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## NI 43-101 Technical Report and Mineral Resource Estimate for the Beaufor Mine, Québec, Canada

Prepared for



**Monarch Mining Corporation**  
68 Avenue de la Gare, Office 205  
Saint-Sauveur, QC J0R 1R0

Project Location  
Latitude 48°09'42" North and Longitude 77°33'17" West  
Province of Québec, Canada

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**Val-d'Or (Québec)**

Effective Date: December 18, 2020  
Signature Date: December 21, 2020

**SIGNATURE PAGE**

**NI 43-101 Technical Report and Mineral Resource Estimate  
for the Beaufor Mine, Québec, Canada**

Effective Date: December 18, 2020

*(Original signed and sealed)*

**Signed at Val-d'Or on December 21, 2020**

**Carl Pelletier, P.Geo.  
InnovExplo Inc.  
Val-d'Or (Québec)**

*(Original signed and sealed)*

**Signed at Val-d'Or on December 21, 2020**

**John Langton, P.Geo.  
JPL GeoServices Inc.  
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## CERTIFICATE OF AUTHOR – CARL PELLETIER

I, Carl Pelletier, P.Geo. (OGQ No. 384, PGO No. 1713, EGBC No. 43167 and NAPEG No. L4160), do hereby certify that:

1. I am a professional geoscientist and Co-President Founder of InnovExplo Inc., located at 560, 3e Avenue, Val-d'Or, Québec, Canada, J9P 1S4.
2. This certificate applies to the report entitled "NI 43-101 Technical Report and Mineral Resource Estimate for the Beaufor Mine, Québec, Canada" (the "Technical Report") with an effective of December 18, 2020 and a signature date of December 21, 2020. The Technical Report was prepared for Monarch Mining Corporation (the "Issuer").
3. I graduated with a Bachelor's degree in Geology (B.Sc.) from Université du Québec à Montréal (Montréal, Québec) in 1992, and I initiated a Master's degree at the same university for which I completed the course program but not the thesis.
4. I am a member of the Ordre des Géologues du Québec (OGQ, No. 384), the Association of Professional Geoscientists of Ontario (PGO, No. 1713), the Association of Professional Engineers and Geoscientists of British Columbia (EGBC, No. 43167), the Northwest Territories Association of Professional Engineers and Geoscientists (NAPEG, No. L4160), and the Canadian Institute of Mines (CIM).
5. My relevant experience includes a total of 28 years since my graduation from university. My mining expertise has been acquired at the Silidor, Sleeping Giant, Bousquet II, Sigma-Lamaque and Beaufor mines. My exploration experience has been acquired with Cambior Inc. and McWatters Mining Inc. I have been a consulting geologist for InnovExplo Inc. since February 2004.
6. I have read the definition of a "qualified person" set out in National Instrument 43-101/Regulation 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of that instrument.
7. I am the author of items 14 and co-author and share responsibility for items 1 to 3, 12 and 25 to 27 of the Technical Report.
8. I conducted a site visit on December 14, 2020.
9. I have had prior involvement with the project that is the subject of the Technical Report as an independent QP for the Technical Report "NI 43-101 Technical Report on the Mineral Resource and Mineral Reserve estimates of the Beaufor Mine" published on SEDAR website (Monarch Gold Corporation) on December 28, 2017.
10. I am independent of issuers – Monarch Mining Corporation – in accordance with the application of Section 1.5 of NI 43-101.
11. I have read NI 43-101 and Form 43-101F1, and the sections of the Technical Report for which I am responsible have been prepared in accordance with that instrument and form.
12. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

Signed this 21<sup>st</sup> day of December 2020 in Val-d'Or, Québec.

*(Original signed and sealed)*

Carl Pelletier, P.Geo.

InnovExplo Inc.

carl.pelletier@innovexplo.com

## CERTIFICATE OF AUTHOR – JOHN LANGTON

I, John Langton, P.Ge. (OGQ No. 1231) do hereby certify that:

1. At the issuance of the report titled “NI 43-101 Technical Report and Mineral Resource Estimate for the Beaufor Mine, Quebec, Canada”, I am a consulting geologist and sole proprietor of JPL GeoServices Inc., 163 boulevard Dennison, Val-d’Or, Québec, Canada, J9P 2K4.
2. I graduated with a Master’s degree in Geological Sciences from Queen’s University at Kingston (Kingston, Ontario) in 1993.
3. I am a member of the Ordre des géologues du Québec (OGQ No. 1231).
4. I have worked as an exploration and field geologist since 1985. I have knowledge and experience with regard to various mineral deposit types, including the procedures involved in exploring for gold and base-metals, and with the preparation of reports relating to them. I have been a consulting geologist since January 2008.
5. I have read the definition of a qualified person (“QP”) set out in Regulation 43-101/National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a QP for the purposes of NI 43-101.
6. I am author and responsible for items 4 to 11 and 23 and share responsibility for section 1 to 3, 12 and 25 to 27 of the technical report entitled “NI 43-101 Technical Report and Mineral Resource Estimate for the Beaufor Mine, Québec, Canada”, effective date of December 18, 2020 and signature date of December 21, 2020 prepared for Monarch Mining Corporation.
7. I have not visited the property for the purposes of the Technical Report.
8. I have not had a prior involvement with the project that is the subject of the Technical Report.
9. I am not aware of any material fact or material change with respect to the subject matter of the Report that is not reflected in the Report, the omission to disclose which would make the Report misleading.
10. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
11. I have read NI 43-101 respecting standards of disclosure for mineral projects and Form 43-101F1, and the items of the Report, for which I was responsible, have been prepared in accordance with that instrument and form.

Signed this 21<sup>st</sup> day of December, 2020 in Val-d’Or, Québec.

*John Langton (Original signed and sealed)*

John Langton, P.Ge.

JPL GeoServices Inc.

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## 1. SUMMARY

### Introduction

Jean-Marc Lacoste, President and Chief Executive Officer of Monarch Mining Corporation (“Monarch Mining” or the “issuer”) mandated InnovExplo Inc. (“InnovExplo”) to update the mineral resource estimates (the “2020 MRE”) for the Beaufor Mine (the “Project”) and prepare a supporting technical report (the “Technical Report” or the “Report”).

The Project is at an advance stage with mineral resources.

The mine is currently under care and maintenance.

The Technical Report has been prepared in accordance with Canadian Securities Administrators’ *National Instrument 43-101 Standards of Disclosure for Mineral Projects* (“NI 43-101” or “43-101”) and its related Form 43-101F1.

The effective date of this Technical Report is December 18, 2020.

InnovExplo is an independent mining and exploration consulting firm based in Val-d’Or (Québec).

On November 2, 2020, Yamana Gold Inc. (“Yamana”) and Monarch Gold Corporation (“Monarch Gold”) announced that they had entered into a definitive agreement (the “Agreement”), pursuant to which Yamana would acquire the Wasamac property and the Camflo property and mill through the acquisition of all issued and outstanding common shares of Monarch Gold. The Beaufor Mine and the Beacon Gold mill (fully permitted), along with several other nearby exploration properties were to be re-allocated by completing a spin-out to its Shareholders through a newly-formed company, subsequently named as the Monarch Mining Corporation (“Monarch Mining”) (see December 2, 2020 press release of Monarch Gold).

Monarch Mining is headquartered at 68 Avenue de la Gare, Office 205, Saint-Sauveur, Quebec, J0R 1R0.

### Contributors

This Technical Report was prepared by Carl Pelletier (P.Ge.), Co-President Founder of InnovExplo and John Langton, (P.Ge.), sole proprietor of JPL GeoServices Inc. Both are independent and are considered a qualified person (QP) under NI 43-101.

Mr. Pelletier is a professional geologist in good standing with the OGQ (No. 384), PGO (No. 1713), EGBC (No. 43167) and NAPEG (No. L4160). He is the author of item 14 and co-author sharing responsibility of items 1 to 3, 12 and 25 to 27.

Mr. Langton is a professional geologist in good standing with the OGQ (No. 1231) and APEGNB (No. L6103). He is the author of items 4 to 11 and 23 and co-author sharing responsibility of items 1 to 3, 12 and 25 to 27.

Mr. Pelletier visited the Project site on December 14, 2020, at which time he examined mineralized diamond drill core intersections, reviewed the core logging and sampling procedures, QA/QC protocols and performed onsite data verification.

Mr. Langton did not visit the Project site.

## Property Description and Location

The Beaufor Mine (the “Project”) is located approximately 20 km northeast of the city of Val-d’Or in the Vallée-de-l’Or regional county municipality of Québec. It covers parts of Senneville and Pascalis Townships, which is part of the Abitibi-Témiscamingue administrative region of northwestern Québec, Canada.

The Project lies within seven contiguous properties known as the Beaufor Division Properties” (the “Property”).

The Property consists of 27 mineral titles (23 claims, 3 mining leases and 1 mining concession), totaling 691.60 ha that are divided into seven (7) Beaufor Division Properties. The Project area underlies parts of three (3) of these properties: the Beaufor, Perron and Pascalis. The other four (4) properties comprise the Colombière, Perron Block No. 2, Perron Block No. 3 and Beaufor West. All claims are registered 100% in the name of Monarch Gold as at the effective date of the Report. All mining titles are in good standing according to the GESTIM database.

The Property is subject to various royalty agreements and encumbrances (1-2% NSR; 25% NPI; 30C\$/oz for 50-100% of the production).

## Geology

The Beaufor Mine is located in the southeastern Abitibi Subprovince of Archean age in the southern Superior Province of the Canadian Shield. The Abitibi Greenstone Belt has been historically subdivided into northern and southern volcanic zones defined by stratigraphic and structural criteria (Dimroth et al., 1982; Ludden et al., 1986; Chown et al., 1992), mainly based on an allochthonous greenstone belt development model (i.e., interpreting the belt as a collage of unrelated fragments).

The Beaufor Mine is located in the Val-d’Or mining camp. The Val-d’Or mining camp is situated in the eastern segment of the southern part of the Abitibi Subprovince at its boundary with the Pontiac Subprovince, which is marked by the Cadillac Tectonic Zone (CTZ). The region can be divided into four stratigraphic groups based on regional tectonics and volcano-sedimentary stratigraphy (Pilote et al., 1999): the upper Louvicourt Group (subdivided into the Héva and Val-d’Or formations), the basal Malartic Group (subdivided into the Jacola, Dubuisson and La Motte–Vassan formations), the Pontiac Group and the Piché Group. The Malartic Group comprises ocean floor komatiite and tholeiitic basalt flows and sills, with minor sedimentary rocks, which are interpreted to have formed in an extensional environment related to mantle plumes. The Louvicourt Group is composed mainly of mafic to felsic volcanic rocks that formed in a subduction-related deep marine volcanic arc. The Pontiac Group is dominated by detrital sediments. The Piché Group is dominated by ultramafic flows.

The volcanic and structural architecture is intruded by two vast plutons, the Bourlamaque and La Corne batholiths, as well as several other smaller satellite bodies.

The Beaufor Mine is located within the Bourlamaque Pluton at the eastern contact with the Dubuisson Formation (The Bourlamaque Batholith is a major geological feature of the Val-d’Or mining camp. It is described as a quartziferous granodiorite cut by fine-grained dioritic dykes. The Bourlamaque Batholith is a massive, round synvolcanic intrusion, 12 km across. The pluton cuts the mafic and ultramafic rocks of the Dubuisson and Jacola formations (Malartic Group), as well as the intermediate rocks of the Val-d’Or

Formation (Louvicourt Group). The pluton hosts several pastproducing mines, among them Belmoral, Wrightbar, Bussières (a.k.a. Old Cournor), Bras d'Or and Lac Herbin.

### **Mineralization**

Gold mineralization occurs in veins associated with shear zones dipping moderately south. Mineralization is associated with quartz-tourmaline veins resulting from the filling of shear and extension fractures. Gold-bearing veins show a close association with mafic dykes intruding the granodiorite. The dykes seem to have influenced the structural control of the gold-bearing veins. Sulphide content within the veins is generally less than 10%, and the principal mineral is pyrite with some minor chalcopyrite and pyrrhotite. Gold is associated with pyrite in native form, filling the void inside the pyrite crystals.

Veins strike at 115° azimuth and dips moderately to the south from 30° to 65°. The thickness of the veins varies from 5 cm to 5 m, but generally, the thickness of the quartz veining system is 30 cm to 120 cm. All the gold-bearing veins are contained in a strongly-altered granodiorite in the form of chlorite-silica forming anastomosing corridors of 5 m to 30 m in thickness. The veins at the Beaufor Mine sometimes form panels of more than 300 m long by 350 m high. The major zones like the C and Q zones could be traced along strike over 700 m and along dip over 400 m.

The multiple vein systems of the Beaufor deposit are cut and split apart by numerous steeply dipping discreet shear zones, striking 70° azimuth. The Beaufor Fault marks the limits of several major mineralized zones. The Beaufor Fault strikes roughly at 295° azimuth, with a steep dip of 60° to the north. The Beaufor Fault may have been one of the main conduits for mineralizing hydrothermal fluids at the Beaufor Mine. Several post-mineralization faults intersect and displace the quartz veins. Mafic dykes that predate mineralization are associated with shear-hosted gold-bearing veins. Shallowly dipping extensional gold-bearing veins are commonly observed at the Beaufor Mine. The main gold-bearing quartz veins are intimately associated with dioritic dykes.

### **Mineral Resource Estimate**

The Mineral Resource Estimate for the Project (the “2020 MRE”) encompasses updated resources for the Beaufor Mine. The update was prepared by Christian Tessier, P.Geo. of Monarch and review and validated by Carl Pelletier, P.Geo. of InnovExplo, using all available information.

The 2020 MRE included information up to October 27, 2020.

The effective date of the 2020 MRE is December 18, 2020

The Project database used for the 2020 MRE contains 10,009 DDH (882,544 m) including 178,242 assays as at October 27, 2020. The DDH database includes location, down-hole survey, lithological, alteration and structural descriptions taken from the drill core logs, and includes the assay results tables.

Monarch Gold updated the 2020 geological model with the new holes from the 2017-2020 drilling program. The main lithological units of the deposit presented in the model include fresh granodiorite, altered granodiorite, mafic dykes, mafic volcanic rocks and quartz veins. The interpretation is made on vertical cross sections and plan views based on the DDH information and mapping of the underground openings in Promine. The 3D solids for the central fault and other major geological elements are then built in Promine

software. The Project comprises 63 distinct mineralized zones, that generally follow east-west trending corridors in the granodiorite, generally in the vicinity of a contact with mafic volcanic rocks. The gold mineralization appears predominantly in the quartz veins and sometimes with disseminated pyrite in the altered granodiorite in the wall rock of the quartz veins.

The author has classified the 2020 MRE as measured, indicated, and inferred mineral resources based on geological and grade continuity, data density, drill hole density, and reconciliation results. The author is of the opinion that the reasonable prospect for an eventual economical extraction requirement is met by having a minimum width for the polygons of the mineralized zones and with a cut-off grade that using reasonable input, both for a potential underground extraction scenario.

The 2020 MRE is considered to be reliable and based on quality data and geological knowledge. The mineral resource estimate follows CIM Definition Standards.

The table below, present the results of the 2020 MRE for the Project at the official 2.50g/t Au (long hole) and 3.20g/t Au (room-and-pillar) cut-off grades as at December 18, 2020.

#### Mineral Resource Estimate for the Beaufor Mine (Table 14.2)

Category	Tonnes	Grade (g/t Au)	Gold ounces
Measured	121,000	5.62	21,900
Indicated	310,100	7.10	70,800
<b>Total M+I</b>	<b>431,100</b>	<b>6.68</b>	<b>92,700</b>
<b>Inferred</b>	<b>134,600</b>	<b>6.96</b>	<b>30,100</b>

Mineral Resource Estimate notes:

1. The independent and qualified person for the 2020 MRE, as defined by NI 43 101, is Carl Pelletier, P.Geo. (InnovExplo Inc.), and the effective date is December 18, 2020.
2. These mineral resources are not mineral reserves as they do not have demonstrated economic viability. The mineral resource estimates follow CIM Definition Standards and Guidelines.
3. A capping of 68.5 g/t Au on assays was applied for zones 8, B, M, M1 and Q, and 34.25 g/t for all other zones. The DDH intercepts (min. 2.4 m) were capped at 16.5 g/t.
4. The estimate method was polygonal on cross section with a minimum width of 2.4 m using a density of 2.75 t/m<sup>3</sup> for the 63 mineralized zones.
5. Measured resource polygons extend 8 m above and below development and up to 10 m laterally. Indicated resource polygons extend up to 20 m from DDH intercepts, along dip and along strike and a minimum of 2 polygons need to be in contact. Inferred resource polygons extend up to 40 m from DDH intercepts, along dip and along strike where a drill spacing ranges from 20 m to 40 m and/or in areas of isolated drill holes where mineralization is known.
6. The reasonable prospect for an eventual economical extraction is met by having a reasonable minimum width for the polygons, a cut-off grade of 2.50g/t Au (long-hole) and 3.20 g/t Au (room-and-pillar), application of constraining volumes on the blocks (potential underground scenario) below a 30 m crown pillar. The cut-off grades inputs are: a gold price of USD1,612/oz, a CAD:USD exchange rate of 1.34; a mining cost of \$100/t for the long hole method and \$145/t for the room and pillar method; a processing cost of \$50/t; and G&A and environment of \$13/t and includes the royalty of 1.0% and a refinery charge of \$5/t. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rate, mining cost, etc.).
7. Results are presented in-situ. Ounce (troy) = metric tons x grade / 31.10348. The number of tonnes and ounces was rounded to the nearest hundred. Any discrepancies in the totals are due to rounding effects; rounding followed the recommendations as per NI 43 101.
8. InnovExplo Inc. is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political, marketing or other relevant issue that could materially affect the mineral resource estimate.

## Interpretations and Conclusions

The following conclusions are based on InnovExplo's detailed review of all pertinent information and the 2020 MRE results:

- Geological and grade continuity have been demonstrated for all 63 mineralized zones of the Beaufor Mine.
- The mineral resource estimate was completed with a polygonal methods based on muck samples and DDH.
- For an underground scenario, using a cut-off grade of 2.50 g/t Au (long hole) and 3.20 g/t Au (room-and-pillar) the Beaufor mine contains an estimated Measured Resource of 121,000 tonnes grading at 5.62 g/t Au for a total of 21,900 ounces of gold, and Indicated Resource of 310,100 tonnes grading at 7.10 g/t Au for a total of 70,800 ounces, and an Inferred Resource of 134,600 tonnes grading 6.96 g/t Au for a total of 30,100 ounces.
- It is likely that additional diamond drilling would upgrade some of the Inferred Resources to Indicated Resources.
- It is likely that additional diamond drilling would identify additional resources down-plunge and in the vicinity of known mineralization.

For the next resource estimate. It is recommended to proceed with a 3D model for the interpretation of the mineralized zones, the main lithologies and structures. The next update of the resource estimates should use a 3D block model supported method.

Table below identifies any significant internal risks, potential impacts and possible risk mitigation measures that could affect the economic outcome of the Project. This excludes the external risks that apply to all mining projects (e.g., changes in metal prices, exchange rates, availability of investment capital, change in government regulations, etc.). Significant opportunities that could improve the economics, timing and permitting of the project are also identified in the second table below. Further information and evaluation are required before these opportunities can be included in the project economics.

InnovExplo concludes that the results of the 2020 MRE support the recommendation to advance the Project to the feasibility stage.

InnovExplo considers the 2020 MRE to be reliable, thorough, based on quality data, reasonable hypotheses, and parameters compliant with NI 43-101 requirements and CIM Definition Standards.

### Risks for the Beaufor Mine (Table 25.1)

RISK	Potential Impact	Possible Risk Mitigation
Lower grades due to local inaccuracies	Could reduce the metal content	Conduct additional drilling and open the production drift ahead of time to use muck samples results for resource and reserve estimations
Capping values inadequate for new zones	Could reduce the metal content	Conduct a new capping study on individual active zones

## Opportunities for the Beaufor Mine (Table 25.2)

OPPORTUNITIES	Explanation	Potential benefit
Higher local grade due to local inaccuracies	Could improve the metal content	Potential to increase resources
Exploration potential	Potential for additional discoveries at depth and around the Beaufor Mine by drilling	Potential to increase resources

## Recommendations

Based on the results of the 2020 MRE, InnovExplo recommends that the Project move to an advance phase of development, which would involve the drilling program, exploration underground development and preparation of a prefeasibility study

The authors consider that there is good potential to define additional resources by drilling lateral and vertical extensions. There are also opportunities for resource growth and for increasing mineral resources by drilling some targets.

The vein-type nature of the Beaufor deposit means that considerable efforts and expenditures are required to develop additional mineral resources. Significant exploration programs have to be developed within the next years to maintain mining operations. The Monarch Mining land package adjacent to the Beaufor Mine needs to be reworked, particularly along the contact between the Bourlamaque Batholith and the Dubuisson volcanic rocks.

The main near-term objective at the Beaufor Mine is to increase resources. Additional drilling should target the down-plunge and lateral extensions of the currently identified mineralized zones, as well as identify additional stacked lenses. Polygons of the inferred category could be upgraded with additional drilling. Some polygons were also “uncategorized” due to lack of information. With additional drilling, they could be re-evaluated as resources.

In parallel, a new compilation of available data could also identify new zones in the resources area. A compilation of all available data for the Beaufor Division Properties, particularly the data collected near the mine, could also lead to new discoveries. This could be combined with a lithostructural 3D model to provide a better understanding of the geological setting.

The recommended two-phase work program is detailed below:

Phase 1 – Resource definition and expansion:

- Continue current drilling program;
- Underground exploration drift to reach deeper zone extensions;
- Drilling along lateral extensions and down-plunge of existing resource (inferred and uncategorized); and
- Update the mineral resource estimate.

Phase 2 – Economic study in preparation to resume production (Conditional of success of phase 1)

- Complete a prefeasibility study (including the Beacon mill refurbishment).

InnovExplo has prepared a cost estimate for the proposed program to serve as a guideline for the Project. The budget is presented in Table 26.1. The estimated cost for an exploration work program and prefeasibility would amount to approximately \$5.0 million.

**Table 1.1 – Estimated Costs for the Recommended Work Program**

<b>Phase 1</b>	<b>Work Program</b>	<b>Budget Cost (C\$000,000)</b>
1a	Drilling program (13,000 m)	2.0
1b	Underground exploration drift	1.0
1c	Update Mineral resource estimate (3d block model)	0.3
<b>Phase 2</b>	<b>Work Program (Conditional to the success of Phase 1)</b>	<b>Budget Cost (C\$)</b>
2a	Prefeasibility Study	1.0
	Sub-total	4.3
	Contingencies (~ 15%)	0.7
<b>TOTAL (Phase 1 and Phase 2)</b>		<b>5.0</b>

The authors believe the recommended work program and proposed expenditures are appropriate and well thought out, and that the proposed budget reasonably reflects the contemplated activities.

## 2. INTRODUCTION

Mr. Jean-Marc Lacoste, President and Chief Executive Officer of Monarch Mining Corporation (“Monarch Mining” or the “issuer”) mandated InnovExplo Inc. (“InnovExplo”) to update the mineral resource estimates (the “2020 MRE”) for the Beaufor Mine (the “Project”) and prepare a supporting technical report (the “Technical Report” or the “Report”).

The Project is at an advance stage with mineral resources.

The mine is currently under care and maintenance.

The Technical Report has been prepared in accordance with Canadian Securities Administrators’ *National Instrument 43-101 Standards of Disclosure for Mineral Projects* (“NI 43-101” or “43-101”) and its related Form 43-101F1.

The effective date of this Technical Report is December 18, 2020.

InnovExplo is an independent mining and exploration consulting firm based in Val-d’Or (Québec).

### 2.1 Issuer

On November 2, 2020, Yamana Gold Inc. (“Yamana”) and Monarch Gold Corporation (“Monarch Gold”) announced that they had entered into a definitive agreement (the “Agreement”), pursuant to which Yamana would acquire the Wasamac property and the Camflo property and mill through the acquisition of all issued and outstanding common shares of Monarch Gold. The Beaufor Mine and the Beacon Gold mill (fully permitted), along with several other nearby exploration properties were to be re-allocated by completing a spin-out to its Shareholders through a newly-formed company, subsequently named as the Monarch Mining Corporation (“Monarch Mining”) (see December 2, 2020 press release of Monarch Gold).

