Goldfields Project NI 43-101 Technical Report on Preliminary Economic Assessment

Saskatchewan, Canada

Effective Date: October 31, 2022

Prepared for: Fortune Bay Corp.

Suite 2001 – 1969 Upper Water Street
Halifax, Nova Scotia, B3J 3R7, Canada

Prepared by: Ausenco Engineering Canada Inc.

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List of Qualified Persons:
Kevin Murray, P.Eng., Ausenco Engineering Canada Inc;
Scott Elfen, P.E., Ausenco Engineering Canada Inc;
Davood Hasanloo, P.Eng., Ausenco Engineering Canada Inc;
Marc Schulte, P.Eng., Moose Mountain Technical Services;
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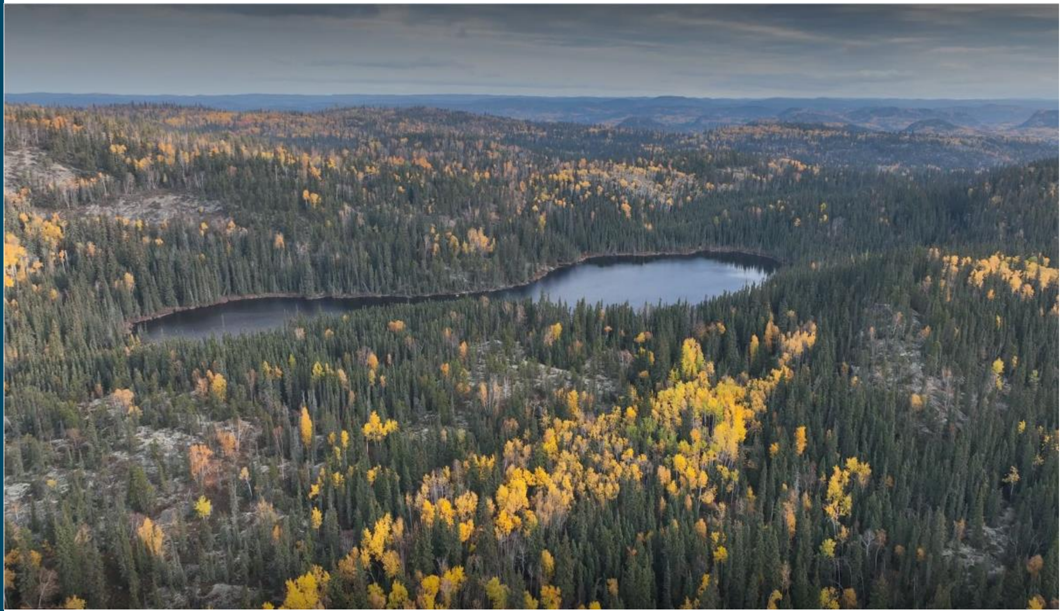

CERTIFICATE OF QUALIFIED PERSON

Kevin Murray, P.Eng.

I, Kevin Murray, P. Eng., certify that:

1. I am employed as a Manager Process Engineering with Ausenco Engineering Canada Inc., with an office address of 1050 West Pender Street, Suite 1200, Vancouver, BC Canada, V6E 3S7.
2. This certificate applies to the technical report titled, *"Goldfields Gold Project, NI 43-101 Technical Report on Preliminary Economic Assessment,"* (the "**Technical Report**"), that has an effective date of October 31, 2022 (the "**Effective Date**").
3. I graduated from the University of New Brunswick, Fredericton NB, in 1995 with a Bachelor of Science in Chemical Engineering. I am a member in good standing of Engineers and Geoscientists British Columbia, License# 32350 and Northwest Territories Association of Professional Engineers and Geoscientists' Registration# L4940.
4. I have practiced my profession for 22 years. I have been directly involved in all levels of engineering studies from preliminary economic analysis (PEA) to feasibility studies including being a Qualified Person for flotation projects including Ero Copper Corp.'s Boa Esperança Feasibility Study and NorZinc Ltd.'s Prairie Creek PEA as well as for Cerro Negro gold/silver leach operation. I have been directly involved with test work and flowsheet development from preliminary testing through to detailed design and construction including my direct experience at Red Lake Gold Mine, Porcupine Gold Mine and Éléonore Gold mine while working for Goldcorp/Newmont.
5. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("**NI 43-101**") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.
6. I made a site visit to the Goldfields Project on October 3 and 4, 2022.
7. I am responsible for Sections 1.1, 1.7, 1.10-1.12, 1.14-1.16, 1.17.3, 1.17.4, 1.17.5.3, 1.17.5.4, 2, 3.1, 3.3, 3.4, 13, 17, 18.1-18.3, 18.4.1-18.4.6, 19, 21.1, 21.2.1, 21.2.2, 21.2.4-21.2.8, 21.3.2, 21.3.3, 21.4.1, 21.4.2, 21.4.4, 21.4.5, 22, 24, 25.1, 25.2, 25.5, 25.6, 25.8-25.11, 25.12.1.1, 25.12.1.5 - 25.12.1.7, 25.12.1.10-25.12.1.12, 25.12.2.3, 25.12.2.4, 25.13, 26.1, 26.4, 26.5, 26.6.3, 26.6.4 and 27 of the Technical Report.
8. I am independent of Fortune Bay Corp. as independence is described by Section 1.5 of the NI 43-101.
9. I have had no previous involvement with the Goldfields Project.
10. I have read the NI 43-101 and the sections of the technical report for which I am responsible have been prepared in compliance with that Instrument.
11. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: November 23, 2022

"Signed and Sealed"

Kevin Murray, P. Eng.

CERTIFICATE OF QUALIFIED PERSON
Scott Cameron Elfen, P.E.

I, Scott Cameron Elfen, P.E., do hereby certify that:

1. I am the Global Lead Geotechnical and Civil Services of Ausenco Engineering Canada Inc., 855 Homer Street, Vancouver, BC V6B 2W2, Canada.

2. This certificate applies to the technical report titled, *"Goldfields Gold Project, NI 43-101 Technical Report on Preliminary Economic Assessment",* (the "**Technical Report**"), that has an effective date of October 31, 2022 (the "**Effective Date**").

3. I graduated from the University of California, Davis with a Bachelor of Science degree in Civil Engineering (Geotechnical) in 1991.

4. I am a Registered Civil Engineer in the State of California (No. C56527) by exam since 1996 and I am also a member of the American Society of Civil Engineers (ASCE), Society for Mining, Metallurgy & Exploration (SME) that are all in good standing.

5. I have practiced my profession continuously for 26 years with experience in the development, design, construction and operations of mine waste storage facilities, such as waste rock storage facilities and tailings storage facilities ranging from slurry to dry stack facilities, focusing on precious and base metals, both domestic and international. In addition, I have developed geotechnical design parameters for pit slope design, plant foundation design, and other supporting infrastructure. Examples of projects I have worked on include: Skeena's Eskay Creek Project PEA, PFS and FS, O3 Mining's Marban Project PEA and PFS, First Mining Gold's Springpole PEA and PFS. SSR Mining's Puna Silver In-Pit Tailings Disposal PFS, and Detailing Engineering, and Lumina Gold Corp's Cangrejos Project PEA and PFS.

6. I have read the definition of "Qualified Person" set out in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* ("NI 43-101") and certify that by virtue 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 those sections of the Technical Report that I am responsible for preparing.

7. I have not visited Goldfields Project Site.

8. I am responsible for sections 1.17.1, 1.17.5.1, 18.4.7, 25.12.1.2, 25.12.2.5, 26.2, and 26.6.1 of the Technical Report.

9. I am independent of Fortune Bay Corp as independence is defined in Section 1.5 of NI 43-101.

10. I have had no prior involvement with the Goldfields Project.

11. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument.

12. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: November 23, 2022.

"Signed and Sealed"

Scott C. Elfen, P.E.

CERTIFICATE OF QUALIFIED PERSON

Davood Hasanloo, P.Eng.

I, Davood Hasanloo, P. Eng., certify that:

1. I am a Professional Engineer, currently employed as Senior Water Process Engineer, with Ausenco Engineering Canada Inc., with an office at 1050 W Pender St, Vancouver, BC V6E 3S7.
2. This certificate applies to the technical report titled, *"Goldfields Gold Project, NI 43-101 Technical Report on Preliminary Economic Assessment"*, (the "**Technical Report**"), that has an effective date of October 31, 2022 (the "**Effective Date**").
3. I graduated from the Chamran University with a Bachelor of Science in Civil engineering in 2006 and University of British Columbia with a Master of Applied Science degree in Hydrotechnical Engineering.
4. I am a Professional Engineer, registered with Engineers and Geosciences of British Columbia, member number 42250.
5. I have practiced my profession continuously since 2009 and have been involved in hydrotechnical analysis and water resources engineering related to mining projects dealing with sitewide water management and water management design.
6. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("**NI 43-101**") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the technical report that I am responsible for preparing.
7. I have not visited the Goldfields Project.
8. I am responsible for Sections 1.17.5.2, 18.4.8, 25.12.1.8, and 26.6.2 of the Technical Report.
9. I am independent of Fortune Bay Corp as independence is described by Section 1.5 of the NI 43-101.
10. I have had no previous involvement with the Goldfields Project.
11. I have read the NI 43-101 and the sections of the technical report for which I am responsible have been prepared in compliance with that Instrument.
12. As of the Effective Date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: November 23, 2022.

"Signed and Sealed"

Davood Hasanloo, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Marc Schulte, P.Eng.

I, Marc Schulte, P.Eng., certify that:

1. I am employed as a Mining Engineer with Moose Mountain Technical Services, with an office address of #210 1510 2nd Street North Cranbrook, BC V1C 3L2.
2. This certificate applies to the technical report titled, “Goldfields Gold Project, NI 43-101 Technical Report on Preliminary Economic Assessment”, (the “Technical Report”), that has an effective date of October 31, 2022 (the “Effective Date”).
3. I am a member of the self-regulating Association of Professional Engineers, Geologist and Geophysicists of Alberta (#71051). I graduated with a Bachelor of Science in Mining Engineering from the University of Alberta in 2002.
4. I have worked as a Mining Engineer for a total of twenty years since my graduation from university. Throughout my career I have worked on numerous open pit precious metals projects, within project engineering studies and within mine operations, on Mineral Reserve estimates, mine planning, and mine cost estimates.
5. I have read the definition of “Qualified Person” set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “Qualified Person” for the purpose of NI 43-101.
6. I have not visited the Goldfields Gold Project site. I am responsible for Sections 1.9, 1.17.2, 15, 16, 21.2.3, 21.3.1, 21.4.3, 25.4, 25.12.1.3, 25.12.1.4, 25.12.2.2, and 26.3 of the Technical Report.
7. I am independent of Fortune Bay Corp as independence is described by Section 1.5 of NI 43–101.
8. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: November 23, 2022.

“Signed and Sealed”

Marc Schulte, P.Eng.

CERTIFICATE OF QUALIFIED PERSON
Mark Liskowich, P.Geo.

I, Mark William Liskowich, P.Geo., certify that:

1. I am employed as an Associate Principal Consultant with SRK Consulting (Canada) Inc. ("SRK"), with an office address of Suite 600, 350 3rd Ave. North, Saskatoon, Saskatchewan.
2. This certificate applies to the technical report titled, *"Goldfields Gold Project, NI 43-101 Technical Report on Preliminary Economic Assessment"*, (the "**Technical Report**"), that has an effective date of October 31, 2022 (the "**Effective Date**")
3. I graduated from the University of Regina, Regina Saskatchewan in 1989 with a Bachelor of Science degree in Geology.
4. I am a professional geoscientist registered with the Professional Engineers & Geoscientists of Saskatchewan - License No.: 10005.
5. I have practiced my profession for 31 years. I have been directly involved in the environmental and social management of mining and mineral exploration projects since graduating.
6. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.
7. I visited the Goldfields Gold Project site multiple times, with the most recent visit between July 5 and 6, 2014 for a visit duration of approximately 8 hours.
8. I am responsible for Sections 1.13, 3.2, 20, 25.7, 25.12.1.9, and 25.12.2.7 of the Technical Report.
9. I am independent of Fortune Bay Corp as independence is defined in Section 1.5 of NI 43-101.
10. I have been involved with the Goldfields Preconcentration Study and the Goldfields Gap analysis prepared for Fortune Bay Corp. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: November 23, 2022.

"Signed and Sealed"

Mark William Liskowich, P.Geo.

CERTIFICATE OF QUALIFIED PERSON
Cliff Revering, P.Eng.

I, Cliff Revering, P.Eng., certify that I am employed as a Principal Consultant with SRK Consulting (Canada) Inc. ("SRK"), with an office address of *Suite 600, 350 3rd Ave. North, Saskatoon, Saskatchewan, Canada*.

1. This certificate applies to the technical report titled, *"Goldfields Gold Project, NI 43-101 Technical Report on Preliminary Economic Assessment"*, (the "**Technical Report**"), that has an effective date of October 31, 2022 (the "**Effective Date**").

2. I graduated from the University of Saskatchewan in 1995 with a B.E. in Geological Engineering and completed a Citation in Applied Geostatistics from the University of Alberta.

3. I am a professional Engineer registered with the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS#9764) I have practiced my profession for 27 years. My relevant experience within the mining industry is related to exploration, mine operations and project evaluations, with a specialization in geological modelling, mineral resource and reserve estimation, production reconciliation, grade control, exploration and production geology and mine planning.

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

5. I personally inspected the subject property on September 21 to September 25, 2020.

6. I am responsible for sections 1.2, 1.4-1.6, 1.8, 4 to 6, 9 to 12, 14, 23, 25.3, 25.12.2.1, and 25.12.2.6 of the Technical Report.

7. I am independent of Fortune Bay Corp as independence is defined in Section 1.5 of NI 43-101.

8. I have been involved with the Goldfields Project since 2020, and co-authored the previous NI 43-101 technical report entitled, *"Technical Report: Resource Estimate for the Goldfields Project,"* with and effective date of May 4, 2021.

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

Dated: November 23, 2022.

"Signed and Sealed"

Cliff Revering, P.Eng.

CERTIFICATE OF QUALIFIED PERSON
Ron Uken, Pr.Sci.Nat.

I, Ron Uken, Pr.Sci.Nat., certify that I am employed as a *Principal Consultant* with SRK Consulting (Canada) Inc. ("SRK"), with an office address at *Suite 2200, 1066 West Hastings Street, Vancouver, British Columbia, Canada*.

1. This certificate applies to the technical report titled, *"Goldfields Gold Project, NI 43-101 Technical Report on Preliminary Economic Assessment"*, (the "**Technical Report**"), that has an effective date of October 31, 2022 (the "**Effective Date**").
2. I graduated from *the University of KwaZulu-Natal, South Africa, in 1999* with a *Ph.D in Geological Sciences, Faculty of Science*.
3. I am a P*rofessional Scientist (Geological Science)* of the South African Council for Natural Scientific Professions (Reg. no 400322/11).
4. I have practiced my profession for over 25 years. I have worked as an academic and as a consultant to the mining industry. My specialization is in structural mapping and 3-D structural modelling of ore deposits. This includes the application of structural geology to exploration, mineral resource estimation, geotech and hydrogeology. As a consultant I have worked on a range of precious and base metal projects throughout Africa, the Middle East and the Americas, offering structural geology support as well as working with site geologists assisting with mapping, data collection, logging and structural interpretation.
5. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for those sections of the Technical Report that I am responsible for preparing.
6. I visited the Goldfields Project site between 21-25 September 2020 for a visit duration of four days.
7. I am responsible for Sections 1.3, 7, and 8 of the Technical Report.
8. I am independent of Fortune Bay Corp as independence is defined in Section 1.5 of NI 43-101.
9. I have been involved with the Goldfields Project undertaking structural geological investigations, followed by geological modelling and a petrographic investigation. This works was included in the *May 4th 2021 Technical Report: Resource Estimate for the Goldfields Project*. This was followed by a model update to include additional drilling in April 2022 for this technical report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with that Instrument. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated: November 23, 2022.

"Signed and Sealed"

Ron Uken, Pr.Sci.Nat.

Important Notice

This Technical Report was prepared in accordance with National Instrument 43-101 for (Fortune Bay) by Ausenco Engineering Canada Inc.(Ausenco), Moose Mountain Technical Services (MMTS), and SRK Consulting (SRK), collectively the Report Authors. The quality of information, conclusions, and estimates contained herein are consistent with the level of effort involved in the Report Authors' services, based on i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Fortune Bay subject to terms and conditions of its contracts with each of the Report Authors. Except for the purpose legislated under Canadian provincial and territorial securities law, any other uses of this report by any third party are at that party's sole risk.

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1 SUMMARY

1.1 Introduction

Fortune Bay Corp. ("Fortune Bay" or the "Company") commissioned Ausenco Engineering Canada Inc. ("Ausenco") to compile a preliminary economic assessment ("PEA") of the Goldfields Project ("Goldfields" or the "Project"). The PEA was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 ("NI 43-101") and in accordance with the requirements of Form 43-101F1.

The responsibilities of the engineering companies who were contracted by Fortune Bay to prepare this report are as follows:

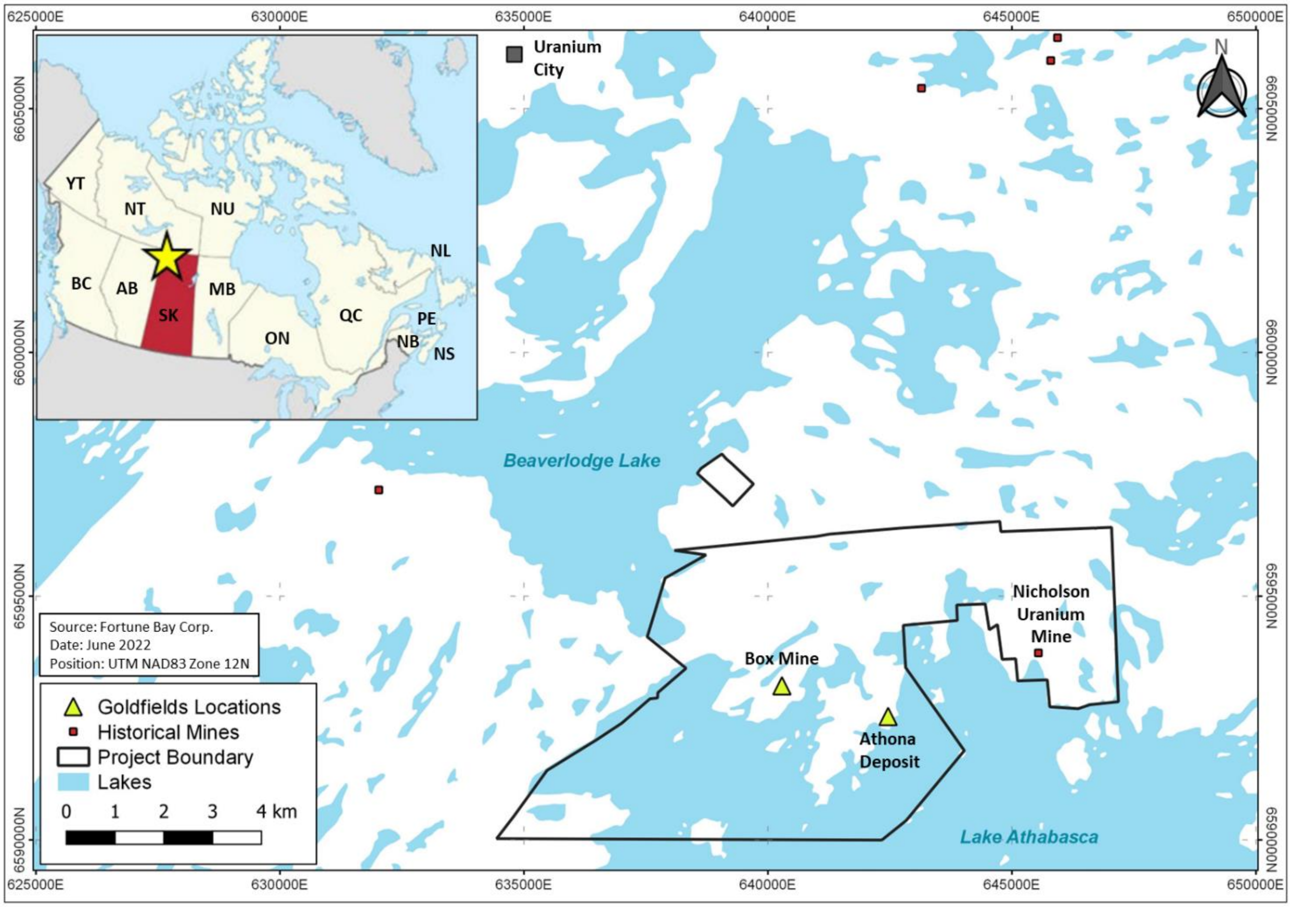
- Ausenco managed and coordinated the work related to the report and developed PEA-level design and cost estimate for the process plant, general site infrastructure, tailings storage facility and economic analysis. Ausenco also consolidated the metallurgical testwork performed by SGS Canada ("SGS") in 2015 for investigation of various flowsheet options at Goldfields (i.e., leaching of flotation concentrate and whole ore leaching).
- Moose Mountain Technical Services ("MMTS") designed the mining operations, mine production schedule, and mine capital and operating costs.
- SRK Consulting (Canada) Inc. ("SRK") developed the mineral resource estimate for the Project and completed the work related to property description, accessibility, local resources, geological setting, deposit type, exploration work, drilling, exploration works, sample preparation and analysis, data verification and completed a review of the environmental studies.

1.2 Mineral Tenure, Surface Rights, Water Rights, Royalties and Agreements

Goldfields is owned by 7153945 Canada Inc., which is a wholly owned subsidiary of Fortune Bay, a Canadian company listed on the TSX Venture Exchange ("TSX-V") under the symbol FOR. Fortune Bay also trades on the Frankfurt Stock Exchange under the symbol 5QN and on the OTCQX in the United States under the symbol FTBYF. Fortune Bay has its corporate head office in Halifax, Nova Scotia, Canada.

The Project is located in Northern Saskatchewan, Canada, approximately 13 km south-southeast of the town of Uranium City and 850 km north of Saskatoon (Figure 1-1). It consists of 12 mineral dispositions covering a total surface area of 5,031 ha and measuring approximately 12 km by 6 km in maximum east-west and north-south dimensions, respectively. The Project includes the Box and Athona gold deposits, as well as other gold occurrences discovered during historical exploration. The Box deposit was mined for gold by Consolidated Mining and Smelting of Canada Ltd. ("Cominco") during the period 1939 to 1942, as an underground operation, yielding approximately 64,000 ounces of gold from 1.3 Mt of ore.

Figure 1-1: Goldfields Project Location Map.



Source: Fortune Bay Corp., 2022.

1.3 Geology and Mineralization

The Project lies within the Rae craton, of the Churchill Province of the Canadian Shield. The Box and Athona gold mineralization is primarily hosted in granites within the Murmac Bay Group of the Beaverlodge domain. The Murmac Bay Group (ca. 2.33 – 2.17 Ga) comprises a deformed sequence of quartzite, metabasalt and pelitic to psammitic metasediments. These are unconformably overlain by the weakly deformed and mostly unmetamorphosed Martin Group (ca. 1.8 – 1.75 Ga), a dominantly arkosic redbed sequence with minor basalts (Ashton et al., 2013, Ashton et al., 2001).

Gold mineralization characteristics at Box and Athona are similar, comprising quartz vein sets hosted within a metamorphosed and hematized leucogranite, respectively termed the Box and Athona "Mine Granites". Gold mineralization is strongly structurally controlled within a network of milky white quartz veins with an average N-S strike and moderate to steep westerly dips. Gold is typically closely associated with early coarse pyrite (SRK, 2020b) as fracture fill in pyrite and at pyrite-quartz grain boundaries. Less commonly gold is found associated with sphalerite, chalcopyrite, and galena within fractures in pyrite.

The Box Mine Granite ("BMG") has a sill-like morphology and is modelled as a tabular volume within the Murmac Bay Group. The BMG is between 30 and 130 m in width, striking NE (050°) and dipping at 38° to the SE. It has a surface strike length of 825 m, with a down dip extension of up to 670 m that remains open with depth. The vertical extent of the model ranges from outcrop at surface (approximately 250 masl) down to a maximum depth of approximately -250 masl.

The Athona geological model comprises volumes representing the Athona Mine Granite ("AMG"), the Athona West Mine Granite ("AWMG"), the AMG hanging wall gabbro (which forms the footwall to the AWMG), and the footwall granite and gabbro. The model extends under Lake Athabasca and is constrained by bathymetry survey data. The currently delineated extent of the AMG is approximately 650 by 450 m and it has not been closed off to the south and southeast, where it underlies Lake Athabasca. It is relatively flat lying, located in the hinge of a syncline (with a fold axis trending approximately N-S and plunging gently to the south) with a true thickness of up to 140 m. The eastern margin of the AMG is interpreted to be fault bounded, but there is insufficient drill information to incorporate this into the geological model. Mineral resources reported in Section 14 are limited to within the AMG; no mineral resources have been estimated in the AWMG, as discussed in Section 14.

1.4 History

The Box and Athona deposits were discovered in the 1930's by surface prospecting. The Box deposit was mined underground between 1939 and 1942 producing approximately 64,000 ounces of gold. Mine closure was related to labor shortages during the onset of WWII. Following cessation of early (1934 to 1942) gold mining, exploration in the Goldfields area shifted focus from gold to uranium following the Beaverlodge uranium discoveries in the 1940's. Uranium-focused exploration was carried out until the late 1980's, when focus shifted back to gold exploration and development. Additional phases of delineation drilling in support of resource estimation were carried out at Box and Athona during the period 1988 to 2011, at which point almost 750 surface and underground delineation drill holes had been completed with a gold assay database including over 35,000 results.

Historical operators also conducted exploration work unrelated to the Box and Athona deposits. This has included prospecting and mapping, trenching, sampling, ground and airborne geophysical survey and exploration drilling, predominantly focused on known gold occurrences discovered during early prospecting.

The Box open-pit mine and mill development received Provincial Ministerial approval to proceed under the Environmental Assessment Act on May 29, 2008, following submission of an Environmental Impact Statement ("EIS") by previous owner GLR Resources Inc. ("GLR"). The EIS was based upon the development as contemplated in a Feasibility Study for the Box Deposit (Bikerman, 2007) and included a mill capacity of 5,000 tonnes per day. A subsequent Pre-Feasibility Study completed in 2011 was scoped to conform with the EIS through production from Box in Years 1 to 7, followed by production from Athona in Years 7 to 9 contemplated under a Section 16 permit amendment. The approved EIS dated May 29, 2008 remains valid.

1.5 Exploration

Exploration activities conducted by Fortune Bay commenced in 2015 when Mercator Geological Services Ltd. ("Mercator") were commissioned to complete a desktop review and field prospecting to assess known gold occurrences on the Project and develop additional targets for exploration. Additional field investigation of selected targets was carried out in 2021, along with a reinterpretation of historical (2010) Titan DC/IP data. Results were integrated with all compiled historical exploration information in 2021 to generate exploration drill targets searching for additional gold deposits within the Goldfields Syncline. Phase 1 drilling was completed in 2021 which comprised seven holes at Box (4,004 metres) and six holes at Athona (1,170 metres). The objective of the Phase 1 drilling was to expand the mineral resources, particularly testing for higher grades and mineralized structures at depth. Phase 2 drilling was completed in winter 2022 which included four exploration drill holes (1,343 metres) to test targets within the Goldfields Syncline, between the Box and Athona deposits. An additional resource expansion drill hole was also completed at Box during Phase 2 totalling 429 metres.

1.6 Drilling and Sampling

Fortune Bay has drilled a total of 18 holes comprising 6,946 m of drilling at Goldfields during the period January 2021 to March 2022 in two phases; Phase 1 completed during 2021 explored for deeper (Box) and along strike (Athona) mineralization with oriented core to assess mineralization and structural continuity in previously untested areas. Phase 2 completed during winter 2022 explored the Goldfields Syncline for undiscovered mineralization along strike between Box and Athona.

All drilling was carried out by Team Drilling LP ("Team") of Saskatoon, Saskatchewan. The programs at Athona and Box were designed to expand the mineralization footprints beyond the historical drilling coverage, and to commence delineation of additional mineral resources. The drill used was a Zinex A5 diamond drill using NQ core diameter, with a switch to NQ2 diameter with a stabilized hexagonal core barrel later in the program to reduce hole deviation. Collar locations were captured using a high precision (<1 m accuracy) Arrow 100 GPS. Drill hole orientation was recorded at approximate 50 m intervals down hole using a Reflex magnetic survey tool. Orientation marks, allowing for measurement of the true orientation of structures within the core, were made on the core between 3 m runs using a REFLEX ACT tool. Drilling at Box and Athona has been oriented with dips as shallow as practically achievable to intersect mineralized vein sets at the highest angle possible and maximise the internal coverage of the targeted Mine Granite for each drill hole.

A total of 3,036 samples were collected and submitted for gold assay from the 2021 and 2022 drilling campaigns. All samples from Box and Athona, for which the results are incorporated into the mineral resource estimate (Section 14), were analysed by screened metallics methods. Samples from the Phase 2 exploration holes (drill holes B22-341 to B22-344) were submitted for standard gold fire assay and multi-element analysis.

1.7 Metallurgical Testwork

Metallurgical testwork programs were conducted on mineralized samples from Goldfields between 1939 and 2011 (Section 13.2). The test programs were performed on both Box and Athona deposits.

The following sources of technical and project information were referenced in developing the process plant design for the preliminary economic assessment.

- 1939-1942 Process Evaluation and Pilot Test Report by Casmyn Engineering.
- 1939 Flotation and Cyanidation of Gold Ore from Athona Mines Limited.
- 1981 Results of barrel leach testing from the New Athona Project.
- 1988 Lenora Pilot Scale Testing Consulting Report.
- 1995 Review of Metallurgical Testing by Richard C. Swider Consulting Engineers Ltd.
- 1997 VAT Leaching by INNOV AT Limited.
- 1998-2004 Gekko Test Programs.
- 2015 Metallurgical Testing of Samples from Box and Athona Deposits. Prepared by SGS Canada Inc.

Metallurgical testing was carried out in 2015 at SGS (Lakefield, Canada) on composited drill core samples collected from the Box and Athona deposits in 2011.

The testwork program was conducted in two phases. Phase 1 included head analysis, minerology, grindability, gravity separation, flotation and cyanidation testing on gravity tailings and whole ore cyanidation on the composites. The direct gold head grade for the sample from the Box deposit was 1.55 g/t and for Athona it was 1.39 g/t. Problematic elements such as copper and arsenic are at low concentrations and not expected to pose metallurgical issues.

The whole ore leach tests showed extractions ranging from 94% to 98% on the Box composite and 92% to 98% for the Athona composite. A parallel set of flotation tests were also completed on the samples from Box and Athona on whole ore material and gravity tails. The recovery of gold to flotation concentrates ranged from 97% to 98% on the Box composite and 90% to 96% on the Athona composite.

Cyanide and lime consumptions were derived from the testwork. The cyanide consumption is low, ranging from 0.05 kg/t to 0.71 kg/t of cyanide leach (CN) feed. The lime addition and consumption was similar, ranging from 0.35 kg/t to 0.27 kg/t of CN feed. The cyanide consumption in the leach may be reduced by including a pre-aeration stage prior to cyanide addition.

As a part of the Phase 2 test program, two potentially suitable gold processing routes were tested – Merrill-Crowe and carbon-in-pulp ("CIP"). A 97% gold recovery was obtained through the Merrill-Crowe test, with a barren solution containing 0.15 mg/L Au. Based on the leach kinetics, CIP is a preferred option rather than CIL. The carbon modelling indicated a gold adsorption efficiency of 99.9% and the gold in barren solution would be <0.015 mg/L.

The whole ore leach test results were analyzed for three grind sizes (80µm, 170µm and 270µm) to provide a recovery model for use with the mine production schedule to provide gold recovery and production data. In addition to the predicted extraction, plant losses were estimated at 0.5% of head gold, including soluble gold solution and fine carbon losses to tailings. A grind size of 170µm was chosen for both Box and Athona deposits which yielded a gold recovery of 95.9% and 93.5% respectively. These recoveries are reflective of the testwork performed to date and were applied to the mine planning and financial modelling. A flat recovery has been applied for the entire LOM.

1.8 Mineral Resource Estimation

The mineral resource statement for Goldfields is provided in Table 1-1, with an effective date of September 1, 2022. The Box mineral resource has been adjusted for historical mine production. Mineral resources have been classified according to CIM Definition Standards for Mineral Resources & Mineral Reserves (May 19, 2014) and CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (November 29, 2019), and are reported at a cut-off grade of 0.3 g/t gold within a conceptual open-pit shell constrained at a gold price of US$1800/oz.

Table 1-1: Mineral Resource Statement, Box and Athona Deposits, Goldfields Project, Saskatchewan

Deposit	Category	Tonnes (Mt)	Au Grade (g/t)	Au Metal Content (000's oz)
Box	Indicated	15.8	1.44	729.7
Athona	Indicated	7.4	1.06	250.2
Total Indicated		**23.2**	**1.31**	**979.9**
Box	Inferred	3.3	1.08	112.8
Athona	Inferred	3.8	0.80	98.0
Total Inferred		**7.1**	**0.92**	**210.8**

Notes: Table sourced by SRK Consulting (Canada) Inc., September 1, 2022)
1. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
2. Mineral resources are reported at a cut-off grade of 0.3 g/t Au, constrained within a conceptual open-pit shell.
3. Mineral resources are reported using the Au price of USD$1800/oz.

All figures are rounded to reflect the relative accuracy of the estimate.

1.9 Mining Methods

Open pit mine designs, mine production schedules and mine capital and operating costs have been developed for the Box and Athona deposits at a scoping level of engineering.

The open pit activities are designed for approximately ten years of operation. Mine planning is based on conventional open pit methods suited for the project location and local site requirements. The subset of mineral resources contained within the designed open pits are summarized in Table 1-2, with a 0.30 g/t gold cut-off, and form the basis of the mine plan and production schedule.

Table 1-2: PEA Mine Plan Production Summary

Description	Value
PEA Mill Feed	22,708 kt
Mill Feed Gold Grade	1.20 g/t
Waste Overburden and Rock	69,139 kt
Waste: Resource Ratio	3.0

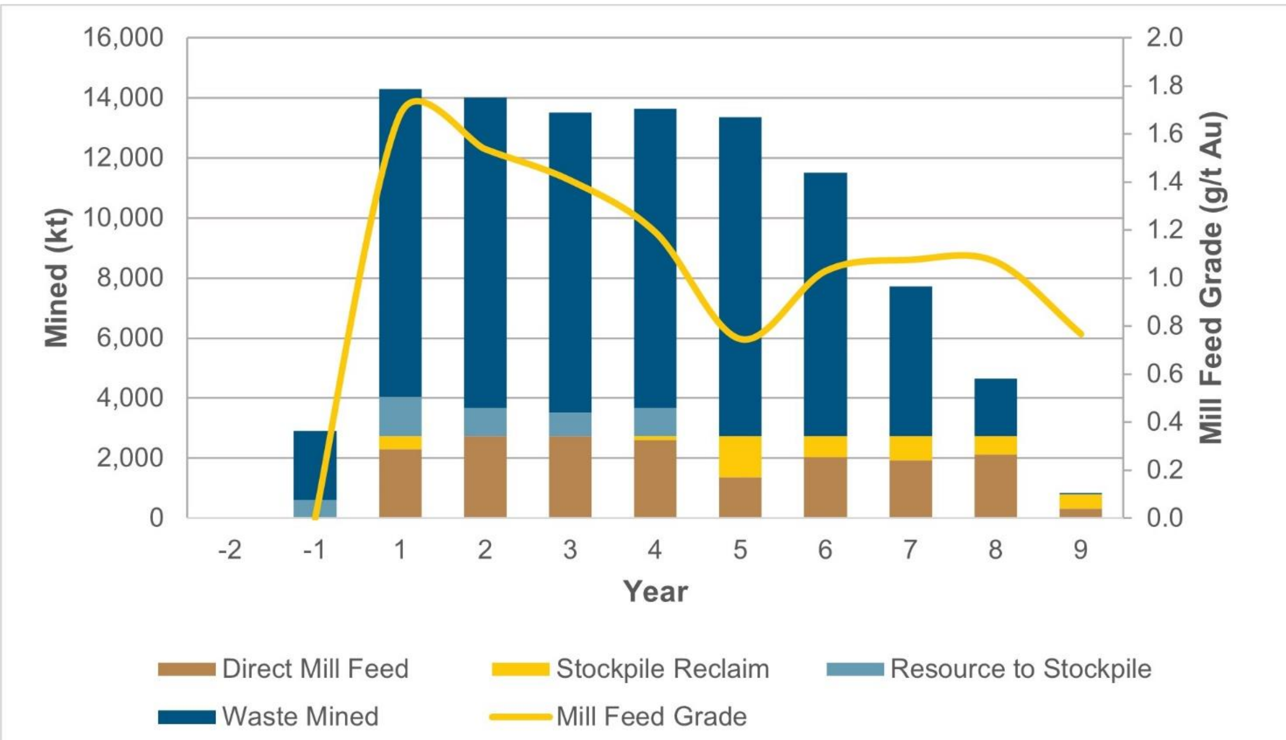
Notes:
1. The PEA Mine Plan and Mill Feed estimates are a subset of the September 01, 2022 Mineral Resource estimates and are based on open pit mine engineering and technical information developed at a scoping level for the Box and Athona deposits.
2. PEA Mine Plan and Mill Feed estimates are mined tonnes and grade, the reference point is the primary crusher.
3. Mill Feed tonnages and grades include open pit mining method modifying factors, such as dilution and recovery.
4. Cut-off grade of 0.30 g/t assumes US$1,650/oz. Au at a currency exchange rate of 0.77 US$ per C$; 99.95% payable gold; $5/oz offsite costs (refining, transport and insurance); a 2.0% NSR royalty; and a 95% metallurgical recovery for gold.
5. The cut-off grade covers processing costs of $12.00/t, administrative (G&A) costs of $6.20/t, and low grade stockpile Rehandle costs of $1.00/t.
6. Estimates have been rounded and may result in summation differences.

The economic pit limits are determined using the Pseudoflow implementation of the Lerchs Grossman algorithm. Ultimate pit limits are split up into phases or pushbacks to target higher economic margin material earlier in the mine life. The Box deposit is split into three phases, and the Athona deposit is split into two phases. Pit designs are configured on 5 m bench heights, with 8 m wide berms placed every four benches, or quadruple benching. Two unique geotechnical zones are included for the Box pit, with unique bench face angles, and subsequent inter-ramp angles; the Athona pit assumes only one set of criteria for all its pit walls.

The mill will be fed with material from the pits at an average rate of 2.7 Mtpa (7.5 kt/d). Waste rock will be placed in one of three identified waste rock storage facilities ("WRSF"), one north of the Athona pit ("Athona WRSF"), one within the Vic Lake historical tailings storage facility ("TSF") footprint directly west of the Box pit ("WRSF-1") and one north of the processing facilities and east of the tailings storage facility ("Box Main WRSF"). Waste rock will also be used for construction of the haul roads and the tailings dam north of the process facilities. Topsoil and overburden encountered at the top of the pits will be placed in a dedicated area of the Box Main WRSF and kept salvageable for closure at the end of the mine life. Cut-off grade optimization is employed, which feeds a various low grade stockpiles adjacent to the ROM pad and the Box Main WRSF. These stockpiles are planned for reclamation to the mill in the later years of the mine life.

The mine production schedule is summarized in Figure 1-2 below.

Figure 1-2: Mine Production Schedule Summary



Source: MMTS, 2022.

Mining operations will be based on 365 operating days per year with two 12-hour shifts per day. An allowance of 12 days of no mine production has been built into the mine schedule to allow for adverse weather conditions.

The mining fleet will include diesel powered down-the-hole drills with 140 mm bit size for production drilling, diesel-powered reverse circulation drills for bench-scale grade control drilling, 12 m^3 bucket size diesel hydraulic excavators and 14 m^3 bucket sized wheel loaders for production loading, and 91 t payload rigid-frame haul trucks for production hauling, plus ancillary and service equipment to support the mining operations. In-pit dewatering systems will be established for each pit. All surface water and precipitation in the pits will be handled by submersible pumps and directed to ex-pit settling ponds directly outside the pit limits.

The mine equipment fleet is planned to be purchased via a lease financing arrangement. Maintenance on mine equipment will be performed in the field with major repairs and planned interval maintenance in the shops located near the process facilities.

1.10 Recovery Methods

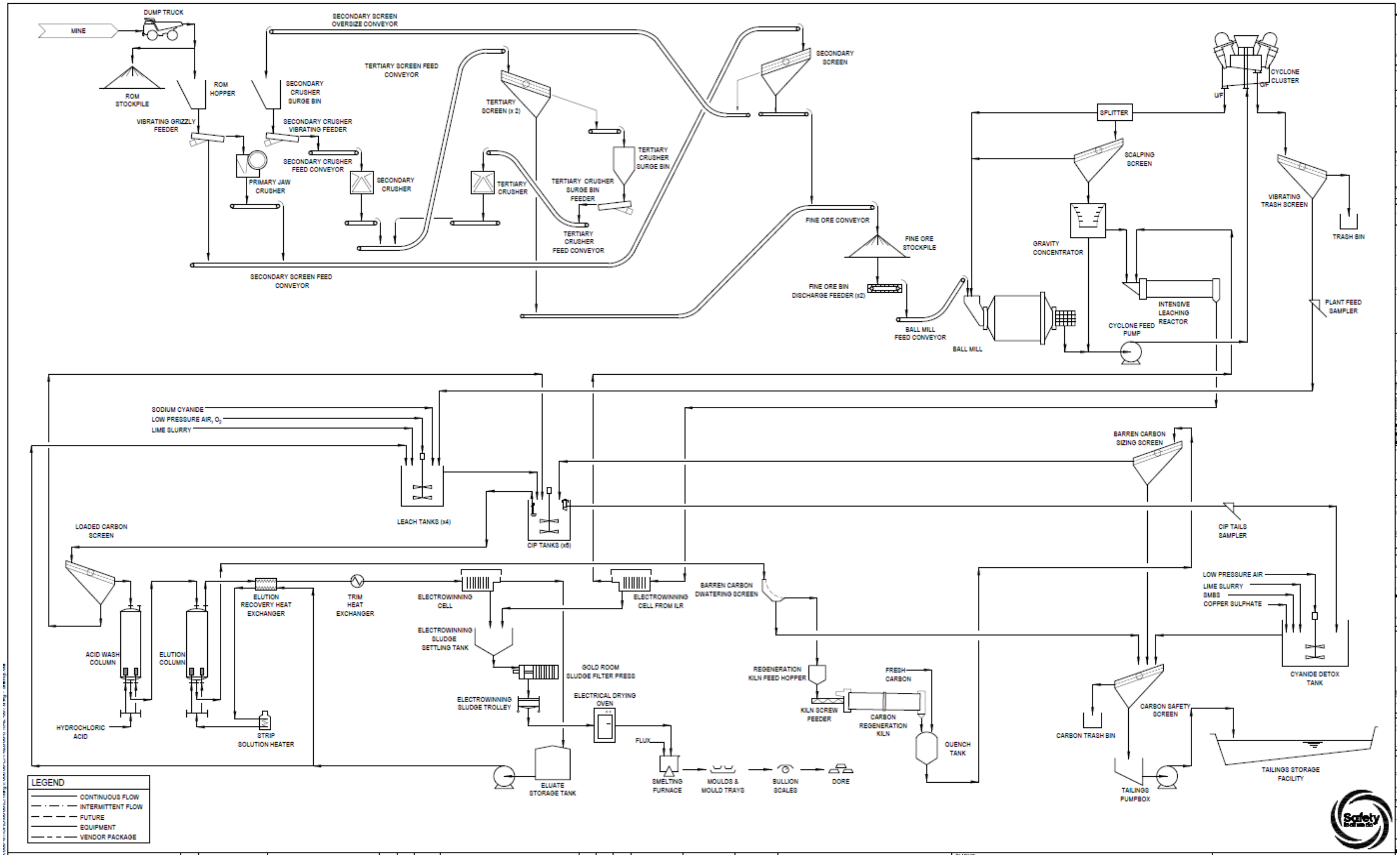
The PEA process design is based on treating ore from the Box and Athona open pit mines through whole ore leach to produce gold doré bars. The process design is based on the testwork conducted by SGS labs, Ausenco's extensive database of reference projects, and inhouse modelling programs. The plant is designed for a throughput of 7,500 t/d or 340 t/h based on the availability of 92%. The crusher plant circuit design is set at 65% availability and the gold room availability is set at 52 weeks per year. The plant will operate two shifts per day, 365 days per year and will produce doré bars.

The process plant includes the following:

- Three stages crushing of run-of-mine (ROM) material
- Ball mill with trommel screen followed by cyclone classification
- Gravity gold recovery from cyclone underflow
- Intensive cyanidation of the gravity gold concentrate and electrowinning of the pregnant leach solution
- Leach + Carbon in Pulp adsorption (L/CIP)
- Acid washing of loaded carbon and Pressure Zadra type elution followed by electrowinning and smelting to produce doré
- Cyanide destruction using the SO_2/air process on final tailings stream
- Reagent storage and distribution
- Water and air services
- Potable water distribution

The simplified process flow diagram for the Goldfields Project is shown in Figure 1-3.

Figure 1-3: Process Flowsheet



Note: Figure prepared by Ausenco, 2022.

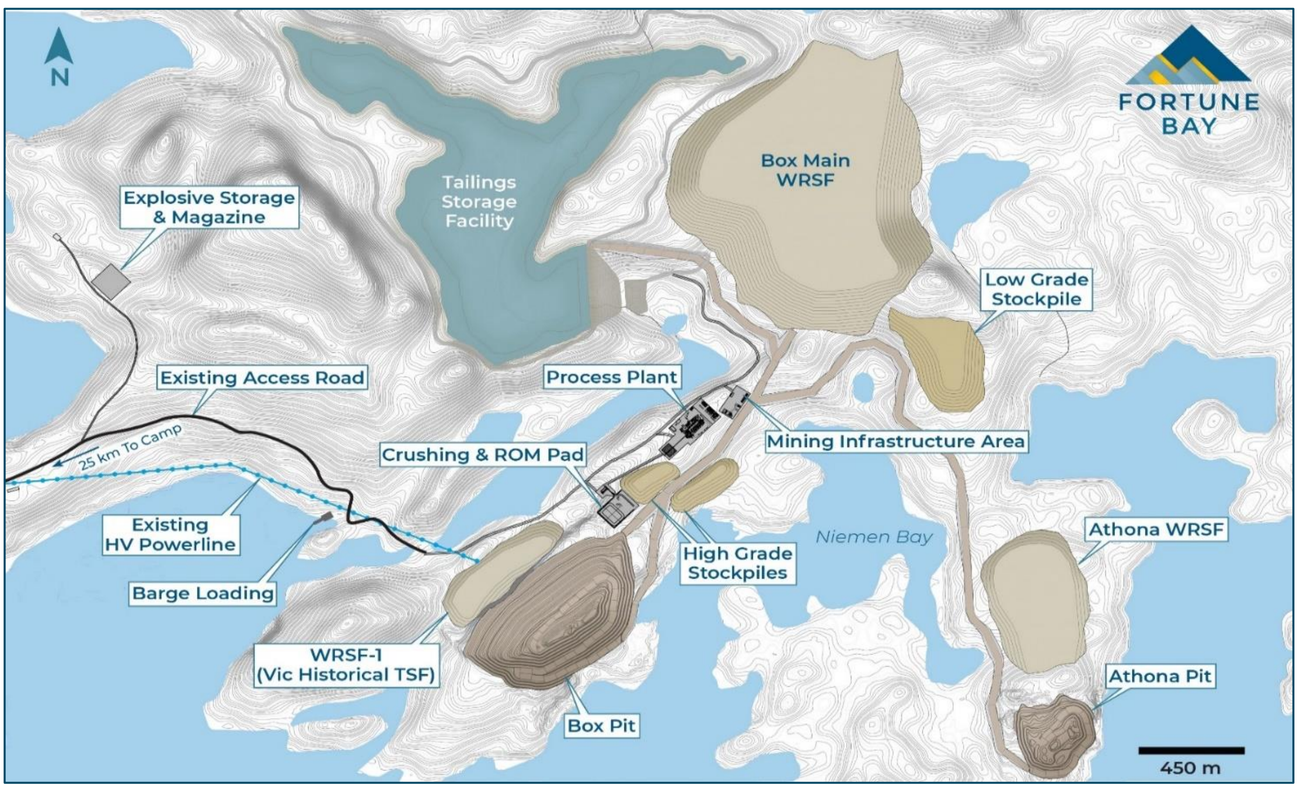
1.11 Project Infrastructure

Infrastructure to support the Goldfields Project will consist of site civil work, site facilities and buildings, offsite and on-site roads, a water management system, a tailings storage facility ("TSF"), waste rock storage facilities ("WRSF") and site electrical power. Site facilities will include both mine facilities and process facilities, as follows:

- Mine facilities include administration offices, a truck shop and a wash bay
- Process facilities include the crushing plant, process plant, workshop, and laboratory
- Waste management facilities include TSF and WRSF
- Common facilities include a gatehouse and administration building

The mine and process facilities will be serviced with potable water, fire water, compressed air, power, diesel, communication utilities, and sanitary systems. An overall site layout is shown in Figure 1-4.

Figure 1-4: Infrastructure Layout Plan



Note: Figure prepared by Ausenco, 2022.

The project site is located 25 km from Uranium City and can be accessed year-round by road via Highway 962. Access to Uranium City is limited to air, barge, and winter ice road. The Project can be accessed by commercial flights departing from Stony Rapids, Points North Landing, Prince Albert, and Saskatoon airports to Uranium City airport which is accessible year-round.

During the winter months (January – April), an ice road is built from Stony Rapids to Uranium City. The ice road is built and managed by Athabasca Basin Development Limited Partnership with funding provided by Government of Saskatchewan. During the summer months (May – December), a barge will be operated between Stony Rapids and the project site for transportation of materials.

The Project has easy access to both power and freshwater. The freshwater will be sourced from Neiman Bay, located in Lake Athabasca which is approximately 400 m away from the process plant. Water will be pumped to the process plant and then distributed across the site.

The site currently does not have access to power. The power demand at Goldfields during peak production can be met by upgrading the 10 km long existing 115kV high voltage powerline just outside of the project site and connecting it to the substation onsite. Power to the Project will be supplied by SaskPower grid. Maximum power demand during operation will be 11.6 MW, for which one 115kV/13.8kV substation will be installed.

The typical method of clearing, topsoil removal, and excavation will be employed, incorporating drains, safety bunds and backfilling with granular material and aggregates for road structure. Forest clearing and topsoil removal is expected to be required to allow construction of the processing plant and other buildings and facilities. Existing infrastructure present on site is considered as scrap and will be demolished and placed in WRSF-1.

The roads will allow access between the administration building, warehouses, mill building, crushing buildings, fine ore stockpile, mining truck shop, and the run of mine (ROM) stockpile.

The material mined from the pit will be diverted to four destinations depending on the grade and material type. The barren stripping material will be sent to the waste rock storage facility, while the low-grade mineralized material will be sent to the low-grade stockpile, and the higher-grade material will either be fed directly to the crusher or stockpiled adjacent to the crusher area. All mill feed is currently envisioned to be hauled from the pit rim by 90 tonne payload trucks.

Waste rock storage facilities are planned for storing waste material from the open pit. Waste from the Box mine will initially be dumped in the WRSF-1 which has a capacity of 4 Mt. The balance of waste rock from Box pit will be hauled to the Box Main WRSF which has a capacity of approximately 60 Mt or 36 Mm^3. Waste rock from Athona pit will be hauled to the Athona WRSF adjacent to Athona pit which has a capacity of approximately 5 Mt or 3 Mm^3. All stockpiles and rock storage facilities are planned to avoid existing waterbodies and water courses.

The mining infrastructure includes haul roads from the pit to the different areas on site, explosive facility, truck shop and truck wash bay, mine warehouse, office, and workshop.

The plant site consists of the necessary infrastructure to support the processing operations. All infrastructure buildings and structures will be built and constructed to all applicable codes and regulations. Due to the cold weather conditions, the process plant facility will be in an enclosed building. The project site will include administration building, plant maintenance shop and warehouse, and other buildings.

Waste disposal for the Goldfields Project includes three separate WRSF and a single TSF. The TSF is designed to accommodate 21.9 Mt of tailings over the life of mine. Construction of the TSF has been divided in two (2) phases. Phase 1 of the TSF will store 8.2 Mt of tailings and Phase 2 will store 13.7 Mt of tailings. The TSF is in a natural valley approximately 1 km northeast of the process plant. The final TSF embankment and impoundment basins will occupy an ultimate footprint of approximately 105 hectares (1.05 Mm^2). The initial starter embankment constructed (Phase 1) will have a maximum elevation of 257 masl and will store approximately 8.2 Mt of tailings produced over three (3) years of production. Phase 2 will have a maximum elevation of 269 masl and will store approximately 13.7 Mt of tailings produced over five (5) years of production.

Water from the TSF is reclaimed and used in the process plant and is reclaimed at a rate of approximately 290 m^3/h.

The region experiences precipitation throughout the year. Average annual precipitation is 362 mm, of which 53% occurs in the four warmest months (June through September). Based on the precipitation frequency, the proposed water management structures include diversion channel, diversion ditches, collection ditches and collection ponds. The source of contact water is from stockpile, excess from process plant, groundwater inflow to mining pit, surface runoff from precipitation, and the WRSF. The water is considered not to be in contact with potentially acid generating material and hence the water is diverted to settling ponds where any total suspended solids or total dissolved solids are settled before being let into the environment. At Goldfields, any excess water is disposed in the TSF.

The excavation quantities for diversion ditches, diversion channels, collection ditches and ponds, and the site-wide water balance model is further discussed in Section 18.4.8.3 of this Report.

1.12 Markets and Contracts

The Goldfields Project will produce gold in the form of doré bars with 99.9% gold payable. Fortune Bay or its consultants have not conducted a market study on the sale of gold doré. In the economic assessments, the gold price was assumed at US$1,650/oz and a US$:C$ exchange rate of 1.00:1.30 was used. The refinery terms assumed for this PEA are 5.00 C$/oz, which includes transportation charges. No existing refining agreements or sales contracts are currently in place for the Goldfields Project.

1.13 Environmental, Permitting and Social Considerations

The Project completed a federal screening and a provincial Environmental Assessment and received Ministerial Approval to proceed to licensing in 2008, which is currently valid. Updates to the environmental baseline will be required and changes to the Project, to that which was assessed, will require some additional assessment. Fortune Bay intends to obtain approvals to these changes through an application submitted in accordance with Section 16 of the Provincial Assessment Act. Doing so should significantly reduce the schedule required to advance the Project into construction and operations.

Fortune Bay is committed to working with Indigenous Rights Holders declaring the Project area as part of their traditional territory. Engagement efforts with these Rights Holders to date, specifically First Nation and Municipality representatives, have established the foundation of a relationship based on trust and honesty.

No environmental and/or social risks have been identified that cannot be reasonably mitigated through the implementation of good engineering and social practices.

1.14 Capital and Operating Cost Estimates

The preliminary economics of the Goldfields Project can be assessed using the capital and operational cost estimates offered in this PEA. The calculations are created on an open pit mining operation concept, the development of a Processing Plant, Infrastructure, and Tailings Storage Facility, and the Owner's expenses and provisions.

1.14.1 Capital Cost Estimates

The capital cost estimate conforms to Class 5 guidelines for a preliminary economic assessment level estimate with a ±50% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International). The capital cost estimate was developed in Q3 2022 based on Ausenco's in-house database of projects and studies as well as experience from similar operations.

The total initial capital cost for the Goldfields Project is C$233.5 M and the life-of-mine sustaining cost is C$128.7 M. The total provisions (contingency) is estimated at C$43.6 M. The initial capital cost, LOM sustaining costs and closure capital are summarized in Table 1-3.

Table 1-3: Summary of Initial, Sustaining and Closure Costs

WBS Description	WBS	Initial Capital Cost (C$M) (LOM)	Sustaining Capital Cost (C$M) (LOM)	Total Cost (C$M)
Mine	1000	40.2	69.0	109.2
Process Plant	2000	72.0	0.0	72.0
On Site Infrastructure	3000	22.1	24.7	46.8
Off Site Infrastructure	4000	5.7	0.0	5.7
Tailings Storage Facility	5000	20.8	16.0	36.8
Total Directs		**160.7**	**109.7**	**270.5**
Project Indirects	6000	10.3	2.9	13.1
Project Delivery	7000	22.1	6.6	28.8
Owner's Costs	8000	6.3	0.0	6.3
Provisions (Contingency)	9000	34.0	9.5	43.5
Total Indirect		**72.8**	**19.0**	**91.8**
Project Total		**233.5**	**128.7**	**362.2**

Note: Numbers may not add due to rounding

In addition to the above, closure costs were applied in Y9 to cover site remediation scope, to a value of $9.0M CAD.

1.14.2 Operating Cost Estimates

The operating cost estimate conforms to Class 5 guidelines for a preliminary economic assessment level estimate with a ±50% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International).

The operating cost estimate was developed in Q3 2022 using data from projects, studies, and previous operations from Ausenco's internal database. The LOM average unit operating cost is $35.36/t milled including an annual G&A cost of $13.8 M. Table 1-4 provides a summary of the operating costs for the Project.

Table 1-4: Operating Cost Estimates Summary

Cost Centre	LOM (C$M)	Annual Average Cost (C$M)	LOM Total/Avg. (C$/t Milled)	Average LOM (C$/oz)	OPEX (%)
Mining Cost	346.8	41.8	15.27	415.3	43%
Processing Cost	341.1	41.1	15.02	408.4	43%
G&A Cost	115.1	13.9	5.07	137.9	14%
Total Operating Costs	**803.0**	**96.8**	**35.36**	**961.6**	**100%**

Note: Numbers may not add due to rounding

1.15 Economic Analysis

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

The pre-tax NPV discounted at 5% is C$401 M; the IRR is 45.5%, and payback period is 1.4 years. On a post-tax basis, the NPV discounted at 5% is C$285 M, the IRR is 35.2%, and the payback period is 1.7 years. Cumulative post-tax unlevered free cash flow totals C$435 M. Tax calculations are based on the tax law in place as of the date of this report which included a 27% combined federal and provincial tax rate.

Readers are cautioned that the PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the PEA will be realized. This PEA is based on a subset of mineral resources comprising 98.6% at an Indicated classification and 1.4% at an Inferred classification.

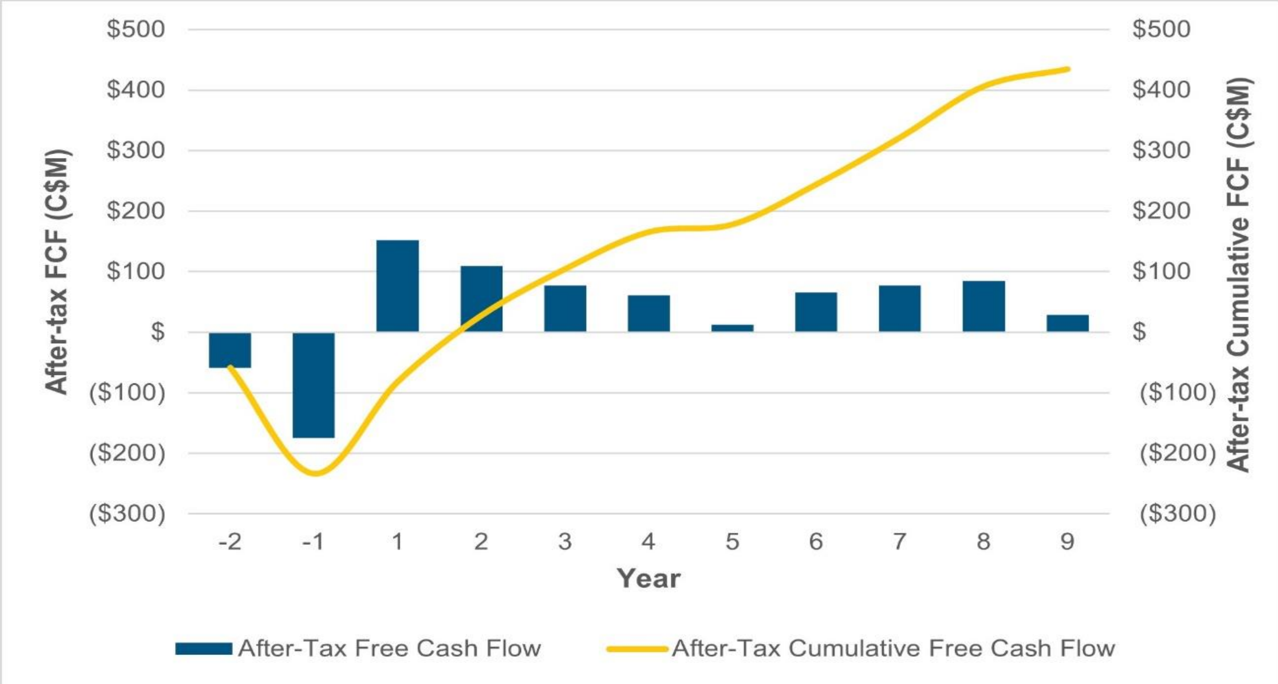
A summary of the project economics is listed in Table 1-5, and post-tax free cash flow is shown graphically in Figure 1-5.

Table 1-5: Economic Analysis Summary

Description	Unit	LOM Total/Avg.
General		
Gold Price	US$/oz	1,650
Exchange Rate	$US: $CAD	0.77
Mine Life	Years	8.3
Total Waste Tonnes Mined	kt	69,139
Total Mill Feed Tonnes	kt	22,708
Strip Ratio	waste tonnes:resource tonnes	3.0:1
Production		
Mill Head Grade	g/t	1.2
Mill Recovery Rate	%	95.3
Total Mill Ounces Recovered	koz	835
Total Average Annual Production	koz	101
Operating Costs		
Mining Cost	C$/t Mined	3.90
Mining Cost	C$/t Milled	15.27
Processing Cost	C$/t Milled	15.02
G&A Cost	C$/t Milled	5.07
Total Operating Costs	C$/t Milled	35.36
Refining & Transport Cost	C$/oz	5.00
Royalty NSR	%	2.0
Cash Costs	US$/oz Au	778
AISC	US$/oz Au	889
Capital Costs		
Initial Capital	C$M	233.5
Sustaining Capital	C$M	128.7
Closure Costs	C$M	9.0
Salvage Costs	C$M	18.0
Financials		
Pre-Tax NPV (5%)	C$M	401
Pre-Tax IRR	%	45.5
Pre-Tax Payback (Years)	Years	1.4
Post-Tax NPV (5%)	C$M	285
Post-Tax IRR	%	35.2
Post-Tax Payback (Years)	Years	1.7

* Cash costs consist of mining costs, processing costs, mine-level G&A and refining charges and royalties.
** AISC includes cash costs plus sustaining capital, closure cost and salvage value.
*** NSR of 2%. The additional Cominco royalty (Section 4.3) is not applicable since material below 50m is not mined

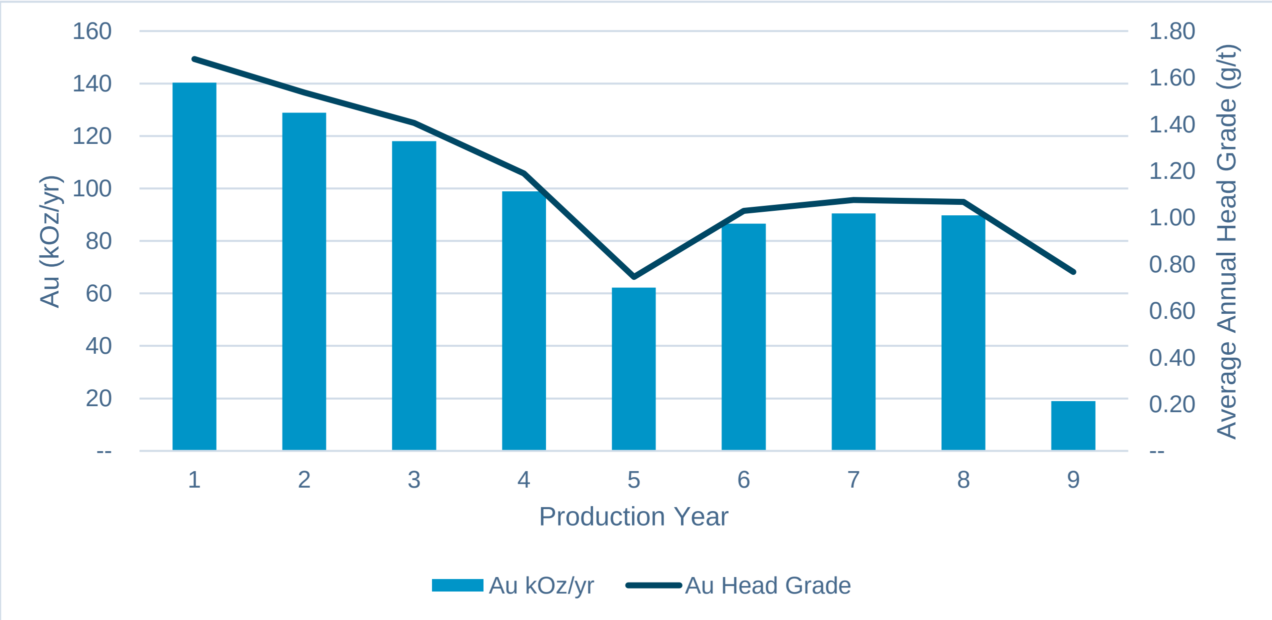
Figure 1-5: Post-Tax Project Unlevered Free Cash Flow



Note: Figure prepared by Ausenco, 2022.

The final product will be gold doré. Annual gold production is shown in Figure 1-6.

Figure 1-6: Goldfields Annual Gold Production and Head Grade Profile



Note: Figure prepared by Ausenco, 2022.

1.15.1 Sensitivity Analysis

A sensitivity analysis was conducted on the base case pre-tax and post-tax NPV and IRR of the Project, using the following variables: metal prices, discount rate, head grade, total operating cost, and total capital cost.

The sensitivity analysis revealed that the Project's NPV is most sensitive to changes in gold price and operating cost, whereas IRR is sensitive to gold price and initial capital cost. Table 1-6 summarizes the post-tax sensitivity analysis results.

Table 1-6: Post-Tax Sensitivity Summary

Post-Tax NPV (CAD $mm)						
	Base	**(20.0%)**	**(10.0%)**	**--**	**10.0%**	**20.0%**
Opex	$285	$ 371	$ 328	$ 285	$ 241	$ 198
Capex	$285	$ 345	$ 315	$ 285	$ 255	$ 224
Au Price	$285	$ 93	$ 189	$ 285	$ 381	$ 476
Post-Tax IRR (%)						
	Base	**(20.0%)**	**(10.0%)**	**--**	**10.0%**	**20.0%**
Opex	35.2%	42.3%	38.8%	35.2%	31.4%	27.4%
Capex	35.2%	49.6%	41.7%	35.2%	29.8%	25.2%
Au Price	35.2%	15.8%	25.9%	35.2%	43.8%	52.0%

1.15.2 Markets and Contracts

The QP is of the opinion that the marketing and commodity price information is suitable to be used in cashflow analysis to support this report.

1.16 Interpretations and Conclusions

The current total gold resource for Box and Athona stands at 979,900 ounces of gold in the indicated category (23.2 million tonnes at an average grade of 1.31 g/t gold) and 210,800 ounces of gold in the inferred category (7.1 million tonnes at an average grade of 0.92 g/t gold). The PEA provides a base case assessment for developing the Goldfields mineral resource by conventional open pit mining methods, and gold recovery with a standard free milling flowsheet, incorporating gravity and leaching of the gravity tails. The PEA is based upon a subset of the mineral resources which incorporates 98.6% of indicated mineral resources and 1.4% of inferred mineral resources.

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

Highlights of the PEA include:

- Post-tax NPV (discount rate 5%) of C$285M, IRR of 35.2% and payback of 1.7 years estimated with gold price of US$1,650/oz

- Average annual gold production of 101,000 oz over LOM, with an average of 122,000 ounces per year in the first 4 years
- 8.3 year LOM producing 835,000 oz of gold
- Average cash cost of US$778/oz and all-in sustaining cost of US$889/oz gold
- Initial capital expenditure of C$234M, including a contingency of C$34M
- Mill capacity of 7,500 t/d (2.7 Mt per annum) with average gold recovery of 95.3%
- Over 80% of mineable ounces coming from the Box deposit

The PEA supports a decision to carry out additional detailed studies.

1.17 Recommendations

The results presented in this technical report demonstrate that the Goldfields Project is technically and economically viable. It is recommended to continue developing the Project and Table 1-7 summarizes the proposed budget to advance the Project through the pre-feasibility stage.

Table 1-7: Proposed Budget Summary

Description	Cost (C$M)
Project Management	$150,000
Metallurgical Testing	$250,000
Mine Engineering	$200,000
Process and Infrastructure Engineering	$500,000
Geotechnical Studies	$1,000,000
Infrastructure	$840,000
Geochemical Assessment	$110,000
Water Management Studies	$100,000
Topography	$60,000
Total	**$3,210,000**

1.17.1 Geotechnical Studies for Pit Slopes and Sectors

- Targeted open pit geotechnical drilling using triple-tube HQ holes and televiewer with oriented cores:
  - Box deposit: 4 drillholes, approximately 800 m of drilling.
  - Athona deposit: 4 drillholes, approximately 800 m of drilling.
- Installation of vibrating wire piezometers in select holes.
- Laboratory testing for intact rock strength (unconfined compressive strength tests, point load tests, and indirect tensile strength tests) and for discontinuity strength (direct shear tests).
- Crown pillar analysis for open pit mining over historic underground openings. Specific stability assessments should be done where historical openings are planned to be located behind interim or final pit walls or below pit floor.

A budget of $1.0M is estimated for the above work programs and studies, including the cost of drilling.

1.17.2 Mine Engineering

The following recommendations are made with regards to advancing the mine engineering of the Goldfields Project to a Pre-Feasibility Study:

- Updates to designs of open pits, waste storage piles, stockpiles, and mine haul roads incorporating results from all other recommended work programs.
- Mine operational and cost trade-off studies examining contractor vs. owner equipment fleet, lease vs. purchase equipment fleet, cost comparisons of various equipment class sizes, and utilization of electrically driven mine equipment (including trolley systems for haulers) over diesel driven units.

A budget of $200,000 is estimated for mine engineering and trade-off studies.

1.17.3 Metallurgical Characterization

The metallurgical work outlined below is recommended for the next project phase and could be completed on a portion of the geotechnical drill core.

- Sample selection for future mining studies should reflect mineralization that would be treated throughout the mine life. Variability samples are required to understand the responses of the various mineralized zones.
  - Testwork to identify the gold deportment and association, mercury assay in feed.
- Additional comminution tests to further expand the comminution database is recommended to develop a robust comminution model and grinding circuit design. This will improve the future analysis of power requirements and equipment selection.
- An extended gravity-recoverable gold test should be conducted on a master composite sample to confirm the PEA flowsheet.
  - Further optimization testwork (Primary grind size, leach vs carbon in leach)
  - Additional metallurgical testwork to compare the flowsheets (Gravity-WOL vs Gravity-Flotation and/or Regrind-Leach) on an expanded dataset
  - Flotation flowsheet to include locked cycle tests.
- Cyanide destruction testwork

The estimated cost of work is $250,000.

1.17.4 Process and Infrastructure Engineering

The estimated cost for process and infrastructure engineering for the PFS is $500,000. Engineering deliverables would include:

- Process trade-off studies (comminution, cyanidation options and preconcentration studies)
- Flow diagrams (comminution, recovery processes, tails)
- Detailed equipment list
- Power listing and consumption estimate
- Architectural (building sizes) to estimate steel and concrete quantities

- Detailed material and water balance
- Detailed process design criteria
- GA and Elevation drawings (for crushing/overland conveying, comminution, leaching, recovery, reagents)
- Electrical single line drawing
- Equipment and supply quotations updated, and sources determined
- Estimate of equipment and materials freight quantities
- Capital cost estimate
- Operating cost estimate
- Major equipment spares and warehouse inventory cost estimate
- Construction manpower estimate
- Construction schedule

1.17.5 Infrastructure

The following activities are recommended to support infrastructure design for the PFS phase.

1.17.5.1 Sitewide Assessment and Tailings Storage Facility Studies

Due to the conceptual nature of this study and the paucity of information available at the time of writing, assumptions have been made regarding the layout, MTOs, and construction of the proposed TSF. Construction material geotechnical properties are required to perform slope stability analyses and other geotechnical assessments to confirm that the TSF can be built as designed. A tailings deposition plan will be required which may lead to the conceptual staging requiring adjustment to contain the given capacities.

Additional studies and data collection will be required to advance project development beyond the conceptual level. Some, but not necessarily all, of the current data gaps that would need to be addressed in future studies include the following:

- Geological and geotechnical site investigations and laboratory program should be carried out for infrastructure, Process plant, WRSF and TSF, including drilling and in-situ and laboratory testing, to understand subsurface soil and rock characteristics, construction material properties, and existing groundwater levels.
- Seepage analysis for the TSF needs to be investigated.
- Additional geotechnical testing of the anticipated tailings, waste rock, and other associated construction materials, (e.g., horizontal drain gravel and sand and candidate geomembranes) should be carried out.
- Hydrological information should be gathered from site-specific climate studies to detail ponds and channels.
- Hydrogeological information from desktop studies and site investigations should be gathered to better understand subsurface flow regimes
- A trade-off study between dry stacking of tailings vs conventional disposal of tailings.

As additional information is obtained, assumptions made in this study can be verified or updated to advance the Project to the next level of design. The cost of implementing the above recommendations is estimated at CAD $840,000.

1.17.5.2 Water Management

- It is recommended to complete a comprehensive wind and wave analysis for the Northern shores of Lake Athabasca, to assess wave run-up and risks of pit excavation activities.
- A detailed groundwater modelling is essential to a more accurate water balance calculation/modelling and should be completed during next phases of the study.
- Packer testing should be conducted to determine pit hydrogeology, hydraulic conductivity and refine pit water inflow estimates.
- Further hydrogeological and hydrological characterization are required in the pit areas.

The cost of carrying out the above work is estimated at CAD $100,000.

1.17.5.3 Geochemical Assessment

1. For proceeding to a PFS / FS-level study, the general level of effort required to establish the ARD/ML risk for a typical project would generally comprise:
   - Around 200 – 300 waste rock samples;
   - Six to 12 tailings samples (if composition different);
   - Six to 12 ore samples;
   - Several overburden samples;
   - Range of tests to include:
     - Elemental analysis;
     - Acid base accounting;
     - Shake flask extraction (short term leach);
     - Net acid generation (NAG) pH;
     - Mineralogy; and
     - Humidity cell testing (minimum 40 weeks)

The estimated cost for the recommended lab testwork is $80,000.

2. To better assess the ARD/ML risk from tailings, confirmation of the type of tailings streams (i.e. spiral / flotation / cyanidation) and the percentage ratios of each type that will be deposited in the tailings storage facility.
3. If available, the results of testing of historical mine wastes and site water quality data should be reviewed as this can provide useful supporting information to aid in assessing the existing geochemistry data.

The estimated cost of assessment is $30,000.

The total cost for geochemical assessment is $110,000.

1.17.5.4 Topography

A site wide LIDAR survey is recommended to define the site topography at higher accuracy. The current topography is based on SRTM which is sufficient for PEA, however, higher definition will be required in the PFS. The estimated cost for this task is $60,000.

2 INTRODUCTION

2.1 Introduction

Fortune Bay Corp. ("Fortune Bay" or the "Company") commissioned Ausenco Engineering Canada Inc. ("Ausenco") to compile a preliminary economic assessment ("PEA") of the Goldfields Project ("Goldfields" or the "Project"). The PEA was prepared in accordance with the Canadian disclosure requirements of National Instrument 43-101 ("NI 43-101") and in accordance with the requirements of Form 43-101 F1.

The responsibilities of the engineering companies who were contracted by Fortune Bay to prepare this report are as follows:

- Ausenco managed and coordinated the work related to the report and developed PEA-level design and cost estimates for the process plant, general site infrastructure, tailings storage facility, hydrology, hydrogeology, site water management and economic analysis.
- Moose Mountain Technical Services ("MMTS") designed the mine operations, mine production schedule, and mine capital and operating costs.
- SRK Consulting (Canada) Inc. ("SRK") developed the mineral resource estimate for the Project and completed the work related to property description, accessibility, local resources, geological setting, deposit type, exploration work, drilling, sample preparation and analysis, data verification and completed a review of the environmental studies and permitting aspects.

2.2 Terms of Reference

The report has been prepared in support of disclosures by Fortune Bay in a news release dated November 01, 2022, entitled, "Fortune Bay Announces Positive PEA for Goldfields Project, Saskatchewan: Average Annual Gold Production of 101 koz, After-tax $NPV_{5\%}$ of C$285M, and IRR of 35.2%"

All measurement units used in this Report are metric unless otherwise noted. Currency is expressed in Canadian (C) dollars (C$). The Report uses Canadian English.

Mineral Resources and Mineral Reserves are reported in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (May 2014; the 2014 CIM Definition Standards) and the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (November 2003; 2003 CIM Best Practice Guidelines).

2.3 Qualified Persons

The Qualified Persons for the report are listed in Table 2-1. By virtue of their education, experience and professional association membership, they are each considered a Qualified Person as defined by NI 43-101 and are considered to be independent of Fortune Bay for the purposes of Section 1.5 of NI 43-101.

Table 2-1: Report Contributors

Qualified Person	Professional Designation	Position	Employer	Independent of Fortune Bay	Report Section
Kevin Murray	P.Eng.	Manager, Process Engineering	Ausenco	Yes	1.1, 1.7, 1.10-1.12, 1.14-1.16, 1.17.3, 1.17.4, 1.17.5.3, 1.17.5.4, 2, 3.1, 3.3, 3.4, 13, 17, 18.1-18.3, 18.4.1-18.4.6, 19, 21.1, 21.2.1, 21.2.2, 21.2.4-21.2.8, 21.3.2, 21.3.3, 21.4.1, 21.4.2, 21.4.4, 21.4.5, 22, 24, 25.1, 25.2, 25.5, 25.6, 25.8-25.11, 25.12.1.1, 25.12.1.5 - 25.12.1.7, 25.12.1.10-25.12.1.12, 25.12.2.3, 25.12.2.4, 25.13, 26.1, 26.4, 26.5, 26.6.3, 26.6.4, and 27
Scott Elfen	P.E.	Global Lead Geotechnical Services	Ausenco	Yes	1.17.1, 1.17.5.1, 18.4.7, 25.12.1.2, 25.12.2.5, 26.2, and 26.6.1
Davood Hasanloo	P.Eng.	Director, Strategic Projects	Ausenco	Yes	1.17.5.2, 18.4.8, 25.12.1.8, and 26.6.2
Marc Schulte	P.Eng.	Mining Engineer	Moose Mountain Technical Services	Yes	1.9, 1.17.2, 15, 16, 21.2.3, 21.3.1, 21.4.3, 25.4, 25.12.1.3, 25.12.1.4, 25.12.2.2, and 26.3
Mark Liskowich	P. Geo	Associate Principal Consultant	SRK Consulting	Yes	1.13, 3.2, 20, 25.7, 25.12.1.9, and 25.12.2.7
Cliff Revering	P.Eng	Principal Consultant	SRK Consulting	Yes	1.2, 1.4-1.6, 1.8, 4 to 6, 9 to 12, 14, 23, 25.3, 25.12.2.1, and 25.12.2.6
Ron Uken	Pr.Sci.Nat	Principal Consultant	SRK Consulting	Yes	1.3, 7, and 8

2.4 Site Visits and Scope of Personal Inspection

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

Table 2-2: Summary of Qualified Persons

Qualified Person	Date of Site Visit	Days on Site
Kevin Murray	October 03 to 04, 2022	2
Scott Elfen	Has not visited Site	-
Davood Hasanloo	Has not visited Site	-
Marc Schulte	Has not visited Site	-
Mark Liskowich	July 05 to 06, 2014	2
Cliff Revering	September 21 to 25, 2020	4
Ron Uken	September 21 to 25, 2020	4

An Independent Qualified Persons (“QP”) site visit was conducted by Cliff Revering, P.Eng. (Mineral Resources) and Dr. Ron Uken, Pr.Sci.Nat. (Structural Geology) of SRK Consulting (Canada) Inc. (SRK) from 21 to 25 September, 2020. The primary focus of the site visit was to review surface outcrops and trenches located at the Box and Athona deposits, as well as to review drill core from both deposits to better understand the structural geology and geological controls on mineralization in preparation of a mineral resource estimate.

An Independent Qualified Persons (“QP”) site visit was conducted by Mark Liskowich of SRK Consulting (Canada) Inc. (SRK) from 05 to 06 July, 2014. The purpose of the visit was to inspect the existing environmental conditions of the site at the time of the inspection.

An Independent Qualified Persons (“QP”) site visit was also conducted by Kevin Murray of Ausenco Engineering from 03 October, 2022 to 04 October, 2022. The primary focus of the site visit was to review the site access, power supply options and understand the overall site conditions to ensure the proposed site layout is suitable for the project.

2.5 Effective Dates

This technical report has the following significant dates:

- Mineral Resource Statement: September 1, 2022.
- Financial analysis: October 31, 2022.

The effective date of this report is based on the date of the financial analysis, which is October 31, 2022.

2.6 Information Sources and References

2.6.1 General

Reports and documents listed in Section 3 and Section 27 of this Report were used to support preparation of the Report.

2.6.2 Previous Technical Reports

The Goldfields Project has been subject of previous technical reports, as listed below:

- "Technical Report: Resource Estimate for the Goldfields Project." Report prepared by SRK for Fortune Bay Corp. Effective Date: May 4, 2021.
- "9617337 Canada Limited (To be Renamed Fortune Bay Corp.) Goldfields Project National Instrument 43-101 Property Technical Report." Report prepared by Mercator Geological Services for 9617337 Canada Limited (Renamed Fortune Bay Corp.). Effective date: March 19, 2016.
- "NI 43-101 Technical Report Pre-Feasibility Study Fortune Bay Corp. Goldfields Project, Saskatchewan, Canada." Re-issued report prepared by March Consulting Associates Inc. for Fortune Bay Corp. Effective Date: October 6, 2011.
- "NI 43-101 Technical Report Pre-Feasibility Study Brigus Gold Corp. Goldfields Project, Saskatchewan, Canada." Report prepared by March Consulting Associates Inc. for Brigus Gold Corp. Effective Date: October 6, 2011.
- "Box Mine Goldfields Project Uranium City, Saskatchewan, Canada Technical Report Pursuant to National Instrument 43-101 of The Canadian Securities Administrators." Revision 2 of report prepared by Bikerman Engineering & Technology Associates, Inc. for Linear Gold Corp. Effective Date: June 29, 2007. Issue Date: September 24, 2009.
- "Athona Pit Pre-Feasibility Box Mine – Goldfields Project Uranium City, Saskatchewan, Canada Technical Report Pursuant to National Instrument 43-101 of The Canadian Securities Administrators." Report prepared by Bikerman Engineering & Technology Associates, Inc. for Linear Gold Corp. Effective Date: September 25, 2009.
- "Technical Report on the Athona Deposit, SK." Report prepared by Wardrop for GLR Resources Ltd. Effective Date: May 17, 2007.
- "Box Mine Goldfields Project Uranium City, Saskatchewan, Canada Technical Report Pursuant to National Instrument 43-101 of The Canadian Securities Administrators." Revision 1 of report prepared by Bikerman Engineering & Technology Associates, Inc. for GLR Resources Inc. Effective Date: June 29, 2007. Issue Date: May 12, 2008.
- "Mineral Estimation Report of the Box Mine Project for GLR Resources Inc. in the Beaverlodge Lake Area NTPS Map Sheet 74N-07 Northern Mining District, Saskatchewan, Canada" Report prepared by AMEC Americas Limited for GLR Resources Inc. Effective Date: December 21, 2005.
- "Technical Report on the Goldfields Property for GLR Resources Inc. in The Beaverlodge Lake Area NTPS Map Sheets 74N-06, 74N-07, 74N-08, 74N-09 and 74N-10 Northern Mining District Saskatchewan, Canada." Report prepared by K.A. Jensen & Associates Ltd. For GLR Resources. Effective Date: December 12, 2003.

2.7 Abbreviations and Acronyms

Table 2-3: Unit Abbreviations

Abbreviation	Description	Abbreviation	Description
%	percent	m	metre
°	Degree	m^3	cubed metre
C	centigrade	Mm^3	million cubed metres
C$	Canadian dollar	m^3/h	cubed metres per hour
cm	centimetre	mi	mile
cm^3	cubed centimetre	masl	metres above sea level
g/cm^3	grams per cubed centimetre	mg	milligram
g/t	grams per metric tonne	mm	millimetre
ft	foot/feet	min	minute
Ga	billion years ago	MW	megawatt
h	hour	oz	ounce
ha	hectare	ppm	parts per million
km	kilometre	ppb	parts per billion
kV	Kilovolt	t	metric tonne
M	million	t/d	metric tonne per day
Mt	million metric tonnes	ton	short ton (imperial)
µm	micron	US$	United States dollar

Table 2-4: Name Abbreviations and Acronyms

Abbreviation	Description	Abbreviation	Description
AACE	Association for the Advancement of Cost Engineering International	G&A	general and administrative
AAS	atomic absorption spectrometry	GPS	global positioning system
ALS	ALS Global Preparation Laboratory	GLR	GLR Resource Inc.
AMEC	AMEC Americas Limited	GME	general mine expense
AMG	Athona Mine Granite	ICP	inductively coupled plasma
Au	Gold	ICP-AES	inductively coupled plasma – atomic emission spectrometry
AWG	Athona West Granite	ICR	intensive cyanidation reactor
AWMG	Athona West Mine Granite	IDF	intensity-duration-frequency
AXR	AXR Resources Ltd.	ILR	inline leach reactor
BM	Block Model	IP	induced polarization
BMG	Box Mine Granite	IRR	internal rate of return
Brigus	Brigus Gold Corp.	Kasner	Kasner Group and Companies
BWi	Bond Work Index	LiDAR	laser imaging, detection and ranging
CALA	Canadian Association for lab Accreditation	LLDPE	linear low-density polyethylene
CDA	Canadian Dam Association	LOM	life-of-mine
CIL	carbon-in-leach	ML	Mineral Leases
CIM	Canadian Institute of Mining, Metallurgy and Petroleum	MMTS	Moose Mountain Technical Services
CIP	carbon-in-pulp	MOE	Ministry of Environment
CN	cyanide	MRE	Mineral Resource Estimate
CRM	certified reference material	MTO	material take off
CLEANS	Clean-up of Abandoned Northern Sites	NaCN	sodium cyanide
CYBE	Uranium City airport	NAG	net acid generation
DCF	discounted cash flow	NN	nearest-neighbour
DEM	digital elevation model	NNE	north northeast
DDH	diamond drill hole	NNW	north northwest
DGPS	differential global positioning system	NPV	net present value
DTH	down-the-hole	NSP	net smelter price
EA	Environmental Assessment	NSR	net smelter return
ECCC	Environment and Climate Change Canada	OTCQX	over-the-counter stock market
EIA	Environmental Impact Assessment	PEA	Preliminary Economic Assessment
EIS	Environmental Impact Statement	PFS	Prefeasibility Study
Eldor	Eldor Mines Ltd.	PGA	peak ground acceleration
EM	electromagnetic	PGM	platinum group metals
ENE	east northeast	PLS	pregnant leach solution
EPA	Environmental Protection Agency	PMF	probable maximum flood
EPCM	engineering, procurement and construction management	PPL	plane polarized light
FMG	Frontier Mine Granite	QA/QC	Quality Assurance/Quality Control
FOS	factors of safety	QP	Qualified Person

Abbreviation	Description	Abbreviation	Description
RC	reverse circulation	SW	southwest
RJK	RJK Mineral Corp.	Terrane	Terrane geoscience Inc.
ROM	run of mine	TMF	Tailings management Facility
RWi	Bond Rod Work Index	TSF	Tailings Storage Facility
SAG	semi-autogenous grinding	TSL	TSL Laboratories
SCS	Soil Conservation Service	TSX-V	TSX Venture Exchange
SG	specific gravity	UMA	UMA Engineering Inc.
SGS	SGS Canada	UTM	Universal Transverse Mercator
SMBS	sodium metabisulphite	WBS	work breakdown structure
SMC	SAG mill comminution	WNW	west northwest
SMDC	Saskatchewan Mining Development Corporation	WRA	waste rock analysis
SMDI	Saskatchewan Mining Deposit Index	WRD	waste rock dump
SRC	Saskatchewan Research Council	WRSF	Waste Rock Storage Facilities
SRK	SRK Consultants	WSA	Water Security Agency
SSE	south southeast	WSW	west southwest

3 RELIANCE ON OTHER EXPERTS

3.1 Introduction

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

3.2 Property Agreements, Mineral Tenure, Surface Rights and Royalties

The QPs have not independently reviewed ownership of the project area and any underlying property agreements, mineral tenure, surface rights, or royalties. The QPs have fully relied upon, and disclaim responsibility for, information derived from Fortune Bay and legal experts retained by Fortune Bay for this information through the following documents:

- Q3 2022 Goldfields Mineral Dispositions Summary Report prepared for Fortune Bay Corp. by Barbara Stehwein (P.Geo.), Land Consultant.
- Royalty Agreement between Greater Lenora Resources Corporation and Franco-Nevada Mining Corporation dated March 22, 1994.
- A Purchase and Royalty Agreement between Cominco Ltd. and Greater Lenora Resources Corporation dated March 16, 1994, 44 pages.

This information is used in Section 1.2, and Section 4 of the report. The information is also used in the economic analysis (Section 22).

3.3 Taxation

The QPs have fully relied upon, and disclaim responsibility for, information supplied by experts retained by Fortune Bay for information related to taxation as applied to the financial model, as received by email titled *Financial Model* from Fortune Bay on October 10, 2022. This information is used in the economic analysis (Section 22).

3.4 Markets

The QPs have fully relied upon, and disclaim responsibility for, information derived from Fortune Bay and experts retained by Fortune Bay for this information as received by email titled *Financial Model* from Fortune Bay on October 10, 2022.

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

4 PROPERTY DESCRIPTION AND LOCATION

4.1 Description

The Goldfields Gold Project currently consists of 12 mineral dispositions, owned 100% by 7153945 Canada Inc., a wholly owned subsidiary of Fortune Bay. The mineral dispositions were granted under the Saskatchewan Mineral Disposition Regulations, 1986, covering a total surface area of 5,031 ha and measuring approximately 12 km by 6 km in maximum east-west and north-south dimensions, respectively. These mineral dispositions (prefixed "S") grant exclusive rights to explore for Crown minerals. To retain these dispositions, the Saskatchewan Mineral Tenure Registry Regulations (MARS, 2019) specify minimum annual expenditures as follows:

- C$0 during the first assessment work period.
- C$15 per hectare per assessment work period from the second to tenth year, with a minimum of C$240 per claim per assessment work period.
- C$25 per hectare per assessment work period from the eleventh work assessment period onwards, with a minimum of C$400 per claim per assessment work period.

The previous Goldfields Technical Report (Revering et al., 2021) included additional dispositions as part of the Goldfields Project; these have been allocated to the 100% owned Murmac Uranium Project based on geological potential and are being actively explored for uranium by Fortune Bay. In addition, the previous technical report listed five mineral leases (prefixed "ML") within the Goldfields Project (ML4760 to ML4762, ML5522 and ML5523); these have been converted back to mineral claims (S-113337 to S-113341) as the expenditure commitments to maintain mineral leases are more onerous, and dispositions can be converted back to leases on request when necessary.

