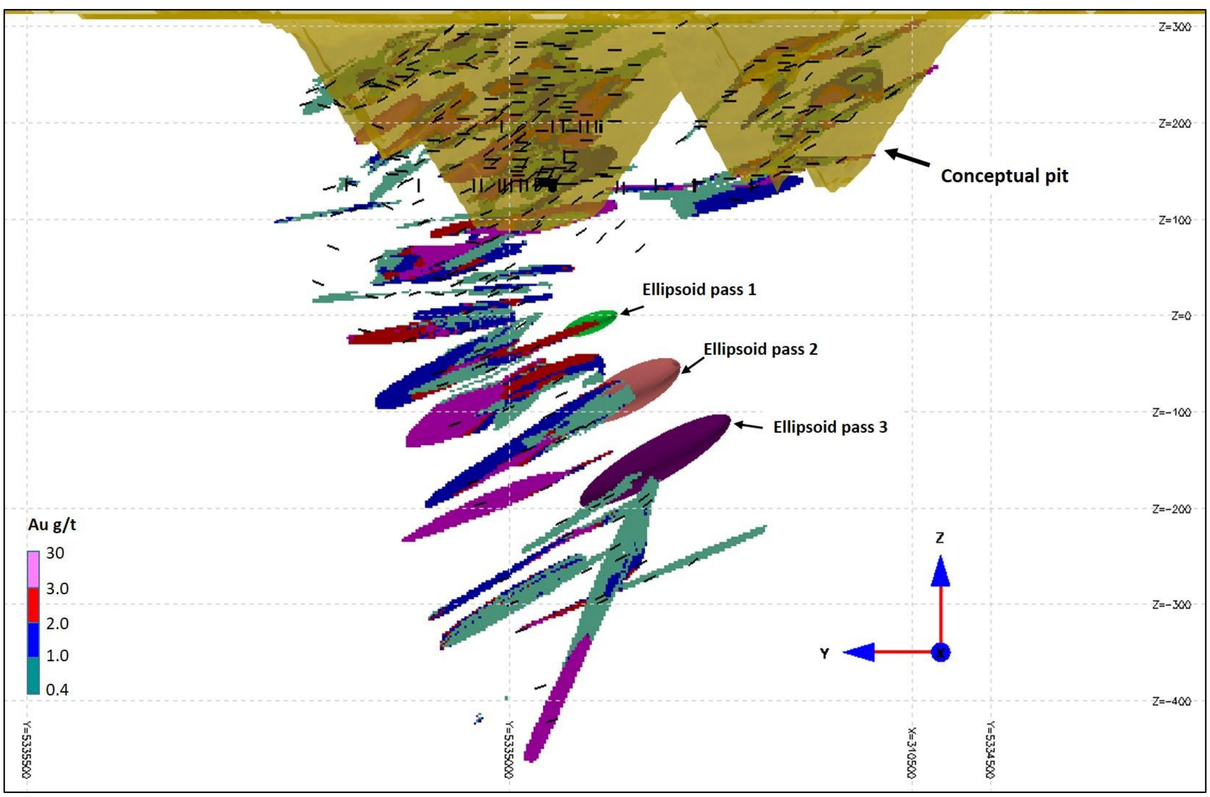
Finally, the wall material ellipsoid orientations and dips are fixed and similar to the bulk envelopes of the deposits.

Table 14-11: Courvan Trend Search Ellipsoid List

Ellipsoids	Azimuth	Dip	Major	Median	Minor
Courvan SE Pass 1	05	-35	30	30	10
Courvan SE Pass 2	05	-35	60	60	15
Courvan SE Pass 3	05	-35	120	120	20
Courvan SW Pass 1	05	-35	30	30	10
Courvan SW Pass 2	05	-35	60	60	15
Courvan SW Pass 3	05	-35	120	120	20
Bussiere Pass 1	355	-22	30	30	10
Bussiere Pass 2	355	-22	60	60	15
Bussiere Pass 3	355	-22	120	120	20
Creek Pass 1	355	-22	30	30	10
Creek Pass 2	355	-22	60	60	20
Creek Pass 3	355	-22	90	90	20
Bordure Pass 1	355	-22	30	30	10
Bordure Pass 2	355	-22	60	60	20
Bordure Pass 3	355	-22	120	120	20

Source: GoldMinds, 2021.

Figure 14-22: Section View looking East showing Search Ellipsoids with Block Model, Creek Zone



Source: GoldMinds, 2021.

14.8 Block Model

Three block models were constructed for each deposit of Pascalis, Courvan and Monique trends. The open pit and wall material block models were used for the pit-constrained resource estimation. A third block model was used for the underground resource.

The open pit block models are percentage models, and the percentage of a block represents the percentage of the block volume inside a wireframe. The blocks with a centroid inside the open pit mineralized zone wireframes were estimated, using only the assay composites within the wireframes. Pit shells were optimized using only the blocks of the open pit mineralized zones, excluding the wall material.

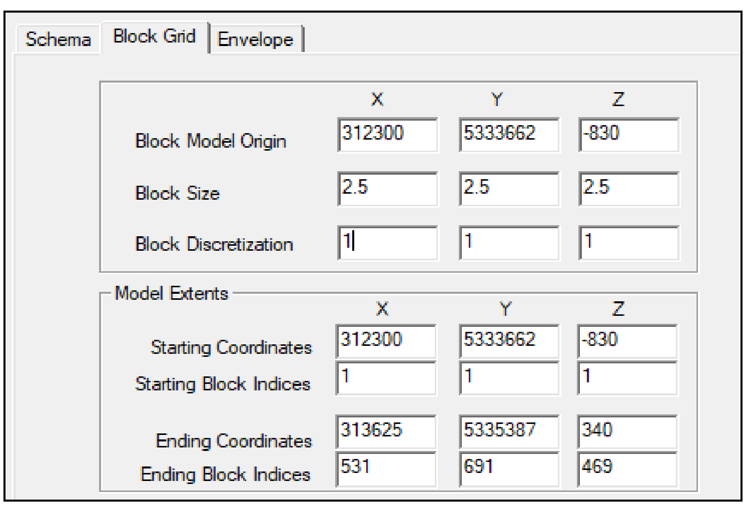
The wall block model corresponds to the volume of the optimized pit shell excluding the pit mineralized zones wireframes. All the blocks are considered as whole blocks, without percentages. Only the blocks with a centroid outside the pit mineralized zones wireframes were estimated, using the assay composites outside the mineralized zones. The wall material blocks with a centroid within the pit shell were kept. The mineralized zones and wall material were estimated separately and were merged after to create a single block model, with a priority given to the mineralized zones.

The underground block models were first completely estimated from the surface, without considering the pit shells. All the blocks are considered as whole blocks, without percentages. The blocks with a centroid inside the underground mineralized zones wireframes were estimated, using only the assay composites within the wireframes. The pit shells were then extracted from the underground block model, and only the blocks with a centroid outside the pit shells were kept.

14.8.1 Block Model Parameters

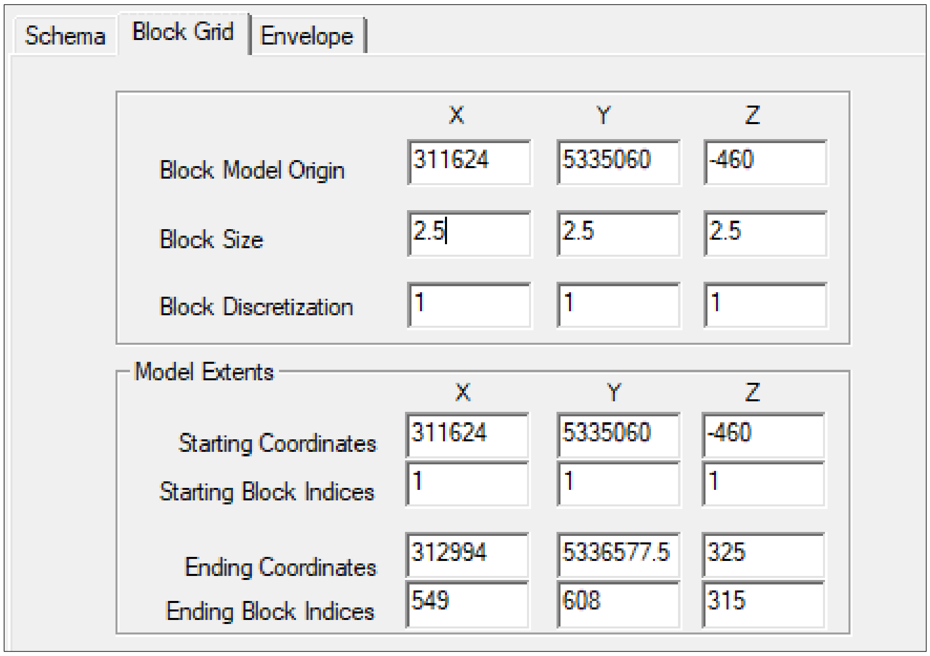
For each deposit, bloc grid parameters were defined (Figures 14-23 and 14-28) to enclose all the mineralized envelopes. The origin of the block model is the lower left corner. The block sizes were defined to respect the mineralized zones form and to optimize the amount of block centroids within the mineralized zones. Block size of 2.5 m E x 2.5 m N x 2.5 m Z was used for all the deposits affected by the 2021 mineral resource update, except for the Monique open pit model, with a block size of 5 m E x 5 m N x 5 m Z.

Figure 14-23: Block Grid Parameters for New Beliveau



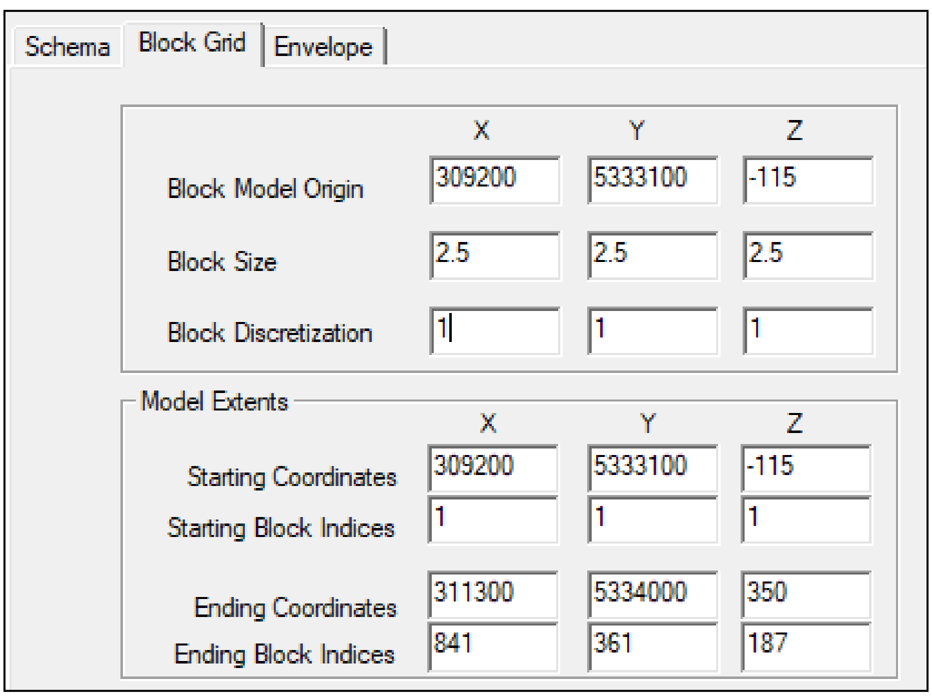
Source: GoldMinds, 2021.

Figure 14-24: Block Grid Parameters for North and Highway



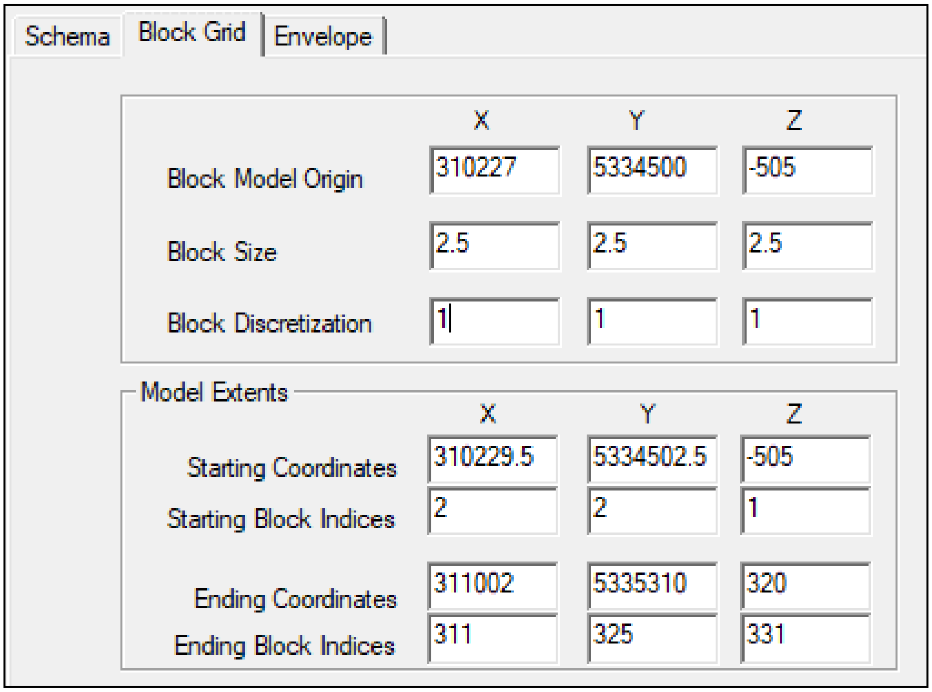
Source: GoldMinds, 2021.

Figure 14-25: Block Grid Parameters for Courvan SE and SW



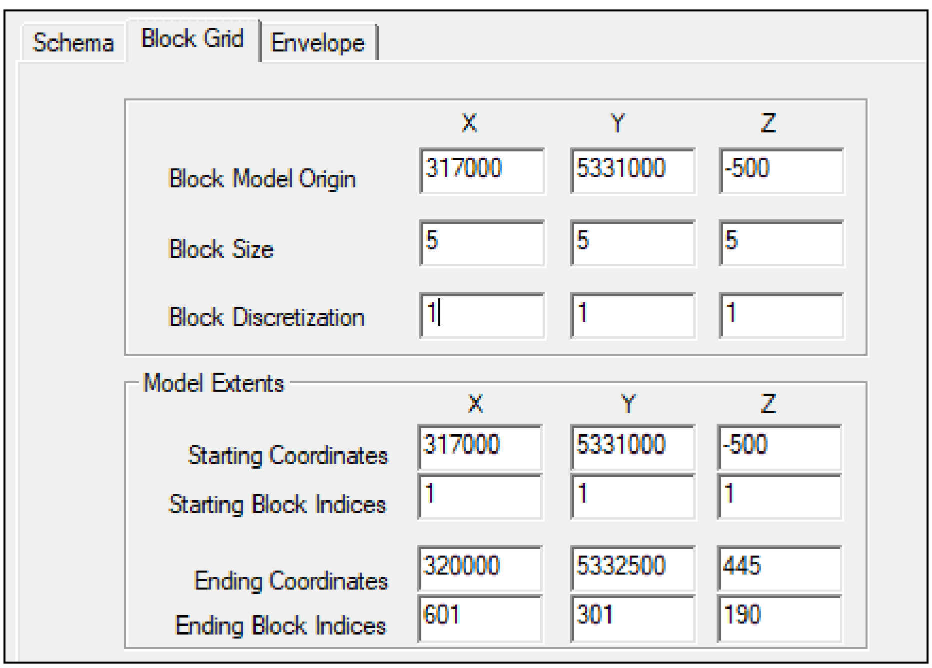
Source: GoldMinds, 2021.

Figure 14-26: Block Grid Parameters for Bussiere, Creek and Bordure



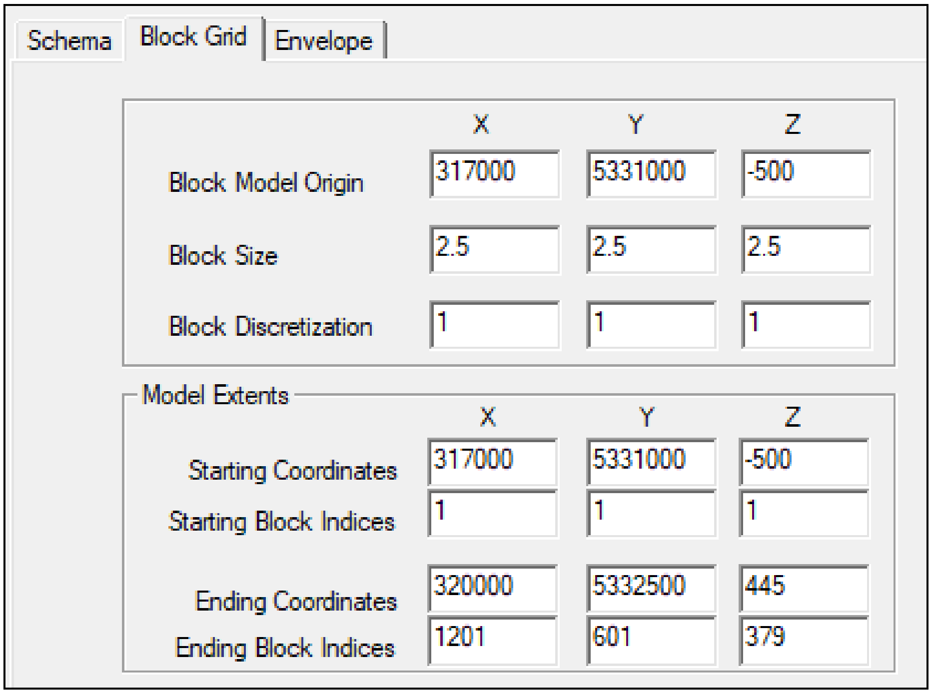
Source: GoldMinds, 2021.

Figure 14-27: Block Grid Parameters for Monique Pits Wireframes



Source: GoldMinds, 2021.

Figure 14-28: Block Grid Parameters for Monique Underground Bulk Wireframes



Source: GoldMinds, 2021.

14.8.2 Estimation Parameters

The 2021 mineral resource estimate was completed for each deposit using the inverse distance to the square methodology with three passes. Search ellipsoids were used to select the composites (point data) and followed the interpreted mineralized zones. The mineralized envelopes were filled with regular blocks of 2.5 m E x 2.5 m N x 2.5 m Z, or 5 m E x 5 m N x 5 m Z for the Monique open pit model.

The open pit model was used for the pit shell optimization and merged after with the Wall material model. Pit-constrained mineral resources therefore consist of mineralized zones and wall material.

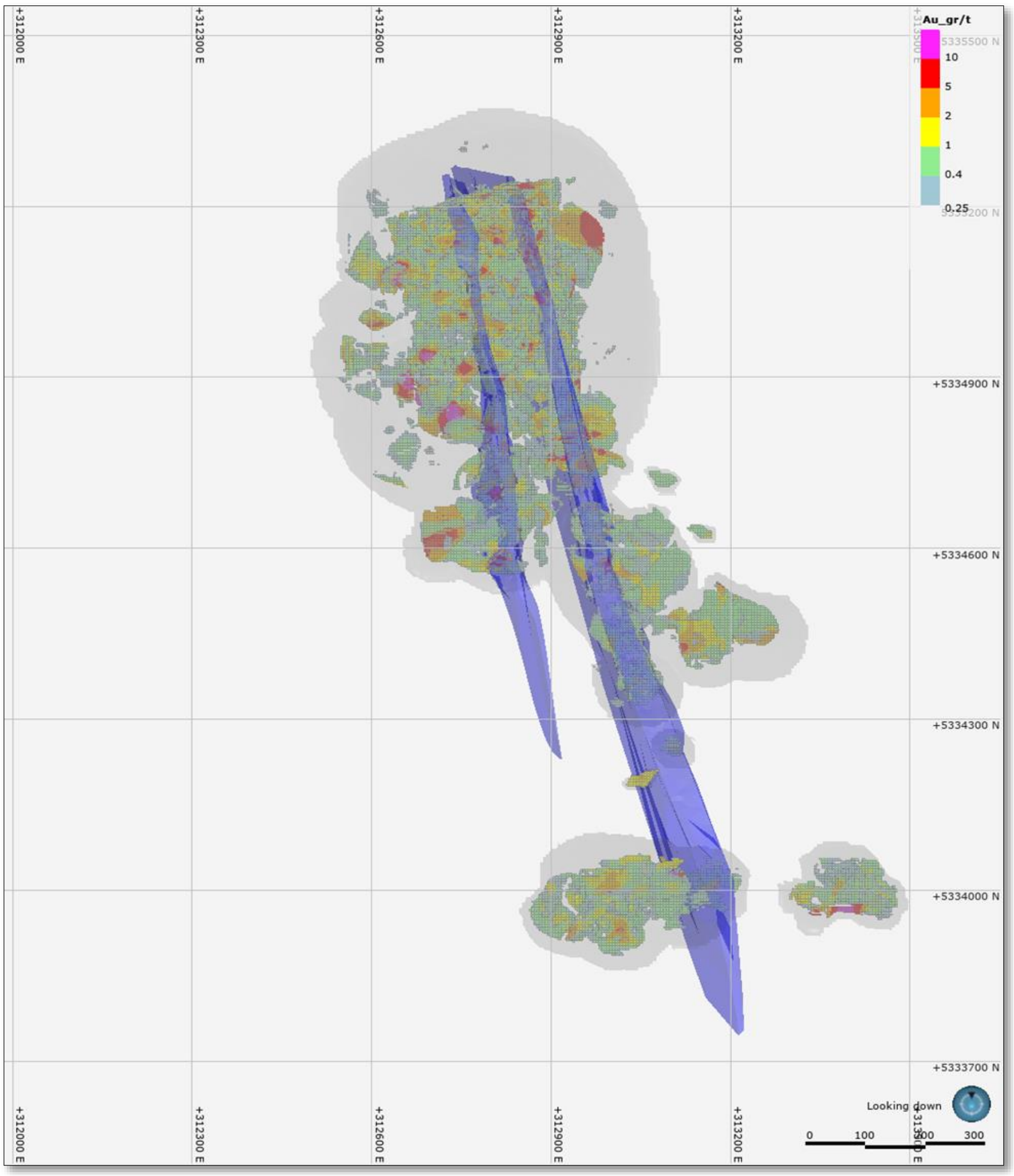
The underground model was used to estimate the mineral resources outside the pit-constrained design. To satisfy the reasonable prospects for eventual economic extraction for underground mining scenarios as required by the CIM, blocks isolated and discontinuous were excluded from the mineral resource. Underground resources zones were modelled to constrain the mineral resource. A cut-off grade of 2.05 g/t Au was used to delineate the potential economic zones within the shallow dipping Bulk mineralized envelopes of Pascalis and Courvan deposits. A cut-off grade of 1.65 g/t Au was used for the New Beliveau and North dyke zones, as well as for all the Monique Bulk mineralized zones. All the blocks with a centroid within the resource zone wireframes were considered to calculate the total amount of ounces and the average grade of a resource zone, which included internal dilution. If the average grade for the resource zone was above the cut-off grade, the latter was considered part of the total underground resource.

14.8.2.1 New Beliveau

14.8.2.1.1 New Beliveau Open Pit Model

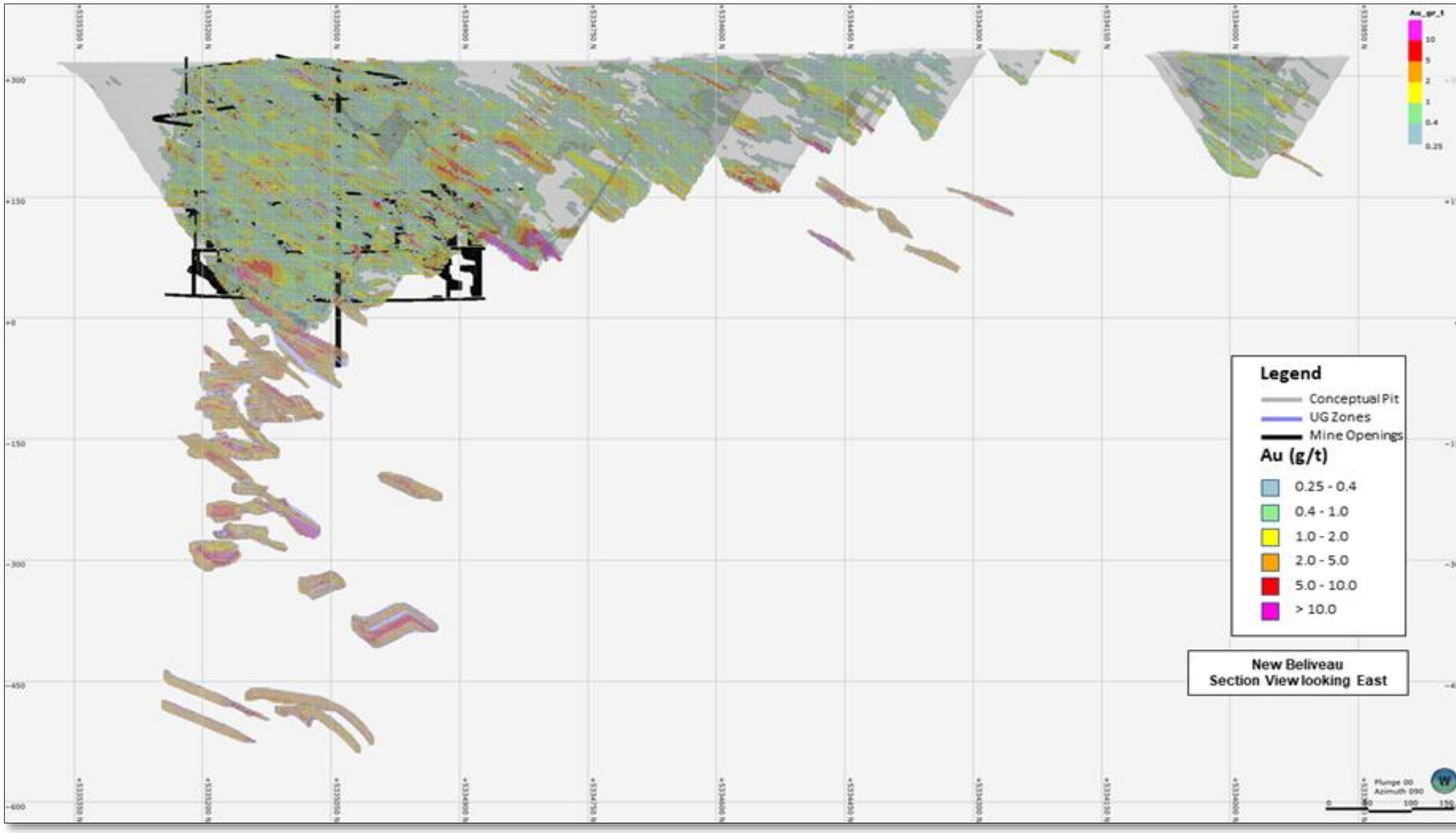
The block gold grades were estimated using three estimation passes (Figures 14-29 and 14-31).

Figure 14-29: Plan View showing New Beliveau Open Pit Block Model, coded by Au Grade (g/t) with Dyke Wireframes and Pit Limits



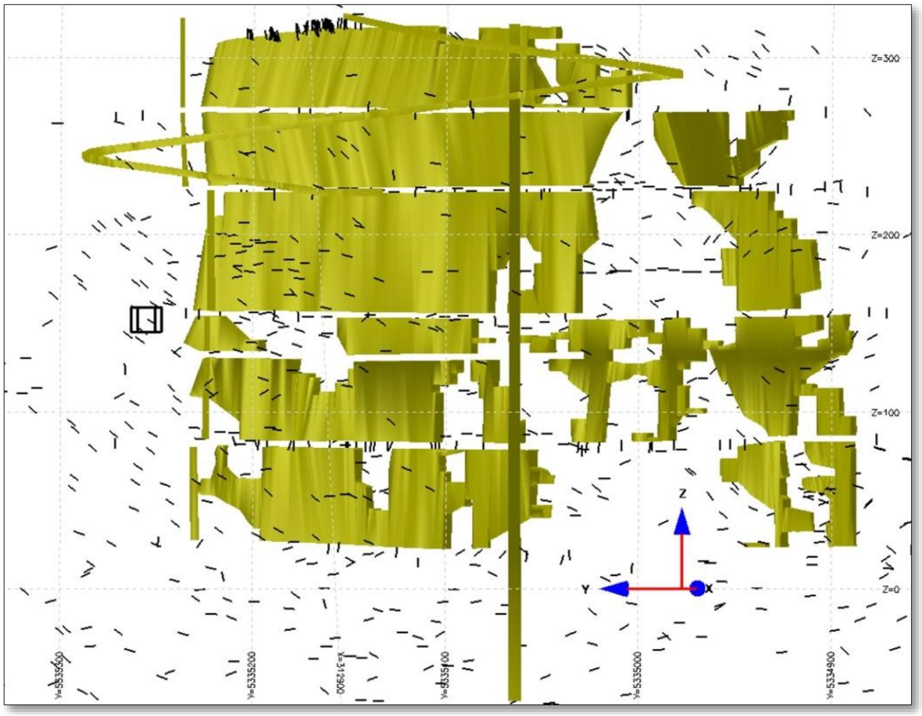
Source: GoldMinds, 2021.

Figure 14-30: Section View (looking east) of Dykes and Volcanic Bulk Envelopes, coded by Au Grade (g/t), New Beliveau



Source: GoldMinds, 2021.

Figure 14-31: Mine Openings of Former Beliveau Mine



Source: GoldMinds, 2021.

Table 14-12 shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. Table 14-13 shows the dimensions and the orientations of the ellipsoids used for estimation.

Table 14-12: Three-Pass Estimation Composite Parameters, New Beliveau Open Pit Model

Pass	Min Composites	Max Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Table 14-13: Ellipsoids Size for the Bulk/Dykes Envelopes Estimation, New Beliveau Open Pit Model

Ellipsoids	Run_01	Run_02	Run_03
Azimuth	0	0	0
Dip	-30	-30	-30
Principal Axis	30	20	10
Median Axis	60	40	20
Minor Axis	120	80	30

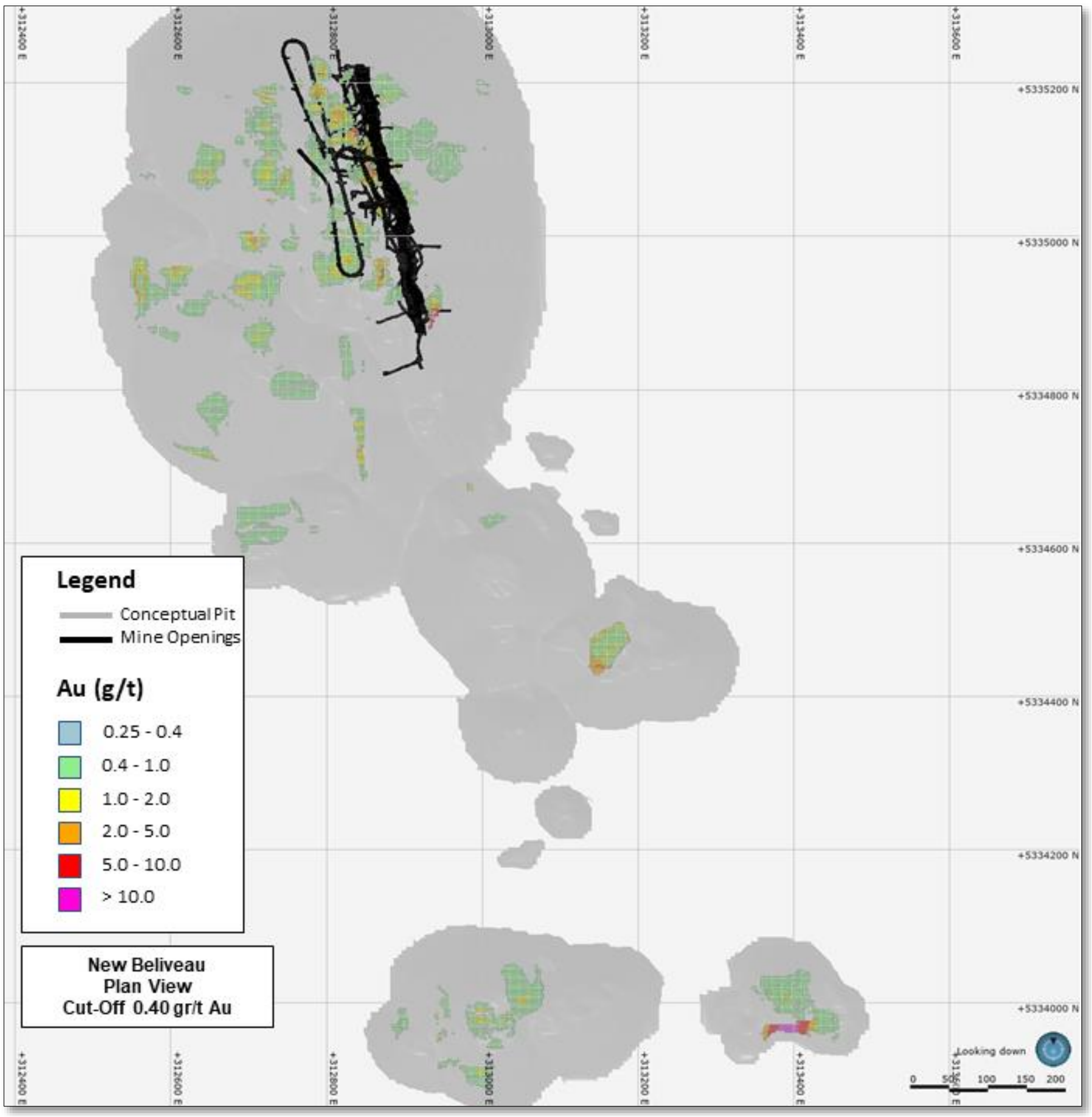
Source: GoldMinds, 2021.

After the grade estimation was completed, the mined-out volumes (stopes, drifts and shafts, Figure 14-31 above) were removed from the mineral resource estimate.

14.8.2.1.2 New Beliveau Wall Material

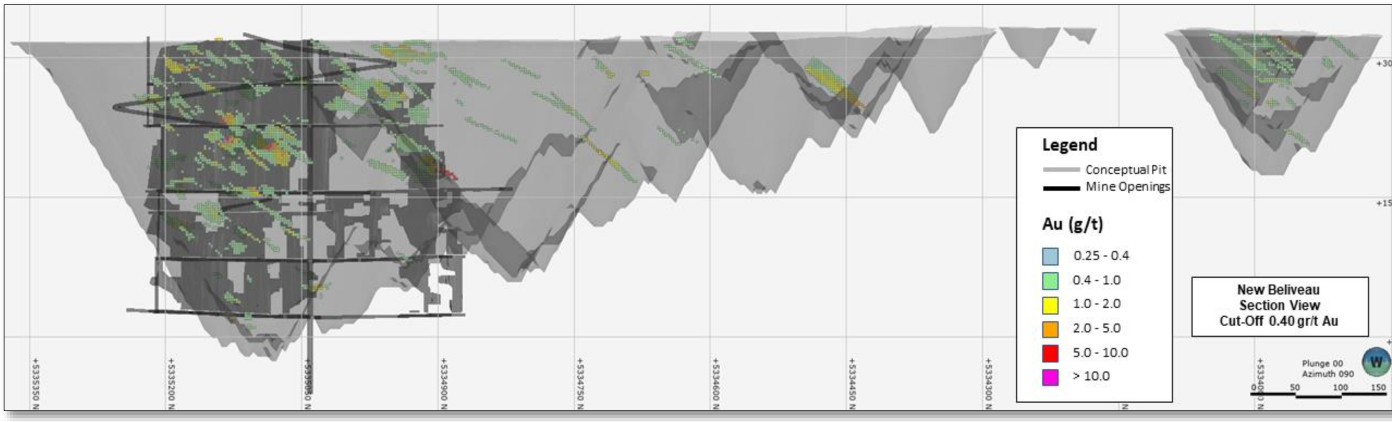
The wall material was estimated using three estimation passes (Figure 14-32 and Figure 14-33).

Figure 14-32: Plan View showing the Wall Material Block Model of New Beliveau



Source: GoldMinds, 2021.

Figure 14-33: General View (looking east) showing the Wall Material Block Model, New Beliveau



Source: GoldMinds, 2021.

The minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations are listed in Table 14-14. Table 14-15 shows the dimensions and the orientations of the ellipsoids used for estimation. After the grade estimation was done, the wall material model was merged with the open pit model.

Table 14-14: Three-Pass Estimation and Composite Parameters, Wall Material New Beliveau

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Table 14-15: Ellipsoids Size for the Wall Material Estimation, New Beliveau

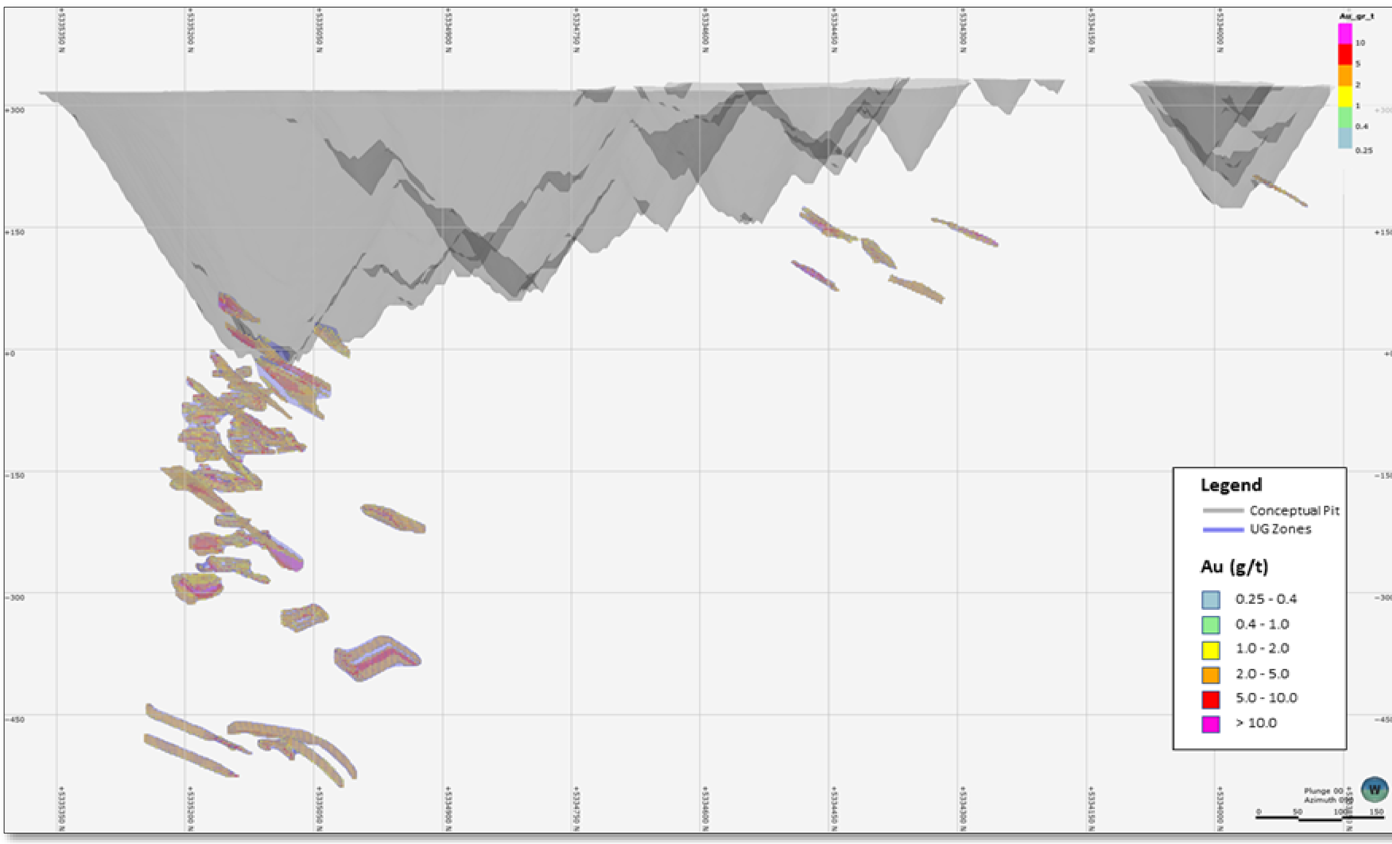
Ellipsoids	Run_01	Run_02	Run_03
Azimuth	0	0	0
Dip	-30	-30	-30
Spin	0	0	0
Principal Axis	20	40	60
Median Axis	30	60	90
Minor Axis	05	10	15

Source: GoldMinds, 2021.

14.8.2.1.3 New Beliveau Underground Model

The underground mineral resource was estimated with the same parameters of the open pit model (Tables 14-14 and 14-15 above) using the same dykes and volcanic bulk open pit wireframes, plus four more volcanic bulk envelopes (BE_12, 13, 14 and 16). For New Beliveau, the underground resource zones were modelled using a minimum cut-off grade of 2.05 g/t Au within the volcanic bulk envelopes and a cut-off grade of 1.65 g/t Au within the dykes (Figure 14-34).

Figure 14-34: General View (looking east) showing the Underground Block Model, coded by Au Grade (g/t), New Beliveau



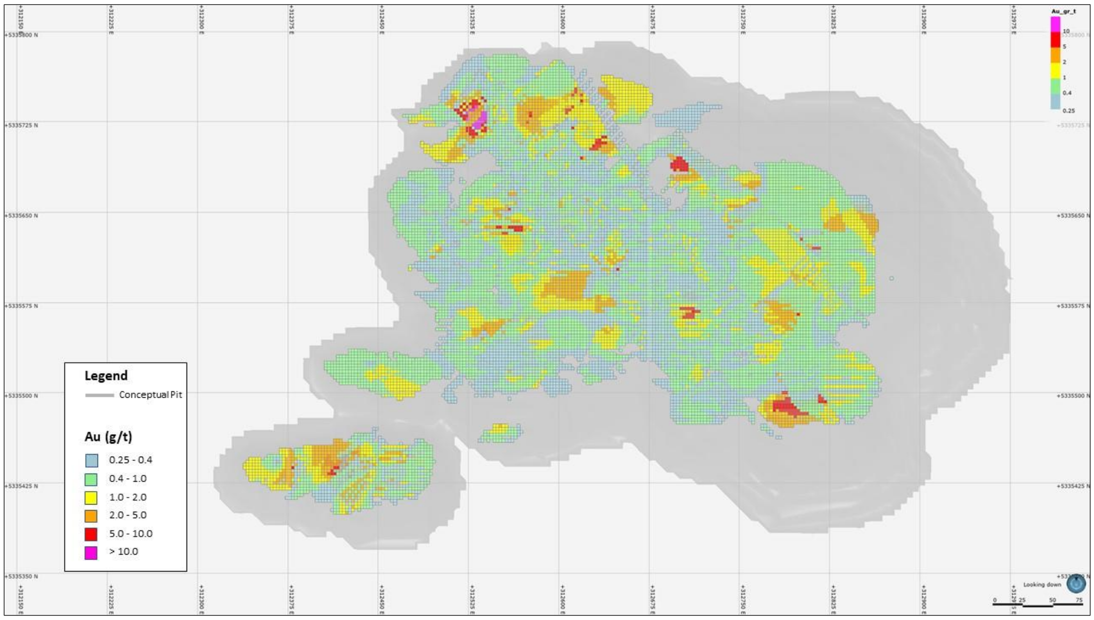
Source: GoldMinds, 2021.

14.8.2.2 North

14.8.2.2.1 North Open Pit Model

The block gold grades were estimated using three estimation passes (Figure 14-35). Table 14-16 shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. Table 14-17 shows the dimensions and the orientations of the ellipsoids used for estimation.

Figure 14-35: Plan View showing North Open Pit Block Model, coded by Au grade (g/t) with Conceptual Pit Limits



Source: GoldMinds, 2021.

Table 14-16: Three-Pass Estimation Composite Parameters, North Open Pit Model

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Table 14-17: Ellipsoids Size for the Bulk/Dykes Envelopes Estimation, North Open Pit Model

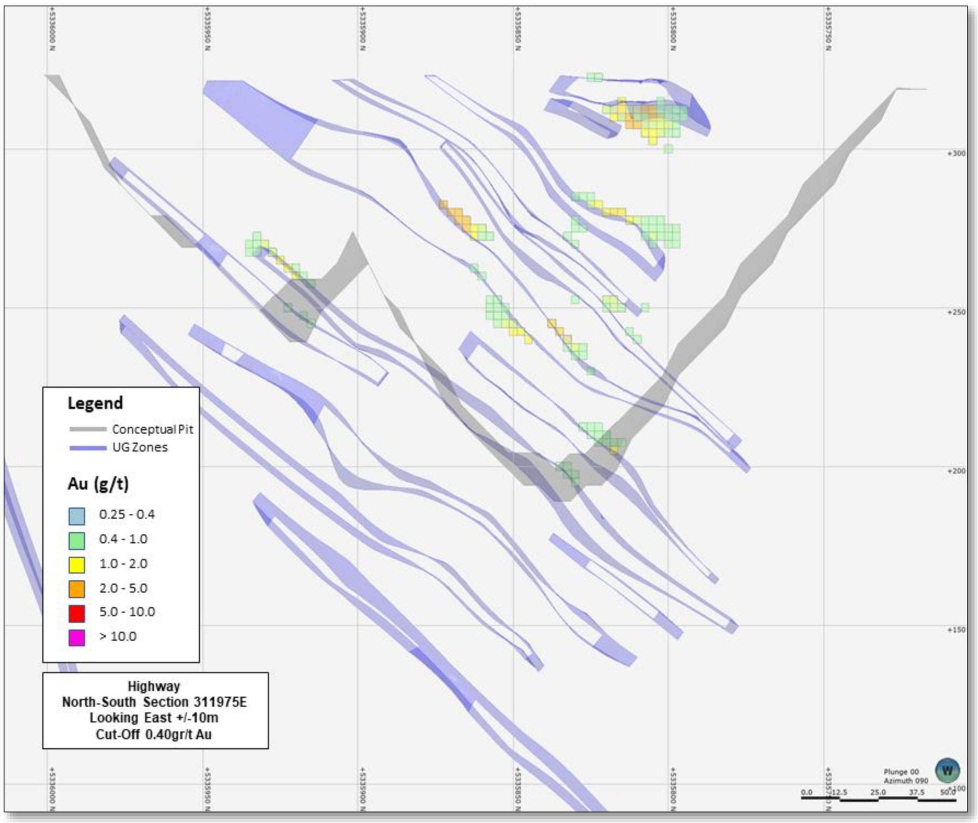
Ellipsoids	Run_01	Run_02	Run_03
Azimuth	320	320	320
Dip	-30	-30	-30
Spin	0	0	0
Principal Axis (Bulk)	20	40	80
Median Axis (Bulk)	30	60	120
Minor Axis (Bulk)	10	20	30
Principal Axis (Dykes)	30	60	120
Median Axis (Dykes)	20	40	80
Minor Axis (Dykes)	05	10	15

Source: GoldMinds, 2021.

14.8.2.2.2 North Wall Material

The wall material was estimated using three estimation passes (Figure 14-36).

Figure 14-36: Wall Material Estimation – Section View at North



Source: GoldMinds, 2021.

The minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations are listed in Table 14-18. Table 14-19 shows the dimensions and the orientations of the ellipsoids used for estimation. After the grade estimation was done, the wall material model was merged with the open pit model.

Table 14-18: Three-Pass Estimation with Composite Parameters, North Wall Material

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Table 14-19: Ellipsoids Size for the Wall Material Estimation of North

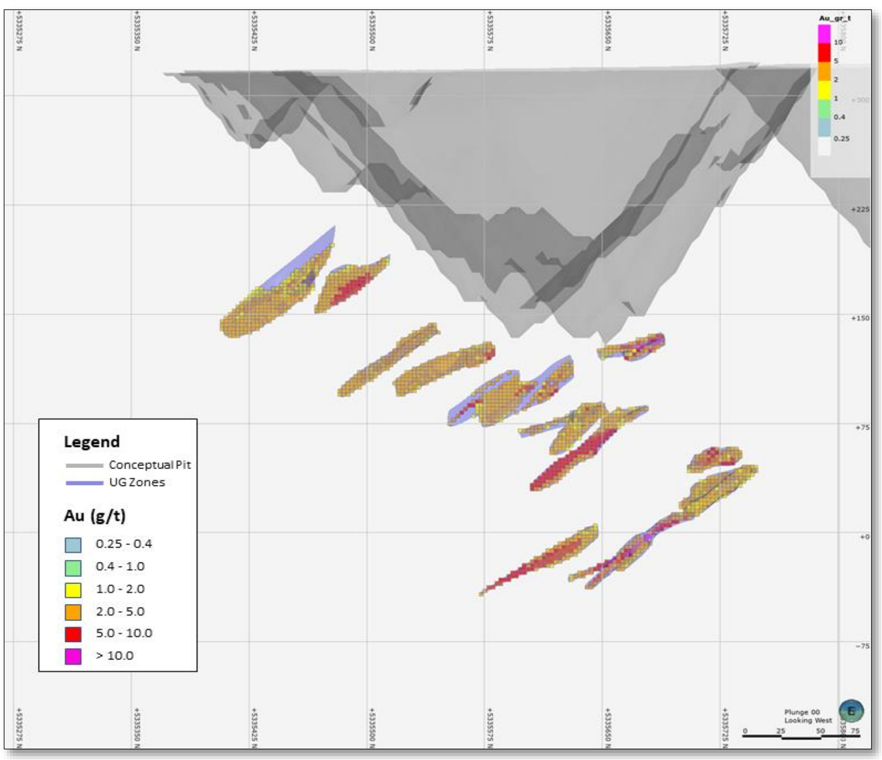
Ellipsoids	Run_01	Run_02	Run_03
Azimuth	320	320	320
Dip	-30	-30	-30
Spin	0	0	0
Principal Axis	20	40	60
Median Axis	30	60	90
Minor Axis	05	10	15

Source: GoldMinds, 2021.

14.8.2.2.3 North Underground Model

The underground mineral resource was estimated with the same parameters of the North open pit model (Tables 14-18 and 14-19 above), using the same dykes but different volcanic bulk wireframes. For North, the underground resource zones were modelled using a minimum cut-off grade of 2.05 g/t Au within the volcanic bulk envelopes and a cut-off grade of 1.65 g/t Au within the dykes (Figure 14-37).

Figure 14-37: Section View (looking west) showing Underground Block Model, coded by Au Grade (g/t), North



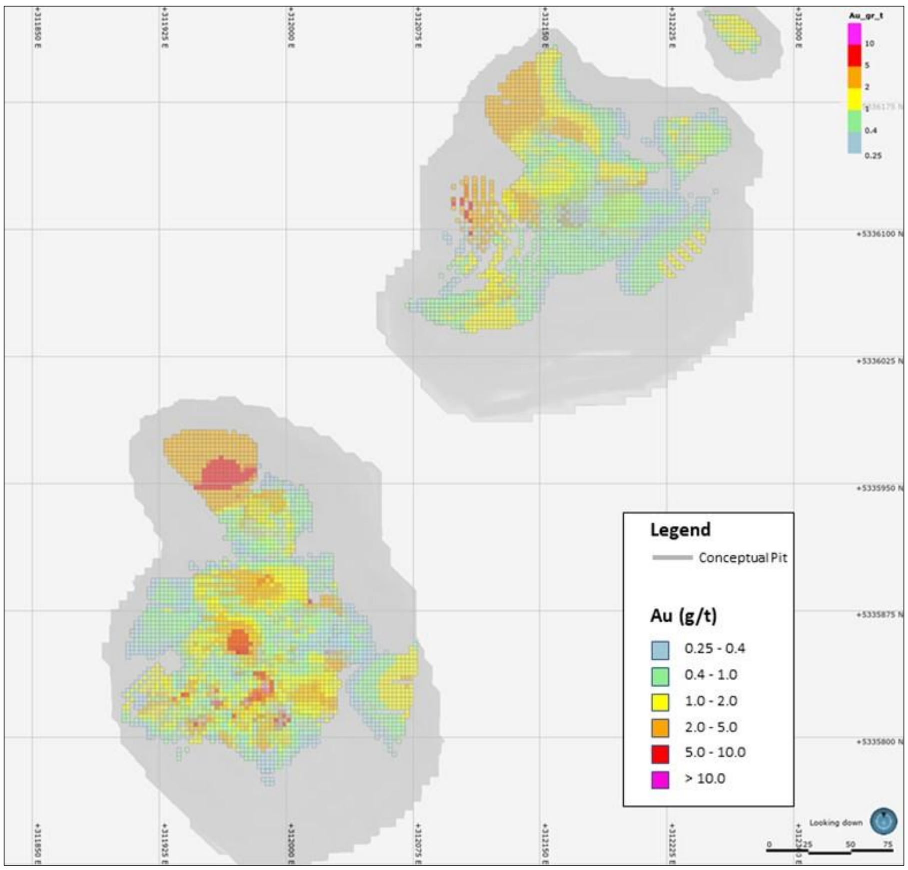
Source: GoldMinds, 2021.

14.8.2.3 Highway

14.8.2.3.1 Highway Open Pit Model

The block gold grades were estimated using three estimation passes (Figure 14-38). Table 14-20 shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. Table 14-21 shows the dimensions and the orientations of the ellipsoids used for estimation.

Figure 14-38: Plan View showing Highway Open Pit Block Model, coded by Au grade (g/t) with Pit Limits



Source: GoldMinds, 2021.

Table 14-20: Three-Pass Estimation Composite Parameters, Highway Open Pit Model

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Table 14-21: Ellipsoids for the Volcanic Bulk Envelopes Estimation, Highway Open Pit Model

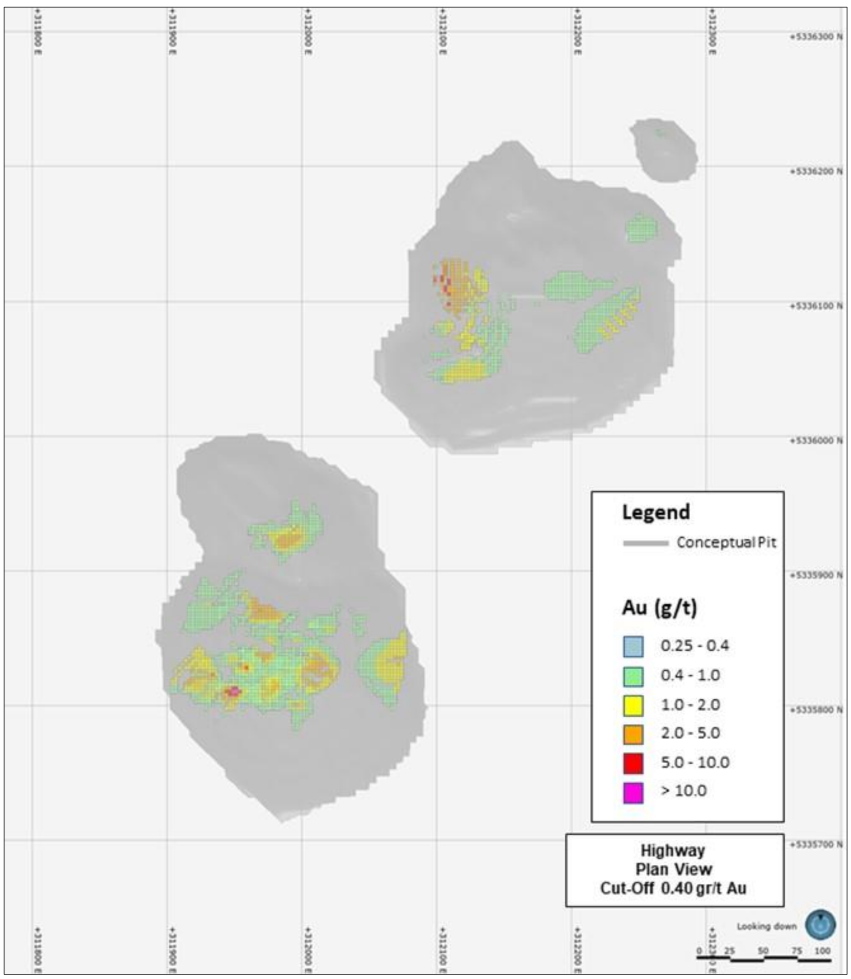
Ellipsoids	Run_01	Run_02	Run_03
Azimuth	320	320	320
Dip	-30	-30	-30
Spin	0	0	0
Principal Axis	20	40	80
Median Axis	30	60	120
Minor Axis	10	20	30

Source: GoldMinds, 2021.

14.8.2.3.2 Highway Wall Material

The wall material was estimated using three estimation passes (Figure 14-39).

Figure 14-39: Plan View showing Wall Material Block Model, Highway



Source: GoldMinds, 2021.

The minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations are listed in Table 14-22. Table 14-23 shows the dimensions and the orientations of the ellipsoids used for estimation. After the grade estimation was done, the wall material model was merged with the open pit model.

Table 14-22: Three-Pass Estimation with the Composites Number Parameters, Highway Wall Material

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	1

Source: GoldMinds, 2021.

Table 14-23: Ellipsoids Size for the Wall Material, Highway

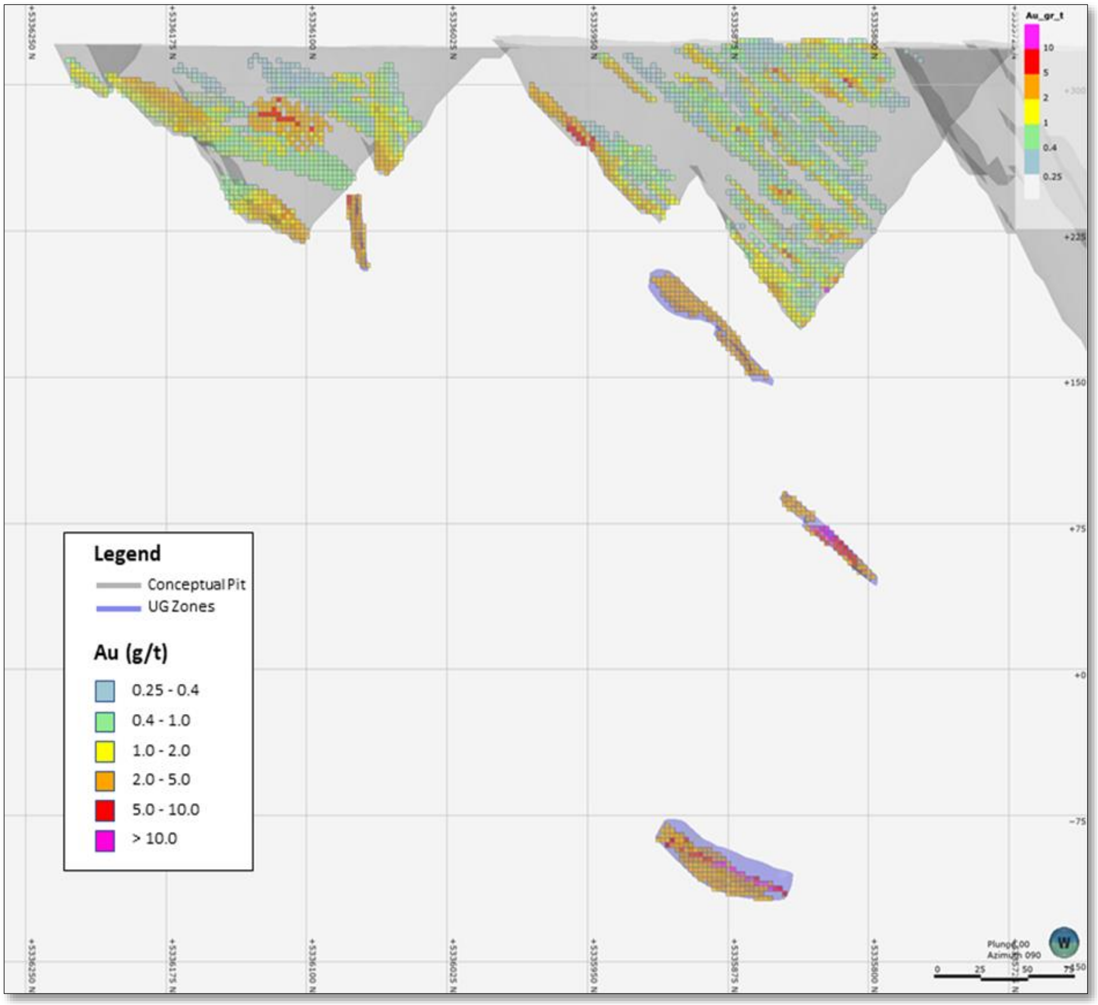
Ellipsoids	Run_01	Run_02	Run_03
Azimuth	320	320	320
Dip	-30	-30	-30
Spin	0	0	0
Principal Axis	20	40	60
Median Axis	30	60	90
Minor Axis	05	10	15

Source: GoldMinds, 2021.

14.8.2.3.3 Highway Underground Model

The underground mineral resource was estimated using the same block model of the open pit model, in which the pit shell was extracted. The underground resource zones were modelled using a minimum cut-off grade of 2.05 g/t Au within the mineralized envelopes (Figure 14-40).

Figure 14-40: General View (looking east) showing Underground Block Model, coded by Au grade (g/t), Highway



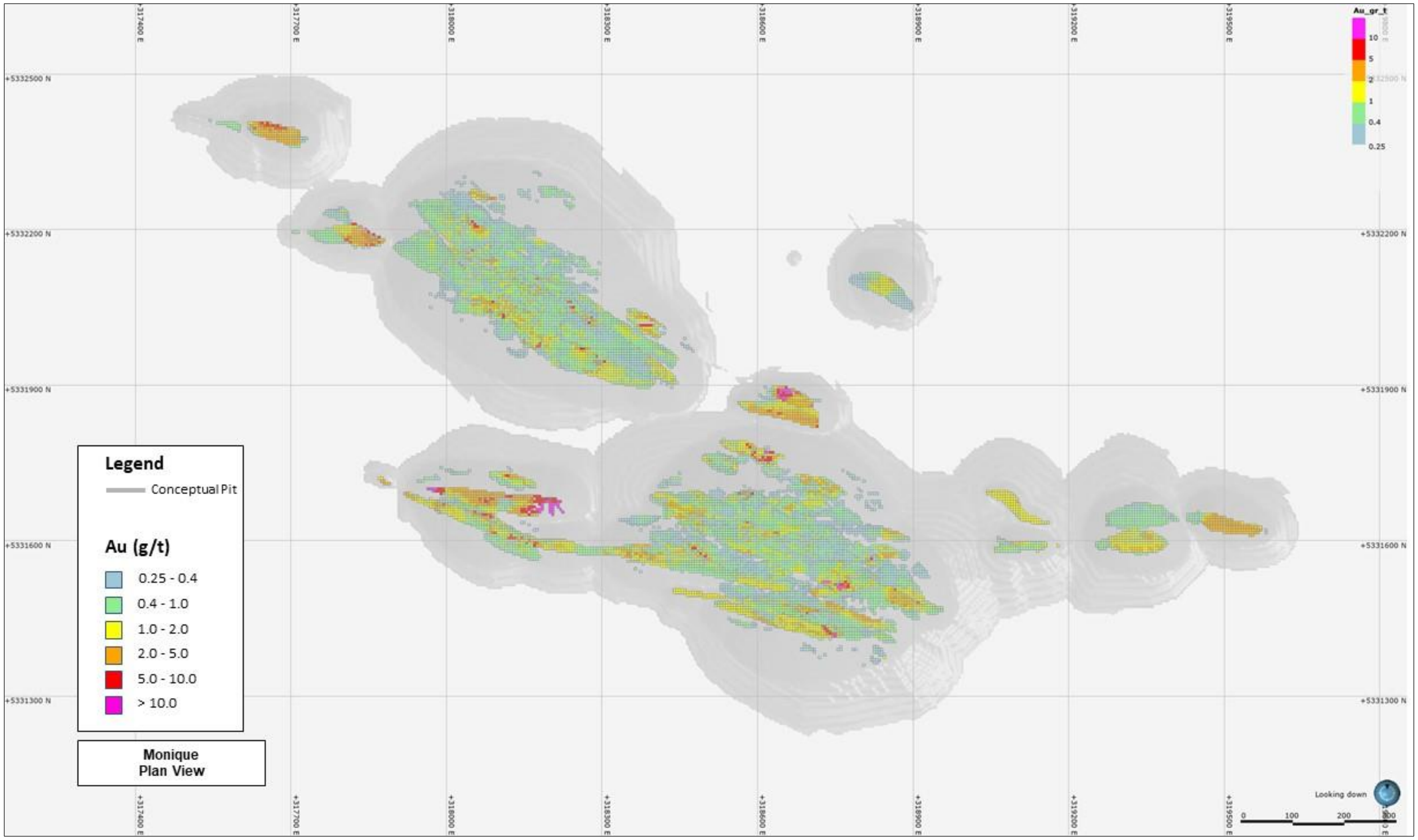
Source: GoldMinds, 2021.

14.8.2.4 Monique

14.8.2.4.1 Monique Open Pit Model

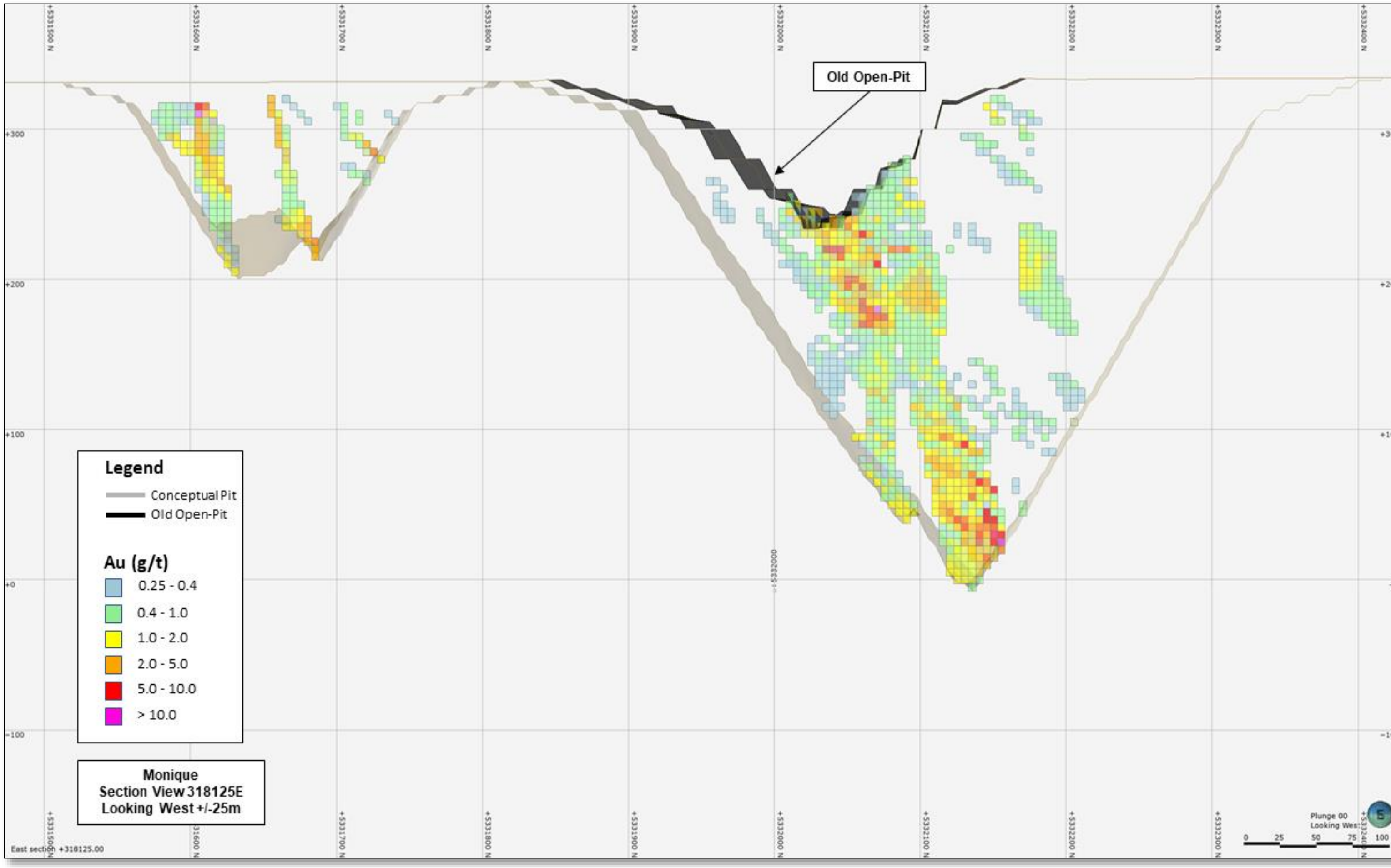
The block gold grades were estimated using three estimation passes (Figures 14-41 and 14-42). Block size was 5 m E x 5 m N x 5 m Z. Table 14-24 shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. The dimensions and the orientations of the ellipsoids used for estimation are presented in Table 14-25. After the grade estimation was completed, the mined-out pit volume was removed from the mineral resource estimate (Figure 14-41).

Figure 14-41: Plan View showing Monique Open Pit Block Model, coded by Au grade (g/t) with Pit Limits



Source: GoldMinds, 2021.

Figure 14-42: Section View (looking west) showing Monique Open Pit Model and the Mined-out Pit Volume, Block coded by Au Grade (g/t)



Source: GoldMinds, 2021.

Table 14-24: Three-Pass Estimation Composite Parameters, Monique Open Pit Model

Pass	Min Composites	Max Composites	Composites per Drill Hole
First Pass	3	12	2
Second Pass	3	12	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Table 14-25: Ellipsoids for the Pit Envelopes Estimation, Monique Open Pit Model

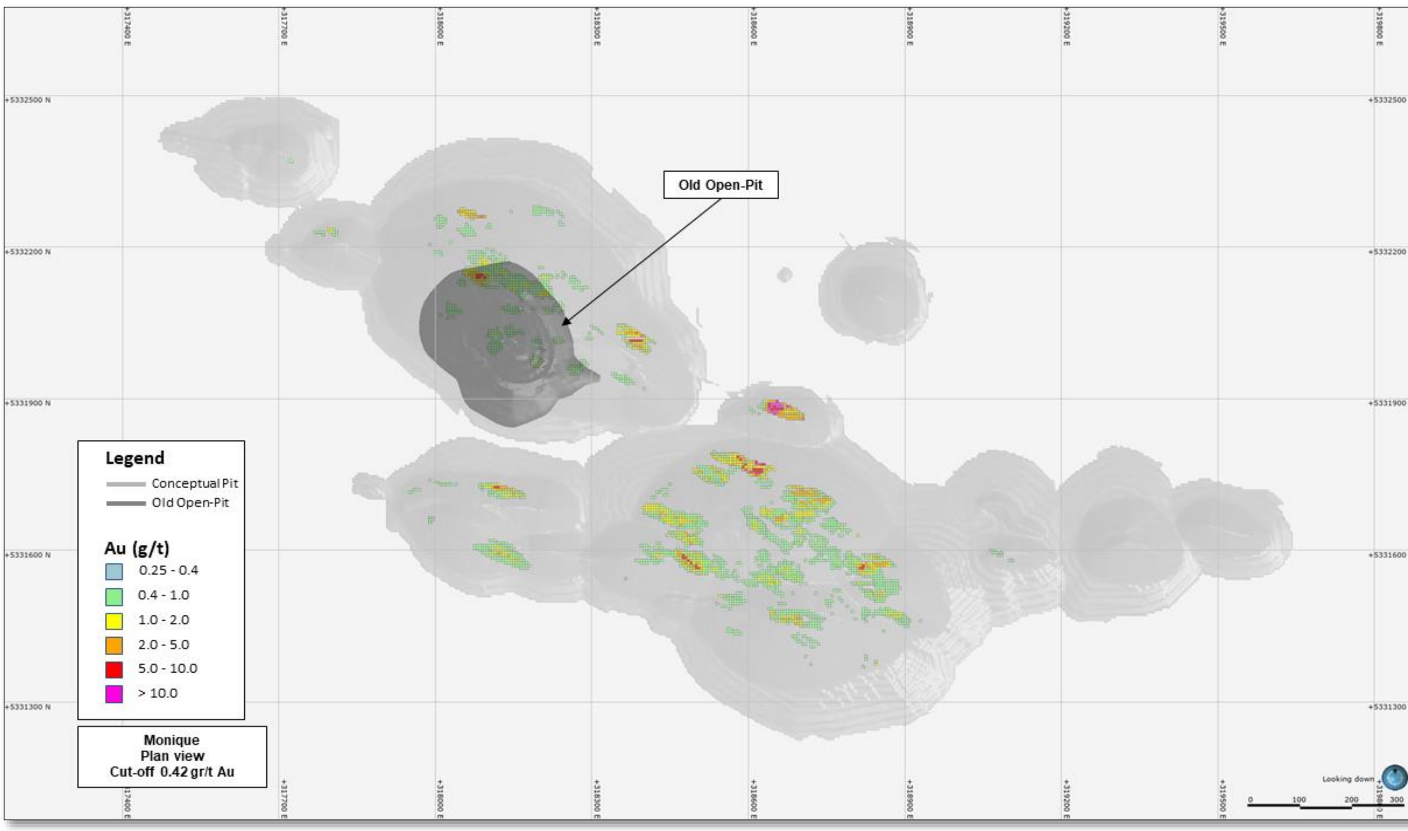
Ellipsoids	Azimuth°	Dip°	Major	Median	Minor
Pit_A_Pass01	270	-75	35	15	15
Pit_A_Pass02	270	-75	65	50	35
Pit_A_Pass03	270	-75	80	60	35
Pit_B_Pass01	290	-75	25	10	10
Pit_B_Pass02	290	-75	60	40	30
Pit_B_Pass03	290	-75	80	60	30
Pit_E_Pass01	277	-75	25	10	10
Pit_E_Pass02	277	-75	60	30	25
Pit_E_Pass03	277	-75	80	60	25
Pit_F_Pass01	285	-75	15	15	25
Pit_F_Pass02	285	-75	60	50	30
Pit_F_Pass03	285	-75	85	70	30
Pit_G_Pass01	290	-78	25	10	10
Pit_G_Pass02	290	-78	60	40	25
Pit_G_Pass03	290	-78	80	60	25
Pit_I_Pass01	280	-80	25	10	10
Pit_I_Pass02	280	-80	60	40	20
Pit_I_Pass03	280	-80	80	60	20
Pit_I_HW_Pass01	285	-75	25	10	10
Pit_I_HW_Pass02	285	-75	60	40	20
Pit_I_HW_Pass03	285	-75	80	60	20
Pit_J_Pass01	295	-80	25	10	10
Pit_J_Pass02	295	-80	60	45	20
Pit_J_Pass03	295	-80	80	55	20
Pit_M_Pass01	272	-80	25	10	10
Pit_M_Pass02	272	-80	60	40	20
Pit_M_Pass03	272	-80	80	55	20
Pit_P_Pass01	295	-70	25	10	10
Pit_P_Pass02	295	-70	60	45	20
Pit_P_Pass03	295	-70	80	55	20
Pit_Q_Pass01	300	-80	25	10	10
Pit_Q_Pass02	300	-80	65	40	20
Pit_Q_Pass03	300	-80	80	55	20
Pit_S_Pass01	285	-80	25	10	10
Pit_S_Pass02	285	-80	65	45	20
Pit_S_Pass03	285	-80	85	65	20
Pit_T_Pass01	285	-80	25	10	10
Pit_T_Pass02	285	-80	25	10	10
Pit_T_Pass03	285	-80	25	10	10

Source: GoldMinds, 2021.