Monarch Mining is headquartered at 68 Avenue de la Gare, Office 205, Saint-Sauveur, Quebec, J0R 1R0.

### 2.2 Overview or “Terms of Reference”

The Beaufor Mine (the “Project”) is approximately 20 km northeast of Val-d’Or in the province of Québec. As at the effective date of the Report, ore from the Project has been processed at the Camflo Mill, a 1,600 metric ton per day (tpd) Merrill-Crow facility, approximately 8 km east of the town of Malartic. Since the start of commercial production in the 1930s, the Perron, Beaufor and Pascalis mines have produced approximately 1,21 Moz of gold (Monarch Mining, internal report). Underground operations are accessed by a ramp and a 650-m shaft, and the mine workings currently reach a vertical depth of approximately 828 m.

This Technical Report was prepared by InnovExplo to present and support the updated mineral resource estimates for the Project (the “2020 MRE”) following the Agreement with Yamana. The 2020 MRE incorporates recent underground exploration results recorded in the database as of November 21, 2020. Most of the information and data



used to prepare the Report were generated by underground drilling and underground development programs at the Project by Monarch and previous owners.

This Technical Report describes the overall work completed and the parameters used for the 2020 MRE. Historical details, geological information (local and regional) and general information relevant to the Project are also described.

### **2.3 Principal Sources of Information**

The documentation listed in item 27 support this Technical Report. Excerpts or summaries from documents authored by other consultants are indicated in the text.

The authors based their assessment of the Project on published material in addition to data, professional opinions and unpublished material provided by Monarch Mining. The authors reviewed all the relevant data provided by Monarch Mining and/or its agents.

InnovExplo also consulted other information sources, mainly the Government of Québec's online claim management and assessment work databases (GESTIM and SIGEOM, respectively), as well as technical reports, annual information forms, MD&A reports and press releases published on SEDAR (<http://www.sedar.com/>).

The authors have reviewed and appraised the information in this Technical Report, including the conclusions and recommendations, and they believe such information is valid and appropriate considering the status of the Project and the purpose for which the Technical Report has been prepared. The authors have thoroughly researched and documented the conclusions and recommendations made in this Technical Report.

### **2.4 Qualified Persons**

This Technical Report was prepared by Carl Pelletier (P.Ge.), Co-President Founder of InnovExplo and John Langton, (P.Ge.), sole proprietor of JPL GeoServices Inc. Both are independent and are considered a qualified person (QP) under NI 43-101.

Mr. Pelletier is a professional geologist in good standing with the OGQ (No. 384), PGO (No. 1713), EGBC (No. 43167) and NAPEG (No. L4160). He is the author of item 14 and co-author sharing responsibility of items 1 to 3, 12 and 25 to 27.

Mr. Langton is a professional geologist in good standing with the OGQ (No. 1231) and APEGNB (No. L6103). He is the author of items 4 to 11 and 23 and co-author sharing responsibility of items 1 to 3, 12 and 25 to 27.

### **2.5 Site Visits**

Mr. Pelletier visited the Project site on December 14, 2020, at which time he examined mineralized diamond drill core intersections, reviewed the core logging and sampling procedures, QA/QC protocols and performed onsite data verification.

Mr. Langton did not visit the Project site.

## 2.6 Currency, Units of Measure, and Acronyms

The abbreviations, acronyms and units used in this report are provided in Table 2.1. All currency amounts are stated in Canadian Dollars (\$, C\$, CAD) or US dollars (US\$, USD). Quantities are stated in metric units, as per standard Canadian and international practice, including metric tons (tonnes, t) and kilograms (kg) for weight, kilometres (km) or metres (m) for distance, hectares (ha) for area, percentage (%) for copper and nickel grades, and gram per metric ton (g/t) for precious metal grades. Wherever applicable, imperial units have been converted to the International System of Units (SI units) for consistency (Table 2.2).

**Table 2.1 – List of Acronyms, symbols and units**

Abbreviation or Symbol	Unit or Term
ARD	acid rock drainage
US\$ or USD	American dollars
G	billion
Ga	billion years
BTU, MBTU	British thermal unit, million British thermal unit
BAPE	Bureau d'audience publique du Québec
\$, C\$, CAD	Canadian dollar
CEAA	Canadian Environmental Assessment Agency
CO <sub>2</sub> e	carbon dioxide equivalent
CA	certificate of authorization
cm	centimetre
cpy	chalcopyrite
carbon-in-pulp	CIP
Co	cobalt
Cu	copper
m <sup>3</sup>	cubic metre
dm	decametre
°C	degree Celsius
DDH	diamond drill hole
Directive 019	Directive 019 sur l'industrie minière
EM	electromagnetic
EDO	effluent discharge objectives
EA	environmental assessment
EIA	environmental impact assessment
ESIA	environmental and social impact assessment
EQA	Environment Quality Act

Abbreviation or Symbol	Unit or Term
CAD:USD, USD:CAD	exchange rate
FS	feasibility study
ft, '	foot, feet
G&A	general and administration
GW	gigawatt
Au	gold
AuEq	gold equivalent
g	gram
g/cm <sup>3</sup>	gram per cubic centimetre
g/t	gram per metric ton
ha	hectare
HLEM	horizontal loop electromagnetic
HP	horsepower
h	hour
in, "	inch
IP	induced polarization
ICP	inductively coupled plasma
Fe	iron
JV	joint venture
kbar	kilobar
kg	kilogram
km	kilometre
kW	kilowatt
kWh	kilowatt-hour
LOM	life of mine
LOMP	life of mine plan
L, l	litre
Mag	magnetometer, magnetometric
MW	megawatt
MMER	Metal Mining Effluent Regulations
m	metre
masl	metres above sea level
mbgs	metres below ground surface
t	metric ton (tonne)
µm	micron (micrometre)
µS/cm	micro-Siemens per centimetre

Abbreviation or Symbol	Unit or Term
mm	millimetre
M	million
\$M	million dollars
Mt	million metric tons
Moz	million ounces
Ma	million years
min	minute
MCC	Ministère de la Culture et des Communications
MERN	Ministère de l'Énergie et des Ressources Naturelles du Québec
MFFP	Ministère des Forêts, de la Faune et des Parcs
MDDELCC	Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques
NAD 83	North American Datum of 1983
ng	nanogram
NI 43-101, 43-101	National Instrument 43-101, Regulation 43-101
NPV	net present value
NSR	net smelter return
Ni	nickel
NiEq, lbs NiEq	nickel equivalent, nickel equivalent pounds
oz/st, oz/t	ounce per short ton
Pd	palladium
ppb	part per billion
ppm	part per million
Pt	platinum
PGE	platinum group elements
PGM	platinum group metals
PAG	potentially acid generating
psi	pounds per square inch
py	pyrite
po	pyrrhotite
ROM	run of mine
SAB	SAG mill and ball mill circuit
SAG	semi-autogenous-grinding
st, ton	short ton
Ag	silver
SPLP	synthetic precipitation leaching procedure
TSF (TMF)	tailings storage facility (tailings management facility)

Abbreviation or Symbol	Unit or Term
k	thousand
koz	thousand ounces
t	tonne
tpa	tonnes (metric tons) per year (annum)
tpd	tonnes (metric tons) per day
TCLP	toxicity characteristic leaching procedure
oz	troy ounce
W	tungsten
u/g	underground
USGPM	US gallons per minute
UTM	Universal Transverse Mercator projection
VTEM	versatile time domain electromagnetic
VMS	volcanogenic massive sulphide
vol%	volume percent (percentage by volume)
wt%	weight percent (percentage by weight)
y	year
Zn	zinc

**Table 2.2 – Conversion Factors for Measurements**

Imperial Unit	Multiplied by	Metric Unit
1 inch	25.4	mm
1 foot	0.3048	m
1 acre	0.405	ha
1 ounce (troy)	31.1035	g
1 pound (avdp)	0.4535	kg
1 ton (short)	0.9072	t
1 ounce (troy) / ton (short)	34.2857	g/t

### 3. RELIANCE ON OTHER EXPERTS

The authors did not rely on other experts to prepare this Technical Report. This Technical Report has been prepared by InnovExplo at the request of Monarch Mining. Carl Pelletier (P.Geol.) and John Langton (P.Geol.) are the qualified and independent persons (“QP”) assigned the mandate of reviewing technical documentation relevant to the Technical Report, preparing a mineral resource estimate on the Project, and recommending a work program if warranted.

The QPs relied on the Issuer’s information about mining titles, option agreements, royalty agreements, environmental liabilities and permits. Neither the QPs nor InnovExplo are qualified to express any legal opinion with respect to property titles, current ownership or possible litigation. This disclaimer applies to sections 4.2 to 4.7.

## **4. PROPERTY DESCRIPTION AND LOCATION**

### **4.1 Location**

The Beaufor Mine (the “Project”) is located approximately 20 km northeast of the city of Val-d’Or in the Vallée-de-l’Or regional county municipality of Québec. It covers parts of Senneville and Pascalis Townships, which is part of the Abitibi-Témiscamingue administrative region of northwestern Québec, Canada (Figure 4.1).

The Project lies within seven contiguous properties known as the Beaufor Division Properties” (the “Property”).

The approximate centre of the Project is 48°9’42.13”N, 77°33’16.63”W (UTM coordinates 310040 E, 5337429 N, NAD 83, Zone 18). The Project underlies National Topographic Service (NTS) map sheet 32C/04.

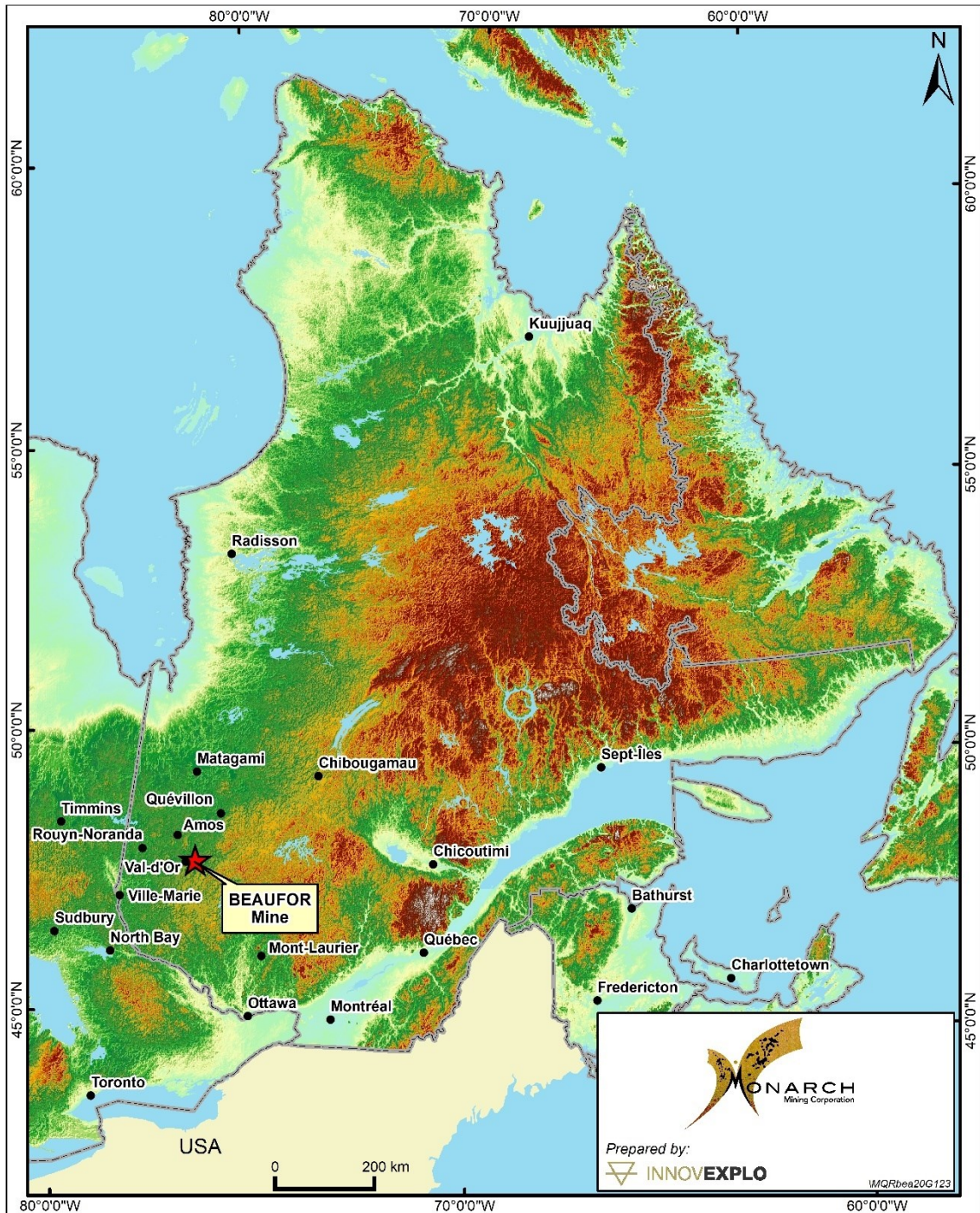
### **4.2 Mineral Title Status**

Mining title status for the Property was verified by InnovExplo using GESTIM, the Québec government’s online claim management system at <http://gestim.mines.gouv.qc.ca>.

The Property consists of 27 mineral titles (23 claims, 3 mining leases and 1 mining concession), totaling 691.60 ha that are divided into seven (7) Beaufor Division Properties. The Project area underlies parts of three (3) of these properties: the Beaufor, Perron and Pascalis. The other four (4) properties comprise the Colombière, Perron Block No. 2, Perron Block No. 3 and Beaufor West (Figure 4.3). All claims are registered 100% in the name of Monarch Gold as at the effective date of the Report. All mining titles are in good standing according to the GESTIM database. A detailed list of mining titles, ownership and expiration dates is provided in Table 4.1.

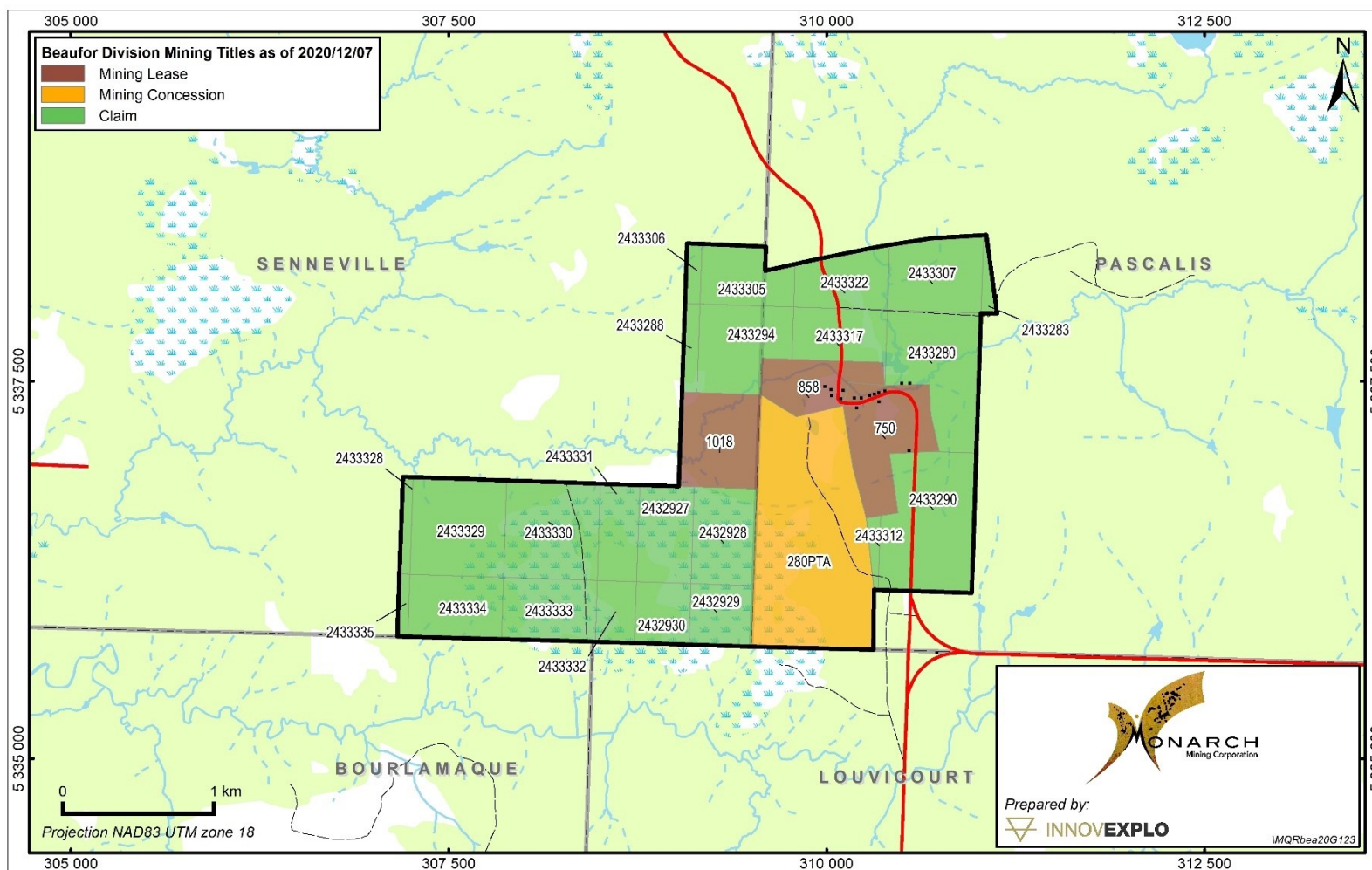
### **4.3 Mineral Royalties**

The seven (7) individual Beaufor Division Properties are subject to various royalties and financial contractual obligations (Figure 4.3).



**Figure 4.1 – Location of the Beaufor Mine in the province of Québec**

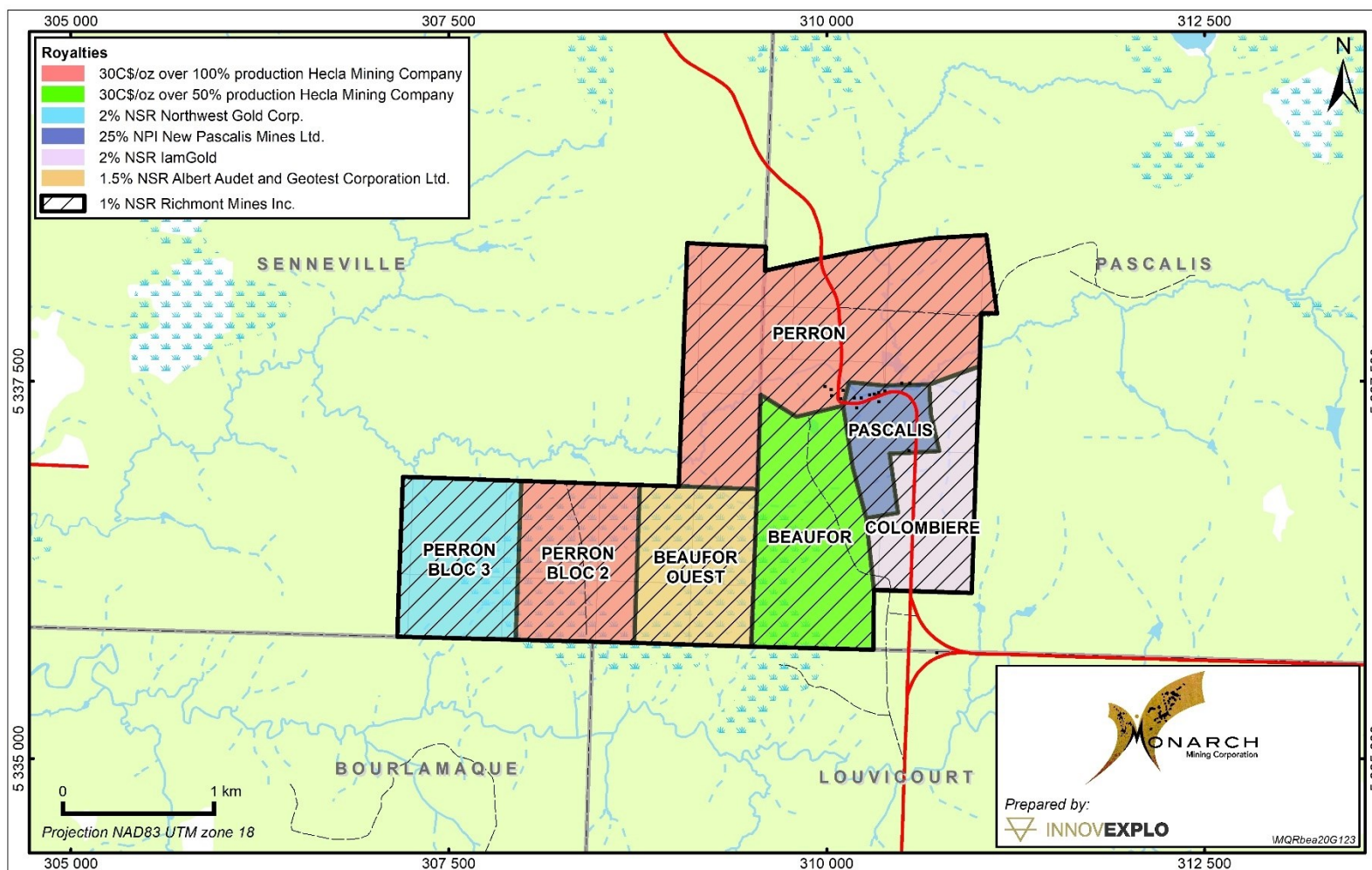




**Figure 4.2 – Mining title map for the Beaufor Division Properties**

**Table 4.1 – Mineral title list**

Type	ID	Status	Area (ha)	Issue Date	Exp. Date	Ann. date	Credit	Required	Owners
CDC	2433280	Active	43.32	2015-10-22	2022-05-04		13,236.85\$	2,500.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433283	Active	3.23	2015-10-22	2022-05-04		1,297.76\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433288	Active	5.94	2015-10-22	2022-05-04		2,206.22\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433290	Active	53.79	2015-10-22	2022-05-04		361,184.58\$	2,500.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433294	Active	31.58	2015-10-22	2022-05-04		9,301.33\$	2,500.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433305	Active	21.84	2015-10-22	2022-05-04		7,536.26\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433306	Active	4	2015-10-22	2022-05-04		1,555.89\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433307	Active	29.92	2015-10-22	2022-05-04		8,744.87\$	2,500.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433312	Active	2.98	2015-10-22	2022-05-04		1,215.00\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433317	Active	21.62	2015-10-22	2022-05-04		7,462.52\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433322	Active	22.4	2015-10-22	2022-05-04		7,723.99\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433328	Active	4.39	2015-10-19	2023-11-23		215.00\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433329	Active	39.85	2015-10-19	2023-11-23		- \$	2,500.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433330	Active	39.79	2015-10-19	2023-11-23		- \$	2,500.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433331	Active	16.67	2015-10-19	2023-11-23		216.00\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433332	Active	10.51	2015-10-19	2023-11-23		216.00\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433333	Active	25.3	2015-10-19	2023-11-23		- \$	2,500.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433334	Active	25.59	2015-10-19	2023-11-23		- \$	2,500.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2433335	Active	2.86	2015-10-19	2023-11-23		216.00\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2432927	Active	23.09	2015-10-07	2022-09-20		102,754.62\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2432928	Active	26.72	2015-10-07	2022-09-20		103,138.96\$	2,500.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2432929	Active	16.75	2015-10-07	2022-09-20		74,599.53\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
CDC	2432930	Active	14.61	2015-10-07	2022-09-20		65,096.07\$	1,000.00\$	Corporation Aurifère Monarques 100 % (responsable)
BM	750	Active	37.5	1986-06-03	2026-06-02	2021-06-02	- \$	- \$	Corporation Aurifère Monarques 100 % (responsable)
CM	280PTA	Active	112.91	1936-05-09		2017-01-31	- \$	- \$	Corporation Aurifère Monarques 100 % (responsable)
BM	858	Active	21.83	2003-03-12	2023-03-11	2022-03-11	- \$	- \$	Corporation Aurifère Monarques 100 % (responsable)
BM	1018	Active	36.62	2013-09-17	2033-09-16	2021-09-16	- \$	- \$	Corporation Aurifère Monarques 100 % (responsable)



(NSR: Net Smelter Return, NPI: Net Profit Interest)

**Figure 4.3 – Royalty map for the Beaufor Division Properties**

## 4.4 Agreements with Monarch

### 4.4.1 2020 – Yamana Gold Inc.

On November 2, 2020, Yamana Gold Inc. (“Yamana”) and Monarch Gold announced that they had entered into a definitive agreement (the “Agreement”), pursuant to which Yamana would acquire the Wasamac property and the Camflo property and mill, through the acquisition of all of the outstanding shares of Monarch Gold (not already owned by Yamana) for total consideration of approximately C\$200 million or C\$0.63 per Monarch Gold share on a fully diluted basis, under a plan of arrangement. The total consideration to be paid by Yamana to the shareholders of Monarch Gold (“Monarch Shareholders”) is approximately C\$60.8 million in cash and C\$91.2 million in Yamana shares. Under the plan of arrangement, Monarch Gold will first complete a spin-out to Monarch Gold Shareholders, through a newly-formed company (Monarch Mining Corporation, or “Monarch Mining”) that will hold its other mineral properties and certain other assets and liabilities of Monarch Gold, by issuing as consideration common shares of Monarch Mining (the “Monarch Mining Shares”) having an implied value of approximately C\$47.5 million (the “Spin-Out”).