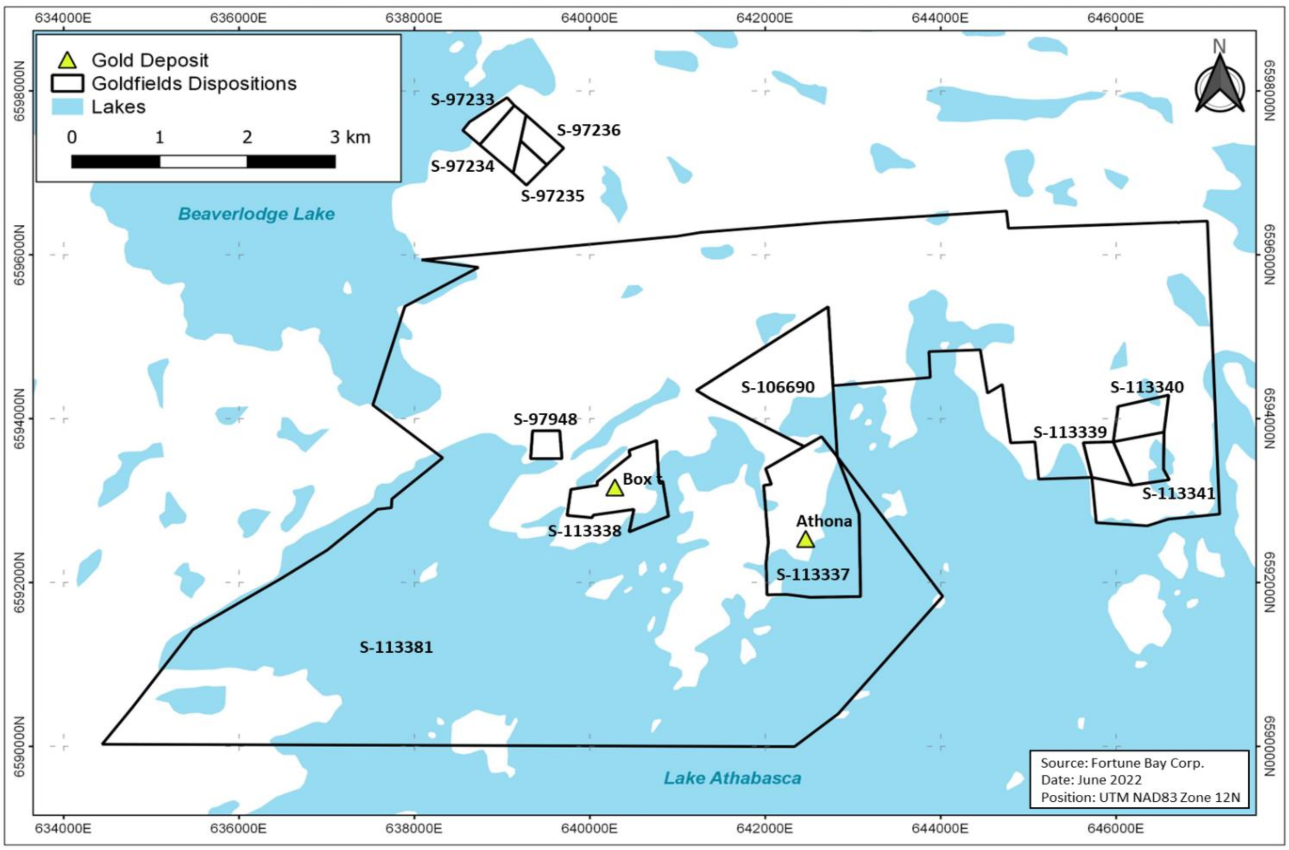
A list of the Goldfields mineral dispositions is provided in Table 4-1 and their locations are shown in Figure 4-1. All dispositions are currently in good standing. The assessment work prior to 2021 pertaining to these dispositions has been reported to, and accepted by, the Saskatchewan Ministry of Energy and Resources. Assessment reports for work conducted by Fortune Bay during 2021 and 2022 will be submitted to the Saskatchewan Ministry of Energy and Resources so that expenditure can be applied as assessment credits to the claims.

Table 4-1: List of Goldfields Mineral Dispositions, as of July 31, 2022.

Claim	Hectares	Annual Assessment (C$)	Effective Date	Expiry Date
S- 97233	16	$ 400	August 8, 1979	November 5, 2025
S- 97234	16	$ 400	August 8, 1979	November 5, 2026
S- 97235	16	$ 400	September 24, 1979	December 22, 2025
S- 97236	16	$ 400	September 24, 1979	December 22, 2025
S- 97948	16	$ 400	November 16, 1982	February 13, 2030
S-106690	146	$ 3,650	February 22, 2001	May 22, 2030
S-113337	177	$ 4,428	August 23, 2002	November 20, 2060

Claim	Hectares	Annual Assessment (C$)	Effective Date	Expiry Date
S-113338	66	$ 1,655	July 22, 2002	October 19, 2070
S-113339	18	$ 462	September 19, 2005	December 17, 2048
S-113340	25	$ 620	September 19, 2005	December 17, 2038
S-113341	28	$ 690	September 18, 2005	December 16, 2040
S-113381	4491	$ 112,274	December 21, 1977	January 19, 2029
Totals	**5031**	**$ 125,778**		

Figure 4-1: Goldfields Mineral Disposition Map

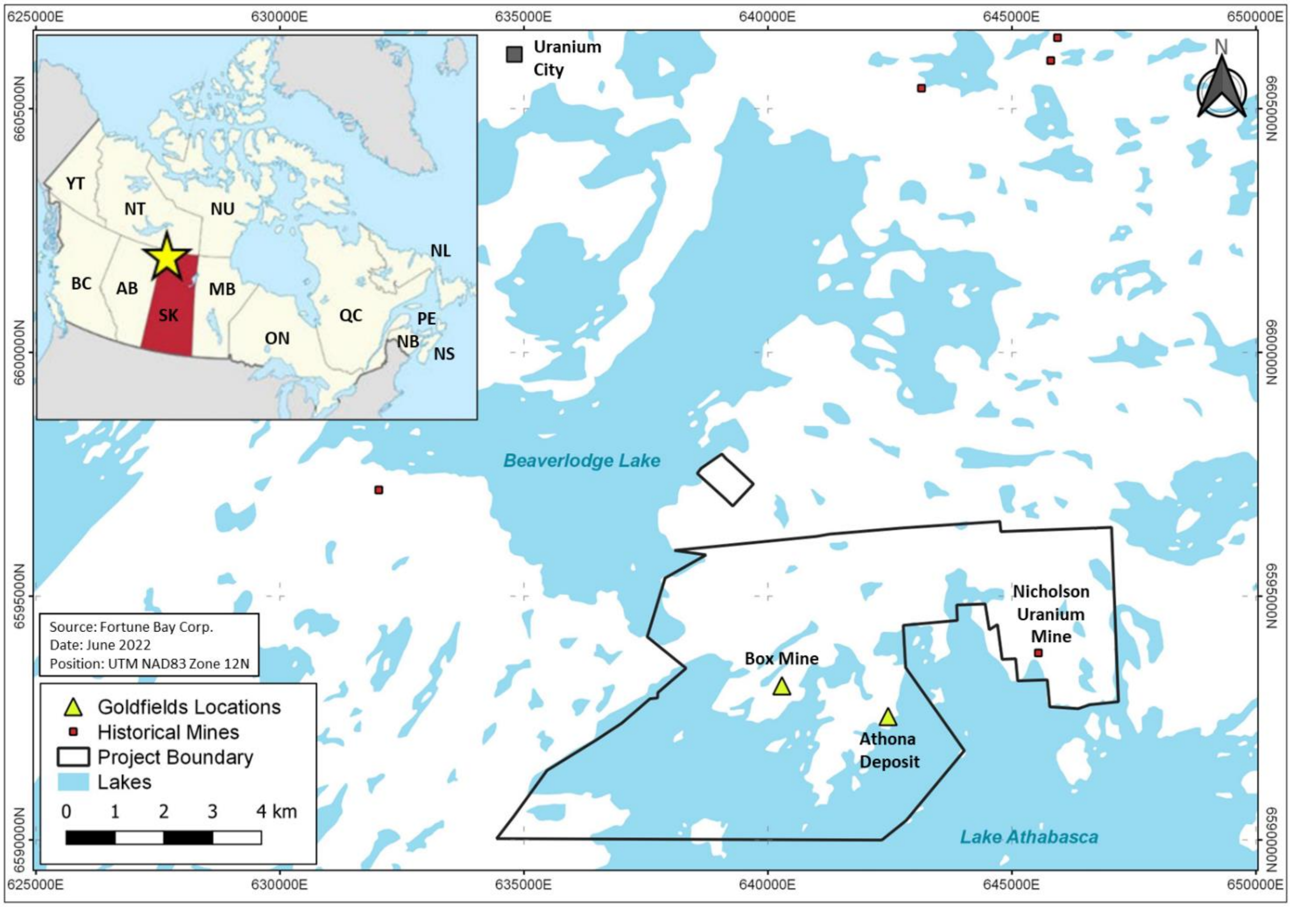


Source: Fortune Bay Corp., 2022

4.2 Location

The Goldfields Project is located 13 km south-southeast of the town of Uranium City, Saskatchewan and is centered at approximately 59° 27' North Latitude and, 108° 31' West Longitude. The Project is approximately 850 km north of Saskatoon and 60 km south of the border with the Northwest Territories, located within NTS 1:50,000 map sheet 74N07. The Project location is shown in Figure 4-2.

Figure 4-2: Goldfields Project Location Map.



Source: Fortune Bay Corp., 2022

4.3 Agreements and Encumbrances

Franco-Nevada Mining Corporation Limited ("Franco-Nevada") holds a 2% net smelter return ("NSR") royalty on the following mining leases / dispositions, and in the area within 10 miles (16 km) of their external boundaries:

- Box Mine mineral disposition (S-113338).
- Athona mining lease (S-113337).
- Nicholson prospect (dispositions S-113339, S-113340 and S-113341).

Franco-Nevada has the option to acquire an additional 1% NSR royalty for consideration of CAD$1.5 million, payable within 90 days upon completion of a bankable feasibility study. At this time there is no certainty this option will be exercised. Cominco Ltd. holds a 1.5% NSR royalty for the Box deposit (limited to the area of S-113338) on all production derived from beneath the 50 metres below mean sea level elevation (~300 m below surface). None of the mineral resources considered in this study are derived from below that depth.

The locations of all mining leases and historical dispositions subject to NSR royalties were shown in Figure 4-1.

4.4 Environmental Considerations

The Saskatchewan Government initiated reclamation work in the Uranium City area (including the Project area) using federal funding provided to the Saskatchewan Research Council ("SRC"), a provincial crown corporation that manages Project Cleanup of Abandoned Northern Sites ("CLEANS"). Project CLEANS is a multi-year, multimillion-dollar project aimed at assessing and reclaiming 37 mine sites in Northern Saskatchewan.

The Goldfields Project contains at least five mineral deposits or occurrences that reached significant underground exploration stages and two that reached the stage of mine development and production. The Box gold mine was in production from 1939 to 1942.

Modifications to the natural landscapes were made during the Box and Athona exploration and mining activities to accommodate site infrastructure for mining and milling purposes and for waste rock / tailings storage. Remaining infrastructure (both staff housing and mine infrastructure) is in varying states of disrepair and is undergoing natural re-vegetation. The most prominent infrastructure is the steel frame of the Box Mine Number 2 Shaft headframe and mill. Metal and concrete debris is dispersed across the Box Mine and Athona deposit sites. Current safety concerns within the Goldfields Project are limited to mine openings and potential collapse of structures, however the Project is not routinely accessed by the public and historical shafts and adits have been backfilled and / or fenced off as part of the ongoing Project CLEANS. The Company also routinely inspects the mine openings to ensure they do not pose any safety risks during active exploration programs.

Potential remaining environmental concerns will be associated with remediation of on-land tailings, submerged tailings, mill site and waste rock, closure of underground openings to current industry standards and site clean-up / demolition and disposal of infrastructure and debris. Liability for environmental issues related to historical mining activities is not associated with current mineral dispositions owned by Fortune Bay, however any remaining issues are expected to be addressed during potential future mine development.

The Box Mine was included in an Environmental Impact Statement ("EIS") prepared by UMA Engineering Ltd. on behalf of GLR in 2007, referenced in this report as UMA (2007). This document proposed an open pit mining and mill development with a 5,000 tonnes per day capacity based on resources/reserves of the Box Mine as defined by a 2007 Feasibility Study reported by Bikerman et al. (2007). The EIS proposed that remediation measures be implemented during mine site development, and the clean-up / mitigation of legacy issues where not yet addressed by CLEANS. The Saskatchewan Ministry of Environment ("MOE") subsequently approved the proposed open pit mining project on May 28, 2008. Site liabilities existing at the time of 2007 reporting were addressed in the EIS and have not been addressed further by Fortune Bay, apart from routine inspection and maintenance of mine openings from a safety perspective.

At the time of reporting there are no environmental considerations known to the Company that would impact its ability to carry out exploration and development in the project area.

4.5 Permitting

4.5.1 Current Permits

The Company held the required permits to conduct the work carried out during 2022, which included ongoing exploration work. The Company was issued a drill permit (up to 122 land, ice, and shore diamond drill holes) on 1 March 2021 by the Saskatchewan Ministry of Environment. This permit was reissued on 21 April 2021 with a revised expiry date of 31 October 2022. Authorizations included with this permit were Crown Land Work

Authorization 20-15-00009A, Aquatic Habitat Protection Permit 20 15-00009A, and Forest Product Permit 001969.

4.5.2 Development Permit

The Box open pit mine and mill development received Provincial Ministerial approval to proceed under the Environmental Assessment Act on May 29, 2008 following submission of an Environmental Impact Statement ("EIS") by previous owner GLR Resources Inc. ("GLR"). The EIS was based upon the development as contemplated in the Feasibility Study for the Box Deposit (Bikerman, 2007) and included a mill capacity of 5,000 tonnes per day. The approved EIS dated May 29, 2008 is currently valid.

Significant changes (from the permitted development plan) that are included in this PEA include:

- Incorporation of Athona into the mine plan.
- Changes to the gold recovery process within the processing plant which results in higher gold recovery and an increase in the volume of tailings generated. The historical design included concentration of ore through flotation, with subsequent gold recovery from a substantially reduced volume of concentrate, the tailings from which would be deposited into Vic Lake, which due to previous contamination from tailings (1939 to 1942 mining and milling) could be used as a Tailings Storage Facility ("TSF"). The current process recommended in this PEA is for whole-ore leaching (Section 17), which will generate a larger volume of tailings that cannot be accommodated by Vic Lake. An alternative TSF has therefore been designed, as per Section 18.
- Modification to the location and scope of the waste rock storage facility, as per the design presented in Section 18.
- Increase in the processing plant capacity from 5,000 to 7,500 tonnes per day (Section 17) to improve and optimize the project economics.

These changes in scope from that approved in the 2008 Ministerial Approval will be addressed with the Impact Assessment Agency of Canada and with the Saskatchewan Ministry of Environment when the Project is moved to a Pre-Feasibility Study, as this is beyond the scope of work required for a PEA. This will require updating of baseline environmental data from that used in the 2008 approval and extending environmental survey coverage into any additional areas incorporated into the updated project footprint. The two scenarios under which the development permit may be progressed are (1) update of the existing approval through an application to amend, under Section 16 of the Saskatchewan Environmental Assessment Act, or (2) completion of a new environmental assessment under federal and provincial legislation.

A Surface Lease Agreement between Fortune Bay and the Government of Saskatchewan, (as the owner of the Lease Lands under the authority of The Forest Resources Management Act and The Provincial Lands Act) will be required to accommodate any potential site development. This agreement would establish terms of land tenure, environmental protections, occupational health and safety, and benefits for Northern Saskatchewan communities.

In addition to the permits and approvals listed in Chapter 20 the following permits will be required for the construction and development of a mine at Goldfields would include:

- A permit for construction of a barge landing (Department of Fisheries and Oceans Canada, Transport Canada, and Saskatchewan Ministry of Environment).
- Water Usage Permit (Saskatchewan Water Corp., Department of Fisheries and Oceans Canada, and Saskatchewan Ministry of Environment).

- Authorizations under the Fisheries Act for activities which may impact fisheries and/or fish habitat (Department of Fisheries and Oceans Canada).
- Logging Permit (Saskatchewan Ministry of Environment).
- Permit for winter roadway construction should the Fort Chipewyan to Uranium City route be required (Saskatchewan Ministry of Environment, Saskatchewan Department of Highways and Transportation).
- Permit to construct a Pollutant Control Facility (Saskatchewan Ministry of Environment).

4.5.3 Duty to Consult

The provincial government's First Nation and Métis Consultation Policy Framework sets out government's commitment to fulfilling its legal duty to consult and accommodate First Nation and Métis communities in advance of decisions or actions that have the potential to adversely impact the exercise of: 1) Treaty and Aboriginal rights such as the right to hunt, fish and trap for food on unoccupied Crown land and other land to which a community has a right-of-access for these purposes; and 2) traditional uses of land and resources such as the gathering of plants for food and medicinal purposes and carrying out ceremonial and spiritual observances and practices on unoccupied Crown land and other land to which a community has a right of access for these purposes. In this regard, the provincial government carries out its duty to consult prior to the granting of permits for exploration or project development work activities. Government encourages companies to engage First Nation and Métis communities early in the project development process.

4.5.4 Other Factors

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

5 ACESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

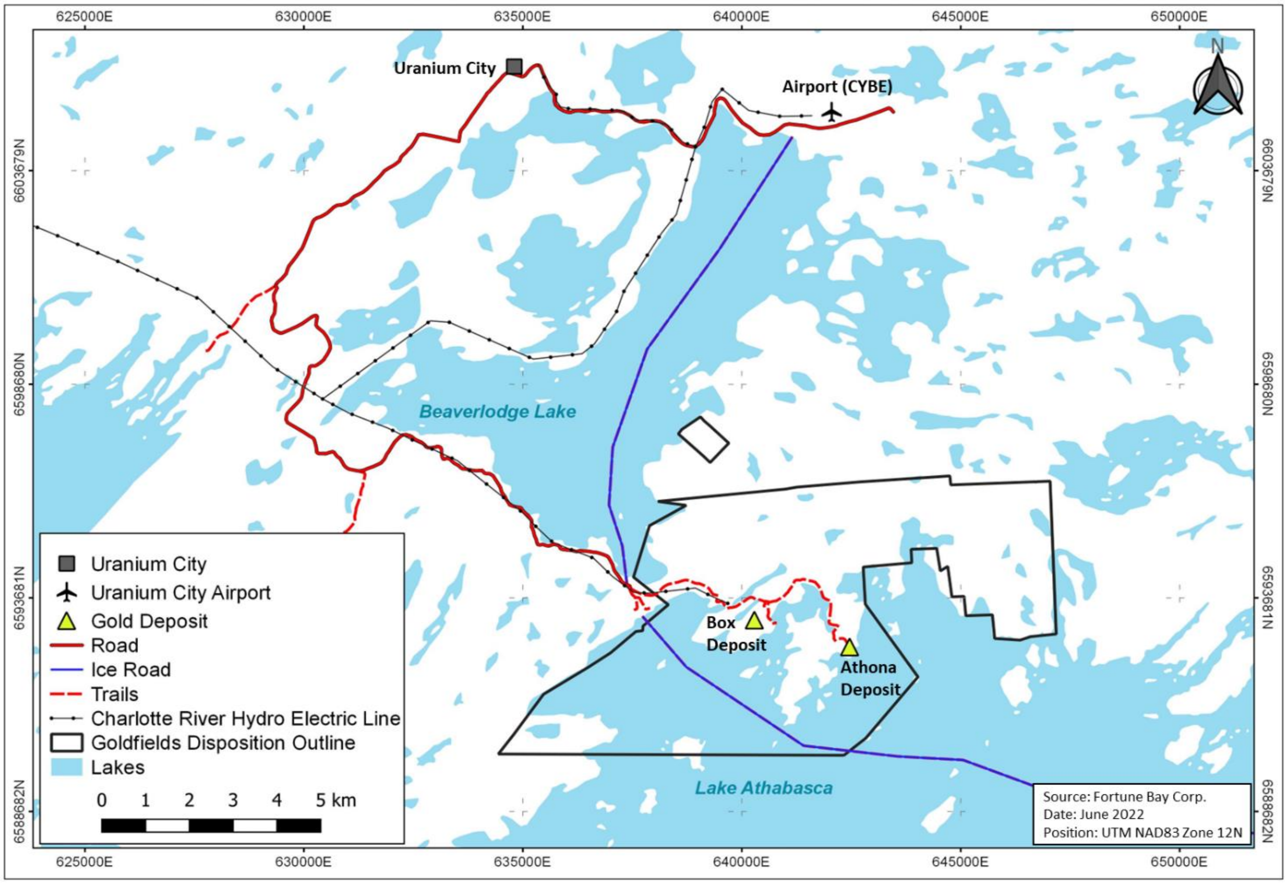
5.1 Accessibility

Goldfields is located approximately 13 km south-southeast of the town of Uranium City in Northern Saskatchewan. The Project is accessible by vehicle via the partially maintained gravel Highway 962 from Uranium City and subsequent historical trails to the Box and Athona deposits. The total distance by road to Box is approximately 25 km. Between Box and Athona the trails are currently overgrown and require minor clearing to be accessible. Secondary road networks were developed during historical mining activities and were partially cleared and utilized for access during more recent drilling between 2004 and 2011. Now partially vegetated, these trails provide good walking access across the Box and Athona locations and can be rehabilitated as trails with minor clearing to create vehicle access for exploration and development activities.

The Box and Athona deposits are located on the northern shore of Lake Athabasca and are accessible by boat or barge in the summer months. The Project also directly overlies the seasonal winter ice road that crosses Lake Athabasca between Uranium City and Stony Rapids. Depending on seasonable temperatures, this road is typically open for six weeks between February and March, connecting Uranium City to the regional road network in Saskatchewan including major centers such as Saskatoon and Regina.

Typically, scheduled commercial flights are available to Uranium City three or four times per week from Saskatoon, which also provide connections to other northern communities in Saskatchewan. Flights to Uranium City can also be arranged on an on-demand basis through several charter companies, operating mainly from Saskatoon or Fort McMurray. Major road and trail routes at Goldfields are shown in Figure 5-1.

Figure 5-1: Goldfields Project Access and Infrastructure.



Source: Fortune Bay Corp., 2022

5.2 Climate and Operational Period

Goldfields is located at a latitude of approximately 59.5 degrees north. This falls within the Northwestern Forest climate region as defined by Environment Canada, a subarctic climate zone with high seasonal temperature variation. Average daily temperatures vary from approximately -27° C in January to 16° C in July. Extreme minimum and maximum temperatures can reach -50° in winter and 35° C in summer. Average yearly precipitation is 362 mm, peaking in the summer months of June and July. Average snow depth reaches a typical maximum of 50 cm in March, with average yearly total snowfall of 215 cm.

Operational periods at Goldfields conform to those typical of northern Canadian conditions. Summer conditions typically span the period June to October, with "shoulder" freeze and thaw periods separating the summer window from the main winter season between December and April. There are other mines which currently operate in northern Saskatchewan, including SSR Mining's Seabee gold mine, and Cameco Corp's Cigar Lake and McArthur River uranium mines. These mines operate 365 days per year with personnel flown into site on a rotational basis. A mine at Goldfields would operate on a similar basis.

5.3 Local Resources and Infrastructure

Uranium City was a major regional center established to service uranium mines that developed during the mining boom of the 1940's and 1950's. In 1982, Uranium City's population peaked at 5,000 people but with the mine closures culminating in 1983 the population has now declined to less than 100 permanent residents. Uranium City is a functioning Municipality with 91 current residents according to the Government of Saskatchewan.

Uranium City is serviced by the Uranium City Airport ("CYBE"), an approximate 10-minute drive seven kilometres east of the town. The airport is located at an elevation of 312 m. The runway is 1,200 m long by 30 m wide and consists of treated gravel, providing good access for a range of large aircraft.

Gasoline, diesel, and aviation fuel are available from a bulk fuel provider in Uranium City. There is no conventional hotel-style accommodation currently available in town, however local operators do provide limited catered accommodation and houses can be rented for short- or long-term use. A small grocery store operates in town, but most supplies are sourced from Saskatoon, Stony Rapids or Fort McMurray. A medical facility with a full-time stationed nurse is maintained in Uranium City.

Stony Rapids is located 150 km east of Uranium City and is the logistics/business hub for northern Saskatchewan. In the summer months a barge service operates between Uranium City and Stony Rapids, which is directly accessible all year by vehicle from Saskatoon via Highway 905.

Electrical power for Uranium City and the region (115 kV transmission grid) is supplied from hydroelectric stations operated by SaskPower (Charlot River 10 MW, Waterloo 8 MW and Wellington 5 MW), Saskatchewan's provincial power authority. A branch of this electrical power line runs directly to the historical Box Mine site, although this line is not currently active or maintained. The Fredette River water treatment plant provides municipal water for the community of Uranium City.

Saskatchewan's existing mining industry workforce is largely focused on uranium, potash and gold operations, and would provide a skilled worker pool to support any future mine development at Goldfields. Many mine workers are based in local communities within northern Saskatchewan.

Goldfields overlies brownfield and wilderness land owned by the province of Saskatchewan, referred to as "Crown Land". Subject to the typical regulatory permitting processes, including the Government fulfilling its duty to consult with local communities, there are no surface right issues that would impact on Fortune Bay's ability to access the Project for exploration and project development activities. The Box and Athona deposit sites and surrounding areas contain suitable areas for development of mine infrastructure.

5.4 Physiography

Goldfields is located on the northern shore of Lake Athabasca in northern Saskatchewan. Topography within the project area varies from an average lake surface elevation of 213 masl to a maximum of 420 masl at Beaverlodge Mountain. Elongated ridges, valleys and smaller lakes trend NE-SW, reflecting the orientation of regional folding of Precambrian Shield rocks that underlie most of the Project.

Rivers, lake discharge channels and alluvial fans within the Beaverlodge Lake area are oriented in a southwesterly direction following the elongated hills and ridges. Glacial till thicknesses vary from only a few centimetres on ridges to over 6 m thick in low lying areas. Bogs developed in valley lows are composed of humus and peat layers that measure a few metres to several tens of metres in thickness. Trees comprise abundant black spruce and jack pine and sporadic, clustered stands of birch and poplar.

6 HISTORY

Gold was first discovered at the Box Mine in 1934. During the period 1934 to 1942 the Box and Athona deposits were explored and delineated with surface and underground drilling, and underground development work that culminated in the mining of the Box deposit to produce an estimated 64,000 oz of gold from 1.29 million tonnes at a grade of 1.54 g/t.

Following cessation of early (1934 to 1942) gold mining / development, exploration in the Goldfields area shifted focus from gold to uranium following the Beaverlodge uranium discoveries in the 1940's. Uranium-focused exploration (airborne radiometric, ground geophysics, mapping, and drilling) was carried out until the late 1980's. Additional phases of delineation drilling in support of gold resource estimation were carried out at Box and Athona during the period 1988 to 2011, at which point almost 750 surface and underground delineation drill holes had been completed with a gold assay database including over 35,000 results. Evaluation work has included several historical mineral resource estimates and mining studies, most recently the 2011 Pre-Feasibility Study that demonstrated positive outcomes for an open pit mining operation with a 13-year mine life. An updated mineral resource estimate in 2021 (Revering et al., 2021) remodelled the gold content of the Box and Athona deposits using structural controls to more accurately represent the nature and content of the gold present. The 2021 mineral resource estimate is now historical, being superseded by the estimates presented in this report (Section 14) that include new drill results from 2021 (Section 10).

In addition to the Box and Athona deposits, other gold showings have been identified on the Project and have been explored as summarized in the sections below. Summaries of historical mining activities are provided in the sections below. Descriptions of mining activities are limited to gold mining / development at the Box and Athona deposits, and at the Frontier Lake showing, as gold is the focus of this report. The summaries provided below have been extracted and summarized from previous NI 43-101 Technical Reports (Yule et al., 2016 and Lusby et al., 2011) and have been updated with information from a 2015 assessment report by Mercator Geological Services (Barresi and Yule, 2015).

6.1 Ownership

Gold was first discovered at Goldfields in 1934. The Box Mine was operated by Consolidated Mining and Smelting of Canada Ltd. ("Cominco") from 1939 until 1942. The Athona deposit was evaluated during the period 1935 to 1939 by Athona Mines Ltd., created through a merger between two companies (Great Bear Lake Mines Ltd. and Greenlee Mines Ltd.) holding adjacent mineral disposition claims.

In 1987, Lenora Exploration Ltd. and Mary Ellen Resources Ltd. jointly optioned the Box and Athona gold deposits and commenced work to evaluate them as potential open pit operations. Mary Ellen Resources Ltd., Lenora Exploration Ltd. and AXR Resources Ltd. merged in December of 1988 to form Greater Lenora Resources Corp., which later became known as GLR Resources Inc. ("GLR"). Between 1987 and 1989, GLR, RJK Mineral Corp. ("RJK") and Uranium City Resources Inc. operated under the umbrella company known as the Kasner Group of Companies ("Kasner"), a Canadian junior mining sector company focusing on projects from Ontario to British Columbia. In May of 2009, Linear Gold Corp. ("Linear") acquired the Box and Athona properties through its subsidiary 7153945 Canada Limited, which currently holds a 100% ownership interest in the mineral dispositions covering the Project area. In June of 2010, a merger between Linear and Apollo Gold Corp. formed Brigus Gold Corp. ("Brigus"). In December 2013 Brigus was acquired by Primero Mining Corp. and the Goldfields Project spun out into Fortune Bay Corp.

In June 2016, Fortune Bay Corp. completed a transaction pursuant to which it acquired 100% of the issued and outstanding shares of Ireland based software developer Kneat Solutions Limited. The corporation subsequently changed its name to "kneat.com, inc." and listed on the TSX-V with the trading symbol KSI. As part of the transaction, Fortune Bay Corp. spun-out its gold resource properties by way of a court-approved plan of arrangement in Ontario and formed a new gold-focused corporation to hold the Goldfields Project and the Ixhuatán Project (Mexico) which changed its name to Fortune Bay Corp. The new Fortune Bay Corp., the second company to have this name, currently trades on the TSX-V with the symbol FOR, in Frankfurt under the symbol 5QN, and on the OTCQX under the symbol FTBYF.

The summary above provides the ownership history of the Box and Athona deposits, as the focus of this report. The larger area encompassed by the Goldfields Project has additional historical ownership legacy related to uranium exploration and other known gold showings, such as operation of the Nicholson Uranium Mine from 1955 to 1959 by Consolidated Nicholson Mines Ltd. and subsequent exploration in this area by Eldor Resources, a wholly owned subsidiary of the federal crown corporation Eldorado Nuclear. The Frontier Lake and Quartzite Ridge gold showings were explored by Saskatchewan Mining Development Corporation (“SMDC”) in the 1980’s. A summary of additional gold-oriented historical exploration activities related to the Goldfields Project is provided in Section 6.5. Historical uranium mining activities and related exploration are not relevant to this report.

6.2 Historical Mining Activities – Box Mine

This summary of historical activities at the Box Mine is based on the Saskatchewan Geological Survey Open File Report 84-1 by W. Coombe of Coombe Geoconsultants Ltd. (Coombe, 1984), as well as an internal company report prepared in 1980 by R.J. Nicholson, Project Geologist for Western District, Cominco Ltd. (Nicholson, 1980).

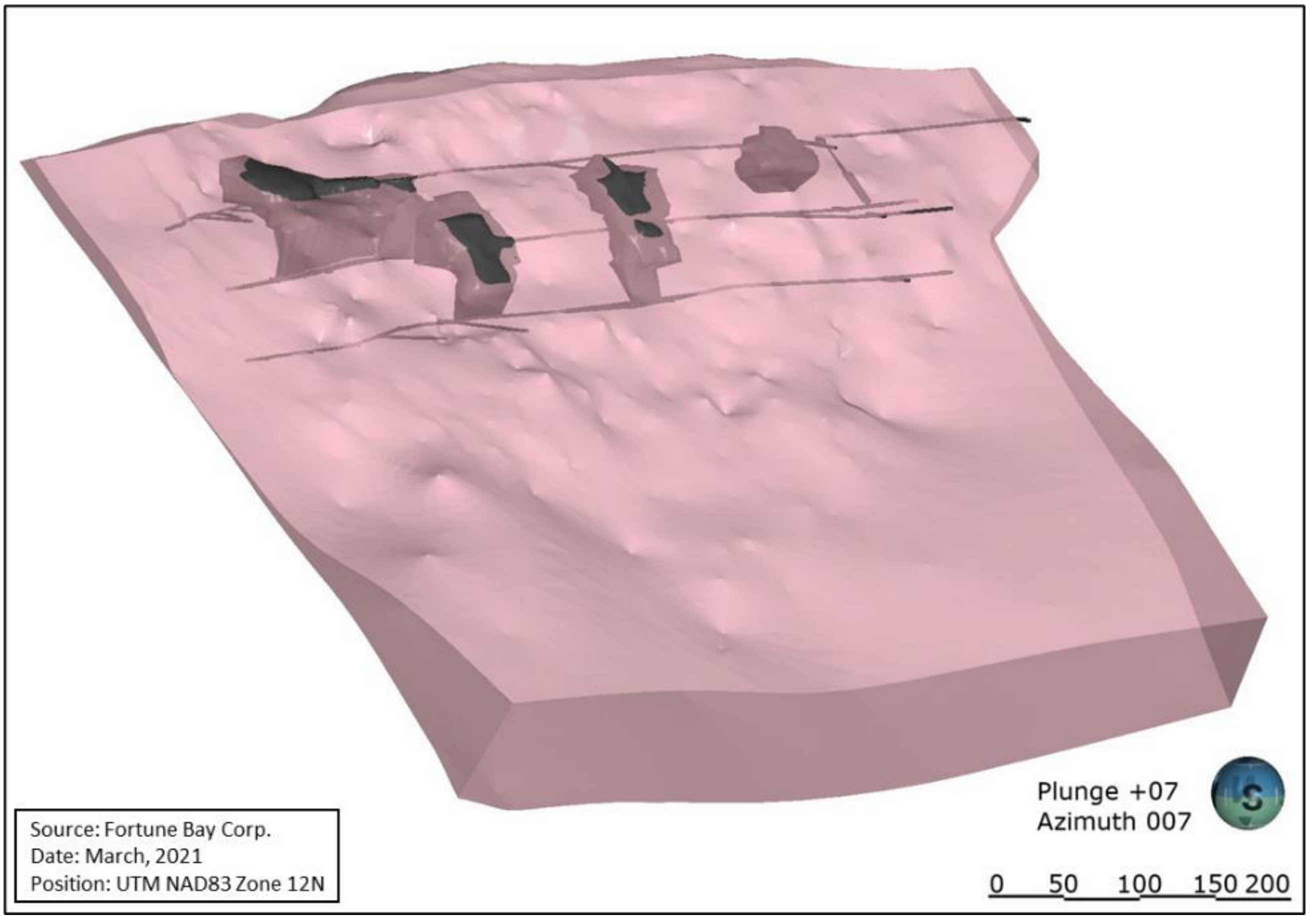
The Box gold deposit was discovered by Tom Box and Gus Nyman in August 1934, and Cominco subsequently acquired the discovery by staking claims Vic 1 to Vic 17. Grades returned from early delineation drilling supported the sinking of two underground shafts and the development of three drift levels near the footwall contact of the deposit in 1935. Horizontally oriented underground core drilling was carried out to intersect gold-bearing quartz veins and crosscuts were driven at each shaft station and along certain underground drill holes to check analytical results. Stope and mill development continued during the period 1936 to 1938 based on the results of this early work. Additional underground drilling was carried out to further refine the resource estimates, a hydro-electric power source was established, and the town of Goldfields was incorporated.

Additional drifting and cross-cutting completed by early 1939, in conjunction with previous delineation work, resulted in the classification of a large tonnage, low grade gold deposit at Box. Production from underground operations began in June 1939 at 450 tonnes per day (t/d), with capacity ramping up to a maximum of 1,100 t/d in 1940.

The Box Mine closed in 1942 citing labor shortages due to the onset of World War II. Production reports vary, with Coome (1984) and Nicholson (1980) indicating total production figures of between 64,000 and 68,000 oz of gold from 1.29 million tonnes at grades of between 1.54 and 1.64 g/t. Production grades never achieved early estimates that in 1938 were as high as 4.73 g/t (Coombe, 1984) but by 1942 were reduced to 1.71 g/t (Nicholson, 1980). This is likely not related to plant recovery efficiency, as while the exact process recovery remains uncertain (reports vary from 92 to 96%) it is not enough to explain the discrepancy, which is more likely related to issues with the early resource estimation methodology and the presence of coarse gold.

Three dimensional models of the mined-out areas at Box were created by Mintec in 1991 during an early resource estimate (Arik, 1991). A total of 29 north/south (mine grid) oriented cross section maps, typically spaced at 25 m, were used to digitize the outlines of the mined stopes and create models of these volumes. The underground drift and crosscut outlines (at depths of 61, 49 and 37 m, as digitized from these sections) were applied a 2 m surrounding volume to create three dimensional models by AMEC in 2006. The total volume of these model solids is 501,042 m^3. Using an average bulk density of 2.64 g/t (as used for the mineral resource estimate, Section 14) the models contained a tonnage of 1.32 Mt, which corresponds well with historical records of mined tonnage (1.29 Mt). The three-dimensional models of the mined-out volumes and underground drifts / crosscuts are shown in Figure 6-1. These volumes were used to adjust the (total in-situ) mineral resources estimated in Section 14 for historically mined material. Shaft models have not been created as these predominantly fall outside of the mineralized volume.

Figure 6-1: Three-Dimensional Model of Historical Box Mine Underground Workings (Black) Within the Box Mine Granite Model Volume (Pink).



Source: Fortune Bay Corp., 2021

6.3 Historical Mining Activities – Athona Deposit

The Lucky-Willy group of 14 claims at Athona were staked between 1934 and 1935 for Great Bear Lake Mines Ltd., which subsequently changed its name to Athona Mines Ltd. in 1937 when it acquired additional adjacent properties (Greenlee Mines Ltd.) to the south.

Work between 1935 and 1938 consisted of trenching, diamond drilling, shaft sinking and lateral drift development. Bulk sampling of the Athona mineralized zones was achieved by construction of a 14 t/d pilot mill. Operations at the Athona deposit were discontinued in 1939 as no arrangements had been made with Cominco for treatment of ore on a custom basis, and no satisfactory source of power was available for operation of a mill (Coombe, 1984).

While test milling and underground development (shafts and drifts) was carried out, the Athona deposit never went into commercial production. No reliable three-dimensional models of underground workings at Athona have been created as the volume of material removed is limited. The mineral resources presented in Section 14 have therefore not been corrected for material extracted during exploration.

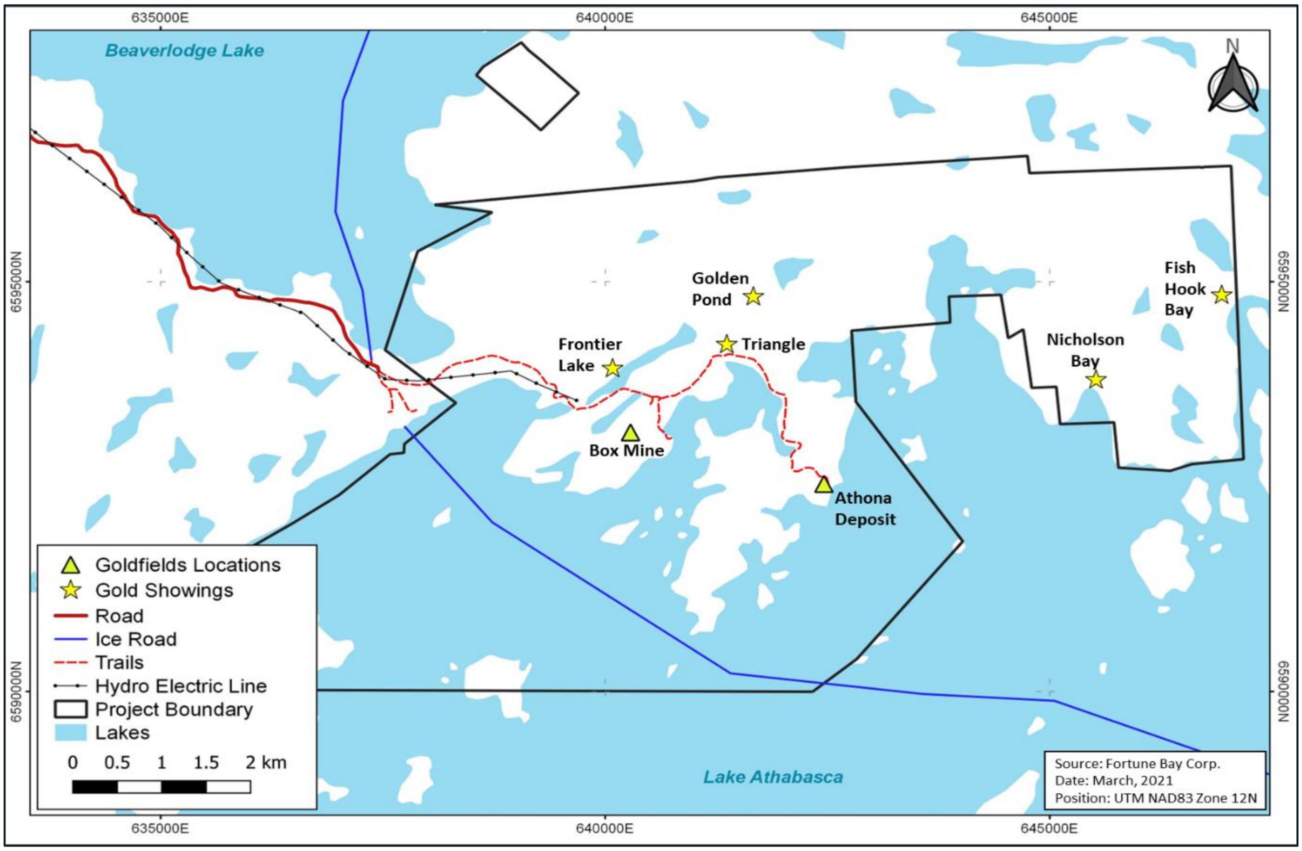
6.4 Historical Mining Activities – Frontier Lake

The Frontier Lake gold showing was discovered between 1930 and 1934. The Saskatchewan Mineral Deposit Index ("SMDI") for the Frontier Lake Showing (#1211) reports that in 1935, Coniagas Mines Ltd. optioned the claims and completed 80 surface pits and trenches, as well as 10 diamond drill holes to test the gold showing. In 1937, Cominco optioned the Frontier property and completed further trenching and 11 diamond drill holes. An adit was driven northwest from the small lake and 186 m of drifting and 104 m of crosscuts were completed to explore the pyritic quartz vein stockwork hosted within granite. In 1939 the option was cancelled, and Cominco allowed the claims to lapse. No commercial production was ever achieved.

6.5 Summary of Historical Exploration

The Goldfields Project includes the historical Box Mine and the Athona deposit, that are the focus of this report, as well as several other gold showings. The locations and names of other relevant showings (including Frontier Lake discussed in Section 6.4) are provided in Figure 6-2. A summary of exploration activities carried out by previous operators during the period of 1934 to 2011 is provided in Table 6-1. Company names are referenced in Section 6.1. Occurrence locations are shown in Figure 6-2. The exploration activities relating to gold showings at which no mining activities were carried out are summarized in Sections 6.5.1 to 6.5.4. These sections were extracted and summarized from Barresi and Yule (2015).

Figure 6-2: Gold Showings Within the Goldfields Project That Have Been the Focus of Historical Exploration.



Source: Fortune Bay, 2021.

Table 6-1: Summary of Relevant Historical Exploration Activities on the Project.

Work Period	Location	Company	Summary of Work Completed
1934	Box	N/a	Tom Box and Gus Nyman discover gold on the east shore of Vic Lake, adjacent to what is now the Box deposit.
1935-1939	Box	Cominco	Early resource delineation and underground development work, including 2 shafts, stope and drift development. Surface DDH (42 holes, 4,576 m), underground workings (32 traces, 6,548 m), underground DDH (72 holes, 5,260 m) and trenching (67 traces, 399 m).
1935-1939	Athona	Athona Mines	Trenching, drilling, underground development, and bulk sample plant commissioning. Commercial production was not reached. Surface DDH (44 holes, 5,067 m), underground workings (84 traces, 2,166 m) and underground DDH (32 holes, 2,175 m).
1939-1942	Box	Cominco	Box Mine in production. Reports vary, with Coome (1984) and Nicholson (1980) indicating total production figures of between 64,000 and 68,000 oz of gold from 1.29 million tonnes at grades of between 1.55 and 1.64 g/t.

Work Period	Location	Company	Summary of Work Completed
1935-1937	Frontier Lake	Cominco	21 DDH, trenching, adit development with 186 m of drifting and 104 m of cross-cutting. No bulk sampling or commercial production.
1980-1982	Frontier Lake	SMDC	Prospecting, mapping and sampling of gold showings.
1981-1982	Fish Hook Bay	Eldor	Mapping, trenching and 15 DDH (625 m). FH-82-7 returned 154.95 g/t Au from a 0.5 m sample.
1983	Frontier Lake	SMDC	12 underground DDH (744 m), surface trenching and sampling (2.5 and 4.9 g/t Au – widths not reported).
1984	Frontier Lake	SMDC	4 DDH (354 m), highlight results include 3.7 g/t, 1.5 g/t and 1.4 g/t Au over 1 m of sampled core.
1986-1987	Fish Hook Bay	Eldor	Total of 42 DDH, assays for Au, Pt and Pd. No highly anomalous results.
1987	Nicholson Bay	Eldor	6 DDH (335 m) with a best result of 18.2 g/t Au, 2.05 g/t Pt and 8.67 g/t Pd over 6 m.
1987-1988	Nicholson Bay	SMDC	26 DDH (1,558 m) with a best result of114.15 g/t Au, 300 ppb Pt and 1000 ppb Pd over 0.4 m.
1987-1988	Golden Pond	Kasner	6 DDH (577 m) with best results ranging from 4.34 to 148.78 g/t Au over 1 m intervals.
1988	Frontier Lake	Cameco	9 DDH (1,159 m) with a best result of 14.6 g/t Au over a 1 m sample.
1987-1988	Box/Athona	Kasner	Resource delineation drilling. 56 DDH (6,506 m) at the Box Mine and 54 DDH (5,516 m) at Athona.
1988	Box/Athona	RJK	RC drilling for bulk sampling and metallurgical testing. 47 RC holes (3,167 m) at the Box Mine and 11 RC holes (1,177 m) at Athona.
1994-1995	Box/Athona	GLR	Resource delineation and metallurgy sample drilling. 152 DDH (25,531 m) at Box and 129 DDH (10,377 at Athona).
1995	Box	GLR	Surface trenching, mapping and sampling.
1995	Frontier Lake	GLR	Prospecting and rock grab sampling; up to 53.25 g/t Au recovered.
1995	Golden Pond	GLR	2 DDH (221 m) with highlight intersections of 5.1 g/t Au over 15 m and 0.5 g/t Au over 16.24 m.
1997	Goldfields	GLR	Dighem airborne geophysical survey (2,391 line km). Identification of electromagnetic, resistivity, magnetic and radiometric anomalies.
2004-2005	Box	GLR	37 DDH (4,307 m) drilled for verification of historical assay database and installation of piezometers.
2005	Fish Hook Bay	GLR	8 DDH (1,664 m). No significantly anomalous results.
2006	Athona	GLR	16 DDH (1,592 m) drilled for verification of historical assay database.
2006	Golden Pond	GLR	4 DDH (306 m) with no significantly anomalous results.
2006	Triangle	GLR	2 DDH (204 m) with slight Au, Ag, Co and Mn anomalies.
2007	Box	GLR	13 DDH (3,350 m) drilled for resource expansion and exploration.

Work Period	Location	Company	Summary of Work Completed
2008	Frontier Lake	GLR	3 DDH (675 m) with highlight of 2.24 g/t Au over 1 m sample length.
2008	Box	GLR	3 DDH (626 m) drilled for condemnation purposes (in support of mine infrastructure planning) and testing geochemical anomalies.
2008	Golden Pond	GLR	9 DDH (1,648 m) with a highlight of 4.22 g/t Au over 1 m sample length.
2010	Goldfields	Linear	Titan-24 DC/IP geophysical survey (33 line km).
2010	Box, Athona, Frontier Lake, Triangle	Linear	16 DDH (4,198 m) drilled to test targets from DC/IP survey. No significantly anomalous results.
2011	Box/Athona	Brigus	19 DDH (3,523 m); infill drilling for resource for resource classification upgrade and metallurgical sampling. Additional 4 DDH (819 m) of geotechnical drilling.

Note: DDH = diamond drill hole.

6.5.1 Historical Exploration – Triangle

The discovery of the Triangle gold showing is not well documented, and the showing is not listed separately in the Saskatchewan Mineral Deposit Index ("SMDI"). It is located approximately 1 km southwest of the Golden Pond Lake and 1.5 km northeast of the Box Mine (Figure 6-2). In 2002, Norac Exploration Ltd. completed prospecting, trenching / stripping, and surface grab sampling. Prospecting and stripping of quartz veins by R. Dubnick in 2004 yielded gold grab sample values up to 28.35 g/t Au (Nadeau, 2008). Subsequent trenching and channel sampling of the quartz veins by Greater Lenora Resources staff in 2005 identified occurrences of visible gold in some of the quartz veins (Nadeau, 2008).

In 2006, GLR completed two diamond drill holes (204 m) to explore the depth continuity of anomalous gold values found in quartz veins on surface. No significant mineralization was encountered. Additional drilling (4 holes, 624 m) in 2010 was aimed at testing this target and nearby anomalies generated from the Titan DC/IP survey completed in 2010.

6.5.2 Historical Exploration – Golden Pond

The Golden Pond area was prospected, first for gold and later for uranium mineralization, beginning in the early 1930's when three separate areas were trenched. Exploration was reinitiated in 1978, when Denison and SMDC jointly completed prospecting, geological mapping, and sampling. From 1987 to 1988, the Kasner Group of companies ("Kasner") conducted a grab sampling campaign on the property. In 1988, Kasner completed six diamond drill holes (577 m) exploring below surface grab samples with grades of 7.99 to 33.01 g/t Au. A maximum grade of 149 g/t Au over a 1 m down hole interval was recorded. Bowe (1988) concluded that the anomalous gold values, while related to quartz vein mineralization, did not correlate with the observed vertical auriferous quartz veins found at surface.

Additional exploration between 1995 and 2008 included mapping, trenching, grab sampling, drilling (15 diamond drill holes comprising 2,175 m), regional geophysical airborne survey and regional geobotanical sampling. Encouraging grades were reported (e.g., 5.1 g/t Au over 15 m in drill hole GP 95-7 as recorded in Nadeau (2008)), however no significant grade continuity or resource size potential could be demonstrated.

6.5.3 Historical Exploration – Fishhook Bay

Uranium was discovered in this area by Eldorado Nuclear Ltd. ("Eldorado"), and surface trenching, grab sampling and drilling was carried out between 1945 and 1948. Additional resource delineation drilling in the 1950's culminated in the estimation of historical mineral resources and limited production for uranium was achieved in 1960.

Nadeau (2007) reported that in 1963 sampling for gold and platinum was carried out, returning significant grab sampling values of up to 494 g/t Au and 8.23 g/t Pt from trenching of carbonate veins in ferruginous dolomite, but no assessment reports have been found for this work. Diamond drilling in 1969 intersected 3.77 g/t Au over 8.5 m of quartzite and ferruginous quartzite (no depth stated in reference).

Eldor Mines Ltd. ("Eldor") and SMDC conducted additional exploration in the 1980's, including mapping, trenching, grab sampling, ground geophysics and drilling (63 holes, with hole depths often not available in assessment reports, Nadeau, 2007). The best result reported was 155 g/t Au over 0.5 m of iron formation (no depth is stated in reference).

Between 1997 and 2005 Greater Lenora Resources completed a regional airborne geophysical survey, soil sampling, regional biogeochemistry sampling and drilling of eight diamond drill holes (1,664 m). Uranium and gold sampling results were less encouraging than historical results, and no work has been carried out since 2005. Review of this exploration work (Nadeau, 2008) suggests that hole orientations may have been suboptimal for intersection of mineralized veins, and that historical drill hole coordinates may be subject to positional errors.

6.5.4 Historical Exploration – Nicholson Bay

Nicholson Bay was prospected for gold and copper in 1935, resulting in the development of two adits (106.7 m of underground workings) during which uranium was discovered. Development work commencing in 1949 culminated in commercial production of uranium by Consolidated Nicholson Mines Ltd. during the period 1955 to 1959.

Uranium mineralization was locally associated with elevated gold values. Chip sampling from trenches at the Nicholson No. 2 Zone during 1950 returned average assays of 98 g/t Au over an average sample width of 0.5 m along a combined length of 55 m (Jensen, 2005).

Intermittent exploration work during the period 1970 to 1997 included trenching, sampling, ground geophysics, regional airborne geophysics and core drilling. In 1987 a total of six core holes were drilled to confirm the presence of gold and PGM mineralization on the Nicholson Bay property. The best assay result was a composite intersection of 18.2 g/t Au, 2.05 g/t Pt and 8.67 g/t Pd over 6 m of core (no depth stated in reference) (Mason, 1987). Additional follow-up core drilling in 1988 (26 holes comprising 1,558 m) returned a best result of 114.15 g/t Au, 300 ppb Pt and 1000 ppb Pd from 37.7 to 38.1 m in dolomite. In 1997, a 2,391 line km survey block was flown for electromagnetic (EM), resistivity, magnetic, and radiometric surveys over the GLR properties, which at that point included the Nicholson Bay area. Nadeau (1998) defined exploration targets, but no follow-up has been carried out since then.

6.6 Previous Technical Reports and Historical Mineral Resources / Mineral Reserve Estimates

The most recent previous Technical Report (now superseded by this report) for the Goldfields Project is titled "Technical Report: Resource Estimate for the Goldfields Project" with an effective date of May 4, 2021 and was prepared by SRK Consulting (Canada) Inc. for Fortune Bay Corp, referenced as Revering et al. (2021) in this report. Prior to that, a Technical Report titled "Goldfields Project National Instrument 43-101 Property Technical Report" with an effective date of March 19, 2016 was prepared by Mercator Geological Services Limited for Fortune Bay, referenced as Yule et al. (2016) in this report. These are the only two Technical Reports previously issued by Fortune Bay, and both are filed on www.sedar.com under Fortune Bay's issuer profile.

Several historical mineral resource and reserve estimates have been prepared for the Goldfields Project by previous operators. A summary of these is provided in Table 6-2, excluding initial resource estimates made by Cominco during mine development and early evaluation in the period 1937 to 1942 for which documentation is not available. Reports from 2003 onwards were prepared in accordance with Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards and Best Practices in effect at the time and were reported according to NI 43-101 standards for disclosure of mineral projects.

Table 6-2: Summary of Historical Mineral Resource and Reserve Estimates for the Project.

Year	Company	Report Content	Reference
1991	Mintech Inc.	Box mineral resource estimate	Arik (1991)
1996	Behre Dolbear & Company, Inc.	Box and Athona mineral resource estimate	Dolbear (1996)
2003	K. A. Jensen & Associates Ltd.	Box and Athona mineral resource estimate	Jensen (2003)
2006	AMEC Americas Limited	Box mineral resource estimate	AMEC (2006)
2007	Wardrop Engineering Inc.	Athona mineral resource estimate	Maunula (2007)
2007	Bikerman Engineering & Technology Associates, Inc.	Box Feasibility Study	Bikerman et al. (2007)
2008		Box Feasibility Study, 1st Revision	Bikerman et al. (2008)
2009		Athona Pre-feasibility Study	Bikerman et al. (2009a)
2009		Box Feasibility Study, 2nd Revision	Bikerman et al. (2009b)
2011	March Consulting Associates Inc.	Box and Athona Pre-Feasibility Study	Lusby et al. (2011).
2014		Box and Athona Pre-Feasibility Study - Re-Issue	Lusby et al. (2014).

The most recent historical economic studies (mineral resource and reserve estimates) for Goldfields were included in a Pre-Feasibility Study ("PFS") with an effective date of October 6, 2011, referenced as Lusby et al. (2011). This 2011 PFS was completed by March Consulting Associates Inc. in cooperation with Wardrop (now Tetra Tech), Dan Mackie Associates ("DMA") and EHA Engineering Ltd. The mineral resources and mineral reserves were classified according to CIM Standards and Best Practices (2005) and were reported following NI 43-101 standards for disclosure of mineral projects. The report was issued to Brigus Gold Corp. and subsequently re-issued to Fortune Bay Corp. on March 13, 2014. The full 2011 PFS Technical Report is filed on SEDAR (www.sedar.com) under Brigus's issuer profile. The mineral resources and reserves reported in the 2011 PFS are summarized in Table 6-3. Note that these mineral resources are historical and are superseded by the new mineral resource estimate presented in Section 14 of this report. These historical estimates are not considered to be reliable, as the geological interpretation of the deposit has been updated based on the work completed by SRK in 2020 and 2021, and the gold price / costing parameters used are now significantly outdated. These historical estimates have been documented only for reference and comparison with the current estimates presented in this report. A qualified person has not done sufficient work to classify the historical estimate as current mineral resources and the issuer is not treating the historical estimate as current mineral resources.

Table 6-3: Summary of Historical Goldfields 2011 Pre-Feasibility Study Mineral Resources and Reserves as Reported in Lusby et al. (2011).

Category	Classification	Deposit	Cut-off (g/t)	Tonnes (000's)	Au Grade (g/t)	Au (oz)
Mineral Reserves[1]	Proven & Probable	Box	0.33	16,502	1.51	800,000
		Athona	0.33	5,831	1.17	220,000
		Total	**0.33**	**22,333**	**1.42**	**1,020,000**
Mineral Resources	Measured & Indicated	Box	0.5	13,824	1.66	737,000
	Inferred	Box	0.5	3,158	1.74	176,000
	Indicated	Athona[2]	0.5	7,036	1.28	290,000
	Inferred	Athona[2]	0.5	1,406	1.1	50,000
	Measured & Indicated	**Total**	**0.5**	**20,860**	**1.53**	**1,027,000**
	Inferred	**Total**	**0.5**	**4,564**	**1.54**	**226,000**

Table notes: Note that numbers may not add exactly due to rounding of decimal places.
[1]Proven and Probable mineral reserves are the economically mineable parts of the combined Measured and Indicated mineral resources, based on an assessment (2011 PFS Technical Report) of the technical and economic viability of the mineral resources.
[2]The Goldfields Athona deposit mineral resource estimates incorporated into the 2011 PFS report were extracted from a previous NI 43-101 Technical Report titled "Technical Report on the Athona Deposit, SK" with an effective date of May 17, 2007, completed by Wardrop Engineering Inc. (now Tetra Tech) and issued to GLR Resources Ltd., who were the operators of the Goldfields Project at the time.

The 2011 PFS presented assessments and recommendations for an open pit mine design, a mill and gold recovery circuit process, and capital and operating cost estimates. Based on this work an economic and a sensitivity analysis were carried out at a base gold price of C$1,250. Note that the economic outcomes and mineral reserves reported, based on the historical mineral resources and on a financial analysis of the mine plan and process flowsheet proposed in the 2011 PFS, are outdated. A qualified person has not done sufficient work to classify the historical estimate as current mineral reserves and the issuer is not treating the historical estimate as current mineral resources or mineral reserves.

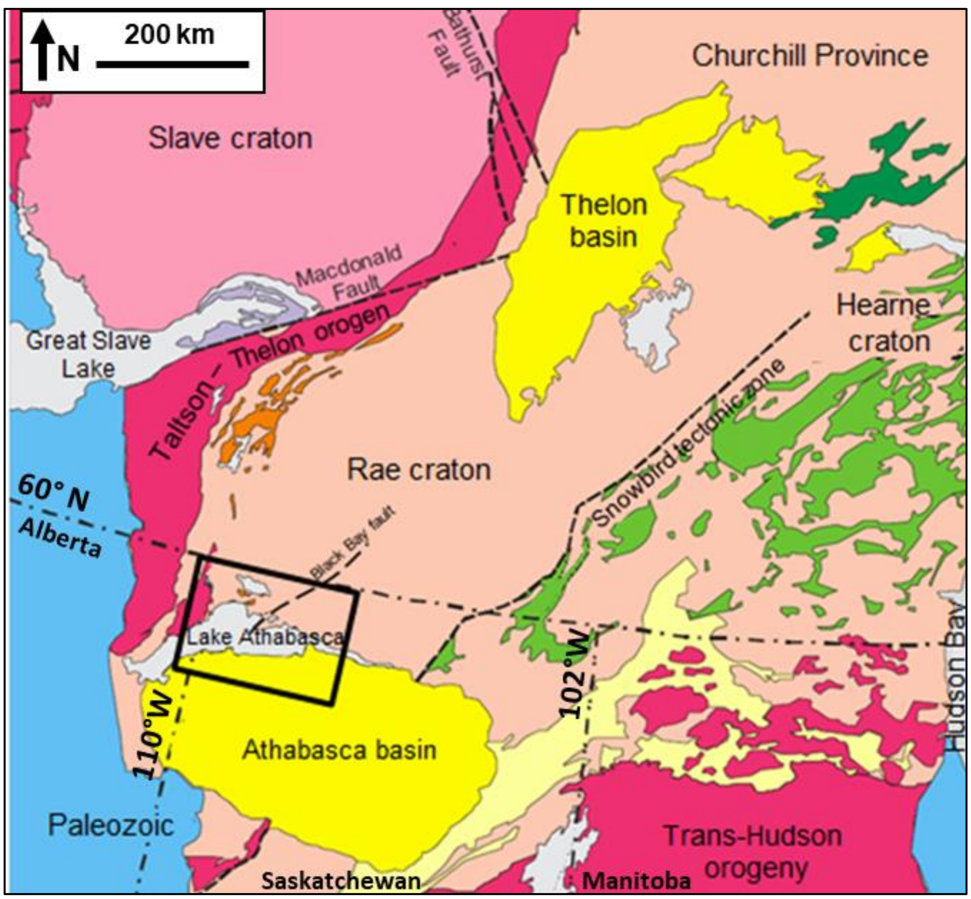
7 GEOLOGICAL SETTING AND MINERALIZATION

Sections 7.1and 7.2 have been extracted, summarized, and updated from Yule et al. (2016).

7.1 Regional Geology

The Goldfields Project lies within the Rae craton, of the Churchill Province of the Canadian Shield. It is bounded to the northwest by the 1.97 Ga Taltson-Thelon orogen, which developed during collision with the Slave craton, and to the southeast by the Snowbird tectonic zone. The Snowbird tectonic zone of the Trans-Hudson orogeny resulted from accretion of the Hearne craton onto the Rae craton at 1.92 Ga (Figure 7-1). The Rae craton comprises a sequence of Archean paragneiss, meta-sedimentary and meta-volcanic rocks with associated mafic to felsic intrusions which were affected by metamorphism and intruded by syn-orogenic granite during the Paleoproterozoic Trans-Hudson orogeny ca. 1.75 – 1.95 Ga. Rocks are typically isoclinally folded along north-easterly-trending axes, although some broad open folds are also present. Faults and associated mylonite zones in the basement rocks typically trend east, northeast or northwest.

Figure 7-1: Regional Tectonic Map of the Rae Craton



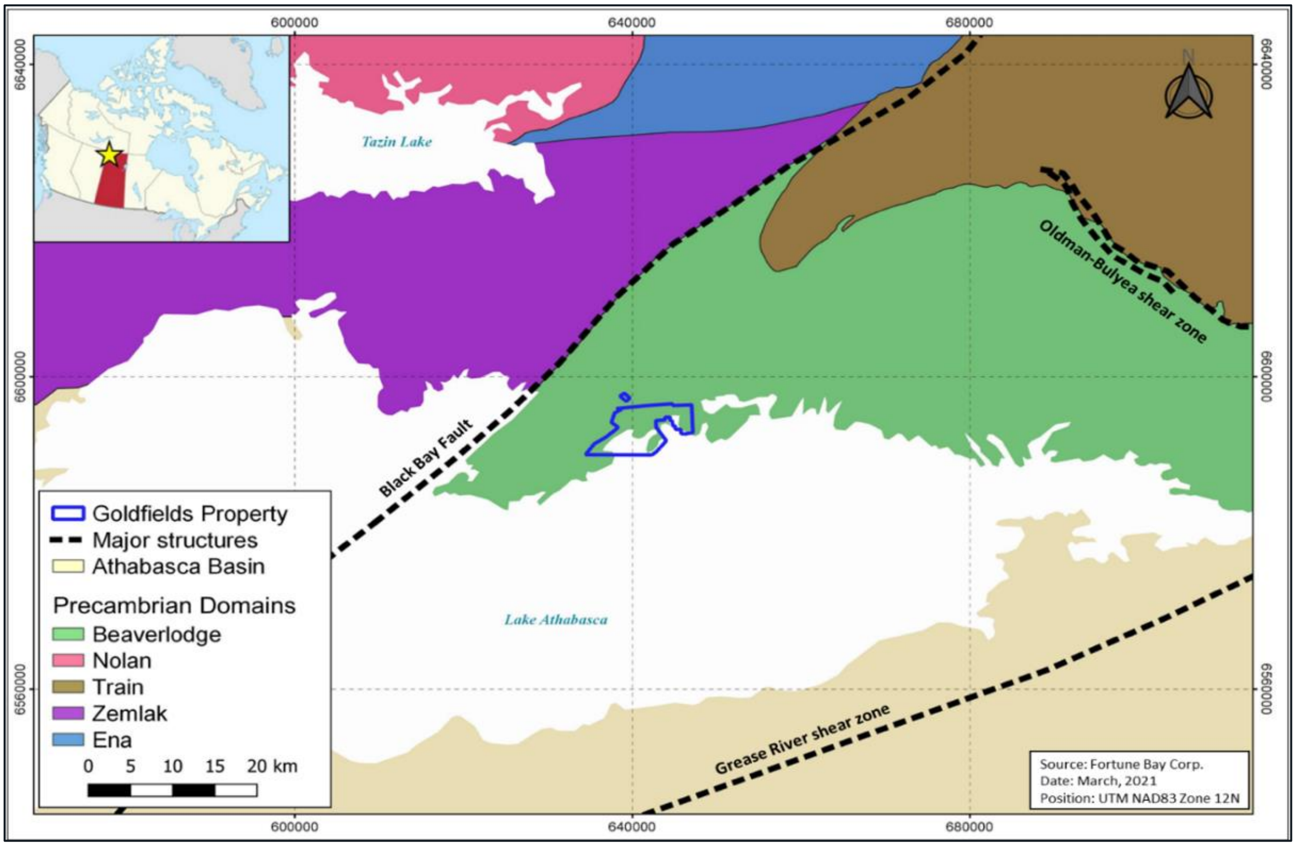
Source: Ashton and Hartlaub (2001). The map extent of Figure 7-2 is shown in black.

Along the northern shore of Lake Athabasca seven domains are recognized, with the Goldfields Project situated in the Beaverlodge domain (Figure 7-2, map extent shown in Figure 7-1). This comprises a ca. 3.0 Ga. basement granite-tonalite complex (with derived orthogneisses) that is bound to the west by the Black Bay fault, to the north by the Oldman-Bulyea shear zone, and to the east by the Grease River shear zone (GeoCanada, 2010). The domain is dominated by supracrustal rocks of the Murmac Bay Group (ca. 2.33 – 2.17 Ga), characterized by orthoquartzites, mafic volcanics, minor carbonate and komatiites, and voluminous psammopelitic rocks (Hartlaub and Ashton, 1998; Ashton et al., 2000) that unconformably overlie 3.0 Ga basement granitoids (Hartlaub et al., 2006). Structural analysis (GeoCanada, 2010) indicates that the Murmac Bay Group occupies the highest structural level in the Beaverlodge domain, and was overthrust by older, deeper level rocks during the Taltson-Thelon orogeny at ~1.93 Ga. Two subsequent episodes of deformation, at 1.90 Ga and 1.80 Ga, are respectively linked to tectonic activity along the Snowbird tectonic zone and terminal stages of Trans-Hudson orogeny. The Precambrian Domains of the Rae Craton, and the extent of the overlying Athabasca Basin sediments are shown with major bounding structures in Figure 7-2.

The basement granites and Murmac Bay Group were deformed and metamorphosed to upper/middle amphibolite facies prior to intrusion of a ca. 2.18 – 2.44 Ga granite suite (Persons, 1988, Van Schmus et al., 1986, Bickford et al., 1990). In addition, abundant gabbroic sills and leucocratic pink granites intrude the Murmac Bay Group, but their timing is more enigmatic. A set of younger mafic intrusions and rare associated granitic pegmatite intrusions form locally cross-cutting dikes and are thought to be derived from partial melting during the Trans-Hudson orogen.

The Murmac Bay Group is unconformably overlain by the 1.82 Ga Martin Group (Morelli et al., 2009), comprising a red bed sedimentary sequence and interbedded basalt flows. Unlike the Murmac Bay Group, the Martin Group is not strongly metamorphosed or deformed, although it forms broad open folds about the same northeast-trending axis as the Murmac Bay Group.

Figure 7-2: **Regional Project Geology**



Source: Fortune Bay Corp., 2021

7.2 Local Property Geology

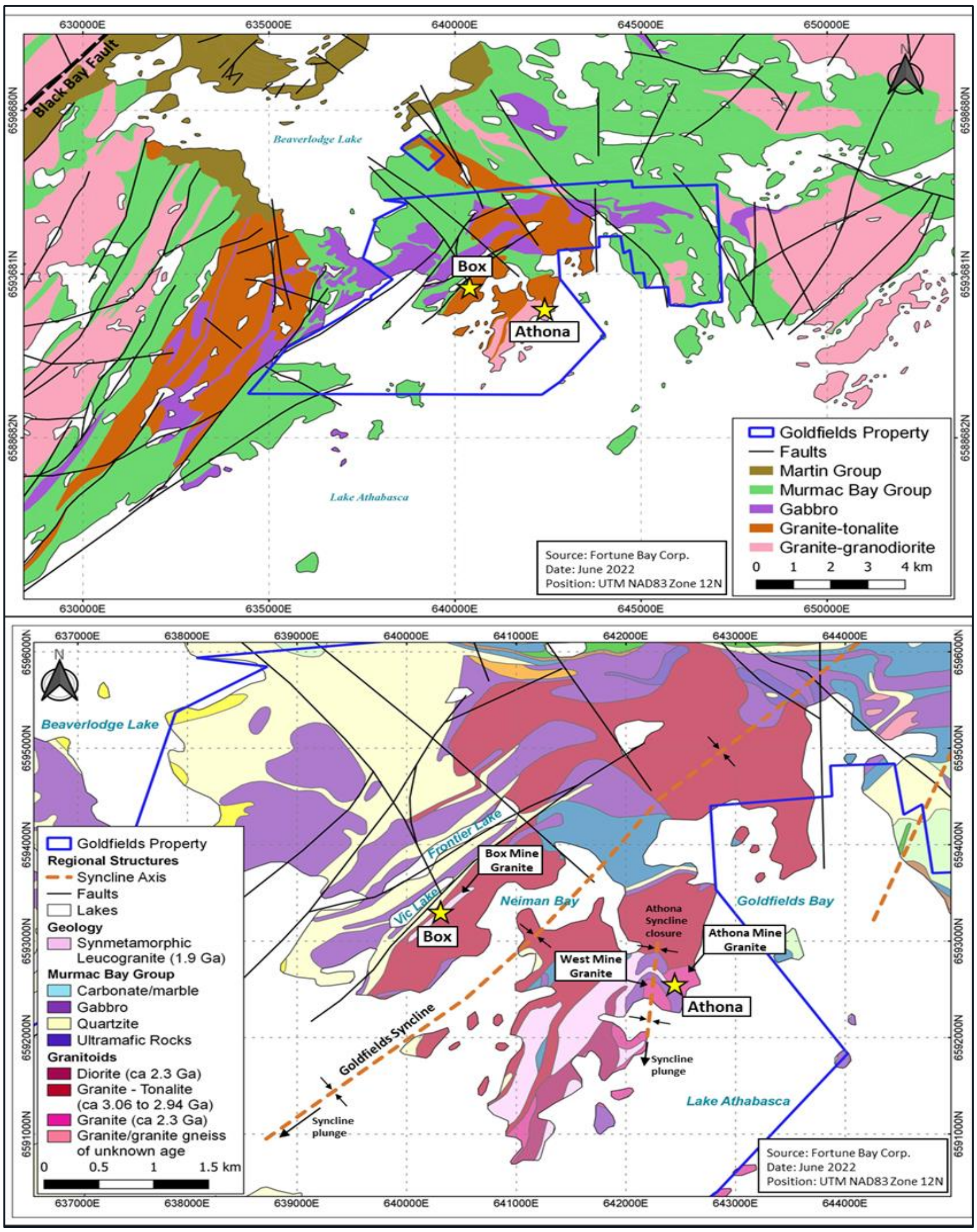
Bedrock geology on the Goldfields Project comprises the Murmac Bay Group (ca. 2.33 – 2.17 Ga) (Ashton et al., 2013), unconformably overlain by the Martin Group (ca. 1.8 – 1.75 Ga). All known mineralization at Goldfields is hosted in granites found within the Murmac Bay Group. The Murmac Bay Group unconformably overlies Archaean basement comprising the Lodge Bay-Elliot Bay granite (3.05 Ga) (Ashton et al., 2001), marked by a basal conglomerate. Subsequent Murmac lithologies include quartzite, meta-graywacke, metapelite and lesser amounts of metamorphosed carbonate, iron-stone and mafic volcanics. The distribution of these stratigraphic groups is shown in Figure 7-3.

Multiple tectono-thermal events are recoded in the area. These include the 1.94 - 1.92 Ga Taltson-Thelon orogeny (McDonough et al., 2000), 1.91 - 1.90 Ga amphibolite-facies metamorphism associated with deformation in the Snowbird tectonic zone (Ashton et al., 2009), and a regionally extensive lower-temperature metamorphic overprint at 1.8 Ga associated with the Trans-Hudson orogeny. A middle-amphibolite facies peak metamorphic assemblage is apparent in mafic lithologies.

The Murmac Bay Group is intruded by 2.33 Ga Mackintosh Bay granite and 2.3 Ga Gunnar granite (Ashton et al., 2013) and other smaller undated granite bodies. Penecontemporaneous gabbro and ultramafic dikes, sills and stocks also intruded the Murmac Bay Group. The strata are folded about steep-dipping NE-SW trending axial planes.

A distinct angular unconformity of the Martin Group with the Murmac Bay Group strata lies to the north of the Goldfields Project. The Martin Group is composed mainly of red-bed conglomerates, sandstone and shale with some intercalated mafic volcanic flows. The Martin Group lacks the strong metamorphic and deformation features that characterize the Murmac Bay Group. Local Project geology features with additional resolution around the Box and Athona deposit are shown in Figure 7-3.

Figure 7-3: Local Project Geology.



Source: Fortune Bay Corp., 2022

Note: Above: project-wide geology showing the distribution of the Martin and Murmac Bay Groups. Intrusives are shown summarized by lithology type. Below: local geology focused on the Box and Athona deposits.

7.3 Mineralization

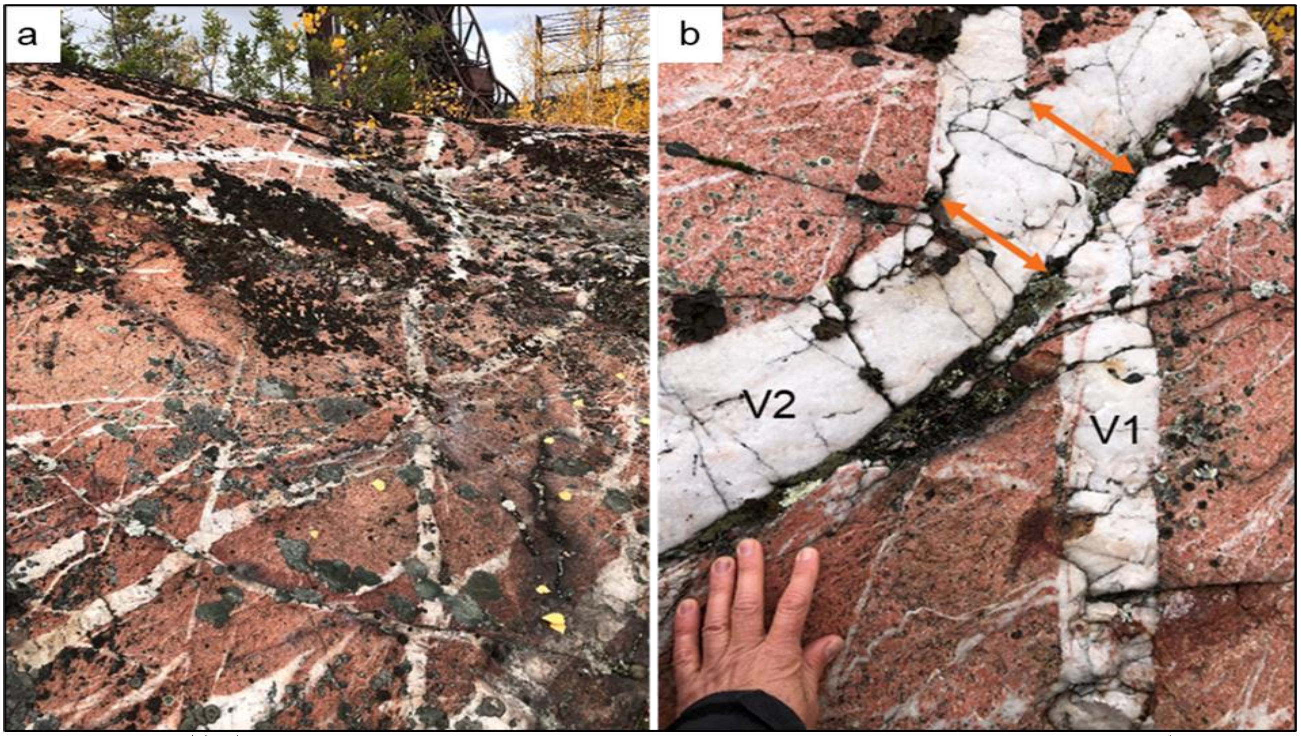
The Box and Athona deposits, located approximately two kilometres apart, share many similarities which suggest a close genetic association. The Box deposit lies on western limb, and the Athona deposit within the hinge, of a major open synclinal structure termed the 'Goldfields Syncline'. This fold is an open, upright NNE trending, shallowly plunging synform, the closure of which is defined by changes in orientation of the main regional foliation.

Mineralization characteristics at Box and Athona are similar, comprising quartz vein sets hosted within a metamorphosed and hematized leucogranite, respectively termed the Box and Athona "Mine Granites". Protoliths of these units are uncertain. Early models for the origin of the Box Mine Granite ("BMG") included an intrusive model (Jewitt and Gray, 1940) and a metasedimentary model (Swanson, 1938, quoted in Appleyard, 1989). Rees (1992) described the Box and Athona Mine Granites as intrusives, formed as nearly in-situ melts in the presence of metasomatic fluids. More recently, Jensen (2003) describes the BMG as a variably granitized and hematized sequence of metasedimentary lithologies and the Athona Mine Granite ("AMG") as representing either a multi-intrusive with variable composition or a metamorphosed sequence of sedimentary lithologies. These model descriptions were presented in previous technical reports by Bikerman et al. (2007) and by Lusby et al. (2011).

Irrespective of the genetic model, the Mine Granites are the primary hosts to gold mineralization, likely due to a relatively brittle response to deformation, in contrast to more ductile hanging- and footwall lithologies. This resulted in the preferential development of pervasive quartz veining in the granite hosts and associated precipitation of sulphides and gold. The immediate hangingwall (1 to 3 m) to the BMG comprises sheared metasedimentary gneisses and schists that may contain high densities of quartz veins, and some auriferous veins, however these are not continuous across the BMG hangingwall surface and not present in sufficient size or density to justify further targeting.

Mineralization at both the Box and Athona deposits is strongly structurally controlled and associated with a network of milky white quartz veins (Figure 7-4) that have an average N-S trend and moderate to steep westerly dips. Vein population subset orientations include NNW, NNE and WNW trends with the NNW set dominant at Box and the NNE set dominant at Athona (SRK, 2021).

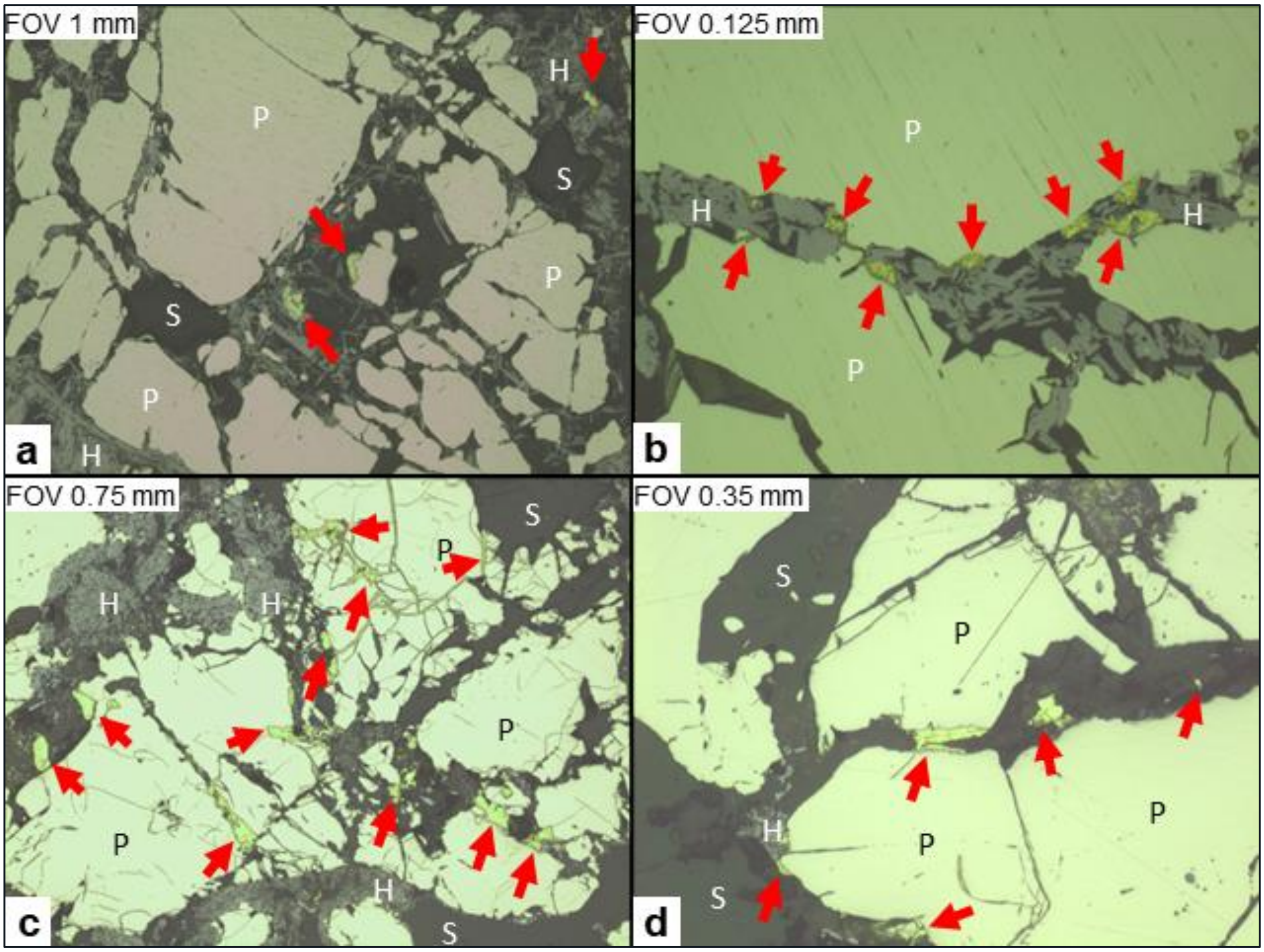
Figure 7-4: Outcrop of Quartz Vein Network at Box Hosted Within the Box Mine Granite.



Source: SRK, 2020(a). a) Network of mostly planar veins with NNW and NNE crosscutting veins of 2-5 cm in thickness. b) Crosscutting veins showing mostly extensional vein opening, normal to vein margins of V2.

In a petrographic study undertaken by SRK (2020(b) and 2021) it was noted that gold is typically associated with early coarse pyrite in quartz veins, and is commonly found in fractures within pyrite, at pyrite-quartz grain boundaries, and less commonly as small spherical inclusions within pyrite and in adjacent vein quartz (Figure 7-5). Partial or complete replacement alteration and oxidation of pyrite has produced acicular hematite which is commonly intergrown with gold that once occupied fractures in pyrite or was included in the pyrite. Gold is also less commonly found associated with sphalerite, chalcopyrite and galena within fractures in pyrite, which may represent a second gold mineralization phase. These descriptions (SRK, 2020(b) and 2021) are consistent with those documented in previous reporting such as Lusby et al. (2011).

Figure 7-5: **Photomicrographs (Reflected PPL) of Polished Thin Sections from the Box Mine Granite (BMG).**



Note: The top insets (a and b) show vein quartz at 84.95 m depth in hole B11-327. Gold (red arrows) can be seen associated with pyrite and with pervasive acicular hematite alteration. The bottom insets (c and d) show vein quartz at 85.05 m depth in hole B11-327. Gold (red arrows, not all occurrences are marked) can be seen associated with external grain boundaries and infilling fractures within pyrite. FOV = Field of view, P = pyrite (pale yellow), H = hematite (pale grey), S = silicate (non-reflective, dark grey). Source: SRK, 2021.

7.4 Box Deposit Lithologies

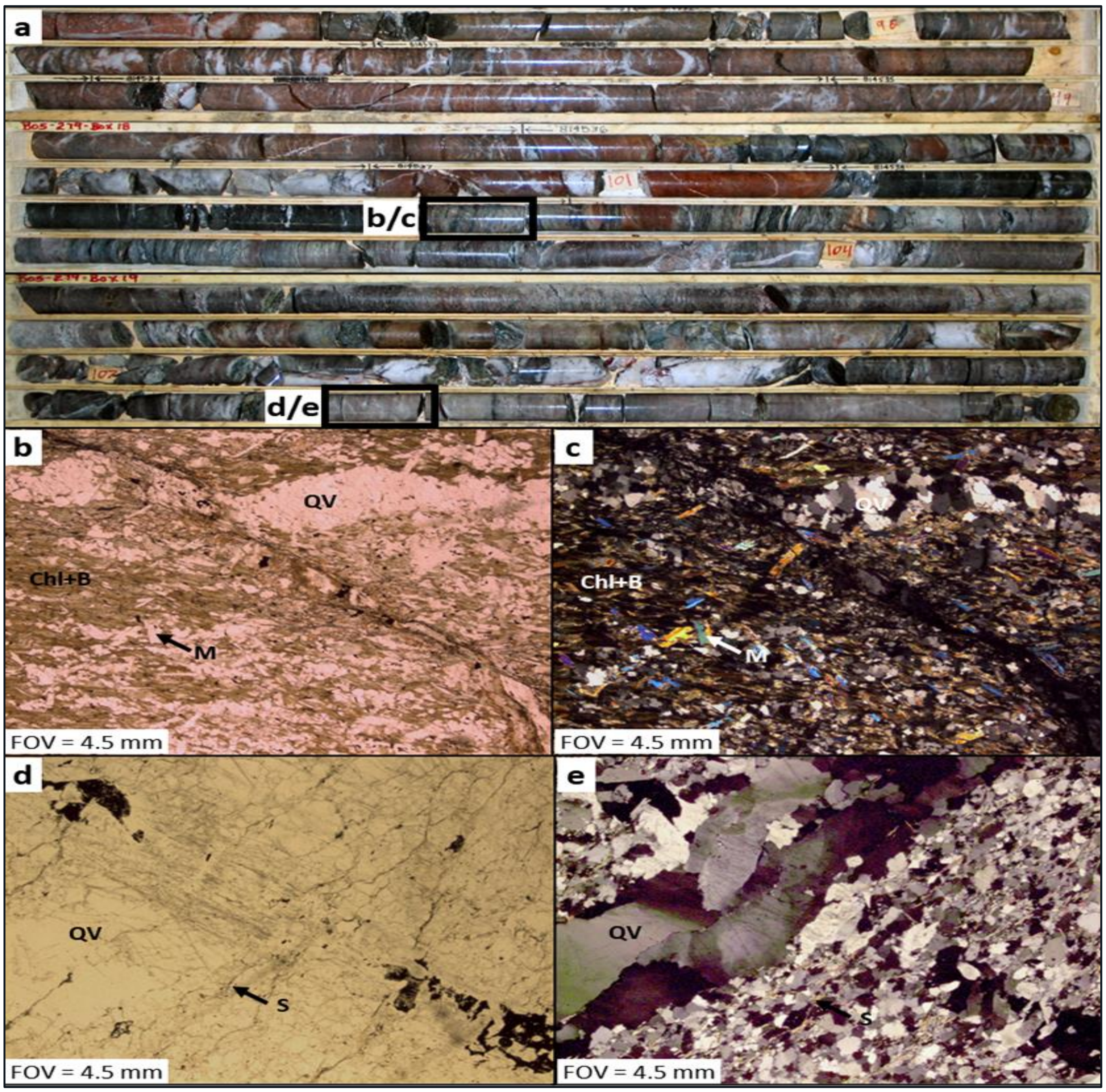
The BMG, described in Section 7.4.2, is a visually distinct lithological unit that hosts the gold mineralization at the Box deposit.

No attempt has been made to resolve hanging- and footwall lithologies in the Box deposit geological model due to the variable nature of these metasedimentary packages and the lack of preserved core or reasonable quality photographs from drill campaigns prior to 2004. For simplicity, the hangingwall and footwall lithologies have been incorporated into the geological model as two discrete volumes, or geological domains, that incorporate various lithologies. The dominant lithologies within these domains are briefly described in Sections 7.4.1 and 7.4.3.

7.4.1 Box Deposit Footwall Lithologies

The footwall sequence comprises alternating units of variably metamorphosed and deformed metasedimentary rocks. Lithologies vary from quartzite to gneiss with minor mafic schists. Quartz-feldspar-chlorite gneisses display foliation defined by intergrown chlorite and biotite with infoliated muscovite overgrowths. Quartzites are fine grained with sericite-defined foliation. Mafic schists predominantly comprise green biotite (defining the main foliation), with late-stage muscovite and quartz. A footwall intersection (B05-279) including gneiss and quartzite is shown in Figure 7-6.

Figure 7-6: Photograph of Footwall Intersection (Approx. 95 to 110 m, NQ Core, Box Length 1.5 m) From B05-279.



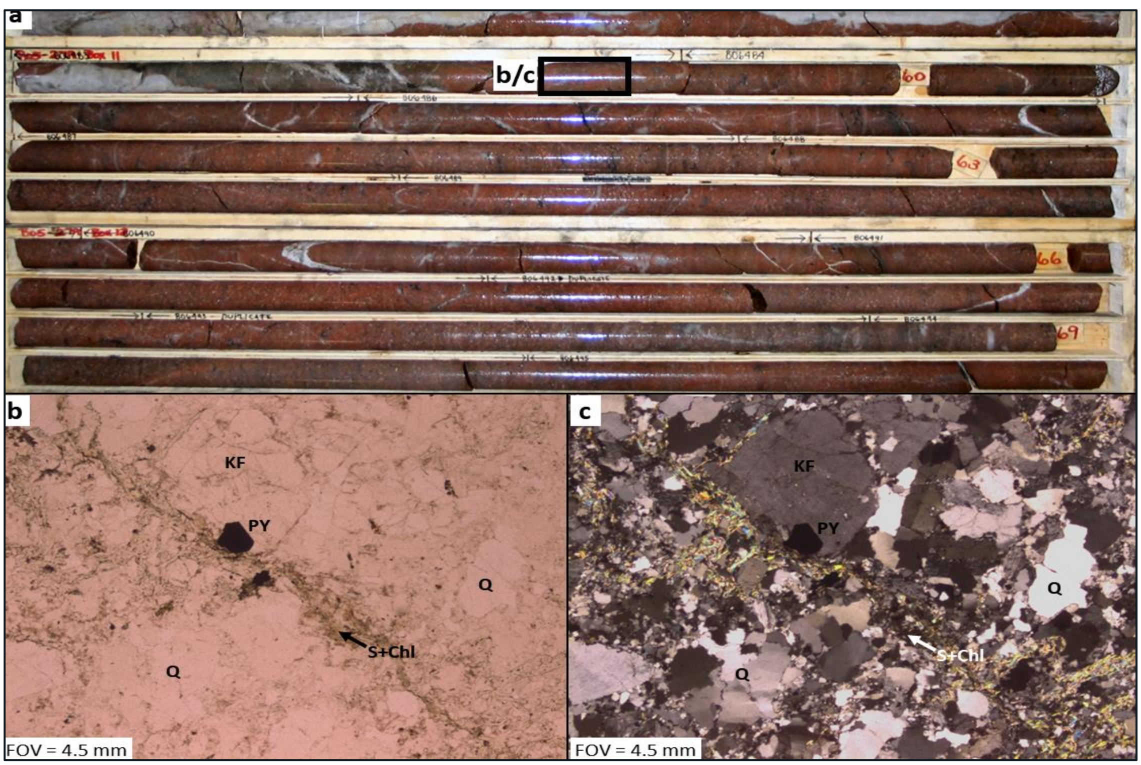
Note: Figure shows pale to dark red brittle-fractured Box Mine Granite with extensive quartz veining overlying foliated footwall gneiss and quartzite. Photomicrographs (plane polarized light on left and cross-polarized light on the right) from thin sections collected in gneiss (b-c) and quartzite (d-e) are shown. Sample sites are shown in the core photo (a). FOV = field of view, QV = quartz vein, Chl = chlorite, B = biotite, M = muscovite, S = sericite. Source: photomicrographs from SRK (2021), core photo from Fortune Bay Corp, 2021.

7.4.2 Box Mine Granite (BMG)

Rees (1992) describes the BMG unit as a metamorphosed and hematized leucocratic granite comprising megacrysts of alkali feldspar, plagioclase feldspar and quartz, set in a finer-grained granoblastic groundmass of the same three minerals, with minor accessory muscovite (typically sericite) and pyrite. The hangingwall and footwall contacts varies from sharp to gradational over several metres. SRK (2020b) conducted a petrographic study of 48 samples from the Box deposit and noted that the BMG is locally sheared with a pervasive S1 sericite foliation forming anastomosing mica-rich domains with associated green chlorite. Euhedral hornblende, likely representing phenocrysts of an igneous origin, are replaced and pseudomorphed by chlorite.

The red "Mine Granite" colouration derives from pervasive microcrystalline hematite associated with and predominantly concentrated along grain boundaries of potassium ("K") feldspar. This hematization appears to pre-date early albitization of feldspar. The extensive alteration of pyrite to hematite is ascribed to a later secondary alteration (oxidation) event. A fine stockwork of pale grey sericite-chlorite veins is present cross-cutting the quartz-feldspar mineral assemblage. The main quartz vein system within the BMG shows a range of internal quartz crystal morphologies, from shear vein quartz fibers to interlobate coarse-grained crystal boundaries. Some veins are strongly boudinaged and transposed by the S1 foliation. This suggests that veining was mostly early to syntectonic and likely developed during progressive D1 deformation. A photograph of a typical intersection of BMG with extensive quartz veining is shown in Figure 7-7.