14.8.2.4.2 Monique Wall Material

The wall material wireframe constrained by the pit surface was filled by regular blocks of 5 m E x 5 m N x 5 m Z (Figure 14-43). Table 14-26 shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. The dimensions and the orientations of the ellipsoids used for estimation are presented in Table 14-27. After the grade estimation was done, the wall material model was merged with the open pit model.

Figure 14-43: Plan View showing Wall Material Block Model, Monique



Source: GoldMinds, 2021.

Table 14-26: Three-Pass Estimation Composite Parameters, Monique Wall Material

Pass	Min Composites	Max Composites	Composites per Drill Hole
First Pass	3	12	2
Second Pass	3	12	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Table 14-27: Ellipsoids Size for the Wall Material Estimation, Monique

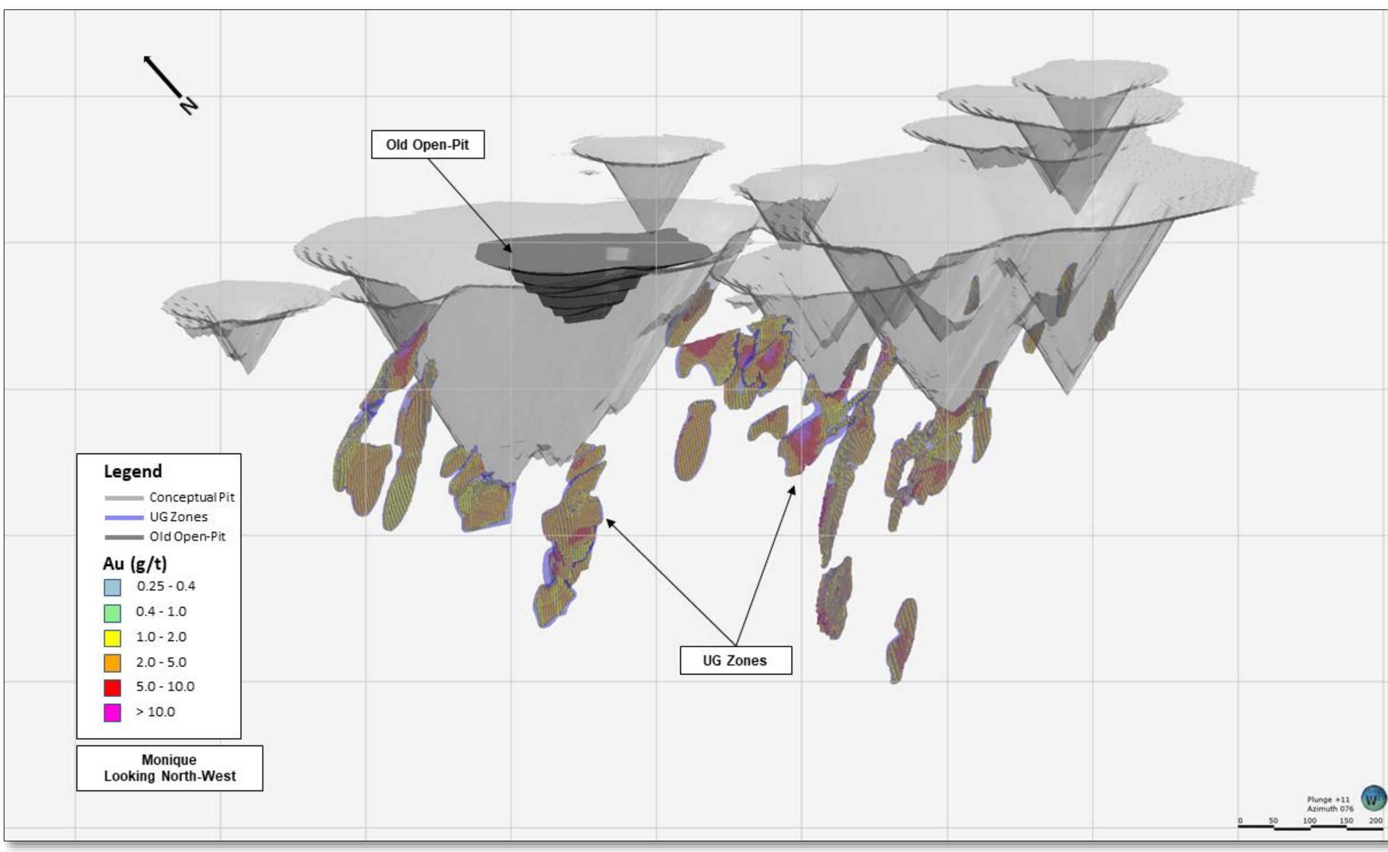
Ellipsoids	Run_01	Run_02	Run_03
Azimuth	203	203	203
Dip	-75	-75	-75
Spin	0	0	0
Principal Axis	25	60	80
Median Axis	10	40	60
Minor Axis	05	10	15

Source: GoldMinds, 2021.

14.8.2.4.3 Monique Underground Model

The block gold grades were estimated using three estimation passes (Figure 14-44).

Figure 14-44: General View (looking northwest) showing Underground Block Model, coded by Au grade (g/t), Monique



Source: GoldMinds, 2021.

Block size was 2.5 m E x 2.5 m N x 2.5 m Z. Table 14-28 shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. The dimensions and the orientations of the ellipsoids used for estimation are presented in Table 14-29. For Monique, the underground resource zones were modelled using a minimum cut-off grade of 1.65 g/t Au within the bulk envelopes (Figure 14-44 above).

Table 14-28: Three-Pass Estimation Composite Parameters, Monique Underground Model

	Min Composites	Max Composites	Composites per drill hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Table 14-29: Ellipsoids for the Underground Bulk Envelopes Estimation, Monique Underground Model

Ellipsoids	Azimuth°	Dip°	Major	Median	Minor
Corps_A_Pass01	270	-75	35	15	15
Corps_A_Pass02	270	-75	65	50	35
Corps_A_Pass03	270	-75	80	60	35
Corps_B_Pass01	290	-75	25	10	10
Corps_B_Pass02	290	-75	60	40	30
Corps_B_Pass03	290	-75	80	60	30
Corps_G_Pass01	290	-78	25	10	10
Corps_G_Pass02	290	-78	60	40	25
Corps_G_Pass03	290	-78	80	60	25
Corps_I_Pass01	280	-80	25	10	10
Corps_I_Pass02	280	-80	60	40	20
Corps_I_Pass03	280	-80	80	60	20
Corps_I_HW_Pass01	285	-75	25	10	10
Corps_I_HW_Pass02	285	-75	60	40	20
Corps_I_HW_Pass03	285	-75	80	60	20
Corps_J_Pass01	295	-80	25	10	10
Corps_J_Pass02	295	-80	60	45	20
Corps_J_Pass03	295	-80	80	55	20
Corps_L_Pass01	290	-80	25	10	10
Corps_L_Pass02	290	-80	60	40	20
Corps_L_Pass03	290	-80	80	60	20
Corps_M_Pass01	272	-80	25	10	10
Corps_M_Pass02	272	-80	60	40	20
Corps_M_Pass03	272	-80	80	55	20
Corps_P_Pass01	295	-70	25	10	10
Corps_P_Pass02	295	-70	60	45	20
Corps_P_Pass03	295	-70	80	55	20

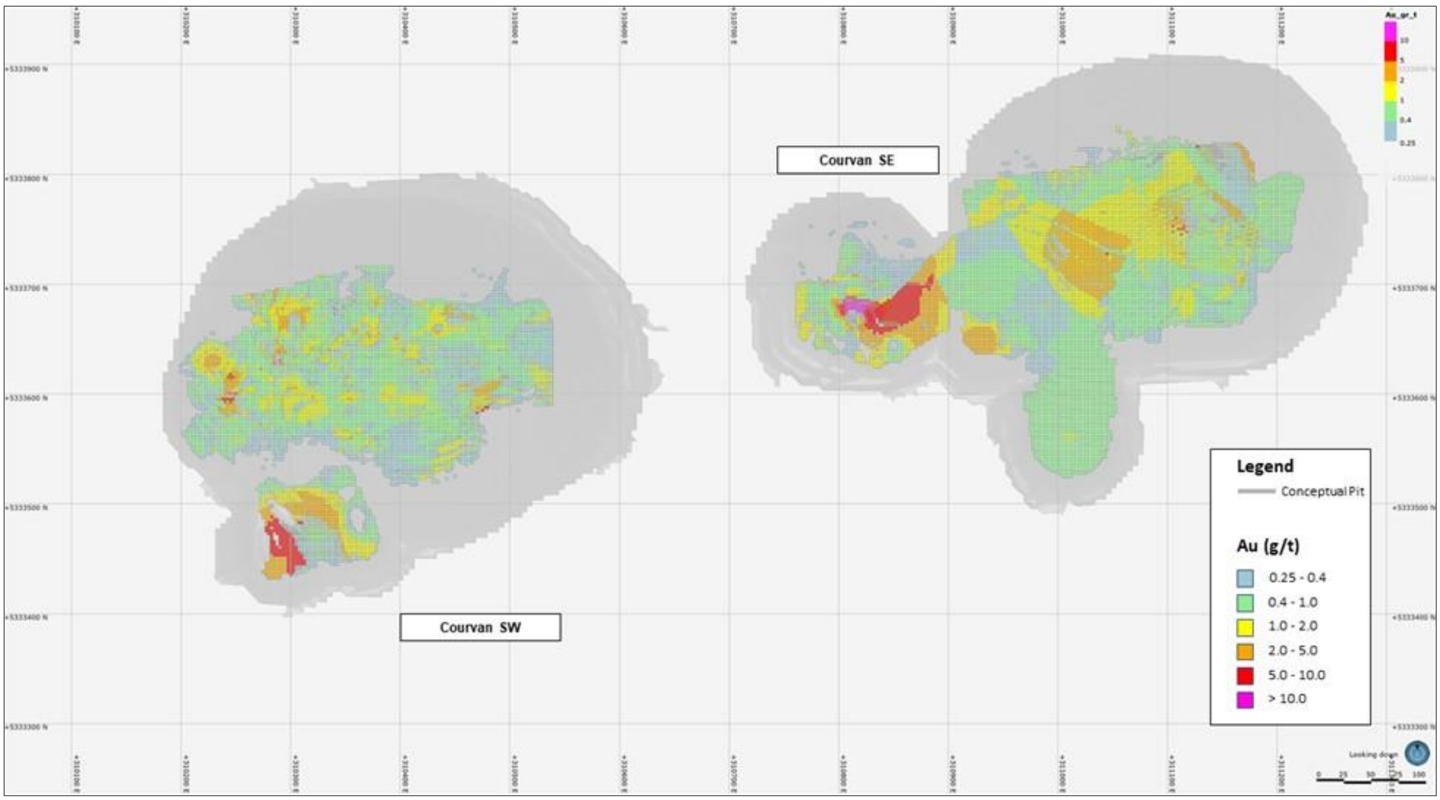
Source: GoldMinds, 2021.

14.8.2.5 Courvan SE and SW

14.8.2.5.1 Courvan SE and SW Open Pit Model

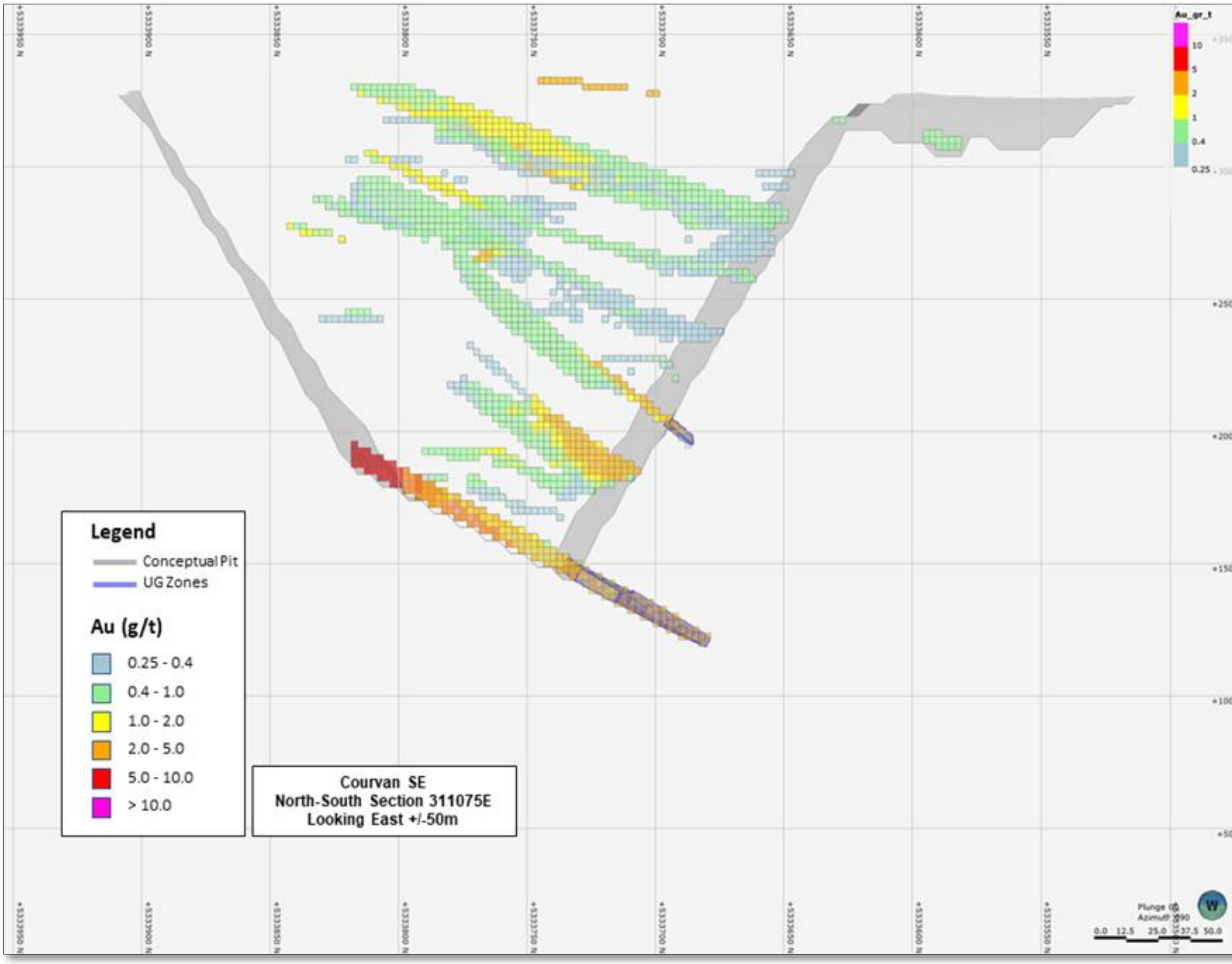
The block gold grades were estimated using three estimation passes (Figures 14-45 to 14-47). Table 14-30 shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. The dimensions and the orientations of the ellipsoids used for estimation are presented in Table 14-31.

Figure 14-45: Plan View for Courvan SE and SW Open Pit Block Models, coded by Au grade (g/t) with Conceptual Pit Limits



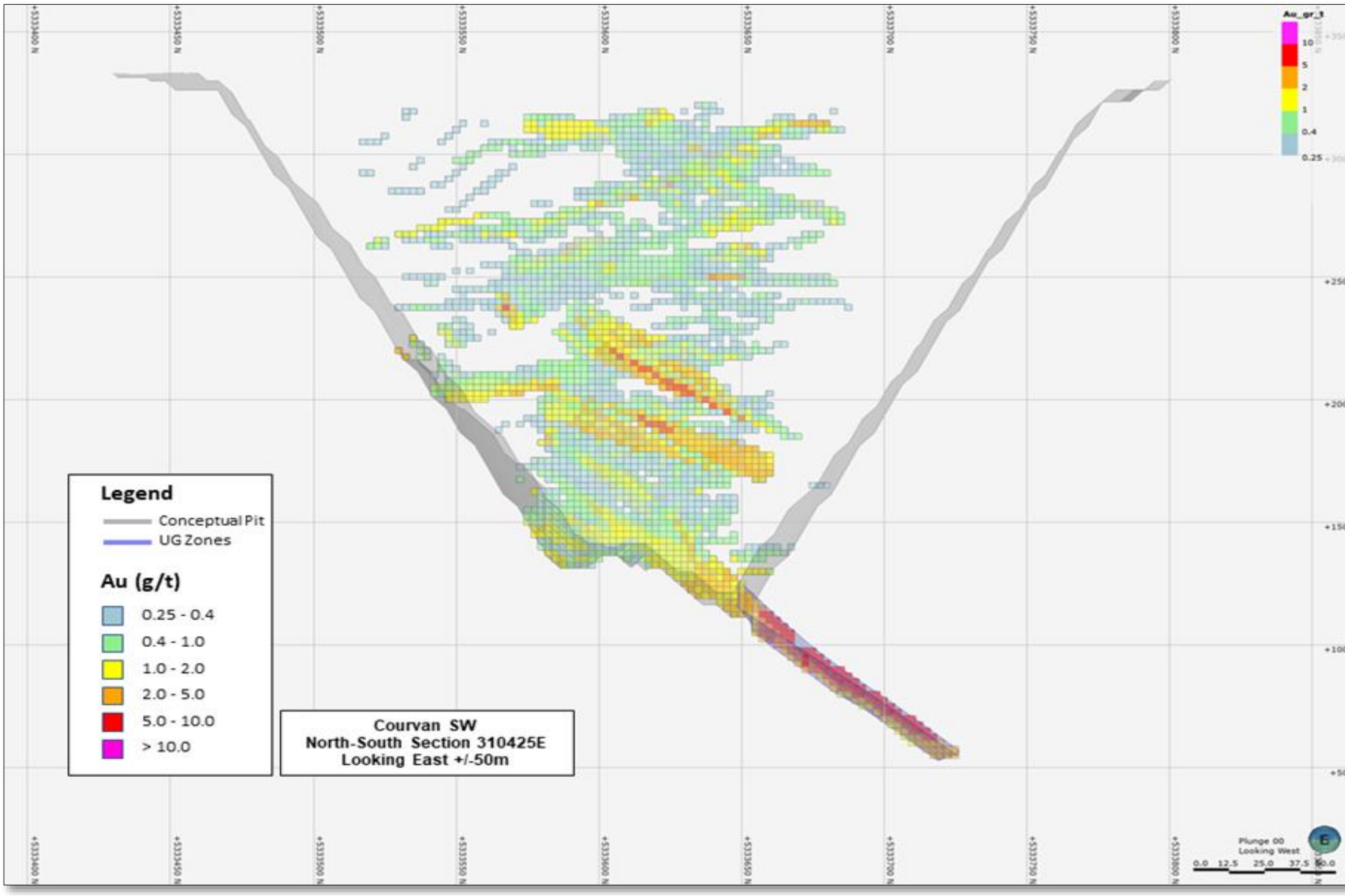
Source: GoldMinds, 2021.

Figure 14-46: Section View (looking east) showing the OP & UG Block Model, Courvan SE



Source: GoldMinds, 2021.

Figure 14-47: Section View (looking east) showing the OP & UG Block Model, Courvan SW



Source: GoldMinds, 2021.

Table 14-30: Three-Pass Estimation Composite Parameters, Courvan SE and SW Open Pit Model

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Table 14-31: Ellipsoids Size for the Mineralized Envelopes, Courvan SE and SW Open Pit Model

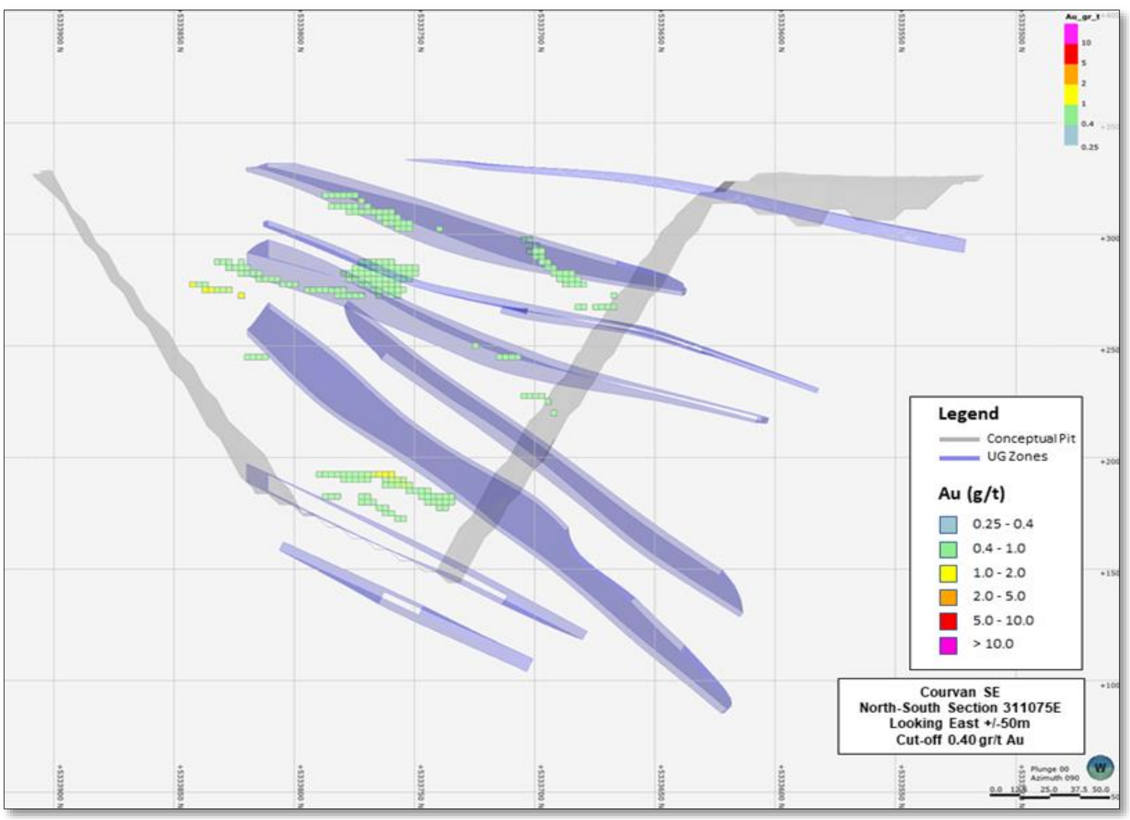
Ellipsoids	Run_01	Run_02	Run_03
Azimuth	05	05	05
Dip	-35	-35	-35
Spin	0	0	0
Principal Axis	30	60	120
Median Axis	30	60	120
Minor Axis	10	15	20

Source: GoldMinds, 2021.

14.8.2.5.2 Courvan SE and SW Wall Material

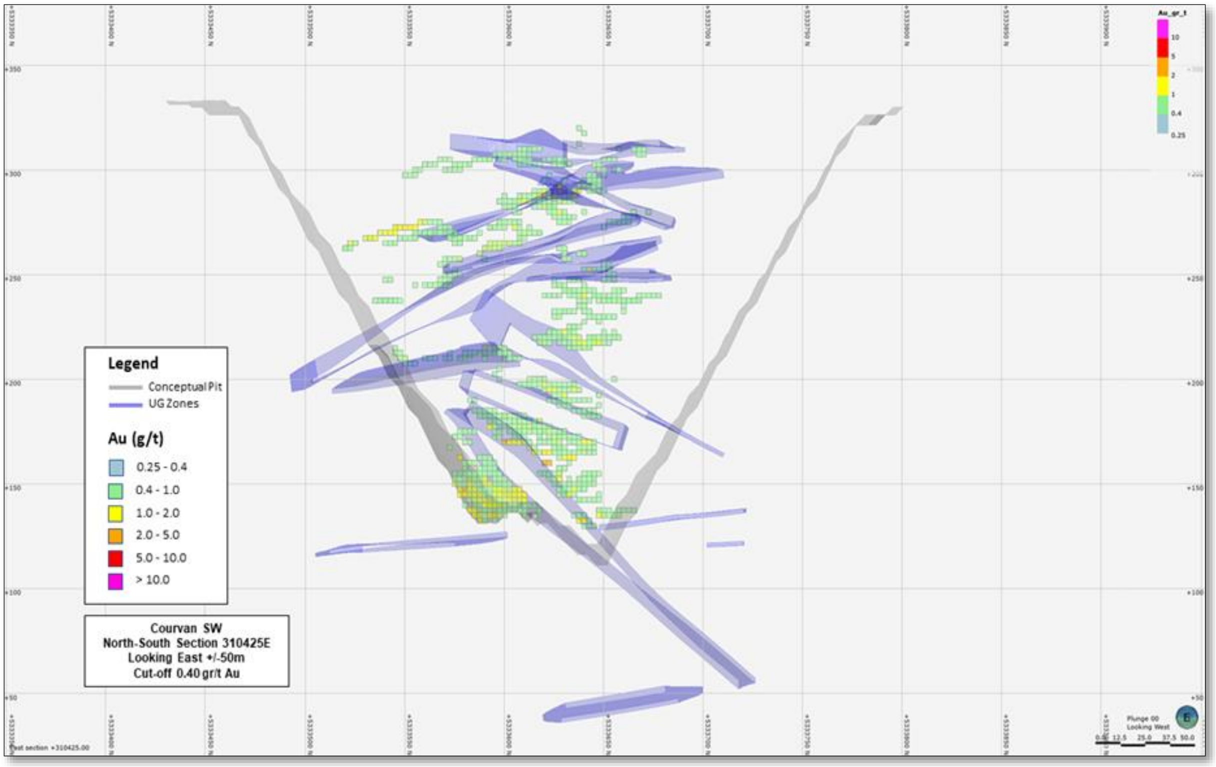
The wall material wireframe constrained by the pit surface was filled by regular blocks of 2.5 m E x 2.5 m N x 2.5 m Z (Figures 14-48 and 14-49). Table 14-32 shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. The dimensions and the orientations of the ellipsoids used for estimation are presented in Table 14-33. After the grade estimation was done, the wall material model was merged with the open pit model.

Figure 14-48: Section View (looking east) showing Wall Material Block Model, Courvan SE



Source: GoldMinds, 2021.

Figure 14-49: Section View (looking north) showing Wall Material Block Model, Courvan SW



Source: GoldMinds, 2021.

Table 14-32: Three-Pass Estimation Composite Parameters, Courvan SE and SW

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	1

Source: GoldMinds, 2021.

Table 14-33: Ellipsoids Size for the Wall Material, Courvan SE and SW

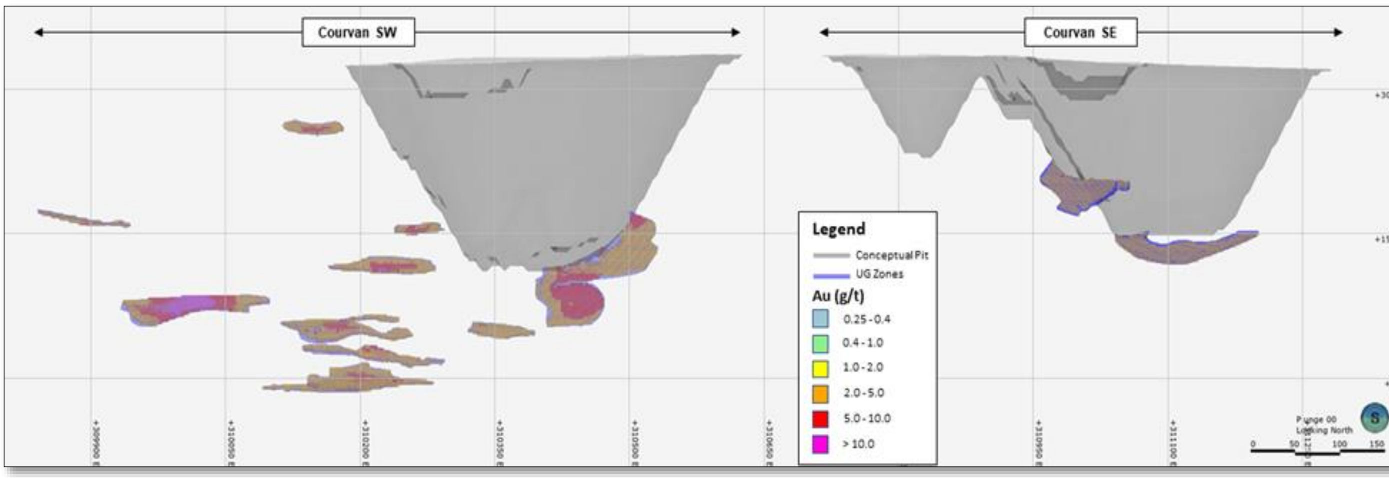
Ellipsoids	Run_01	Run_02	Run_03
Azimuth	180	180	180
Dip	-10	-10	-10
Spin	0	0	0
Principal Axis	20	40	60
Median Axis	20	40	60
Minor Axis	05	05	10

Source: GoldMinds, 2021.

14.8.2.5.3 Courvan SE and SW Underground Model

The underground mineral resource was estimated using the same block model of the open pit model, in which the pit shell was extracted. The underground resource zones were modelled using a minimum cut-off grade of 2.05 g/t Au within the mineralized envelopes (Figure 14-50).

Figure 14-50: General View (looking north) showing Underground Resource Zones of Courvan SE & SW



Source: GoldMinds, 2021.

14.8.2.6 Creek, Bussiere and Bordure

14.8.2.6.1 Creek, Bussiere and Bordure Open Pit Model

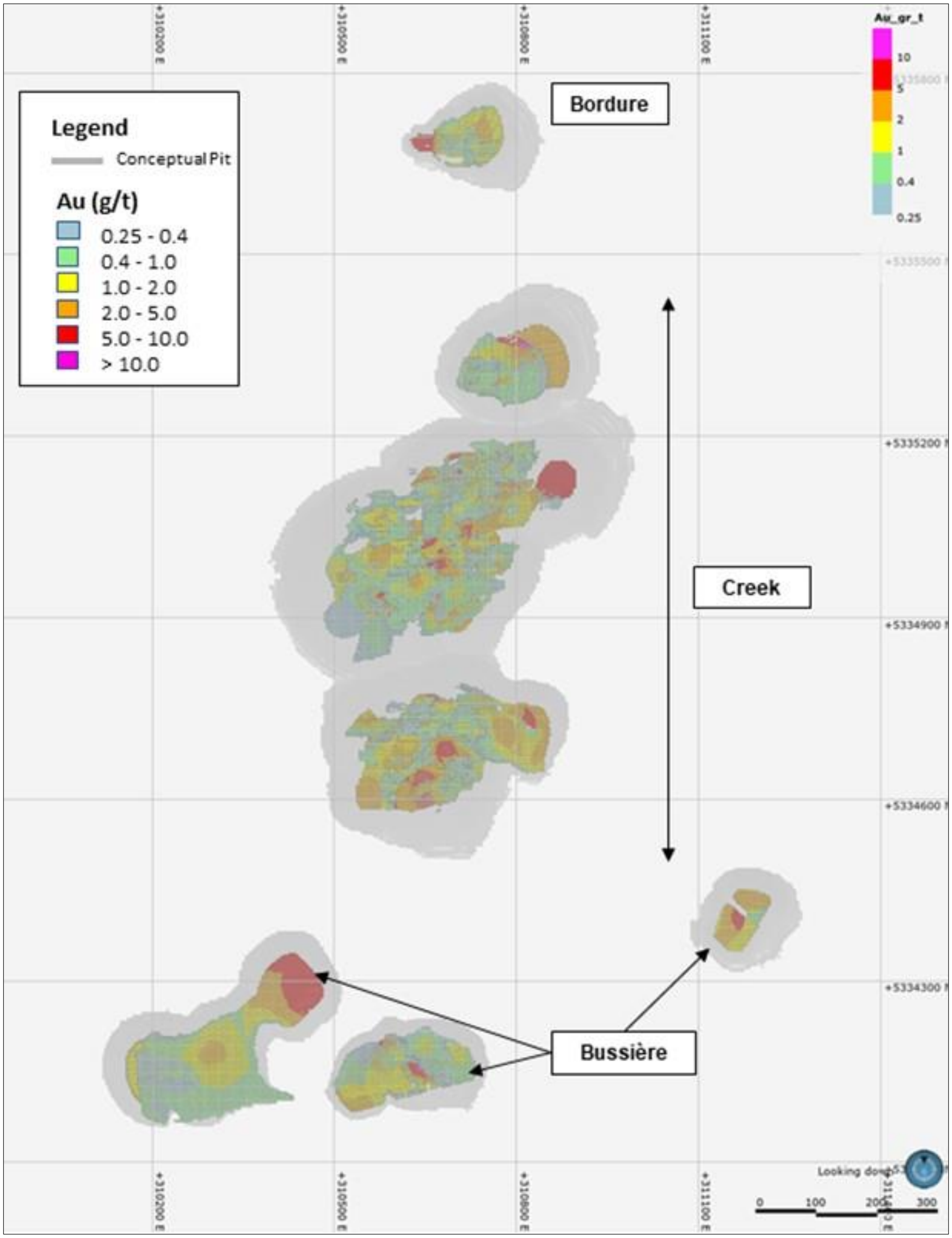
The block gold grades were estimated using three estimation passes (Figure 14-51 on the following page). Table 14-34 below shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. Table 14-35 shows the dimensions and the orientations of the ellipsoids used for estimation. After the grade estimation was completed, the mined-out volumes (stopes, drifts and shafts were removed from the mineral resource estimate).

Table 14-34: Three-Pass Estimation Composite Parameters of Bussiere, Creek and Bordure

Pass	Min Composites	Max Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	n/a

Source: GoldMinds, 2021.

Figure 14-51: Plan View showing the Conceptual Pit Limits and Bussiere, Creek and Bordure Open Pit Block Models coded by Au Grade (g/t)



Source: GoldMinds, 2021.

Table 14-35: Ellipsoids Size used for the Estimation of Bussiere, Creek and Bordure

Ellipsoids	Run_01	Run_02	Run_03
Azimuth	355	355	355
Dip	-22	-22	-22
Principal axis (Bussiere, Bordure)	30	60	120
Median axis (Bussiere, Bordure)	30	60	120
Minor axis (Bussiere, Bordure)	10	15	20
Principal Axis (Creek)	30	60	90
Median Axis (Creek)	30	60	90
Minor Axis (Creek)	10	20	20

Source: GoldMinds, 2021.

14.8.2.6.2 Creek, Bussiere and Bordure Wall Material

The wall material wireframe constrained by the pit surface was filled by regular blocks of 2.5 m E x 2.5 m N x 2.5 m Z (Figure 14-52 on the following page). Table 14-36 shows the minimum and maximum of composites, and the number of composites per drill hole used for all three pass estimations. The dimensions and the orientations of the ellipsoids used for estimation are presented in Table 14-37. After the grade estimation was done, the wall material model was merged with the open pit model.

Table 14-36: Three-Pass Estimation Composite Parameters, Bussiere, Creek and Bordure

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	3	10	2
Second Pass	3	10	2
Third Pass	2	10	1

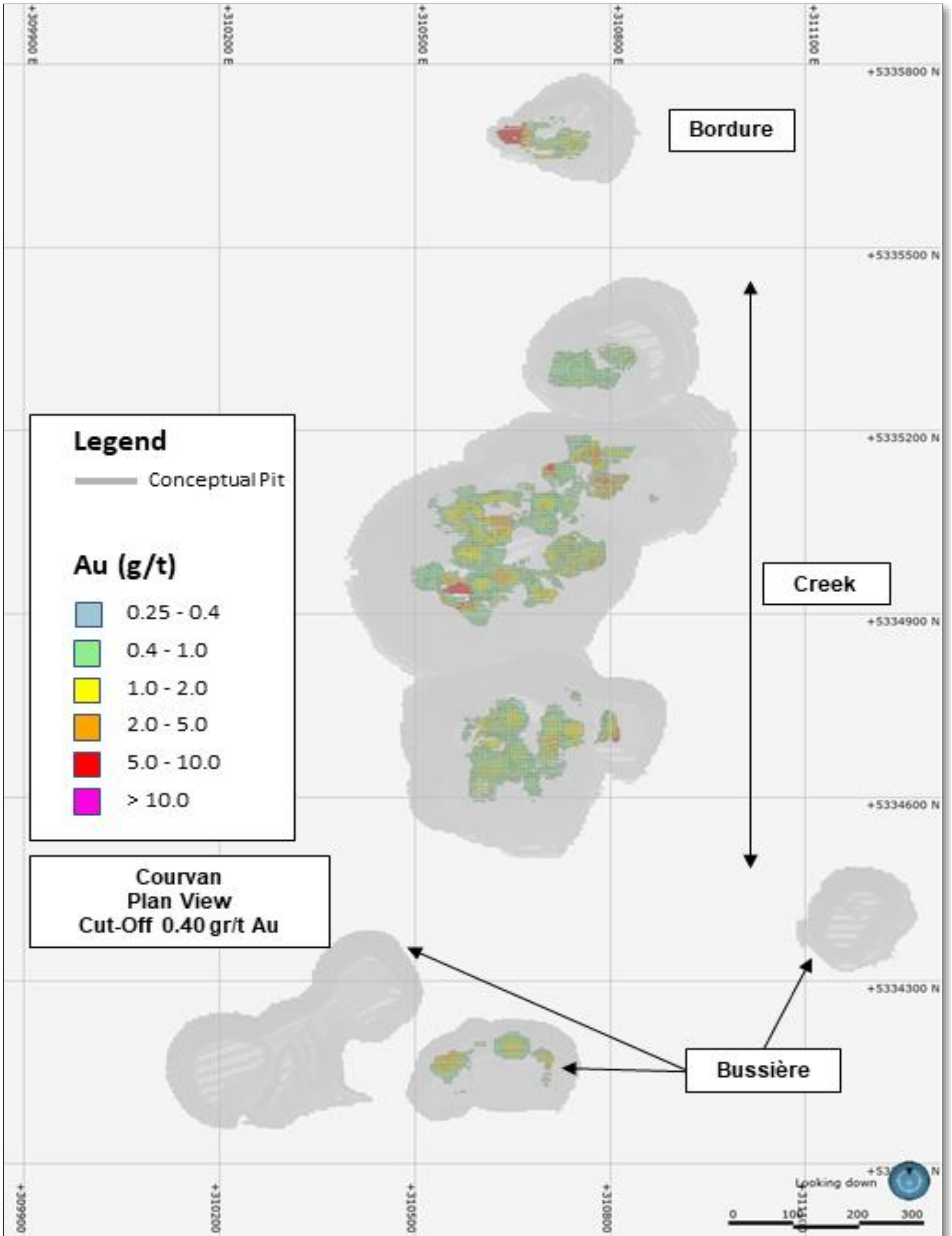
Source: GoldMinds, 2021.

Table 14-37: Ellipsoids Size for the Wall Material, Bussiere, Creek and Bordure

Ellipsoids	Run_01	Run_02	Run_03
Azimuth	180	180	180
Dip	-10	-10	-10
Spin	0	0	0
Principal Axis	20	40	60
Median Axis	20	40	60
Minor Axis	05	05	10

Source: GoldMinds, 2021.

Figure 14-52: Plan View showing Wall Material bloc Model, Bussiere, Creek and Bordure

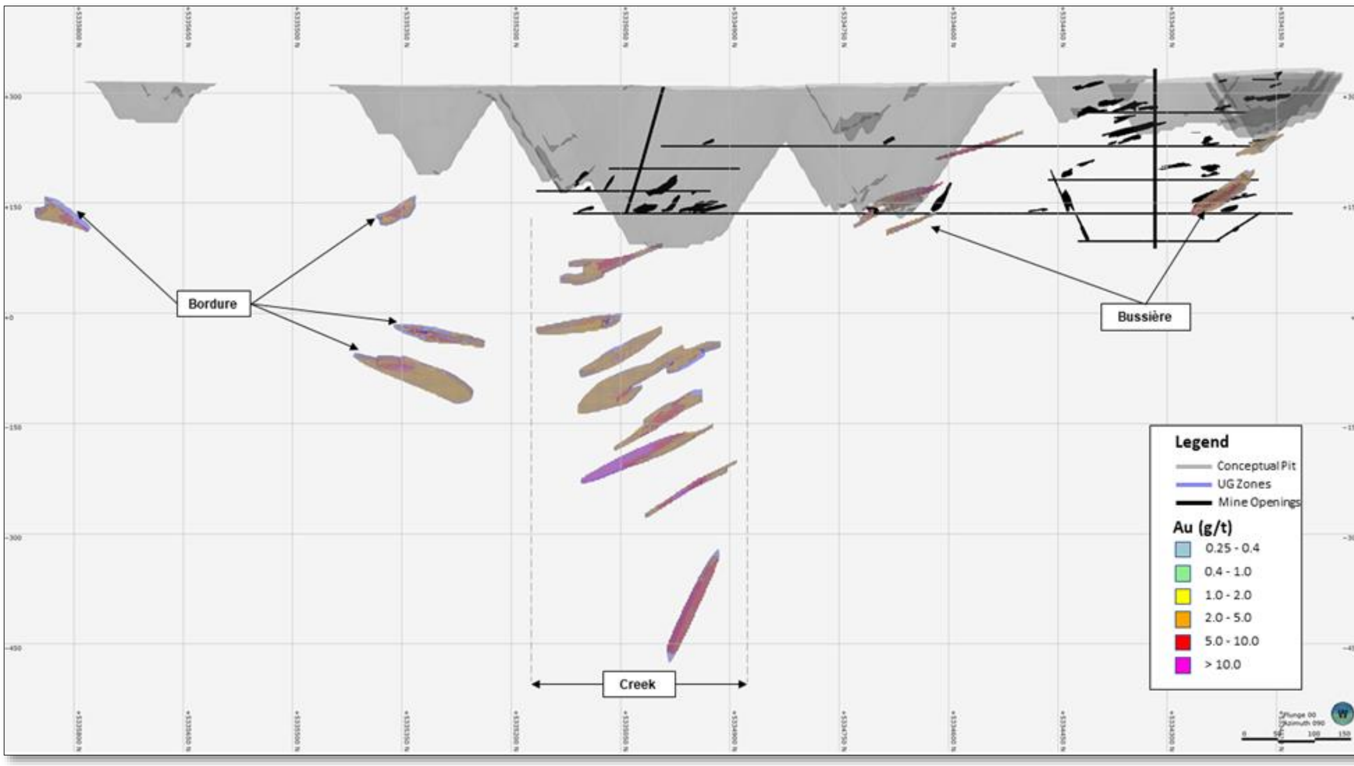


Source: GoldMinds, 2021.

14.8.2.6.3 Creek, Bussiere and Bordure Underground Model

The underground mineral resource was estimated using the same block model of the open pit model, in which the pit shell was extracted. The underground resource zones were modelled using a minimum cut-off grade of 2.05 g/t Au within the mineralized envelopes (Figure 14-53).

Figure 14-53: Section View (looking east) showing the Underground Block Model coded by Au Grade (g/t) and the Mined-out Volumes, Bussiere, Creek and Bordure



Source: GoldMinds, 2021.

14.8.2.7 Lapaska

14.8.2.7.1 Lapaska 2019 Resource Estimate

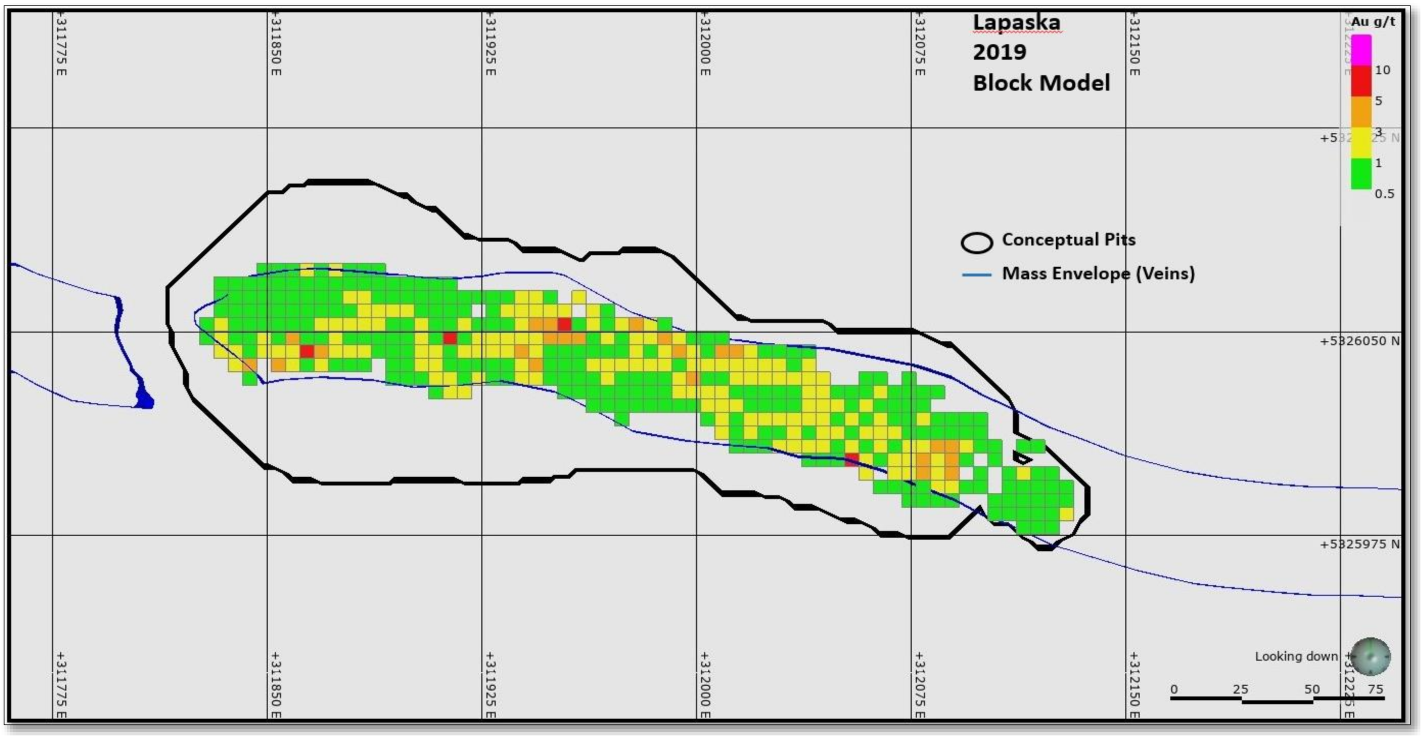
The reader can refer to the 2019 NI 43-101 Technical Report for the Val-d'Or East Project for further details about the Lapaska model.

Two block models were constructed for Lapaska and gold mineralization was contained within the Lapaska Central Zone envelope. The Central Zone was subvertical and oriented east-west, with a maximum thickness of 40 m.

14.8.2.7.2 Lapaska Mass Model

The mass model, with a block size of 5 m E x 5 m N x 5 m Z, was used for the estimation of the pit-constrained mineral resource and for pit optimization (Figure 14-54).

Figure 14-54: Plan View showing Lapaska Mass Block Model with Central Zone and Conceptual Pit, coded by Au Grade (g/t)



Source: GoldMinds, 2019.

Assay composites of 3 m length have been created starting from the collar of each drill hole to the end. The blocks with a centroid inside the Central Zone wireframe were estimated, using only the assay composites within the wireframe. Block gold grades were estimated using two estimation passes. Table 14-38 shows the minimum and maximum of composites, and the number of composites per drill hole used for the two pass estimations. The dimensions and the orientations of the ellipsoids used for estimation are presented in Table 14-39.

Table 14-38: Two Pass Estimation Composite Parameters, Lapaska

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	2	12	1
Second Pass	2	12	n/a

Source: GoldMinds, 2021.

Table 14-39: Ellipsoids Size for the Mass Envelope Estimation of Lapaska

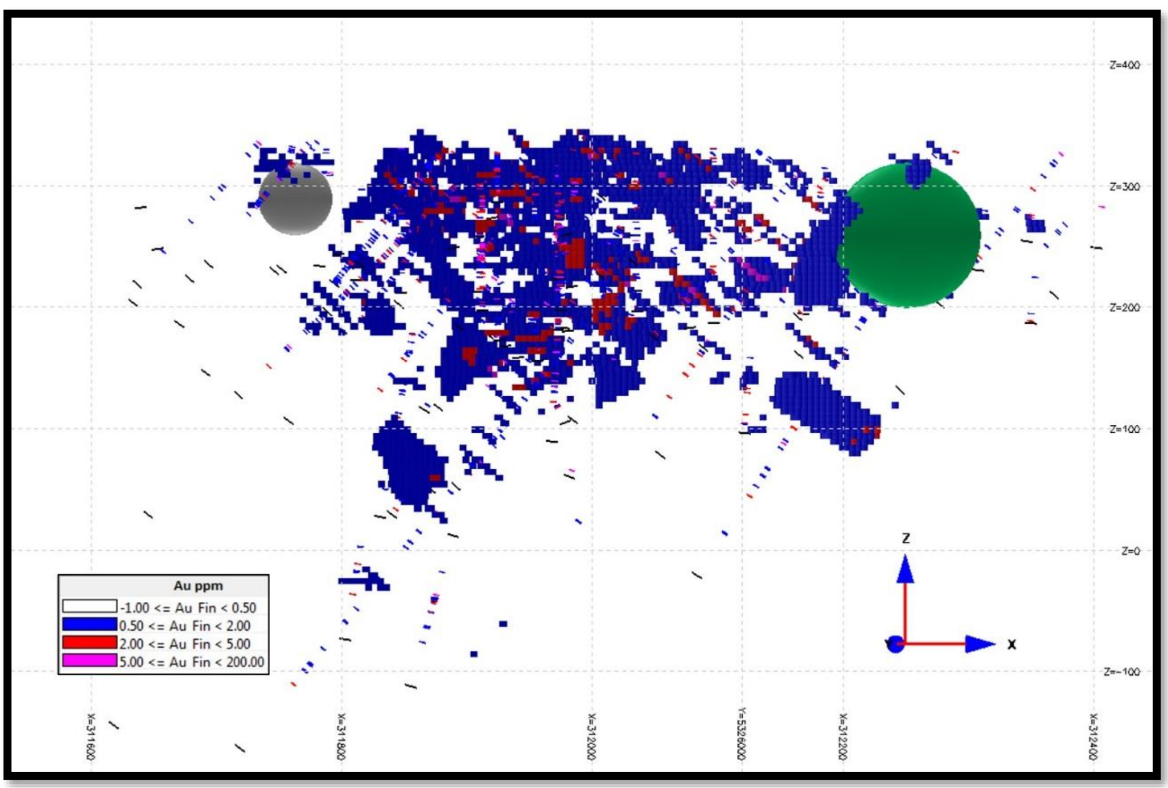
Ellipsoids	Run_01	Run_02
Azimuth	07	07
Dip	90	90
Spin	0	0
Principal Axis	30	60
Median Axis	30	60
Minor Axis	10	20

Source: GoldMinds, 2021.

14.8.2.7.3 Lapaska Underground Model

The underground model, with a block size of 3 m E x 3 m N x 3 m Z, was created to estimate the mineral resources outside of the optimized pit shell (Figure 14-55). Assay composites of 1.5 m length were used. The blocks with a centroid inside the Central Zone wireframe were estimated, using only the assay composites within the wireframe. The pit shell was then extracted from the underground block model, and only the blocks with a centroid outside the pit shells were kept. Block gold grades were estimated using two estimation passes. The same composite parameters and search ellipsoids of the 5/5/5 mass model were also used for the gold grade estimation of the 3/3/3 underground model (Tables 14-38 and 14-39 above).

Figure 14-55: Section View (looking North) of the Lapaska Underground Block Model, coded by Au Grade (g/t)



Source: GoldMinds, 2019.

14.8.2.8 Senore

14.8.2.8.1 Senore 2019 Resource Estimate

The reader can refer to the 2019 NI 43-101 Technical Report for the Val-d'Or East Project for further details about the Senore model.

Two block models were constructed for Senore. The gold mineralization close to the surface was contained in a mass envelope that was used for the estimation of the pit-constrained mineral resource. Fifteen mineralized envelopes, oriented east-west and shallowly dipping south were interpreted for the underground model. The latter were hosted in the eastern margin of the Bourlamaque granodiorite batholith, close to the contact with the Dubuisson formation, approximately 3 km north of Courvan Bordure deposit.

14.8.2.8.2 Senore Mass Model

The mass model, with a block size of 5 m E x 5 m N x 5 m Z, was used for the estimation of the pit-constrained mineral resource and for pit optimization (Figure 14-56 on the following page). Assay composites of 3 m length have been created starting from the collar of each drill hole to the end. The blocks with a centroid inside the mass envelope wireframe were estimated, using only the assay composites within the wireframe. Block gold grades were estimated using two estimation passes. Table 14-40 shows the minimum and maximum of composites, and the number of composites per drill hole used for the two pass estimations. The dimensions and the orientations of the ellipsoids used for estimation are presented in Table 14-41. After the grade estimation was completed, the mined-out volumes (stopes, drifts and shafts) were removed from the mineral resource estimate (Figure 14-57).

Table 14-40: Two Pass Estimation Composite Parameters, Senore Mass Model

Pass	Minimum Composites	Maximum Composites	Composites per Drill Hole
First Pass	2	12	1
Second Pass	2	12	n/a

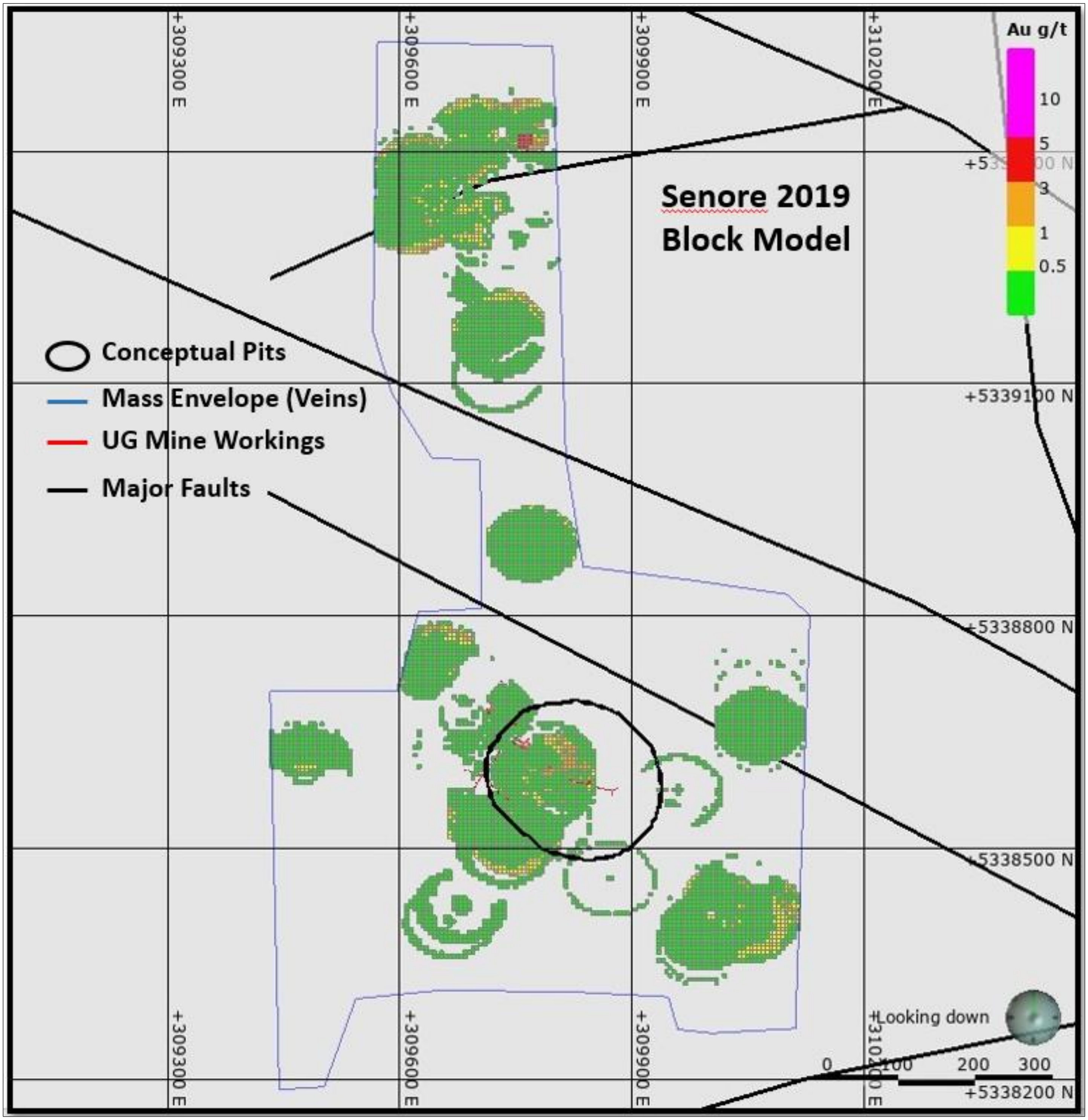
Source: GoldMinds, 2021.

Table 14-41: Ellipsoids Size for the Mass Envelope Estimation, Senore

Ellipsoids	Run_01	Run_02
Azimuth	00	00
Dip	38	38
Spin	0	0
Principal Axis	30	60
Median Axis	30	60
Minor Axis	10	20

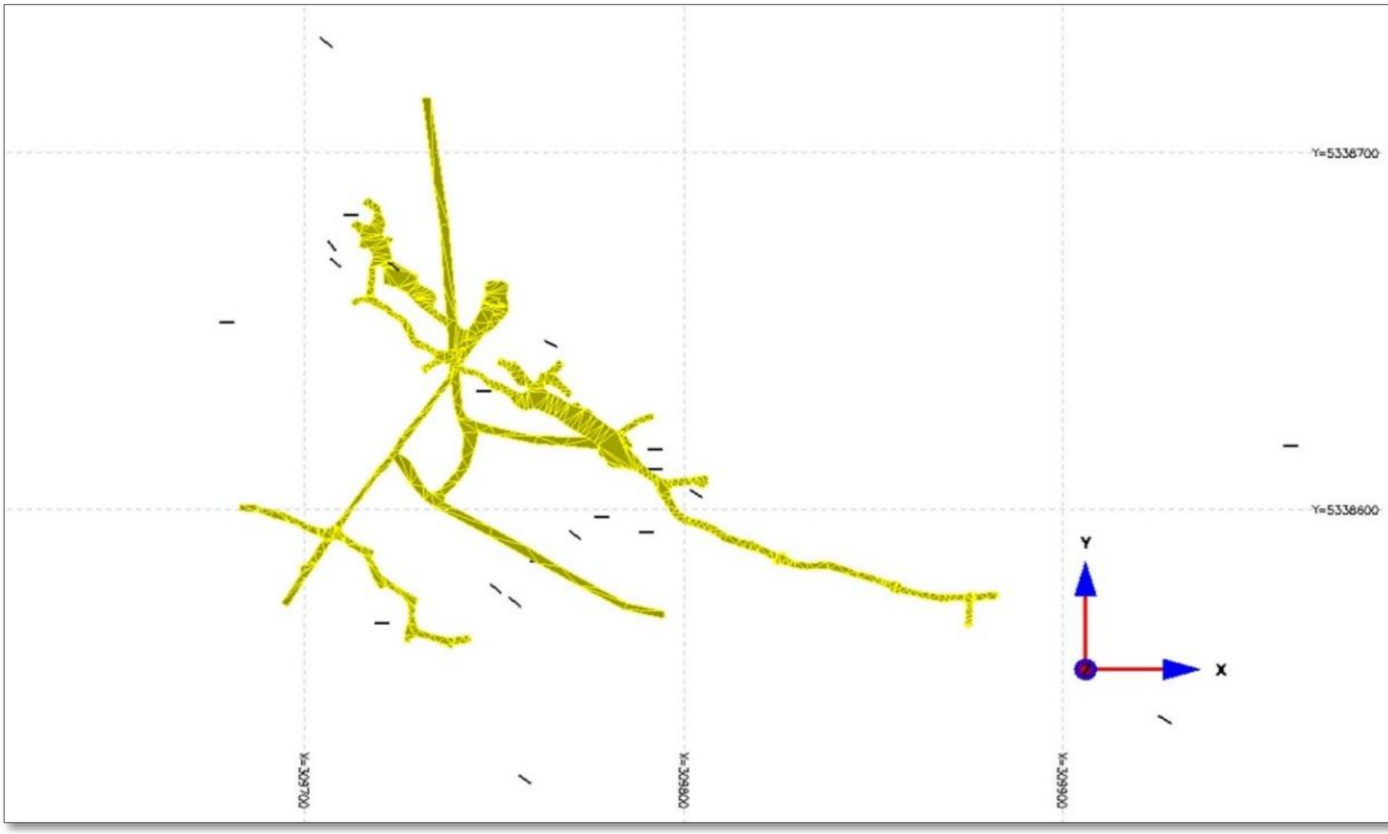
Source: GoldMinds, 2021.

Figure 14-56: Plan View showing Blocks Model coded by Au Grade (g/t) with Mass Envelope and UG Workings



Source: GoldMinds, 2019.

Figure 14-57: Mine Openings of the Existing Senore Mine

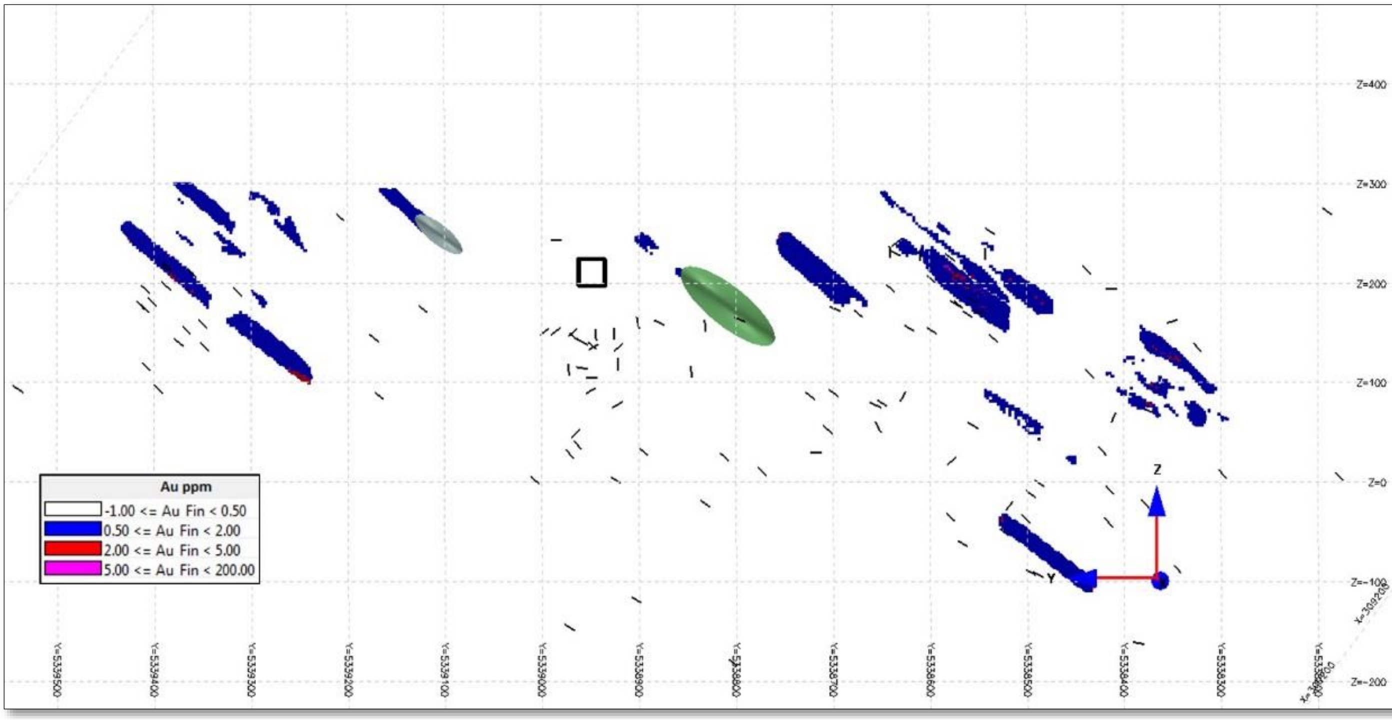


Source: GoldMinds, 2021.

14.8.2.8.3 Senore Underground Model

The underground model, with a block size of 3 m E x 3 m N x 3 m Z, was created to estimate the mineral resources outside the optimized pit shell (Figure 14-58). Assay composites of 1.5m length were used. The blocks with a centroid inside the mineralized envelopes were estimated, using only the assay composites within the wireframes. The pit shell was then extracted from the underground block model, and only the blocks with a centroid outside the pit shells were kept. Block gold grades were estimated using two estimation passes. The same composite parameters and search ellipsoids of the 5/5/5 mass model were also used for the gold grade estimation of the 3/3/3 underground model (Table 14-40 and Table 14-41 above).

Figure 14-58: Section View (looking east) of Senore Underground Block Model, coded by Au Grade (g/t)



Source: GoldMinds, 2019.

14.8.3 Model Validation

Following each resource estimate, GoldMinds carried out a validation procedure including:

- visual comparisons of block gold values versus composite values
- validation of the total volume of the wireframe models compared to the total block model volume
- block model grades were visually examined and compared with composite grades in cross-sections and on elevation plans
- validation of the mined-out volumes extracted from the block model.

GoldMinds found grade continuity to be reasonable and confirmed that the block grades were reasonably consistent with local drill holes assays and composite grades, and that there was no significant bias.

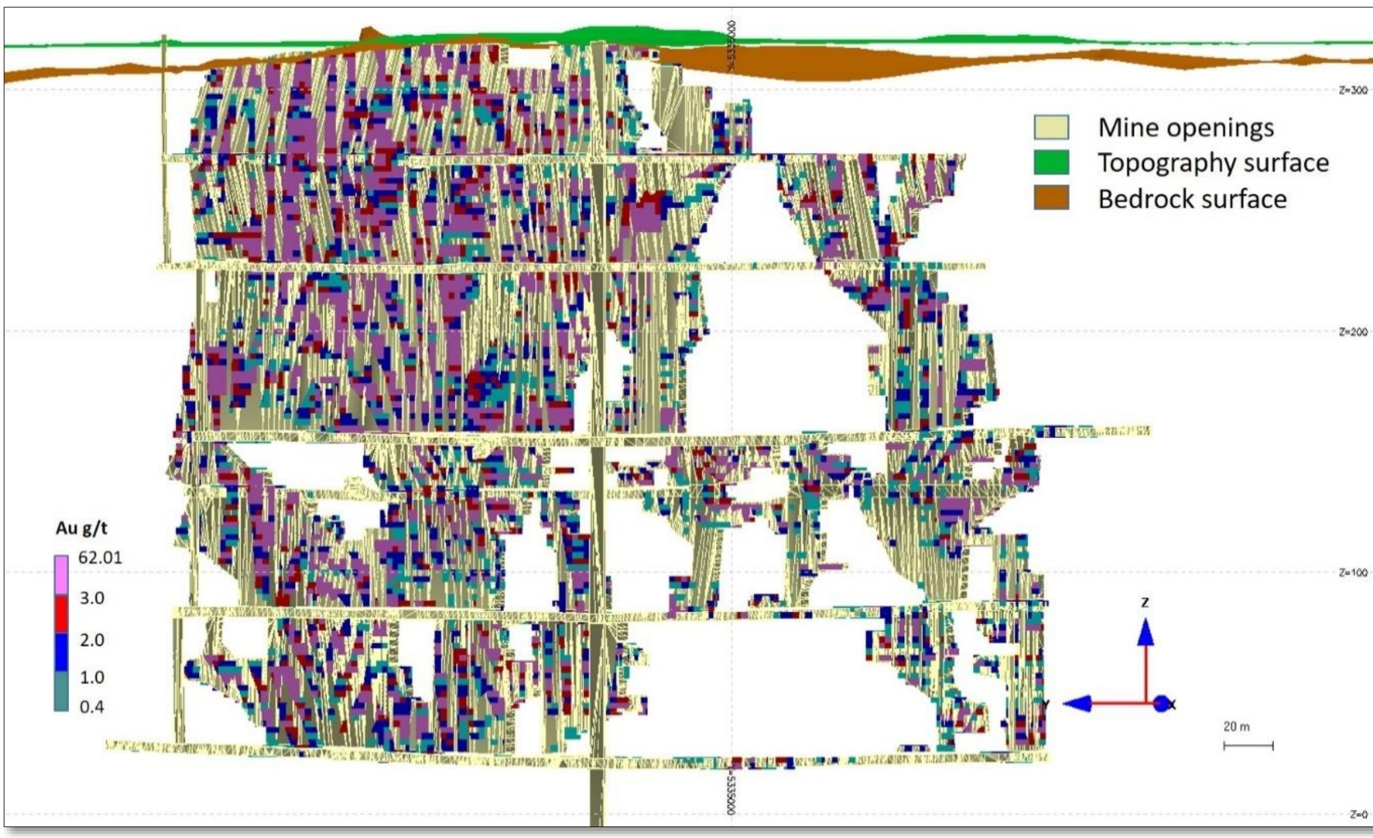
In order to accurately estimate the mineral resources, GoldMinds removed the mined-out volumes (stopes, drifts and shafts – digitized from historical plans by Probe Metals geologists).

The mined-out voids were digitized using the mine plans from the old Beliveau and Bussiere mines. GoldMinds recommends conducting a survey using the GeoSight cavity monitoring system (CMS) to get more accurate 3D mapping of underground voids, shafts, stopes and drifts.

14.8.4 Reconciliation with Past New Beliveau Production

In order to account for the underground production at New Beliveau, voids model were generated from historical plans or DXF files (Figure14-59). Plans were digitized and then some proper 3D solids were meshed. The void models are in the form of different 3D solids as shown in this section. The void models were used to account for the historically extracted material. Blocks from the block model with centers inside the void models are considered mined and not counted in the resource estimates.

Figure 14-59: Block Model within the Mine Openings at New Beliveau



Source: GoldMinds, 2021.

Between 1989 and 1993 the company Cambior Inc. was in production at New Beliveau. Cambior published all mined quantities in their January 1994 Reserve report, including those in pre-production. Reconciliation was performed with this information and the results (including pre-production) are shown in Table 14-42.

Table 14-42: Reconciliation between Model and Cambior Mined Metrics Production

Description	Unit	Current Model (Mined)	Latest Model only Stopes	Ratio
Tonnes	Mt	1,788,086	1,746,784	97.7%
In-situ Gold	oz	182,638	191,111	104.6%
Grade	g/t	3.18	3.40	107.1%

Source: GoldMinds, 2021.

14.9 Mineral Resource Classification

14.9.1 Resource Categories

The resource classification definitions used for this report are those published by the Canadian Institute of Mining, Metallurgy and Petroleum in their document "CIM Definition Standards for Mineral Resources and Reserves".

Mineral resources are sub-divided in order of increasing geological confidence into inferred, indicated and measured categories.

Mineral resources are not mineral reserves and have not demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserves. GoldMinds is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the mineral resource estimate.

14.9.1.1 Measured Mineral Resource

The part of a mineral resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

14.9.1.2 Indicated Mineral Resource

The part of a mineral resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated at a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

14.9.1.3 Inferred Mineral Resource

The part of a mineral resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. Resources from this category should not be used to support mine planning and evaluation of the economic viability of the deposit.

The mineral resources of the Val-d'Or East property were classified using the search ellipsoids for each category. The wall material was only classified as inferred mineral resources.

14.9.1.4 Pascalis Gold Trend

The classification using a minimum of two drill holes within 12.5 m of each other or less defines measured resources. For the indicated resources, a minimum of two drill holes within 25 m of each other or less were used. The inferred resources were classified using two passes. First pass using two drill holes extends by a maximum of 120 m and 40 m thick, with a minimum of two composites and a maximum of one composite from the same hole. Second pass extends by a maximum of 50 m and 25 m thick using one drill hole with a minimum of two composites. For the wall material, the blocks are classified as inferred resources using one pass (two drill holes extends by a maximum 100 m and 10 m thick with a minimum of two composites and with a maximum of one composite from the same drill hole).

14.9.1.5 Monique Gold Trend

For Monique, there are no measured resources. The classification using a minimum of three drill holes within 60 m of each other or less defines indicated resources, that extend only by 40 m. The inferred resources were classified using one pass with a maximum of 12 composites and a minimum of three composites from the same hole (inferred resources extend by a maximum of 150 m downdip and 40 m thick). For the wall material, the blocks are classified as inferred resources using a minimum of two drill holes within 100 m of each other or less. A single pass is used with a minimum of three composites and a maximum of two composites from the same drill hole (wall material inferred resources extend by a maximum of 100 m (Z), 100 m (X) and 10 m (Y).

14.9.1.6 Courvan Gold Trend

The classification using a minimum of three drill holes within 30 m of each other or less defines measured resources. For the indicated resources, a minimum of three drill holes within 60 m of each other or less were used. The inferred resources were classified using two passes. First pass using two drill holes extends by a maximum 120 m and 20 m thick with a minimum of three composites and a maximum of two composites from the same hole. Second pass extends by a maximum of 50 m and 20 m thick using one drill hole with a minimum of two composites. For the wall material, the blocks are classified as inferred resources using one pass and a minimum of two drill holes within 100 m of each other, extending by a maximum 50 m (X) and 50 m (Y) and 5 m (Z).

14.9.1.7 Lapaska and Senore

For measured mineral resources, a minimum of six composites and a maximum of 12 composites per block with a maximum of two composites from the same drill hole was used (Search ellipsoid radius for measured resource is 15 m x 15 m x 5 m). For indicated mineral resources, a minimum of four composites per block, a maximum of 12 composites with a maximum of two composites from the same drill hole was used (search ellipsoid radius for Indicated is 20 m x 20 m x 5 m). Any blocks remaining within the envelopes after the measured and indicated classes were applied were classified as inferred mineral resources.

14.9.2 Cut-off Definition

The mineral resources are reported at an appropriate cut-off grade that accounts for extraction scenarios, transport, and processing recoveries.

The gold price used for the present mineral resource estimation is US$1,600 and the exchange rate for Canadian dollars is 1.33. During the last twelve months, gold price was between US$2,063.28 and US$1,682.90 (Figure 14-60).

Figure 14-60: One-Year Gold price from Kitco

Source: Kitco, 2021.

All the economic assumptions selected for the estimation of the cut-off grade are listed Tables 14-43 and 14-44, which show the economic parameters for the potential open pit and underground scenarios.

Table 14-43: Main Economic Parameters for Pit Optimization

Description	Open Pit	Underground (Long Hole)	Underground Mechanized Cut & Fill
Gold Price (US$/oz)	1.600	1.600	1.600
Exchange Rate (CAD:USD)	1.33	1.33	1.33
Processing Costs ($/t)	17.50	17.50	17.50
G&A Costs ($/t)	4.00	4.00	4.00
Gold Recovery (%)	95	95	95
Mining Costs (Rock, $/t)	3.00 Pascalis 3.50 Courvan 3.50 Monique	82.00	110.00
Mining Costs (Overburden, $/t)	2.50	N/A	N/A

Source: GoldMinds, 2021.

Table 14-44: Transport Distances and Costs

Gold Trend	Distance to Processing Facility (km)	Additional Costs ($/t)	Final Operating Costs - Transport, Processing & G&A ($/t)
Courvan	5	0.75	22.25
Monique	17	2.55	24.05
Pascalis	3	0.45	21.95

Source: GoldMinds, 2021.

Estimated cut-off grades for each deposit are shown in Table 14-45.

Table 14-45: Estimated Cut-off Grades for each Deposit

Gold Trend	Open Pit (g/t)	Underground (g/t)
Courvan	0.40	2.05
Monique	0.42	1.65
Pascalis	0.40	1.65 and 2.05

Source: GoldMinds, 2021.

The mining method is one of the most important factors influencing the production cost. The mining method considers the geometry, grade and the orientation of the various mineralized structures of the Val-d'Or East project. The resource estimation consists of an open-pit scenario for the upper portions of the deposit and an underground scenario for the portion that cannot eventually be extracted by open pit operation.