Upon implementation of the plan of arrangement (the “Transaction”), the following assets and liabilities will be transferred by Monarch Gold to Monarch Mining in consideration for the issuance of the Monarch Mining Shares to Monarch Gold Shareholders:

- The Beaufor Mine and the Beacon Gold mill and property, the McKenzie Break property, the Croinor Gold property and the Swanson property (the “Monarch Mining Properties”);
- C\$14 million cash;
- All assets and liabilities related to the Monarch Mining Properties.

Following the completion of the transaction, Monarch Gold Shareholders will own approximately 1.3% of Yamana and 100% of Monarch Mining, and Yamana will own 100% of Monarch Gold.

The royalties presented in item 4.3, will be transfer entirely to Monarch Mining with the exception of the Richmond’s royalty of 1% above 100,000 oz that is now owned by Metalla Royalty and Streaming Ltd.

## 4.5 Environment

There are no environmental liabilities pertaining to the Property.

No environmental permits are currently assigned to the Property for exploitation purposes. Environmental permit(s) may be required at a later date to fulfil environmental requirements with the goal of returning the land to a use whose value is at least equal to its previous value and to ensure the long term ecological and environmental stability of the land and its watershed; however, no environmental liabilities were inherited with any of the claims on the Property, and there are no environmental requirements needed to maintain any of the claims in good standing.

#### **4.6 Permits**

No permits are required for the recommended underground exploration programs that are proposed on the three Mining Leases and single Mining Concession. Permits may be required for surface drilling work on any of the mineral claims on the Property, and potentially for any associated environment-alteration undertakings as well (e.g., watercourse alteration, water-crossing). The appropriate Permit Applications for these activities should be submitted by the Issuer to the appropriate government departments in a timely fashion, allowing for a six to eight weeks processing period.

#### **4.7 Other Relevant Factors**

To the authors' knowledge, there are no significant factors, risks, or legal issues that may affect access, title, or the right or ability to perform work on the Property throughout the year.

## **5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

### **5.1 Accessibility**

Conventional access to the Project (Figure 5.1) is realized by heading east on provincial highway 117 from Val-d'Or to Chemin Pascal (20 km), and then driving north on this all-season gravel road to the village of Perron (8 km), which borders the Project area. The Project can also be reached by driving north on highway 397 from Val-d'Or to Val-Senneville (18 km), and heading first east and then south on Chemin Paré to Perron (10 km).

### **5.2 Climate**

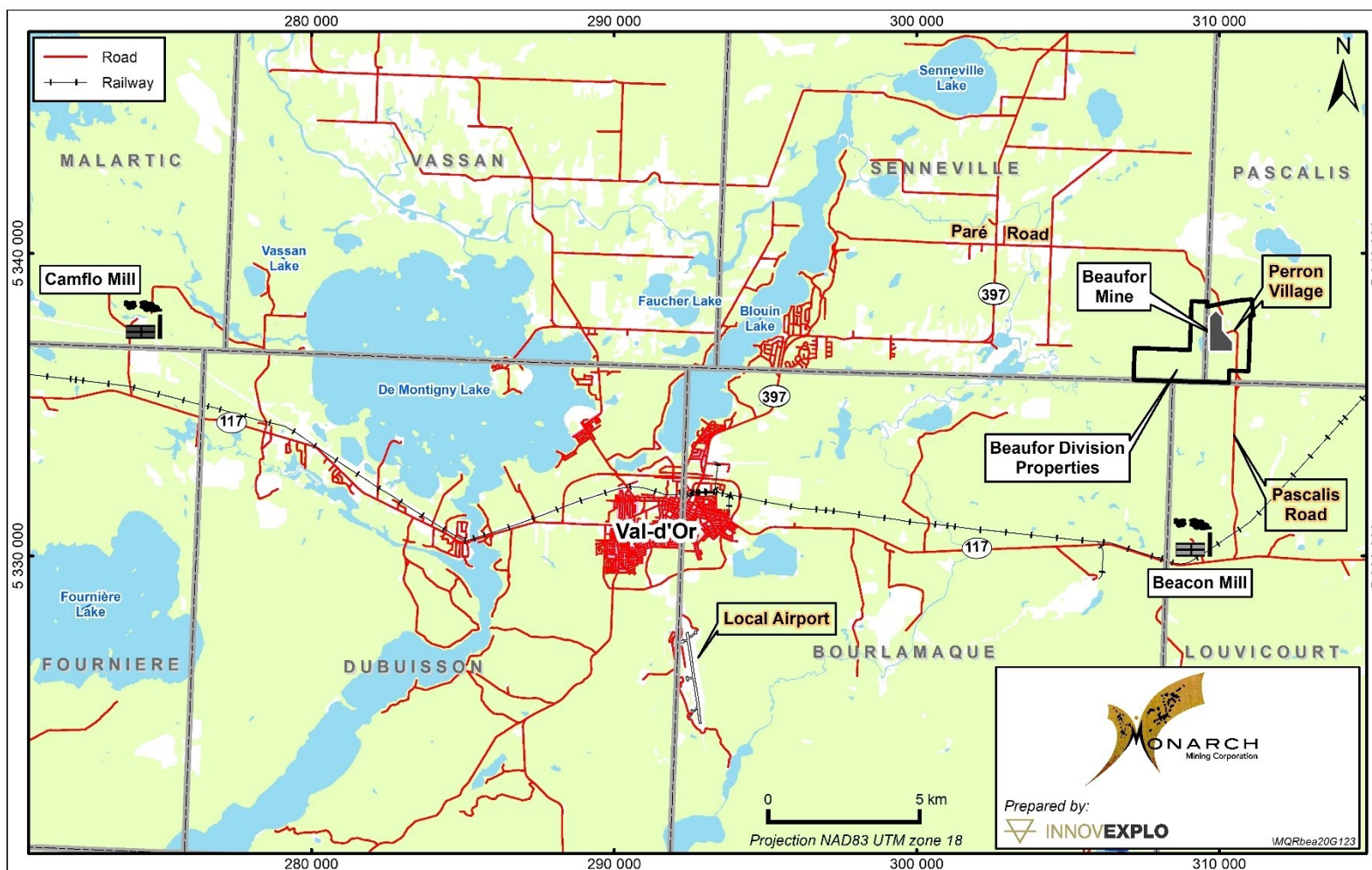
The region experiences a typical continental-style climate, with cold winters and warm summers. Climate data from Amos, the nearest weather station in the city of Val-d'Or, indicate an average daily temperature of 1.5 °C, slightly above freezing. The daily temperature averages -17.2 °C in January and +17.4 °C in July. The lowest temperature ever recorded was -52.8 °C, whereas the highest was 37.2 °C (Environment Canada [https://climate.weather.gc.ca/climate\\_normals/1981-2010](https://climate.weather.gc.ca/climate_normals/1981-2010)). The average annual precipitation is 929 mm, with the highest level of precipitation occurring in July (112 mm). Snowfalls occur from October to May, with the majority occurring from November to March. Mining operations are not affected by the climate and can be carried out year-round, despite the fact that the mean temperature in the area drops below freezing for more than 150 days per year, on average.

### **5.3 Local Resources**

The area is well served by existing infrastructure and human resources from Val-d'Or (approx. population 33,000). The area is served by a paved provincial road network, including highways, and the local airport is serviced by commercial airline companies. Many suppliers and manufacturers in the mining industry are based in Val-d'Or and other nearby communities.

A Canadian National (CN) railway line runs about 6 km south of the Project. Electricity is supplied by Hydro-Québec.

Skilled administrative personnel, technicians, geologists, mining engineers and experienced miners are available in the area.



**Figure 5.1 – Road and rail infrastructure map showing access routes to the Beaufor Mine**

## 5.4 Infrastructure

The mine is currently under care and maintenance. Two mine shafts are located on the Project: 1) the Perron No. 5 shaft (Figure 5.2), which was used at the time of production for hoisting ore and waste rock, and transporting personnel and material, and 2) the Pascalis shaft, which is a ventilation air intake. A raise from the 1,250 level to surface was used as an escapeway. A portal is located 350 m south-southeast of the Perron shaft and the ramp provides access to the 350 Zone. A series of buildings have been erected to serve as warehouses, workshops, garages, a core shack and offices (Figure 5.2). During production, milling and tailings management were handled at the Comflo Mill site. The waste rock pile has a permitted maximum capacity of 880,000 t and contained 658,170 t as of December 2016. Permitting was requested in 2017 to raise the height of the waste rock pile to 12 m for potential future production and has since been approved (B. Camara, Environmental Director, Monarch Gold, *pers. comm.*) The waste rock is non-acid generating. The settling pond has a maximum usable volume of 3,355,000 m<sup>3</sup>. Following the Transaction, the Comflo Mill will be owned by Yamana and the fully permitted Beacon Mill, 7.5 km southeast of the Property, will be owned by Monarch Mining.

## 5.5 Physiography

The regional landscape is typical of the Abitibi Lowlands, with small rolling hills and widespread wetlands and swamps, and mixed broadleaf and conifer forests. The forest cover is relatively young as a forest fire devastated the area in 1942. The elevation is approximately 300 m above sea level.





**Figure 5.2 – Satellite view of the Project site**

## 6. HISTORY

The following sections describe the exploration and development history of the Property. The information in Sections 6.1 to 6.4 was taken from Salmon and Manda Mbomba (2017).

### 6.1 Perron Mine (1931–1951)

The Perron Property was staked by prospector Jack Matthews, who discovered spectacular surface gold veining in Pascalis Township in the spring of 1931. The property was then optioned by Noranda Inc. (“Noranda”), which proceeded with trenching and diamond drilling on the Matthews Vein in January 1932. Due to mediocre results, Noranda abandoned its option, which was subsequently procured by Alex J. Perron, who established Matthews Gold Mines Limited (“Matthews Gold”).

In January 1933, a test mill with a capacity of 10 (short) tons per day was built on site to treat ore from the Matthews Vein. The Perron No. 2 shaft was sunk to a depth of 53 m and several gold bearing veins were discovered and developed. In 1934, Perron Gold Mines Limited (“Perron Gold”) was formed and the Perron No. 2 shaft reached its ultimate depth of 99 m. In 1935, Perron Gold signed an agreement with the Beaufor Mine Corporation (“Beaufor”) that led to the construction of a new mill, and the sinking of a shaft on the adjacent property. The Beaufor No. 4 shaft was connected to the underground workings of the Perron Mine in 1936, and the milling capacity of the project was increased to 125 tons per day. The mill capacity reached 320 tons per day in 1937. At that time, the Beaufor No. 4 shaft was deepened to 191 m and three levels were developed. In 1938, the last shaft, Perron No. 5, was sunk on the Perron property, reaching a depth of 648 m in 1941. The mine was in production until 1951 and produced 1,605,428 t of ore at an average grade of 8.48 g/t Au for a total of 437,511 ounces of gold.

### 6.2 Beaufor Mine (1930-1942)

The original Beaufor property was staked during the fall of 1930 by George Bussières. The discovery by Matthews on the neighbouring Perron property prompted prospectors to explore for the extension of the Matthews Vein on their own ground. Beaufor Gold Mines Limited (“Beaufor Gold”) was incorporated in July 1931, and in the spring of 1932, an inclined shaft was sunk along the Matthews Vein to a depth of 76 m. Mine workings were developed on two levels, but due to great irregularities in both shape and grade of the mineralized zones, works were suspended in December 1932. While Perron Gold was pursuing underground development on the Beaufor property, it was purchased by the Cournor Mining Company Limited (“Cournor”) in 1939. Ore from Beaufor Mine was milled at Cournor’s Bussières Mine (a.k.a. the Old Cournor Mine) located a few kilometres to the south. The Beaufor Mine remained in operation until 1942 when a forest fire destroyed the village of Pascalis and the Cournor office at the Bussières Mine. From 1945 to 1950, exploration work was carried out from the underground workings in Perron Mine, but results were not successful enough to restart the Beaufor operations. Total production from the Beaufor property was 161,287 tonnes at an average grade of 7.01 g/t Au for 36,342 ounces of gold.

### 6.3 Pascalis Property

Pascalis Gold Mines Limited (“Pascalis Gold”) carried out surface trenching and diamond drilling on their property in 1934 and 1935. Exploration work indicated that the Perron deposit extended onto the Pascalis property. As Pascalis Gold and Perron Gold could not reach an agreement to share their underground and surface infrastructures, the Pascalis No. 1 shaft was sunk in 1941. In the context of World War II and for other unknown reasons, work on Pascalis was suspended and no production was ever achieved. In 1962, the company was reorganized into New Pascalis Gold Mines Limited (“New Pascalis Gold”). In 1981, SOQUEM Inc. (“SOQUEM”) acquired three claims that became the Pascalis property. In 1983, Société Minière Louvem Inc. (“Louvem”), owned by SOQUEM, became independent and the operator of the Pascalis Project. Under an agreement with Perron Gold, Louvem rebuilt the headframe over the Perron No. 5 shaft in 1984. Louvem carried out exploration work and test-mining on the extension of the Perron deposit on the Pascalis property. A total of 54,450 tonnes were extracted at an average grade of 6.91 g/t Au, for a total gold production of 12,097 ounces. Due to a lack of funding, Louvem ceased mining operations at Pascalis in 1988.

### 6.4 Perron, Pascalis and Beaufor Consolidated History (1960–2015)

During the 1960s, Cournor carried out exploration work on the Beaufor property. In 1965, surface drill hole C-108 intersected two mineralized zones approximately 400 m south of the Perron shafts, on the Beaufor ground. Little exploration work was carried out until 1983, when Cournor ceded their mineral rights in the Beaufor and Bussièrès mines to Louvem. In 1987, while Louvem was conducting its mining program on Pascalis, the company formed a joint venture with D’Or Val Mines Limited (“D’Or Val”) to conduct a vast exploration program on the Beaufor property. Surface drilling in the vicinity of drill hole C-108 successfully outlined economic gold structures, namely the B and C zones. Underground drilling, drifting and ore development was initiated during that period. A maiden mineral resource estimate\* was completed on the B and C zones, detailing a total of 515,000 tonnes at an average grade of 8.60 g/t Au.

\*These “resources” are historical in nature and should not be relied upon. It is unlikely they conform to current NI 43-101 criteria or to CIM Standards and Definitions, and they have not been verified to determine their relevance or reliability. They are included in this section for illustrative purposes only and should not be disclosed out of context.

Based on the long-term economic extraction envisaged at the time, a second phase of exploration was developed. In 1988, D’Or Val merged with Perron Gold to form Aurizon Mines Limited (“Aurizon”). In 1989, Aurizon earned a 50% interest in the Beaufor property by incurring the required exploration expenses. Drilling and drifting were suspended for property assessment and geological compilation.

In 1993, the project was reactivated with Aurizon as the operator. The Perron, Beaufor and Pascalis properties were then regrouped as the Beaufor project. In 1994, ore from Beaufor was processed at Richmond’s Camflo Mill near the town of Malartic. Richmond became involved in the project through its growing shareholder position in Louvem. In January 1996, commercial production was declared, but underground operations were suspended in August 2000 because Aurizon suspected that crown pillar conditions were not safe enough to fully guarantee the safety of underground workers. In 2001, Richmond acquired Aurizon’s interest and became operator of the Beaufor Mine. After consolidation

work on the crown pillar and in the shaft, the Beaufor Mine resumed operations in January 2002. In March 2010, the Beaufor Mine reached the 1-million-ounce production milestone, nearly 80 years after the original discovery of the deposit. In July 2010, Richmont completed the acquisition of Louvem's interest and became the sole owner of the Beaufor Mine. Ownership changed again in September 2017 when Monarch purchased the Beaufor Mine.

From the start of commercial production in the 1930's to the end of 2015, the Perron, Beaufor and Pascalis mines have produced approximately 4,854,000 tonnes at an average grade of 7.5 g/t Au, for a total of 1,169,000 ounces of recovered gold.

## **6.5 Recent Exploration**

### **6.5.1 2016 drilling**

A total of 227 drill holes, aggregating approximately 45,418.2 m of drilling, were completed at the Beaufor Mine in 2016 by Richmont. Drilling comprised approximately 13,000 m of definition drilling (30%) and 32,000 m of exploration drilling (70%).

A total of twelve (12) exploration target areas were drill-tested within the mine area. Approximately 35% of exploration drilling focused on lateral and vertical extensions of Zone Q. Surface exploration drilling was carried out to test dyke-associated mineralization between the Beaufor and Perron faults, on the west side of the mine.

### **6.5.2 2017 drilling**

From January 2017 to the end of September 2017 (the effective date of the 2017 Technical Report by Pelletier et al.), a total of 20,263.95 m had been drilled in 126 drill holes, all from the underground infrastructure, and drilling was ongoing. The 2017 drilling program was designed to define known mineralization as well as to test lateral and vertical extensions. Monarch became operator of the mine in October of 2017 and completed an additional 65 underground holes (5,899 m) by year-end. Plans for further drilling to test the areas south of the Beaufor Fault and between the Perron/Central and Beaufor faults in 2018 were tabled.

## **6.6 Historic Resource Estimates (2015-2017)**

In 2015, Richmont completed an in-house mineral resource and mineral reserve estimate accompanied by a technical report as of December 31, 2015 (Thelland and Manda Mbomba, 2016).

Economic parameters used for the 2016 estimates are shown in Table 6-1.

Measured and Indicated category materials totalled 842,800 tonnes at an average grade of 6.34 g/t Au for, 171,900 ounces, whereas the Inferred category materials were estimated at 135,100 tonnes at an average grade of 6.44 g/t Au, for 28,000 ounces. The Proven and Probable Reserves materials totalled 302,100 tonnes at an average grade of 6.57 g/t Au, for 63,850 ounces.

**These "Resources" are historical in nature and should not be relied upon. The qualified person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves. Although**

they were most likely prepared using the CIM Definition Standards and Best Practice Guidelines that were in effect at that time and most likely disclosed according to the current NI43-101 Standard, their relevance and reliability have not been verified. They are included in this section for illustrative purposes only and the issuer is not treating the historical estimate as current mineral resources.

**Table 6.1 – Economic parameters used for the 2016 Historical Estimate**

Parameter	Value
Exchange rate (\$US:\$C)	1.00 : 1.2037
Price of gold (\$US:\$C)	1,080 : 1,300
Capping value for high-grade	68.5 g/t on assays. If grade of drill hole intercept is higher than 16.5 g/t over 2.40 m width, the intercept is capped at 16.5 g/t
Cut-off grade for stopes	4.31 g/t for long-hole and 5.25 g/t for room-and-pillar
Cut-off grade for development	1.0 g/t
Stope dilution	10% for long-hole and 5% for room-and-pillar
Dilution grade	0.0 g/t Au
Mineral Reserve Recovery Factors	100% for long-hole stopes for which permanent pillars have been laid out and excluded from Mineral Reserves.
	90% for long-hole stopes for which permanent pillars have not been laid out
	80% for room-and-pillar stopes for which permanent pillars have been laid out and excluded from Mineral Reserves
Mill Recovery (not used for estimation)	98,00%
Specific gravity	2.75 t/m <sup>3</sup>
Minimum Mining Width	2.40 m

After acquiring the Beaufor Mine from Richmond in late 2017, Monarch engaged InnovExplo to provide updated mineral resource and mineral reserve estimates (the “2017 MRE”) for the Project supported by a technical report (Pelletier et al., 2017).

The database used for the 2017 MRE contained 10,308 DDH, including 184,520 assays and lithological information, and a total of 63 distinct mineralized zones. The estimation method was polygonal on cross-section.

Economic parameters used for the 2017 Historical Estimate are shown in Table 6-2.

Measured and Indicated category material totalled 345,400 tonnes at an average grade of 7.68 g/t Au, for 85,200 oz; Inferred category material totalled 46,100 tonnes at an average grade of 8.34 g/t Au, for 12,400 oz. The Proven and Probable reserves materials totalled 139,500 tonnes at an average grade of 6.83 g/t Au, for 36,600 ounces.

These “Resources” are historical in nature and should not be relied upon. The qualified person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves. Although they were most likely prepared using the CIM Definition Standards and Best Practice Guidelines that were in effect at that time and most likely disclosed according to the current NI43-101 Standard, their relevance and reliability have not been verified. They are included in this section for illustrative purposes only and the issuer is not treating the historical estimate as current mineral resources.

**Table 6.2 – Economic parameters used for the 2017 Historical Estimate**

Parameter	Value
Exchange rate (\$US:\$C)	1.00 : 1.28
Price of gold (\$US:\$C)	1,280 : 1,638.40
Capping* value for high-grade (*used raw assay values)	68.5 g/t Au for zones 8, B, M, M1 and Q, whereas all other zones were capped at 34.25 g/t Au and drill hole intersections were capped at 16.5 g/t over 2.40 m
Cut-off grade for stopes	3.95 g/t Au for long-hole and 4.66 g/t Au for room-and-pillar
Stope dilution	Varies from 10% to 15% for long-hole stopes, based on the position of the dyke, and 0% for the room-and-pillar stopes, as the stope width is less than the 2.40 m minimum mining width
Mining Recovery Rates	85% - 90% for long-hole stopes, based on the position of the dyke
	90% for room-and-pillar stopes
Mill Recovery (not used for estimation)	98,00%
Specific gravity	2.75 t/m <sup>3</sup>
Minimum Mining Width	2.40 m
Polygons for Measured Category material	Extend 8 m above and below development and up to 10 m laterally.
Polygons for Indicated Category material	Do not extend more than 20 m from drill hole intercepts, along dip and along strike.
Polygons for Inferred Category material	Do not extend more than 40 m from drill hole intercepts, along dip and along strike.

## 6.7 Monarch Gold Corporation acquisition (2017)

On September 11, 2017, Richmont Mines Inc. entered into a definitive agreement with Monarch Gold, to acquire Richmont's Québec-based assets including the Beaufor Mine. In addition, Monarch Gold issued additional common shares to Richmont (19.9%) of the undiluted issued and outstanding common shares of Monarch Gold, inclusive of the Subscription Shares.

Monarch Gold granted Richmont a 1% Net Smelter Return ("NSR") royalties on the Beaufor Mine (once post-closing production reaches an aggregate of 100,000 ounces of gold).

Monarch Gold also assumed responsibility for all environmental and other liabilities related to the Québec Assets and announced the closing of the Transaction in a press release on October 2, 2017.

