


NI 43-101 Technical Report

PRELIMINARY ECONOMIC ASSESSMENT UPDATE FOR THE **WINDFALL PROJECT**

Prepared for:
Osisko Mining Inc.

Effective Date: April 6, 2021
Signature Date: April 26, 2021

Prepared by the following Qualified Persons:

- Nicolas St-Onge, P. Eng. ....A²GC
- Charlotte Athurion, P. Geo., M.Sc. ....BBA Inc.
- Colin Hardie, P. Eng. ....BBA Inc.
- Martin Houde, P. Eng. ....BBA Inc.
- Pierre-Luc Richard, P. Geo., M.Sc. ....BBA Inc.
- Patrick Langlais, P. Eng. ....Entech Mining Ltd.
- Marie-Claude Dion St-Pierre, P. Eng. M.A.Sc. ....GCM Consultants Inc.
- Yves Boulianne, P. Eng. ....Golder Associates Ltd.
- Michel Mailloux, P. Eng., M.Sc. ....Golder Associates Ltd.
- Isabelle Larouche, P. Eng. ....WSP Canada Inc.
- Simon Latulippe, P. Eng. ....WSP Canada Inc.
- Éric Poirier, P. Eng., PMP ....WSP Canada Inc.

A²GC

BBA

entech

GCM CONSULTANTS

GOLDER MEMBER OF WSP

wsp

IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 *Standards of Disclosure for Mineral Projects* Technical Report for Osisko Mining Inc. ("Osisko") by BBA Inc. ("BBA"), Andrieux & Associates Geomechanics Consulting LP ("A^{2}GC"), Entech Mining Ltd. ("Entech"), GCM Consultants ("GCM"), Golder Associates Ltd. ("Golder"), and WSP Canada Inc. ("WSP"), collectively known as the "Report Authors". The quality of information, conclusions, and estimates contained herein is 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 Osisko subject to the terms and conditions of its contract with the report authors and relevant securities legislation. The contract permits Osisko to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to National Instrument 43-101. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Osisko. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new Technical Report has been issued.

CAUTIONARY STATEMENT

This Preliminary Economic Assessment Update ("PEA Update") is preliminary in nature and is based on numerous assumptions and inferred mineral resources. Inferred mineral resources are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves except as allowed for by Canadian Securities Administrators' National Instrument 43-101 in PEA studies. No mineral reserves have been estimated. There is no guarantee that Inferred resources can be converted to Indicated or Measured resources and, as such, there is no guarantee that the Project economics described herein will be achieved.

DATE AND SIGNATURE PAGE

This report is effective as of the 6th day of April 2021.

"Signed and sealed original on file"	April 26, 2021
Nicolas St-Onge, P. Eng. A2GC	Date
"Signed and sealed original on file"	April 26, 2021
Charlotte Athurion, P. Geo., M.Sc. BBA Inc.	Date
"Signed and sealed original on file"	April 26, 2021
Colin Hardie, P. Eng. BBA Inc.	Date
"Signed and sealed original on file"	April 26, 2021
Martin Houde, P. Eng. BBA Inc.	Date
"Signed and sealed original on file"	April 26, 2021
Pierre-Luc Richard, P. Geo., M.Sc. BBA Inc.	Date

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Patrick Langlais, P. Eng. — Date
Entech Mining Ltd.

"Signed and sealed original on file" April 26, 2021

Marie-Claude Dion St-Pierre, P. Eng. M.A.Sc. — Date
GCM Consultants

"Signed and sealed original on file" April 26, 2021

Yves Boulianne, P. Eng. — Date
Golder Associates Ltd.

"Signed and sealed original on file" April 26, 2021

Michel Mailloux, P. Eng., M.Sc. — Date
Golder Associates Ltd.

"Signed and sealed original on file"	April 26, 2021
Isabelle Larouche, P. Eng. WSP Canada Inc.	Date

"Signed and sealed original on file"	April 26, 2021
Simon Latulippe, P. Eng. WSP Canada Inc.	Date

"Signed and sealed original on file"	April 26, 2021
Éric Poirier, P. Eng., PMP WSP Canada Inc.	Date

ANDRIEUX & ASSOCIATES GEOMECHANICS CONSULTING
81 De Brésoles Street, Suite 309
Montreal, QC, H2Y 0A1, Canada
Tel.: 1-514-379-1789
www.a2gc.ca

CERTIFICATE OF QUALIFIED PERSON

Nicolas St-Onge, P. Eng.