Figure 7-7: Photograph of a Box Mine Granite Intersection (Approx. 57.6 to 70.5 m, NQ Core, Box Length 1.5 m) from B05-279.

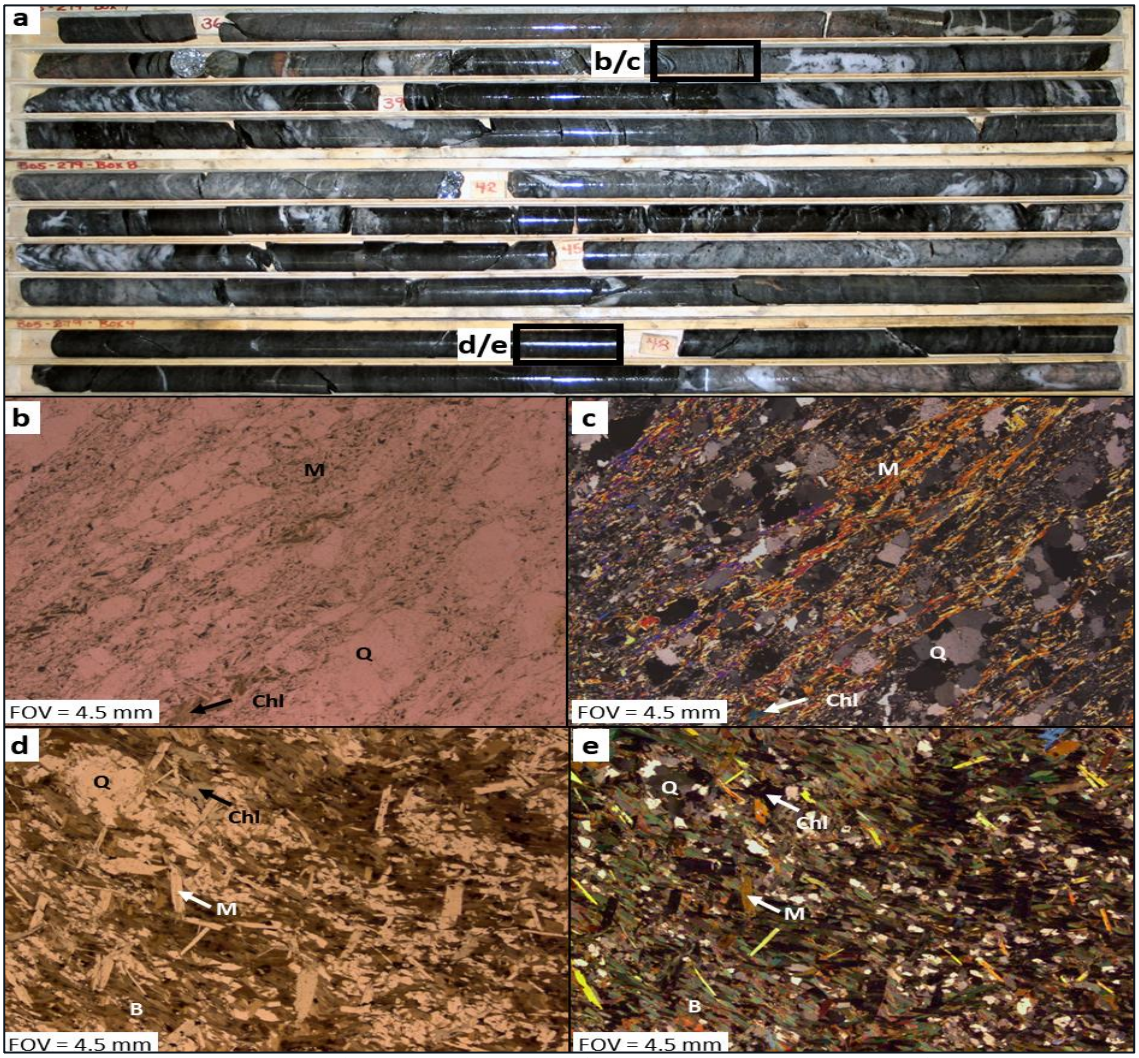


Note: Dark red brittle-fractured Box Mine Granite with white quartz veining. Photomicrographs (plane polarized light on left and cross-polarized light on the right) from a thin section collected at the location marked shown in the core photo (a) are shown in images (b) and (c). FOV = field of view, Q = quartz, Chl = chlorite, KF = potassium feldspar, PY = pyrite, S = sericite. Source: photomicrographs from SRK (2021), core photo from Fortune Bay Corp, 2021.

7.4.3 Box Deposit Hangingwall Lithologies

The immediate hanging wall of the BMG is typically extensively sheared with quartz veining near (within ~3 m) the BGM. Overall, the hangingwall lithologies comprise a highly metamorphosed sedimentary sequence, predominantly comprising gneiss with subsidiary mafic schist (both shown in Figure 7-8). Gneisses are typically light grey with localized hematite alteration creating a pale red discoloration. They predominantly comprise quartz, feldspar, biotite and chlorite ± minor hornblende and pyrite, with an S1 foliation defined by muscovite and chlorite. Mafic schists (typically logged in the field as "amphibolite") comprise biotite, muscovite and quartz. These are overlain by metamorphosed gneisses and foliated granite.

Figure 7-8: Photograph of a Box Deposit Hangingwall Intersection (Approx. 36 to 50 m, NQ Core, Box Length 1.5 m) From B05-279.



Note: Alternating gneiss (light grey) and mafic schist (black) intersections. Photomicrographs (plane polarized light on left and cross-polarized light on the right) from thin sections collected in gneiss (b-c) and mafic schist (d-e) are shown. Sample sites are shown in the core photo (a). FOV = field of view, Q = quartz, Chl = chlorite, B = biotite, M = muscovite. Source: photomicrographs from SRK (2021), core photo from Fortune Bay Corp, 2021.

7.5 Box Deposit Geological Model

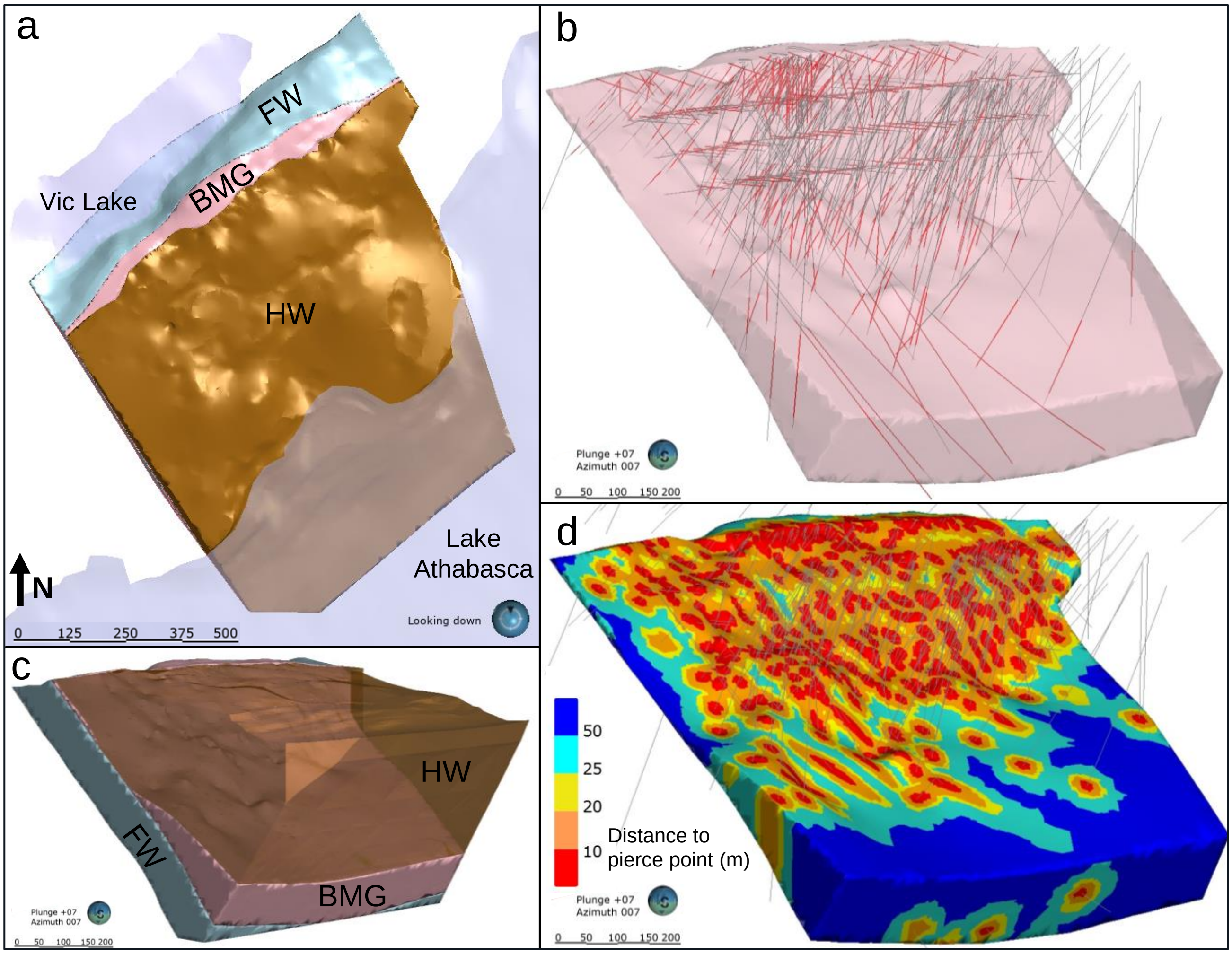
The Box Mine Granite is modelled with a tabular sill-like morphology striking NE (050°) and dipping at 38° to the SE (Figure 7-8). The model has a strike length of 825 m, with a down dip extension of up to 670 m. The vertical extent of the model ranges from outcrop at surface (approximately 250 masl) down to a maximum depth of approximately -250 masl, a depth of 500 m. The model is constrained by 648 pierce points and 25,368 m of internal drill coverage (Table 7-1). A small proportion (1.8%) of the internal drill coverage comprises lithologies other than Box Mine Granite that have been included in the model as their exclusion would introduce unwarranted complexity that cannot be reasonably resolved with the current drill coverage.

Table 7-1: Summary Information for the Geological Model of the Box Mine Granite Lithological Unit.

Geological Model	Volume (m^3)	Surface Area (m^2)	Outcrop Area (m^2)	Pierce Points	Internal Drill Coverage (m)	Comment
Box Mine Granite	27,960,000	1,280,800	34,436	648	25,368	The geological model includes 454 m (1.8 %) of drill intercept of lithologies other than the Box Mine Granite.

No attempt has been made to resolve hanging- and footwall lithologies in the Box deposit geological model due to the variable nature of the metasedimentary packages and the lack of preserved core or reasonable quality photographs from drill campaigns prior to 2004. Two additional summary model solids representing the hangingwall and the footwall volumes have therefore been modelled. The nature of the along-strike termination of the BMG unit is not well constrained. Drill information suggests that the unit thins to the NE and to the SW, but it is not known if the unit pinches out or if the deposit is fault bounded. The down-dip extension of the BMG is also not constrained; the model has been extended to encapsulate the majority of the drill intercepts. Deeper drilling suggests that the BMG unit thickens with depth, from approximately 30 m at surface to a maximum of over 100 m (true thicknesses) at the deepest extension of the model. All deeper drilling directly down-dip confirms that the BMG remains open with depth. All geological models have been clipped to surface and lake bottom topography. The Box deposit geological model is shown in Figure 7-9.

Figure 7-9: **Box Deposit Geological Model.**



Source: Fortune Bay, 2022. (a) Plan view of model solids with lake outlines shown for reference. (b) Isometric projection of the BMG model with core drill traces and BMG drill intercepts used to create the model. (c) Isometric projection of the three geological model solids, FW = footwall, BMG = Box Mine Granite and HW = hangingwall. (d) BMG model solid with color scale illustrating distance to drill pierce point.

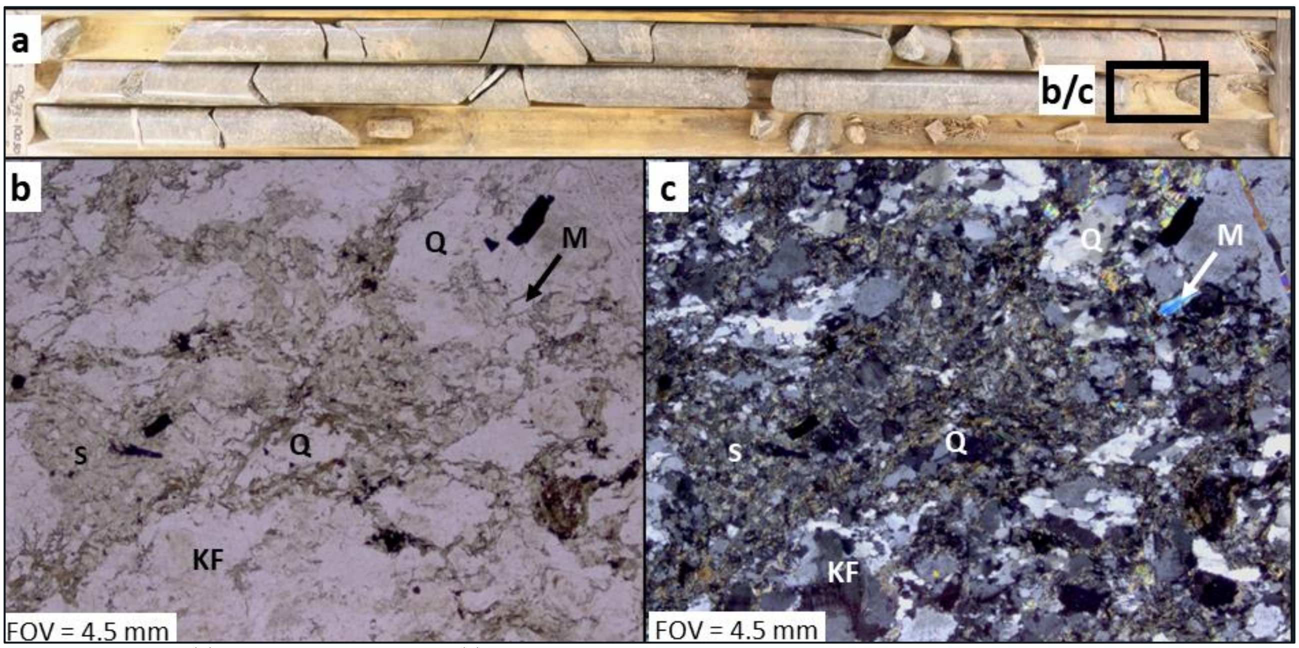
7.6 Athona Deposit Lithologies

The Athona Mine Granite ("AMG"), described in Section 7.6.3, is a visually distinct lithological unit that hosts the majority of the gold mineralization at the Athona deposit. The AMG is relatively flat lying, located in the hinge of a syncline with an approximate thickness of 100 m, pinching off towards the west and north and possibly truncated by a fault to the east. The immediate footwall to the AMG comprises a metagabbro (Section 7.6.2) of variable thickness (locally pinched out below the AMG) and underlying metamorphosed granites (Section 7.6.1). The AMG hangingwall to the west similarly comprises metagabbro (Section 7.6.4) that is similar in nature to the footwall metagabbro. This in turn is overlain by another locally mineralized unit, termed the Athona West Mine Granite ("AWMG", Section 7.6.5), similar in appearance to the AMG.

7.6.1 Footwall Granite

The lithology referred to as the footwall granite is a variable metamorphosed gneissic granitic unit that may be further resolved into separate granitoid units with further drilling. The rock comprises quartz, potassium feldspar and plagioclase feldspar with minor sericite, muscovite, magnetite and pyrite. A footwall granite intersection and photomicrographs are shown in Figure 7-10.

Figure 7-10: Athona Deposit Footwall Granite Intersection (Approx. 96.5 to 100 m, NQ Core, Box Length 1.5 m) From A06-201.

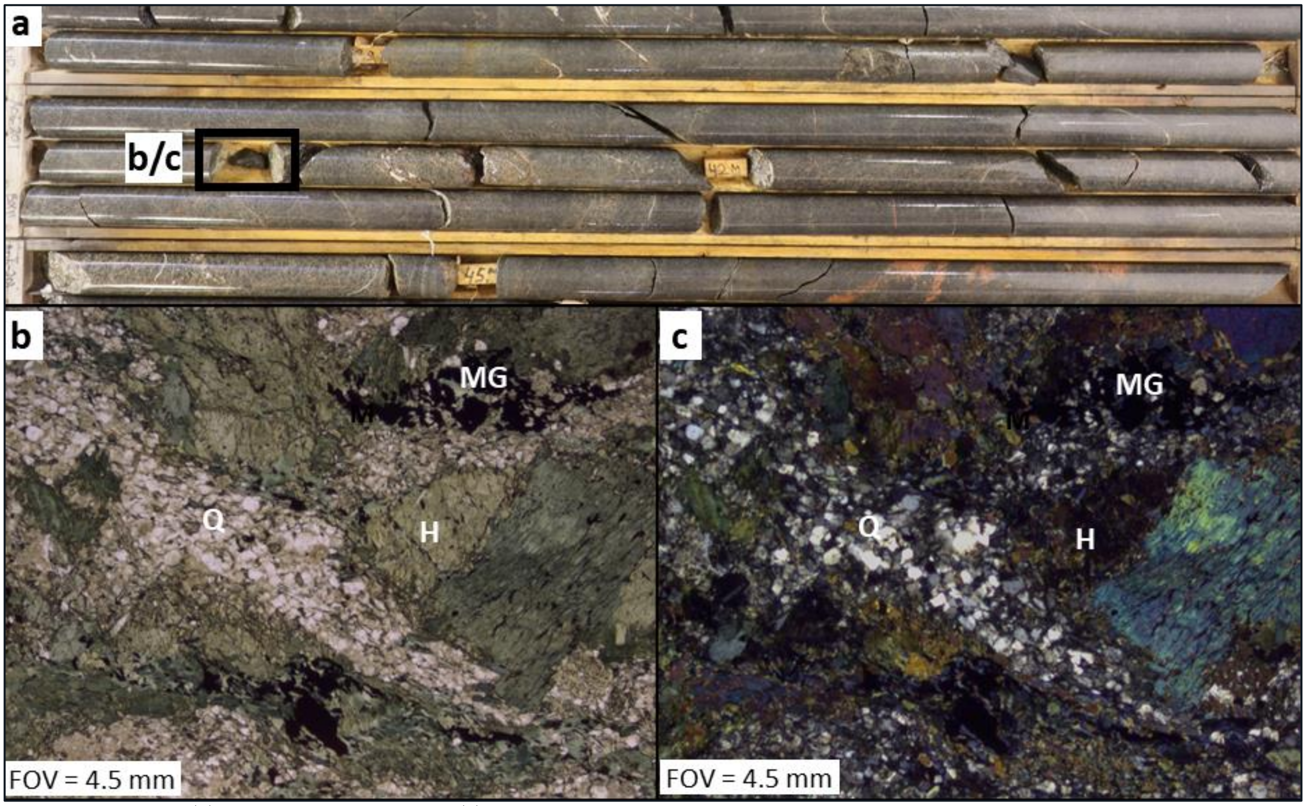


Source: SRK, 2021. (b) Plane polarized light and (c) Cross-polarized light photomicrographs from a thin section collected from the location shown in the core photo. FOV = field of view, Q = quartz, KF = potassium feldspar, M = muscovite, S = sericite.

7.6.2 Footwall Gabbro

The footwall gabbro is a metagabbro that underlies the AMG in the hinge of a gentle northward trending syncline. It is dominated by hornblende (after pyroxene) with a matrix of fine-grained quartz and plagioclase feldspar, and minor magnetite. Although metamorphosed to amphibolite facies conditions, the protolith name is retained for consistency with historical core logging. The gabbro thickens to the east, thinning and locally pinching out directly under and to the west of the AMG. It is typically foliated, and although quartz veining is common, it does not appear to host any significant gold mineralization. A typical footwall gabbro intersection and petrography photomicrographs are shown in Figure 7-11.

Figure 7-11: Athona Deposit Footwall Gabbro Intersection (approx. 37 to 46 m, NQ core, box length 1.5 m) From Drill Hole A06-201.

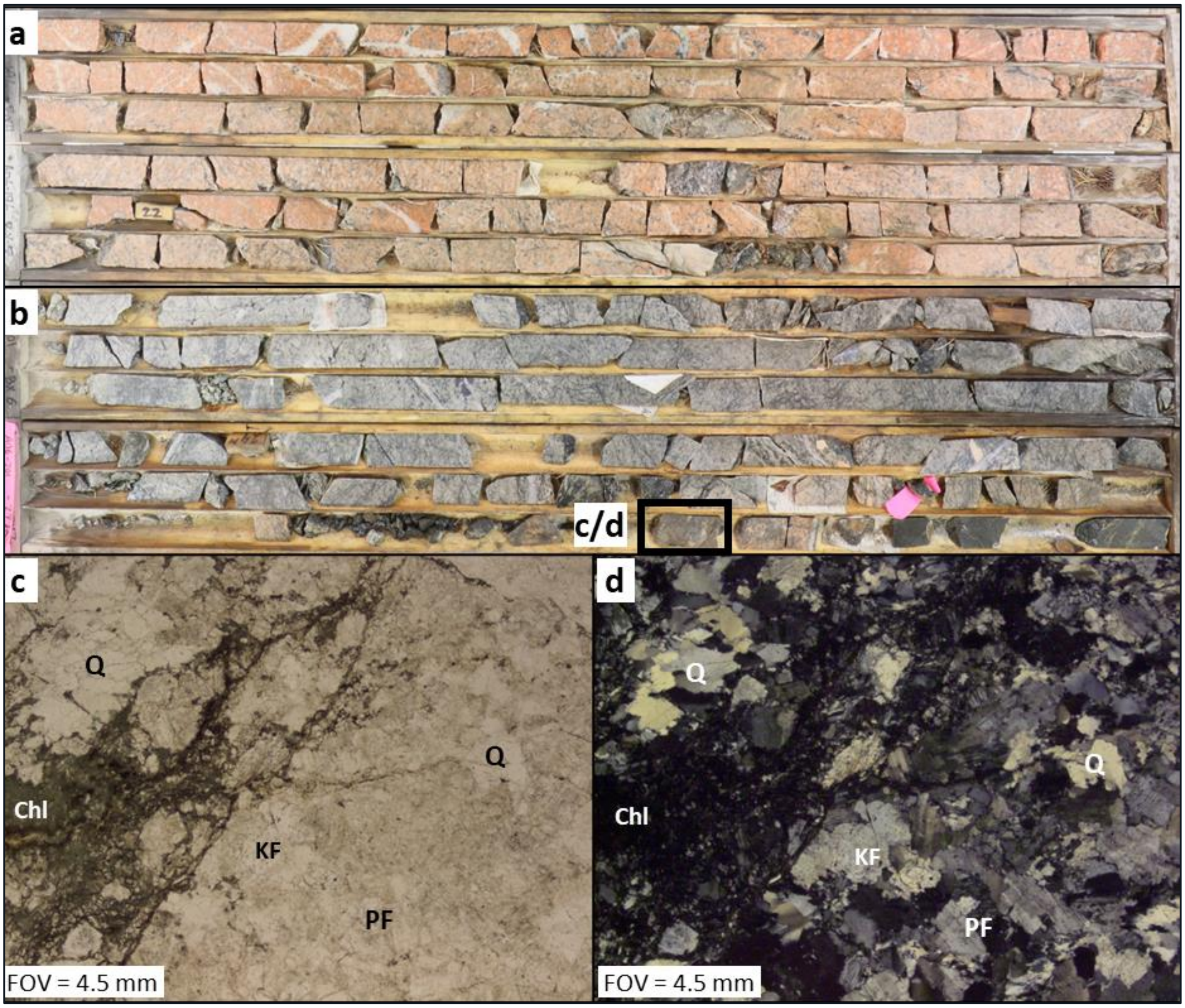


Source: SRK, 2021. (b) Plane polarized light and (c) Cross-polarized light Photomicrographs from a thin section collected from the location shown in the core photo. FOV = field of view, Q = quartz, H = hornblende, MG = magnetite.

7.6.3 Athona Mine Granite (AMG)

The Athona Mine Granite ("AMG") comprises quartz and equal amounts of plagioclase and potassium feldspar, with minor phyllosilicate. Colour varies locally from pale red to pale grey. As with the BMG at Box, the red colouration is related to pervasive microcrystalline hematite associated with and predominantly concentrated along grain boundaries of potassium feldspar. A common feature in the AMG (more pronounced than in the BMG) is the presence of a fine dark grey fracture stockwork infilled with chlorite. Gold-bearing quartz veins typically contain less than 1% fine-grained pyrite, trace amounts of galena and sphalerite with minor amounts of pyrrhotite. Quartz veining is less pervasive than in the BMG, but veins have been shown to be continuous over lengths of up to 120 m. The orientations of the dominant main gold-bearing vein sets strike from N to NNE, with near-vertical dips varying from 80° west to 70° east. Veins are typically less than 8 cm thick and display shear features indicated by strained and elongated crystals. Late-stage cross-cutting carbonate veins are also present. Typical AMG intersections and mineralogy are shown in Figure 7-12.

Figure 7-12: **Athona Mine Granite Intersection (Approx. 16 to 25 m, NQ Core, Box Length 1.5 m) From Drill Hole A06-196.**



Source: SRK, 2021. (a) Athona Mine Granite with red alteration colour and white quartz veining, similar in appearance to the Box Mine Granite. (b) Athona Mine Granite intersection (approximately 20 to 28 m from A06-196) showing common pale grey coloration with dark grey chlorite stockwork veining. Both photos are of NQ core, box length 1.5 m. (c) and (d) Photomicrographs (plane polarized light on left and cross-polarized light on the right) from a thin section collected from the location shown in the core photo (c-d). FOV = field of view, Q = quartz, Chl = chlorite, KF = potassium feldspar, PF = plagioclase feldspar.

7.6.4 Hangingwall Gabbro

The immediate hangingwall to the AMG is an amphibolite facies metagabbro similar to the footwall gabbro but differing in that it is significantly coarser grained with a less pervasive foliation. A photograph of this unit in core is shown in Figure 7-13. This unit separates the underlying AMG from the overlying Athona West Mine Granite (AWMG, Section 7.6.5) and presents a similar morphology to the AMG footwall gabbro in that it appears thicker in the east (between 30 and 100 m true thickness, surface outcrop of 50 to 150 m) while thinning / locally pinching out below and to the west of the AWMG.

Figure 7-13: Photograph of a Hangingwall Gabbro Intersection from A21-213 Between 32.6 and 45.7 m (NQ Core Diameter, Box Length 1.5 m).

Source: Fortune Bay, 2021

7.6.5 Athona West Mine Granite (AWMG)

The Athona West Mine Granite ("AWMG") was investigated with 24 core drill holes in the Athona 1994/1995 drill campaign. Significant grades (such as up to 17 g/t over 1 m in an individual sample in drill hole A94-96 and 3.4 g/t composited over 5 m down hole in A95-184) were recovered; however, these results were not followed up on in subsequent drilling. The AWMG is very similar to the AMG, and as such it is not described in detail in this section, the reader is referred to the description of the AMG in Section 7.6.3. The AMG underlies the AWMG, separated by a gabbro unit that thins below and to the west. They have been modelled as physically separate units based on the information available, however it is possible that further investigation may confirm continuity between these units.

7.7 Athona Geological Model

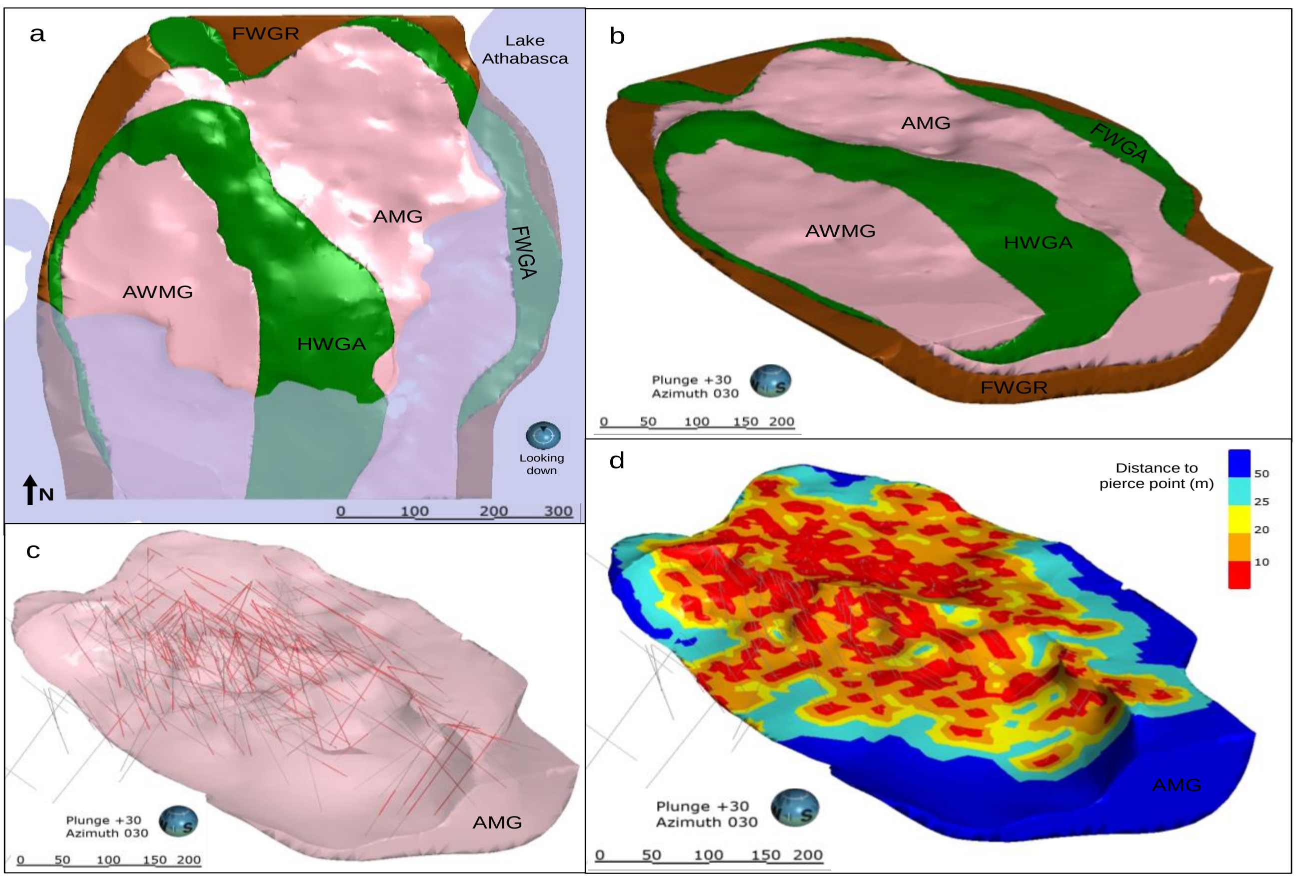
The Athona geological model (Figure 7-14) comprises volumes representing the Athona Mine Granite ("AMG"), the Athona West Mine Granite ("AWMG"), the AMG hangingwall gabbro (which forms the footwall to the AWMG), and the footwall granite and gabbro. The model is clipped to topography, with a thin discontinuous overburden unit included, and to the Lake Athabasca lake floor surface as defined by bathymetry survey data.

The currently delineated extent of the Athona Mine granite is approximately 750 by 450 m. The body is relatively flat lying, located in the hinge of a syncline (with a fold axis trending approximately N-S, and plunging gently to the south) with a true thickness of up to 140 m, eroded off towards the west and north. The Athona Mine granite has not been closed off to the south and southeast, where it underlies Lake Athabasca. The eastern margin of the AMG appears fault bounded, but there is not sufficient drill information to incorporate this into the geological model. The mineral resources reported in Section 14 are limited to within the AMG; no mineral resources have been estimated in the Athona West Mine Granite, as discussed in Section 14. The AMG model is constrained by 271 pierce points and 12,854 m of internal drill coverage (Table 7-2). A small proportion (1.1%) of the internal drill coverage comprises lithologies other than Athona Mine Granite that have been included in the model as their exclusion would introduce unwarranted complexity that cannot be reasonably resolved with the current drill coverage.

Table 7-2: Summary Information for the Geological Model of the Athona Mine Granite Lithological Unit.

Geological Model	Volume (m^3)	Surface Area (m^2)	Outcrop Area (m^2)	Pierce Points	Internal Drill Coverage (m)	Comment
Athona Mine Granite	15,739,000	748,650	159,760	283	13,605	The geological model includes 251 m (1.8 %) of drill intercept of lithologies other than the Athona Mine Granite.

Figure 7-14: Athona deposit geological model.



Source: Fortune Bay, 2022. (a) Plan view of model solids with lake outline shown for reference. (b) Isometric projection of the geological model solids, FWGR = footwall granite, FWGA = footwall gabbro, AMG = Athona Mine Granite, HWGA = hangingwall gabbro and AWMG = Athona West Mine Granite. (c) Isometric projection of the AMG model with drill traces and AMG drill intercepts used to create the model. (d) AMG model solid with color scale illustrating distance to drill pierce point.

8 DEPOSIT TYPES

A significant proportion of the world's gold deposits are genetically linked to the formation of metamorphic fluids that are typically characterized by low salinity, near neutral pH, and mixed $H_2O–CO_2$ compositions. These deposits, termed orogenic gold deposits, are represented by range of deposit types and ages, and are associated with regionally metamorphosed contractional terranes at convergent plate margins (Groves et al., 1998). They are also widely referred to, especially in older literature, as "mesothermal" or "lode-gold" deposits, as they commonly precipitated at around 300 °C, forming quartz-vein or fracture dominated ore systems. Although orogenic gold deposits are commonly associated with Archean granite–greenstone terranes, important examples of orogenic gold ores are also found hosted in a variety of Proterozoic and Phanerozoic settings. The dominant and characteristic genetic features that link all orogenic gold deposits are a synchroneity with major accretionary or collisional orogenic episodes and the production of metamorphic – and in some cases magmatic – fluids that precipitate metals at various crustal levels along deep-seated shear and fracture zones. It is widely recognized that these deposits were formed over a range of P–T conditions, occurring in granulite to greenschist facies host environments and ductile through to brittle structural regimes (Colvine, 1989; Groves, 1993).

Goldfarb et al. (2005) provide further description of orogenic gold deposits summarized as follows:

Most orogenic gold deposits formed synchronously with late stages of orogeny and may be subdivided into epizonal, mesozonal, and hypozonal subtypes based on pressure-temperature conditions of ore formation (Figure 8-1). Most gold deposits in metamorphic terranes are located adjacent to first-order, deep-crustal fault zones, which show complex structural histories and may extend along strike for hundreds of kilometres with widths of as much as a few thousand metres. Fluid migration along such zones was driven by episodes of major pressure fluctuations during seismic events. Ores formed as vein fill of second- and third-order shears and faults, particularly at jogs or changes in strike along the crustal fault zones. Mineralization styles vary from stockworks and breccias in shallow, brittle regimes, through laminated crack-seal veins and sigmoidal vein arrays in brittle-ductile crustal regions, to replacement- and disseminated-type orebodies in deeper, ductile environments (i.e., a continuum model). Most orogenic gold deposits occur in greenschist facies rocks, but significant ore bodies can be present in lower- and higher-grade rocks. Deposits typically formed on retrograde portions of pressure-temperature-time paths and thus are discordant to metamorphic features within host rocks. Spatial association between gold ores and granitoids of all compositions reflects a locally favorable structural trap.

Most orogenic gold deposits contain 2 to 5 percent sulfide minerals and have gold/silver ratios from 5 to 10 and gold fineness >900. Arsenopyrite and pyrite are the dominant sulfide minerals, whereas pyrrhotite is more important in higher temperature ores and base metals are not highly anomalous. Tungsten-, Bi, and Te-bearing mineral phases can be common and are dominant in the relatively sulfide poor intrusion-related gold deposits. Alteration intensity, width, and assemblage vary with the host rock, but carbonates, sulfides, muscovite, chlorite, K-feldspar, biotite, tourmaline, and albite are generally present, except in high-temperature systems where alteration halos are dominated by skarn-like assemblages.

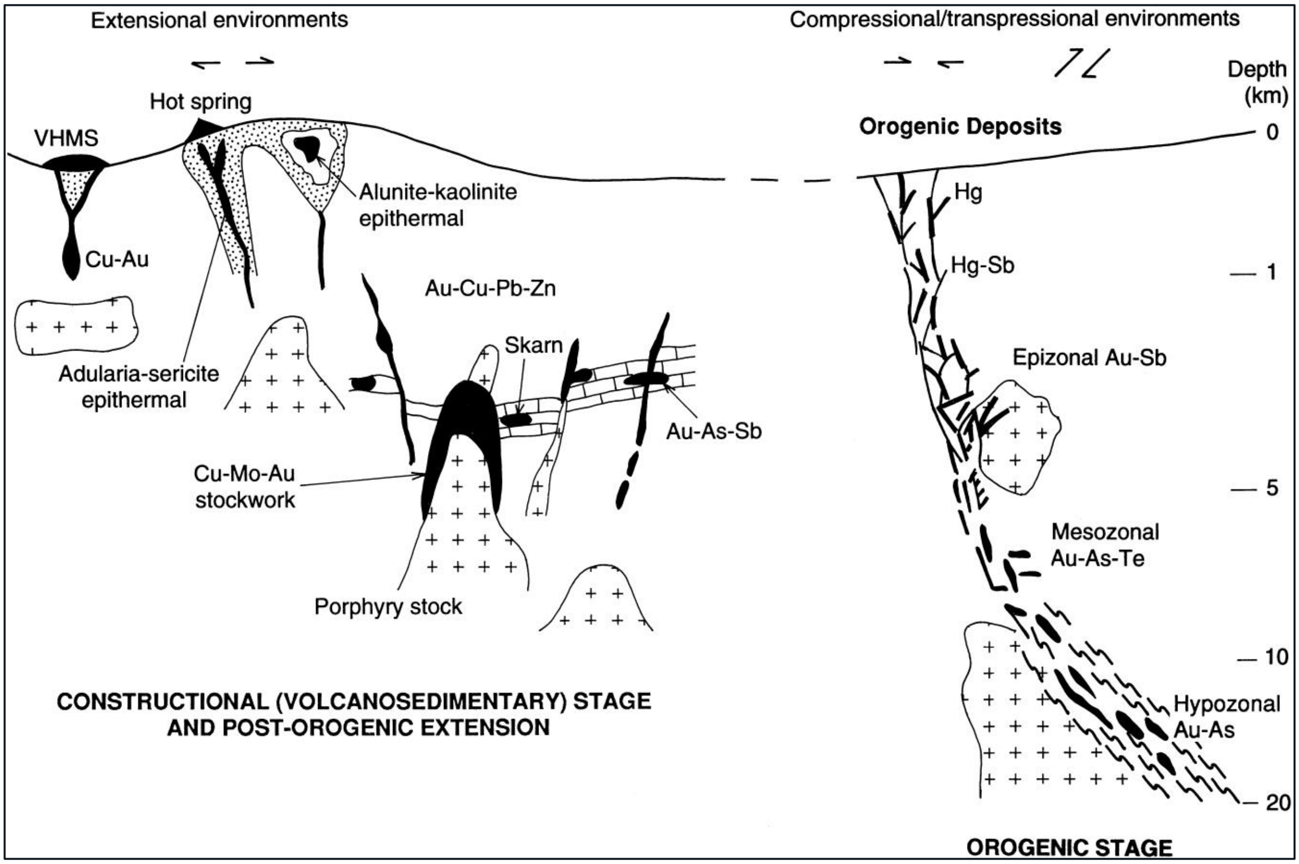
The vein-forming fluids for gold deposits in metamorphic environments are uniquely CO_2 and ^{18}O rich, with low to moderate salinities. Phanerozoic and Paleoproterozoic ores show a mode of formation temperatures at 250° to 350°C, whereas Late Archean deposits cluster at about 325° to 400°C. However, there are also many important lower and higher temperature deposits deposited throughout the continuum of depths that range between 2 and 20 km.

The specific model(s) for gold ore genesis remains controversial. Although the direct syngenetic models of the 1970s are no longer applicable, the gold itself may be initially added into the volcanic and sedimentary crustal rock sequences, probably within marine pyrite, during sea-floor hydrothermal events. Gold transport and concentration are most commonly suggested to be associated with metamorphic processes, as indicated by the volatile composition of the hydrothermal fluids, the progressive decrease in concentration of elements enriched in the gold deposits with increasing metamorphic grade of the country rocks, and the common association of ores with medium-grade metamorphic environments. Gold deposits of typically relatively low grade, which formed directly from fluid exsolution during granitoid emplacement within metamorphic rocks, are now also clearly recognized (i.e., intrusion-related gold deposits), but there are limited definitive data to implicate such an exsolved fluid source for most gold deposits within orogenic provinces. The fact that orogenic gold deposits are associated with all types of igneous rocks is problematic to a pure magmatic model. Hybrid models, where slab-derived fluids may generate rising melts that drive devolatilization reactions in the lower crust, are also feasible. Although involvement of a direct mantle fluid presents geochemical difficulties, the presence of lamprophyres and deep-crustal faults in many districts suggests potential mantle influence in the overall, large scale tectonic event controlling the hydrothermal flow system.

World-class orebodies are generally 2 to 10 km long, about 1 km wide, and are mined downdip to depths of 2 to 3 km. Prior to the last 25 years, ores were defined by grades of 5 to 10 g/t Au in underground mines; present-day economics, open-pit mining, and improved mineral processing procedures allow recovery of ores of ≤1 g/t Au, which has commonly led to the recent reworking of lower grade zones in many historic orebodies.

The Box and Athona gold mineralization shows many characteristics which support their classification as orogenic gold deposits. These include a regional association with an orogenic fold belt (Trans-Hudson Orogen), quartz-vein or fracture dominated ore systems within a brittle structural regime, and association with sulphides (albeit very low levels <0.5%). A distinctive first-order, deep-crustal structure is not obviously apparent at Goldfields, however the Black Bay fault provides a possible candidate that may have acted as the primary fluid pathway (pers. comm. R. Uken). The alteration assemblage at Box and Athona is atypical for orogenic gold deposits which may suggest the deposits represent a hybrid model. Yule et al. (2016) proposed the deposits closely resemble an oxidized intrusion-related (porphyry) gold setting which was largely based on the interpretation that veining was coeval with emplacement/formation of the Mine Granites, and the alteration zonation observed is typical of gold-rich porphyry style deposits. Recent petrographic study (SRK, 2021b) indicates the gold mineralization is epigenetic, post-dating the mine granites and an earlier hematite alteration event. This conclusion is supported by a structural analysis of the Box deposit by Roberts (1988) that demonstrated that the mineralized vein system was emplaced during deformation that affected (postdated) the emplacement of the host Mine Granites. Furthermore. the age and erosion-level of the country rocks in northern Saskatchewan suggest preservation of a porphyry-system would be unlikely. Further study involving characterization of the ore fluids and alteration assemblages may assist in better defining the deposit model.

Figure 8-1: Schematic Representation of Crustal Environments of Hydrothermal Gold Deposits in Terms of Depth of Formation and Structural Setting Within a Convergent Plate Margin.



Source: Groves et al. (1998). This figure is by necessity stylized to show the deposit styles within a depth framework. There is no implication that all deposit types or depths of formation will be represented in a single ore system.

9 EXPLORATION

Current exploration completed by the Company is summarized in the sections below. Historical exploration completed by previous operators is summarized in Section 6.

An exploration program was conducted on behalf of Fortune Bay by Mercator Geological Services Limited ("Mercator") in 2015, which generated a series of gold exploration targets which were prioritized for further work. Additional field investigation of selected targets was carried out in 2021, along with a reinterpretation of historical (2010) Titan DC/IP data. Results were integrated with all compiled historical exploration information in 2021 to generate exploration drill targets searching for additional gold deposits within the Goldfields Syncline.

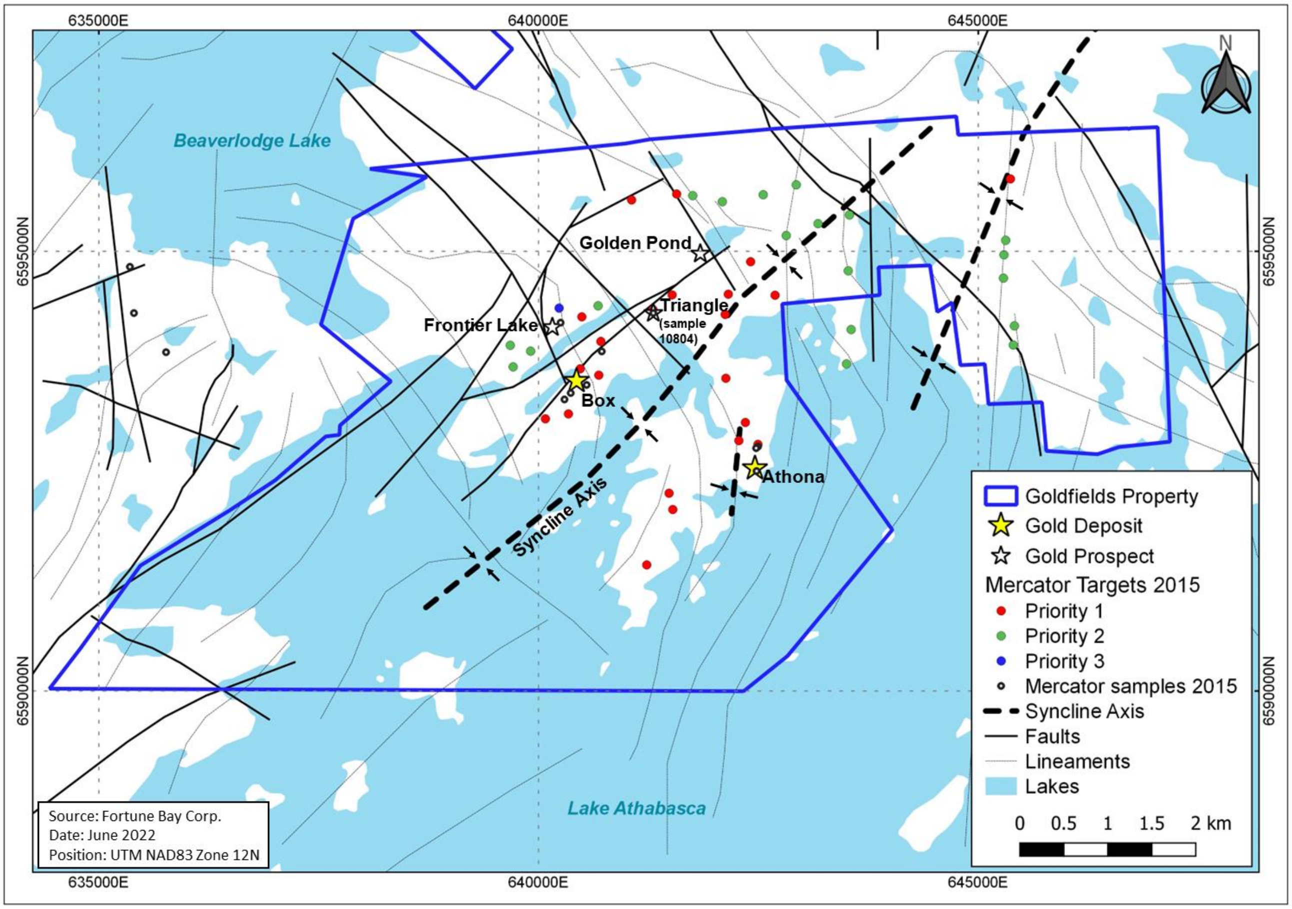
9.1 Mercator (2015) exploration targeting

This work program included a desktop structural and geophysical lineament study to delineate structural controls on mineralization and generate exploration targets, and a field investigation that included rock geochemical sampling. Details and outcomes of this work were presented in the previous Company Technical Report (Revering et al., 2021) and are summarized here for reference.

The lineament analysis, data compilation and desktop study was completed by Terrane Geoscience Inc. ("Terrane") under contract to Mercator. The Project and results are described in Kruse (2015). Data reviewed included all Company-generated and public domain geological, geophysical, topographic and satellite imagery, as well as all information pertaining to historical known gold and uranium occurrences in the area (as archived in the Saskatchewan Mineral Deposit Index, or SDMI).

In general, both the aeromagnetic and DEM data were found to reflect the mapped underling bedrock geology. Bedrock highs delineated by the DEM commonly trace the overall foliation trend while bedrock depressions commonly contain recessively weathered faults. The aeromagnetic data set was found to effectively delineate lithological boundaries with strong magnetic contrast. Digital datasets of major structures (geological boundaries, faults, unconformities, antiforms and synforms) were generated (Figure 9-1) to support targeting. Forty-two gold target locations (Figure 9-1) were selected within the current Goldfields license area for prospecting follow-up and were semi-quantitatively ranked for priority / prospectivity based on their stratigraphic and structural location and geophysical characteristics. A total of 9 rock grab samples were collected within the current Goldfields license area (Figure 9-1) and were analysed for gold and multiple elements (Section 11). Sample 10804 returned 177 ppm Au from the Triangle showing, which is the highest-grade sample collected to date from that area. Sampling results confirmed that mineralized granites at Box and Athona have been affected by intense K-feldspar±biotite alteration, have low sulphur content, and do not contain elevated concentrations of bismuth (Bi) and tungsten (W), which are typical of "orogenic" gold deposits.

Figure 9-1: Summary of Terran (Kruse, 2015) Structural Exploration Targeting and Locations of Samples Collected in 2015 By Mercator.



Source: Fortune Bay Corp., 2022

9.2 Exploration review, prospecting, and target assessment

Fortune Bay compiled all historical exploration information in 2021, as no consolidated exploration database has been maintained for the Project in the past. The data for significant gold occurrences at Frontier Lake, Golden Pond, and Triangle (Figure 9-1) were reviewed individually and the sites were visited during field prospecting carried out during Summer 2021, when high priority Mercator targets within the Goldfields Syncline were also visited and reviewed.

9.2.1 Historical exploration data compilation

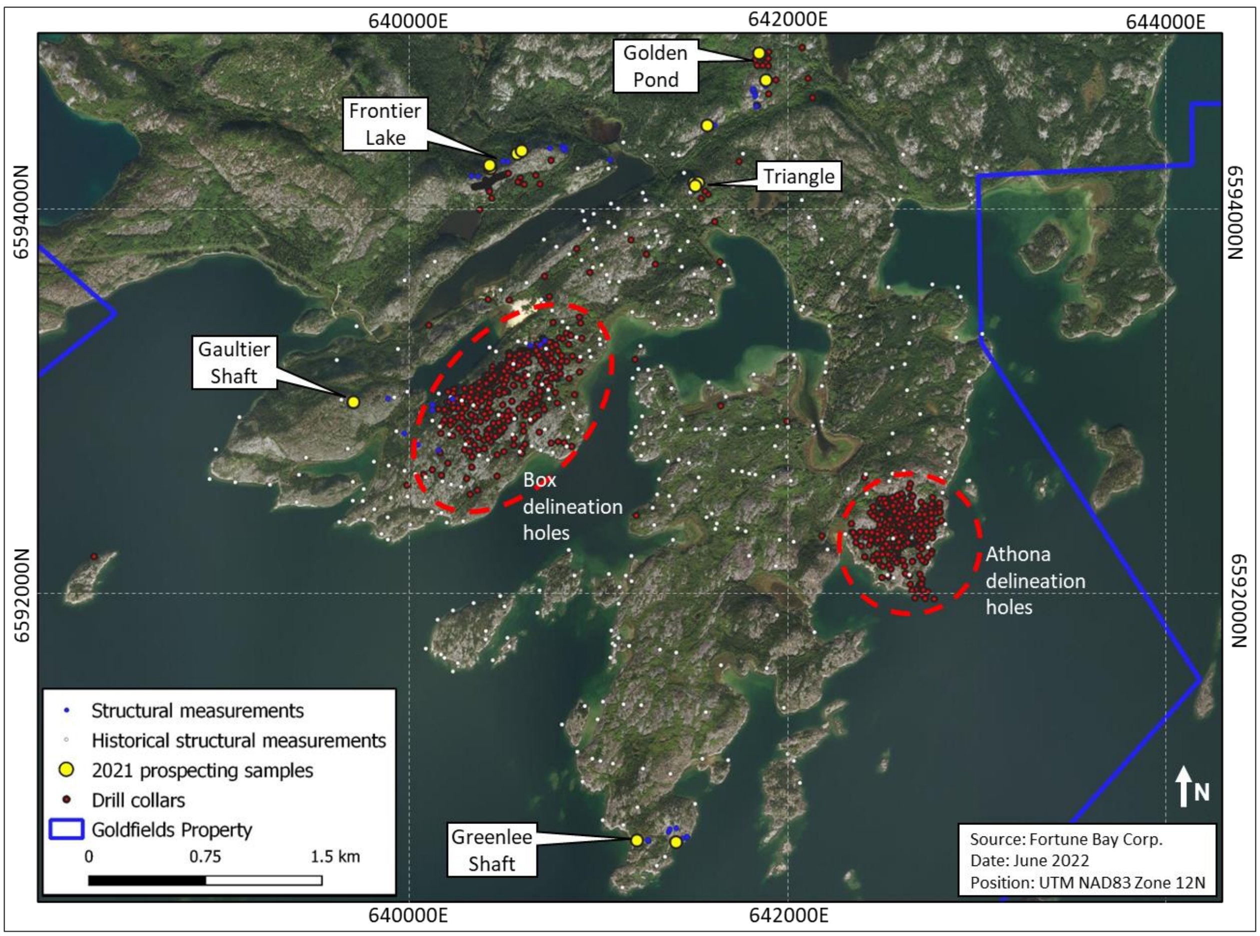
Fortune Bay compiled and integrated all historical exploration drilling information (unrelated to Box and Athona delineation drilling) from assessment reports and Company archives. This exercise resulted in a consolidated database containing drill information for 173 exploration holes outside of Box and Athona (14,148 m), including lithology logs, sample information and assay results (n = 3,682). Maps from historical assessment reports were scanned and georeferenced, allowing for capture of 354 historical structural measurements (strike/dip). The locations of these data points are shown in Figure 9-2. These compiled datasets were used to develop a simplified three-dimensional geological model of the Goldfields Syncline, as shown in Section 9.4, to support and guide exploration targeting.

9.2.2 Field prospecting

Field prospecting was carried out during summer 2021 by Fortune Bay staff. Scope of work included familiarization with and verification of historical mapping, verification of historical trench / shaft locations and structural / geological mapping. A total of 16 grab samples were collected, the locations of which are shown in Figure 9-2 and the results for which are shown in Table 9-1.

The exploration targeting exercise by Mercator in 2015 (Section 9.1) generated a prioritized list of 42 targets within the current Goldfields Project area. High priority targets within the Goldfields Syncline were investigated during the June 2021 field prospecting campaign. This work included field visits and assessments of the Frontier Lake, Golden Pond and Triangle occurrences (Sections 9.2.3 to 9.2.5), as well as visits to other Mercator targets, two additional historical mine shaft occurrences (Greenlee and Gaultier) and general prospecting traverses across the Athona and Box peninsulas.

Figure 9-2: Goldfields Exploration – Complete Drill Collar and Structural Measurement Locations Including 2021 Prospecting Grab Sample Locations.



Source: Fortune Bay Corp., 2022

Table 9-1: Gold Assay Results From Summer 2021 Prospecting Grab Samples.

Sample ID	X	Y	Occurrence	Sample Location	Au (g/t)
885501	640236.9	6594348	Frontier Lake	VG Trench	0.15
885502	640239.2	6594348	Frontier Lake	VG Trench	<.03
885503	640233.3	6594362	Frontier Lake	VG Trench	3.89
885504	640373.9	6594427	Frontier Lake	Outcrop	0.86
885505	640396.8	6594443	Frontier Lake	Bonanza Trench	0.83
885506	641307.8	6594303	Triangle	Dubnick Veins	0.29
885507	641298	6594311	Triangle	Dubnick Veins	0.13
885508	641319.2	6594311	Triangle	Dubnick Veins	0.12
885509	641304.4	6594295	Triangle	Dubnick Veins	4.92
885510	641650.5	6594856	Golden Pond	Historical Trench	<.03
885511	641609.9	6594995	Golden Pond	Historical Trench	0.29
885512	641355	6594610	Golden Pond	Historical Trench	<.03
885513	641128.7	6590888	Greenlee shaft	Greenlee shaft	0.6
885514	641332.2	6590886	Athona Peninsula	Large vein along shoreline	<.03
885515	639572.1	6593106	Gauthier shaft	Trench adjacent to shaft	<.03
885516	639572.1	6593107	Gauthier shaft	Trench adjacent to shaft	2.18

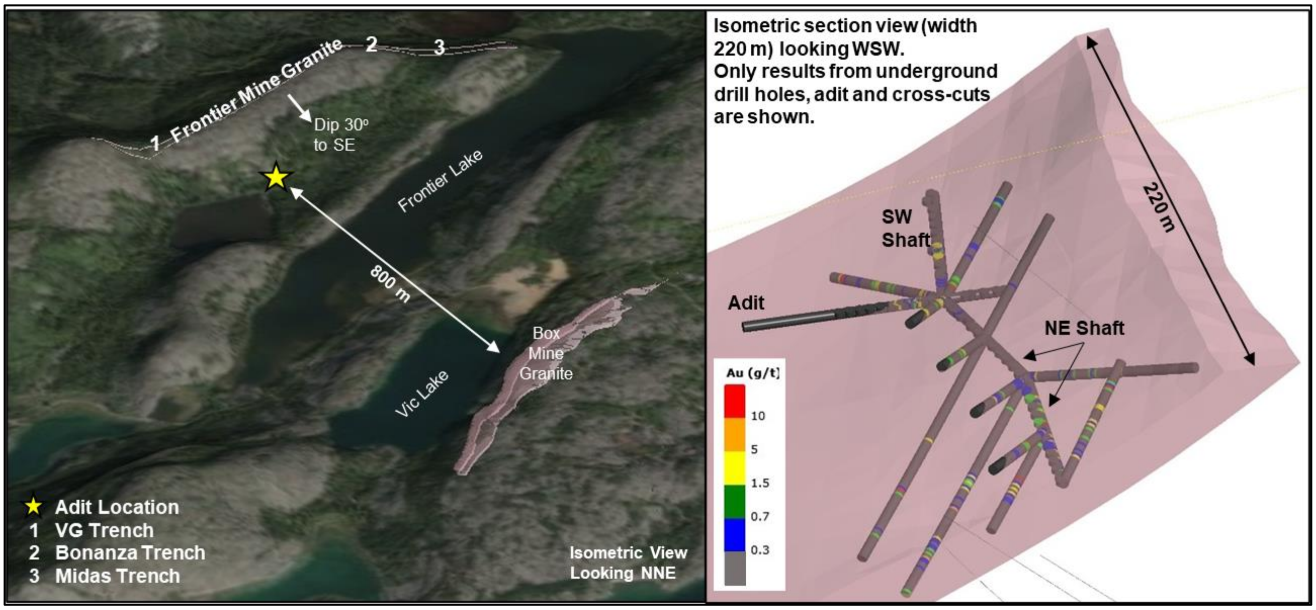
Note: Locations provided in UTM NAD83 Zone 12N.

9.2.3 Frontier Lake

Historical information for 26 core holes (comprising 3,275.0 m) was compiled, along with pseudotraces for an underground adit (101.0 m) and two cross-cut drifts (195.0 m, Figure 9-3) mined in 1940. Sample information and assay results were compiled for 2,004 drill core and underground channel samples. Drill hole lithology was captured, and a simplified model of the Frontier Mine Granite ("FMG") was created (Figure 9-3) to support assessments of exploration potential. Similar to the Box Mine Granite, the FMG is a 10 to 30 m thick tabular body striking ENE/WSW and dipping to the SSE at 30°.

The adit location was found and verified during field prospecting, but it has been closed off and could not be accessed. Historical trench locations (VG, Midas and Bonanza, Figure 9-3) were confirmed, mapped and sampled, verifying historical accounts of the nature and extent of mineralization. Five grab samples (Section 9.2.2) were collected at surface, returning a maximum grade of 3.89 g/t Au. Encouraging results are present, with a maximum historical drill core sample grade of 102.37 g/t over 1 m in hole LBU-11. While mineralization remains open in both along-strike and down-dip locations, the overall footprint of the mineralization appears limited, with an average assay grade of 0.28 g/t for the 2,004 samples. Locally higher-grade zones are however present associated with sulphide-bearing quartz vein sets. The orientations of these vein sets on surface appear consistent with those in the underground channel samples (as noted in historical assessment reports), suggesting up-dip grade continuity. Follow-up of this occurrence may be warranted in future to assess the potential for additional mineral resources to be delineated as part of an existing mine for Box and Athona, particularly as the majority of the mineralization and delineated FMG lies within a topographical high which is expected to result in a very favourable strip ratio.

Figure 9-3: Frontier Occurrence Location (see Figure 9-1), Summary FMG Model and Historical Assay Results.



Source: Fortune Bay Corp., 2021

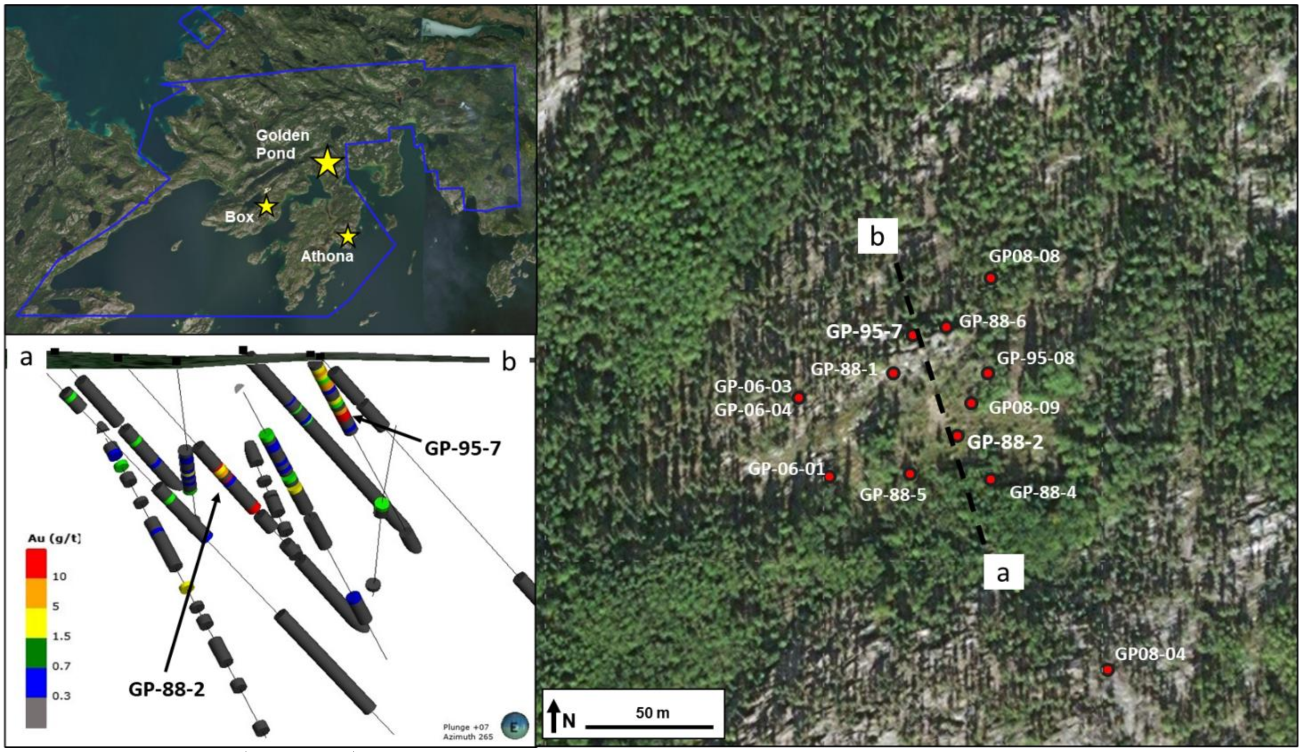
9.2.4 Golden Pond

Historical information for 21 core holes (comprising 2,752.3 m) was compiled, along with sample information and assay results for 887 core samples. This showing was investigated during the 2021 field visit and three grab samples were collected (Section 9.2.2, maximum 0.29 g/t Au). No discrete "mine granite" unit is present at this showing, which comprises sporadic quartz vein zones hosted within granites. High grades are present in the historical drill datasets, including highlights of:

- 20.90 g/t over 4 m from 33.4 to 37.4 m, including 104.57 g/t from 33.4 to 33.9 m in drill hole GP 88-2), and
- 5.07 g/t over 15 m from 3.0 to 18.0 m, including 25.11 g/t from 16.0 to 17.0 m in drill hole GP 95-7.

These two particular highlight intersections are approximately 30 m apart (Figure 9-4) and were drilled to intersect mineralized quartz vein systems observed at surface at shallow depths (20 to 30 m below surface). They show good correlation with each other along the predominant average quartz vein orientation (dipping at ~70° towards an azimuth of ~070°) as measured in the field by Fortune Bay staff in June 2021. The historical holes are drilled at shallow angles towards this quartz vein orientation, and while structural measurements are not available (core was not oriented), it is likely that the true mineralization thicknesses are significantly smaller. These grade intersections are however encouraging, and additional drilling may be warranted in future to explore grade and size potential to the northwest, where mineralization remains open and unexplored.

Figure 9-4: Gold Pond Occurrence Location and Historical Drill/Assay Results.



Notes: The section view (bottom left) has a width of 50 m, section is oriented dipping at 70° towards an azimuth of 070°, along the trace (a-b) shown in the detailed drill hole plan map (right). The section orientation matches the average quartz vein orientation as measured at surface. Source: Fortune Bay, July 2022.

9.2.5 Triangle

The Triangle showing (location shown in Figure 9-1) was investigated during the 2021 field visit and four grab samples were collected (Section 9.2.2, maximum 4.92 g/t Au). As shown in Figure 9-5, this occurrence is unique at Goldfields in that the mineralized quartz veins are hosted in carbonaceous rocks located in the hinge of the Goldfields Syncline at the base of the Murmac Group. On average, the mineralized quartz veins dip at approximately 50° towards an azimuth of 240°. While the showing location has been cleared of moss and overburden (Figure 9-5) for mapping and sampling during historical exploration activities (in 2004), the surrounding area is characterised by thick swampy vegetation with very limited outcrop.

Unlike the other significant gold occurrences (Box, Athona, Frontier Lake and Golden Pond) at Goldfields that were all discovered in the early history of the Project (around or prior to 1940), the Triangle showing was only discovered in 2002 due to its limited outcrop extent, and it has been subjected to significantly less exploration. A total of six historical drill holes (828 m) have tested this location, from which 208 drill core samples were collected. The sampling results include a maximum assay of 0.96 g/t, and an average of 0.05 g/t Au. The drill hole orientation (towards azimuth 270° to 300° at dips of 55° to 75°) for all these holes is however sub-parallel to the mineralized quartz vein orientation. The actual thickness and extent of the vein system has therefore not been properly tested either down dip or along strike of the located occurrence, and additional drilling may be warranted in future to follow up on this outcropping occurrence, where surface grab samples have returned a maximum grade of 177 g/t (Section 9.1).

Figure 9-5: Triangle Gold Showing

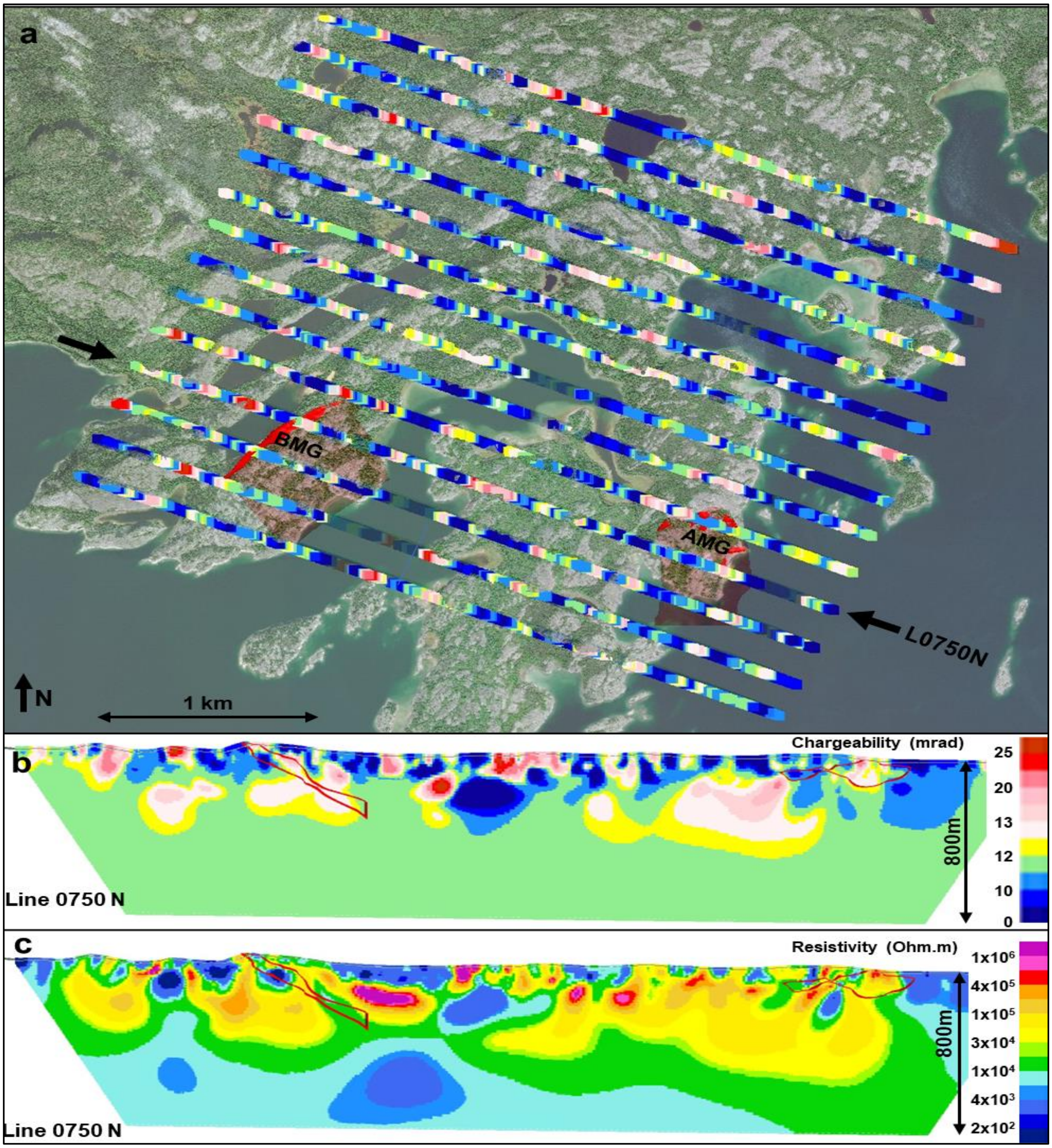
Notes: Both photos are taken looking along the main quartz vein orientation, towards the north northwest. Source: Fortune Bay, June 2021.

9.3 Titan IP survey data reprocessing

A historical Titan-24 DC/IP deep resistivity and chargeability survey was carried out by Quantec Geoscience Ltd. ("Quantec") in 2010 over a portion of the Goldfields Project encompassing the Box and Athona deposits (Figure 9.6). The survey grid included fourteen DCIP survey lines each 3.25 km in length, oriented at 118 degrees azimuth with a station spacing of 250 m. Each line was surveyed using a dipole size of 100 m, with a spread length of 4 km and using a pole-dipole configuration (Quantec, 2010). Data interpretation by Quantec was carried out through inversions to produce cross-sections of resistivity and chargeability using the UBC DCIP2D inversion code (Oldenburg & Li, 1994).

A reinterpretation of these data was carried out by Geostudi Astier SRL ("Geostudi") of Livorno, Italy, using ERTLab Studio software with a full 3D approach, producing volumes of the distribution of both electrical resistivity and chargeability at the site to the depth of -550 masl (Geostudi, 2021). The deliverable products from this study included vertical and horizontal resistivity and chargeability sections through the survey area, as well as 3-D model solids for high/low resistivity and chargeability at selected cut-offs to illustrate and delineate anomalies. An example section (Line 0750N) is shown in Figure 9-6, illustrating the response of the Box and Athona Mine Granites as weak chargeability highs and resistivity lows. While the near-surface (upper 100 m) results are highly variable and "noisy" due to the complex and varying distribution of lakes, outcrop and overburden, these datasets provided additional anomaly resolution in comparison to the deliverable products generated in 2010 and showed good correlation with known surface geology and structure.

Figure 9-6: Quantec Titan DC/IP Survey Line Locations and Reprocessed Section Line Examples.



Notes: (a) Plan map showing survey line locations, (b) chargeability section through Line 0750N and (c) Resistivity section through Line 0750N. The Box and Athona Mine Granites ("BMG" and "AMG", respectively) are shown in plan view and their outlines are shown in red in the section views below. Source: Fortune Bay, June 2022.

9.4 Exploration Targeting for Winter 2022 Drilling

A total of four exploration drill holes comprising 1,343 m were completed at Goldfields during Winter 2022. Details of the drilling are provided in Section 10, with results presented in Section 11. Explanation and details of the targeting rational used for this program are provided below.

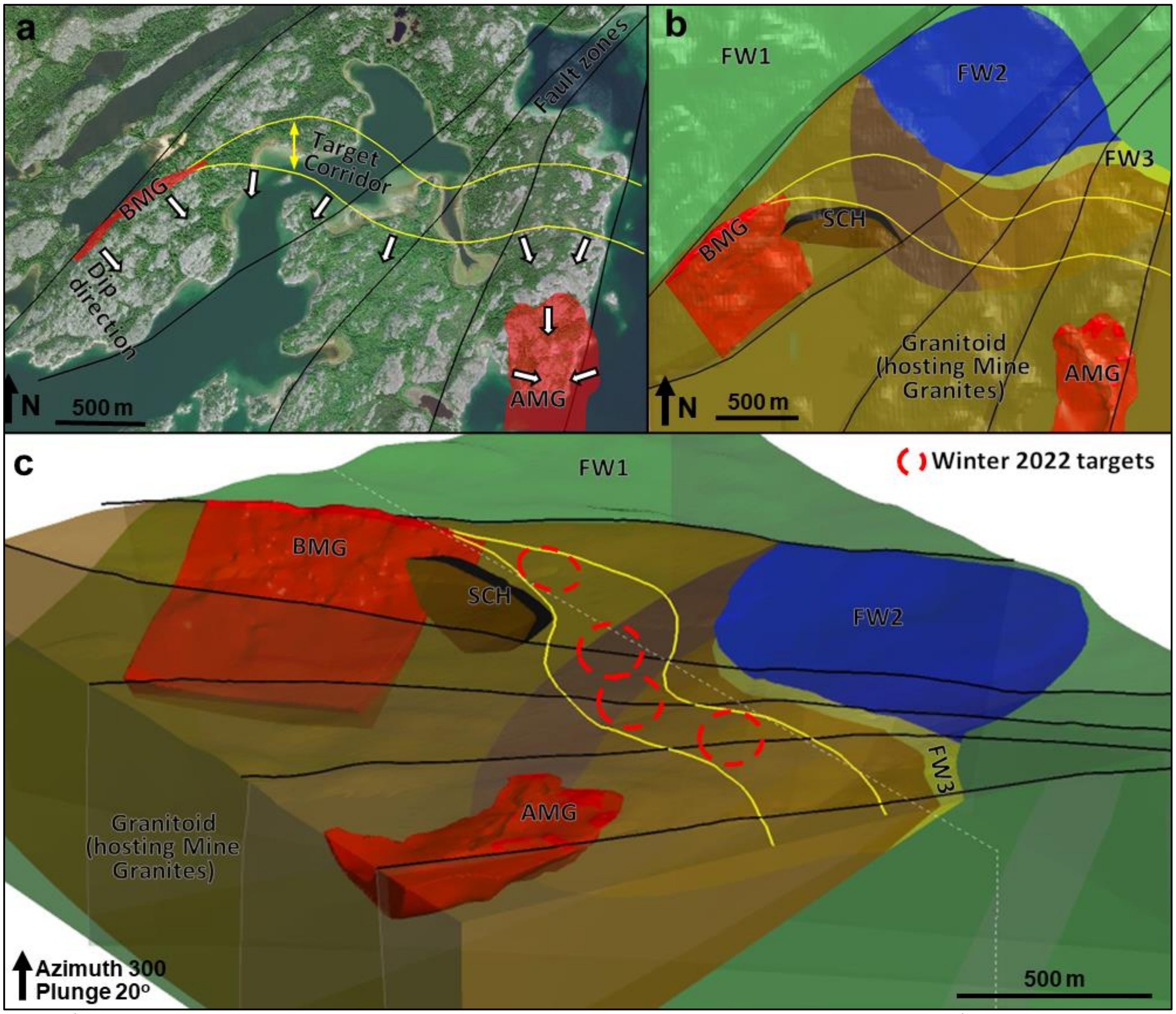
The review by Terrane (Kruse, 2015) of information pertaining to historical gold deposits such as those at the Athona and Box mines, plus various mineral occurrences, concluded that the main large-scale structural controls on location of gold mineralization on the Goldfields Project are at contacts between granite and mafic gneisses. The geometry of these in turn is considered to be fold-controlled by the interference of large-scale moderately NE- or SW-plunging synform-antiform pairs with steeply inclined axial planes. All significant mineralization (Box, Athona, Frontier, Triangle, Golden Pond) is located in close proximity to major NE/SW trending structures, clustered around the closure and proximal limbs of a regional NE-SW trending synform (Goldfields Syncline). All know gold occurrences are located within the Murmac Bay Group, with the significant deposits (Box and Athona) located at or in close proximity to the base of this unit. These observations were used as targeting criteria to generate a set of four drill targets across the untested extents of the Goldfields Syncline, between Box and Athona:

The geometry of the Goldfields Syncline is well established through extensive historical prospecting. Over 350 historical structural measurements (dip/azimuth) were captured to GIS and were integrated with observations made by Fortune Bay staff (during a field prospecting visit carried out in Fall, 2021) to support the development of a summarized geological model of the syncline (Figure 9-7), to support exploration targeting. This exercise delineated a “target corridor” at the base of the Murmac Group, extending eastward from Box towards Athona. The Box deposit thins and pinches out at its eastern margin, but short intersections of BMG have been noted in along-strike drilling outside of the extents of the modelled BMG, suggesting that additional mineralization may be present within this corridor, which trends under the shallow waters of Nieman Bay

Large-scale NE/SW trending faults were mapped using a combination of the reprocessed Titan DC/IP data, historical magnetic survey data, digital elevation data and satellite photography. The area is structurally complex; these large-scale fault zones are considered to be thrust zones associated with severe compression during the Hudsonian Orogeny (ca. 1.95 to 1.75 Ga). These structures are in turn offset and crosscut by (predominantly) E/W trending normal faults related to release of compression (ca. 1.4 Ga) and vertical adjustment (subsidence of the Athabasca Basin to the south). The large NE/SW fault systems were mapped as possible proxies for the large-scale structures adjacent to Box and Athona, which may have acted as conduits for gold-mineralizing fluids.

Intersections of these large structures with the stratigraphic structural corridor were targeted for exploration drilling with four holes, to obtain a broad, spatially representative coverage of the approximate 2 km extent of the Goldfields Syncline (Figure 9-7).

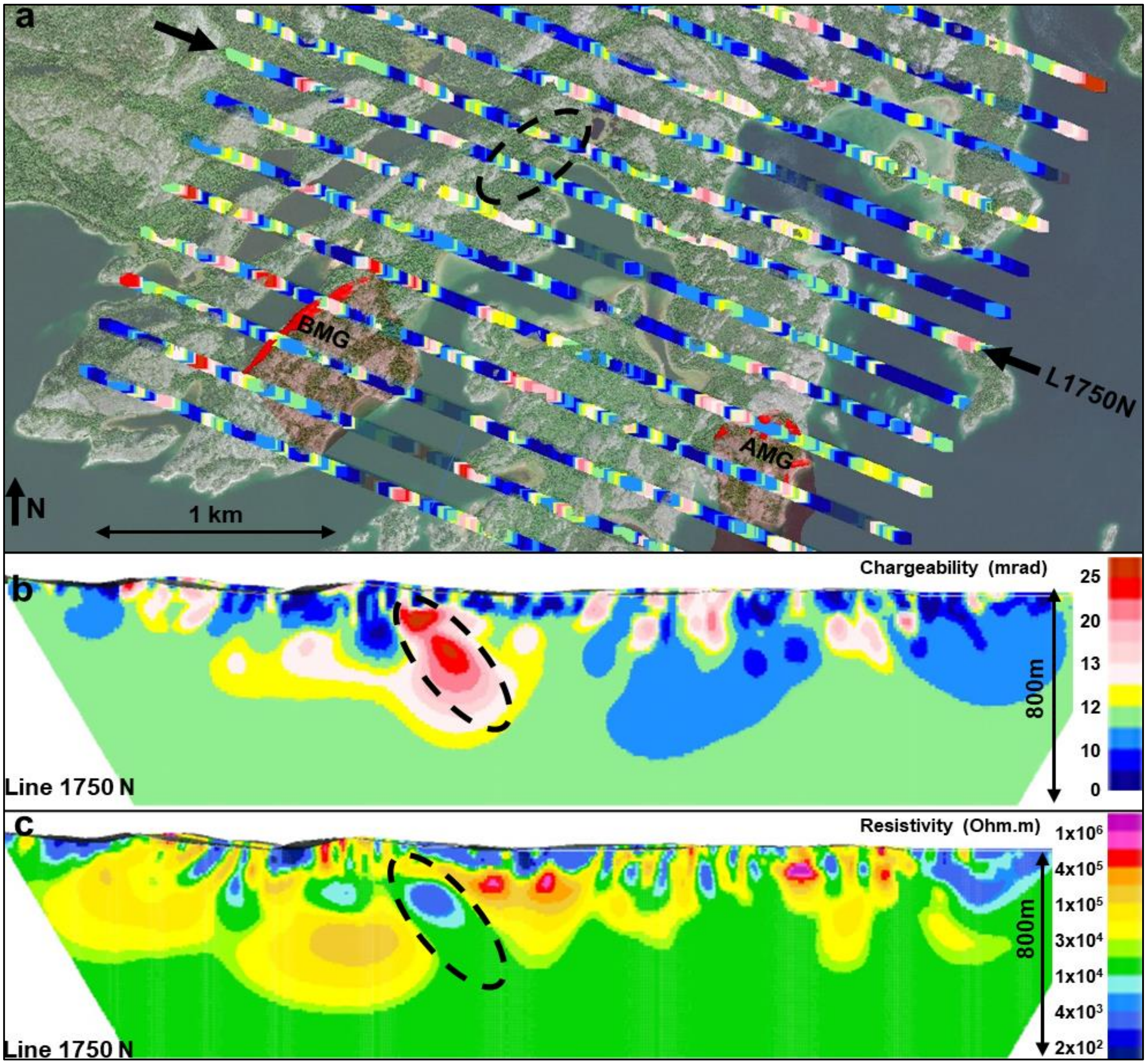
Figure 9-7: Goldfields Syncline Exploration Targets for Winter 2022 Drill Testing.



Notes: a) Plan map showing location of target corridor within the Goldfields Syncline and major fault zones; b) Plan view of simplified geological model developed for targeting (FW1 = background footwall lithologies, FW2 = northern carbonaceous footwall, FW3 = quartzite footwall, SCH = internal schist horizon; c) Isometric view of the summarized geological model illustrating Winter 2022 exploration drill target locations. Source = Fortune Bay, June 2022.

An additional geophysical target was selected for drill testing from the reprocessed Titan DC/IP data. This target comprised a chargeability high / resistivity low (Figure 9-8) consistent with the signature of the BMG, spanning three survey lines (strike length of 500 m). Historical drill testing in the area was found to not have tested this anomaly, which was drilled in Winter 2022.

Figure 9-8: Chargeability High / Resistivity Low Target (Circled In Black) Selected for Drill Testing In Winter 2022.



Source: Fortune Bay, June 2022.

10 DRILLING

The mineral resources stated in Section 14 are predominantly based on extensive historical surface and underground drilling, and underground channel sampling, carried out by previous operators. Historical drilling at Goldfields ceased in 2011, and while it is referred to in Section 6 it is also summarized here in Section 10.2 as supporting background information for the mineral resource estimate in Section 14.

Fortune Bay has drilled a total of 18 holes at Goldfields during the period January 2021 to March 2022 in two phases; Phase 1 completed during 2021 explored for deeper (Box) and along strike (Athona) mineralization with oriented core to assess mineralization and structural continuity in previously untested areas. Phase 2 completed during winter 2022 explored the Goldfields Syncline for undiscovered mineralization along strike between Box and Athona. This drilling is discussed in Section 10.1.

10.1 Fortune Bay Drilling (2021-2022)

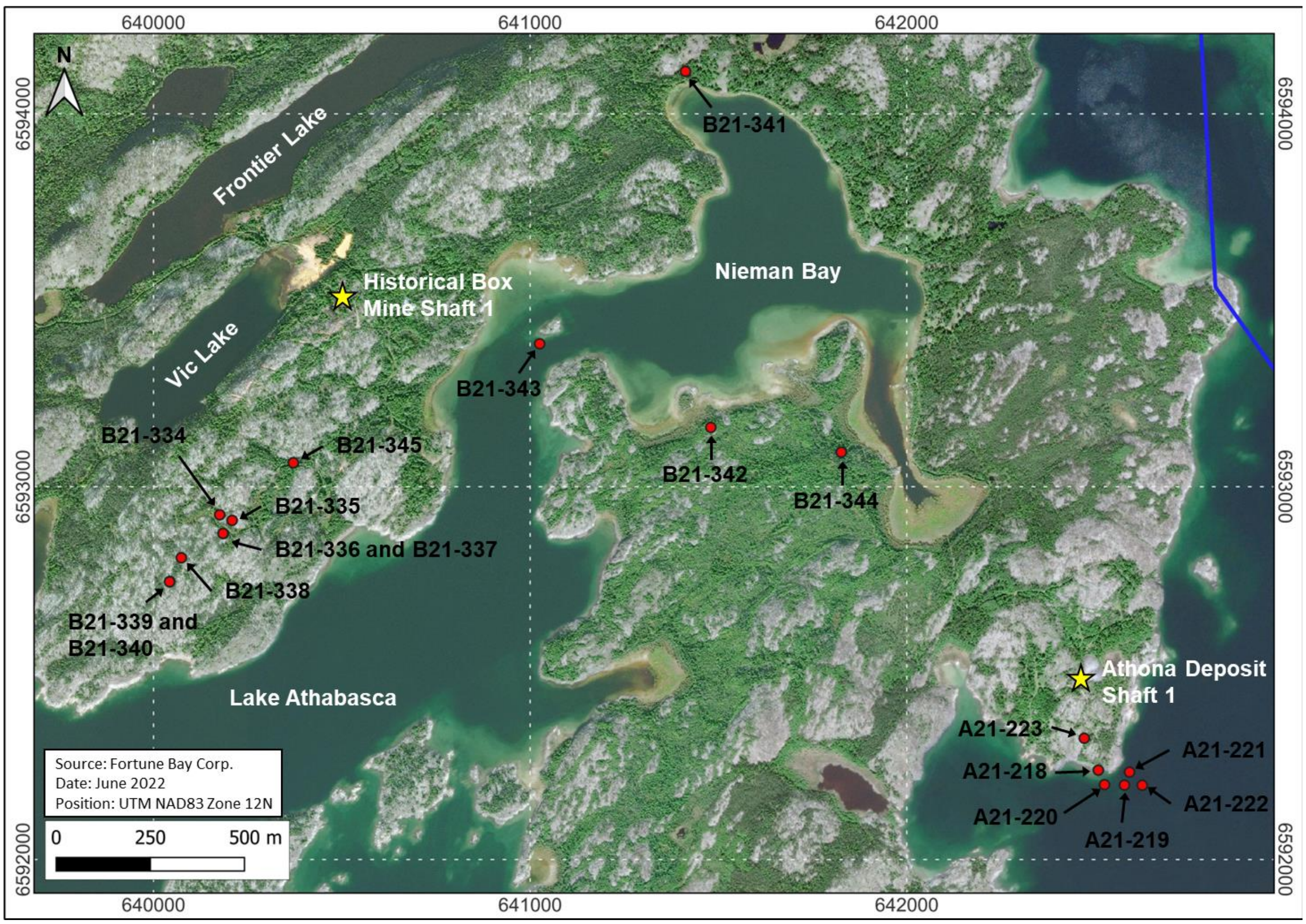
A total of 18 holes comprising 6,946.0 m was drilled during the period January 2021 to March 2022. All drilling was carried out by Team Drilling LP ("Team") of Saskatoon, Saskatchewan. The programs at Athona and Box were designed to expand the mineralization footprints beyond the historical drilling coverage, and to commence delineation of additional mineral resources. The drill used was a Zinex A5 diamond drill using NQ core diameter, with a switch to NQ2 diameter with a stabilized hexagonal core barrel later in the program to reduce hole deviation. Relevant collar information for all holes is included in Table 10-1. Collar locations were captured using a high precision (<1 m accuracy) Arrow 100 GPS. Drill hole orientation was recorded at approximate 50 m intervals down hole using a Reflex magnetic survey tool. Orientation marks, allowing for measurement of the true orientation of structures within the core, were made on the core between 3 m runs using a REFLEX ACT tool. The locations of all drill collars are shown in plan view in Figure 10-1. The drill traces are shown in 3D space relative to the models of the Box and Athona Mine Granites in the results section below. Drilling at Box and Athona has been oriented with dips as shallow as practically achievable to intersect mineralized vein sets at the highest angle possible and maximise the internal coverage of the targeted Mine Granite for each drill hole.

Table 10-1: Collar Information for Core Holes Drilled by Fortune Bay During 2021 and 2022.

Drill hole	Phase	Target	X	Y	Z	Depth (m)	Azimuth	Dip
A21-218	1	Athona	642509	6592239	210	198.0	90	-60
A21-219	1	Athona	642578	6592199	210	211.9	270	-60
A21-220	1	Athona	642525	6592201	213	183.0	270	-60
A21-221	1	Athona	642591	6592234	210	181.5	270	-60
A21-222	1	Athona	642625	6592199	209	176.6	270	-60
A21-223	1	Athona	642471	6592325	218	219.0	90	-45
B21-334	1	Box	640175	6592924	247	419.0	84	-56
B21-335	1	Box	640209	6592909	249	572.0	85	-54
B21-336	1	Box	640185	6592874	247	647.0	80	-55
B21-337	1	Box	640184	6592874	247	521.0	82	-60

Drill hole	Phase	Target	X	Y	Z	Depth (m)	Azimuth	Dip
B21-338	1	Box	640073	6592809	246	638.0	85	-55
B21-339	1	Box	640043	6592746	241	605.0	86	-55
B21-340	1	Box	640042	6592745	239	602.0	96	-55
B22-341	2	DC/IP target	641412	6594114	214	330.0	270	-70
B22-342	2	Goldfields Syncline	641480	6593159	213	375.0	0	-50
B22-343	2	Goldfields Syncline	641025	6593383	207	350.0	0	-50
B22-344	2	Goldfields Syncline	641826	6593092	210	288.0	10	-50
B22-345	2	Box	640371	6593064	240	429.0	78	-55

Figure 10-1: Drill Locations for Core Holes Drilled by Fortune Bay During 2021 and 2022.



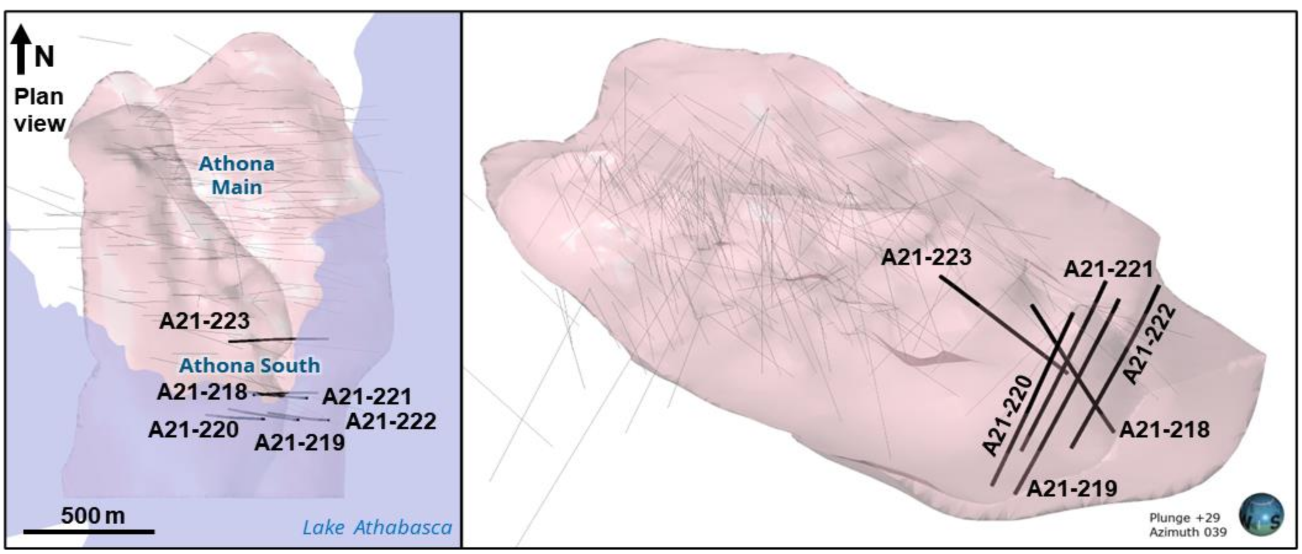
Source: Fortune Bay Corp., 2022

10.1.1 Athona Drilling

At Athona, the primary objective of the drilling was to further investigate historical gold results at the south end of the deposit (Athona South, Figure 10-2), and to carry out step-out drilling to the south where mineralization remains open along strike.