In 2018, Monarch Gold mandate Pioneer Aerial Survey Ltd to complete a high-level resolution aerial magnetic survey. A total of 160.82 km linear was flew on the entire Property from September 26 to 29 and November 19 in 2018 with a drone. Anomalies that may be associated to similar geological and structural context as Beaufor were identified and further interpretation before additional exploration work is recommended.

## 7. GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 Abitibi Terrane (Abitibi Subprovince)

The Property is located in the southeastern part of the Archean Abitibi Subprovince, in the southern Superior Province of the Canadian Shield. The Abitibi Greenstone Belt (AGB) has been historically subdivided into the Northern Volcanic Zone and the Southern Volcanic Zone using stratigraphic and structural criteria that respect an allochthonous greenstone belt development model, which interprets the AGB as a collage of unrelated fragments (Dimroth et al., 1982; Ludden et al., 1986; Chown et al., 1992). The first geochronologically constrained stratigraphic or lithotectonic map (Based on Ayer et al. (2005), Goutier and Melançon (2007) and modified from Thurston et al. (2008)

Figure 7.1), interpreted by Thurston et al. (2008), includes the entire surface extent of the AGB (i.e., from the Kapuskasing Structural Zone in the west to the Grenville Province in the east). Thurston et al. (2008) described the AGB as mainly composed of volcanic units that were unconformably overlain by large sedimentary Timiskaming-style assemblages. Similarly, recent mapping surveys and geochronological data indicate an autochthonous origin for the Abitibi Greenstone Belt.

Generally, the AGB comprises east-trending synformal “keels” containing volcanic rocks and intervening domes cored by synvolcanic and/or syntectonic plutonic rocks (gabbro-diorite, tonalite and granite), alternating with east-trending bands of turbiditic wacke (MERQ-OGS, 1984; Ayer et al., 2002a; Daigneault et al., 2004; Goutier and Melançon, 2007). The volcanic and sedimentary strata are typically sub-vertically dipping and are separated by abrupt, variably dipping east-trending fault-zones. Some of these fault-zones, such as the Porcupine-Destor and Larder Lake-Cadillac fault zones, display evidence of overprinting deformation events including early thrusting, later strike-slip and extension events (Goutier, 1997; Benn and Peschler, 2005; Bateman et al., 2008). Two ages of unconformable successor basins are characterized as follows: a) widely distributed fine-grained clastic rocks in early Porcupine-style basins; followed by b) Timiskaming-style basins composed of coarser clastic sedimentary rocks 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 AGB is intruded by numerous late-tectonic plutons composed mainly of syenite, gabbro and granite with fewer lamprophyre and carbonatite dykes. The metamorphic grade in the Abitibi Greenstone Belt commonly 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).

### 7.2 New Abitibi Greenstone Belt Subdivisions

As mentioned in section 7.1 new AGB subdivisions have been defined using new mapping and geochronology data from the Ontario Geological Survey and Géologie Québec. The following section presents a more detailed description of these new subdivisions, mostly abridged from Thurston et al. (2008) and references therein.

Seven (7) discrete volcanic stratigraphic episodes define the new AGB subdivisions, based on numerous U-Pb zircon age groupings. The new U-Pb zircon ages clearly show timing similarities for volcanic episodes and plutonic activity between the northern and southern parts of the AGB (Based on Ayer et al. (2005), Goutier and Melançon (2007) and modified from Thurston et al. (2008)

Figure 7.1). These seven volcanic episodes, from oldest to youngest are as follows:

- Volcanic Episode 1 (pre-2750 Ma);
- Pacaud Assemblage (2750–2735 Ma);
- Deloro Assemblage (2734–2724 Ma);
- Stoughton-Roquemaure Assemblage (2723–2720 Ma);
- Kidd-Munro Assemblage (2719–2711 Ma);
- Tisdale Assemblage (2710–2704 Ma);
- Blake River Assemblage (2704–2695 Ma).

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

The geographic distribution (Based on Ayer et al. (2005), Goutier and Melançon (2007) and modified from Thurston et al. (2008)

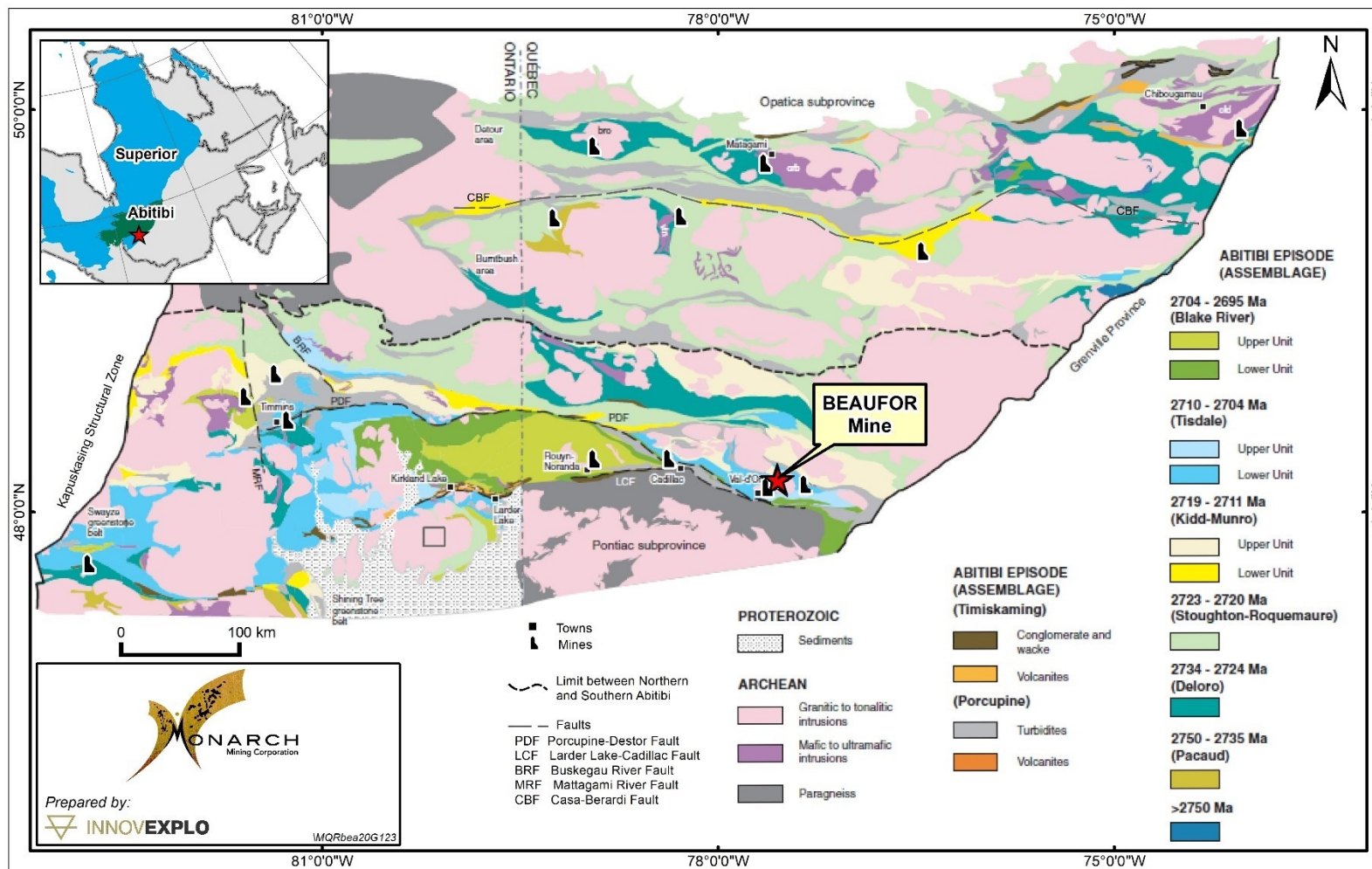
Figure 7.1) of the northern and southern parts of the AGB have no tectonic significance, but they are similar to the extents of the internal and external zones of Dimroth et al. (1982) and to the Central Granite-Gneiss and Southern Volcanic zones of Ludden et al. (1986). The boundary passes south of the wackes of the Chicobi and Scapa groups, which have a maximum depositional age of  $2698.8 \pm 2.4$  Ma (Ayer et al., 1998, 2002b).

The Abitibi Subprovince is bounded to the south by the Larder Lake–Cadillac Fault Zone or Cadillac Tectonic Zone, a major crustal discontinuity that separates the Abitibi and Pontiac subprovinces (Based on Ayer et al. (2005), Goutier and Melançon (2007) and modified from Thurston et al. (2008)

Figure 7.1) (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 Opatoca Subprovince (Figure 7.1), a complex plutonic-gneiss belt formed between 2800 and 2702 Ma (Sawyer and Benn, 1993; Davis et al. 1995) and comprising mainly strongly deformed and locally migmatized, tonalitic gneisses and granitoid rocks (Davis et al., 1995).





Based on Ayer et al. (2005), Goutier and Melançon (2007) and modified from Thurston et al. (2008)

**Figure 7.1 – Geology of the Abitibi Greenstone Belt**

## 7.3 Regional Geology

The Beaufor Mine is located in the Val-d'Or mining camp. The geology of the camp is described below using information compiled from the following sources: Gunning and Ambrose (1940), Norman (1947), Latulippe (1966), Dimroth et al. (1982, 1983a, 1983b), Imreh (1976, 1984), Desrochers et al. (1993), Desrochers and Hubert (1996), Pilote et al. (1997, 1998a, 1998b, 1999, 2000), Scott et al. (2002), Scott (2005), Pilote et al. (2015a, 2015b, 2015c).

The Val-d'Or mining camp is situated in the eastern segment of the southern part of the Abitibi Subprovince at its boundary with the Pontiac Subprovince, which is marked by the Cadillac Tectonic Zone (CTZ). The region can be divided into four stratigraphic groups based on regional tectonics and volcano-sedimentary stratigraphy (Pilote et al., 1999): the upper Louvicourt Group (subdivided into the Héva and Val-d'Or formations), the basal Malartic Group (subdivided into the Jacola, Dubuisson and La Motte–Vassan formations), the Pontiac Group and the Piché Group (Figure 7.2 and Figure 7.3).

The Malartic Group comprises ocean floor komatiite and tholeiitic basalt flows and sills, with minor sedimentary rocks that are interpreted to have formed in an extensional environment related to mantle plumes. The Louvicourt Group is composed mainly of mafic to felsic volcanic rocks that formed in a subduction-related deep marine volcanic arc. The Pontiac Group is dominated by detrital sedimentary rocks. The Piché Group is dominated by ultramafic flows.

The volcanic and structural architecture of the Val-d'Or mining camp is intruded by two vast plutons, the Bourlamaque and La Corne batholiths, as well as several other smaller satellite intrusions.

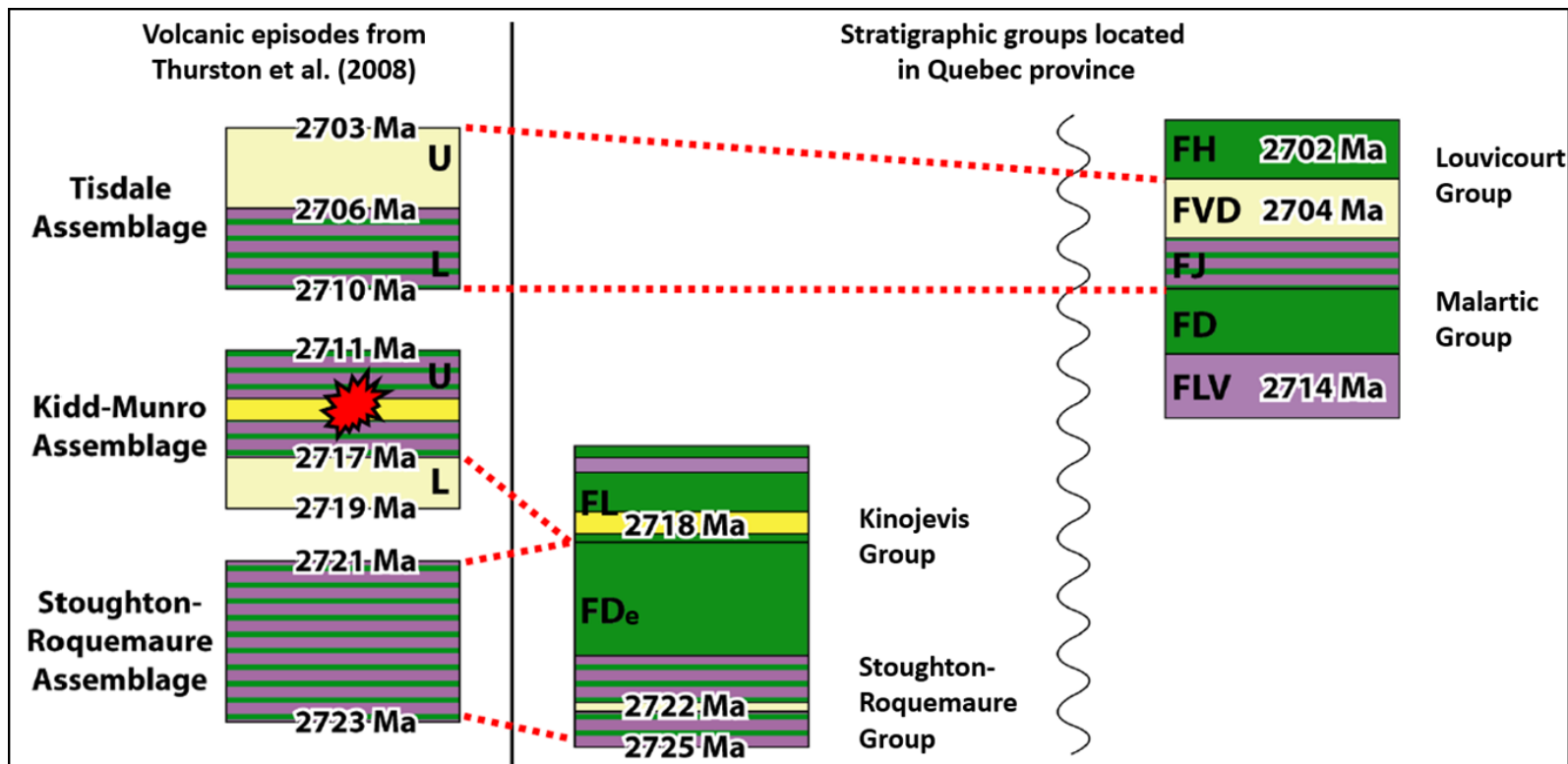
### 7.3.1 Stratigraphy

From south to north, the Val-d'Or mining camp is underlain by the lithologies of the Pontiac Group (PO); the Piché Group (PG); the Héva (HF) and Val-d'Or (VDF) formations of the Louvicourt Group; and the Jacola (JF), Dubuisson (DF) and La Motte-Vassan (LVF) formations of the Malartic Group (Figure 7.3).

### 7.3.2 Pontiac group (PO)

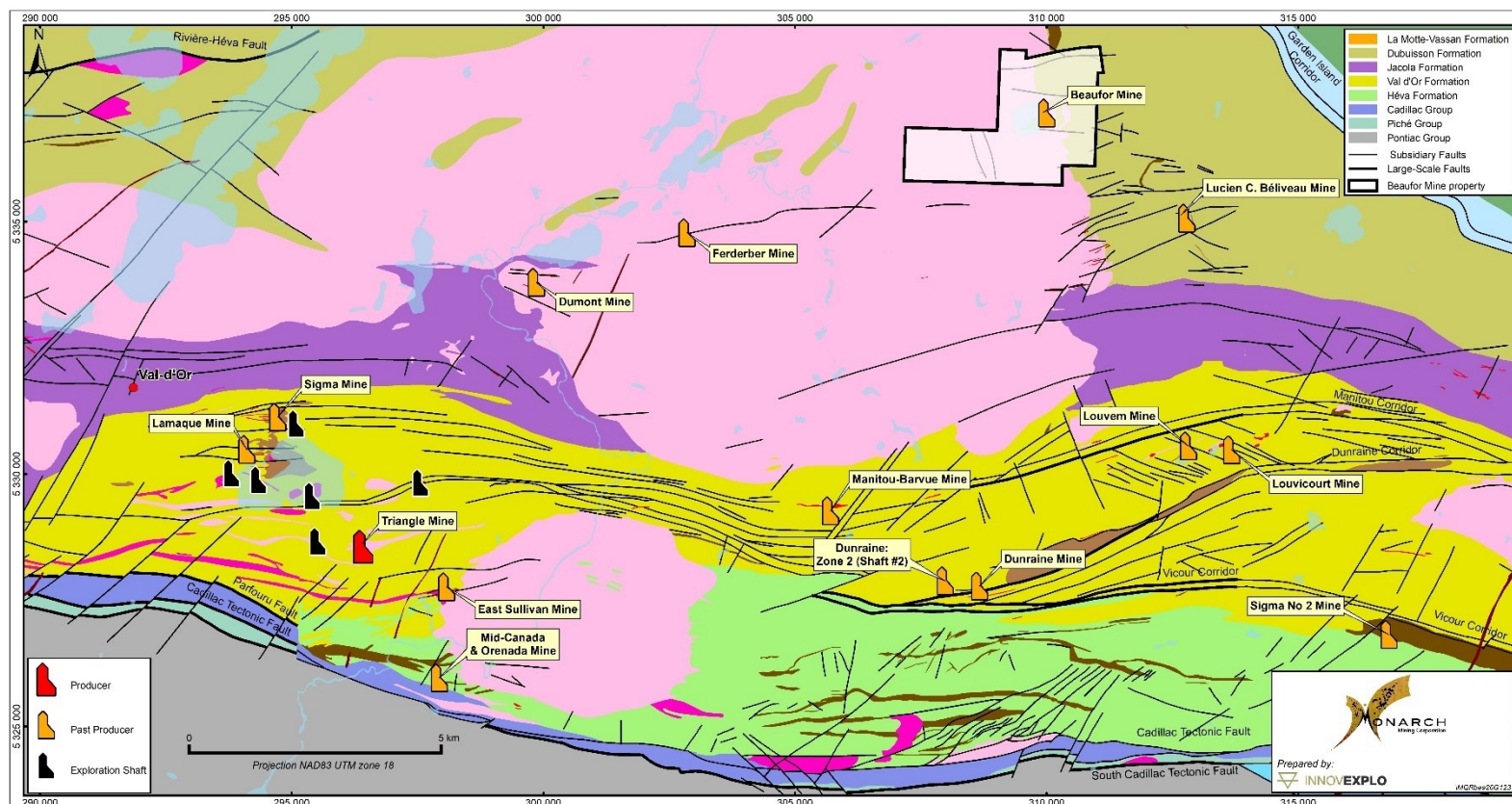
In the Beaufor area, the PO covers the area south of the CTZ. The lithologies are homogeneous and represented by sandstones (60%) and shales (40%). Some small mafic tuff bands are also present but constitute less than 1% of the rock sequence. In outcrop, the sandstones are pale brown and the mudstones darker brown. Tufts are distinguished from other lithologies by their greenish colour and porous appearance.

The level of deformation is variable. South of the CTZ, bedding and primary textures are commonly preserved. Elsewhere, in the more deformed sectors, these sedimentary rocks show a tectonic banding that is superimposed on the original stratigraphic layering (S0).



(adapted and modified from Pilote et al., 2014)

**Figure 7.2 – Tisdale and Kidd-Munro assemblages and stratigraphic groups in the province of Québec**



(adapted and modified from Pilote 2013, 2015a, 2015b)

**Figure 7.3 – Regional geology of the Val-d'Or mining camp area showing the main faults and auriferous zones**

### 7.3.2.1 Piché group (PG)

The rocks of the PG (Latulippe, 1976) rarely crop out in the region. The tectonostratigraphic position of the PG generally coincides with the location of the CTZ, leading many researchers in the past to describe the group as a band of talc-chlorite or talc-chlorite-carbonate schist (e.g., Gunning and Ambrose, 1940); however, it has since been shown that the rocks of the CTZ were not uniformly affected, due to heterogeneities in the distribution and intensity of deformation, and primary textures have been preserved in areas where deformation is less intense. These less deformed rocks are typically discontinuous and encompassed by bands of schist. Underground and in drill holes, they are basaltic and komatiitic in composition (Sansfaçon and Hubert, 1990), whereas at surface, they are essentially ultramafic and exhibit cumulate textures. Spinifex textures are locally preserved.

In 2013, an age of  $2709.5 \pm 2$  Ma was obtained for a tonalite dyke that cuts ultramafic units in the Buckshot pit, near the Canadian Malartic deposit.

### 7.3.2.2 Louvicourt group

#### Héva Formation (HF)

The HF ( $2702 \pm 2$  Ma) is 2 to 5 km thick and is positioned between the CTZ and the VDF. The HF represents a separate volcanic cycle from that of the VDF, comprising volcanoclastic and pyroclastics rocks, and dykes and sills of gabbroic to dacitic composition. The volcanoclastic rocks are characterized by coarse and fine tuff horizons with millimetre-scale laminations, intruded by gabbro and dacite. Disruptions in the volcanoclastic beds and peperite textures indicate that the dykes and sills were injected into unconsolidated sediments. In most cases, the interaction between magma and sediment formed complex structures of pseudo-pillows in the magma rather than true peperite. The volume and styles of the gabbro and dacite intrusions suggest close proximity to a volcanic centre source.

#### Val-d'Or Formation (VDF)

The VDF ( $2704 \pm 2$  Ma) is 1 to 3 km thick and comprises submarine volcanoclastic deposits formed by autoclastic and/or pyroclastic mechanisms. These deposits include 1 to 20 m thick brecciated and pillowed andesite flows with feldspar and hornblende porphyries. The flows are intercalated with amalgamated volcanoclastic 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 volcanoclastic beds are composed of lapilli tuff, lapilli and blocks tuffs, and to a lesser extent, fine to coarse tuffs.

### 7.3.2.3 Malartic group

#### Jacola Formation (JF)

The JF ( $2706 \pm 2$ ) is bordered to the south by the VDF. It consists of a cyclic package comprising, from bottom to top, komatiitic flows, basalts and andesitic volcanoclastic rocks. The sequences may be complete or truncated. Komatiitic lavas are present as

massive flows with local spinifex textures. Basaltic flows are massive, pillowed and sometimes in the form of flow breccias. Magnesian basalts are also present in small amounts. They are easily identified by their characteristic pale grey colour.

### **Dubuisson Formation (DF)**

The DF ( $2708 \pm 2$  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 following description), but in different proportions.

### **La Motte–Vassan Formation (LVF)**

The LVF crops out on the north side of Lac De Montigny and has variable apparent thickness, 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 present 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 ( $2714 \pm 2$  Ma) suggests it may be contemporaneous with the upper part of the Kidd-Munro Assemblage (Figure 7.2).

### **7.3.3 Intrusive rocks**

The initial volcanic and structural architecture is cut and profoundly disrupted by two vast intrusions: the synvolcanic Bourlamaque Batholith (2700 Ma) and the late to post-tectonic La Corne Batholith (2680–2642 Ma), as well as several other smaller isolated satellite bodies.

### **7.3.4 Structural fabrics**

Pilote et al. (2015c) established the nomenclature for the various structural elements in the region, as follows:

The oldest regional schistosity, S1, is systematically subparallel to bedding, S0.

Within the Malartic Group, the overall S1 trend is NW-SE. S0 and S1 are coplanar and show a moderate to steep dip to the north. S1 contains a primary stretching lineation L1. In the southwestern part of the region, S0 and S1 are dextrally folded into Z folds, with an average axial plane dipping  $85^\circ$  towards  $005^\circ$  and generally well developed axial planar cleavage (S2). The axes of these folds (F2), are parallel to the plunges shown by the L1 stretching lineation contained in S1.

A late S3 cleavage is the product of kinking and chevron folds in highly altered units showing a strong pre-existent anisotropy. Dykes, mainly tonalite and monzonite, are deformed and affected by the S2 schistosity. They trend SE, subparallel to the trace of the La Pause Fault. In places, they exhibit a stretching lineation that plunges gently westward.