This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Quebec, Canada" (the "Technical Report"), prepared for Osisko Mining Inc. dated April 26, 2021 and effective as of April 6, 2021.

I, Nicolas St-Onge, P. Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a senior rock mechanics engineer with the firm Andrieux & Associates Geomechanics Consulting (A2GC) located at 81 De Brésoles Street, Suite 309, Montreal, QC, H2Y 0A1, Canada.
2. I graduated from the École Polytechnique de Montréal, in 2008 with a B. Eng. in geological engineering.
3. I am a member in good standing of the Ordre des ingénieurs du Québec (No: 5026406) and Northwest Territories Association of Professional Engineers and Geoscientists (No: L3949)
4. I have worked in the mining industry for more than 12 years. My relevant experience includes my involvement in numerous technical reports as a consultant with Golder Associates between January 2009 and April 2018 and with A2GC since September 2019 and operational experience at the Meliadine mine.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Section 16.2. I am also co-author for the relevant portions of Chapters 1, 2, 3, 25, 26 and 27 of the Technical Report.
8. I have visited the Windfall Lake Project site that is the subject of the Technical Report on December 7 to 9, 2020.
9. I have had prior involvement with the property that is the subject of the Technical Report. I have contributed to rock engineering component of the 2018 PEA study.
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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

"Signed and sealed original on file"

Nicolas St-Onge, P. Eng.

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Suite 300
Montréal, QC H3A 2A5
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CERTIFICATE OF QUALIFIED PERSON

Charlotte Athurion, P. Geo., M.Sc.

This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Québec, Canada" (the "Technical Report"), prepared for Osisko Mining Inc. dated April 26, 2021 and effective as of April 6, 2021.

I, Charlotte Athurion, P. Geo., M.Sc., do hereby certify that:

1. I am a Geologist with BBA Inc. located at 1034, 3rd avenue, Suite 202, Val-d'Or, Québec J9P 1T6 Canada.
2. I graduated with an equivalent of a bachelor's degree in geology (B.Sc.) from Université Joseph Fourier (Grenoble, France) in 2010. In addition, I obtained a M.Sc. from the Institut National de la Recherche Scientifique (INRS, city of Québec, Québec) in 2013.
3. I am a member in good standing of the Ordre des Géologues du Québec (OGQ Member No. 1784) and the Association of Professional Geoscientists of Ontario (APGO Member No. 3122).
4. I have worked in the exploration and mining industry for more than 8 years. My expertise has been acquired with Les Mines J.A.G. Ltd., Explorateurs-Innovateurs de Québec Inc., Canadian Malartic (exploration branch) and, since November 2016, with numerous companies through my career as a consultant.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101) and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapters 4 to 11 and 23. I am also co-author for the relevant portions of Chapters 1, 2, 3, 25, 26 and 27 of the Technical Report.
8. I visited the Windfall Project that is the subject of this Technical Report on January 28 and 29, 2021 as part of this current mandate.
9. I have had prior involvement with the Property that is the subject of the Technical Report having participated in a 3D modelling and mineral resource estimate in 2018 as part of a past mandate as a consulting geologist.
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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

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Charlotte Athurion, P. Geo., M.Sc.

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CERTIFICATE OF QUALIFIED PERSON

Colin Hardie, P. Eng.

This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Quebec, Canada" (the "Technical Report"), prepared for Osisko Mining Inc. dated April 26, 2021 and effective as of April 6, 2021.

I, Colin Hardie, P. Eng., do hereby certify that:

1. I am the Director of Mining and Process Studies with the firm BBA Inc. located at 2020 Robert-Bourassa Blvd., Suite 300, Montréal, Québec, H3A 2A5, Canada.
2. I graduated from the University of Toronto, Ontario Canada, in 1996 with a B.A.Sc. in Geological and Mineral Engineering. In 1999, I graduated from McGill University of Montréal, Québec Canada, with an M. Eng. in Metallurgical Engineering and in 2008 obtained a Master of Business Administration (MBA) degree from the University of Montréal (HEC), Québec Canada.
3. I am a member in good standing of the Professional Engineers of Ontario (PEO No: 90512500) and of the Canadian Institute of Mining, Metallurgy, and Petroleum (Member Number: 140556). I have practiced my profession continuously since my graduation.
4. I have been employed in mining operations, consulting engineering and applied metallurgical research for over 20 years. My relevant project experience includes metallurgical testwork analysis, flowsheet development, cost estimation and financial modeling. Since joining BBA in 2008, I have worked as a senior process engineer and/or lead study integrator for numerous North American iron ore, precious metal, industrial mineral, and base metal projects.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101) and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am responsible for Chapters 1, 2, 3, 19, 22, 24, to 27 and for Sections 18.2.1 to 18.2.3, 18.3.6, 18.3.19, 21.1 (except 21.1.3.4, 21.1.3.5, 21.1.3.7, 21.1.3.9, 21.1.4.1, 21.1.4.2, 21.1.4.4, 21.1.4.6, 21.1.4.7), 21.2 (except 21.2.3 and 21.2.5) and 21.3. I am also co-author of Sections 18.3.10, 21.1.3.6, 21.1.3.8, 21.1.4.3 and 21.1.2.5 of the Technical Report.
8. I visited the Windfall Project that is the subject of this Technical Report on January 28 and 29, 2021.
9. I have been involved with the Property that is the subject of the Technical Report in 2017 as a consultant.
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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

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Colin Hardie, P. Eng.

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CERTIFICATE OF QUALIFIED PERSON

Martin Houde, P. Eng.

This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Québec, Canada" (the "Technical Report"), prepared for Osisko Mining Inc., dated April 26, 2021 and effective as of April 6, 2020.

I, Martin Houde, P. Eng., do hereby certify that:

1. I am a Mineral Processing Expert with BBA Inc. located at 2020 Robert-Bourassa Blvd, Suite 300, Montréal, Québec, Canada, H3A 2A5.
2. I am a graduate from Université Laval de Quebec in 1991 with a B. Eng. In Metallurgical Engineering.
3. I am a member in good standing of the Ordre des ingénieurs du Quebec (Member No. 106814).
4. I have practiced my profession continuously as a metallurgist for 29 years in process operations, constructions and engineering firms. I was acquired my gold expertise with Cambior, Barrick, Agnico-Eagle and Semafo. I have been a consulting mineral process engineer for BBA Inc. since February 2020.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101) and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Chapter 13 (except for Section 13.3.6) and 17 (except for Sections 17.3 and 17.4). I am also co-author for the relevant portions of Chapters 1, 2, 3, 24, 25, 26 and 27 of the Technical Report.
8. I did not visit the Windfall Project that is the subject of this Technical Report.
9. I have had no prior involvement with the Property that is the subject of the 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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

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I, Pierre-Luc Richard, P. Geo., M.Sc., do hereby certify that:

1. I am a Principal Geologist with BBA Inc. located at 2020 Robert-Bourassa Blvd, Suite 300, Montréal, Québec, Canada, H3A 2A5.
2. I am a graduate of Université du Québec à Montréal in Resource Geology in 2004. I also obtained a M.Sc. from Université du Québec à Chicoutimi in Earth Sciences in 2012.
3. I am a member in good standing of the Ordre des Géologues du Québec (OGQ Member No. 1119), the Association of Professional Geoscientists of Ontario (APGO Member No. 1714), and the Northwest Territories Association of Professional Engineers and Geoscientists (NAPEG Member No. L2465).
4. I have worked in the mining industry for more than 17 years. My exploration expertise has been acquired with Richmont Mines Inc., the Ministry of Natural Resources of Québec (Geology Branch), and numerous companies through my career as a consultant. My mining expertise was acquired at the Beaufor mine and several other producers through my career. I managed numerous technical reports, mineral resource estimates and audits as a consultant for InnovExplo from February 2007 to March 2018 and as a consultant for BBA since.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101) and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for the preparation of Chapters 12 and 14. I am also co-author for the relevant portions of Chapters 1, 2, 3, 25, 26 and 27 of the Technical Report.
8. I visited the Windfall Project that is the subject of this Technical Report on January 28 and 29, 2021 as part of this current mandate and on a previous occasions in 2017.
9. I have been involved with the Property that is the subject of the Technical Report in 2017 as a consultant.
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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

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Pierre-Luc Richard, P. Geo., M.Sc.

CERTIFICATE OF QUALIFIED PERSON

Patrick Langlais, P. Eng.