- Drill holes A21-219, A21-220 and A21-222 were completed as an east-west fence, approximately 50 m south of the southernmost historical holes that define the Athona deposit. The holes were spaced approximately 50 m apart along the fence and drilled at a relatively shallow angle toward the west with the objective of intersecting mineralized structures at high angles.
- Drill holes A21-218 and A21-221 were completed as a pair of scissor holes (i.e., drilled in opposite directions to the east and west, respectively) with the objective of validating 1930's historical holes at Athona South with broad sample coverage and determining the orientation of mineralized structures. Historical drill holes could not be twinned due to current permit restrictions which do not allow drilling close to shorelines.
- Drill hole A21-223 was drilled in the gap between Athona South and Athona Main (Figure 10-2), an area of approximately 120 by 200 metres, where poor coverage of 1930's historical drill holes with very limited sampling (with higher-grade assay results) indicates selective sampling of only the most visually compelling intervals. Unsampled intervals were allocated zero grade for mineral resource estimation (Section 14); this hole was drilled to test if this could have introduced a conservative bias into the grade estimate.

Figure 10-2: Athona Drill Locations for Core Holes Drilled by Fortune Bay During 2021 and 2022.



Source: Fortune Bay, July 2022.

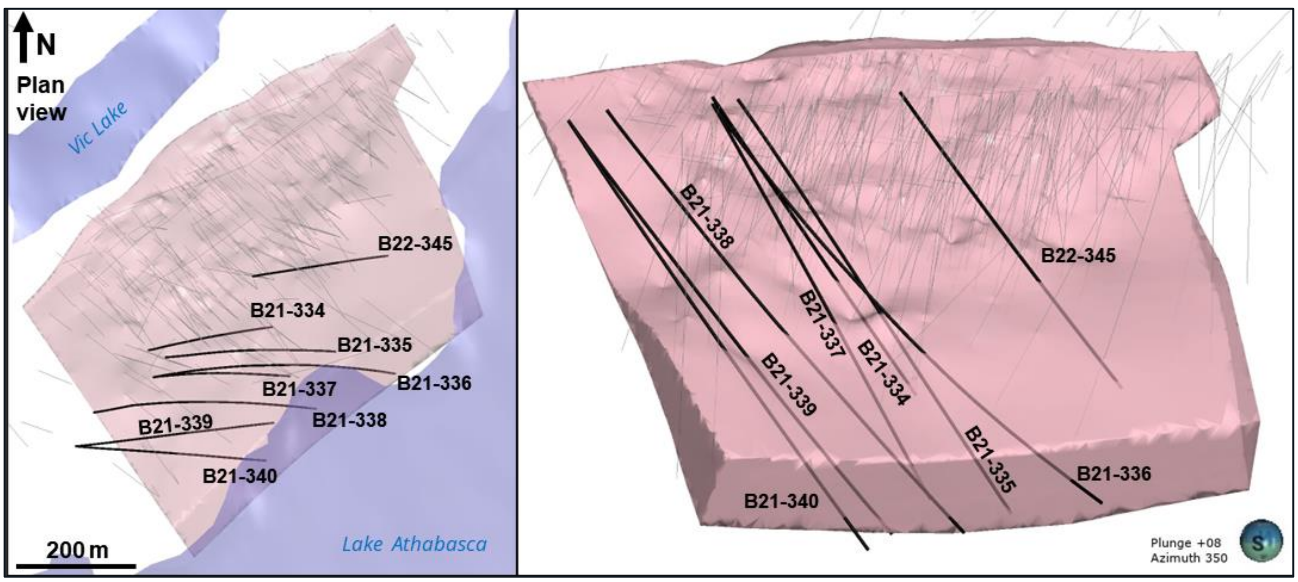
10.1.2 Box drilling

At Box, step-out drilling was planned both along strike and down-dip of historical higher-grade drill intercepts. Drill hole locations were planned to intercept the BMG down dip from high grade zones within the constrained mineral resources reported in Revering et al. (2021), to expand the footprint of the mineralization and assess grade potential and continuity at depth. Drill hole locations are shown in Figure 10-3.

Drill hole B21-334 targeted a gap in the historical drilling coverage adjacent to historical high-grade results, initially intersecting the BMG within the extent of the 2021 mineral resource estimate ("2021 MRE") and extending down-dip outside of the 2021 MRE. The purpose of this hole was to provide infill coverage, test for que sodown-dip mineralization continuity and provide confirmation on mineralized vein set orientations at depth for ongoing drill hole planning.

- Drill hole B21-335 provided an approximate 50 metre step-out down-dip from B21-334.
- Drill hole B21-336 provided an additional 50 metre step-out down-dip from B21-335, entirely outside of the extents of the 2021 MRE. This hole shallowed significantly with depth from -55° dip at collar to -33° dip at the end of hole.
- Drill hole B21-337 provided an approximate 50 m step along strike from hole B21-335, to test for along-strike mineralization continuity and to extend coverage stepping south.
- Drill holes B21-338, B21-339 and B21-340 each provided progressive approximate 50 metre step-outs south along strike from B21-337.
- B22-345 was drilled to target a significant gap in down-dip drill coverage on the north-east extent of the Box Mine Granite (BMG), representing an approximate 100 metre step-out down dip from previous drilling.

Figure 10-3: Box Drill Locations for Core Holes Drilled by Fortune Bay During 2021 and 2022.



Source: Fortune Bay, June 2022.

10.1.3 Exploration drilling

Four exploration holes were drilled during winter 2022 to test the targets described in Section 9.4. The locations of these holes (B22-341 to B22-344) are shown in Figure 9-1.

B22-341 was drilled to test a Titan IP conductivity high / resistivity low target with similar geophysical characteristics to the Box Mine Granite (Figure 9-8). A thin interval (134.4 to 145.5 metres) of granite with quartz veining was intersected. While visually similar to the Goldfields Project "Mine Granites", the unit contained disseminated sulphides (predominantly pyrite) not associated with the quartz veins, and no significant mineralization was encountered. This unit, and surrounding sulphide-bearing pelites, are considered to explain the geophysical anomaly that was targeted.

B22-342 to B22-344 were drilled at coincident stratigraphic and structural targets within the Goldfields Syncline. The Box and Athona gold deposits occur within "Mine Granites" located in similar stratigraphic positions at the base of the Murmac Group within the Goldfields Syncline, providing a preferred "target corridor" to explore for additional gold mineralization, particularly at the intersection of major north-south to northeast-southwest oriented fault systems. Three holes (1,013 metres) were drilled to test prioritized targets. All three holes intersected the base of the Murmac Group and fault zones.

10.1.4 Core handling and logging

Upon receipt from the drill contractor (Teams), all drill core was transported to the Fortune Bay logging and storage facility in Uranium City. Core boxes were checked and labelled, and 1 m depth intervals were marked on the core with grease pencils. All core is stored in the Fortune Bay core storage facility in Uranium City. Logging and handling included capture of the following datasets:

- Core return (length of actual core recovered per 3 m run)
- Rock quality designation (a measure of the degree of jointing or fracture in rock mass).
- Orientation mark information
- Rock strength (based on International Society for Rock Mechanics method)
- Oriented point structure information
- Structural information as an interval log
- Nature and extent of alteration as an interval log
- Lithology information

10.1.5 Drill core gold sampling and results

Samples for gold assay and bulk density analysis have been collected. Samples were sealed in labelled bags with an identifying ticket and were placed into plastic pails for export. All pails were sealed with security tags when filled. Samples were exported either using commercial air freight (Rise Air), or by a combination of charter flight to Fort MacMurray and subsequent overland trucking, to Saskatoon for analysis.

Gold assay samples comprise 1 m increments of half-cut (using a diamond core saw) NQ or NQ2 core. All potentially mineralized intervals were visually selected and marked up for sampling. Samples were collected to not cross lithological boundaries, and a small number of samples deviate from an exact 1 m length due to this adjustment.

A total of 3,036 samples were collected and submitted for gold assay (Table 10-2). All samples from Box and Athona, for which the results are incorporated into the mineral resource estimate (Section 14), were analysed by screened metallics methods. Samples from exploration holes (drill holes B22-341 to B22-344) were submitted for standard gold fire assay and multi-element analysis. Sample processing details are provided in Section 11. Drill assay sample coverage and results from Box and Athona are shown in plan and isometric view in relation to 3D models of the Mine Granites in Figure 10-4 and Figure 10-5.

Table 10-2: Drill Core Samples (1m Length).

Location	Drill Hole	Samples	Au (g/t)		Analysis
			Average	Maximum	
Athona	A21-218	158	0.17	6.1	Screened metallics
	A21-219	170	0.35	4.77	
	A21-220	96	0.12	4.1	
	A21-221	147	0.27	3.02	
	A21-222	137	0.39	16.7	
	A21-223	176	0.36	8.18	
	Athona Total	**884**			
Box	B21-334	172	0.70	29.19	
	B21-335	303	0.40	18.02	
	B21-336	280	0.73	88.58	
	B21-337	203	0.43	12.45	
	B21-338	316	0.31	13.12	
	B21-339	258	0.33	31.54	
	B21-340	322	0.53	103.3	
	B22-345	190	0.58	12.3	
	Box Total	**2,044**			
Goldfields Syncline Exploration	B22-341	24	0.01	0.042	Au fire assay and multi-element analysis
	B22-342	28	0.02	0.26	
	B22-343	38	0.00	0.022	
	B22-344	18	0.01	0.019	
	Exploration Total	**108**	**0.01**	**0.26**	
	Project Total	**3,036**			

10.1.6 Athona sampling and results

Highlight composite results from Athona are shown in Table 10-3. The results from Athona (illustrated in Figure 10-4) support the following observations:

- Drill holes A21-219, A21-220 and A21-222 all intersected mineralization, demonstrating expansion of Athona to the south. Mineralization remains open to the south, east and west of these drill holes.
- Drill holes A21-218 and A21-221 intersected grades and mineralization characteristics consistent with those observed within the Athona Main deposit, suggesting continuity between Athona Main and Athona South. Historical high grade composite results (over lengths of up to 60 m) at Athona South in the historical assay database could not be verified. These results were used for estimation of mineral resources in historical estimations (in and before 2011) but were excluded from the previous Fortune Bay mineral resource estimate (Revering et al., 2021) and this current estimate (Section 14); these results are considered to justify their exclusion.
- Results from drill hole A21-223 demonstrate that this very poorly sampled area (between Athona South and Athona Main) has mineralization characteristics (grade and thickness) consistent with the Athona Main and Athona South bodies.

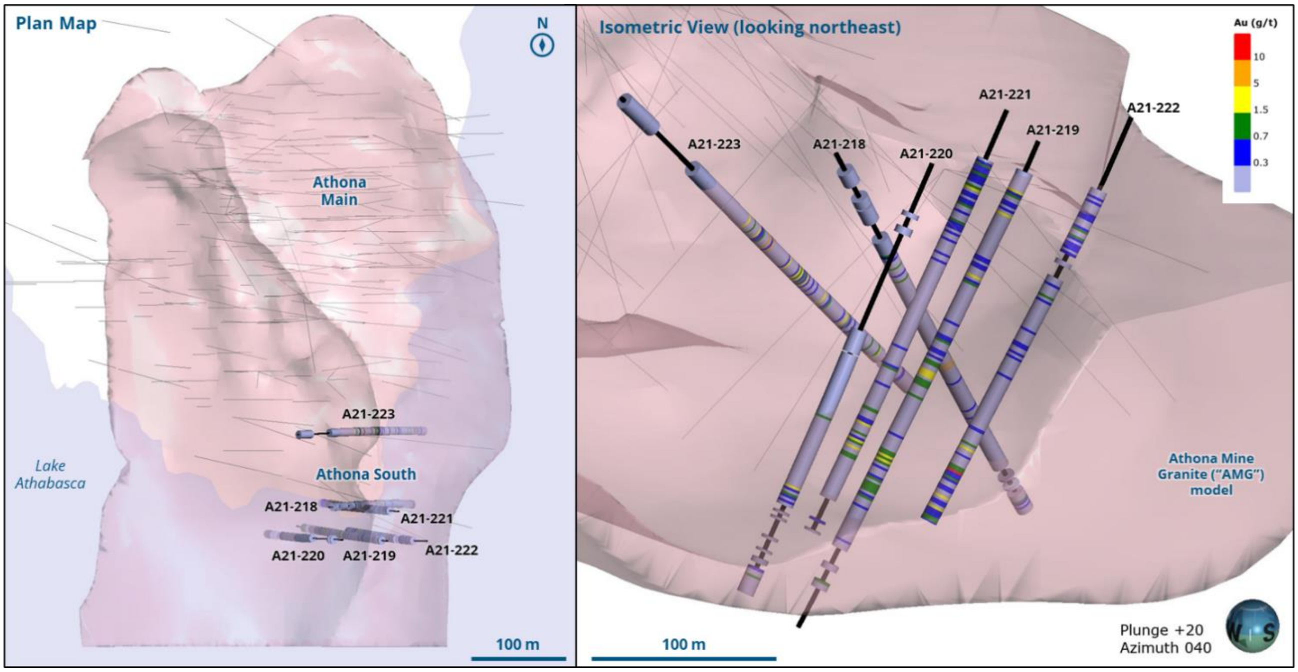
- The results imply good continuity between Athona Main and Athona South, with potential for resource expansion with additional infill drilling, as the historically unsampled intervals were assigned zero grade for grade estimation (Section 14).

Table 10-3: Highlight Composite Assay Results From Athona.

Hole ID		From	To	Length (m)	Au (g/t)
A21-218		61.0	64.0	3.0	0.53
		115.0	118.0	3.0	3.80
		191.0	195.0	4.0	0.70
A21-219		21.0	35.0	14.0	0.61
	incl.	21.0	24.0	3.0	1.09
	and	29.0	32.0	3.0	1.06
		58.0	62.0	4.0	0.79
	incl.	58.0	60.0	2.0	1.00
		78.0	111.0	33.0	0.60
	incl.	93.0	106.0	13.0	1.09
		134.0	159.0	25.0	0.68
	incl.	134.0	142.0	8.0	1.12
	and	148.0	151.0	3.0	1.05
A21-220		137.0	144.0	7.0	1.00
A21-221		22.0	53.0	31.0	0.52
	incl.	32.0	34.0	2.0	1.57
		127.6	149.0	21.4	0.72
	incl.	133.0	135.0	2.0	1.02
	and	138.1	149.0	10.9	1.03
A21-222		47.0	55.0	8.0	0.51
		135.4	176.6	41.2	0.89
	incl.	142.0	176.6	34.6	1.04
	incl.	154.0	155.0	1.0	16.70
A21-223		92.0	111.0	19.0	1.22
	incl.	107.0	108.0	1.0	8.18
	and	110.0	111.0	1.0	7.80
		122.0	124.0	2.0	1.86

Table notes: Results shown are assays from 1 metre samples composited into longer intervals using a minimum lower cut-off of 0.5 g/t Au, and maximum 5 metres of consecutive waste defined as < 0.3 g/t Au. Lengths shown represent core length. True thickness of the mineralized intercepts is expected to be approximately 80% of the core length based on the dominant mineralized quartz vein orientations at Athona, however this may vary on an individual sample basis.

Figure 10-4: Drill Core Gold Assay Sample Locations and Results at Athona.



Source: Fortune Bay, June 2022.

10.1.7 Box sampling and results

Highlight composite results from Box are shown in Table 10-4. The results from Box (illustrated in Figure 10-5) support the following observations:

- Results for drill holes B21-334 to B21-340 represent a significant expansion of mineralization, including up to 280 m down-dip of the 2021 mineral resource estimate ("MRE", Revering et al., 2021), and 100 m down-dip of mineralization intersected previously across the strike of the deposit.
- The results confirm the presence of high grades down-dip and indicate that mineralization remains open with depth.
- Higher grades show apparent structural continuity between drill holes occurring along trends consistent with those observed in the shallower portions of the deposit.
- Drilling has confirmed a significant thickening of the BMG down-dip, from an average of approximately 30 m at surface to over 100 m at 300 m below surface.
- Drill hole B22-345, targeting a significant gap in down-dip drill coverage on the north-east extent of the Box Mine Granite (BMG), intersected a continuously mineralized sequence (1.01 g/t over 105 m) in the upper Box Mine Granite (Table 10-4) representing an approximate 100 metre down dip expansion of mineralization in that area.
- The drill coverage and assay results obtained provide robust constraints on the structural controls, mineralization orientation and grade characteristics of mineralization at depth beyond the footprint of the open-pit constrained mineral resources (Section 14), providing the basis for an assessment of the underground economic potential of deeper-seated mineralization.

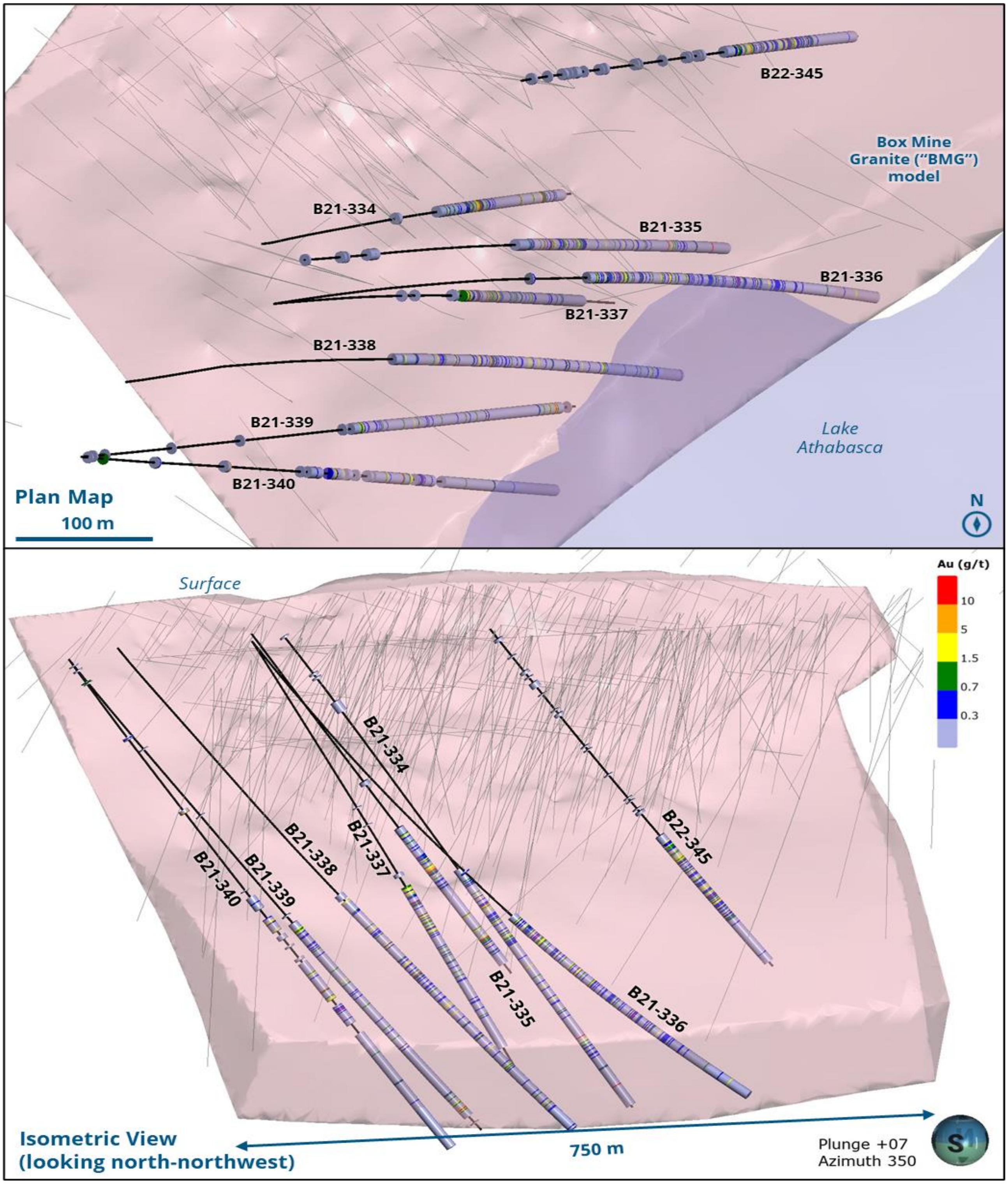
Table 10-4: Highlight Composite Assay Results From Box.

Hole ID		From	To	Length (m)	Au (g/t)
B21-334		246.0	257.0	11.0	0.65
	incl.	246.0	249.0	3.0	1.81
		273.0	312.0	39.0	1.38
	incl.	286.0	294.0	8.0	4.38
	and	291.0	292.0	1.0	15.04
		373.0	394.0	21.0	2.02
	incl.	375.0	379.0	4.0	8.00
	and	375.0	376.0	1.0	29.19
B21-335		297.0	303.0	6.0	0.50
		312.0	348.0	36.0	1.34
	incl.	319.0	320.0	1.0	7.19
	and	327.0	328.0	1.0	18.02
		357.0	376.0	19.0	0.71
	incl.	373.0	376.0	3.0	1.32
		486.0	496.0	10.0	1.90
	incl.	486.0	487.0	1.0	14.07
		545.0	546.0	1.0	10.36
B21-336		371.0	430.0	59.0	0.96
	incl.	371.0	403.0	32.0	1.46
	and	395.0	403.0	8.0	3.39
	and	395.0	396.0	1.0	17.54
		438.0	453.0	15.0	0.68
	incl.	445.0	449.0	4.0	1.12
		463.0	471.0	8.0	0.60
		509.0	521.0	12.0	8.00
	incl.	514.0	515.0	1.0	88.58
		528.0	537.0	9.0	0.63
	incl.	530.0	533.0	3.0	1.08
B21-337		284.0	305.0	21.0	1.41
	incl.	303.0	307.0	4.0	3.70
	and	303.0	304.0	1.0	12.45
		316.0	338.0	22.0	1.55
	incl.	316.0	325.0	9.0	2.49
	and	316.0	317.0	1.0	9.79
	and	324.0	325.0	1.0	7.55

Hole ID		From	To	Length (m)	Au (g/t)
B21-338		342.0	345.0	3.0	0.62
		362.0	376.0	14.0	0.51
		386.0	391.0	5.0	1.57
		406.0	462.0	56.0	0.67
	incl.	413.0	432.0	19.0	1.42
	incl.	424.0	432.0	8.0	2.17
	and	427.0	428.0	1.0	13.12
		468.0	480.0	12.0	0.61
	incl.	468.0	471.0	3.0	1.65
		509.0	514.0	5.0	1.01
		547.0	556.0	9.0	0.58
		599.0	605.0	6.0	0.52
B21-339		342.0	353.0	11.0	0.78
	incl.	342.0	346.0	4.0	1.78
		408.0	414.0	6.0	0.50
		494.0	498.0	4.0	1.01
		557.0	580.0	23.0	2.23
	incl.	575.0	580.0	5.0	8.74
	and	575.0	576.0	1.0	9.20
	and	577.0	578.0	1.0	31.54
B21-340		317.0	325.0	8.0	1.85
	incl.	322.0	323.0	1.0	8.34
		385.0	391.0	6.0	0.91
		406.0	434.0	28.0	4.47
	incl.	406.0	407.0	1.0	10.80
	and	430.0	431.0	1.0	103.30
B21-345		269.0	374.0	105.0	1.01
	incl.	288.0	296.0	8.0	2.45
	and	289.0	290.0	1.0	8.95
	and	337.0	338.0	1.0	12.30

Table notes: Results shown are assays from 1 metre samples composited into longer intervals using a minimum lower cut-off of 0.5 g/t Au, and maximum 5 metres of consecutive waste defined as < 0.3 g/t Au. Lengths shown represent core length. True thickness of the mineralized intercepts is expected to be approximately 80% of the core length based on the dominant mineralized quartz vein orientations at Box, however this may vary on an individual sample basis.

Figure 10-5: Drill Core Gold Assay Sample Locations and Results At Box.



Source: Fortune Bay, July 2022.

10.1.8 Goldfields Syncline (exploration) sampling and results

The locations of holes B22-341 to B22-344 were shown in Figure 10-1. Samples were collected to test any intersections visually assessed as potentially mineralized. This determination was made based on the presence of quartz veins, presence of sulphides and alteration state. A total of 108 samples were collected from the 1,343 m drilled in these four holes. All samples comprised 1 m half-cut intervals of NQ2 core. Samples were collected and exported as described in Section 10.1.5. Processing methods are described in Section 11. The results support the following observations:

B22-341 intersected a thin interval (134.4 to 145.5 metres) of granite with quartz veining and weak hematization. While visually similar to the Goldfields Project "Mine Granites", the unit contained disseminated sulphides (predominantly pyrite) not associated with the quartz veins, and no significant mineralization was encountered. This unit, and surrounding sulphide-bearing pelites, are considered to explain the geophysical anomaly (DC/IP resistivity high / conductivity low) that was targeted.

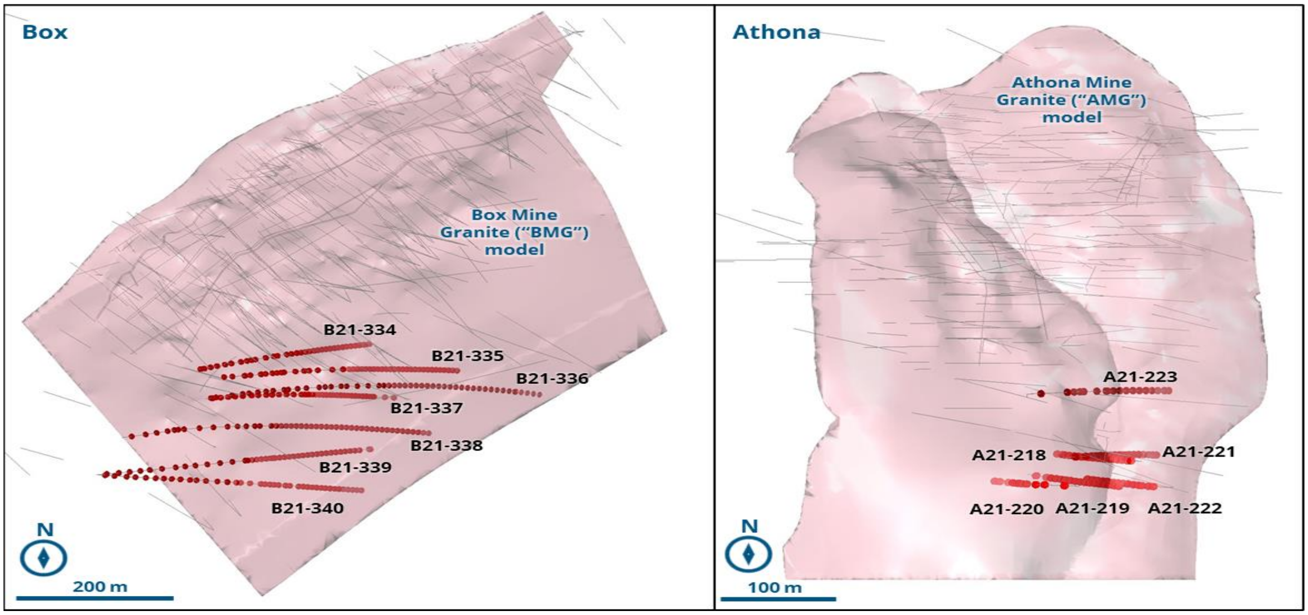
B22-342 to B22-344 all intersected the base of the Murmac Group and fault zones and are considered to have properly evaluated their exploration targets. Highlight result for the four exploration drill holes completed between Box and Athona (B22-341 to B22-344), included:

- 0.26 g/t gold and 1.3% copper over 1 m (from 323 to 324 m in hole B22-342)
- 144 g/t silver and 0.6% copper over 1 m (from 212 to 213.2 m in drill hole B22-343)

10.1.9 Bulk density sampling and results

Bulk density samples were collected at Box and Athona in the hangingwall intersections at approximate 20 to 30 m spacing, to provide a broadly representative coverage of the lithologies present. These samples comprised a single ~10 cm piece of whole NQ or NQ2 core. Additional bulk density analysis was carried out at an approximate 10 m spacing within the intervals visually selected for gold assay sampling. Sample processing details are provided in Section 11. A total of 386 samples were submitted for bulk density analysis. The locations of these samples are shown in Figure 10-6. Results are discussed in Section 14.

Figure 10-6: **Locations of Bulk Density Samples.**



Source: Fortune Bay, July 2022

10.2 Historical drilling

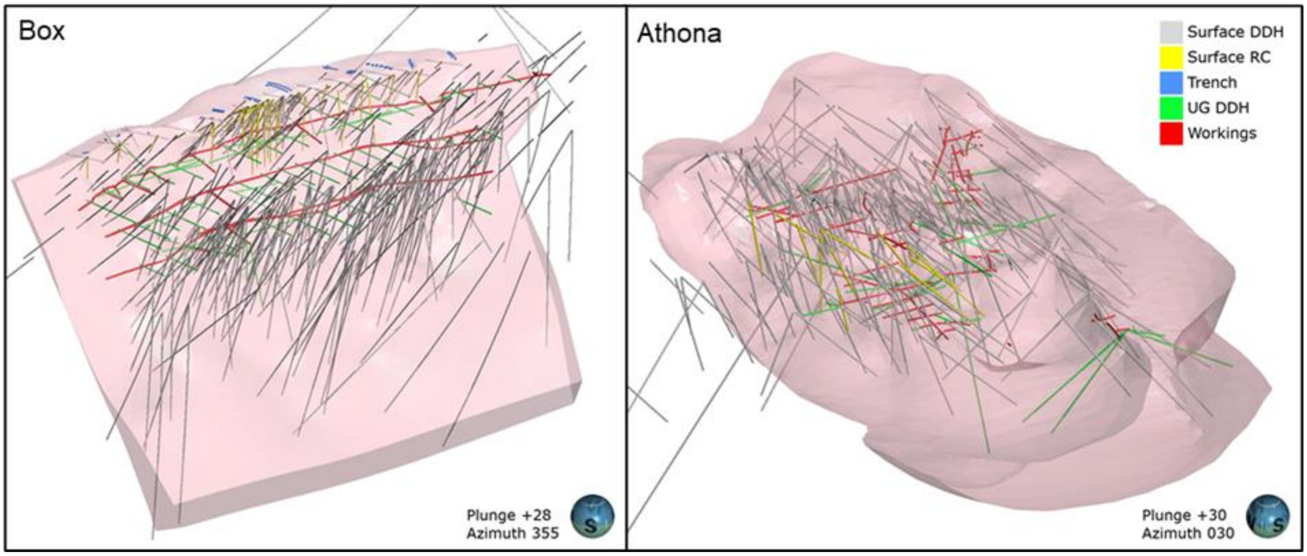
To create a comprehensive mineral resource database, historical surface trench and underground workings have been captured to the Goldfields database as drill collars with point coordinate origins and "down hole" survey data to mimic their traces. Derived continuous channel samples have been captured as interval data associated with these pseudo drill traces for integration with drill assay data. A summary of all historical drilling and associated sampling at Box and Athona is provided in the sections below. This work is referred to in Section 6 but is also summarized here as supporting background information for the mineral resource estimate in Section 14.

A summary of drill campaigns carried out by previous operators at Box and Athona is provided below (Figure 10-7 and Table 10-5). Note that underground workings (origin coordinates and trace orientation survey) have been included with the Goldfields Project drill database as pseudo drill traces to merge underground channel sample assay results with drill results for resource estimation.

Table 10-5: Summary of Historical Drilling Conducted by Previous Operators at the Box and Athona Deposits used to Estimate the Mineral Resources Stated in Section 14.

Deposit	Year	Type	Count	Metres Drilled	Comment
Athona	Pre-1940	Surface DDH	44	5,067	Investigate surface gold discovery and delineate resources for underground development.
		Workings	84	2,166	Underground development - channel sampling in drifts and cross-cuts following and exploring for mineralized vein sets.
		UG DDH	32	2,175	Delineating and exploring for mineralized vein sets.
	1987/1988	Surface DDH	54	5,516	Resource expansion and delineation drilling.
		Surface RC	11	1,177	Resource expansion and delineation drilling.
	1994/1995	Surface DDH	129	10,377	Resource expansion and delineation, metallurgical sample drilling.
	2006	Surface DDH	16	1,592	Resource verification drilling - planned and requested by Wardrop (Maunula, 2007) in support of NI 43-101 compliant resource estimation.
	2010	Surface DDH	2	646	Exploration drilling (IP targets).
	2011	Surface DDH	4	361	Drilling for metallurgical sampling.
		Athona Total	**376**	**29,077**	
Box	Pre-1940	Surface DDH	42	4,576	Investigate surface gold discovery and delineate resources for underground development.
		Trench	67	399	Surface channel sampling and mapping.
		Workings	32	6,548	Underground development - channel sampling in drifts and cross-cuts following and exploring for mineralized vein sets.
		UG DDH	72	5,260	Delineating and exploring for mineralized vein sets.
	1987/1988	Surface DDH	56	6,506	Resource expansion and delineation drilling.
		Surface RC	47	3,167	Resource expansion and delineation drilling.
	1994/1995	Surface DDH	152	25,531	Resource expansion and delineation, metallurgical sample drilling.
	2004/2005	Surface DDH	37	4,307	Resource verification drilling - planned and requested by AMEC (2006) in support of NI 43-101 compliant resource estimation.
	2007	Surface DDH	13	3,350	Deeper resource expansion and delineation drilling.
	2008	Surface DDH	3	626	Condemnation drilling for mine infrastructure placement.
	2010	Surface DDH	12	2,858	Resource classification upgrade drilling, deeper resource expansion and exploration drilling (IP targets).
	2011	Surface DDH	19	3,981	Resource expansion, metallurgical sampling and geotechnical drilling.
		Box Total	**552**	**67,108**	

Figure 10-7: Drill and Pseudo Drill (Trench and Underground Workings) Trace Coverage at The Box and Athona Deposits.



Source: Fortune Bay, 2022
Note: DDH = diamond drill hole, RC = reverse circulation, UG = underground.

10.2.1 Drill hole locations and survey

Pre-1940 drill hole and underground working locations have been digitized from mine survey plan maps and cross-sections referenced to local mine grid coordinates and subsequently transformed into NAD83 UTM Zone 12. All drill holes completed in and after 1987 have locations captured by DGPS. Drill hole elevations were derived from detailed surface topography survey data at both Box and Athona.

Drill hole survey (orientation) has varied with phase of work as follows:

- Pre-1940 mine working orientations were captured by digitization of underground survey maps.
- Pre-1940 underground and surface core holes do not have survey data, and the planned (i.e., recorded) azimuth and dip have been used and verified against plan map drawings where possible. Due to the general short length of these holes (average length = 90 m) this is not considered likely to introduce significant error.
- 1987/1988 drill hole dips were surveyed by acid etching of test tubes lowered down the drill holes. No azimuth survey was carried out, and for these holes the measured true north orientation of the drill rig at surface was used. Again, due to the general short length of these holes (average length = 97 m) this is not considered likely to introduce significant error.
- 1994/1995 drill hole dips and azimuths were recorded using either Sperry Sun or Tro-pari single shot magnetic survey tools.
- 2004 drill hole dips and azimuths were recorded using a Flexit single shot magnetic survey tool.
- In 2005, and for all subsequent drilling up to and including 2011, all drill hole dips and azimuths were recorded using a Reflex single shot magnetic survey tool.

10.2.2 Historical drill hole sampling

A summary of the number and type of gold assay samples collected by previous operators at Box and Athona for each phase of drilling is provided in Table 10-6. Descriptions of the sampling and assay methods used are provided in the sections below. Assay data as incorporated into the resource estimates are discussed in Section 14.

Table 10-6: Summary of The Historical Drill Sample Database Used to Estimate Mineral Resources at Box and Athona.

Deposit	Year	Type	Samples	Average Length (m)	Hole diameter	Comment
Athona	Pre-1940	Surface DDH	844	2.39	EX	Whole core and underground channel samples. Selective sampling of visually compelling intervals.
		Workings	1,171	1.34	N/a	
		UG DDH	763	1.58	EX	
	1987/1988	Surface DDH	4,075	0.97	BQ	Whole core samples.
		Surface RC	551	1.00	5.5"	Air return of drill cuttings, ~35 kg per sample.
	1994/1995	Surface DDH	6,455	0.99	BQ	Half core samples. QAQC Certified Reference blanks and standards included from 2006 onwards.
	2006	Surface DDH	1,251	1.01	NQ	
	2010	Surface DDH	219	1.02	NQ	
	2011	Surface DDH	206	0.99	HQ	
		Athona Total	**15,535**	**1.12**		
Box	Pre-1940	Surface DDH	1,741	1.47	EX	Whole core and underground channel samples.
		Workings	5,134	1.20	N/a	
		UG DDH	3,331	1.47	EX	
	1987/1988	Surface DDH	2,807	0.97	BQ	Whole core samples.
	1994/1995	Surface DDH	5,986	0.99	BQ	Half core samples. QAQC Certified Reference blanks and standards included from 2004 onwards.
	2004/2005	Surface DDH	1,410	1.00	NQ	
	2007	Surface DDH	774	1.00	NQ	
	2008	Surface DDH	130	1.01	NQ	
	2010	Surface DDH	505	1.00	NQ	
	2011	Surface DDH	806	0.99	NQ/HQ	
		Box Total	**22,624**	**1.14**		

Comprehensive documentation of sampling methods for pre-1940 era data is not available. The records available indicate that whole (EX diameter) core samples on an approximate 1.5 m spacing were collected from surface and underground drill holes. Underground continuous channel sampling with a 1.5 m sample interval was carried out in drifts and crosscuts. At Athona, several long samples (up to 63.3 m) skew the average sample length upwards. Parallel continuous channels along each side of the major along-strike drifts were sampled at Box. Selective sampling was carried out at Athona in these pre-1940 drill and underground sampling campaigns, evidently targeting visually compelling intersections as these selective sample results display a high-grade bias. Sampling at Box was continuous through all intersected Box Mine Granite in all pre-1940 sampling work.

In all other campaigns, at both Box and Athona in and after 1987, sampling was continuous through the Mine Granites at a spacing of 1 m, adjusted where necessary to not cross lithological boundaries. Hangingwall and footwall lithologies were typically sampled directly adjacent (<3 m) to the Mine Granites. Intermittent sampling targeting potentially mineralized veins in hanging wall and footwall intersections was also carried out.

Several holes that intersect the Mine Granites in drill campaigns in and after 1987 have not been sampled. These are holes drilled for metallurgy sampling where no assay data are available, or holes drilled with limited intersection of the Mine Granite terminating in void space and therefore not sampled. These holes were noted and excluded from the mineral resource estimate, as documented in Section 14.

10.2.3 QP Comment on drill orientation and sampling relative to mineralization

The gold mineralization at Box and Athona is associated with quartz veining which shows preferred structural orientations. Gold-bearing quartz veins vary in true thickness from >50 cm down to sub-centimetre size. Thicker vein sets have been shown during historical mining to be continuous up to lengths of over 100 m.

Gold-bearing quartz vein orientations at Box predominantly strike NNW to NNE and dip from sub-vertical to 75° towards the west. Subordinate veins strike at approximately 315° and 75° with similar steep dips towards the northwest and southwest, respectively. These preferred vein orientations were noted during early exploration of the Box deposit and were mapped and sampled in detail within the seven surface trenches that were excavated at an approximate 50 m spacing across the strike of the deposit (Jensen, 1996). These vein orientations within the trenches were verified by SRK during a field visit undertaken in September 2020 (SRK, 2020a, see Section 12.1.1). None of the historical drilling was carried out with oriented core, and therefore no systematic correlation of vein orientations with assay results is possible. Jensen (1996) however noted that 85% of the quartz veins in drill core with assays over 2 g/t were intersected at low angles. This observation, which is supported by more recent reviews of drill core by the Company, correlates with the interpretation that mineralization predominantly occurs in steeply dipping veins with a NNW to NNE strike, considering the drill hole orientation is predominantly towards the northwest with dips typically between 45 and 75°. This drill orientation, used to define the extents of the Box Mine Granite body (strike azimuth 050, dip 38° to the southeast) by intersecting it at a high angle, is sub-optimal for defining steeply dipping, predominantly north striking mineralized veins. Underground drill holes were typically oriented perpendicular to the Mine Granite strike with zero dip (green traces in Figure 10-7) and are therefore more representative of the true thickness of vein mineralization. Horizontally oriented underground channel samples along the mine workings (development drives), which run parallel to the strike of the Mine Granite, also provide a more optimal sample coverage by intersecting the predominant north striking veins at higher angles. The suboptimal surface drilling orientation which is sub-parallel to mineralized vein orientations will have resulted in a less representative assay database, likely exacerbating the nugget effect by over/under-sampling of individual vein sets.

At Athona, mineralization is predominantly hosted in vein sets striking approximately north, steeply dipping (>75°) to both the east and west (Jensen, 1996 and SRK, 2020a). Surface drill holes are typically oriented to the east or west, and shallow dips (45°) are common, targeting these vein sets as best as practically possible. A significant number of holes are however still relatively steeply dipping (>75°), and these are also considered suboptimal for constraining mineralization in the known orientations.

For both Box and Athona, drill hole orientations relative to mineralization have been considered during estimation of mineral resources (Section 14). The suboptimal surface drill orientation at Box is mitigated by the underground drill and channel sample orientations, and the overall high density of drilling and extent of sampling at both locations provides sufficient constraints on mineralization. In addition, the geological model developed for the 2021 mineral resource update incorporates interpreted high-grade vein sets which consider the drill hole orientation relative to the vein geometry at both Box and Athona. These vein-sets are used to constrain the interpolation of grade into the mineral resource model. SRK is of the opinion that the drill hole database is sufficient to support the estimation of mineral resources for the Box and Athona deposits.

11 SAMPLE PREPARATION, ANALYSES AND SECURITY

The historical sample processing methods relevant to the mineral resources declared in Section 14 are summarized in Section 11.1, along with a description of all Quality Control/Quality Assurance ("QAQC") protocols followed. The processing methods for 13 rock samples collected by Mercator during the 2015 field program (Section 9.1) are summarized in Section 11.2. Verification work carried out by SRK in 2020 (Section 12.1) included collection of repeat gold, petrography, bulk density and multi-element geochemistry samples from Box and Athona. Sample collection and processing methods for this work are discussed in Section 11.3. Sample collection and processing methods for drill core samples from the Fortune Bay Phase 1 (2021) and Phase 2 (2022) drill campaigns, and for prospecting samples collected in 2021, are discussed in Sections 11.4 and 11.5, respectively. A summary of all verification work carried out is provided in Section 11.7.

11.1 Historical Sample Analysis

11.1.1 Historical Gold Analysis

The historical sample processing carried out by previous operators that is relevant to this report (used for estimation of mineral resources in Section 14) is summarized in this section for reference. Sample process methods by drill campaign are summarized in Table 11-1. Sample collection was described in Section 10.2.2.

Table 11-1: Summary of Historical Gold Assay Sample Process Methods.

<table>
<tr><th>Deposit</th><th>Year</th><th>Type</th><th>Laboratory and process method</th></tr>
<tr><td rowspan="10">Athona</td><td rowspan="3">Pre-1940</td><td>Surface DDH</td><td rowspan="3">Predominantly on-site assay results generated by Athona Mines Ltd., by fire assay with gravimetric finish.</td></tr>
<tr><td>Workings</td></tr>
<tr><td>UG DDH</td></tr>
<tr><td rowspan="2">1987/1988</td><td>Surface DDH</td><td>Onsite crushing and screening. Assay at Barringer Labs and TSL Labs. Fire assay, aqua regia dissolution with AAS finish. High grade samples re-assayed with gravimetric finish.</td></tr>
<tr><td>Surface RC</td><td>Whole sample bulk cyanidation by CASMYN.</td></tr>
<tr><td>1994/1995</td><td>Surface DDH</td><td rowspan="4">TSL Labs. Screened metallics fire assay with gravimetric finish. Selected exploration samples (outside of known ore body) processed by standard fire assay with gravimetric finish.</td></tr>
<tr><td>2006</td><td>Surface DDH</td></tr>
<tr><td>2010</td><td>Surface DDH</td></tr>
<tr><td>2011</td><td>Surface DDH</td></tr>
<tr><td colspan="3" style="display:none"></td></tr>
<tr><td rowspan="10">Box</td><td rowspan="3">Pre-1940</td><td>Surface DDH</td><td rowspan="3">Predominantly on-site assay results generated by Cominco, by fire assay with gravimetric finish.</td></tr>
<tr><td>Workings</td></tr>
<tr><td>UG DDH</td></tr>
<tr><td>1987/1988</td><td>Surface DDH</td><td>Onsite crushing and screening. Assay at Barringer Labs and TSL Labs. Fire assay, aqua regia dissolution with AAS finish. High grade samples re-assayed with gravimetric finish.</td></tr>
<tr><td>1994/1995</td><td>Surface DDH</td><td rowspan="6">TSL Labs. Screened metallics fire assay with gravimetric finish. Selected exploration samples (outside of known ore body) processed by standard fire assay with gravimetric finish.</td></tr>
<tr><td>2004/2005</td><td>Surface DDH</td></tr>
<tr><td>2007</td><td>Surface DDH</td></tr>
<tr><td>2008</td><td>Surface DDH</td></tr>
<tr><td>2010</td><td>Surface DDH</td></tr>
<tr><td>2011</td><td>Surface DDH</td></tr>
</table>

Comprehensive documentation of processing methods for pre-1940 data is not available. Assay data were generated by conventional fire assay techniques with gravimetric finish. Early assay data from this period were generated off-site, while later results were generated by an on-site laboratory. Analytical certificates have not been located. Results were tabulated from existing drill logs and maps by GLR Resources (Jensen, 2003).

In 1987/1988 whole core samples in 1 m increments were crushed, pulverized to <10 mesh and riffle split to obtain a 200 g sample at an on-site sample preparation facility. These were sent to either TSL Laboratories (in Saskatoon, CA) or Barringer Laboratories (in Calgary, CA) for analysis. All samples were analyzed by fire assay with aqua regia dissolution and analysis by Atomic Absorption Spectrometry ("AAS"). All samples over 1000 ppb Au were fire assayed with a gravimetric finish for more accurate determination of higher-grade results. A study at this time, based on repeat processing by screened metallic methods, showed that the standard fire assay methods tended to under-represent gold relative to the more representative screened metallic method (Jensen, 2003).

Drill core sample assay in and after 1994 (including all sample preparation) has been carried out on 1 m sample increments by screened metallic methods by TSL Laboratories ("TSL"). TSL was ISO/IEC 17025 accredited in 2004. The TSL screened metallics sample process method includes; (1) crushing of the entire sample; (2) pulverizing of the entire sample with 95% passing 150 mesh; (3) screening the entire sample at 150 mesh; (4) assay the entire +150 mesh fraction; (5) duplicate assay of two 30 g splits of the -150 mesh fraction; and (6) calculation of the weighted average gold content (in g/t) for the entire sample. All assay is carried out by fire assay with a gravimetric finish. This begins with a flux mixture of litharge, soda, borax, silica, fluorspar with further oxidants or reductants adjusted as required. Crucibles are placed into trays of 24 and ~120 g of flux is added. Twenty samples, three repeats and a standard are weighed into the crucibles, then placed into a tumbler and mixed for 10 minutes. When mixed, the samples are removed, inquarted and fused. The resultant lead button is then coupled. After cupellation the subsequent Doré bead is flattened, placed in a porcelain cup and parted with a dilute nitric acid solution. The gold obtained is decanted with de-ionized water, dried, annealed, and weighed on a microbalance.

Reverse circulation drilling samples (1989) were analyzed by bulk cyanide leach under the supervision of Casmyn Research. Chip samples were ground to 70-80% minus 200 mesh and agitated with lime in a leach vessel. The resultant slurries leached with cyanide, with 1 litre of slurry removed for filtration, to recover 10 ml of solution for gold testing by AAS at Barringer Laboratories (in Mississauga, CA).

A limited number of results in 2007, 2010 and 2011 have been generated by fire assay (gravimetric finish) or by analysis for platinum, palladium, and gold elements, using fire assay with an Inductively Coupled Plasma Optical Emission Spectrometry finish. These methods were used for samples from exploration holes that do not intersect the Mine Granites and the results have not been used in the resource estimates reported in Section 14.

11.1.2 Historical QAQC

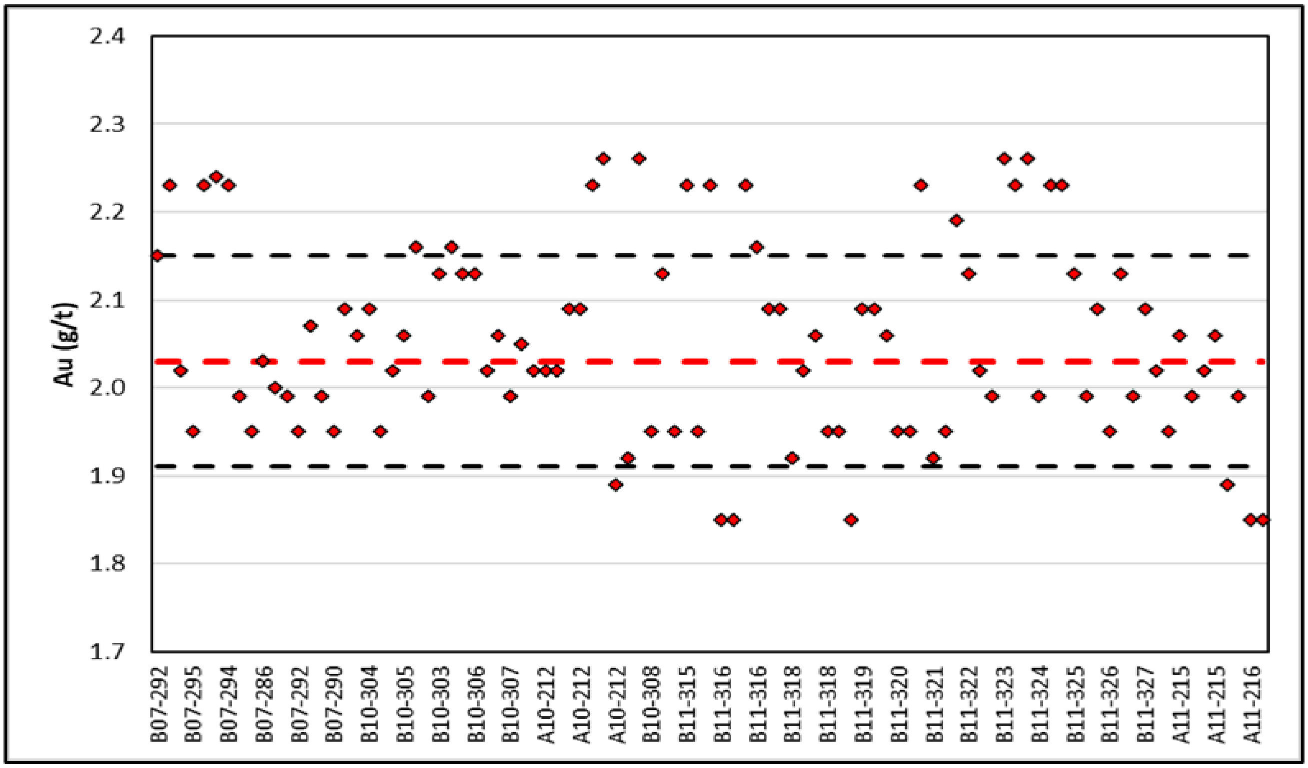
No independent sample Quality Assurance and Quality Control ("QAQC") was carried out by previous operators at Goldfields prior to 2004. The assay data generated in 1987/1988 and in 1994/1995 by TSL were subjected to internal laboratory QAQC procedures through analysis of standard certified reference material ("CRM") at a rate of one per batch (of approximately 20 samples each), however no additional QAQC samples were inserted into sample sequences for independent verification of sample results. It is not known if any QAQC was carried out for pre-1940 sample analysis. This was recognized by the Qualified Persons during the estimation of early NI 43-101 compliant mineral resources for Box (AMEC, 2006) and Athona (Maunula, 2007), and it was noted that the only means of properly validating historical results would be through confirmation drilling. This was carried out in 2004/2005 for Box and in 2006 for Athona, as described in Sections 12.1 and 12.2, respectively. Independent QAQC was carried out for samples processed during these verification programs, as recommended by the Qualified Persons, through insertion of blank and standard CRM samples at a rate of approximately one for every 10 samples, alternating between blanks and standards. The Qualified Persons reviewed these QAQC results, and the internal TSL QAQC results, and no significant issues were noted. The results of these verification drill programs were compared with results from previous campaigns to confirm that the grade and location of results were similar to those from previous programs (Sections 12.1 and 12.2).

Blank and standard CRM samples have been used for independent verification of laboratory results for the 2007, 2010 and 2011 drill campaigns at Box and Athona. QAQC results were recompiled and are summarized in Table 11-2. Results from blank material processing indicate no significant potential for cross-contamination between samples. Standard results present a failure rate of 26% (30 of 116). The average assay result for the most-used CRM (CDN-GS-2B) is 2.05 g/t relative to its expected value of 2.03 g/t, suggesting that there is no significant overall bias in the data. The results are highly variable (Figure 12-1) and there are no significant sustained sample sequences in which failures are consistently positive or negative. This may suggest that the CRM material used was not properly homogenized during preparation. Without access to pulps and the ability to reanalyze or send samples to an umpire laboratory it is not possible to resolve this, other than to note that assay results may be locally over- and under-estimated by ±20%.

Table 11-2: Summary of Box and Athona CRM Blank and Standard Results From Drill Holes Completed During and After 2007. Earlier QAQC Results (2004 To 2006) Were Reviewed In Technical Reports and No Significant Issues Were Noted.

<table>
<tr><th>Location</th><th>Year</th><th>QAQC Material</th><th>Count</th><th>Fail</th></tr>
<tr><td rowspan="5">Athona</td><td rowspan="2">2010</td><td>CDN-BL2</td><td>13</td><td>1</td></tr>
<tr><td>CDN-GS-2B</td><td>11</td><td>4</td></tr>
<tr><td rowspan="3">2011</td><td>CDN-BL2</td><td>10</td><td>0</td></tr>
<tr><td>CDN-GS-1P5D</td><td>3</td><td>0</td></tr>
<tr><td>CDN-GS-2B</td><td>8</td><td>3</td></tr>
<tr><td rowspan="8">Box</td><td rowspan="2">2007</td><td>CDN-BL2</td><td>19</td><td>0</td></tr>
<tr><td>CDN-GS-2B</td><td>16</td><td>4</td></tr>
<tr><td rowspan="3">2010</td><td>CDN-BL2</td><td>28</td><td>0</td></tr>
<tr><td>CDN-GS-2B</td><td>17</td><td>2</td></tr>
<tr><td>CDN-PGMS-7</td><td>12</td><td>3</td></tr>
<tr><td rowspan="3">2011</td><td>CDN-BL2</td><td>46</td><td>0</td></tr>
<tr><td>CDN-GS-1P5D</td><td>4</td><td>0</td></tr>
<tr><td>CDN-GS-2B</td><td>43</td><td>14</td></tr>
<tr><td colspan="2" rowspan="2">Totals</td><td>Blanks (CDN-BL2)</td><td>116</td><td>1</td></tr>
<tr><td>CRM Standards</td><td>114</td><td>30</td></tr>
</table>

Figure 11-1: Box and Athona CRM Results (n = 95, Reference CDN-GS-2B, Average 2.03 g/t (Red Dash Line) ±0.12 g/t (Black Dashed Lines)) For Holes Completed In and After 2007.



Source: Fortune Bay, 2021

11.2 Sample Processing for Rock Samples Collected in 2015

11.2.1 Sample Preparation and Analytical Methods

Representative fragments of the targeted material were placed in a polyurethane bag that was then sealed with a zip-tie. The coordinates of each sample location were obtained with a hand-held global positioning system ("GPS") and recorded in Universal Transverse Mercator ("UTM") North American Datum 1983 ("NAD83") Zone 12 coordinates. The samples were transported to an ALS Global preparation laboratory in Sudbury, ON; the prepared sample splits were then shipped by ALS Global to the company's analytical laboratory in Vancouver, BC for analysis. ALS Global is an independent, commercial firm accredited by the Standards Council of Canada ("SCC") and the Canadian Association for Laboratory Accreditation ("CALA") and is also ISO 9001 and ISO/IEC 17025 certified.

At the preparation lab the samples were weighed, dried and finely crushed to better than 70% passing a 2 mm screen. A split of up to 250 g was taken and pulverized to better than 85% passing a 75 micron screen. Gold, platinum and palladium concentrations were determined by inductively coupled plasma – atomic emission spectrometry ("ICP-AES") after fire assay pre-concentration. For this technique the sample was first fused with a mixture of lead oxide, sodium carbonate and borax, silica, inquarted with 6 mg of gold-free silver and then cupelled to yield a precious metal bead. The bead was digested for 2 minutes at high power by microwave in dilute nitric acid. The solution was cooled and hydrochloric acid was added. The solution was digested for an additional 2 minutes at half power by microwave. The digested solution was then cooled, diluted to 4 ml with

2% hydrochloric acid, homogenized and then analyzed. Samples with greater than 10 ppm Au were retested using atomic absorption spectroscopy against matrix-matched standards. Gold concentrations that were over limit by this method (>100 ppm) were retested again by the following gravimetric method: "A prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents in order to produce a lead button. The lead button containing the precious metals is cupelled to remove the lead. The remaining gold and silver bead is parted in dilute nitric acid, annealed and weighed as gold."

An additional suite of thirty-three elements (including Ag, Cu, Pb, Zn, U, and Ni) were determined by ICP-AES and a four-acid digestion technique. For these analyses a 0.25 g sample was digested with perchloric, nitric, hydrofluoric and hydrochloric acids. The residue was topped up with dilute hydrochloric acid and the resulting solution was analyzed. The results were corrected for spectral and inter-element interferences. Over limit Ag (>100 ppm) and Zn (>10,000 ppm) samples were retested using atomic absorption spectrometry.

11.2.2 QA/QC

Quality control samples inserted by Mercator included a non-certified coarse blank comprised of Nova Scotia Goldenville Formation quartzite and one sample of certified reference material CDN-SE-2 that was obtained from CDN Resource Laboratories in Langley, BC. Low gold, silver, copper and zinc values obtained for the blank indicate that down-stream contamination during sample preparation has not significantly affected these samples. Analytical results for gold, silver, copper and zinc in the standard sample fall within certified "between-lab" 2σ error for CDN-SE-2. The percentage difference between the lab results and the certified values for gold, silver, copper and zinc are <1%, and for gold are < 5%. The higher % difference for gold is a result of the low concentration of Au in the standard (0.232 ppm) and therefore small variations in its measured values (e.g. 0.01 ppm) can represent a larger proportional difference. Results indicate that these geochemical data are reliable and appropriate for mineral exploration use. The samples are grab samples and are intended to give a general idea of the tenor of mineralization but are not representative of grades extended over any specific length or width.

11.3 Sample Processing for Verification Samples in 2020

Verification work carried out by SRK in 2020 (Section 12.1.5) included collection of repeat gold, petrography, bulk density and multi-element geochemistry samples from Box and Athona. Sample collection and processing methods are discussed in the sections below.

11.3.1 Repeat Gold Assay Samples

Sample intervals were selected by SRK personnel to represent a variety of historical grades in the Box and Athona Mine Granites. Samples comprised the remaining half of previously sampled (half-cut) core from a single hole at Athona and from three holes at Box. Sample were collected on 1 m increments to exactly match the previous sample intervals, allowing for direct comparison of historical and new repeat assay results. All gold samples were collected on a continuous basis, removing all remaining core. Samples were placed in labelled plastic bags with identifying sample tickets. All sample bags were securely closed with flagging tape and were shipped directly by air freight to TSL Laboratories ("TSL") in Saskatoon (CA) in plastic sample pails. TSL confirmed receipt of all samples in good condition. Samples were processed by TSL using their screened metallics method, which is described in detail in Section 11.1.

11.3.2 Gold Assay Sample QAQC

TSL included 12 standard CRM samples (CDN-GS-7E) in the process sequence for internal QAQC. These returned an average of 7.48 g/t in comparison with the standard certified gold content of 7.32 g/t (± 0.5 g/t). No QAQC failures were recorded.

Fortune Bay included 4 blank (CDN-BL-10) and 5 standard CRM samples (CDN-GS-1P5D) for independent verification of assay results. All blank samples assayed at below the lower detection limit. The standard samples assayed at an average of 1.63 g/t in comparison with the standard certified gold content of 1.47 g/t (± 0.15 g/t). Three of these results represented marginal failures, indicating that gold assay results may be slightly over-measured, however in the context of these samples (for verification of previous results and not for estimation of mineral resources) this is not considered significant.

11.3.3 Bulk Density Samples

A total of 104 samples were collected from drill core for bulk density analysis. Samples comprised approximately 300 g of whole or half-cut core and were not derived from within the intervals that were repeat sampled for gold (Section 12.1). Sample bags were placed in labelled bags with identifying sample tickets. All samples bags were securely closed with flagging tape and were shipped to TSL in Saskatoon (CA) in plastic sample pails via air freight. TSL confirmed receipt of all samples in good condition.

In addition to these samples, 14 of the repeat gold samples collected were flagged for bulk density analysis. For these samples, representative pieces were removed from the sample bags by TSL upon receipt. Non-destructive bulk density measurement was carried out on these pieces, which were then added back to their sample bags prior to gold assay.

Bulk density measurements were carried out by TSL using an industry-standard water displacement method. Samples are oven-dried upon receipt, and dry masses are recorded. Sample volumes are determined by suspending each sample in water and measuring the system increase in mass.

11.3.4 Bulk Density Sample QAQC

TSL included 14 bulk density standard samples (stated bulk density of 2.62 g/cm^3) with the 118 samples processed. All measurements returned results of 2.62 g/cm^3. Fortune Bay Corp. did not conduct independent verification of these sample results.

11.3.5 Multi-element Geochemistry Samples

The repeat gold assay samples (n = 70, Section 12.1) were further processed at TSL for multiple elements using a combination of whole rock analysis by ICP-AES with a $LiBO_2$ fusion and trace element analysis by ICP-MS with a multi-acid digest. Required sample material was derived from undersize (minus 150 mesh) material remaining from the gold assay process.

11.3.6 Geochemistry Sample QA/QC

TSL included certified blank (n = 6) and standard (n = 14) samples into the process sequence for internal QAQC purposes. The standards used included OREAS25A-4A and OREAS45E. Results were reviewed and no significant issues with the data were noted. Fortune Bay did not conduct independent verification of these sample results.

11.3.7 Petrography Samples

Petrography samples (n = 48) were collected by SRK personnel from the Box and Athona Mine Granites and from a variety of hanging- and footwall lithologies. No samples were collected from the intervals repeat sampled for gold assay (Section 12.1). Samples from the Mine Granites were collected to investigate specific features of interest, targeting quartz veins with visible sulphide occurrences from intervals with historical high-grade results. All samples were marked with the location (or multiple locations) from which thin sections were to be cut. Samples were placed in labelled bags with identifying sample tickets and were tied closed using flagging tape. Samples were transported in personal luggage by SRK personnel to Vancouver, where they were delivered to Vancouver Petrographics Ltd.

A total of 63 polished thin sections with feldspar staining were prepared and were shipped to SRK Consulting (Vancouver) Inc. Thin sections were observed using a Nikon Eclipse Ci-POL Microscope with reflected and transmitted light capabilities. Thin section photographs were taken using an Infinity 2 Luminera digital camera with Luminera software.

11.4 Sample Processing for 2021-2022 Drill Samples

11.4.1 Box and Athona Drilling – Gold Assay

Gold assay samples typically comprise 1 m increments of half-cut (using a diamond core saw) NQ or NQ2 core. Potentially mineralized intervals were visually selected and marked up for sampling. Samples were collected to not cross lithological boundaries, and a small number of samples (~4%) deviate from an exact 1 m length due to this adjustment. Samples were sealed in labelled bags with an identifying ticket and were placed into plastic pails for export. All pails were sealed with security tags when filled. Samples were exported for analysis in Saskatoon either by air freight by commercial airline (Rise Air), or by a combination of charter flight to Fort MacMurray and subsequent overland trucking to Saskatoon. Sample were processed by screened metallic methods by TSL Laboratories ("TSL") in Saskatoon, Saskatchewan. The TSL screened metallics sample process method was described in detail in Section 11.1.

Towards the end of 2021 TSL was acquired by the SRC in Saskatoon. The final batch of samples was processed through the TSL facilities under supervision of SRC, during the handover and transition period. This included all 263 samples from B21-340, an additional 11 infill samples from B21-337, and 190 samples from B22-345. These final batches have a differing reporting format, in which no internal laboratory standard (Certified Reference Material) results were reported, and the lower detection limit changed from <0.03 g/t to <0.02 g/t.

11.4.2 Box and Athona Drilling – Gold Assay QAQC

An internal Quality Assurance / Quality Control (QAQC) program by Fortune Bay was carried out to assess laboratory results from TSL. The four CRM standards used for this program were purchased from CDN Resource Laboratories Ltd. ("CDN") in Langley, BC. Three CRMs used comprise appropriate granite/sulphide base lithologies with average grades representing the typical range of grades expected from Box and Athona. These pulp standards were subjected to single fire assay analyses in sequence with fire assays carried out for the screened metallics analyses. A "coarse crush" blank sample was also used to check for cross-sample contamination. The blank material was subjected to the full screened metallics process to check for contamination in crushing and screening. In addition to the this, TSL added approximately three high grade standards to each batch of (typically) 20 screened metallic samples as part of their laboratory QAQC protocol. This was done prior to the acquisition of TSL by SRC in late 2021 (Section 11.4.1). Results for these were TSL standards were included with the assay reports and are included here for reference. The standards used in the program include:

- Blank: BLANK_C, a coarse crush (appox. 1 inch) blank quartz sample, below detection limit gold
- Low Grade: CDN-GS-P5H, a pulp sample averaging 0.50 g/t Au
- Medium Grade: CDN-GS-1P5D, a pulp sample average 1.47 g/t Au
- High Grade: CDN-GS-P5H, a pulp sample averaging 6.54 g/t Au
- TSL High Grade: CDN-GS-8E, a pulp sample averaging 8.62 g/t Au

Reference material information certificates for the standards used can be downloaded using the relevant identification code from the CDN website (www.cdnlabs.com).

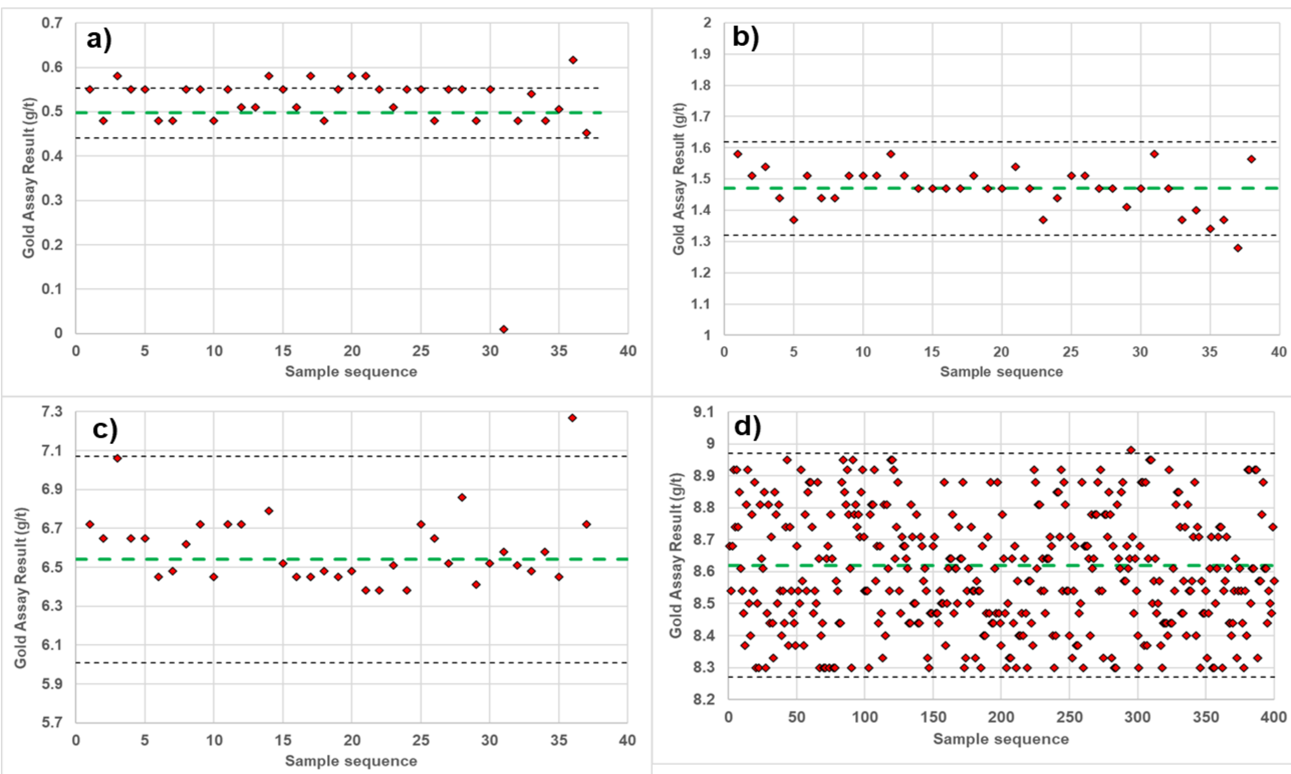
The Fortune Bay QAQC program included insertion of one blank or standard CRM into the sample sequence for every 20 samples collected. Samples were decanted into sample bags to ensure that no identifying labels were present. Blank, low, medium and high grade samples were alternated in sequence, resulting in one of each of these CRMs being inserted for every 80 samples. A total of 159 QAQC samples were used for the total of 3,036 samples submitted, equating to a QAQC rate of 5%. Results for 400 high grade TSL CRM analyses are also available.

CRM information and results are provided in Table 11-3 and are illustrated graphically in Figure 11-2. The low grade CRM returned 7 failures from 37 samples submitted. These marginal failures, and the overall results, imply a general slight over-analyses for low grade material, with an average assay of 0.53 g/t in comparison with the certified expected average of 0.50 g/t. Considering the low grade and the number of analyses this is not considered sufficiently anomalous to justify follow-up. A single low-grade sample showed a significant failure with a result below the limits of detection. This failure was incurred during the last batch of analyses, at the time that TSL was being taken over by SRC and data systems were being migrated to different platforms. The standard, and an additional 12 samples from the surrounding sequence, were reanalysed with single 30 g fire assay (a direct comparison is not possible, as the screened metallics method analyses all oversize material). The reanalyses correlated well with the existing results, and the standard returned 0.46 g/t Au. SRC ascribed the discrepancy to a data entry error. Based on this it was requested that all results and data entry for this work order be reviewed. A total of eight additional errors were found and corrected. These were all in batch G-2021-2304, where eight samples were recorded as containing 0.02 g/t Au where the result should have been <0.02 g/t (i.e. below the limits of detection). Single marginal failures were encountered in the Fortune Bay medium and high grade CRM samples. All blank samples returned results of below the lower detection limit. A single marginal failure was recorded in the TSL QAQC sample results, however results from the same batch suggest that no systematic measurement error was incurred. The overall QAQC results are considered to imply that the assay data generated is of acceptable quality.

Table 11-3: Fortune Bay 2021-2022 Box and Athona Drill Sample QAQC Results.

Blank and CRM Standard Information					Assay Results (g/t)					Avg. % Difference
Standard	Description	Std (g/t)	Plus 2SD	Minus 2SD	Count	Avg.	Min	Max	Fail	
BLANK_C	Blank	0.00	N/a	N/a	48	<.03	<0.2	<.03	0	N/a
GS-8E	High Grade	8.62	8.97	8.27	400	8.60	8.30	8.98	1	-0.3
CDN-GS-P5H	Low Grade	0.50	0.55	0.44	37	0.52	<.02	0.62	7	3.8
CDN-GS-1P5D	Medium Grade	1.47	1.62	1.32	37	1.47	1.28	1.58	1	-0.1
CDN-GS-7H	High Grade	6.54	7.07	6.01	37	6.56	5.42	7.27	1	0.4

Figure 11-2: Fortune Bay 2021-2022 Box and Athona Drill Sample QAQC Results.



Source: Fortune Bay, 2022. Green dashed line is expected CRM average. Black dashed lines indicated +/- 2 standard deviation ranges.

11.4.3 Box and Athona Drilling – Bulk Density

Gold assay samples were flagged for bulk density analysis in the submitted work orders, targeting an approximate 10 m spacing throughout the Mine Granite intersections. For these samples, TSL would extract a suitable piece (of half-cut core) from the assay sample bag for analysis, which would be returned to the bag afterwards for subsequent gold assay. Representative samples were also collected in the hangingwall intersections on an approximate 20 to 30 m spacing, to represent the various lithologies present. These samples comprised approximately 10 cm of whole core and were packaged and exported for analysis with the gold samples as described in Section 11.4.1. All samples were analysed for bulk density by TSL using the water displacement method described in Section 11.3.3.

11.4.4 Box and Athona Drilling – Bulk Density QA/QC

TSL inserts two QA/QC standard (density = 2.63 g/t) samples per analytical batch. A total of 38 standards were inserted for 386 samples. Six of these samples measured 2.62 g/t, the remainder measured as per the expected standard value of 2.63 g/t. No independent verification of bulk density results has been carried out by Fortune Bay.

11.4.5 Exploration Drilling Samples – Gold Assay

Drill core intervals were selected for gold assay sampling based on visual criterial such as the presence of quartz veins, sulphides and encouraging alteration. A total of 114 samples were collected from four exploration drill holes. Sample collection and export is as described in Section 11.4.1. Sample analysis was carried out at SRC using their Au-1 method. Samples were prepared for analysis by crushing the entire sample and pulverizing to 95% passing 150 mesh. A 50 g split of this sample pulp is mixed with fire assay flux in a clay crucible and a silver inquart added prior to fusion. After the mixture is fused, the melt is poured into a form which is cooled. The lead bead is then recovered and cupelled until only the precious metal bead remains. The bead is then parted in dilute HNO3. The precious metals are dissolved in aqua regia and then diluted for analysis by ICP-OES and/or Atomic Absorption Spectrometry (AAS). Results are reported in parts per billion with a lower detection limit of 2 ppb and an upper detection limit of 3000 ppb. Samples exceeding the upper limit are submitted for further gravimetric gold analysis with a higher detection limit.

11.4.6 Exploration Drilling Samples – Gold Assay QAQC

SRC inserted 8 certified gold reference standard (CDN-GS-1P5T) samples from CDN Resource Laboratories Ltd. No failures were incurred, and the average assay results for these was 1.82 g/t, compared with the expected value of 1.75 g/t.

Fortune Bay inserted an additional 6 QAQC samples into the sequence as per the QAQC protocols described in Section 11.4.2. No failures were incurred, however the upper detection limit for the method is 3000 ppb. Gravimetric gold analysis results for the two high grade standards (expected 8.62 g/t or 8620 ppb) have not been received at the time of reporting.

These results have not been used for resource estimation – these are samples collected from exploration drill holes within the Goldfields Syncline (Section 10.1.8) and the results are considered adequate for assessing exploration potential.

11.4.7 Exploration Drilling Samples – Multi-element Analysis

All of the 114 exploration drilling samples submitted for gold assay (Section 10.1.5) were also submitted for multi-element analysis at SRC using their ICP3 Exploration Package. An aliquot of the sample pulp generated for fire assay (Section 11.4.5) was split off and digested in a test tube in a mixture of HCl:HNO_3 (Aqua Regia) in a hot water bath and then diluted to 15 ml using deionized water. Analysis was then carried out by ICP-OES for 35 major oxide and trace elements.

11.4.8 Exploration Drilling Samples – Multi-element Analysis QAQC

SRC inserted 7 certified multi-element standard samples into the 114 sample sequence. The standards used were derived from CDN Resource Laboratories Ltd. and included CDN-ME-1205 and CDN-ME-1411. Analytical results for these standards were reported with the multi-element results, and no significant issues were noted. Fortune Bay has not carried out any independent verification of these results. These results have not been used for resource estimation – these are samples collected from exploration drill holes within the Goldfields Syncline (Section 10.1.8) and the results are considered adequate for assessing exploration potential.

11.5 Sample Processing for 2021 Field Prospecting Samples

11.5.1 Gold Assay

A total of 16 grab samples were collected in 2021 from different exploration target areas (Section 9.2.2). Grab samples were sealed in plastic bags with identifying sample tickets and were dispatched with drill core samples (as described in Section 11.4.1) to TSL Laboratories for analysis by their screened metallics gold method, which is described in detail in Section 11.1.1.

11.5.2 QAQC of Prospecting Sample Analysis

TSL inserted 3 CDN Resource Laboratories Ltd. gold standards (CDN-GS-8E) into the sample sequence for their internal QAQC. No failures were incurred. Fortune Bay inserted a single blank and a single high grade QAQC sample (as described in Section 10.1.2) into the sample sequence for independent QAQC. The blank sample assayed as below detection, and the high grade sample assayed at 6.52 g/t Au, compared to the standard average of 6.54 g/t.

11.6 QP Comment on Sample Preparation, Analyses and Security

As documented in this report, there are no QA/QC data available to support the information contained in the underground drill hole and channel sample database, and only internal laboratory QA/QC procedures were used for drilling campaigns prior to 2004. However, the confirmation drilling campaign conducted in 2004 (along with QA/QC program) and QA/QC procedures used during subsequent drilling campaigns in 2007 to 2011 are aligned with industry standards and have been used to validate the historical drilling results. SRK is of the opinion that the current drill hole and sample database is adequate to support the estimation of mineral resources for the Box and Athona deposits.

11.7 Data Verification Conducted by AMEC, Wardrop and Fortune Bay Corp.

The data used for estimation of mineral resources in Section 14 are derived from work phases conducted by different operators over a period of over 80 years. The Goldfields resource database was compiled from Cominco and Athona Mines company records in the late 1980's by GLR Resources, and drilling information from campaigns in 1987/1988 and 1994/1995 was appended to the database and used to support early resource estimates prior to 2004 (Section 6.6). Significant internal QAQC and verification of drilling (including professional survey of collar positions and conversion to mine grid coordinates by external contractors) and assay data was carried out during this period. All data were captured and standardized into LOG II software (Jensen, 2003).

The first comprehensive mineral resource estimates compiled using CIM Definition Standards and reported in accordance with NI 43-101 were reported by AMEC (2006) for Box and by Wardrop (Maunula, 2007) for Athona. The supporting databases were completely rebuilt in collaboration with GLR Resources, audited and verified by the Qualified Persons at the time in support of this work (Sections 11.7.1 and 11.7.2). For both Box and Athona it was noted that a significant portion of the data derived from the period 1937 to 1940 could not be comprehensively verified. It was further noted that no blank or standard Certified Reference Material samples had been included with sample processing for QAQC of assay results. Additional verification drill programs were therefore recommended and implemented at both deposits (Box in 2004/2005 and Athona in 2006). The results were used to verify the historical assay databases and the nature and extent of mineralization present.

Fortune Bay has conducted an extensive internal recompilation and verification of the resource databases for Athona and Box (Sections 11.7.3 to 11.7.6) with an emphasis on data generated after the independent verification exercises mentioned above (in and since 2007).

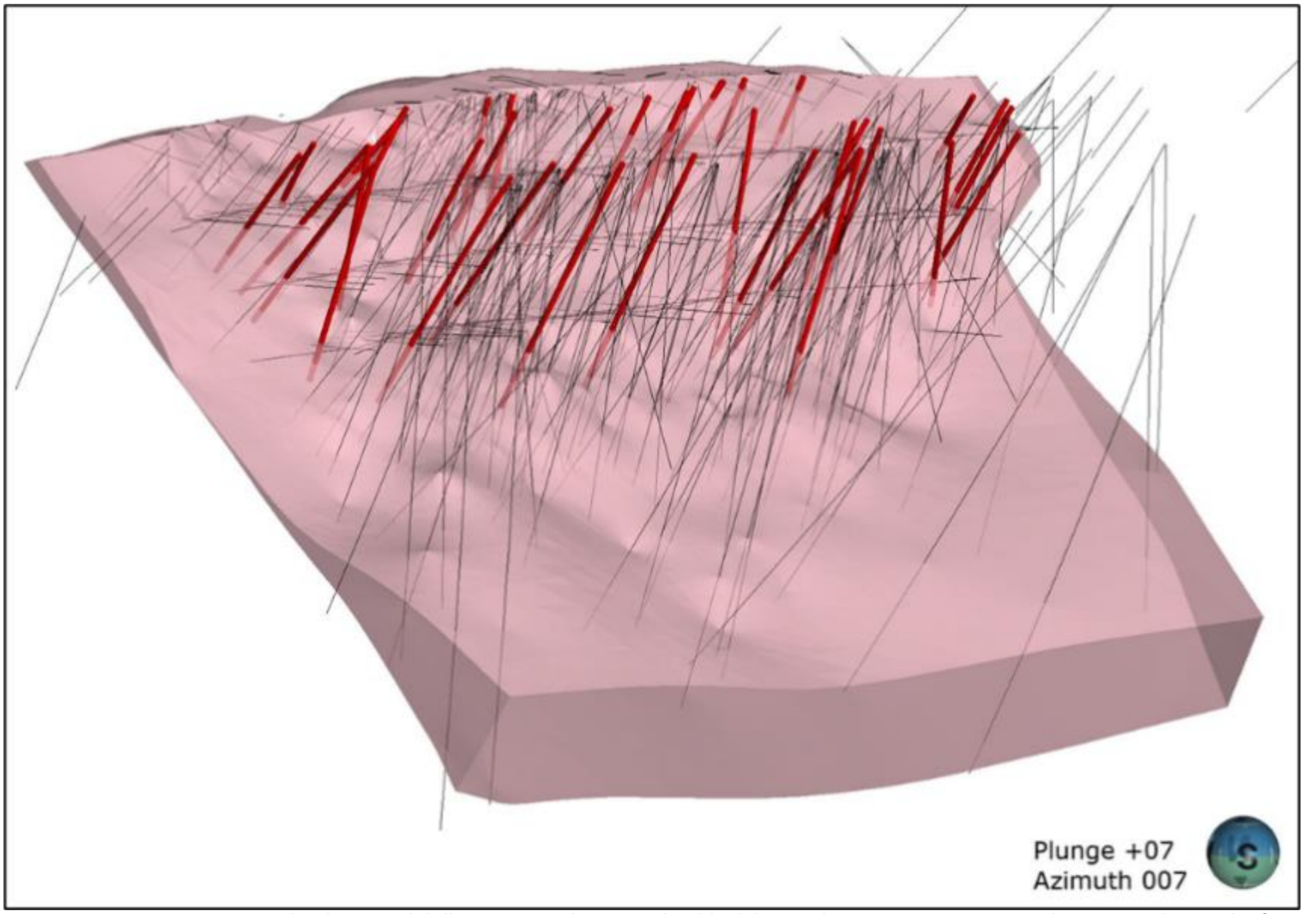
11.7.1 Box Data Verification by AMEC

The information in this section is extracted and summarized from AMEC (2004) and AMEC (2006). These reports document the compilation and verification of the resource database used by AMEC to estimate mineral resources in 2006.

All data were consolidated into a single database that was comprehensively reviewed for missing or spurious data values. An approximate 6% detailed audit of drill holes from all phases of work was then carried out by AMEC to verify data capture, and where possible, to verify drill hole locations / orientation in the field, drill logs from core and results from assay certificates. No errors were found in drill collar and survey data, although drill collar elevations were found to be variably inaccurate relative to actual surface elevation. Error rates of 2.3% for the geology log records and 0.7% for the assay records were found.

AMEC (2004) proposed a QAQC program for future drilling, including insertion of blank and standard Certified Reference Material ("CRM") into sample sequences. This was not done at Box prior to 2004, and as such, AMEC (2006) noted that the only means of properly validating historical results would be through confirmation drilling, which was completed as per recommendations in 2005. This program included 37 drill holes (4,307 m) that provided a broad spatially representative coverage of the Box Mine Granite in the elevation range targeted at the time. Drill hole coverage from the 2004/2005 program is shown in Figure 11-3.

Figure 11-3: Drill Coverage (Thick Red Traces) From The 2004/2005 Box Verification Drill Campaign.



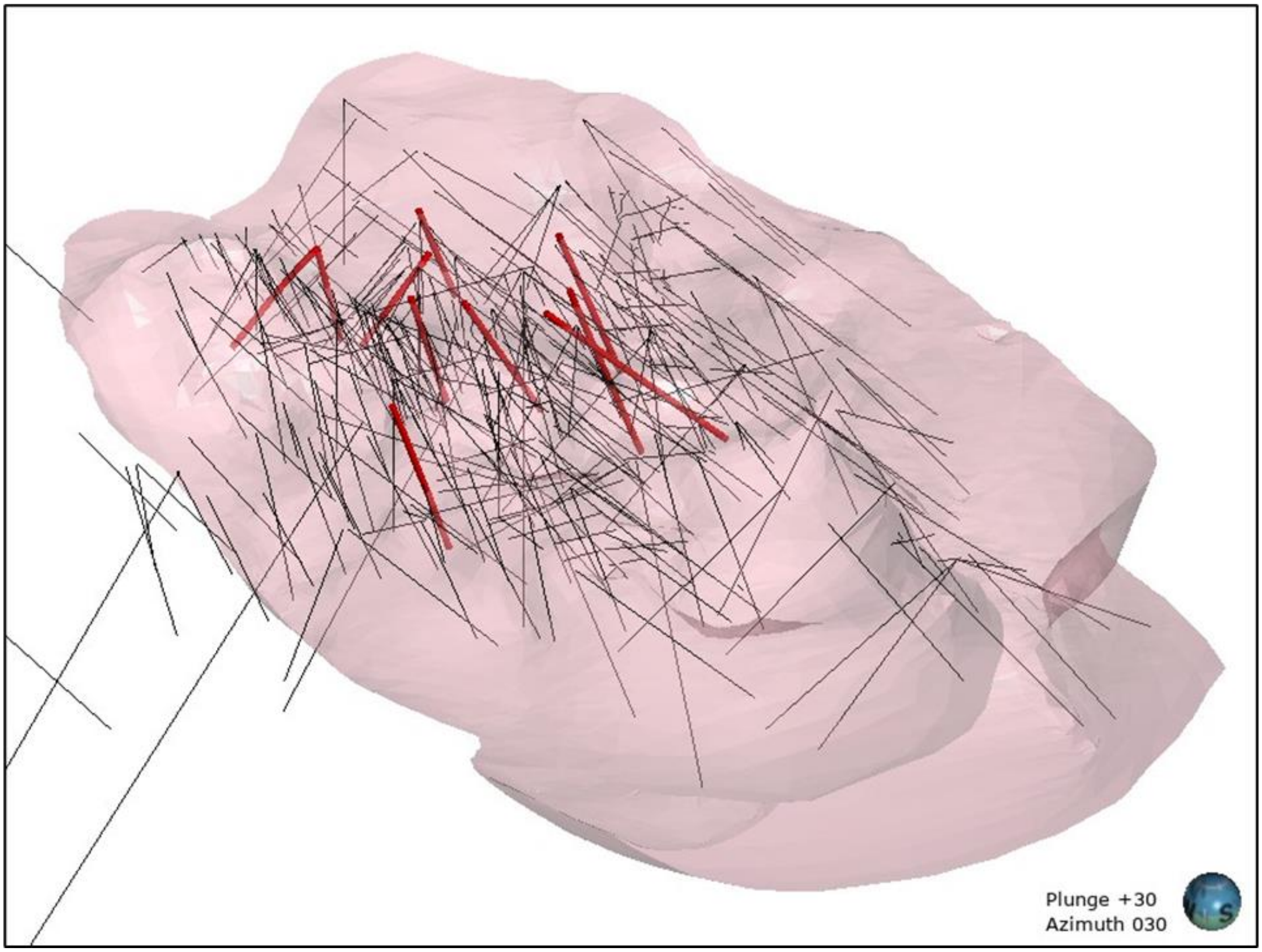
Source: Fortune Bay, 2021. Other historical drill traces are shown as thin black lines. The Box Mine Granite is shown in pink. Results from this drilling were used by AMEC (2006) to verify historical gold assay results.

Drilling data generated during the 2004/2005 campaign were verified by confirming all collar positions and orientations by field survey, checking of data entry and review of QAQC results for assay. AMEC (2006) noted that the results were of good quality and they were incorporated into the resource database and used to validate historical results. Data from various campaigns were compared by a process of (1) declustering assay results through nearest neighbor interpolation into a block model with block dimensions of 3 x 3 x 3 m and (2) comparing results from different campaigns based on proximity (where within 10 m) in percentile-percentile plots. All drill assay results were found to be consistent, however a downward correction for underground channel samples was at first recommended based on an apparent high-grade bias (AMEC, 2006). On further review (Lusby et al., 2011) the underground assay results were found to not overtly skew the statistics of the dataset and no correction factor was applied to the historical underground channel assay values during historical estimation of mineral resources in 2011.

11.7.2 Athona Data Verification by Wardrop

As documented in Maunula (2007), the Athona mineral resource database was subjected to a 3.3% audit of collar, survey, geology and assay records in 2005. Minor issues relating to decimal precision discrepancies, a small number of long interval averaged assay values and differing original assay unit measurements (with potential for erroneous translation into a resource database, although no actual errors were encountered) were noted, recommending additional review work to resolve these. Maunula (2007) stated that the verified data were considered useable for resource estimation but noted that proper verification of historical data was required with additional confirmatory drilling. Wardrop provided recommendations for a ten hole verification program, which was carried out in 2006 (Figure 11-4). All data generated during this 2006 program were verified by Wardrop (Maunula, 2007), including review of certified reference blank and standard sample assay results and field review of collar positions. Assay results from confirmation holes were reviewed, and on the basis of these results all historical data were accepted and used to estimate mineral resources.

Figure 11-4: Drill Coverage (Thick Red Traces) of Grade Verification Holes From The 2006 Athona Drill Campaign.



Source: Fortune Bay, 2021. Other historical drill traces are shown as thin black lines. The Athona Mine Granite is shown in pink. Results from this drilling were used by Maunula (2007) to verify historical results. Note that other holes were drilled during the 2006 campaign, only those used for verification are shown.

11.7.3 Database Compilation and Verification by Fortune Bay Corp.

Resource databases (including drill collar, survey, geology log and assay results) were maintained separately for Box and Athona by previous operators. These databases contained records recorded in local mine grid coordinate systems, including all information captured up to and including the 2007 drill program at Box. Subsequent drill information (from 2010 and 2011) was provided to consultants separately in drill log files for each campaign.

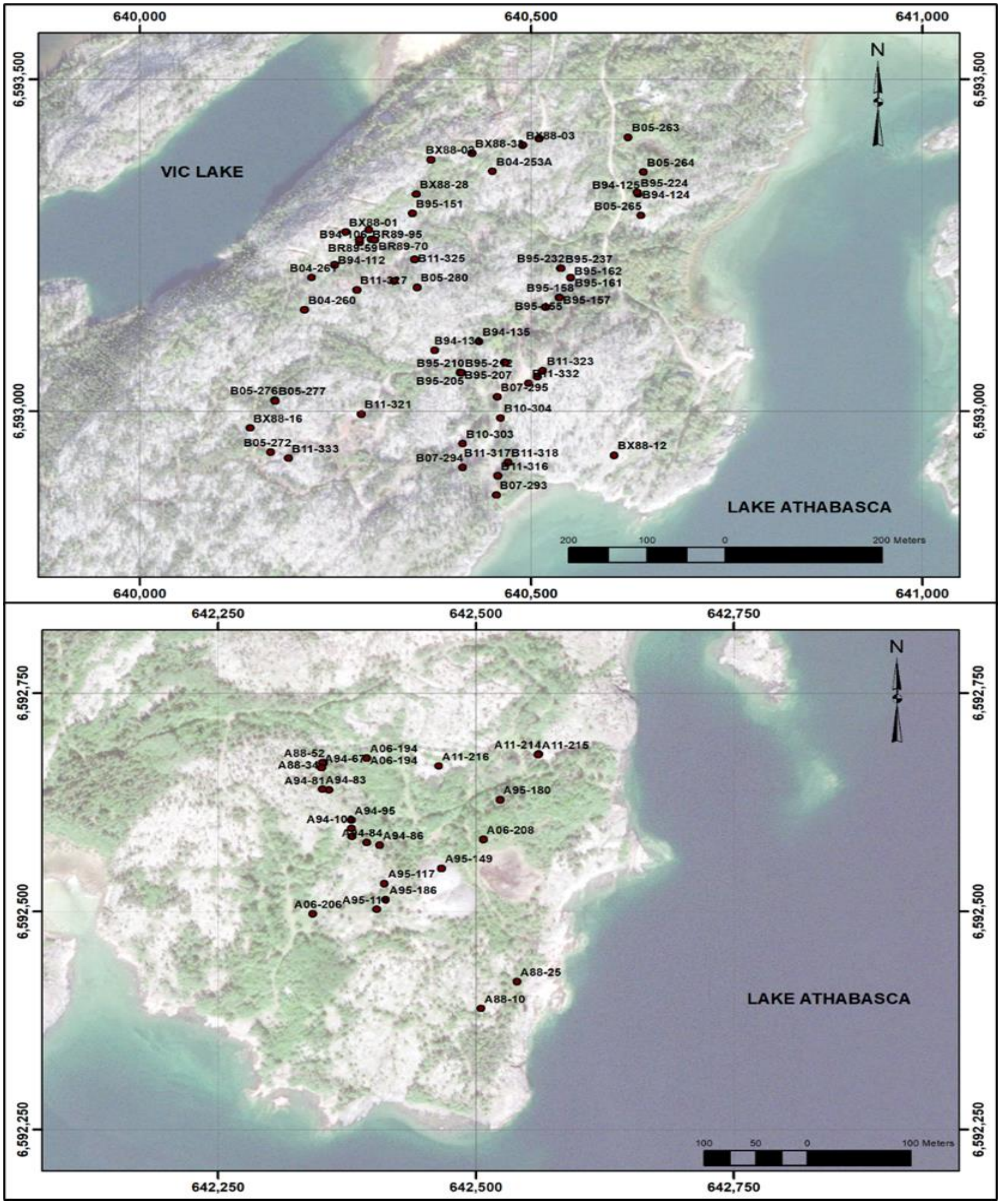
The Company has recompiled all Box and Athona resource data and has reprojected all drill hole collar positions from local mine grids into the Universal Transverse Mercator NAD83 Zone 12 North projection system (UTM NAD83 Zone 12N). Collar locations, hole orientations and assay data have been further verified as outlined in the sections below. This section is summarized from an internal company report on the data verification process (Fortune Bay Corp., 2020).