The pit optimization has been done with a fixed mining and processing cost to which a transportation cost is added based on the distance between the deposit and the central processing facility. The geotechnical parameters used for the pit optimization are presented in Section 14.6 for the pit slopes in rock. In overburden, the following technical parameters were used:

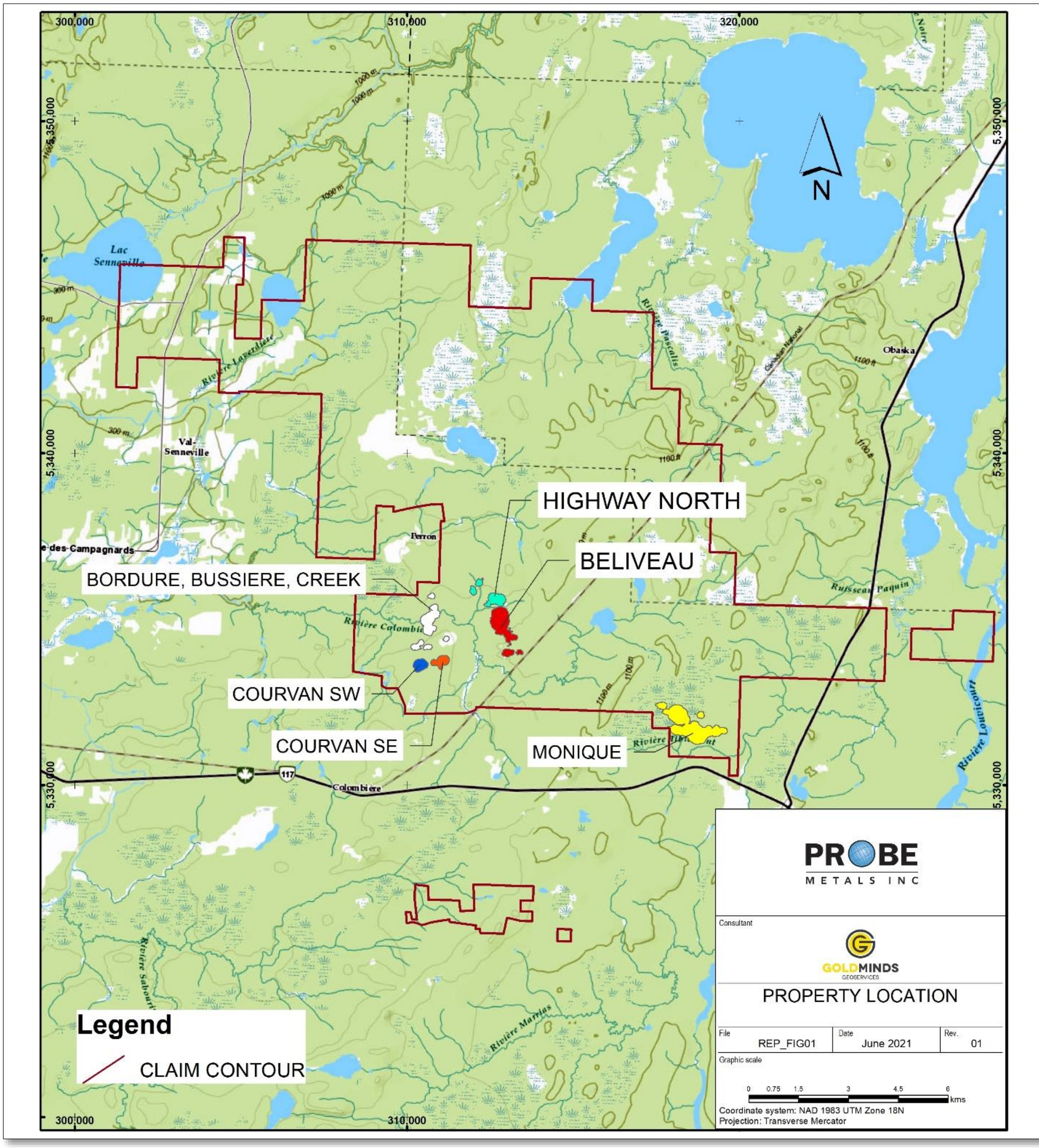
- Specific gravity: 1.90 t/m^3
- Pit slopes: 2.5 to 1 for Pascalis and Courvan; 3.5 to 1 for Monique

Prior to the pit optimization, the 2.5 m (X) x 2.5 m (Y) x 2.5 m (Z) open pit block models were re-blocked to a size dimension of 5 m (X) x 5 m (Y) by 5 m (Z).

Plan views showing the conceptual pit limits for Val-d'Or East are depicted in Figures 14-61 to 14-65.

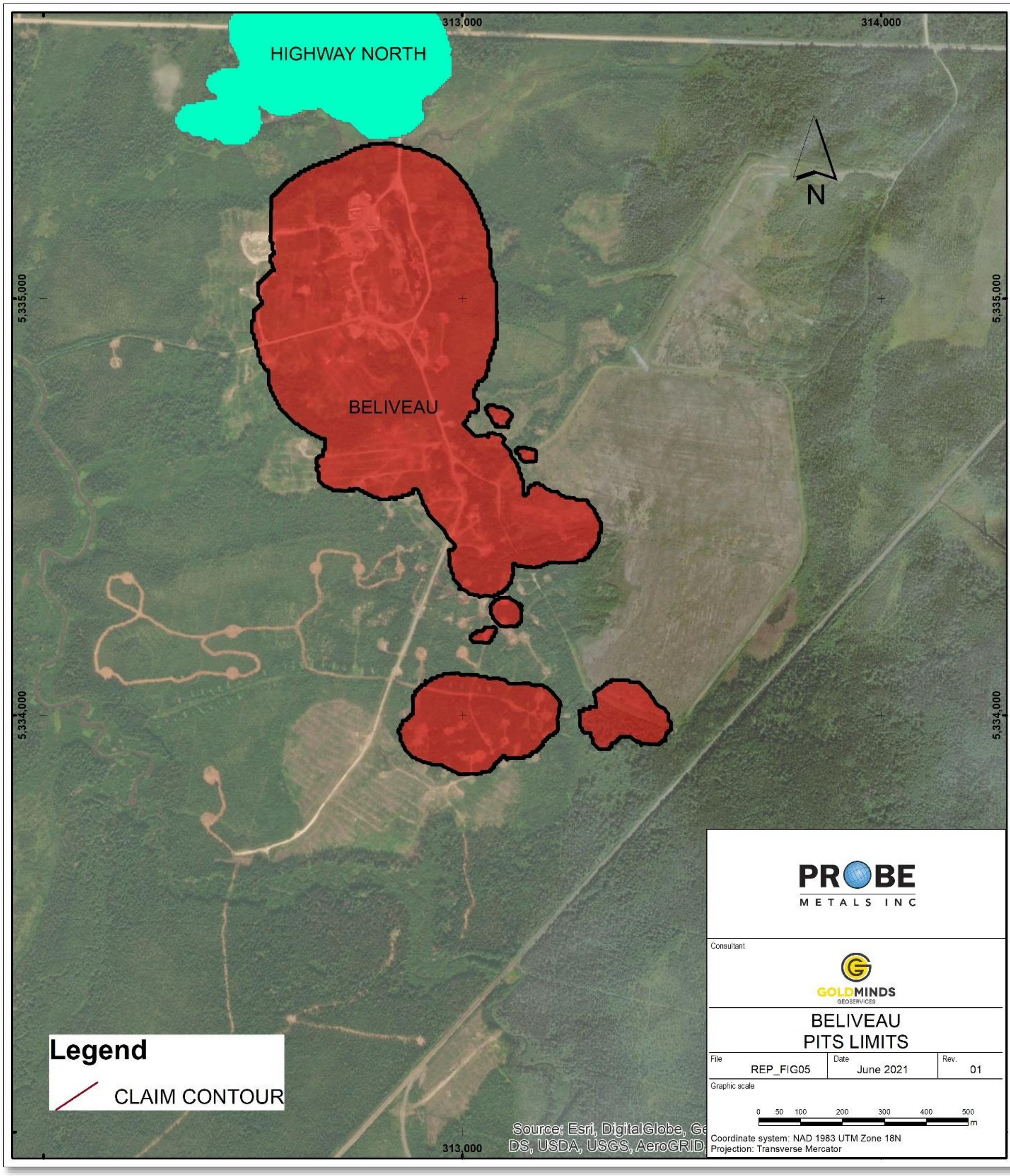
The pit-constrained updated mineral resources are reported at a cut-off grade of 0.42 g/t Au for the Monique gold trend, and 0.40 g/t Au for Pascalis gold trend and Courvan gold trend. Probe Metals considers that the gold mineralization of the Val-d'Or project is amenable for underground extraction using a cut-off grade of 1.65 g/t Au for Monique, 2.05 g/t Au for Courvan and, 1.65 or 2.05 g/t Au for the Pascalis gold trend depending on the orientation of the mineralization.

Figure 14-61: Plan View showing all Conceptual Pit Limits of Val-d'Or East Project



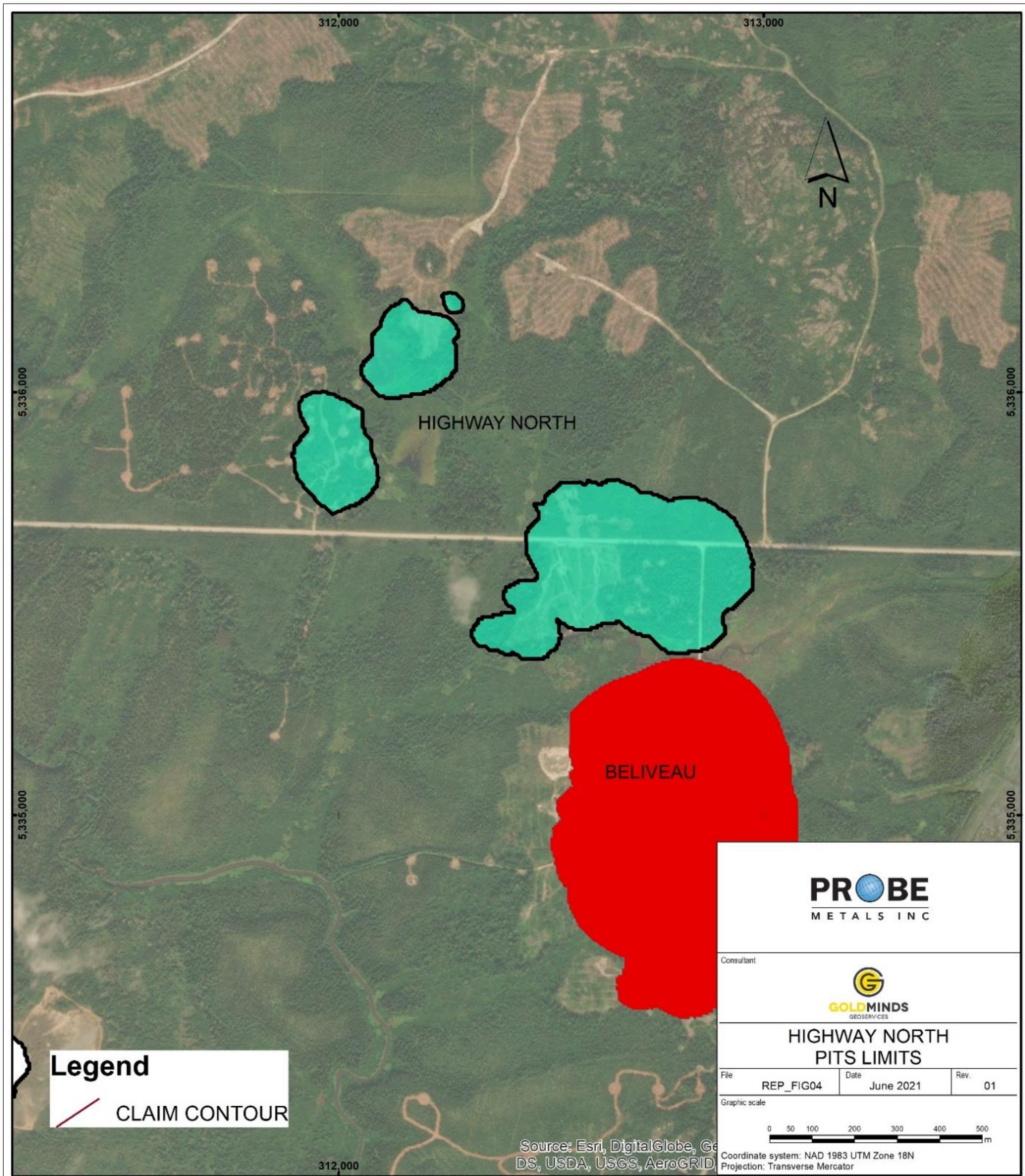
Source: GoldMinds, 2021.

Figure 14-62: Plan View showing the Conceptual Pit Limit, New Beliveau



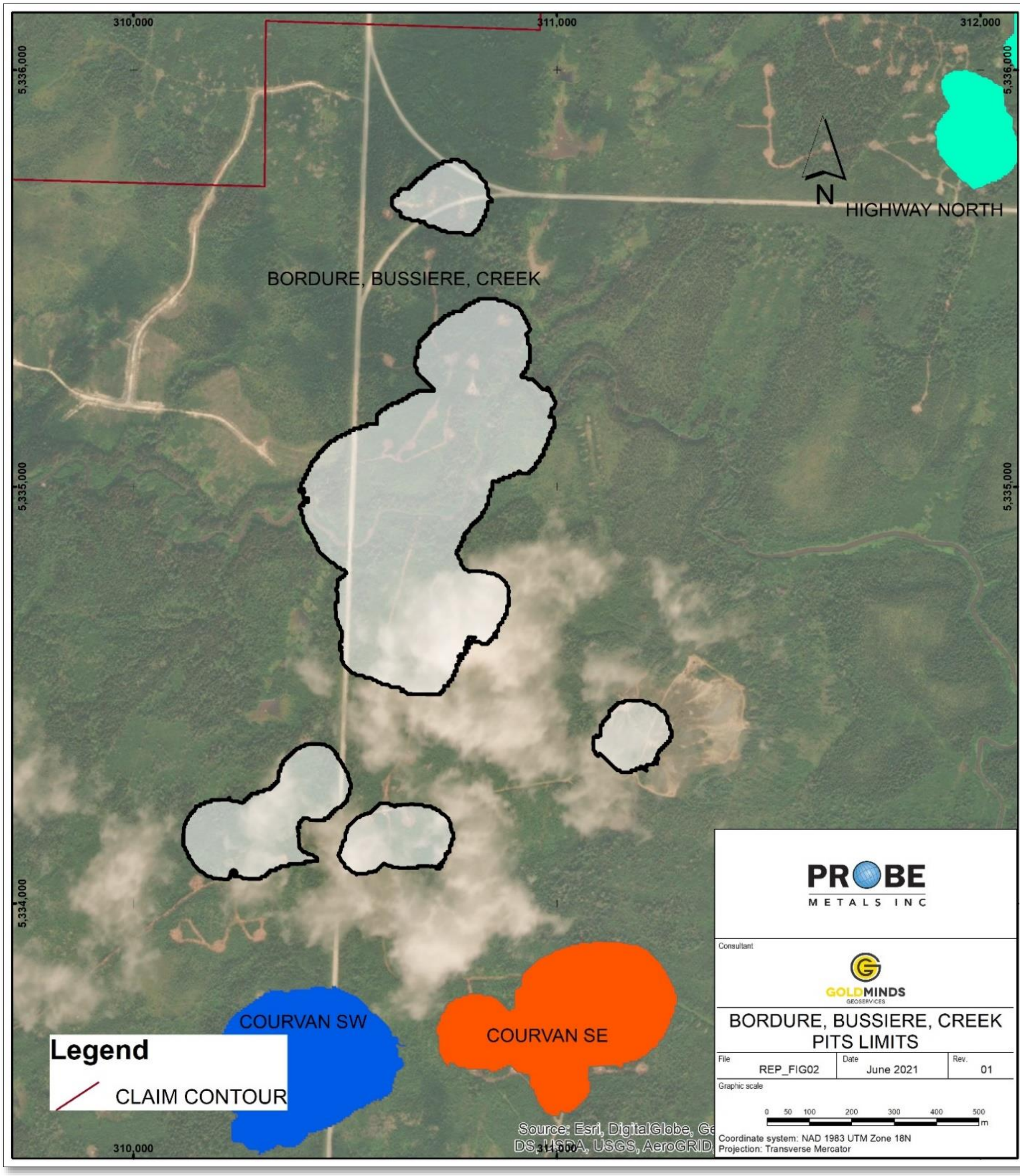
Source: GoldMinds, 2021.

Figure 14-63: Plan View showing the Conceptual Pit Limit, North and Highway



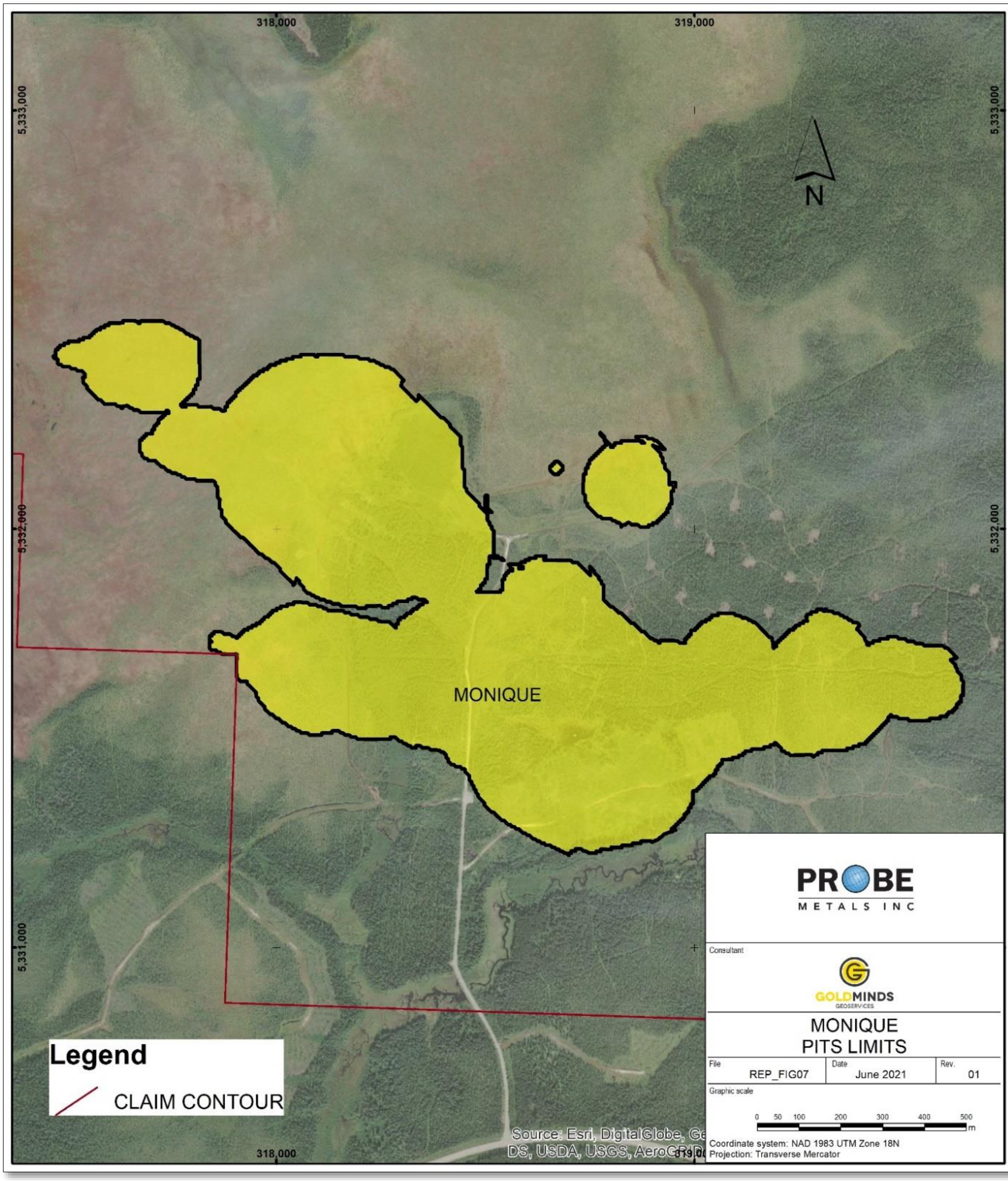
Source: GoldMinds, 2021.

Figure 14-64: Plan View showing the Conceptual Pit Limit, Courvan Gold Trend



Source: GoldMinds, 2021.

Figure 14-65: Plan View showing the Conceptual Pit Limit, Monique Gold Trend



Source: GoldMinds, 2021.

In addition, Probe Metals has demonstrated with a series of performance tests that the ore sorting technology works very well with the type of mineralization found on the Val-d'Or East project. By applying ore sorting to mineralized waste with very conservative gold recoveries additional mineral material may be extracted from the mineralized waste and thus become additional mineral resource on the project. Additional mineral resource was defined within the mineralized waste by applying the following economic and technical parameters:

- Gold recovery in ore sorting: 75% for a net overall gold recovery of 68%
- Ore sorting unit cost: $2.00/t
- Mass reporting to product: 40%

The resulting new cut-off grade can be calculated at 0.25 g/t.

Mineral resources are not mineral reserves and have not demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserves. It is uncertain if further exploration will allow improving of the classification of the Inferred mineral resources.

14.9.3 Resource Statement

The current mineral resource estimate was independently prepared by GoldMinds in accordance with NI 43-101 guidelines and has an effective date of June 1, 2021. The resource estimate demonstrates a significant increase to 1,800,900 oz of measured and indicated resources and 2,309,600 oz of inferred resources. The resource estimate is summarized in Table 14-46.

The Val-d'Or East Project includes the properties on the Pascalis gold trend, the Monique gold trend and the Courvan gold trend, which are 100% owned by Probe Metals.

Table 14-46: Val-d'Or East Property (100% Interest)

All Deposits / Category	Pit-Constrained Resources			Underground Resources			Total Resources		
	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)
Measured	5,111,000	2.12	347,600	660,000	2.43	51,500	5,771,000	2.15	399,100
Indicated	21,404,000	1.56	1,072,700	2,602,000	3.08	257,900	24,006,000	1.72	1,330,600
Measured & Indicated	26,515,000	1.67	1,420,300	3,262,000	2.95	309,400	29,777,000	1.81	1,729,700
Inferred	20,702,000	1.58	1,053,800	8,230,000	3.43	906,500	28,932,000	2.11	1,960,400

Source: Geologica & GoldMinds, 2021.

As part of its land consolidation strategy for the Val-d'Or East project, Probe Metals earned a 60% interest in the Cadillac Break East property in a joint venture with O3 Mining Inc., which includes the Sleepy deposit. The Company also owns a 100%-interest in the Val-d'Or East Lapaska and Senore properties. Table 14-47 presents the mineral resources estimate for Val-d'Or East's other properties.

Table 14-47: Val-d'Or East Other Properties

Deposit / Category	Pit-Constrained Resources			Underground Resources			Total		
	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)
Lapaska[1] Total Inferred	512,000	1.47	24,200	460,000	3.19	47,200	972,000	2.28	71,300
Senore Total Inferred	549,000	1.78	31,400	38,000	2.68	3,300	587,000	1,84	34,700
Sleepy[2] Total Inferred				1,113,000	4.70	167,900	1,113,000	4.70	167,900

Notes: 1 NI 43-101 Technical Report Val-d'Or East Project – October 2019, 100% interest. 2 NI 43-101 Technical Report Sleepy Project – December 2014, 60% interest. Source: Geologica & GoldMinds, 2021.

Table 14-48 presents the detailed mineral resources for each of the trends/deposits that comprise the Val-d'Or East Project:

Table 14-48: Val-d'Or East Property – Detailed Resources

Deposit / Category	Pit-Constrained Resources			Underground Resources			Total		
	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)
Pascalis Gold Trend									
Measured	4,491,000	2.20	317,300	640,000	2.40	49,400	5,131,000	2.22	366,700
Indicated	6,307,000	1.76	356,500	766,000	2.64	65,000	7,073,000	1.85	421,500
Measured & Indicated	10,798,000	1.94	673,800	1,406,000	2.53	114,400	12,204,000	2.01	788,200
Inferred	6,007,000	1.63	315,500	2,694,000	2.77	239,900	8,701,000	1.99	555,500
Monique Gold Trend									
Measured	--	--	--	--	--	--	--	--	--
Indicated	12,388,000	1.38	548,000	1,231,000	3.15	124,800	13,619,000	1.54	672,800
Inferred	9,082,000	1.41	411,000	2,651,000	3.06	260,400	11,733,000	1.78	671,400
Courvan Gold Trend									
Measured	620,000	1.52	30,300	20,000	3.22	2,100	640,000	1.57	32,400
Indicated	2,710,000	1.93	168,200	604,000	3.50	68,000	3,314,000	2.22	236,200
Measured & Indicated	3,330,000	1.85	198,500	624,000	3.49	70,100	3,954,000	2.11	268,600
Inferred	5,613,000	1.81	327,300	2,885,000	4.38	406,200	8,498,000	2.68	733,500
Lapaska Deposit									
Inferred	512,000	1.47	24,200	460,000	3.19	47,200	972,000	2.28	71,300
Senore Deposit									
Inferred	549,000	1.78	31,400	38,000	2.68	3,300	587,000	1,84	34,700
Sleepy Deposit									
Inferred				1,113,000	4.70	167,900	1,113,000	4.70	167,900

Notes: **1.** Mineral resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, market or other relevant issues. The quantity and grade of reported Inferred Resources are uncertain in nature and there has not been sufficient work to define these inferred resources as indicated or measured resources. **2.** The database used for this mineral estimate includes drill results obtained from historical records and up to the recent 2020 drill program. **3.** The pit-constrained updated mineral resources are reported at a cut-off grade of 0.42 g/t Au for the Monique deposit and 0.40 g/t for the other deposits. These cut-offs were calculated at a gold price of US$1,600 with an exchange rate of 1.333 USD/CAD per troy ounce. They were based on the following parameters: mining cost $3.00/t or $3.50/t, processing + G&A costs $21.50/t, transport cost to the central processing facility based on distance on existing roads at $0.15/t.km, Au recovery 95%, pit slopes from 48° to 59° as per the press release of February 23rd, 2021. **4.** The underground mineral resources were based on two main mining methods, long-hole retreat at $82/t depending on width of stopes, and mechanized cut and fill at $110/t and the same above ground unit cost as for the pit-constrained scenario, resulting in cut-off grades of 1.65 and 2.05 g/t Au. These cut-off grades were then used to delineate continuous underground mineral shapes above the calculated cut-off grades. Blocks within those underground mineral shapes that are below the cut-off were included as dilution material and the grade reported represents the average of all underground mineral shapes thus delineated. **5.** The geological interpretation of the deposits was based on lithologies and the observation that mineralized domains occur either within or proximal to sub-vertical dykes, deformation zones or as low dipping quartz tourmaline vein sets. **6.** The mineral resource presented here were estimated with a block size of 5 m x 5 m x 5 m for the Monique pit-constrained mineral resource and a block size of 2.5 m x 2.5 m x 2.5 m for all others. **7.** The blocks were interpolated from equal length composites calculated from the mineralized intervals. Prior to compositing, high-grade gold assays were capped (capping maximum ranges from 28 to 100 g/t Au depending on the deposit). Depending on the deposit, the composites were 1.0 m or 1.5 m. **8.** The mineral estimation was completed using the inverse distance to the square methodology utilizing three passes. For each pass, search ellipsoids followed the geological interpretation trends were used. **9.** The mineral resources have been classified under the guidelines of the CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council (2019), and procedures for classifying the reported mineral resources were undertaken within the context of the Canadian Securities Administrators NI 43-101. **10.** In order to accurately estimate the resources, underground voids (shaft, ramp and drifts) and the existing pits were subtracted from the mineralized bodies modelled prior to the pit optimization. **11.** Tonnage estimates are based on measured rock densities by gold trend: 2.82 t/m^3 for the Courvan gold trend, 2.83 for the Pascalis gold trend and 2.88 for the Monique gold trend. Results are presented undiluted and in situ for the pit-constrained resources and diluted for the underground resources. **12.** This mineral resource estimate is dated June 1, 2021 and the cut-off date for the drillhole database used to produce this updated mineral resource estimate is May 8, 2021. Tonnages and ounces in the table are rounded to nearest thousand and hundred respectively. Numbers may not total due to rounding. Source: Geologica & GoldMinds, 2021.

The mineral resource estimate from marginal material using ore sorting is presented in Table 14-49.

Table 14-49: Additional Pit Constrained Resource from Ore Sorting

Resources Category	Tonnes	Grade (Au g/t)	Ounces
Measured	996,000	0.32	10,300
Indicated	5,799,000	0.33	60,900
Measured & Indicated	6,795,000	0.33	71,200
Inferred	7,438,000	0.31	75,300

Notes: This additional pit-constrained mineral resource represents low-grade material between a cut-off of 0.25 g/t and the cut-off grade of 0.40 or 0.42 g/t Au of the pit-constrained mineral resource. This lower cut-off was based on the following parameters: ore sorting cost $2.00/t, gold recovery in the ore sorting process of 75% with an overall gold recovery with gravity and leaching at 68%, and mass recovery in the ore sorting process of 40%. Source: GoldMinds, 2021.

The 2019 mineral resource estimate hosted an NI 43-101 measured and indicated resource of 0.87 million ounces of gold and an inferred resource of 2.56 million ounces of gold. Since the 2019 estimate, 74,662 metres have been drilled.

Using a gold price of US$1,600 per ounce, the updated NI 43-101 mineral resource hosts a measured and indicated resource of 1.80 million gold ounces, and an inferred resource of 2.31 million gold ounces, net to Probe Metals.

The database used for the current mineral resource corresponds to 3,005 drill holes totalling 636,438.94 and 319,729 gold assays totalling 350,193.83 m. An economic pit shell at 0.4 or 0.42 g/t Au cut-off grade was used to determine the pit constrained mineral resource (except for Lapaska and Senore, where a cut-off grade of 0.5 g/t Au was used).

The updated mineral resources document important changes relative to the previous mineral resource statement released in October 2019, as follows:

- 18% increase in total ounces, 2.67 million ounces in pit constrained resource, and 1.43 million ounces in underground resource
- 108% increase in overall measured and indicated ounces

- the Monique deposit more than doubled its resource to 672,800 ounces measured and indicated and 671,300 ounces inferred with over 90% within the current mining lease
- Monique and Pascalis will form the cornerstone of the upcoming PEA, representing 77% of the pit-constrained mineral resource estimate.

14.9.4 Cut-off Sensitivity Analysis

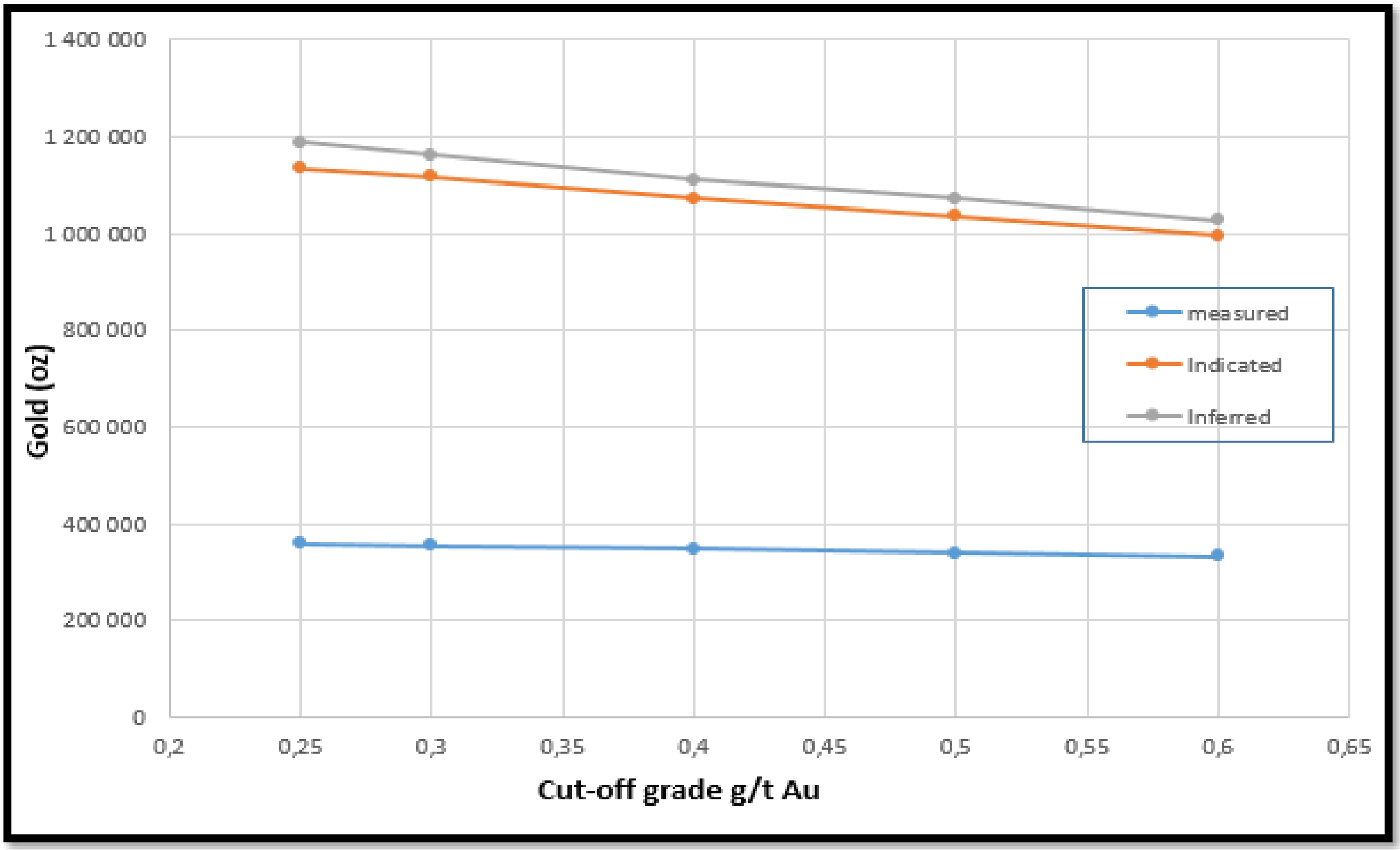
The mineral resources of the property are sensitive to the selection of a reporting cut-off grade. Table 14-50 and Figure 14-66 present the current resource estimate at different cut-off grades.

Table 14-50: Val-d'Or East Project – Resource Sensitivity by Cut-Off Grades for the Pit-Constrained Resources

Resource Category	Cut-Off Grade	Tonnes	Grade (Au g/t)	Gold (oz)
Measured	0.6	4,168,957	2.48	332,655
	0.5	4,588,703	2.31	340,072
	0.4	5,110,887	2.12	347,599
	0.3	5,740,495	1.92	354,644
	0.25	6,107,123	1.82	357,876
Indicated	0.6	16,595,596	1.87	995,275
	0.5	18,937,865	1.70	1,036,618
	0.4	21,404,376	1.56	1,072,655
	0.3	25,218,230	1.38	1,116,089
	0.25	27,203,376	1.30	1,133,592
Inferred	0.6	16,700,049	1.91	1,028,136
	0.5	19,194,146	1.74	1,072,133
	0.4	21,873,184	1.58	1,111,046
	0.3	26,406,697	1.37	1,162,263
	0.25	29,526,682	1.25	1,188,504

Source: GoldMinds, 2021.

Figure 14-66: Mineral Resource Estimates at Various Cut-off Grades



Source: GoldMinds, 2021.

15 MINERAL RESERVE ESTIMATES

This section is not applicable for a PEA-level study. The pit delineated resources are presented in Section 16.

16 MINING METHODS

16.1 Overview

Ausenco was retained by Probe Metals to prepare a PEA-level mining study of the Pascalis, Courvan, Monique, and Lapaska deposits. Ausenco's opinion is that with current metal pricing levels and knowledge of the mineralization, a combination of open pit and underground mining offers the most reasonable approach for the development of the deposits.

The Val-d'Or East Project is located approximately 25 km east of the city of Val-d'Or in the Province of Québec. The project benefits from world-class mining infrastructures, expertise for underground and open pit operations, and a highly qualified labour force.

16.2 Geotechnical Considerations

Geotechnical data has been collected from geotechnical core logging data of exploration diamond drill holes for the Pascalis, Courvan, and Monique deposits. This includes joint roughness and joint alteration conditions, rock quality designation (RQD), and field estimates of intact rock strength (after ISRM, 1978). The geotechnical data has been used for rock mass classification using Q' (modified rock quality index) after Hoek et al. (1995). In addition, orientation data for discontinuities have been provided from an interpretation of acoustic and optical televiewer data of select exploration holes for each of the deposits. It is noted that the televiewer data and geotechnical core logging data are not always coincident for the same drill holes.

Geotechnical domains have been assigned using the available geotechnical and structural data specific to each deposit based on available lithological information. The assignment is made based on the dominant lithological units of the drill hole database specific for the respective deposit as determined by drilled length. No detailed information of large-scale structural features has been considered for any of the deposits due to limited information at this time and the current level of study.

16.3 Open Pit

Open pit mine designs, mine production schedules, and mine capital and operating costs have been developed for the Val-d'Or East deposits at a preliminary economic assessment level of engineering.

16.3.1 Key Assumptions/Basis of Estimate

The following open pit mine planning design inputs were used:

- Topography is based on a LiDAR survey of the region.
- Re-blocked resource block model on 5 m spacing in all three directions, with whole block gold grades, rock specific gravities, and majority coded resource classifications.

- All mineral resource classes (measured, indicated, and inferred) are available for mill feed (if they are above the cut-off grade).
- A bedrock contact wireframe was provided by Probe Metals. All blocks with centers above the contact were given a specific gravity of 1.9 t/m^3.
- A grade-dependent gold process recovery by area is used for pit optimization and cut-off grade estimations.
  - Highway = (0.5 + 0.5 * (0.9507 - 0.0874 / AuHeadGrade / (1-0.5))) - 0.008
  - Lapaska = 94%
  - All other areas = (0.5 + 0.5 * (0.9507 - 0.0374 / AuHeadGrade / (1-0.5))) - 0.008
- Material with Au ≥ 0.8 g/t is directly fed to the mill.
- Material with 0.25 g/t ≤ Au < 0.8g/t Au is routed to the ore sorting circuit (screening, then followed by particle sorting).
- Screening (pre-particle sorting) splits the material as follows: 22.5% of mass reports to fines, and 77.5% of mass continues to the particle sorter.
- Gold preferentially reports to the fines with an enrichment ratio of 125% gold grade.
- Particle sorting (after screening) implements a mass recovery of 25% and a gold recovery of 75%.
- Ore sorting circuit fines are combined with particle sorted material and delivered to the mill.
- Stockpiles and material embankments are planned to minimize waterbody and watercourse disturbance.

16.3.1.1 Ore Loss and Dilution

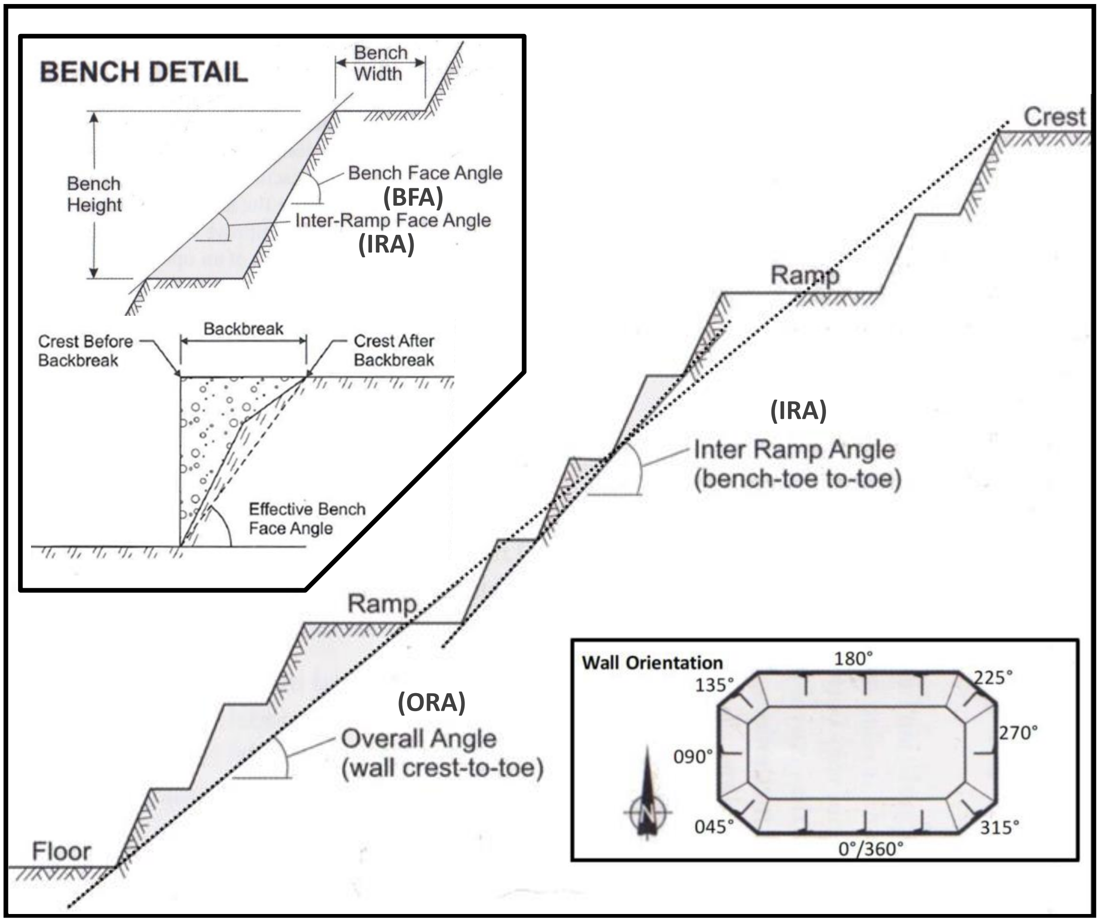
Resource block models are provided in a 2.5 m x 2.5 m x 2.5 m block size. These blocks are combined into 5 m x 5 m x 5 m blocks, which is a satisfactory selective mining unit size.

Whole block grades of the 5 m block size are used. Gold mineralization occurs in smaller units than the 5 m block size, so whole block grades include internal dilution. This internal dilution is considered satisfactory for this level of study.

16.3.1.2 Pit Slopes

Pit slope design constraints have been assessed based on available geotechnical information. The pit geometry nomenclature used in this section is illustrated in Figure 16-1. Specific to a PEA-level assessment, the overall angle is considered the same as the inter-ramp angle, as highwall ramps and geotechnical berms (for the consideration of inter-ramp angle) are added in future, more detailed design phases as information becomes available. Pit slope angles are described briefly below for each deposit.

Figure 16-1: Nomenclature Illustration of Open Pit Geometry



Source: RockEng, 2021.

Creek Deposit – The open pit slopes planned for the Creek deposit can support slopes of up to 53° in wall orientations facing 310-350°, and slopes of up to 59° for all other wall orientations.

Bussiere Deposit – Open pits for the Bussiere deposit can support slopes of up to 53° in wall orientations facing 310-350°, and slopes of up to 59° for all other wall orientations.

Southwest Deposit – Open pits of the Southwest deposit can support slopes of up to 59° for all wall orientations.

Southeast Deposit – Open pits of the Southeast deposit can support slopes of up to 53° for wall orientations facing 110-150°, up to 49° for wall orientations facing 150-190°, and 59° for all other wall orientations.

Highway Deposit – Open pits of the Highway deposit can support slopes of up to 50° for wall orientations facing 120-160°, and 59° for all other wall orientations.

North Zone Deposit – Open pits of the North Zone deposit can support slopes of up to 52° for wall orientations facing 300° to 015°, and 59° for all other wall orientations.

New Beliveau Deposit – Open pits of the New Beliveau deposit can support slopes of up to 52° for wall orientations facing 115° to 155°, and 59° for all other wall orientations.

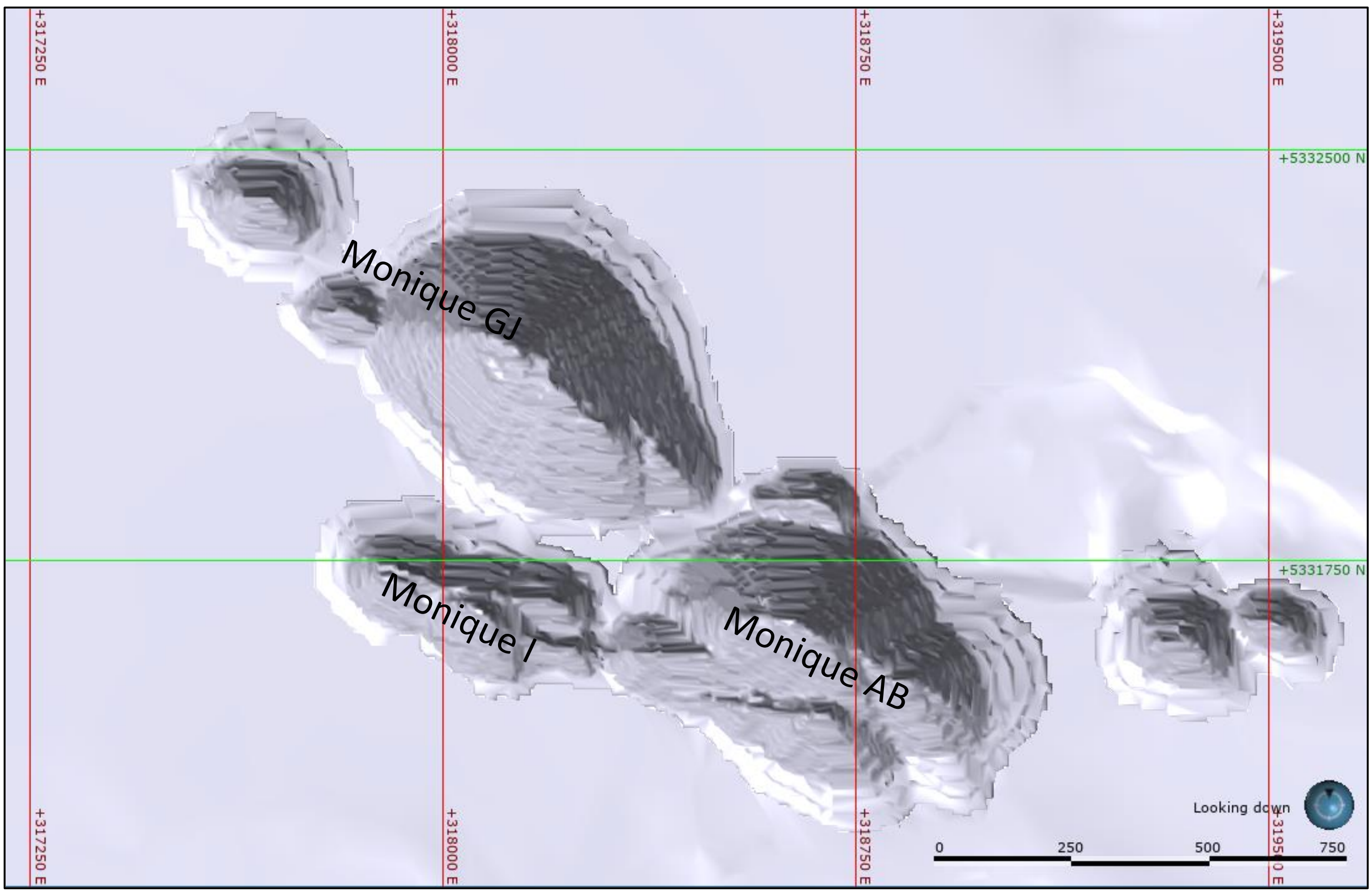
Beliveau South Deposit – Open pits of the Beliveau South deposit can support slopes of up to 52° for wall orientations facing 115° to 155°, and 59° for all other wall orientations.

Monique GJ Deposit – Open pits of the Monique GJ deposit (as indicated in Figure 16-2) can support slopes of up to 52° for walls dipping in the direction of 310-015°, slopes up to 54° in wall orientations ranging from 015-035°, slopes up to 55° in wall orientations 095-115°, and 59° for all other wall orientations.

Monique I Deposit – Open pits for the Monique I deposit (as indicated in Figure 16-2) can support slopes of up to 52° for walls dipping in the direction of 340-020°, and 59° for all other wall orientations.

Monique AB Deposit – Open pits for the Monique AB deposit (as indicated in Figure 16-2) can support slopes of up to 48° for walls dipping in the direction of 330-010°, and 59° for all other wall orientations.

Figure 16-2: Deposits of the Monique Area



Source: MMTS, 2021.

16.3.2 Pit Optimization

Economic pit limits are determined using the Lerchs-Grossmann (LG) algorithm. The algorithm considers the block grades and tonnages and compares the expected costs to extract and process the block to the potential revenue from processing the block (if the block has grade in it). Each block is assigned with a net value (either positive or negative). Pit wall angle inputs determine which upper blocks need to be mined to extract lower economic blocks. The routine uses input economic and engineering parameters and expands upwards and outwards until the incremental tonnages of the next thin skin or pushback would generate negative economics. The total shell just prior to this 'negative pushback' is then used as the maximum economic pit limit for the selected input parameters.

Additional cases are included in the analysis to evaluate the sensitivities of resources to strip ratio and high-grade/low-grade areas of the deposit. In this study, the various cases or pit shells are generated by varying the input gold price and comparing the resultant waste and mill feed tonnages and gold grades for each pit shell.

By increasing the economic parameters while keeping inputs for metallurgical recoveries and pit slopes constant, a series of nested pit shells is generated, where incremental pit shells produce marginal or negative economic returns. The economic margins from the expanded cases are evaluated on a relative basis to provide payback on capital and produce a return for the project. At some point further expansion does not provide significant added value. A pit limit can then be chosen that has a suitable economic return for the deposit.

For each pit shell, an undiscounted cash flow (UCF) is generated based on the shell contents and the economic parameters listed in Table 16-1. The UCF for each case is used to reinforce the selected point at which increased pit expansion do not increase the project value (note that the economics are only applied for comparative purposes to assist in the selection of an optimum pit shell for further mine planning; they do not reflect the actual financial results of the mine plan). The selected ultimate economic pit limit is then used as the basis for mine scheduling.

Price and operating cost assumptions for the LG runs are provided in Table 16-1.

Table 16-1: Price & Operating Cost Inputs into LG Shell Runs

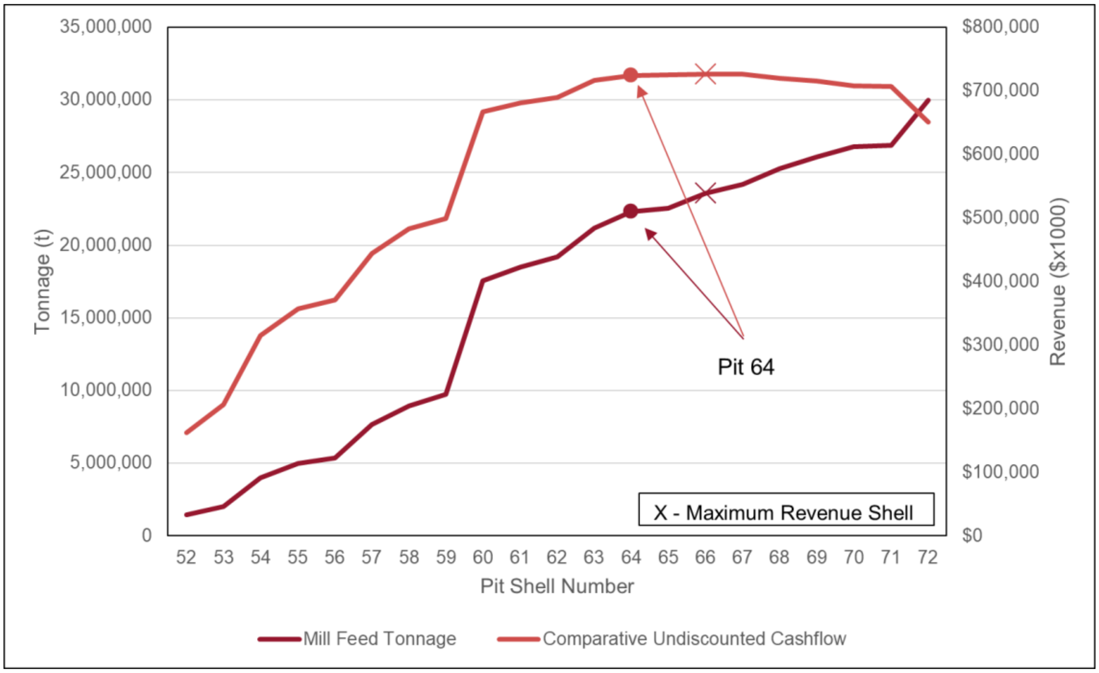
Item	Unit of Measure
Gold Price	US$1,500/oz
Foreign Exchange USD:CAD	0.75:1.00
Refining and Transportation	US$11/oz
Payable Gold	100%
NSR Royalties	Varies by claim 0% to 3%
GSR Royalties	Varies by claim 0% to 1%
Mining cost	C$2.75/t
Mill Feed Haulage Cost (Pit Rim to Process Plant)	C$3.00/t mill feed (Lapaska - C$5.00/t mill feed)
Process and G&A Cost (10 kt/d)	C$17.45/t mill feed

Source: MMTS, 2021.

Figure 16-3 shows the contents of the generated LG pit shells for the Monique pit. An inflection point can be seen in the curve of cumulative resources and UCF by pit case. This point indicates the 64 pit shell case as the point at which larger pit shells will not produce significant increases to project value. The maximum value pit shell, often referred to as the 100% case, is indicated on the figure with an "X".

The 64 pit shell case is selected as the ultimate pit limit for the Monique pit and is used for mine planning.

Figure 16-3: Monique LG Pit Shell Resource Contents by Case



Source: MMTS, 2021.

Similar Lerchs-Grossman analysis was completed for Pascalis, Courvan and Lapaska, and robust cases were selected for each area. Figures 16-4 to 16-10 on the following pages show the LG Pit Shell Resource Contents by Case and the chosen shell for mine planning consideration. The maximum value pit shell, often referred to as the 100% case, is indicated on each figure with an "X".

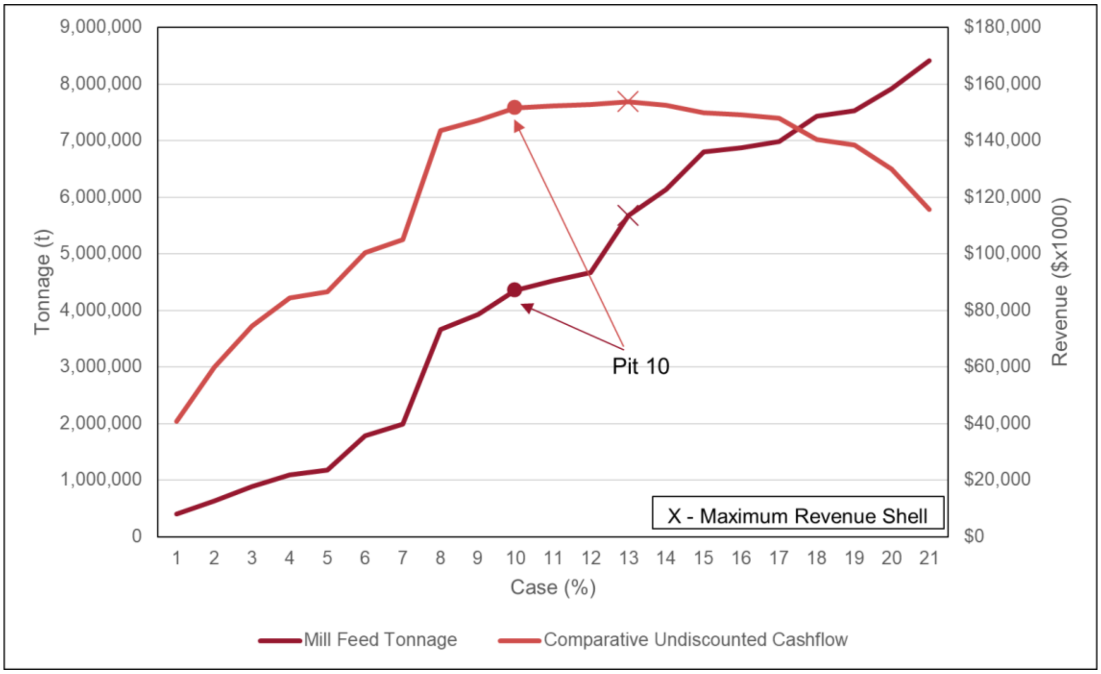
A summary of the resources inside the selected pit shells is shown in Table 16-2 below.

Table 16-2: Summary of LG Selected Pit Shells

Material - NSR +$17.45/t + Mill Feed Haulage	Potential Mill Feed (kt)	Au (g/t)	NSR ($/t)	Waste (kt)	Contained Au (koz)	Strip Ratio (t:t)
Monique	22,291	1.31	76.88	171,951	940	7.7
Pascalis - Beliveau	13,354	1.53	90.64	111,050	656	8.3
Pascalis - North	2,743	1.04	60.88	20,736	91	7.6
Pascalis - Highway	443	1.20	67.60	2,580	17	5.8
Courvan Bordure Bussiere & Creek	4,351	1.41	81.78	37,606	198	8.6
Courvan South West	2,068	1.13	64.56	19,830	75	9.6
Courvan South East	1,243	1.63	94.36	17,711	65	14.3
Lapaska	658	1.31	78.28	3,712	28	5.6
Total	46,493	1.37	80.18	381,464	2,042	8.2

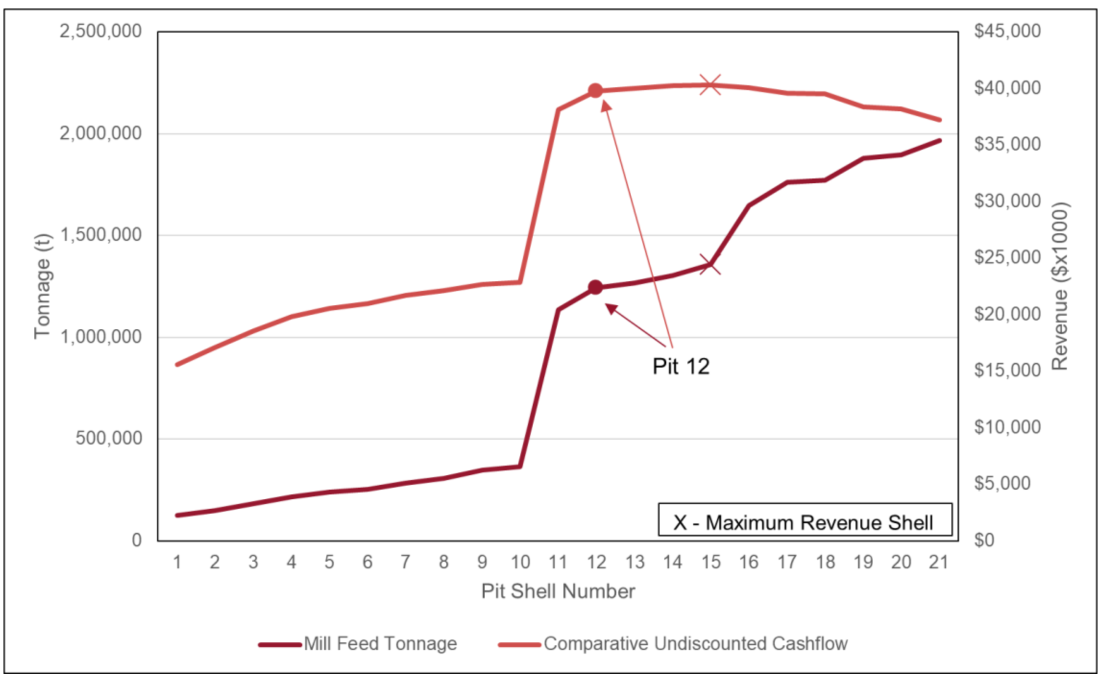
Source: MMTS, 2021.

Figure 16-4: Courvan Bordure, Bussiere and Creek LG Pit Shell Resource Contents by Case Pit Design



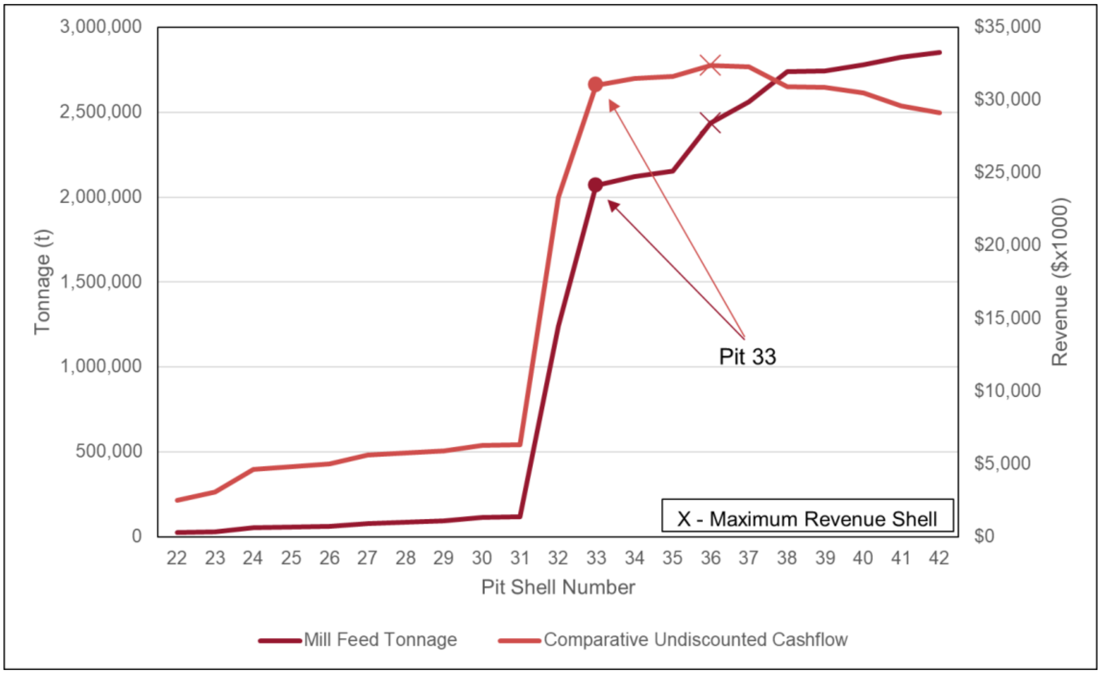
Source: MMTS, 2021.

Figure 16-5: Courvan South East LG Pit Shell Resource Contents by Case Pit Design



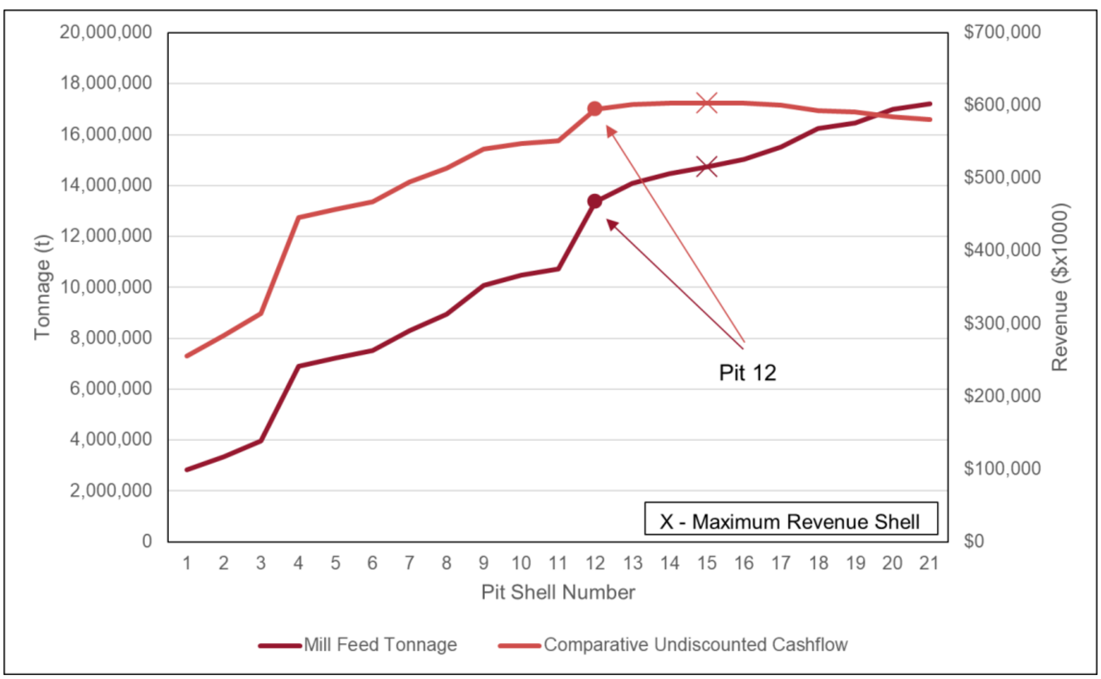
Source: MMTS, 2021.

Figure 16-6: Courvan South West LG Pit Shell Resource Contents by Case Pit Design



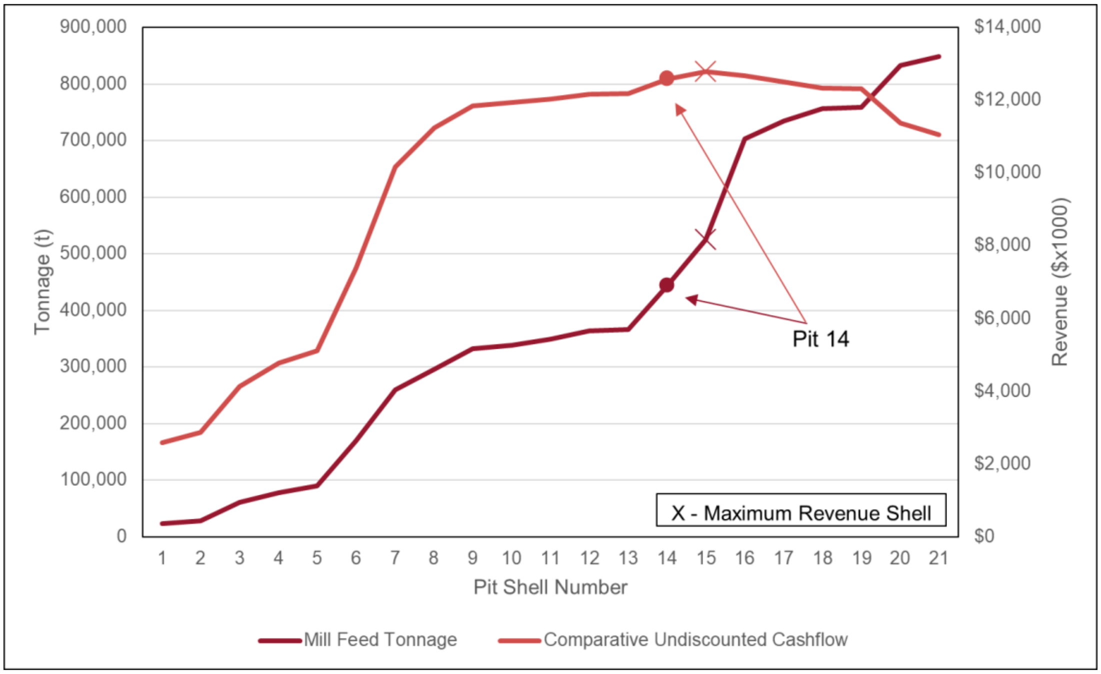
Source: MMTS, 2021.

Figure 16-7: Pascalis Beliveau LG Pit Shell Resource Contents by Case Pit Design



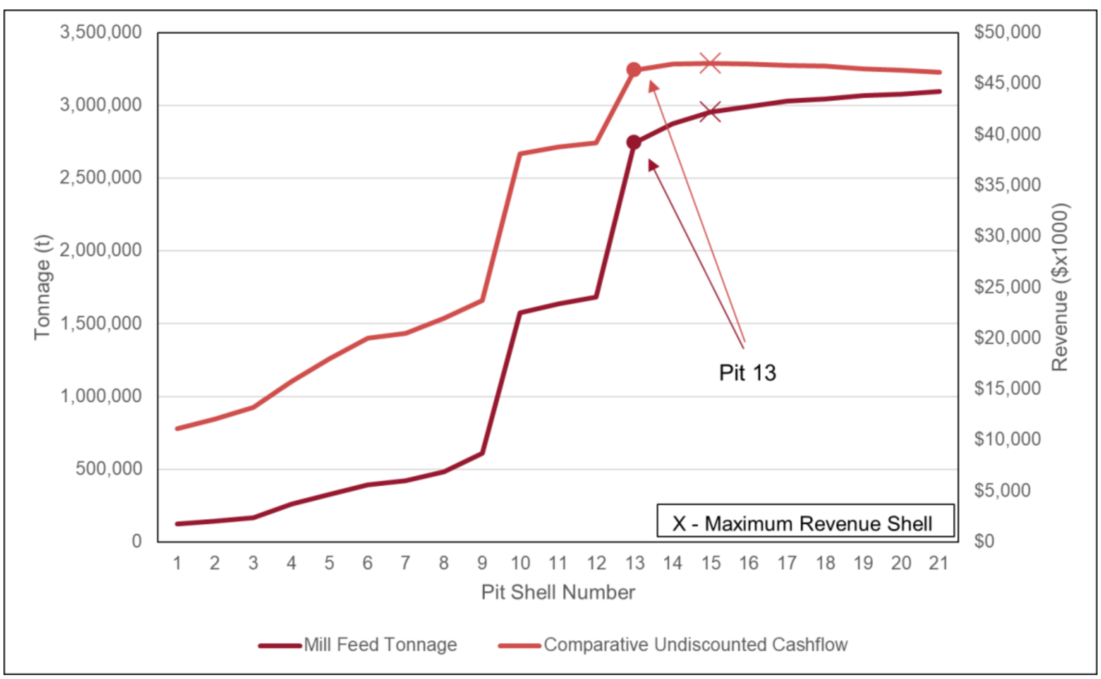
Source: MMTS, 2021.

Figure 16-8: Pascalis Highway LG Pit Shell Resource Contents by Case Pit Design



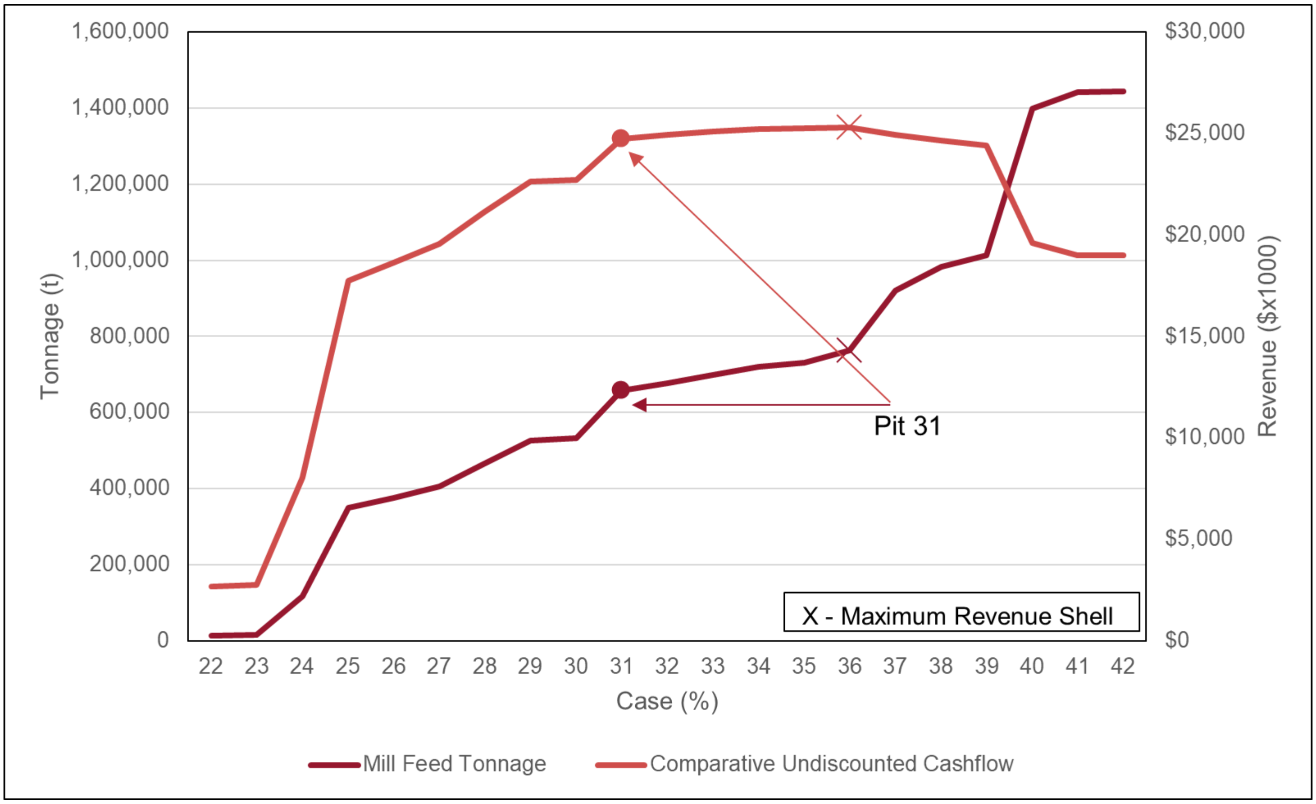
Source: MMTS, 2021.

Figure 16-9: Pascalis North LG Pit Shell Resource Contents by Case Pit Design



Source: MMTS, 2021.

Figure 16-10: Lapaska LG Pit Shell Resource Contents by Case Pit Design



Source: MMTS, 2021.