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I, Patrick Langlais, P. Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a Mining Engineer with the firm Entech Mining Ltd. located at 100 King St W, Suite 5600, Toronto, Ontario, Canada.
2. I graduated from Queen's University, in 2009 with a Bachelor of Applied Science, Mining Engineering.
3. I am a member in good standing of the Order of Engineers of Québec (OIQ No. 6021556) and Professional Engineers Ontario (PEO No. 100186072).
4. My relevant experience includes ten years of operational experience, composed of eight years in Technical Services and two years in Operations, in addition to two years as a mining engineering consultant. My various roles included mine design, short term planning, ventilation, ground control, project and contract management, long term planning and Technical Services management.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Chapters 15 and 16 (except for Sections 16.2 and 16.3) and for Sections 21.1.3.4, 21.1.4.1 and 21.2.3. I am also co-author for the relevant portions of Chapters 1, 2, 3, 25, 26 and 27 of the Technical Report.
8. I have visited the Windfall Lake Project site that is the subject of the Technical Report on December 7 to 9, 2020.
9. I have had prior involvement with the property that is the subject of the Technical Report. I have contributed to conceptual mine designs, trade-offs, and scheduling options between April and September 2020, as well as general site support since September 2020.
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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

"Signed and sealed original on file"

Patrick Langlais, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Marie-Claude Dion St-Pierre, P. Eng. M.A.Sc.

This certificate applies to the Technical Report titled “NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Quebec, Canada” (the “Technical Report”), prepared for Osisko Mining Inc. dated April 26, 2021 and effective as of April 6, 2021.

I, Marie-Claude Dion St-Pierre, P. Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am the Director of the environment and sustainable development department with the firm G.C.M. Consultants inc. located at Montréal, Québec, Canada.
2. I am a graduate of Sherbrooke University, Sherbrooke, Québec, Canada, with a bachelor’s degree in Chemical Engineering, in 2004 and Master’s degree in Chemical Engineering in 2007.
3. I am a member in good standing of the Ordre des Ingénieurs du Québec (OIQ No. 140947).
4. My relevant experience includes studies as Project Manager on characterization of mining wastes, characterization of surface water, on treatment options for mine water effluent, as well as, studies on water management infrastructures design. I also acted as Project Manager on closure plan design and costing, as well as, other aspects of permitting for mining projects and mines in operation.
5. I have read the definition of “qualified person” set out in the NI 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”) and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Section 18.3.23. I am also co-author for the relevant portions of Chapters 1, 2, 3, 25, 26, 27 and Sections 21.1.3.9, 21.1.4.6 and 21.2.5 of the Technical Report.
8. I have visited the Windfall Lake Project site that is the subject of the Technical Report on July 9, 2019.
9. I have had prior involvement with the property that is the subject of the Technical Report. I have contributed to the Preliminary Economic Assessment of the Windfall Lake Gold Property, Québec, Canada dated April 28, 2015 by Eagle Hill Exploration Corp. I was also involved in closure and water treatment studies for permitting purposes for Osisko Mining inc.
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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

“Signed and sealed original on file”

Marie-Claude Dion St-Pierre, P. Eng., M.A.Sc.

CERTIFICATE OF QUALIFIED PERSON

Yves Boulianne, P. Eng.

This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Quebec, Canada" (the "Technical Report"), prepared for Osisko Mining Inc. dated April 26, 2021 and effective as of April 6, 2021.

I, Yves Boulianne, P. Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am Principal Associate, Senior Geotechnical Engineer and Waste Management Specialist with the firm Golder Associates Ltée with an office at 7250 Mile End St., 3rd floor, Montréal, Québec, Canada.
2. I am a graduate of the Université du Québec à Chicoutimi, Chicoutimi, Canada, with a B.Sc. in Geological Engineering in 1999. I have 21 years of experience related to the mining industry. 4. My relevant experience includes mine waste and tailings facility designs, construction, and project management for conceptual, pre-feasibility, feasibility and detailed designs for tailings deposition and dams for surface waste facilities, including dewatered, thickened, and slurry type tailings. For various projects, I've been responsible for providing dam safety inspections, engineer of record services, due diligence and peer reviews, and operational support. I have experience linking engineering design, operation, and environmental facets of projects, especially in Québec and the Canadian arctic. I also provide civil geotechnical support for mines in the areas of haul roads, access roads, and building foundations design.
3. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
4. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
5. I am author and responsible for Sections 5.2, 18.3.3.2, 18.3.21, 18.3.22, 20.2.1, 20.2.4 and 20.2.5. I am also co-author for the relevant portions of Chapters 1, 2, 3, 25, 26, 27 and Sections 21.1.3.9 and 21.1.4.6 of the Technical Report.
6. I have visited the Windfall Lake Project site that is the subject of the Technical Report on October 15, 2020.
7. I have had no prior involvement with the property that is the subject of the Technical Report.
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 NI 43-101.
9. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

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Yves Boulianne, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Michel Mailloux, P. Eng., M. Sc.