#### 7.3.4.1 Large-scale fault zones

The region has several large-scale transpressive high-strain zones (“shear zones” in the historic parlance), trending W to WNW and dipping steeply to the north. From south to north, they comprise: the Cadillac Tectonic Zone (CTZ), the Parfouru Fault (PF), the Marbenite Fault (MF), the Norbenite Fault (NF), the K Shear Zone (KSZ), and the Rivière Héva Fault (RHF).

These major structures contain dykes and stocks of monzonitic or tonalitic composition with pre-, syn- or post-tectonic ages and are spatially associated with several gold mines in the Val-d’Or mining camp: Norlartic, Marban, Kiena, Sullivan, Goldex, Siscoe, Joubi, Sigma and Lamaque. The observed diversity in the styles and ages of gold mineralization related to these large-scale shear zones demonstrates that several distinct episodes of mineralization occurred.

#### 7.3.4.2 Cadillac tectonic zone (CTZ)

The CTZ (Figure 7.3) is one of the most prolific structures in terms of gold mineralization. The CTZ is important not only for its metallogenic wealth, but also for its geodynamic models and juxtaposition of varied lithologic assemblages along its subsidiary faults. The E-W and WNW sections of the fault reflect a deep asymmetry in the Abitibi Subprovince, a feature that influenced the styles and episodes of gold mineralization.

The CTZ has long been known to be associated with talc-chlorite-serpentine schists that have now been assigned to the Piché Group. The CTZ is 200 to 1000 m wide, consisting of an anastomosing tangle of several converging and diverging faults that isolate distinct lithological lozenges displaying variable degrees of deformation.

Numerous intrusions of various shapes, sizes, compositions and ages are also found along the CTZ. Calc-alkaline intrusions were injected between 2690 and 2680 Ma, whereas younger alkaline intrusions were emplaced between 2680 and 2670 Ma. These features reveal the role of the fault as a conduit for both magmas and hydrothermal fluids, and also demonstrate its long-lived deep crustal nature. In the region, the CTZ generally dips steeply towards 010°.

#### 7.3.4.3 Parfouru fault (PF)

The PF (Figure 7.3) is an ESE-WNW shear zone that dips steeply (75°) to the north or northeast (Daigneault, 1996). The shear zone can reach 300 m wide, and has been traced for many kilometres.

#### 7.3.4.4 Marbenite fault (MF)

The MF is an ESE-WNW to SE-NW shear zone that dips steeply to the north or northeast (Trudel and Sauvé, 1992; Sauvé et al., 1993; and Beaucamp, 2010). It is parallel to the Norbenite Fault.

#### 7.3.4.5 Norbenite fault (NF)

The NF is a strong second-order shear zone that strikes WNW, subparallel to stratigraphy, and dips 40-60° to the northeast (Trudel and Sauv , 1992; Sauv  et al., 1993). The NF is 15 to 110 m wide and has been traced for 8 km. It affects mainly the komatiitic units and occasionally the basaltic units of the JF. This shear zone can be structurally distinguished into two or three branches in some places.

#### 7.3.4.6 K Shear zone (KSZ)

The KSZ is a shear zone between 300 and 600 m wide that has been traced for 1.7 km. It dips 80° towards 025°, and is composed of talc and chlorite schists, actinolite schists and minor sericite schists, and bodies of pure talc and massive actinolite (Olivo and Williams-Jones, 2002; Olivo et al., 2007).

#### 7.3.4.7 Riv re H va Fault (RHF)

The RHF (Figure 7.3) is an ESE-WNW shear zone that dips steeply (80°) towards the north or northeast (Daigneault, 1996). The shear zone can reach 300 m wide and has been traced over many kilometres.

### 7.4 Geology of the Beaufor Mine

The Beaufor Mine is located within the Bourlamaque Pluton at the eastern contact with the Dubuisson Formation (Figure 7.3 and Figure 7.5). The Bourlamaque Batholith, a massive, circular, syn-volcanic intrusion with a diameter of approximately 12 km (at surface) is a major geological feature of the Val-d'Or mining camp. This quartziferous granodiorite pluton, intruded by fine-grained dioritic dykes, intrudes the mafic and ultramafic rocks of the Dubuisson and Jacola formations (Malartic Group), as well as the intermediate rocks of the Val-d'Or Formation (Louvicourt Group). The pluton hosts several past-producing mines, among them Belmoral, Wrightbar, Bussi res (a.k.a. Old Cournor), Bras d'Or and Lac Herbin.

### 7.5 Mineralization

Gold mineralization occurs in quartz-tourmaline fault-fill veins associated with extension fractures in shear zones, which dip moderately south. Gold-bearing veins show a close association with the mafic dykes that intrude the granodiorite. The dykes are interpreted to have influenced the structural control of the gold-bearing veins. Sulphide content within the veins is generally less than 10%, and the principal mineral is pyrite with some minor chalcopyrite and pyrrhotite. Locally, native gold is seen to have infilled voids inside pyrite crystals.

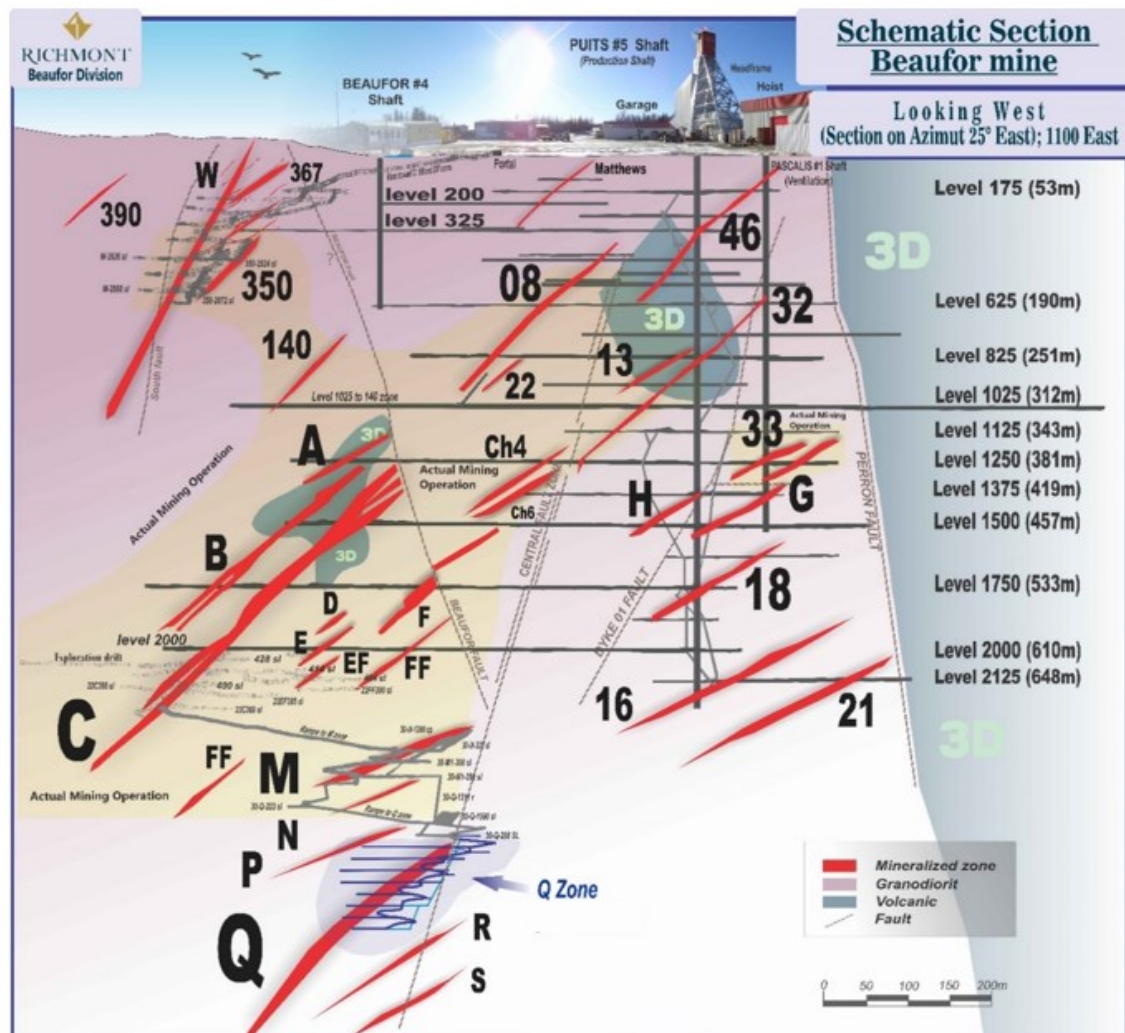
Veins strike at 115° and dip moderately to the south from 30° to 65° ((From Thelland and Manda Mbomba, 2016)

Figure 7.4). The thickness of the veins varies from 5 cm to 5 m, but generally, the thickness of the quartz veining system is 30 cm to 120 cm. All the gold-bearing veins are contained in a strongly altered granodiorite in the form of chlorite-silica forming



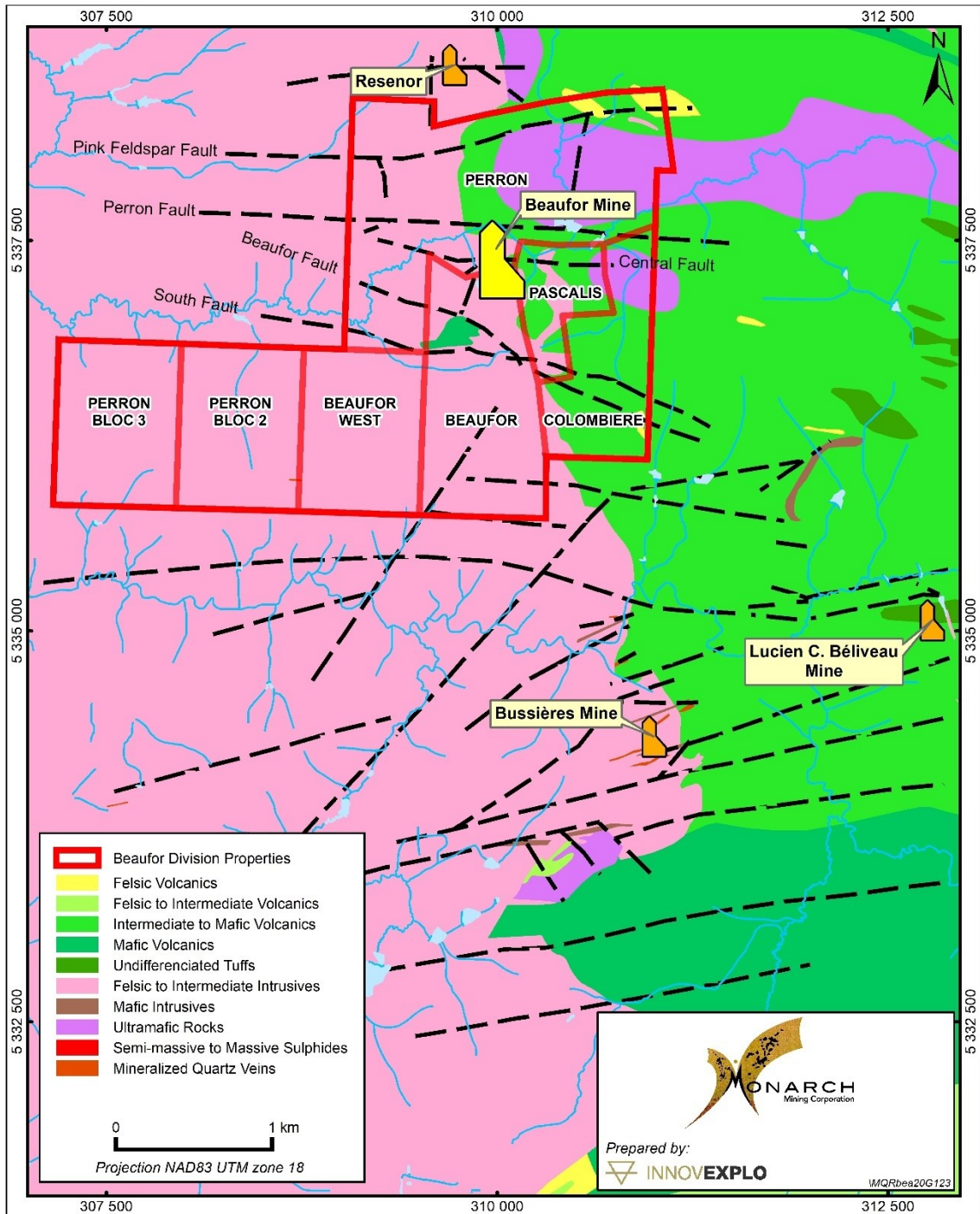
anastomosing corridors 5 m to 30 m thick. The veins at the Beaufor Mine sometimes form panels more than 300 m long by 350 m high. Some major mineralized zones, e.g., the C and Q zones, have been traced along strike over 700 m and down dip for over 400 m.

The multiple vein systems of the Beaufor deposit are cut and split apart by numerous steeply dipping discrete shear zones, striking 070°. The Beaufor Fault marks the limits of several major mineralized zones. The Beaufor Fault (Figure 7.4 and Figure 7.5), which dips 60° towards 025°, may have been one of the main conduits for mineralizing hydrothermal fluids at the Beaufor Mine. Several post-mineralization faults intersect and displace the quartz veins. Mafic dykes that predate mineralization are associated with shear-hosted gold-bearing veins. Shallowly dipping extensional gold-bearing veins are commonly observed at the Beaufor Mine. The main gold-bearing quartz veins are intimately associated with dioritic dykes.



(From Thelland and Manda Mbomba, 2016)

**Figure 7.4 – Beaufor Mine schematic vertical cross section (looking west)**



**Figure 7.5 – Geology of the Beaufor Mine area**

## 8. DEPOSIT TYPES

### 8.1 Archean Greenstone-Hosted Orogenic Lode Gold Deposits

The following description of Archean greenstone-hosted orogenic lode gold deposits is summarized from Simard et al. (2013) and references therein.

Archean greenstone-hosted orogenic lode gold deposits are typically distributed along first-order compressional to transpressional crustal-scale fault zones characterized by several strain increments (e.g., Larder Lake–Cadillac Fault Zone) that mark the convergent margins between major lithological boundaries; however, they are seldom located within these first-order structures. Major or first-order faults are interpreted as primary hydrothermal pathways to higher crustal levels (Eisenlohr et al., 1989; Colvine, 1989; McCuaig and Kerrich, 1998; Kerrich et al., 2000; Neumayr and Hagemann, 2002; Kolb et al., 2004; Dubé and Gosselin, 2007); however, only a few significant gold deposits are hosted in major faults such as the McWatters Mine, Lapa Mine and the Orenada deposit in the Abitibi Subprovince (Morin et al., 1993; Robert, 1989; Neumayr et al., 2000; 2007; Simard et al., 2013).

Significant mineralized quartz veins are commonly hosted in second- and third-order shear zones (Eisenlohr et al., 1989). Structurally, these shear zones vary from brittle–ductile to ductile, depending on their depth of formation (Hodgson, 1993; Robert and Poulsen, 2001). At depths greater than 10 km, quartz veins are seldom located within shear zones, and gold mineralization is mostly associated with disseminated sulphides (Witt and Vanderhor, 1998).

A widely accepted model for orogenic gold deposit is the continuum model (e.g., Colvine, 1989; Groves, 1993; Gebre-Mariam et al., 1995; Groves et al., 1998, 2003), which involves the migration of hydrothermal fluids from a deep-seated reservoir to mid-crustal level along a crustal-scale fault. This model allows for gold deposits to form over a range of crustal depths of more than 15 km, under a variety of P-T conditions ranging from 180 °C at <1 kbar to 700 °C at 5 kbar (Groves 1993).

The timing of gold mineralization relative to metamorphism in higher metamorphic grade rocks is contentious. A broadly syn-peak metamorphic timing for mineralization has recently been proposed to explain a number of deposits in amphibolite and granulite facies terrains of the Yilgarn Craton (Barnicoat et al., 1991; Witt, 1993, Knight et al., 1993; Neumayr et al., 1993; Smith, 1996; Ridley et al., 2000). Others have interpreted gold deposition as pre- to syn-peak metamorphism at Hemlo, Ontario (Powell and Pattinson, 1997; Powell et al., 1999; Muir, 2002), Campbell–Red Lake, Ontario (Penczak and Mason, 1999; Thompson, 2003), and at Big Bell, Australia (Chown et al., 1984; Phillips and De Nooy, 1988; Phillips and Powell, 2009). The metamorphic devolatilization model suggests that gold mineralization forms prior to the peak of metamorphism. In such cases, retrograde metamorphism is likely to have caused redistribution of gold, yielding textures that suggest gold is late (Phillips and Powell, 2009). This timing relationship implies overprinting of early gold mineralization by metamorphism and remobilization of that early gold by subsequent metamorphic events (Tomkins et al. 2004; Tomkins and Mavrogenes, 2001; Phillips and Powell, 2009). In the past two decades, complex gold depositional sequences have been documented in several gold deposits that support the concept that gold deposits form by accumulation during several hydrothermal episodes; examples include Chalice (Bucci et al., 2002, 2004), Kalgoorlie

(Kent and McDougall, 1996), Big Bell (Mueller et al., 1996b), Hutti (Kolb et al., 2005) and Lapa (Simard et al., 2013).

## 8.2 Gold Mineralization in the Val-d'Or Mining Camp

The following description of Archean greenstone-hosted orogenic lode gold deposits in the Val-d'Or mining camp is compiled from Couture et al., (1994), Olivo and Williams-Jones (2002) and Olivo et al. (2007), and references therein, as well as from syntheses on the structure, mineralogy and alteration of Val-d'Or gold deposits presented in Robert (1990a, 1990b, 1994) and Sauvé et al. (1993).

Archean greenstone-hosted orogenic lode gold deposits occur in all rock types in the Val-d'Or mining camp, except for late-tectonic Archean granitic batholiths and Proterozoic diabase dykes. The most important feature in terms of deformation is the relationship with shear zones, which host or are spatially associated with the gold deposits (Robert, 1990a, 1990b, 1994). Although the gold deposits are spatially associated with a major first-order shear zone (i.e., the Cadillac Tectonic Zone, part of the Larder Lake–Cadillac Fault Zone), most of them are not hosted in this structure; rather, they are hosted by second- and third-order shear zones. The timing of the shear zones in the mining camp is controversial, but there is general consensus that a significant component of the vertical elongation and thrusting along these fault zones occurred during the Kenoran orogeny (Robert, 1990b).

At least two major auriferous mineralizing events have been recognized in the Val-d'Or mining camp on the basis of morphological and structural features, ore and alteration mineral assemblages, and crosscutting relationships with intrusive rocks (Robert, 1990a, 1990b, 1994; Sauvé et al., 1993; Couture et al., 1994). The older mineralizing event is manifested by veins and breccias (e.g., the Norlartic, Marban, Kiena mines, and the Main ore zone at the Siscoe mine) that are mainly associated with second-order shear zones and commonly folded or boudinaged by D1 deformation. These veins and breccias are cut by diorite and tonalite dykes, which have U-Pb zircon ages of  $2692 \pm 2$  (Pilote et al., 1993) and  $2686 \pm 2$  Ma (Morasse et al., 1995). The younger auriferous event, which produced the Sigma, Lamaque, Perron-Beaufor, Shawkey, Wesdome and Camflo deposits, as well as the C quartz-tourmaline vein at the Siscoe mine, is represented by veins commonly associated with third-order shear zones. These veins clearly crosscut plutonic rocks intruded between  $2694 \pm 2$  Ma (Wong et al., 1991) and  $2680 \pm 6$  Ma (Jemielita et al., 1990), and may have formed during the latest stages of D1 deformation.

## 9. EXPLORATION

The issuer did not complete any exploration work.

## 10. DRILLING

Monarch Gold has steadily carried out drilling programs on the Project since acquiring the Project in October 2017 (the “2017-2020 drilling program”). Drilling was ongoing as at the effective date of the report.

Monarch Mining has not carried out any drilling on the Property.

This section summarises the 2017-2020 drilling program.

### 10.1 Drilling Methodology

Most of the drilling at the Project is conducted from underground with two types of diamond drill rigs: the LTK48 pneumatic diamond drill (35.3 mm core diameter), with a maximum drill hole length of 240 m, and the BQTK electric diamond drill (40.7 mm core diameter), with a maximum drill hole length of 800 m. Core diameter from surface drilling is NQ (47.6 mm core diameter). The core recovery rate is generally higher than 95% due to the high RQD of the host rock. The 2020 drilling contractors for Monarch are Rouillier Drilling from Amos for the underground drilling and Spektra Drilling from Val-d’Or for surface drilling. Drilling for the October 2017- December 2019 programs was handled by Boréal Drilling Ltd.

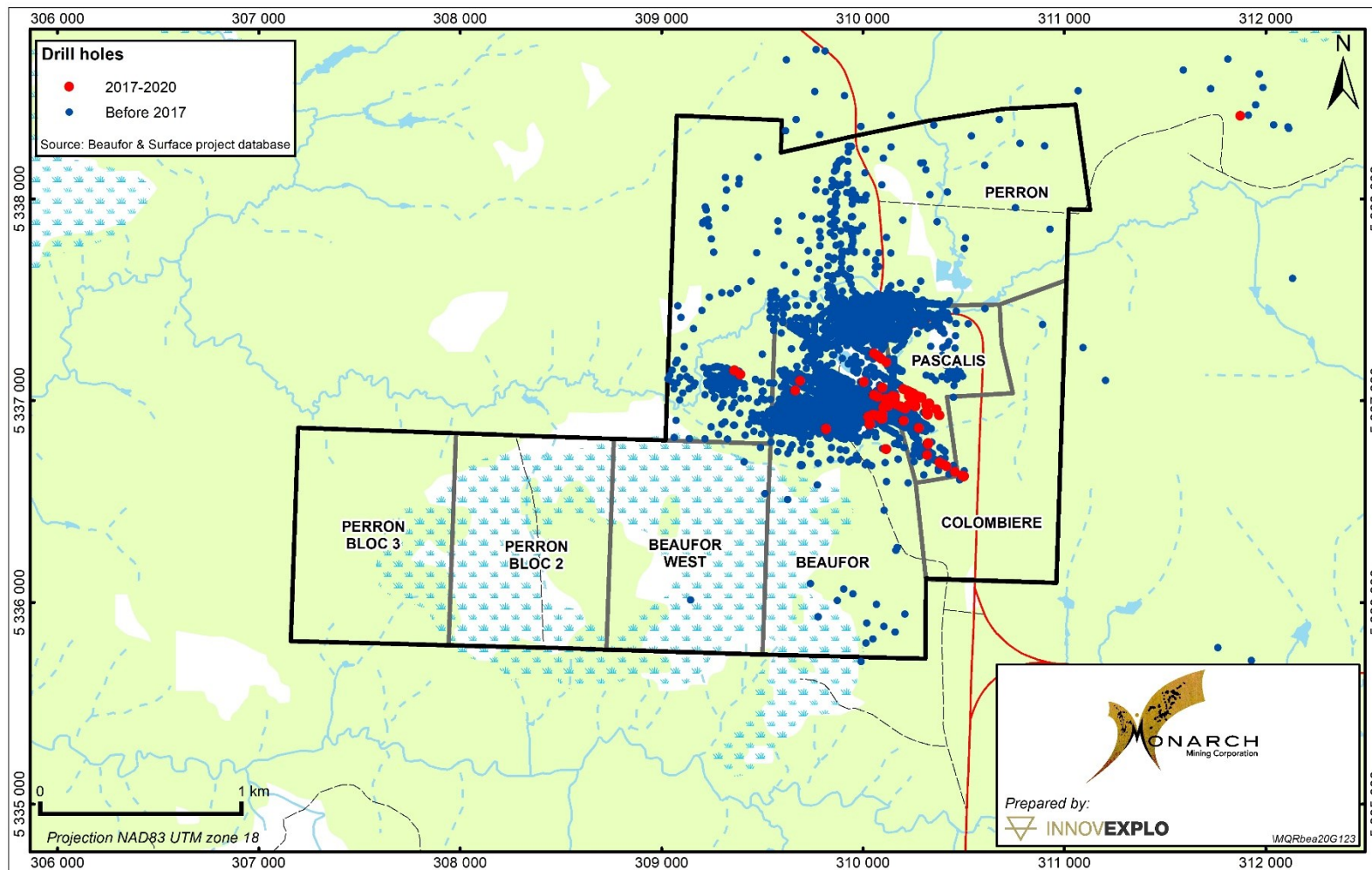
Diamond drill holes are planned using vertical cross-sections, vertical longitudinal sections and level plans to intersect the mineralized zone with a proper angle (perpendicular to its strike and dip wherever possible). Hole collars are implanted and then surveyed by Monarch Gold’ surveyors. Exploration drilling programs aim for a spacing of 40 m to 80 m between holes, while definition drilling programs target 10 m to 20 m between holes. Deviation surveys are done at the end of each hole using the REFLEX EZ-Trac instrument. The instrument is set to record azimuth and dip every 9 m along the hole. The instrument is handled by the drilling contractor and surveys are forwarded to the geology department by data downloads. Every drill hole is plugged with cement by the contractor at 1.5 m from the collar over a length of 5 m.