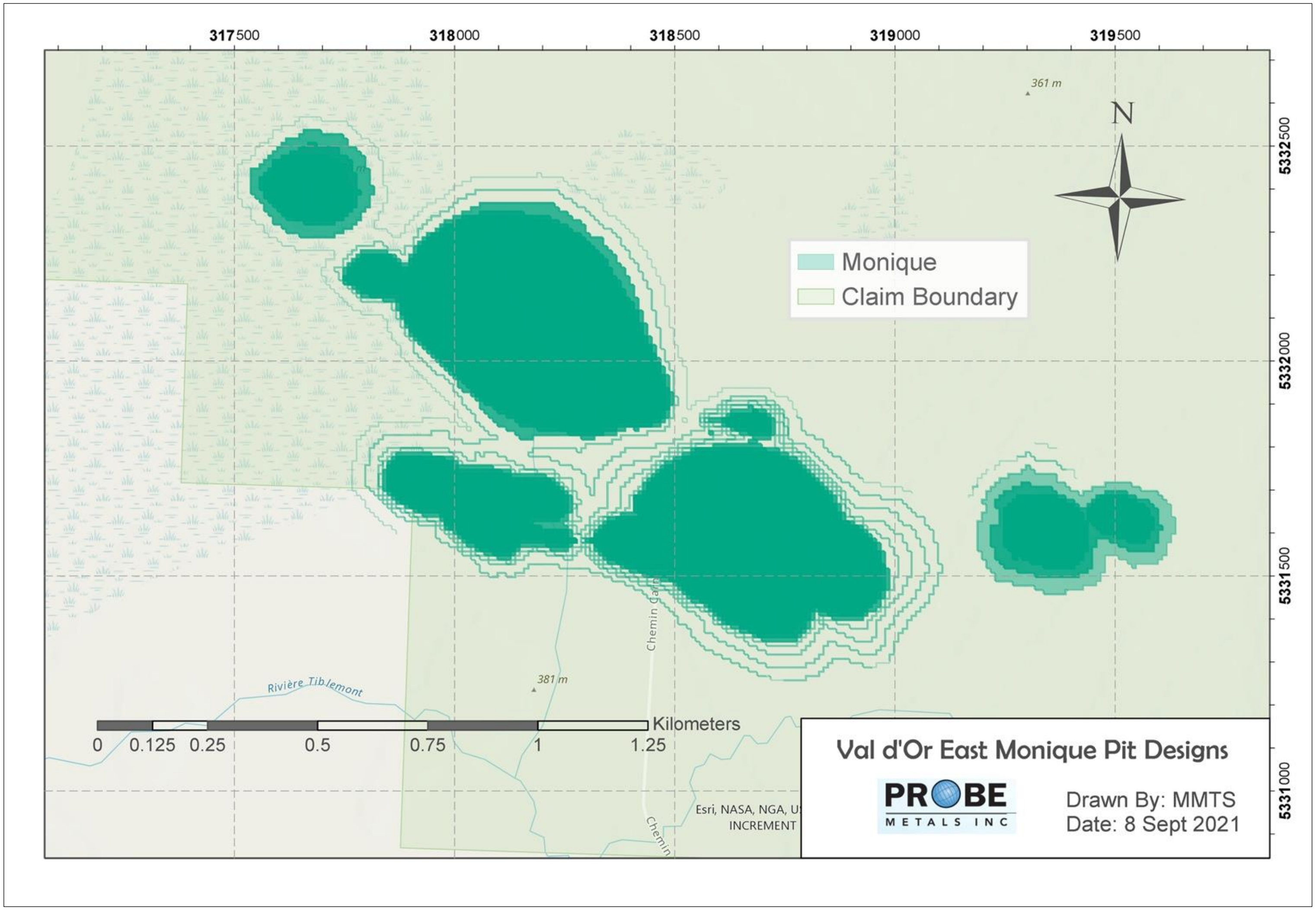
16.3.3 Pit Designs

For this PEA level of study, the LG pit shells were utilized for mine plan scheduling. The selected shells were split into smaller 'phases' or 'pitlets' where appropriate. Pitlets with less than 250 kt of mill feed were removed from consideration for mine planning, since they are considered too small for larger scale mining operations. In practice, these small pitlets would be mined with smaller pieces of mining equipment or by contract miners.

Figures 16-11 to 16-14 show the final limits with individual pitlets as different colours, utilized for open pit mine scheduling.

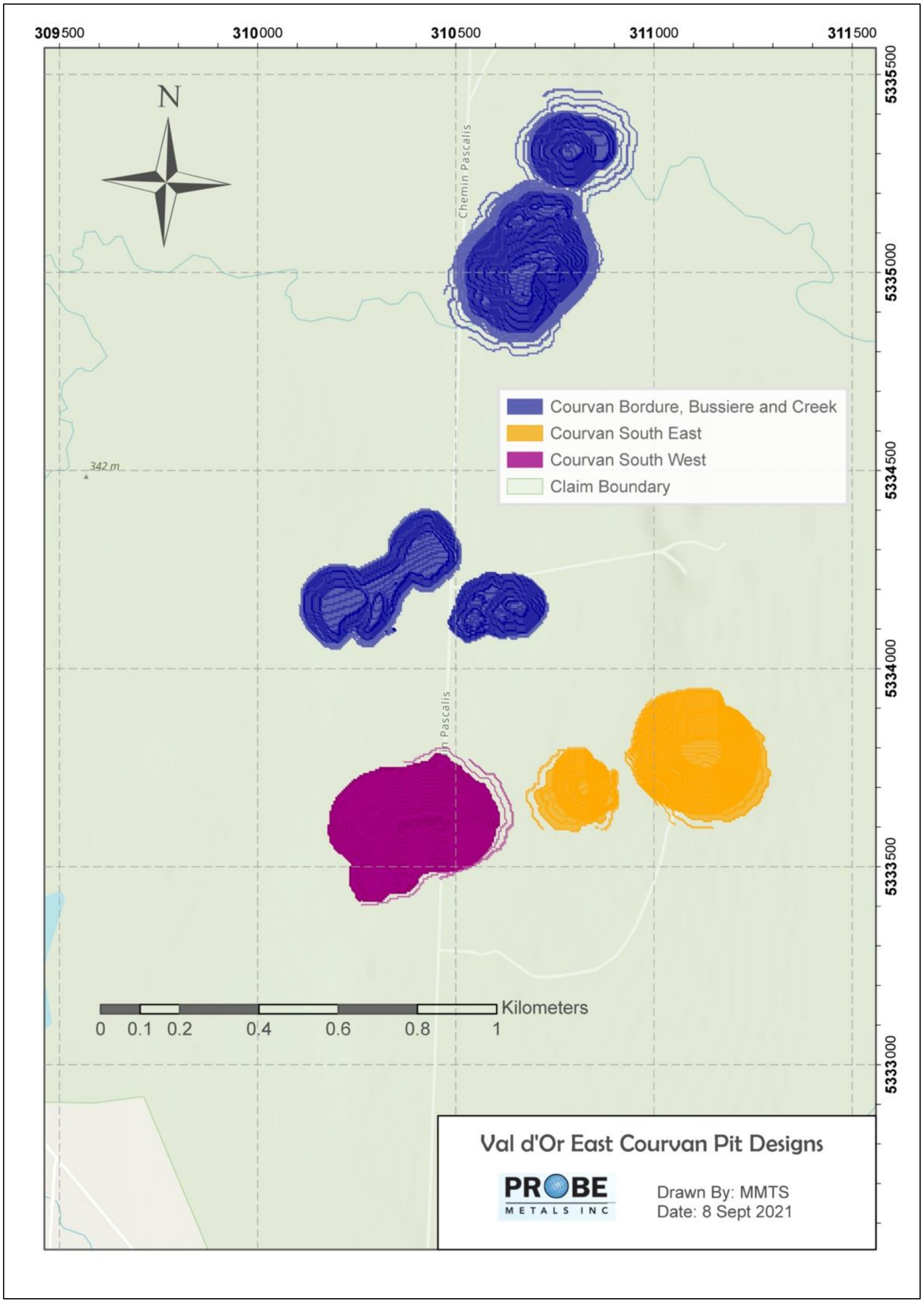
Except for large pit in Beliveau, all pitlets are considered autonomous phases that can be mined independently. For the largest pit in Beliveau, a smaller LG shell was utilized as a starter phase and completed before the remaining material (or "phase 2"), as shown in Figure 16-13.

Figure 16-11: Monique Final Limit



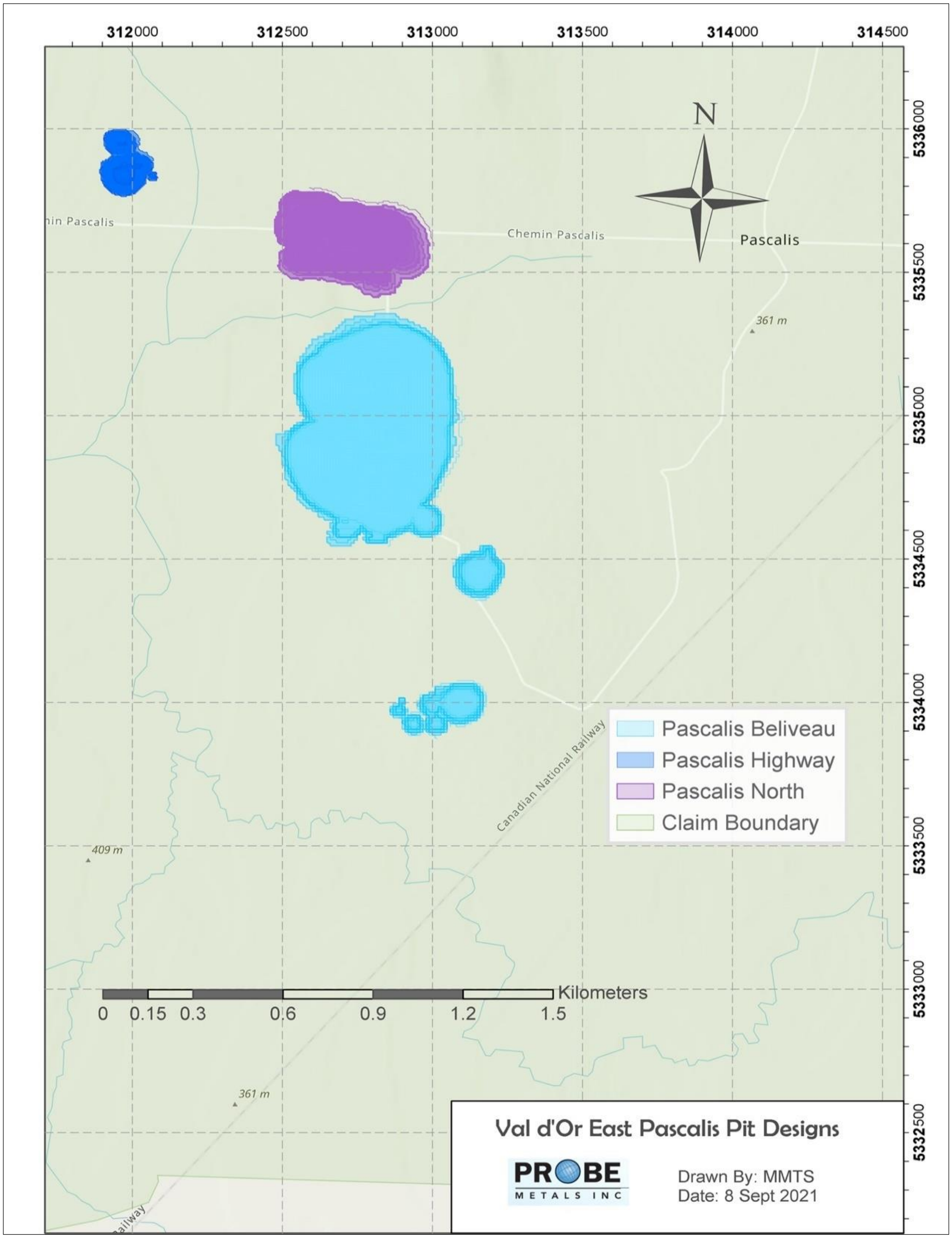
Source: MMTS, 2021.

Figure 16-12: Courvan Final Limit



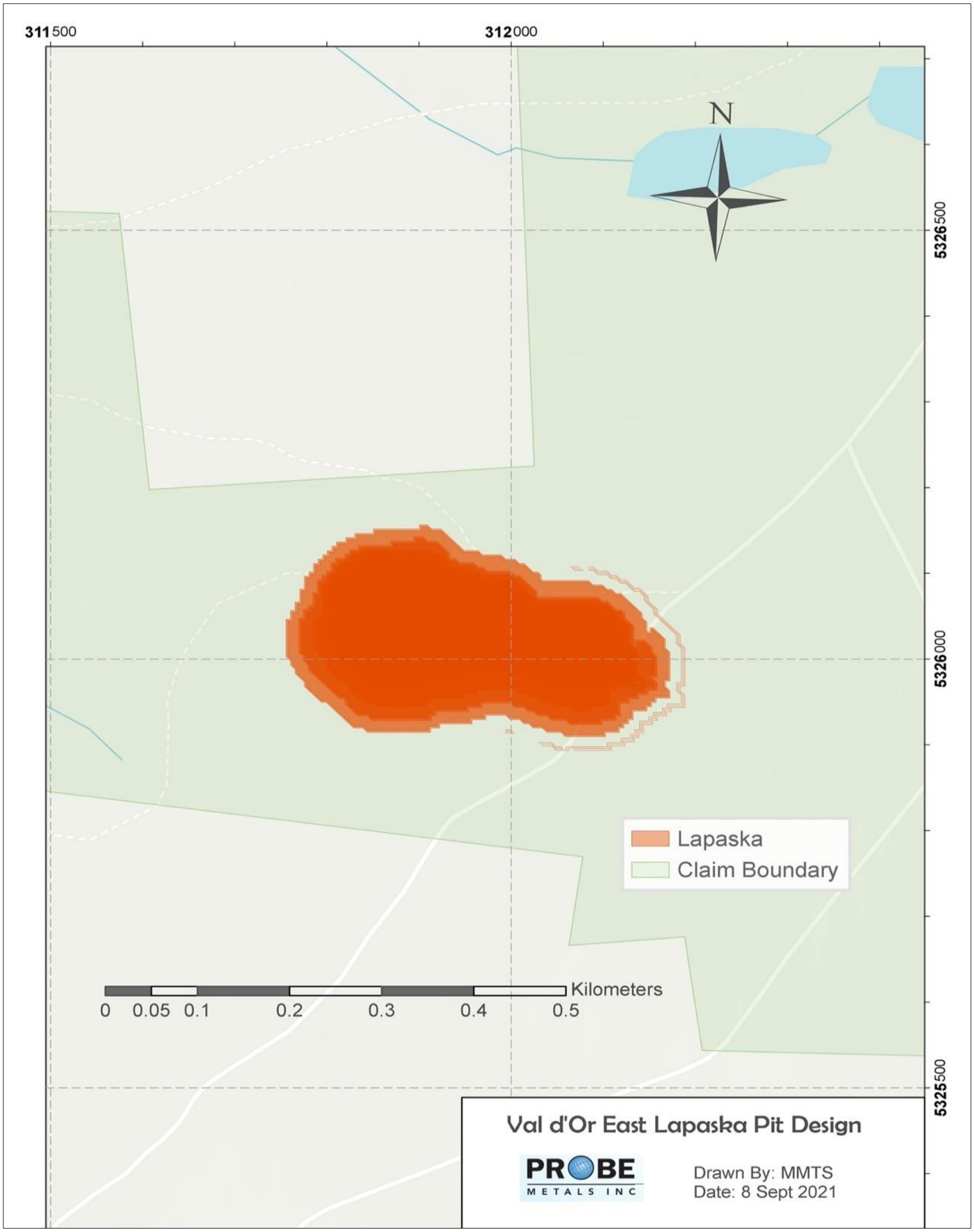
Source: MMTS, 2021.

Figure 16-13: Pascalis Final Limit



Source: MMTS, 2021.

Figure 16-14: Lapaska Final Limit



Source: MMTS, 2021.

16.3.4 Mill Feed Storage Facilities

Mill feed material mined from the pit will either be delivered to the crusher at the plant, the screening and ore sorting facility, long-term ROM stockpiles by these facilities, or the mill feed stockpiles. The crusher at the plant, the screening and ore sorting facility, and ROM stockpiles are centrally located on the east side of the rail line.

For the first three years of plant life only direct mill feed above 0.80 g/t Au will be processed. During this time, mill feed below 0.80 g/t Au will be stockpiled in the long-term ROM stockpiles by the pit rim. In Year 4, the screening and ore sorting facility will be commissioned. Mill feed material from 0.25 g/t to 0.80 g/t of Au will be directed to the screening and ore sorting facility. In general, mill feed material from 0.25 g/t to 0.38 g/t Au will be stockpiled until as late as possible in the mine life.

Mill feed material will be hauled in 40-tonne trucks from the pit rim and/or long-term stockpiles to the plant. The long-term stockpiles are shown on the project layout drawing in Section 18.

16.3.5 Waste Rock Storage Facilities

Waste rock and overburden/topsoil storage facilities are planned at each site for waste materials from the open pit. In general, design considerations assumed an overall reclaimed slope of 2:1 and a swell factor of 30%.

All stockpiles and rock storage facilities are planned to avoid existing waterbodies and water courses or fish-bearing streams.

The waste rock storage facilities are shown on the project layout drawing in Section 18.

16.4 Mining Methods (Underground)

16.4.1 Summary

The underground mine designs summarized in this section are a sub-set of the mineral resources stated in Section 14.

Underground mine designs, mine production schedules, and mine capital and operating costs have been developed for the Monique, Courvan, and Pascalis gold trends at a PEA level of engineering. This study considers longhole retreat (LHR) and mechanized drift and fill (MDF) underground mining options for the deposits.

Access to the underground portion of each trend is planned using declines from pit bottoms or pit walls, respecting crown pillars. Underground material extraction is planned using a fleet of 10-tonne load-haul-dump (LHD) units and 30-tonne haul trucks to bring mill feed to stockpiles located next to their respective portals. From there, front-end loaders will load 40-tonne highway trucks which will transport the material to the central process plant. Development waste is removed with the same equipment and placed close to the portals for use as backfill as required.

MMTS designed open pits to mine the Monique, Courvan and Pascalis gold trends. MMTS carried out high-level economics of each open-pit/underground combination to determine the best sequence of mine development (to maximize open pit first and then underground, or to maximize underground first and then open pit). The results of this analysis showed the highest total economics are generated by maximizing the open pit limit first, and then optimizing the remaining underground extraction.

The underground mine design is based on a set of resources/shapes supplied by GoldMinds that were input to the Deswik – stope optimizer (DSO) using appropriate cut-off grades. DSO is a well-known mining industry standard used to create economical mining blocks. For each mining method, cut-off grade and stope design parameters were used as inputs to define the stope reserve areas. Any blocks that appeared outside of these wireframes were removed from the reserves.

Potential stopes within 25 m of the pit bottoms and pit walls were removed from the mining inventories. After stope inventories were generated, they were run through a second level analysis to remove stopes that are too small to mine or require too much development and thus were deemed too expensive.

Block model files were converted by MMTS. No transformation or filtering of the block model files were done. Some of the block models required a sub-cell procedure to be used to obtain better definition for stope designing for LHR and MDF mining methods.

16.4.2 Monique Gold Trend

The Monique gold trend comprises two underground zones: the North Ramp, which ranges from 240 m to -210 m in elevation and has an approximate strike length of 700 m; and the South Ramp, which ranges 90 m to -360 m in elevation and has an approximate strike length of 300 m. An analysis of these zones for tonnage, grade, and development quantities shows that both should form part of the Monique underground mine plan. These zones are characterized by multiple veins, which mainly trend east-northeast and plunge vertically to sub-vertically. The Monique gold trend is depicted in Figures 16-15 and 16-17 in plan and section layout, respectively.

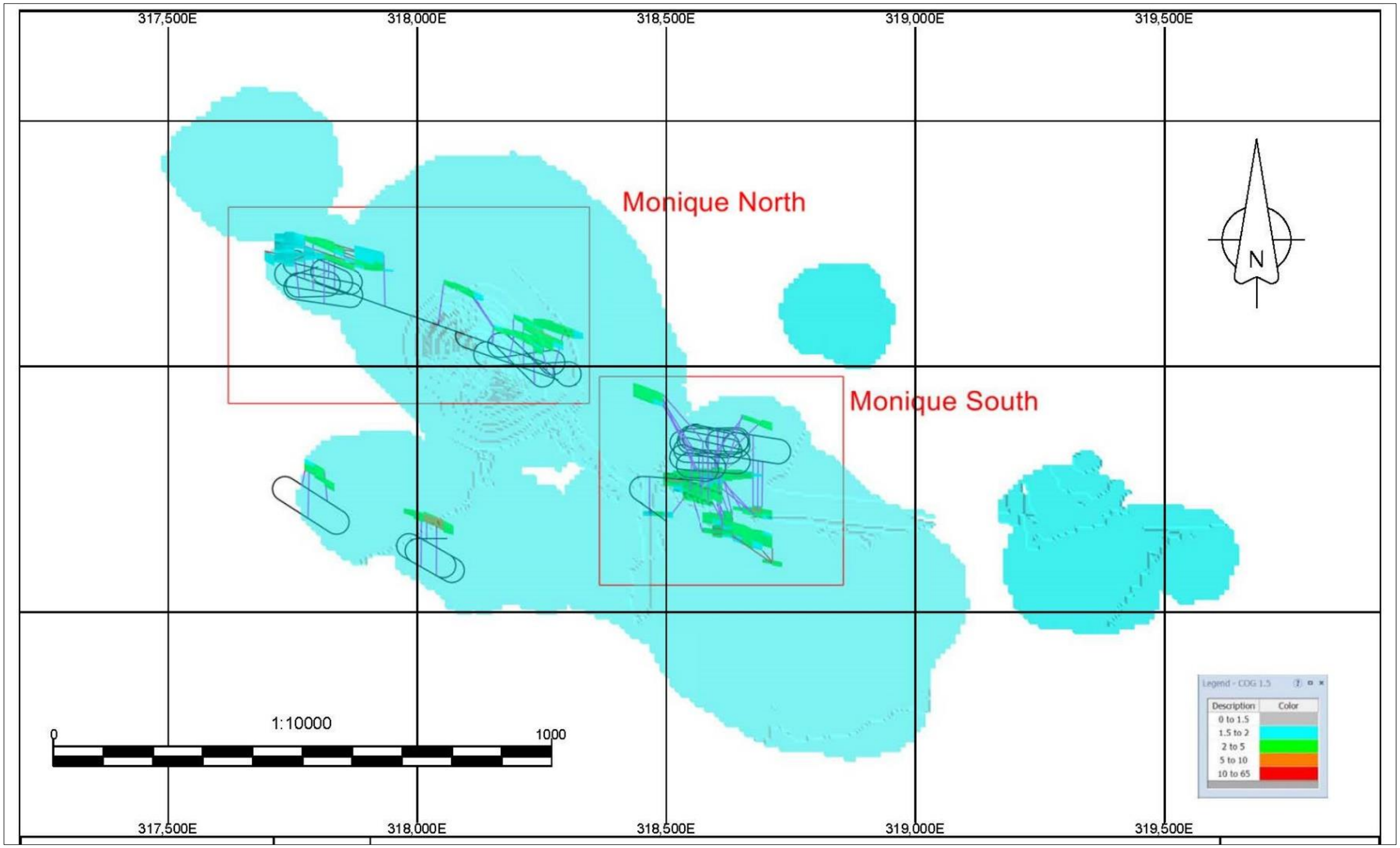
16.4.3 Courvan Gold Trend

The Courvan gold trend comprises the Bordure/Creek, Bussiere, South East (SE) and South West (SW) underground zones. Bordure/Creek ranges in elevation from 190 m to -460 m and has a strike length of approximately 150 m. Bussiere ranges in elevation from 270 m to 105 m and has a strike length of approximately 350 m. An analysis of these zones for tonnage, grade, and development quantities shows that the Bordure/Creek, Bussiere and SW zones should be included in the underground mine plan. The zones are characterized by multiple veins, which mainly trend east-northeast and plunge vertically to sub-vertically. The Courvan gold trend is depicted in Figures 16-18 and 16-19 in plan and section layout, respectively.

16.4.4 Pascalis Gold Trend

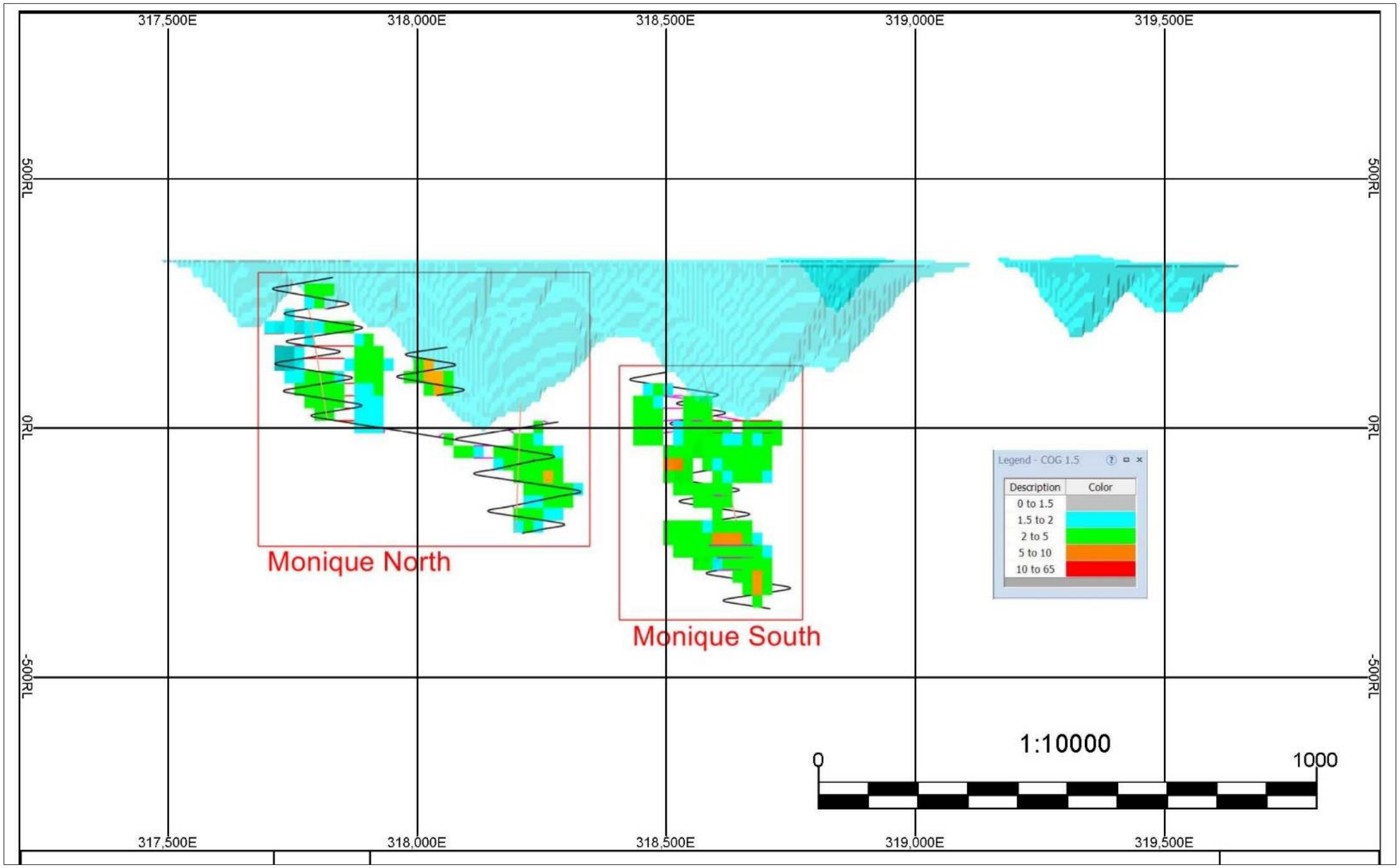
The Pascalis gold trend comprises five underground zones. These zones are Beliveau #1, Beliveau #2, Beliveau #3, North, and Highway. Each zone is characterized by multiple veins, which mainly trend east-northeast and plunge vertically to sub-vertically. An analysis of these zones for tonnage, grade, and development quantities shows that the Beliveau #3 and North zones should be included in the underground mine plan. Beliveau #3 has a vertical extent of 250 m to 50 m and an approximate strike length of 350 m, while North has vertical extent of about 260 m to -40 m and an approximate strike length of 500 m. The Pascalis gold trend is depicted in Figures 16-20 and 16-21 in plan and section layout, respectively.

Figure 16-15: Monique – Plan Layout



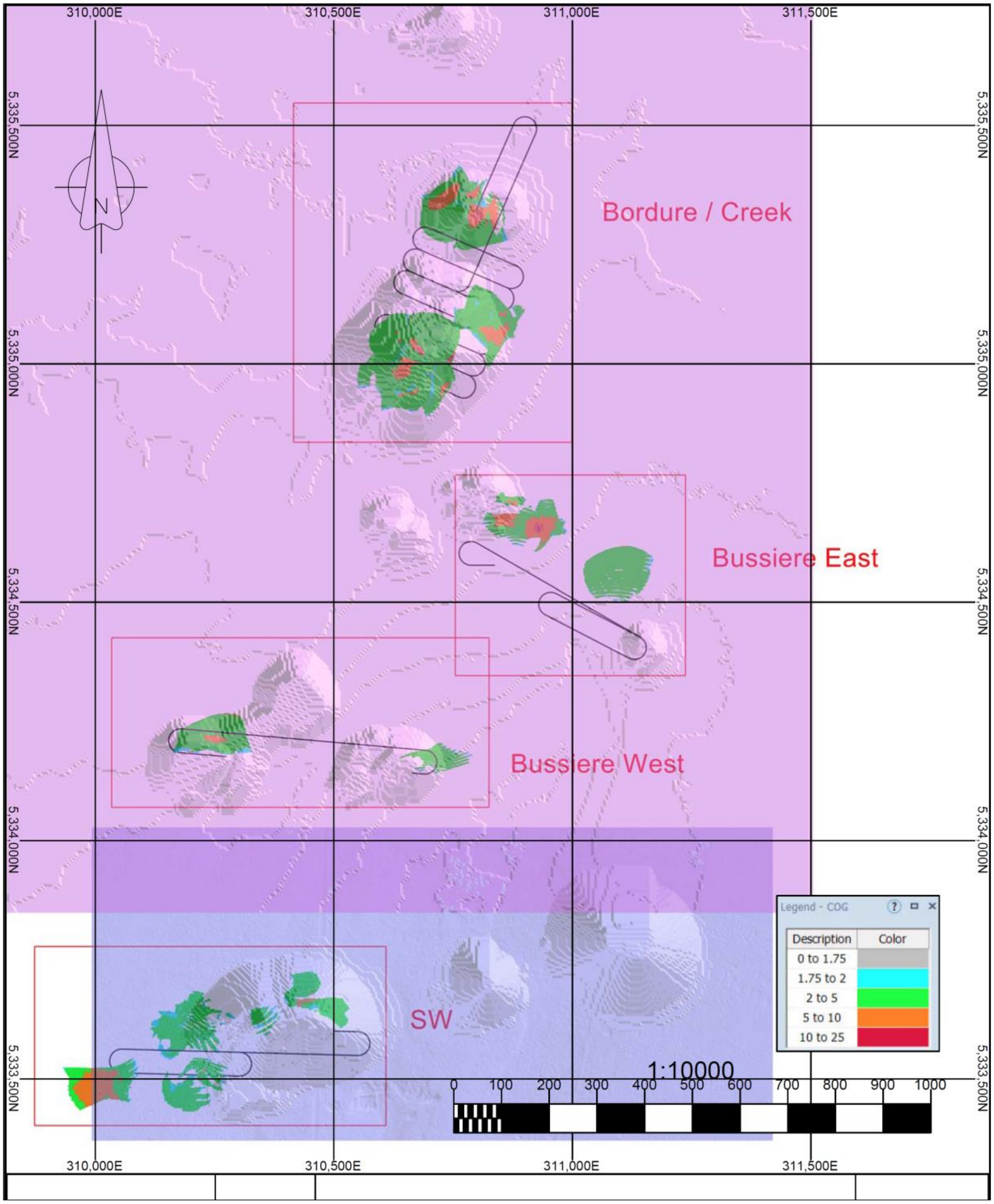
Source: MMTS, 2021.

Figure 16-16: Monique – Section Layout



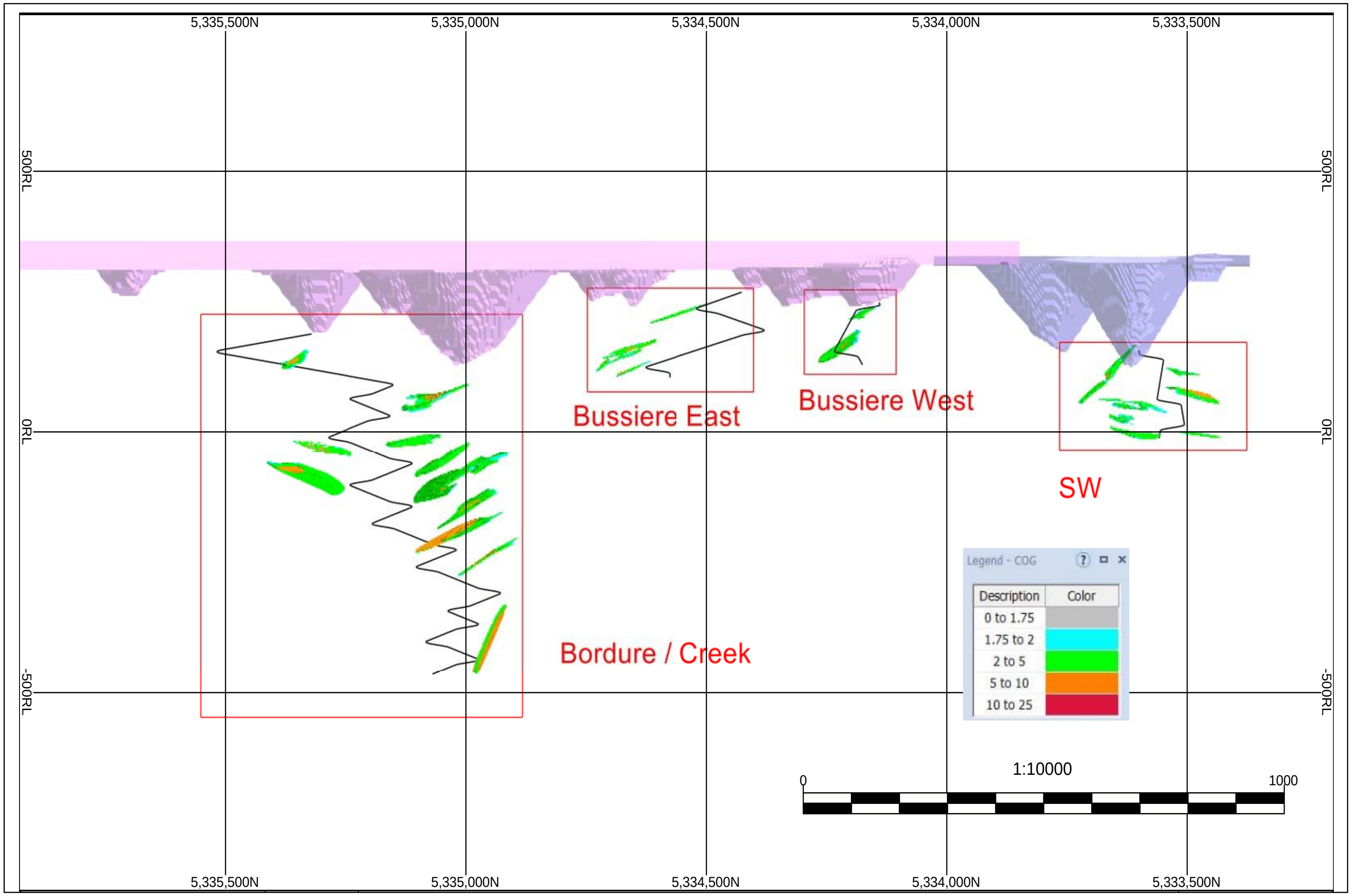
Source: MMTS, 2021.

Figure 16-17: Courvan Zone Pit and Underground Conceptual Design – Plan View



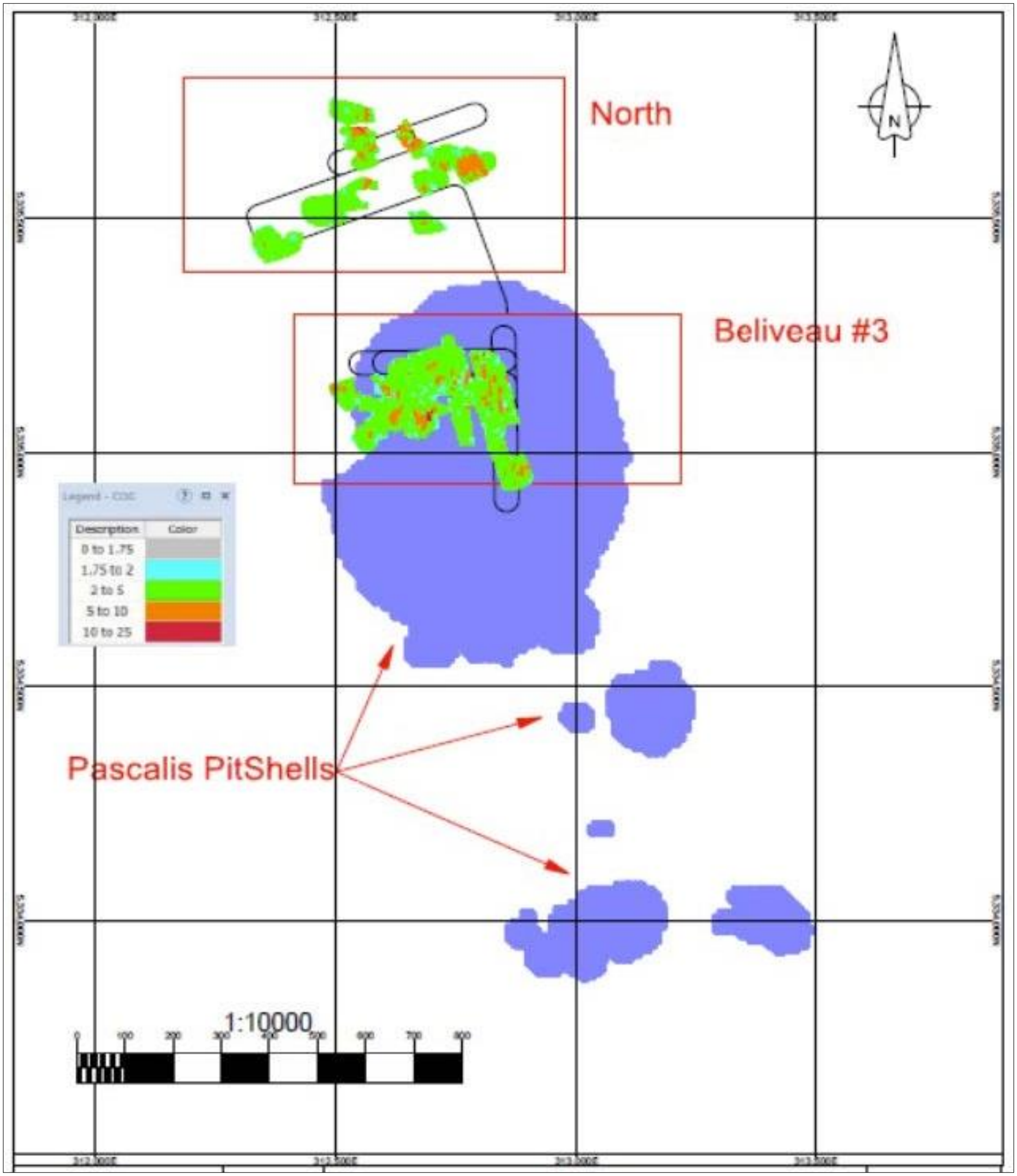
Source: MMTS, 2021.

Figure 16-18: Courvan Zone Pit and Underground Conceptual Design – Section View Looking West



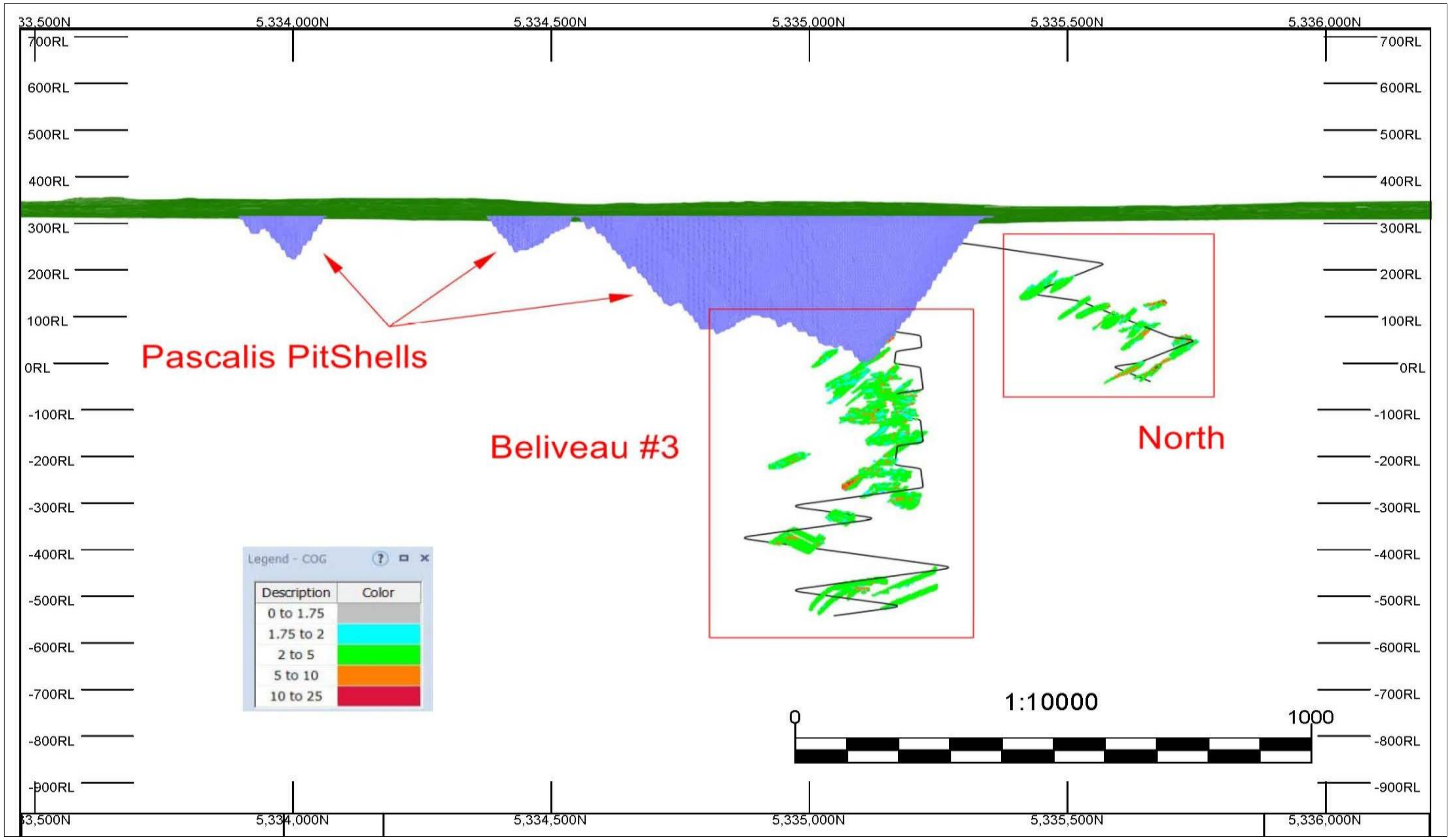
Source: MMTS, 2021.

Figure 16-19: Pascalis – Plan Layout



Source: MMTS, 2021.

Figure 16-20: Pascalis – Section Layout



Source: MMTS, 2021.

16.4.5 Mineral Resource Considered for Mining

Indicated and inferred mineral resources in the Monique zones at a cut-off grade of 1.50 g/t Au are considered in the mine design, production plan and schedule; for the Courvan and Pascalis zones, indicated and inferred mineral resources at a cut-off grade of 1.75 g/t Au are considered.

16.4.6 Mining Method

Mining methods for the Val-d'Or East zones were selected based on the geometry of ore zones (mineralized width, dip, and depth from surface) and grade of mineralization.

16.4.7 Rock Mass Characteristics

Using mineralized widths between 2.5 m and 25 m, dips in excess of 55 degrees, and reasonable rock mass conditions, considering that the zones are not more than 1,000 m deep, MMTS concludes that longhole retreat (LHR) mining is the most appropriate mining method for the Monique zones.

Using the same criteria except with dip of 0 degrees, MMTS concludes that for the Courvan and Pascalis deposits, mechanized drift and fill (MDF) mining is the most appropriate mining method. This was primarily due to the flatter lying and thinner zones and that MDF mining is more versatile, although not as cost effective as LHR mining. MMTS recommends that additional technical evaluation be carried out to determine the optimum mining methods for the deposits as more information becomes available.

16.4.8 Cut-off Grade Determination

The cut-off grades (Table 16-3) used to determine the mineable portions of the mineral resources and used in the mine design for the PEA were developed using the parameters list in Tables 16-4 and 16-5 for LHR mining and MDF mining, respectively.

Table 16-3: Cut-Off Grade Parameters

Parameter	Units	Value
Gold Price	US$/oz	1,500.00
Exchange Rate	CAD:USD	1.33
Payable Gold	%	99.95
Refining Cost	C$/oz	5.00
Transport & Insurance	C$/oz	0.84
Excess Liability	C$/oz	0.92
Gold Value	C$/g	64.05

Source: MMTS, 2021.

Table 16-4: LHR Mining Parameters

Operating Costs (LH Mining)	Units	Value
Underground Mining including Level Development	C$/t	72.00
Processing	C$/t	14.40
G&A	C$/t	3.79
Surface Haulage	C$/t	3.35
Total Operating Costs	C$/t	**93.54**
Recovery	%	94.0
Estimated Cut-off Grade	g/t Au	1.55
Actual Cut-off Grade Used	g/t Au	1.50

Source: MMTS, 2021.

Table 16-5: MDF Mining Parameters

Operating Costs (MDF)	Units	Value
Underground Mining including Level Development	C$/t	90.00
Processing	C$/t	14.40
G&A	C$/t	3.79
Surface Haulage	C$/t	3.35
Total Operating Costs	C$/t	**111.54**
Recovery	%	94.0
Estimated Cut-off Grade	g/t Au	1.85
Actual Cut-off Grade Used	g/t Au	1.75

Source: MMTS, 2021.

16.4.9 Mineable Stope Shapes

Using Deswik software's Mine Shape Optimizer (DSO) software, stope outlines showing tonnage and grade of the mineable portion of the resources mined by LHR and MDF were generated using 1.50 g/t Au and 1.75 g/t Au cut-off grades, respectively. From there, it was determined which of the two mining methods were most suitable to the geometry of the respective deposits.

The input parameters in Table 16-6 were used for DSO algorithm for the Monique deposits, assuming LHR mining.

The input parameters in Tables 16-7 and 16-8 were used for the DSO algorithms for the Courvan and Pascalis deposits, assuming MDF mining.

Table 16-6: Monique DSO Input Parameters

Parameter	Unit	Default Value	Value Range	
			Minimum	Maximum
Density	S.G.	2.88	-	-
Cut-Off Grade	g/t Au	1.50	-	-
Stope Geometry				
Stope Height	m	25	-	-
Stope Length	m	20	-	-
Stope Width	m	-	2.5	100
Dip	°	70°	55°	125°
Strike	°	15°	0°	30°
Dilution				
Hanging-wall	m	0	-	-
Footwall	m	0	-	-

Source: MMTS, 2021.

Table 16-7: Courvan DSO Input Parameters

Parameter	Unit	Default Value	Value Range	
			Minimum	Maximum
Density	S.G.	2.82	-	-
Cut-Off Grade	g/t Au	1.75	-	-
Stope Geometry				
Stope Height	m	2.5	-	-
Stope Length	m	2.5	-	-
Stope Width	m	-	2.5	100
Dip	°	90°	80°	100°
Strike	°	0°	-10°	10°
Dilution				
Hanging-wall	m	0	-	-
Footwall	m	0	-	-

Source: MMTS, 2021.

Table 16-8: Pascalis DSO Input Parameters

Parameter	Unit	Default Value	Value Range	
			Minimum	Maximum
Density	S.G.	2.83	-	-
Cut-Off Grade	g/t Au	1.75	-	-
Stope Geometry				
Stope Height	m	2.5	-	-
Stope Length	m	2.5	-	-
Stope Width	m	-	2.5	100
Dip	°	80°	80°	100°
Strike	°	0°	-30°	30°
Dilution				
Hanging-wall	m	0	-	-
Footwall	m	0	-	-

Source: MMTS, 2021.

After the inventories of potential stopes were generated from DSO for each deposit, they were optimized by manually deleting stopes that were too small or required excessive development to be mined economically.

This exercise produced a suite of inventories suitable for the final step of applying modifying factors.

16.4.10 Modifying Factors (Dilution and Mining Losses)

Dilution can either be internal/unplanned dilution or external/planned dilution. These are defined as follows:

- Planned dilution or internal dilution (which is unavoidable) comprises low-grade and internal waste material contained in the block model for the proposed stope dimensioning. Unplanned dilution is contained within the grade shells upon which the DSO algorithms were applied.
- Unplanned dilution or external dilution is due to overbreak of the hanging wall and footwall as well as from backfill wall failures and mucking of backfill from the floor.

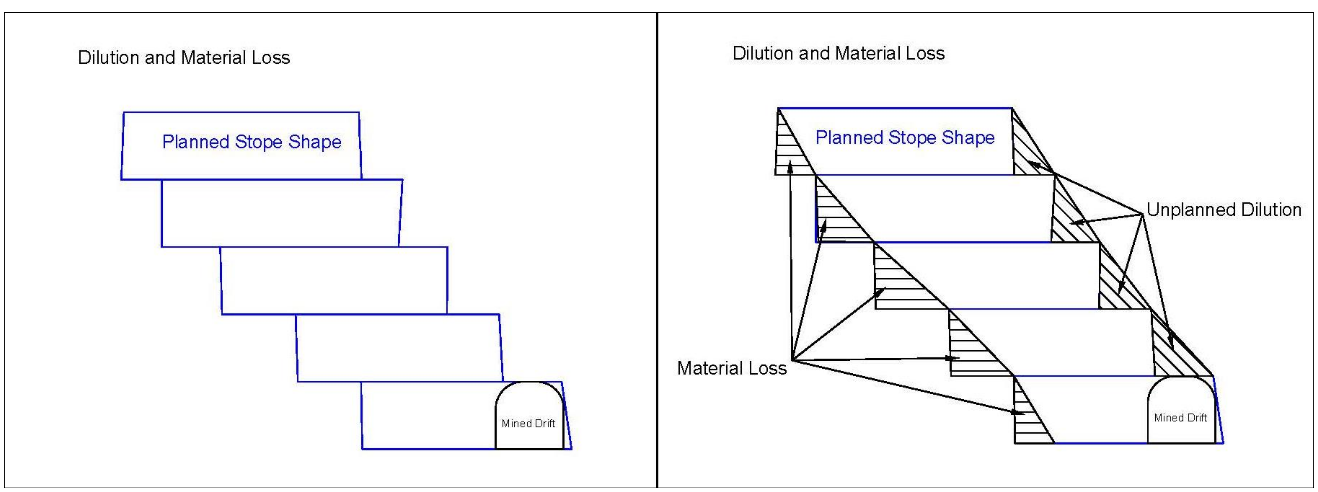
For LHR mining, based upon the sublevel intervals, stope widths and lengths, and backfill, MMTS assumes external dilution to be about 18% based upon average stope widths and 0.5 m of waste dilution per contact.

For MDF mining, based upon cut heights, average thickness and dip, MMTS assumes external dilution to be about 10% based upon average stope widths and 0.2 m of waste dilution per contact.

For both LHR and MDF mining methods, the grade of dilution is assumed to be 0.00 g/t Au.

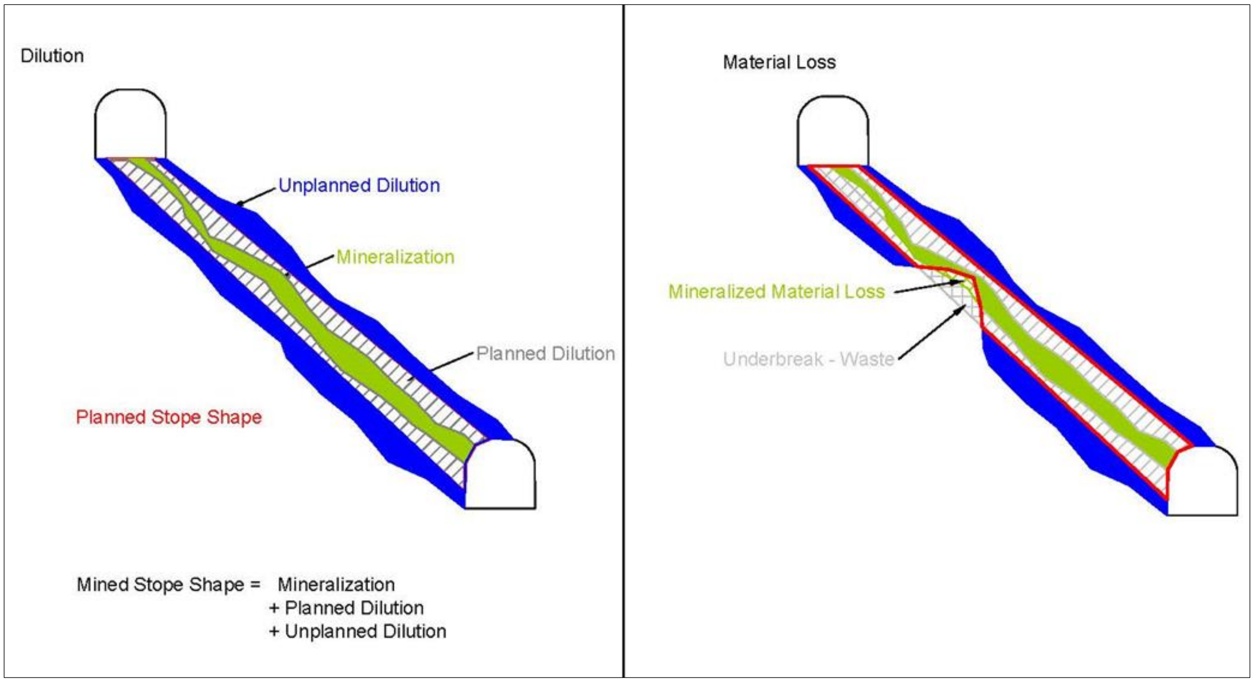
The mining recovery for this PEA is estimated to be 90% and 95% for LHR and MDF mining, respectively, which assumes material losses of 10% and 5% (respectively) during extraction of blasted material from the stopes, transportation, and handling from the stopes to surface, as well as losses due to reclaiming from surface stockpiles for transport to the processing facility. Figure 16-21 illustrates the MDF mining sequence as well as dilution and material losses; Figure 19-22 illustrates dilution and material loss for LHR mining.

Figure 16-21: MDF – Dilution and Material Loss



Source: MMTS, 2021.

Figure 16-22: LHR – Dilution and Material Loss



Source: MMTS, 2021.

16.4.11 Production Rate

The proposed production rates for each zone/deposit area are shown in Table 16-9.

Table 16-9: Production Rate Summary

Deposit	Zone	Mining Method	Production Rate (t/d)
Monique	North Ramp	LHR	1,000
	South Ramp	MDF	1,000
Courvan	Bordure/Creek	MDF	500
	Bussiere	MDF	500
	Southwest	MDF	500
Pascalis	Beliveau #3	MDF	500
	North	MDF	500

Source: MMTS, 2021.

Given the physical geometry, type and spatial location of the deposits, and the available data for the proposed mining methods, MMTS feels that the proposed extraction rates for the zones/deposits in Table 16-9 are appropriate. These were calculated with consideration to Taylor's Rule, McCarthy & Tatman Formula[1] and MMTS's experience. Additionally, consideration was given to mining rates with respect to levelling labour resources.

[1] Source for Taylor and McCarthy/Tatman: McIntosh Engineering, Hard Rock Miner's Handbook, Edition 3, May 2003

The production rates are in the range of 500 t/d to 1,000 t/d and are deemed to be appropriate for a PEA level of study. MMTS recommends that additional technical evaluation be carried out to revise and optimize the production rates as additional exploration drilling and updated mineral resource information becomes available for these zones/deposits.

16.4.12 Mine Design

The mine design was developed to support mine production rates of either 500 t/d or 1,000 t/d depending on the mining method selected. This is to be achieved using both cemented rockfill and uncemented rockfill depending on whether the stope or cut is adjacent to previously backfilled stopes. Regardless of the method chosen, mining generally commences at the bottom of each deposit with the development of sills, where production drilling, blasting and extraction from the stope in a longitudinal retreat fashion towards the access crosscut will take place, or in the case of MDF mining, with the development of the initial cuts which comprise jumbo drilling and blasting and extraction in an advancing fashion towards the zone extremities.

The underground mine design was developed using Deswik Underground software. A description of the design is provided in the following subsections.

16.4.12.1 Underground Excavations

All the primary underground development is designed with dimensions of 4.0 m W x 4.5 m H, with the exception of lateral developments, such as levels, sills, crosscuts, remuck bays, safety bays and ventilation drifts, which are sized at 4.0 m W x 4.0 m H (Table 16-10). Main ventilation raises are excavated with a raise bore and the remaining ventilation raises between levels will be excavated by drop raise method.

16.4.12.2 Mine Accesses

The declines for each deposit are generally collared from bottoms of the open pits but on occasion, portals from pit walls are also collared. Along with the declines, there will also be a system of ramps and crosscuts to access the underground workings and production areas. Total development for all mines combined is 70,403 m.

In total there are 21,490 m of main decline and ramp system in the proposed mine designs to access all the mineable deposits within the seven mining zones. The main decline and underground ramp systems are designed at a nominal -15% grade. The declines from the pits are driven to the bottom of the mining zones from where primary ventilation raises are established. They also connected to internal ramps linking one mining area to another. Sumps complete with primary dewatering pumps, are also established at the bottom of the declines.

Provisions for re-muck bays and safety bays are included in the decline/ramp and level development designs. It is also assumed that in certain areas, such as in the inter-ramp, the remuck bays will have multiple purposes and can be used as safety or vehicle passing bays to reduce the amount of underground development.

Currently, a provision of 10% is included in the LOM development to account for sumps, refuge stations, lunchrooms, electrical and dewatering stations, explosive and fuel storage bays, and underground maintenance facilities. MMTS considers this to be a reasonable assumption considering that this is preliminary economic evaluation. It is recommended that these auxiliary excavations, including secondary escapeways or emergency exits from the mine, be considered in the mine design during future advanced stages of the project. Each of the mines is generally developed between 12 and 24 months.

Table 16-10: Underground Development Design Parameters

Deposit	Zone	Item	Dimensions (WxH) (m)	Total (m)
Monique	North Ramp	Decline/Ramps	4.0 m x 4.5 m	4,180
		Level Development	4.0 m x 4.0 m	2,944
		Miscellaneous Development	2.0 m x 2.0 m - 3.5 m x 3.5 m	370
		Attack Ramps	4.0 m x 4.0 m	-
		Primary Vent Raises (Fresh and Return)	3.0 m diameter	950
		Secondary Vent Raises (Fresh)	2.0 m x 2.0 m	475
Subtotal				8,919
Monique	South Ramp	Decline/Ramps	4.0 m x 4.5 m	3,420
		Level Development	4.0 m x 4.0 m	2,409
		Miscellaneous Development	2.0 m x 2.0 m - 3.5 m x 3.5 m	340
		Attack Ramps	4.0 m x 4.0 m	-
		Primary Vent Raises (Fresh and Return)	3.0 m diameter	900
		Secondary Vent Raises (Fresh)	2.0 m x 2.0 m	450
Subtotal				7,519
Courvan	Bordure-Creek	Decline/Ramps	4.0 m x 4.5 m	4,421
		Level Development	4.0 m x 4.0 m	315
		Miscellaneous Development	2.0 m x 2.0 m - 3.5 m x 3.5 m	500
		Attack Ramps	4.0 m x 4.0 m	8,820
		Primary Vent Raises (Fresh and Return)	3.0 m diameter	1,310
		Secondary Vent Raises (Fresh)	2.0 m x 2.0 m	655
Subtotal				16,021
Courvan	Bussiere	Decline/Ramps	4.0 m x 4.5 m	1,946
		Level Development	4.0 m x 4.0 m	95
		Miscellaneous Development	2.0 m x 2.0 m - 3.5 m x 3.5 m	50
		Attack Ramps	4.0 m x 4.0 m	2,640
		Primary Vent Raises (Fresh and Return)	3.0 m diameter	332
		Secondary Vent Raises (Fresh)	2.0 m x 2.0 m	166
Subtotal				5,226
Courvan	Southwest	Decline/Ramps	4.0 m x 4.5 m	1,160
		Level Development	4.0 m x 4.0 m	115
		Miscellaneous Development	2.0 m x 2.0 m - 3.5 m x 3.5 m	50
		Attack Ramps	4.0 m x 4.0 m	3,000
		Primary Vent Raises (Fresh and Return)	3.0 m diameter	342
		Secondary Vent Raises (Fresh)	2.0 m x 2.0 m	171
Subtotal				4,838
Pascalis	North	Decline/Ramps	4.0 m x 4.5 m	2,003
		Level Development	4.0 m x 4.0 m	260
		Miscellaneous Development	2.0 m x 2.0 m - 3.5 m x 3.5 m	330
		Attack Ramps	4.0 m x 4.0 m	2,790
		Primary Vent Raises (Fresh and Return)	3.0 m diameter	596
		Secondary Vent Raises (Fresh)	2.0 m x 2.0 m	298
Subtotal				6,277
Pascalis	Beliveau #3	Decline/Ramps	4.0 m x 4.5 m	4,360
		Level Development	4.0 m x 4.0 m	505
		Miscellaneous Development	2.0 m x 2.0 m - 3.5 m x 3.5 m	730
		Attack Ramps	4.0 m x 4.0 m	14,070
		Primary Vent Raises (Fresh and Return)	3.0 m diameter	1,292
		Secondary Vent Raises (Fresh)	2.0 m x 2.0 m	646
Subtotal				21,603
Total				**70,403**

Source: MMTS, 2021.

16.4.12.3 Underground Mine Layout

Where possible, the underground development and access to the stopes are located in the footwall, which is geotechnically more advantageous. However, in all zones, there are multiple stopes on any single level, which are parallel and not on strike, thus development is also placed between veins.

Generally speaking, access into the stopes will be from internal ramps and minimal level development. For the LHR stopes, accesses from the footwall development are driven to the sublevels of the stopes; for the MDF stopes, attack ramps are driven to the initial and subsequent cuts.

16.4.12.4 Mine Development, Services and Mine Schedule

16.4.12.4.1 Mine Development

Contractor mining is assumed, due to the relatively short mine life of each of the underground deposits, ranging from four to 11 years. Mining contractors will carry out development, pre-production, and the excavation of mineralized material (drilling, blasting, mucking and hauling to surface).

The advance rate for development headings with mechanized mining equipment is approximately 5.0 m/d for single headings; 8.0 m/d for multiple headings; and stoping activities of approximately 300 to 1,000 t/d (in steady-state operation).

Crosscuts into the stopes from the ramps are designed to be approximately 50 m long, depending on the geometry of each stope. Provision has been made in the design of the crosscuts to include a remuck bay and backfill bay.

16.4.12.4.2 Backfill

Backfill for all deposits/zones will comprise cemented rockfill and uncemented rockfill. Batch plants will be set up near the portals in the pit bottoms and underground waste will be used. Backfill will be hauled into the mines with 30-tonne haul trucks and dumped into backfill bays from where it will be remucked with LHD units to the stopes. LHR stopes are generally filled with cemented rockfill unless there is an opportunity to leave a low-grade rib pillar in place and fill it with uncemented rockfill.

For the MDF stopes, since backfill has to be placed in the cuts and packed as close to the back as possible without failing, it is likely that most of the backfill will be cemented rockfill.

16.4.12.4.3 Ventilation

During development, each decline will have a fresh air ventilation raise associated with it which will be driven from level to level via conventional or drop raise method. A fan/heater assembly will be situated at the top of the raise to provide fresh air which will be picked up at each level, then exhausted up the ramp.

For permanent ventilation, at the bottom of each decline there will be a fresh air raise and return air raise which will break through into either the associated pit bottom (from where the decline was collared) or from original topography close to the pit. The fresh air raise will be downcast and equipped with a fan/heater to provide heated air, which will flow up through mine workings and stopes and be collected by the exhaust air raise and returned to surface. The declines will also act as return airways.

Detailed engineering work was not carried out for the mine ventilation, dewatering, and electrical power requirements (i.e., mine services) for this PEA. However, provision was made for these in the mine cost model based on relevant project experience and published references. The mine's ventilation, dewatering, ventilation, and backfill systems are recommended to be studied in more detail in the next stage of the project.

16.4.12.5 Underground Mine Schedule

All the underground mines will be developed independently. Two mines are developed prior to the first underground production commencing. Once production commences, the number of mines in operations rises to six (average of five in operations).

16.4.12.6 Underground Mine Equipment

The mining contractor will supply its own mining equipment and personnel during pre-production development and operations. A list summarizing the owner's mining equipment for the life of mine is presented in Table 16-11. This list does not include the replacement of major mining equipment in Year 8. The cost of major mining equipment replacement is included in the estimate under sustaining capital costs.

Table 16-11: Mining Equipment for the Life of Mine (Supplied by Contractor)

Description	Life-of-Mine Maximum
EH Longhole Drill - Sandvik DL331	2
2-boom Development Jumbo - Sandvik DD421	7
1-boom Stope Jumbo - Sandvik DD411	10
10-tonne LHD Unit - Sandvik LH410	7
3.5-tonne LHD Unit - Sandvik LH203	7
30-tonne Haul Trucks - Sandvik TH430	8
Emulsion Charger - MacLean EC3	3
Scissor Lift – MacLean SL3	5
M-120 Caterpillar Motor Grader	3
Mechanical Service Truck - MacLean MT2	3
Fuel and Lube Truck - MacLean CS-3	3
Personnel Carrier - MacLean PC3	4
Survey Truck - Toyota BTE 2000	3
Mine Rescue - Toyota BTE-808	3
Water Truck - MacLean WC3	3
Light Vehicles - Toyota BTE-001 1500	6

Source: MMTS, 2021.

The remaining auxiliary mining equipment will be refurbished. A breakdown on the initial capital and sustaining cost of each equipment type is presented in the capital and operating cost section of this report.

All of the mining equipment proposed for the southwest zone is diesel-powered. Drilling equipment will also be diesel-powered for mobility; electricity will only be required to power the drills.

Mining equipment for all of the deposits will be similar and will be largely supplied by contactors. To minimize fleet complexity, 15-tonne LHDs have been selected for all mucking and loading activities. Production LHDs will utilize temporary re-mucks when required to maximize stope extraction and minimize stope cycle times. Dedicated haulage LHDs will be used to load the 51-tonne trucks at the level access and ramp stockpiles.

The working schedule for the production and development crews will be two shifts per day at 12 hours per shift, 365 days per year. A utilization of 85% was assumed for all major equipment. Productive working time was calculated using assumed delays.

Where practical and possible, equipment can be shared between deposits as follows:

- For Monique, between North Ramp and South Ramp
- For Courvan, between Bordure/Creek, Bussiere and Southwest
- For Pascalis, between Beliveau #3 and North

16.4.13 Personnel Requirements

The personnel and mine labour requirement during pre-production and production is supplied by the mining contractor. A centralized mine supervision and technical staff will provide services to all underground mines. The number of underground mines that are in operation (i.e., development required and mining rate) will determine the number of personnel required, as shown in Tables 16-12 to 16-15. The underground mine manager (contractor supplied) will report to the Owner's team of personnel.

Table 16-12: Contractor Underground Mine Technical Staff

Position	No. Employees (Maximum)
Mine Manager	1
Superintendent	1
Chief Engineer	1
Senior Mining Engineer	2
Mine Planning Engineer	3
Senior Geologist	3
Geologist	3
Geological Technician	4
Sampler	4
Surveyor	4
Total	**26**

Source: MMTS, 2021.

Table 16-13: Contractor Underground Mine Operations Staff

Position	No. Employees (Maximum)
Mine Captain	5
Mine Supervisor	20
Mine technician	5
Mine Administration	5
Total	**35**

Source: MMTS, 2021.

Table 16-14: Contractor Underground Mine Maintenance Crew

Position	No. Employees (Maximum)
Maintenance Superintendent	1
Maintenance Planner	1
Heavy-Duty Mechanics	40
Light-Duty Mechanics	2
Electrical Supervisor	1
Electricians	3
Technicians	3
Total	**51**

Source: MMTS, 2021.

Table 16-15: Contractor Underground Mine Personnel

Position	No. Employees (Maximum)	Duties
Development Miners	70	Drilling, blasting, bolting, mucking
MDF Stope Miners	50	Drilling, blasting, bolting, mucking
LH Drillers and Blasters	22	Drilling and blasting
LH Muckers	11	Stope mucking
Equipment Operator	10	Truck loading, truck driving, grader
Total	**163**	

Source: MMTS, 2021.

16.5 Production Schedule

The production schedule combines the underground and open pit, and the overall production schedule. Production scheduling is briefly described in the subsections below. A mine production schedule is shown in Table 16-16.

Table 16-16: Mine Production Schedule

	Unit	Total	-1	1	2	3	4	5	6	7	8	9	10	11	12	13
Open Pit Total to Mill	Feed Tonnes	**38,083,670**	–	3,655,000	3,655,000	3,655,000	3,475,000	3,295,000	3,115,001	2,935,000	2,995,392	2,933,901	2,565,000	2,385,000	2,708,914	710,461
	Gold (g/t)	**1.62**	–	2.51	1.78	1.90	1.61	1.87	1.89	2.30	1.60	1.28	0.81	0.75	0.72	0.65
	Recovered Gold (g/t)	**1.53**	–	2.39	1.68	1.79	1.52	1.77	1.79	2.19	1.52	1.20	0.75	0.68	0.66	0.59
	Gold Recovery (%)	**94%**	–	95%	95%	95%	94%	95%	95%	95%	94%	94%	92%	92%	92%	90%
High Grade Direct to Mill	In-situ tonnes	**19,139,373**	–	3,372,444	3,393,180	3,440,876	2,205,902	1,758,121	1,598,629	1,417,371	1,236,301	716,548	–	–	–	–
Direct to Screen and Mill	In-situ tonnes	**12,285,195**	–	–	–	–	2,470,047	2,699,621	2,821,507	1,430,129	1,878,841	985,049	–	–	–	–
High Grade to Stockpile	In-situ tonnes	**5,178,221**	411,117	436,883	58	22,421	–	1,263,397	894,961	1,306,276	693,969	149,138	–	–	–	–
Lower Grade to Stockpile	In-situ tonnes	**20,569,404**	466,604	3,333,205	4,167,732	3,944,021	2,198,907	1,884,359	508,596	2,110,920	1,245,654	709,406	–	–	–	–
Material Mined	In-situ tonnes	**424,096,257**	9,924,658	44,717,444	51,738,180	51,785,876	56,046,311	55,506,654	55,702,481	54,283,104	33,845,039	10,546,511	–	–	–	–
High-Grade Stockpile Reclaim	In-situ tonnes	**5,178,221**	–	282,556	261,820	214,124	75,822	–	–	–	249,901	723,050	1,087,606	907,606	1,231,520	144,216
Lower-Grade Stockpile Reclaim	In-situ tonnes	**20,569,404**	–	–	–	–	377,868	968,346	797,519	2,191,896	1,723,047	2,581,308	3,526,000	3,526,000	3,526,000	1,351,420
Total Material Moved	In-situ tonnes	**449,843,882**	9,924,658	45,000,000	52,000,000	52,000,000	56,500,000	56,475,000	56,500,000	56,475,000	35,817,987	13,850,869	4,613,606	4,433,606	4,757,520	1,495,636
Underground Total to Mill	Feed Tonnes	**7,115,214**	–	–	–	–	180,000	360,000	540,000	720,000	659,607	721,099	1,080,000	1,260,000	936,806	657,702
	Gold (g/t)	**3.23**	–	–	–	–	3.94	3.64	3.45	3.45	3.48	3.16	3.00	3.02	3.14	3.14
	Recovered Gold (g/t)	**3.09**	–	–	–	–	3.78	3.48	3.32	3.31	3.34	3.02	2.86	2.88	3.00	3.00
	Gold Recovery (%)	**96%**	–	–	–	–	96%	96%	96%	96%	96%	96%	95%	95%	96%	96%
Total to Mill	Feed Tonnes	**45,198,884**	–	3,655,000	3,655,000	3,655,000	3,655,000	3,655,000	3,655,001	3,655,000	3,654,999	3,655,000	3,645,000	3,645,000	3,645,720	1,368,163
	Gold (g/t)	**1.88**	–	2.51	1.78	1.90	1.73	2.04	2.12	2.53	1.94	1.65	1.46	1.53	1.34	1.85
	Recovered Gold (g/t)	**1.78**	–	2.39	1.68	1.79	1.64	1.94	2.02	2.41	1.84	1.56	1.38	1.44	1.26	1.75
	Gold Recovery (%)	**95%**	–	95%	95%	95%	95%	95%	95%	95%	95%	94%	94%	94%	94%	95%

Source: MMTS, 2021.

16.5.1 Open Pit Production Schedule

Open pit production requirements by scheduled period, mine operating considerations, product prices, recoveries, destination capacities, underground schedule, and operating costs were used to determine the production schedule from the pit phase material quantities.

The production schedule is based on the following parameters:

- Mineral quantities are split by pitlet and bench.
- Pre-production lasts one year.
- The annual mill feed rate is 3,650 kt/a throughout the mine life.
- Screening for ore sorted material splits 22.5% of mass as fines with an enrichment ratio of 125%.
- Ore sorting after screening implements a mass recovery of 25%, gold recovery of 75%, and annual feed rate of 2,733 kt/a
- A direct feed breakeven economic cut-off grade of 0.38 g/t Au is used; material between 0.38 g/t Au and 0.8 g/t Au is routed to the screening and ore sorting circuit
- Material above 0.25 g/t Au is considered economic once screening and ore sorting is performed (fines are combined with the ore sorted product and feed to the mill).
- Stockpiling is utilized to meet the mill and ore sorting throughput targets.
- For Years 1 to 3 of plant life, only direct mill feed above 0.80 g/t Au will be processed.
- The screening and ore sorting facility will be commissioned In Year 4:
    - material from 0.38 g/t to 0.80 g/t of Au will be considered for processing as direct feed or from the long-term stockpiles
    - mill feed from 0.25 g/t to 0.38 g/t Au will be stockpiled until as late as possible in the mine life
- Within a given phase, each bench is fully mined before completion of the next bench.
- Beliveau is mined in sequence; Phase 2 is mined after the Phase 1 starter shell.
- Vertical advance rate is limited to 12 benches per year (or one bench per month).

16.5.2 Underground Production Schedule

Given the physical geometry, type and spatial location of the deposits, timing of completion of the open pits, and the available data for the proposed mining methods, MMTS feels that the following proposed extraction rates for the underground zones are appropriate:

- Monique: 1,000 t/d
- Courvan: 500 t/d
- Pascalis: 500 t/d

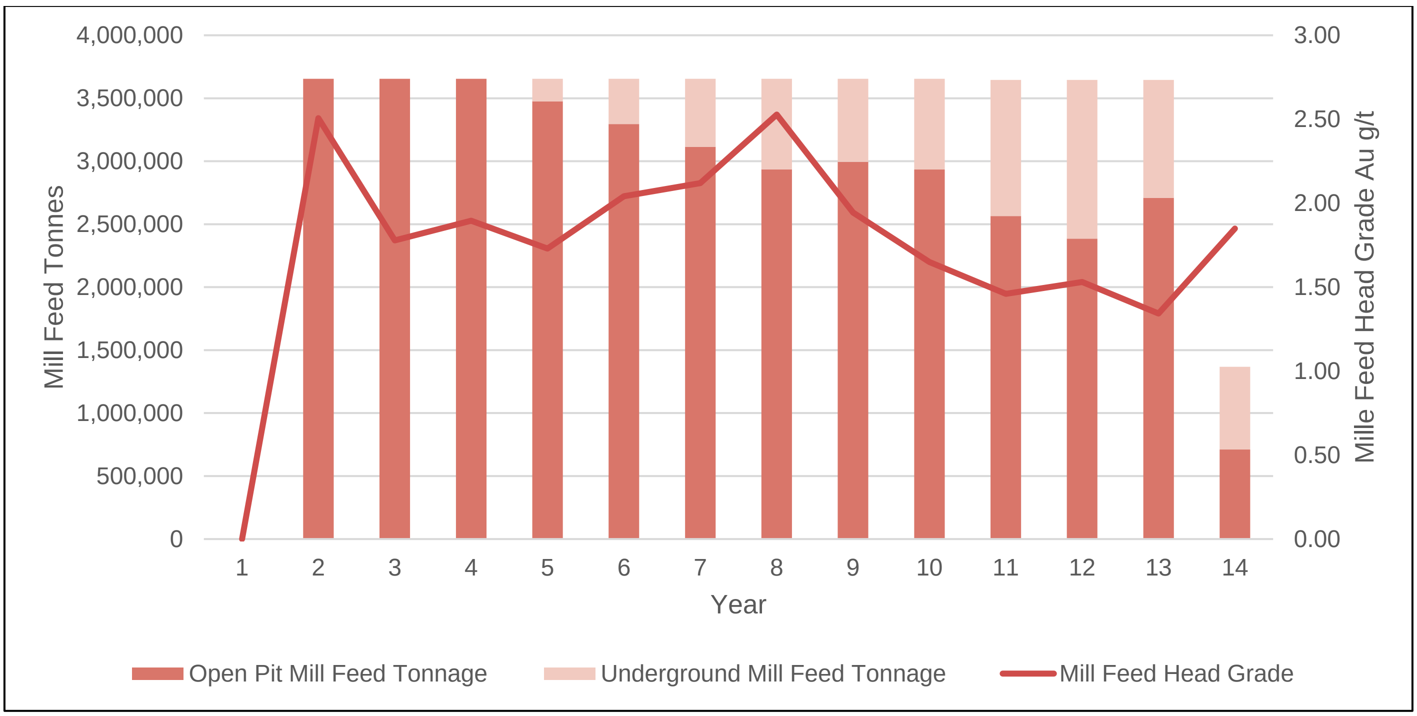
These were calculated based on Taylor's Rule, Mosher's Formula, and MMTS's experience.