This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Quebec, Canada" (the "Technical Report"), prepared for Osisko Mining Inc. dated April 26, 2021 and effective as of April 6, 2021.

I, Michel Mailloux, P. Eng., M. Sc., as a co-author of the Technical Report, do hereby certify that:

1. I am a Hydrogeologist with the firm Golder Associates Ltd. with an office located at 7250 Mile End St., 3rd floor, Montreal, Québec, Canada.
2. I am a graduate of Laval University, Québec-City, Canada, with a B.Sc. A. Geological Engineering in 1998 and a graduate from INRS-Georessources M. Sc. Earth Sciences in 2002. I have practiced my profession continuously since my graduation from university.
3. I am a member in good standing of the Order of Engineers of Québec (OIQ No. 126263).
4. My relevant experiences include the technical supervision of several hydrogeological studies for local and international mining projects.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Sections 16.3 and 20.1.1.4. I am also co-author for the relevant portions of Chapters 1, 2, 3, 25, 26 and 27 of the Technical Report.
8. I have not visited the Windfall Lake Project site that is the subject of the Technical Report.
9. I have had no prior involvement with the property that is the subject of the 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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

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Michel Mailloux, P. Eng., M. Sc.

CERTIFICATE OF QUALIFIED PERSON

Isabelle Larouche, P. Eng.

This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Quebec, Canada" (the "Technical Report"), prepared for Osisko Mining Inc. dated April 26, 2021 and effective as of April 6, 2021.

I, Isabelle Larouche, P. Eng., as a co-author of the Technical Report, do hereby certify that:

1. I am a senior metallurgical engineer with WSP Canada Inc. with a business address at 1300, Guillaume-Couture boulevard, Lévis (Québec), Canada.
2. I am a graduate of the Laval University (Quebec, Canada), with a Bachelor of Science in Materials and Metallurgical Engineering in 2006.
3. I am a member in good standing of the Ordre des ingénieurs du Québec (OIQ License #142262).
4. I have worked continuously as a metallurgist for a total of fourteen (14) years. My relevant experience includes mineral processing flowsheet development and plant design, metallurgical test work supervision, plant personnel training and equipment cost estimation. I have been involved in numerous gold projects from scoping studies to detailed engineering.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Sections 13.3.6, 17.3 and 17.4. I am also co-author for the relevant portions of Chapters 1, 2, 3, 25, 26, 27 and Section 21.2.5 of the Technical Report.
8. I have not visited the Windfall Project site that is the subject of the Technical Report.
9. I have had prior involvement with the property that is the subject of the 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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

"Signed and sealed original on file"

Isabelle Larouche, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

Simon Latulippe, P. Eng.

This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Quebec, Canada" (the "Technical Report"), prepared for Osisko Mining Inc. dated April 26, 2021 and effective as of April 6, 2021.

I, Simon Latulippe, P.Eng., B.Sc.A., as a co-author of the Technical Report, do hereby certify that:

1. I am an engineer and team leader Geotechnical & Water Management with WSP Canada Inc. located at 1135, boulevard des Gradins, Québec, Québec, Canada G2K OM5.
2. I am a graduate of geological engineering at Laval University, Québec, Québec, Canada, 1998.
3. I am a member of the Ordre des ingénieurs du Québec (OIQ 121 692).
4. I have worked in the mining industry since 1998. I began as a geological engineer for a gold mine in northern Abitibi where I gained experience in mining and environment. I have also acquired solid experience in mining projects, specifically mining studies, tailings and water management design and mine site restoration, which I have been involved in for the last thirteen years.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Chapter 20 (except for Sections 20.1.1.4, 20.2.1, 20.2.4 and 20.2.5) and Sections 18.3.3 (except 18.3.3.2), 18.3.22.2, 18.3.24, 18.3.25 and 21.1.4.7. I am also co-author of the relevant portions of Chapters 1, 2, 3, 25, 26, 27 and Sections 18.3.22.1, 21.1.3.9 and 21.1.4.6 of the Technical Report.
8. I have not visited the Windfall Lake Project site that is the subject of the Technical Report
9. I have had prior involvement with the property that is the subject of the Technical Report. I have contributed to PEA 2018.
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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

"Signed and sealed original on file"

Simon Latulippe, P.Eng., B.Sc.A.