11.7.4 Verification and Reprojection of Collar Positions

A 100% audit of drill hole collar positions in mine grid coordinates from the resource databases was carried out using assessment reports and company records of collar locations. Two minor errors were noted and corrected.

A high precision (<1 m accuracy) Arrow 100 GPS was used to resurvey 89 collar positions (Figure 11-5) at Box and Athona, including drill holes from between 1988 and 2011. These data were used to generate transformations to convert historical mine grid positions into UTM NAD83 Zone 12N. When finalized, these transformations were found to be very reliable and allowed for field navigation in UTM space directly to drill collar locations. Discrepancies between transformed mine grid positions and those measured by the Arrow GPS were typically well within the accuracy tolerances of a hand-held GPS. A maximum of 17 m was noted, but discrepancies were typically on the order of 1 to 5 m.

Figure 11-5: Locations of Drill Collar Positions (Box Above, Athona Below) Verified In The Field Using an Arrow 100 GPS (Sub 1 m Accuracy).



Source: SRK, 2020

Inaccuracies in the Box 2007 drill hole collar mine grid coordinates (n = 5, also noted in Bikerman, 2009b) appear to be related to a transformation error from their original GPS locations collected at the time of drilling. Based on field verification the UTM positions collected by GPS for these holes appear reliable.

In summary, for all previously verified collar positions (in and prior to 2006), the mine grid coordinates from the resource databases (with two minor corrections) were transformed directly into UTM NAD83. For more recent holes (in and after 2007) the recorded positions from hand-held GPS were used. Where more accurate positions were available (from Arrow GPS survey carried out by Fortune Bay) these were substituted as the preferred final locations.

Previous verification work (Jensen, 2003, AMEC, 2006 and Maunula, 2007) had noted inconsistencies and inaccuracy in the recorded elevations for drill collars. To ensure consistency between datasets the drill collar elevations for all surface drill holes were adjusted to the surveyed digital elevation models for the Box and Athona areas. This exercise did not result in any significant overall shift in average elevation for the surface drill holes (<1 m) and will therefore not have introduced an erroneous offset between surface drill positions and underground drill / channel sample positions.

11.7.5 Verification and Drill Hole Orientations

A 100% audit of database drill hole dip and azimuth data was carried out by recompiling these data from assessment reports and company records, in which the azimuth data are recorded in true north bearings. Correcting for mine grid rotation at Box, these data were compared with resource database entries to check for data entry errors. A total of five corrections were made for drill holes completed in and prior to 2006. A total of six corrections were made for drill holes completed in and after 2007.

Drill hole dips and azimuths were recorded in the field as best possible (in most instances casing has been removed or cut off at surface) during resurveying of collar positions. No significant discrepancies were noted between these measurements and database records.

11.7.6 Verification of Assay Data

Assay data appended to resource databases in and prior to 2006 have been subject to extensive verification by previous operators and by Independent Qualified Persons during reporting of historical mineral resources. Percentage audits (rather than a complete recompilation) of between 10 and 23% of assay data from each campaign between 1987 and 2006 were therefore carried out by the Company as a further verification exercise (no verification of pre-1940 assay data was undertaken).

These percentage audits included verification of sample intervals from drill logs and assay results from laboratory assay certificates. Minor issues relating to a small number of missing results, rounded off lower detection limit values, or below detection limit measurements being assigned zero value were noted and corrected. Jensen (2003) noted correction of Box assay data from 1988 for erroneous capture of silver assay results in place of gold results. The data from Box for this campaign were checked and no errors were found, however a similar error was noted at Athona. All certificates were reviewed and where silver assay results were present these were checked against the database records. A total of six values were corrected.

All sample and assay information from 2007 onwards was recompiled from drill logs and assay certificates and was appended with the verified older historical data.

12 DATA VERIFICATION

12.1 Verification by SRK

12.1.1 Site Visit

An Independent Qualified Persons ("QP") site visit was conducted by Cliff Revering, P.Eng (Mineral Resources) and Dr. Ron Uken, Pr.Sci.Nat. (Structural Geology) of SRK Consulting (Canada) Inc. (SRK) from 21 to 25 September, 2020. The primary focus of the site visit was to review surface outcrops and trenches located at the Box and Athona deposits, as well as to review drill core from both deposits to better understand the structural geology and geological controls on mineralization. Historical drill core was re-sampled for data verification purposes, with samples collected for repeat gold assay, multi-element geochemistry and petrographic study to verify the nature of gold mineralization at both the Box and Athona deposits (reported in SRK, 2020a).

12.1.2 Surface Outcrop and Bulk Sample Trench Reconnaissance Mapping

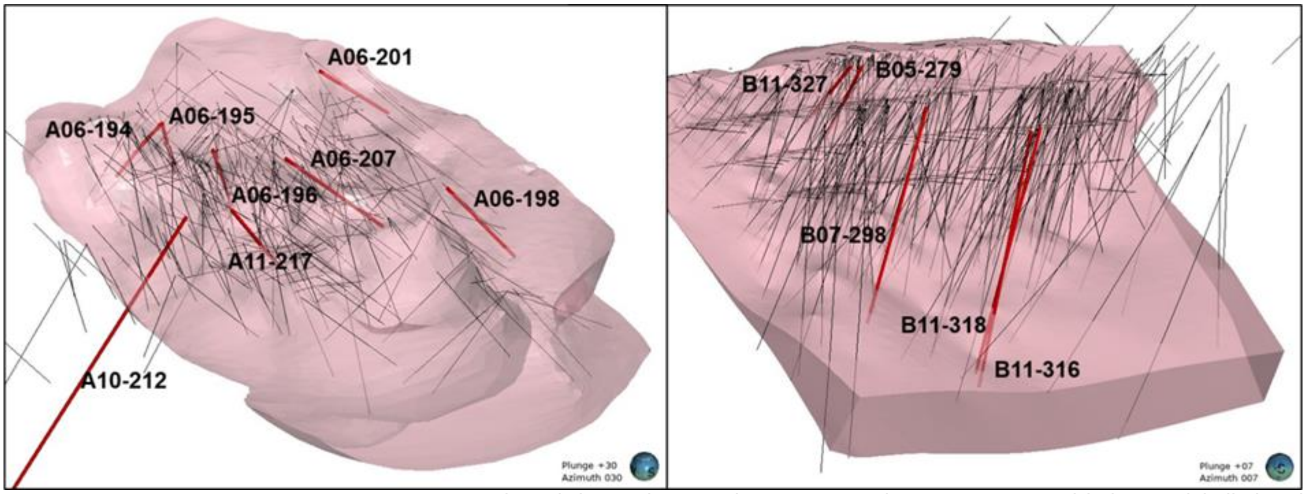
SRK and Fortune Bay Corp. representatives reviewed surface outcrops and trenches located across the Box and Athona Deposits. Reconnaissance level field mapping and structural data collection was conducted by SRK over the course of two days.

Three dominant vein orientations were identified at Box, striking NNW, NNE and WNW respectively. Box Mine Granite ("BMG") foliation was noted with a dip of 40° and a dip direction of 130° (true north), subparallel to the regional lithology layering and the footwall contact with the BMG. Three dominant vein orientations were identified at Athona, including NNW, NNE and ENE. Orientation data were measured and recorded for vein, fault and joint systems at both locations (SRK, 2020a). Results and observations were incorporated into Section 7, and this work together with data from historical records and reports provided a basis for the mineralization domain models presented in Section 14.

12.1.3 Drill Core Review and Sampling

A total of 13 drill holes were reviewed in detail during the QP site visit, of which 5 were selected from the Box deposit and 8 from the Athona deposit. The locations of these holes relative to the Box and Athona Mine Granite geological models presented in Section 7 are shown in Figure 12-1.

Figure 12-1: Drill Holes Reviewed By SRK During QP Site Visit.



Source: Fortune Bay, 2021. QP site visit was conducted during the period 21-25 September 2020. Reviewed holes are labelled and highlighted with a red trace. All other drill traces are shown as thin black lines. Geological models in pink are the Box and Athona Mine Granite models. Left inset = Athona, right inset = Box.

Drill core sampling was identified as a requirement for several purposes, including; 1) historical gold assay data verification, 2) verification of bulk density averages used for previous mineral resource estimates, 3) multi-element analysis to ascertain geochemical associations and pathfinder elements, and 4) petrographic thin-section analysis to better define host and country rock lithologies, as well as gold mineralization controls and characteristics. All sample process methods and QA/QC or verification of sample results are described in Section 11.3.

Table 12-1 provides details for sample intervals selected for assay database verification purposes and multi-element geochemical analysis (drill hole locations are highlighted in Figure 12-1). Samples were selected at hangingwall and footwall locations, through mineralized intervals with historical individual sample grades ranging from below levels of detection to 19 g/t. Remaining half core material was sampled with the sample intervals exactly matching the historical sample intervals.

Table 12-1: Box and Athona Sample Interval Selection By SRK (2020a)

Hole-ID	From (m)	To (m)	Length (m)	Number of Samples
B05-279	71.70	95.70	24.00	25
B11-318	299.00	306.42	7.42	8
B11-316	230.00	254.00	24.00	24
A06-198	30.00	51.00	21.00	21

Note: For Assay Database Verification and Geochemical Analysis. Sampled Drill Hole Locations are Shown in Figure 12-1.

Table 12-2 provides details of samples selected for petrographic analysis. Samples were selected to provide continuous geological profiles within both the Box and Athona mineralized horizons, as well as to provide representative samples of the dominant host and country rock lithologies.

Bulk density verification sample locations from within the Box and Athona Mine Granites are shown in Note: Sampled drill hole locations are shown in Figure 12-2. BMG = Box Mine Granite, AMG = Athona Mine Granite, FW = Footwall, HW = Hangingwall, CR = Country Rock.

Figure 12-2. A total of 118 bulk density samples (46 from 4 holes at Athona and 72 from 5 holes at Box) were collected during review. Of this total, 29 samples were collected from the Athona Mine Granite and 49 were collected from the Box Mine Granite.

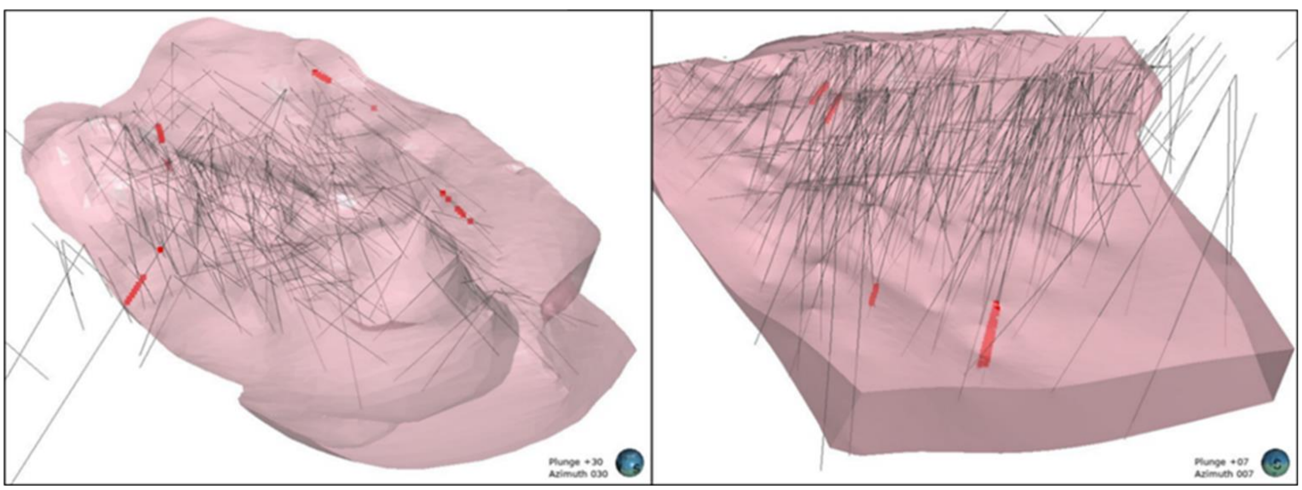
Table 12-2: Box and Athona Sample Selection by SRK (2020a) for Petrographic Study.

Hole ID	Depth (m)	Grade (Au g/t)	Location	Comment
B11-327	84.15	45.45	BMG FW	BMG with quartz stringers and late cross-cutting thin black vein
B11-327	84.35		BMG FW	BMG with granular texture and disseminated pyrite
B11-327	84.45		BMG FW	BMG with alteration by network of chlorite and sulphide(?) in a preferred orientation
B11-327	84.95		BMG FW	BMG with coarse-grained pyrite vein and disseminated pyrite
B11-327	85.05	42.75	BMG FW	BMG with sulphide vein
B11-327	85.35		BMG FW	BMG with 5mm quartz vein containing pyrite and sphalerite
B11-327	85.55		BMG FW	BMG with quartz stringers cut by thin late quartz vein
B11-327	85.75		BMG FW	BMG with quartz vein with coarse-grained sulphides/iron oxides (hematite/magnetite)
B11-327	85.95		BMG FW	BMG with quartz stringers and disseminated magnetite and sulphides
B05-279	57.75	2.58	BMG HW	BMG with thick quartz vein (5cm), thin chlorite stringers in granite
B05-279	57.95		BMG HW	BMG with quartz stringers and anastamozing chlorite/sulphide alteration in granite
B05-279	58.65		BMG HW	BMG with thin quartz stringers and late cross-cutting 2mm open quartz vein
B05-279	58.85	17.08	BMG HW	BMG with coarse-grained pyrite in quartz vein
B05-279	58.95		BMG HW	BMG: quartz-vein margin with coarse-grained pyrite and altered vein margin
B05-279	59.05		BMG HW	BMG; altered with sulphides on quartz vein margin
B05-279	59.65		BMG HW	BMG with chlorite stringers
B05-279	1.55	N/A	CR	Sheared quartz-feldspar biotite gneiss
B05-279	4.55		CR	Iron stained porphyroblastic feldspar gneiss
B05-279	9.05		CR	Quartz-feldspar biotite hornblende gneiss with quartz-feldspar veins
B05-279	13.05		CR	Siliceous quartz-feldspar Fe stained gneiss
B05-279	16.55		CR	Biotite hornblende gneiss
B05-279	32.05		CR	Fine-grained mafic schist
B05-279	38.05		CR	Biotite hornblende gneiss with quartz veins
B05-279	48.05		CR	Mafic schist
B05-279	54.05		CR	Mafic schist with quartz stringers
B05-279	102.55		CR	Footwall quartz-feldspar gneiss
B05-279	109.05		CR	Footwall quartzite
A06-201	26.05	8.93	AMG HW	AMG with dark fracture stockwork cut by 5mm quartz vein
A06-201	26.25		AMG HW	AMG with quartz vein crackle breccia
A06-201	26.55		AMG HW	AMG with dark crackle stockworks cut by 1cm quartz vein

Hole ID	Depth (m)	Grade (Au g/t)	Location	Comment
A06-201	26.75		AMG HW	AMG in contact with fine-grained mafic unit
A06-201	26.85		AMG HW	Fine-grained mafic unit inside AMG
A06-201	27.05		AMG HW	AMG with dark thin veins
A06-201	27.15		AMG HW	AMG with crackle breccia
A06-201	27.45		AMG HW	AMG with crackle breccia
A06-201	27.65	N/A	FW CR	Footwall fine-grained mafic
A06-201	42.25		FW CR	Coarse grained hornblende gabbro
A06-201	56.55		FW CR	Hornblende gabbro with quartz vein and feldspar alteration
A06-201	99.95		FW CR	Dark granite and footwall to red AMG
A06-201	92.35	0.53	AMG FW	Footwall AMG with quartz vein and disseminated sulphides
A06-196	21.05	1.93	AMG	Middle intersection, AMG with quartz stringers and minor dark fractures with sulphides
A06-196	21.75		AMG	Middle intersection, AMG with dark fractures and scattered sulphides
A06-196	21.925		AMG	Middle intersection, with dark vein network

Note: Sampled drill hole locations are shown in Figure 12-2. BMG = Box Mine Granite, AMG = Athona Mine Granite, FW = Footwall, HW = Hangingwall, CR = Country Rock.

Figure 12-2: Locations (Red Dots) of Verification Bulk Density Samples Collected Within The Athona (N = 29) and Box (N = 49) Mine Granites.



Source: Fortune Bay, 2021. Geological models in pink are the Box and Athona Mine Granite models. Left inset = Athona, right inset = Box.

12.1.4 Drill Collar Verification

The locations of 89 drill collars were verified in the field with Fortune Bay staff during the site visit (SRK, 2020a). The locations of these collars are shown in Section 11.7.4. Collars were generally marked with a wooden post/stick or with drill steel positioned within the remnant drill hole. Given the very competent nature of the bedrock in this area, many unmarked collars could be located on outcrops within the deposit area.

12.1.5 Verification Sample Results

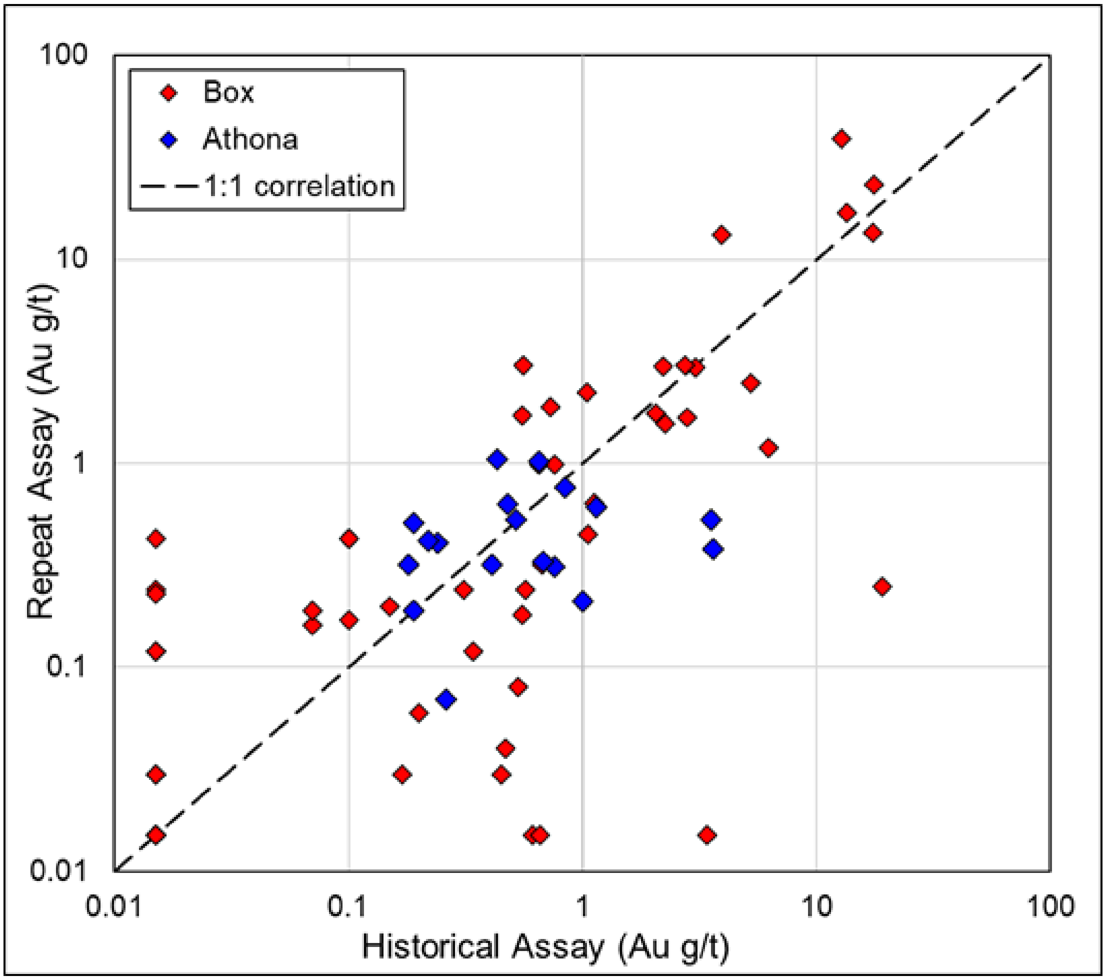
Results of gold verification sampling are provided in Table 12-3 and are illustrated graphically (individual sample correlation) in Figure 12-3. High grade historical gold assay results could be verified within individual samples, as shown in Figure 12-3, but the results also confirm the inherent grade variability due to particulate, or coarse gold. Over longer drill intervals, a reliable correlation was evident between historical and repeat assay results, as shown in Table 12-3. Overall, the results confirm a broad correlation between historical and repeat assays and demonstrate the grade variability on the scale of individual samples.

Table 12-3: Results of Gold Verification Sampling

Drill Hole	From (m)	To (m)	Length (m)	Historical Gold Assay (g/t)	Repeat Gold Assay (g/t)	Sample Count
A06-198	33.00	51.00	18.00	0.85	0.48	18
B05-279	71.70	95.70	24.00	2.60	2.26	25
B11-316	230.00	240.00	10.00	2.55	1.63	10
B11-316	245.00	254.00	9.00	1.95	4.97	9
B11-318	299.00	306.42	7.42	2.05	2.32	8

Note: Repeat gold samples comprise the remaining half-cut core left over from historical sampling. Intervals were collected to exactly match historical sample intervals. Source: Fortune Bay, 2021.

Figure 12-3: Gold Verification Sampling Results – Individual Sample Correlations.



Note: Repeat gold samples comprise the remaining half-cut core left over from historical sampling. Intervals were collected to exactly match historical sample intervals. Source: Fortune Bay, 2021

Bulk density verification samples (n = 29 and n = 49) from the AMG and BMG returned average bulk densities of 2.65 and 2.62 g/cm^3, respectively. These correlate well with the average bulk densities used for historical estimation of mineral resources, which were 2.64 g/cm^3 at Box (Lusby et al., 2011) and 2.65 g/cm^3 for Athona (Maunula, 2007).

Reflected and transmitted light petrography reports by SRK (2020a and 2021) have been included into descriptions of mineralization and lithological units in Section 7.

Multi-element geochemical data confirmed the negligible abundance of deleterious (unwanted) elements associated with the gold mineralization. No obvious correlations of gold with other elements were evident in the dataset, and therefore the Box and Athona gold deposits do not appear to have any distinctive geochemical associations or pathfinder elements.

12.2 SRK Qualified Person Comment on Data Verification

SRK has reviewed and analyzed the results of data verification programs conducted by previous QP's and Fortune Bay and accepts the results of these programs. Based on this review and analysis, along with the additional data verification conducted directly by SRK, SRK is of the opinion that the Goldfields drill hole database is adequate to support the current geological interpretation for the Box and Athona deposits and to support the estimation of mineral resources.

Additional details of SRK's analysis of historical data are provided in Section 14.4.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Introduction

The Goldfields deposit has been the subject of extensive metallurgical testwork programs and previous studies, dating back to 1939 as summarized in Section 13.2. This work has determined that there are no significant metallurgical or environmental hindrances associated with the mineralization. Based on the last test work conducted at SGS Canada Inc. ("SGS") in 2015, gold can be effectively recovered from the mineralization at both Box and Athona by a variety of gravity and leaching methods. Details of testwork conducted by Fortune Bay in 2015 are provided in Section 13.3.

13.2 Historical Metallurgical Testwork

Table 13-1: Historical Testwork Programs and Reports

Document Name	Issuer	Year	Description
Microscopic Examination of Nine Samples of Gold Ore from Athona Mines Limited, Goldfields, Saskatchewan	Department of Mines and Resources	1939	Mineralogical description and metallurgical testing
Summary of Barrel and Flotation Tests	Dawson Metallurgical Laboratories, Inc.	1981	Comparison between heap leach and flotation for ore from Athona
Lenora Pilot Scale Testing Final Report	Lenora Explorations Ltd.	1988	Comminution testing, bulk cyanidation, flotation, CIP, jig testing
1988 Exploration Program Pilot Leach Test Report	Casymn Engineering	1989	Stimulation of milling operation from 1939-42 at a pilot scale
Lakefield Research Analytical Study	Greater Lenora Resources Corporation	1995	Pebble grinding; gravity concentration (tabling); SAG mill pilot plant operation; Spiral Pilot Plant; Cyanidation of Gravity Concentrate; Projection of Overall Recovery vs Head Grade
VAT Leaching	INNOVAT Limited	1997	Spiral classifier tailings and whole ore
Dewatering and Environmental Studies	Lakefield Research Limited	1996	Settling and filtration tests on whole rock, gravity tails, flotation tails and cyanidation tails
Gravity Concentration of Greater Lenora Athona and Box Ores	Gekko Systems Pty Ltd	2001	Gravity concentration test using inline pressure jig
Gravity Concentration, Intensive Cyanidation, Settling, Electrowinning and Detox Testwork	Gekko Systems Oty Ltd	2003	Gravity concentration using tabling and centrifugal spinner; intensive leach reactor; settling; electrowinning; detox tests
Metallurgical Testing of Samples from the Box and Athona Deposits	SGS Canada Inc.	2016	Grindability; gravity Separation; Flotation; Cyanide Leaching; Merrill Crowe; CIP/CIL Modelling Solid-liquid separation

13.2.1 Department of Mines and resources (1939)

In 1939, two shipments of mineralization from Athona, comprising a total of 1.4 tonnes, were sent to the Department of Mines and Resources, Mines Geology Branch (Ottawa, Canada) for mineralogical description and metallurgical testing. It was determined that the mineralization could be satisfactorily treated by flotation and cyanidation of the concentrate with a grind between 60-70% passing 200 mesh (DMR, 1939).

13.2.2 Dawson 1981

In 1981, in order to compare heap leaching with flotation for ore from Athona, Dawson Laboratories conducted leach tests on ore crushed to ¾" and flotation tests on ore ground to 50% - 200 mesh. Recoveries were about 20% for the heap leach samples and 92-97% for the flotation tests (Salisbury, 1981).

13.2.3 Ontario Research Foundation 1988

In 1988, Lenora Explorations Ltd., initiated test work at the Ontario Research Foundation (ORF, 1988) involving a pilot scale test program to establish the design criteria for a mill using crushing, grinding, gravity separation, flotation, cyanidation and carbon-in-pulp operations.

Using 500 kg samples from each Box and Athona composites, head grade was determined. Bond work indexes of 14.8 for Box and 14.9 for Athona was concluded via grind testing (Hardinge ball mill). Gravity separation was tested on 150 kg of samples from each deposit. Flotation testing produced concentrates with 4% mass pull and recoveries of 91% and 92% gold for Athona and Box composites respectively. Bulk cyanidation of whole flotation concentrates, after regrinding to 90% passing 325 mesh (44 micron) showed recoveries of 98% for Athona concentrate and 96% for Box concentrates. Carbon-in-pulp gold recovery from cyanidation slurries indicated that Merrill Crowe gold recovery would be compromised by the presence of clays. Testing showed that better than 97% gold recovery can by obtained from ore cyanidation slurries with carbon at 12.5 g/L in 3 hours.

13.2.4 Casmyn 1989

A comprehensive audit of the mill production parameters and efficiency was carried out by Casmyn Engineering in 1989. The purpose of the test program was to stimulate the milling operation of 1939-1942, at a pilot scale. The study concluded that the stated recovery efficiency of 93% was likely over estimated and that production efficiency could have been improved by the inclusion of a gravity separation circuit to recover coarse gold more effectively by decreasing grinding size, increasing leach residence times which increased consumption of cyanide.

Testwork on the Box Mine production mill tailings was carried out by Overburden Drilling Management Limited (Averill, 1988) to resolve a 0.51 g/t discrepancy between estimated mine grade and production mill grade as reported by Cominco production reports, in which it was stated that a correction factor of 0.018 ounces/short ton was applied to balance mill grade with underground grade.

13.2.5 1995 Test Program for Greater Lenora Resources Corporation

Richard C. Swider Consulting Engineers Limited conducted a review of the metallurgical test programs carried out in 1936 by the former operator (Cominco) and in 1988 by Casmyn Engineering. The review showed that gravity concentration was effective in recovering and concentrating gold. Test data also indicated that a constant tailing loss might be expected over a relatively wide range of ore grades.

A new test program was recommended using a 40-tonne sample from the 1988 sampling trenches of Box and a 20-tonne bulk sample from the Athona stockpile.

Three drill core samples from the Box and two drill core samples from Athona were composited on a bench level basis to provide samples for metallurgical testing at depth and at grade.

Richard C. Swider Consulting Engineers Limited supervised the testing listed below and conducted at Lakefield Research of Ontario.

- Pebble grinding
- Preliminary demonstration of gravity concentration (tabling)
- Preliminary demonstration of the suitability of spirals for gravity concentration
- SAG mill pilot plant operation
- Spiral Pilot Plant
- Cyanidation of Gravity Concentrate
- Projection of Overall Recovery vs Head Grade

The results of this work are summarized as follows:

- Mineralization shows medium hardness (Bond Ball Mill Index of 15 to 16) and is suitable for one stage semi-autogenous mill grinding to obtain 80% passing 350 microns for gravity concentration and further recovery by scavenger flotation.
- The primary gravity concentration circuit with scavenger flotation, Knelson recovery of free gold and cyanidation of concentrate would result in 94% recovery at Box and 88% recovery at Athona at a head grade of 1.8 g/t.
- A process flowsheet with separate gravity-flotation and cyanidation tailings depositories, and zinc precipitation recovery of gold would permit a zero effluent mill-tailings depository operation with no requirement for cyanidation destruction.

13.2.6 VAT Leaching 1997

Under the supervision of INNOVAT Limited in 1997, leaching of spiral classifier tailings and whole ore was conducted at ORTECH and Lakefield. Both programs indicated economical recoveries on ore crushed to 10 mesh.

13.2.7 Dewatering and Environmental Studies 1996

A program in 1995-96 was conducted at Lakefield Research Limited with input from Pocock Industrial Inc. to determine settling and filtration characteristic of the ore and tailings. Ore characterization studies were made on while rock, gravity tailings, flotation tailings and cyanidation tailings, including EPA acid-base accounting, EPA leachate extraction, and size distribution of residues.

13.2.8 Gekko Test Programs 1998-2005

Gekko Systems (Pty) Ltd. ("Gekko") carried out plant process design work and supporting metallurgical testing during the period 1998 to 2005. Work began on the process design in late 1998 and continue through to 2005 at Gekko Systems in Australia and Lakefield Research in Canada, using the Gekko test protocol.

Testwork on primary and cleaner gravity recovery in Gekko inline pressure jigs with scavenging in a Falcon concentrator gave recoveries in the mid 80% range for mineralization ground to 80% passing 500 microns, followed by regrind and cyanidation of concentrates. Concentrates produced were tested for leaching in the Gekko in-line leach reactor (ILR) with gold values from solution extracted by direct electrowinning from the ILR. Cyanide destruction, using peroxide was also tested at Gekko. On the basis of the testwork Gekko (Abos et al., 2003) made the following recommendations:

- The Goldfields Project should employ a 3-stage gravity circuit, using primary and secondary jigging and scavenging with a centrifugal concentrator.
- Intensive cyanidation with a dedicated electrowinning cell should be used for recovery.
- Detox using hydrogen peroxide achieves desired low levels of cyanide at low cost.

13.3 PEA Metallurgical Testwork

13.3.1 SGS Canada Testwork 2015

The current PEA design is based on metallurgical testing completed at SGS Minerals Services Lakefield ("SGS") in 2015 based on recommendations from the historical Pre-Feasibility Study (Lusby et al.,2014). Tests were conducted in two-phases under the request of Fortune Bay, the current owner of the Project. The sections below are summarized and updated from Tule et al. (2016).

13.3.2 SGS Phase 1

SGS Phase 1 metallurgical test program included grindability testing, head grade analysis, comparison of two process routes:

1. Flotation and cyanide leach of concentrate
2. Direct cyanide leach

Drill core samples were received by SGS Canada Inc. For each composite – Box and Athona, the drill core pieces were crushed to nominally pass 2 ½ inch and blended. Up to 20 kgs was removed for SMC testing and 5 kg for bond abrasion index. The residual material was crushed further to pass ½ inch where 23 kg were removed for Bond rod and ball mill indices. The remaining material was stage crushed to -1.7 mm and split into test work charges of 10 kg.

The metallurgical test matrix for each composite (Box and Athona) was undertaken on 12 kg charges ground to three sizes – 75 µm, 150 µm, 250 µm. Each ground charge was split in half, one half used for whole ore tests and the second half for gravity separation.

The material for whole ore testing was subsequently split for flotation + cyanidation and direct cyanidation testing.

After being subjected to gravity separation, the material was subsequently split for flotation + cyanidation and direct cyanidation testing.

The gold head analysis determined by a screened metallic protocol indicated that the head grade of the Box composite was 1.55 g/t Au and Athona composite was 1.39 g/t Au.

The results of the head analysis including ICP scan and whole ore analysis (WRA) is shown in Table 13-2.

Table 13-2: Head Analysis

ICP Scan	Sample	
g/t	Box	Athona
Au	1.55	1.39
Ag	<2	<2
As	<30	<30
Ba	277	76.3
Be	<2	<2
Bi	<20	<20
Cd	<2	<2
Co	<4	<4
Cu	64.4	8.8
Li	<5	<5
Mo	<5	<5
Ni	<20	<20
Pb	<60	<60
Sb	<10	<10
Se	<30	<30
Sn	<20	<20
Sr	17.9	18.4
Tl	<30	<30
U	<20	<20
Y	23.7	30.6
Zn	48	38
WRA	**Sample**	
%	**Box**	**Athona**
SiO_2	77.4	76.8
Al_2O_3	11.1	11.9
Fe_2O_3	1.44	1.36
MgO	0.57	0.52
CaO	0.32	0.57
Na_2O	3.01	4.98
K_2O	4.12	2.4

ICP Scan	Sample	
TiO_2	0.1	0.07
P_2O_5	0.02	<0.01
MnO	<0.01	0.02
Cr_2O_3	0.02	0.02
V_2O_5	<0.01	<0.01
LOI	1.28	0.85
%	**Sample**	
	Box	**Athona**
S	0.37	0.33
$S^=$	0.32	0.21

Note: Table provided by SGS Canada Inc., 2015

13.3.2.1 Grindability Testing

Phase 1 included SMC Test® to get the Drop weight Index (DWI) and JK rock breakage parameters A, b and t_a[1], Standard Bond Rod Mill (RWI) Grindability, Standard Bond Ball Mill (BWI) Grindability and Standard Bond Abrasion (AI) tests for each of the Box and Athona composites. The grindability test results are summarized in Table 13-3.

Table 13-3: Grindability Test Summary

Sample Name	Relative Density	JK Parameters			Work Indices (kWh/t)		AI (g)
		A x b	DWI	t_a[1]	RWI	BWI	
Athona	2.63	35.0	7.52	0.34	17.1	16.0	0.994
Box	2.62	36.0	7.21	0.36	16.0	15.0	0.906
Average	**2.63**	**35.5**	**7.37**	**0.35**	**16.6**	**15.5**	**0.950**

Note: [1]The t_a value reported as part of the SMC procedure is an estimate
Note: Table provided by SGS Canada Inc., 2015

The Athona composite was categorized as hard with respect to SAG milling (A x b) and RWI (Rod Work Index), while it was moderately hard with respect to BWI (Bond Work Index). The Box composite was slightly softer and was categorized as hard and moderately hard with respect to Axb and RWI, respectively and was medium in terms of BWI. Both composites were found to be very abrasive.

The results show that the ore is amenable to SAG and Ball milling.

13.3.2.2 Gravity Separation

Gravity recovery was tested at three grind sizes for each composite. Both composites were amenable to gravity separation. Knelson MD-3 gravity concentrator was used to pass the samples and the resulting concentrate was passed over a Mozley laboratory separator. The gold recovery to the gravity concentrate ranged from 15% at a P_{80} grind size of 168 µm to 47% at the coarsest grind size (P_{80} of 275 µm) for the Box composite. For the Athona composite, the gold recovery to the gravity concentrate ranged from 41% at the coarsest size (P_{80} of

275 µm) to 60% at the finest size (P_{80} of 76 µm). Results support the use of gravity recovery in the flowsheet, but the test work was not sufficient in scope to identify an optimal grind size.

13.3.2.3 Flotation and Direct Cyanide Leach Testwork

Kinetic cyanide leach tests were completed on both gravity tails and whole ore samples for each composite and grind size. The tests were done using SGS' standard bottle rolling procedure at 40% w/w solids. The tests showed final leach recoveries ranging from 94% to 98% for the Box composite, and 92% to 98% for the Athona composite.

A parallel set of flotation tests were completed on the samples of whole ore material and both gravity tails for each composite and grind size. The results are presented below.

It must be noted that the flotation concentrates were not subsequently leached and the values presented for flotation are recoveries to flotation concentrate, not total extracted gold values.

Table 13-4: Summary of Box Test Results

Sample	Process	Process Comparison	
		Flotation Recovery (%)	Direct Cyanidation (%)
Whole ore test at P_{80} of 275 µm	Rougher recovery/extraction	97.0	94.0
Gravity tailing test at P_{80} of 275 µm	Rougher recovery/extraction	96.4	95.9
Whole ore test at P_{80} of 168 µm	Rougher recovery/extraction	96.0	96.5
Gravity tailing test at P_{80} of 168 µm	Rougher recovery/extraction	92.2	97.6
Whole ore test at P_{80} of 80 µm	Rougher recovery/extraction	98.0	98.4
Gravity tailing test at P_{80} of 80 µm	Rougher recovery/extraction	98.0	97.0

Note: Table provided by SGS Canada Inc., 2015

Table 13-5: Summary of Athona Flotation Test Results

Sample	Process	Process Comparison	
		Flotation (%)	Cyanidation (%)
Whole ore test at P_{80} of 265 µm	Rougher recovery/extraction	90.1	93.8
Gravity tailing test at P_{80} of 265 µm	Rougher recovery/extraction	91.3	92.7
Whole ore test at P_{80} of 168 µm	Rougher recovery/extraction	93.5	92.5
Gravity tailing test at P_{80} of 168 µm	Rougher recovery/extraction	92.4	94.0
Whole ore test at P_{80} of 76 µm	Rougher recovery/extraction	95.8	98.2
Gravity tailing test at P_{80} of 76 µm	Rougher recovery/extraction	92.7	97.4

Note: Table provided by SGS Canada Inc., 2015
* The percentage values appear large, but the difference in actual assay values are small and near the assay detection limit of 0.02 g/t and the results should be equivalent.

Table 13-6: Comparison of Average Box Flotation Test Results (Whole Ore vs Gravity Separation)

Sample	Rougher Tailings Assays		Distribution (%)		
	Au (g/t)	Sulphur (%)	Au Flot Conc	Au Grav + Flot Conc	S Flot Conc
Whole Ore	0.05	0.02	91.6		90.4
Gravity Tailings	0.09	0.02	84.9	88.9	86.7

Note: Table provided by SGS Canada Inc., 2015

Table 13-7: Comparison of Average Athona Flotation Test Results (Whole Ore vs Gravity Separation)

Sample	Rougher Tailings Assays		Distribution (%)		
	Au(g/t)	Sulphur (%)	Au Flot Conc	Au Grav + Flot Conc	S Flot Conc
Whole Ore	0.09	0.02	88.3		90.1
Gravity Tailings	0.10	0.01	76.1	88.3	88.5

Note: Table provided by SGS Canada Inc., 2015

The grind size evaluation is slightly less conclusive, but by comparing the coarsest grind size (P_{80} of 275 µm) and the finest grind size (P_{80} of 80 µm), the gold grade at rougher tailings are within the accuracy limit of ±0.02 g/t Au of each other.

Table 13-8: Comparison of Average Box Flotation Test Results (Grind Size Evaluation)

Grind Size, P_{80} (µm)	Rougher Tailings Assays		Distribution (%)		
	Au (g/t)	Sulphur (%)	Au Flot Conc	Au Grav + Flot Conc	S Flot Conc
275	0.06	0.01	87.9	91.9	91.1
168	0.12	0.02	81.6	79.1	86.6
80	0.04	0.03	95.3	95.7	88.1

Note: Table provided by SGS Canada Inc., 2015

Table 13-9: Comparison of Average Athona Flotation Test Results (Grind Size Evaluation)

Grind Size, P_{80} (µm)	Rougher Tailings Assays		Distribution (%)		
	Au (g/t)	Sulphur (%)	Au Flot Conc	Au Grav + Flot Conc	S Flot Conc
275	0.12	0.02	80.8	88.3	88.8
168	0.09	0.02	82.7	87.4	89.5
76	0.08	0.02	83.2	89.1	89.6

Note: Table provided by SGS Canada Inc., 2015

Similarly for cyanidation results, by averaging the whole ore results and comparing with the average gravity tailings results at the coarsest grind size (P_{80} of 275 µm) and the finest grind size (P_{80} of 80 µm), the gold grade is within the detection limit of each other.

Table 13-10: Comparison of Average Box Cyanidation Test Results (Whole ore vs Gravity Tailings)

Sample	Extraction, Au (%)	Residue Grade, Au (g/t)	Calc Head Grade, Au (g/t)
Whole Ore	96.3	0.05	1.29
Gravity Tailings	96.8	0.03	1.80

Note: Table provided by SGS Canada Inc., 2015

Table 13-11: Comparison of Average Athona Cyanidation Test Results

Sample	Extraction, Au (%)	Residue Grade, Au (g/t)	Calc Head Grade, Au (g/t)
Whole Ore	96.3	0.06	1.15
Gravity Tailings	94.7	0.06	1.18

Note: Table provided by SGS Canada Inc., 2015

Comparing the average of the whole ore test and gravity tailings test at each grind size, it can be seen that the residue gold grades are within the detection limit of each other.

Table 13-12: Comparison of Average Box Cyanidation Test Results (Grind Size Evaluation)

Feed Size, P_{80} (µm)	Extraction, Au (%)	Residue Grade, Au (g/t)	Calc Head Grade, Au (g/t)
275 µm	95.0	0.06	1.46
168 µm	97.0	0.04	1.62
80 µm	97.7	0.02	1.56

Note: Table provided by SGS Canada Inc., 2015

Table 13-13: Comparison of Average Athona Cyanidation Results (Grind Size Evaluation)

Feed Size, P_{80} (µm)	Extraction, Au (%)	Residue Grade, Au (g/t)	Calc Head Grade, Au (g/t)
275 µm	93.3	0.08	1.28
168 µm	93.2	0.07	1.10
76 µm	97.8	0.02	1.11

Note: Table provided by SGS Canada Inc., 2015

13.3.3 SGS Phase 2

The testwork undertaken in Phase 2 was a continuation of Phase 1. Phase 2 included flotation optimization, generation of flotation concentrate for cyanide leaching, and downstream testing of the leached concentrate. The leach residue and flotation tailings were also studied for solid-liquid separation design information.

13.3.3.1 Gravity Separation

Based on the outcomes from Phase 1, gravity recovery was added in the flowsheet. In Phase 2, gravity separation testwork was conducted on each composite used for the flotation optimization testwork. Gravity recovery in the Box composite ranged from 12.5% Au to 64.9% Au. Gravity recoveries in the two Athona samples were 26.7% Au in G-9 and 23.2% in G-11. It can be concluded that both composites are amenable to gravity separation.

Table 13-14: Box and Athona Gravity recovery – Phase 2

Gravity Test	Feed Size, P80 (μm)	Recovery Au, (%)
Box - G8	125	12.5
Box - G10	168	58.4
Box - G12	167	64.9
Box - G13	135	48.5
Box - G14	99	43.5
Box - G15	114	34.2
Athona - G9	125	26.7
Athona G11	160	23.2

Note: Table provided by SGS Canada Inc, 2015.

13.3.3.2 Flotation Optimization Testwork

In light of the results of Phase 1 testwork, which showed flotation to be effective in concentrating the gold and sulphide minerals into a small mass, two further gravity tailing flotation tests were conducted.

The results of these tests confirmed that a rougher concentrate can be generated with a mass of less than 3% while maintaining a high recovery. Between the coarse and fine grind, the overall recovery for Box composite only increased by 0.3% from 97.6% to 97.9%. But there was marginally more benefit for the Athona composite going from 95.4% at a coarser grind to 96.8% at a finer grind.

13.3.3.3 Bulk Flotation

The results of the bulk flotation tests replicated the test results from Phase 1 for the Box composite. Under the conditions tested, it is possible to achieve 92.5% gold recovery to a mass pull of less than 3%. Overall, gold recovery including the gravity concentrate, equates to 97%.

The results of the Athona bulk flotation tests varied from those in Phase 1. Only 75% of the gold was recovered to a mass pull of 2.3%. Including the gravity concentrate, the overall recovery equates to 81%. This low recovery is an anomalous result particularly as the sulphide recovery was similar to the similar small-scale tests.

13.3.3.4 Cyanide leach of Flotation Concentrate

The bulk flotation concentrates were amenable to cyanidation. It was possible to extract 98% of the gold from the concentrates in 48 hours. The sodium cyanide consumption ranged between 2.4 – 5.5 kg/t cyanide feed. The consumption rates are typical for leaching concentrate and can vary based on regrind size. These rates were higher for the finely ground concentrates (P_{80} of 20 µm and 27 µm) as expected than the slightly coarser regrind size of P_{80} of 40 µm.

Table 13-15: Leach Conditions

Leach Conditions	Values
Pulp Density (% solids w/w)	30%
Regrind size range (P_{80} µm)	27 – 40 µm
Pulp pH	10.5-11 (maintained with lime)
Cyanide Concentration	2.0 g/L as NaCN
Retention Time	48 hours

Note: Table provided by SGS Canada Inc., 2015

Table 13-16: Rougher Concentrate Leach Results

CN Test No.	Sample Description	Feed Size, P_{80} (µm)	Reagent Consumption of CN Feed (kg/t)		% Au Extraction		Residue Grade (g/t Au)	Calc Head Grade (g/t Au)
			NaCN	CaO	24 h	48 h		
13	Box Rougher Conc BF-1	27	5.40	1.29	93	98.7	0.37	29.1
15	Box Rougher Conc BF-3	40	2.84	0.96	97	97.2	0.41	19.1
16	Box Rougher Conc BF-3	40	2.36	0.88	90	98.2	0.31	17.5
14	Athona Rougher Conc BF-2	20	4.37	1.64	92	98	0.46	22.7

Note: Table provided by SGS Canada Inc., 2015.

13.3.3.5 Gold Recovery

Two gold recovery options were tested, Merrill-Crowe and carbon-in-pulp ("CIP") as potentially suitable process routes. 97% gold recovery was obtained through the Merrill-Crowe test, with a barren solution containing 0.15 mg/L Au. Based on the leach kinetics, CIP is a preferred option rather than CIL. The carbon modelling indicated a gold adsorption efficiency of 99.9% and the gold in barren solution would be 0.013 mg/L.

Merrill Crowe test conditions are as follows:

- pH – 10.7
- Cyanide Residue – 1.67 g/L
- Zinc Dust Addition – 0.05 g or 22 times stoichiometric mass
- Lead Nitrate Addition – 0.01 g or 20xZn2

Table 13-17: Merrill-Crowe Test Results

Test	Solution Analysis (mg/L)					% Recovery (Precipitated)		
	Au	Ag	Cu	Fe	Zn	Au	Cu	Fe
Feed Solution	6.85	-	78.8	81.3	1.97	2.2	88.7	100.0
MC-1 Final Solution	0.15	0.05	69.9	86.5	27.2	97.8	11.3	0.0

Note: Table provided by SGS Canada Inc., 2015.

Table 13-18: Kinetics of Gold Cyanide Extraction by Carbon

Time (h)	Solution (mg/L Au)	Calculated Loading (g/t Au)
0	7.01	0
1	6.26	1231
2	5.46	2513
4	5.44	2549
8	4.72	3729
12	4.13	4697
24	3.23	6147
48	2.18	7826
72	2.00	8106

Note: Table provided by SGS Canada Inc., 2015

Further optimization and testwork would likely improve the Merrill-Crowe test results, but with lower silver content in the material there is no specific reason to recommend Merrill-Crowe, which can be a potentially more sensitive process. On the other hand, CIP is widely used and is known to be a robust and an effective process.

13.4 Recovery Modelling

The whole ore leach test results were analyzed for three grind sizes (80µm, 170µm and 270µm) to provide a recovery model for use with the mine production schedule to provide gold recovery and production data. In addition to the predicted extraction, plant losses were estimated at 0.5% of head gold, including soluble gold solution and fine carbon losses to tailings. A grind size of 170µm was chosen for both Box and Athona deposits which yielded a gold recovery of 95.9% and 93.5% respectively. These recoveries are reflective of the testwork performed to date and were applied to the mine planning and financial modelling. A flat recovery has been applied for the entire LOM.

14 MINERAL RESOURCE ESTIMATES

14.1 Introduction

The Mineral Resource Statement presented herein represents an updated mineral resource estimate ("MRE") prepared for the Box and Athona deposits of the Goldfields Project, in accordance with the Canadian Securities Administrators' National Instrument 43-101. This updated MRE replaces the previous MRE with an effective date of March 15, 2021, and includes the drilling completed during 2021.

The mineral resource models prepared by SRK considers a total of 838 boreholes of which 494 are located within the Box deposit and 344 within the Athona deposit. All drilling data collected prior to 2021 is considered to be historical in nature and was acquired by past operators of the Project. The geological models and resource estimation work was completed by Dr. Ron Uken, Pr.Sci.Nat and Mr. Cliff Revering, P.Eng., respectively. Dr. Oy Leuangthong, P.Eng. provided peer review of the mineral resource estimates. The effective date of the mineral resource statement is September 01, 2022.

This section describes the resource estimation methodology and summarizes the key assumptions considered by SRK. In the opinion of SRK, the resource evaluation reported herein is a reasonable representation of the global gold mineral resources found in the Box and Athona deposits of the Goldfields Project at the current level of sampling. The mineral resources have been prepared as per the CIM Definition Standards for Mineral Resource and Mineral Reserves (May 19, 2014) using the CIM Estimation of Mineral Resources & Mineral Reserves Best Practice Guidelines (Nov 29, 2019) and are reported in accordance with the Canadian Securities Administrators' National Instrument 43-101. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

The database used to develop the geological models and mineral resource estimates for the Box and Athona deposits was internally audited by Fortune Bay and subsequently reviewed by SRK. SRK is of the opinion that the current drilling information is sufficiently reliable to interpret the geology and mineralization controls of the Box and Athona deposits and that the assay data are sufficiently reliable to support the estimation of mineral resources.

Seequent Leapfrog Geo and Edge software was used to construct the geological model and estimate the mineral resources for the Box and Athona deposits. All data preparation, geostatistical analysis and block model development was conducted within the Leapfrog platform.

14.2 Resource Estimation Procedures

The resource evaluation methodology involved the following procedures:

- Database compilation and verification;
- Construction of wireframe models for the boundaries of the Box and Athona geology and mineralization domains;
- Definition of resource domains;
- Data conditioning (compositing and capping) for geostatistical analysis and variography;
- Block modelling and grade interpolation;

- Resource classification and validation;
- Assessment of "reasonable prospects for eventual economic extraction" and selection of appropriate cut-off grades; and
- Preparation of the Mineral Resource Statement.

14.3 Resource Database

The Goldfields Project drillhole database contains a total of 838 drill holes of which 494 are located within the Box deposit and 344 within the Athona deposit. A total of 41,228 sample intervals with Au assay information are contained in the database with approximately 60% of these located within the Box deposit and 40% within the Athona deposit.

Drillholes completed for geotechnical rock mass investigations or metallurgical sampling and testwork purposes were removed from the final dataset used for mineral resource estimation. These holes were either not sampled for gold analysis (i.e. geotechnical holes) or were sampled on large composite intervals for metallurgical testwork and therefore did not have representative assay details within the revised geological model developed by SRK. All other non-sampled drillhole intervals located within the boundaries of the mineralized domains at Box and Athona were treated as barren intervals and assigned a zero-grade value for subsequent data analysis and mineral resource estimation.

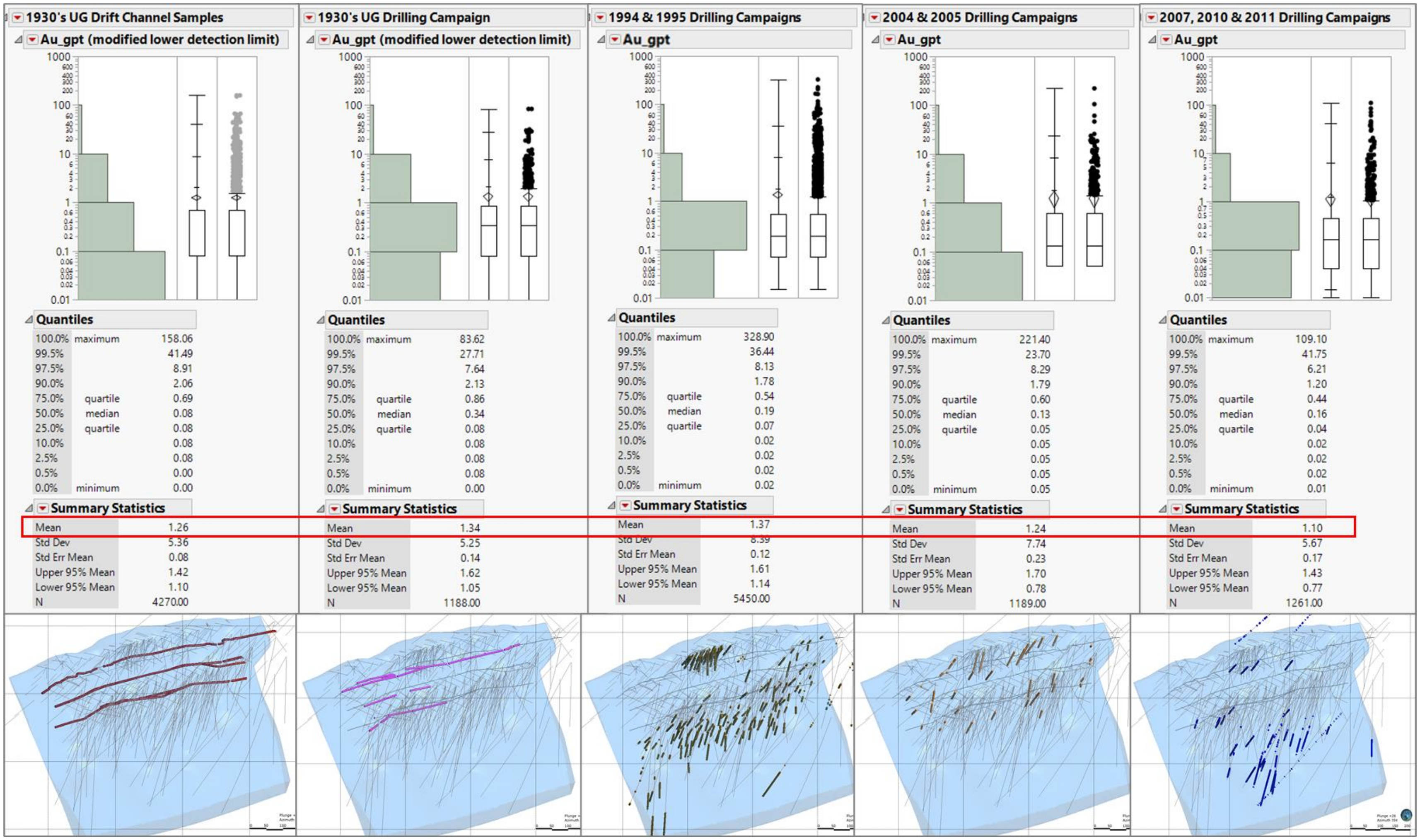
Bulk density data used for mineral resource estimation consists of 377 historical samples, and 118 verification samples collected as part of the 2020 data verification program. Of the 377 historical samples, 330 were located within the Box Mine Granite. Bulk density samples collected during the 2020 program included 49 samples within the Box Mine Granite and an additional 29 samples within the Athona Mine Granite. The remaining 2020 bulk density samples were collected within the various waste rock lithologies of the Box and Athona deposits.

14.4 Historical Data Comparisons

As summarized in Section 10, drilling and sampling campaigns have been conducted by various past operators of the Project and include data collected during active mine production in the 1930's. To assess for consistency in assay results between the various drilling campaigns and data ages, historical assay data located within the revised geological model for the Box deposit was grouped by drilling campaign and summary statistics for the various data populations were compared (Figure 14-1). No bias was observed between the grouped data populations with all data populations having similar global average Au grades and grade distributions. Therefore SRK is of the opinion that all historical data could be utilized for mineral resource estimation.

However, during this analysis it was noted that the 1930's era data had a significantly higher lower-detection limit used within the assay process (of 0.17 g/t Au) compared to the more recent drilling campaigns which had lower-detection limits within the 0.01 to 0.05 g/t Au range. Therefore, all 1930's assay data possessing a 0.17 g/t Au assay value was adjusted to a new value of 0.08 g/t Au to better align with the more recent data. The adjusted grades were used for all subsequent data analysis and mineral resource estimation.

Figure 14-1: Summary Statistics and Drill Hole Location Maps



Source: SRK, 2022. Note: for drill hole assay data populations grouped by historical drilling campaign within the box deposit. Drill hole location maps are 3d isometric views looking to the northwest. Average global au grades for each data set are highlighted in red.

14.5 Geological Modelling

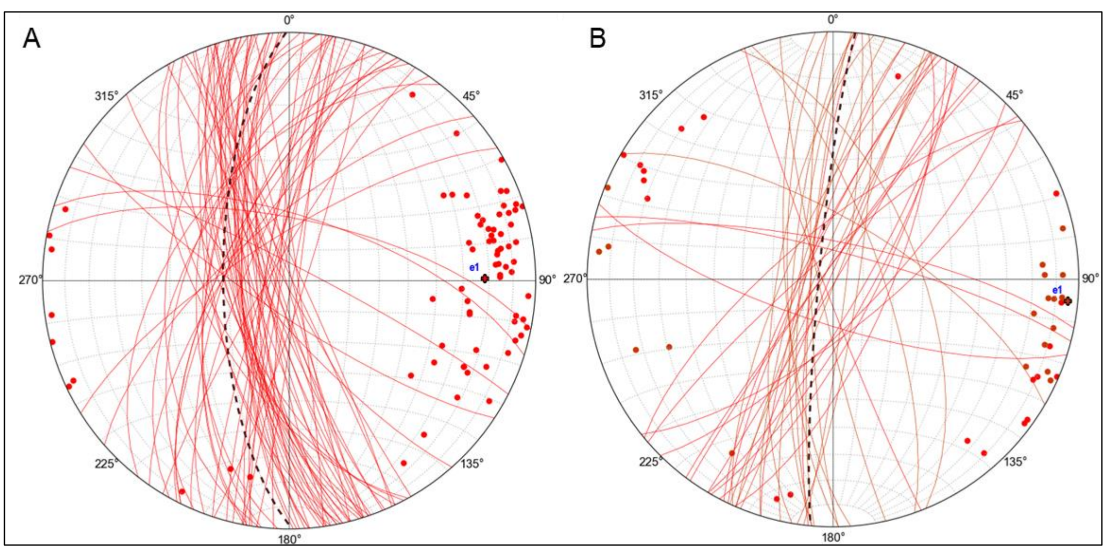
The primary host lithologies to the mineralization are the Box (BMG) and Athona (AMG) granites, and the modelled volumes also represent the main resource domains bounded by relatively unmineralized footwall and hangingwall lithological domains. To further constrain the mineralization within the BMG and AMG domains, a vein system model was generated within each of the granite domains. This was achieved using a combination of the Vein Modelling and Economic Compositing Tool in Leapfrog Geo™. Gold assay data intercepts were composited using the Economic compositing tool to a grade of 3 g/t and a minimum ore composite width of 0.5 m (Table 14-1).

Table 14-1: Economic Compositing Criteria Used for The Vein Modeling

Cutoff Grade	Minimum Ore composite length	True Thickness Orientation	Maximum Included Waste	Maximum Consecutive Waste
3 g/t	0.5 m	Dip: 64, Dip azimuth: 290	1 m	1 m

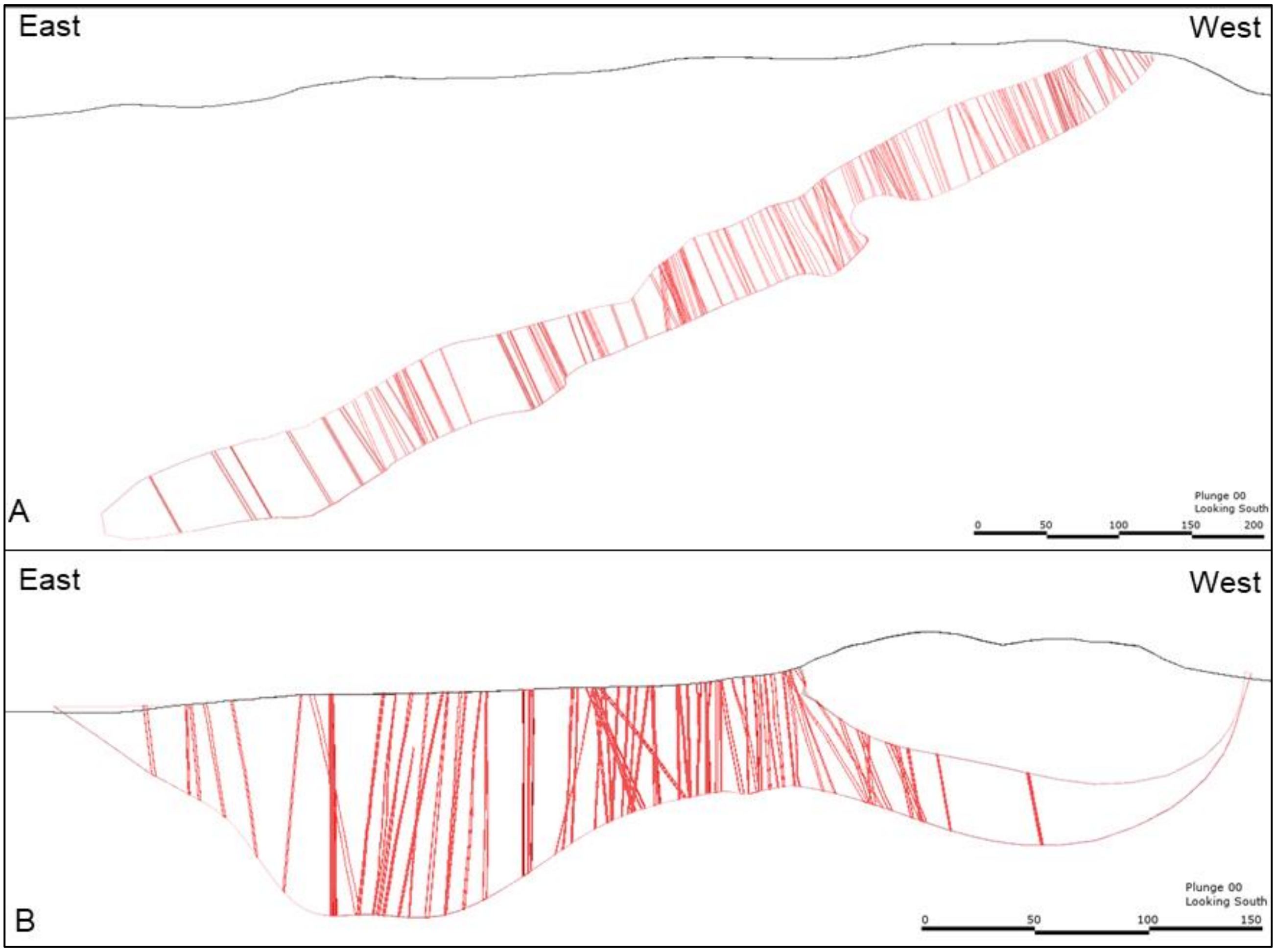
Structural investigations (SRK, 2020a) indicated that the dominant mineralized vein system at Box and Athona comprise steeply dipping, approximately NS trending vein sets (Figure 14-2). These measured vein patterns were used to guide the vein system models and vein domains. Modelled vein domains were clipped to the respective host granite domains, BMG and AMG, which were used to define lower grade estimation domains outside of the vein system (Figure 14-3). All domain boundaries were treated as hard boundaries during grade estimation. The geology models used for subsequent mineral resource estimation for the Box and Athona deposits are shown in Figure 14-4 and Figure 14-5.

Figure 14-2: Stereonet Plots of Measured Vein Orientation. A) Box Veins B) Athona Veins. Note The Average NS Trend And Steep Westerly Dips.



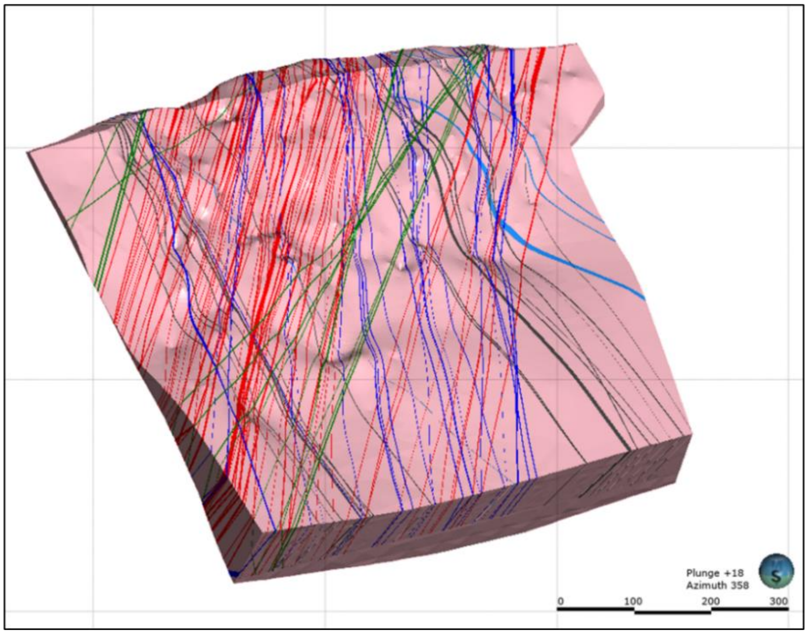
Note: Figure prepared by SRK, 2022

Figure 14-3: East-West Cross-Sections Looking South. A) Box Mine Granite Domain With Modelled Vein Domains. B) Athona Mine Granite With Modelled Vein Domain.



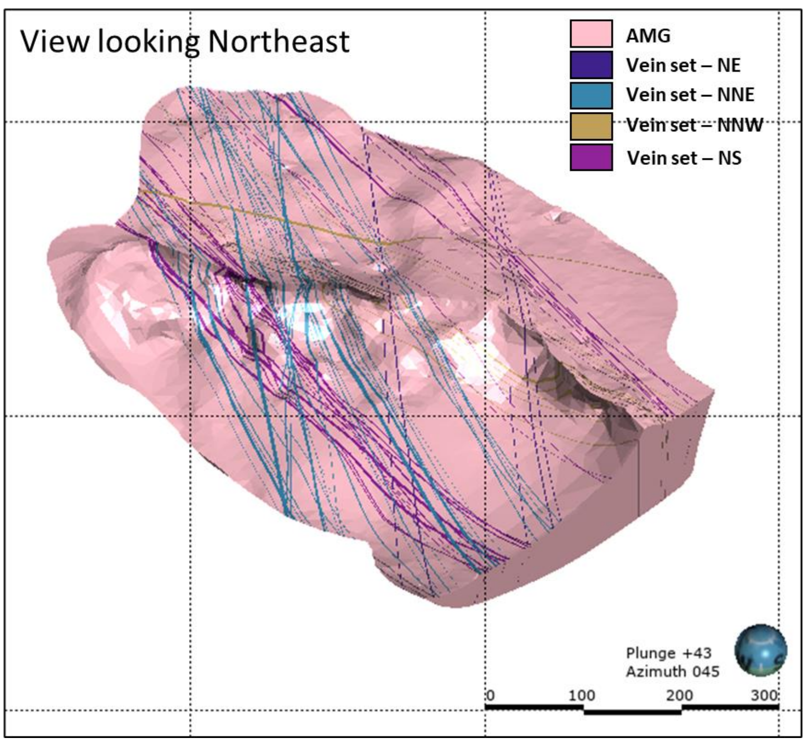
Note: Figure prepared by SRK, 2022.

Figure 14-4: Box Mine Granite and Mineralized Vein Sets Model



Source: SRK, 2022

Figure 14-5: Athona Mine Granite and Mineralized Vein Sets Model

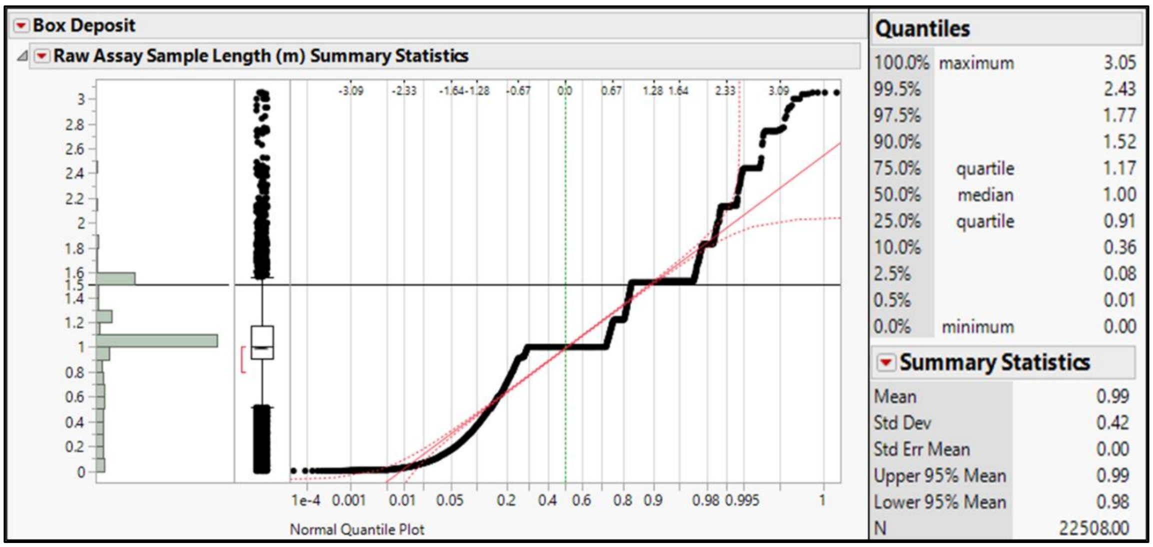


Source: SRK, 2022

14.6 Compositing

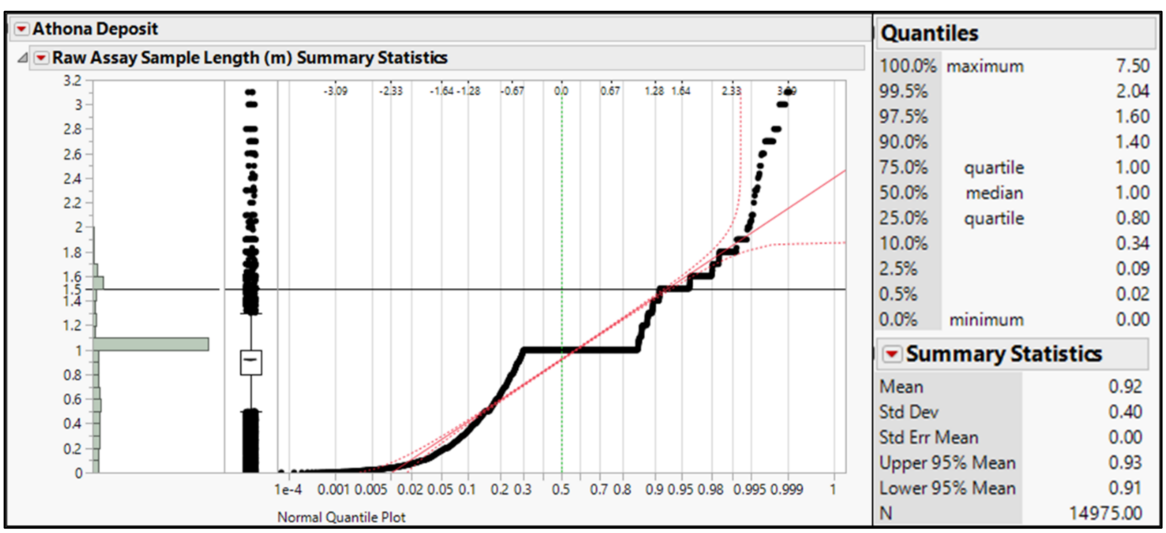
Assay samples were composited to a 1.5 m fixed length to ensure that all data were evenly weighted for block grade interpolation. As shown in Figure 14-6 and Figure 14-7 over 90% of assay samples were collected using a 1.5 m sample length or smaller, and therefore supported a 1.5 m composite length. Composites were generated within the mineralized domain boundaries, and all residual composites smaller than 0.75 m in length were added to the adjacent composite interval.

Figure 14-6: Box – Deposit – Assay Sample Length Summary Statistics



Source: SRK, 2022

Figure 14-7: Athona Deposit – Assay Sample Length Summary Statistics



Source: SRK, 2022

Summary statistics of the raw assay data for the Box and Athona deposits are provided in Table 14-2 and Table 14-3, respectively, with summary statistics for the composited (uncapped) assay data provided in Table 14-4 and Table 14-5.

Table 14-2: Box Deposit Raw Gold Assay Summary Statistics (Length-Weighted)

Estimation Domain	Number of Samples	Mean (g/t Au)	Std Dev	Min (g/t Au)	Max (g/t Au)	CV
BMG	16,031	0.74	4.47	0	226.5	6.08
Veins_NNE	754	1.57	5.16	0	103.3	3.30
Veins_NNW	1,440	2.46	7.77	0	144.0	3.15
Veins_NS	3,258	5.69	70.59	0	3197.1	12.41
Veins_NW	777	2.79	8.40	0	158.1	3.01
Veins_WNW	322	2.87	18.04	0	405.3	6.29

Source: SRK, 2022.

Table 14-3: Athona Deposit Raw Gold Assay Summary Statistics (Length-Weighted)

Estimation Domain	Number of Samples	Mean (g/t Au)	Std Dev	Min (g/t Au)	Max (g/t Au)	CV
AMG	12,078	0.53	5.83	0	739.1	10.93
Veins_NE	746	2.37	6.88	0	98.4	2.90
Veins_NNE	1,312	2.43	6.21	0	96.7	2.56
Veins_NNW	521	1.04	2.42	0	30.0	2.34
Veins_NS	1,284	2.51	14.51	0	739.1	5.78

Source: SRK, 2022

Table 14-4: Box Deposit 1.5 m Composited Gold Summary Statistics (Uncapped)

Estimation Domain	Number of Samples	Mean (g/t Au)	Std Dev	Min (g/t Au)	Max (g/t Au)	CV
BMG	11,211	0.73	4.19	0	156.7	5.72
Veins_NNE	446	1.57	6.53	0	103.3	4.16
Veins_NNW	851	2.46	8.91	0	109.1	3.62
Veins_NS	1,942	5.74	90.51	0	3197.1	15.76
Veins_NW	449	2.69	8.81	0	83.6	3.27
Veins_WNW	191	2.77	16.81	0	179.0	6.06

Source: SRK, 2022

Table 14-5: Athona Deposit 1.5 m Composited Gold Summary Statistics (Uncapped)

Estimation Domain	Number of Samples	Mean	Std Dev	Min	Max	CV
AMG	9,013	0.53	4.56	0	319.1	8.54
Veins_NE	460	2.41	8.22	0	98.4	3.4
Veins_NNE	710	2.56	7.82	0	88.5	3.05
Veins_NNW	268	1.06	3.12	0	30.0	2.94
Veins_NS	645	2.64	12.56	0	214.5	2.94

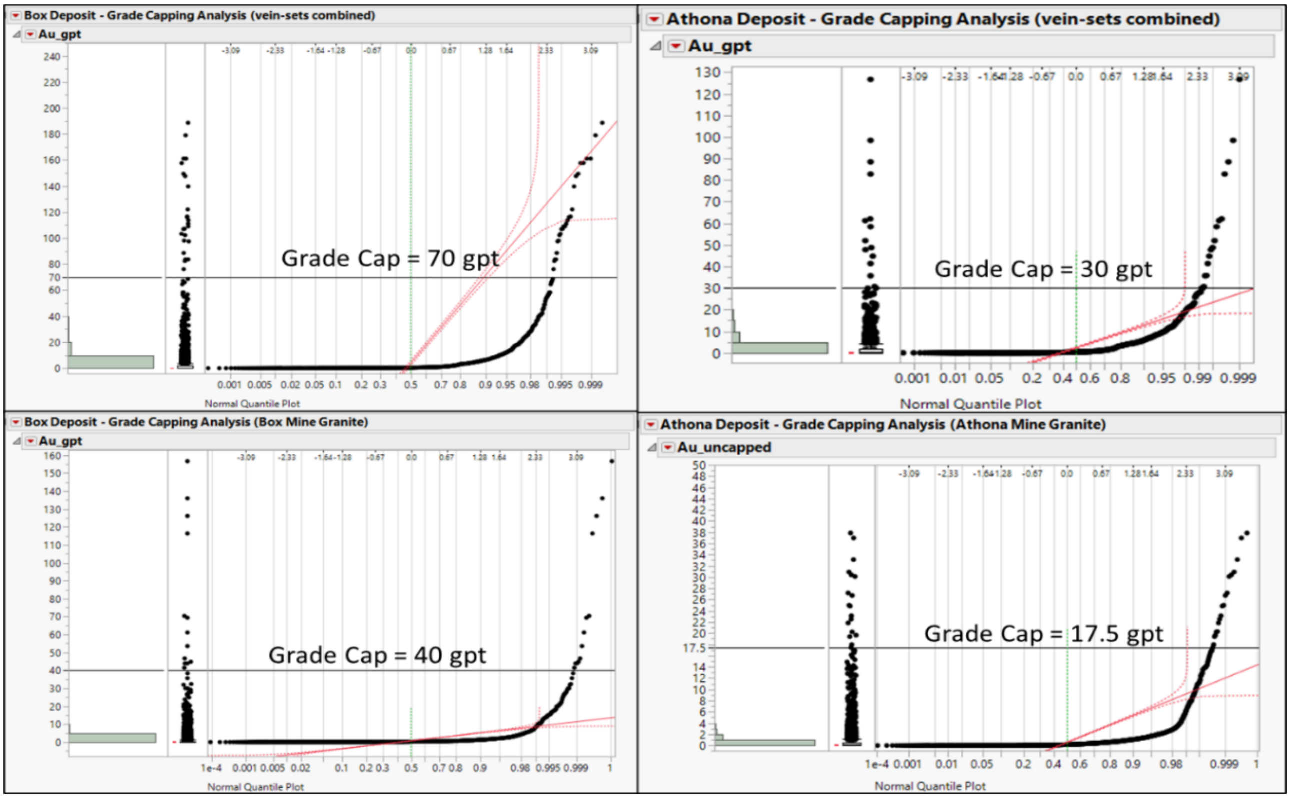
Source: SRK, 2022

14.7 Evaluation of Outliers

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

Outlier analysis for the Box and Athona deposits was conducted on the 1.5 m composited dataset. Grade capping analysis for the higher-grade vein-sets was conducted on a single combined composite dataset comprised of all vein-set composites (for each deposit separately). Histograms and normal quantiles plots were generated for each data population, and capping levels were selected where required as illustrated in Figure 14-8. Composites were capped prior to grade estimation. A summary of grade capping levels and summary statistics are provided in Table 14-6 and Table 14-7.

Figure 14-8: Histogram and normal quantile plots illustrating grade capping thresholds for the Box (left) and Athona (right) mine granites and vein-sets.



Source: SRK, 2022

Table 14-6: Box Deposit Grade Capping Summary Comparison Of 1.5 m Gold Composites

Estimation Domain	Number of Composites	Mean (g/t Au)	Std Dev	Min (g/t Au)	Max (g/t Au)	CV
BMG	11,211	0.69	2.72	0	40.00	3.95
Veins_NNE	446	1.52	5.46	0	70.00	3.60
Veins_NNW	851	2.42	8.25	0	70.00	3.41
Veins_NS	1,942	3.48	11.90	0	70.00	3.42
Veins_NW	449	2.66	8.41	0	70.00	3.16
Veins_WNW	191	2.20	8.51	0	70.00	3.86

Source: SRK, 2022

Table 14-7: Athona Deposit Grade Capping Summary Comparison Of 1.5 m Gold Composites

Estimation Domain	Number of Composites	Mean (g/t Au)	Std Dev	Min (g/t Au)	Max (g/t Au)	CV
AMG	9,013	0.48	1.66	0	17.50	3.44
Veins_NE	460	2.16	5.41	0	30.00	2.50
Veins_NNE	710	2.32	5.38	0	30.00	2.31
Veins_NNW	268	1.06	3.12	0	30.00	2.94
Veins_NS	645	2.10	5.10	0	30.00	2.43

Source: SRK, 2022

14.8 Variography

Grade continuity analysis of Au mineralization was conducted using capped composites for the combined high-grade vein-sets and lower-grade granite domain in both the Box and Athona deposits. Variograms parameters developed for the combined vein-sets were oriented to align with the individual vein-set orientations for grade interpolation within each respective vein-set domain. Variogram parameters used for Au grade interpolation are provided in Table 14-8 and Table 14-9 for Box and Athona, respectively.

Variogram analysis was conducted in Seequent's Leapfrog Edge software, and variogram orientation directions summarized in Table 14-8 and Table 14-9 are provided in standard Leapfrog Edge convention.

Table 14-8: Box Variogram Parameters

Box Deposit Estimation Domain	Dip	Dip Azimuth	Pitch	Nugget	Variogram Model Type	Structure 1				Structure 2			
						Sill	Range (m)			Sill	Range (m)		
							Major	Semi-Major	Minor		Major	Semi-Major	Minor
BMG	75	269	172	0.30	Spherical	0.31	6	8	27	0.40	55	40	30
Veins, ENE	75	204	133	0.25	Spherical	0.29	4	49	4	0.46	70	70	29
Veins, NNE	75	296	99	0.25	Spherical	0.29	4	49	4	0.46	70	70	29
Veins, NNW	68	251	133	0.25	Spherical	0.29	4	49	4	0.46	70	70	29
Veins, NS	64	264	133	0.25	Spherical	0.29	4	49	4	0.46	70	65	29
Veins, NW	73	226	47	0.25	Spherical	0.29	4	49	4	0.46	70	70	29

Source: SRK, 2022.

Table 14-9: Athona Variogram Parameters

Box Deposit Estimation Domain	Dip	Dip Azimuth	Pitch	Nugget	Variogram Model Type	Structure 1				Structure 2			
						Sill	Range (m)			Sill	Range (m)		
							Major	Semi-Major	Minor		Major	Semi-Major	Minor
BMG	75	269	172	0.30	Spherical	0.31	6	8	27	0.40	55	40	30
AMG	90	90	166	0.20	Spherical	0.44	12	10	2	0.36	65	30	6
Veins, NE	85	310	90	0.20	Spherical	0.69	5	5	8	0.11	40	25	15
Veins, NNE	87	109	135	0.20	Spherical	0.69	5	5	8	0.11	40	25	15
Veins, NNW	89	253	90	0.20	Spherical	0.69	5	5	8	0.11	40	25	15
Veins, NS	90	86	90	0.20	Spherical	0.69	5	5	8	0.11	40	25	25

Source: SRK, 2022

14.9 Block Model Configuration

Separate block models were generated for the Box and Athona deposits, with block model configuration details summarized in Table 14-10. Block models for Box and Athona used sub-blocking at a 1x2.5x1 m and 1x1x1 m sub-block resolution, respectively, to ensure accurate volumetric reporting. Grade interpolation was conducted at the parent block size of 5x5x5 m.

Table 14-10: Block Model Configuration Parameters

Box Deposit Block Model	X (m)	Y (m)	Z (m)
Parent Block Size	5	5	5
Sub-Block Size	1	2.5	1
Base Point	640,035	6,592,285	325
Boundary Size		1035	615
Rotation	331°		

Athona Deposit Block Model	X (m)	Y (m)	Z (m)
Parent Block Size	5	5	5
Sub-Block Size	1	1	1
Base Point	641,800	6,591,890	270
Boundary Size	1285	115	250
Rotation	0°		

Source: SRK, 2022. Base Point locations are positions in UTM NAD83 Zone 12N.

14.10 Grade Estimation

Gold grades were interpolated into the block models using ordinary kriging ("OK") for all granite and vein-set domains within the Box and Athona deposits. Grade estimation for each domain was conducted using multiple passes, with successively expanding search criteria in subsequent estimation passes. The Leapfrog Edge variable orientation tool was used when interpolating grade within the high-grade vein-sets, to align search orientations more accurately with the geometry of the wireframe meshes for each individual vein. The last estimation pass for each vein-set excluded the use of the variable orientation tool to ensure all blocks along the wireframe mesh boundaries would be estimated. A summary of the estimation parameters used for grade interpolation within the Box and Athona deposits is provided in Table 14-11 and Table 14-12, respectively.

To mitigate the potential for over-estimation of grade and metal content, an outlier restriction was implemented for all estimation passes after the primary estimation pass. Grade thresholds used for outlier restriction were selected based on analysis of the grade distribution profiles provided in Figure 14-8 and were chosen at suitable inflection points along the grade distribution profiles. Search distance restrictions (i.e. "clamp" distance) were predicated on Indicator variogram analysis using the grade thresholds selected for the outlier restrictions.

Table 14-11: Box Deposit Estimation Parameters

Box Deposit Estimation Domain	Estimation Type	Estimation Pass	Variable Orientation	Search Radii (m)			Sample Numbers			Outlier Restriction	
				Major	Semi-Major	Minor	Min	Max	Max per Hole	Clamp Distance (1% of Search)	Grade Threshold (g/t Au)
BMG	OK	1	N	13	10	5	6	12	3	--	--
		2	N	55	40	15	6	12	3	0.25	25
		3	N	83	60	22.5	6	1122	3	0.66	2.5
		4	N	110	80	30	3	12	3	0.5	2.5
		5	N	110	80	30	1	12	3	0.5	2.5
Veins_NS	OK	1	Y	13	10	5	6	12	3	-	--
		2	Y	40	38	5	6	12	3	0.32	25
		3	Y	70	65	10	6	12	3	0.19	25
		4	Y	105	97.5	1015	6	12	3	0.12	25
		5	N	150	145	5	2	12	3	0.09	25
Veins_All Others	OK	1	Y	13	10	5	6	12	3	--	--
		2	Y	40	40	5	6	12	3	0.32	25
		3	Y	70	70	10	6	12	3	0.19	25
		4	Y	105	97.5	10	6	12	3	0.12	25
		5	N	150	150	15	2	12	3	0.09	25

Source: SRK, 2022.

Table 14-12: Athona Deposit Estimation Parameters

Box Deposit Estimation Domain	Estimation Type	Estimation Pass	Variable Orientation	Search Radii (m)			Sample Numbers			Outlier Restriction	
				Major	Semi-Major	Minor	Min	Max	Max per Hole	Clamp Distance (1% of Search)	Grade Threshold (g/t Au)
AMG	OK	1	N	40	20	6	6	12	3	--	--
		2	N	65	30	6	6	12	3	0.62	6
		3	N	97.5	45	9	6	12	3	0.41	6
		4	N	120	60	10	2	12	3	0.25	6
Veins_All	OK	1	Y	15	15	5	6	12	3	--	--
		2	Y	30	19	5	6	12	3	0.5	12
		3	Y	40	25	5	6	12	3	0.38	12
		4	Y	60	38	5	6	12	3	0.25	12
		5	N	80	50	10	2	12	3	0.19	12

Source: SRK, 2022

14.11 Density

A summary of specific gravity (SG) measurements collected by lithology for the Goldfields Project is provided in Table 14-13 and includes all historical SG measurements as well as verification samples obtained in 2020. A global average SG of 2.64 g/cm^3 has been used for tonnage estimation in the MRE for both the Box and Athona deposits.

Table 14-13: Summary of Specific Gravity Measurements

Lithology	Number of Samples (Historical)	Number of Sample (2020)	Historical Average SG (g/cm^3)	2020 Average SG (g/cm^3)
Granite	14	12	2.66	2.68
Amphibolite	2	6	2.72	2.90
Migmatic Gneiss	24	--	2.68	--
Box Mine Granite	330	49	2.64	2.62
Athona Mine Granite	--	29	--	2.65
Gneiss	1	1	2.70	2.66
Quartzite	4	2	2.68	2.66
Quartzite Mignatic Gneiss	2	--	2.76	--
Gabbro	--	6	--	2.97

14.12 Model Validation

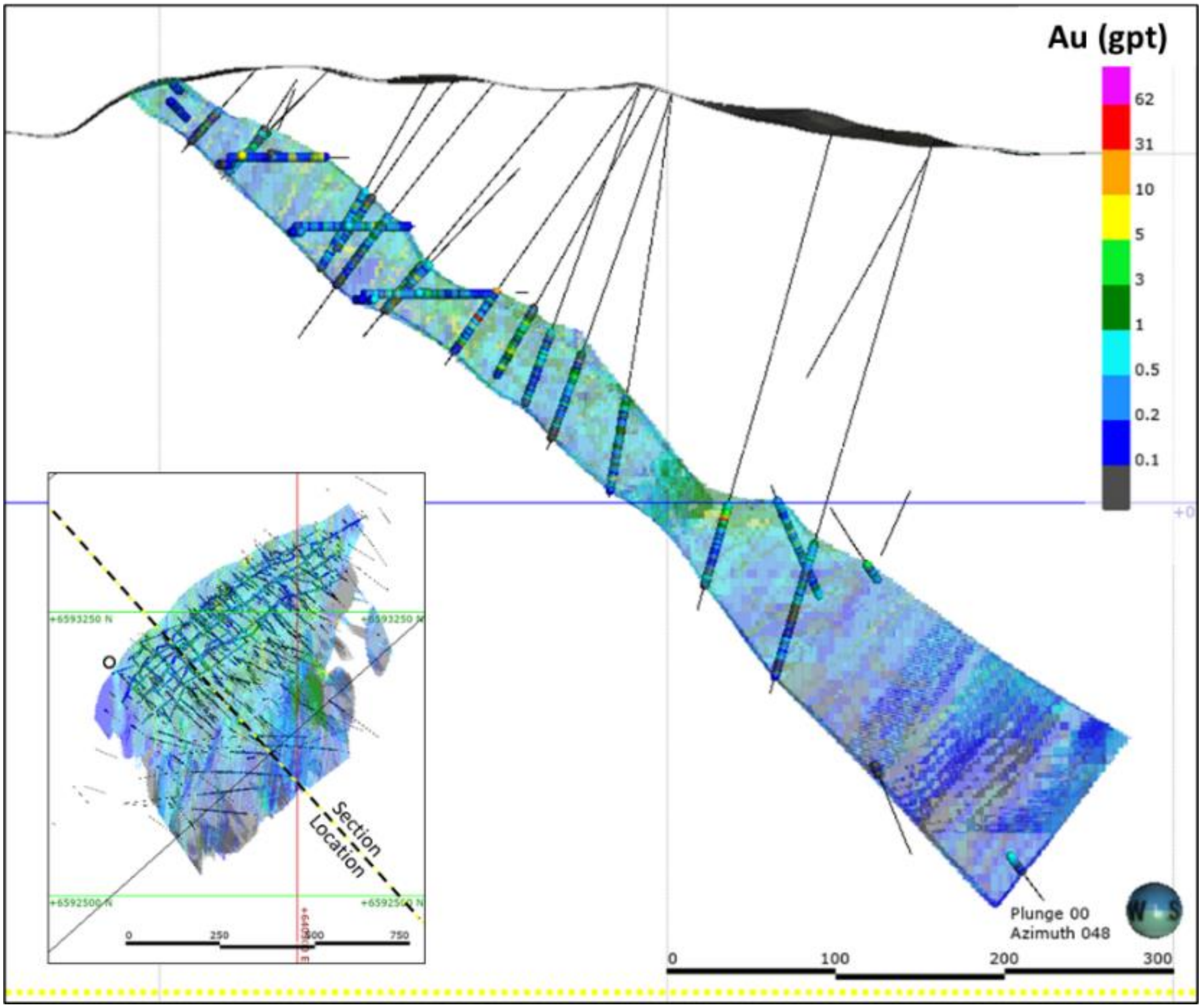
Block model validation was conducted using multiple techniques including:

- Visual inspection of estimated block grades relative to composite grades;
- Swath plot analysis of grade profiles between the ordinary-kriged (OK) and nearest-neighbour (NN) block estimates;
- Statistical comparison of global average estimated block grades and composite grades, per estimation domain; and
- Estimation parameter sensitivity analysis and historical production reconciliation.