16.5.3 Mining Sequence

The operation will run for 14 years for both underground and open pit production, with the first year as pre-production. Life-of-mine details were previously shown in Table 16-16 above. High-grade material is defined as ore above 0.8 g/t Au. Low-grade material includes all remaining mill feed material from 0.25 g/t to 0.80 g/t Au.

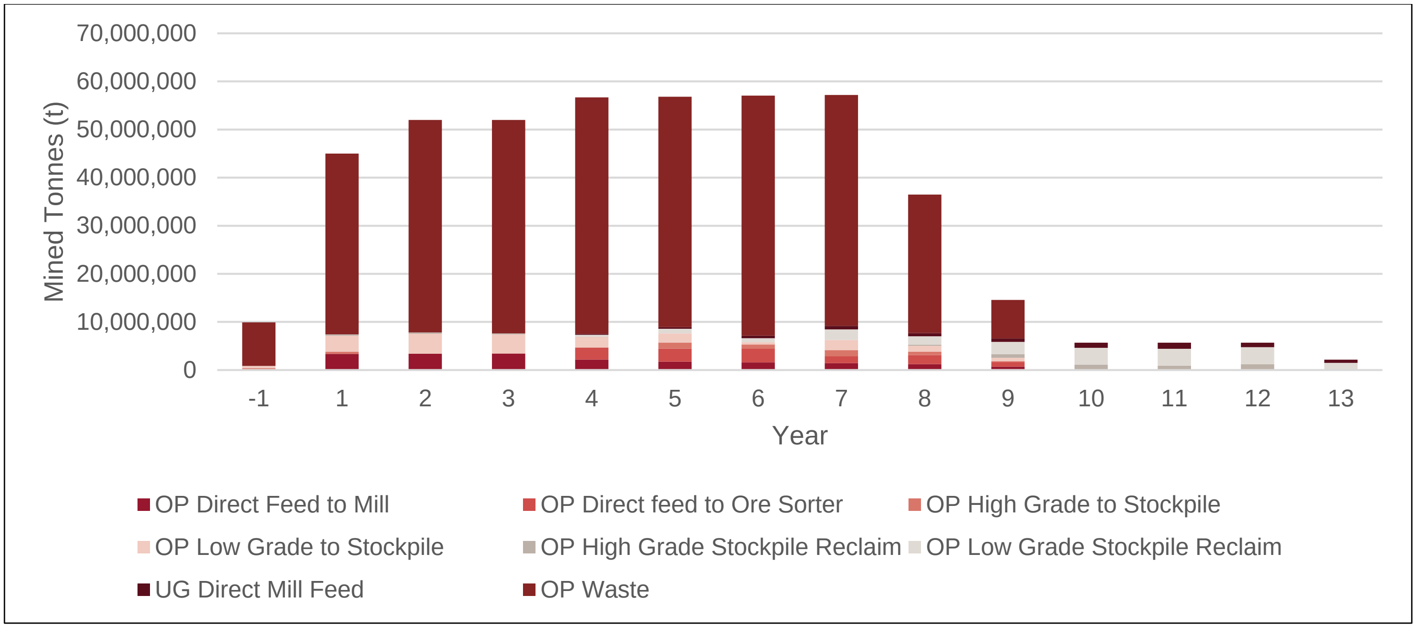
The mine production schedule for all the deposits is included in Figure 16-23, which shows the production tonnage and grade forecast. Figure 16-24 provides an illustration of the projected mined material. The final layout is illustrated in Figure 18-1 in Section 18.

Figure 16-23: Production Schedule, Mill Feed Tonnes and Grade (All Deposits)



Source: MMTS, 2021.

Figure 16-24: Mine Production Schedule and Material Mined



Source: MMTS, 2021.

16.6 Open Pit Operations

Mining operations are planned to be typical of similar open pit operations in flat terrain.

Grade control drilling will be carried out to better delineate the resource in upcoming benches. A grade control system is planned to provide field control for the loading equipment to selectively mine mill feed grade material separately from the waste.

In-situ rock will be drilled and blasted on 10 m benches to create suitable fragmentation for efficient loading and hauling of both mill feed and waste rock. It is expected topsoil and overburden will not require blasting and will be confirmed with later studies.

Loading of mill feed and waste will be completed with hydraulic excavators on 10 m benches. Bench heights of 5 m in mill feed may be considered based on grade control requirements.

Mill feed and waste rock will be hauled out of the pit to scheduled destinations on the pit rim using 90-tonne haul trucks.

Mill feed for direct feed and stockpiled material will be hauled to the ore sorter circuit or plant crusher by 40-tonne highway trucks.

16.7 Open Pit Mining Equipment

The open pit will be mined with 11 m^3 hydraulic excavators and 90-tonne rigid body off-road trucks. The maximum size mining fleet is estimated at six shovels and 35 haul trucks.

Additionally, a full complement of open pit support equipment including drills, dozers, graders, and maintenance equipment will be on site to support the open pit mine operations.

17 RECOVERY METHODS

17.1 Overview

The project flowsheet has been selected based on recovery methods required for processing Val-d'Or East material, supported by preliminary testwork and financial evaluations. The basis of the selected design is presented in Section 17.2. The flowsheet includes an expansion of the crushing circuit in Year 4 with particle ore sorting capabilities. This increases the throughput introduced to the crushing circuit while maintaining a constant process plant feed rate at an increased gold grade. An overall process flow diagram and mechanical equipment list have been developed.

The process plant in Phase 1 (before expansion) includes the following:

- three-stage crushing of run-of-mine (ROM) material
- covered crushed material stockpile to provide buffer capacity for the process plant
- ball mill with cyclone classification
- gravity recovery of ball mill discharge by one semi-continuous centrifugal gravity concentrator, followed by intensive cyanidation of the gravity concentrate and electrowinning of the pregnant leach solution
- trash screening
- leach and carbon-in-pulp adsorption
- acid washing of loaded carbon and Anglo-American Research Laboratory (AARL) type elution followed by electrowinning and smelting to produce doré
- carbon regeneration
- cyanide destruction of tailings using SO_2/air process
- carbon safety screening
- tailings thickening, filtration and dry stacking
- reagent storage and distribution
- water services (process water, treated water, fire water, gland water)
- potable water treatment and distribution
- air services.

The Phase 2 (expansion phase) includes the following equipment, in addition to the equipment listed above in Phase 1:

- X-ray transmission (XRT) ore sorters
  - three coarse ore sorter (-75 mm +25 mm)
  - four fine ore sorters (-25 mm +12 mm)
- primary crusher
- secondary crusher
- fine sorting screen
- material handling equipment, including conveyors
- ore sorting waste (rejects) stockpile.

17.2 Process Design Criteria

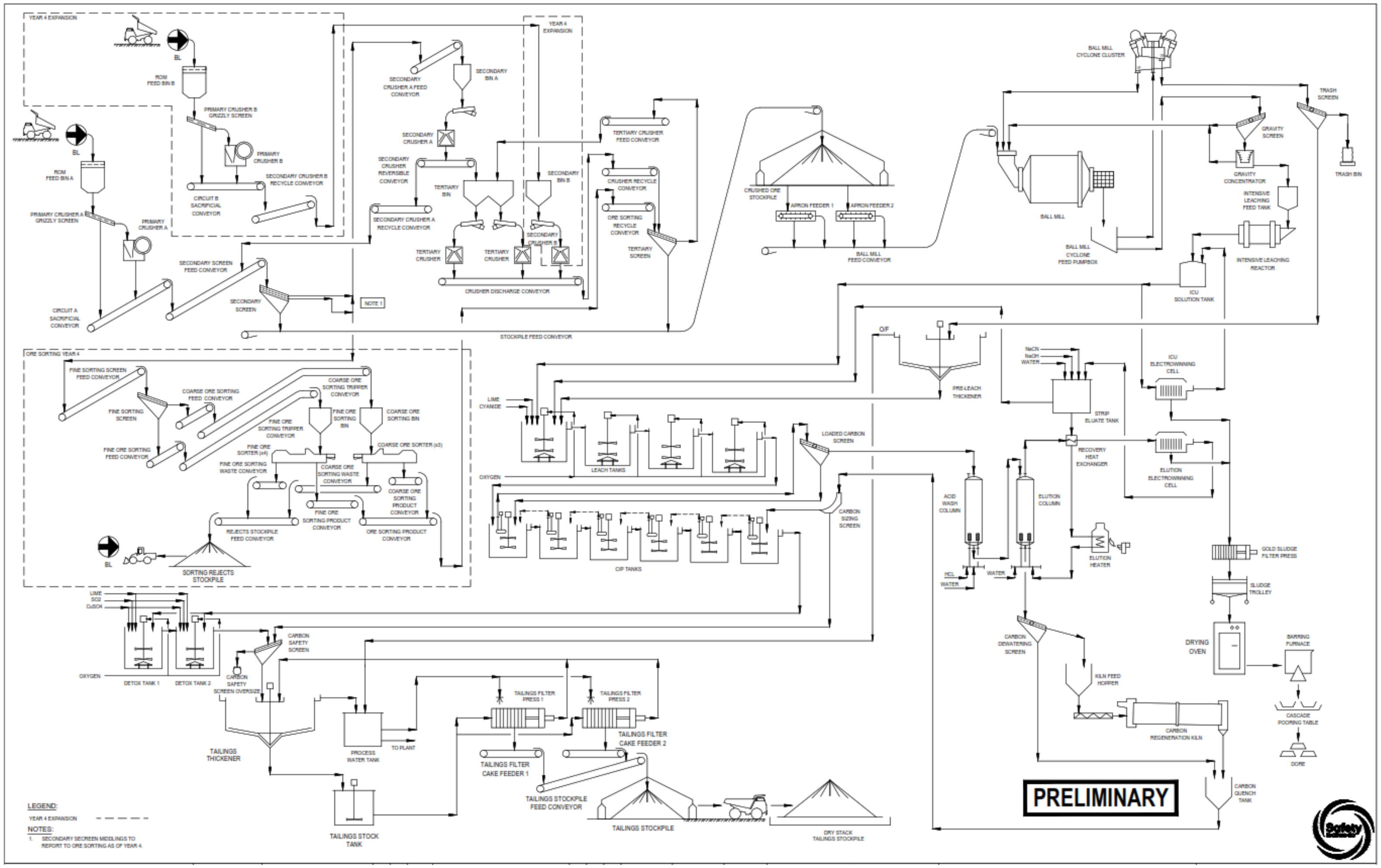
The project flowsheet and unit operations have been selected based on preliminary testwork and financial evaluations. Unit operations used to build the plant flowsheet are standard technologies widely used in gold processing plants. The basis of the selected design and recovery data are presented in Table 17-1. Figure 17-1 shows the overall process flow diagram.

Table 17-1: Key Process Design Criteria

Criteria	Unit	Phase 1	Phase 2
Annual Process Plant Throughput (Design)	t/a	3,650,000	3,650,000
Daily Crushing Circuit Throughput (Design)	t/d	10,000	16,746 (10,000 t/d Circuit A, 6,746 t/d Circuit B)
Daily Process Plant Throughput (Design)	t/d	10,000	10,000
Operating Days per Year	d	365	365
Operating Availability – Crushing	%	65	65
Operating Availability – Grinding	%	92	92
Operating Availability – Tailings Filtration	%	82	82
Operating Hours – Crushing	h/y	5,694	5,694
Operating Hours – Grinding	h/y	8,059	8,059
Operating Hours – Tailings Filtration	h/y	7,183	7,183
Design Throughout – Crushing	t/h (dry)	641	1,073 (641 t/h Circuit A, 432 t/d Circuit B)
Design Throughput – Milling	t/h (dry)	453	453
ROM Peak Head Grade – Gold	g/t	2.51	2.51
Design Recovery – Gravity Circuit	%	50	50
Design Recovery – CIP + Elution Circuit	%	44.7	44.7
Design Recovery – Overall	%	94.7	94.7
Crushing			
Ore Sorting	-	no	yes
Primary Crusher	type	Jaw Crusher	Jaw Crusher
Number of Jaw Crushers	#	1	2
Secondary Crusher	type	Cone Crusher	Cone Crusher
Number of Secondary Crushers	#	1	2
Tertiary Crusher	type	Cone Crusher	Cone Crusher
Number of Tertiary Crushers	#	2	2
Crushing Feed Size, 100% Passing	mm	800 open pit, 400 U/G	800 open pit, 400 U/G
Crushing Product Size, 80% Passing	mm	7.7	8.00
Crusher Work Index (Design)	kWh/t	20.0	20.0
Crushed Ore Stockpile Residence Time (live)	h	12	12
Grinding			
Circuit Type	-	Ball mill closed with hydrocyclone	Ball mill closed with hydrocyclone
Grinding Product Size, 80% Passing	µm	75	75
Ball Mill Circulating Load (Design)	%	350	350
Bond Ball Mill Work Index (Design)	kWh/t	11.7	11.7
Leaching-Adsorption			
Number of Leach Stages	#	4	4
Total Leaching Residence Time	h	42	42
Number of CIP Stages	#	6	6
Total CIP Residence Time	h	6	6
Desorption and Carbon Regeneration			
Stripping System	type	AARL	AARL
Carbon Batch Size	t	6	6
Cyanide Detoxification and Tailings Disposal			
Cyanide Reduction System	type	O_2/SO_2	O_2/SO_2
Number of Stages	#	2	2
Tailings Filtration	type	Plate and Frame Pressure Filter	Plate and Frame Pressure Filter
Filter Cake Stockpile Capacity	h	12	12

Source: Ausenco PDC, 2021.

Figure 17-1: Val-d'Or East Overall Process Flow Diagram



Source: Ausenco, 2021.

17.3 Process Description

The process plant layout can be seen in Figure 17-2. The process stages are described in the following sections.

17.3.1 Crushing and Ore Sorting Circuit

17.3.1.1 Phase 1

In Years 1 to 3 of production, ROM material is delivered by haul truck to the ROM feed bin where mineralized material will feed the crushing circuit. ROM stockpiles can be blended as required to stabilize plant feed grade and material hardness when deposits are being mined simultaneously.

ROM material is fed into the crushing circuit to a vibrating grizzly screen. Grizzly screen oversize then feeds the primary jaw crusher, while grizzly undersize bypasses primary crushing. The material is reduced for secondary and tertiary screening and crushing before reaching the mill feed stockpile. The crushing circuit product is designed to be 80% passing size of 7.7 mm. Ore sorting is not included in Phase 1.

17.3.1.2 Phase 2

In Year 4 of production, additional crushing capacity and ore sorting is introduced. The existing three-stage crushing circuit from Phase 1, Circuit A, is fed sub-grade material for the ore sorting circuit. The middling size fraction from the secondary screen of Circuit A is sent to an additional screen, the fine sorting screen, for further classification before being introduced to either the coarse or fine ore-sorting circuits.

The rejected material from ore sorting is stockpiled and hauled to a waste rock storage facility. The product material from ore sorting is returned to the crushing circuit at the tertiary screen for further size reduction and classification, eventually to feed the ball mill and processing plant. The Phase 2 crushing circuit product is designed to produce an 80% passing size of 8 mm.

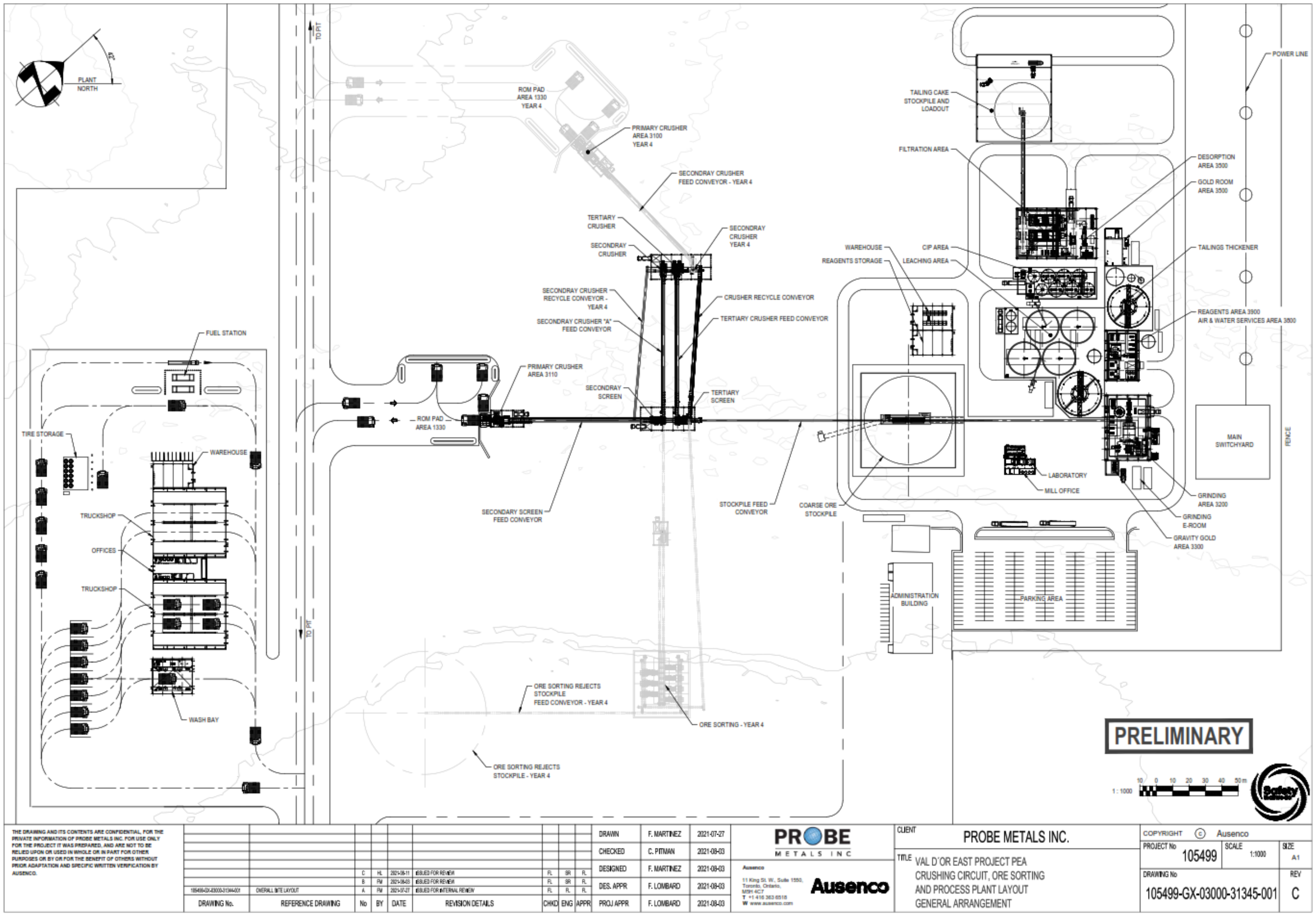
The additional crushing capacity in the Phase 2 expansion includes a primary and secondary crusher in open circuit, which feed the tertiary screen. The purpose of this circuit (Circuit B) is to have a pathway for high-grade material to bypass ore sorting. The grade of Circuit B material is high enough to be introduced directly to the ball mill circuit.

Additional information about the ore sorting process and testwork can be found in Section 13. See Figure 17-1 for the process flow of both Circuits A and B.

17.3.2 Mill Feed Stockpile

Crushing circuit product is conveyed to a covered mill feed stockpile. The stockpile is designed to have a live capacity of 24 hours and retention of 10,000 tonnes. The stockpile ensures the processing plant operates independently of the mining and crushing activities, providing constant feed to the grinding circuit of 10,000 t/d regardless of the project phase.

Figure 17-2: Process Plant Layout



Source: Ausenco, 2021.

17.3.3 Grinding and Gravity Circuits

Mill feed is reclaimed from the mill feed stockpile by two apron feeders. From the apron feeders, the crushed mineralized rock is fed to a ball mill by a conveyor. Process water is added to slurry the ball mill feed for particle size reduction. The mill also receives oversized material from the gravity scalping screen and the underflow from the hydrocyclone cluster pack. The mill is operated in closed circuit where the product is discharged into a pumpbox for both the hydrocyclone cluster pack and the gravity circuit. Material that is too coarse at either unit operation will return for further size reduction. This three-stage crushing and ball mill reduction circuit is known as a 3CB comminution circuit.

Quicklime is fed onto the ball mill feed conveyor from a storage silo and discharge screw conveyor. The ball mill acts as a lime slaker, raising the pH of the slurry before the downstream leaching stage.

Ball mill discharge is pumped to a hydrocyclone cluster and a gravity circuit. The hydrocyclones classify ball mill discharge to achieve the particle size (hydrocyclone overflow) of 80% passing size of 75 microns (µm). The hydrocyclone underflow containing larger particles returns to the ball mill for further size reduction; the circulating load within the ball mill hydrocyclone circuit is expected to be 350%.

The gravity circuit is fed at a rate of 100% equivalent of the fresh feed. The gravity circuit consists of a gravity circuit screen and centrifugal concentrator unit. The oversize screen will prevent any oversized material from entering the gravity concentrator and blocking fluidization openings. Oversized material is returned to the ball mill discharge. This equipment uses centrifugal forces to separate the liberated coarse gold material from the unliberated mineralized material. It operates on a semi-continuous basis. Gravity concentrator tailings is returned to the ball mill pumpbox for further liberation while free gold accumulates on the walls of the concentrator during the concentration cycle. The concentrated free gold is flushed with water and gravitates to the intensive leach reactor module.

17.3.4 Leaching and CIP

Hydrocyclone overflow gravitates to the pre-leach thickener via a trash screen. The trash screen will remove any oversized material from the slurry before leaching. This will ensure that minimize blockage with the intertank carbon screens.

The pre-leach thickener is used to increase the density of the slurry to 55% solids. Flocculant is used in the thickener to promote solids settling. The pre-leach thickener underflow is pumped to the first leach tank while the overflow is recycled as process water.

The leach and CIP circuit used consists of nine tanks: three leach tanks and six CIP tanks. The total residence time required for leaching and adsorption is 48 hours. Following these criteria, the leach tanks are sized to achieve a volume of 5,647 m^3 each and the CIP tanks are sized to achieve a volume of 538 m^3 each.

Oxygen is injected into the leach tanks to ensure the target dissolved oxygen level is maintained. Hydrated lime slurry is added to the leach tanks as necessary to ensure the slurry pH remains above 10.5 in the circuit. This is a critical operation, as dangerous hydrogen cyanide gases will form if the pH drops below this level. Sodium cyanide is added to the first leach tank. Cyanide will dissolve the gold in the feed slurry. CIP tanks contain activated carbon which adsorb and concentrate dissolved gold from solution. Carbon is pumped from the last CIP tank to the first CIP tank, counter-currently to the slurry flow. As carbon enters a tank, slurry is displaced and flows to the following tank in the CIP circuit. The carbon in the sixth CIP tank will be mostly barren. Gold-loaded carbon is pumped from the first CIP tank to the elution circuit when an elution batch is initiated.

Barren slurry gravitates from the sixth CIP tank to cyanide detoxification.

17.3.5 Elution and Carbon Regeneration

Gold-laden carbon is pumped to the elution circuit for gold recovery. The selected elution circuit is of the AARL type. A 6-tonne acid wash column and a 6-tonne elution carbon column have been selected. Gold is stripped from carbon using a strong solution of sodium cyanide and sodium hydroxide. Pregnant solution flows into the pregnant solution tank for use in the electrowinning circuit. When an elution cycle is complete, the circuit is ready to initiate a new acid wash and elution cycle.

At the end of an elution cycle, the barren carbon is transferred to the carbon regeneration circuit. This circuit consists of a rotary kiln that will heat the carbon to about 700˚C, re-activating the surfaces of the carbon. Regenerated carbon is then cooled with water, mixed with fresh carbon as needed, and returned to the CIP circuit.

17.3.6 Intensive Leaching

A separate leaching circuit is used to treat the free gold concentrate produced by the gravity concentrator. In the intensive leach reactor (ILR), free gold concentrate is leached into solution using sodium hydroxide, sodium cyanide and leach accelerant. The ILR unit operates on a batch basis producing both pregnant solution and concentrate tailings. Tailings solids are returned to the grinding circuit for further liberation. Pregnant solution is stored in a ILR solution tank for processing in the electrowinning circuit.

17.3.7 Electrowinning and Gold Room

The electrowinning circuit consist of two independent cells, one dedicated to the elution pregnant solution and one dedicated to the ILR pregnant solution. An electric current is applied across the cells, causing gold to deposit on the surface of the cathodes. After an electrowinning cycle, the deposited gold is washed off the cathodes and dewatered in a manually operated filter press. The dewatered gold is dried in an oven and then mixed with the flux. Finally, the mixture is fed to a furnace where the gold is melted and poured in bars.

After the electrowinning process, barren solution from the elution circuit is transferred to the leach circuit after each cycle. The ILR circuit barren solution is also pumped to the leach circuit.

17.3.8 Cyanide Detoxification and Tailings Management

CIP tailings slurry is discharged into cyanide detoxification. Cyanide detoxification will take place using the SO_2/O_2 process. In this process, liquid sodium dioxide (SO_2) and oxygen (O_2) are used to detoxify the contained free cyanide and weak acid dissociable cyanide (CN_{WAD}) to below specific environmental discharge limits. This reaction is typically carried out at a pH of 8.5 and makes use of copper sulphate as a catalyst. Hydrated lime is used to increase the pH of the reaction. The cyanide detoxification tanks have been sized in parallel based on a total residence time of 1.0 hour, giving the tanks a 309 m^3 live volume each.

After cyanide detoxification, the slurry is passed through the carbon safety screen and introduced to a tailings thickener. The tailings thickener overflow is recycled as process water while the underflow is introduced to the tailings stock tank before being filtered. Carbon safety screen oversize is collected in bags for reuse.

17.3.9 Tailings Filtration and Dry Stacking

The tails slurry from the tailings stock tank is pumped to one of two plate-and-frame pressure filters. The filters will dewater the tailings to approximately 15% moisture before discarding the filter cake onto feeders and a stockpile feed conveyor. The filter cake is stockpiled and then hauled to the DSTF for stacking. The water that is used in the filter presses and removed from the filter cake is recycled to the tailings thickener.

17.3.10 Consumables and Reagents

The consumables and reagents required for the mechanical and chemical treatment of the ROM material can be summarized as follows:

- Quick lime (CaO) – controls the pH in the leach circuit
- Hydrated lime ($Ca(OH)_2$) – controls the pH in the leach and detoxification circuit
- Sodium cyanide ($NaCN$) – main gold leaching reagent in the leach circuit and in the ILR circuit; prepares the barren liquor in the gold desorption (elution) circuit
- Sodium hydroxide ($NaOH$) – controls pH in the elution, IRL and cyanide preparation circuits
- Hydrochloric acid (HCl) – removes scale formation on the carbon in the acid wash circuit
- Activated carbon – adsorbs dissolved gold in the CIP circuit
- Flocculant – thickening aid in the pre-leach and tailings thickeners
- Leach aid – improves the free gold leaching process in the ILR circuit
- Antiscalant – reduces the formation of scale in the elution and electrowinning circuits equipment, and on the activated carbon itself
- Flux – slag forming reagents during gold smelting
- Ball mill media – grinding media required in the ball mill
- Crusher and grinding mills liners – required for regular mechanical maintenance

18 PROJECT INFRASTRUCTURE

Infrastructure to support the Val-d'Or project will consist of site civil work, site facilities / buildings, a water management system, and site electrical power. Site facilities will include both mine facilities and process facilities, as follows:

- Mine facilities include the administration offices and truckshop, periodic maintenance truckshop (Year 4 expansion), truck wash, warehouse tire change shop, mine workshop and warehouse, and miscellaneous facilities. In the Year 4 expansion, the periodic maintenance truckshop, tire change shop, and mine dry will be added to the mine facilities.
- Process facilities include the process plant, crusher facilities, process plant workshop, and assay laboratory.
- Dry stack tailings facility (DSTF) and waste rock storage facility (WRSF).
- Common facilities include a gatehouse and administration building.
- Both the mine facilities and process facilities will be serviced with potable water, fire water, compressed air, power, diesel, communication, and sanitary systems.

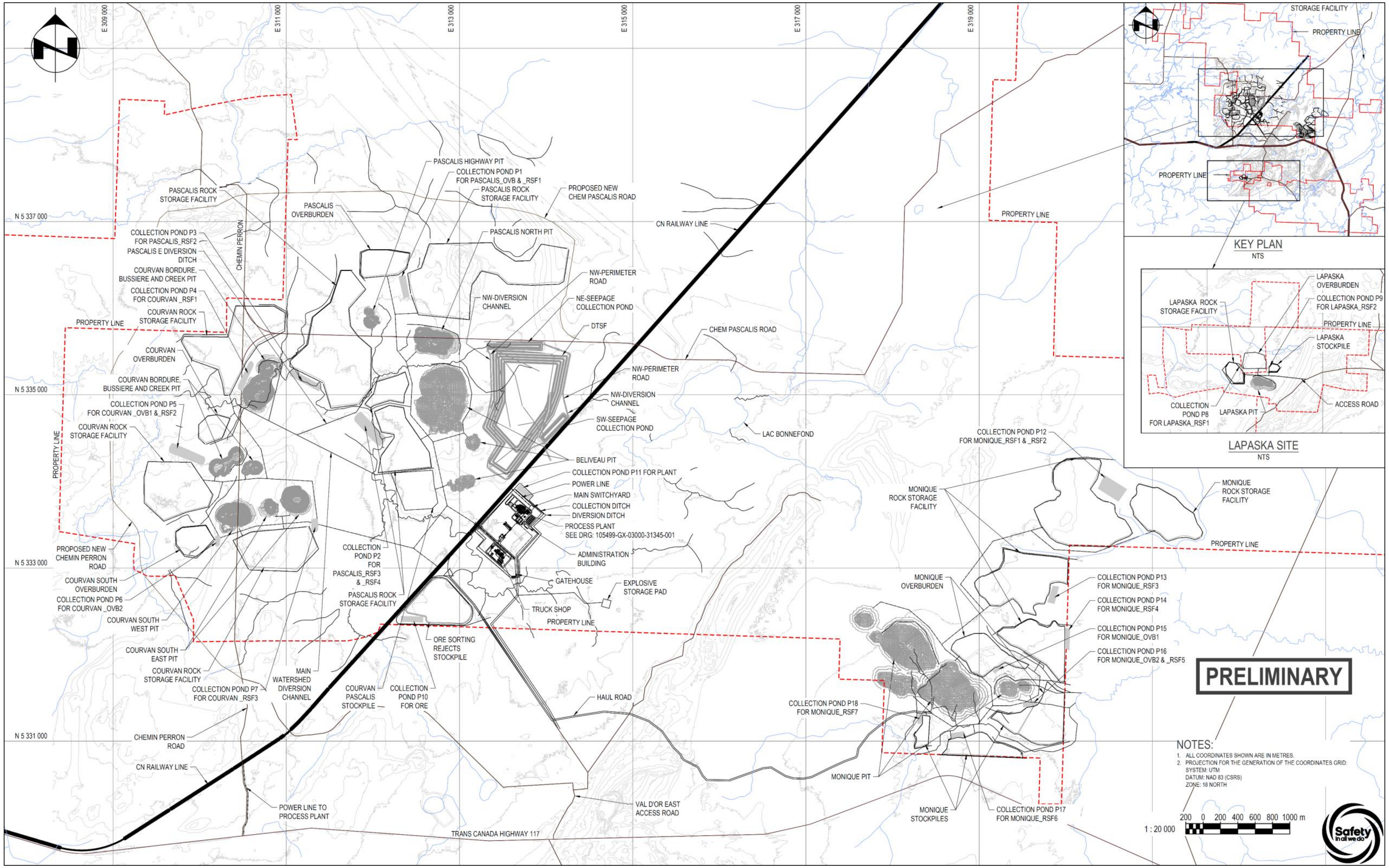
18.1.1 Overall Site Layout Development

Site selection was based on the following observations and factors:

- select a site within the Probe's claim boundary
- try to avoid as much as possible building and stockpiling on wetlands
- locate the waste rock storage facility near the mine pits to reduce haul distance
- locate the primary crushing and ROM pad to reduce hauling from all pits over the life of mine
- locate the process plant in an area with reduced risk of flooding
- locate the DSTF near the process plant and outside of local flood plains
- arrange administration, processing plant and offices in close proximity to limit walking distances (important during extreme cold weather)
- locate the ore sorting rejects in close proximity to the rail
- preserve local water body and fish habitat to the extent practicable.

The Val-d'Or site layout is shown in Figure 18-1.

Figure 18-1: Val-d'Or East Overall Site Layout



Source: Ausenco, 2021

18.1.2 Site Preparation

The existing roads will be connected to the project for site accesses. The typical method of clearing, topsoil removal, and excavation will be employed, incorporating drains, safety bunds and backfilling with granular material and aggregates for road structure.

Forest clearing and topsoil removal is expected to be required to allow construction of the processing plant and other buildings and facilities.

Site civil work includes design for the following infrastructure:

- light vehicle and heavy equipment roads
- access roads
- topsoil and overburden stockpile area
- mine facility platforms and process facility platforms
- water management ponds and ditches and channels
- DSTF
- waste rock storage facilities
- Columbière creek diversion channel.

18.2 Stockpiles

When mill feed material is mined from the pit, it will be delivered to the crusher at the plant, the screening and ore sorting facility, the long-term ROM stockpiles by these facilities, or the mill feed stockpiles.

The plant crusher, screening and ore sorting facility, and ROM stockpiles are centrally located on the east side of the rail line.

For the first three years, only direct mill feed above 0.80 g/t Au will be processed. For these periods, mill feed below 0.80 g/t Au will be stockpiled in the long-term ROM stockpiles by the pit rim. In Year 4, the screening and ore sorting facility will be commissioned and the material from 0.38 g/t to 0.80 g/t of Au will be considered for processing either as direct feed or from the long-term stockpiles. The mill feed from 0.25 g/t to 0.38 g/t Au will be stockpiled until as late as possible in the mine life.

All mill feed is currently envisioned to be hauled from the pit rim and long-term stockpiles by 40 tonne trucks.

The long-term stockpiles are shown in Figure 18-1.

18.3 Waste Rock Storage Facilities

Waste rock and overburden/topsoil storage facilities are planned at each site for waste materials from the open pit. In general, design considerations assumed an overall reclaimed slope of 2:1 and a swell factor of 30%. Total waste rock and overburden tonnes by area is as follows:

- Pascalis – 128 Mt
- Courvan – 69 Mt
- Monique – 166 Mt
- Lapaska – 4 Mt

The maximum height of the waste rock storage facilities is less than 75 m.

All stockpiles and rock storage facilities are planned to avoid existing waterbodies and water courses.

The waste rock storage facilities are shown in Figure 18-1.

18.4 Dry Stack Tailings Facility

18.4.1 Design Objectives

The primary design objectives for the dry stack tailings facility (DSTF) are the secure confinement of tailings and protection of groundwater and surface water during mine operations and after mine closure.

The design of the DSTF and water management facilities has taken into account the following:

- staged development of the facility over the life of the project
- flexibility to accommodate operational variability in the filtered tailings (filter plant shutdowns and ore variability, along with placement during variable climate conditions)
- control, collection, and removal of surface runoff and seepage collected in the underdrain from the facility during operations for recycling process water to the maximum practical extent.

Approximately 45.1 Mt of tailings will be placed in the DSTF over the 13-year life of mine. The general arrangement of the DSTF is shown on Figure 18-2 on the following page.

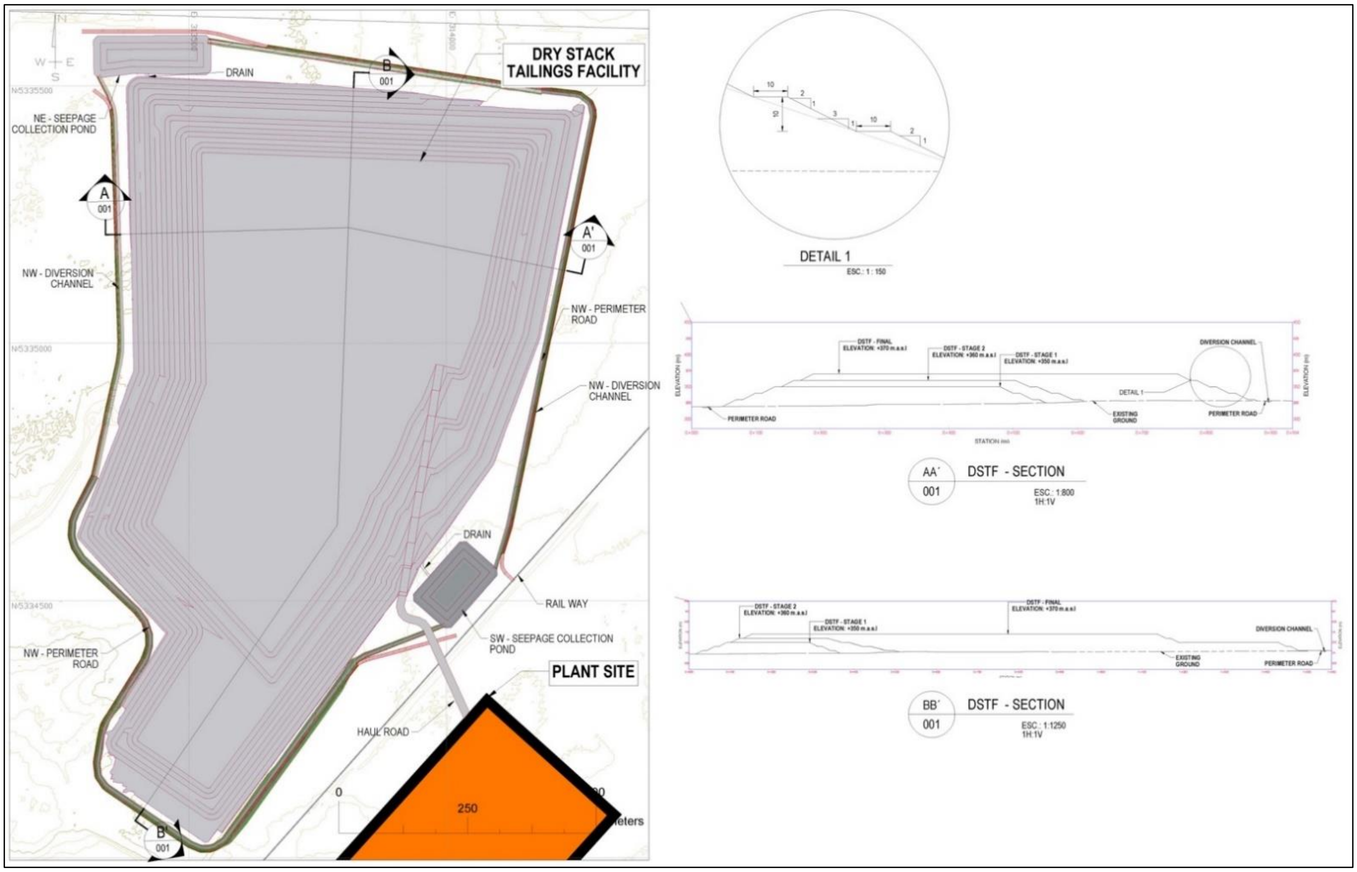
18.4.2 Hazard Physical Classification

The design standards for the DSTF are based on the relevant federal and provincial guidelines for the construction of mine tailings facilities in Canada. The following regulations and guidelines were used to determine the dam hazard classification and suggested minimum target levels for some design criteria, such as the inflow design flood (IDF) and earthquake design ground motion (EDGM):

- Technical Bulletin – Application of Dam Safety Guidelines to Mining Dams (CDA, 2019)
- Directive 019 specific to the mining industry in Québec

- Metal Mining Effluent Regulations (MMER) in Canada
- The Dam Safety Law applied in Québec (LSB) and the associated regulation (RSB).

Figure 18-2: Dry Stack Tailings Facility General Arrangement



Source: Ausenco, 2021.

The DSTF has been classified as "significant" under CDA since the type of failure would be a slump style failure as opposed to a flood style failure like conventional tailing storage facilities. The recommended design storm event during operations is defined as a 1-in-100-year (1/100) return period. The recommended earthquake design is the 1/100-year return period.

The DSTF has been classified as "high" under CDA since the type of failure would be a slump style failure as opposed to a flood style failure like conventional tailing storage facilities. The recommended design storm event during operations is defined as one-third between 1/1,000-year and PMF (probable maximum flood) return period. The recommended earthquake design is the 1/2,475-year return period.

18.4.3 Tailings Physical Characteristics

As part of the PEA, the tailings characteristics outlined in Table 18-1 were determined.

Table 18-1: Tailings Properties

Description	Value
Specific Gravity	2.84
Tailings Gradation	P_{80} 75 µm
Moisture Content	15%
Placed Tailings Dry Density	1.65 t/m^3

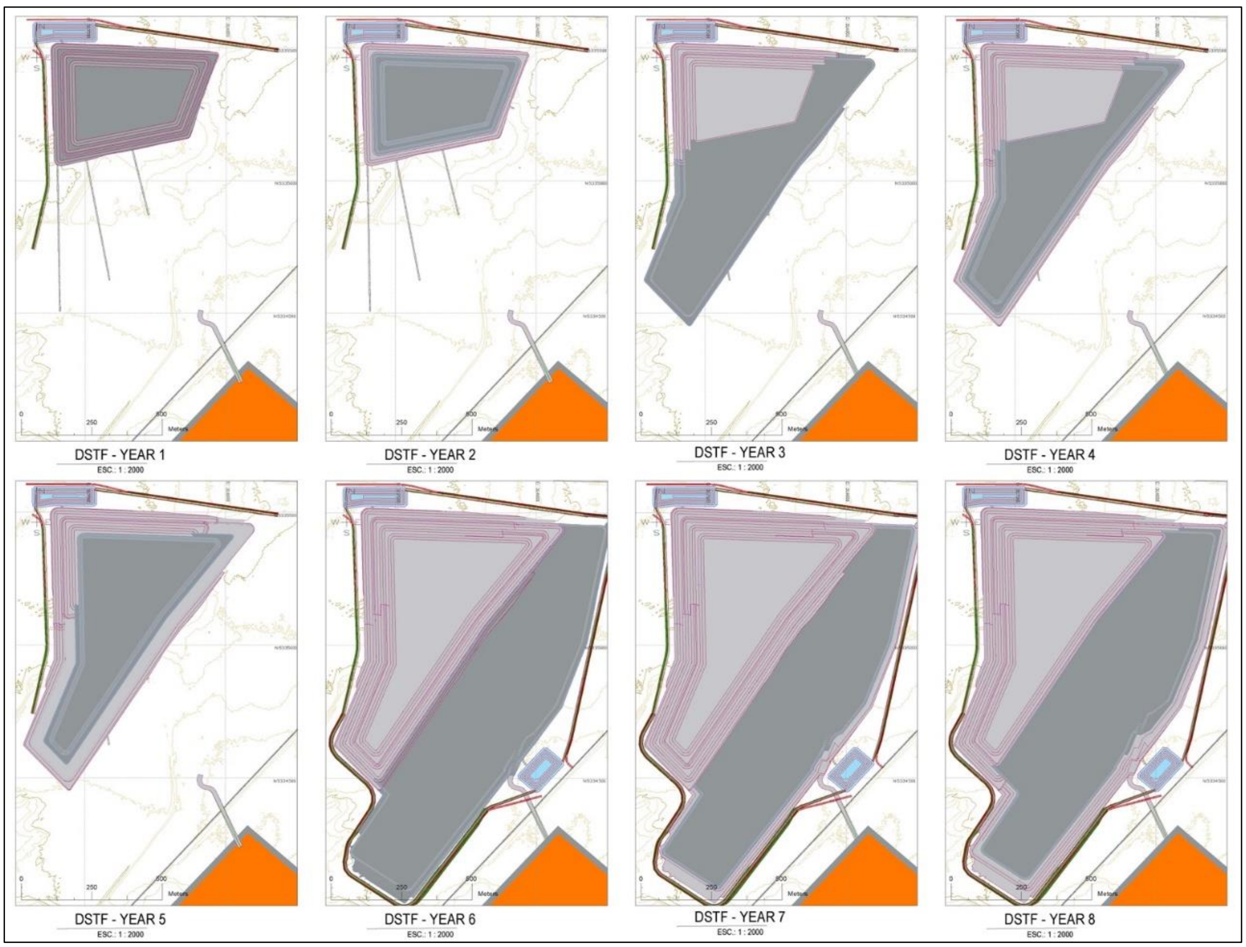
Source: Ausenco, 2021.

The tailings are classified as a non-plastic inorganic silt with a low permeability when compacted at the proposed filtered moisture content. The consolidated undrained shear strength is typical for an inorganic silt.

18.4.4 Facility Design

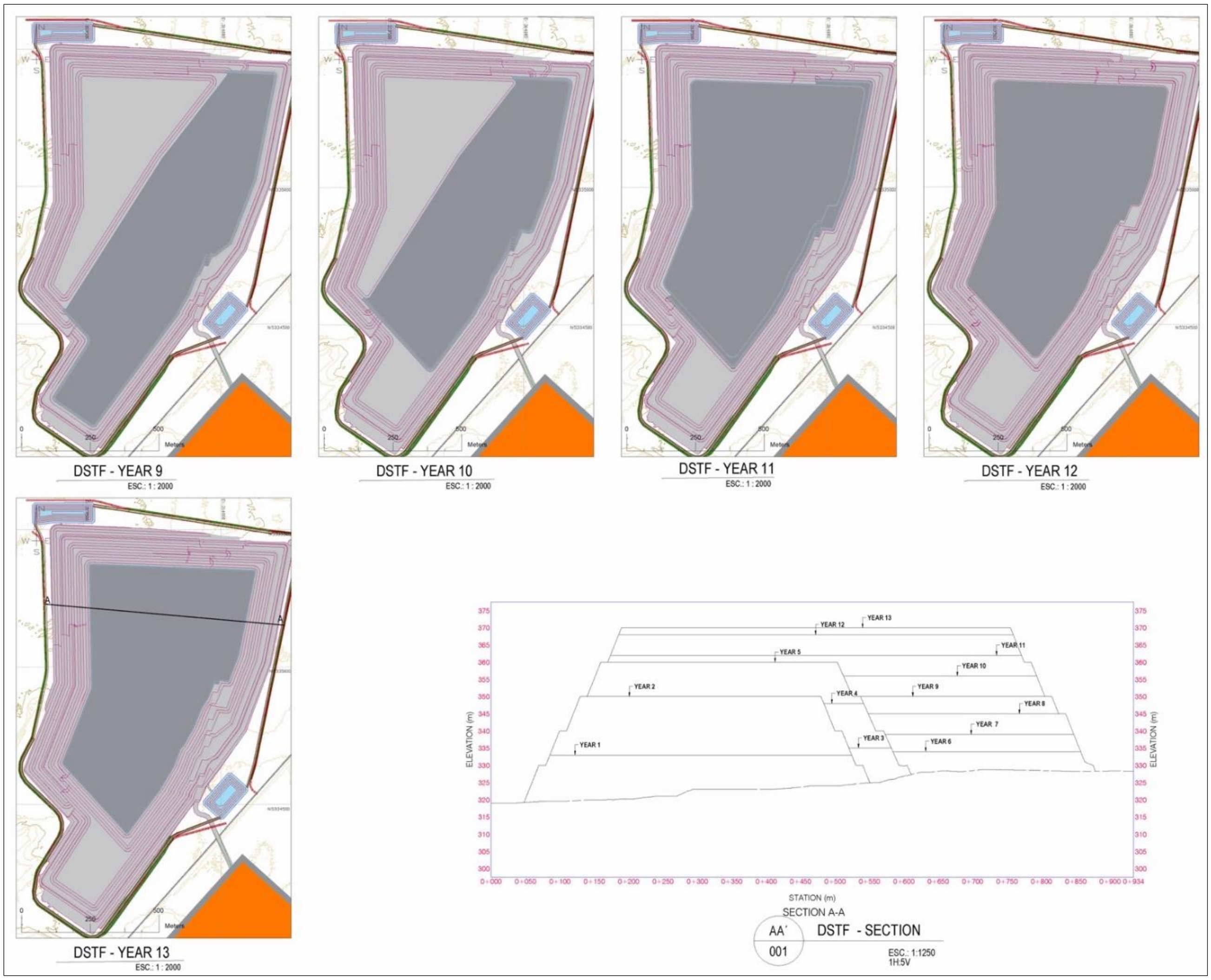
The stacking plan for the DSTF is shown in Figures 18-3 and 18-4 and described below.

Figure 18-3: DSTF Stacking Plan, Years 1 to 8



Source: Ausenco, 2021

Figure 18-4: DSTF Stacking Plan, Years 9 to 13



Source: Ausenco, 2021

The DSTF footprint will be logged and cleared for foundation preparation and underdrain construction in phases to minimize sediment generation. Basin preparation will include the removal of topsoil and soft overburden material from low points within the topography, as well as compaction of the subgrade and placement of rock drains in low drainage points to collect seepage from the tailings. It is assumed that an average 0.5 m of overburden removal will be required over the footprint of the DSTF footprint, except over the Beliveau's old tailings facility. The surface of the facility will be graded and compacted prior to placement of filtered tailings in this area.

The DSTF will initially be constructed at the northwest end (the low spot of the facility) and will progress to the southeast. The construction of starter facility will minimize disturbance during the pre-production period. A foundation drainage network will be developed within the base of the facility using selective placement of gravel drains that discharge into the sediment/seepage pond. The sediment/seepage pond will be constructed at the northwest end of the facility and also collect surface runoff from the DSTF.

The DSTF will be constructed in several phases to the southeast to minimize ground disturbance. By end of Year 6 the maximum footprint (92.2 ha) will be constructed along with the southeast sediment/seepage pond and then the facility will continue vertically (Figures 18-3 and 18-4).

Permanent exterior slopes will be constructed with 3:1 (H:V) slopes. The facility will be progressively closed to reduce sediment management. Once a permanent slope is established it will be graded, drainage structures will be installed, and a closure cover will be placed on top.

18.4.5 Filtered Tailings Placement

Filtered tailings will be hauled from the process plant to the DSTF in haul trucks. Dozers and compactors will be utilized to stack tailings along with compacting the tailings to improve overall stability of the DSTF. The overall exterior slopes of the DSTF will be 3:1 (H:V).

18.4.6 Monitoring

Instrumentation and monitoring will be required to assess DSTF performance. Vibrating wire piezometers will be installed to monitor pore pressure within the tailings and the old tailings facility along with installing slope inclinometers and survey monuments to monitor for any slope movement and deformation.

18.4.7 DSTF Water Management

Surface runoff from the DSTF will be graded to encourage flow to defined sediment/seepage collection points. The collected surface water will be directed to sediment/seepage water management ponds located to the northwest and southeast of the facility. The water stored in the ponds will be used as make-up water for the process plant. Any excess water will be directed to the water treatment plant (WTP) and released to the environment in accordance with regulatory requirements. Water management for the DSTF is discussed in more detail in Section 18.6.

18.5 Water Supply

The water system design allows for an effluent treatment plant as well as potable water sterilization skid at 50 m^3/d.

Allowance has been made for all facilities to have a fire suppression system in accordance with the structure’s function.

18.6 Site-Wide Water Management

This section on site-wide water management discusses a hydrological study, the design of water management structures, and a water balance analysis.

18.6.1 Hydrological Study

18.6.1.1 Climate and Meteorology

The climate of the Val-d'Or area is continental subarctic sub-humid (Robitaille and Saucier, 1998). Winters are long and cold, and summers are short. As shown on Table 18-2, the hottest month is July (17.4°C) and the coldest month is January (-17.2°C) (Government of Canada, 2017a). The temperature is above the freezing point, approximately 162 days annually. Total annual rainfall is 929 mm, of which 73% is rain and 27% is snow. The direction of prevailing winds is southwest most of the year.

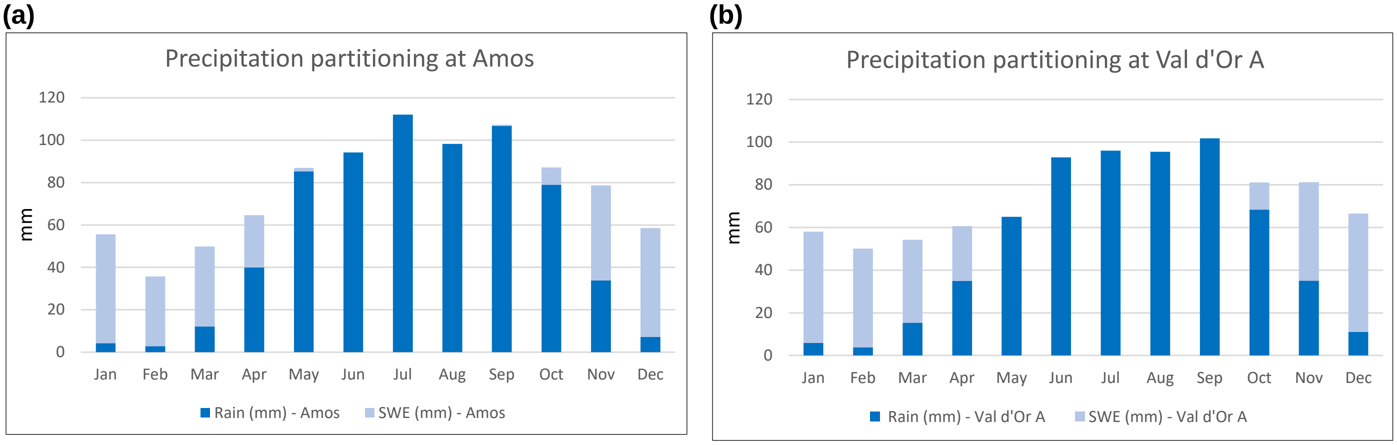
Table 18-2: Climate Data

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
Daily Average (°C)	-17.2	-14.6	-8.1	1.3	9.2	14.8	17.4	15.8	10.8	4.5	-4	-12.4	1.5
Daily Maximum (°C)	-11.5	-8.4	-2	6.8	15.4	21.1	23.3	21.5	15.8	8.5	-0.5	-7.7	6.9
Daily Minimum (°C)	-22.8	-20.7	-14.1	-4.3	2.9	8.4	11.4	10	5.9	0.5	-7.6	-17	-4
Maximum Hourly Speed (km/h)	50	40	45	48	42	43	37	37	50	47	42	47	50
Direction of Maximum Hourly Speed	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SE	SW	SW

The monthly precipitation and its rain/snow partitioning were compared between Amos (the closest station with over 20 years of data and Val d'Or stations in Figure 18-5. As shown, the precipitation is heaviest during the warmest months. The extreme precipitation events for Val d'Or East site were estimated based on the IDF curves optioned from Environment Canada. Table 18-3 summarizes storm events for the various return period.

Figure 18-5: Monthly Average Precipitation and Partitioning into Rain and Snow for (a) Amos and (b) Val d'Or A Stations

(a) **(b)**



Source: Statistics Canada, Environment, Energy and Transportation Statistics Division, 2017.

Table 18-3: Extreme Storm Events for Val d'Or A Station

Station	Duration	2	5	10	25	50	100
Val-d'Or A	5 minutes	6.9	8.9	10.3	12	13.2	14.5
	10 minutes	9.8	12.2	13.8	15.8	17.3	18.7
	15 minutes	11.9	14.7	16.6	19	20.8	22.5
	30 minutes	15.2	19.7	22.6	26.3	29	31.8
	1 hours	18.4	23.9	27.5	32.1	35.5	38.9
	2 hours	21.8	27.3	31	35.6	39	42.4
	6 hours	30.4	37.8	42.8	49	53.6	58.2
	12 hours	36.1	43.9	49	55.6	60.4	65.2
	24 hours	41.1	50.2	56.3	63.9	69.6	75.2

Source: Statistics Canada, Environment, Energy and Transportation Statistics Division, 2017.

18.6.1.2 Hydrometric Data

Due to the unavailability of hydrometric data on small streams that cross the site, a regional flood frequency analysis was conducted. Several stations from the Water Survey of Canada (WSC) in the vicinity of the project site were examined, and three were selected for the regional analysis (Table 18-4). The stations were chosen based on the similarity of topographical and hydrological features, proximity to the project site, and the duration of available historical data. However, none of the stations in proximity to the project site had a comparable drainage size to those of the streams within the site. The installation of flow gauges on these streams is recommended.

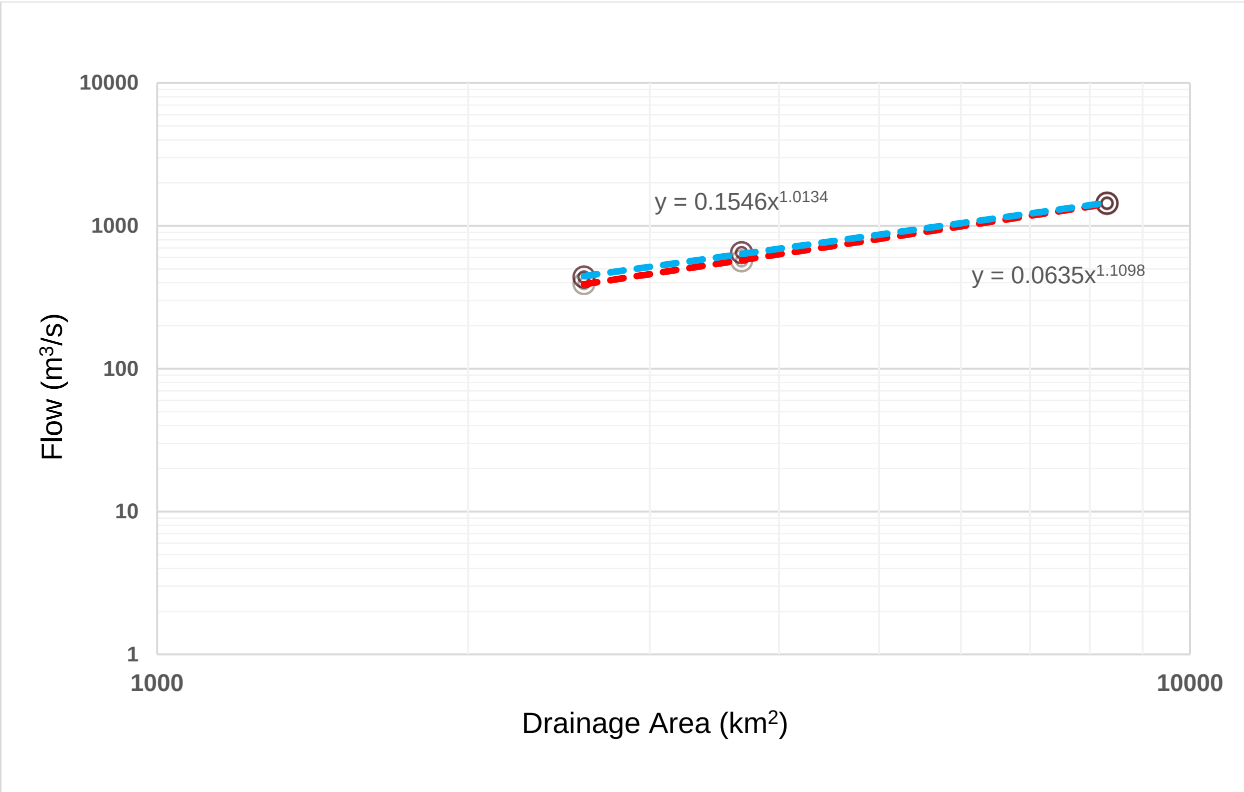
Table 18-4: Water Survey of Canada Flow Stations Adjacent to Val-d'Or East Site

ID	Station Name	Station #	Drainage Area (km^2)	Available Years of Data
1	Rivière Harricana à Amos	04NA001	3680	80
2	Rivière Kinojevis à Cléricy	02JB013	2590	48
3	Rivière Megiscane (Megiscane)	03AC002	8310	41

Source: Hemmera, 2021

HYFRAN-PLUS Version 2.2 was used to perform a frequency analysis and obtain peak flood information for 50-, 100-, 200-, 500- and 1000-year flood events. Three statistical fits were used: GEV, Gumbel and log-pearson Type 3 (LP3). The LP3 was found to be the best fit and was selected for the extreme value analysis. Figure 18-6 shows the results of the regional flood frequency analysis (FFA).

Figure 18-6: Regional Flood Frequency Analysis



Source: Hemmera, 2021.

As proven in a wealth of literature (O'Connell, 1868; Creager, Justin, & Hinds, 1944; Ayalew, Krajewski, Mantilla, & Small, 2014), power law formulas are good predictors of peak discharge based on drainage area. A power equation was calibrated for streams in the vicinity of the Val-d'Or East site to estimate peak flows in watercourses.

The Val-d'Or East site has four major catchments—watershed north, main, southwest, and southeast—that have drainage areas of approximately 28 km^2, 83 km^2, 7 km^2, and 35 km^2, respectively. Considering the catchment size and using the FFA results, the peak instantaneous flow of these watersheds at the outlet for the 200-year flood was estimated to be 2.56 m^3/s, 8.56 m^3/s, 0.55 m^3/s, and 3.28 m^3/s, respectively. Likewise, FFA results for the 1000-year flood were estimated to be 4.53 m^3/s, 13.61 m^3/s, 1.11 m^3/s, and 5.67 m^3/s, respectively.

It should be noted that these values were estimated using limited flow data available from the watersheds near the project site, and that the estimated peak flows must be considered approximate. A detailed rainfall runoff model of the catchments surrounding the project site would be needed in future phases of the work.

18.6.2 Water Management Structures

The proposed water management structures for the Val-d'Or East Project are as follows:

- Diversion Channel – Diversion channels are required to divert the clean water of existing watercourses currently flowing over the mine site. The channel will separate the stream flow from the active areas and avoid mixing with contact water. The design criterion for the diversion channel is the conveyance of a 1:100-year peak flow.

- Diversion Ditches – Diversion ditches are required to divert clean runoff away from the facilities and to minimize the amount of contact runoff to be collected and managed. The design criterion for the diversion ditches is the conveyance of a 1:25-year peak flow without overflow.

- Collection Ditches – Collection ditches collect contact runoff from the plant site, waste rock storage facilities, and overburden storage areas that is not diverted by the diversion ditches. The design criterion for collection ditches is the conveyance of 1:100-year peak flow without overflow.

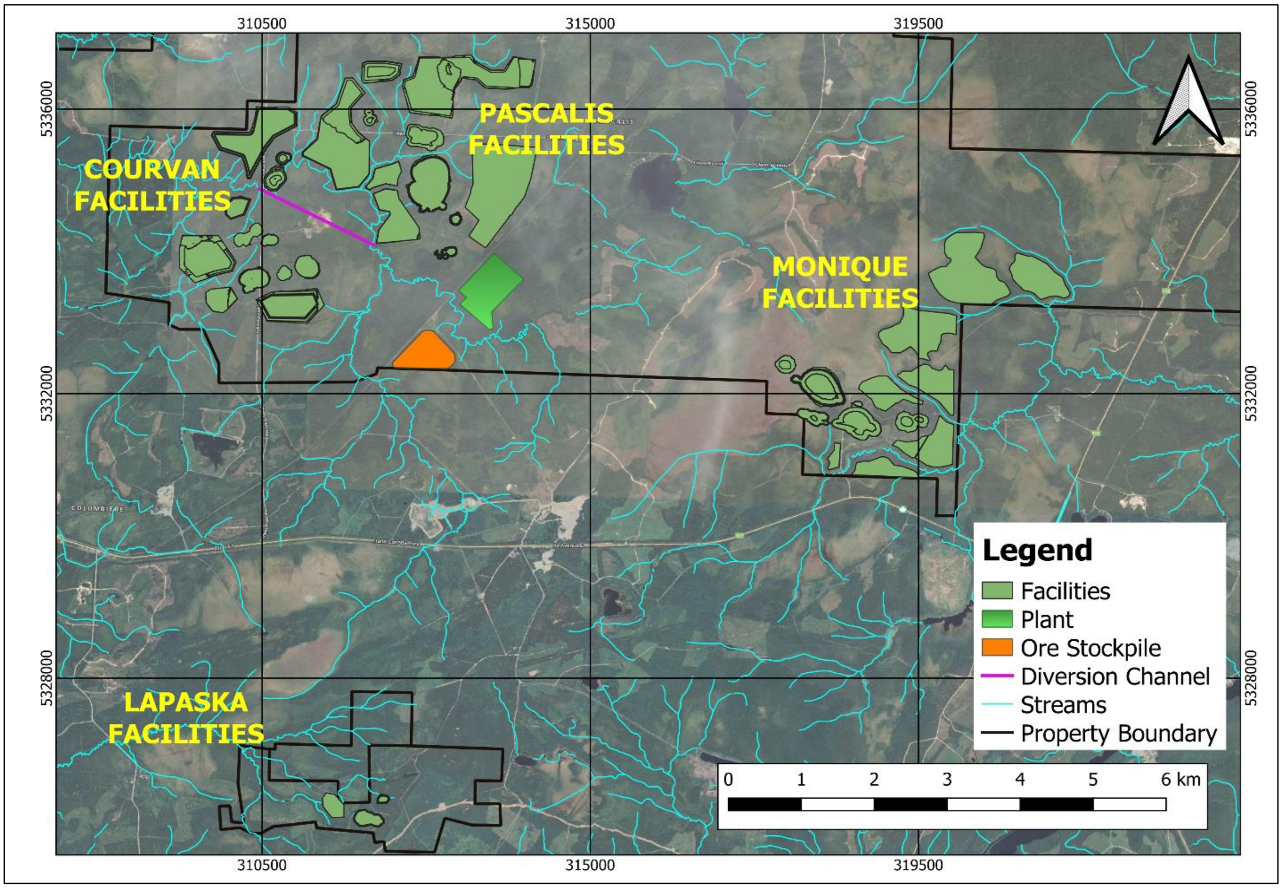
- Collection Ponds – Collection ponds were proposed to store contact runoff from the collection ditches. The stored contact water should either be treated and released to the environment or reused in the process plant. The design criterion of the collection ponds is to store water from the 1/100-year, 24-hour flood with a minimum freeboard of 0.5 m.

A high-level estimate of excavation volumes was completed using the proposed geometries of the structures and elevation profile along the alignment of channels and ditches.

18.6.2.1 Conceptual Design and Quantity Estimates

The Val-d'Or East site contains the Pascalis, Courvan, Monique, and Lapaska facilities, as shown in Figure 18-7.

Figure 18-7: Val-d'Or East Site Facilities

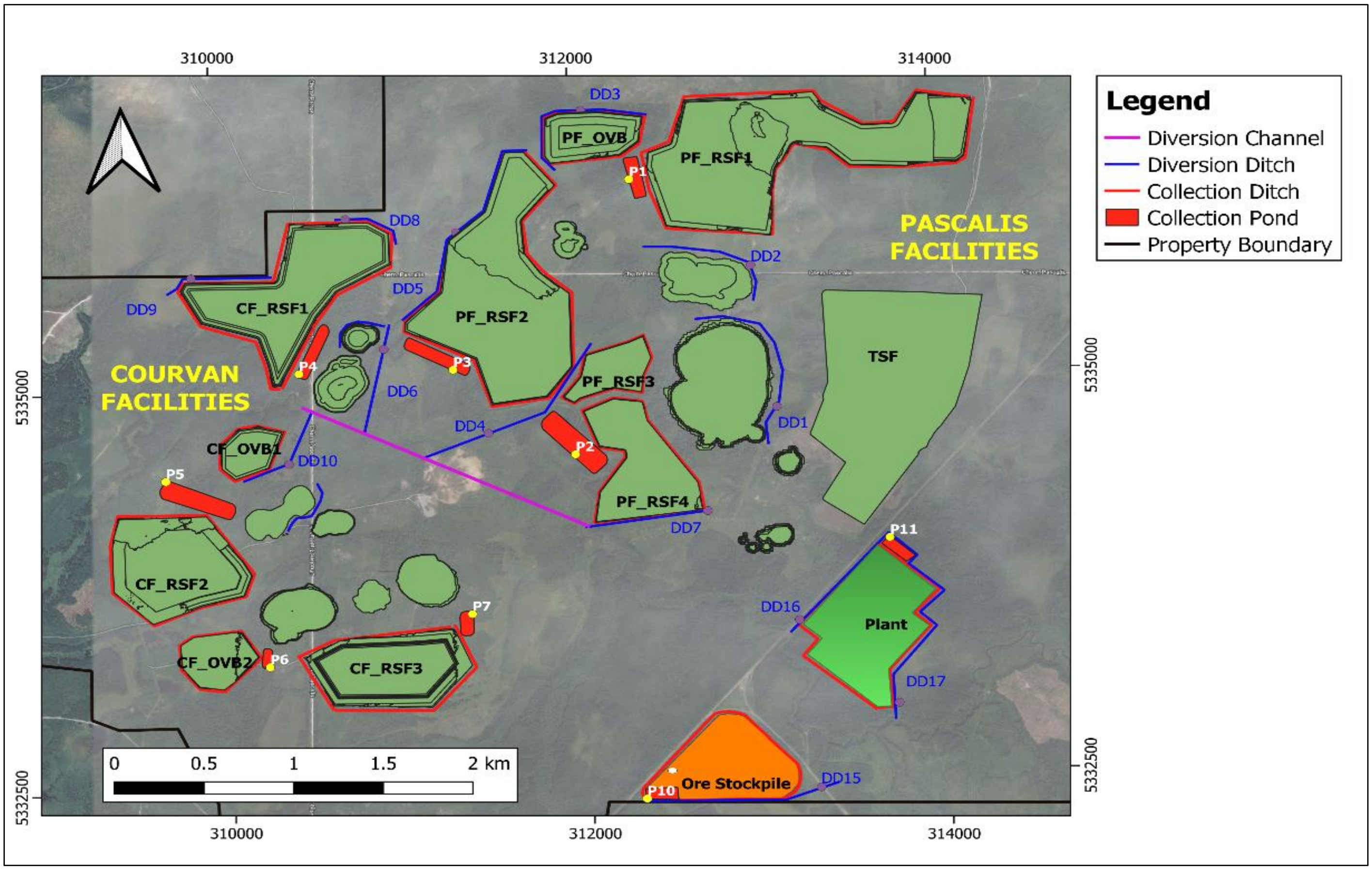


Source: Hemmera, 2021.

An existing stream segment, Colombière Creek, flows through the Pascalis and Courvan facilities to the northwest (Figure 18-7). A ~1,750 m long diversion channel to the south of the Pascalis facility was designed (magenta line in Figure 18-7) to divert the flow from the rock storage facilities. Twenty-nine diversion ditches with a total length of ~22,861 m for the Pascalis, Courvan, Monique, and Lapaska facilities were designed (blue lines in Figures 18-8 18-9, and 18-10) to divert the clean runoff approaching the rock storage facilities, overburden dumps, ore stockpile, process plant and pits.

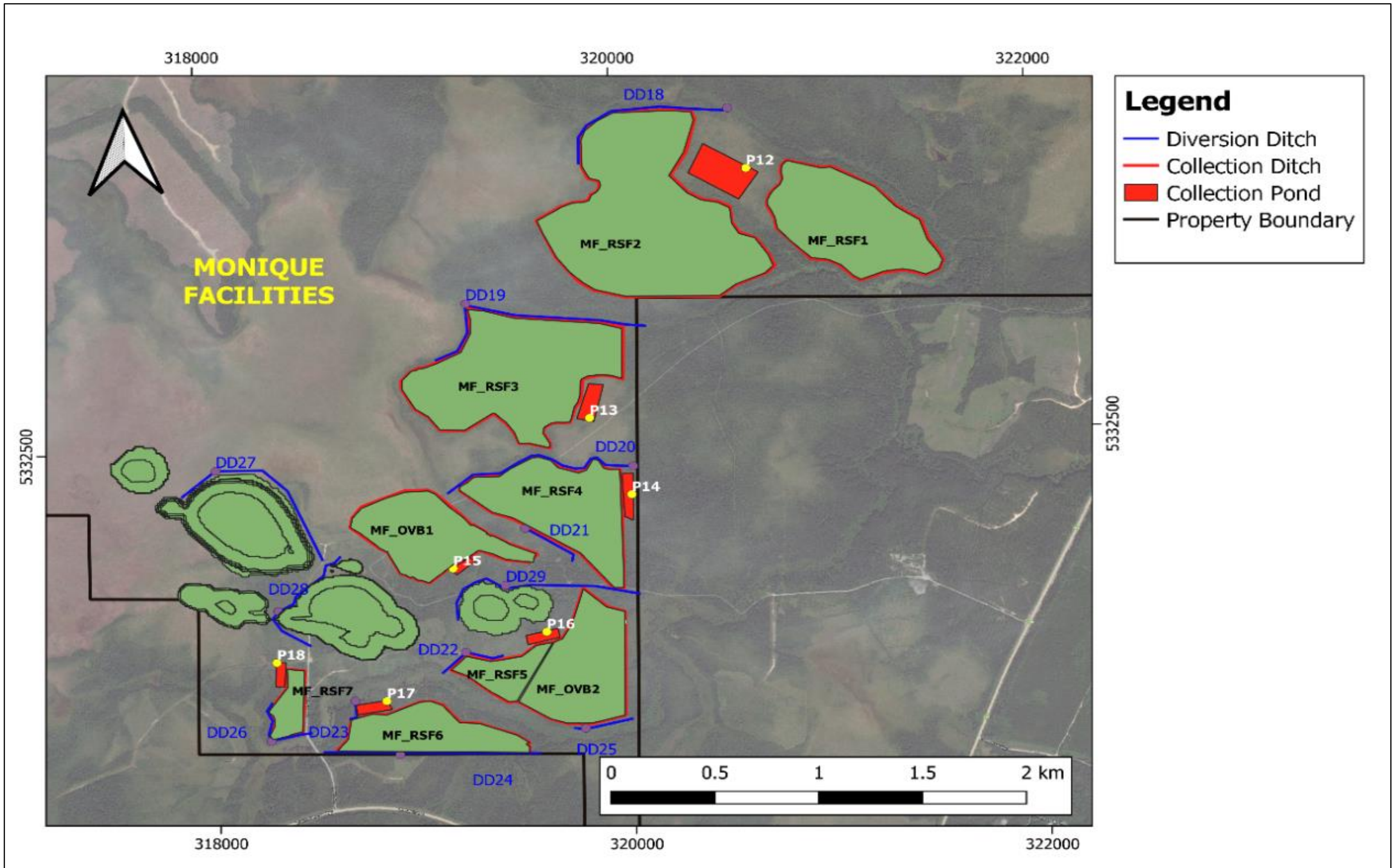
In addition to diversion channel and ditches, a collection system, including 44 collection ditches, was designed to manage contact water from the rock storage facilities, overburden dumps, ore stockpile, and process plant. The collected contact water will be retained in 18 collection ponds near each facility. Figures 18-8, 18-9 and 18-10 show the proposed alignments for the diversion channel, diversion ditches, collection ditches, and collection ponds.