CERTIFICATE OF QUALIFIED PERSON

Éric Poirier, P. Eng., PMP

This certificate applies to the Technical Report titled "NI 43-101 Technical Report on the Preliminary Economic Assessment Update for the Windfall Project, Eeyou Istchee James Bay, Quebec, Canada" (the "Technical Report"), prepared for Osisko Mining Inc. dated April 26, 2021 and effective as of April 6, 2021.

I, Éric Poirier, P. Eng., PMP., as a co-author of the Technical Report, do hereby certify that:

1. I am an Electrical Engineer and Project Manager with WSP Canada Inc. located at 1075, 3rd Avenue East, Val-d'Or, Québec, Canada.
2. I am a graduate of Université du Québec à Chicoutimi in Electrical Engineering in 1996 (B.Sc), Chicoutimi, Québec, Canada.
3. I am a member of the Ordre des Ingénieurs du Québec (OIQ No. 120063), Professional Engineers Ontario (PEO No. 100112909) and Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (NAPEG No. L2229). I hold the credential of Project Management Professional (PMP) from the Project Management Institute (PMI No. 6115196).
4. I have worked as project manager and electrical engineer for a total of twenty-three (23) years. My expertise was acquired while working as multi-disciplinary project manager, mining infrastructure designer and discipline lead, including surface infrastructure design, electrical distribution and communications.
5. I have read the definition of "qualified person" set out in the NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Sections 18.1, 18.2.4, 18.3.1, 18.3.2, 18.3.4, 18.3.5, 18.3.7 to 18.3.18, 18.3.20, 21.1.3.5, 21.1.3.7, 21.1.4.2, 21.1.4.4 and 21.1.4.5. I am also co-author for the relevant portions of Chapters 1, 2, 3, 25, 26, 27 and Sections 21.1.3.6 to 21.1.3.9, 21.1.4.3 and 21.1.4.6 of the Technical Report.
8. I have visited the Windfall Project site that is the subject of the Technical Report on October 6, 2020
9. I have had prior involvement with the property that is the subject of the Technical Report. I have contributed to the NI 43-101 Technical Report for the Preliminary Economic Assessment of the Windfall Project for Osisko Mining Inc., issued on August 1, 2018.
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 NI 43-101.
11. As at 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 the portions of the Technical Report for which I am responsible not misleading.

Signed and sealed this 26th day of April 2021.

"Signed and sealed original on file"

Éric Poirier, P. Eng., PMP

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
3D	Three dimensional
a	Annum (year)
A2GC	Andrieux & Associates Geomechanics Consulting LP
AA	Atomic absorption
AACE	American Association of Cost Engineers
AAS	Atomic absorption spectroscopy
ACSR	Aluminium conductor steel-reinforced
ADR	Adsorption-desorption-recovery
Ag	Silver
Agency	Canadian Environmental Assessment Agency
Ai	Abrasion index
AI	Artificial intelligence
AIS	Air insulated switchgear
AISC	All-in sustaining cost
Al	Aluminum
Al_2O_3	Aluminium oxide
ALS	ALS Minerals
AMD	Acid mine drainage
APS	Azimuth Pointing System
ARBJ	*Administration Régionale Baie James*
ARD	Acid rock drainage
As	Arsenic
Au	Gold
B	Billion
Ba	Barium
BaO	Barium oxide
BBA	BBA Inc.
BHPEM	Borehole pulse electromagnetic
Bi	Bismuth
BIF	Banded Iron Formation
BLK	Blank
BTS	Indirect splitting tensile strength (Brazilian test)
BV	Bureau Veritas Commodities Canada Ltd.
BWi	Bond work index
C	Carbon