Cross-sectional comparisons of interpolated block grades vs sample composites for the Box and Athona deposits are provided in Figure 14-9 to Figure 14-12. Reasonable correlation between the block estimates and composite data can be observed.

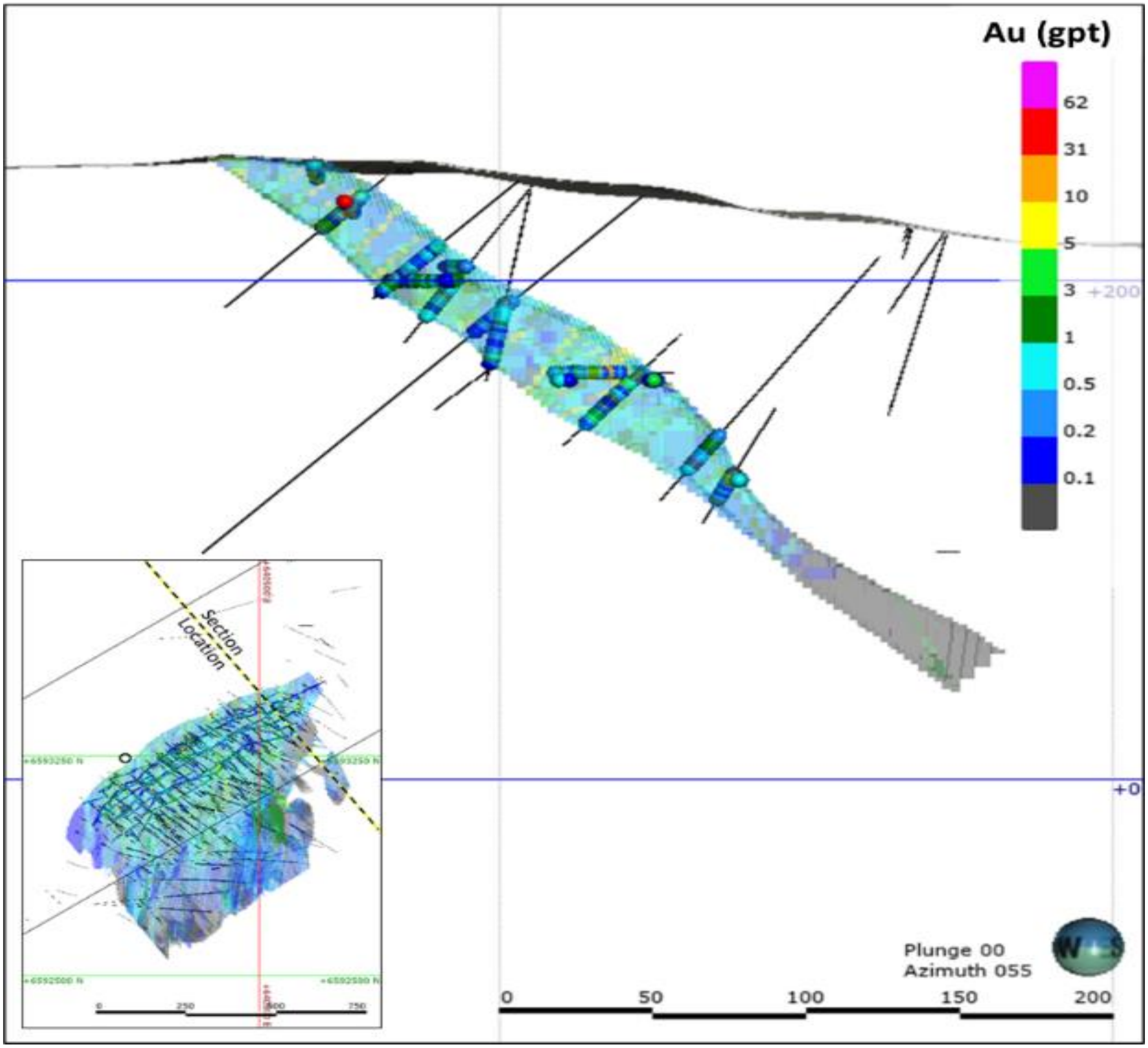
Swath plot comparisons of interpolated Au grades from the OK and NN models are provided in Figure 14-13 to Figure 14-14. Although grade trend profiles are similar between the OK and NN models, the OK model has an overall lower grade due to the outlier restrictions implemented within the OK estimation workflows. The lower global average grades within the OK models are also observed in the grade comparisons presented in Table 14-14.

Figure 14-9: Cross-Sectional Comparison of Interpolated Au Grades Vs Assay Composites For The Box Deposit, Section View Looking Northeast.



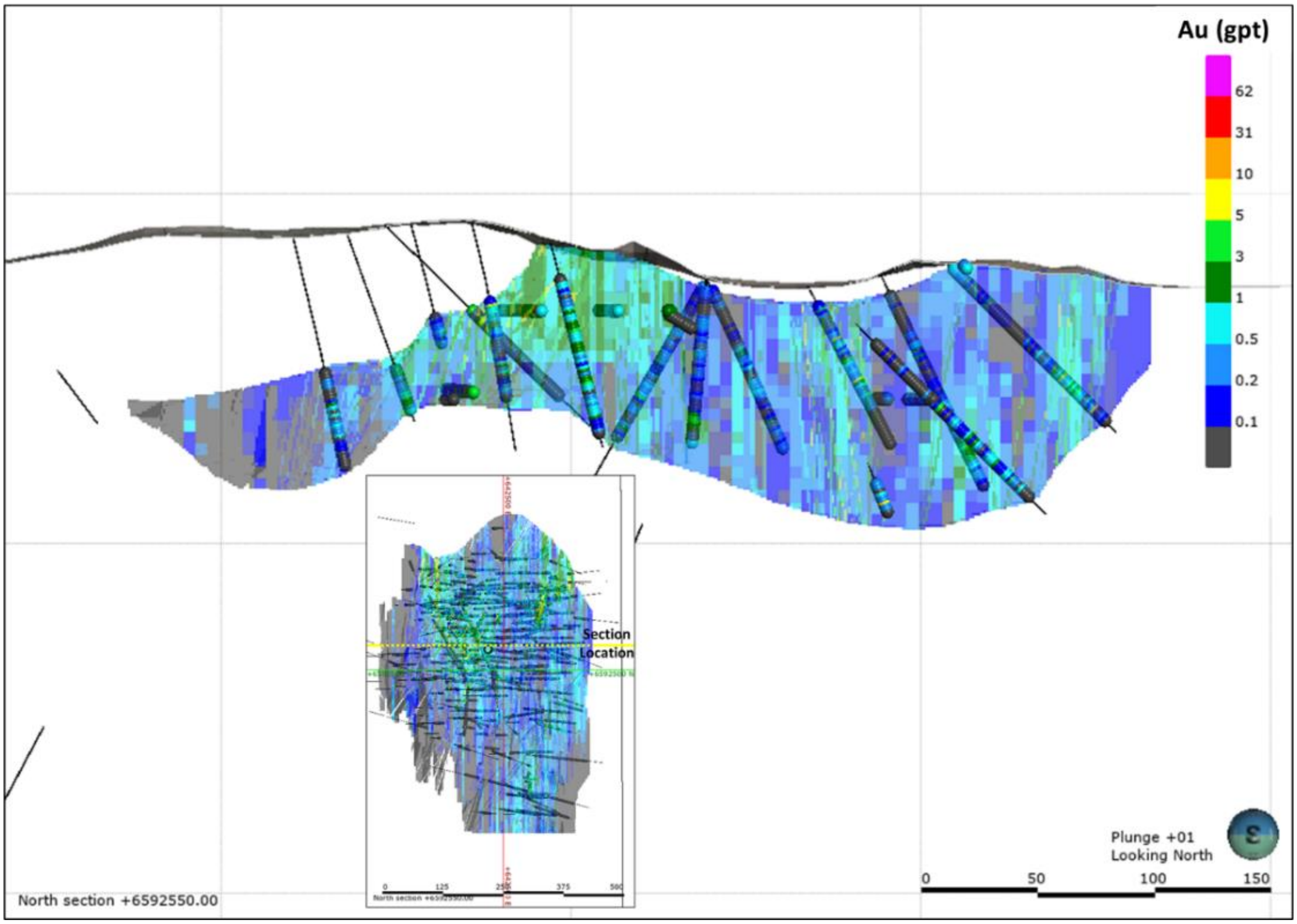
Source: SRK, 2022

Figure 14-10: Cross-Sectional Comparison of Interpolated Au Grades Vs Assay Composites For The Box Deposit, Section View Looking Northwest.



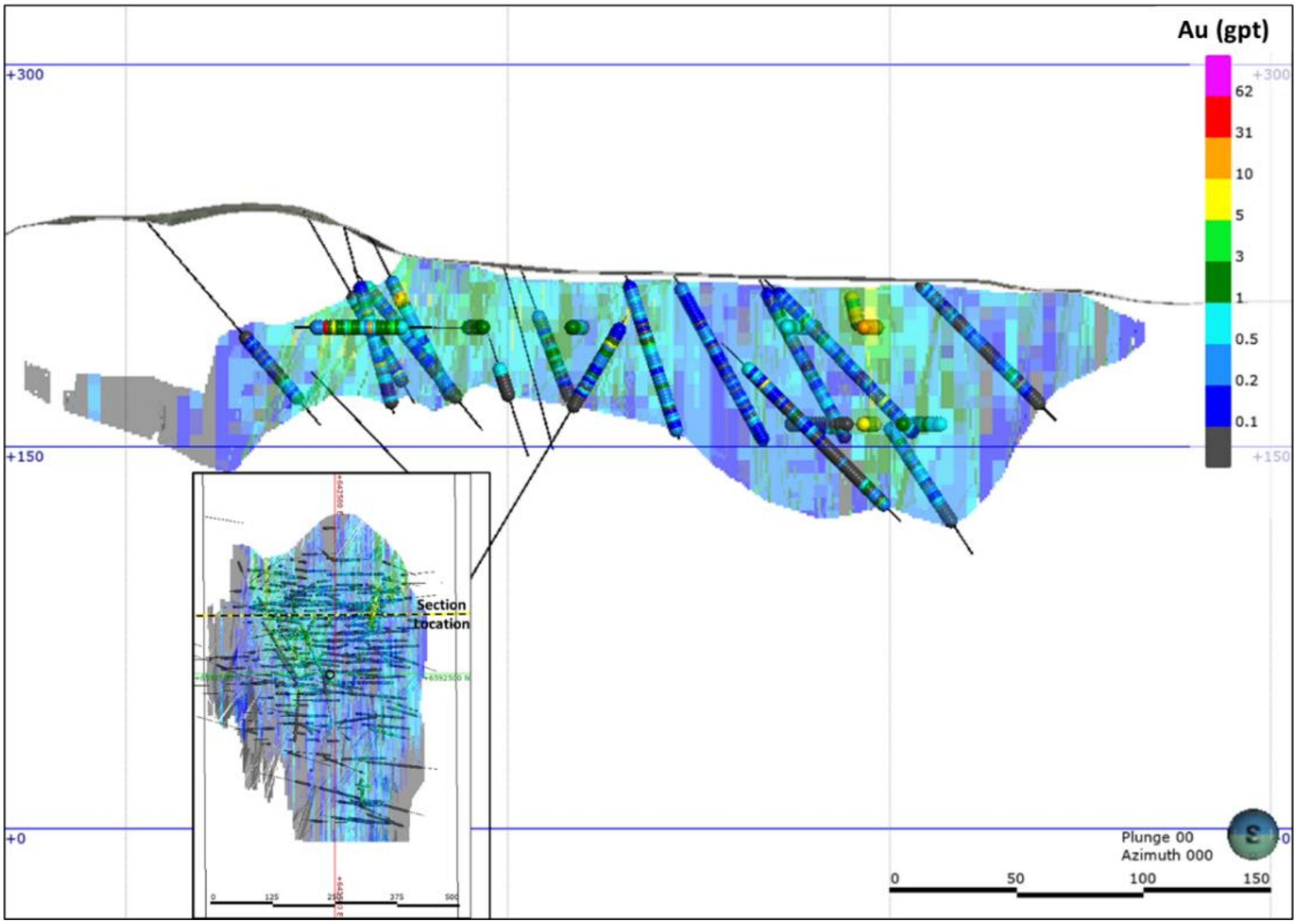
Source: SRK, 2022

Figure 14-11: Cross-sectional comparison of interpolated Au grades vs assay composites for the Athona deposit, section view looking north



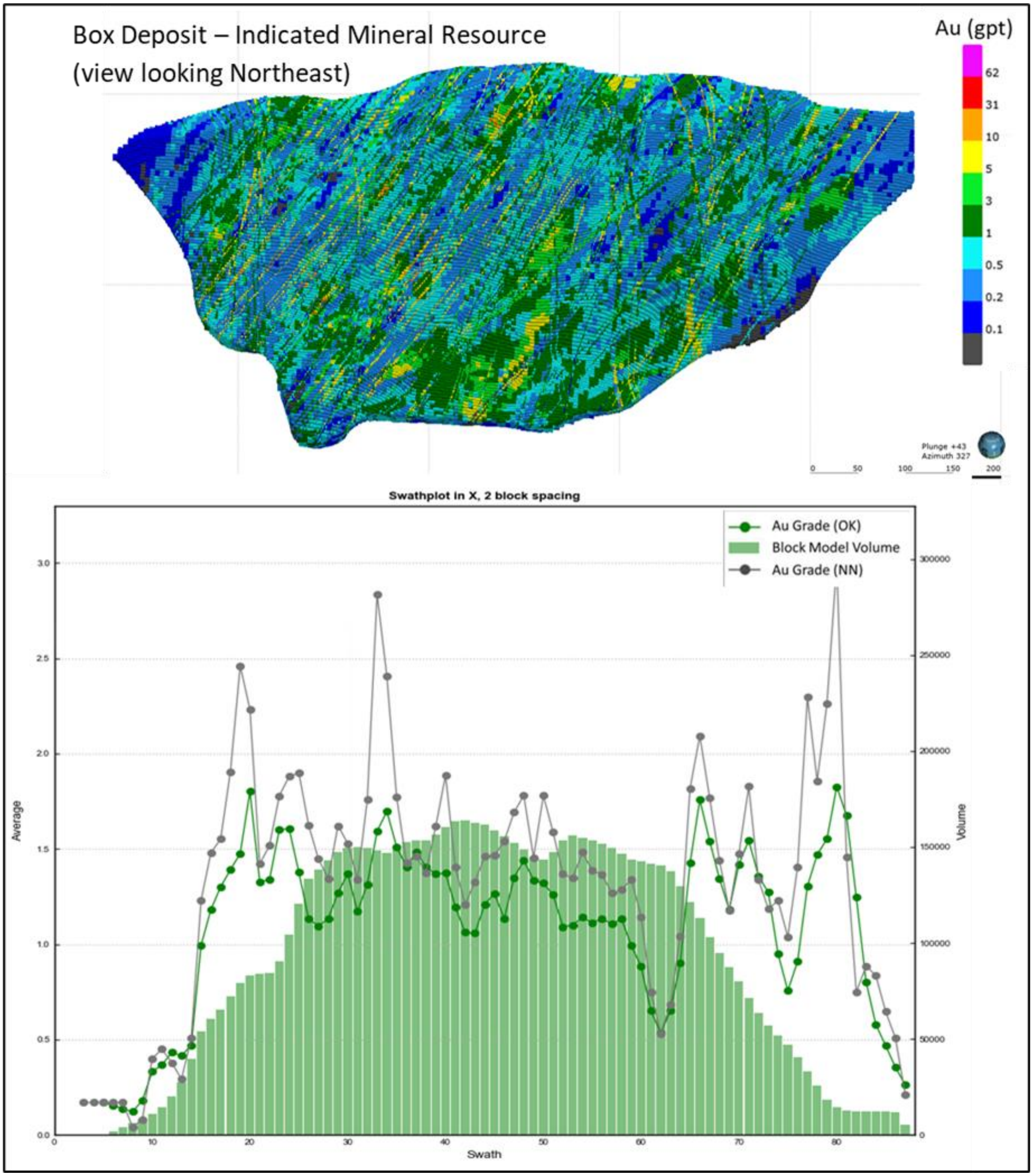
Source: SRK, 2022

Figure 14-12: Cross-sectional comparison of interpolated Au grades vs assay composites for the Athona deposit, section view looking north



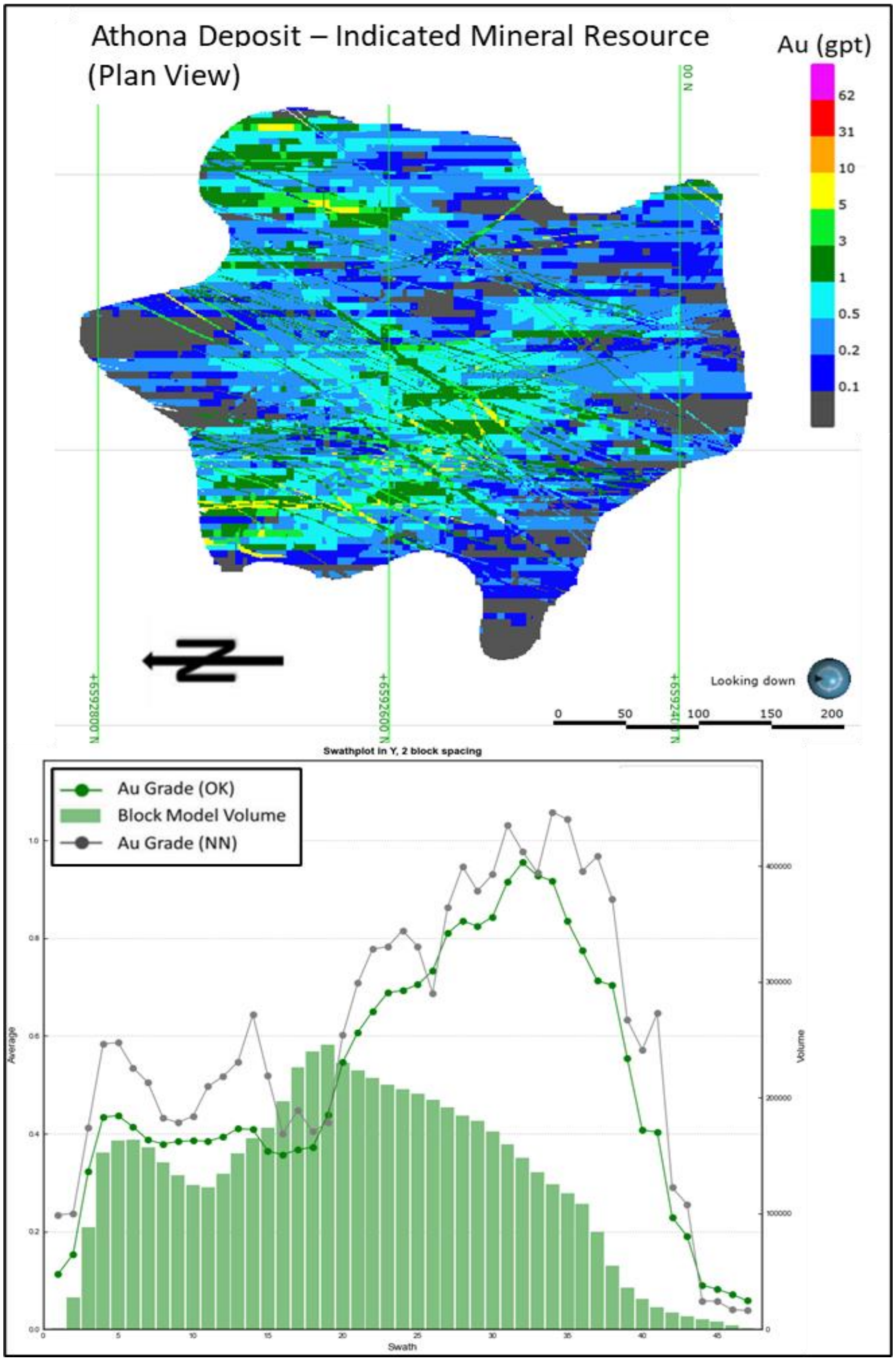
Source: SRK, 2022

Figure 14-13: Box deposit swath plot comparison of Au (g/t) grade for OK and NN block models within Indicated mineral resource.



Source: SRK, 2022.

Figure 14-14: Athona deposit swath plot comparison of Au (g/t) grade for OK and NN block models within Indicated mineral resource.



Source: SRK, 2022

Table 14-14: Global Average Grade Comparison Between 1.5 m Assay Composites (capped), Block Model Nearest-Neighbour Estimate (BM-NN) and Block Model (BM) Interpolated Grades for Au.

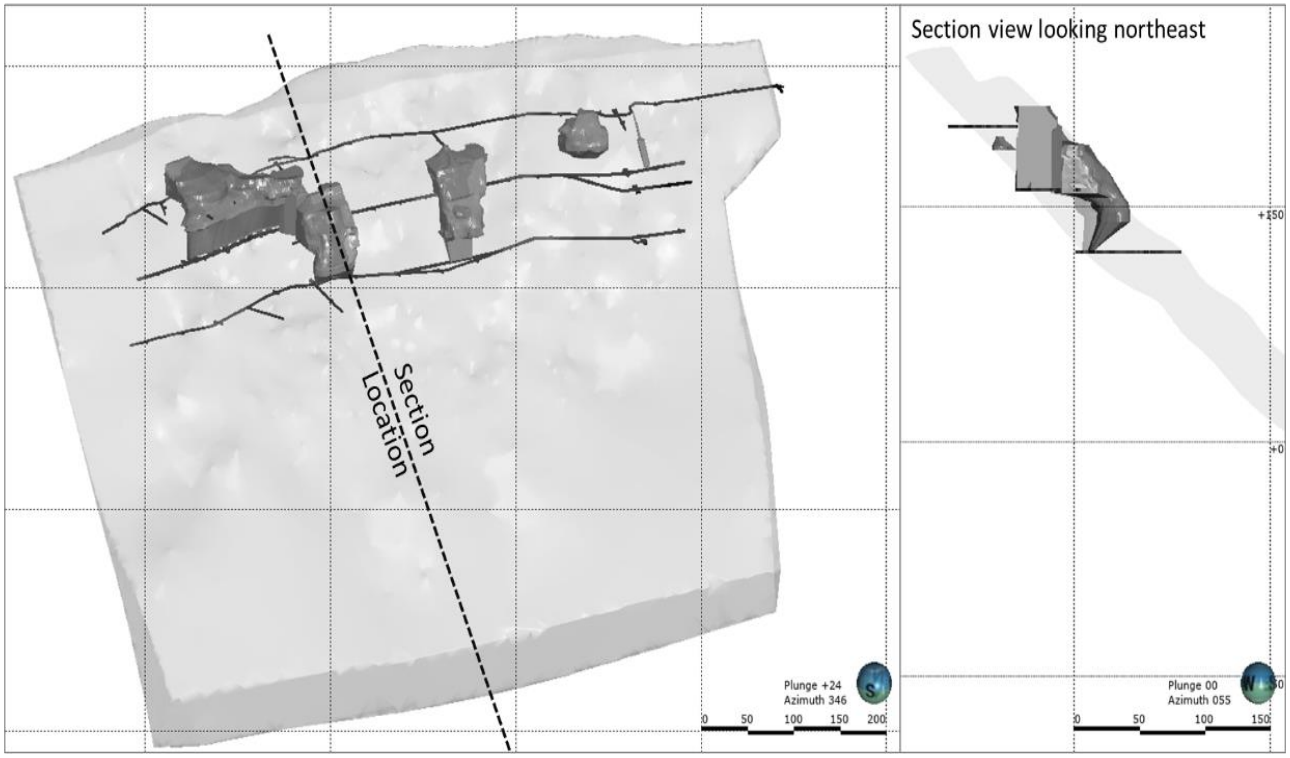
Box Deposit Estimation Domain	Composites (g/t Au capped)	BM-NN* (g/t Au)	BM (g/t Au)
BMG	0.69	0.70	0.63
Veins_NNE	1.52	1.77	1.50
Veins_NNW	2.42	2.77	2.15
Veins_NS	3.48	3.51	2.40
Veins_NW	2.66	2.74	2.37
Veins_WNW	2.20	2.43	2.33

Box Deposit Estimation Domain	Composites (g/t Au capped)	BM-NN* (g/t Au)	BM (g/t Au)
AMG	0.48	0.39	0.36
Veins_NE	2.16	2.33	1.85
Veins_NNE	2.32	1.81	1.48
Veins_NNW	1.06	1.34	1.05
Veins_NS	2.10	1.40	1.24

Note: *Block models restricted to indicated and inferred mineral resources. Source: SRK, 2022.

The final model validation step involved conducting sensitivity analysis on the estimation parameters and reconciling the resultant block model estimates against historical mine production as reported in the October 2011 NI 43-101 technical report. Table 14-15 provides a summary comparison of the historical mine production versus that derived from depletion of the final 2022 block model using wireframe models of the historical underground mine workings (see Figure 14-15). Estimated gold production from the 2022 mineral resource estimate is within 1% of the historically reported gold ounces produced.

Figure 14-15: Box Deposit Historical Mine Workings.



Source: SRK, 2022

Table 14-15: Historical production reconciliation summary

Production Report	Ore Tonnes (Mt)	Contained Au (koz)
Historical Mine Production (Coombe, 1984)	1.24	64.0
2022 Model Depletion*	1.25	63.5
% Diff	*-0.8%*	*1.0%*
**** Historical metallurgical recovery of 96% applied***		

Source: SRK, 2022

Overall, the validation exercise conducted demonstrates that the current mineral resource estimates are a reasonable reflection of the drill hole assay data and assumptions used within the estimation process.

14.13 Mineral Resource Classification

Block model quantities and grade estimates for the Box and Athona deposits of the Goldfields Project were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (November 2019) by Cliff Revering, P.Eng., an appropriate independent qualified person for the purpose of National Instrument 43-101.

Mineral resource classification is typically a subjective concept, and industry best practices suggest that resource classification should consider both the confidence in the geological continuity of the mineralized structures, the quality and quantity of exploration data supporting the estimates and the geostatistical confidence in the tonnage and grade estimates. Appropriate classification criteria should aim at integrating these concepts to delineate semi-contiguous areas of similar resource categories.

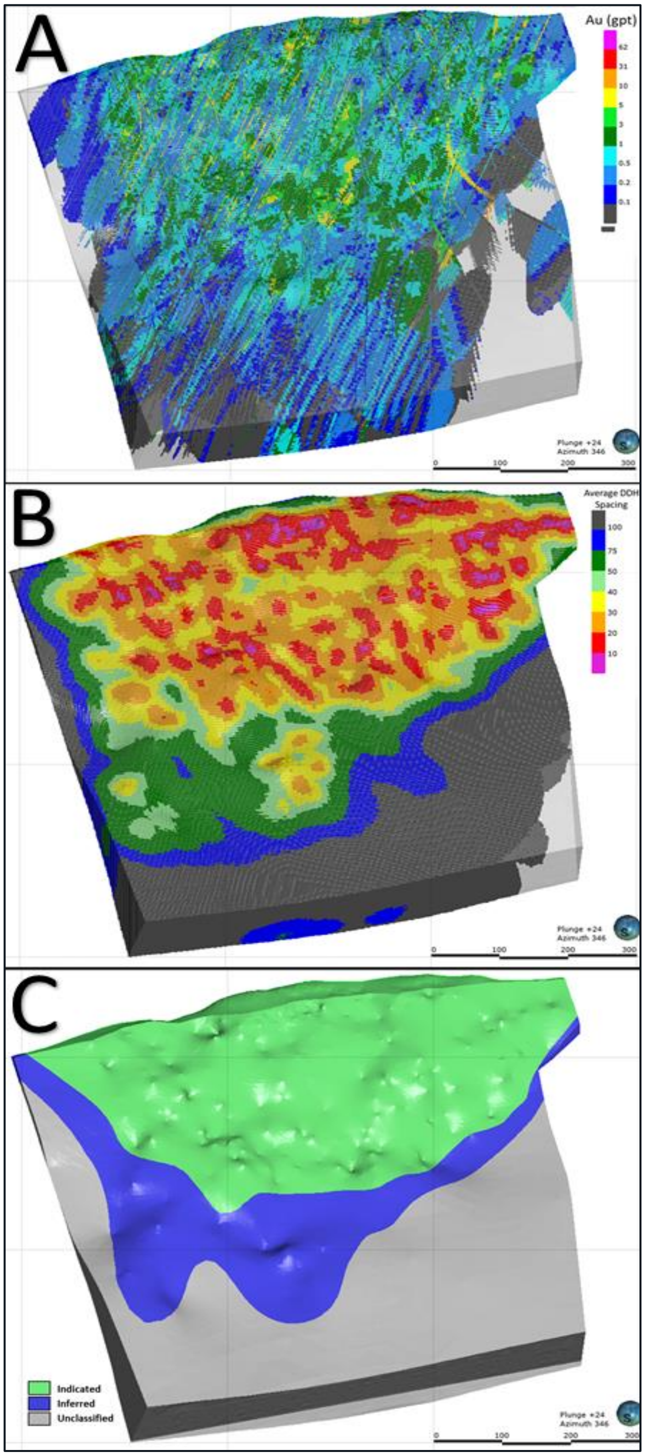
SRK is satisfied that the geological models honour the current geological information and knowledge. The location of the samples and the assay data are sufficiently reliable to support resource evaluation. Mineral resource classification criteria considered the following components:

- Confidence in the geological interpretation of the mineralized zones;
- Average drill hole spacing within the deposits; and
- Estimation parameters and estimation pass criteria.

Blocks classified within the Indicated resource category are located in areas where the average drill hole spacing is predominately less than 30 m, and blocks were estimated within estimation passes 1 and 2. Blocks classified within the Inferred resource category required an average drill hole spacing of 75 m or less and were estimated within estimation passes 3 and 4. Classification domain boundaries were manually adjusted to provide broad, contiguous classification domains. All remaining model volumes were excluded from the mineral resource statement and left as unclassified material.

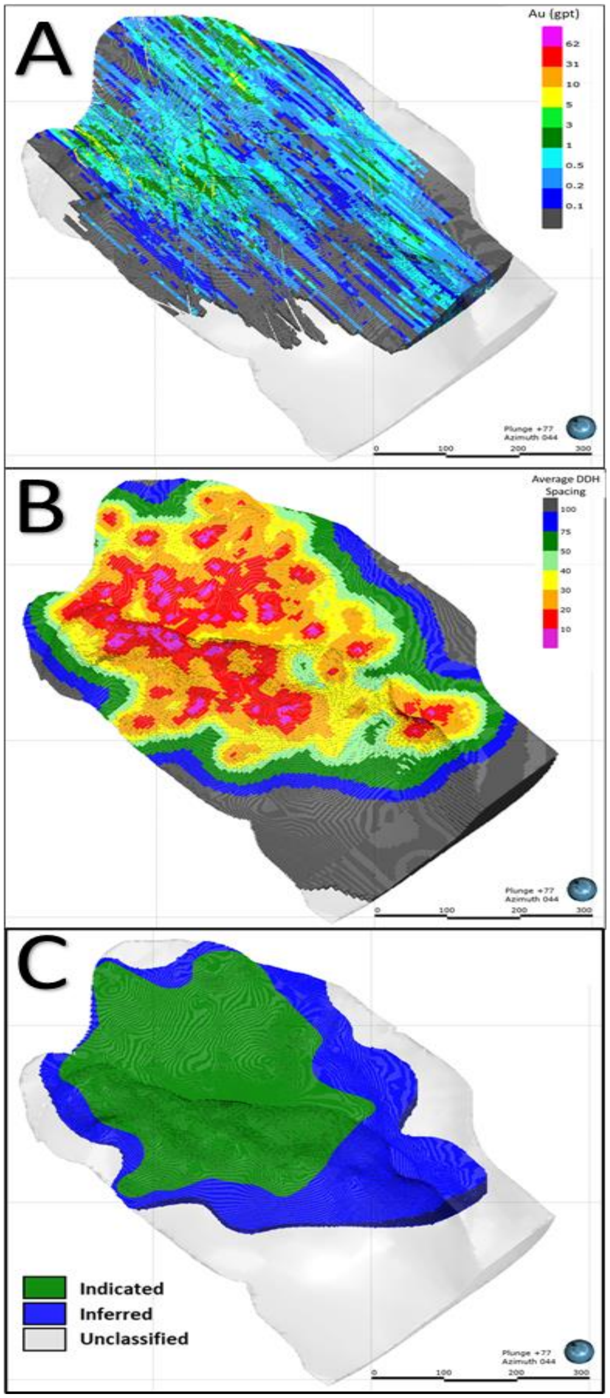
Mineral resource classification details are illustrated in Figure 14-16 and Figure 14-17 for the Box and Athona deposits, respectively.

Figure 14-16: Panel A = Box Deposit MRE. Panel B = Average Drill Hole (DDH) Spacing. Panel C = Box Deposit Mineral Resource Classification.



Source: SRK, 2022

Figure 14-17: Panel A = Athona deposit MRE. Panel B = Average drill hole (DDH) spacing. Panel C = Athona deposit mineral resource classification.



Source: SRK, 2022.

14.14 Mineral Resource Statement

CIM Definition Standards for Mineral Resources and Mineral Reserves (November 2019) defines a mineral resource as:

"(A) concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge."

The "reasonable prospects for eventual economic extraction" requirement generally implies that the quantity and grade estimates meet certain economic thresholds and that the mineral resources are reported at an appropriate cut-off grade taking into account extraction scenarios and processing recoveries. In order to meet this requirement, SRK considers that major portions of the Box and Athona deposits are amenable for open pit extraction.

In order to determine the quantities of material offering "reasonable prospects for eventual economic extraction", SRK used a pit optimizer and reasonable mining assumptions to evaluate the proportions of the block model (Indicated and Inferred blocks) that could be "reasonably expected" to be mined from an open pit. The mining parameters were selected based on experience and benchmarking against similar projects (Table 14-16). The reader is cautioned that the results of this analysis are used solely for the purpose of testing the "reasonable prospects for eventual economic extraction" by an appropriate mining method and do not represent an attempt to estimate mineral reserves. There are no mineral reserves for the Box and Athona deposits of the Goldfields Project. The results are used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting cut-off grade.

Table 14-16: Assumptions Used for Defining Reasonable Prospects of Economic Extraction.

Parameter	Value	Unit
Gold price	$1800	US$ per ounce
Foreign Exchange Rate	1.25	CAD/USD
Royalty Payment	2%	percent
OP mining costs	$2.60	CAD$ per tonne mined
Mining Dilution	5%	percent
Process costs	$15.70	CAD$ per tonne of feed
Process recovery Gold	91%	percent

The mineral resource statement for the Box and Athona deposits is provided in Table 14-17, with an effective date of September 1, 2022. The Box mineral resource has been adjusted to reflect the removal of historical mine production.

Table 14-17: Mineral Resource Statement, Box and Athona Deposits, Goldfields Project, Saskatchewan, SRK Consulting (Canada) Inc., September 1, 2022

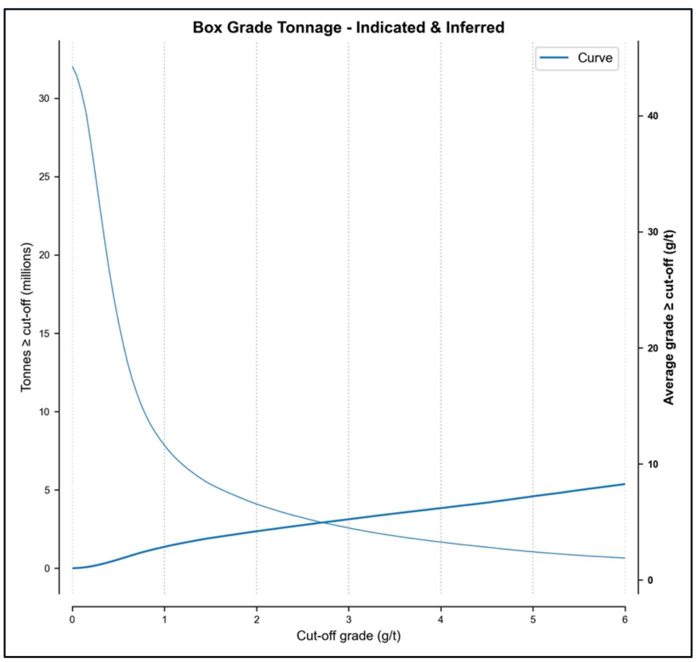
Deposit	Category	Tonnes (Mt)	Au Grade (g/t)	Au Metal Content (000's oz)
Box	Indicated	15.8	1.44	729.7
Athona	Indicated	7.4	1.06	250.2
Total Indicated		**23.2**	**1.31**	**979.9**
Box	Inferred	3.3	1.08	112.8
Athona	Inferred	3.8	0.80	98.0
Total Inferred		**7.1**	**0.92**	**210.8**

Notes:
1) Mineral resources are not mineral reserves and do not have demonstrated economic viability.
2) Mineral resources are reported at a cut-off grade of 0.3 g/t Au, constrained within a conceptual open-pit shell.
3) Mineral resources are reported using a Au price of USD$1800/oz.
4) All figures are rounded to reflect the relative accuracy of the estimate.

14.15 Grade Sensitivity Analysis

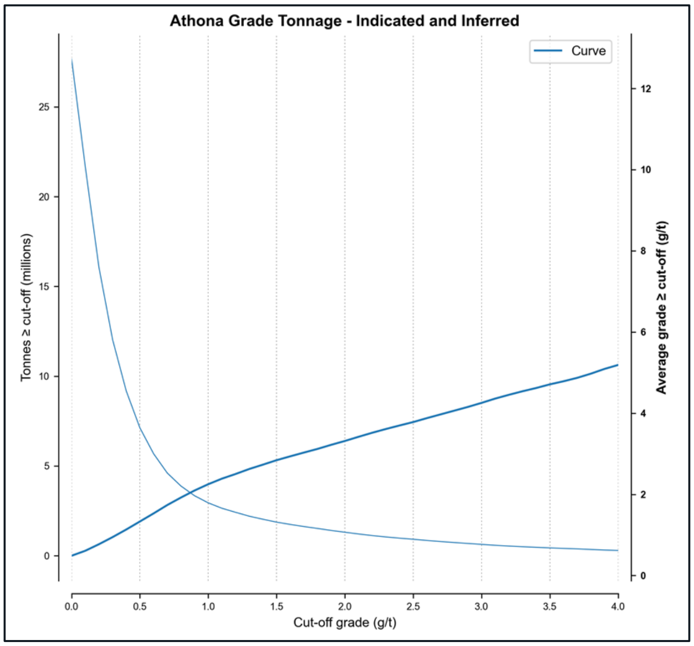
The mineral resources of the Box and Athona deposits are sensitive to the selection of the reporting cut-off grade. Figure 14-18 and Figure 14-19 provide grade tonnage curves for the Box and Athona mineral resource estimates, respectively.

Figure 14-18: Grade Tonnage Curves for the Box Deposit



Source: SRK, 2022

Figure 14-19: Grade Tonnage Curve for the Athona Deposit



Source: SRK, 2022

14.16 Reconciliation to Previous Mineral Resource Estimate

The previous mineral resource estimate for the Box and Athona deposits is summarized in Table 14-18, with an effective date of March 15, 2021. This estimate was prepared for Fortune Bay by SRK Consulting (Canada) Inc and was an update to the previous historical mineral resource estimate completed by Tetra Tech Consulting (formerly Wardop) for Brigus Gold Corporation in 2011.

Table 14-18: Previous Mineral Resource Statement for The Box Deposit, With An Effective Date Of March 15, 2021

Deposit	Category	Tonnes (Mt)	Au Grade (g/t)	Au Metal Content (000's oz)
Box	Indicated	15.2	1.47	716.9
Athona	Indicated	7.4	1.09	258.2
Total Indicated		**22.6**	**1.34**	**975.1**
Box	Inferred	2.4	1.04	80.3
Athona	Inferred	3.6	0.84	95.7
Total Inferred		**6.0**	**0.92**	**176.0**

Notes:
1) Mineral resources are not mineral reserves and do not have demonstrated economic viability
2) Mineral resources are reported at a cut-off grade of 0.3 g/t Au, constrained within a conceptual open-pit shell.
3) Mineral resources are reported using a Au price of USD$1600/oz.
4) All figures are rounded to reflect the relative accuracy of the estimate.

Comparison of the March 2021 and September 2022 mineral resource statements show an increase in tonnage and contained Au content within the current Indicated mineral resource statement of approximately 2.7% and 0.5%, respectively, and an increase in the Inferred mineral resource tonnes and contained Au content of approximately 18% and 20%, respectively. The increases observed in the September 2022 mineral resources are related to the additional drilling completed in 2021 which expanded the footprint of the classified mineral resources at both the Box and Athona deposits, as well as the incorporation of a higher Au price which increased the size of the constraining pit shells used for mineral resource reporting.

There are no known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant factors that could materially affect the mineral resource estimate.

15 MINERAL RESERVE ESTIMATES

This section is not relevant to the Technical Report.

16 MINING METHODS

16.1 Introduction

Open pit mine designs, mine production schedules and mine capital and operating costs have been developed for the Box and Athona deposits at a scoping level of engineering.

The open pit activities are designed for approximately ten years of operation. Mine planning is based on conventional open pit methods suited for the project location and local site requirements. The subset of Mineral Resources contained within the designed open pits are summarized in Table 16-1, with a 0.30 g/t gold cut-off, and form the basis of the mine plan and production schedule.

Table 16-1: PEA Mine Plan Production Summary

Description	Value
PEA Mill Feed	22,708 kt
Mill Feed Gold Grade	1.20 g/t
Waste Overburden and Rock	69,139 kt
Waste: Resource Ratio	3.0

Notes:
1. The PEA Mine Plan and Mill Feed estimates are a subset of the September 01, 2022 Mineral Resource estimates and are based on open pit mine engineering and technical information developed at a Scoping level for the Box and Athona deposits.
2. PEA Mine Plan and Mill Feed estimates are mined tonnes and grade, the reference point is the primary crusher.
3. Mill Feed tonnages and grades include open pit mining method modifying factors, such as dilution and recovery.
4. Cut-off grade of 0.30 g/t assumes US$1,650/oz. Au at a currency exchange rate of 0.77 US$ per C$; 99.95% payable gold; $5/oz offsite costs (refining, transport and insurance); a 2.0% NSR royalty; and a 95% metallurgical recovery for gold.
5. The cut-off grade covers processing costs of $12.00/t, administrative (G&A) costs of $6.20/t, and low grade stockpile Rehandle costs of $1.00/t.
6. Estimates have been rounded and may result in summation differences.

The economic pit limits are determined using the Pseudoflow implementation of the Lerchs Grossman algorithm. Ultimate pit limits are split up into phases or pushbacks to target higher economic margin material earlier in the mine life. The Box deposit is split into three phases, and the Athona deposit is split into two phases. Pit designs are configured on 5 m bench heights, with 8 m wide berms placed every four benches, or quadruple benching. Two unique geotechnical zones are included for the Box pit, with unique bench face angles, and subsequent inter-ramp angles; the Athona pit assumes only one set of criteria for all its pit walls.

The mill will be fed with material from the pits at an average rate of 2.7 Mtpa (7.5 kt/d). Waste rock will be placed in one of three identified WRSF (waste rock storage facilities), one north of the Athona pit ("Athona WRSF"), one within the Vic Lake historical TSF footprint directly west of the Box pit ("WRSF-1") and one north of the processing facilities and east of the tailings storage facility ("Box Main WRSF"). Waste rock will also be used for construction of the haul roads and the tailings dam north of the process facilities. Topsoil and overburden encountered at the top of the pits will be placed in a dedicated area of the Box Main WRSF and kept salvageable for closure at the end of the mine life. Cut-off grade optimization is employed, which feeds low grade stockpiles adjacent to the ROM pad and the Box Main WRSF. These stockpiles are planned for reclamation to the mill in the later years of the mine life.

Mining operations will be based on 365 operating days per year with two 12 hour shifts per day. An allowance of 12 days per year without mine production has been built into the mine schedule to allow for adverse weather conditions.

The mining fleet will include diesel powered down-the-hole (DTH) drills with 140 mm bit size for production drilling, diesel-powered RC drills for bench-scale grade control drilling, 12 m^3 bucket size diesel hydraulic excavators and 14 m^3 bucket sized wheel loaders for production loading, and 91 t payload rigid-frame haul trucks for production hauling, plus ancillary and service equipment to support the mining operations. In-pit dewatering systems will be established for each pit. All surface water and precipitation in the pits will be handled by submersible pumps and directed to ex-pit settling ponds directly outside the pit limits.

The mine equipment fleet is planned to be purchased via a lease financing arrangement. Maintenance on mine equipment will be performed in the field with major repairs and planned interval maintenance in the shops located near the process facilities.

16.2 Key Design Criteria

The following mine planning design inputs were used:

- Topography is based on open source 30 m resolution Shuttle Radar Topography Mission (SRTM) data of the region.
- Re-blocked resource block models on 5 m spacing in all three dimensions.
- Resource model contains diluted mineralized gold grades, bulk densities, lithologies, resource classifications, and measurements of underground voids based on historical mining.
- Indicated and Inferred Mineral Resources are included in pit optimizations and mill feed estimates.
- Waste storage piles, stockpiles and haul roads are planning to minimize wetland, waterbody and watercourse disturbance.
- Gold process recoveries of 95% for Box, and 93% for Athona, are used for the pit optimisation and cut-off grade estimations.

16.2.1 Net Smelter Price and Cut-off Grade

Net Smelter Price (NSP) is used for mine planning. NSP is derived from the Market Price for gold and considers all offsite costs to determine revenue potential at the mine gate. The NSP calculation uses the inputs shown in Table 16-2.

Table 16-2: Net Smelter Price

Item	Unit
Gold Price	US$1,650/oz
US Exchange Rate	0.77 US$: 1 C$
Payable Gold	99.95%
Gold Offsite Costs (Refining, Transport, Insurance)	US$5.00/oz
Royalty	2.0%
Net Smelter Price	C$67/g
	C$2,100/oz

The economic cut-off grade is chosen as the gold grade required to pay for processing costs, general and administration costs, and low-grade stockpile reclaim costs. The cut-off grade calculation uses the inputs shown in Table 16-3.

Table 16-3: Economic Cut-off Grade

Item	Unit
Net Smelter Price	$67/g
Process Recovery at Cut-off	95%
Process Costs	$12.00/t
G&A and Site Costs	$6.20/t
Stockpile Rehandle Costs	$1.00/t
Economic Cut-off Grade	**0.30 g/t**

16.2.2 Mining Loss & Dilution

The Mineral Resources are based on 1 m x 2.5 m x 1 m resource model sub-block sizes. For mine planning, these blocks have been re-blocked to an open pit mining unit size of 5 m x 5 m x 5 m, which accounts for planned open pit mine operating conditions. This re-blocking to 5 m block spacing introduces ~18% dilution the original sub-block resource model, when measured at a 0.30 g/t gold cut-off grade.

This approach to calculating dilution and loss is considered appropriate for the current mine plan. The calculated 5 m re-blocked mill feed gold grades are taken as representative of the diluted run-of-mine material that the operator will be able to achieve when pursuing the throughputs targeted in this mine plan.

Specific additional mining operational losses have not been added and this is assumed to be adequate for the scoping level accuracy of the reported ROM tonnes and gold grade.

16.2.3 Pit Slopes

The pit slope criteria are based on a program of geotechnical work done on the Box deposit but very little geotechnical data collection and analysis done on the Athona deposit. Open pit slope assumptions described below are reasonable for scoping level engineering on the Project.

Pit designs are configured on 5 m bench heights, with 8 m wide berms placed every four benches, or quadruple benching. Two unique geotechnical zones are included for the Box pit, with unique bench face angles, and subsequent inter-ramp angles; the Athona pit assumes only one set of criteria for all its pit walls. These slope criteria are summarized in Table 16-4.

Table 16-4: Pit Slope Design Inputs

Domain	Bench Face Angle (°)	Interramp Angle (°)	Bench Height (m)	Calc Berm Width (m)	Overall Angle (for pit optimization) (°)
Box Footwall	Variable, follow footwall	Variable, follow footwall	20	8.0	33
Box Hangingwall	75	56	20	8.1	55
Athona Walls	75	56	20	8.1	55

16.2.4 Lake Restrictions

The mine design is restricted from mining into Lake Athabasca. This restriction constrains the limits of the Athona pit, whereas the economic limits of the Box pit do not encroach on the lake. All haul roads, rock storage piles and stockpiles are kept at least 30 m from the surveyed edge of the Lake Athabasca and are located to minimize disturbance to existing waterbodies and watercourses. The exception being the WRSF-1 storage facility, which is planned to displace Vic Lake (historical TSF) west of the Box deposit.

16.3 Pit Optimisation

The economic pit limits are determined using the Pseudoflow implementation of the Lerchs Grossman algorithm. This algorithm uses the resource gold grades and bulk density for each block of the 3D block model and evaluates the costs and revenues of the blocks within potential pit shells. The routine uses input economic and engineering parameters and expands downwards and outwards until it finds the most profitable pit shell for the given set of inputs.

Additional cases are included in the analysis to evaluate the sensitivities of open pit mined resources to waste mining ratio and high-grade/low-grade areas of the deposits. In this study, the various cases or pit shells are generated by varying the input gold price and comparing the resultant waste and mill feed tonnages and gold grades for each pit shell.

By varying the economic parameters while keeping inputs for metallurgical recoveries and pit slopes constant, various generated pit cases are evaluated to determine where incremental pit shells produce marginal or negative economic returns. This drop-off is due to increasing waste mining ratios, decreasing gold grades, increased mining costs associated with the larger or deeper pit shells, and the value of discounting costs before revenues. The economic margins from the expanded cases are evaluated on a relative basis to provide payback on capital and produce a return for the Project. At some point, further expansion does not provide significant added value. A pit limit can then be chosen that has suitable economic return for the deposit.

For each pit shell, an undiscounted cashflow (UCF) is generated based on the shell contents and the economic parameters listed in Table 16-5. The UCFs for each case are compared to reinforce the selected point at which increased pit expansions do not increase the project value. Note that the economics are only applied for comparative purposes to assist in the selection of an optimum pit shell for further mine planning; they do not reflect the actual financial results of the mine plan.

The chosen pit shell is then used as the basis for more detailed design and economic modelling.

Price inputs for the Pseudoflow runs are listed Table 16-2 above and operating cost assumptions are provided in Table 16-5. The input gold price is varied from US$350/oz to US$2,600/oz.

Table 16-5: Operating Cost Inputs into Pseudoflow Shell Runs

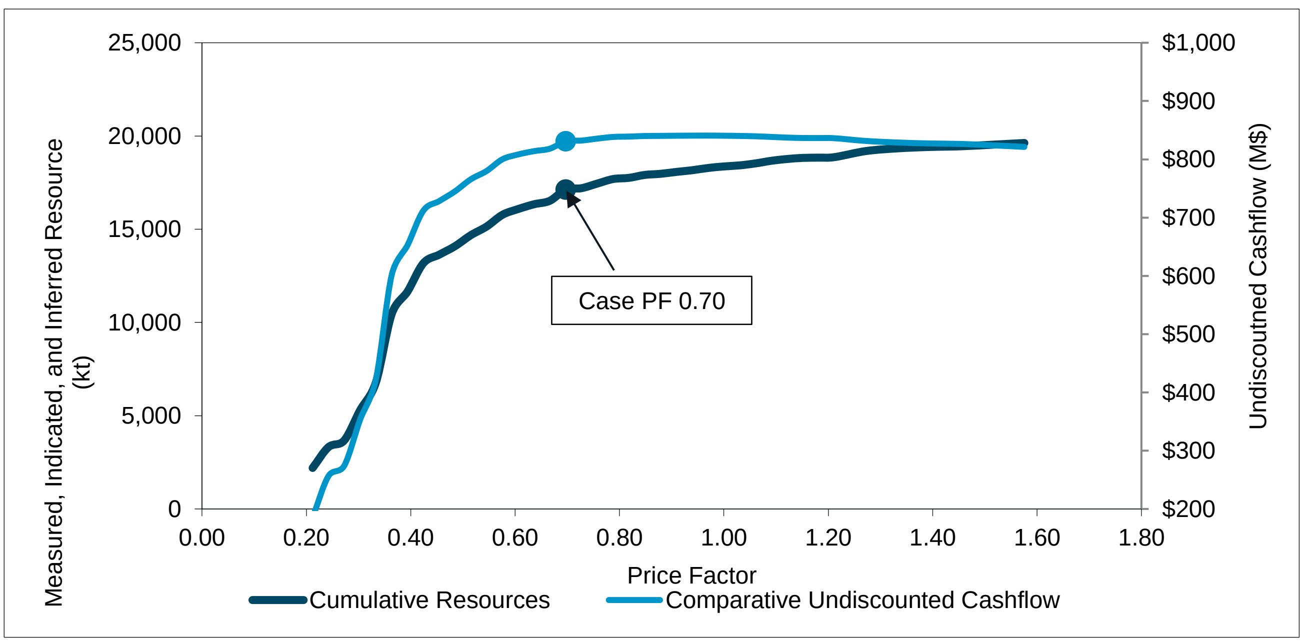
Item	Unit
Pit rim mining cost	$3.10/t, pit rim of 220 m in all deposits
Incremental haulage cost	$0.015 per every 5 m bench below pit rim
Processing cost	$9.70/t
General/Administration cost	$6.20/t

16.3.1 Box Pit Limit

Figure 16-1 shows the contents of the generated Pseudoflow pit shells for the Box deposit. An inflection point can be seen in the curve of cumulative resources and UCF by pit case. This point indicates Case Price Factor ("PF") 0.70 as a point at which larger pit shells will not produce significant increases to project value.

The pit shell generated from Case PF 0.70 is selected as the ultimate pit limits for Box and is used for further mine planning as a target for detailed open pit designs with berms and ramps.

Figure 16-1: Box Pseudoflow Pit Shell Resource Contents by Case



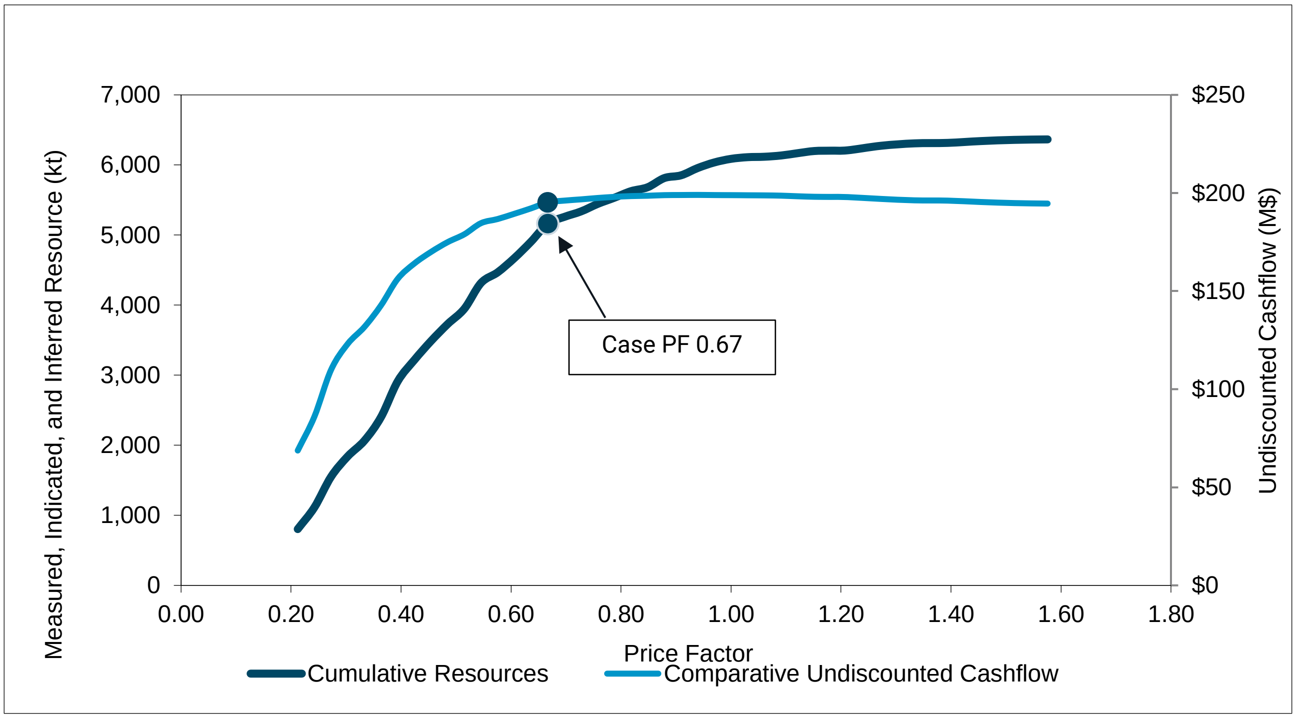
Source: Moose Mountain, 2022

16.3.2 Athona Pit Limit

Figure 16-2 shows the contents of the generated Pseudoflow pit shells for the Athona deposits. An inflection point can be seen in the curve of cumulative resources and UCF by pit case. This point indicates Case PF 0.67 as a point at which larger pit shells will not produce significant increases to the project value.

The pit shell generated from Case PF 0.67 is selected as the ultimate pit limits for the Athona deposit and is used for further mine planning as a target for detailed open pit designs with berms and ramps.

Figure 16-2: Athona Pseudoflow Pit Shell Resource Contents by Case



Source: Moose Mountain, 2022

16.4 Pit Designs

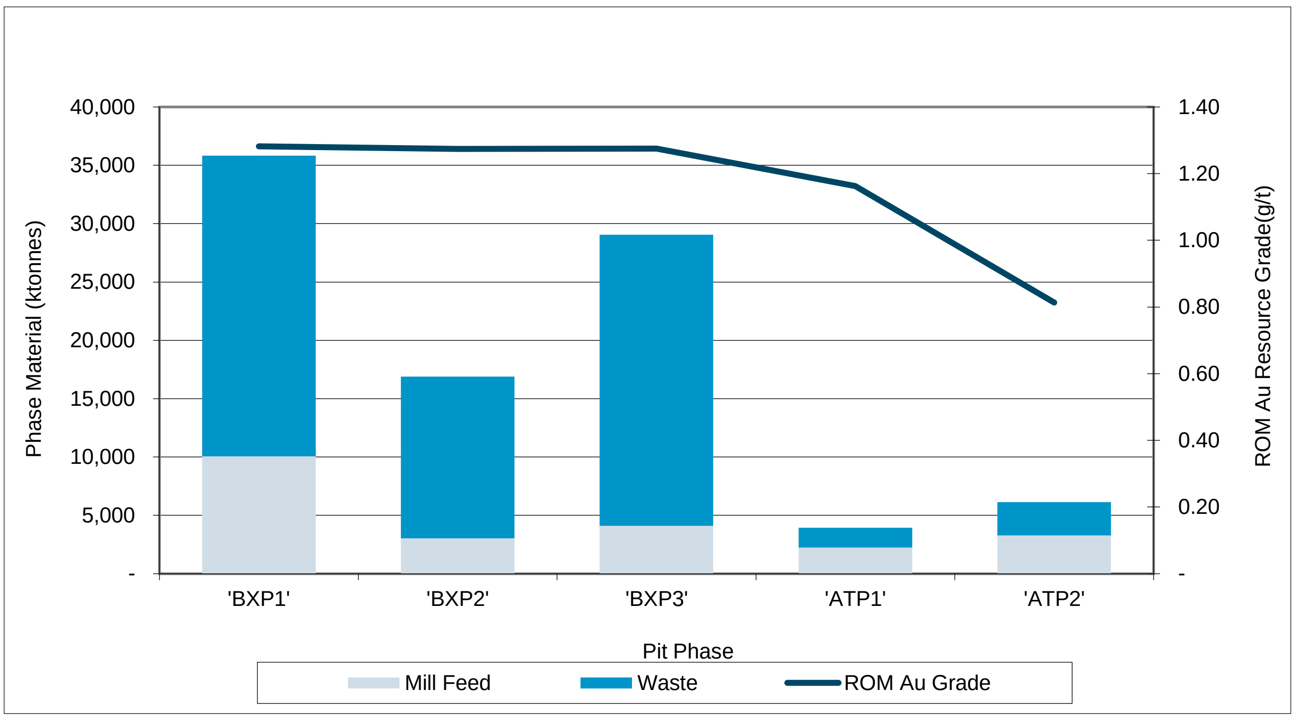
Contents of the designed open pits are presented in Table 16-6. The contents for each designed pit phase are presented graphically in Figure 16-3.

Table 16-6: Contents of Designed Pit Phases

Pit Phase	Pit Name	Mill Feed (Mt)	Diluted Gold Grade (g/t Au)	Waste (Mt)	W:O Ratio (t/t)
Box Phase 1	BXP1	10.1	1.28	25.8	2.6
Box Phase 2	BXP2i	3.0	1.27	13.9	4.6
Box Phase 3	BXP3i	4.1	1.27	25.0	6.1
Total Box	**BXP3**	**17.2**	**1.28**	**64.6**	**3.8**
Athona Phase 1	ATP1	2.2	1.16	1.7	0.8
Athona Phase 2	ATP2i	3.3	0.81	2.8	0.8
Total Athona	**ATP2**	**5.5**	**0.95**	**4.6**	**0.8**
Grand Total		**22.7**	**1.20**	**69.1**	**3.0**

Notes:
1. The PEA Mine Plan and Mill Feed estimates are a subset of the September 01, 2022 Mineral Resource estimates and are based on open pit mine engineering and technical information developed at a Scoping level for the Box and Athona deposits.
2. PEA Mine Plan and Mill Feed estimates are mined tonnes and grade, the reference point is the primary crusher.
3. Mill Feed tonnages and grades include open pit mining method modifying factors, such as dilution and recovery.
4. Cut-off grade of 0.30 g/t assumes US$1,650/oz. Au at a currency exchange rate of 0.77 US$ per C$; 99.95% payable gold; $5/oz offsite costs (refining, transport and insurance); a 2.0% NSR royalty; and a 95% metallurgical recovery for gold.
5. The cut-off grade covers processing costs of $12.00/t, administrative (G&A) costs of $6.20/t, and low grade stockpile Rehandle costs of $1.00/t.
6. Estimates have been rounded and may result in summation differences.

Figure 16-3: Designed Phase Pit Contents



Source: Moose Mountain, 2022.

16.4.1 In-Pit Haul Roads

Two-way haul roads of 25 m width are designed. Haul road grades are limited to a maximum of 10%. Access ramps are not designed for the last two benches (10 m) of the pit bottom, on the assumption that the bottom ramp segment will be removed using some form of retreat mining. The bottom five ramped benches (25 m) of the pit use one-way haul roads of 19 m width and 12% grade since bench volumes and traffic flow are reduced.

16.4.2 Pit Phases

Ultimate pit limits are generally split up into phases or pushbacks to target higher economic margin material earlier in the mine life. Minimum pushback distances of 50 m are honoured. The Box pit is split into three phases with the higher-grade first phase mined ahead of the two pushbacks to the southeast. Targets for the first phase use Case PF 0.36 of the optimisation runs described in Section 16.3.1.

The Athona pit is split into two phases with the lower waste mining ratio first phases mined ahead of south pushback second phase. Targets for the first phases use Case PF 0.39 of the optimisation runs described in Section 16.3.2.

16.4.3 Box Pit Designs

The Box pit designs are shown in Figure 16-4 (final pit phase) and Figure 16-5. Sections through the deposit showing the re-blocked resource model grades are illustrated in Figure 16-6 to Figure 16-8.

16.4.3.1 Box Phase 1, BXP1

This phase targets the high-grade, near-surface northwest portions of the deposit. The upper benches of this phase will be accessed via ex-pit ramps on the east side of the pit. In pit ramping is incorporated from the pit exit in the southeast at the 225 masl elevation, down to the pit bottom on the 120 masl elevation. The main ramp runs clockwise down from the pit exit with a switchback to counter-clockwise at the 170 masl elevation to avoid the footwall. The footwall (northwest) wall of pit is mined to the final limits right, all subsequent pit pushbacks extend the footwall wall deeper while pushing the hangingwall wall further southeast.

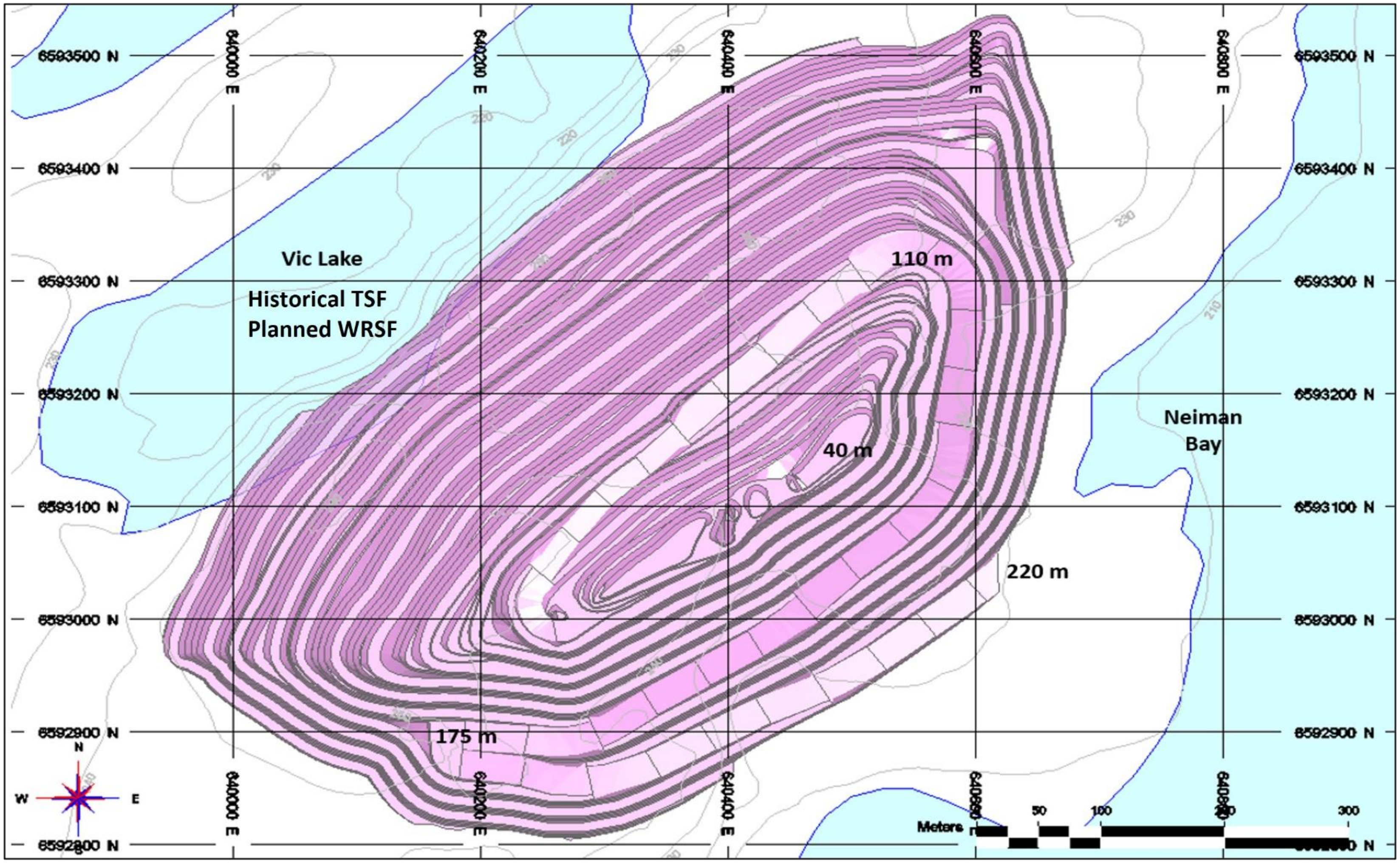
16.4.3.2 Box Phase 2, BXP2

This phase targets deeper, higher waste mining ratio mineralisation below the phase 1 pit, extending the footwall wall of the pit deeper, while pushing out the hangingwall wall towards the final pit limits, leaving enough room for one additional pushback. This phase mines from the pit exit in the southeast at the 225 masl elevation, down to the pit bottom at the 100 masl elevation. The main ramp runs clockwise down from the pit exit with a switchback to counter-clockwise at the 155 masl elevation to avoid the footwall.

16.4.3.3 Box Phase 3, BXP3

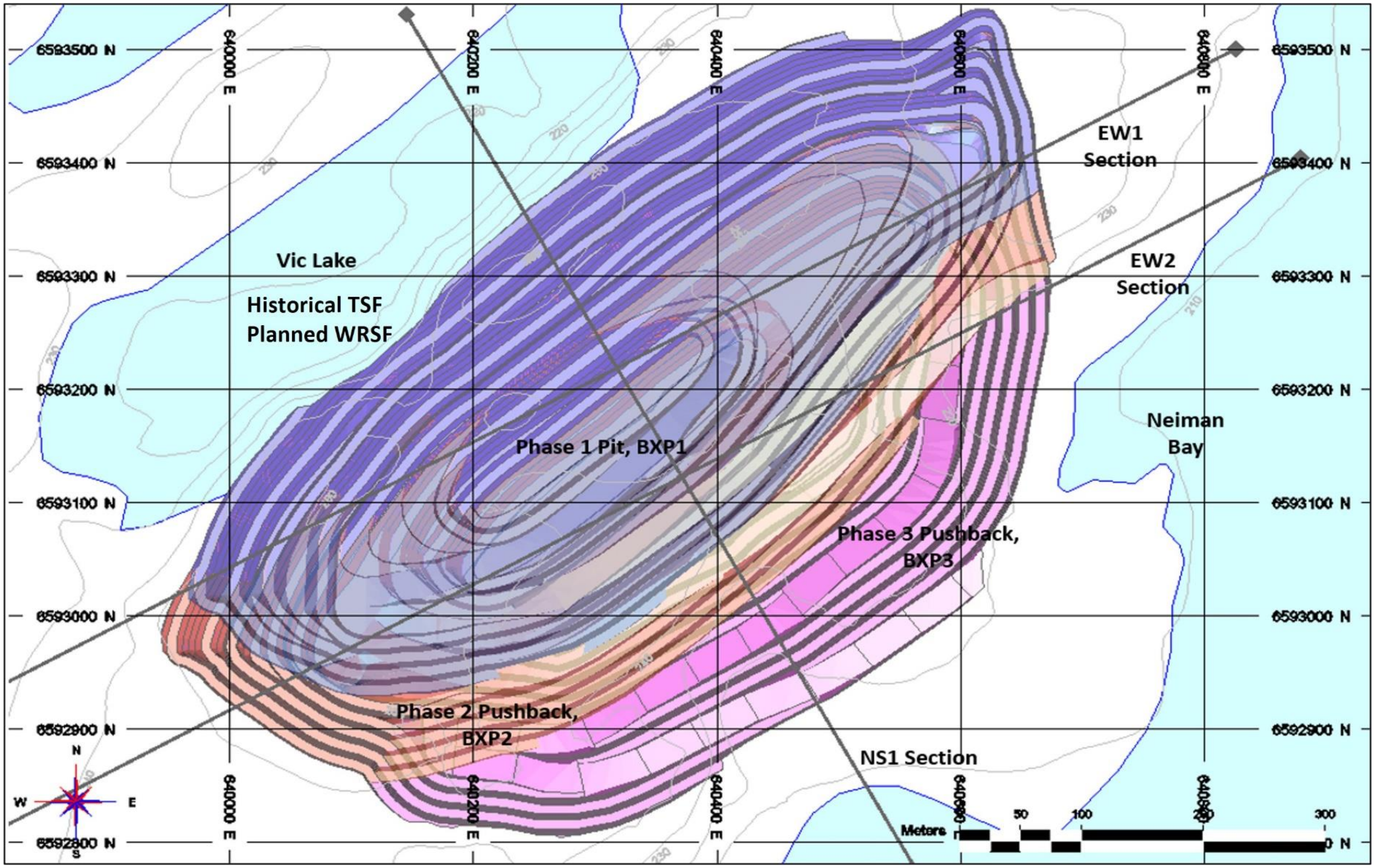
This phase targets the pit bottom at the 40 masl elevation, extending the footwall wall of the pit deeper, while pushing out the hangingwall wall to the final pit limits. This phase mines from the pit exit in the south at the 220 masl elevation, down to the pit bottom at the 40 masl elevation. The main ramp runs clockwise down from the pit exit with a switchback to counter-clockwise at the 175 masl elevation.

Figure 16-4: Box Pit Design Phase 3 Pit, BXP3



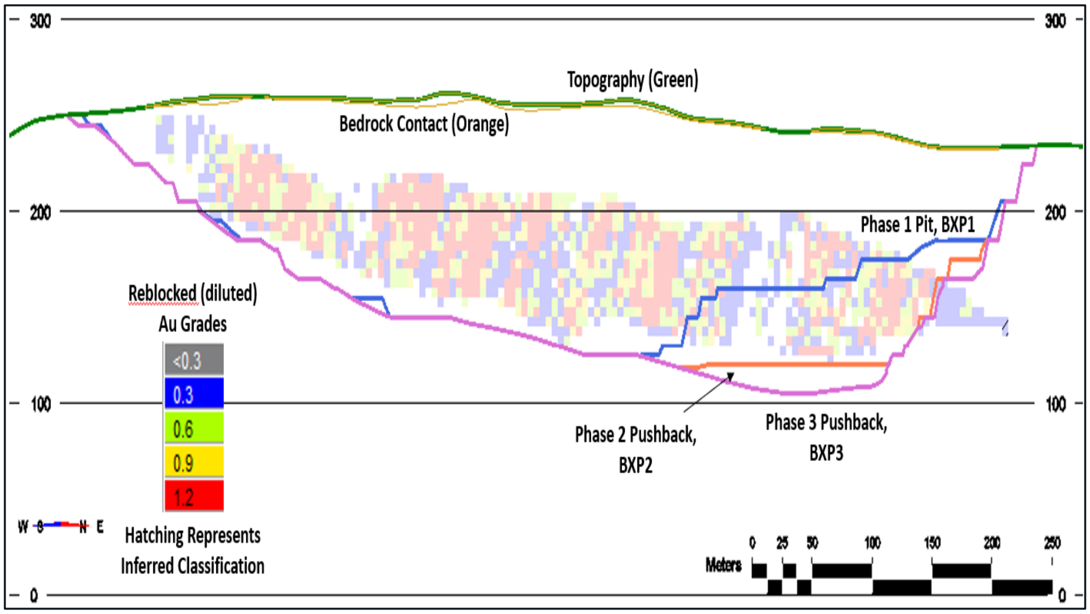
Source: Moose Mountain, 2022.

Figure 16-5: Box Phased Pit Designs



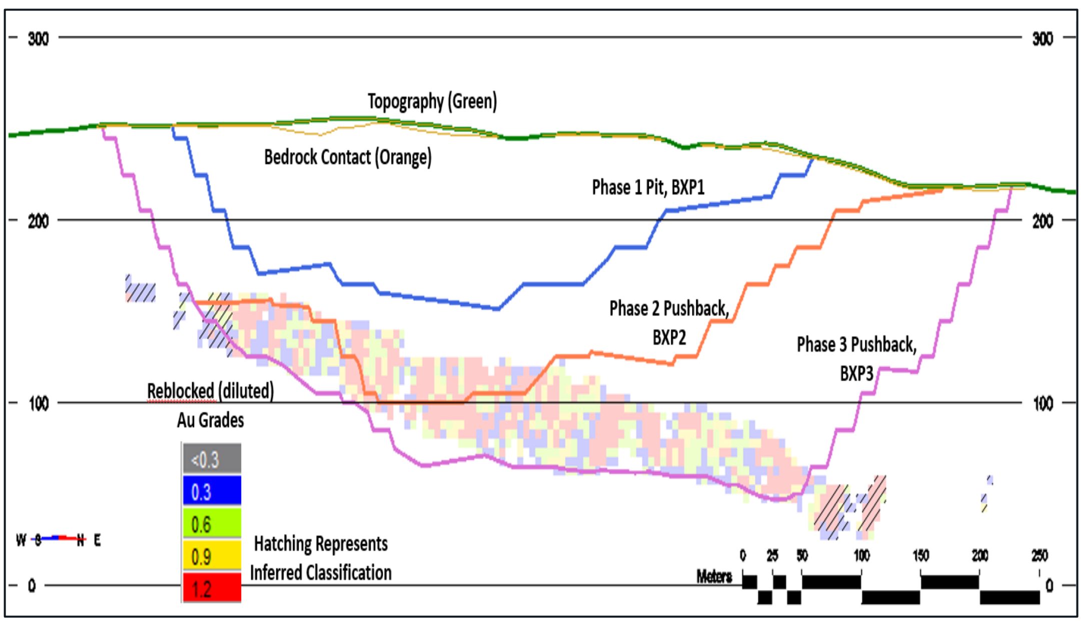
Source: Moose Mountain, 2022.

Figure 16-6: Box Pit Designs, EW1 Section (section location in Figure 16-5)



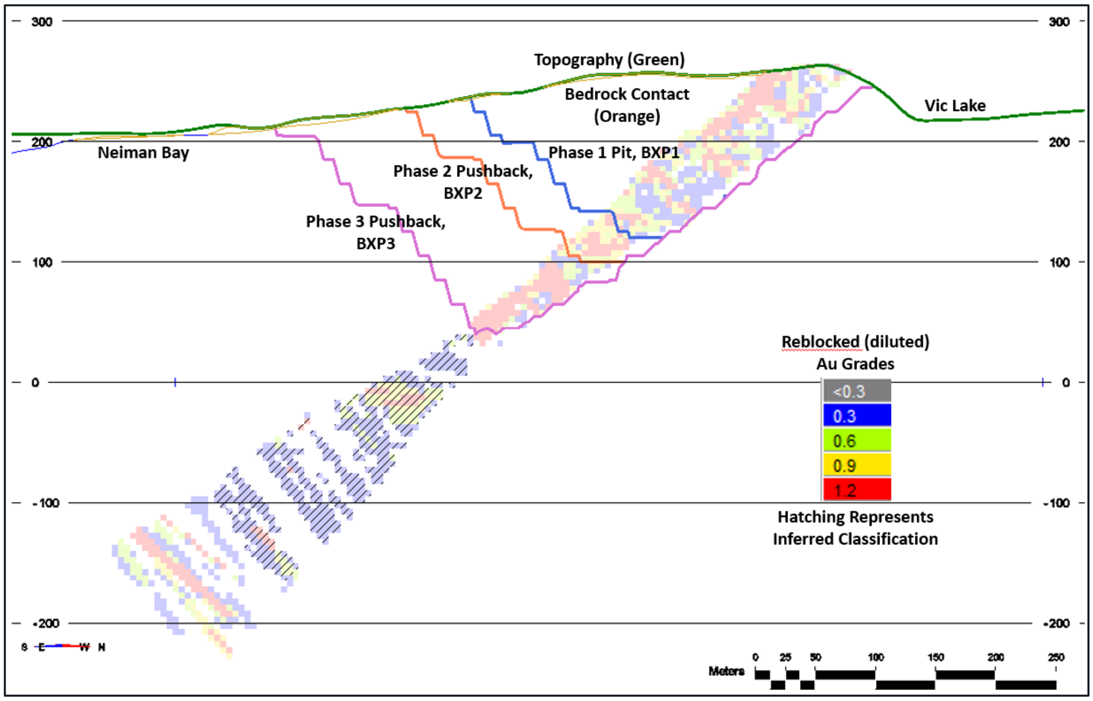
Source: Moose Mountain, 2022

Figure 16-7: Box Pit Designs, EW2 Section (section location in Figure 16-5)



Source: Moose Mountain, 2022

Figure 16-8: Box Pit Designs, NS1 Section (section location in Figure 16-5)



Source: Moose Mountain, 2022

16.4.4 Athona Pit Designs

The phased Athona pit designs are shown in Figure 16-9 to Figure 16-10. Sections through the deposit showing the resource model grades are illustrated in Figure 16-11 and Figure 16-12.

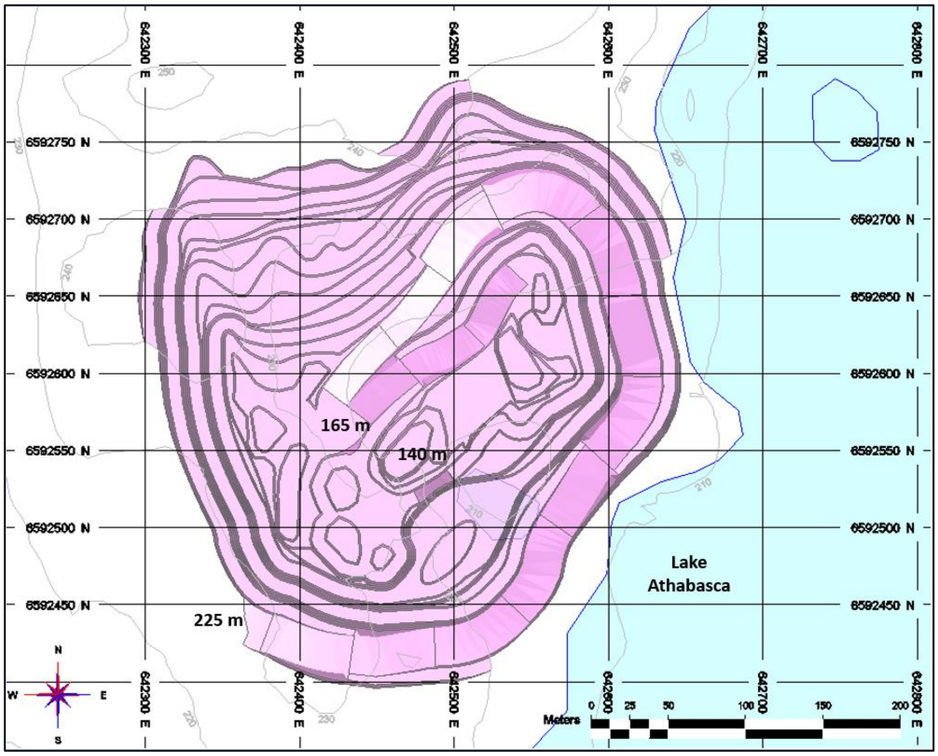
16.4.4.1 Athona Phase 1 Pit, ATP1

This phase targets the higher-grade, lower-waste mining ratio portion of the Athona deposit. The upper benches of this phase (240 masl to 210 masl) will be accessed via ex-pit ramps on the north and west sides of the pit. This phase mines from the pit ramp exit in the south of the pit at the 210 masl elevation down to a pit bottom on the 185 masl elevation. The main ramp runs downhill to the north in the middle of the pit.

16.4.4.2 Athona Phase 2 Pit, ATP2

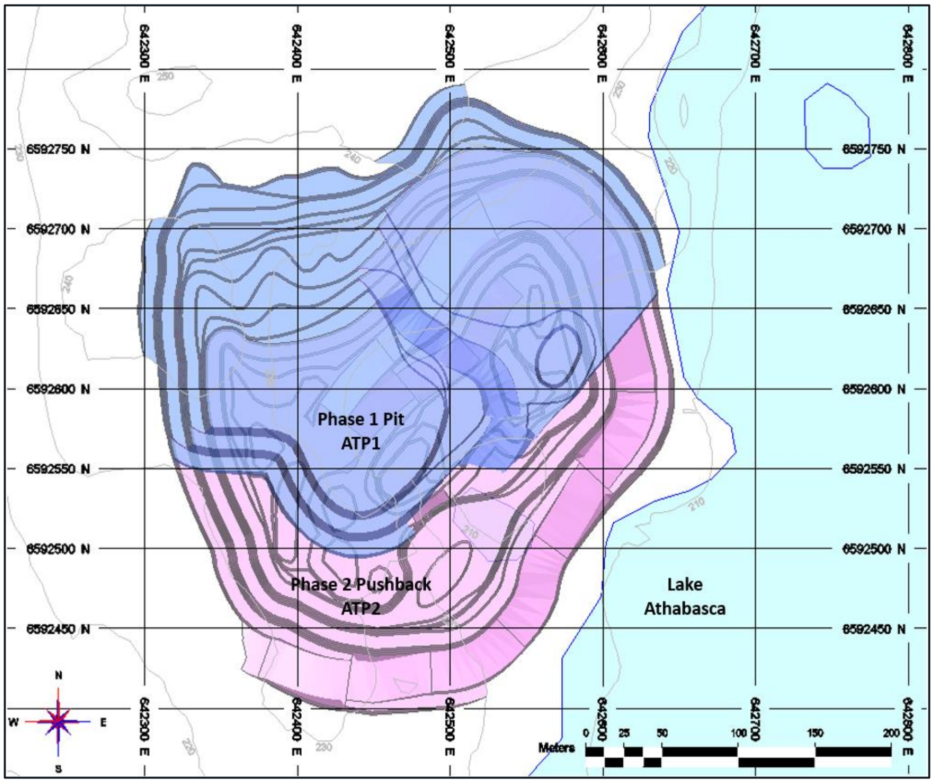
This phase pushes the pit to the south, targeting deeper, lower grade mineralisation. This phase mines from the pit exit at the 225 masl elevation in the southwest of the pit, down to several pit bottoms between the 160 masl and 140 masl elevations. The main ramp runs counter-clockwise down from the pit exit with a switchback to clockwise at the 165 masl elevation to access the various pit bottoms.

Figure 16-9: Athona Pit Design Phase 2 Pit, ATP2



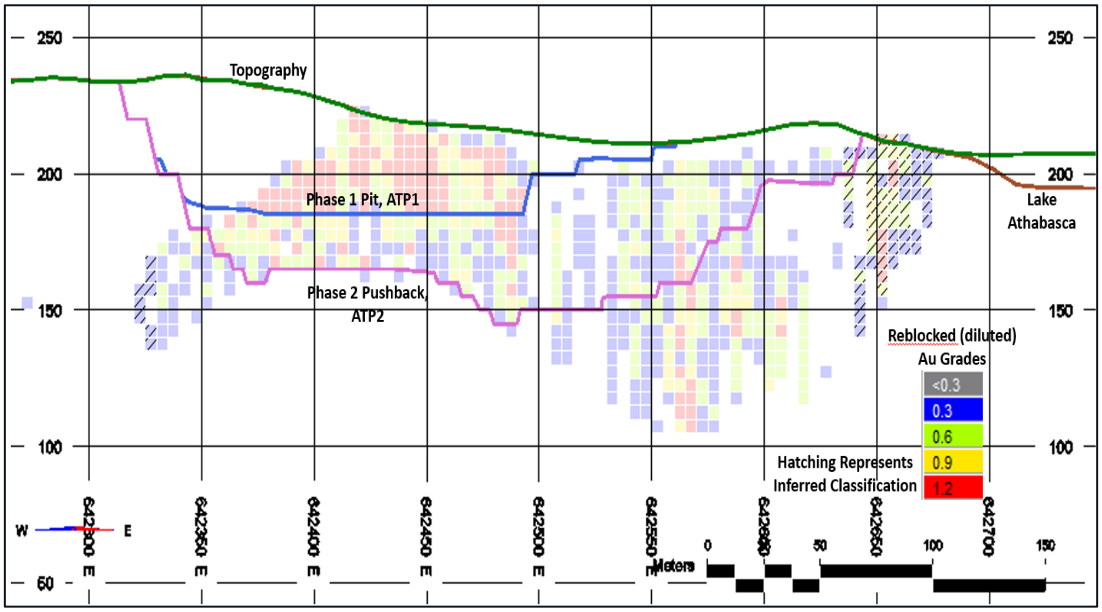
Source: Moose Mountain, 2022

Figure 16-10: Athona Phased Pit Designs



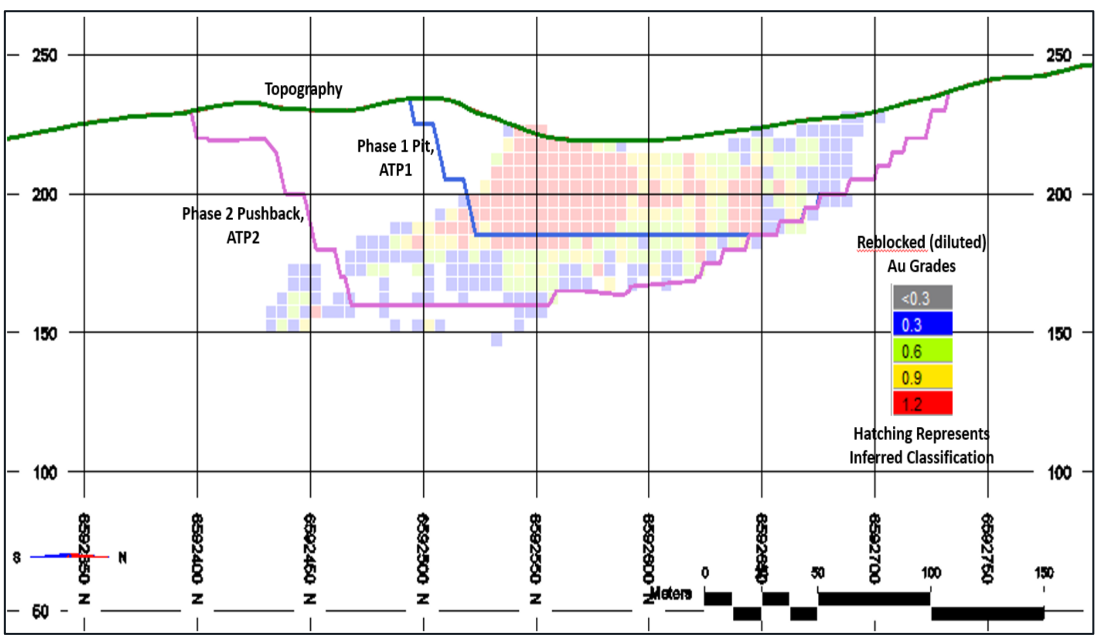
Source: Moose Mountain, 2022

Figure 16-11: Athona Pit Designs, West-East Section, 6,592,575N



Source: Moose Mountain, 2022

Figure 16-12: Athona Pit Designs, North-South Section, 642,440E



Source: Moose Mountain, 2022

16.5 Ex-Pit Haul Roads

Mine haul roads external to the open pits are planned to haul resource and waste materials from the open pits to the scheduled destinations. Routes for the ex-pit mine haul roads have been laid out with the following conceptual features:

- 31 m wide ex-pit haul roads that incorporate a dual-lane running width and berms on both edges of the haul road
- sized to handle 91 tonne payload rigid-frame haul trucks
- 8% maximum grade
- Maximizing fill construction with minimal cut requirements for construction
- Fill will be supplied as waste rock from the Box and Athona open pits
- Cut slopes of 45 degrees are assumed, with cuts generally under 5 m in height
- Fill slopes of 37 degrees assumed, at angle of response for the waste rock used to construct

The ex-pit haul road layouts are shown in the project layout drawing Figure 16-15.

16.6 Low Grade Storage Facilities

When resources are mined from the pit, they will either be delivered to the crusher, the ROM stockpile located next to the crusher, or the low grade stockpiles.

The crusher and ROM stockpiles are located 0.3 km northeast of the Box pit limits and 2.1 km northwest of the Athona pit limits.

Cut-off grade optimisation on the mine production schedule sends resource between 0.3 g/t and 0.70 g/t Au to multiple low grade stockpiles. Two stockpiles, located directly east of the ROM pad ("HGSP"), are planned to store excess mill feed material grading above 0.5 g/t Au mined during the first several years of the mine operations. A third low grade stockpile, located 1.6 km northeast of the Box pit and 1.6 km north of the Athona pit, is planned to store pit mined material grading 0.3 g/t to 0.5 g/t Au. These stockpiled resources are planned to be re-handled back to the crusher before the pits are exhausted.

Preliminary designs for these facilities are completed assuming:

- Bottom-up construction / top down reclamation
- 3:1 overall slopes
- Storage density of 2.04 t/m^3
- 20 m heights on free standing piles near ROM pad (255 masl and 240 masl crest heights)
- 35 m height on the lower grade pile built off a hillside to the north of the pile (280 masl crest height)

The low-grade stockpiles are shown in the project layout drawings in Figure 16-15.

16.7 Waste Rock Storage Facilities

Waste rock storage facilities are planned for waste materials mined from the open pits. Three separate facilities are planned for the Project.

The “Athona WRSF” facility is located directly north of the Athona pit and is planned to store any waste material mined from the Athona pit and not used for construction purposes. Topsoil and overburden salvaged from the Athona pit will also be stored in a segregated portion of the facility footprint, safeguarding availability of this material for use in the project closure phase.

The “WRSF-1” facility is located on Vic Lake (historical TSF) directly west of the Box pit. This lake, the site of historical mine tailings, will be drained and all waste rock will displace the volume left over. This facility will storage waste rock mined from the Box pit in the first year of operations.

The “Box Main WRSF” facility is located 1.3 km northeast of the Box pit and is planned to store any waste material mined from the Box pit and not used for construction purposes nor used to fill the WRSF-1 facility. Topsoil and overburden salvaged from the Athona pit will also be stored in a segregated portion of the facility footprint, safeguarding availability of this material for use in the project closure phase.

Preliminary designs for these facilities are completed assuming:

- Bottom-up construction
- 3:1 overall slopes
- Storage density of 2.04 t/m^3
- 20 m height on the Athona WRSF (240 masl crest height)
- 10 m height on the WRSF-1, above the existing water level on Vic Lake (240 masl crest height)
- Maximum 70 m height on the Box Main WRSF (315 masl crest height)

Based on preliminary geochemical characterization of the Box deposit, it is assumed that the waste rock from both deposits is net acid neutralising and there has been no consideration for segregation of different rock types in the planned storage facilities. Further test work and analysis is recommended to better classify waste materials according to acid generating potential, and to confirm that a blending strategy is the preferred method handling any potentially acid generating waste rock.