Figure 18-8: Water Management Structures within the Pascalis and Courvan Facilities



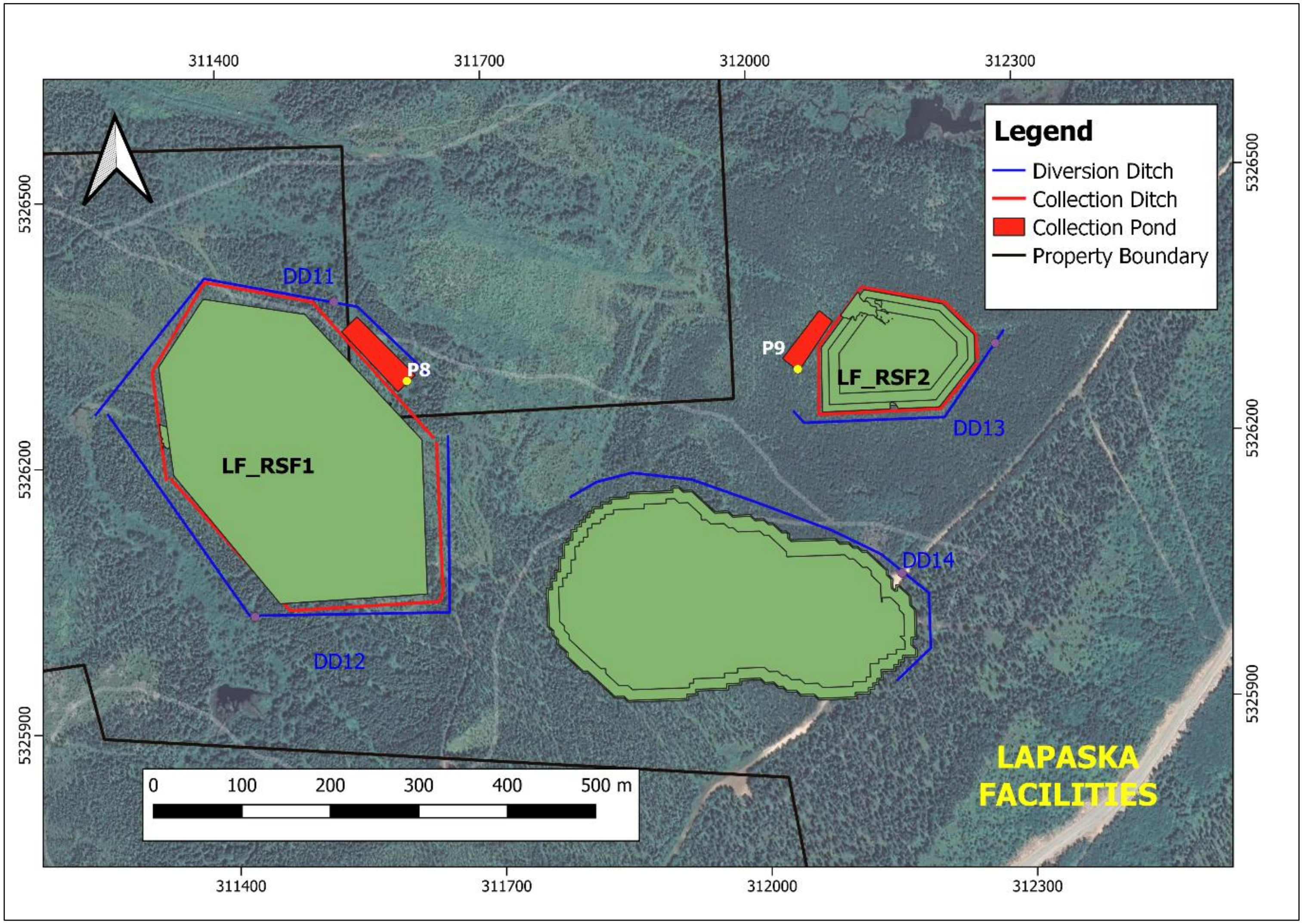
Note: RSF = rock storage facilities; OVB = overburden dumps. Source: Hemmera, 2021.

Figure 18-9: Water Management Structures within the Monique Facilities



Note: RSF = rock storage facilities; OVB = overburden dumps. Source: Hemmera, 2021.

Figure 18-10: Water Management Structures within the Lapaska Facilities



Note: RSF = rock storage facilities; OVB = overburden dumps. Source: Hemmera, 2021.

18.6.2.2 Rainfall-Runoff Modelling for Sizing Structures

Light detection and ranging (LiDAR) elevation measurements were used to delineate drainage pathways and catchments for diversion and collection water structures. Stream (watercourses) were extracted from the Environment Canada database.

The hydrological model used in the runoff analysis was HEC-HMS Version 4.7.1, developed by U.S. Army Corps of Engineers. The US Soil Conservation Service (SCS) unit hydrograph method was applied to determine the runoff hydrograph from the design rainstorm. The SCS Type II distribution was selected to define the distribution of design rainfall over 24 hours. The catchment area is covered by fair to poor forests, which will be partly altered during construction. SCS curve numbers for forest land covers, gravel and pond areas were set to 77, 87, and 99, respectively, based on TR-55 (Cronshey, 1986). Based on provincial soil surveys, site soil is classified as fine sandy loam with moderate infiltration and runoff potential. Soil Type B, representing soil composed of shallow loess and sandy loam, was chosen for all facilities. The hydrologic modelling results were used to preliminarily size the water management structures of the Val-d'Or East site.

Catchment physical characteristics of the proposed diversion and collection ditches and channels are presented in Tables 18-5 and 18-6. Catchment time of concentrations were calculated using empirical equations and the average values were used in the hydrological model.

The hydrological parameters were then input to the HEC-HMS model to estimate the design geometries for various storm events. The diversion channels were designed based on the 100-year flood event, while diversion ditches and collection ditches were designed to convey 25-year and 100-year flood events, respectively. Peak flows of the diversion and collection structures are presented in Tables 18-7 and 18-8. Based on peak flows of design events, channel and ditches cross-sections were designed (as shown in Tables 18-7 and 18-8).

The collection ponds, retaining the contact runoff from each facility, were sized based on the extreme 100-year, 24-hour storm event. The modelled flood volumes for these ponds are presented in Table 18-8. While sizing the ponds, sediment accumulation and freeboard allowances were also considered. The proposed sizes for each pond are presented in Table 18-9.

A summary of the estimated excavation volumes (class D) for the water management structures are provided in Tables 18-7, 18-8 and 18-9. Considering the contingency factor, Table 18-10 summarizes the total volumes for constructing the water management structures, and the total excavation work is 1,579,639 m^3.

Table 18-5: Characteristics of Collection Ditches

Item	Name	Flow Path Length (m)	Maximum Elevation (m)	Minimum Elevation (m)	Drainage Path Slope (m/m)	Time of Concentration (min)
1	Collection Ditch_PASCALIS_RSF1_N	2904	352	324	0.0096	109
2	Collection Ditch_PASCALIS_RSF1_S	3331	352	320	0.0096	124
3	Collection Ditch_PASCALIS_RSF2_E	2987	325	314	0.0036	151
4	Collection Ditch_PASCALIS_RSF2_W	2160	323	310	0.0060	102
5	Collection Ditch_PASCALIS_RSF3_E	1037	316	315	0.0010	108
6	Collection Ditch_PASCALIS_RSF3_W	821	316	315	0.0006	105
7	Collection Ditch_PASCALIS_RSF4_E	1406	320	315	0.0036	89
8	Collection Ditch_PASCALIS_RSF4_W	4673	320	315	0.0011	319
9	Collection Ditch_PASCALIS_OVB_E	847	325	324	0.0012	87
10	Collection Ditch_PASCALIS_OVB_W	972	324	323	0.0010	100
11	Collection Ditch_COURVAN_RSF1_E	1611	318	310	0.0050	87
12	Collection Ditch_COURVAN_RSF1_W	2507	319	307	0.0048	125
13	Collection Ditch_COURVAN_OVB1_E	563	312	306	0.0107	34
14	Collection Ditch_COURVAN_OVB1_W	825	312	306	0.0073	50
15	Collection Ditch_COURVAN_RSF2_E	1406	324	315	0.0064	74
16	Collection Ditch_COURVAN_RSF2_W	1621	319	315	0.0025	109
17	Collection Ditch_COURVAN_OVB2_N	730	325	320	0.0068	46
18	Collection Ditch_COURVAN_OVB2_S	902	324	320	0.0044	61
19	Collection Ditch_COURVAN_RSF3_E	1498	329	320	0.0060	79
20	Collection Ditch_COURVAN_RSF3_W	1455	339	321	0.0124	62
21	Collection Ditch_LAPASKA_RSF1_N	673	341	340	0.0018	66
22	Collection Ditch_LAPASKA_RSF1_S	678	343	339	0.0059	46
23	Collection Ditch_LAPASKA_RSF2_N	298	350	345	0.0151	20
24	Collection Ditch_LAPASKA_RSF2_S	333	350	346	0.0105	24
25	Collection Ditch_Ore_N	1277	320	320	0.0001	277
26	Collection Ditch_Ore_S	1425	321	320	0.0004	173
27	Collection Ditch_Plant_E	1714	325	320	0.0027	110
28	Collection Ditch_Plant_W	1765	325	320	0.0027	113
29	Collection Ditch_MONIQUE_RSF1_N	1610	335	332	0.0019	119
30	Collection Ditch_MONIQUE_RSF1_S	1411	335	332	0.0021	104
31	Collection Ditch_MONIQUE_RSF2_N	2436	338	333	0.0021	156
32	Collection Ditch_MONIQUE_RSF2_S	2360	335	330	0.0021	149
33	Collection Ditch_MONIQUE_RSF3_N	1967	335	330	0.0025	125
34	Collection Ditch_MONIQUE_RSF3_S	1916	339	332	0.0037	109
35	Collection Ditch_MONIQUE_RSF4_N	1389	334	327	0.0050	80
36	Collection Ditch_MONIQUE_RSF4_S	1513	334	325	0.0059	80
37	Collection Ditch_MONIQUE_OVB1_E	1444	337	329	0.0055	80
38	Collection Ditch_MONIQUE_OVB1_W	1259	340	335	0.0040	79
39	Collection Ditch_MONIQUE_OVB2_E	1486	327	325	0.0013	124
40	Collection Ditch_MONIQUE_RSF5+OVB2_W	1740	328	325	0.0017	129
41	Collection Ditch_MONIQUE_RSF6_N	1116	330	325	0.0045	71
42	Collection Ditch_MONIQUE_RSF6_S	1301	329	325	0.0031	89
43	Collection Ditch_MONIQUE_RSF7_E	466	330	330	0.0002	99
44	Collection Ditch_MONIQUE_RSF7_W	679	330	330	0.0001	145

Source: Hemmera, 2021.

Table 18-6: Characteristics of Diversion Channel and Ditches

Label	Name	Flow Path Length (m)	Maximum Elevation (m)	Minimum Elevation (m)	Drainage Path Slope (m/m)	Time of Concentration (min)
DD1	Diversion Ditch_BELIVEAU PIT_N	411	320	319	0.0024	41
DD2	Diversion Ditch_PASCALIS_PIT_N	1716	324	319	0.0029	105
DD3	Diversion Ditch_PASCALIS_OVB_N	1478	329	324	0.0034	92
DD4	Diversion Ditch_PASCALIS_RSF2_E	4530	329	320	0.0020	240
DD5	Diversion Ditch_PASCALIS_RSF2_NW	1851	330	310	0.0108	76
DD6	Diversion Ditch_PASCALIS_RSF2_SW	2553	330	319	0.0043	124
DD7	Diversion Ditch_PASCALIS_RSF4_S	868	330	315	0.0173	39
DD8	Diversion Ditch_COURVAN_ESF1_N	760	323	316	0.0092	43
DD9	Diversion Ditch_COURVAN_ESF1_W	704	315	310	0.0071	44
DD10	Diversion Ditch_COURVAN_OVB1_E	550	335	304	0.0564	20
DD11	Diversion Ditch_LAPASKA_RSF1_N	2127	382	339	0.0202	69
DD12	Diversion Ditch_LAPASKA_RSF1_S	1192	370	339	0.0260	43
DD13	Diversion Ditch_LAPASKA_RSF2_S	979	380	348	0.0327	35
DD14	Diversion Ditch_LAPASKA_PIT_N	1368	382	344	0.0278	47
	Diversion Channel_main watershed	12845	378	305	0.0057	356
DD15	Diversion Ditch_ORE_S	1346	326	320	0.0045	78
DD16	Diversion Ditch_PLANT_W	726	329	321	0.0110	39
DD17	Diversion Ditch_PLANT_E	8687	364	321	0.0049	280
DD18	Diversion Ditch_MONIQUE_RSF2_N	1786	344	334	0.0056	89
DD19	Diversion Ditch_MONIQUE_RSF3_N	1670	343	330	0.0078	77
DD20	Diversion Ditch_MONIQUE_RSF4_N	1226	335	330	0.0041	76
DD21	Diversion Ditch_MONIQUE_RSF4_S	654	335	329	0.0092	39
DD22	Diversion Ditch_MONIQUE_RSF5_N	970	340	327	0.0134	46
DD23	Diversion Ditch_MONIQUE_RSF6_W	135	330	330	0.0007	29
DD24	Diversion Ditch_MONIQUE_RSF6_S	4869	380	326	0.0112	146
DD25	Diversion Ditch_MONIQUE_RSF6_N	6953	380	325	0.0079	205
DD26	Diversion Ditch_MONIQUE_RSF7_S	5617	378	330	0.0085	174
DD27	Diversion Ditch_MONIQUE_PIT2_N	1073	338	335	0.0023	81
DD28	Diversion Ditch_MONIQUE_PIT4_W	1776	338	330	0.0042	97
DD29	Diversion Ditch_MONIQUE_PIT5_N	915	340	325	0.0164	41

Source: Hemmera, 2021.

Table 18-7: Conceptual Design for the Collection Ditches

Item	Name	Channel Shape	Side Slope (X:1)	Design Event	Peak Flow (m^3/s)	Length (m)	Design Channel Depth (m)	Bottom Width (m)	Channel Top Width (m)	Design Slope (m/m)	Excavation Volume (m^3)
1	Collection Ditch_PASCALIS_RSF1_N	Trapezoidal	2	100-Y	2.33	2472	1	1	4.5	0.003	13596
2	Collection Ditch_PASCALIS_RSF1_S	Trapezoidal	2	100-Y	0.91	2815	1	1	4	0.001	21113
3	Collection Ditch_PASCALIS_RSF2_E	Trapezoidal	2	100-Y	1.38	2426	1	1	4.5	0.001	13343
4	Collection Ditch_PASCALIS_RSF2_W	Trapezoidal	2	100-Y	1.22	1848	1	1	4.5	0.001	15246
5	Collection Ditch_PASCALIS_RSF3_E	Trapezoidal	2	100-Y	0.20	856	1	0.5	3	0.001	2247
6	Collection Ditch_PASCALIS_RSF3_W	Trapezoidal	2	100-Y	0.20	648	1	0.5	3	0.001	1361
7	Collection Ditch_PASCALIS_RSF4_E	Trapezoidal	2	100-Y	0.61	1133	1	1	4	0.001	5665
8	Collection Ditch_PASCALIS_RSF4_W	Trapezoidal	2	100-Y	0.24	4501	1	0.5	3	0.001	15754
9	Collection Ditch_PASCALIS_OVB_E	Trapezoidal	2	100-Y	0.34	722	1	0.5	3	0.001	3791
10	Collection Ditch_PASCALIS_OVB_W	Trapezoidal	2	100-Y	0.31	842	1	0.5	3	0.001	2947
11	Collection Ditch_COURVAN_RSF1_E	Trapezoidal	2	100-Y	1.59	1367	1	1	4.5	0.003	5639
12	Collection Ditch_COURVAN_RSF1_W	Trapezoidal	2	100-Y	0.53	2304	1	1	4	0.001	8640
13	Collection Ditch_COURVAN_OVB1_E	Trapezoidal	2	100-Y	0.34	443	1	0.5	3	0.001	1163
14	Collection Ditch_COURVAN_OVB1_W	Trapezoidal	2	100-Y	0.26	668	1	0.5	3	0.001	2338
15	Collection Ditch_COURVAN_RSF2_E	Trapezoidal	2	100-Y	1.01	1138	1	1	4.5	0.001	6259
16	Collection Ditch_COURVAN_RSF2_W	Trapezoidal	2	100-Y	0.76	1290	1	1	4	0.001	6450
17	Collection Ditch_COURVAN_OVB2_N	Trapezoidal	2	100-Y	0.42	568	1	0.5	3	0.001	1988
18	Collection Ditch_COURVAN_OVB2_S	Trapezoidal	2	100-Y	0.35	731	1	0.5	3	0.001	3838
19	Collection Ditch_COURVAN_RSF3_E	Trapezoidal	2	100-Y	0.84	1196	1	1	4	0.001	5980
20	Collection Ditch_COURVAN_RSF3_W	Trapezoidal	2	100-Y	0.99	1248	1	1	4	0.001	9360
21	Collection Ditch_LAPASKA_RSF1_N	Trapezoidal	2	100-Y	0.25	568	1	0.5	3	0.001	1491
22	Collection Ditch_LAPASKA_RSF1_S	Trapezoidal	2	100-Y	0.32	549	1	0.5	3	0.001	1922
23	Collection Ditch_LAPASKA_RSF2_N	Trapezoidal	2	100-Y	0.14	256	1	0.5	3	0.001	1344
24	Collection Ditch_LAPASKA_RSF2_S	Trapezoidal	2	100-Y	0.12	277	1	0.5	3	0.001	1454
25	Collection Ditch_Ore_N	Trapezoidal	2	100-Y	0.22	1031	1	0.5	3	0.001	1985
26	Collection Ditch_Ore_S	Trapezoidal	2	100-Y	0.47	1235	1	0.5	3	0.001	2594
27	Collection Ditch_Plant_E	Trapezoidal	2	100-Y	0.72	1438	1	1	4	0.001	7190
28	Collection Ditch_Plant_W	Trapezoidal	2	100-Y	0.71	1432	1	1	4	0.001	5370
29	Collection Ditch_MONIQUE_RSF1_N	Trapezoidal	2	100-Y	0.55	1252	1	1	4	0.001	4695
30	Collection Ditch_MONIQUE_RSF1_S	Trapezoidal	2	100-Y	0.61	1090	1	1	4	0.001	4088
31	Collection Ditch_MONIQUE_RSF2_N	Trapezoidal	2	100-Y	0.76	1910	1	1	4	0.001	11938
32	Collection Ditch_MONIQUE_RSF2_S	Trapezoidal	2	100-Y	1.18	1880	1	1	4.5	0.001	10340
33	Collection Ditch_MONIQUE_RSF3_N	Trapezoidal	2	100-Y	0.78	1668	1	1	4	0.001	12510
34	Collection Ditch_MONIQUE_RSF3_S	Trapezoidal	2	100-Y	0.85	1635	1	1	4	0.001	12263
35	Collection Ditch_MONIQUE_RSF4_N	Trapezoidal	2	100-Y	0.51	1165	1	1	4	0.001	8738
36	Collection Ditch_MONIQUE_RSF4_S	Trapezoidal	2	100-Y	0.77	1373	1	1	4	0.001	10298
37	Collection Ditch_MONIQUE_OVB1_E	Trapezoidal	2	100-Y	0.39	1250	1	0.5	3	0.001	4375
38	Collection Ditch_MONIQUE_OVB1_W	Trapezoidal	2	100-Y	0.59	934	1	1	4	0.001	7005
39	Collection Ditch_MONIQUE_OVB2_E	Trapezoidal	2	100-Y	0.52	1258	1	1	4	0.001	6290
40	Collection Ditch_MONIQUE_RSF5+OVB2_W	Trapezoidal	2	100-Y	0.50	1370	1	0.5	3	0.001	7193
41	Collection Ditch_MONIQUE_RSF6_N	Trapezoidal	2	100-Y	0.40	977	1	0.5	3	0.001	5129
42	Collection Ditch_MONIQUE_RSF6_S	Trapezoidal	2	100-Y	0.34	1164	1	0.5	3	0.001	6111
43	Collection Ditch_MONIQUE_RSF7_E	Trapezoidal	2	100-Y	0.07	419	1	0.5	3	0.001	807
44	Collection Ditch_MONIQUE_RSF7_W	Trapezoidal	2	100-Y	0.07	578	1	0.5	3	0.001	1113

Source: Hemmera, 2021.

Table 18-8: Conceptual Design for Diversion Channel and Ditches

Item	Name	Channel Shape	Side Slope (X:1)	Design Event	Peak flow (m^3/s)	Length (m)	Design Channel Depth (m)	Bottom Width (m)	Channel Top Width (m)	Design Slope (m/m)	Excavation Volume (m^3)
DD1	Diversion Ditch_BELIVEAU PIT_N	Trapezoidal	2	25-Year	1.80	1159	1	1	4.5	0.003	3825
DD2	Diversion Ditch_PASCALIS_PIT_N	Trapezoidal	2	25-Year	2.95	841	1	1	4.5	0.004	3469
DD3	Diversion Ditch_PASCALIS_OVB_N	Trapezoidal	2	25-Year	1.11	949	1	1	4.5	0.001	3915
DD4	Diversion Ditch_PASCALIS_RSF2_E	Trapezoidal	2	25-Year	4.27	1232	1.5	1	7	0.001	11088
DD5	Diversion Ditch_PASCALIS_RSF2_NW	Trapezoidal	2	25-Year	1.60	1379	1	1	4.5	0.003	7585
DD6	Diversion Ditch_PASCALIS_RSF2_SW	Trapezoidal	2	25-Year	4.10	688	1.5	1	7	0.001	8256
DD7	Diversion Ditch_PASCALIS_RSF4_S	Trapezoidal	2	25-Year	1.53	691	1	1	4.5	0.003	3801
DD8	Diversion Ditch_COURVAN_ESF1_N	Trapezoidal	2	25-Year	1.13	420	1	1	4.5	0.001	1733
DD9	Diversion Ditch_COURVAN_ESF1_W	Trapezoidal	2	25-Year	0.78	620	1	1	4	0.001	3100
DD10	Diversion Ditch_COURVAN_OVB1_E	Trapezoidal	2	25-Year	4.96	624	1.5	1	7	0.001	5616
DD11	Diversion Ditch_LAPASKA_RSF1_N	Trapezoidal	2	25-Year	4.09	484	1.5	1	7	0.001	5808
DD12	Diversion Ditch_LAPASKA_RSF1_S	Trapezoidal	2	25-Year	2.57	702	1	1	4.5	0.004	3861
DD13	Diversion Ditch_LAPASKA_RSF2_S	Trapezoidal	2	25-Year	2.43	294	1	1	4.5	0.003	1617
DD14	Diversion Ditch_LAPASKA_PIT_N	Trapezoidal	2	25-Year	1.52	557	1	1	4.5	0.003	4595
	Diversion Channel_main watershed	Trapezoidal	2	100-Year	79.73	1750	2.5	10	21	0.005	135625
DD15	Diversion Ditch_ORE_S	Trapezoidal	2	25-Year	2.47	1099	1	1	4.5	0.003	6045
DD16	Diversion Ditch_PLANT_W	Trapezoidal	2	25-Year	1.02	820	1	1	4.5	0.001	4510
DD17	Diversion Ditch_PLANT_E	Trapezoidal	2	25-Year	48.47	1520	2	7	14	0.005	63840
DD18	Diversion Ditch_MONIQUE_RSF2_N	Trapezoidal	2	25-Year	3.39	920	1	1	4.5	0.005	5060
DD19	Diversion Ditch_MONIQUE_RSF3_N	Trapezoidal	2	25-Year	3.21	1250	1	1	4.5	0.005	10313
DD20	Diversion Ditch_MONIQUE_RSF4_N	Trapezoidal	2	25-Year	1.07	637	1	1	4.5	0.001	5255
DD21	Diversion Ditch_MONIQUE_RSF4_S	Trapezoidal	2	25-Year	0.47	312	1	0.5	3	0.001	819
DD22	Diversion Ditch_MONIQUE_RSF5_N	Trapezoidal	2	25-Year	0.68	336	1	1	4	0.001	1260
DD23	Diversion Ditch_MONIQUE_RSF6_W	Trapezoidal	2	25-Year	0.06	128	1	0.5	3	0.001	336
DD24	Diversion Ditch_MONIQUE_RSF6_S	Trapezoidal	2	25-Year	12.92	1035	1.5	3	8.5	0.003	17854
DD25	Diversion Ditch_MONIQUE_RSF6_N	Trapezoidal	2	25-Year	50.30	962	2	7	14.5	0.005	31025
DD26	Diversion Ditch_MONIQUE_RSF7_S	Trapezoidal	2	25-Year	18.71	418	1.5	4	10	0.003	4828
DD27	Diversion Ditch_MONIQUE_PIT2_N	Trapezoidal	2	25-Year	2.46	1010	1	1	4.5	0.003	3055
DD28	Diversion Ditch_MONIQUE_PIT4_W	Trapezoidal	2	25-Year	2.50	723	1	1	4.5	0.003	2386
DD29	Diversion Ditch_MONIQUE_PIT5_N	Trapezoidal	2	25-Year	1.25	1051	1	1	4.5	0.001	4335

Source: Hemmera, 2021.

Table 18-9: Conceptual Design for the Ponds

Item	Name	Flood Volume (m³)	Depth (m)	Width (m)	Length (m)	Excavation Volume (m³)
P1	Pond for PASCALIS_RSF1_N	48,414	2.2	90	450	89,100
P2	Pond for PASCALIS_RSF3_E	17,868	2.2	55	275	33,275
P3	Pond for PASCALIS_RSF2_E	36,096	2.2	80	390	68,640
P4	Pond for COURVAN_RSF1_E	23,914	2.2	65	320	45,760
P5	Pond for COURVAN_OVB1_E	22,650	2.2	65	310	44,330
P6	Pond for COURVAN_OVB2_N	5,685	2.2	35	155	11,935
P7	Pond for COURVAN_RSF3_E	16,469	2.2	55	265	32,065
P8	Pond for LAPASKA_RSF1_N	4,241	2.2	30	135	8,910
P9	Pond for LAPASKA_RSF2_N	1,038	2.2	15	70	2,310
P10	Pond for Ore_N	13,762	2.2	50	240	26,400
P11	Pond for Plant_E	18,297	2.2	60	280	36,960
P12	Pond for MONIQUE_RSF1_N	45,120	2.2	90	435	86,130
P13	Pond for MONIQUE_RSF3_N	21,488	2.2	60	300	39,600
P14	Pond for MONIQUE_RSF4_N	12,847	2.2	50	235	25,850
P15	Pond for MONIQUE_OVB1_E	9,784	2.2	45	205	20,295
P16	Pond for MONIQUE_OVB2_E	14,127	2.2	50	245	26,950
P17	Pond for MONIQUE_RSF6_N	7,315	2.2	35	175	13,475
P18	Pond for MONIQUE_RSF7_E	1,920	2.2	20	90	3,960

Source: Hemmera, 2021.

Table 18-10: Summary of Excavation Estimates for Water Management Structures

Items	Excavation Volume (m³)
Diversion Channel	135,625
Diversion Ditches	229,187
Collection Ditches	282,954
Collection Ponds	615,945
Total Excavation	**1,263,711**
with Contingency	1,579,639

Source: Hemmera, 2021.

18.6.3 Site-Wide Water Balance

A preliminary site-wide water balance analysis was performed for the Val-d'Or East site. In this analysis, a comparison between the process plant water requirement and water available from various sources was carried out. Sources of water include the following:

- water runoff from the stockpile
- excess water from the process plant
- groundwater inflow to mining pits
- surface runoff from precipitation.

The process plant has approximately 2,400 m^3/d of excess water during full operation (note: this amount may be less during earlier stages of the operation). If all the pits in Pascalis, Courvan, Monique, and Lapaska facilities are mined simultaneously, there will be between 7,031 and 9,599 m^3/d of surplus water during the dry and wet season, respectively.

Similarly, for all rock storage facilities, overburden dumps, and ponds, there will be between 11,886 and 21,677 m^3/d of contact runoff plus seepage water during the dry and wet season, respectively.

Precipitation data from Val-d'Or A station was used to calculate the amount of potential runoff. It should be noted that lake evaporation data from Amos station was the only available evaporation information near the project site. Evaporation from rock storage facilities, overburden dumps, and dumps was assumed to be 10% of the lake evaporation. This assumption was made to have a conservative estimate of generated runoff. For evaporation on ponds, 100% of observed lake evaporation data was subtracted from precipitation data.

As shown, if all the pits are mined simultaneously, there will be approximately between 21,451 and 30,366 m^3/d of surplus water that needs to be treated and managed. Since the operation schedule of pits is not available at a PEA level, a detailed pond design for pit contact water collection is required in the next phase of the project.

It should also be noted that in the earlier stages of mine operations, the amount of surplus water during the dry and wet season is less than the estimated available water from pits, dumps, and stockpiles, as these are not yet fully constructed. A detailed water balance analysis will be required to review the annual amount of excess water that needs to be treated and managed throughout the mine life.

18.7 Mining Infrastructure (WBS 1800)

18.7.1 Haul Roads (WBS 1810)

Haul roads with the following characteristics will be connected to the process plant ROM pad, DSTF, mine pits, and waste rock and overburden stockpiles:

- draining and safety berms where appropriate
- 22 m wide, with a dual-lane running width and berms on both edges

- sized to handle 40 tonne payload rigid-frame haul trucks
- 10% maximum grade
- 6 m diameter corrugated steel tunnel over the existing CN railway
- pre-engineered Magbey bridges and concrete culverts for river/creek crossings.

The ex-pit haul roads are shown in the project layout drawing in Figure 18-1.

18.7.2 Explosives Facilities (WBS 1820)

The explosives mixing plant and magazine building will be a one-storey 16 m long x 11 m wide building located on the explosives storage and handling pad. The explosives storage and handling pad will be a 95 m x 95 m area that for mixing and storing explosives required for mine operations. The explosives pad will also contain a bulk transfer facility, bulk storage facilities, garage for mobile equipment, and trailers for personnel. Explosives and accessories will be transported to the mine pits as needed.

A design buffer of 1.1 km from all other site facilities and operations is assumed, and the pad area will be gated.

18.7.3 Truckshop/ Truckwash (WBS 1830)

The truckshop building at the site will be a 44 m long x 40 m wide fabric building located south of the ROM pad. The building will be used to maintain haul trucks and highway trucks, and for spare parts storage. The building will be supported on conventional pad footings with gravel flooring.

The truckwash building at the site will be a 25 m long x 18 m wide fabric building located adjacent to the truckshop building on the truck pad south of the ROM pad. The building will be used for washing haul trucks and will be supported on a reinforced concrete raft foundation.

18.7.4 Periodic Maintenance Truckshop (WBS 1830)

During Year 4, a 44 m long x 40 m wide fabric periodic maintenance truckshop will be built next to the truckshop. The periodic maintenance truckshop will be used for quick, periodic maintenance of haul and highway trucks, while the truckshop will be used for repair and maintenance work with long turnaround times.

18.7.5 Mine Warehousing, Office & Workshops

Dimensions for the truckshop warehouse, truckshop office and tire change buildings are described in Table 18-11.

The truckshop warehouse will be located at south of the truckshop building and will be used to store parts and mine maintenance equipment. The foundation of the truckshop warehouse will be reinforced concrete slab-on-grade.

The truckshop office with lunchroom and washroom will be located between the truckshop and periodic maintenance (PM) truckshop. Additional storage will be available inside shipping containers placed adjacent to the truckshop. The foundation of the truckshop office will be wood cribbing or pre-cast concrete block foundation.

Table 18-11: Description of Truckshop Warehouse, Truckshop Office and Tire Change Building

WBS	Package List	Building Construction	L	W	H	Area (m^3)	Volume (m^3)
1830	Truckshop Warehouse	Fabrication	25	15	6	375	2,250
1840	Truckshop Office	Modular	18	7	2	132	318
1830	Tire Change	Fabrication	12	8	10	97	967

Source: Ausenco Building List, 2021

The tire change building will be constructed during the Year 4 expansion. The tire change building will be used to store, maintain, and replace the haul truck tires. The building will be supported by reinforced concrete slab-on-grade.

18.8 Roads and Logistics

18.8.1 Access to Site

The Val-d'Or East property can be easily reached from Val-d'Or by travelling approximately 20 km east along Highway 117. The former L.C. Beliveau mine site is approximately 8 km from Highway 117 (6 km north on Perron Road, 2 km on Pascalis Road, and 200 m of gravel road). The former Monique mine is about 5 km to the east on Highway 117, then north on Carnegie Road for 0.5 km. The roads are all well-maintained. Several logging roads and trails run through the property, providing easy access to its interior.

Val-d'Or is a modern city and one of the largest communities in the Abitibi region of Québec with a long and rich mining heritage. The city has a population of approximately 32,000.

The property is very close to the TransCanada Highway (Highway 117). A CN railway line crosses the southeastern part of the property, connecting east through to Montreal and west through the Ontario Northland Railway to the North American rail network. Val-d'Or has a regional airport with regularly scheduled flights to and from Montreal, and also acts as a hub for flights to the north. Val-d'Or is a six-hour drive north from Montreal, and there is daily bus service between Montreal and the other cities in the Abitibi region.

Supplies, labour and service providers are readily available in the general area (Amos, Rouyn-Noranda and Val-d'Or). Local resources include commercial laboratories, federal government underground mining research office, construction contractors, drilling companies, exploration service companies, engineering and various other consultants, and equipment vendors and suppliers.

18.8.2 Public Infrastructure Crossings (WBS 1420 & 1810)

The process plant is separated from the Courvan pits, Pascalis pits, and dry stack tailings facility by the CN railway line. Due to the weight and frequency of the trucks, a railway overpass to Beliveau pit will be built.

Ore will be trucked from Lapaska via haul roads (refer to Section 18.7.1) over Highway 117, using a pre-engineered steel bridge overpass.

18.8.3 Plant Site Roads (WBS 4100)

The roads within the process plant area will be generally 6 m wide, integrated with process plant pad earthworks, and designed with adequate drainage. The roads will allow access between the administration building, warehouses, mill building, crushing buildings, stockpile, mining truckshop, and the top of the ROM pad.

18.8.4 Public Road Relocation (WBS 4100)

Development of the Courvan and Pascalis pits will require the existing Pascalis and Tiblemont–Louvicourt roads to pass through the blasting radius. Consequently, portions of these two public roads will be relocated with the following key inputs:

- 7 m wide access load that incorporates a dual-lane running width.
- minimum 1 km away from blast radius of the open pit
- 10% maximum grade.

These public roads are shown in the project site layout in Figure 18-1.

18.9 On-Site Infrastructure (WBS 2000)

The plant site consists of the necessary infrastructure to support the processing operations. All infrastructure buildings and structures will be built and constructed to all applicable codes and regulations.

The plant site layout showing facilities is provided in Figure 18-1.

18.9.1 Power Supply (WBS 2200)

Primary power will be supplied to the Val-d'Or East site by Hydro-Québec via a high-voltage overhead transmission line that terminates at the plant's outdoor substation (indicated in Table 18-12). A 5 km long high-voltage powerline is planned from the tie-in point, as shown on Figure 18-1, from an existing line running parallel to Perron Road where it crosses with the CN railway line.

Table 18-12: Power Supply Building Description

WBS	Package List	Building Construction	L	W	H	Area (m^3)	Volume (m^3)
2220	Incoming Substation & Power Distribution	Prefabricated Electrical Room	16	11	3	175	455

Emergency power will be generated on site by diesel-powered standby generators that are optimally sized and located near the critical electrical consumers. During the Year 4 expansion to underground mining and ore sorting, a substation and reticulation upgrade is planned.

18.9.2 Warehousing, Office & Workshops (WBS 2400)

18.9.2.1 Administration Building

The administration offices (Table 18-13) will be located in a single-storey building of prefabricated modular construction, placed on wood cribbing or precast concrete block footings. The administration building be located south of the process plant. The building will have HVAC, and will contain offices, meeting rooms, a lunchroom, washrooms, men's and women's dry, lockers, a first-aid area, and showers.

In Year 4, the mine dry building will be added adjacent to the plant administration building to provide washrooms, men's, and women's dry, lockers, and showers. The mine dry building will be a one-storey prefabricated modular building supported on wood cribbing or precast concrete block footing.

The administration building will be located next to the grinding building, which will be supported on wood cribbing or precast concrete block footing. It will house offices, meeting rooms, a cafe, and washrooms. The mill office will be a one-storey prefabricated modular building.

Table 18-13: List of Warehousing, Office & Workshops as On-site Infrastructures

WBS	Package List	Building Construction	L	W	H	Area (m^3)	Volume (m^3)
2410	Maintenance Shop & Storage Building	Fabrication	37	18	6	666	3,996
2420	Administration Office	Modular	35	25	2	875	2,100
2420	Mine Dry	Modular	30	25	2	750	1,800
2430	Security Gatehouse	Modular	12	4	2	44	105
2440	Assay and Metallurgical Laboratory	Modular	n/a	n/a	n/a	n/a	n/a

Source: Ausenco Building List, 2021.

18.9.2.2 Maintenance Shop & Warehouse Building (WBS 2400)

The dimensions of the maintenance shop and warehouse building on site are listed in Table 18-13. The building will be located south of the process plant, and will be used as a warehouse for process plant equipment spares, maintenance and storage of light vehicles and process plant equipment, as well as general storage. The building will be supported on reinforced concrete slab-on-grade.

The security gatehouse (Table 18-13) will be a single-storey 12 m long x 4 m wide prefabricated modular building. It will have an office, computer room, and washrooms. The building will be located at the entrance to the process plant, at the south end of the process plant pad passing the truck pad.

The assay and metallurgical laboratory (Table 18-13) is a prefabricated, single-storey, modular building on wood cribbing or precast concrete blocks. The dimensions of the laboratory will depend on vendor data.

18.9.2.3 Fuel Storage (WBS 2300)

The fuel station is located northwest of the truckshop and will consist of a 20 m long x 15 m wide open-air, slab-on-grade area with bollards. The fuel station will service the on-site mine equipment and mobile fleet.

Diesel fuel will be stored on site near the ROM pad for heavy and light vehicles. Diesel fuel storage and supply will be provided by a fuel supplier and will include fuel storage, offloading pumps, dispensing pumps, associated piping and electronic fuel control/tracking.

18.10 Plant Infrastructure (WBS 3000)

18.10.1 Crushing Area Buildings

The dimensions of the crushing area buildings on site are provided in Table 18-14.

Table 18-14: List of Crushing Area Buildings

WBS	Package List	Building Construction	L	W	H	Area (m^3)	Volume (m^3)
3111	Primary Crushing Building (Initial) - Part 1	Pre-Engineered	13	10	13	130	1,709
3111	Primary Crushing Building (Initial) - Part 2	Pre-Engineered	6	10	6	63	350
3112	Primary Crushing Building (Year 4) - Part 1	Pre-Engineered	13	10	13	130	1,709
3112	Primary Crushing Building (Year 4) - Part 2	Pre-Engineered	6	10	6	63	350
3121	Secondary & Tertiary Crushing Building	Pre-Engineered	36	15	28	552	14,729
3130	Screen Building	Pre-Engineered	32	13	17	433	7,141
3140	Ore Sorting Building	Pre-Engineered	40	33	12	1,307	15,682
3140	Ore Sorting Screen Building	Pre-Engineered	11	9	16	89	1,428
3100	Stockpile Cover	Pre-Engineered	55	55	34	4,752	43,557

Source: Ausenco Building List, 2021.

18.10.1.1 Primary Crushing Building (Initial) (WBS 3111)

The primary crushing building initial will be located southwest of the process plant. The building will consist of two parts, as follows:

- The high roof area (part 1) will house the vibrating grizzly feeder, primary jaw crusher, chutes, and platework. The equipment will be located on the ground floor and on two main operating floors and multiple equipment access platforms. The process equipment will be serviced by mobile cranes as required. The primary crusher will be supported on a reinforced concrete slab.

- The lower roof area (part 2) will house the sacrificial conveyor and the secondary screen feed conveyor. The equipment will be serviced by monorail as required.

Haul trucks will deliver ore directly to the ROM feed bin from the initial ROM pad. The secondary screen feed conveyor will transport the crushed ore to the secondary screen located in the secondary screen building.

18.10.1.2 Primary Crushing Building (Year 4) (WBS 3112)

During the expansion in Year 4, a new primary crusher will be added (in a new primary crushing building) to increase production. The new primary crusher building will be north of the initial primary crushing building and will have the same dimensions and layout. The secondary screen feed conveyor will transport crushed ore directly to the secondary bin "B" of the additional secondary crusher that will be added in the Year 4 of the mine production.

The secondary and tertiary crushing building will house the secondary crusher, the secondary bin, the tertiary bin, and the tertiary crusher. Oversize from the secondary screen will be fed to the secondary crusher, while undersize will report to the crushed ore stockpile feed conveyor. The secondary crushed ore will be fed into the tertiary screen, and the oversize fraction will be subsequently fed to the tertiary crusher. Tertiary crushed ore will discharge onto the crusher recycle conveyor and screened in the tertiary screen.

The building will have space for the Year 4 expansion of an additional secondary bin and a secondary crusher. The building will be serviced by an overhead crane along the length of the building as required. The building will use concrete slab-on-grade as flooring and conventional pad footings as foundation.

18.10.1.3 Screen Building (WBS 3130)

The screen building will house both the secondary and tertiary screens. The secondary screen will receive crushed ore and grizzly undersize streams and transfer the oversize ore to secondary crusher. The tertiary screen will receive the oversize fraction from the secondary crusher, and the tertiary crushed ore will discharge to the crusher recycle conveyor. The building will use concrete slab-on-grade as flooring and conventional pad footings as foundation.

18.10.1.4 Ore Sorting Building (WBS 3140)

An ore sorting building will be built south of the secondary and tertiary screen building as part of the Year 4 expansion. The building will house the fine ore sorting bins, coarse ore sorting bins, fine ore sorters, and coarse ore sorters. The fine ore sorting bin will receive fine ore from the fine sorting screen undersize and feed the fine ore sorter. Rejected ore from the fine ore sorter will report to the fine ore sorting waste conveyor for transfer to the rejects stockpile feed conveyor. The coarse ore sorting bin will receive oversize from the fine sorting screen and feed the coarse ore sorter. The rejected ore from the coarse ore sorter will report to the coarse ore sorting product conveyor for transfer to the rejects stockpile feed conveyor.

The accepted ore from the fine ore sorter and coarse ore sorter will report to the ore sorting recycle conveyor, which feeds the material from the ore sorting building to the screen area. The accepted ore will be transferred to the stockpile feed conveyor for transport to the coarse ore stockpile. The building will use concrete slab-on-grade as flooring and conventional pad footings as foundation.

18.10.1.5 Ore Sorting Screen Building (WBS 3140)

The ore sorting screen building will be built during the Year 4 expansion. The building will house the fine sorting ore screen that will receive the crushed ore from the secondary screen. The building will use concrete slab-on-grade as flooring and conventional pad footings as foundation.

18.10.1.6 Crushed Ore Storage Cover

The crushed ore storage cover will be a 55 m diameter (nominal) x 34 m high hemisphere-shaped inflatable structure on a concrete foundation. The building will be used to cover the crushed ore storage stockpile. No heating will be required.

18.10.2 Process Plant Buildings

The dimensions of the on-site process plant buildings are provided in Table 18-15.

Table 18-15: List of Process Plant Buildings

WBS	Package List	Building Construction	L	W	H	Area (m^3)	Volume (m^3)
3200	Grinding Building	Pre-Engineered	48	24	23	1,159	26,889
3300	Gravity Tower Building (Lean-to)	Stick-built	n/a	n/a	n/a	n/a	n/a
3700	Reagent Building	Pre-Engineered	35	18	14	637	8,916
3700	Reagent Storage Building	Fabricated	25	18	9	450	4,050
3500	Gold Room	Pre-Engineered	16	11	9	167	1,419
3400	Filter Plant Building	Pre-Engineered	30	25	16	750	11,850
2800	Tailing Cake Stockpile Building	Inflatable	47	47	24	3,470	27,181

Source: Ausenco Building List, 2021

18.10.2.1 Grinding Building (WBS 3200)

The grinding building will have a ground floor and an elevated concrete floor with multiple equipment access platforms. The building will house the ball mill, cyclone feed hopper/ pumps, ball mill cyclones cluster, and trash screen. The building will be serviced by a 30-tonne overhead crane that runs along the building length. The building will use concrete slab-on-grade as flooring and conventional pad footings as a foundation.

18.10.2.2 Gravity Tower Building (WBS 3300)

The gravity tower building will be a stick-built lean-to building attached to the grinding building. The building will house the gravity screen and the gravity concentrator. The equipment will be supported on structural steel on multi-floor levels. The building will have concrete slab-on-grade as flooring and will be supported on convention pad footings.

18.10.2.3 Reagent Building (WBS 3700)

The reagent building will be a one-storey pre-engineered rigid frame metal building. The building will be divided into several functional areas (pebble lime area, hydrated lime area, sodium cyanide area, caustic area, hydrochloric acid area, sodium metabisulphite area, copper sulphate area, and flocculant area) with equipment and independent steel structural platforms. The building will be serviced by a 7.5-tonne overhead crane. The building will have concrete slab-on-grade as flooring and will be supported on convention pad footings.

18.10.2.4 Reagent Storage Building (WBS 3700)

The reagent storage building will be located near the maintenance shop and storage building and will be used to store reagents. The building will be supported on reinforced concrete slab-on-grade.

18.10.2.5 Gold Room (WBS 3500)

The gold room will be a one-storey pre-engineered metal building. The building will house the equipment and platform for the electrowinning and refining circuit, as well as a bullion vault and safe. The building will be serviced by a 2-tonne monorail that runs along building length. The building will have concrete slab-on-grade as flooring and convention pad footings as a foundation.

18.10.2.6 Filtration Plant Building (WBS 3400)

The filtration plant building will be a one-storey pre-engineered rigid frame metal building. The building will house the tailings filter press for dewatering the slurry from the tailing stock tank. The filtered tailings will be discharged into the tailing cake stockpile via the tailings filter cake feeders. The building will have a 20-tonne overhead crane with 5-tonne auxiliary hook that runs along the building length. The building will have concrete slab-on-grade as flooring and convention pad footings as a foundation.

18.10.2.7 Tailing Cake Stockpile and Loadout Building (WBS 2800)

The tailing cake stockpile and loadout building will be a 47 m diameter (nominal) x 24 m high, hemisphere-shaped, inflatable structure on a concrete foundation. Electrical lighting, emergency lighting, and small electrical receptacles will be installed as per code. The building will have no heating, insulation, or a crane.

18.11 Off-Site Infrastructure

18.11.1 Main Access Road (WBS 4100)

A new access road is planned between site and the TransCanada Highway 117 to provide access to the security gate, as indicated in Figure 18-1.

18.11.2 High-Voltage Power Supply (WBS 2200)

Primary power will be supplied to the Val-d'Or East site by Hydro-Québec via a high-voltage overhead transmission line that terminates at the plant's outdoor substation. The tie-in point, as shown on Figure 18-1, will be from an existing line running parallel to Perron Road where it crosses with the CN railway line.

19 MARKET STUDIES AND CONTRACTS

It was assumed in this PEA and technical report that the Val-d'Or East Project will produce gold in the form of doré bars. The market for doré is well established and accessible to new producers. The doré bars will be refined in a certified North American refinery—of which there are many in the eastern United States and Canada—and the gold will be sold on the spot market.

19.1 Market Studies

No market studies have been conducted by Probe Metals or its consultants on the gold doré that will be produced at Val-d'Or East. Gold is a freely traded commodity on the world market for which there is a steady demand from numerous buyers. Gold production is expected to be sold on the spot market. Terms and conditions included as part of the sales contracts are expected to be typical for this commodity. Gold is bought and sold on many markets in the world, and it is not difficult to obtain a market price at any time. The gold market is very liquid with many buyers and sellers active at any given time.

19.2 Commodity Price Projections

As of September 17, 2021, the trailing three-year gold price was US$1,600/oz and the trailing three-year CAD:USD foreign exchange rate was 1.00:0.76. In addition, the average long-term consensus price forecast stands at US$1,599/oz. For this report, a conservative gold price of US$1,500/oz was assumed and a CAD:USD exchange rate of 1.00:0.75 was used. Refining and pricing assumptions are presented in Table 19-1.

Table 19-1: Refining and Pricing Assumptions

Assumptions	Unit	Value
Gold Payable	%	99.5%
Gold Refining Change (including Transportation Cost)	CAD/oz	$2.5
Gold Price	USD/oz	$1,500
Exchange Rate	CAD/USD	0.75

Source: Probe Metals, 2021.

19.3 Contracts

There are no existing refining agreements or sales contracts in place for the project that are relevant to this technical report.

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 Permitting Requirements

The construction, operation, and closure of a mine is subjected to a number of laws and regulation at three different levels: federal, provincial and municipal. The following sections give an overview of the regulatory environment for the project.

20.1.1 Federal Legislation and Regulations

Under the new *Impact Assessment Act* (IAA, 2019), only projects designated by the Regulations Designating Physical Activities (DORS/2019-285) are subjected to the environmental assessment procedure. Thus, an environmental assessment under the IAA is required for a project that involves the construction, operation, decommissioning, and abandonment of a new gold mine, other than a placer mine, with an ore production capacity of 5,000 t/d or more. This is the case for the Val-d'Or East project.

The federal process consists of five stages, starting with a project notice and ending with a decision from the federal authorities. The entire process may take up to several years and should be started as soon as enough project information is available.

Under the *Fisheries Act*, the Metal and Diamond Mining Effluent Regulations (MDMER) provide the framework for mining activities with regard to the protection of fish and fish habitats. The MDMER sets criteria for mining effluents.

Other regulations apply to mining activities. For example, the project must comply with the *Migratory Birds Convention Act*, *Explosives Act*, *Species at Risk Act*, and similar legislation.

20.1.2 Provincial Environment Quality Act

The opening and operation of a gold mine that has a production capacity of 2,000 t/d or more triggers an environmental impact assessment and review procedure under section 31.1 of the *Environment Quality Act* (EQA). If the ore production or treatment capacity of such a mine is less than 2,000 t/d, only a certificate of authorization (ministerial authorization) under section 22 of the *Environment Quality Act* must be obtained from the Ministère de l'environnement et de la lutte contre les changements climatiques (MELCC).

If the project capacity is less than 2,000 t/d, the permitting process requires public consultation organized by the promotor specified under the *Mining Act* and certificates of authorization (CA) from the minister, but no governmental decree. The project would not have to undergo an environmental and social impact assessment or the Bureau d'audiences publiques sur l'environnement (BAPE) process. Chapter 3 of the Directive 019 indicates the level of information required for such a scenario.

Because the environmental assessment process begins as soon as exploration activities take place at a site, a company must identify and know the stakeholders. It must first approach close stakeholders, such as the Band Council of the First Nation community where exploration activities are carried out and the mayor of the closest municipality. If there are any camp, cottages, or houses involved, the company should communicate with those land users to ensure they are informed about project activities. Moreover, the *Mining Act* regulates the communication activities required during exploration work. Once exploration activities are sufficiently advanced to publish a resource estimate, the company should continue to inform stakeholders about its activities and ensure that stakeholder concerns are taken into account, where appropriate.

Early in the process, it is recommended to start baseline studies to identify any fatal flaw or environmental issues like protected areas, species at risk, waterbodies, fish habitats, etc. The results of those studies will have to be considered to identify project alternatives. Also, studies of the physical and biological environments must be carried out to identify the sensitive elements of the receiving environment (e.g., sources of drinking water, major bodies of water, wetlands, ecological heritage, archeology, etc.).

Article 31.1 of the EQA will issue a ministerial decree. A number of authorizations will then be required to build and operate the mine. The Ministère de l'énergie et des ressources naturelles published a document that provides an exhaustive list of permits required (MERN, 2017).

20.1.3 Provincial Mining Act

The *Mining Act* provides a framework for the mining lease, closure plan, and financial guarantee. The mining lease is required to extract ore. To obtain the mining lease, a closure plan must be submitted to the Ministry of Energy and Natural Resources and approved.

20.2 Environmental and Social Studies

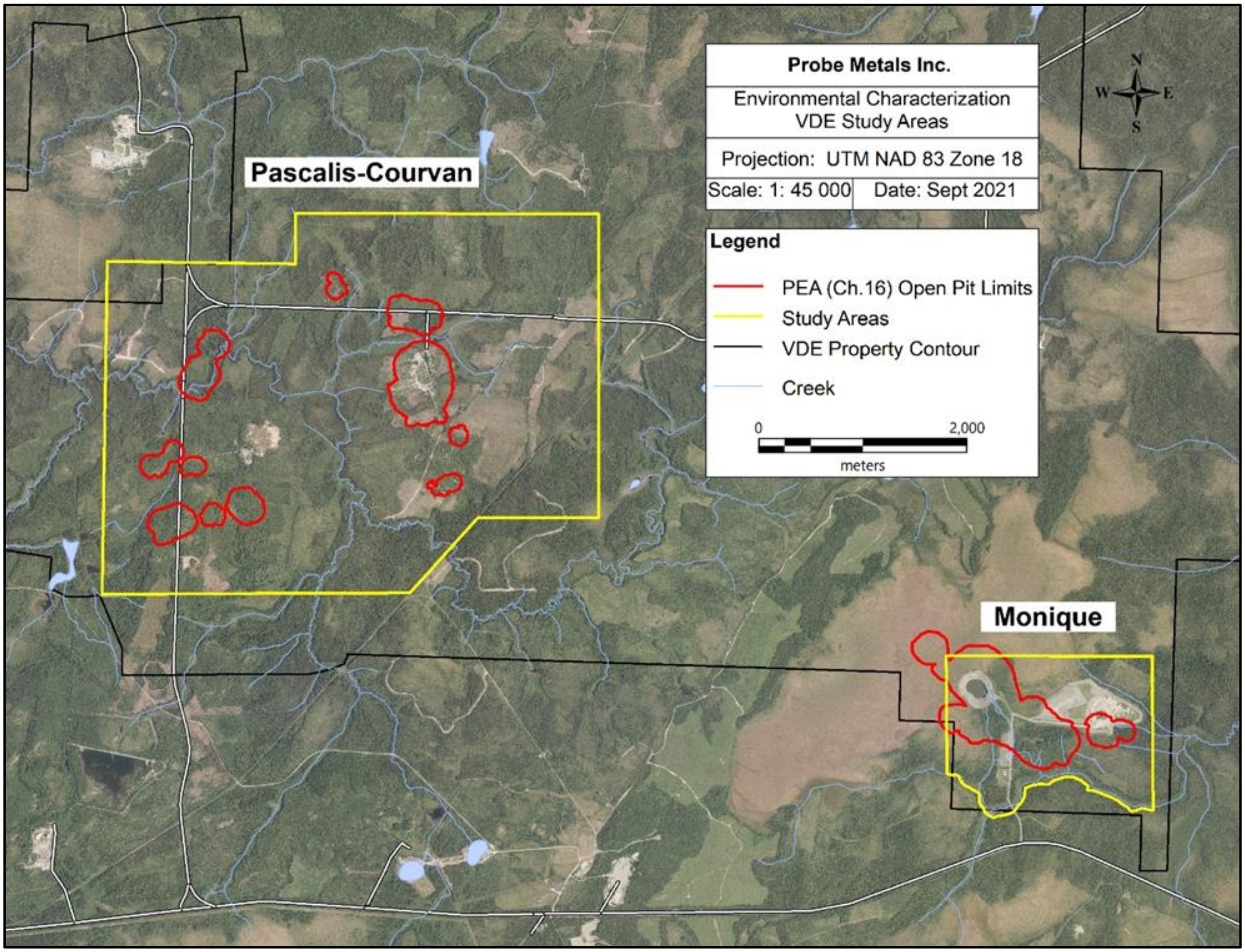
Since 2017, Probe Metals has initiated a series of environmental studies with SNC Lavalin to understand the environmental constraints on portions of the Pascalis and Courvan zones. The Pascalis-Courvan area was largely covered by the studies carried out in 2017, 2018 and 2020, for a total of 1533 ha (Figure 20-1). The actual report is also based on the observations and conclusions of the environmental study completed by Aecom for Richmont Mines in 2010 and 2011, which covered an area of 539 ha including the former Monique open pit mine and infrastructure (Aecom, 2011). In all cases, the permitting process would require an understanding of both the physical (surface water, groundwater, air, noise), biological (fauna and flora) and human environments and would include an evaluation of impacts with proposed mitigation measures.

20.2.1 Physical Environment

20.2.1.1 Topography and Geomorphology

The landscape consists of a vast plain with very few hills (Robitaille and Saucier, 1998). The study area is part of the Plaine de l'Abitibi ecological region, which is composed of glaciolacustrine plains that were put in place in lac Ojibway during the last glaciation (Blouin and Berger, 2002). As mentioned in Section 5, the topographic relief is generally flat. Elevation on Pascalis-Courvan area ranges from 315 to 355 m above sea level and from 323 to 337 m in the Monique area. Organic and glaciolacustrine deposits dominate the surface deposits in the vicinity of the study area. Overburden thickness varies from 0 to 50 m in both areas, and it consists mainly of sand, gravel and glacial moraine.

Figure 20-1: Pascalis-Courvan and Monique Environmental Study Areas



Source: Probe Metals, 2021.

20.2.1.2 Climate

The climate of the Val-d'Or area is continental subarctic and sub-humid (Robitaille and Saucier, 1998). The closest available weather station is in Val-d'Or, approximately 20 km from the study area. The annual average temperature is 1.2°C with a monthly average varying from 17.2°C in July to –17.2°C in January. Total annual precipitation for the area is 914 mm (635.2 mm of rainfall and 300.4 cm of snowfall) (Richelieu, 2020a). Climatological data from the Val-d'Or station between 1971 and 2000 are presented in Figure 20-2.

Figure 20-2: Climatological Data from the Val-d'Or Station between 1971 and 2000

Source: Richelieu, 2020a.

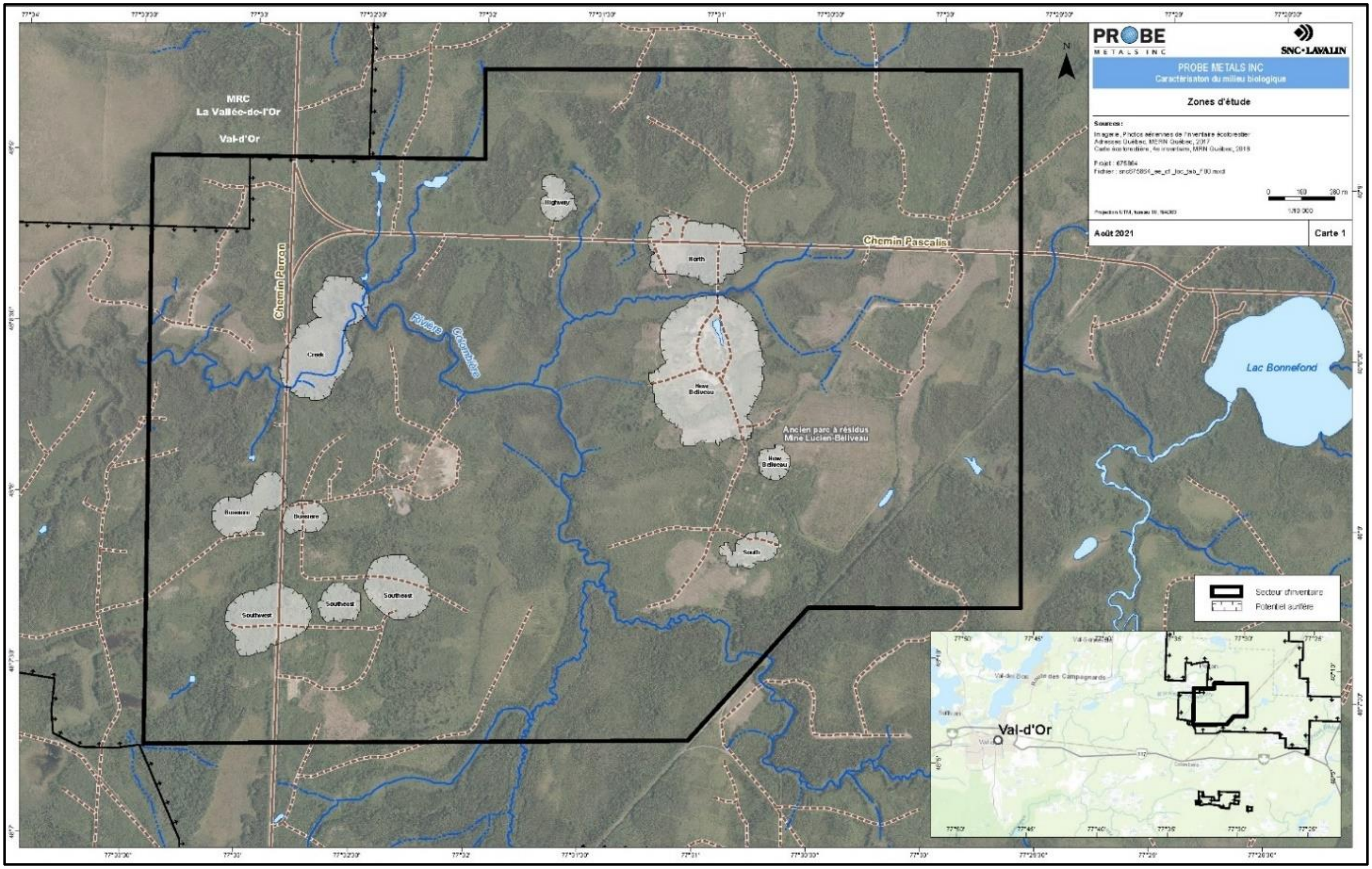
20.2.1.3 Hydrology

The Pascalis-Courvan study area (Figure 20-3) is drained by the Colombière Creek and a few of its tributaries (SNC-Lavalin, 2020a). It is part of the Bourlamaque River watershed, which covers 683 km^2 (MDDELCC, 2017). The Bourlamaque River watershed is itself located in the upper section of the Harricana River watershed, which ultimately empties into James Bay.

In the study area, surface water flows from east to west through a network of wetlands and small creeks to Colombière Lake located 8 km west of the study area (Richelieu, 2020a). There are no lakes in the study area, but beaver ponds are present along some watercourses. Most of the Colombière Creek tributaries are smaller creeks with shallow depth and a permanent or intermittent flow. Some watercourses seem to be of anthropogenic origin (past-operations ditches).

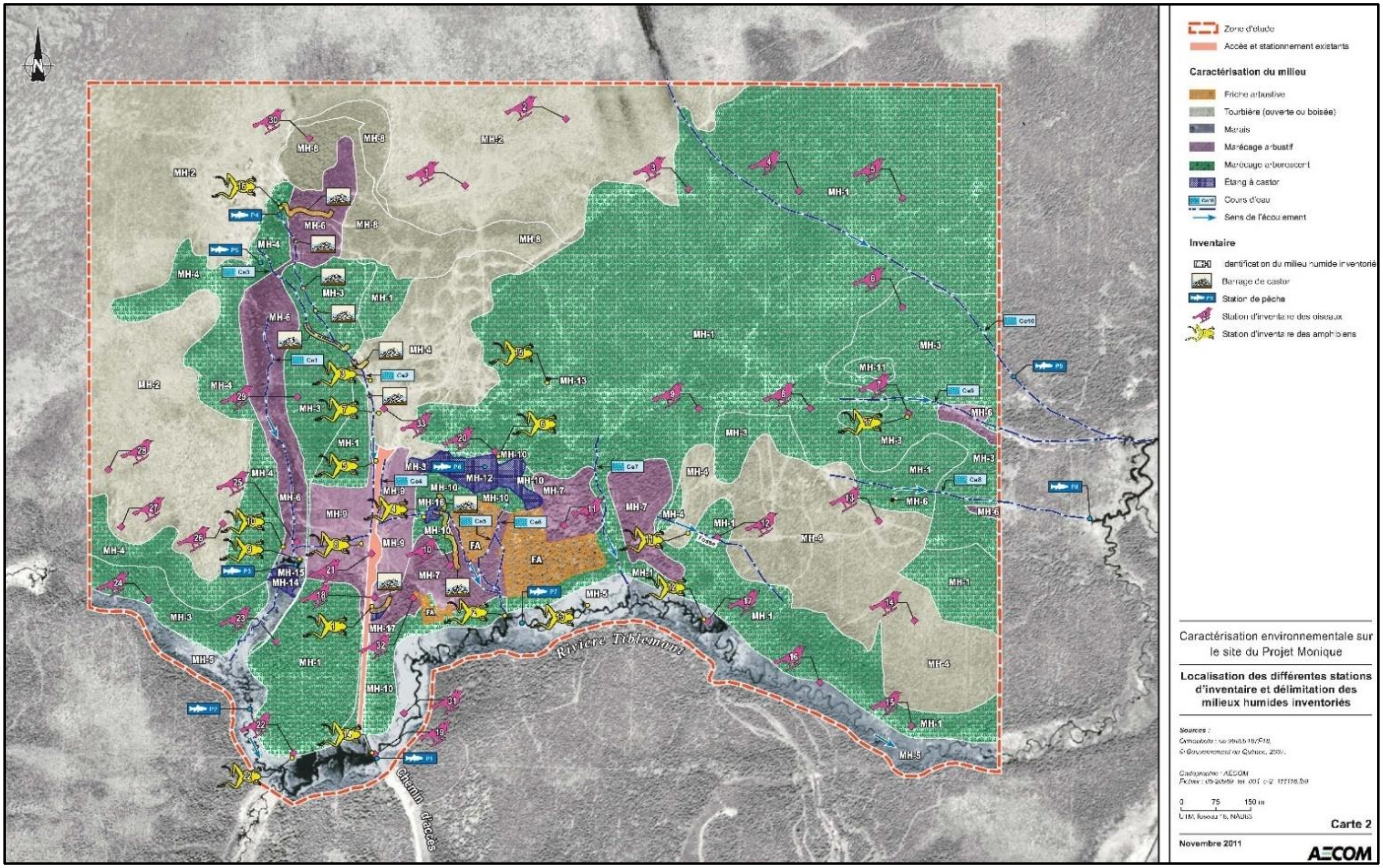
The Monique study area is drained on the surface by Tiblemont Creek, located south of the former Monique mine (Figure 20-4). Ten watercourses are present in the study area and are tributaries to Tiblemont Creek (AECOM, 2011). This creek is a tributary of Tiblemont Lake, which empties into James Bay by the Bell River (Richelieu, 2020b). According to the average of three hydrological stations located nearby the study area, the recurrence low flow rate of Tiblemont Creek for two years over seven consecutive days (Q2-7) is 175.7 L/s or 15,180 m^3/day. The peak flow or maximum flow of this watercourse is estimated at 49.3 m^3/s (Richelieu, 2020b). A peat bog (#830106) is inventoried in the study area (Buteau, 1989). All ponds found in the study area are due to beaver dams.

Figure 20-3: Val-d'Or East Study Area – Watercourses Characterization



Source: SNC-Lavalin, 2020a.

Figure 20-4: Watercourses Characterization, Vegetation, Wetlands and Inventories Stations



Source: Monique Area Study; AECOM, 2011.

20.2.1.4 Hydrogeology

A hydrogeological study was completed for the Pascalis-Courvan study area in 2018 and updated in 2020 by Richelieu Hydrogéologie Inc. (Richelieu, 2020a). In both 2018 and 2020, the hydrogeological study included piezometric surveys, permeability tests as well as groundwater sampling. For the study area, the groundwater flows towards Colombière Creek, except for a sector to the northeast and a small area to the southwest. The recharge areas are corresponding to the rock outcrops areas. Permeability tests demonstrate that the bedrock has low permeability with an average hydraulic conductivity of 1.8×10^{-4} cm/s (ranging from 2.4×10^{-5} to 1.4×10^{-3} cm/s).

A numeric model was developed using the Visual MODFLOW software to assess the groundwater inflow in the PEA conceptual open pits, as well as the resulting drawdowns. According to this model, the drawdown varies from 200 to 1000 m from the projected limits of the pits. The estimated rates of groundwater inflow in the pits are as follows:

- Courvan South Pit: 148 m^3/d
- Courvan Southeast Pit: 118 m^3/d
- Bussiere Creek Pit: 510 m^3/d
- Highway Pit: 132 m^3/d
- North Zone Pit: 175 m^3/d
- Beliveau Pit: 796 m^3/d.

A hydrogeological study was completed for the Monique study area in 2011 and updated in 2020 by Richelieu Hydrogéologie Inc. (Richelieu, 2020b). The 2011 study included drilling and trenching, installation of three observation wells (nests), piezometric surveys, permeability tests, and groundwater sampling. Monitoring was carried out from 2013 to 2020 to assess the effects of the Monique open pit on the water level and groundwater quality. It shows that the drawdown and the groundwater flow into the pit were slightly lower than the expected values in 2011. The rise of the water level that began at the end of 2017 was still not completed in 2020.

The hydrogeological model was updated in 2020 using Visual MODFLOW software to assess the groundwater inflow in the PEA conceptual pits (see Section 16) as well as the resulting drawdowns. According to this model, the drawdown varies from 500 to 1,500 m from the projected limits of the pits. The estimated rates of groundwater inflow in the pits are as follows:

- North Pit: 785 m^3/d
- South Pit: 900 m^3/d
- Southeast Pit: 1,545 m^3/d.

Thickness of the overburden materials varies from 4.5 to 52 m in the study area. Four hydrogeological units have been identified and permeability tests were done in each unit:

- AQUITARD of organic matter (peat bog): 0.5 to 2 m and hydraulic conductivity of 9.2×10^{-5} cm/s

- Aquitard of clayed silt: 3 to 8 m and average hydraulic conductivity of 7×10^{-4} cm/s (ranging from 2.7×10^{-4} to 3.1×10^{-3} cm/s)
- Aquifer of granular deposits composed at the base by sandy till and the top by silty sand: few metres to 25 m and hydraulic conductivity of 4×10^{-2} cm/s
- Bedrock: hydraulic conductivity ranging from 2×10^{-3} to 7×10^{-7} cm/s.

20.2.1.5 Water Quality

20.2.1.5.1 Surface Water

Surface water was sampled in 2017, 2018, and 2020 to determine the surface water quality in watercourses of the Pascalis-Courvan study area (SNC-Lavalin, 2020a). Analyzed parameters include those recommended by the MDDELCC (2015), as well as cyanide and mercury, which were added due to the mining history on the site. The results were compared to the provincial criteria for surface water and the Canadian Council of Ministers of the Environment's (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life at the federal level.

The surface water of the study area can be described as clear, with a pH near-neutral, poor in nutrients, slightly mineralized and with a good buffering capacity. Concentrations of most of the major ions, except for calcium, were low in all sampling campaigns. The surface water sampled is unlikely to eutrophication. Fecal coliforms were detected at all stations and could be explained by the presence of beavers. There were no issues identified that would likely have an impact on resource extraction and project development.

Surface water quality in watercourses of the Monique study area (AECOM, 2011) was characterized during the fish inventory in October 2010. Dissolved oxygen was higher than the MDDEP (2011) and the CCME (2011) recommendations. Conductivity was low (below 31 µS/cm) and the pH was slightly acidic (3.35 to 4.58). These acidic pH measurements are explained by the fact that all watercourses in the study area are fed by the peatbog. A peatbog is typically characterized by an acidic pH.

20.2.1.5.2 Groundwater

Groundwater was sampled in 2018 and 2020 for the Pascalis-Courvan study area (Richelieu, 2020a). In general, groundwater is of the calcium bicarbonate type. The pH is slightly basic, and groundwater is poorly mineralized. Some exceedances of the drinking water criteria were observed for manganese and sulphides.

For the Monique study area, groundwater was sampled from 2011 through 2020. Samples were also taken in the peat bog in 2011. Before operations of the Monique open pit, groundwater has a slightly basic pH and water in the peat bog has an acidic pH. Conductivity and total dissolved solids (TDS) indicate that groundwater is more mineralized than peatland water. High concentrations in iron, above the Directive 019 criterion, were observed in the groundwater. Monitoring during the years following the operations demonstrates that the groundwater quality around the pit did not change.

20.2.2 Biological Environment

An initial environmental baseline study was undertaken on a portion of the Pascalis-Courvan area by SNC Lavalin in 2017. In 2018, the study area was enlarged to include the area of Colombière creek, and it was enlarged again in 2020 to include the Courvan gold trend. The Monique area was covered by an environmental study in 2010 and 2011 (AECOM, 2011). The studies reviewed available information across several disciplines, including geology and soils, hydrology, flora, and fauna. It also included site visits and characterization by SNC Lavalin during June to September 2017, in June 2018, and in August 2020.

20.2.2.1 Vegetation and Wetlands

The Pascalis-Courvan study area is partly covered by wetlands (Figure 20-5). Out of a total of 1,533 ha in the study area, the wetlands occupy an area of approximately 603 ha. Wetland types encountered include bogs, fens, shrub swamps and marshes. Wetland characterization was also conducted in 2017, 2018 and 2020 (SNC-Lavalin, 2020b). Characterization stations were placed in most of the wetlands located in the study area. Wetland characterization and delineation were performed following MDDELCC's guidelines (Bazoge et al., 2014).

Almost all the Monique study area is covered by a complex of wetlands (Figure 20-4) that include bogs, tree swamps, shrub swamps, and marches. This wetland extends to the north of the study area and the total area is 3,090 ha. It was assessed with high environmental importance because of vegetation species representativity and because it is the origin of a number of watercourses.

No special status plant species or their potential habitats were observed in the study areas except for the gemini scapes grasshopper (*Utricularia geminiscapa*) in some watercourses of the Monique study area.

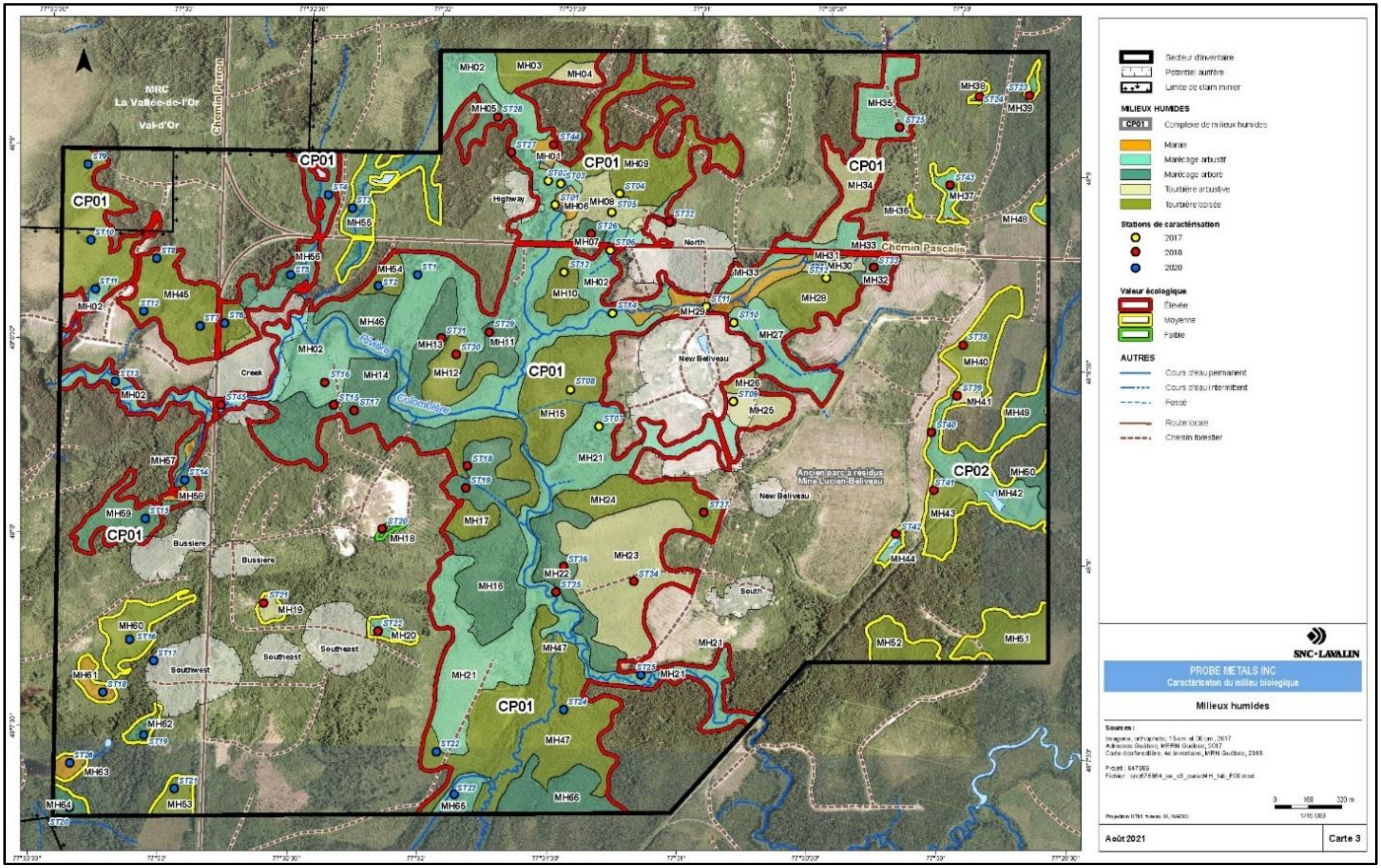
The project will have an impact on wetlands and bodies of water. In accordance with the regulation for compensation for adverse effects on wetlands and bodies of water, costs have been estimated and considered in this PEA. For Pascalis-Courvan, cost estimates were based on the areas of wetland impacted by project infrastructure. All of the Monique project area is considered wetlands, except for the pre-existing infrastructure of the former Monique open pit mine (stockpile, waste rock, and overburden storage zones).