Diamond Drilling carried out by Monarch Gold (October 2017 - November 2020) is summarized in Table 10.1. As at the effective date of this Report, the Issuer has not completed any diamond-drilling on the Property.

The reader is referred to Pelletier et al. (2017) and Section 6.5 of this Report for information on historic drilling on the Property.

**Table 10.1 – Summary of the 2017-2020 drilling program (previous owner)**

Year	Total metres
2017 (Oct-Dec)	5,899
2018	16,963
2019	0
2020	14,818



**Figure 10.1 – Summary of Monarch Gold’s 2017–2020 program**

## **11. SAMPLE PREPARATION, ANALYSES AND SECURITY**

The following paragraphs describe the sample preparation, analysis and security procedures followed by Monarch Gold during its tenure of ownership of the Property (2017-2020 drilling program). The information was provided by the geology team at the Project. InnovExplo reviewed the quality control results for Monarch Gold's drilling programs.

### **11.1 Core Handling, Sampling and Security**

Core boxes are delivered daily to the core shack. Drill core is logged and sampled by experienced and qualified geologists in accordance with established Beaufor Mine guidelines. Samples respect lithological contacts and lengths typically range from 0.5 m to 1.0 m, with occasional shorter or longer sample intervals. Sample core intervals are identified by geologists with marks on the core and sample tags. Core samples that will be assayed in their entirety (whole-core samples) are bagged by geologists (LTK48 caliber core and BQTK caliber core for definition drilling). If not sampled, definition drilling core is discarded. Drill core samples that need to be sawed in half (exploration drilling, BQ and NQ core diameter) are identified and marked by geologists. Splitting is carried out by an experienced technician using an electric core saw, following the geologist's markings. One half of the core is placed in plastic bag with the matching sample tag while the other half is replaced in the core box and stored for future reference. Individual sample bags are placed in plastic boxes with the list of samples, and those boxes are picked up daily by employees of the ALS Minerals laboratory ("ALS"), or AGAT Laboratories ("AGAT"). AGAT is currently being used for sample analysis, however, ALS was the laboratory of choice for the 2107 and 2018 programs.

### **11.2 Muck Handling, Sampling and Security**

Drifts and stope samples are used for resource and reserve estimations, as well as for grade control. One (1) muck sample consisting of 2.5 to 3 kg of material is collected by miners for every 10 to 15 tonnes of mineralized material. For each round of 2.5 m, four (4) samples are collected and the mean value is calculated. Muck grades are compiled daily.

Drift face sampling, which is not common practice at the Beaufor Mine, is mainly done in Zone Q.

A mean grade is calculated for drift lengths less than 10 m. Individual samples bags with unique sample tags are placed in plastic boxes with the list of samples, and those boxes are picked up daily by ALS staff.

### **11.3 Laboratory Preparation and Assays**

The Beaufor Mine samples (core and muck) from 2017-2018 were assayed at the ALS laboratory in Val-d'Or; whereas the 2020 samples were submitted to AGAT. Both laboratories are certified ISO 9001-2000 by QMI SAI Global ("QMI"), an ISO certification firm, for Supply of assays and geochemical analysis services.

The step-by-step procedure for sample analysis is briefly described as follows:



- Upon receipt of sample bags, all sample numbers are verified by an ALS or AGAT staff member and entered into the Laboratory Information Management System (LIMS), a sample tracking system used by the laboratory;
- Samples are dried and crushed to 70% passing 2 mm using a jaw crusher. A representative subsample weighing 250 to 300 g of the -2 mm fraction is prepared using a “Riffle Jones” splitter. The subsample is then pulverized to 85% passing -200 mesh using a ring pulverizer;
- Core samples are analyzed by fire assay (FA) with atomic absorption spectroscopy (AAS) from 30 g pulps. When assay results are higher than 10 g/t Au and lower than 100 g/t Au, core sample pulps are re-assayed by fire assay with atomic absorption finish and core sample rejects are re-assayed by fire assays with gravimetric finish. If the two (2) re-assays prizes show major differences in grade, a metallic sieve is then considered by the geologist. In that case, the sample is completely pulverized and assayed by metallic sieve.

Muck samples are analyzed by fire assay with gravimetric finish from 30 g pulps.

Assay results are provided as Excel spreadsheets.

#### **11.4 Quality Control and Quality Assurance (QA/QC)**

ALS QA/QC (core and muck)

The ALS quality control program includes daily monitoring of the crushing and pulverizing steps. The granulometry of subsamples is monitored on each 40th sample to ensure optimal crushing. The quality program for fire assay methodology includes the insertion of one (1) blank, two (2) Certified Reference Material (CRM, or “Standard”) samples, and three (3) pulp duplicates for each 84-sample batch. Results are compiled by geology staff in both spreadsheets and graphs.

Beaufor QA/QC (core only)

The Project’s quality program includes insertion of blanks and standards (CRM) in the flow stream of daily core samples. One (1) blank and one (1) CRM are inserted by geologists for each batch of 20 to 30 samples. In the eventuality of suspect results, re-assays are requested by geological staff. Results are compiled by geology staff in both spreadsheets and graphs.

Monarch Gold QA/QC did not include routine submission of duplicate samples to a different laboratory for check assaying.

##### **11.4.1 Certified reference materials (standards)**

Accuracy was monitored by the insertion of a CRM, which is done to detect assay problems with specific sample batches and long-term biases in the overall dataset.

The definition of a quality control failure is when assays for a CRM are outside three standard deviations ( $\pm 3$  SD) or  $\pm 10\%$ . If two (2) consecutive CRMs are outside  $\pm 2$  SD, it is also considered problematic.

During Monarch Gold’s drilling programs (I.e., October 2017 to Nov 2020) a total of five (5) different CRMs from RockLabs® were randomly inserted in sample batches.

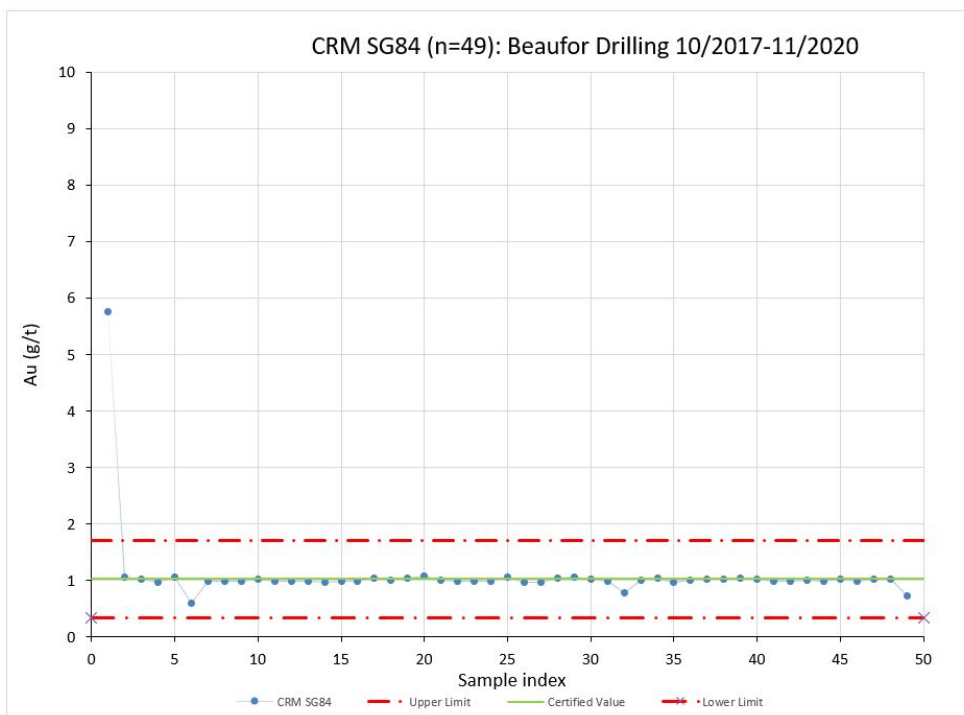
Table 11.1 Table 11.1 shows the details for each CRM.

Figure 11.1 to Figure 11.54 show the results of each CRM plotted on binary diagram spider plots.

For CRM SG84 85.7% of the ALS analytical results are within 6% of the listed CRM value and there were three (3) outliers and one (1) radical outlier in the dataset. It is postulated that the one radical outlier, which returned a value of 5.75 g/t Au, was an insertion of CRM SL76 material in error. For CRM SL76, 86.3% of the ALS analytical results were within 6% of the listed CRM value and there were four (4) outliers and one (1) radical outlier. For CRM SP73, 78.8% of the ALS analytical results were within 6% of the listed CRM value and there were two (2) radical outliers. For CRM SK78 all analytical results were within 6% of the CRM listed value. For CRM SN103, 81% of the assay results were within 6% of the CRM listed value, with three (3) outliers.

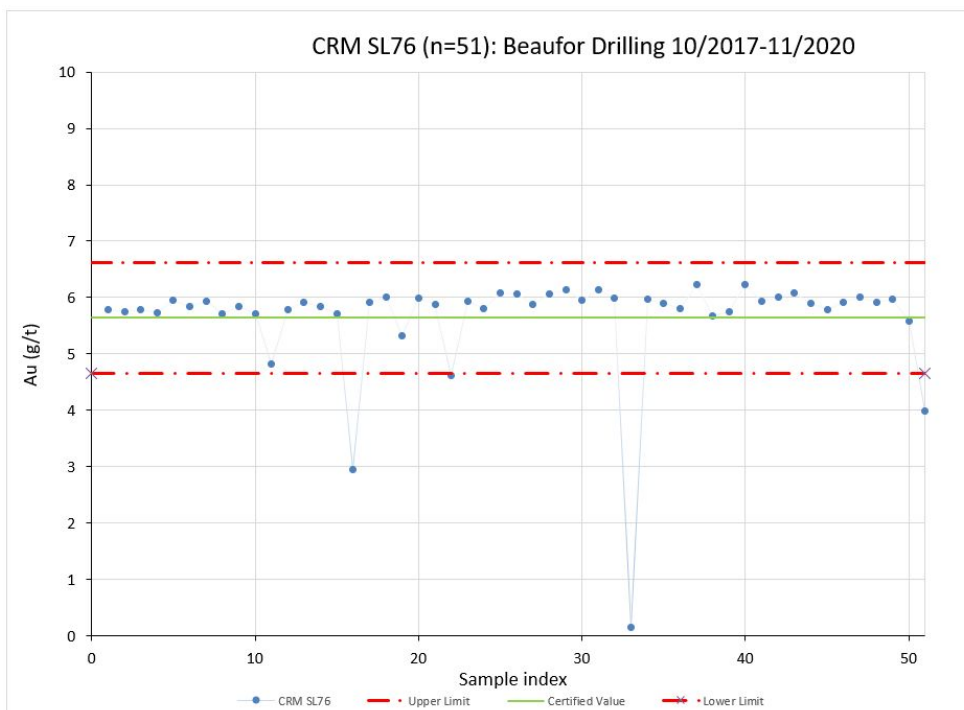
**Table 11.1 – Certified Reference Materials Inserted Among Core Samples**

Rocklab CRM	Quantity inserted	Quantity in graph	Rocklab grade (g/t Au)	Standard deviation of CRM	ALS Mean grade (g/t Au)	Standard deviation of sample set	Comments on precision
SG84	49	48	1.026	0.025	1.085	0.029	Acceptable
SL76	51	49	5.96	0.192	5.640	0.168	Acceptable
SP73	33	31	18.17	0.42	16.785	0.463	Acceptable
SK78	13	13	4.134	0.138	4.069	0.074	Acceptable
SN103	15	15	8.52	0.146	8.62	0.459	Acceptable



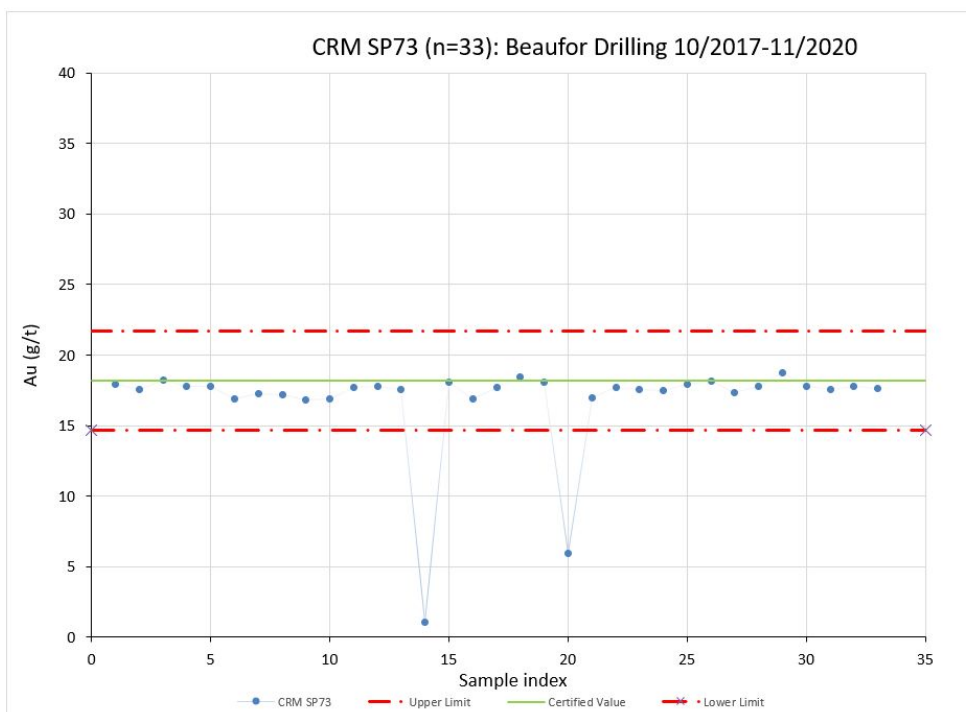
Red dashed lines denote  $\pm$  Standard Deviation

**Figure 11.1 – Analytical results of CRM SG84**



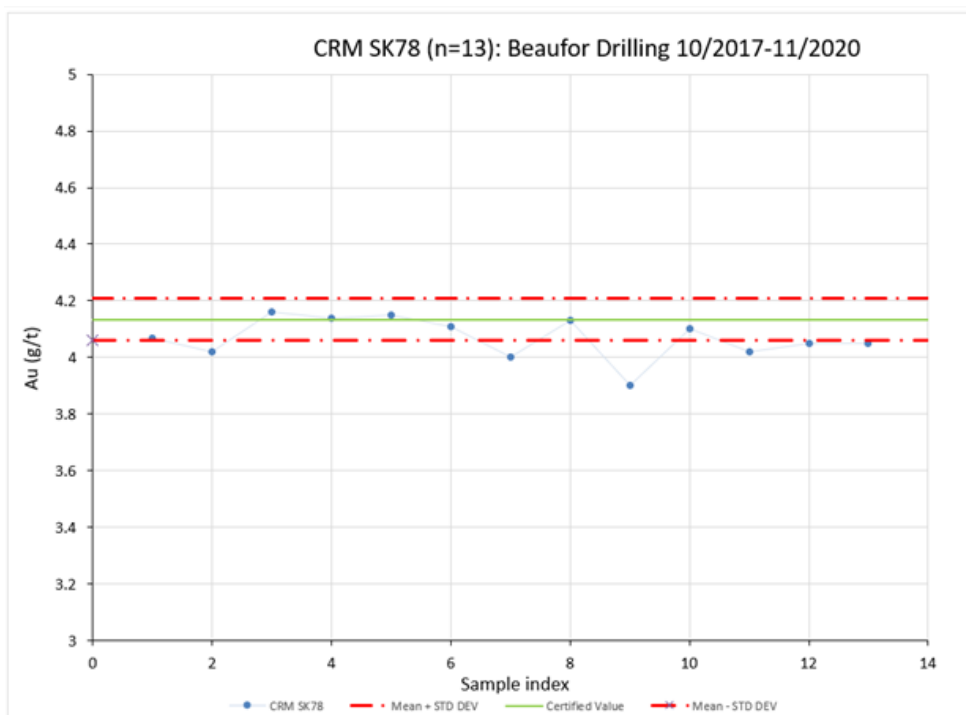
Red dashed lines denote  $\pm$  Standard Deviation

**Figure 11.2 – Analytical results of CRM SL76**



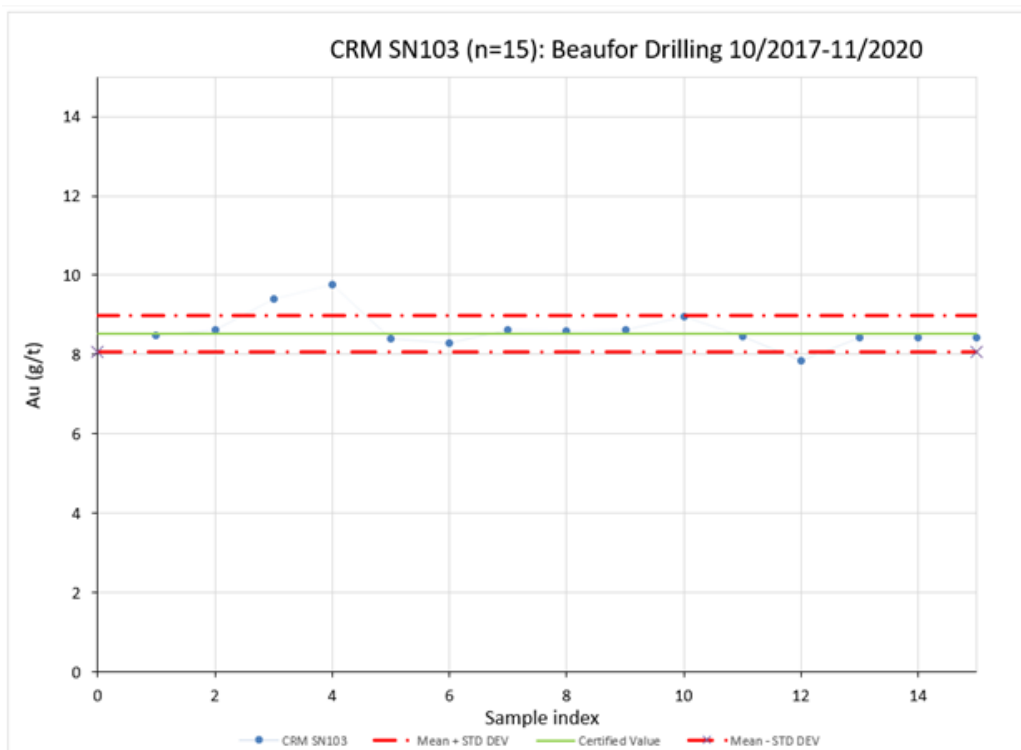
Red dashed lines denote  $\pm$  Standard Deviation

**Figure 11.3 – Analytical results of CRM SP73**



Red dashed lines denote  $\pm$  Standard Deviation

**Figure 11.4 – Analytical results of CRM SK78**



Red dashed lines denote  $\pm$  Standard Deviation

**Figure 11.5 – ALS analytical results of CRM SN103**

Table 11.2 summarizes the accuracy and precision of the CRM QA/QC from October 2017 to November 2020 and indicated the results to be acceptable.

**Table 11.2 – Summary of CRM Results (2017-2020)**

CRM Material		SG84 (n=49)	SL76 (n=51)	SP73 (n=33)	SK78 (n=13)	SN103 (n=15)
Accuracy (% diff. of avg. from assigned value)	Including outliers	5.70%	5.40%	7.80%	2.00%	1.20%
	Omitting outliers	3.70%	3.50%	2.90%	2.00%	1.20%
Radical Outliers (% of results)		2.00%	2.00%	6.10%	0.00%	0.00%
Precision (robust relative standard deviation)		$\pm 0.45$	$\pm 0.165$	$\pm 0.45$	$\pm 0.10$	$\pm 0.165$

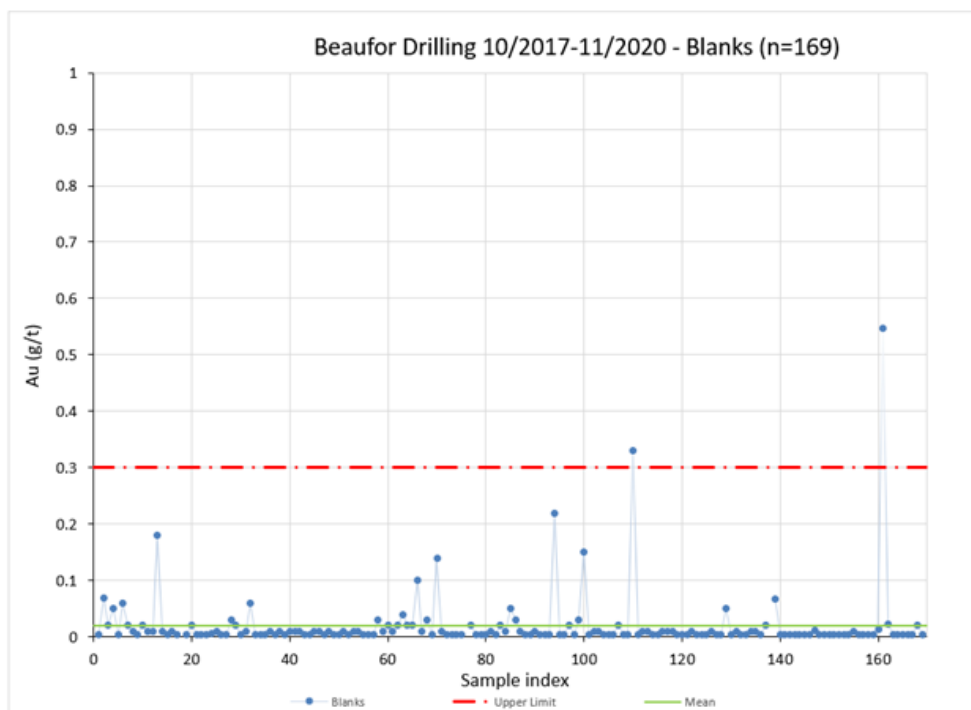
#### 11.4.2 Blank samples

Monarch Gold geologists collected and inserted blank samples during core logging. Blank samples are selected from the fresh facies of both the granodiorite and dioritic dykes. Samples must not contain quartz vein inclusions and/or sulphides.

From October 2017 to November 2020, a total of 169 blanks were inserted into the sample stream sent to ALS for analysis. The failure limit was set at 0.1 g/t, which is 10 times the lower detection limit of the analytical techniques. A total of 129 blanks (76%) returned values at or below the detection limit, and 95% of the blanks (160) were below

the failure limit, which indicates that there was no significant contamination issue during the crushing phase of the sample preparation. Assays above the detection limit indicate that the blanks were taken from granodiorite and dykes that are not 100% barren, possibly containing a few traces of sulphides and therefore gold as well. All assays for those certificates (in which blanks assayed above the failure limit) should have been re-assayed.