The Athona and Box Main facilities are planned to avoid existing waterbodies and water courses. The WRSF-1 facility will displace the existing Vic Lake (historical TSF).

Backfilling of the Athona pit was examined as an opportunity, as it is planned to be completely mined out in advance of the Box pit. Haul distances and haul cycle times from the Box pit to the Athona pit are less efficient than to the Box Main WRSF, requiring more resources to construct. Backfilling the Athona pit also has the potential to sterilize future economic resources, should they become available as the mine is developed.

Waste rock mined from both deposits is also used to construct the mine haul roads, described in Section 16.5. An allowance for waste rock mined from the Box pit is also included for use in building pads during the construction period. Waste rock from the Box pit is also planned to be used to support construction of the dam on the tailings storage facility. Details of this facility are described in Section 18.4.7.

The waste storage facilities are shown in the project layout drawings in Figure 16-15.

16.8 Production Schedule

Production requirements by scheduled period, mine operating considerations, product prices, recoveries, destination capacities, equipment performance, haul cycle times and operating costs have been used to determine the optimal production schedule from the phased pit contents.

The overall production schedule is tabulated and illustrated in Table 16-8 and Figure 16-13. Figure 16-14 provides an illustration of the projected material mined and waste:ore mining ratio.

The production schedule is based on the following parameters:

- The Mineral Resource and associated waste material quantities are split by pit phase and bench quantities.
- The operations are scheduled on annual periods.
- An annual mill feed rate of 2,737.5 kt/a (7.5 kt/d) is targeted.
- Mill throughput ramp up is assumed to occur in the construction phase, such that the first year of mill operations is at the target mill throughput. Low grade resources are planned to be stockpiled well in advance of the mill ramp up period.
- Within a given pit phase, each bench is fully mined before progressing to the next bench.
- Pit phases are mined in sequence, where the second pit phases do not mine below the first pit phases.
- Pit phase vertical progression is limited to no more than 40 m in each year; average annual phase progression is 25 m.
- Pre-production (Y-1) mining targets construction materials for haul roads, pads and the starter tailings dam.
- Resource tonnes released in excess of the mill capacity are stockpiled, including those mined in the construction phase.
- Low-grade resource is stockpiled and re-handled to the primary crushers later in the mine life.

Note that to smooth out the Au grade profile through Year 5 of the plan would require bringing significant volumes of waste stripping forward in time. A trade-off was carried out to demonstrate the economic benefit of delaying the waste stripping but producing the dip in mill feed Au grade in this period.

16.8.1 Mining Sequence

The pit operations will run for ten years, inclusive of one year of pre-production (construction phase). The Athona deposit pit will be exhausted in after five years of mill operations. The general mine sequence through the various pit phases is illustrated in Table 16-7. The final layout plan is illustrated in Figure 16-15.

Table 16-7: Pit Phase Sequence

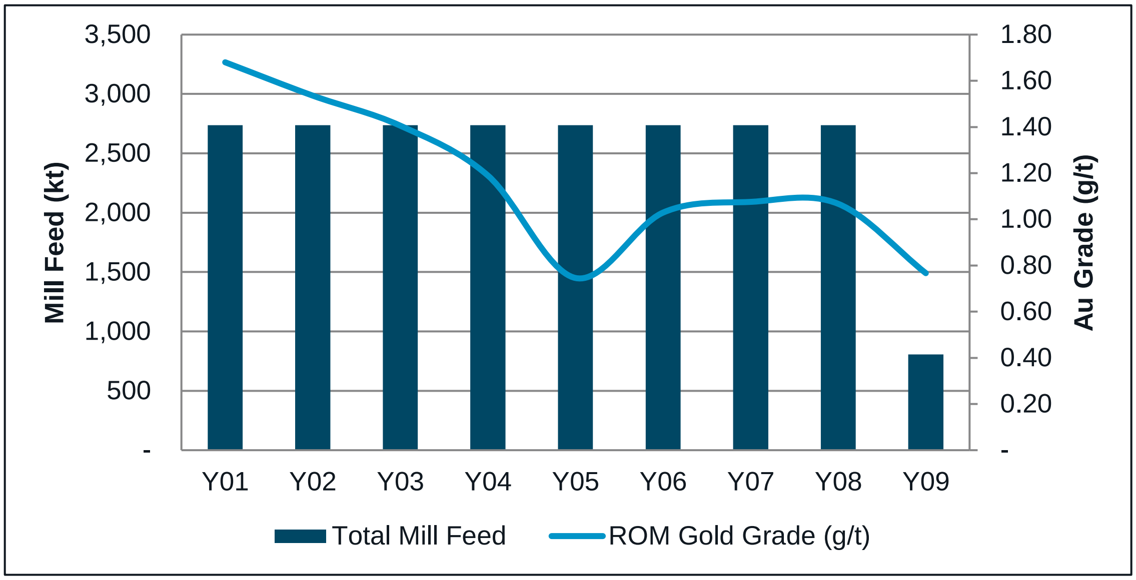
Phases Mined	Y-1	Y01	Y02	Y03	Y04	Y05	Y06	Y07	Y08	Y09
Box Phase 1										
Box Phase 2										
Box Phase 3										
Athona Phase 1										
Athona Phase 2										

Source: Moose Mountain, 2022.

Table 16-8: Mine Production Schedule

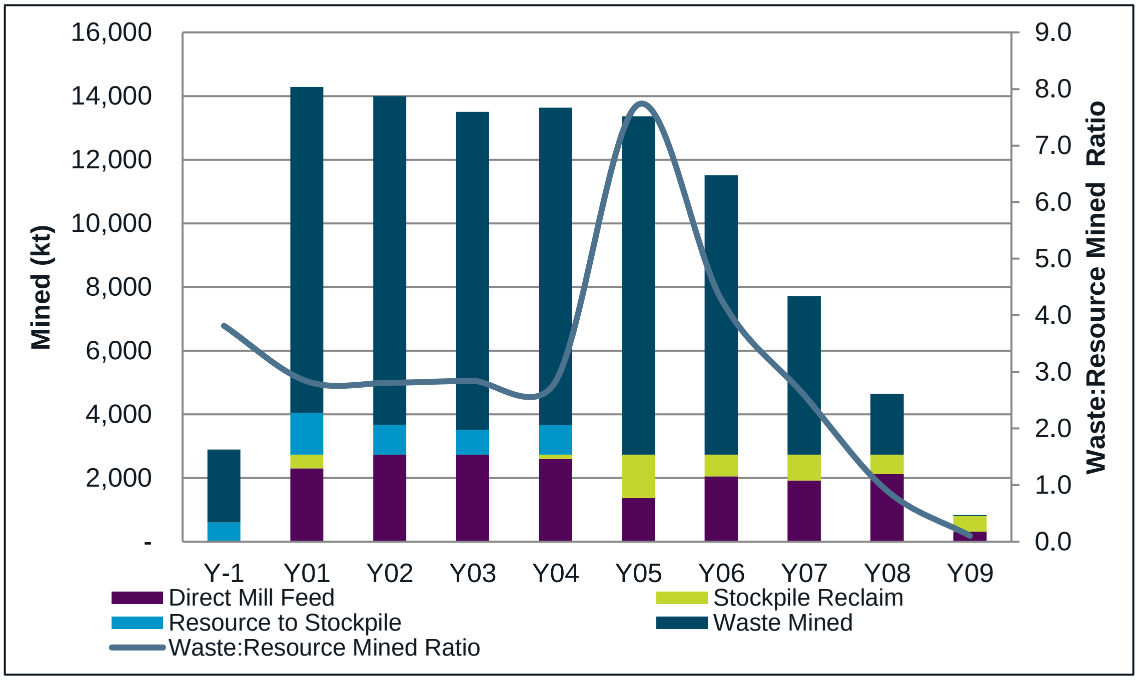
Total Mine Production	Year	LOM	Y -1	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
Mill Feed Quantity	kt	22,708	-	2,738	2,738	2,738	2,738	2,738	2,738	2,738	2,738	807
Mill Feed Au Grade	g/t	1.20	-	1.68	1.54	1.41	1.19	0.75	1.03	1.08	1.07	0.77
Mill Feed Au Metal	koz.	876	-	148	135	124	105	66	91	95	94	20
Resource Mined	kt	22,708	602	3,610	3,675	3,512	3,524	1,375	2,050	1,922	2,123	316
ROM Diluted Au Grade	g/t	1.20	1.34	1.26	1.26	1.18	1.00	0.96	1.24	1.36	1.26	1.34
Stockpile Retrieval to Mill	kt	4,548	-	438	-	-	138	1,363	688	816	615	491
ROM Diluted Au Grade	g/t	0.56	-	1.60	-	-	0.62	0.53	0.40	0.40	0.40	0.40
Waste Mined	kt	69,139	2,297	10,236	10,325	9,988	9,976	10,625	8,773	4,977	1,909	33
Total Mined from Pits	kt	91,848	2,900	13,846	14,000	13,500	13,500	12,000	10,823	6,899	4,031	349
Total Moved	kt	96,396	2,900	14,284	14,000	13,500	13,637	13,363	11,511	7,715	4,646	840
Box												
Mill Feed	kt	17,187	-	1,717	2,185	2,364	1,229	1,644	2,482	2,434	2,509	624
ROM Diluted Au Grade	g/t	1.28	-	1.83	1.55	1.45	1.42	0.83	1.09	1.16	1.13	0.88
Resource mined	kt	17,187	530	2,062	3,039	2,965	1,421	760	2,050	1,922	2,123	316
ROM Diluted Au Grade	g/t	1.28	1.40	1.38	1.24	1.23	1.27	1.18	1.24	1.36	1.26	1.34
Stockpile retrieval to mill	kt	-	390	-	-	91	884	432	512	386	308	-
ROM Diluted Au Grade	g/t	-	1.67	-	-	0.63	0.53	0.39	0.39	0.39	0.39	-
Waste mined	kt	64,589	1,837	9,031	9,448	9,234	9,018	10,328	8,773	4,977	1,909	33
Athona												
Mill Feed	Kt	5,522	-	1,021	553	374	1,509	1,094	256	304	229	183
ROM Diluted Au Grade	g/t	0.95	-	1.43	1.47	1.15	1.00	0.61	0.40	0.40	0.40	0.40
Resource mined	kt	5,522	72	1,549	636	547	2,103	615	-	-	-	-
ROM Diluted Au Grade	g/t	0.95	0.90	1.09	1.34	0.91	0.83	0.69	-	-	-	-
Stockpile retrieval to mill	kt	-	48	-	-	46	479	256	304	229	183	-
ROM Diluted Au Grade	g/t	-	1.10	-	-	0.60	0.51	0.40	0.40	0.40	0.40	-
Waste mined	kt	4,550	460	1,205	877	754	958	297	-	-	-	-

Figure 16-13: Mine Production Schedule, Mill Feed Tonnes & Grade (All Deposits)



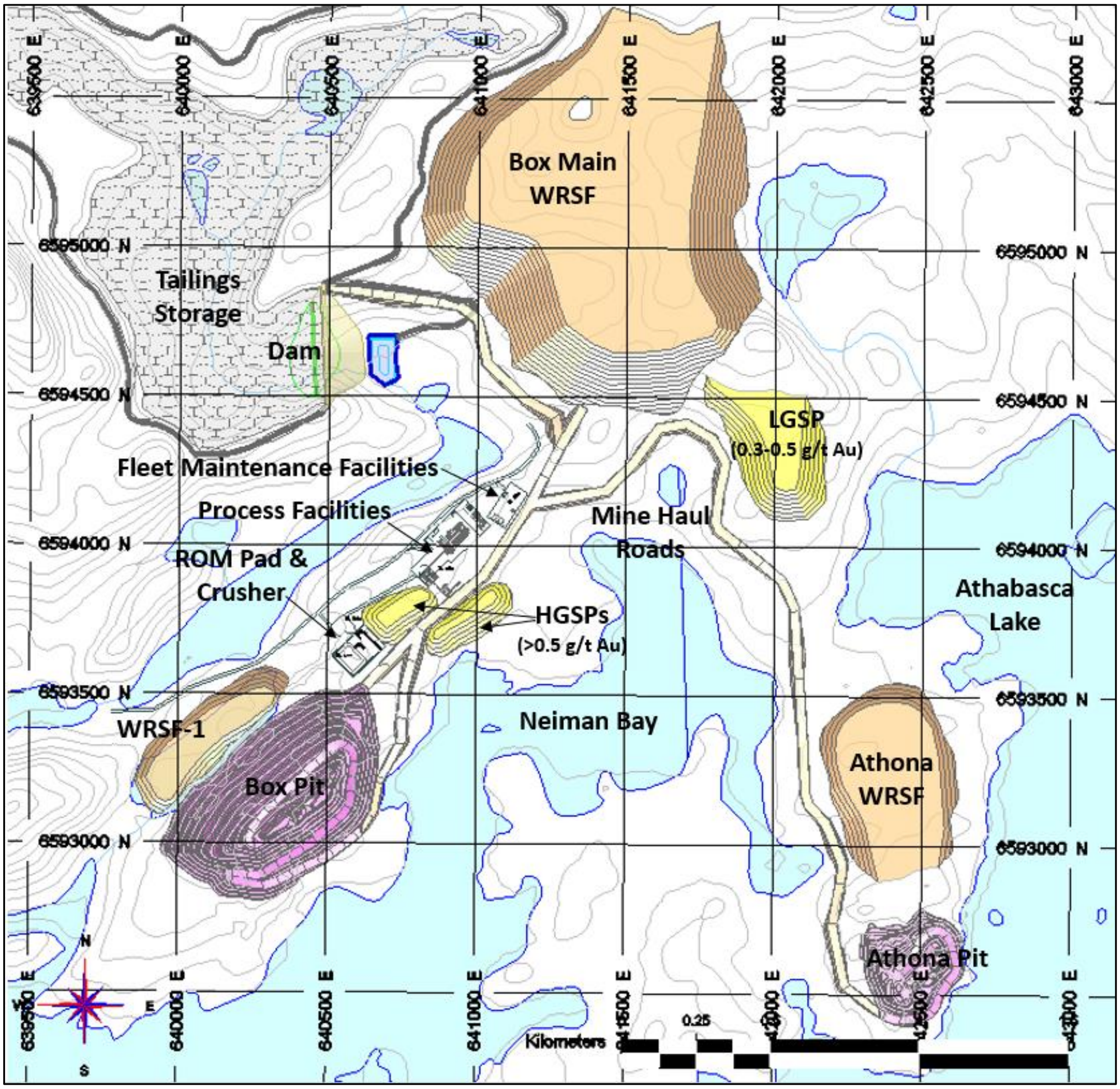
Source: Moose Mountain, 2022.

Figure 16-14: Mine Production Schedule, Material Mined & Waste Mining Ratio (All Deposits)



Source: Moose Mountain, 2022.

Figure 16-15: Goldfields Project Mine Operations PEA Layout



Source: Moose Mountain, 2022

16.9 Operations

Owner operated and managed open pit mine operations are planned to be typical of similar operations in Canada.

Grade control drilling is carried out to better delineate the resource in upcoming benches. A grade control system is planned to provide field control for the loading equipment to selectively mine resource-grade material separately from the waste.

In-situ rock is drilled and blasted on 10 m benches to create suitable fragmentation for efficient loading and hauling of both resource and waste rock. It is assumed that overburden material does not require blasting. Powder factors of 0.30 kg/t in resource and 0.25 kg/t in waste rock are proposed for all deposits. The blasting activities are planned to fall under a contract service agreement with the explosive supplier. Due to the remote site location, an onsite emulsion mixing plant and bulk storage of explosive product is planned. An onsite magazine is planned for initiation systems and packaged explosive products.

Loading in resource zones will be completed with a hydraulic excavator on 5 m benches, and in waste zones with a hydraulic excavator and a wheel loader on 5 m or 10 m benches, depending on grade control requirements.

Each deposit contains historical underground voids that should be mined out as much as possible, and backfilled when necessary for pit floor stability. The mine plan should avoid leaving any underground void openings behind interim or final pit walls.

Resource and waste rock will be hauled out of the pit and to scheduled destinations with off-highway rigid-frame haul trucks.

Mine pit services include:

- haul road maintenance
- pit floor and ramp maintenance
- stockpile and WRSF maintenance
- mobile fuel and lube services
- ditching
- dewatering
- secondary blasting and rock breaking
- snow removal
- reclamation and environmental control
- lighting
- transporting personnel and operating supplies

Direct mining operations and mine fleet maintenance are planned as an Owner's fleet; equipment ownership and labour are undercharged to mine operations.

Mining operations are based on 365 operating days per year with two 12-hour shifts per day. An allowance of 12 days of no production has been built into the mine schedule to allow for adverse weather conditions.

The number of hourly mine operations personnel, including maintenance crews, peaks at 112 persons. Due to the shift rotation, only one-quarter of full personnel complement will be on shift at a given time. Salaried personnel of approximately 25 persons will be required for mine operations, including the mine and maintenance supervision, mine engineering and geology.

16.10 Mining Equipment

The following mine equipment descriptions are based on typical fleet contingents utilized in the North American open pit mine operations. It should be expected that equipment specifications and fleet sizes will be refined with further project engineering and optimization.

Grade control drilling will be carried out with diesel hydraulic truck mounted RC drills. Production drilling will be carried out with 140 mm (5.5″) diesel driven down-the-hole (DTH) drills.

Reliable mining equipment commonly found in the construction and open pit mining industry has been selected for the loading and hauling fleet. Hydraulic excavators (8.0 m^3 bucket) are proposed based on their ability to minimise losses and dilution for the grade control operations. Front-end wheel loaders (14.0 m^3 bucket) are proposed based on their ability to load the haulers in three to four passes, and their ability to load the crusher when required. Rigid-frame haulers (91 tonne payload) are proposed to be flexible enough to use on the smaller pit benches and in selective mining scenarios but are not so small that the fleet size is excessive.

Graders will be used to maintain the haul routes for the haul trucks and other equipment within the pits and on all routes to the various waste storage locations and the crusher. Articulated trucks that are outfitted with a water tank (35,000 L) and gravel spreader are included for haul road maintenance. Track dozers (325 kW) are included to handle waste rock to the various construction and waste storage locations and to support the in-pit activities. Front-end wheel loaders (4.5 m^3 bucket) and hydraulic excavators (3.8 m^3 and 3.0 m^3 bucket) are included as pit support, grade control support, and general back-up loaders for the main fleet. Custom fuel/lube trucks are included for mobile fuel/lube support. Various small mobile equipment pieces are proposed to handle all other pit service and mobile equipment maintenance functions.

Pits will be dewatered with conventional dewatering equipment (submersible pumps placed in pit bottom sumps or in underground workings). Preliminary pit inflows of 7,500 m^3 per day are estimated for both pits combined. It is recommended to conduct additional hydrogeologic test work and analysis to further refine this estimate in future mine planning. Specific risk exists if there is hydraulic conductivity between Athabasca Lake and the open pits. Pit water will be pumped to collection ponds adjacent to the pits, where it will be managed as per the overall site water management plan as described in Section 18.4.7.

Mine fleet maintenance activities are generally performed in the maintenance facilities located near the plant site.

Primary mining equipment requirements are summarised in Table 16-9. The equipment classes, as well as number of units, are preliminary scoping level estimates, and modifications in future studies should be anticipated.

Table 16-9: Primary Mining Fleet Schedule

	Y -1	Y01	Y02	Y03	Y04	Y05	Y06	Y07	Y08	Y09
Drilling										
Diesel DTH tracked drill 140 mm (5.5") holes	1	3	3	3	3	3	3	2	1	1
Loading										
Wheel loader 14.0 m^3 bucket	0	1	1	1	1	1	1	1	1	1
Hydraulic excavator 8.0 m^3 bucket	1	2	2	2	2	2	2	2	1	1
Hauling										
Rigid frame haul truck 91 t payload	3	6	8	8	8	8	8	6	6	3

17 RECOVERY METHODS

17.1 Overview

The PEA process design is based on treating mineralized material from the Box and Athona open pit mines through leaching to produce gold doré bars. The process design is based on the testwork discussed in Section 13. Ausenco's extensive database of reference projects, and inhouse modelling programs.

Key operating criteria for the process plant are listed below:

- Nominal throughput of 7,500 t/d or 2.7 Mt/a
- Crushing plant availability of 65%
- Plant availability of 92% for grinding, leach plant and gold recovery options
- Plant design grade of 2 g/t with an allowance to accommodate feed grade variations

17.2 Process Design Criteria

Key process design criteria listed in Table 17-1 were derived from testwork conducted at SGS Labs in 2016.

Table 17-1: Process Design Criteria

Description	Units	Value
Throughput	Mt/a	2.7
Throughput	t/d	7,500
Gold Grade - LOM	g/t	1.20
Gold Grade – Design	g/t	2.06
Material Specific Gravity	t/m^3	2.7
Moisture Content	%	3.0
Crushing Area Availability	%	65
Process Plant Availability	%	92
Bond Ball Mill Work Index (BWi)	kWh/t	16.0
Bond Abrasion Index (Ai)	g	0.950
Primary Grind Size	µm	170
Leach Residence Time (total)	h	32
CIP Residence Time (total)	h	7.4
Gravity Gold Recovery (design)	%Au	25.0
Total Gold Recovery (design)	%Au	96
Leach Residence Time	h	39.4
Leach-CIP Extraction	% Au	96
Leach-CIP Operating Density	%w/w	43

Description	Units	Value
CIP Carbon Concentration	g/L	20
Leach Sodium Cyanide Addition	Kg/t	0.5
Leach Hydrated Lime Addition	$Ca(OH)_2$ kg/t	0.5
Leach & CIP Tanks	#	4 + 6
Tonnes per Carbon per Elution Column	t	5
Cyanide Detoxification Method	-	SO_2/Air
Cyanide Detoxification Residence Time, design	min	90
Cyanide Detoxification SO_2 Addition, design	SO_2:CN_{WAD} ratio (w/w)	5.0
Cyanide Detoxification Lime Addition, design	$Ca(OH)_2$:CN_{WAD}	5.0
Cyanide Detoxification Discharge CN_{WAD}, design	Mg/L	<10

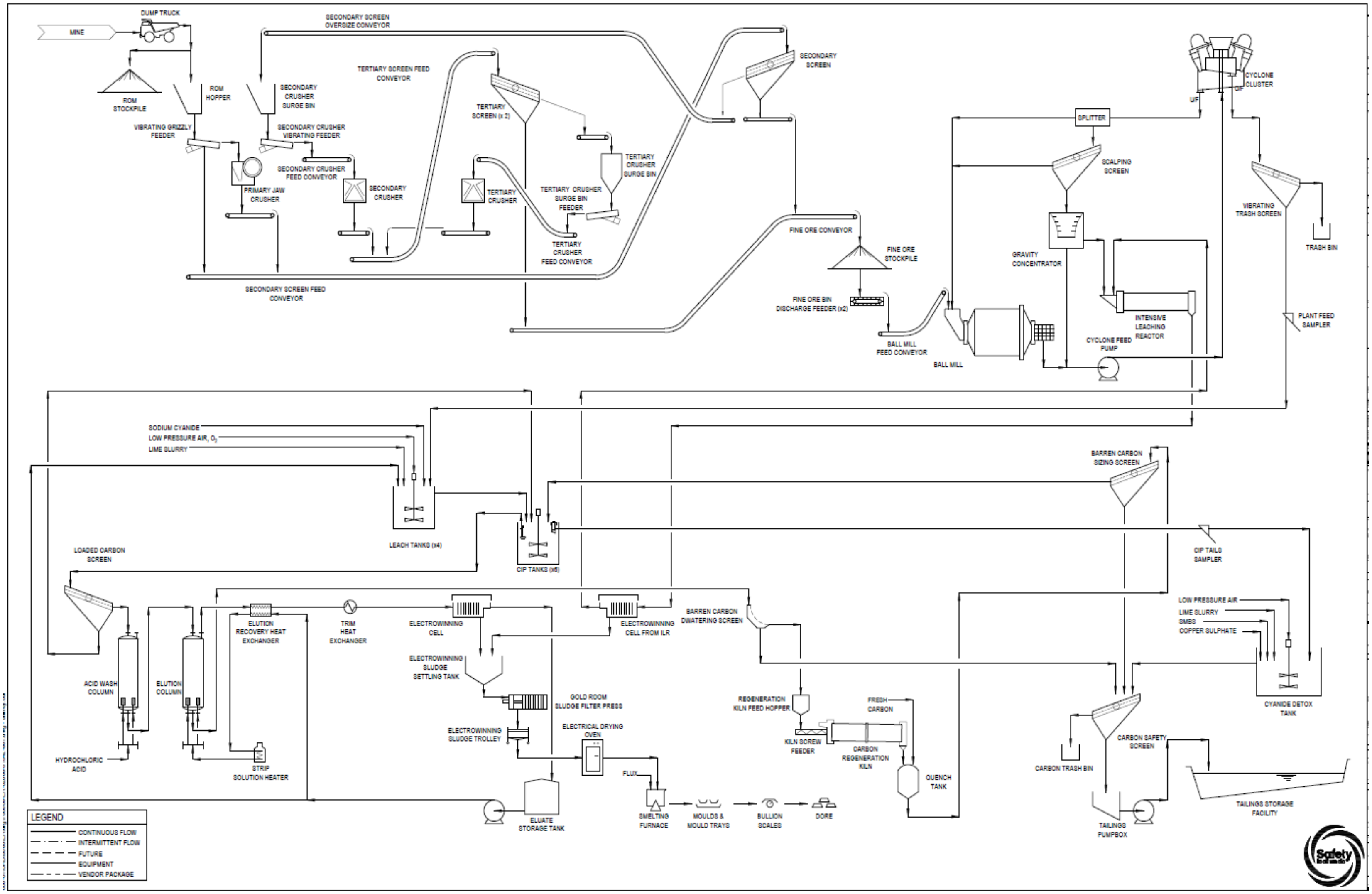
17.3 Process Flowsheet

The process plant includes the following:

- Three stages crushing of run-of-mine (ROM) material
- Ball mill with trommel screen followed by cyclone classification
- Gravity recovery of cyclone underflow followed by intensive cyanidation of the gravity concentrate and electrowinning of the pregnant leach solution.
- Trash screening
- Leach + Carbon in pulp adsorption (L/CIP)
- Acid washing of loaded carbon and Pressure Zadra type elution followed by electrowinning and smelting to produce doré
- Carbon regeneration of rotary kiln
- Cyanide destruction of tailings using the SO_2/air process
- Carbon safety screening
- Tailings storage facility
- Reagent storage and distribution
- Water and air services
- Potable water distribution

The overall flowsheet for Goldfields Project is shown in Figure 17-1 and described in detail in the following sections.

Figure 17-1: Process Flowsheet



Note: Figure prepared by Ausenco, Aug, 2022.

17.4 Process Description

17.4.1 Three stage Crushing & Stockpiling

Material is hauled from the mine and tipped either directly into the primary crusher ROM hopper or to the stockpile. Material from the ROM hopper is passed through a vibrating grizzly feeder and crushed using the primary jaw crusher. The primary crusher product combines with the grizzly undersize and is conveyed to the secondary screen. The secondary screen oversize is fed to the secondary crusher and the crushed product is fed to the tertiary screen. The tertiary crusher operates in a closed circuit with a tertiary screen. The combined undersize from both secondary and tertiary screen is conveyed to the mill feed stockpile.

17.4.2 Grinding Circuit

The grinding circuit consists of a ball mill in closed circuit with hydrocyclones. The ball mill slurry discharges through a trommel where the undersize discharges into the cyclone feed pumpbox. The gravity tailings discharge to the cyclone pumpbox.

Water is added to the cyclone feed pumpbox to obtain the required cyclone feed density. This hopper also has a dedicated pump to feed the gravity circuit scalping screen. Cyclone overflow gravitates over the trash screen. The trash screen oversize is collected in a bin and removed periodically. Trash screen undersize reports to the leach/CIP circuit.

17.4.3 Gravity circuit

Feed to the circuit is pumped from the cyclone feed pumpbox via a dedicated pump to the scalping screen. Gravity scalping screen oversize reports to the ball mill feed and Scalping screen undersize is fed to the gravity concentrator.

The gravity tails directs the material to the cyclone feed pumpbox. The gravity concentrate is leached in a intensive cyanidation reactor.

17.4.4 Intensive Leach Reactor

Concentrate from the gravity circuit reports to the intensive leach reactor (ILR). ILR solution (mixture of NaCN, NaOH and leach aid diluted in fresh water) is made up within the heated reactor vessel feed tank. The reagent mixture is pumped to the bottom of the ILR cone producing a fluidized bed. Overflow returns to the solution tank. The pregnant leach solution is pumped to the gold room for electrowinning and refining. The barren solids are pumped back to the cyclone feed pumpbox.

17.4.5 Leach/CIP Circuit

The leach/CIP circuit consists of four leach tanks and six carbon-in-pulp (CIP) tanks, providing total retention time of 40 hours at 43% w/w solids density. Trash screen undersize flows to a pumpbox and is then pumped to the leach circuit. Barren solution from electrowinning cells is periodically transferred to the leach circuit.

Hydrated lime is added to adjust the operating pH to the desired set point of 10.5-11 and cyanide solution is added to the first leach tank. Fresh/regenerated carbon from the carbon regeneration circuit is returned to the last CIP tank and is advanced counter-currently to the slurry flow by pumping slurry and carbon. Slurry from the last CIP tank flows to the cyanide detoxification tanks.

The intertank screen in each CIP tank retains the carbon whilst allowing the slurry to flow to the downstream tank. This counter current process operated until the gold loaded onto carbon in the leach tank reaches its target concentration and is sent to acid wash columns. Impeller pumps are used to transfer slurry between CIP tanks and from the lead tank to the loaded carbon screen mounted above the acid wash column in the elution circuit.

17.4.6 Cyanide Destruction

CIP tailings at 43% w/w solids flow to the cyanide detoxification tank with total residence time of approximately 90 mins. Cyanide detox reduces weak acid dissociable cyanide (CN_{WAD}) concentration from approximately 150 mg/L to less than 10 mg/L to comply with environmental requirements prior to deposition in the TSF.

Cyanide destruction is based on the SO_2/air method. Air, lime, copper sulphate and sodium metabisulphite (SMBS) are dosed in the detox tank to react with the cyanide. The detox tank agitators provide a high degree of mixing to ensure the reaction proceeds to completion.

Detox tailings report to the carbon safety screen. Safety screen undersize feeds the tailings pumpbox, while oversize (recovered carbon) is collected in a fine carbon container and sold.

17.4.7 Carbon Acid Wash, Elution & Regeneration Circuit

17.4.7.1 Carbon Acid Wash

Loaded carbon from the first CIP tank is pumped onto the loaded carbon recovery screen and flows by gravity to the acid wash column. Prior to gold elution, loaded carbon is treated with weak hydrochloric acid solution to remove impurities that could render the elution less efficient.

The carbon is soaked in the hydrochloric acid solution for a predetermined time. Post soaking stage, the spent acid is transferred to the cyanide destruction tank along with water used for washing the carbon to remove any retained acid.

The acid-washed carbon is then hydraulically transferred to the elution column for gold stripping.

17.4.7.2 Carbon elution & Electrowinning

The gold stripping (elution) circuit uses the Pressure Zadra process.

A high-cyanide, caustic solution is recirculated through a pressure elution column at 140°C to strip the precious metals from the carbon. The precious metal-rich solution exchanges heat with barren solution going to the column. Cooled rich solution flows through electrowinning cells to electro-deposit the gold on the cathodes and the barren solution is recycled back to the elution column.

17.4.7.3 Gold Room

Gold is recovered from the electrowinning cells and smelted to produce doré bars. Separate electrowinning cells are used for the ILR pregnant solution and the carbon elution pregnant solution.

Gold-rich sludge is washed off the steel wool cathodes in the electrowinning cells using high pressure spray water and gravitates to the sludge hopper. The sludge is filtered, dried, mixed with fluxes and smelted in an electric induction furnace to produce gold doré. The electrowinning and smelting process takes place within a secure and supervised gold room equipped with access control, intruder detection and closed-circuit television equipment.

17.4.7.4 Carbon Reactivation

The eluted or stripped carbon is pumped over a dewatering screen and into the kiln feed hopper, which feeds an electric rotary kiln. The kiln is operated at 650°C to 750°C with an atmosphere of steam to restore the carbon activity.

Carbon discharging from the kiln is quenched in water, make-up carbon is added to the circuit at the carbon quench tank as well. The new carbon is then transferred along with the regenerated carbon to feed the carbon sizing screen located on top of the CIP tanks. The oversize reports to the CIP tank while the undersize is sent to container for possible sale depending on metal content or tailings.

17.4.8 Reagent Handling & Storage

The following reagent systems are considered in the plant for processing of the mineralized material:

17.4.8.1 Hydrated lime

Hydrated lime is received on site in dry form as a 1 tonne bag. The lime will be mixed with water to create a slurry with a 25% by weight density. The slurry is stored in a tank with an 8-hour residence time and is circulated by dosage pumps to the leaching and cyanide detox circuit when needed. Annual consumption ~ 3,730 t.

17.4.8.2 Sodium cyanide

Sodium cyanide is used as a leaching reagent. Cyanide is delivered to site as solid briquettes in 1,000 kg bulk bags. Once on site, the briquettes are mixed with caustic soda and water in a mixing tank to produce solution containing 20% by weight sodium cyanide. The solution is transferred to the cyanide solution storage tank and supplied to the process by dosing pumps. Annual consumption ~1,490 t.

17.4.8.3 Sodium hydroxide

Sodium hydroxide is used as a pH modifier in the elution columns and electrowinning cells. The reagent is delivered to the site as a solution and mixed with water to create a slurry with a density of 35% by weight. The slurry is stored in a tank with an 8-hour residence time and is circulated around the process plant by dosage pumps. Annual consumption ~400 t.

17.4.8.4 Hydrochloric acid

Hydrochloric acid is received on site as a liquid in 1,000 L intermediate bulk containers. Dosing pumps deliver this reagent to the acid wash columns for carbon washing. Annual consumption ~350 t.

17.4.8.5 Sodium metabisulphite

Sodium metabisulphite is used as an oxidizing agent in the cyanide destruction process. The reactant is mixed to 20% strength, stored in a tank with an 8-hour residence time and circulated using dosing pumps. Annual consumption ~4,460 t.

17.4.8.6 Copper Sulphate

Copper sulphate is received on site in solid form as penta-hydrate. The activator is mixed with water to prepare a solution with 20% by weight in an agitated tank. Copper sulphate is used as a catalyst in the cyanide destruction process. Annual consumption ~60 t.

17.4.8.7 Activated carbon

Activated carbon is used in the CIP circuit as a gold adsorbent. It is delivered on site as granules in bulk bags. Fresh carbon is added to the quench tank and supplied to CIP tanks. Annual consumption ~60 t.

17.4.9 Plant Services

17.4.9.1 Process Water

Process water is recovered from the TSF for reuse. Approximately 3.5 M(m^3) per year (or roughly 396.2 m^3/hr) of process water is recycled from the TSF. Process water is distributed around the plant from the process water tank.

17.4.9.2 Raw Water

Raw water will be pumped from Neiman Bay, located in Lake Athabasca into the raw water tank, with a live capacity of 8 hours. Raw water is distributed by pumps that operate in continuous recirculation with the tank. Approximately 0.7 M(m^3) of raw water is required per year (or 76.1 m^3/hr) for makeup to the process plant.

17.4.9.3 Fire Water

Fire water is also sourced from the Neiman Bay, located in Lake Athabasca and stored in the reserved lower portion of the raw water tank. A pump skid with a dedicated electrical pump, jockey pump and diesel pump, supplies a water distribution system for the processing plant.

17.4.9.4 Potable Water

Potable water is produced by an on-site potable water plant which processes water from the raw water tank and makes it fit for consumption and human use. Potable water is stored in a tank for distribution to the processing plant.

17.4.9.5 Gland Seal Water

Gland seal water is taken from the raw water tank and pumped to various pumps throughout the processing plant, including sump pumps.

17.4.9.6 Power

The peak energy required for operation of the process plant is 9.6MW and the operating load is 8.8MW. Further discussion on the power requirements are included in section 18.4.2.

18 PROJECT INFRASTRUCTURE

18.1 Introduction

Infrastructure to support the Goldfields Project will consist of site civil work, site facilities/buildings, onsite roads, water management system, barge loading facility, and electrical power. Site facilities will include both mine facilities and process facilities, as follows:

- mine facilities include the administration offices, truckshop and wash bay
- process facilities include the process plant, crusher facilities, process plant workshop, and assay laboratory, tailings storage facility (TSF) and waste rock storage facility (WRSF)
- common facilities include a gatehouse, barge loading facility and administration building
- both the mine facilities and process facilities will be serviced with potable water, fire water, compressed air, power, diesel, communication, and sanitary systems

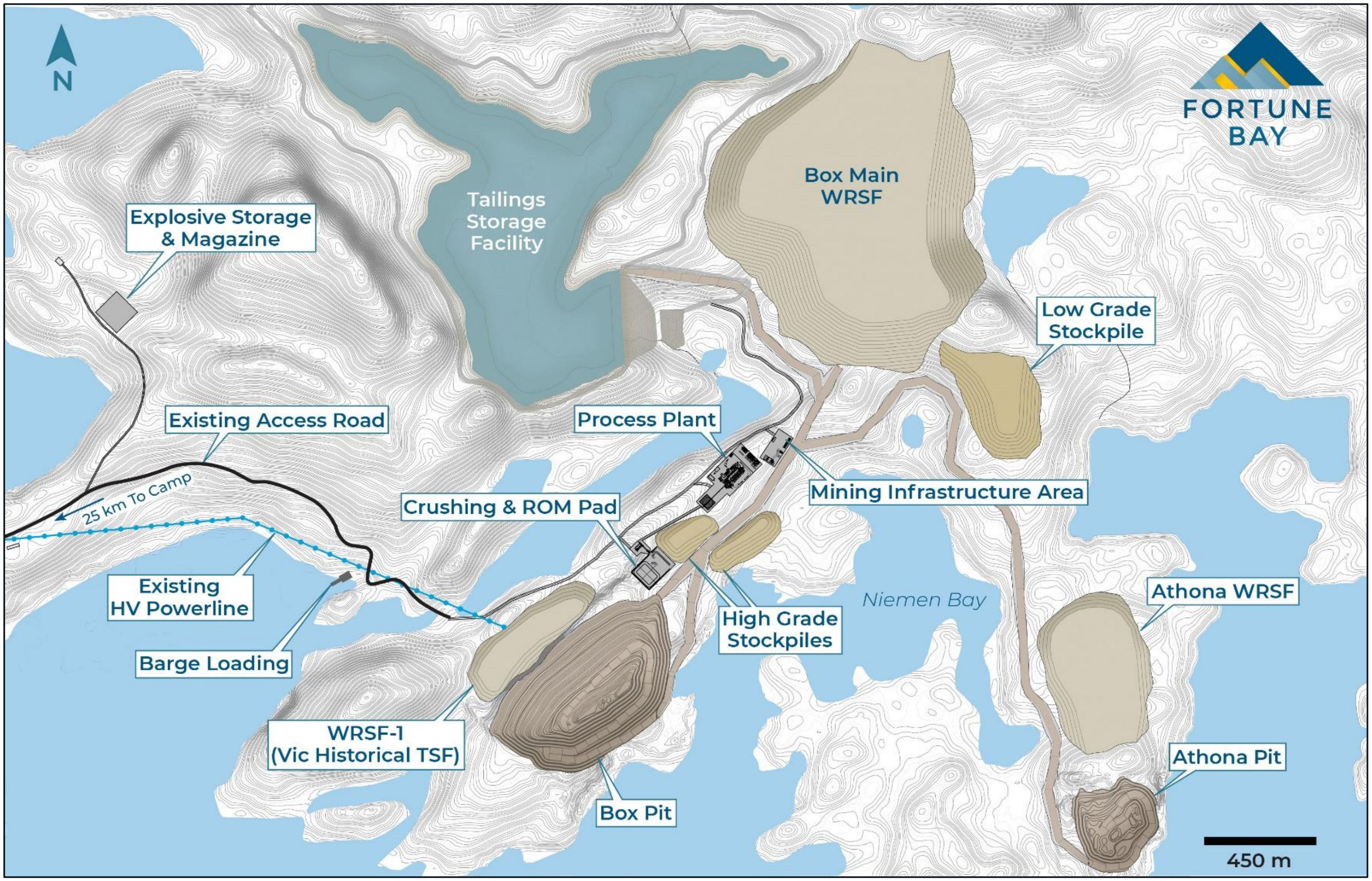
18.2 Overall Site Layout Development

Site selection was based on the following observation and factors:

- select a site within Fortune Bay's claim boundary
- avoid building and stockpiling on wetlands to the extent possible
- locate the primary crushing and run-of-mine pad to reduce hauling from both pits over the life of mine
- locate the process plant in an area with reduced risk of flooding
- assess the use of Vic Lake (historical TSF) for storing tailings to reduce the TSF footprint
- two separate waste rock facilities, one close to Box pit and other close to Athona pit to reduce the waste haulage distance
- locate the barge loading facility closer to the main access road since the barge will be mainly used for transportation of fuel and explosives, both easily accessible by the main access road
- take advantage of the natural terrain for TSF location
- arrange the administration building, processing plant and offices in close proximity

The Goldfields site layout is shown in Figure 18-1.

Figure 18-1: Infrastructure Layout Plan



Source: Ausenco, 2022

18.3 Off-site Infrastructure

18.3.1 Site Access

The project site is located 25 km from Uranium City and can be accessed year-round by road via Highway 962. Access to Uranium City is limited to air, barge and winter ice road.

The Project can be accessed by commercial flights departing from Stony Rapids, Points North Landing, Prince Albert, and Saskatoon airports to Uranium City air strip which is accessible year-round.

During the winter months (January – April), an ice road is built from Stony Rapids to Uranium City. The ice road is built and managed by Athabasca Basin Development Limited Partnership with funding provided by Government of Saskatchewan. During the summer months (May – December), a barge will be operated between Stony Rapids and the project site for transportation of materials. There is an approximate 6 week period at the beginning of winter when the site cannot be accessed either with the barge or the winter roads due to the start of ice formation and also at the end of winter when the ice roads starts to melt. The fuel storage, reagent storage and explosive storage has been designed considering the supply interruption during this period.

18.3.2 Water Supply

A Water Rights Licence for Industrial Water Use needs to be submitted and approved by the Water Security Agency (WSA) of Saskatchewan. The fresh water will be sourced from Neiman Bay, located in Lake Athabasca. The water will be transported through pumps. Approximately 400 m of an insulated pipeline will be installed from Neiman Bay to the mine site. This water will be the source of potable water on site, used for the building facilities and the process plant.

18.3.3 High Voltage Power Supply and Distribution

The Project will be grid-powered all year round. There is an existing high voltage power line of 115 kV along Highway 962. The current high-voltage powerline needs approximately 10 km of refurbishment to supply power for project operation. The high-voltage powerline will connect to the electrical substation onsite, which will then be distributed to the different facilities on site. Power will be supplied from the SaskPower grid, which has sufficient capacity to supply power to the Project all the year.

18.3.4 Logistics

From January to April, the Project can be accessed by an Ice Road from Stony Rapids to Uranium City. From May to December, a Barge from Stony Rapids to Uranium City on Lake Athabasca will be used for transporting approximately 500K litres of diesel and approximately 175 tonnes of explosive every two weeks. The barge will be loaded at Stony Rapids, where there is an existing berth and unloaded at the mine site where a new berth will be built. A single barge will be sufficient to service the site demands.

At the beginning and end of winter, there is an approximate 6-week period when the barge does not operate. Sufficient storage capacity has been planned to cover this period. Also, 25 km of Highway 962 from Uranium city to the mine site will be used to transport supplies for the mine site. Construction materials, fuel, and explosives will be transported by barge or road. An airstrip already exists in Uranium City, and Personnel will be flown to Uranium City.

18.4 On-site Infrastructure

18.4.1 Site Preparation

The Site Access Road will be connected to the onsite road to provide access to the project site. The typical method of clearing, topsoil removal, and excavation will be employed. Existing infrastructure present on site is considered as scrap which will be demolished and disposed of in WRSF-1. The preliminary site development will include drains, safety bunds, and backfilling with granular material and aggregates for road structure. Vegetation and topsoil removal is expected to be required to allow for construction of the processing plant and other buildings and facilities. Site civil work includes design for the following infrastructure:

- roads for light vehicles and heavy equipment;
- access roads;
- topsoil and overburden stockpile area;
- mine facility platforms and process facility platforms;
- ROM stockpile area;
- WRSF area;
- Water Management Facilities, ditches, and drainage channels; and
- TSF area.

18.4.2 Power Distribution

The maximum power demand for the project is 11.6MW and the operating load is 10.7MW. The HV powerline supplying the grid power will be connected to the 115kV/13.8kV substation on site. The 4.16kV transformers will step down the power before distributing it to the various areas of the project which includes the process plant, buildings, lighting across the site and pit dewatering pumphouse. Power to the magazine and explosive mixing building will be supplied by diesel generators.

18.4.3 Onsite Roads

The project site has unpaved roads connecting the Access Road to the Gate House. A network of new roads will be built within the project site which includes a 4-km road connecting the Administration Building to the Gate House, 1.5 km of road from the Process Plant to the TSF, and 1.5 km branching out from the Main Access Road to the Magazine.

18.4.4 Fuel

Due to the Project being in a remote area with limited access, fuel will be stored on site in a diesel tank farm. Although two weeks of storage is sufficient for the most part of the year, due to restricted access at the beginning and end of winter, six weeks of storage is planned in 15 tanks, each with 100,000 L of capacity. The infrastructure will include a pad for building the farm.

18.4.5 Buildings

18.4.5.1 Accommodation

Accommodations will be in a permanent camp of 300 individual-type dormitories in Uranium City. The camp will be built during the construction period and will be converted to a permanent camp when the production commences. The camp will consist of a kitchen, dining area, recreation room, and a boot and jacket room for personnel to enter or leave the accommodations. Fire protection and alarm systems are also included.

Since the camp is located outside the mining operation, workers must be transported from Uranium city to the Project on a work rotation basis. The site is connected by road to Uranium City and the personnel will be transported by bus year-round.

18.4.5.2 Truck Shop/Truck Wash

The truck shop and wash area are pre-engineered construction with a concrete floor, overhead crane, overhead doors, fire protection, and alarm systems. It comprises three bays: one for mine haul trucks (90 t payload class), one for maintenance of light vehicles, and one for general storage/repair purposes. The truck wash consists of one bay. This area consists of a total of 969 m^2. The description of the truck shop and truck wash is shown in Table 18-1.

18.4.5.3 Explosive Magazine

The magazine, which will store boosters, detonators, and packaged explosives, is sized for 6,000 kg storage. The description and dimensions of the magazine is shown in Table 18-1. The magazine will be separated from the bulk emulsion area and other infrastructure. The total area of the magazine is 600 m^2.

18.4.5.4 Explosive Mixing Plant

The mixing plant is sized to store an inventory of six weeks of mining operations, equating to a bulk storage of approximately 500,000 kg. The description of the explosive mixing plant is shown in Table 18-1.

18.4.5.5 Mine Office

The mine offices are connected to the truck shop area. These offices/workspaces are designed for 20 people covering maintenance, operations, engineering, and geology (based on a mine staff personnel list of 20 on rotational work schedules). The design includes a meeting room for each department, a change facility/dry for a workforce of 300 on rotational work schedules, and fire protection and alarm systems. The description of the mine office is shown in Table 18-1.

18.4.5.6 Primary Crusher Area

The crushing facility will be located next to the Box Pit and the high-grade stockpile. This area will consist of a three-stage crushing circuit that will process the ROM mineralized material that will later be transported through a conveyor to a stockpile. The description of the primary crusher building is shown in Table 18-1.

18.4.5.7 Process Plant

The process plant will house milling, gravity, leaching and CIP tanks and the carbon acid wash and elution circuit. It is divided into four sections. The first section will contain the mill cyclone cluster and gravity concentrator; the second will contain the leaching, CIP, and water tanks. The third section consists of the carbon acid wash and elution area. Finally, the fourth area will consist of the gold room. Overhead cranes will service all the sections of the processing plant. The building will be heated using electrical space heaters. The description of the process plant – mill area is shown in Table 18-1.

18.4.5.8 Assay Laboratory

It is located close to the mine offices. This area comprises a storage area, office, scale room, atomic absorption spectroscopy room, sample preparation area, chemical and metallurgical laboratory. It consists of a one-storey building. This area requires bottled nitrogen and hoods with vents. Fire protection and alarm system. The dimensions of the assay laboratory are shown in Table 18-1.

18.4.5.9 Plant Warehouse/Workshop

This area will be located between the process plant and the main administration building. It will consist of a concrete floor, overhead doors, fire protection and alarm systems. The description of the plant warehouse and workshop is shown in Table 18-1.

18.4.5.10 Main Administration Building

This is planned to comprise two levels, with change/lunch facility, offices, meeting rooms, washrooms, desks, fire protection and alarm systems. The main administration building includes the plant office and the control room.

Security and medical facilities will also be located in this area. It will consist of rooms for luggage and personnel screening during rotations in/out of the mine site. First aid and emergency response rooms for on-site medical treatment and headquarters for a mine rescue team are included, along with fire protection and an alarm system. The description of the main administration building is shown in Table 18-1.

Table 18-1: On-site building description

WBS	Building Name	Construction Type	L (m)	W (m)	H (m)	Area (m^2)
1300	Truck Shop/Truck Wash	Pre-Engineered	57	17	11	969
1800	Explosive Magazine	Modular	20	30	4	600
1800	Explosive Mixing plant	Pre-Engineered	120	120	4	14,400
3400	Mine Office	Pre-Engineered	24	20	4	482
3400	Primary Crusher Area	Pre-Engineered	29	22	13	638
3400	Process Plant - Mill Area	Pre-Engineered	29	52	23	1,508
3400	Assay Laboratory	Modular	14	11	4	154
3400	Plant Warehouse / Workshop	Pre-Engineered	20	32	9	624
3400	Reagent storage	Pre-Engineered	20	10	4	200

WBS	Building Name	Construction Type	L	W	H	Area
			(m)	(m)	(m)	(m^2)
3400	Permanent Camp	Modular	-	-	-	
3400	Security / Medical Facilities	Modular	-	-	-	21
3400	Plant Office	-	27	24	4	648
3400	Plant Control Room	Modular	12	3	2	36
3400	Main Administration Building	Modular	26	17	4	442
3400	Gate House	Modular	10	4	4	36

18.4.6 Water Treatment Plant

A geochemical review determined that water from the Tailings Storage Facility will be non-acid containing and can be released into the environment after being allowed to settle. No water treatment plant is included in this design.

18.4.7 Tailings Storage Facility

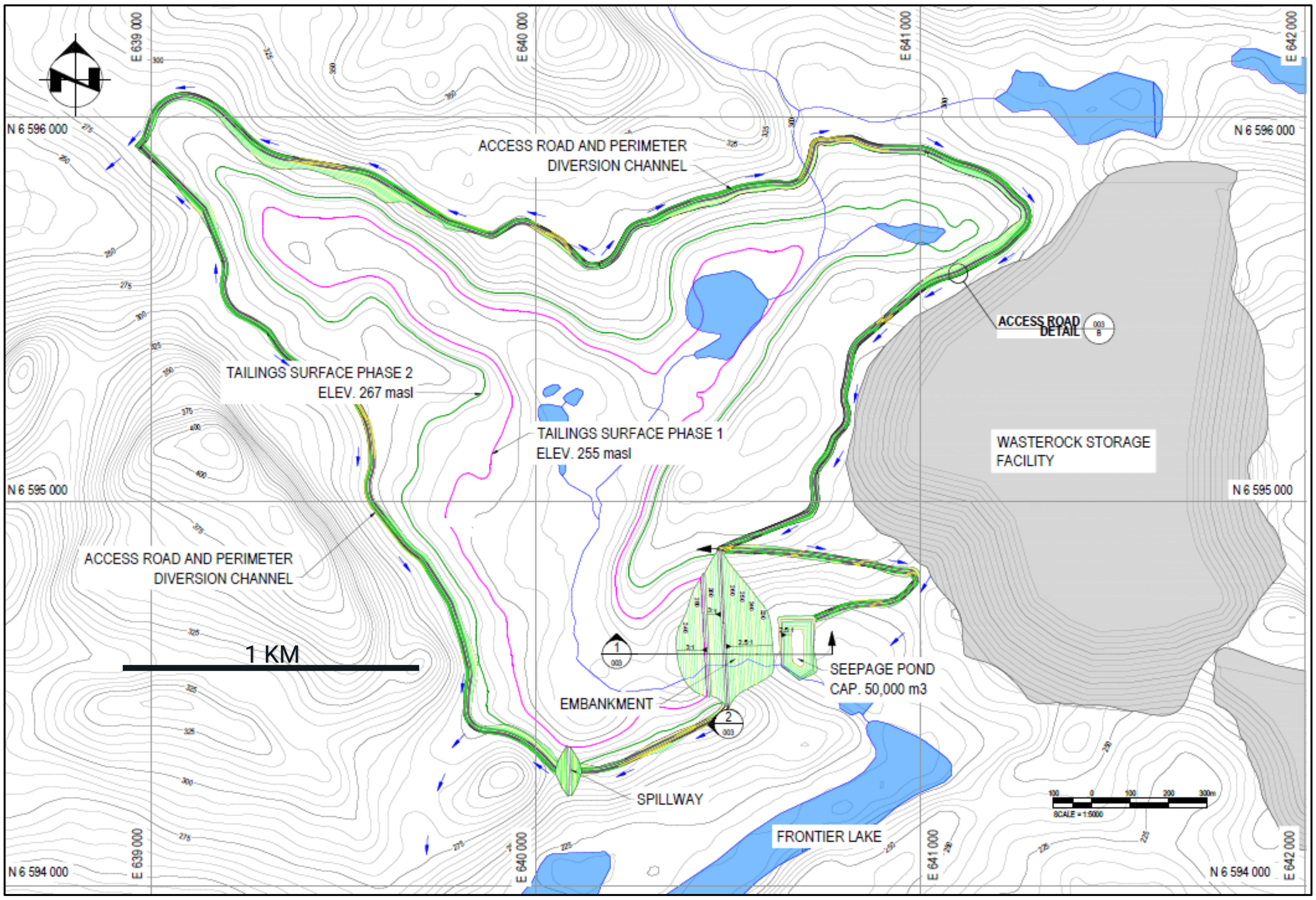
The primary design objectives of the Tailings Storage Facility ("TSF") are the secure confinement of tailings and the protection of the regional groundwater and surface water during mine operations and after closure. The design of the TSF and water management facilities has considered the following:

- Geosynthetic lining of the embankment's upstream slope to limit seepage (the requirement for a basin liner will be reviewed during future design and environmental assessment phases);
- Staged development of the facility over the LOM; and
- Control, collection, and removal of water from the facility during operations for recycle as process water to the maximum practical extent.

Approximately 21.9 Mt of tailings will be stored in the TSF. Construction of the TSF has been divided in two (2) phases. Phase 1 of the TSF will store 8.2 Mt of tailings and Phase 2 will store 13.7 Mt of tailings, all of which will be pumped by pipeline from the process plant to the TSF. The TSF is in a natural valley approximately 1 km northeast of the process plant. The final TSF embankment and impoundment basins will occupy an ultimate footprint of approximately 105 hectares (1.05 Mm^2).

The general arrangement of the TSF is shown in Figure 18-2.

Figure 18-2: Tailings Storage Facility General Arrangement



Source: Ausenco, 2022

18.4.7.1 Topography and Drainage

The proposed TSF site is in a natural valley northeast of the mine mill site that drains to the southwest and into Frontier Lake. In general, the site and surrounding area has steep and variable topography and lakes, with bedrock exposed or near ground surface topography highs, and alluvial soils in thickly vegetated lowlands and valleys. Several prominent rock outcrops are visible along the ridge that borders the proposed TSF embankment, which will key-in into these natural features.

At this time, near surface ground water has not been thoroughly investigated. A well-defined ephemeral drainage runs through the proposed impoundment area which exhibits evidence of significant storm event flows. Three permanent small lakes are also located within the tailings storage basin. The drainage basin contributing to the TSF has an area of approximately 3 km^2 and drains through the proposed main embankment site.

18.4.7.2 Hazard Classification

The design standards for the TSF are based on the relevant federal and provincial guidelines for construction of mining dams in Canada. Population at risk, environmental and cultural values, and infrastructure and economic losses are taken into account in assigning a dam to a classification. The following regulations and guidelines were used to determine the dam hazard classification and suggested minimum target levels for some design criteria, such as the inflow design flood (IDF) and seismic criteria:

- Technical Bulletin – Application of Dam Safety Guidelines to Mining Dams (CDA, 2019)
- International Council on Mining and Metals' 2020 Global Industry Standard on Tailings Management (GISTM, 2020)

The hazard classification for the TSF was determined to be "Very High" under the CDA guidelines. The recommended inflow design flood (IDF) during operations for a "Very High" hazard facility is defined as 2/3 between the 1/1000-year return period flood and the probable maximum flood (PMF) for a very high dam classification. Seismic parameters have been determined for the TSF using estimates from the Natural Resources Canada (NRCan) seismic hazard calculator. The design earthquake is characterized as halfway between the 2,475-year and the 10,000-year return period seismic events. The subsequent peak ground acceleration (PGA) is 0.042 g.

18.4.7.3 Facility Design

An earth and rockfill dam spanning a shallow valley at the northeast limits of the site will be the main structure that impounds tailings. The dam will be developed using concepts that will provide a safe and stable dam. The basin will not be lined assuming geological containment can be proven with future geotechnical investigations. The upstream slope of the embankment will be keyed-in to competent bedrock by removing alluvial soils from the valley. The embankment will be lined with 2-mm LLDPE geomembrane liner underlain by a five (5) metre clay liner and a five (5) m filter layer to contain the tailings solids and fluids. Tailings will be transferred to the TSF at approximately 43% solids (by weight) through a slurry pipeline.

The TSF footprint will be cleared and grubbed for foundation preparation and embankment construction. Basin preparation will include removal of overburden material from low points within the topography and placement over any rock outcrops. Overburden materials will be removed beneath the embankment foundations prior to fill placement. Based on prior geotechnical investigations on site, it is assumed that an average 2 m of overburden removal will be required over the footprint of the embankment.

The TSF will be constructed using ROM rock generated from open pit mining operations. Rock will be transported by mine haul trucks to a designated staging area east of the main embankment. During construction, rock will be transported by contractor from the staging area to the embankment location(s) and placed as engineered fill in controlled and compacted lifts. The ultimate embankment will have a maximum height of 48 m and a crest width of 10 m. Downstream slope angles for both stages of construction will be 2.5H:1V with upstream slopes for both stages at 3.0H:1V. The embankment construction method will be downstream raise construction.

The initial starter embankment constructed (Phase 1) will have a maximum elevation of 257 masl and will store approximately three (3) years of tailings at a production rate of 7,500 tonnes per day. Phase 2 will have a maximum elevation of 269 masl and will store five (5) years of tailings production.

Both phases will have a trapezoidal spillway cut into one of the south ridges capable of conveying the IDF volume. The spillway will flow only in case of emergency to protect the stability of the embankment and will discharge to a natural drainage.

A drainage layer and a blanket drain will be installed in the upstream slope and underneath the embankment to capture any possible seepage through the dam and maintain a drained downstream zone for stability. Within the foundation blanket drain, a series of 300 mm PCPE pipes will be installed to collect any seepage and convey it to the seepage collection pond at the toe of the embankment. Seepage water collected in the pond and excess supernatant water collected in the impoundment will be pumped back to the process plant for use in process.

18.4.7.4 Tailings Storage Facility Stability

A section through the highest portion of the embankment was selected as the critical section for slope stability analysis. Stability was assessed using the limit-equilibrium modelling software Slide 2, (Rocscience, 2022). Analyses were undertaken for both static and pseudo-static (earthquake loading) conditions with the calculated factors of safety (FOS) higher than the minimum required values of the CDA guidelines. The tailings embankment is designed to withstand potential dynamic displacement without release of tailings during the maximum design earthquake event.

18.4.7.5 Tailings Deposition and Return Water

Pumps located at the tailings thickener will pump conventional slurried tailings to the TSF through a tailings transport (delivery) pipeline. The tailings transport pipeline will consist of a pipe installed in an HDPE-lined containment channel. A tailings distribution system consisting of perimeter discharge points or spigots will allow control of the tailings beach.

The return water pipeline from the TSF to the plant will consist of a carrier pipeline within the same HDPE-lined containment channel.

18.4.7.6 TSF Surface Water Management

During operations, permanent storm water diversion channels adjacent to the perimeter facility road will be constructed to convey runoff around the proposed TSF ultimate footprint. Permanent stormwater diversion channels will remain in place during the life of the TSF and into long-term closure. Stormwater diversion channels will be constructed at a minimum 1% grade. Channels are sized to a minimum depth of 50 cm, a minimum width of 2.5 m, and are lined with 30 cm of riprap. Any precipitation that runs off downslope of the diversion channels will report to the impoundment area. Diversion channels will discharge non-contact water into natural drainages and lakes.

18.4.7.7 TSF Monitoring

To support construction-level design and permitting, a detailed geotechnical monitoring plan will be prepared that defines the roles and responsibilities of key stakeholders (Owner, operator, engineer) for safe and stable TSF construction and operation. Monitoring will be accomplished through both measurements of monitoring points (e.g., survey monuments, piezometers readings), and visual observations of surface conditions.

18.4.7.8 TSF Closure

The general closure design strategy includes placing a 1 m waste rock cover to stabilize tailings surface. Growth medium stripped during TSF construction will be stockpiled for future placement over the waste rock surface and in the exposed embankment surfaces during reclamation.

The downstream embankments that form the TSF have been designed with a 2.5H:1V slopes that are sufficiently flat for effective revegetation. For this PEA Study, Ausenco selected a 30 cm-thick topsoil cover or growth medium layer above the covered tailings and downstream embankment slopes. The closure cover will be graded with drainage swales to convey surface runoff to the closure spillway. Surface water will be conveyed and discharged into natural drainages. Maintenance may be required to provide repairs for any damage created by larger or more intense storms.

18.4.8 Site Water Management

This section discusses site-wide water management, the design of water management structures, hydrology, and water balance. Major drainage paths within the study area were delineated through GIS analysis of remotely sensed and publicly available elevation data (1-arcsec resolution Shuttle Radar Topography Mission: SRTM).

18.4.8.1 Climate and Hydrology

Supporting data were sourced from the Uranium City station (approximately 15 km north of the proposed mine site). A summary of climate info from the Uranium City station is shown in Table 18-2 below.

Table 18-2: Long-Term Average Climate Indicators at Uranium City Station

Month	Precipitation (mm)	Snowfall (cm)	Snowpack (cm)
January	20.4	23.2	38.1
February	12.3	14.1	49.2
March	16.2	19.2	54.9
April	15.4	6.6	39.8
May	17.5	0.7	4.6
June	32.2	0	0
July	50.2	0	0
August	50.5	0	0
September	40.6	0	0
October	28.8	7.3	3.0
November	25.4	24.7	13.9
December	14.8	21.2	25.6

Amplitudes of extreme events near the project site were extracted from Intensity-Duration-Frequency (IDF) Curves of Environment and Climate Change Canada (ECCC) at the Uranium City station. Precipitation depths of these extreme events are shown in Table 18-3 below. Water management facilities were designed using the 100-year, 24-hour event as the design storm.

Table 18-3: IDF Table for The Uranium City Station (Values in mm)

Duration	Recurrence interval (years)						
	2	5	10	20	25	50	100
30 min	7.1	10.5	13.3	16.3	17.3	20.8	24.8
1h	9.1	13.2	16.3	19.6	20.8	24.5	28.7
2h	11.8	16.3	19.9	23.7	25.0	29.4	34.3
6h	19.3	24.6	28.3	31.9	33.0	36.7	40.3
12h	23.5	30.1	34.0	37.5	38.6	41.7	44.5
24h	28.2	36.0	40.2	43.7	44.7	47.5	49.9

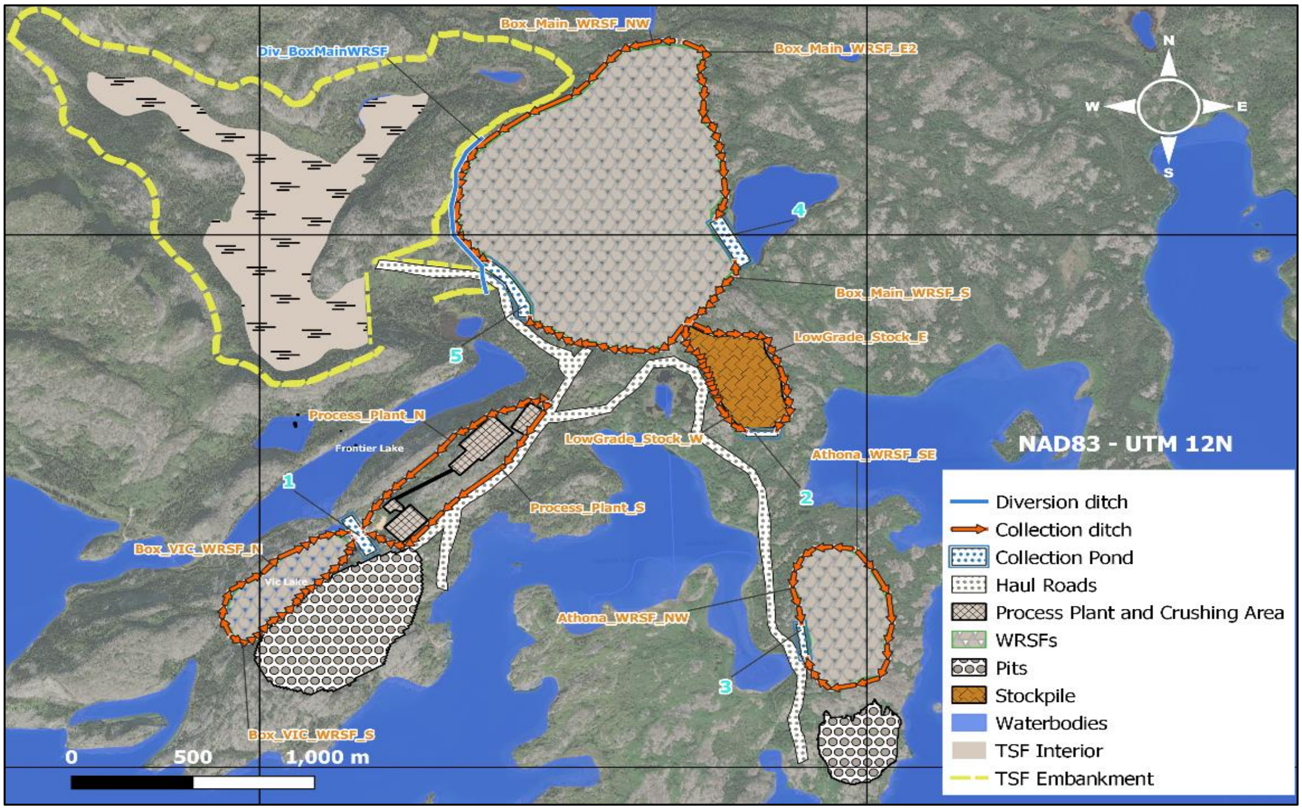
18.4.8.2 Water Management Structures

This section summarizes a list of proposed water management structures for the Fortune Bay mine site. The major structures are as follows:

- **Diversion Ditches** – diversion ditches are required to divert clean runoff away from the facilities and to minimize the amount of contact runoff to be collected and managed. The design criterion for the diversion ditches was the conveyance of 1:100-year peak flow without overflow.
- **Collection Ditches** – collection ditches collect contact runoff from the Waste Rock Storage Facilities (“WRSF”), Stockpiles, Processing Plant, and Crusher Area. The design criterion for collection ditches was the conveyance of 1:100-year peak flow without overflow.
- **Collection Ponds** – collection ponds were proposed to store contact runoff from the collection ditches. The collection ponds' design criteria were to store 1:100-year 24hr flood with a minimum freeboard of 0.5 m. The stored contact water should be either treated and released to the environment or reused for process purposes.

Figure 18-3 shows location and arrangement of mine water management facilities.

Figure 18-3: Location of Mine Water Management Facilities



Note: Figure prepared by Ausenco, 2022.

In total, the collection ditches were designed to extend along 10,200 m. Diversion channels of 810 m were designed along the western edge of the Box Main WRSF north of the process plant.

18.4.8.2.1 Conceptual Design and Quantity Estimates

Table 18-4 below shows the estimated quantities of excavation volume, liners and rip rap volumes for the diversion ditches, collection ditches and collection ponds.

Table 18-4: Material Take Off (MTO), Riprap, and Liner Area Estimates for Different Water Management Facilities

Item	Excavation Volume (m³)	Liner Area (m²)	Riprap (m³)
Diversion ditch	205,300	NA	920
Collection ditch	11,700	32,200	3,690
Collection pond	117,300	53,000	0
Total	**334,200**	**85,200**	**4,610**

18.4.8.3 Site-wide Water Balance

A preliminary site-wide water balance analysis was performed. In this analysis, a comparison between water requirements and available water from the collection system was made to identify the site-wide water balance. This analysis has been made for average climate conditions at the site. The following water components were considered in this calculation:

- Surface runoff from precipitation on WRSF as well as pits,
- Evaporation from ponds and pits,
- Process water requirement,
- Tailing Storage Facility reclaim capacity,
- Groundwater contact water inflow.

There is a net annual water deficit of approximately 95, 82, and 140 m^3/hr for average, wet and dry climate scenarios. Groundwater inflow into the pits and waste piles has been estimated based on a desktop analysis of available hydrogeologic data from previous reports (high-level internal review by Ausenco). Table 18-5 summarizes the site water balance for the average climatic conditions and Figure 18-4 shows the flow diagram across the site. Note that the exiting water in the final product is not shown in this figure.

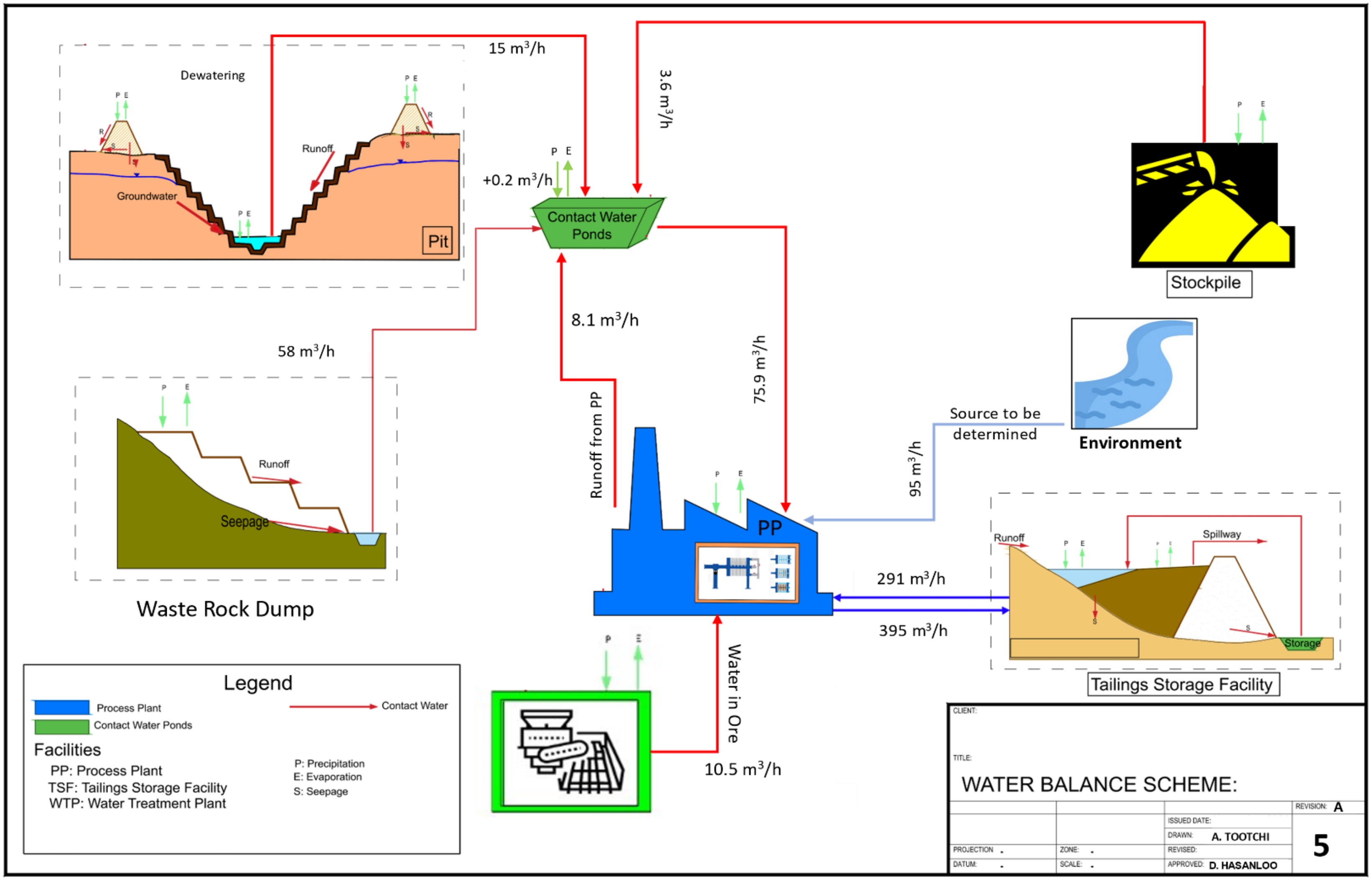
The water management plan was developed to collect contact runoff/seepage from any facilities and to divert any clean catchment runoff away from the facilities. Collection ditches were designed to collect and convey contact runoff to collection ponds. The corresponding excavation volume was estimated.

Table 18-5: Site-wide Water Balance (m^3/hr) – Average Condition

Water Component	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Net Process Raw Water Demand (m^3/hr)	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9
Other Process Water needs (m^3/hr)	395.3	395.3	395.3	395.3	395.3	395.3	395.3	395.3	395.3	395.3	395.3	395.3	395.3
Groundwater Contact into Pits													
Box Mine (m^3/hr)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Athona Mine (m^3/hr)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Groundwater Contact into Waste Rock													
Total for Vic Lake and other WRSF (m^3/hr)	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
Precipitation Contact Water on Pits													
Precipitation (m^3/hr)	8	7	9	18	17	12	18	19	15	16	13	8	13
TSF Water Balance													
Reclaim Water from Tailings Storage Facility (m^3/hr)	275	275	275	283	279	285	305	326	327	310	275	275	291
Contact Water from Net Precipitation and Evaporation													
Process Plant (m^3/hr)	4	4	5	10	11	9	12	12	9	9	7	4	8.1
Athona WRSF (m^3/hr)	4	3	4	8	9	7	10	10	7	7	6	3	6.5
Vic Box WRSF (m^3/hr)	2	2	2	4	5	4	6	6	4	4	3	2	3.7
Box WRD (m^3/hr)	19	17	22	43	49	40	53	54	39	38	31	18	35.4
Stockpile (m^3/hr)	2	2	2	4	5	4	5	5	4	4	3	2	3.6
Pond Direct Precipitation (m^3/hr)	1	1	1	3	3	2	3	3	2	2	2	1	2.1
Pond Evaporation (m^3/hr)	0.0	0.0	0.0	0.0	5.0	6.0	5.3	4.3	2.4	0.0	0.0	0.0	1.9
Water Deficits/Excess in Average Conditions (m^3/hr)	-142	-147	-135	-84	-84	-98	-50	-26	-51	-67	-116	-143	-95

*Note: The Pit dewatering values were extracted from limited previous studies. Groundwater input must be studied in detail during the next phase.

Figure 18-4: Annual Average Water Balance



Note: Figure prepared by Ausenco, 2022.

19 MARKET STUDIES AND CONTRACTS

The Goldfields Project will produce gold in the form of doré bars with 99.9% gold payable. The market for doré is well established and open to new producers. The doré bars will be processed in certified North American precious metal refineries.

19.1 Market Studies

Fortune Bay or its consultants have conducted no market study on the sale of gold doré. Therefore, the market terms for this study are based on the terms proposed by Fortune Bay as per their discussion with Ausenco and recently published terms from other similar studies. The QP is of the opinion that the marketing and commodity price information is suitable to be used in cashflow analyses to support this report.

19.2 Commodity Price Projections

For the economic analysis of the project, the gold price was assumed at US$1,650/oz and a US$:C$ exchange rate of 1.00:1.30 was used. The gold price used is an analyst consensus long-term forecast price and as agreed with Fortune Bay.

19.3 Contracts

No existing refining agreements or sales contracts are currently in place for the Goldfields Project. The refinery terms assumed for this PEA are C$ 5.00/oz, which includes refining and transportation charges.

19.4 Comments on Market Studies and Contracts

The QP is of the opinion that the marketing and commodity price information is suitable to be used in cashflow analysis to support this report.

20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 General

The Goldfields Project is a brownfields site located in a historic mining district of northern Saskatchewan. The previous underground gold mine and mill operated between June 1939 and May 1942. The operation was suspended due to a workforce shortage created by World War II. The Project subsequently underwent a series of ownership changes and various exploration and engineering efforts to return the Project to an operating mine and mill since the 1960s to present day.

Following an environmental assessment the proposed Project received Ministerial Approval from Saskatchewan's Ministry of Environment in 2008.

Although the 2008 Ministerial Approval remains in good standing, Fortune Bay is committed to working with Saskatchewan Ministry of Environment by updating and augmenting all necessary baseline data to reflect current industry best practices as part of the licensing and approvals process.

It is anticipated that all design changes to the Project that differ from that approved in the 2008 Environmental Assessment can be approved under existing Saskatchewan Environmental legislation without the requirement of a new federal or provincial environmental assessment.

Fortune Bay initiated communication/engagement activities with the surrounding Municipalities and First Nation Rights holders in August 2020 following a decision by the Company to advance the Project. This engagement has been undertaken through Ya' thi Néné Lands and Resources ("YNLR"), a non-profit organization established to manage consultation and engagement on behalf of the First Nations and the municipalities. Fortune Bay is committed to developing a robust Engagement Management Plan with all stakeholders and rights holders in the region to be implemented throughout the entire life cycle of the Project.

20.2 Regulatory Setting

In Saskatchewan, the environmental assessment and permitting framework for the development of a mining project consists of a two-tiered system. The first tier consists of an environmental assessment (EA) phase involving departments from both the federal and provincial governments. Following a successful EA, the Project would proceed to the second tier of regulation, which consists of a construction and operating licensing/permitting phase again involving both federal and provincial government departments and agencies. The project is then regulated through all phases (construction, operation, closure, and post closure) by the same federal and provincial departments and agencies.

20.3 Environmental Assessment

The assessment process involves both federal and provincial legislation, and in some cases depending on the commodity as well as the size of the potential development, requires an environmental assessment from both jurisdictions. When this situation occurs in a Saskatchewan context a joint federal/provincial assessment is completed in order to help eliminate duplication and/or the requirement of two separate assessments for a single project.

The following two sections provides an overview of the provincial and federal assessment processes.

20.3.1 Provincial Requirements

In the province of Saskatchewan, the Environmental Assessment Act is administered by the Ministry of Environment (MOE). The level of assessment for mining projects is dependent on the specific characteristics of each individual project. The MOE follows the following process to determine which level of assessment will be required.

In Saskatchewan, the proponent of a project, that is considered to be a “development” pursuant to Section 2(d) of the Environmental Assessment Act, is required to conduct an environmental impact assessment (EIA) of the proposed project and prepare and submit an environmental impact statement (EIS) to the Minister of Environment.

Section 2(d) of the Environmental Assessment Act reads:

- “development” means any project, operation or activity or any alteration or expansion of any project, operation or activity which is likely to:
- Have an effect on any unique, rare or endangered feature of the environment
- Substantially utilize any provincial resource and in so doing pre-empt the use, or potential use, of that resource for any other purpose
- Cause the emission of any pollutants or create by-products, residual or waste products which require handling and disposal in a manner that is not regulated by any other Act or regulation
- Cause widespread public concern because of potential environmental changes
- Involve a new technology that is concerned with resource utilization and that may induce significant environmental change
- Have a significant impact on the environment or necessitate a further development which is likely to have a significant impact on the environment (Sask. Env. Act, 2002)

20.3.2 Federal Requirements

A federal environmental assessment, if required, is led by the Impact Assessment Agency of Canada in accordance with the Canadian Impact Assessment Act which replaced the Canadian Environmental Assessment Act 2012 in August 2019.

New projects and/or projects which have not been previously assessed by the Agency and/or its predecessor (the Canadian Environmental Assessment Agency) will require a federal assessment if the proposed project is described in the Physical Activities Regulations issued pursuant to the Impact Assessment Act or if the proposed project is designated by the Minister of Environment and Climate Change Canada.

The Impact Assessment Act also allows for projects that have either started or completed an environmental assessment under the Canadian Environmental Assessment Act to remain under that Act and process.

20.4 Licensing and Permitting

Following a successful environmental assessment, the Project is allowed to proceed to the second tier of environmental approvals. This requires the proponent to obtain a variety of approvals/permits/authorizations from both the federal and provincial governments.

Under Saskatchewan legislation, the two critical approvals required are an Approval to Construct a Pollutant Control Facility and an Approval to Operate a Pollutant Control Facility. Table 20-1 provides a list of potential permits, authorizations and/or approvals the Project may require.

Table 20-1: Potential Permits, Approvals and/or Authorizations

Permit/Approval/Authorization	Responsible Agency or Department
Surface Lease Agreement	Saskatchewan Ministry of Government Relations
Approval to Construct a Pollutant Control Facility	Saskatchewan Ministry of Environment
Approval to Operate a Pollutant Control Facility	Saskatchewan Ministry of Environment
Approval to Construct and Operate Waterworks (Surface Water Withdrawal and Groundwater Withdrawal)	Saskatchewan Water Security Agency
Approval to Construct and Operate Drainage Works	Saskatchewan Water Security Agency
Approval to Construct and Operate Sewage Works	Saskatchewan Water Security Agency
Aquatic Habitat Protection Permit	Saskatchewan Water Security Agency
Forest Product Permit	Saskatchewan Ministry of Environment
Miscellaneous Use Permit	Saskatchewan Ministry of Environment
Environmental Protection Plan for Industrial Sources	Saskatchewan Ministry of Environment
Approval to Construct and Operate an Industrial Effluent Works	Saskatchewan Ministry of Environment
Approval to Construct and Operate a Storage Facility (Hazardous Materials and Waste Dangerous Goods)	Saskatchewan Ministry of Environment
Approval to Decommission Pollutant Control Facilities	Saskatchewan Ministry of Environment
Release from Decommissioning and Reclamation	Saskatchewan Ministry of Environment
Provincial Acceptance of Decommissioned and Reclaimed Site into Institutional Control Program	Saskatchewan Ministry of Environment
Fisheries Act Authorization	Department of Fisheries and Oceans Canada
Species at Risk Permit	Department of Environment and Climate Change Canada
Aquatic Environmental Effects Monitoring Program	Department of Environment and Climate Change Canada
License to Store, Manufacture, or Handle Explosives	Natural Resources Canada

20.5 Environmental Setting

20.5.1 Current Status

The Project completed a federal environmental screening under the Canadian Environmental Assessment Act and a provincial environmental assessment under the Saskatchewan Assessment Act which culminated with a Ministerial Decision allowing the Project to proceed to licensing and approvals in 2008. Advancement of the Project was then suspended by the proponent at that time (GLR Resources Inc.).

Recognizing the Ministerial Approval was granted 14 years ago and that the Project as it is currently designed incorporates industry best practices of today (from an engineering, environmental protection and social consideration perspective), Fortune Bay understands some aspects of the environmental assessment will require some updates and possibly additional assessment. Discussion with representatives of Saskatchewan's Assessment Branch have been initiated to bring the Project's environmental assessment up to date.

In parallel to advancing the next stages of engineering (Pre-Feasibility Study) Fortune Bay plans to continue its regular engagement with the First Nations Rights Holders and surrounding Municipalities. Currently this engagement is undertaken through Ya' thi Néné Lands and Resources ("YNLR"), a non-profit organization established to manage consultation and engagement on behalf of the First Nations and the Municipalities. In addition, the existing baseline studies completed as part of the 2008 Environmental Assessment are expected to be updated with new data and where necessary augmented with new baseline studies to support the changes to the Project since the 2008 Ministerial Approval. Subsequently, should the Project be advanced to a Pre-Feasibility Study, Fortune Bay plans to submit an application under Section 16 of Saskatchewan's Assessment Act, which allows the Minister of Environment to review and approve changes to a previously approved development.

Section 16 of the Act states:

> …16(1) Where a proponent:
>
> (a) has received ministerial approval to proceed; and
>
> (b) intends to make a change in the development that does not conform to the terms or conditions contained in the ministerial approval; he shall inform the minister of the proposed change before proceeding with it.
>
> (2) Where the minister has received notice of a proposed change, he shall:
>
> (a) give ministerial approval of the proposed change and may impose any terms and conditions that he considers advisable;
>
> (b) refuse to approve the change in the development; or
>
> (c) direct the proponent to seek approval for the proposed change in the manner prescribed in sections 9 to 15.
>
> (3) No person shall proceed with a change in a development until he has been given ministerial approval to proceed. (Sask. Env. Act, 2002)

Utilizing Section 16 of the Act should allow Fortune Bay to advance the Project to the licensing and approvals regulatory phase (Approvals to Construct and Operate a Pollutant Control Facility) without having to completely redo the Project's Environmental Assessment and therefore significantly reduce the schedule and cost required to obtain all remaining environmental approvals to advance the Project through construction and into operations.

Based on the current understanding of the Project, no environmental and/or social risks have been identified that cannot be successfully mitigated through the implementation of good engineering and social practices consistent with Saskatchewan and Canadian legislation as well as international best practice guidance.

20.5.2 Environmental Baseline Studies and Monitoring

The physical and biological components associated with the Project were characterized and compiled into a full baseline dataset in support of the 2008 Environmental Assessment and its Environmental Impact Statement. These datasets include:

- Climate studies
- Geological/geochemistry studies
- Hydrogeological studies
- Hydrology studies
- Water quality studies
- Terrestrial studies
- Aquatic studies
- Fisheries and benthic community studies
- Wildlife and avian studies
- Socio-economic and existing land use studies

The results of the 2008 baseline studies were consistent with what one would expect to find in a northern boreal forest region. These results did not indicate any physical or biological (terrestrial or aquatic) anomalies or risks that would require special attention or the implementation of any mitigation measures that would not be considered common practice during the development and operation of a mine in this region.

All of these studies will be updated as required to advance the Project into the construction and licensing stage of the regulatory process in parallel to the advancement of the Project's engineering studies.

These studies would also be used as the foundation to which a robust monitoring plan can be developed. In Saskatchewan, the monitoring plan developed, unique to each development, is detailed in the terms and conditions of the Project's Approval to Operate a Pollutant Control Facility. Results of these monitoring plans are submitted, monthly, quarterly, and annually to the regulators to ensure the mitigation of environmental risks associated with the Project are effective and in compliance with appropriate legislation and commitments made during the environmental assessment.

20.6 Social Setting

The Project is located in a region of northern Saskatchewan with an extensive mining history which dates back approximately a century. Previous operations at the Goldfields site itself are part of the region's mining history and legacy.

The Project is located within the traditional territory of the Athabasca Denesųłiné First Nations of Fond du Lac, Black Lake and Hatchet Lake, with surrounding Municipalities including the Northern Hamlet of Stony Rapids, the Northern Settlement of Uranium City, the Northern Settlement of Wollaston Lake, and the Northern Settlement of Camsell Portage (collectively "Athabasca Communities"). Fortune Bay has initiated and maintains regular engagement with the Athabasca Communities through Ya' thi Néné Lands and Resources ("YNLR"), a non-profit organization established to manage consultation and engagement on behalf of the Athabasca Communities. Fortune Bay is committed to maintaining the existing positive and trust-based relationship with the Athabasca Communities through the development and implementation of a robust Engagement Plan. This Engagement Plan will be developed to support the Goldfields Project throughout all stages of the development; construction, operations, closure and post closure.

20.7 Decommissioning and Reclamation

In accordance with Saskatchewan legislation a Decommissioning and Reclamation Plan and cost estimate will be developed and approved by the Ministry of Environment as a condition of the Project's Approval to Operate a Pollutant Control Facility. The cost estimate of the Decommissioning and Reclamation Plan will be used by the regulators as a basis for the Financial Assurance bond required by the Province of Saskatchewan. This plan, cost estimate and financial assurance bond requires updating every five years throughout the Project's life cycle or earlier if deemed necessary by the Minister of Environment.

Closure of the entire Project will be completed in accordance with all provincial and federal regulations and guidance documents with the fundamental considerations being to ensure physical and chemical stability of the site in order to protect human health and the environment during the closure and post closure phase of the Project. Closure costs are included in Section 21.2.8.3.1.

The five main closure activities include:

- Decontamination
- Asset removal
- Demolition and disposal
- Rehabilitation
- Monitoring and reporting

Progressive rehabilitation will be completed throughout the life of the Project whenever feasible. Progressive rehabilitation activities will focus on the decontamination, demolition, and disposal of unused buildings and infrastructure, as well as the removal of unused equipment and machinery, much of which remains at the site from the historical operations of the Goldfields Project from the 1930s. Progressive rehabilitation will be reported to the regulatory agencies as part of the annual reporting requirements throughout operations.

21 CAPITAL AND OPERATING COSTS

21.1 Introduction

The preliminary economics of the Goldfields Project can be evaluated using the capital and operational cost estimates presented in this PEA. The calculations are based on an open pit mining operation, a processing plant's development, infrastructure, a tailings storage facility, and the owner's expenses and provisions.

All capital and operational cost estimates are presented in Canadian dollars (C$), with no escalation or exchange rate variations factored in.

21.2 Capital Costs

21.2.1 Capital Cost Estimate Summary

The total initial capital cost for the Goldfields Project is C$233.5 M and the life-of-mine sustaining cost is C$128.7 M. The initial capital cost summary is presented in Table 21-1.

Table 21-1: Summary of Capital Costs

WBS Description	WBS	Initial Capital Cost (C$M) (LOM)	Sustaining Capital Cost (C$M) (LOM)	Total Cost (C$M)
Mine	1000	40.2	69.0	109.2
Process Plant	2000	72.0	0.0	72.0
On Site Infrastructure	3000	22.1	24.7	46.8
Off Site Infrastructure	4000	5.7	0.0	5.7
Tailings Storage Facility	5000	20.8	16.0	36.8
Total Directs		**160.7**	**109.7**	**270.5**
Project Indirects	6000	10.3	2.9	13.1
Project Delivery	7000	22.1	6.6	28.8
Owner's Costs	8000	6.3	0.0	6.3
Provisions	9000	34.0	9.5	43.5
Total Indirect		**72.8**	**19.0**	**91.8**
Project Total		**233.5**	**128.7**	**362.2**

Note: Numbers may not add due to rounding

In addition to the above, closure costs were applied in Y9 to cover site remediation scope, to a value of $9.0M CAD.

21.2.2 Basis of Estimate

The capital cost estimate was developed in Canadian dollars in Q3 2022 and was based on data from projects and research in Ausenco's internal database and knowledge gained from similar operations.

The capital cost estimate conforms to Class 5 guidelines for a preliminary economic assessment level estimate with a ±50% accuracy, according to the Association for the Advancement of Cost Engineering International (AACE International). The capital cost estimate was developed in Q3 2022 and is based on Ausenco's in-house database of projects and studies and experience from similar operations.

The estimations' data were derived from a variety of sources, including the following:

- Mining schedule;
- Conceptual engineering design by Ausenco and Moose Mountain Technical Services;
- Major mechanical equipment costs are based on vendor quotations;
- Other mechanical equipment costs are determined from first principles and Ausenco's database of historical projects;
- Material take-offs (MTOs) for concrete, steel, electrical, instrumentation, in-plant piping and platework were factored by benchmarking against similar projects with equivalent technologies and unit operations;
- Topographical information considered; and
- Engineering design at a preliminary economic assessment level.

21.2.3 Direct Cost Mine Capital (WBS 1000)

Mine capital costs have been derived from historical data collected by MMTS at other Canadian open pit mining operations, applied to the Goldfields mine plan and PEA production schedule.

Pre-production mine operating costs (i.e., all mine operating costs incurred before mill start-up) are capitalised and included in the capital cost estimate. Pre-production pit operating costs include drill and blast, load and haul, support, and GME (General Mine Expense) costs. All mine operation site development costs—such as clear and grub, topsoil stripping, haul road construction, stockpile preparation, pit dewatering, and explosive pad preparation—are capitalised.

The mine equipment mobile fleet is planned to be purchased through financing from vendors. Down payments and monthly lease payments are capitalised through the initial and sustaining periods of the Project.

The following items are also capitalised:

- Mine fleet maintenance facilities and wash bay
- Explosives mixing plant and magazine
- Diesel fuel storage and distribution
- Site GPS (global positioning system) and machine guidance systems
- Radio communications systems
- Mine survey gear and supplies
- Geology, grade control, and mine planning software licenses

- Maintenance tooling and supplies
- Mine rescue gear and safety supplies

Table 21-2 summarizes the Mine Area Capital Cost estimates for the Goldfields PEA Project. It is the QP's opinion that these estimates are reasonable for the location and planned mine development and can be used for a PEA.