20.2.2.2 Fish and Fish Habitat

A biophysical characterization (potential fish habitat) of 16 watercourses in the Pascalis-Courvan study area was conducted in 2017, 2018 and 2020 (SNC-Lavalin, 2020a), using the homogeneous segment and point characterization methods, and experimental fisheries (electrofishing and bait trap). This characterization was conducted in 2010 and 2011 by AECOM (2011) for the watercourses in the Monique study area. Watercourses in the Pascalis-Courvan study area generally present potential fish habitat of low quality, particularly due to unfavorable physicochemical conditions and poor shelter availability. Potential fish habitats of a better quality are provided in Colombière Creek and some segments of the CE-01 watercourse (Figure 20-6). For the Monique study area, the acidic water from the peatbog adjacent to the watercourses does not allow the survival of the salmonids. The fish habitat is low due to most of it is made up of beaver ponds.

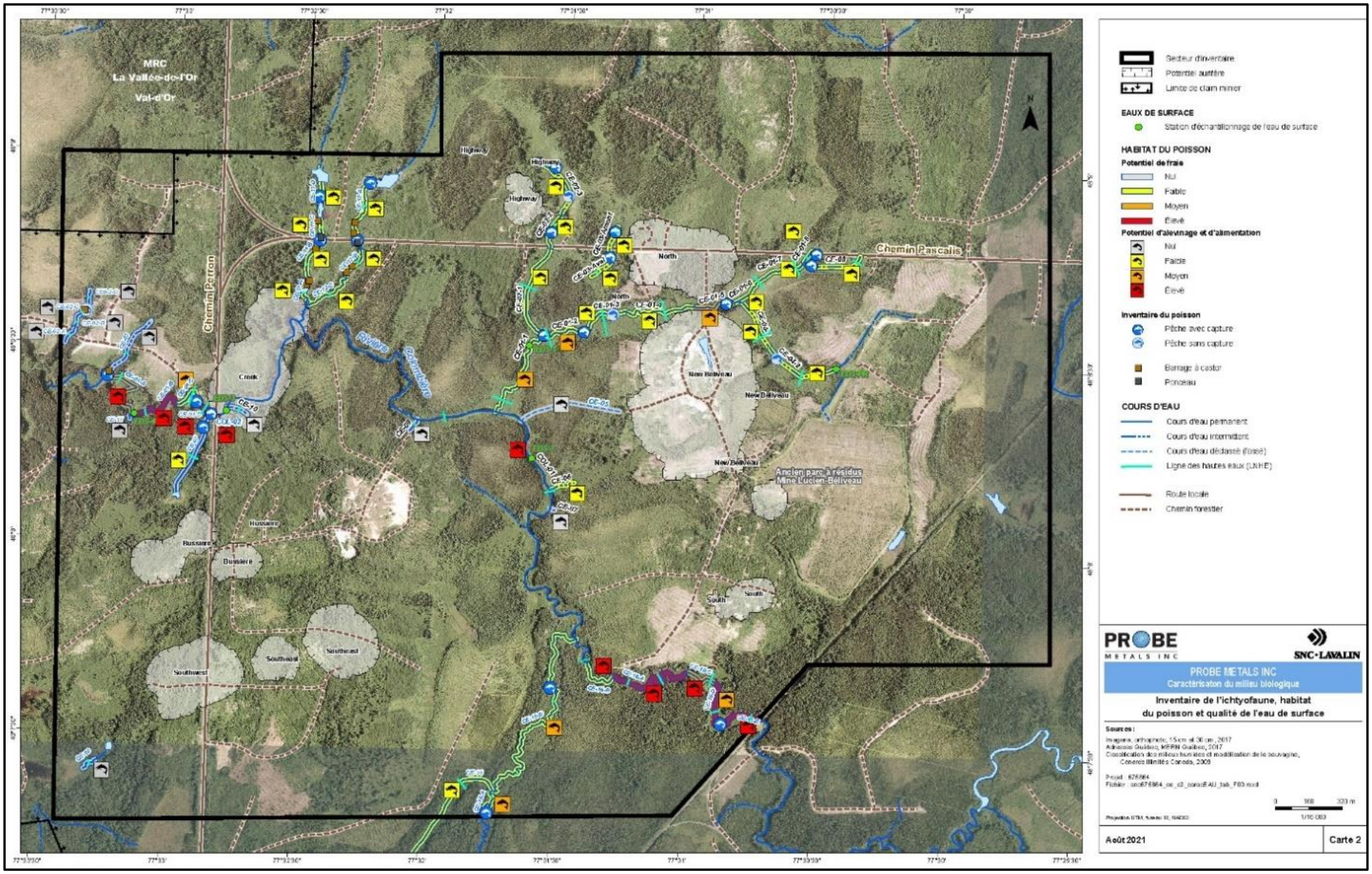
The survey confirmed the presence of 14 fish species in the Pascalis-Courvan study area. These species are brook stickleback (*Culaea inconstans*), perch (*Perca flavescens*), white sucker (*Catostomus commersonii*), mottled sculpin (*Cottus bairdii*), lake chub (*Couesius plumbeus*), common logperch (*Percina caprodes*), brown bullhead (*Ameiurus nebulosus*), golden shiner (*Notemigonus crysoleucas*), longnose dace (*Rhinichthys cataractae*), burbot (*Lota lota*), northern redbelly dace (*Chrosomus eos*), fathead minnow (*Pimephales promelas*), pearl dace (*Margariscus margarita*) and *Catostomidae* species. No special status species was observed in the study area. According to the MFFP (2017), Colombière Creek harbours at least 14 common fish species, including the walleye (*Sander vitreus*), northern pike (*Esox lucius*) and perch (*Perca flavescens*), which are species of fishing interest. The survey in the Monique area confirmed the presence of four fish species: brook stickleback (*Culaea inconstans*), pearl dace (*Margariscus margarita*), brown bullhead (*Ameiurus nebulosus*) and finescale dace (*Phoxinus neogaeus*).

Figure 20-5: Vegetation and Wetlands of the Pascalis-Courvan Area



Source: SNC-Lavalin, 2021.

Figure 20-6: Fish Habitats of the Pascalis-Courvan Area



Source: SNC-Lavalin, 2021.

Watercourses where fish presence was confirmed and other watercourses with potential fish habitat are considered to be fish habitat (i.e., a regulated wildlife habitat). These habitats benefit from a legal status of protection under the Regulation Respecting Wildlife Habitats at the provincial level and under the *Fisheries Act* at the federal level. Authorizations will be necessary in compliance with legislation if these habitats are affected by the project.

20.2.2.3 Wildlife

The Monique environmental study also included wildlife species inventories (amphibian, avifauna, and large mammals). Listening stations and visual observation in the field were completed in 2011 by AECOM. The presence of three anurans species were identified: the cruciferous tree frog, the green frog and the northern frog. For avifauna, 36 species were identified: 27 species of passerines, 4 species of Anatidae, 3 species of waders, 1 species of galliforme, and 1 species of bird of prey. No direct observation of large mammals has been carried out during inventory, but signs of presence of the following species were noted: bear, moose, fox, hare, wolf and marten. No species of threatened, vulnerable or likely to be designated status has been identified during the inventories.

20.2.2.4 Endangered Wildlife

The core area of the woodland caribou (Val-d'Or population) range is located just south of the study area (i.e., south of Highway 117) (MRN, 2013). This small declining population is isolated from the rest of this ecotype's range. The woodland caribou is designated "vulnerable" in Québec under the *Act Respecting Threatened or Vulnerable Species*. A provincial recovery plan of the Québec woodland caribou, covering 2013 to 2023, was published in 2013 (Équipe de rétablissement du caribou forestier, 2013). A specific development plan for the Val-d'Or population was also produced in 2013 for the 2013 to 2018 period (MRN, 2013). The MFFP announced in February 2020 the implementation of exceptional measures to protect the population of Val-d'Or, including the extension of the moratorium on logging in the caribou wildlife habitat and the temporary enclosure of the caribou of the Val-d'Or population to ensure their survival by protecting them from their predators (MFFP, 2020).

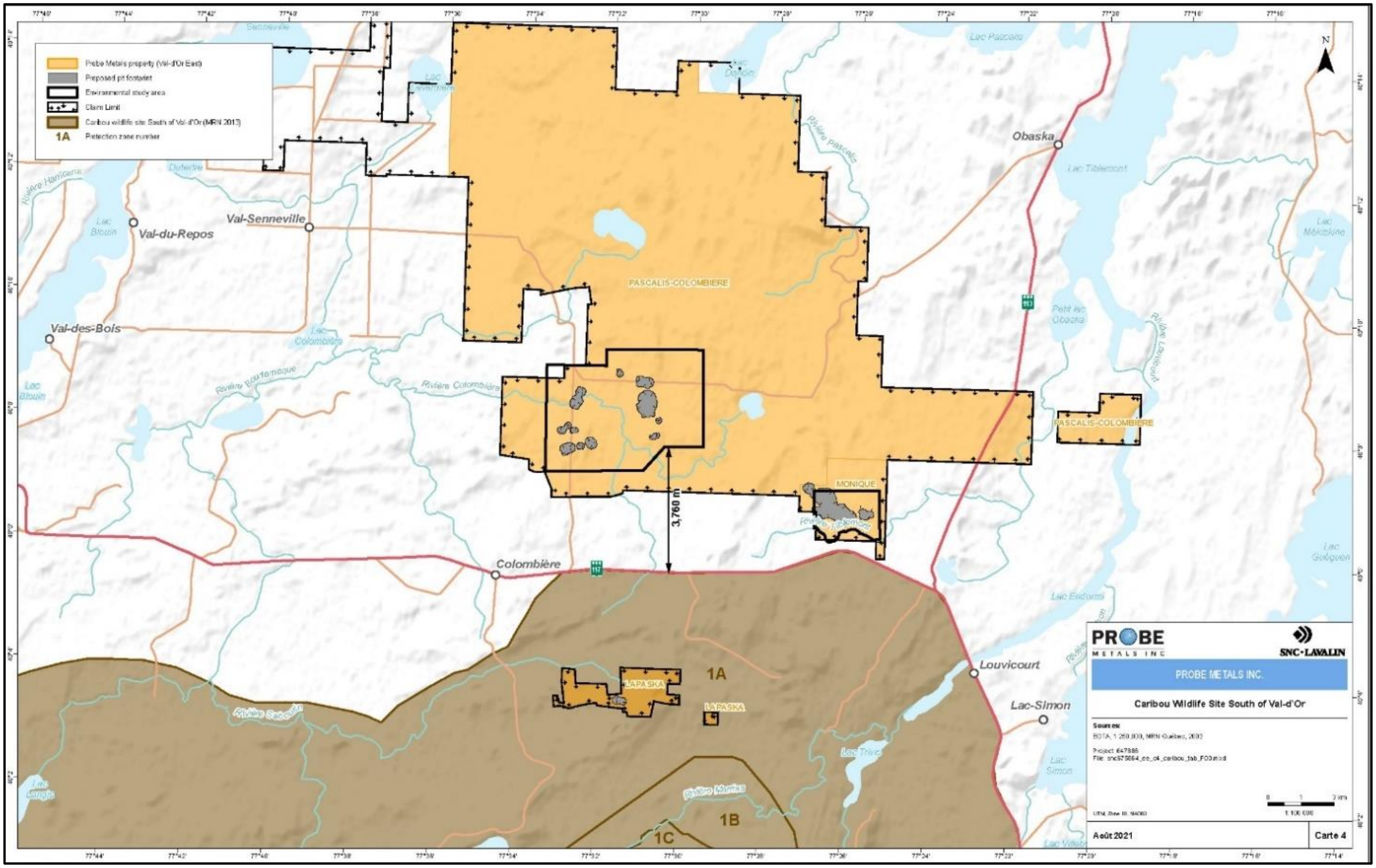
The Pascalis-Courvan and Monique study areas are located just outside the area covered by this plan (the site faunique du caribou au sud de Val-d'Or) (Figure 20-7). There are no legal wildlife habitats within the meaning of the Regulations Respecting Wildlife Habitats in the study areas. The Lapaska deposit is the only zone of the Val-d'Or East project located within the woodland caribou protected area. No environmental studies have been conducted yet on the Lapaska area. At the federal level, the woodland caribou (Boreal population) is listed as "threatened" in Schedule 1 of the *Species at Risk Act*. A National Recovery Strategy was published in 2012 (Environment Canada, 2012).

20.2.3 Social Environment

The Val-d'Or East study area has few inhabitants inhabited. There are several gold mines and mining exploration activities, as well as forestry activities in the area. The study area is approximately 3 km from Perron (a hamlet previously known as Pascalis), and within 15 km of Louvicourt and Obaska. There are a few cottages on the north shore of Bonnefond Lake, approximately 1.3 km east of the Pascalis-Courvan study area. In addition, several people have hunting camps and surface rights in the study area and its surroundings. The closest agricultural area is ~4.5 km northwest of the study area.

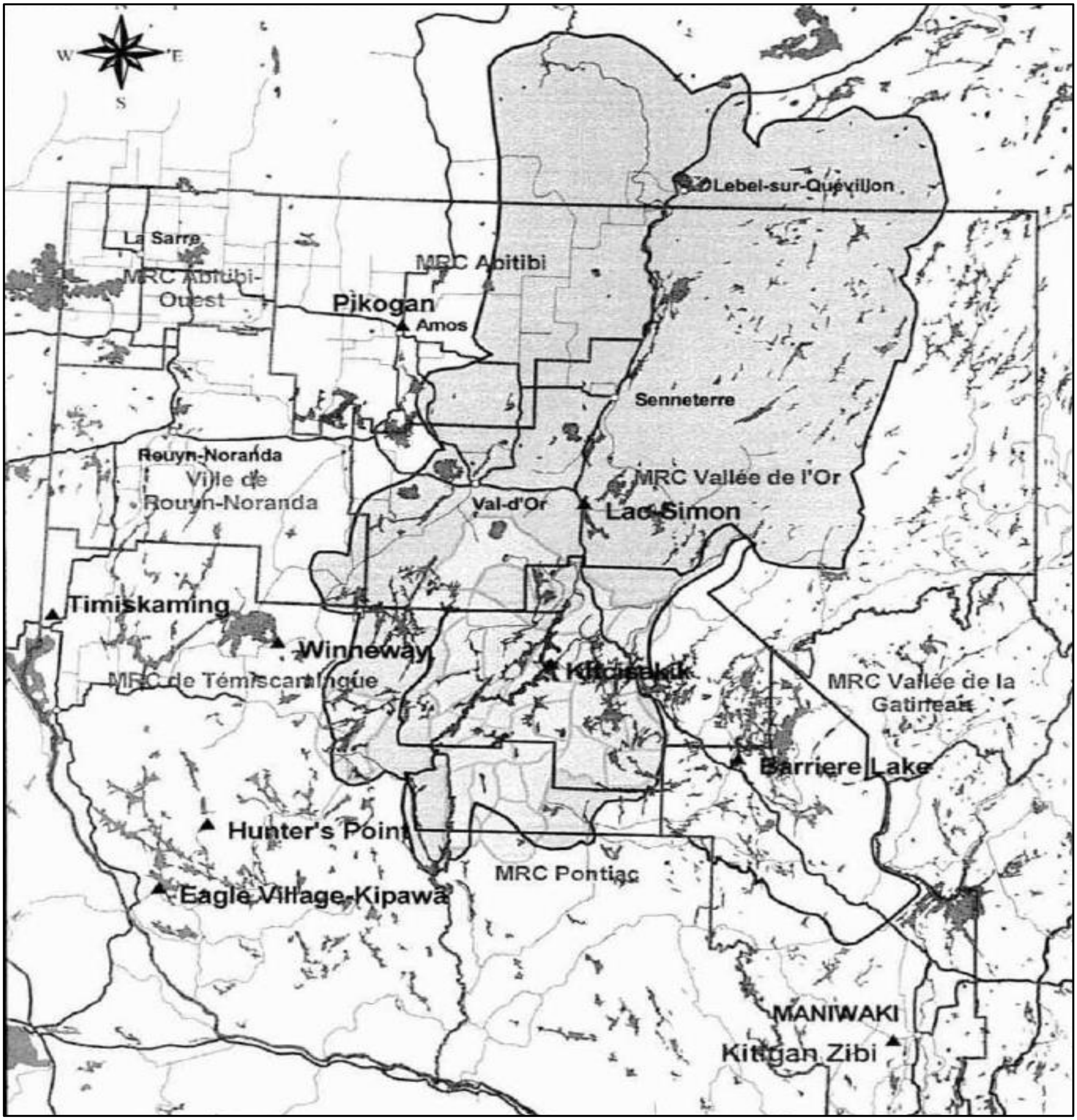
The ancestral land of the Algonquin Anishinabeg Nation of Lac-Simon, whose community is located approximately 15 km southeast of the study area, overlaps the study area (Figure 20-8). The Algonquin Anishinabeg Nation, to which the Lac-Simon community belongs, presented a Comprehensive Land Claim in 2010 for the Nitakinan (i.e., their ancestral land) (Government of Canada, 2017b). This land claim was not accepted for review or negotiation by the Canadian Government. The study area is located on the Nitakinan.

Figure 20-7: Wildlife Site of Woodland Caribou



Source: SNC-Lavalin, 2021.

Figure 20-8: Ancestral Territory of the Algonquin Anishinabeg Nation of Lac-Simon



Source: Conseil de la Nation Anishnabe du Lac Simon, 2009.

20.3 Social or Community Requirements

Consultations and information with stakeholders about the project should include a range of stakeholders: municipal and political organizations, economic actors, environmental groups, nearby cottagers and homeowners, and the Algonquin Anishinabeg Nation of Lac-Simon.

As part of their exploration programs, Probe Metals has started to consult with and inform some of the stakeholders, including the Algonquin Anishinabeg Nation of Lac-Simon and nearby cottagers and homeowners.

20.4 Waste Rock, Ore and Tailings Characterization

Geochemical characterizations of waste rock and ore from the Pascalis, Courvan and Monique gold trends were carried out in 2017 (Lamont, 2017) and 2020 (Lamont, 2020a; 2020b, 2020c) with the objective of evaluating how to store waste rock and tailings to ensure the protection of surface water and groundwater. Geochemical characterization was also performed on Pascalis waste (rejects) produced by the ore sorting testwork (Lamont, 2021).

The following assays were carried out:

- total sulphur and total carbon by LECO
- acid-base accounting (Sobek, 1978 modified by Lawrence (MEND, 1991))
- trace metals (protocol MA.200 Met 1.2 (CEAEQ, 2014))
- toxicity characteristic leaching procedure or "TCLP" (protocol MA.100 Lix.com.1.1 (CEAEQ, 2012))
- synthetic precipitation leaching procedure or "SPLP" (protocol MA.100 Lix.com.1.1 (CEAEQ, 2012))
- CTEU-9 leaching procedure (protocol MA.100 Lix.com.1.1 (CEAEQ, 2012)).

Table 20-1 summarizes the characterization program and includes the number of samples and laboratories where the assays were achieved.

Table 20-1: Geochemical Characterization Programs

Study	Number of Samples			Assays						Laboratory
	Waste Rock	Ore	Tailings or Rejects	Total Sulphur & Total Carbon	Acid-Base Accounting	Trace Metals	TCLP	SPLP	CTEU-9	
Pascalis (Lamont, 2017; Lamont, 2020a)	50	22	-	72	47	47	30	30	-	Techni-Lab (ActLabs)
Pascalis (Lamont, 2021)	-	-	8	8	8	8	4	4	4	SGS Lakefield
Courvan (Lamont, 2020b)	92	15	-	107	107	107	61	61	61	AGAT Laboratories
Monique (Lamont, 2020c)	81	19	-	100	100	100	89	89	89	AGAT Laboratories

Source: Lamont, 2021.

20.4.1 Waste Rock, Ore and Tailings Characterization

For the characterization program of the Pascalis project, 72 samples were taken from the three deposits: New Beliveau, Highway and the North Zone. The geochemical characterization tests were used to evaluate the potential of the samples to generate acidity. According to the modified acid-base accounting test and the criteria of the MELCC Guide (2020) applicable in Québec, the results demonstrate that all waste rocks and ores will be non-acidogenic. The results show that only two waste rock samples (gabbro) from the Highway deposit and two ore samples (one gabbro from the Highway deposit and one agglomerate from the New Beliveau deposit) would be potentially acidogenic. All the other samples show a total sulphur concentration of less than 0.04% (first criterion of the guide) or a sufficiently high neutralization potential (second criterion of the guide). According to Price's criterion (MEND, 2009), largely used elsewhere in Canada, only the two ore samples would be potentially acidogenic. However, sulphur and carbon analyses showed that these are extreme values in the data distribution and are not representative of the whole waste rock nor the whole ore. Thus, according to the information currently available, the overall waste rocks and ores can be considered as non-potentially acid-generating.

Laboratory tests were also used to evaluate the metal leaching potential. According to the criteria of the Québec MELCC Guide (2020) based on metal analysis and leaching tests, it is appropriate to use the results of the SPLP test rather than those obtained during the TCLP test since the latter is under strongly acidic pH conditions and the samples are not considered to be acidogenic. Waste rock samples with metal concentrations exceeding criterion A did not exceed the water quality criterion (RES) during SPLP leaching tests. Only one exceedance for mercury in a gabbro ore sample from the Highway deposit was observed on the SPLP test. No other exceedances were noted during the SPLP test for the ore samples. No exceedance of the criterion for high-risk residues was observed in the TCLP and SPLP tests. Based on the information currently available, the overall waste rocks and ores are considered non-leachable.

From the geochemical characterization results, it was shown at Pascalis that the total sulphur analyzes are representative of sulphides and therefore of the acidity potential; and that the total carbon analyzes are representative of carbonates and therefore of the neutralization potential. Correlations were studied with other elements analyzed as part of the lithogeochemical program. Correlations were found between total carbon and loss on ignition (LOI), as well as between total sulphur analyzed with LECO and ICP assays. The lithogeochemical database, containing more than 1814 analyzes, was therefore used to estimate the acid generation potential of these samples. With more than 358 samples in the 2019 conceptual pits, the interpretation of these data complements the information obtained during the environmental geochemical characterization. The data currently available show that all the waste rock and ores from the Pascalis project are non-acidogenic.

20.4.2 New Beliveau (Pascalis) – Ore Sorting Waste Rocks

Geochemical characterization program was accomplished on eight samples of waste rocks produced from the ore sorting testwork performed on New Beliveau ore samples. According to the criteria of the Québec MELCC Guide (2020), the waste rock samples are all considered as non-potentially acid-generating and non-potentially metal leachable. Trace metals results show that manganese concentrations are equal to the criterion A (background level) for five of the eight samples. Metals mobility was evaluated by the leaching and no exceedance of the water quality criterion (RES) was detected for manganese. Waste rock resulting from the ore sorting can therefore be classified as "low risk" according to the criteria of the MELCC Guide (2020). In addition, based on currently available data, waste rock is classified as Category I material (unrestricted use) following the evaluation of the valorization of inorganic residual materials as a construction material (MENV, 2002).

20.4.3 Courvan Gold Trend – Waste Rock and Ore

For this characterization program of the Courvan project, 107 samples (92 waste rock and 15 ore) were taken from the footprint of the Bussiere-Creek and Southwest pits. Geochemical characterization tests were used to evaluate the acid generation potential of the samples. According to the criteria of the MELCC Characterization Guide (2020) applicable in Québec, the results show that five ore samples out of a total of 15 are potentially acidogenic, as well as two waste rock samples out of a total of 92. According to Price's criterion (MEND, 2009), largely used elsewhere in Canada, only one of these samples would be potentially acidogenic and four would be in the uncertainty zone. The other samples (102) are all non-acidogenic. Based on the information currently available, it can be considered that the overall waste rock will not be potentially acid generating. As for the ore, most of the samples are non-acidogenic but further testing might be required. Additional tests could be performed to provide more information on the long-term acid potential and depletion rates of neutralizing versus acid-generating minerals. Mitigation measures might also be taken to control acid generation, if necessary, during the temporary storage of ore on the site.

Laboratory tests were completed to evaluate the leaching potential. Only one waste rock sample and one ore sample are considered potentially leachable in copper following the SPLP test (for the waste rock sample) or the CTEU-9 test (for the ore sample). It can be considered that the overall waste rocks and ore will not be potentially leachable based on the information currently available. No exceedance of the criteria for high-risk residues was observed for the leaching tests.

20.4.4 Monique Gold Trend – Waste Rock and Ore

For the characterization program of the Monique project, 100 samples (81 waste rock and 19 ore) were taken from the footprint of the pits.

Geochemical characterization tests were used to determine the acid generation potential of the samples. According to the criteria of the MELCC Characterization Guide (2020) applicable in Québec, the results obtained show that four ore samples out of a total 19 are potentially acidogenic, as well as two waste rock samples out of a total of 89. According to Price's criterion (MEND, 2009), largely used elsewhere in Canada, only one of these samples would be potentially acidogenic and five would be in the uncertainty zone. The other samples are all non-acidogenic. Based on the information currently available, it can be considered that the overall waste rock and ore will not be potentially acid generating.

Laboratory tests were completed to evaluate the leaching potential. Only one waste rock sample and one ore sample are considered potentially leachable in copper following the SPLP test (for the waste rock sample) or the CTEU-9 test (for the ore sample). Only one waste rock sample is potentially leachable in barium following the CTEU-9, and a one ore sample is potentially leachable in silver following the CTEU-9. There was therefore no exceedance for 99% of the waste rock, and no exceedance for 88% of the ore. The exceedances are very close to the comparison criteria. It can be considered that the overall waste rock and ore will not be potentially leachable based on the information currently available. No exceedance of the criteria for high-risk residues was observed for the leaching tests.

20.5 Mine Closure and Reclamation Plan

A rehabilitation and closure plan is a requirement under the provincial Mining Act (Loi sur les mines, L.R.Q., chapter M-13.1, article 232.6). It must be approved before the mining lease is issued, and a financial guarantee to fully implement the plan must be provided in three payments in the first two years following the approval of the plan.

Progressive reclamation would be encouraged during the mining operation and will involve activities to reclaim, where possible, some parts of the waste rock piles and the tailings ponds, exhausted borrow pits, etc.

Rehabilitation would involve all activities after mining operations in accordance with the approved plan. Finally, monitoring would ensure that rehabilitation has been done successfully. Once all these steps are completed to the satisfaction of the MERN, the land could be returned to the province.

20.6 Site Selection for the Dry Stack Tailings Facility

The proposed location of the DSTF has been determined considering a number of criteria, as listed below:

- proximity of the plant
- distance from cottages (lac Bonnefond)
- quality of the ground (overburden, rock, sediment)
- presence of wetlands
- presence of fish habitat
- expansion capacity
- location of waterbodies.

Considering the first criteria, the site northeast of the potential Beliveau pit offers the best solution. This site has the capacity to store 12.5 years of tailings, and no major waterbody would be affected. As the site has some wetlands areas, compensation would be required.

21 CAPITAL AND OPERATING COSTS

21.1 Introduction

The capital and operating cost estimates presented in this PEA provide substantiated costs that can be used to assess the preliminary economics of the Val-d'Or East project. The estimates are based on an open pit and underground mining operation, as well as the construction of a process plant, associated dry tailings storage and management facility, and infrastructure, as well as Owner's costs and provisions. The processing plant nameplate capacity is 10,000 t/d (3.7 Mt/a), with a life of mine of 12.5 years.

All capital and operating cost estimates are reported in Canadian dollars (C$ or CAD), with no allowance for escalation or exchange rate fluctuations. An exchange rate of 0.75 (CAD:USD) has been applied as necessary.

The capital cost estimate conforms to Class 5 guidelines for a preliminary economic assessment level estimate with a ±50% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International). The capital cost estimate was developed in Q3 2021 Canadian dollars based on Ausenco's in-house database of projects and studies as well as experience from similar operations.

21.2 Capital Costs

The total initial capital cost for the Val-d'Or East Project is C$353 million and the life-of-mine sustaining cost is C$602 million. Closure costs are estimated at C$30 million. The initial capital cost summary is presented in Table 21-1.

Table 21-1: Initial Capital Costs

WBS	WBS Description	Initial Capital Cost (C$M)	Sustaining Capital Cost (C$M)
1000	Mining	71.6	489.7
2000	On-site Infrastructure	50.0	26.9
3000	Process Plant	129.4	36.3
4000	Off-site Infrastructure	4.2	0.0
	Total Directs	255.2	552.9
5000	Project Indirects	9.1	2.8
6000	Project Delivery	31.2	7.9
7000	Owner's Costs	11.4	0.0
8000	Provisions	45.6	38.0
	Total Indirects	97.3	48.7
	Project Total	**352.6**	**601.6**

Source: Ausenco, 2021

21.2.1 Capital Cost Estimate Responsibilities

The capital cost estimate was developed in accordance with the responsibility breakdown presented in Table 21-2.

Table 21-2: Capital Cost Estimate Responsibilities by WBS

WBS	Description	Probe Metals	Ausenco	MMTS
1000	**Mining**			
1100	Pascalis Trends Deposits			Y
1200	Courvan Trends Deposits			Y
1300	Monique Trends Deposits			Y
1400	Lapaska Trends Deposits			Y
1500	Sleepy Trends Deposits – Not used			Y
1600	Mine Site Layout		Y	
1700	Stockpiling		Y	
1800	Mining Infrastructure		Y	
1900	Ore Sorting		Y	
2000	**On-site Infrastructure**			
2100	Bulk Earthworks		Y	
2200	Power Supply	Y	Y	
2300	Fuel Storage		Y	
2400	Warehousing, Office and Workshops		Y	
2600	Site Water Services		Y	
2700	Site Water Management		Y	
2800	Dry Tailings Storage and Management Facilities		Y	
2900	Polishing Pond		Y	
3000	**Process Plant**			
3100	Primary Crushing & Ore Sorting		Y	
3200	Grinding		Y	
3300	Gravity gold		Y	
3400	Gravity Tails / Leach Absorption		Y	
3500	Elution / Carbon Regen / Gold Room		Y	
3600	Cyanide Detoxification / Tailings Disposal		Y	
3700	Tailings Filtration		Y	
3800	Plant Services		Y	
3900	Reagents Offloading and Storage		Y	
4000	**Off-Site Infrastructure**			
4100	Main Access Road		Y	
4200	High-Voltage Power Supply		Y	
5000	**Project Indirects**			
5100	Temporary Construction Facilities and Services		Y	
5200	Commissioning Reps and Assistance		Y	
5300	Spares (Commissioning, Initial and Insurance)		Y	
5400	First Fills and Initial Charges		Y	
5500	Freight and Logistics		Y	
6000	**Project Delivery**			
6100	Engineering and Construction Management Services		Y	
6200	Environment Services and Permitting		Y	
6300	Commissioning Services		Y	
7000	**Owner's Cost**			
7100	Project Staffing and Expenses	Y	Y	
7200	Pre-production Labour	Y	Y	
7300	Home Office Project Management	Y	Y	
7400	Home Office Financial, Legal, Insurance	Y	Y	
8000	**Provisions**			
8100	Contingency		Y	

Source: Ausenco, 2021.

21.2.2 Basis of Estimate

The capital cost estimate was developed in Q3 2021 Canadian dollars based on Ausenco's in-house database of projects and studies as well as experience from similar operations. Due to the methodology used to develop the capital estimate and the conceptual level of engineering definition, the estimate has an accuracy of ±50%, which is in accordance with the Association for the Advancement of Cost Engineering International (AACE International) guidelines for a PEA study.

Data input for the estimates has been obtained from numerous sources, including the following:

- mining schedule
- conceptual engineering design by Ausenco and MMTS
- mechanical equipment costs determined internally from benchmarking against similar projects for the eastern Canada region
- civil, concrete, steel, electrical, earthworks and mechanical works that been benchmarked against similar projects with the equivalent technologies and unit operations
- topographical information considered
- engineering design at a pre-economic assessment level.

21.2.2.1 Direct Costs – Mining (WBS 1000)

Mining direct capital cost consists of the capital required for pit development as well as associated infrastructure. A breakdown of this cost is shown in Table 21-3 and Table 21-6.

21.2.2.1.1 Mining Capital

Mine capital costs have been derived from MMTS' database based on similar projects located in Northern Québec. These estimates are expressed in Q3 2021 Canadian dollars, with no allowance for escalation or exchange rate fluctuations. The assessed accuracy of the estimates is ±50%.

Table 21-3: Mining Capital Cost Breakdown

WBS	WBS Description	Initial Cost (C$M)	Sustaining Cost (C$M)	Total Cost (C$M)
1000	Open Pit and Underground	61.4	484.0	545.4
	Total Mining Cost	**61.4**	**484.0**	**545.4**

Source: Ausenco, 2021

Pre-production mine operating costs (i.e., all mine operating costs incurred before mill start-up) are capitalized and included in the capital cost estimate. Pre-production operating costs include drilling, blasting, loading, hauling, auxiliary support. and general mining expense (GME) costs.

The open pit mining capital cost estimate assumes an Owner-operated mining scenario where the Owner will purchase the mining equipment. Capital costs assumed for the major equipment fleet are shown in Table 21-4. Mining initial capital costs are summarized in Table 21-5.

Table 21-4: Major Mining Fleet Capital Costs

Fleet Description	$k/unit	No. Units during Capital Period	Maximum No. of Units
90-tonne Haul Truck	$1,900	7	35
11 m^3 Loader	$3,875	1	6
40-tonne Mill Feed Haul Trucks	$800	0	8

Source: MMTS, 2021.

Table 21-5: Initial Capital Costs - Mining

Cost Area	C$M
Open Pit Capitalized Pre-Production Costs	27.3
Open Pit Mining Equipment Capital Costs	34.1
Total Mining Initial Capital	**61.4**

Source: MMTS, 2021.

21.2.2.1.2 Mining Infrastructure Capital

Mining infrastructure costs include the following and are indicated in Table 21-6:

- haul roads
- explosives mixing plant and magazine
- mining truckshop
- periodic maintenance truckshop
- truck wash bay
- tire change
- truckshop office
- truckshop warehouse
- ROM pad
- CN railway overpass

A fish-bearing stream habit creation and relocation allowance of C$7 million was also assigned to the mining infrastructure WBS.

Table 21-6: Mining Infrastructure Cost

WBS	WBS Description	Initial Cost (C$M)	Sustaining Cost (C$M)	Total (C$M)
1400	Infrastructure at Lapaska	0	1.6	1.6
1700	Stockpiling	1.1	1.0	2.0
1800	Mining Infrastructure	9.1	3.1	12.3
	Total Mining Cost	**10.2**	**5.7**	**15.9**

21.2.2.2 Direct Costs – Process and Infrastructure

Process and infrastructure costs are summarized in Table 21-7 and described in the following sections. Direct costs include all contractors' direct and indirect labour, permanent equipment, materials, freight, and mobile equipment associated with the physical construction of the areas.

Table 21-7: Process and Infrastructure Capital Costs

WBS	WBS Description	Initial Cost (C$M)	Sustaining Cost (C$M)	Total (C$M)
	On-site Infrastructure	**50.0**	**26.9**	**76.9**
2100	Bulk Earthworks	6.4	--	6.4
2200	Power Supply	9.0	15.6	24.6
2300	Fuel Storage	0.1	--	0.1
2400	Warehousing, Office and Workshops	4.3	2.3	6.5
2600	Site Water Services	8.7	--	$8.7
2700	Site Water Management	17.0	0.4	17.5
2800	Dry Tailings Storage and Management Facilities	4.4	8.6	13.1
	Process Plant	**129.4**	**36.3**	**165.7**
3100	Primary Crushing & Ore Sorting	24.1	35.4	59.6
3200	Grinding	32.4	--	32.4
3300	Gravity gold	4.1	--	4.1
3400	Gravity Tails / Leach Absorption	14.8	--	14.8
3500	Elution / Carbon Regen / Gold Room	10.5	--	10.5
3600	Cyanide Detoxification / Tailings Disposal	3.8	--	3.8
3700	Tailings Filtration	33.9	--	33.9
3800	Plant Services	2.0	--	2.0
3900	Reagents Offloading and Storage	3.8	0.9	4.7
	Off-Site Infrastructure	**4.2**	**0.0**	**4.2**
4100	Main Access Road	3.0	--	3.0
4200	High-Voltage Power Supply	1.3	--	1.3
	Total Process & Infrastructure Cost	**183.6**	**63.2**	**246.8**

Source: Ausenco, 2021.

21.2.2.2.1 On-Site Infrastructure (WBS 2000)

On-site infrastructure costs were developed based on Ausenco's in-house database of costs and labour rates and include the following:

- Bulk Earthworks (WBS 2100)
  - process plant area – pad
  - new plant road – process plant to gate house (two lane)
  - fish-bearing stream habitat creation and relocation allowance
- Power Supply (WBS 2200)
  - High-voltage powerline (from tie-in), power switchyard, and power distribution
  - incoming substation and power distribution
  - emergency power generator
  - telecommunications infrastructure and equipment
- Fuel Storage (WBS 2300)
  - diesel, and gas storage (open tank)
- Warehousing, Office and Workshops (WBS 2400)
  - plant warehouse and maintenance building
  - administration building
  - security gatehouse
  - assay and metallurgical laboratory
- Site Water Services (WBS 2600)
  - effluent water treatment building
  - effluent treatment plant
  - fire safety system
- Site Water Management (WBS 2700)
  - earthworks (ditching and collection ponds)

- Dry Tailings Storage and Management Facilities (WBS 2800)
    - perimeter roads, diversion channels, and ponds

Bulk earthworks and site water management infrastructure costs were developed using semi detailed cut-and-fill volumes based on site layout and site topographical information. Unit rates were benchmarked based on recent projects in the Eastern Canada region.

21.2.2.2.2 Process Plant (WBS 3000)

The definition of process equipment requirements was based on conceptual process flowsheets and process design criteria (refer to Section 17). Each major process area has been built up with costs by separately addressing the following disciplines:

- earthworks (B)
- concrete (C)
- structural steel (E)
- architectural and unit building (F)
- mechanical platework and tanks (L)
- mechanical equipment (M)
- piping (P)
- electrical equipment (Q)
- conduit and cable tray (R)
- wire and cable (S)
- instrumentation (T).

Mechanical equipment and building (inclusive of HVAC and lighting) supply costs were based on recent and historical budget quotes from similar projects, adjusted to reflect the Val-d'Or East Project sizing. Building costs are presented in Table 21-8.

The materials and equipment total direct costs for other disciplines were developed by applying factors (percentages) to the total direct cost (supply and install) of the mechanical equipment. The factors are based on Ausenco's historical data for similar type work, and are specific to both discipline and area.

Table 21-8: WBS 2000 & 3000 Building Costs

WBS	WBS Description	Building Description	Building Type	Total Initial Capital (C$M)
2400	Warehousing, Office and Workshops	Plant Warehouse and Maintenance Building	Fabric	0.6
		Administration Building	Modular	1.3
		Security Gatehouse	Modular	0.1
		Assay and Metallurgical Laboratory	Modular	2.0
2600	Site Water Services	Effluent Water Treatment Building	Pre-engineered	2.5
3100	Primary Crushing, and Ore Sorting	Primary Crushing Building Initial Design	Pre-engineered	0.2
		Primary Crushing Conveyor Building Initial Design	Pre-engineered	0.0
		Primary Crushing E-Room Initial Design	Modular	1.7
		Secondary and Tertiary Crushing Building	Pre-engineered	1.6
		Screening Building	Pre-engineered	0.8
		Stockpile Cover	Air Shelter	0.7
3200	Grinding	Grinding Building	Pre-engineered	3.8
		Grinding Building Control Room	Modular	0.3
3400	Gravity Tails / Leach Absorption	Filter Plant Building	Pre-engineered	1.6
		Filter Plant Building Control Room	Modular	0.1
3500	Elution / Carbon Regen / Gold Room	Gold Room	Pre-engineered	0.2
3700	Tailings Filtration	Tailing Cake Stockpile Building	Air Shelter	0.6
		Reagent Building	Pre-engineered	1.8
		Reagent Storage Building	Fabric	1.2
3800	Plant Services	Oxygen Plant	Folding	0.1

Source: Ausenco, 2021.

21.2.2.2.3 Off-Site Infrastructure (WBS 4000)

Off-site infrastructure costs were developed based on in-house database of costs and labour rates and include the following:

- WBS 4100 – 593 m of new public road (Tiblemont-Louvicourt and Pascalis road realignment); 130 m of two-lane new access road, and 60 m of two-lane new plant road
- WBS 4200 – 5 km high-voltage powerline from tie-in at highway to site.

Road works volumes were developed based on the site layout and planned road alignment, existing conditions, and site topographical information. Unit rates were benchmarked based on recent projects in the Eastern Canada region.

21.2.2.3 Indirect Costs

Indirect costs are summarized in Table 21-9 and described in the following sections.

Table 21-9: Indirect costs

WBS	WBS Description	Initial Cost (C$M)	Sustaining Cost (C$M)	Total Cost (C$M)
5000	Project Indirects	9.1	2.8	11.9
6000	Project Delivery	31.2	7.9	39.1
7000	Owner's Costs	11.4	--	11.4
8000	Provisions	45.6	38.0	83.6
	Total Indirect Capital Costs	**97.3**	**48.7**	**146.0**

Source: Ausenco, 2021.

21.2.2.3.1 Project Indirects (WBS 5000)

Indirect costs are required during the project delivery period to enable and support construction activities. Indirect costs include the following:

- temporary construction facilities and services
- commissioning representatives and assistance
- on-site materials transportation and storage
- spares (commissioning, initial, and insurance)
- first fills and initial charges
- freight and logistics.

The project indirect costs have been based on Ausenco's historical project costs of similar nature and have been included at a rate of 4% of the total direct cost, or C$9.1 million.

21.2.2.3.2 Project Delivery (WBS 6000)

The project delivery cost has been calculated at 11.5% of total direct costs based on Ausenco's historical project costs of similar nature. This includes the following:

- engineering, procurement and construction management services (EPCM)
- commissioning services.

In addition, the estimate includes a C$5 million allowance for wetland compensation, calculated based on the estimated area impacted.

21.2.2.3.3 Owner's Costs (WBS 7000)

Owner's costs were factored from total directs and are 5% of total direct costs, or C$11.4 million, and include the following:

- project staffing and miscellaneous expenses
- pre-production labour
- home office project management
- home office finance, legal, and insurance.

21.2.2.3.4 Provisions: Contingency (WBS 8000)

Contingency accounts for the difference in costs from the estimated and actual costs of materials and equipment. The level of contingency varies depending on the nature of the contract and the client's requirements. Due to uncertainties at the time the capital cost estimate was developed, it is essential that the estimate include a provision to cover the risk from these uncertainties.

The estimate contingency will not allow for the following:

- abnormal weather conditions
- changes to market conditions affecting the cost of labour or materials
- changes of scope within the general production and operating parameters
- effects of industrial disputations
- financial modelling
- technical engineering refinement
- estimate inaccuracy.

The contingency capital cost has been calculated at 20% of total direct costs, or C$45.6 million.

21.2.3 Exclusions

The following costs and scope will be excluded from the capital cost estimate:

- land acquisitions
- taxes not listed in the financial analysis
- sales taxes

- scope changes and project schedule changes and the associated costs
- any facilities/structures not mentioned in the project summary description
- costs to advance the project from preliminary economic assessment to pre-feasibility study
- geotechnical unknowns/risks
- financing charges and interest during the construction period
- any costs for demolition or decontamination for the current site
- third-party costs

21.2.4 Closure Costs

The estimated total reclamation and closure costs, exclusive of taxes and contingency, for the Val-d'Or East project is C$30 million. Closure costs have been benchmarked based on recent projects in the Eastern Canada region.

21.2.5 Sustaining Capital

21.2.5.1 Mining (WBS 1000)

21.2.5.1.1 Mining Sustaining Capital

A large portion of sustaining capital costs is attributable to the underground mining operation. Significant sustaining capital is required as mining progresses. Sustaining capital costs include drifts, ventilation raises, ramp extension, underground infrastructure, backfill network, and mobile equipment.

Capital costs for new or replacement equipment purchases occurring in Year 1 or afterwards are considered as sustaining capital.

The underground sustaining capital estimate includes costs for all contractor bid items as shown in Table 21-10. Mining capital costs have been estimated on the basis of contractor rates for all mine development applied to development metreage measured from the proposed underground layout. A contingency of 10% was allowed for unplanned development. The mining contractor will supply all mining equipment for both capital development and mine production operations.

Table 21-10: Underground Sustaining Capital Costs

Contract Bid Item	Units	No. Units	$/Unit	Cost ($)
Mobilization	ea.	7	200,000	1,400,000
Demobilization	ea.	7	200,000	1,400,000
Portal Development	ea.	9	200,000	1,800,000
Miscellaneous Equipment (Pumps, Electrical, etc.)	ea.	7	500,000	3,500,000
Declines	m	21,487	5,500	118,178,500
Drop Raises (Vent for Declines)	m	2,861	1,000	2,861,000
Level Accesses	m	6,138	4,500	27,621,000
Miscellaneous Level Development	m	2,875	4,676	13,442,494
Attack Ramps	m	31,320	4,500	140,940,000
Vent Raises – Fresh	m	2,861	3,500	10,013,500
Vent Raises – Return	m	2,861	3,500	10,013,500
Total		**70,403**		**331,169,994**

Source: MMTS, 2021.

Total mining sustaining capital costs are estimated in Table 21-11.

Table 21-11: Mining Sustaining Capital Costs

Description	Total Cost (C$M)
Open Pit Sustaining Capital	152.8
Underground Sustaining Capital	331.2
Total Mining Sustaining Capital	**484.0**

Source: MMTS, 2021

21.2.5.1.2 Mining Sustaining Infrastructure

The mining infrastructure sustaining costs shown in Table 21-12 account for the following:

- haul roads
- mining truckshop (Year 3 expansion)
- ROM pad (Year 3 expansion)
- Highway 117 pre-engineered steel bridge overpass.

Total mining infrastructure sustaining capital costs are estimated in Table 21-12.

Table 21-12: Mining Infrastructure Sustaining Capital Costs

Description	Total Cost (C$M)
Stockpiling	1.0
Mining Infrastructure	4.7
Total Mining Sustaining Capital	**5.7**

Source: Ausenco, 2021.

21.2.5.2 On-Site Infrastructure (WBS 2000) & Process Plant (WBS 3000)

All major processing and electrical equipment were sized based on the process design criteria outlined in Section 17. Once the mechanical and electrical list was outlined, the scopes of work were derived and sent for budgetary pricing by Canadian and International equipment suppliers.

In Year 4 the processing comminution circuit will be expanded to include a second primary crusher and ore sorting processing stream.

In support of the major mechanical and electrical equipment packages, the process plant and infrastructure engineering design were completed to a feasibility study level of definition, allowing for the bulk material quantities (steel, concrete, earthworks, piping, cables, instruments, etc.) to be derived for the major commodities.

The infrastructure and process sustaining costs account for the following:

- primary crushing
- ore sorting circuit
- substation and reticulation upgrade
- site-wide water management structures.

21.3 Operating Costs – Process Plant, Infrastructure, G&A

21.3.1 Introduction

The operating cost estimate was developed to a level of accuracy of ±50% and with a base date of Q3 2021 using Ausenco's in-house database of projects and studies and experience from similar operations. The estimate includes mining, processing, general and administration (G&A), mobile equipment, and DSTF costs.

The overall annual life-of-mine operating cost after the Phase 2 expansion, not including mining, is $59.0 million over the 13-year mine life or $16.19/t of ore milled.

The process operating cost estimates are presented in Canadian dollars and are summarized in Table 21-13. The estimates are derived from benchmarking against existing gold processing plants located in eastern Canada as well as in-house data and quotations.

Table 21-13: Val-d'Or Process Operating Cost Summary

Cost Category	Phase 1		Phase 2	
	C$/t of Ball Mill Feed	C$/a	C$/t of Ball Mill Feed	C$/a
Process Plant				
Labour	3.90	14,219,718	4.44	16,203,592
Power	1.16	4,247,365	1.33	4,870,260
Ore Sorting	-	-	0.20	711,750
Reagents and Consumables	5.35	19,528,023	5.46	19,936,812
Laboratory and Assays	0.05	171,388	0.05	171,388
Mobile Equipment	0.75	2,729,065	1.12	4,103,803
Maintenance	0.56	2,059,175	0.83	3,011,925
Water Treatment Plant	0.12	443,011	0.12	443,011
Subtotal Process Plant	11.9	43,397,746	13.6	49,452,541
General & Administration				
G&A Labour	1.48	5,386,402	1.48	5,386,402
G&A Expenses	1.11	4,054,499	1.11	4,054,499
Site Services Equipment	0.05	197,250	0.05	197,250
Subtotal G&A	2.64	9,638,151	2.64	9,638,151
Total	**14.5**	**53,035,897**	**16.2**	**59,090,692**

Source: Ausenco, 2021.

Common to all operating cost estimates are the following assumptions:

- For material sourced or benchmarked in US dollars, an exchange rate of 0.75 US dollar per Canadian dollar was assumed.
- Diesel costs are C$1.16/L, taken from historical retail data from the area
- The annual power costs were calculated using a 65% overall power utilization and a unit price of $0.051/kWh.
- The labour requirement is assumed to come from the town of Val-d’Or and surrounding communities. All salaries are benchmarked against similar gold projects in the Abitibi region of Québec in 2021 dollars.
- The processing unit operations were benchmarked against similar or comparable processing plants. For example, the leach-CIP circuit was compared to circuits of the same configuration.
- Equipment and materials will be newly purchased.
- Process plant operating costs are calculated based on labour, power consumption, and process and maintenance consumables.

- G&A costs were baselined against previous project experience.
- Grinding media consumption rates have been estimated based on the Bond abrasion index.
- Reagent consumption rates have been estimated based on metallurgical testwork, where available.
- The mobile equipment cost provides for fuel and maintenance.

21.3.2 Basis of Process Operating Costs

21.3.2.1 Labour

The labour estimate was determined from benchmarking against similar projects in 2021 dollars with comparable unit processes (crushing, grinding, leaching, gold room, and laboratory).

The estimate includes staff for the following areas, as well as an allowance for contract labour:

- process upper management
- mill operations
- technical services
- mill maintenance.

An organizational roster outlining the labour requirement for the process plant is shown in Table 21-14 on the following page. The cost per year is shown for the stated number of employees in each phase and includes estimates for bonus, benefits, CPP, EI, Tax and CSST.

21.3.2.2 Power

The power cost is calculated from the overall plant power draw determined from the mechanical equipment list. This cost was calculated using an assumption by Ausenco of 65% installed power utilization at a delivered power cost of C$0.051/kWh.

Table 21-14: Processing Plant Labour Summary

Process Labour	Phase 1		Phase 2	
	Number of Personnel	C$/a	Number of Personnel	C$/a
Process Upper Management				
Senior Metallurgist	1	140,200	1	140,200
Maintenance Planner	1	126,300	1	126,300
Chief Assayer	1	174,100	1	174,100
Chief Metallurgist/Process Superintendent	1	220,500	1	220,500
Mill Operations				
Shift Foreman	4	696,300	4	696,300
Control Room Operator	4	623,200	4	623,200
Crusher Operator	4	544,300	4	544,300
Crushing/Sorting Operator	0	0	4	544,300
Grinding/Gravity Operator	4	564,000	4	564,000
Leach/Reagents Operator	4	603,800	4	603,800
Filter Plant Operator	4	583,800	4	583,800
Filter Plant Operator (helper)	4	479,800	4	479,800
DSTF Truck Driver	24	2,879,100	24	2,879,100
Ore Sorting Waste Truck Driver	0	0	12	1,439,500
Gold Room Foreman	2	348,100	2	348,100
Gold Room Operator	2	301,900	2	301,900
Technical Services				
Graduate Metallurgist	2	221,000	2	221,000
Metallurgical Technician	2	221,000	2	221,000
Assay Lab Technician	8	884,200	8	884,200
Mill Maintenance				
Maintenance Foreman	1	130,600	1	130,600
Electrical Foreman	1	130,600	1	130,600
Electrician	4	493,800	4	493,800
Millwright/Fitter	16	1,975,300	16	1,975,300
Mechanical Apprentice	2	216,100	2	216,100
Electrical Apprentice	2	216,100	2	216,100
Instrument Technician	4	476,700	4	476,700
Electrician Technician	4	468,900	4	468,900
Contract Labour				
Allowance	0	500,000	0	500,000
Total	106	14,219,700	122	16,203,600

Source: Ausenco, 2021.

21.3.2.3 Reagents & Consumables

The reagent profile was developed from the testwork review in Section 13. The testwork enabled the addition and consumptions rates of reagents to be estimated. Where testwork was not available, benchmarking against proven unit technologies was examined. Costs for each reagent were identified from other projects in eastern Canada. The details are presented in Table 21-15.

Section 17 discusses reagents in detail. Reagents for the intensive leach reactor (ILR) and elution process have been grouped together.

Table 21-15: Reagent Cost Summary

Cost Centre	Reagent	C$/a	C$/t of Ball Mill Feed
Gravity	Leach Aid	11,000	0.003
	Sodium Cyanide	14,000	0.004
	Sodium Hydroxide	1,000	0.000
Leach-CIP	Quicklime	751,000	0.206
	Sodium Cyanide	4,289,000	1.175
	Activated Carbon	813,000	0.223
Elution	Hydrochloric Acid	60,000	0.016
	Sodium Cyanide	9,000	0.003
	Sodium Hydroxide	153,000	0.042
	Propane	443,000	0.121
Gold Room	Smelting Reagents	100,000	0.027
Cyanide Detoxification	Hydrated Lime	625,000	0.171
	Liquid SO_2	4,107,000	1.125
	Copper Sulphate	605,000	0.166
	Flocculant	1,052,000	0.288
Total Reagent Costs		**13,033,000**	**3.571**

Source: Ausenco, 2021.

Consumables were identified as non-reagent requirements/replacements that were not listed in Table 21-15 and are related to the crushing circuits, griding circuit, and tailings filter presses. The following items are considered to be consumables:

- primary crusher cheek and swing jaw set (one for each Circuit A and Circuit B)
- secondary cone crusher mantle/bowl liner (one for each Circuit A and Circuit B)
- tertiary cone crusher mantle/bowl liner (one for each of the two tertiary crushers)
- secondary screen decks – double deck screen replacement
- tertiary screen decks – double deck screen replacement

- fine sorting screen deck – single deck screen replacement (in Phase 2 only)
- ball mill grinding media
- ball mill liners
- tailings filter press replacement filter cloths.

Major consumables costs include:

- grinding media estimated at $3.85 M/a, or $1.05/t of mill feed
- ball mill liner costs estimated at $0.27 M/a or $0.08/t of mill feed
- filter cloth costs are estimated at $0.40 M/a or $0.11/t of mill feed
- the crushing plant consumables:
  - $1.99 M/a, or $1.67/t of jaw crusher feed for Phase 1
  - $2.40 M/a, or $0.39/t of jaw crusher feed for Phase 2.

The total cost for consumables is $6.49M/a in Phase 1 and $6.90M/a in Phase 2.

21.3.2.4 Maintenance

The process plant annual maintenance costs were derived from the total installed mechanical cost and using a factor of 2% to 6%, depending on the WBS area, as described in Table 21-16.

Table 21-16: Process Maintenance Cost Factors by WBS

WBS	Area	Factor (%)
3100	Crushing, Stockpile & Reclaim	5.0
3150	Ore Sorting	6.0
3200	Grinding	5.0
3300	Gravity Gold	4.0
3400	Gravity Tails / Leach Absorption	4.0
3500	Elution / Carbon Regeneration / Gold Room	4.0
3600	Cyanide Detoxification / Tailings Disposal	5.0
3700	Tailings Filtration	5.0
3800	Plant Services	2.0
3900	Reagents Offloading and Storage	2.0

Source: Ausenco, 2021.

21.3.2.5 Laboratory Services

The operating cost estimate for the laboratory and assay activities were based on the number of assays required per day and per year, as well as the type of assay (fire assay, atomic adsorption, etc.). Refer to Table 21-13 for the laboratory costs. The assay costs are important for metallurgical accounting and can be attributed to the following:

- assaying of mine samples from blasthole drilling for grade control
- monitoring of grade/recovery for unit operations to permit optimization of the process plant
- environmental analysis
- duplicate assays and assaying of reference standard samples for quality control.

21.3.2.6 Effluent Treatment

The water treatment plant size and cost are influenced by the water balance and tailings management facility. The cost estimate includes maintenance, labour, power, and consumables. For the Val-d'Or East Project, the cost was scaled directly from quotes for similar effluent treatment plants in the region. See Table 21-13 for the total effluent treatment cost estimate.

21.3.2.7 General & Administration

General and administrative (G&A) costs were developed using Ausenco's in-house data on existing Canadian operations. The costs were estimated based on the following items:

- human resources (including recruiting, training, and community relations)
- infrastructure power (HVAC and administrative buildings)
- site administration, maintenance, and security (including office equipment, garbage disposal)
- assets operation (including non-operation-related vehicles)
- health and safety (including personal protective equipment, hospital service cost)
- environmental (including sampling and DSTF operation)
- IT and telecommunications (including hardware and support services)
- contract services (including insurance, sanitation, licence fees, and legal fees).

21.3.2.8 Mobile Equipment

The process plant mobile equipment operating costs shown in Table 21-17 were developed from the number of light vehicles and mobile equipment, maintenance, spares and tires for different plant services. Fuel (diesel, gasoline) was included under mobile equipment. Trucking filtered tailings from the process plant to the DSTF and ore sorting rejects to the waste rock storage facility is also included in the mobile equipment cost.

Table 21-17: Mobile Equipment Operating Cost – Processing

Cost Centre	C$/t of Ball Mill Feed	C$M/a
G&A Vehicles	0.054	0.20
Processing Vehicles	1.105	4.03
Maintenance Vehicles	0.020	0.07
Total	**1.178**	**4.30**

Source: Ausenco, 2021.

22 ECONOMIC ANALYSIS

22.1 Forward-Looking Information Cautionary Statements

The results of the economic analyses discussed in this section represent forward-looking information as defined under Canadian securities law. The results depend on inputs that are subject to known and unknown risks, uncertainties, and other factors that may cause actual results to differ materially from those presented here. Information that is forward-looking includes the following:

- mineral resource estimates
- assumed commodity prices and exchange rates
- the proposed mine production plan
- projected mining and process recovery rates
- assumptions as to mining dilution and ability to mine in areas previously exploited using mining methods as envisaged
- the timing and amount of estimated future production
- sustaining costs and proposed operating costs
- assumptions as to closure costs and closure requirements
- assumptions as to environmental, permitting, and social risks.

Additional risks to the forward-looking information include:

- changes to costs of production from what is assumed
- unrecognized environmental risks
- unanticipated reclamation expenses
- unexpected variations in quantity of mineralized material, grade, or recovery rates
- accidents, labour disputes and other risks of the mining industry
- geotechnical or hydrogeological considerations during mining being different from what was assumed
- failure of mining methods to operate as anticipated

- failure of plant, equipment, or processes to operate as anticipated
- changes to assumptions as to the availability of electrical power, and the power rates used in the operating cost estimates and financial analysis
- ability to maintain the social licence to operate
- changes to interest rates
- changes to tax rates.

22.2 Methodologies Used

The project has been evaluated using a discounted cash flow (DCF) analysis based on a 5% discount rate. Cash inflows consist of annual revenue projections. Cash outflows consist of capital expenditures, including pre-production costs, operating costs, taxes, and royalties. These are subtracted from the inflows to arrive at the annual cash flow projections.

Cash flows are expected to occur at the mid-point of each period. It must be noted that tax calculations involve complex variables that can only be accurately determined during operations and, as such, the actual post-tax results may differ from those estimated. A sensitivity analysis was performed to assess the impact of variations in metal prices, discount rate, foreign exchange rates, operating cost, and initial capital cost.

The capital and operating cost estimates developed specifically for this project are presented in Section 21 of this report in Q3 2021 Canadian dollars. The economic analysis has been run on a constant dollar basis with no inflation.

22.2.1 Financial Model Parameters

22.2.2 Assumptions

The economic analysis was performed assuming the base case gold price of US$1,500/oz was based on consensus analyst estimates and recently published economic studies. The forecasts used are meant to reflect the average metal price expectation over the life of the project. No price inflation or escalation factors were taken into account. Commodity prices can be volatile, and there is the potential for deviation from the forecast.

The economic analysis also used the following assumptions:

- construction period of one year
- mine life of 12.5 years
- exchange rate of 0.75 (CAD:USD)
- cost estimates in constant Q3 2021 Canadian dollars with no inflation or escalation factors considered
- results based on 100% ownership with an average 0.8% net smelter return (NSR)

- capital cost funded with 100% equity (no financing cost assumed)
- all cash flow discounted to start of construction period
- all metal products are sold in the same year they are produced
- project revenue is derived from the sale of gold doré
- no contractual arrangements for refining currently exist.

22.2.3 Taxes

The project has been evaluated on a post-tax basis to provide an approximate value of the potential economics. The tax model was compiled by Probe Metals with assistance from third-party taxation professionals. The calculations are based on the tax regime as of the date of the feasibility study. At the effective date of the cashflow, the project was assumed to be subject to the following tax regime:

- The Canadian corporate income tax system consists of 15% federal income tax and 11.5% provincial income tax.
- The mining tax rate in Québec is calculated using progressive tax rates, with each rate applied to a portion of the operator's annual profit.

Table 22-1 shows the tax rate that applies to each portion of the operator's annual profit margin segment.

Table 22-1: Mining Tax Rates in Québec

Profit Margin		Tax Rate
First Segment	0% to 35%	16%
Second Segment	More than 35%, up to 50%	22%
Third Segment	More than 50%	28%

Source: Ausenco, 2021.

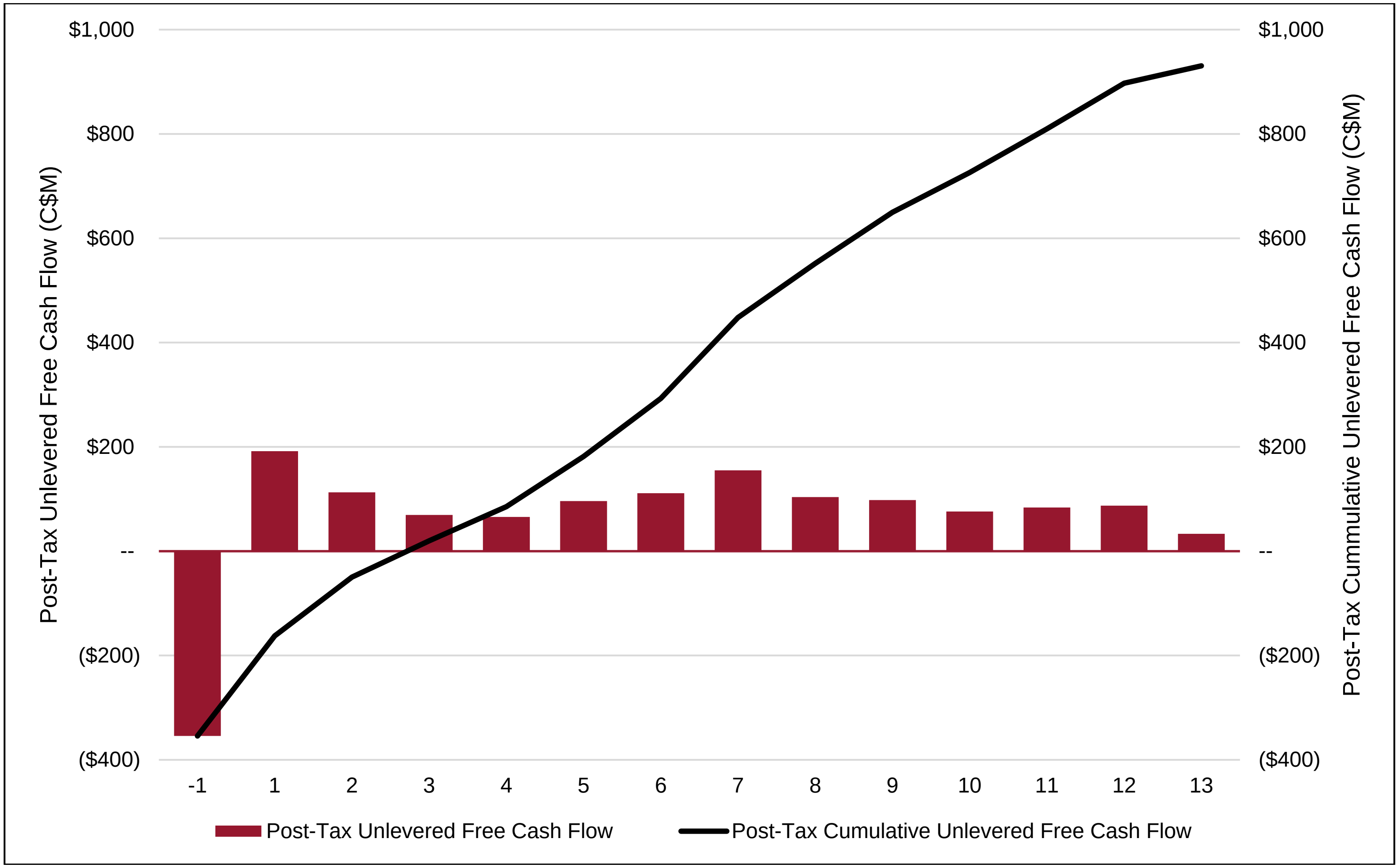
At the base case gold price assumption, total tax payments are estimated to be C$547.3 million over the life of mine.

22.3 Economic Analysis

The economic analysis was performed assuming an 5% discount rate. The pre-tax NPV discounted at 5% is C$991 million; the internal rate of return IRR is 47.2%, and payback period is 1.8 years. On a post-tax basis, the NPV discounted at 5% is C$598 million; the IRR is 32.8%, and the payback period is 2.7 years. A summary of project economics is shown graphically in Figure 22-1 and listed in Table 22-2. The analysis was done on an annual cashflow basis; the cashflow output is shown Table 22-3.

Readers are cautioned that the PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized.

Figure 22-1: Project Economics



Source: Ausenco, 2021.

Table 22-2: Economic Analysis Summary

General	LOM Total / Avg.
Gold Price (US$/oz)	$1,500
Exchange Rate (CAD:USD)	0.75
Mine Life (years)	12.5
Total Waste Tonnes Mined (kt)	366,924
Total Mill Feed Tonnes (kt)	45,199
Strip Ratio	6.42x
Production	
Mill Head Grade (g/t)	1.88
Mill Recovery Rate (%)	94.7%
Total Mill Ounces Recovered (koz)	2,584
Total Average Annual Production (koz)	207
Operating Costs	
Mining Cost (C$/t Mined)	$4.49
Processing Cost (C$/t Milled)	$13.26
G&A Cost (C$/t Milled)	$2.72
Refining & Transport Cost (C$/oz)	$2.50
Total Operating Costs (C$/t Milled)	$58.81
Cash Costs (US$/oz Au)	$786
AISC (US$/oz Au)	$965
Capital Costs	
Initial Capital (C$M)	$353
Sustaining Capital (C$M)	$602
Closure Costs (C$M)	$30
Salvage Costs (C$M)	($13)
Financials	
Pre-Tax NPV (5%) (C$M)	$991
Pre-Tax IRR (%)	47.2%
Pre-Tax Payback (years)	1.8
Post-Tax NPV (5%) (C$M)	$598
Post-Tax IRR (%)	32.8%
Post-Tax Payback (years)	2.7

Notes: * Cash costs consist of mining costs, processing costs, mine-level G&A, refining charges, and royalties. ** AISC includes cash costs plus sustaining capital, closure costs, and salvage value. Source: Ausenco, 2021.

Table 22-3: Project Cash Flow

Cash Flows Discounted to Start of Construction Period Macro Assumptions	Units	Sum/Avg	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Gold Price - Flat	US$/oz	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Foreign Exchange	CAD:USD	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75	$0.75
Free Cash Flow Valuation																			
Revenue	**C$M**	**$5,165**	**--**	**$561**	**$395**	**$421**	**$384**	**$455**	**$474**	**$566**	**$433**	**$366**	**$322**	**$338**	**$296**	**$154**	**--**	**--**	**--**
Operating Cost	C$M	($2,658)	--	($189)	($208)	($209)	($242)	($259)	($278)	($290)	($231)	($166)	($160)	($177)	($157)	($93)	--	--	--
Refining Charges & Transportation	C$M	($6)	--	($1)	($0)	($1)	($0)	($1)	($1)	($1)	($1)	($0)	($0)	($0)	($0)	($0)	--	--	--
Royalties	C$M	($41)	--	($4)	($3)	($3)	($3)	($4)	($4)	($5)	($3)	($3)	($3)	($3)	($2)	($1)	--	--	--
EBITDA	**C$M**	**$2,459**	**--**	**$367**	**$184**	**$208**	**$138**	**$192**	**$191**	**$271**	**$199**	**$197**	**$159**	**$158**	**$136**	**$59**	**--**	**--**	**--**
Initial Capital Cost	C$M	($353)	($353)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sustaining Capital Cost	C$M	($602)	--	($128)	($36)	($93)	($51)	($54)	($32)	($34)	($40)	($43)	($42)	($32)	($11)	($6)	($0)	--	--
Closure Capital Cost	C$M	($30)	--	--	--	--	--	--	--	--	--	--	--	--	--	($30)	--	--	--
Salvage Value	C$M	$13	--	--	--	--	--	--	--	--	--	--	--	--	--	$13	--	--	--
Federal Permitting Cost	C$M	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Royalty Buybacks	C$M	($2)	($2)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pre-Tax Unlevered Free Cash Flow	**C$M**	**$1,486**	**($354)**	**$239**	**$148**	**$115**	**$87**	**$138**	**$159**	**$237**	**$159**	**$153**	**$117**	**$126**	**$125**	**$37**	**($0)**	**--**	**--**
Pre-Tax Cumulative Unlevered Free Cash Flow	C$M	$1,486	($354)	($115)	$33	$148	$236	$374	$533	$769	$928	$1,082	$1,199	$1,325	$1,450	$1,487	$1,486	$1,486	$1,486
Federal Income Tax	C$M	($179.9)	--	($12)	($13)	($17)	($7)	($16)	($16)	($27)	($19)	($19)	($14)	($15)	($13)	($1)	$4	$3	$2
Provincial Income Tax	C$M	($144.8)	($10)	($10)	($13)	($6)	($12)	($13)	($21)	($14)	($14)	($11)	($11)	($10)	($1)	--	--	--	--
Mining Tax	C$M	($222.6)	--	($26)	($13)	($16)	($9)	($15)	($19)	($33)	($22)	($22)	($16)	($16)	($14)	($2)	--	--	--
Post-Tax Unlevered Free Cash Flow	**C$M**	**$939**	**($354)**	**$192**	**$113**	**$69**	**$66**	**$96**	**$111**	**$155**	**$104**	**$98**	**$76**	**$84**	**$87**	**$33**	**$4**	**$3**	**$2**
Post-Tax Cumulative Unlevered Free Cash Flow	C$M	$939	($354)	($162)	($50)	$20	$85	$182	$293	$448	$552	$650	$726	$810	$897	$931	$935	$938	$939
Production Profile																			
Production Summary																			
Total Resource Mined	kt	64,287	878	7,143	7,561	7,407	7,055	7,965	6,379	7,790	4,958	3,216	1,080	1,260	937	658	--	--	--
Total Stockpile Reclaim	kt	25,748	--	283	262	214	454	968	798	2,192	1,973	3,304	4,614	4,434	4,758	1,496	--	--	--
Total Waste	kt	366,924	9,047	37,575	44,177	44,379	49,171	47,901	49,879	48,018	28,790	7,986	--	--	--	--	--	--	--
Total Material Mined	kt	431,211	9,925	44,717	51,738	51,786	56,226	55,867	56,258	55,809	33,748	11,203	1,080	1,260	937	658	--	--	--
Strip Ratio	w:o	6.4x	10.3x	5.3x	5.8x	6.0x	7.2x	6.3x	8.5x	6.8x	6.7x	3.2x	--	--	--	--	--	--	--
Project Life	years	12.5																	
Mill Feed	kt	45,199	--	3,655	3,655	3,655	3,655	3,655	3,655	3,655	3,655	3,655	3,645	3,645	3,646	1,368	--	--	--
Mill Head Grade	g/t	1.88	--	2.51	1.78	1.90	1.73	2.04	2.12	2.53	1.94	1.65	1.46	1.53	1.34	1.85	--	--	--
Gold Recovery	%	94.7%	--	95.2%	94.6%	94.6%	94.6%	94.9%	95.1%	95.4%	94.9%	94.4%	94.2%	94.3%	93.9%	94.6%	--	--	--
Gold Recovered	koz	2,584	--	281	198	211	192	228	237	283	217	183	161	169	148	77	--	--	--
Gold % Payable	%	99.95%	--	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	99.95%	--	--	--
Payable Gold	**koz**	**2,583**	**--**	**280**	**198**	**211**	**192**	**228**	**237**	**283**	**217**	**183**	**161**	**169**	**148**	**77**	**--**	**--**	**--**
Revenue	**C$M**	**$5,165**	**--**	**$561**	**$395**	**$421**	**$384**	**$455**	**$474**	**$566**	**$433**	**$366**	**$322**	**$338**	**$296**	**$154**	**--**	**--**	**--**
Operating Costs																			
Mine Operating Costs	C$M	$1,936	--	$136	$155	$156	$183	$200	$219	$231	$172	$107	$101	$118	$98	$62	--	--	--
Mill Operating Costs	C$M	$600	--	$44	$44	$44	$50	$50	$50	$50	$50	$50	$50	$50	$50	$22	--	--	--
G&A Costs	C$M	$123	--	$9	$9	$9	$9	$9	$9	$9	$9	$9	$9	$9	$9	$9	--	--	--
Operating Costs per tonne Processed	C$/t Processed	$58.8	--	$51.6	$56.9	$57.1	$66.3	$70.8	$76.1	$79.5	$63.1	$45.4	$43.8	$48.6	$43.1	$67.9	--	--	--
Refining, Transport Cost & Royalties																			

Cash Flows Discounted to Start of Construction Period Macro Assumptions	Units	Sum/Avg	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Refining Charges & Transportation Cost	**C$M**	**$6**	**--**	**$1**	**$0**	**$1**	**$0**	**$1**	**$1**	**$1**	**$1**	**$0**	**$0**	**$0**	**$0**	**$0**	**--**	**--**	**--**
NSR Royalty																			
Total Revenue	C$M	$5,165	--	$561	$395	$421	$384	$455	$474	$566	$433	$366	$322	$338	$296	$154	--	--	--
Less: Refining & Transport Costs	C$M	$6	--	$1	$0	$1	$0	$1	$1	$1	$1	$0	$0	$0	$0	$0	--	--	--
Total Net Revenue	C$M	$5,159	--	$560	$395	$420	$384	$454	$473	$566	$433	$365	$322	$338	$295	$154	--	--	--
NSR Royalty	%	0.8%	--	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	--	--	--
Royalties	**C$M**	**$41**	**--**	**$4**	**$3**	**$3**	**$3**	**$4**	**$4**	**$5**	**$3**	**$3**	**$3**	**$3**	**$2**	**$1**	**--**	**--**	**--**
Cash Costs																			
Cash Cost *	US$/oz Au	$786	--	$519	$803	$757	$960	$867	$894	$783	$812	$693	$757	$799	$811	$920	--	--	--
All-in Sustaining Cost (AISC) **	US$/oz Au	$965	--	$860	$939	$1,089	$1,159	$1,044	$997	$873	$951	$871	$953	$941	$866	$1,142	--	--	--
Capital Expenditure																			
Total Initial Capital	**C$M**	**$353**	**$353**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Mining + Pre-stripping	C$M	$75	$75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mining Infrastructure	C$M	$10	$10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
On Site Infrastructure	C$M	$50	$50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Process Plant	C$M	$129	$129	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Off-site Infrastructure	C$M	$4	$4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Project Indirects	C$M	$8	$8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Project Delivery	C$M	$27	$27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Owner's Costs	C$M	$10	$10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Provisions	C$M	$39	$39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Sustaining Capital	**C$M**	**$602**	**--**	**$128**	**$36**	**$93**	**$51**	**$54**	**$32**	**$34**	**$40**	**$43**	**$42**	**$32**	**$11**	**$6**	**$0**	**--**	**--**
Mining	C$M	$484	--	$121	$28	$15	$48	$42	$31	$32	$38	$41	$40	$30	$10	$5	$0	--	--
Mining Infrastructure	C$M	$6	--	--	$2	$4	--	--	--	--	--	--	--	--	--	--	--	--	--
On-site Infrastructure	C$M	$27	--	--	$2	$18	--	$7	--	--	--	--	--	--	--	--	--	--	--
Process Plant	C$M	$36	--	$0	$1	$35	$0	--	--	--	--	--	--	--	--	--	--	--	--
Project Indirects	C$M	$3	--	$0	$0	$2	$0	$0	--	--	--	--	--	--	--	--	--	--	--
Project Delivery	C$M	$8	--	$0	$1	$7	$0	$1	--	--	--	--	--	--	--	--	--	--	--
Provisions	C$M	$38	--	$6	$2	$12	$2	$3	$2	$2	$2	$2	$2	$2	$1	$0	$0	--	--
Closure Cost	**C$M**	**$30**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**$30**	**--**	**--**	**--**
Salvage Value	**C$M**	**($13)**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**($13)**	**--**	**--**	**--**
Total Capital Expenditure Including Salvage Value	**C$M**	**$971**	**$353**	**$128**	**$36**	**$93**	**$51**	**$54**	**$32**	**$34**	**$40**	**$43**	**$42**	**$32**	**$11**	**$23**	**$0**	**--**	**--**

Notes: * Cash costs consist of mining costs, processing costs, mine-level G&A, refining charges, and royalties. ** AISC includes cash costs plus sustaining capital, closure costs, and salvage value. Source: Ausenco, 2021.