Figure 11.6 presents the analytical results of the blank samples from October 2017 to November 2020.



Note that results from three (3) radical outliers (4.78 g/t, 5.85 g/t and 5.88 g/t Au) have been omitted from the figure for display purposes.

**Figure 11.6 – Analytical results\* of Blanks from October 2017 to November 2020. Duplicates**

Monarch Gold did not collect or insert any duplicate samples of core or muck samples for analysis during their tenure as operator of the Project and relied solely on the internal QA/QC protocols of the analytical laboratories (ALS and AGAT) to assess the “repeatability” of assay results and the homogeneity of sample mineralization.

In addition, Monarch Gold did not submit any samples to a different lab for independent check-assaying during their tenure of ownership of the Project.

## 11.5 Author Opinion

The author is of the opinion that the sample preparation, analysis, QA/QC and security protocols used by Monarch Gold during the muck sampling and drilling programs at the Project were acceptable; however, going forward it is recommended that MMC, the new operators, should modify these protocols as follows:

- A 1,000 g subsample should be pulverized, and fire assay with atomic absorption finish should be done on a 50 g pulp. Samples returning over 10 g/t Au should be re-assayed using gravimetric finish.
- Particular attention should be given when choosing the interval for the blank sample (barren granodiorite and diorite) to minimize potential contamination by trace sulphides.
- The same QA/QC protocols should be used for muck samples, such as inserting blanks and CRM.
- Around 5% of samples should be regularly re-assayed at a different equally accredited analytical laboratory (pulp duplicates).
- Pulp and reject sample material from exploration drill holes should be conserved rather than discarded.
- A QA/QC analysis should be performed each quarter and a report prepared.
- Photographs should be taken of all drill core, given that whole-core samples are assayed (i.e., core is destroyed).

## 12. DATA VERIFICATION

Monarch Gold provided the diamond drill hole (DDH) and muck samples data that were used for the 2020 MRE along with interpretation in cross-section, longitudinal views and the estimation resource polygons database. Comparison with the 2017 polygons database (2017 MRE, Pelletier et al., 2017) was completed and the new blocks added in 2020 and the 2017 blocks with modifications were selected for the validation process. The validation results for the resource polygons are described in Item 14.

The author Carl Pelletier, P.Geo., visited the Project on December 14, 2020, accompanied by Christian Tessier, P.Geo. from Monarch Gold. During the site visit the author reviewed mineralised intersections (Figure 12.1) of 14 DDH used in the mineral resource estimate and two (2) DDH from the 2020 ongoing exploration program. Verification of description, from-to, sample number and mineralisation was carried out and no difference was observed.

Review of the sampling and assaying protocol as well as chain of custody for the QA/QC was done and found to correspond with the written procedures. The core logging and core cutting facilities are in good standing and clean (Figure 12.2).

The data verification was carried out at the InnovExplo office in Val-d'Or.

### 12.1 Database

At the time of the commissioning of this Report, drilling was in progress at the Beaufor Mine. As of November 21, 2020, none of the 2020 drill holes had complete analytical results from their core and QA/QC sampling. The decision was therefore taken to close the resource database without including the 2020 DDH and to use only those DDH previously completed.





A) Hole 18-117-40; B) Hole 18-124-92; C) Hole 20-133-63; D) Hole 132-10 (Pelletier, 2020)

**Figure 12.1 – Core pictures of typical mineralization at Beaufor mine**



E) Interior storage ready to be sampled; F) Samples shipment with work order for the laboratory; G) Core cutting installation (Pelletier, 2020)

**Figure 12.2 – Pictures of samples preparation facilities**

### 12.1.1 Drill hole

Two (2) drill hole database, were sent to InnovExplo on October 2020, one (1) including all holes drilled as of September 2017 and one (1) with all drill holes between September 2017 to October 2020. and containing respectively 9,807 DDH (851,046 m) and 202 DDH (31,498 m) all together for a total of 10,009 DDH (882,544) including surface and underground drilling.

An overview of the database revealed the following:

DDH location (X, Y and Z coordinates) is available in three formats: MTM Zone 9, Geology grid, and Mine grid.

Deviation survey data is available for most holes, except some that were canceled and drilled again.

A large number of veins are described, most with core angles, composition and structure. This information was used for resource and reserve estimates.

RQD measurements were generally collected.

Laboratory certificate identification with issue dates are generally not imported.

Laboratory QA/QC is generally not imported.

Core logging data are manually entered by geologists into the GeoticLog software, which gathers data in an SQL database. Built-in routines are used by the database manager to validate the data entry.

Drill hole collar positions and deviation data are entered manually in the database by geologists once they verify that the surveyed positions match the planned positions. Diamond drill holes are then visually verified by geologists using AutoCAD and Promine software. Only one error was founded were collar (x,y,z) was set at 0,0,0.

Deviation tests consist of a multishot survey, using a Reflex tool, once the hole is terminated. Measurements are taken every 9 m. Deviation tests were validated for ten (10) holes and they are of good overall quality (i.e., no excessive deviations were noted).

Drill core assay results from analytical laboratory spreadsheets are transferred by the database manager into the GeoticLog software via an automated routine. Only duplicates or check assays are manually entered into the database. When a sample has both original and duplicate assays, the mean grade is assigned as final assay.

## 12.2 Drill Hole Assays

InnovExplo was granted access to the original assay certificates for the 2017 to 2020 drilling program.

Minor errors of the type normally encountered in a project database were identified but not corrected. The databases are considered to be of good overall quality and the authors considers the Beaufor Mine databases to be valid and reliable.

A selection of 5% of holes (10) added since the 2017 MRE were validated to the original assay certificates provided by the analytical laboratory and comprised 352 assays. The following observations regarding data validation were noted:

Few values below the detection limit (<0.01) were not at 0.005 g/t Au, some samples number occur twice and minor inconsistencies in reporting the mean value when there are re-assays.

### 12.2.1 Muck samples

Muck and chip sample assays from analytical laboratory spreadsheets are manually entered by the production geologists into grade control spreadsheets on a daily basis. Entries are checked for errors by production geologists. A compilation sheet for muck samples collected since containing a total of 27,114 samples, including 11,779 samples for 2016 and 2017 was used for the validation for the 2017 MRE and no additional validation was done on the muck samples in 2020.

The following observations were noted while examining the data: Location coordinates (X, Y and Z) are not available. The sampling position is described according to the drift or stope, etc., and the mean gold value is presented on longitudinal and plan views. Laboratory certificate identifications with issue dates are not imported. No internal QA/QC is available.

All muck samples were validated with the original assay certificates and very limited errors were found. This concerned 11,779 samples. Of those assays, 83 were not found in the certificates provided (this can be explained by variations in sample numbers). The following observations were made about the remaining 11,696 assays:

Inconsistencies were found when reporting values below the detection limit (834 assays). The result is sometimes reported as 0.00 g/t Au, sometimes 0.01 g/t Au, but generally as 0.05 g/t Au.

72 samples were re-assayed using mass spectrometry or 50 g gravimetric finish. For both methods, the original data was kept in the database (30 g gravimetric finish).

54 samples results were wrongly typed or imported into the database, with errors ranging from  $\pm 0.01$  to 30 g/t Au.

The grade of muck samples reported on plan and longitudinal views is an average of four (4) samples, in a 2.5- m long round.

### 12.3 Conclusion

Databases are of good overall quality. Variations have been noted during the validation process, but they do not have material impact on the 2020 MRE. The database is of sufficient quality to be used for a resource estimate.

Some errors were identified, and most of them are due to mistakes in the manual transcription of results or the sample numbers in the muck sample database. An automated importation, with post-validation procedures, would help to keep the database valid and concise.

### **13. MINERAL PROCESSING AND METALLURGICAL TESTING**

No recent metallurgical testing was conducted on the Project by Monarch Gold or the issuer.

## **14. MINERAL RESOURCE ESTIMATES**

The Mineral Resource Estimate for the Project (the “2020 MRE”) encompasses updated resources for the Beaufor Mine (the “Project”). The update was prepared by Christian Tessier, P.Geo. of Monarch and review and validated by Carl Pelletier, P.Geo. of InnovExplo, using all available information.

The 2020 MRE included information up to October 27, 2020.

The effective date of the 2020 MRE is December 18, 2020

### **14.1 Methodology**

The 2020 MRE resource area covers an approximate strike length of 1.5 km, a width of 900 m, down to vertical depth of 1, 200 m below surface.

The estimation was completed using the polygonal method with a minimum true width of 2.4 m. Promine and AutoCAD software were used to outline the resource polygons on vertical cross sections and longitudinal sections. Calculations for each polygon and the summary resources table were done in Microsoft Excel.

The main steps in the methodology were as follow:

- Compile and validate the DDH databases used for the MRE;
- Review and validate the geological interpretation (vertical cross-sections and plan views) and DDH intercepts selection;
- Review and validate the resource polygons grade values;
- Review and validate the volume of the blocks;
- Review and validate the density value;
- Review and validate the Excel formula to obtain the tonnage
- Revise the classification criteria;
- Assess the reasonable prospects for an eventual economical extraction and select appropriate cut-off grades; and
- Generate a mineral resource statement.

### **14.2 Drill Hole Database**

The Project database used for the 2020 MRE contains 10,009 DDH (882,544 m) including 178,242 assays as at October 27, 2020. The DDH database includes location, down-hole survey, lithological, alteration and structural descriptions taken from the drill core logs and includes the assay results tables.

### **14.3 Geological Model**

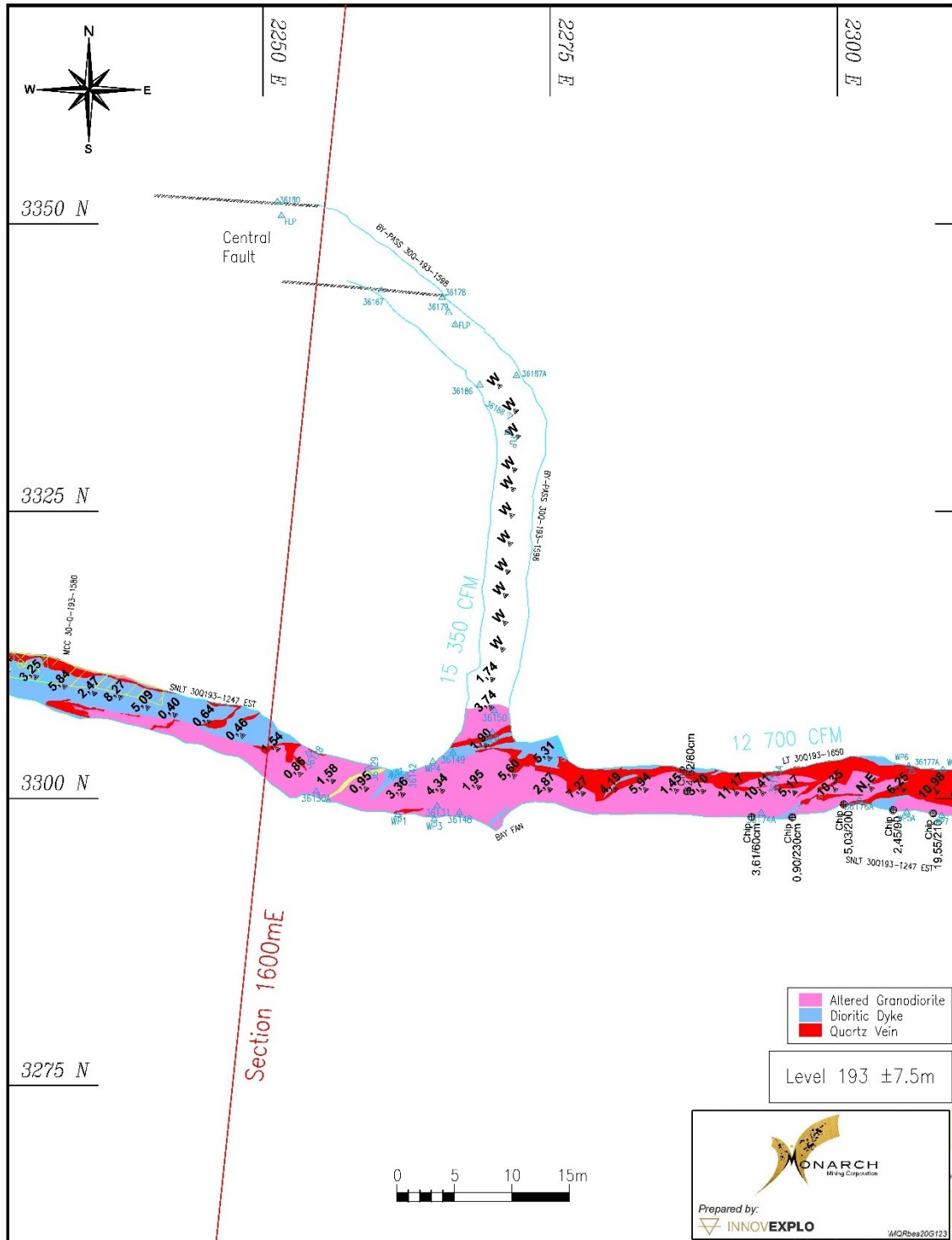
Monarch Gold updated the 2020 geological model with the new holes from the 2017-2020 drilling program. The main lithological units of the deposit presented in the model include fresh granodiorite, altered granodiorite, mafic dykes, mafic volcanic rocks and quartz veins. The interpretation is made on vertical cross sections and plan views based on the DDH information and mapping of the underground openings in Promine (Figure

14.1). The 3D solids for the central fault and other major geological elements are then built in Promine software.

The interpretation is based on mineralized intersects from DDH, lithological information and underground mapping and sampling. The Project comprises 63 distinct mineralized zones. The zones generally follow east-west trending corridors in the granodiorite, generally in the vicinity of a contact with mafic volcanic rocks. The gold mineralization appears predominantly in the quartz veins and sometimes with disseminated pyrite in the altered granodiorite in the wall rock of the quartz veins.

Figure 14.2 presents a sample cross-section showing drill hole grade assays, resource polygons details, drifts and raises, and the central fault.

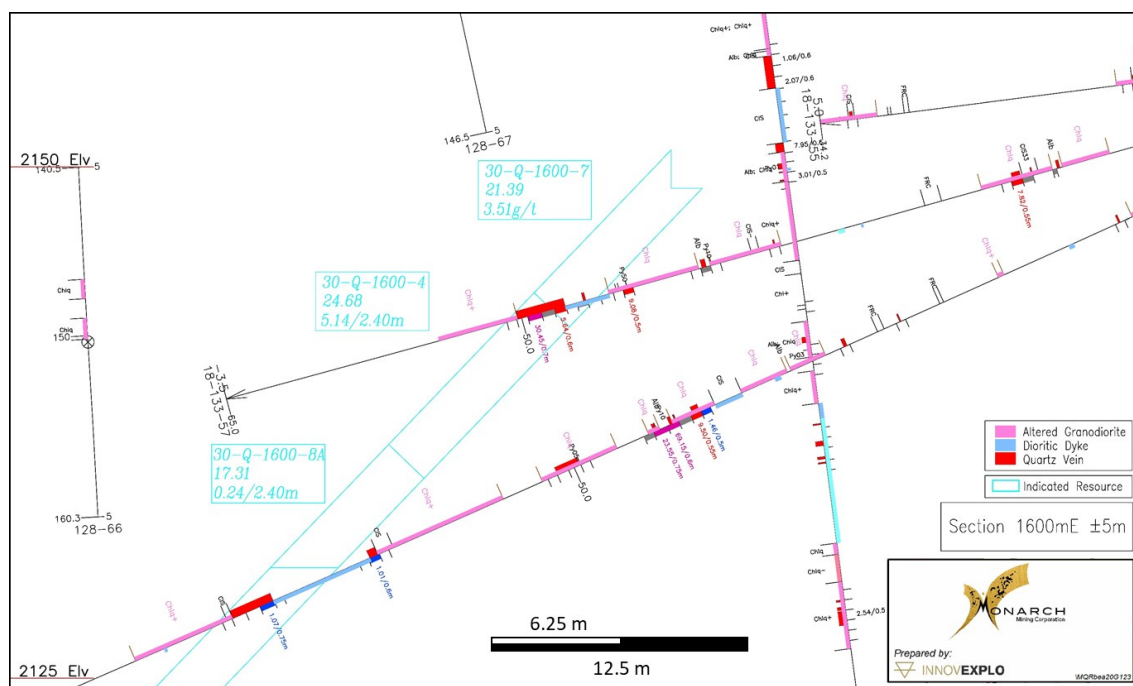
For some of the major zones (B and Q), the mineralized quartz veins follow the contact of a mafic dyke. Mineralization can sometimes be found in the hanging wall or footwall of this dyke.



(Position of sections are shown on Figure 14.2)

**Figure 14.1 – Plan view of level 193 mapping showing muck assays**





**Figure 14.2 – Example of cross-section view looking west (1600mE)**

#### 14.4 High-grade Capping

The high-grade values were determined by basic univariate statistics per zone by Golder and Associates Ltd (Golder Associates, 2007) and confirmed that these high-grade capping values were still appropriate (Chabot, 2007). The capping was set at 68.5 g/t Au on assays for zones 8, B, M, M1 and Q, whereas all other zones were set at 34.25 g/t Au. If the grade of a drill hole intercept is higher than 16.5 g/t over a width of 2.40 m, the intercept is capped at 16.5 g/t.

The author reviewed the capping selection in regard to the reconciliation and is of the opinion that these high-grade capping values remain appropriate for the 2020 MRE.

#### 14.5 Specific Gravity

The specific gravity determinations were derived from a study done by Golder in 1997 (Chabot, 2007) and were validated with the reconciliation results. The density (specific gravity) value was set at 2.75 for all mineralized zones.

#### 14.6 Polygonal Resource Validation

The 2020 MRE was produced by Monarch Gold geologists and included the new DDH of the 2017-2020 drilling program. The author's validation comprised a review of intercepts from the DDH, the polygons thickness, area and volume, and validation of the polygons' tonnage and grade formula.

The polygons were compiled in Excel spreadsheets (the "polygons database"), with limited access to a small number of employees.

Vertical cross-sections and longitudinal sections were generated in Promine software and worked numerically or on hard copy diagrams. Longitudinal sections of resource polygons are plotted on paper, once a year.

For the 2020 MRE (effective December 18, 2020), a total of 40 of the 366 new or modified polygons generated since the 2017 MRE (Pelletier et al., 2017) were reviewed and validated. A cross check validation of unchanged polygons was also completed.

#### 14.6.1 Area validation

Monarch Gold provided InnovExplo with multiple sets of vertical sections, spaced 10 m apart, on which drill holes are drawn, as well as drifts, stopes, and resource polygons. The area was calculated directly in AutoCAD and compared to the polygon database in Excel format.

Minor differences were observed with seven (7) of the polygons, and they were corrected in the databases. The author is of the opinion that these minor errors have no material impact.

#### 14.6.2 Width validation

The width of the blocs was validated by comparison on longitudinal view of the selected intercepts for the minimum width of 2.4 m. Of the 40 selected polygons, seven (7) inconsistencies were noted, and no changes were made to the database. The author is of the opinion that these minor errors have no material impact.

#### 14.6.3 Grade

The grade of polygons is estimated from the muck samples assays where development is completed, or from the DDH core samples.

Of the 40 reviewed polygons, a total of twelve (12) were calculated from muck sample assays (which come from the mean value of 4 samples in each round). Polygons calculated from muck samples used the arithmetic mean of muck samples represented on the longitudinal view. In some cases, the weighted average of the drift width versus its assay was used.

The remaining 28 polygons were calculated from core samples assays.

The following formula is used for estimating the grade:

$$\frac{((Au \text{ value of the Sample} * Sample Length) * SIN(Core angle of the vein))}{Minimum Width}$$

Where multiple samples are present in a given interval, the weighted average value of the samples is used in the above formula. The core angle for the vein is generally assigned by the main vein of the interval, or the arithmetic mean of many veins. If the grade is below 1.0 g/t Au, it is changed to 0.0 g/t Au. The details of these calculations were not provided with polygons but the calculation of each of the 40 selected polygons were done by the author to validate the grades.

During the validation, the core angle of the veins was calculated by taking the weighted average of the veins.

Ten (10) polygons were modified in the database. Other grade variations were not considered to have a material impact on the final resources.

## 14.7 Mineral Resource Classification

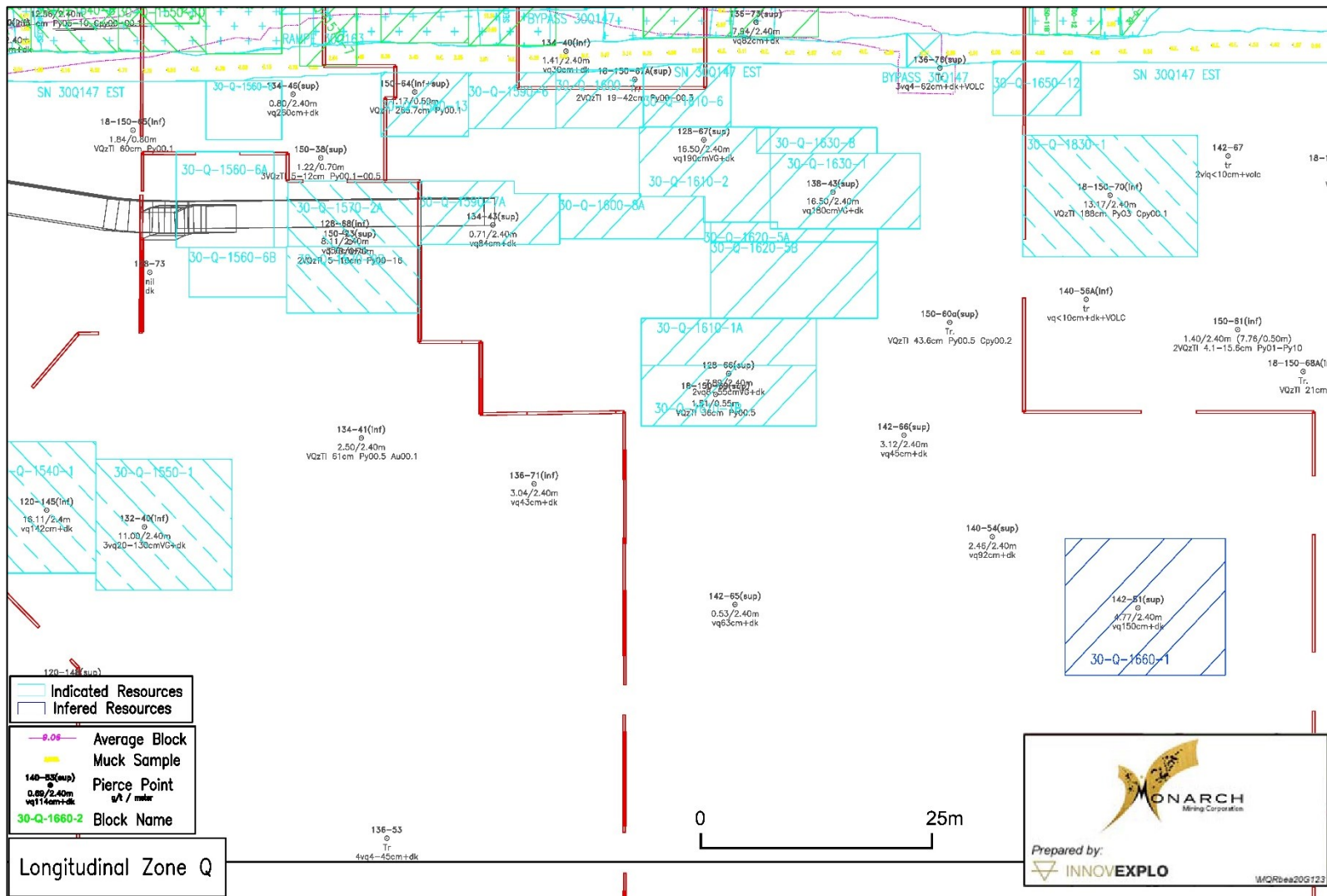
Measured resource polygons were defined 8 m above and below development and up to 10 m laterally only by muck samples.