Table 21-2: Goldfields Mine Area Capital Cost Summary (WBS 1000)

WBS Description	WBS	Initial Capital Cost (C$M) (LOM)	Sustaining Capital Cost (C$M) (LOM)	Closure Capital Cost (C$M)	Total Cost (C$M)
Mine fleet	1100	11.2	69.0	-	80.2
Mine stockpiling	1200	3.2	-	-	3.2
Infrastructure	1300	4.9	-	-	4.9
Mine roads	1400	8.7	-	-	8.7
Pre-stripping	1500	3.4	-	-	3.4
Fuel storage	1600	3.7	-	-	3.7
Pit dewatering	1700	1.1	-	-	1.1
Explosive magazine	1800	3.0	-	-	3.0
Waste rock storage facility	1900	1.0	-	-	1.0
Total direct		**40.2**	**69.0**	**-**	**109.2**

Note: Numbers may not add due to rounding.

21.2.4 Process Capital Costs (WBS 2000)

Conceptual process flowsheets and process design criteria were used to generate the requirements for process equipment. Budget estimates from ongoing and completed projects comparable to the Goldfields Project were used to determine the costs for mechanical equipment and building supplies, which were then scaled for size. The breakdown of costs for the process is shown in Table 21-3.

Table 21-3: Process Plant Capital Cost (WBS 2000)

WBS Description	WBS	Initial Capital Cost (C$M) (LOM)	Sustaining Capital Cost (C$M) (LOM)	Closure Capital Cost (C$M)	Total Cost (C$M)
Crushing circuit	2100	19.9	-	-	19.9
Grinding circuit	2200	18.5	-	-	18.5
Gravity circuit	2300	3.0	-	-	3.0
Leaching circuit	2400	14.5	-	-	14.5
Elution/electrowinning/gold room	2500	11.1	-	-	11.1
Cyanide destruction	2600	1.0	-	-	1.0
Plant reagent handling and storage	2800	2.3	-	-	2.3
Plant services (water, air)	2900	1.6	-	-	1.6
Total direct		**72.0**	**-**	**-**	**72.0**

21.2.5 On Site Infrastructure Capital Costs (WBS 3000)

The breakdown of the costs for the on-site infrastructure planned for the project is shown in Table 21-4 below.

Approximately 4 km of site access road will be built connecting the process plant to the TSF and the gatehouse to the administrative building. Sitewide electrical reticulation via overhead lines at 13.8 kV was estimated for the Project. Also, a medium voltage powerline of 3 km is contemplated in the capital cost estimation, as well as a Low voltage power line which is factored for the project. In addition, a permanent camp will be built in Uranium City for 300 people, which will also be used as an initial construction camp. The camp will be financed over five years.

Table 21-4: On-site Infrastructure Capital Cost (WBS 3000)

WBS Description	WBS	Initial Capital Cost (C$M) (LOM)	Sustaining Capital Cost (C$M) (LOM)	Closure Capital Cost (C$M)	Total Cost (C$M)
Site preparation, earthworks and drainage	3100	3.0	-	-	3.0
Site water management structures	3200	3.0	4.0	-	7.0
Site access roads	3300	1.8	-	-	1.8
Onsite buildings	3400	9.2	20.7	-	29.9
Sitewide electrical reticulation	3500	0.9	-	-	0.9
Site wide communication system	3600	1.1	-	-	1.1
Potable water	3700	0.3	-	-	0.3
Sewage systems	3800	1.1	-	-	1.1
Mobile equipment and light vehicles	3900	1.6	-	-	1.6
Total direct		**22.1**	**24.7**	**-**	**46.8**

Note: Numbers may not add due to rounding.

21.2.6 Off-Site Infrastructure Capital Costs (WBS 4000)

In the off-site infrastructure, it is estimated that the High Voltage transmission line will be refurbished in an extension of 10 km, including a substation. The water supply will be sourced from Neiman Bay, and the estimated cost for pipelines and pumping is included. For the barge loading facility, the barge will be loaded at Stony Rapids, where there is an existing berth, then will be unloaded at the mine site for which a new berth will be built. The breakdown of the costs for the off-site infrastructure planned for the project is shown in Table 21-5.

Table 21-5: Off-site Infrastructure Capital Cost (WBS 4000)

WBS Description	WBS	Initial Capital Cost (C$M) (LOM)	Sustaining Capital Cost (C$M) (LOM)	Closure Capital Cost (C$M)	Total Cost (C$M)
Hv transmission line	4100	1.1	-	-	1.1
Main hv substation	4200	1.2	-	-	1.2
Make up water supply	4300	0.3	-	-	0.3
Offsite access road	4400	1.6	-	-	1.6
Barge loading facility	4500	1.4	-	-	1.4
Total direct		**5.7**	**-**	**-**	**5.7**

Note: Numbers may not add due to rounding.

21.2.7 Tailings Storage Facility (WBS 5000)

The capital cost of the Tailings Storage Facility (TSF) is estimated as the cost of pumping and pipelines and the return water pumping and pipeline. The TSF cost includes the earthworks and underdrain systems, as well as the hydraulic structures and perimeter facilities. The breakdown of the costs for the TSF planned for the project is shown in Table 21-6.

Table 21-6: Tailings Storage Facility Capital Cost (WBS 5000)

WBS Description	WBS	Initial Capital Cost (C$M) (LOM)	Sustaining Capital Cost (C$M) (LOM)	Closure Capital Cost (C$M)	Total Cost (C$M)
Tailings Storage Facility	5100	17.8	16.0	9.0	42.9
Tailings pumping and pipeline	5200	1.2	-	-	1.2
Return water pumping and pipeline	5300	1.7	-	-	1.7
Total direct		**20.8**	**16.0**	**9.0**	**45.8**

Note: Numbers may not add due to rounding.

21.2.8 Indirect Capital Costs

Indirect costs (Table 21-7) are estimated as a percentage of certain direct costs, including the mining fleet, fuel storage, explosives magazine, onsite and off-site infrastructure, and the TSF. Project Delivery includes EPCM, environmental services, permitting and commissioning costs.

Table 21-7: Indirect Costs (WBS 6000–9000)

WBS Description	WBS	Initial Capital Cost (C$M) (LOM)	Sustaining Capital Cost (C$M) (LOM)	Closure Capital Cost (C$M)	Total Cost (C$M)
Indirect costs	6000	10.3	2.8	0.0	13.1
Project delivery	7000	22.1	6.6	0.0	28.8
Owner's costs	8000	6.3	0.0	0.0	6.3
Provisions (Contingency)	9000	34.1	9.5	0.0	43.6
Total indirect		**72.8**	**19.0**	**0.0**	**91.8**

Note: Numbers may not add due to rounding.

21.2.8.1 Project indirect (WBS 6000)

Indirect costs are required during the project delivery to enable and support construction activities. The project indirect costs, which are estimated at C$13.1 M for the Life of Mine, have been based on Ausenco's historical project costs of a similar nature. The indirect costs are estimated at 7.5% of total direct cost excluding mining costs but inclusive of mining buildings. An additional allowance of $800,000 is included for mining indirects. Indirect costs for sustaining capital is applied on all areas except mining.

21.2.8.2 Project delivery (WBS 7000)

The project delivery costs, which are estimated at C$28.8 M for the Life of Mine, have been based on Ausenco's historical project costs of a similar nature and are estimated at 17.5% of total direct cost excluding mining area (WBS 1000).

21.2.8.3 Owner's Cost (WBS 8000)

The owner's costs are estimated as 5% of total direct cost excluding mining (WBS 1000), for a total of C$6.3 M. Owner's costs have been benchmarked against comparable recent projects.

21.2.8.3.1 Closure Cost

The estimated total reclamation and closure costs, exclusive of taxes and contingency, for the Goldfields project is C$9 million. Closure costs have been benchmarked against recent projects in similar jurisdictions.

21.2.8.3.2 Salvage Value

Salvage value for the Goldfields project is estimated at C$18 million. Salvage value was calculated as 25% of the processing plants' mechanical parts.

21.2.8.4 Provisions (Contingency) (WBS 9000)

Contingency is used to adjust for variations between estimated and actual costs for materials and equipment. The contingency amount fluctuates according to the contract terms and the client's demands. The estimate for capital costs must have a provision to offset the risk from these uncertainties because there were uncertainties when the estimate was created.

The contingency estimate will not allow for the following:

- abnormal weather conditions;
- changes to market conditions affecting the cost of labour or materials;
- changes of scope within the general production and operating parameters;
- effects of industrial disputations;
- financial modelling;
- technical engineering refinement; and
- estimate inaccuracy.

The total contingency is estimated at C$43.6 M. The contingency cost has been calculated as 25% of the total direct mining infrastructure cost, fuel storage and explosive magazine. A 25% contingency factor is also applied on the total direct costs of the process plant and infrastructure areas (onsite and offsite and TSF). An allowance of $2.5M (10% on capitalized opex and 15% on mine infrastructure) is added to the mining area.

21.3 Sustaining Capital

The costs implicated in preserving the current assets' production capability and implementing the current production plan are all incorporated in this section, broken down by WBS code. The LOM project sustaining capital is $128.7M which includes $109.7M in direct costs and $19M in indirect costs.

21.3.1 Mining (WBS 1000)

The sustaining cost of the capital invested in the mine fleet is included in the sustaining costs of mining. The LOM mining sustaining capital is $69M.

21.3.2 Onsite infrastructure (WBS 3000)

The sustaining cost of the onsite infrastructure will be used to maintain the water management structures and financing of the permanent camp building. The LOM onsite infrastructure sustaining cost is $24.7M.

21.3.3 Tailings Storage Facility (WBS 5000)

The sustaining cost for the TSF caters for the planned Phase 2 expansion of the facility during the LOM. The LOM TSF sustaining cost is $16M.

21.4 Operating Costs

21.4.1 Operating Cost Estimate Summary

Operating costs for the project consist of those related to mining, processing of mineralized material, tailings disposal, maintenance, power and general administration activities.

According to the Association for the Advancement of Cost Engineering International (AACE International) requirements for a PEA study, the estimate has an accuracy of 50% due to the approach employed to create the capital estimate and the conceptual level of engineering definition. The estimated Project operating costs summary is provided in Table 21-8.

Table 21-8: Operating Costs Summary

Cost Centre	LOM (C$M)	Annual Average Cost (C$M)	LOM Total/Avg. (C$/t Milled)	Average LOM (C$/oz)	OPEX (%)
Mining Cost	346.8	41.8	15.27	415.3	43%
Processing Cost	341.1	41.1	15.02	408.4	43%
G&A Cost	115.1	13.9	5.07	137.9	14%
Total Operating Costs	**803.0**	**96.8**	**35.36**	**961.6**	**100%**

Note: Numbers may not add due to rounding

21.4.2 Basis of Estimate

Some key assumptions were made to estimate the operating costs for the Project:

- Cost estimates are based in Q3 2022.
- Costs are expressed in Canadian Dollars (C$).
- Where applicable, an exchange rate of US$ 0.77 per C$ 1.00 was used.
- Power cost of C$0.06 per kilowatt-hour (kWh) was assumed.
- A diesel cost of C$1.33 per litre was assumed based on long term consensus price.
- Gasoline cost of C$ 1.27 per litre was assumed based on long term consensus price.
- A throughput of 7,500 t/d, or 2.737 Mtpa was used for the processing plant.
- Processing plant availabilities and operating costs were as per the design criteria shown in Table 17-1.
- Plant crusher availability is assumed to be 65.0%, while the availability for the rest of the processing plant, is assumed to be 92%.

- ROM and concentrate grades, and recoveries are based on metallurgical testwork results described in Section 13.113.3.
- Material and equipment are purchased as new.
- Reagent consumption rates are based on metallurgical testwork results and in-house benchmarks.
- Grinding media consumption rates are based on mineral material characteristics as described in Section 13.113.3.

21.4.3 Mine Operating Costs

Mine operating costs are built up from first principles and applied to the Goldfields PEA mine production schedule. Cost inputs are derived from historical data collected by MMTS. This includes cost and consumption rates for such inputs as fuel, lubes, explosives, tires, undercarriage, ground engaging tools, drill bits/rods/strings, machine parts, machine major components, labour rates, and operating and maintenance labour ratios. Equipment and labour productivity inputs are estimated for the specific equipment fleet and rationalized to existing Canadian open pit mine operations. Simulated hauler cycle times from source pit benches to planned destinations are utilized to inform hauler productivities.

Annual production tonnes are taken from the Goldfields PEA mine production schedule. Drilling, loading and hauling hours are calculated based on the capacities and parameters of the specified equipment fleet. The production tonnes and primary fleet hours also provide the basis for blasting consumables and support fleet inputs.

Estimated life-of-mine unit mining costs are shown in Table 21-9. It is the QP's opinion that the estimates are reasonable for the location and planned mine operation activities and can be utilized for a PEA.

Table 21-9: Goldfields Mine Operating Cost Summary

Item	C$/t Mined	C$/t Mill Feed	C$M
Grade Control	0.15	0.58	13.2
Drilling	0.45	1.78	40.4
Blasting	0.61	2.38	54.1
Loading	0.37	1.46	33.0
Hauling	1.04	4.08	92.7
Support	0.59	2.31	52.5
Site Development	0.07	0.29	6.5
Unallocated Labour	0.13	0.50	11.4
DIRECT COSTS - Subtotals	*3.42*	*13.38*	*303.8*
GME COSTS - Subtotals	*0.48*	*1.89*	*43.1*
Total Mine Operating Cost	**3.90**	**15.27**	**346.8**

Note: Numbers may not add due to rounding

21.4.4 Process Operating Costs

The process operating cost estimate is based on a 7,500 t/d mill comprising grinding, cyanide leaching/CIP, elution, electrowinning, and cyanide destruction. The operating cost estimates are presented in CAD and summarised in Table 21-10.

Table 21-10: Process Plant Operating Cost Summary

Cost Center	C$M/y	% of Total	C$/t Mill Feed
Processing	34.1	61.9%	12.44
Tailings	0.1	0.2%	0.05
Maintenance	6.2	11.2%	2.26
G&A	13.9	25.2%	5.07
Barge	0.7	1.4%	0.27
Sub-total (Fixed Costs)	**55.0**	**100.0%**	**20.09**

Note: Numbers may not add due to rounding.

These are derived from benchmarking, against existing gold processing plants located in central Canada as well as in-house data and quotations.

21.4.4.1 Maintenance

Annual maintenance consumable costs were calculated based on a total installed mechanical capital cost by area using a weighted average factor from 5% to 8%. The factor was applied to mechanical equipment, platework and piping. The total maintenance consumables operating cost is C$2.26/t of feed. This results in annual maintenance cost estimate of C$6.2 M.

21.4.4.2 Labour

The estimated labour cost is C$5.17/t processed and comprises 25.7% of the overall operating cost of the process plant. It is based on labour rates from similar projects completed by Ausenco. A total of 134 persons is required for the process plant and the process maintenance shop. The labour costs used in this estimated are tabulated in Table 21-11.

Table 21-11: Labour Cost Summary

Labour (Fixed Cost)	C$M/y	C$/t Mill Feed
General and Administration	1.6	0.57
Mill Staff	2.4	0.86
Mill Operators	4.9	1.80
Plant Maintenance	4.1	1.50
G&A Maintenance	1.2	0.44
Sub-total	**14.2**	**5.17**

21.4.4.3 Power

Power costs are calculated from an estimate of annual power consumption using a unit cost of C$0.06/kWh. The processing power draw is based on the average utilization of each motor on the electrical load list for the process plant and services. The average on-line power draw is estimated at 10.7 MW. Annual energy consumption is estimated at 90,083 MWh/y, costing C$5.4 M/y.

21.4.4.4 Consumables

Processing reagent and consumable costs (Table 21-12) were estimated based on the process plant throughput. The operating consumables cost were developed with the following basis:

- Liner consumptions for the jaw crusher, secondary and tertiary crusher and ball mill were determined based on the comminution and breakage data while using Ausenco's calculations and in-house database.
- Grinding media consumption were based on Ausenco's calculations.
- Reagent consumption was estimated from metallurgical test work and Ausenco's in-house database.

Table 21-12: Consumables and Reagent Summary

Operating Consumables (Variable Cost)	C$M/y	C$/t Mill Feed
Crushing & Conveying	5.3	1.93
Grinding/Milling/Classification	5.1	1.85
Leaching	6.1	2.21
Elution	0.8	0.28
Cyanide Destruction	4.5	1.63
Electrowinning	0.1	0.02
Subtotal	**21.9**	**7.94**

21.4.5 General and Administrative Operating Costs

G&A operating costs cover the expenses of the operating departments (mine, geology, plant operation/maintenance), including:

- Human resources: training and recruiting;
- Health and safety: personal protective equipment, clothing allowance; and
- Contract expenses: assay laboratory, relining, specialist maintenance for hazardous waste.

The total annual G&A cost was estimated at C$13.8 M during production which equated to a G&A cost of C$5.07/t processed.

22 ECONOMIC ANALYSIS

22.1 Forward-Looking Information Cautionary Statements

For the following economic analysis, it is necessary to mention that mineral resources are not mineral reserves and do not have demonstrated economic viability.

The preliminary economic assessment is preliminary in nature, it includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary economic assessment would be realized. This PEA is based on a subset of mineral resources comprising 98.6% at an Indicated classification and 1.4% at an Inferred classification.

According to Canadian securities law, the outcomes of the economic assessments mentioned in this section constitute forward-looking information. Results depend on inputs that could differ considerably from those predicted here due to known and unknowable risks, uncertainties, and other factors. The following is a list of forward-looking information:

- mineral resource estimates;
- expected commodity prices and exchange rates;
- the planned mine production plan;
- estimated mining and process recovery rates;
- expectations as to mining dilution and capability to mine in areas earlier exploited using mining methods as predicted the timing and amount of projected future production;
- sustaining costs and proposed operating costs;
- assumptions as to closure costs and closure requirements; and
- assumptions as to environmental, permitting, and social risks;

Additional risks to the forward-looking information include the following:

- Variations to costs of production from what is assumed;
- unrecognized environmental risks;
- unexpected reclamation expenses;
- unanticipated variations in quantity of mineralized material, grade, or recovery rates;
- accidents, labour disputes, and other risks of the mining industry;

- geotechnical or hydrogeological considerations during mining being different from what was assumed;
- failure of mining methods to operate as anticipated;
- failure of plant, equipment, or processes to operate as anticipated;
- changes to assumptions as to the availability of electrical power, and the power rates used in the operating cost estimates and financial analysis;
- ability to maintain the social licence to operate;
- modifications to interest rates; and
- changes to tax rates.

22.2 Methodologies Used

The Project was evaluated using a discounted cash flow (DCF) analysis with a 5% discount rate. Annual income projections are considered cash inflows. Cash outflows include capital expenditures such as pre-production, operational expenses, taxes, and royalties. The annual cash flow predictions are produced by deducting these from the inflows. Cash flows are supposed to occur halfway through each cycle. However, because tax computations involve complex variables that can only be precisely determined during operations, the actual post-tax outcomes may differ from those estimated. Therefore, a sensitivity analysis was conducted to ascertain the consequences of differences in the commodity price, discount rate, head grade, total operating cost, and total capital cost. Section 21 of this report presents the Project's capital and operating cost estimates. The economic analysis has been run on a constant dollar basis with no inflation.

22.3 Financial Model Parameters

22.3.1 Assumptions

The base case gold price estimate used in the economic study was $1,650 / oz. This metal price was determined using consensus expert projections and recent economic studies. The forecasts assume an average metal price during the course of the Project. The consequences of rising prices or inflation were not considered. As a result, there is a possibility that the forecast may differ and that the price of the commodity may change.

The economic analysis also used the following assumptions:

- The construction period will be 2 years.
- The mine life is 8.3 years.
- Cost estimates are in constant Q3 2022 CAD with no inflation or escalation factors considered.
- Results are based on 100% ownership with revenue from gold doré production.
- Capital costs are funded with 100% equity (no financing assumed).
- All cash flows are discounted to the start of the construction period using a mid-period discounting convention.

- All metal products will be sold in the same year they are produced.
- Project revenue will be derived from the sale of gold doré.
- Currently, there are no contractual refining arrangements.

22.3.2 Taxes

The Project has been evaluated on a post-tax basis to provide an approximate value of the potential economics. The tax model was compiled by Fortune Bay with assistance from third-party tax professionals. Tax calculations are based on the tax regime as of the date of the PEA technical report. At the effective date of this report, the Project was assumed to be subject to the following tax regime:

- Canadian federal tax of 15%
- Saskatchewan provincial tax of 12%

The tax model does not have mining tax charged due to the 10-year exemption available for gold mining in Saskatchewan. The taxes in the model are calculated at a high level to provide a general concept of the potential tax and are anticipated to change as the economics of the model change. At the assumed metal prices, total payments are estimated to be C$157M over the LOM.

22.4 Economic Analysis

The economic analysis was performed assuming an 5% discount rate. The pre-tax NPV discounted at 5% is C$401M; the IRR is 45.5%, and payback period is 1.4 years. On a post-tax basis, the NPV discounted at 5% is C$285M, the IRR is 35.2%, and the payback period is 1.7 years. A summary of project economics is listed in Table 22-1.

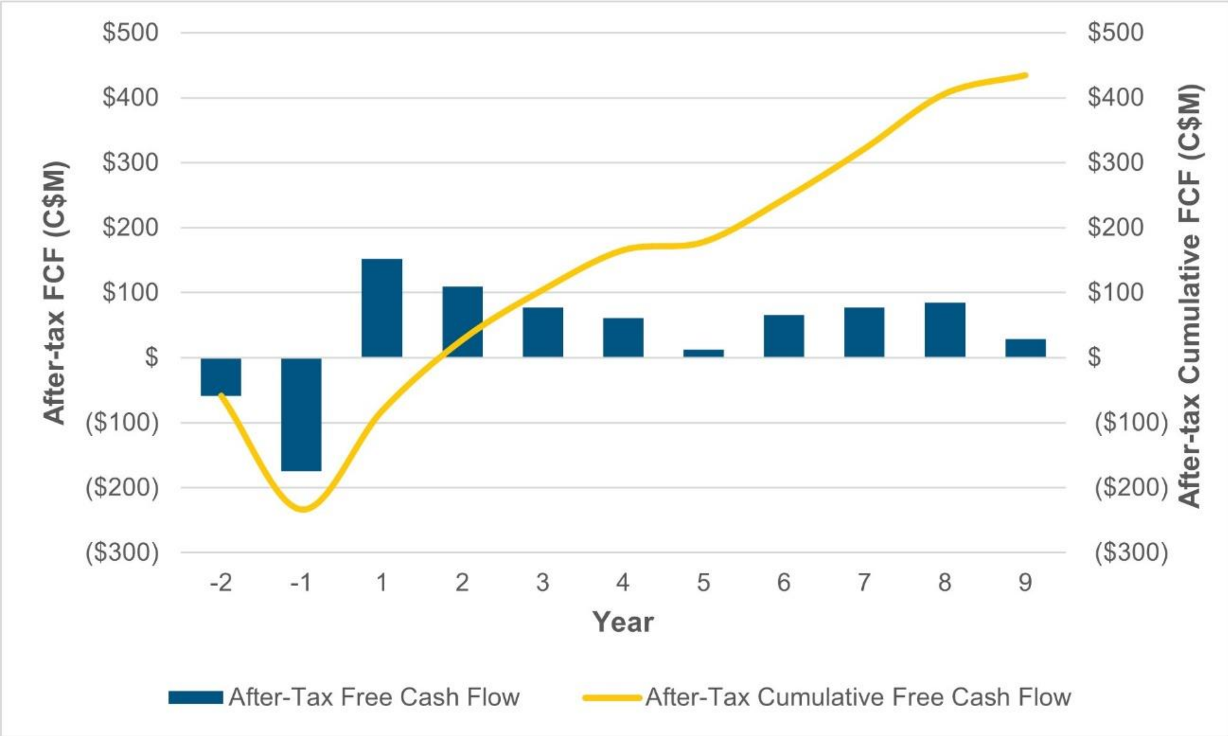
The analysis was done on an annual cashflow basis; the cashflow output is shown in Table 22-2. Cumulative post-tax unlevered free cash flow totals C$435M as show graphically in Figure 22-1. The Goldfields annual gold production and head grade profile over the life of mine is shown in Figure 22-2.

Table 22-1: Economic Analysis Summary Table

Description	Unit	LOM Total / Avg.
General		
Gold Price	US$/oz	1,650
Exchange Rate	$US: $CAD	0.77
Mine Life	Years	8.3
Total Waste Tonnes Mined	kt	69,139
Total Mill Feed Tonnes	kt	22,708
Strip Ratio	waste tonnes:resource tonnes	3.0:1
Production		
Mill Head Grade	g/t	1.2
Mill Recovery Rate	%	95.3
Total Mill Ounces Recovered	koz	835
Total Average Annual Production	koz	101
Operating Costs		
Mining Cost	C$/t Mined	3.90
Mining Cost	C$/t Milled	15.27
Processing Cost	C$/t Milled	15.02
G&A Cost	C$/t Milled	5.07
Total Operating Costs	C$/t Milled	35.36
Refining & Transport Cost	C$/oz	5.00
Royalty NSR	%	2.0
Cash Costs	US$/oz Au	778
AISC	US$/oz Au	889
Capital Costs		
Initial Capital	C$M	233.5
Sustaining Capital	C$M	128.7
Closure Costs	C$M	9.0
Salvage Costs	C$M	18.0
Financials		
Pre-Tax NPV (5%)	C$M	401
Pre-Tax IRR	%	45.5
Pre-Tax Payback (Years)	Years	1.4
Post-Tax NPV (5%)	C$M	285
Post-Tax IRR	%	35.2
Post-Tax Payback (Years)	Years	1.7

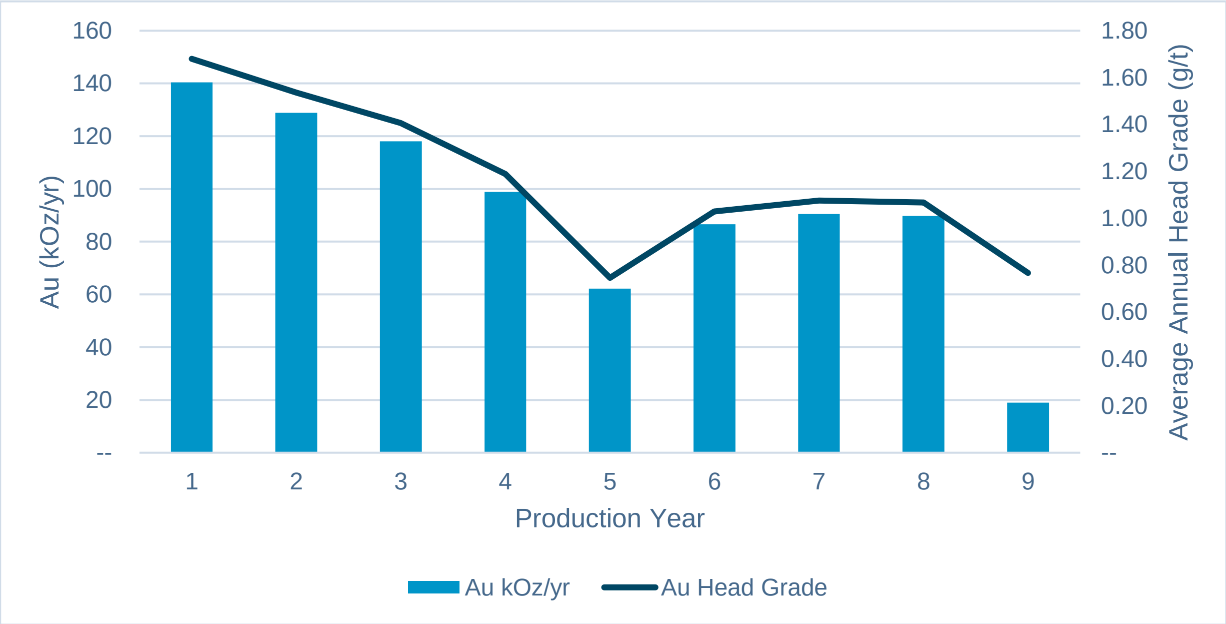
* Cash costs consist of mining costs, processing costs, mine-level G&A and refining charges and royalties.
** AISC includes cash costs plus sustaining capital, closure cost and salvage value.
*** NSR of 2%. The additional Cominco royalty (Section 4.3) is not applicable since material below 50m is not mined

Figure 22-1: Post-Tax Unlevered Free Cash Flow



Note: Figure prepared by Ausenco, 2022.

Figure 22-2: Goldfields Annual Gold Production and Head Grade Profile



Note: Figure prepared by Ausenco, 2022.

Table 22-2: Cashflow Statement on an Annualized Basis

Dollar figures in Real 2022 C$M unless otherwise noted	Units	Total/Avg.	Y -2	Y -1	Y 1	Y 2	Y 3	Y 4	Y 5	Y 6	Y 7	Y 8	Y 9
Revenue	**C$M**	**$1,788**	**--**	**--**	**$301**	**$276**	**$253**	**$212**	**$133**	**$186**	**$194**	**$192**	**$41**
Operating Expenses	C$M	-$803	--	--	-$99	-$103	-$106	-$108	-$99	-$99	-$91	-$78	-$20
Refining Charges & Transportation Cost	C$M	-$4	--	--	-$1	-$1	-$1	$0	$0	$0	$0	$0	$0
Royalties	C$M	-$36	--	--	-$6	-$6	-$5	-$4	-$3	-$4	-$4	-$4	-$1
EBITDA	**C$M**	**$945**	**--**	**--**	**$195**	**$167**	**$142**	**$100**	**$31**	**$82**	**$98**	**$110**	**$19**
Initial Capex	C$M	-$234	-$58	-$175	--	--	--	--	--	--	--	--	--
Sustaining Capex	C$M	-$129	--	--	-$23	-$25	-$38	-$22	-$19	-$2	--	--	--
Closure Capex	C$M	-$9	--	--	--	--	--	--	--	--	--	--	-$9
Salvage Value	C$M	$18	--	--	--	--	--	--	--	--	--	--	$18
Change in Working Capital	C$M	--	--	--	--	--	--	--	--	--	--	--	--
Pre-Tax Unlevered Free Cash Flow	**C$M**	**$591**	**-$58**	**-$175**	**$172**	**$142**	**$104**	**$77**	**$13**	**$81**	**$98**	**$110**	**$28**
Unlevered Cash Taxes	C$M	-$157	--	--	-$20	-$33	-$27	-$16	--	-$14	-$21	-$26	--
Post-Tax Unlevered Free Cash Flow	**C$M**	**$435**	**-$58**	**-$175**	**$152**	**$109**	**$77**	**$61**	**$13**	**$66**	**$77**	**$85**	**$28**
Resource and Production													
Mine Plan													
Box													
Ore Mined to Mill	kt	17,187	--	--	1,717	2,185	2,364	1,229	1,644	2,482	2,434	2,509	624
Au Grade	g/t	1.28	--	--	1.83	1.55	1.45	1.42	0.83	1.09	1.16	1.13	0.88
Total Waste	kt	64,589	--	1,837	9,031	9,448	9,234	9,018	10,328	8,773	4,977	1,909	33
Athona													
Ore Mined to Mill	kt	5,522	--	--	1,021	553	374	1,509	1,094	256	304	229	183
Au Grade	g/t	0.95	--	--	1.43	1.47	1.15	1	0.61	0.4	0.4	0.4	0.4
Total Waste	kt	4,550	--	460	1,205	877	754	958	297	--	--	--	--
Resource Totals													
Open Pit													
Total Open Pit Mining Waste	kt	69,139	--	2,297	10,236	10,325	9,988	9,976	10,625	8,773	4,977	1,909	33
Total Open Pit Resource Mined	kt	22,708	--	602	3,610	3,675	3,512	3,524	1,375	2,050	1,922	2,123	316
Total Open Pit Material Mined	kt	91,848	--	2,900	13,846	14,000	13,500	13,500	12,000	10,823	6,899	4,031	349
Total Open Pit Strip Ratio	w:o	3	--	3.8	2.8	2.8	2.8	2.8	7.7	4.3	2.6	0.9	0.1
Mine Life	yrs	8.1	--	--	1	1	1	1	1	1	1	1	0.1
Au Grade	g/t	1.2	--	1.34	1.26	1.26	1.18	1	0.96	1.24	1.36	1.26	1.34
Mill Plan													
Total Resource to Mill	kt	22,708	--	--	2,738	2,738	2,738	2,738	2,738	2,738	2,738	2,738	807
Au Grade	g/t	1.2	--	--	1.68	1.54	1.41	1.19	0.75	1.03	1.08	1.07	0.77
Contained Gold	koz	876	--	--	148	135	124	105	66	91	95	94	20
Au Recovery	%	95.30%	--	--	95.00%	95.40%	95.60%	94.60%	94.90%	95.70%	95.60%	95.70%	95.40%
Recovered Gold	koz	835	--	--	140	129	118	99	62	87	91	90	19
Gold % Payablility	%	99.90%	--	--	99.90%	99.90%	99.90%	99.90%	99.90%	99.90%	99.90%	99.90%	99.90%
Total Payable Gold	**koz**	**834**	**--**	**--**	**140**	**129**	**118**	**99**	**62**	**87**	**90**	**90**	**19**
Macro Assumptions													
Gold Price - Flat	US$/oz	$1,650	--	--	$1,650	$1,650	$1,650	$1,650	$1,650	$1,650	$1,650	$1,650	$1,650
FX - US$:CAD$	US$:CAD$	$1.30	--	--	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
Total Revenue	**C$M**	**$1,788**	**--**	**--**	**$301**	**$276**	**$253**	**$212**	**$133**	**$186**	**$194**	**$192**	**$41**
Operating Costs													
Total Operating Costs	**C$M**	**$803**	**--**	**--**	**$99**	**$103**	**$106**	**$108**	**$99**	**$99**	**$91**	**$78**	**$20**
Total Mine Operating Costs	**C$M**	**$347**	**--**	**--**	**$44**	**$48**	**$51**	**$53**	**$44**	**$44**	**$36**	**$23**	**$4**
Open Pit Mining Operating Costs	C$M	$347			$44	$48	$51	$53	$44	$44	$36	$23	$4
Total Mill Processing Costs	**C$M**	**$341**	**--**	**--**	**$41**	**$41**	**$41**	**$41**	**$41**	**$41**	**$41**	**$41**	**$12**
Process	C$M	$283	--	--	$34.10	$34.10	$34.10	$34.10	$34.10	$34.10	$34.10	$34.10	$10.00
Tails	C$M	$1	--	--	$0.10	$0.10	$0.10	$0.10	$0.10	$0.10	$0.10	$0.10	$0.00
Maintenance	C$M	$51	--	--	$6.20	$6.20	$6.20	$6.20	$6.20	$6.20	$6.20	$6.20	$1.80
Barge	C$M	$6	--	--	$0.70	$0.70	$0.70	$0.70	$0.70	$0.70	$0.70	$0.70	$0.20
Total G&A Costs	**C$M**	**$115**	**--**	**--**	**$13.90**	**$13.90**	**$13.90**	**$13.90**	**$13.90**	**$13.90**	**$13.90**	**$13.90**	**$4.10**
Refining & Transport Costs & Royalties													
Refining Charges & Transportation Cost	**C$M**	**$4**	**--**	**--**	**$0.70**	**$0.60**	**$0.60**	**$0.50**	**$0.30**	**$0.40**	**$0.50**	**$0.40**	**$0.10**
Refining	**C$M**	**$4**	**--**	**--**	**$1**	**$1**	**$1**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Transportation	**C$M**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Total Royalties	**C$M**	**$36**	**--**	**--**	**$6**	**$6**	**$5**	**$4**	**$3**	**$4**	**$4**	**$4**	**$1**
Total Revenue	C$M	$1,788	--	--	$301	$276	$253	$212	$133	$186	$194	$192	$41
Refining	C$M	-$4	--	--	-$1	-$1	-$1	$0	$0	$0	$0	$0	$0
Treatment Charges	C$M	--	--	--	--	--	--	--	--	--	--	--	--
Transportation	C$M	--	--	--	--	--	--	--	--	--	--	--	--
Net Smelter Return	**C$M**	**$1,783**	**--**	**--**	**$300**	**$275**	**$252**	**$211**	**$133**	**$185**	**$193**	**$192**	**$40**
Cash Costs													
Cash Cost *	USD$/oz Au	$778	--	--	$580	$651	$725	$874	$1,264	$920	$815	$706	$862
All-in Sustaining Cost (AISC) **	USD$/oz Au	$890	--	--	$706	$803	$976	$1,050	$1,498	$934	$815	$706	$498
* Cash costs consist of mining costs, processing costs, mine-level G&A and refining charges and royalties													
** AISC includes cash costs plus sustaining capital, closure cost and salvage value													
Capital Expenditures													
Total Initial Capital	**C$M**	**$234**	**$58**	**$175**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Mine	C$M	$40	$10	$30	--	--	--	--	--	--	--	--	--
Process Plant	C$M	$72	$18	$54	--	--	--	--	--	--	--	--	--
Onsite Infrastructure	C$M	$22	$6	$17	--	--	--	--	--	--	--	--	--
Offsite Infrastructure	C$M	$6	$1	$4	--	--	--	--	--	--	--	--	--
Tailings Storage Facility	C$M	$21	$5	$16	--	--	--	--	--	--	--	--	--
Project Indirects	C$M	$10	$3	$8	--	--	--	--	--	--	--	--	--
Project Delivery	C$M	$22	$6	$17	--	--	--	--	--	--	--	--	--
Owner's Costs	C$M	$6	$2	$5	--	--	--	--	--	--	--	--	--
Provisions (Contingency)	C$M	$34	$9	$26	--	--	--	--	--	--	--	--	--
Total Sustaining Capital	**C$M**	**$129**	**0**	**0**	**$23**	**$25**	**$38**	**$22**	**$19**	**$2**	**--**	**--**	**--**
Mining	**C$M**	**$69.00**	**0**	**0**	**$15**	**$15**	**$14**	**$14**	**$9**	**$2**	**--**	**--**	**--**
Infrastructure Costs	**C$M**	**$40.73**	**--**	**--**	**$4**	**$7**	**$20**	**$4**	**$6**	**--**	**--**	**--**	**--**
Tailings Management Facility	C$M	$16.00	--	--	--	--	$16	--	--	--	--	--	--
Camp	C$M	$20.73	--	--	4.15	4.15	4.15	4.15	4.15	--	--	--	--
Water Management	C$M	$4.00	--	--	--	$2	--	--	$2	--	--	--	--
Indirects, Project delivery, Owners Costs, Contingency	**C$M**	**$18.97**	**0**	**0**	**$4**	**$4**	**$4**	**$4**	**$4**	**--**	**--**	**--**	**--**
PROJECT INDIRECTS	C$M	$2.85	0	0	$0.57	$0.57	$0.57	$0.57	$0.57	--	--	--	--
PROJECT DELIVERY	C$M	$6.64	0	0	$1.33	$1.33	$1.33	$1.33	$1.33	--	--	--	--
OWNER'S COSTS	C$M	0	0	0	0	0	0	0	0	--	--	--	--
Contingency	C$M	$9.49	0	0	$1.90	$1.90	$1.90	$1.90	$1.90	--	--	--	--
Closure Capex	**C$M**	**$9.05**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**$9**
Salvage Value	**C$M**	**$18**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**$18**
Total Capital Expenditures Excluding Salvage Value	**C$M**	**$371**	**$58**	**$175**	**$23**	**$25**	**$38**	**$22**	**$19**	**$2**	**0**	**0**	**$9**
Depreciation Schedule													
Existing Capital Assets (Book Value)	C$M	$234											
Depreciation of Existing Capital Assets (Straight Line)	C$M	$129	-	-	$3	$6	$12	$16	$21	$21	$21	$21	$6
Depreciation of Sustaining Capital Assets		$129	$0	$0	$3	$6	$12	$16	$21	$21	$21	$21	$6
Total Depreciation		$362	$0	$0	$31	$34	$40	$45	$49	$49	$49	$49	$15

22.5 Sensitivity Analysis

A sensitivity analysis was conducted on the base case post-tax NPV and IRR of the Project using the following variables: Discount rate, CAPEX, OPEX, Head grade and FX rate. The pre-tax sensitivity analysis is shown in Table 22-3 and post-tax sensitivity analysis is shown in Table 22-4.

As shown in Figure 22-3 and Figure 22-4, the pre-tax and post-tax sensitivity analysis revealed that the Project's NPV is most sensitive to changes in gold price and operating cost, whereas IRR is sensitive to gold price and initial capital cost.

Table 22-3: Pre-tax Sensitivity Analysis (NPV and IRR) to Discount Rate, CAPEX, OPEX, Head Grade and FX Rate

		Gold Price (US$/oz)							Gold Price (US$/oz)				
Discount Rate	$401	$1,300	$1,450	$1,650	$1,750	$1,950	Discount Rate	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	1.0%	$197	$347	$547	$646	$846		1.0%	19.2%	31.2%	45.5%	52.3%	64.9%
	3.0%	$157	$290	$468	$556	$734		3.0%	19.2%	31.2%	45.5%	52.3%	64.9%
	5.0%	$124	$243	$401	$480	$638		5.0%	19.2%	31.2%	45.5%	52.3%	64.9%
	8.0%	$85	$185	$319	$386	$520		8.0%	19.2%	31.2%	45.5%	52.3%	64.9%
	10.0%	$63	$154	$275	$335	$456		10.0%	19.2%	31.2%	45.5%	52.3%	64.9%

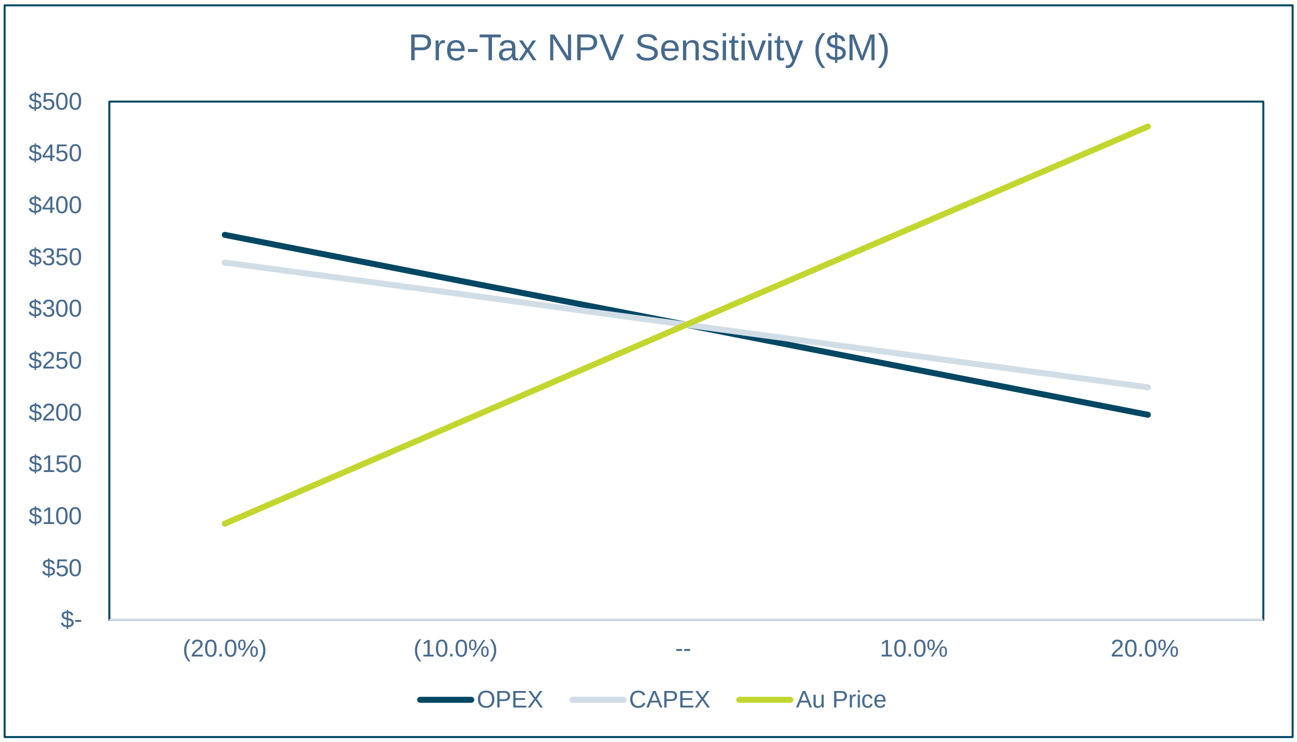
		Gold Price (US$/oz)							Gold Price (US$/oz)				
Total Capex	$401	$1,300	$1,450	$1,650	$1,750	$1,950	Total Capex	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	(20.0%)	$189	$307	$465	$544	$702		(20.0%)	31.3%	45.1%	61.8%	69.6%	84.2%
	(10.0%)	$156	$275	$433	$512	$670		(10.0%)	24.6%	37.5%	52.9%	60.1%	73.7%
	--	$124	$243	$401	$480	$638		--	19.2%	31.2%	45.5%	52.3%	64.9%
	10.0%	$92	$211	$369	$448	$606		10.0%	14.7%	25.9%	39.4%	45.7%	57.6%
	20.0%	$60	$179	$337	$416	$574		20.0%	10.8%	21.4%	34.1%	40.1%	51.3%

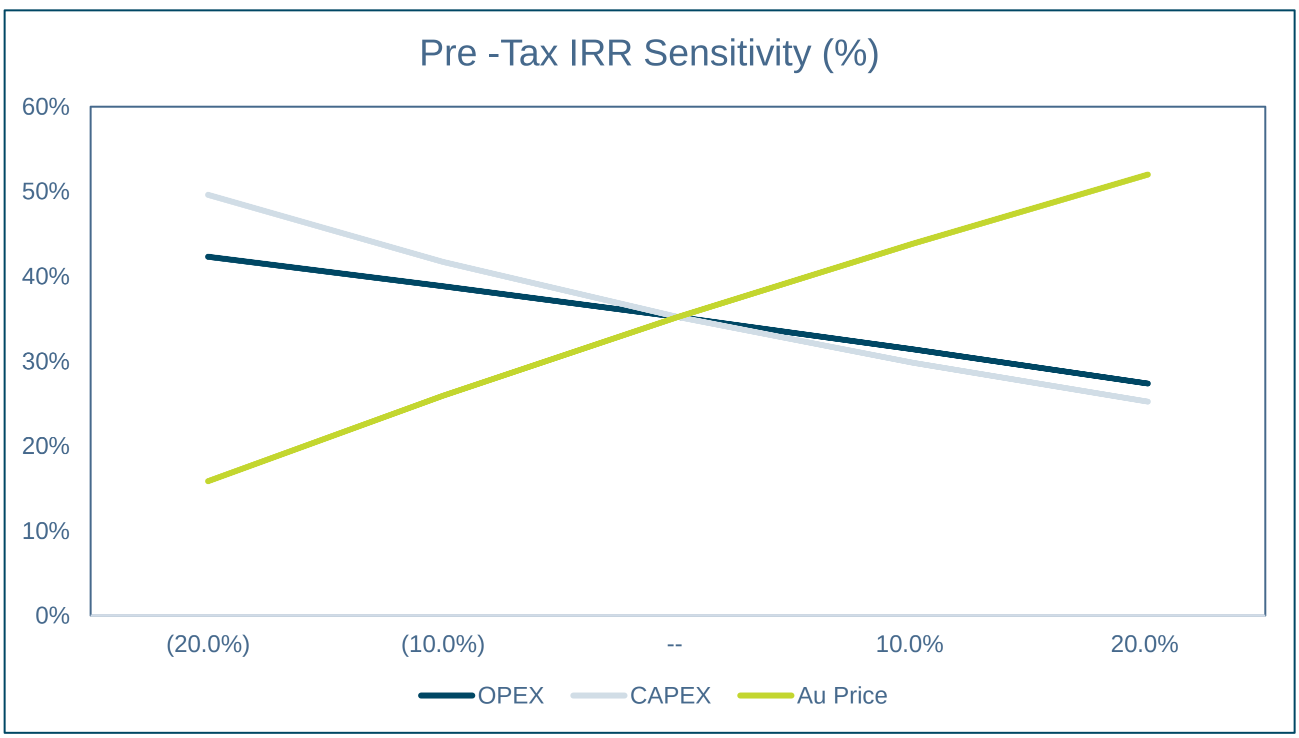
		Gold Price (US$/oz)							Gold Price (US$/oz)				
Opex	$401	$1,300	$1,450	$1,650	$1,750	$1,950	Opex	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	(20.0%)	$242	$361	$519	$598	$756		(20.0%)	30.3%	41.0%	54.3%	60.6%	72.6%
	(10.0%)	$183	$302	$460	$539	$697		(10.0%)	25.0%	36.2%	50.0%	56.5%	68.9%
	--	$124	$243	$401	$480	$638		--	19.2%	31.2%	45.5%	52.3%	64.9%
	10.0%	$65	$184	$342	$421	$579		10.0%	12.9%	25.7%	40.8%	47.8%	60.9%
	20.0%	$7	$125	$283	$362	$520		20.0%	5.8%	19.8%	35.8%	43.1%	56.7%

		Gold Price (US$/oz)							Gold Price (US$/oz)				
Head Grade	$401	$1,300	$1,450	$1,650	$1,750	$1,950	Head Grade	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	(2.0%)	$104	$220	$375	$452	$607		(2.0%)	17.0%	28.9%	43.3%	49.9%	62.5%
	(1.0%)	$114	$231	$388	$466	$623		(1.0%)	18.1%	30.1%	44.4%	51.1%	63.7%
	--	$124	$243	$401	$480	$638		--	19.2%	31.2%	45.5%	52.3%	64.9%
	1.0%	$135	$254	$414	$494	$653		1.0%	20.3%	32.2%	46.7%	53.4%	66.1%
	2.0%	$145	$266	$427	$508	$669		2.0%	21.4%	33.3%	47.8%	54.5%	67.3%

		Gold Price (US$/oz)							Gold Price (US$/oz)				
FX	$401	$1,300	$1,450	$1,650	$1,750	$1,950	FX	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	(20.0%)	($81)	$14	$140	$203	$330		(20.0%)	0.0%	6.7%	20.9%	27.3%	39.2%
	(10.0%)	$22	$128	$271	$342	$484		(10.0%)	7.6%	19.6%	33.8%	40.3%	52.6%
	--	$124	$243	$401	$480	$638		--	19.2%	31.2%	45.5%	52.3%	64.9%
	10.0%	$227	$357	$531	$618	$792		10.0%	29.6%	41.7%	56.5%	63.4%	76.6%
	20.0%	$330	$472	$662	$757	$946		20.0%	39.2%	51.6%	66.8%	73.9%	87.6%

Figure 22-3: Pre-Tax NPV and IRR Sensitivity Results





Note: Figure prepared by Ausenco, 2022.

Table 22-4: Post-tax Sensitivity Analysis (NPV and IRR) to Discount Rate, CAPEX, OPEX, Head Grade and FX Rate

		Gold Price (US$/oz)				
Discount Rate	$285	$1,300	$1,450	$1,650	$1,750	$1,950
	1.0%	$142	$252	$399	$473	$619
	3.0%	$109	$207	$337	$402	$532
	5.0%	$81	$168	$285	$343	$459
	8.0%	$48	$122	$221	$270	$368
	10.0%	$30	$97	$186	$230	$319

		Gold Price (US$/oz)				
Discount Rate	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	1.0%	14.6%	23.9%	35.2%	40.5%	50.5%
	3.0%	14.6%	23.9%	35.2%	40.5%	50.5%
	5.0%	14.6%	23.9%	35.2%	40.5%	50.5%
	8.0%	14.6%	23.9%	35.2%	40.5%	50.5%
	10.0%	14.6%	23.9%	35.2%	40.5%	50.5%

		Gold Price (US$/oz)				
Total Capex	$285	$1,300	$1,450	$1,650	$1,750	$1,950
	(20.0%)	$142	$229	$345	$402	$518
	(10.0%)	$111	$199	$315	$373	$488
	--	$81	$168	$285	$343	$459
	10.0%	$51	$138	$255	$313	$429
	20.0%	$21	$108	$224	$283	$399

		Gold Price (US$/oz)				
Total Capex	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	(20.0%)	25.5%	36.4%	49.6%	55.8%	67.4%
	(10.0%)	19.5%	29.5%	41.7%	47.4%	58.2%
	--	14.6%	23.9%	35.2%	40.5%	50.5%
	10.0%	10.5%	19.2%	29.8%	34.8%	44.2%
	20.0%	7.1%	15.3%	25.2%	29.9%	38.8%

		Gold Price (US$/oz)				
Opex	$285	$1,300	$1,450	$1,650	$1,750	$1,950
	(20.0%)	$168	$255	$371	$429	$545
	(10.0%)	$125	$212	$328	$386	$502
	--	$81	$168	$285	$343	$459
	10.0%	$37	$125	$241	$299	$416
	20.0%	($7)	$81	$198	$256	$372

		Gold Price (US$/oz)				
Opex	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	(20.0%)	23.4%	31.8%	42.3%	47.3%	56.8%
	(10.0%)	19.1%	28.0%	38.8%	44.0%	53.7%
	--	14.6%	23.9%	35.2%	40.5%	50.5%
	10.0%	9.6%	19.5%	31.4%	36.9%	47.3%
	20.0%	4.1%	14.8%	27.4%	33.1%	43.9%

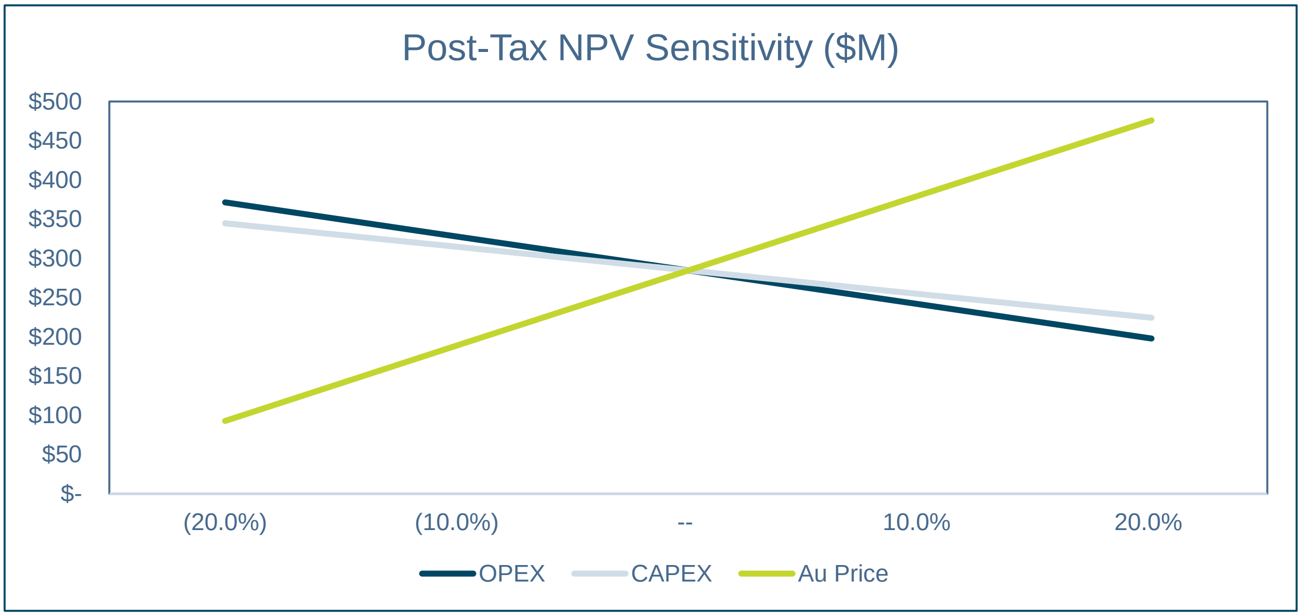
		Gold Price (US$/oz)				
Head Grade	$285	$1,300	$1,450	$1,650	$1,750	$1,950
	(2.0%)	$66	$152	$266	$323	$436
	(1.0%)	$74	$160	$275	$333	$447
	--	$81	$168	$285	$343	$459
	1.0%	$89	$177	$294	$353	$470
	2.0%	$96	$185	$304	$363	$481

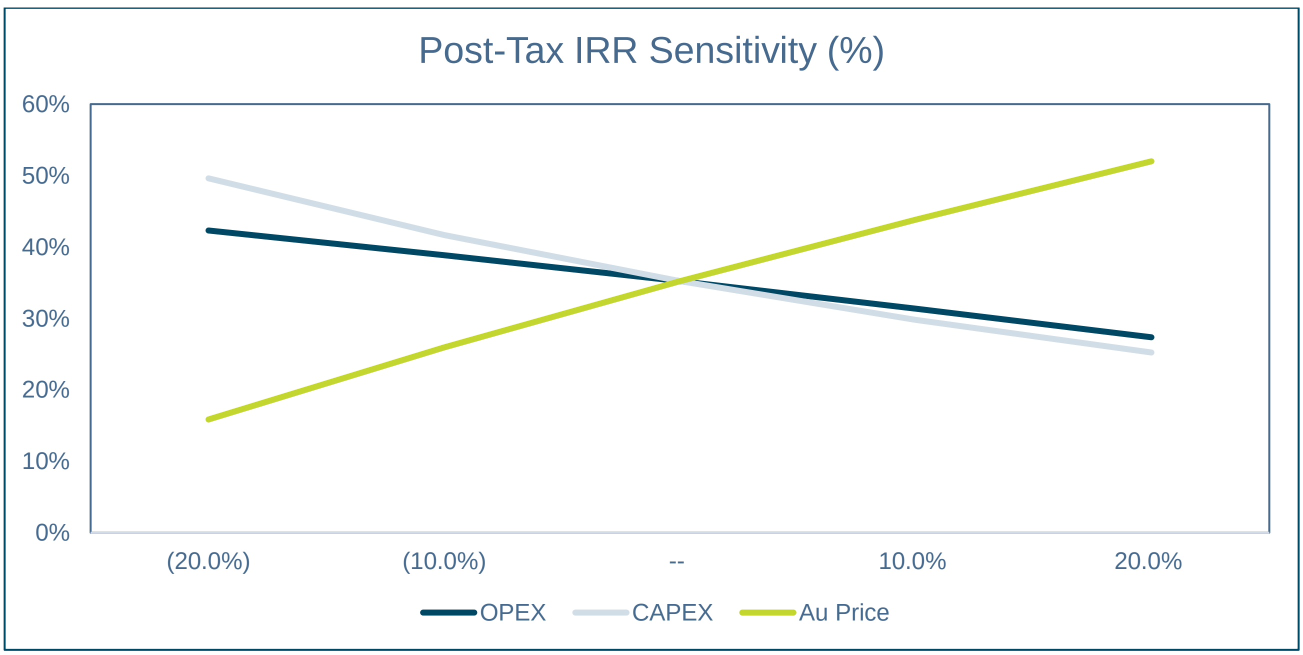
		Gold Price (US$/oz)				
Head Grade	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	(2.0%)	12.8%	22.1%	33.4%	38.7%	48.6%
	(1.0%)	13.7%	23.0%	34.3%	39.6%	49.6%
	--	14.6%	23.9%	35.2%	40.5%	50.5%
	1.0%	15.4%	24.7%	36.1%	41.4%	51.5%
	2.0%	16.2%	25.6%	37.0%	42.3%	52.4%

		Gold Price (US$/oz)				
FX	$285	$1,300	$1,450	$1,650	$1,750	$1,950
	(20.0%)	($81)	($1)	$93	$139	$232
	(10.0%)	$5	$84	$189	$241	$346
	--	$81	$168	$285	$343	$459
	10.0%	$157	$253	$381	$444	$571
	20.0%	$232	$337	$476	$545	$684

		Gold Price (US$/oz)				
FX	$0	$1,300	$1,450	$1,650	$1,750	$1,950
	(20.0%)	0.0%	4.9%	15.8%	20.9%	30.2%
	(10.0%)	5.6%	14.9%	25.9%	31.1%	40.8%
	--	14.6%	23.9%	35.2%	40.5%	50.5%
	10.0%	22.7%	32.2%	43.8%	49.3%	59.8%
	20.0%	30.2%	40.0%	52.0%	57.7%	68.6%

Figure 22-4: Post-Tax NPV and IRR Sensitivity Results





Note: Figures prepared by Ausenco, 2022

22.6 Comment on Economic Analysis

The economic analysis was performed assuming a 5% discount rate. The pre-tax NPV discounted at 5% is C$401M; the IRR is 45.5%, and payback period is 1.4 years. On a post-tax basis, the NPV discounted at 5% is C$285M, the IRR is 35.2%, and the payback period is 1.7 years.

23 ADJACENT PROPERTIES

There are no properties adjacent to Fortune Bay's Goldfields Project that are relevant to this report. Adjacent mineral dispositions are predominantly focused on uranium exploration and no other gold exploration or development projects exist in close proximity to Goldfields. The nearest operating gold mine in Saskatchewan is the SSR Mining Inc. Seabee Gold Mine, located approximately 500 km to the southeast of Goldfields.

24 OTHER RELEVANT DATA AND INFORMATION

This section is not relevant to this Report.

25 INTERPRETATION AND CONCLUSIONS

25.1 Introduction

The QPs note the following interpretations and conclusions in their respective areas of expertise, based on the review of data available for this Report.

25.2 Metallurgical Testwork

Since 1939, progressively more detailed metallurgical testwork has been conducted on samples from the Goldfields Project culminating in a thorough PEA metallurgical testwork program by Fortune Bay in 2015. Testwork has shown that mineralization can be successfully processed to produce high value gold doré.

The key conclusions of testwork conducted to date include:

- Box and Athona composite samples are amenable to both flotation and cyanidation with or without gravity separation.
- The choice of primary grind of 170 µm is favourable due to the relatively hard characteristics of the mineralized material.
- Testwork indicated that the preferred flowsheet for the Box and Athona composites should include gravity separation, whole ore cyanide leaching along with carbon-in-pulp process for gold recovery.
- Based on the selected flowsheet for process plant operation, the recovery for gold at the Box and Athona deposits is 95.9% and 93.5% respectively.

25.3 Mineral Resource Estimate

SRK has generated mineral resource estimates for the Box and Athona deposits, which include Indicated mineral resources of 979,900 oz of gold (23.2 Mt at an average grade of 1.31 g/t) and Inferred mineral resources of 210,800 oz of gold (7.1 Mt at an average grade of 0.92 g/t). These mineral resources are reported at a lower cut-off grade of 0.3 g/t and are constrained within conceptual open-pit shells using a gold price of US$1800 per ounce.

The mineral resource estimate is based on verified historical drilling data and recent drilling data collected by Fortune Bay in 2021 and 2022, and geological and mineralization models that incorporate structural controls on mineralization into the grade estimates. Mineralization models, representing higher-grade vein sets, are based on historical information reviews, structural mapping conducted onsite, petrographic analysis, and an interpretation of grade distributions in historical assay data, and supported by additional oriented structural data collected by Fortune Bay. These models have supported the development of a grade model that is a realistic representation of a vein-hosted gold deposit. The grade estimate reconciles well with historical production, providing further confidence in its reliability.

25.4 Mining Methods

Reasonable open pit mine plans, mine production schedules, and mine capital and operating costs have been developed for the Goldfields Project PEA.

Pit layouts and mine operations are typical of other regional open pit gold operations, and the unit operations within the developed mine operating plan are proven to be effective for these other operations.

The mine plan and estimated mine capital and operations costs are reasonable at a scoping level of engineering and support the cash flow model and financials developed for the PEA.

25.5 Recovery Methods

The plant will process material at a rate of 2.7 Mt/a with an average head grade of 1.20 g/t Au to produce doré.

The process plant flowsheet designs were based on testwork results and industry-standard practices. The flowsheet was developed for optimum recovery while minimizing capital expenditure and life of mine operating costs. The process methods are conventional to the industry. The comminution and recovery process are widely used with no significant elements of technological innovation.

25.6 Infrastructure

The main infrastructure contemplated in this Project includes, Waste Rock Storage Facility (WRSF), Tailing Storage Facility (TSF), stockpiles, onsite roads, processing plant and mining infrastructure areas such as offices and truck shops.

The Project can be reached by car from Uranium City via the gravel Highway 962 and subsequent historical trails to the Box and Athona deposits. Highway 962 from Uranium city to the mine site (25 km) will be upgraded and used to transport supplies / personnel for the mine site.

On the northern side of Lake Athabasca, the Box and Athona deposits are reachable throughout the summer by boat or barge. In addition, a winter ice road between Uranium City and Stony Rapids is constructed by the Government of Saskatchewan during the winter months and can also be used to access the Project.

The current high voltage powerline to site needs refurbishment over an extension of 10 km. Power will be supplied from the SaskPower grid, which has sufficient capacity to supply power to the Project.

At the beginning and end of winter, there is an approximate 6-week period (freeze and thaw) when a barge cannot operate and the winter ice road is not accessible. Sufficient storage for fuel (5 tanks, each with a capacity of 100,000 L) and explosives has been planned to accommodate this window.

Approximately 21.9 Mt of tailings will be stored in the TSF. Construction of the TSF has been divided in two (2) phases. Phase 1 of the TSF will store 8.2 Mt of tailings and Phase 2 will store 13.7 Mt of tailings.

A Water Rights Licence for Industrial Water Use needs to be submitted and approved by the Water Security Agency (WSA) of Saskatchewan. The freshwater will be sourced from Neiman Bay, located in Lake Athabasca.

25.7 Environmental, Permitting and Social Considerations

The Project completed a federal screening and a provincial Environmental Assessment and received Ministerial Approval to proceed to licensing in 2008. Updates to the environmental baseline will be required and changes to the Project, to that which was assessed, will require some additional assessment. Fortune Bay intends to obtain approvals to these changes through an application submitted in accordance with Section 16 of the Provincial Assessment Act. Doing so should significantly reduce the schedule and cost required to advance the Project into construction and operations.

Fortune Bay is committed to working with Indigenous Rights Holders declaring the Project area as part of their traditional territory. Engagement efforts with these Rights Holders to date, specifically First Nation and surrounding Municipalities representatives, have established the foundation of a relationship based on trust and honesty.

No environmental and/or social risks have been identified that cannot be reasonably mitigated through the implementation of good engineering and social practices.

25.8 Markets and Contracts

The Goldfields Project will produce gold in the form of doré bars with 99.9% gold payable. Fortune Bay and its consultants have conducted no market study on the sale of gold doré. In the economic assessments, the gold price was assumed at US$1,650/oz and a US$:C$ exchange rate of 1.00:1.30 was used. The refinery terms assumed for this PEA are 5.00 C$/oz, which includes transportation charges. No existing refining agreements or sales contracts are currently in place for the Goldfields Project.

The QP is of the opinion that the marketing and commodity price information is suitable to be used in cashflow analysis to support this report.

25.9 Capital Cost Estimates

The preliminary economics of the Goldfields Project can be assessed using the capital and operational cost estimates offered in this PEA. The calculations are created on an open pit mining operation concept, the development of a Processing Plant, infrastructure, and Tailings Storage Facility, and the Owner's expenses and provisions.

The capital cost estimate conforms to Class 5 guidelines for a preliminary economic assessment level estimate with a ±50% accuracy according to the Association for the Advancement of Cost Engineering International (AACE International). The capital cost estimate was developed in Q3 2022 based on Ausenco's in-house database of projects and studies as well as experience from similar operations.

The total initial capital cost for the Goldfields Project is C$233.5 M and the life-of-mine sustaining cost is C$128.7 M. The total provisions (contingency) is estimated at C$43.6 M.

25.10 Operating Cost Estimates

The operating cost estimate was developed in Q3 2022 using data from projects, studies, and previous operations from Ausenco's internal database. The operating cost estimate is considered to be accurate to within ±50%. The estimate covers the TSF, mobile equipment, general and administrative (G&A), and mining and processing. The unit operating cost per tonne of material milled is $35.36/t.

25.11 Economic Analysis

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

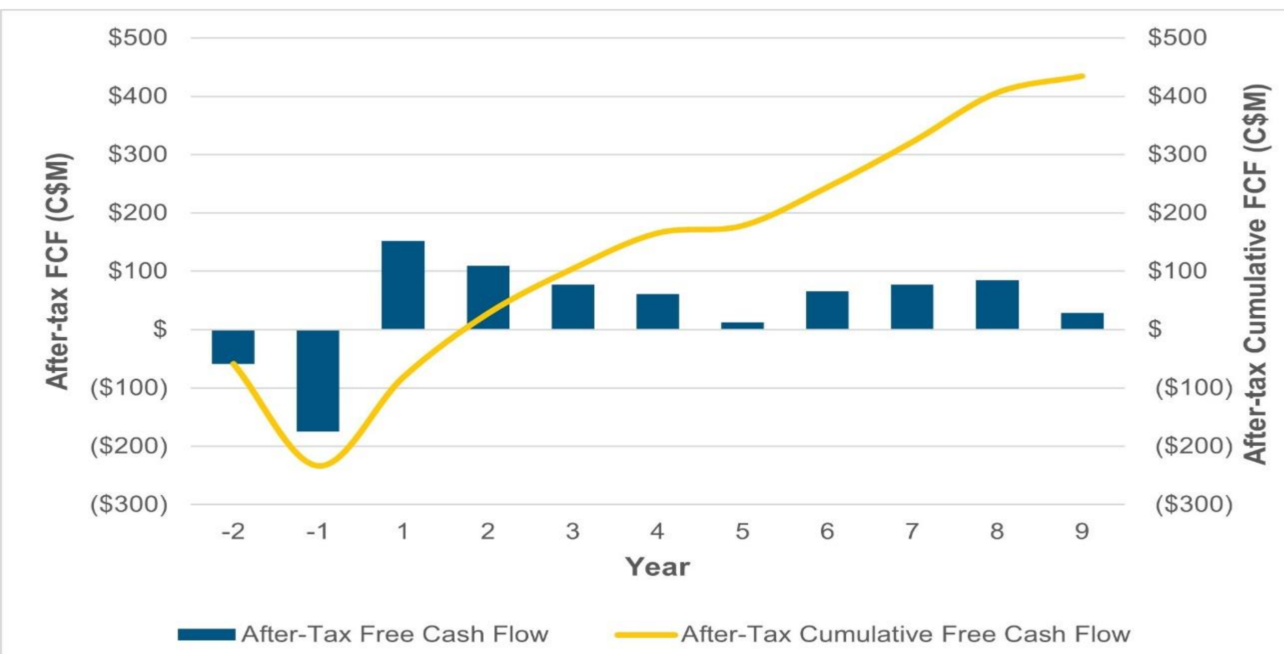
The pre-tax NPV discounted at 5% is C$401M; the IRR is 45.5%, and payback period is 1.4 years. On a post-tax basis, the NPV discounted at 5% is C$285M, the IRR is 35.2%, and the payback period is 1.7 years. Cumulative post-tax unlevered free cash flow totals C$435M.

The sensitivity analysis revealed that the Project's NPV is most sensitive to changes in gold price and operating cost, whereas IRR is sensitive to gold price and initial capital cost.

Readers are cautioned that the PEA is preliminary in nature. It includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the PEA will be realized. This PEA is based on a subset of mineral resources comprising 98.6% at an Indicated classification and 1.4% at an Inferred classification.

A summary of the project economics is listed in Table 25-1, and post-tax free cash flow is shown graphically in Figure 25-1.

Figure 25-1: Post-Tax Unlevered Free Cash Flow



Source: Ausenco, 2022.

Table 25-1: Economic Analysis Summary Table

Description	Unit	LOM Total/Avg.
General		
Gold Price	US$/oz	1,650
Exchange Rate	$US: $CAD	0.77
Mine Life	Years	8.3
Total Waste Tonnes Mined	kt	69,139
Total Mill Feed Tonnes	kt	22,708
Strip Ratio	waste tonnes:resource tonnes	3.0:1
Production		
Mill Head Grade	g/t	1.2
Mill Recovery Rate	%	95.3
Total Mill Ounces Recovered	koz	835
Total Average Annual Production	koz	101
Operating Costs		
Mining Cost	C$/t Mined	3.90
Mining Cost	C$/t Milled	15.27
Processing Cost	C$/t Milled	15.02
G&A Cost	C$/t Milled	5.07
Total Operating Costs	C$/t Milled	35.36
Refining & Transport Cost	C$/oz	5.00
Royalty NSR	%	2.0
Cash Costs	US$/oz Au	778
AISC	US$/oz Au	889
Capital Costs		
Initial Capital	C$M	233.5
Sustaining Capital	C$M	128.7
Closure Costs	C$M	9.0
Salvage Costs	C$M	18.0
Financials		
Pre-Tax NPV (5%)	C$M	401
Pre-Tax IRR	%	45.5
Pre-Tax Payback (Years)	Years	1.4
Post-Tax NPV (5%)	C$M	285
Post-Tax IRR	%	35.2
Post-Tax Payback (Years)	Years	1.7

* Cash costs consist of mining costs, processing costs, mine-level G&A and refining charges and royalties.
** AISC includes cash costs plus sustaining capital, closure cost and salvage value.
*** NSR of 2%. The additional Cominco royalty (Section 4.3) is not applicable since material below 50m is not mined

25.12 Risks and Opportunities

25.12.1 Risks

25.12.1.1 Overview

The following discussion of risks and opportunities involves forward-looking statements that are based on reasonable expectations and informed by the recent past. Readers are cautioned that such forward-looking statements involve uncertainties and unknowns that may cause actual outcomes to differ from those implied by these forward-looking statements. This PEA is preliminary in nature and further work is required to mitigate the following risks.

25.12.1.2 Geotechnical

The ground conditions and stability of the proposed process plant area, TSF and other infrastructure areas are unknown as a geotechnical program has not been completed.

25.12.1.3 Mining Methods

The pit slopes for Athona considered in this PEA are based on drill core photos and logging reviews and are benchmarked against comparable projects. At the completion of this PEA, sufficient information was not available to accurately determine the Athona pit stability. At Box, the pit slope assumptions are based on geotechnical drilling and logging carried out in 2012 that provides a scoping level of confidence in the assumptions made.

25.12.1.4 Stockpiles and Waste Rock Storage Facility

The slopes and heights of the stockpiles and WRSF may change as slope stability analysis was not completed at the time of this PEA since there currently is no relevant geotechnical information.

25.12.1.5 Metallurgy

Flowsheet development is based on historical testwork, but no variability testwork has been completed and will be mitigated through future testwork.

The process design assumed for the PEA has some risks identified that could impact delivery or economics and these need to be managed and mitigated by additional testwork and studies.

25.12.1.6 Infrastructure

The location of the project presents logistics challenges. Any changes to the assumptions with winter road construction or barge operation can have an impact on the operation.

The barge loading berth currently identified is located close to the access road, however further assessment is required to determine if the water depth at the unloading location is sufficient for barge access.

25.12.1.7 Geochemistry

Limited acid base accounting test results are available for Box, and none for Athona. Historical test results, and an assessment of available multi-element geochemistry data, support the assumption that tailings and waste rock material at Box will not result in the need for a water treatment plant to treat contact water. This assumption has been extended to Athona based on the geological similarity, however additional work is required to confirm this assumption.

25.12.1.8 Water Management

Hydrogeology studies are required at Athona to determine the quantity of pit water inflow rates. Historical hydrogeological studies provide a scoping level of confidence in the assumptions made for Box.

The water level in Lake Athabasca fluctuates based on rainfall and hydro-dam control on ingress/egress of water from Lake Athabasca. This presents a risk of flooding of the access road as designed. Further assessment is required to understand the risk presented.

25.12.1.9 Environment and Permitting

The tailings storage facility location identified in the PEA has three small lakes underneath it. Environmental studies are required to determine if the lakes are fish bearing. If they are found to be fish bearing additional federal regulatory involvement will be required. This would increase the schedule and cost required to advance the Project to construction.

There is a risk that both the federal and provincial regulators deem the changes to the Project, from that which was approved in 2008, are too great to allow the gaps to be addressed under a Section 16 (Saskatchewan Assessment Act) application. A decision of this nature would require a new federal screening and possibly a federal assessment coupled with a new provincial assessment as well. This would increase the schedule and cost required to advance the Project to construction.

25.12.1.10 Capital Cost Estimation

There are no contracts established with any equipment suppliers, power or fuel suppliers, and marketing companies. Equipment quotes were received for the mining fleet and major process equipment, however, the prices may vary at the time of project construction and execution.

25.12.1.11 Market Studies

The marketing terms considered in this PEA are based on projects with similar commodities. No marketing study was completed, or any discussions were held with the marketing companies in determining the marketing terms.

25.12.1.12 Economic Analysis

The economics analysis has not considered the risk of the project to metal price fluctuation, inflation or other unexpected events such as Covid that can significantly impact the economics and schedule.

25.12.2 Opportunities

The following opportunities are recommended for examination as project engineering advances:

25.12.2.1 Exploration

Goldfields has exploration potential which could enable longer mine life beyond 8.3 years or increased annual production volumes. The mineralization at Box and Athona remains open and numerous other gold prospects on the Project require more detailed re-evaluation.

Priority exploration opportunities are highlighted as follows:

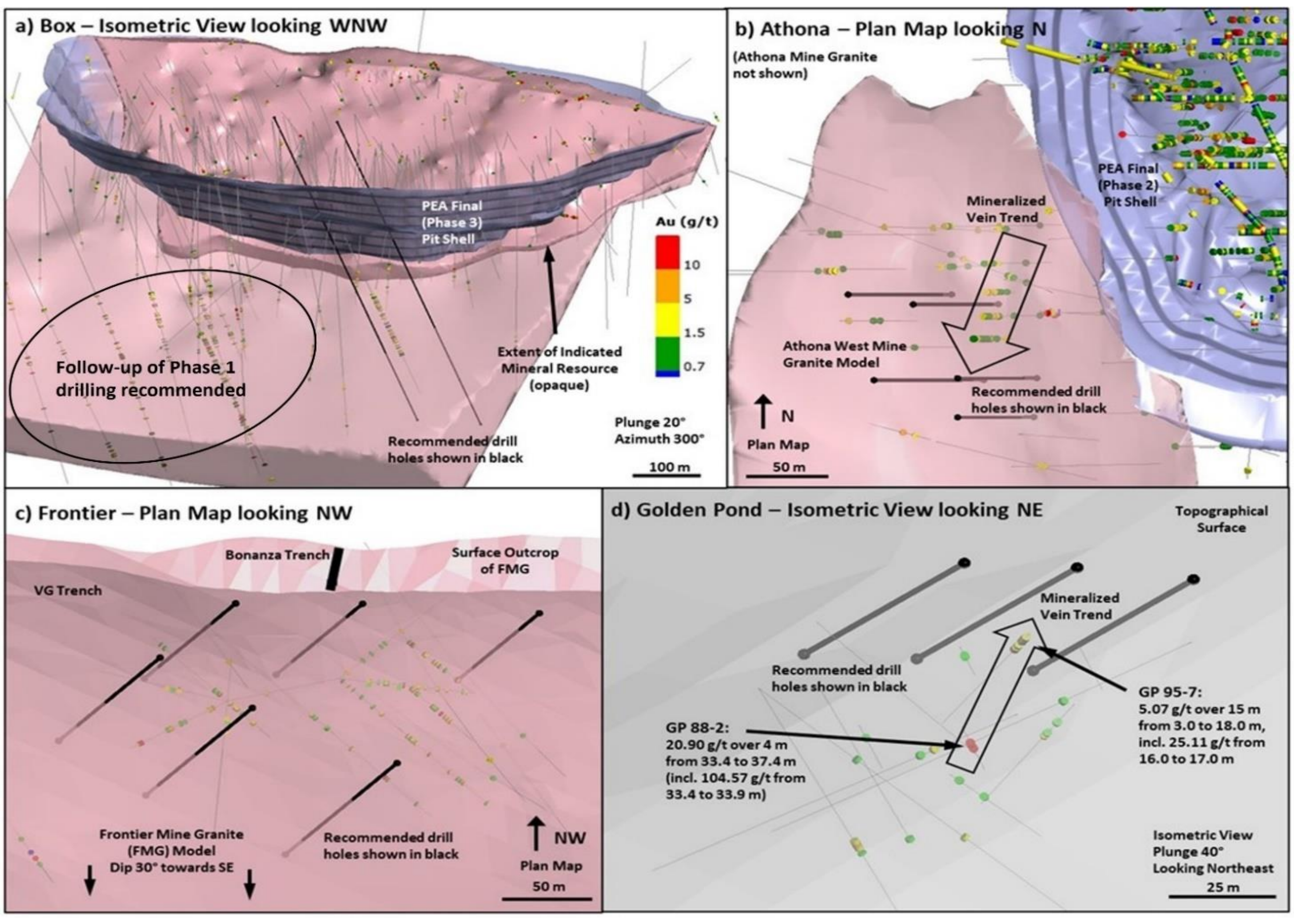
- The Box Mine Granite (BMG), which hosts the gold mineralization at Box, remains open with depth and warrants further exploration to evaluate underground mining potential (Figure 25-2a).
  - Follow-up to the Phase 1 drilling (conducted on the southeast, down-dip extent of the BMG) is warranted to better assess the continuity of higher gold grades along mineralized structures. Phase 1 drilling results, from a 50 to 75 m drill spacing, included intercepts below the current MRE of 8.00 g/t over 12.0 metres (drill hole B21-336), 8.74 g/t over 5.0 metres (drill hole B21-339) and 13.22 g/t over 8 metres (drill hole B21-340).
  - A minimum of two initial holes (1,000 m of total drilling) is recommended to test the northeast, down-dip extent of the BMG, at an initial 100 m spacing. The holes should be oriented to intersect the dominant mineralized vein sets as close to perpendicular as possible. These holes are expected to intersect the top of the BMG approximately 220 to 240 m below surface. These intersections are outside of the current footprint of both the PEA final pit extents and the current MRE.
- At Athona, the West Mine Granite ("AWMG") is a delineated body of mineralized "Mine Granite" similar to the main Athona Mine Granite ("AMG"). This body outcrops at surface and is located approximately 100 m west of the AMG. No mineral resources were estimated in this area due to its limited size, sporadic drill coverage, and its physical separation from the main mineralized AMG body. Infill and step-out drilling (along the trend of mineralized vein sets) of the AWMG is warranted. The size potential of the mineralized zone of the AWMG appears limited based on the drill coverage to date, however the mineralized material is near-surface, presenting an opportunity for delineation of additional resources for incorporation into the Goldfields mine plan. An initial five holes (400 m of total drilling) as shown in Figure 25-2b, properly oriented to intersect the mineralized vein sets, would provide sufficient support for a scoping level assessment of the resource potential, to establish if further work is warranted.
- Frontier Lake is a significant known gold occurrence (Section 9.2.3) on the Project, located approximately 800 m NW of the Box Deposit (Figure 9-1). This occurrence justified historical exploration including almost 300 m of underground tunnel development, 26 core holes (comprising 3,275 m), and over 2,000 sample assays. The results confirmed limited size potential as a stand-alone project, and Frontier was abandoned by SMDC in the early 1980's. The historical datasets confirm the presence of encouraging gold grades (e.g. 102.37 g/t over 1 m in hole LBU-11), however the sample / drill coverage is sporadic and is insufficient to confirm continuity between mineralization at depth and that discovered in trenches at surface (Figure 25-2c). A total of three initial holes (300 m of total drilling) would assess continuity between mineralization at depth and at surface, while an additional three holes (300 m of drilling) could explore for down-dip continuity in the areas with the best demonstrated gold potential. These results would be used to assess the scale and nature of the mineralization and to verify the historical assay

results. Results from this work should be integrated with the historical dataset for scoping assessments of resource potential, to establish if further work is warranted.

- Golden Pond is a known gold occurrence (Section 9.2.4) located 2 km northeast of the Box deposit (Figure 9-1). Historical drilling has confirmed the presence of high gold grades near to surface (Section 9.2.4, including 20.90 g/t over 4 m from 33.4 to 37.4 m in drill hole GP 88-2, and 5.07 g/t over 15 m from 3.0 to 18.0 m in drill hole GP 95-7). Previous drill holes were not properly located or oriented to test this occurrence, and the main mineralized vein trend at this location has not been tested to the northeast (Figure 25-2d) where it remains open. A 25 m spaced fence of three short holes (150 m of drilling) would test for extensions of mineralization along this trend.

All proposed drilling should be carried out with oriented NQ core to confirm mineralized vein orientations and provide sufficient material for core logging and screened metallics gold assay. Drilling at Box and Athona could be carried out in winter or summer, as a land-based operation. The total scope of proposed drilling comprises 16 holes for a total of 2,150 m. Based on benchmarked drilling costs incurred at Goldfields during the last 2 years, the all-inclusive costs for this work (including provision for an anticipated 1,100 screened metallics assays) would be approximately C$1,050,000. This exploration work is not part of the work program required to advance the project to a pre-feasibility stage and has therefore not been included as a specific recommendation in Section 26.

Figure 25-2: Locations and scope of work recommended for ongoing exploration at Goldfields.



Source: Fortune Bay, 2022.

25.12.2.2 Mining Methods

At a higher gold price, the Project mine plan could be expanded to incorporate additional mineral resources.

Alternative onsite material transport options that differ from the planned diesel driven haul truck fleet may improve the project economics and minimize the Project's carbon footprint. These options could include crushing and conveying, hauler trolley systems, and a battery electrical mining fleet.

25.12.2.3 Metallurgy

Additional metallurgical testwork with variability testing provides an opportunity to thoroughly understand the mineralogy, which may improve plant recovery, reduce the estimated reagent consumption and equipment capital costs.

25.12.2.4 Recovery Methods

Pre-concentration (ore sorting) has the potential to improve Project economics and decrease tailings volume.

25.12.2.5 Tailings Storage Facility

The TSF has expansion capability for an additional 5 to 10 Mt of tailings if additional reserves are discovered in the future.

25.12.2.6 Environment and Permitting

The project permitting process could be fast-tracked with early engagement of local communities demonstrating the value addition with this project and employing favourable environmental procedures to lower the risks.

Previous site investigations during Saskatchewan's 2014 abandoned mines remediation program characterised Frontier Lake as hosting some ecological risks associated with the historical Box mine operations. Confirmation that these risks remain may create an opportunity to include Frontier Lake in the Tailings Storage Facility design.

25.13 Conclusion

The current total gold resource for Box and Athona stands at 979,900 ounces of gold in the indicated category (23.2 million tonnes at an average grade of 1.31 g/t gold) and 210,800 ounces of gold in the inferred category (7.1 million tonnes at an average grade of 0.92 g/t gold). The PEA provides a base case assessment for developing the Goldfields mineral resource by conventional open pit mining methods, and gold recovery with a standard free milling flowsheet, incorporating gravity and leaching of the gravity tails.

The PEA economic analysis shows the project has post-tax $NPV_{5\%}$ of C$285M, IRR of 35.2%, and a payback period of 1.7 years. The PEA supports a decision to progress the project further into prefeasibility study.

26 RECOMMENDATIONS

26.1 Overall Recommendations

The results presented in this technical report demonstrate that the Goldfields Project is technically and economically viable. It is recommended to continue developing the Project through pre-feasibility study. Table 26-1 summarizes the proposed budget to advance the Project through the pre-feasibility stage.

Table 26-1: Proposed Budget Summary

Description	Cost (C$)
Project Management	$150,000
Metallurgical Testing	$250,000
Mine Engineering	$200,000
Process and Infrastructure Engineering	$500,000
Geotechnical Studies	$1,000,000
Infrastructure	$840,000
Geochemical Assessment	$110,000
Water Management Studies	$100,000
Topography	$60,000
Total	**$3,210,000**

26.2 Geotechnical Studies for Pit Slopes and Sectors

- Targeted open pit geotechnical drilling using triple-tube HQ holes and televiewer with oriented cores:
  - Box deposit: 4 drillholes, approximately 800 m of drilling.
  - Athona deposit: 4 drillholes, approximately 800 m of drilling.
- Installation of vibrating wire piezometers in select holes.
- Laboratory testing for intact rock strength (unconfined compressive strength tests, point load tests, and indirect tensile strength tests) and for discontinuity strength (direct shear tests).
- Crown pillar analysis for open pit mining over historic underground openings. Specific stability assessments should be done where historical openings are planned to be located behind interim or final pit walls or below pit floor.

A budget of $1.0M is estimated for the above work programs and studies, including the cost of drilling.

26.3 Mine Engineering

The following recommendations are made with regards to advancing the mine engineering of the Goldfields Project to a Pre-Feasibility Study:

- Updates to designs of open pits, waste storage piles, stockpiles, and mine haul roads incorporating results from all other recommended work programs.
- Mine operational and cost trade-off studies examining contractor vs. owner equipment fleet, lease vs. purchase equipment fleet, cost comparisons of various equipment class sizes, and utilization of electrically driven mine equipment (including trolley systems for haulers) over diesel driven units.

A budget of $200,000 is estimated for mine engineering and trade-off studies.

26.4 Metallurgical Characterization

The metallurgical work outlined below is recommended for the next project phase and could be completed on a portion of the geotechnical drill core.

- Sample selection for future mining studies should reflect mineralization that would be treated throughout the mine life. Variability samples are required to understand the responses of the various mineralized zones.
  - Testwork to identify the gold deportment and association, mercury assay in feed.
- Additional comminution tests to further expand the comminution database is recommended to develop a robust comminution model and grinding circuit design. This will improve the future analysis of power requirements and equipment selection.
- An extended gravity-recoverable gold test should be conducted on a master composite sample to confirm the PEA flowsheet.
  - Further optimization testwork (Primary grind size, leach vs carbon in leach)
  - Additional metallurgical testwork to compare the flowsheets (Gravity-WOL vs Gravity-Flotation and/or Regrind-Leach) on an expanded dataset
  - Flotation flowsheet to include locked cycle tests.
- Cyanide destruction testwork

The estimated cost of work is $250,000.

26.5 Process and Infrastructure Engineering

The estimated cost for process and infrastructure engineering for the PFS is $500,000. Engineering deliverables would include:

- Process trade-off studies (comminution, cyanidation options and preconcentration studies)
- Flow diagrams (comminution, recovery processes, tails)
- Detailed equipment list
- Power listing and consumption estimate
- Architectural (building sizes) to estimate steel and concrete quantities
- Detailed material and water balance
- Detailed process design criteria

- GA and Elevation drawings (for crushing/overland conveying, comminution, leaching, recovery, reagents)
- Electrical single line drawing
- Equipment and supply quotations updated, and sources determined
- Estimate of equipment and materials freight quantities
- Capital cost estimate
- Operating cost estimate
- Major equipment spares and warehouse inventory cost estimate
- Construction manpower estimate
- Construction schedule

26.6 Infrastructure

The following activities are recommended to support infrastructure design for the PFS phase.

26.6.1 Sitewide Assessment and Tailings Storage Facility Studies

Due to the conceptual nature of this study and the paucity of information available at the time of writing, assumptions have been made regarding the layout, MTOs, and construction of the proposed TSF. Construction material geotechnical properties are required to perform slope stability analyses and other geotechnical assessments to confirm that the TSF can be built as designed. A tailings deposition plan will be required which may lead to the conceptual staging requiring adjustment to contain the given capacities.

Additional studies and data collection will be required to advance project development beyond the conceptual level. Some, but not necessarily all, of the current data gaps that would need to be addressed in future studies include the following:

- Geological and geotechnical site investigations and laboratory program should be carried out for infrastructure, Process plant, WRSF and TSF, including drilling and in-situ and laboratory testing, to understand subsurface soil and rock characteristics, construction material properties, and existing groundwater levels.
- Seepage analysis for the TSF needs to be investigated.
- Additional geotechnical testing of the anticipated tailings, waste rock, and other associated construction materials, (e.g., horizontal drain gravel and sand and candidate geomembranes) should be carried out.
- Hydrological information should be gathered from site-specific climate studies to detail ponds and channels.
- Hydrogeological information from desktop studies and site investigations should be gathered to better understand subsurface flow regimes.
- A trade-off study between dry stacking of tailings vs conventional disposal of tailings.

As additional information is obtained, assumptions made in this study can be verified or updated to advance the Project to the next level of design. The cost of implementing the above recommendations is estimated at CAD $840,000.

26.6.2 Water Management

- It is recommended to complete a comprehensive wind and wave analysis for the Northern shores of Lake Athabasca, to assess wave run-up and risks of pit excavation activities.
- A detailed groundwater modelling is essential to a more accurate water balance calculation/modelling and should be completed during next phases of the study.
- Packer testing should be conducted to determine pit hydrogeology, hydraulic conductivity and refine pit water inflow estimates.
- Further hydrogeological and hydrological characterization are required in the pit areas.

The cost of carrying out the above work is estimated at CAD $100,000.

26.6.3 Geochemical Assessment

1. For proceeding to a PFS / FS-level study, the general level of effort required to establish the ARD/ML risk for a typical project would generally comprise:
   - Around 200 – 300 waste rock samples;
   - Six to 12 tailings samples (if composition different);
   - Six to 12 ore samples;
   - Several overburden samples;
   - Range of tests to include:
     - Elemental analysis;
     - Acid base accounting;
     - Shake flask extraction (short term leach);
     - Net acid generation (NAG) pH;
     - Mineralogy; and
     - Humidity cell testing (minimum 40 weeks)

   The estimated cost for the recommended lab testwork is $80,000.
2. To better assess the ARD/ML risk from tailings, confirmation of the type of tailings streams (i.e. spiral / flotation / cyanidation) and the percentage ratios of each type that will be deposited in the tailings storage facility.
3. If available, the results of testing of historical mine wastes and site water quality data should be reviewed as this can provide useful supporting information to aid in assessing the existing geochemistry data.

   The estimated cost of assessment is $30,000.

   The total cost for geochemical assessment is $110,000.

26.6.4 Topography

A site wide LIDAR survey is recommended to define the site topography at higher accuracy. The current topography is based on SRTM which is sufficient for PEA, however, higher definition will be required in the PFS. The estimated cost for this task is $60,000.

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