22.4 Sensitivity Analysis

A sensitivity analysis was conducted on the base case pre-tax and post-tax NPV and IRR of the project, using the following variables: gold price, discount rate, foreign exchange, operating cost, and initial capital cost.

Table 22-4 and 22-6 show the post-tax sensitivity analysis results; pre-tax sensitivity results are shown in Table 22-5.

As shown in Figures 22-2 and 22-3, the sensitivity analysis revealed that the project is most sensitive to changes in gold price and foreign exchange, and less sensitive to discount rate, operating cost, and initial capital cost.

Table 22-4: Post-Tax Sensitivity Summary

Gold Price	Post-Tax NPV (5%)	Initial Capital Cost		Operating Cost		Foreign Exchange	
US$/oz	Base Case	(-20%)	(+20%)	(-20%)	(+20%)	(-20%)	(+20%)
$1,300	$288	$357	$219	$528	$10	$789	($92)
$1,400	$444	$513	$375	$680	$186	$977	$58
$1,500	$598	$667	$529	$831	$357	$1,161	$205
$1,600	$751	$820	$682	$979	$513	$1,344	$340
$1,700	$902	$970	$833	$1,125	$668	$1,525	$470
$1,800	$1,051	$1,120	$982	$1,271	$821	$1,705	$598
Gold Price	Post-Tax IRR (5%)	Initial Capital Cost		Operating Cost		Foreign Exchange	
US$/oz	Base Case	(-20%)	(+20%)	(-20%)	(+20%)	(-20%)	(+20%)
$1,300	19.1%	26.4%	14.2%	29.3%	5.6%	40.8%	-
$1,400	26.2%	35.1%	20.2%	35.6%	14.6%	48.6%	8.0%
$1,500	32.8%	43.3%	25.8%	41.8%	22.6%	56.2%	15.2%
$1,600	39.2%	51.4%	31.2%	47.8%	29.7%	63.7%	21.5%
$1,700	45.5%	59.3%	36.5%	53.7%	36.4%	71.1%	27.3%
$1,800	51.6%	67.0%	41.6%	59.6%	43.0%	78.4%	32.8%

Source: Ausenco, 2021.

Table 22-5: Pre-Tax Sensitivity Analysis

Pre-Tax NPV Sensitivity to Discount Rate (Gold Price (US$/oz))

Discount Rate	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
1.0%	$729	$1,048	$1,368	$1,687	$2,007	$2,326
3.0%	$600	$881	$1,162	$1,443	$1,724	$2,005
5.0%	$493	$742	$991	$1,240	$1,488	$1,737
8.0%	$365	$575	$785	$995	$1,205	$1,415
10.0%	$297	$486	$675	$863	$1,052	$1,241

Pre-Tax IRR Sensitivity to Discount Rate (Gold Price (US$/oz))

Discount Rate	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
1.0%	27.0%	37.2%	47.2%	57.2%	67.2%	77.3%
3.0%	27.0%	37.2%	47.2%	57.2%	67.2%	77.3%
5.0%	27.0%	37.2%	47.2%	57.2%	67.2%	77.3%
8.0%	27.0%	37.2%	47.2%	57.2%	67.2%	77.3%
10.0%	27.0%	37.2%	47.2%	57.2%	67.2%	77.3%

Pre-Tax NPV Sensitivity to Foreign Exchange (Gold Price (US$/oz))

Foreign Exchange	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
0.65	$991	$1,278	$1,565	$1,852	$2,139	$2,426
0.70	$724	$991	$1,257	$1,524	$1,790	$2,057
0.75	$493	$742	$991	$1,240	$1,488	$1,737
0.80	$291	$524	$757	$991	$1,224	$1,457
0.85	$113	$332	$552	$771	$991	$1,210

Pre-Tax IRR Sensitivity to Foreign Exchange (Gold Price (US$/oz))

Foreign Exchange	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
0.65	47.2%	58.7%	70.3%	81.9%	93.6%	105.3%
0.70	36.5%	47.2%	57.9%	68.7%	79.4%	90.2%
0.75	27.0%	37.2%	47.2%	57.2%	67.2%	77.3%
0.80	18.5%	28.3%	37.8%	47.2%	56.6%	66.0%
0.85	10.5%	20.3%	29.5%	38.4%	47.2%	56.0%

Pre-Tax NPV Sensitivity to Operating Cost (Gold Price (US$/oz))

Operating Cost	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
(20.0%)	$877	$1,126	$1,374	$1,623	$1,872	$2,121
(10.0%)	$685	$934	$1,183	$1,431	$1,680	$1,929
--	$493	$742	$991	$1,240	$1,488	$1,737
10.0%	$301	$550	$799	$1,048	$1,296	$1,545
20.0%	$109	$358	$607	$856	$1,105	$1,353

Pre-Tax IRR Sensitivity to Operating Cost (Gold Price (US$/oz))

Operating Cost	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
(20.0%)	41.3%	51.0%	60.8%	70.5%	80.4%	90.3%
(10.0%)	34.4%	44.2%	54.1%	63.9%	73.9%	83.8%
--	27.0%	37.2%	47.2%	57.2%	67.2%	77.3%
10.0%	19.2%	29.8%	40.1%	50.3%	60.4%	70.6%
20.0%	10.6%	22.0%	32.7%	43.1%	53.5%	63.7%

Pre-Tax NPV Sensitivity to Initial Capital Cost (Gold Price (US$/oz))

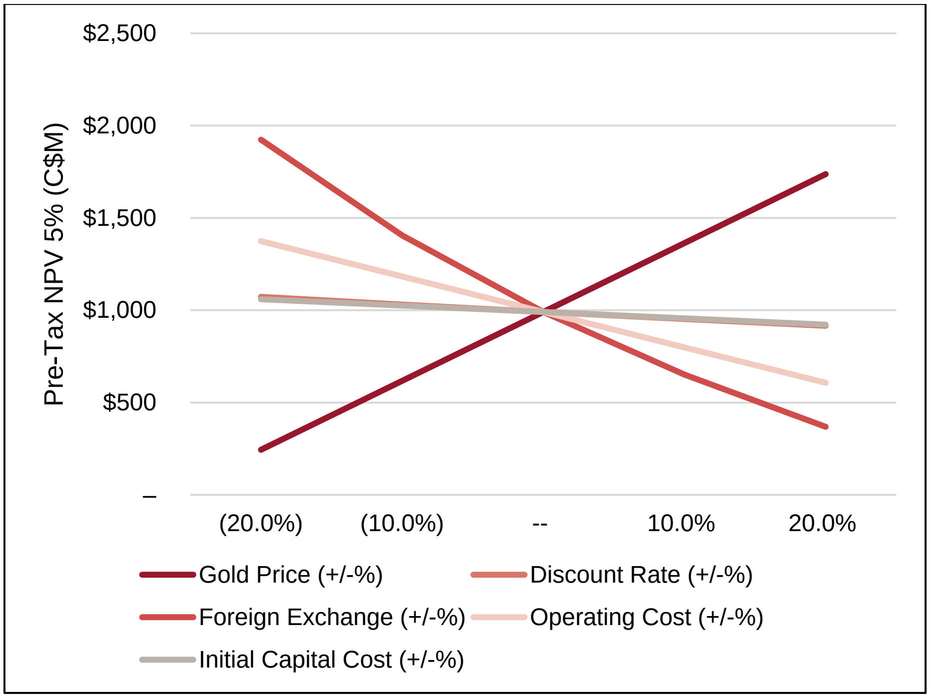
Initial Capital Cost	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
(20.0%)	$562	$811	$1,060	$1,308	$1,557	$1,806
(10.0%)	$527	$776	$1,025	$1,274	$1,523	$1,772
--	$493	$742	$991	$1,240	$1,488	$1,737
10.0%	$459	$707	$956	$1,205	$1,454	$1,703
20.0%	$424	$673	$922	$1,171	$1,420	$1,668

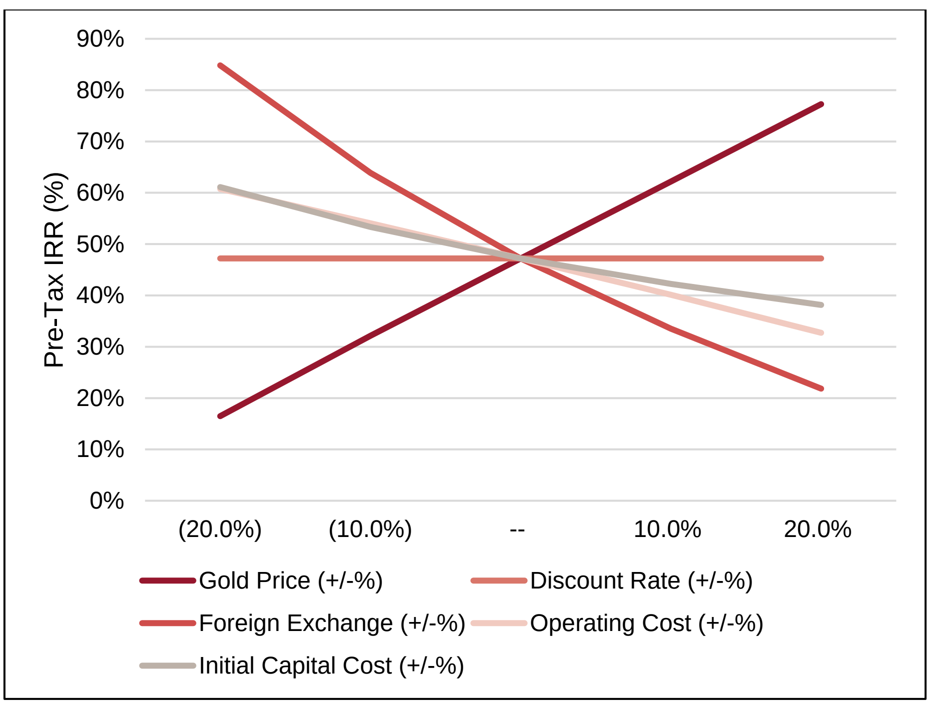
Pre-Tax IRR Sensitivity to Initial Capital Cost (Gold Price (US$/oz))

Initial Capital Cost	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
(20.0%)	35.7%	48.4%	61.1%	73.8%	86.6%	99.4%
(10.0%)	30.9%	42.2%	53.3%	64.5%	75.7%	87.0%
--	27.0%	37.2%	47.2%	57.2%	67.2%	77.3%
10.0%	23.9%	33.2%	42.3%	51.3%	60.3%	69.4%
20.0%	21.2%	29.8%	38.1%	46.4%	54.7%	62.9%

Source: Ausenco, 2021.

Figure 22-2: Pre-Tax NPV and IRR Sensitivity Results





Source: Ausenco, 2021.

Table 22-6: Post-Tax Sensitivity Analysis

Post-Tax NPV Sensitivity to Discount Rate (Gold Price (US$/oz))

Discount Rate	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
1.0%	$460	$659	$857	$1,054	$1,247	$1,438
3.0%	$366	$541	$716	$888	$1,058	$1,226
5.0%	$288	$444	$598	$751	$902	$1,051
8.0%	$195	$327	$457	$586	$713	$839
10.0%	$146	$265	$382	$498	$612	$725

Post-Tax IRR Sensitivity to Discount Rate (Gold Price (US$/oz))

Discount Rate	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
1.0%	19.1%	26.2%	32.8%	39.2%	45.5%	51.6%
3.0%	19.1%	26.2%	32.8%	39.2%	45.5%	51.6%
5.0%	19.1%	26.2%	32.8%	39.2%	45.5%	51.6%
8.0%	19.1%	26.2%	32.8%	39.2%	45.5%	51.6%
10.0%	19.1%	26.2%	32.8%	39.2%	45.5%	51.6%

Post-Tax NPV Sensitivity to Foreign Exchange (Gold Price (US$/oz))

Foreign Exchange	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
0.65	$598	$774	$948	$1,119	$1,288	$1,456
0.70	$433	$598	$762	$923	$1,082	$1,240
0.75	$288	$444	$598	$751	$902	$1,051
0.80	$150	$308	$453	$598	$741	$883
0.85	$23	$179	$325	$462	$598	$733

Post-Tax IRR Sensitivity to Foreign Exchange (Gold Price (US$/oz))

Foreign Exchange	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
0.65	32.8%	40.2%	47.4%	54.4%	61.4%	68.3%
0.70	25.7%	32.8%	39.7%	46.4%	52.9%	59.4%
0.75	19.1%	26.2%	32.8%	39.2%	45.5%	51.6%
0.80	12.6%	20.0%	26.6%	32.8%	38.8%	44.7%
0.85	6.2%	14.0%	20.8%	27.0%	32.8%	38.5%

Post-Tax NPV Sensitivity to Operating Cost (Gold Price (US$/oz))

Operating Cost	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
(20.0%)	$528	$680	$831	$979	$1,125	$1,271
(10.0%)	$409	$563	$716	$867	$1,015	$1,162
--	$288	$444	$598	$751	$902	$1,051
10.0%	$152	$322	$479	$633	$786	$937
20.0%	$10	$186	$357	$513	$668	$821

Post-Tax IRR Sensitivity to Operating Cost (Gold Price (US$/oz))

Operating Cost	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
(20.0%)	29.3%	35.6%	41.8%	47.8%	53.7%	59.6%
(10.0%)	24.4%	31.0%	37.4%	43.6%	49.7%	55.7%
--	19.1%	26.2%	32.8%	39.2%	45.5%	51.6%
10.0%	12.8%	20.8%	27.9%	34.6%	41.1%	47.4%
20.0%	5.6%	14.6%	22.6%	29.7%	36.4%	43.0%

Post-Tax NPV Sensitivity to Initial Capital Cost (Gold Price (US$/oz))

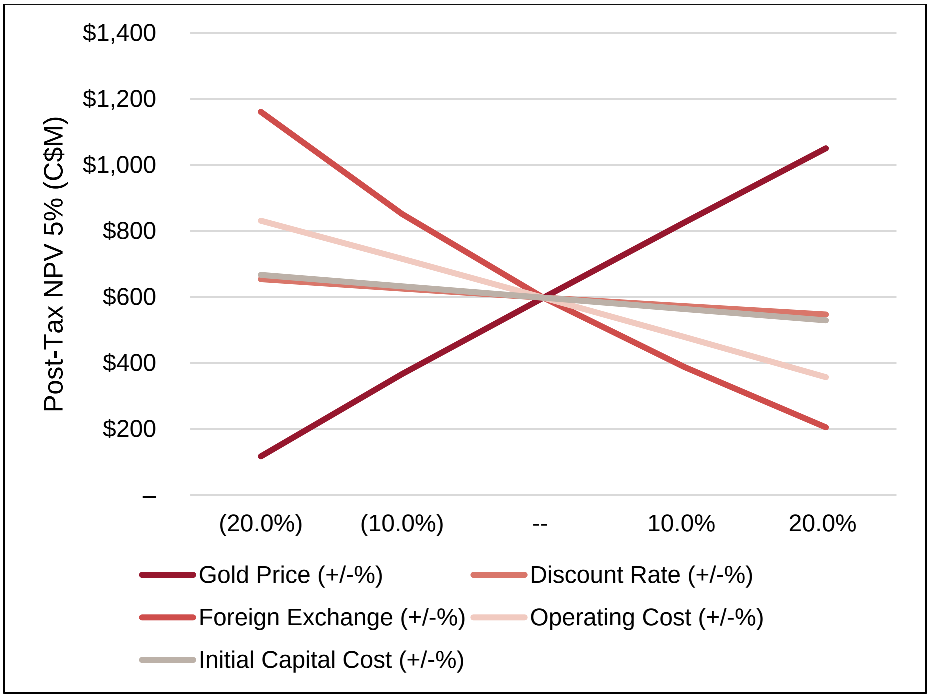
Initial Capital Cost	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
(20.0%)	$357	$513	$667	$820	$970	$1,120
(10.0%)	$322	$478	$633	$785	$936	$1,085
--	$288	$444	$598	$751	$902	$1,051
10.0%	$253	$409	$564	$717	$867	$1,016
20.0%	$219	$375	$529	$682	$833	$982

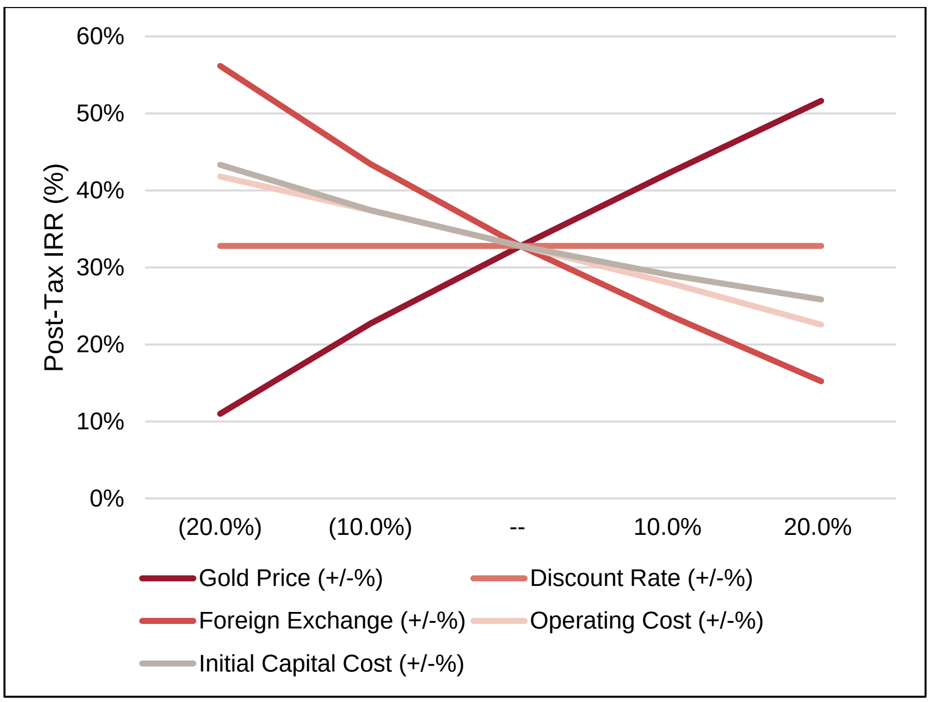
Post-Tax IRR Sensitivity to Initial Capital Cost (Gold Price (US$/oz))

Initial Capital Cost	$1,300	$1,400	$1,500	$1,600	$1,700	$1,800
(20.0%)	26.4%	35.1%	43.3%	51.4%	59.3%	67.0%
(10.0%)	22.3%	30.1%	37.4%	44.6%	51.6%	58.4%
--	19.1%	26.2%	32.8%	39.2%	45.5%	51.6%
10.0%	16.4%	22.9%	29.0%	34.9%	40.6%	46.1%
20.0%	14.2%	20.2%	25.8%	31.2%	36.5%	41.6%

Source: Ausenco, 2021.

Figure 22-3: Post-Tax NPV and IRR Sensitivity Results





Source: Ausenco, 2021.

23 ADJACENT PROPERTIES

The Val-d’Or East property is conveniently located in the heart of the Val-d'Or mining camp. Several mining companies are in operation around the property (Figure 23-1).

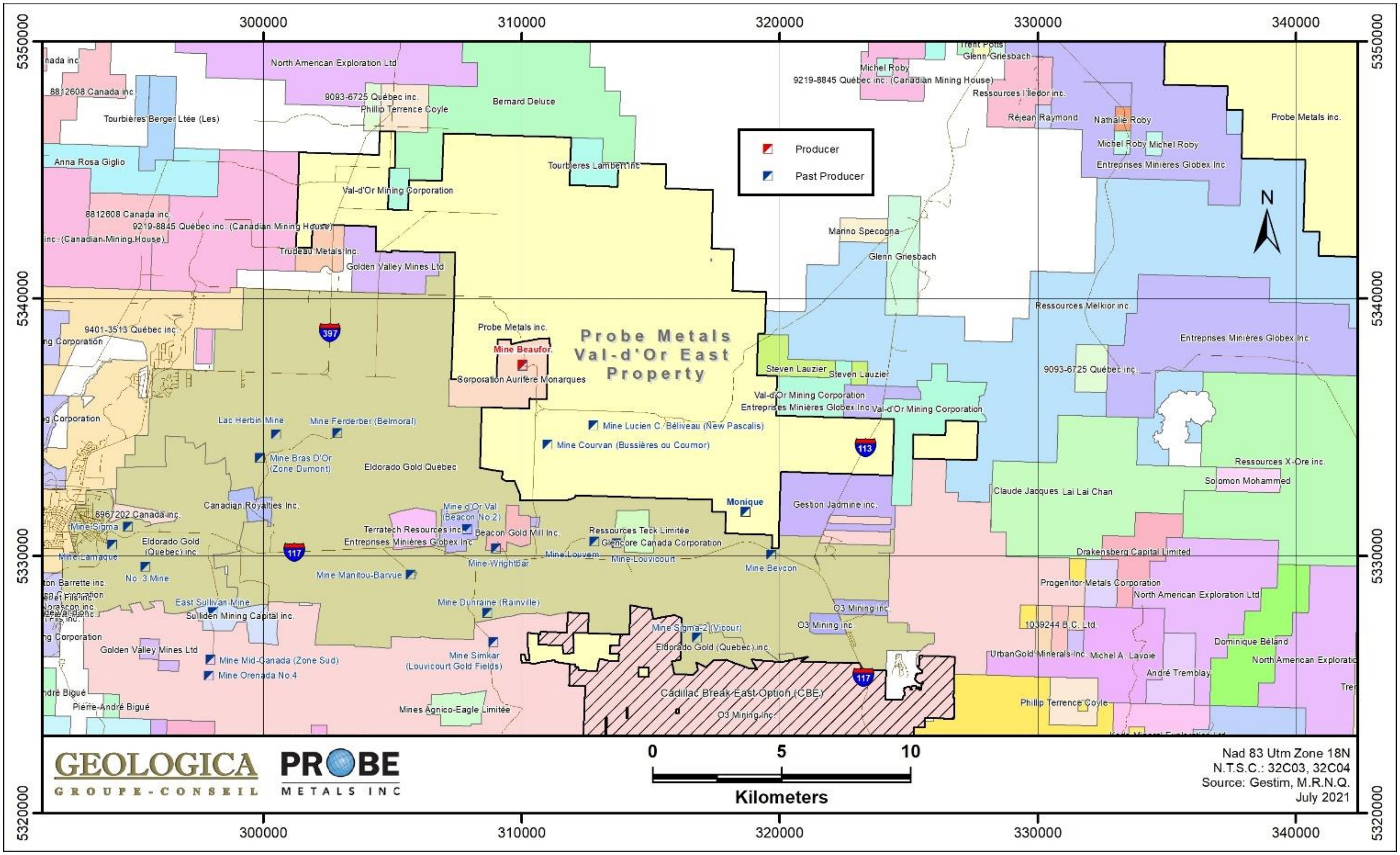
Immediately to the west is the former Beaufor underground mine that produced over 1 million ounces of gold using long hole and room and pillar mining methods. Measured and indicated resources of 431,100 metric tonnes grading 6.68 g/t Au (92,700 ounces of gold) and inferred resources of 134,600 metric tonnes grading 6.96 g/t Au (30,100 ounces of gold) were reported (Monarch Mining Corp., Press Release, January 28, 2021).

Eldorado Gold Québec Inc. owns a large claim block to the south and west of the property on which many past and recent mines have been operated:

- Ferderber Mine – Production (1979-1994): 1,710,102 tonnes at 6.46 g/t Au
- Dumont Mine (Bras d’Or) – Production (1980-1993): 1,106,812 tonnes at 6.24 g/t Au
- Louvem Mine – Production (1970-1978): 2,358,200 tonnes at 0.21% Cu, 5.59% Zn, 34.29 g/t Ag and 0.69 g/t Au
- Bevcon-Buffadisson Mines – Production (1951-1965): 3,493,243 tons at 4.35 g/t Au and 1.9 g/t Ag (407,409 oz Au and 145,500 oz Ag). Recently, a resource estimation (BBA, NI 43-101 Technical Report, dated January 15, 2021) was completed on the Bonnefond South property utilizing a cut-off grade of 0.60 g/t Au. Indicated resource of 7,418,000 tonnes at 1.67 g/t Au (397,100 oz Au) and inferred resource of 3,335,000 tonnes at 2.71 g/t Au (290,800 oz Au) were calculated
- Louvicourt Mine – Production (1995-2001): 13,865,841 tonnes at 3.52% Cu, 1.53% Zn, 25.88 g/t Ag and 0.92 g/t Au
- Lac Herbin – Production (2008-2016): 1.2 Mt at 4.6 g/t Au (172,650 oz Au).

Several other junior exploration companies and prospectors, such as Golden Valley Mines, Melkior Resources, and Gestion Jasmine Inc., hold claim blocks around the property.

Figure 23-1: Adjacent Properties



Source: Geologica, 2021.

24 OTHER RELEVANT DATA AND INFORMATION

24.1 Former Works

Probe Metals received all the required work permits to conduct drilling activities, construct access routes for diamond drilling and stripping/trenching activities, as well as to clear lumber on the claims holdings.

The Monique property is the site of the former Monique open pit. Reclamation is still ongoing with re-vegetation of the waste stockpile.

24.2 Project Execution Schedule

The project execution schedule addresses the overall project (objectives, scope, strategies, and roles and responsibilities) and provides a high-level plan for the development and implementation of the Val-d'Or East Project. The schedule covers the plan for studies, site works, engineering, procurement, construction, start-up and commissioning of the project.

Probe Metals aims to bring the Val-d'Or East Project into operation while satisfying the following objectives:

- zero harm to personnel involved with construction, operation, and maintenance of the facilities, and zero unintended environmental impact or incidents
- preserve or improve the project value through effective control of project costs and completion of construction and commissioning on or ahead of schedule
- satisfy quality and performance targets
- comply with company policies and legislative requirements, negotiated benefits agreements
- maintain positive community relations.

24.2.1 Execution Strategy

The execution schedule activities include the following:

- bridging phase
- studies and site work
- permitting
- engineering procurement construction management (EPCM)
- constraints and limitations

24.2.2 Studies and Site Work

24.2.2.1 Bridging Phase

During the bridging phase prior to the commencement of the prefeasibility study, the focus will be on obtaining the necessary information to successfully execute the pre-feasibility phase and environmental impact assessment works. This information will be obtained through the following:

- trade-off studies
- infill drilling
- condemnation drilling
- geotechnical drilling
- metallurgical test program
- geochemical characterization
- hydrogeological characterization
- hydrology analysis
- environmental characterization.

24.2.2.2 Pre-feasibility Study

During the pre-feasibility study, the engineering process will evaluate the technical and economic viability of a mining project using the updated resource model based on infill drilling (validate reserve).

Construction and operation of the mine, plant, and associated infrastructure may not take place until environmental permits have been received. The work performed during the pre-feasibility phase will therefore be aligned to support the provincial and federal EIA procedures.

24.2.2.3 Feasibility Study

A comprehensive technical and economic feasibility study will be developed to serve as the basis to decide whether to proceed with the mine plans. Activities during this phase will include a comprehensive analysis of the mineral deposit, updated budget pricing for all major equipment, development of design and drawings to support material take-offs, definition of all supporting infrastructure, development of a detailed execution schedule and plan, and development of a detailed capital cost estimate.

24.2.3 Engineering Procurement Construction Management (EPCM)

The EPCM contractor will provide a complete and fully functional process plant and other on-site infrastructure as defined in Section 18 by performing the services below.

- The engineering and design required for the construction of the facilities will be completed. Design for construction will include all engineering disciplines such as civil, structural, architectural, mechanical, piping, electrical, instrumentation and control.
- All materials, goods, and services will be procured to construct and commission the process plant. This includes the procurement of commissioning spare parts at the time of equipment procurement.
- Logistics management, warehousing and preservation of all procured materials and goods will be provided prior to issue to construction contractors.
- All work within the defined scope will be managed in accordance with the project execution plan and all other project plans, to achieve the project schedule and budget.
- A project controls system will be implemented to adequately monitor and report on project progress, including adherence to or deviation from the schedule and the budget. Monthly Project Progress reports will be provided to thoroughly explain project progress.
- Engineering and supervisory support will be provided for the process plant from start-up (C3) through to final completion.

The construction effort will follow a strategy of working on numerous work fronts concurrently. Work fronts to include optimal sequencing to be determined for early works activities such as tree clearing and grubbing, access roads and site roads and excavation. The site layout allows sufficient room for laydowns within the processing site following site preparation, as seen in Figure 24-1 on the following page.

The contractor will commence with infrastructure development, pre-stripping, overburden removal and storage, laydown areas, haul roads, access roads, deep undergrounds, fire protection, water and sewer services, buried permanent and temporary electrical services, substation and electrical distribution, piling and then work out of the ground. As civil work completes the concrete foundations, piers and pedestals will be placed.

An arial view of Val-d'Or East processing facility, administration and truckshop is shown in Figure 24-1.

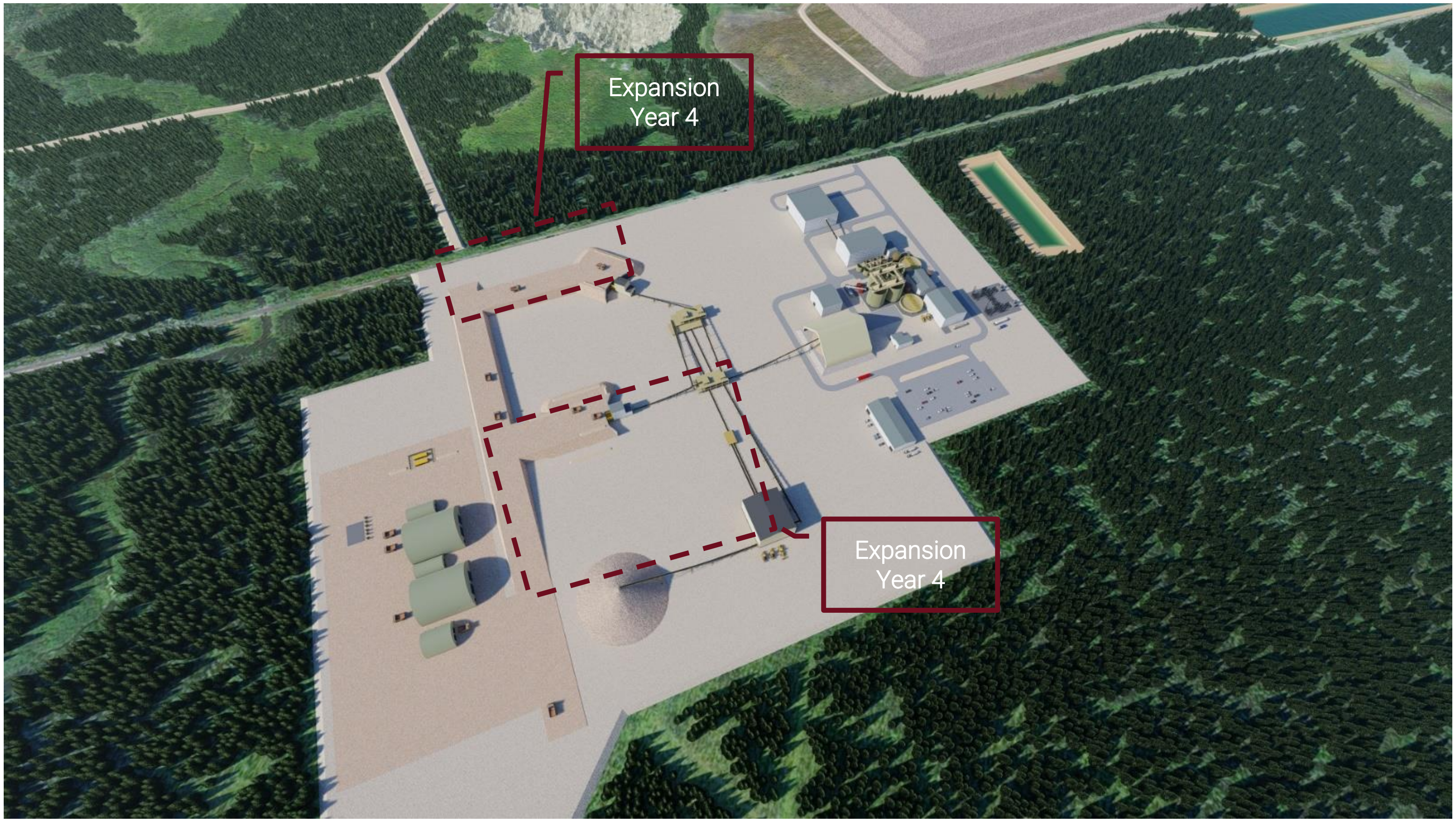
The overall construction timeline is assumed to take 24 months with three months of ramp-up, as indicated in Table 24-1.

24.2.4 Constraints and Limitations

No allowance for inclement weather or other time-delay for risk events has been included; however, care should be taken to avoid critical tasks for non-winter months (such as concrete pours and welding), and to avoid bird nesting windows for tree clearing activities.

Due to potential issues associated with the ground conditions in wet areas, bulk earthworks is advised to be undertaken during the winter months when the ground is frozen. Construction activities will be sequenced to consider the northern weather conditions and outdoor construction windows.

Figure 24-1: Arial View of Val-d'Or East Processing Facility, Administration and Truckshop



Source: Ausenco, 2021.

Table 24-1: Construction Schedule

Task Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Bulk Earthworks	■	■	■	■																				
Detailed Earthworks			■	■	■	■	■																	
Concrete Works						■	■	■	■	■	■	■	■	■										
Construction									■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Commissioning																						■	■	■

Source: Ausenco, 2021.

25 INTERPRETATION AND CONCLUSIONS

25.1 Introduction

The QPs have provided the following interpretations and conclusions in their respective areas of expertise, based on the review of data available for this report.

25.2 Property Description and Location

The Val-d'Or East property is located 26 km east of the town of Val-d'Or, in a historic mining camp with favorable structural and geological settings. The property is at an advanced stage of exploration and hosts significant gold mineralization. The property has supported profitable commercial mining operations in the past. While some resources were mined on the property, some remain to be discovered, evaluated, and defined in detail.

The property consists of three distinct claim blocks. The Pascalis-Courvan-Senore claim block is 100% owned by Probe Metals and is comprised of 401 map-designated mining titles (CDC) and two mining concessions (CM) covering a total area of 16,909.41 hectares. The Monique claim block is contiguous to the Pascalis-Courvan-Senore block and is composed of 21 map-designated mining titles (CDC) and one mining lease (BM) covering a total of 550.04 hectares. The Lapaska claim block, which is non-contiguous with the Pascalis-Courvan-Senore block, is 100% owned by Probe Metals and is comprised of 21 map-designated mining titles (CDC) covering a total of 352.35 hectares.

25.3 Data Verification and Mineral Resources

Geologica and GoldMinds have reviewed the data and drill hole database and inspected the QA/QC program. Geologica and GoldMinds believe that the data presented by Probe Metals are generally an accurate and reasonable representation of the Val-d'Or East property.

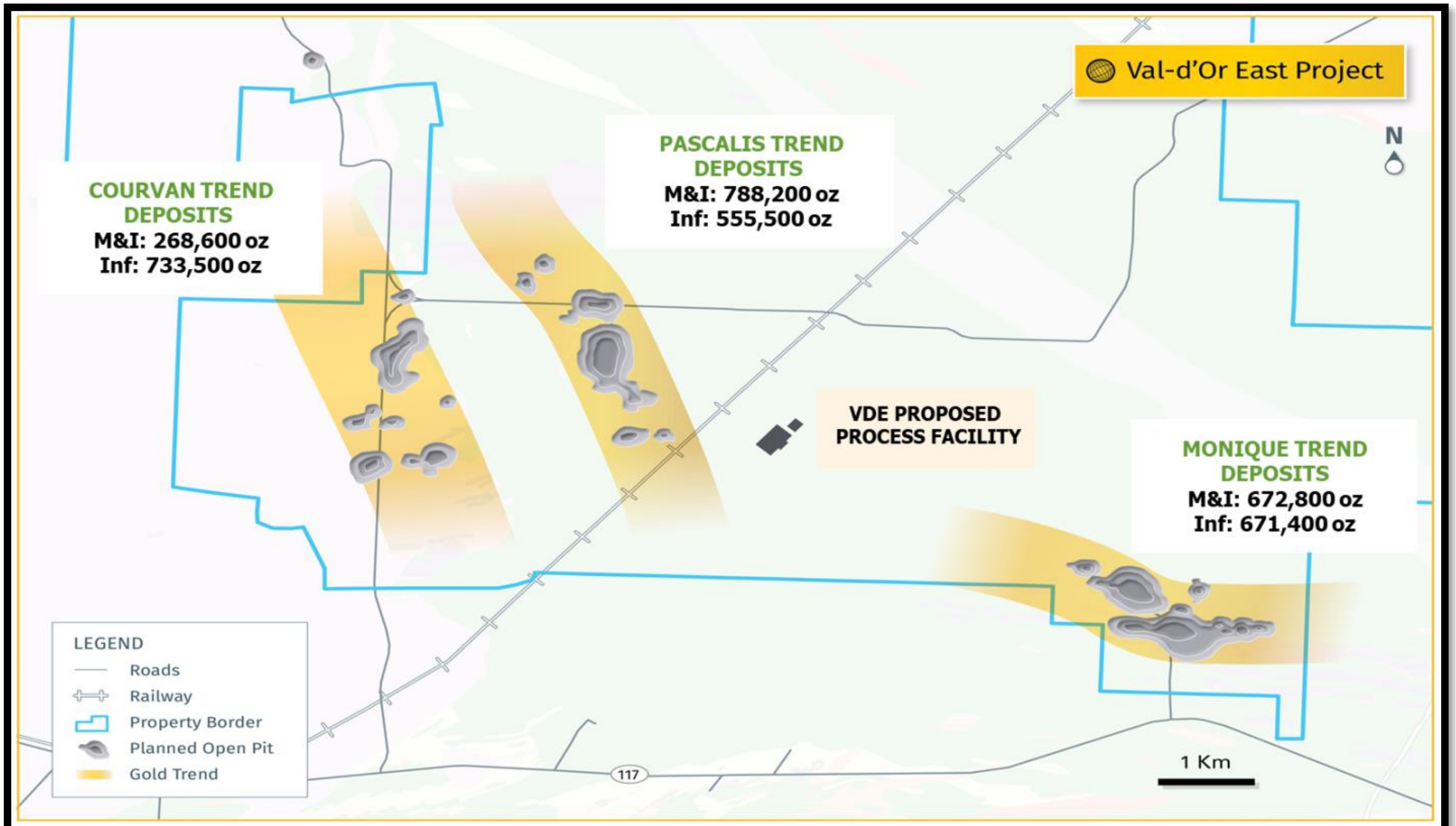
This report presents an update of the mineral resource estimate on the property, which is summarized in Table 25-1 and depicted in Figures 24-1 to 24-4 based on the analytical data from drill holes completed as of December 31, 2020 and the database as of May 8, 2021.

Table 25-1: Val-d'Or East Property (100% Interest)

All Deposits / Category	Pit-Constrained Resources			Underground Resources			Total Resources		
	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)
Measured	5,111,000	2.12	347,600	660,000	2.43	51,500	5,771,000	2.15	399,100
Indicated	21,404,000	1.56	1,072,700	2,602,000	3.08	257,900	24,006,000	1.72	1,330,600
Measured & Indicated	26,515,000	1.67	1,420,300	3,262,000	2.95	309,400	29,777,000	1.81	1,729,700
Inferred	20,702,000	1.58	1,053,800	8,230,000	3.43	906,500	28,932,000	2.11	1,960,400

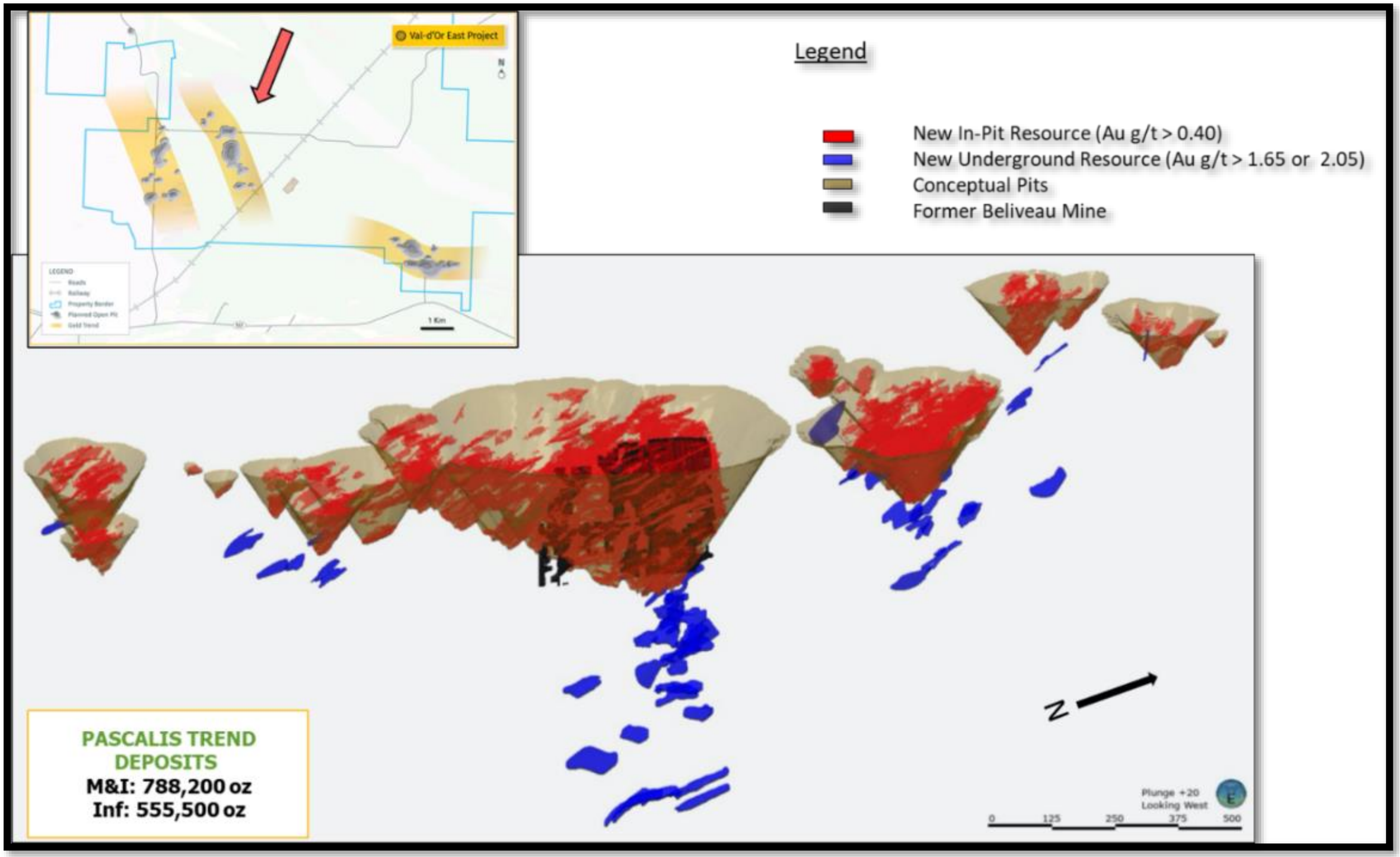
Sources: Geologica & GoldMinds, 2021.

Figure 25-1: Surface Map Pascalis, Courvan and Monique Trends Gold Deposits



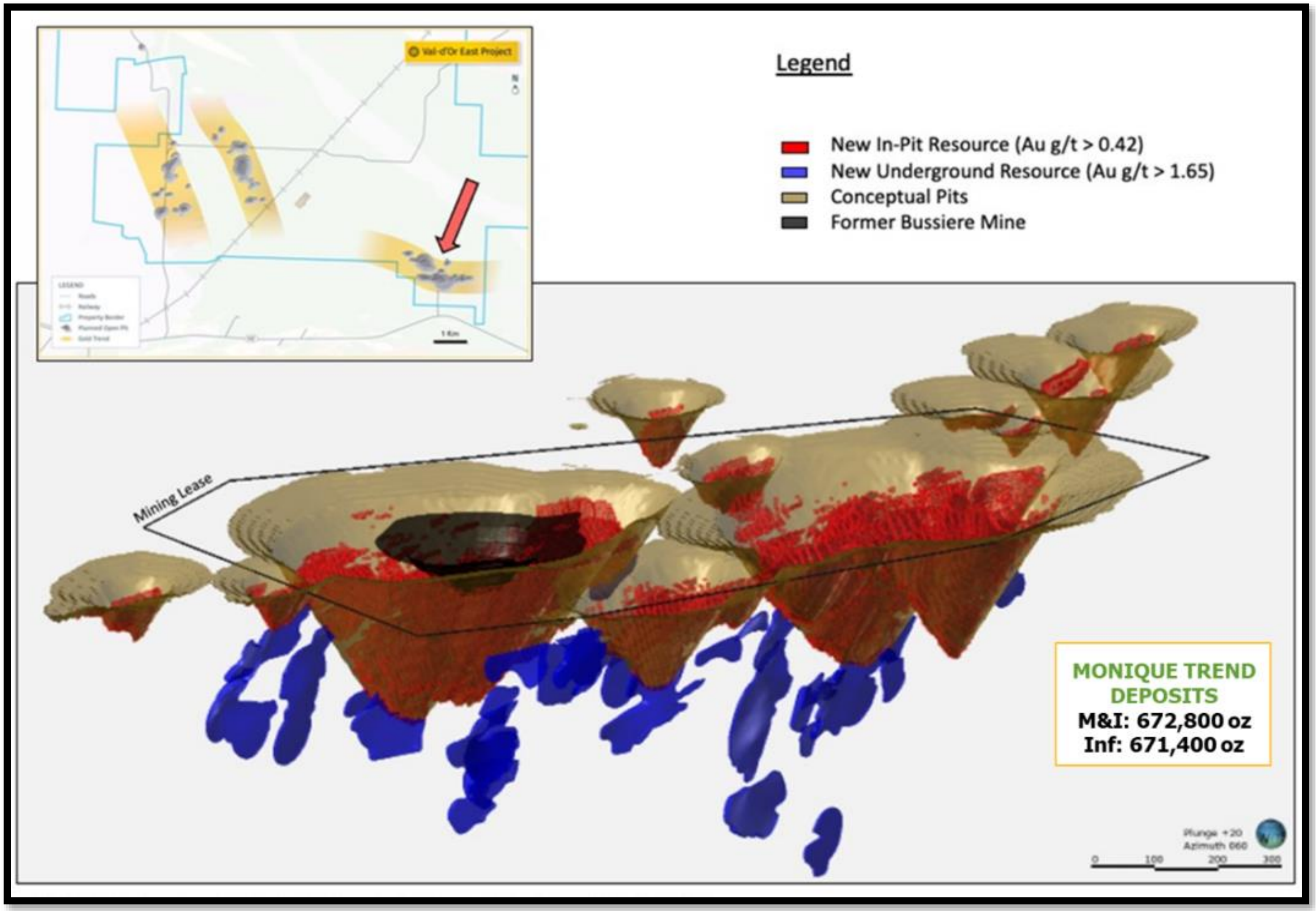
Source: Probe Metals, 2021.

Figure 25-2: Block Model 3D View – Pascalis Gold Trend Area



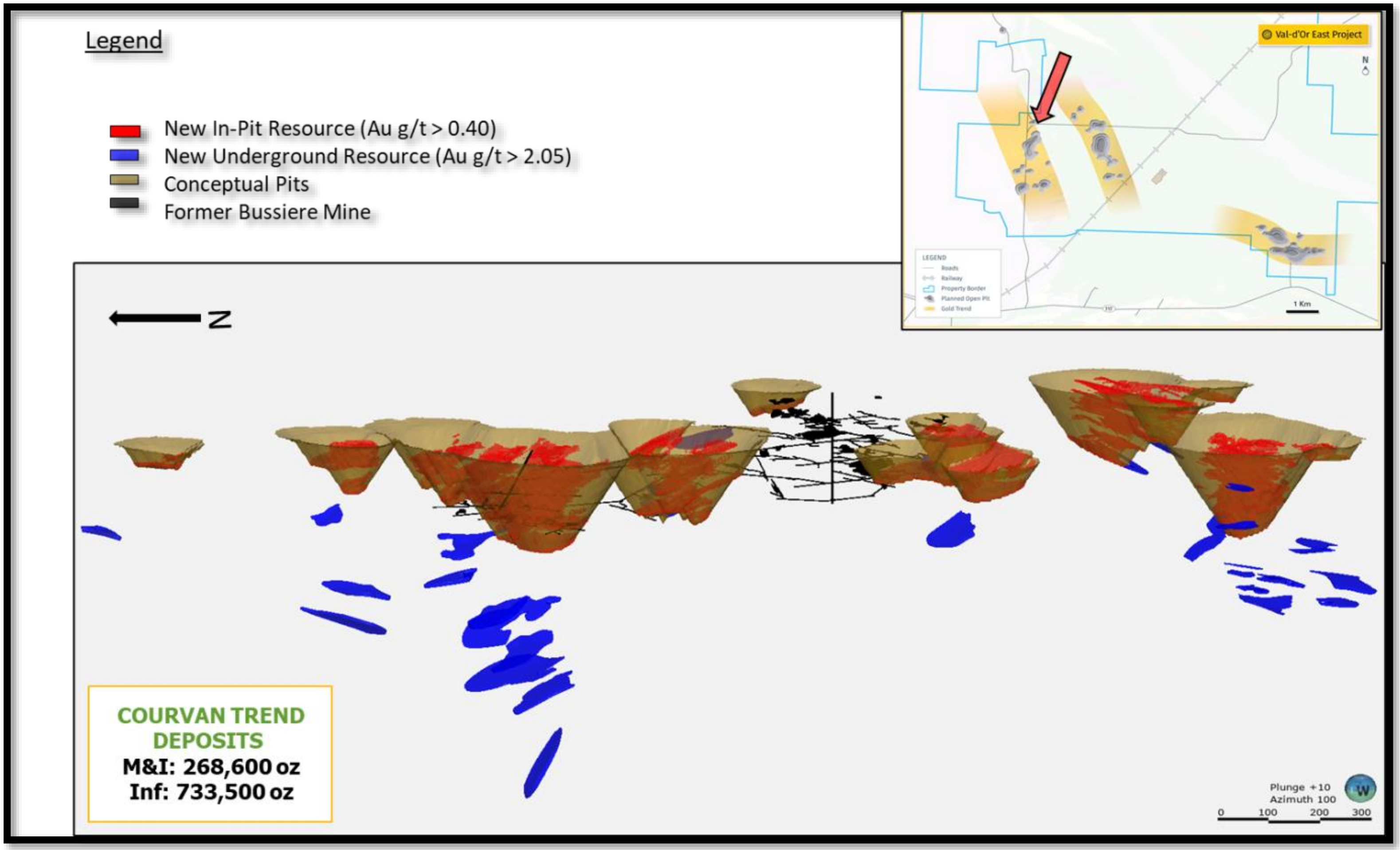
Source: Probe Metals, 2021.

Figure 25-3: Block Model 3D View – Monique Gold Trend Area



Source: Probe Metals, 2021.

Figure 25-4: Block Model 3D View – Courvan Gold Trend Area



Source: Probe Metals, 2021.

The mineral resource for the other properties at Val-d'Or is provided in Table 25-2.

Table 25-2: Val-d'Or East Other Properties

Deposit / Category	Pit-Constrained Resources			Underground Resources			Total		
	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)	Tonnes	Grade (Au g/t)	Gold (oz)
Lapaska[1] Total Inferred	512,000	1.47	24,200	460,000	3.19	47,200	972,000	2.28	71,300
Senore Total Inferred	549,000	1.78	31,400	38,000	2.68	3,300	587,000	1,84	34,700
Sleepy[2] Total Inferred				1,113,000	4.70	167,900	1,113,000	4.70	167,900

Notes: 1 NI 43-101 Technical Report Val-d'Or East Project – October 2019, 100% interest. 2 NI 43-101 Technical Report Sleepy Project – December 2014, 60% interest. Source: Geologica & GoldMinds, 2021.

Mineral resources that are not mineral reserves do not have demonstrated economic viability. The mineral resources presented in this technical report are estimates based on available sampling and on assumptions and parameters available to the authors. The comments in this technical report reflect the authors' best judgement in light of the information available.

The gold recovery selected for the resource estimate is 95%. It is possible that higher gold extraction could be achieved during production. In addition, the previous work and stope design, including the geotechnical investigation and logging done since 2016, highlights the excellent quality of the rocks hosting the gold mineralization and indicate that the project is amenable to both open pit and underground mining methods. The property shows good potential for development with multiple deposits feeding a central mill.

The promising results obtained from the mineral sorting testwork have shown that the technology warrants further investigation for inclusion in the process flowsheet as a pre-concentration step. Preliminary evaluation of a processing flowsheet with mineral sorting has indicated that the downstream processing tonnage could be reduced by 45% with only 5% gold losses.

Geologica and GoldMinds believe that the various gold trends (Pascalis, Courvan, and Monique) on the Val-d'Or East property have excellent exploration potential along strike and at depth surrounding the existing gold deposits. More detailed knowledge and understanding of the property-scale controls and structures will help guide and focus future drilling programs. Geologica and GoldMinds believe that Probe Metals should continue to refine its understanding of the structural complexity to help interpret and define other potentially mineralized sub-vertical trending shear and fault structures cutting across the currently modelled structures along the different trends. The chargeability/resistivity data gathered in 2018 and 2019 will help to identify the presence of pyrite mineralization and altered structures close to surface. In areas covered by thick and/or conductive overburden, high power 3D IP surveys carried out from 2019 to 2021 will help to identify anomalies where historical surveys failed to read bedrock. Geologica and GoldMinds believe that Probe Metals should continue aggressive follow-up exploration, geophysical surveys, geochemical surveys mapping/prospecting, drilling, metallurgical investigation, and project development activities on the property. Significant additional exploration and definition drilling is clearly warranted on the property to increase the quantity and quality of gold resources.

25.4 Mining

The scoping-level mine planning work that has been completed to date demonstrates viable economics for the extraction of ~45 million tonnes of mill feed at an average mill feed gold grade of 1.88 g/t.

The economic open pit mining shells for the Monique, Pascalis and Courvan gold trends capture a good portion of the resource, and underground mining methods capture additional economic material below the open pit mining limits.

25.5 Metallurgical Testwork

Metallurgical testwork shows that Val-d'Or samples respond to standard gravity concentration and cyanide leaching resulting with acceptable recoveries. Ore sorting testwork completed on Beliveau samples showed favourable results indicating that the Val-d'Or material would respond well to pre-concentration.

Samples selected for testing were representative of the Beliveau, Courvan, Monique, Highway, and North-Zone deposits.

25.6 Recovery Methods

The plant will process material at a rate of 3.65 Mt/a with an average head grade of 1.88 g/t Au over the life of mine to produce doré.

The process plant flowsheet designs were based on testwork results and industry-standard practices. The flowsheet was developed for optimum recovery while minimizing capital expenditure and life-of-mine operating costs. The process methods are conventional to the industry. The comminution and recovery processes are widely used with no significant elements of technological innovation.

25.7 Infrastructure

The main site infrastructure consists of open pit mining, a DSTF, waste rock storage facilities, access roads connecting the various pits to the main plant site, and a truckshop. The mine site areas will be fenced, and the main plant access area will be gated for security. There will be expansion in Year 4 to include underground mining at the Monique, Pascalis and Courvan deposits and associated infrastructure as well as to process a second ore sorting feed stream, while maintaining the same mill throughput.

The project is progressing with filter tailings and a dry stack tailings facility. The facility has been designed to store approximately 45.1 Mt of tailings over a 13-year mine life. The facility will be built in phases to reduce sediment generation along with progressive closure of permanent slopes. The facility includes gravel underdrains and surface water collection channels that convey water to two sediment/seepage collection ponds. The water will be used for process requirements and any excess water will go to the water treatment plant for discharge to the environment.

The proposed water management structures for the project include a series of diversion channels and ditches, as well as collections ditches and ponds. Contact runoff from the plant site, rock storage facilities, and overburden storage areas will either be stored in collection ponds for treatment and release to the environment or reused for process purposes. A high-level estimate of excavation volumes was completed using the proposed geometries of the structures and elevation profile along the alignment of channels and ditches.

25.8 Market Studies and Contracts

No formal marketing studies have been carried out regarding gold production from mining and processing Val-d'Or East ore into doré bars. Gold production is expected to be sold on the spot market. Terms and conditions included as part of the sales contracts are expected to be typical of similar contracts for the sale of doré throughout the world.

For this technical report, a conservative gold price of US$1,500/oz was assumed and a CAD:USD exchange rate of 0.75 was used.

Probe Metals has not entered into, nor is currently negotiating, any material contracts; however, Probe Metals plans to contract out the transportation and refining of doré gold bars. The PEA assumes a refining and transportation charge of C$2.50/oz of gold and 99.95% payability for gold content, comparable to similar indicative terms reported by other mining operations in the region.

25.9 Environmental Studies, Permitting, and Social or Community Impact

The construction, operation, and closure of the mine is subjected to a number of laws and regulation at the federal, provincial, and municipal levels. Under the new *Impact Assessment Act* (IAA 2019), only projects designated by the Regulations Designating Physical Activities (DORS/2019-285) are subjected to the environmental assessment procedure. Thus, an environmental assessment under the IAA 2019 is required for a project that involves the construction, operation, decommissioning, and abandonment of a new gold mine (other than a placer mine) with an ore production capacity of 5,000 t/d or more. This is the case for the Val-d'Or East project.

Since 2017, Probe Metals has initiated a series of environmental studies with SNC Lavalin to understand the environmental constraints on portions of the Pascalis and Courvan resource zones. The Pascalis-Courvan area was largely covered by the studies carried out in 2017, 2018 and 2020, for a total of 1,533 ha. The actual report is also based on the observations and conclusions of the environmental study completed by Aecom for Richmont Mines in 2010 and 2011, which covered an area of 539 ha including the former Monique open pit mine infrastructures (Aecom, 2011). In all cases, the permitting process would require an understanding of both the physical (surface water, groundwater, air, noise), biological (fauna and flora), and human environments and would also include an evaluation of impacts with proposed mitigation measures.

Consultations and information with stakeholders about the project should include a range of stakeholders, including municipal and political organizations, economic actors, environmental groups, nearby cottagers and homeowners, and the Algonquin Anishinabeg Nation of Lac-Simon. As part of their exploration programs, Probe Metals has started to consult and to inform with some of the stakeholders, including the Algonquin Anishinabeg Nation of Lac-Simon and the nearby cottagers and homeowners.

25.10 Capital Cost Estimate

The capital cost estimate was developed in Q3 2021 Canadian dollars based on Ausenco's in-house database of projects and studies as well as experience from similar operations. The estimate has an accuracy of ±50%, which is in accordance with the Association for the Advancement of Cost Engineering International (AACE International) guidelines for a PEA study.

The capital cost estimate includes the cost of open pit and underground development, permanent equipment, equipment packages, modular equipment, material purchase, installation, subcontracts, indirect costs, as well as Owner's costs, and provisions. The cost estimate is based on an engineering, procurement, and construction management (EPCM) implementation approach.

The following information pertains to the estimate:

- expressed in Canadian dollars (C$ or CAD)
- exchange rate of 0.75 (CAD:USD)
- accuracy of ±50%
- no allowance has been made for escalation or exchange rate fluctuations.

The total initial capital cost for the Val-d'Or East Project is C$353 million and the life-of-mine sustaining cost is C$602 million. Closure costs are estimated at C$30 million. The initial capital cost summary is presented in Table 25-3.

Table 25-3: Initial Capital Costs

WBS	WBS Description	Capital Cost (C$M)
1000	Mining	71.6
2000	On-site Infrastructure	50.0
3000	Process Plant	129.4
4000	Off-site Infrastructure	4.2
	Total Directs	255.2
5000	Project Indirects	9.1
6000	Project Delivery	31.2
7000	Owner's Costs	11.4
8000	Provisions	45.6
	Total Indirects	97.3
	Project Total	**352.6**

Source: Ausenco, 2021

25.11 Operating Cost Estimate

The operating cost estimate was developed in Q3 2021 dollars from Ausenco's in-house database of projects and studies and experience from similar operations. The accuracy of the operating cost estimate is ±50%. The estimate includes mining, processing, general and administration (G&A), mobile equipment, and the DSTF.

The overall annual life-of-mine operating cost after the Phase 2 expansion, not including mining, is $59.0 million over the 13-year mine life or $16.19/t of ore milled.

The overall life-of-mine operating cost, including mining, processing, and G&A, is $2,658 million or $58.81/t of ore milled.

25.12 Economic Analysis

An engineering economic model was developed to estimate the project's annual pre-tax and post-tax flows and sensitivities based on an 5% discount rate.

The analysis used the following key inputs:

- mine life of 12.5 years
- exchange rate of 0.75 (CAD:USD)
- base case gold price of US$1,500/oz
- cost estimates in constant Q3 2021 Canadian dollars with no inflation or escalation factors considered
- results based on 100% ownership with an average 0.8% net smelter return (NSR)
- capital costs funded with 100% equity (no financing costs assumed).

The pre-tax NPV discounted at 5% is C$991 million; the internal rate of return IRR is 47.2%, and payback period is 1.8 years. On a post-tax basis, the NPV discounted at 5% is C$598 million; the IRR is 32.8%, and the payback period is 2.7 years.

A sensitivity analysis was conducted on the base case pre-tax and post-tax NPV and IRR of the project, using the following variables: gold price, discount rate, foreign exchange, operating cost, and initial capital cost. The sensitivity analysis revealed that the project is most sensitive to changes in gold price, and foreign exchange and less sensitive to operating cost, discount rate, and initial capital cost.

25.13 Risk and Opportunities

25.13.1 Risks

25.13.1.1 General

General risks to the forward-looking information include:

- potential lack of grade continuity of the inferred mineral resource
- changes to costs of production from what is assumed
- unrecognized environmental risks
- unanticipated reclamation expenses
- unexpected variations in quantity of mineralized material, grade, or recovery rates
- geotechnical or hydrogeological considerations during mining being different from what was assumed
- failure of mining methods to operate as anticipated
- failure of plant, equipment, or processes to operate as anticipated

- changes to assumptions as to the availability of electrical power, and the power rates used in the operating cost estimates and financial analysis
- ability to maintain the social licence to operate
- accidents, labour disputes, and other risks of the mining industry
- changes to interest rates
- changes to tax rates

25.13.1.2 Mining

The open pit mining areas have not been designed with ramps and are built using average slope angles. The average slope angles include an allowance for highwall ramps, but there is a risk that detailed pit designs with ramps and berms may increase the strip ratio of some areas.

The topsoil surface is not defined. Consideration of this material will require the addition of topsoil storage areas, impacting the overall project footprint.

The addition of ramps into the detailed designs of waste storage areas will either increase the footprints of the waste storage areas or increase the height of the waste storage areas.

25.13.1.3 Recovery Methods & Metallurgical Testing

No cyanide destruction testwork has been completed on Val-d'Or project samples. Leach kinetics testwork was completed using lead nitrate as an additional reagent to encourage the leach kinetics. At this project stage, the effect of lead nitrate was ignored.

25.13.1.4 Project Infrastructure

Potential risks for project infrastructure include the following:

- flood plain overlaps proposed infrastructure
- if the geotechnical or hydrogeological considerations for the DSTF are worse than what was assumed, the capital, sustaining capital and operating cost of the project will be increased.

25.13.2 Opportunities

25.13.2.1 Mining

Detailed phasing of the open pit mining areas may allow for backfill opportunities in future mine schedule updates. This would reduce haulage costs and external footprints, which would reduce mining and reclamation costs.

In the current design, the lower grade material ($0.25 \leq Au < 0.5$) is stockpiled and fed to the ore sorting facility and then to the mill at the end of the project life. This requires larger stockpiles and increases the project footprint. A more detailed examination of cut-off grades used for material delivered to the ore sorting facility may optimize the material handling costs, project footprint, and overall mining costs.

25.13.2.2 Recovery Methods & Metallurgical Testing

The following opportunities are related to recovery methods and metallurgical testing:

- Optimizing processing conditions related to fineness of grind and leach retention time may result in lower capital costs from employing a coarser grind and reduced retention time.
- Additional metallurgical testing will provide an opportunity to optimize reagent addition rates and grinding media wear rates.
- Additional materials handling testwork will provide the necessary design parameters to specify the multi-stage crushing and ore sorting circuit layout and configuration
- Additional ore sorting pilot testing will provide an opportunity to optimize mass pull and gold recovery rates which may result in higher gold grade to the process plant.
- The possibility of selling ore sorting rejects as aggregate should be investigated. The rejects stockpile is in close proximity to rail and road for easy transport to potential users.
- Opportunity to be investigated for pre-concentration due to proximity to road and rail.
- The trade-off between trucking vs. conveying from Monique mining activities should be investigated.

25.13.2.3 Project Infrastructure

- If the geotechnical or hydrogeological considerations for the DSTF are better than what was assumed, the capital, sustaining capital and operating cost of the project will be reduced.

25.14 Interpretation & Conclusions

The total measured and indicated resources for the Val-d'Or East project are estimated to be 29.8 Mt at a grade of 1.81 g/t Au for an estimated 1.7 Moz of contained gold. Additional inferred resources are estimated to be 28.9 Mt at a grade of 2.11 g/t Au for a total of 2.0 Moz.

Based on the assumptions and parameters presented in this report, the PEA shows positive economics (i.e., C$598 million post-tax NPV (5%) and 32.8% post-tax IRR). The PEA supports a decision to carry out additional detailed studies.

26 RECOMMENDATIONS

26.1 Overall

The results presented in this technical report demonstrate that the Val-d'Or East project is technically and economically viable. It is recommended to continue developing the project through additional studies, including a pre-feasibility study. Table 26-1 summarizes the proposed budget to advance the project through the pre-feasibility study stage.

Table 26-1: Proposed Budget Summary

Description	Cost (C$M)
Geology	$20.8
Metallurgical Testing & Recovery Methods	$0.4
Mining	$0.3
Hydrology	$0.1
Site-wide Geotechnical	$1.8
Dry Stack Tailings Facility	$0.2
Environmental and Social	$1.9
Total	$25.5

Source: Ausenco, 2021.

26.2 Geology

Geologica and GoldMinds recommend additional work be carried out to continue exploring the property, to enhance the economic potential of the New Beliveau deposit and the rest of the Val-d'Or East Property, and to continue to advance the project with further drilling programs, metallurgical work, and environmental and engineering studies. Additional drilling is recommended to test other known occurrences, to test new target areas, and to continue to assess the overall potential of the property. Geologica and GoldMinds believe the character of the property is of sufficient merit to justify an exploration and development program.

The authors responsible for the relevant portion of this report believe that there is reasonable potential to find new discoveries on the property. Geologica and GoldMinds recommend extending the Pascalis, Courvan and Monique integrated geological and structural model for the overall property and conducting additional exploration work (stripping, mapping, geophysics and drilling) while continuing to de-risk the project in parallel with advanced technical studies and metallurgical investigations.

Additional drilling is recommended to test other known occurrences and new target areas, and to continue to assess the overall potential of the property. Geologica and GoldMinds believe the character of the property is of sufficient merit to justify the recommended exploration and development program described below. The cost for next phase of work (Table 26-1) is estimated to be C$20,815,000, including 15% for contingencies.

26.3 Metallurgical Testing & Recovery Methods

Additional ore sorting testwork is recommended in the next project phase as the gold grade is variable; additional testing could confirm the performance and achieve consistent results. Variability tests should be performed on large sample sizes on ores from different deposits and domains.

The following testwork is recommended:

- conduct ore sorting throughput tests to confirm the feed rate that can be maintained without compromising the sorting performance, which may decrease the number of sorters required
- comminution testing should be carried out on the Val-d'or East deposits to determine if they are similar to Beliveau
- prepare a sampling plan that provides representative samples of each zone and their major domains and lithologies using a geo-metallurgical approach
- carry out additional ore competency and grindability tests. Conduct JK Tech SMC tests (Axb) for SAG mill design, Bond ball mill and abrasion index tests for each of samples identified
- conduct E-GRG (extended gravity concentration) testing on composite samples identified
- further cyanide leach testing, without lead nitrate additions, should be carried out to include composites from each deposit to identify optimum grind size, retention time, and reagent addition rates (if gravity concentration is beneficial, leach tests should be conducted on gravity tailings)
- conduct leach tests on variability samples identified using optimized conditions
- carry out cyanide destruction testing on an overall composite sample to establish reagent addition rates and retention time for the required cyanide weak acid dissociable concentration required in the tailings stream
- carry out solids liquids separation testing to establish thickener unit area requirements under optimal flocculant dosage and the slurry flow properties of the thickened solids
- carry out tailings filtration testwork to determine filtration rates and moisture content of filter cake
- cost for the ore sorting component of the recommendation is estimated to be in the range of $50,000 and $75,000; the cost of the remaining typical gold plant testwork is estimated to be $325,000.

26.4 Mining

MMTS recommends that the project proceeds to a pre-feasibility study phase that includes the following work programs:

- optimization of open pit and underground pit limits
- detailed phase designs
- drilling and blasting study

- schedule optimization to examine backfill opportunities
- ore sorting cut-off grade optimization
- mining equipment size trade-off study.

The cost of the above work is estimated at C$250,000.

26.5 Hydrology

A detailed rainfall runoff model for on-site streams is needed for future phases of the work. The cost of the rainfall runoff model is estimated at C$110,000.

26.6 Site-wide Geotechnical

Site-wide (including open pits) geotechnical investigations and laboratory testing program are recommended to support the design of the infrastructure and open pits for the pre-feasibility study phase. Recommended geotechnical work includes the following:

- geotechnical and hydrogeological drilling and test pits program to investigate and confirm foundation conditions (specifically the extent of the colluvial apron), characteristics and depth to bedrock and open pit slope design parameters
- test pits and drilling to confirm suitability and availability of borrow materials for embankment construction
- geophysics to determine groundwater levels, depth to bedrock below the surface and downhole surface (open pit boreholes only)
- laboratory geotechnical testing (including compaction tests) and strength and permeability tests on potential borrow materials for construction and rock strength properties for pit slope design
- laboratory geochemical testing to determine potential reactivity of tailings and from on-going waste characterization studies to determine design options for tailings deposition
- geochemical characterization of tailings.

The estimated cost of the above work is C$1,800,000.

26.7 Dry Stack Tailings Facility

The following work on the DSTF is recommended for the next study phase:

- perform deterministic and probabilistic local seismic hazard study for the development of design seismic for infrastructure

- develop seepage predictions and seepage control measures for the DSTF
- update the tailings deposition strategy to optimize material handling, including trafficability of material handling equipment for the DSTF
- carry out a stability analysis for a final stacking plan using updated data about the material properties for the DSTF
- perform a liquefaction assessment with updated information on material properties and updated stacking plan for the DSTF
- develop a design, engineering calculations, and drawings for the DSTF including water management structures
- develop material take-offs for the DSTF.

The estimated cost of the above work is C$180,000.

26.8 Environmental and Public Information and Consultation

In anticipation of submitting the Val d'Or East project to an environmental assessment, the following studies should be carried out during the pre-feasibility phase. These studies will also make it possible to ensure that the development of the project limits the impacts on the receiving environment.

- Identify stakeholders and begin public information, consultation and a plan for participation
- Installation of surface water monitoring stations to sample and analyze water for metals and other parameters and to gather information on the flow.
- Begin inventories for fauna, flora and species at risk in predefined study areas.
- Installation of piezometers in a predefined study area to sample groundwater for metals and other parameters and to identify the hydrogeology local and regional contexts.
- Perform the baseline for the soil according with the regulation from the MELCC.
- Perform the geochemical characterization of waste rock, ore, overburden and tailings according with federal and provincial regulations.

The estimated cost of the above work is C$1,900,000.

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Note:

The authors also reviewed selected information pertaining to the Val-d’Or East Property from past owners and Probe Metals Inc. that were available in the Probe Metals’ Office in Val-d’Or, Québec.

27.2 News Releases

“Probe Metals Announces Positive PEA for Val-d’Or East Project; Average Annual Production of 207,000 ounces, After-Tax NPV5% of C$598M, and IRR of 32.8%”. September 7, 2021.