Indicated resource polygons are defined by a minimum of two (2) polygons in contact. Each indicated polygon is based on a minimum of one (1) DDH intercept and extended up to 20 m from the DDH along the dip and strike of the mineralized zones.

Inferred resource polygons are defined by a minimum of one (1) polygon based on DDH intercept and extended up to 40 m along the strike and dip of the mineralized zone. The inferred resource polygons are also defined where the drill hole spacing ranges from 20 m to 40 m, and/or in areas within the known extension of the mineralized zones.

The (looking North)

Figure 14.3 presents an example of longitudinal view of the Project resources polygons with drill hole grades and developments.



(looking North)

**Figure 14.3 – Example of the resource polygons on a longitudinal view**

## 14.8 Cut-off Grade

Cut-off grades of 2.50g/t Au (long hole) and 3.20 g/t Au (room-and-pillar) were calculated using the parameters presented in Table 14.1 for processing at a Monarch Mining facility. This cut-off grade was applied to the entire Project.

**Table 14.1 – Input parameters used to calculate the underground cut-off grade per extraction methods scenarios**

Input parameters	Unit	Value
Gold price	USD/oz	1,612
Exchange rate	USD/CAD	1.34
Gold Price	C\$/oz	2,160
Royalty	%	1
Recovery	%	97
Mining costs (long hole)	C\$/t	100
Mining costs (room-and-pillar)	C\$/t	145
Processing, environment. & transport	C\$/t	56
G&A	C\$/t	13
Total cost (long hole)	C\$/t	169
Total cost (room-and-pillar)	C\$/t	214
Resource cut-off grade (long hole)	g/t Au	2.50
Resource cut-off grade (room-and-pillar)	g/t Au	3.20

The author considers the selected cut-off grades of 2.50 g/t Au (long hole) and 3.20 g/t Au (room-and-pillar) to be adequate based on the current knowledge of the Project and to be instrumental in outlining resources with reasonable prospects for eventual economic extraction for an underground mining scenario in each deposit.

Cut-off grades must be re-evaluated in light of prevailing market conditions and other factors, such as gold price, exchange rate, mining method, related costs, etc.

## 14.9 Mineral Resource Estimation

The author has classified the 2020 MRE as measured, indicated, and inferred mineral resources based on geological and grade continuity, data density, drill hole density, and reconciliation results (item 24). The author is of the opinion that the reasonable prospect for an eventual economical extraction requirement is met by having a minimum width for the polygons of the mineralized zones and with a cut-off grade that using reasonable input, both for a potential underground extraction scenario.

The 2020 MRE is considered to be reliable and based on quality data and geological knowledge. The mineral resource estimate follows CIM Definition Standards.

Table 14.2 present the results of the 2020 MRE for the Project at the official 2.50g/t Au (long hole) and 3.20g/t Au (room-and-pillar) cut-off grades as at December 18, 2020.

**Table 14.2 – Mineral Resource Estimate for the Beaufor Mine**

Category	Tonnes	Grade (g/t Au)	Gold ounces
Measured	121,000	5.62	21,900
Indicated	310,100	7.10	70,800
<b>Total M+I</b>	<b>431,100</b>	<b>6.68</b>	<b>92,700</b>
<b>Inferred</b>	<b>134,600</b>	<b>6.96</b>	<b>30,100</b>

Mineral Resource Estimate notes:

1. The independent and qualified person for the 2020 MRE, as defined by NI 43 101, is Carl Pelletier, P.Geo. (InnovExplo Inc.), and the effective date is December 18, 2020.
2. These mineral resources are not mineral reserves as they do not have demonstrated economic viability. The mineral resource estimates follow CIM Definition Standards and Guidelines.
3. A capping of 68.5 g/t Au on assays was applied for zones 8, B, M, M1 and Q, and 34.25 g/t for all other zones. The DDH intercepts (min. 2.4 m) were capped at 16.5 g/t.
4. The estimate method was polygonal on cross section with a minimum width of 2.4 m using a density of 2.75 t/m<sup>3</sup> for the 63 mineralized zones.
5. Measured resource polygons extend 8 m above and below development and up to 10 m laterally. Indicated resource polygons extend up to 20 m from DDH intercepts, along dip and along strike and a minimum of 2 polygons need to be in contact. Inferred resource polygons extend up to 40 m from DDH intercepts, along dip and along strike where a drill spacing ranges from 20 m to 40 m and/or in areas of isolated drill holes where mineralization is known.
6. The reasonable prospect for an eventual economical extraction is met by having a reasonable minimum width for the polygons, a cut-off grade of 2.50g/t Au (long-hole) and 3.20 g/t Au (room-and-pillar), application of constraining volumes on the blocks (potential underground scenario) below a 30 m crown pillar. The cut-off grades inputs are: a gold price of USD1,612/oz, a CAD:USD exchange rate of 1.34; a mining cost of \$100/t for the long hole method and \$145/t for the room and pillar method; a processing cost of \$50/t; and G&A and environment of \$13/t and includes the royalty of 1.0% and a refinery charge of \$5/t. The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rate, mining cost, etc.).
7. Results are presented in-situ. Ounce (troy) = metric tons x grade / 31.10348. The number of tonnes and ounces was rounded to the nearest hundred. Any discrepancies in the totals are due to rounding effects; rounding followed the recommendations as per NI 43 101.
8. InnovExplo Inc. is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political, marketing or other relevant issue that could materially affect the mineral resource estimate.

**15. MINERAL RESERVE ESTIMATES**

Not applicable at the current stage of the Project.

**16. MINING METHODS**

Not applicable at the current stage of the Project.

**17. RECOVERY METHODS**

Not applicable at the current stage of the Project.

**18. PROJECT INFRASTRUCTURE**

Not applicable at the current stage of the Project.

**19. MARKET STUDIES AND CONTRACTS**

Not applicable at the current stage of the Project.

**20. ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

Not applicable at the current stage of the Project.

**21. CAPITAL AND OPERATING COSTS**

Not applicable at the current stage of the Project.

**22. ECONOMIC ANALYSIS**

Not applicable at the current stage of the Project.

## 23. ADJACENT PROPERTIES

As at the effective date of the Report, the on-line GESTIM claims database shows that the Property is enclosed by two mineral exploration properties. Probe Metals Inc. (“Probe”) holds a large block of claims adjacent to the northeastern part of the Property, whereas ground to the southwestern part of the Property is held by QMX Gold Inc. (“QMX”) (Figure 23.1).

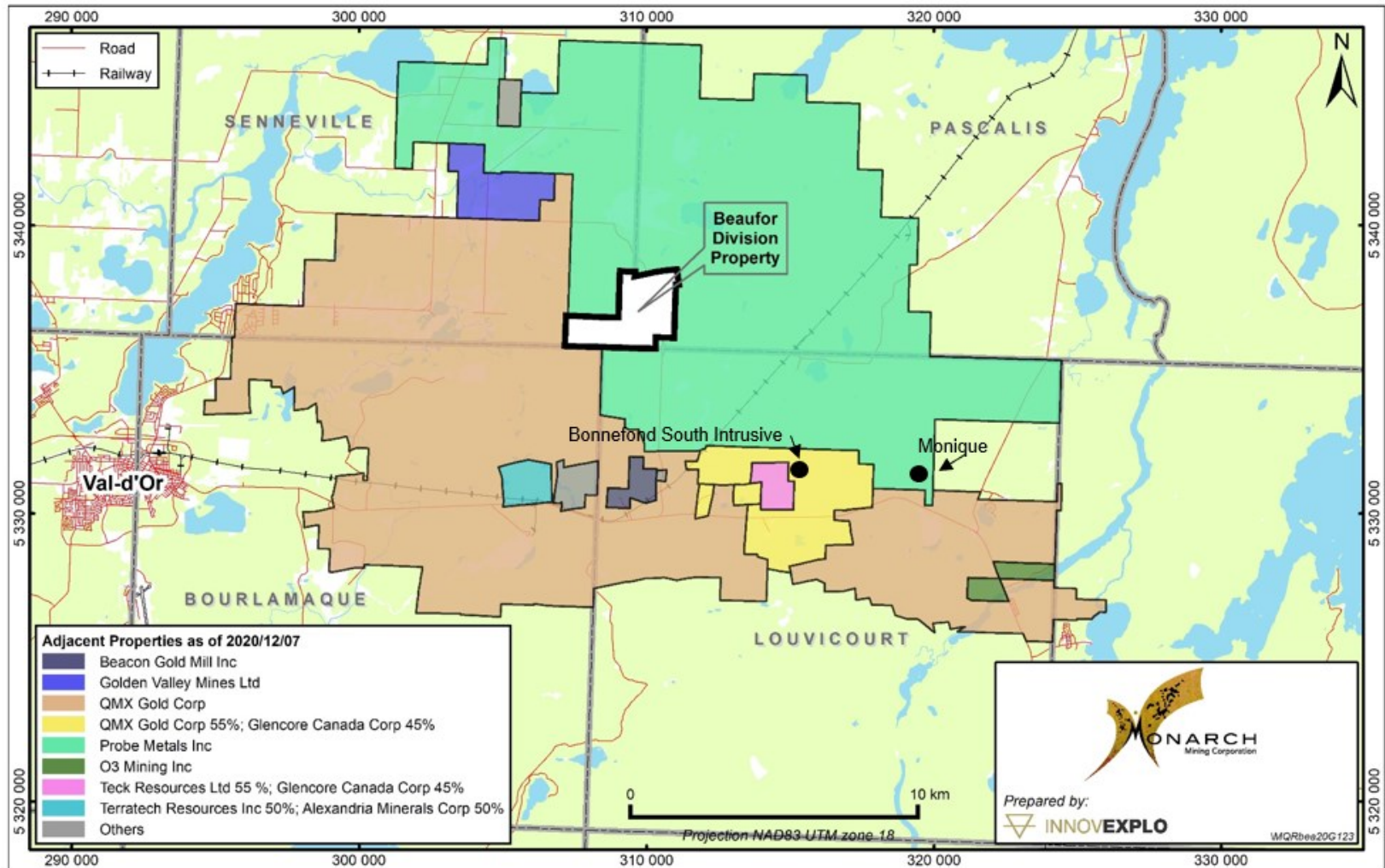
Probe release an update of the mineral resource estimates for the East project on September 3, 2019. The mineral resource contains a total of 14.6 Mt grading 1.85 g/t Au for a total of 0.87 Moz for the measured and indicated categories and 37.87 Mt grading 1.96 g/t Au for a total of 2.39 Moz for the inferred category. In March 2020, they acquired 100% interest in Monique property from Monarch ([www.probemetal.com](http://www.probemetal.com), December 21, 2020).

QMX release a mineral resource estimate for the Bonnefond South Intrusive project on September 17, 2020. The mineral resource contains a total of 4,755,000 tonnes grading 1.69 g/t Au for a total of 258,700 ounces for the indicated category and 2,410,000 tonnes grading 1.87 g/t Au for a total of 145,100 ounces ([www.qmxgold.ca](http://www.qmxgold.ca), December 21, 2020).

The Authors have not verified published geological information pertaining to the adjacent properties, and any mineralization on these adjacent properties is not necessarily indicative of mineralization underlying the Beaufor Property. As at the time of writing, the Authors are not aware of any active exploration activities in the immediate area of the Property relevant to the 2020 MRE.

Figure 23.1





**Figure 23.1 – Map of the Beaufor Division Property and adjacent properties**

## 24. OTHER RELEVANT DATA AND INFORMATION

### 24.1 Property Production

The total production for the Beaufor Division Property, which include the Beaufor mine (1939 to 2019) and the former Perron mine (1933 to 1951), is presented in the Table 24.1. The mines are located on the Perron, Pascalis and Beaufor properties and have produced approximately 5.1 Mt of ore at an average grade of 7.3 g/t Au for 1.2 Moz gold.

**Table 24.1 – Past Production on Perron, Beaufor and Pascalis Properties**

Mine (years)	Operator	Property	Tonnes	Grade (Au g/t)	Gold Ounce
Perron (1933-1951)	Perron Gold Mines Limited	Perron	1,605,428	8.48	437,511
Beaufor (1939-1942)	Cournor Mining Company Limited	Beaufor	161,287	7.01	36,342
Pascalis (1984-1987)	Société Minière Louvem Inc.	Pascalis	54,450	6.91	12,097
Beaufor (1989-2000)	Aurizon Mines Limited	Perron/Pascalis/Beaufor	777,145	8.26	206,289
Beaufor (2002-2017/09)	Richmont Mines Inc.	Perron/Pascalis/Beaufor	2,339,521	6.52	490,578
Beaufor (2017/10 to 2019/06)	Monarch Gold Corporation	Perron/Pascalis/Beaufor	194,606	4.55	28,467
<b>Total:</b>			<b>5,132,437</b>	<b>7.34</b>	<b>1,211,284</b>

### 24.2 Reconciliation

The mine to mill (Mine-Mill) reconciliation at Beaufor mine consists of the comparisons of the grade and tonnage at different key point/area in the process in regard to the production (mine), to the mill belt and to the mill results (calculated mill head grade).

The precision of the reconciliation (grade and tonnage) is tributary to many estimation points and sources of error, such as sampling protocol (representativity, quality of samples), tonnage of mucked-out stopes, tonnage of surveyed development, weighted tonnage of transported ore, weighted tonnage of milled tonnes, and as the mill has custom milling, the redistribution of gold ounces between the mill clients can also be a source of error.

Mine-Mill reconciliation is based on muck samples and has used the same sampling protocols for decades. The muck sampling procedure (i.e.: the quantity and volume of the samples) varies according to the excavation method.

Given the nuggety nature of the deposit and the wide range of grades between the different zones of the mine, as well as the current sampling protocols, small estimation errors on all of the above can lead to appreciable variations in the final hoisted grade.

Table 24.2 – presents the source material for mine-mill reconciliation from the end of 2017 to July 2019 (the end of production from Monarch Gold).

From this table, it can be concluded that mine-mill reconciliation is rarely achievable on a monthly basis and may only be achieved on a quarter basis or more of cumulative production. During the period from October 2017 to July 2019, reconciliation was +/- 15%, which is considered acceptable in nuggety gold deposits. Before being trucked to the Camflo Mill (October 2017 to July 2019 period), ore was sampled by underground miners (mine tonnes and grades). At the mill, samples of the mill feed were collected on the main conveyor (belt grade) before entering the rod mill. The calculated head grade was the final calculated mill grade that is compared to the mine grade.

**Table 24.2 – Monthly Mine to Mill reconciliation**

Month - Year	Mine tonnes	Mine grade (g/t Au)	Mill tonnes	Belt grade (g/t Au)	Calc. head grade (g/t Au)	Rec. grade (g/t Au)	Gold rec. (%)	Ounces of gold produced	Mine grade vs. Mill grade (%)
Oct-17	11,167	5.26	10,485	4.05	4.80	4.73	98.56	1,595	-10
Nov-17	12,185	5.62	11,043	3.77	4.28	4.20	98.27	1,492	-31
Dec-17	12,728	6.06	13,477	4.56	5.58	5.53	99.01	2,395	-9
Jan-18	7,716	6.39	8,460	5.97	4.88	4.83	99.07	1,314	-31
Feb-18	12,004	6.33	11,767	4.92	5.40	5.35	99.00	2,024	-17
Mar-18	11,638	4.56	12,639	3.80	3.97	3.92	98.67	1,593	-15
Apr-18	9,431	4.65	-	-	-	-	-	-	-
May-18	8,361	5.34	15,342	4.24	4.32	4.26	98.60	2,099	-24
Jun-18	13,534	4.85	15,181	4.86	5.45	5.39	98.80	2,629	11
Jul-18	9,985	4.54	10,426	3.77	3.58	3.50	97.92	1,173	-27
Aug-18	8,433	5.24	6,953	4.68	4.03	3.97	98.50	887	-30
Sep-18	10,806	4.79	11,996	4.64	4.90	4.79	97.79	1,847	2
Oct-18	10,174	6.20	4,773	5.21	3.80	3.69	97.24	567	-63
Nov-18	9,356	5.78	9,885	5.84	4.81	4.72	98.25	1,501	-20
Dec-18	5,091	6.38	11,421	4.64	6.47	6.40	98.96	2,350	1
Jan-19	4,593	5.46	-	-	-	-	-	-	-
Feb-19	6,437	5.36	3,094	3.85	6.04	5.94	98.41	591	11
Mar-19	7,255	5.25	10,016	3.50	2.91	2.83	97.37	912	-80
Apr-19	8,219	4.33	12,476	3.10	3.79	3.74	98.64	1,499	-14
May-19	7,073	4.57	7,141	2.60	3.30	3.23	97.82	742	-38
Jun-19	4,833	5.17	7,244	5.42	5.05	4.96	98.30	1,155	-2
Jul-19	-	-	787	5.58	5.56	5.29	95.17	134	100
<b>Total</b>	<b>191,019</b>	<b>5.33</b>	<b>194,606</b>	<b>4.38</b>	<b>4.63</b>	<b>4.56</b>	<b>98.4</b>	<b>28,467</b>	<b>15</b>

**Table 24.3 – Quarterly Mine to Mill reconciliation**

Month - Year	Mine tonnes	Mine grade (g/t Au)	Mill tonnes	Belt grade (g/t Au)	Calc. head grade (g/t Au)	Rec. grade (g/t Au)	Gold rec. (%)	Ounces of gold produced	Mine grade vs. Mill grade (%)
2017-Q4	36,080	5.66	35,005	4.16	4.94	4.87	0.99	5,481	15
2018-Q1	31,358	5.69	32,866	4.76	4.72	4.67	0.99	4,932	21
2018-Q2	31,326	4.92	30,523	4.55	4.88	4.82	0.99	4,696	1
2018-Q3	29,224	4.83	29,375	4.34	4.22	4.14	0.98	3,908	14
2018-Q4	24,621	6.08	26,079	5.20	5.35	5.27	0.98	4,417	14
2019-Q1	18,285	5.34	13,110	3.59	3.65	3.57	0.98	1,504	46
2019-Q2*	20,125	4.62	27,648	3.65	4.04	3.97	0.98	3,530	14

\* 2019-Q2 includes July last month of the production before the mine was put under care and maintenance.

## 25. INTERPRETATION AND CONCLUSIONS

The objective of InnovExplo's mandate was to update the mineral resource estimates for the Project (the "2020 MRE") and a supporting Technical Report in accordance with NI 43-101 and Form 43-101F1 for Monarch Mining, following the acquisition of all Monarch Gold shares by Yamana Gold Inc. and the transfer of the Beaufor Mine to Monarch Mining.

The 2020 MRE was prepared by Carl Pelletier, P.Geo., using all available information.

No underground activities are currently underway at the Beaufor Mine (development and mining).

The following conclusions are based on InnovExplo's detailed review of all pertinent information and the 2020 MRE results:

- Geological and grade continuity have been demonstrated for all 63 mineralized zones of the Beaufor Mine.
- The mineral resource estimate was completed with a polygonal methods based on muck samples and DDH.
- For an underground scenario, using a cut-off grade of 2.50 g/t Au (long hole) and 3.20 g/t Au (room-and-pillar). The Beaufor mine contains an estimated Measured Resource of 121,000 tonnes grading at 5.62 g/t Au for a total of 21,900 ounces of gold, and Indicated Resource of 310,100 tonnes grading at 7.10 g/t Au for a total of 70,800 ounces, and an Inferred Resource of 134,600 tonnes grading 6.96 g/t Au for a total of 30,100 ounces.
- It is likely that additional diamond drilling would upgrade some of the Inferred Resources to Indicated Resources.
- It is likely that additional diamond drilling would identify additional resources down-plunge and in the vicinity of known mineralization.

For the next resource estimate. It is recommended to proceed with a 3D model for the interpretation of the mineralized zones, the main lithologies and structures. The next update of the resource estimates should use a 3D block model supported method.

Table 25.1 identifies any significant internal risks, potential impacts and possible risk mitigation measures that could affect the economic outcome of the Project. This excludes the external risks that apply to all mining projects (e.g., changes in metal prices, exchange rates, availability of investment capital, change in government regulations, etc.). Significant opportunities that could improve the economics, timing and permitting of the project are also identified in Table 25.2. Further information and evaluation are required before these opportunities can be included in the project economics.

InnovExplo concludes that the results of the 2020 MRE support the recommendation to advance the Project to the feasibility stage.

InnovExplo considers the 2020 MRE to be reliable, thorough, based on quality data, reasonable hypotheses, and parameters compliant with NI 43-101 requirements and CIM Definition Standards.

**Table 25.1 – Risks for the Beaufor Mine**

<b>RISK</b>	<b>Potential Impact</b>	<b>Possible Risk Mitigation</b>
Lower grades due to local inaccuracies	Could reduce the metal content	Conduct additional drilling and open the production drift ahead of time to use muck samples results for resource and reserve estimations
Capping values inadequate for new zones	Could reduce the metal content	Conduct a new capping study on individual active zones

**Table 25.2 – Opportunities for the Beaufor Mine**

<b>OPPORTUNITIES</b>	<b>Explanation</b>	<b>Potential benefit</b>
Higher local grade due to local inaccuracies	Could improve the metal content	Potential to increase resources
Exploration potential	Potential for additional discoveries at depth and around the Beaufor Mine by drilling	Potential to increase resources

## 26. RECOMMENDATIONS

Based on the results of the 2020 MRE, InnovExplo recommends that the Project move to an advance phase of development, which would involve the drilling program, exploration underground development and preparation of a prefeasibility study

The authors consider that there is good potential to define additional resources by drilling lateral and vertical extensions. There are also opportunities for resource growth and for increasing mineral resources by drilling some targets.

The vein-type nature of the Beaufor deposit means that considerable efforts and expenditures are required to develop additional mineral resources. Significant exploration programs have to be developed within the next years to maintain mining operations. The Monarch Mining land package adjacent to the Beaufor Mine needs to be reworked, particularly along the contact between the Bourlamaque Batholith and the Dubuisson volcanic rocks.

The main near-term objective at the Beaufor Mine is to increase resources. Additional drilling should target the down-plunge and lateral extensions of the currently identified mineralized zones, as well as identify additional stacked lenses. Polygons of the inferred category could be upgraded with additional drilling. Some polygons were also “uncategorized” due to lack of information. With additional drilling, they could be re-evaluated as resources.

In parallel, a new compilation of available data could also identify new zones in the resources area. A compilation of all available data for the Beaufor Division Properties, particularly the data collected near the mine, could also lead to new discoveries. This could be combined with a lithostructural 3D model to provide a better understanding of the geological setting.

The recommended two-phase work program is detailed below:

Phase 1 – Resource definition and expansion:

- Continue current drilling program;
- Underground exploration drift to reach deeper zone extensions;
- Drilling along lateral extensions and down-plunge of existing resource (inferred and uncategorized); and
- Update the mineral resource estimate.

Phase 2 – Economic study in preparation to resume production (Conditional of success of phase 1)

- Complete a prefeasibility study (including the Beacon mill refurbishment).

InnovExplo has prepared a cost estimate for the proposed program to serve as a guideline for the Project. The budget is presented in Table 26.1. The estimated cost for an exploration work program and prefeasibility would amount to approximately \$5.0 million.

**Table 26.1 – Estimated Costs for the Recommended Work Program**

<b>Phase 1</b>	<b>Work Program</b>	<b>Budget Cost (C\$000,000)</b>
1a	Drilling program (13,000 m)	2.0
1b	Underground exploration drift	1.0
1c	Update Mineral resource estimate (3d block model)	0.3
<b>Phase 2</b>	<b>Work Program (Conditional to the success of Phase 1)</b>	<b>Budget Cost (C\$)</b>
2a	Prefeasibility Study	1.0
	Sub-total	4.3
	Contingencies (~ 15%)	0.7
<b>TOTAL (Phase 1 and Phase 2)</b>		<b>5.0</b>

The authors believe the recommended work program and proposed expenditures are appropriate and well thought out, and that the proposed budget reasonably reflects the contemplated activities.



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