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
Ca	Calcium
$Ca(OH)_2$	Hydrated lime / Calcium hydroxide
$Ca(OH)_2$	Calcium hydroxide
CAD or $	Canadian dollar (examples of use: CAD2.5M / $2.5M)
CaO	Lime
CAPEX	Capital expenditure
Cd	Cadmium
Ce	Cerium
CEAEQ	*Centre d'expertise en analyse environnementale du Québec*
CFNW	Cree First Nation of Waswanipi
CIL	Carbon in leach
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
CL	Core length
CMT	Construction management team
CN	Cyanide
CN(T)	Total cyanide
CND	Cyanide destruction
CNG	Cree Nation Government
CN_{WAD}	Weak acid dissociable cyanide
Co	Cobalt
CO_2	Carbone dioxide
CoA	Certificate of authorization
COG	Cut-off grade
COMEV	Evaluating Committee (Environmental and Social Impact)
COMEX	Review Committee (Environmental and Social Impact)
conc.	Concentrate
CPB	Cemented paste backfill
Cr	Chromium
Cr_2O_3	Chromium(III) oxide
CRF	Cemented rockfill
CRM	Certified reference material
Cs	Cesium
Cu	Copper
Cu^{2+}	Copper (II) ion
$CuSO_4$	Copper sulphate
CV	Coefficient of variation

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
CVs	Controlled variables
CWi	Crushing work index
D_{90}	90% - Particle size distribution
DDH	Diamond drill hole
DEM	Distinct element-based method
Directive 019	*Directive 019 sur l'industrie minière* (Provincial guidelines for the mining industry)
DO	Dissolved oxygen
DOCSIS	Data Over Cable Service Interface Specification
DUP	Duplicate
DWT	Drop weight test
Dy	Dysprosium
EC	*Water consumption (eau de consummation*)
ECCC	Environment and Climate Change Canada
ECD	Equivalent Circular Diameter
EDO	Environmental discharge objectives
EGL	Effective grinding length
e-GRG	Extended gravity recoverable gold
EH	Effective head
EIA	Environmental Impact Assessment
EIJB	Eeyou Istchee James Bay
ELOS	Equivalent linear overbreak/slough
EM	Electromagnetic
Entech	Entech Mining Ltd.
EPCM	Engineering, Procurement, Construction Management
EQA	Environmental Quality Act
Er	Erbium
ESA	Environmental Site Assessment
ESG	Environmental, Social, and Corporate Governance
et al.	et alla (and others)
Eu	Europium
EW	Electrowinning
F	Fluorine
F_{80}	80% passing - Feed size
Fe	Iron
Fe_2O_3	Iron(III) oxide
FS	Feasibility study

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
FW	Foot wall
G&A	General and Administration
Ga	Gallium
GCM	GCM Consultants Inc.
Gd	Gadolinium
GESTIM	*Gestion des titres miniers*
GHG	Greenhouse gas
GM	*Gîte minier* (geological assessment report)
Golder	Golder Associates Ltd.
GRG	Gravity recoverable gold
H_2S	Sulphide (as H_2S)
HCI	Hydrochloric acid
HDPE	High Density Poly Ethylene
Hf	Hafnium
HG	High grade zone
Hg	Mercury
HHW	Hazardous Household Waste
Ho	Holmium
HQ	HQ- Caliber drill hole
HVAC	Heating, ventilation, and air conditioning
HW	Hanging wall
I1 Frag	Felsic intrusive with intrusive, volcanic, and pyrite-rich tourmaline fragments
I13	Late felsic intrusive, saccharoidal texture, massive, (pink-orange)
I1P	Felsic intrusive with large quartz eyes
I1P Frag	Fragmental porphyry units
I1P TrY	Felsic intrusive with trace large quartz eyes
I1P YB	Felsic intrusive with lots quartz eyes (>10%) (frequently blue)
I1P YL	Felsic intrusive with large quartz eyes
I2F	Red Dog
I2J	Diorite / undifferentiated intermediate dyke
I2P	Felsic intrusion with small quartz eyes, frequently fragmented (volcanic composition only)
I2P Frag	Felsic intrusion with small quartz eyes and fragmented (volcanic composition)
I3A	Gabbro - undifferentiated mafic dyke; Cr<300ppm
IAA	Impact Assessment Act
IBA	Impact and benefit agreement
ICP	Inductively coupled plasma

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
ICP-AES	Inductively coupled plasma atomic emission spectroscopy (also referred to as inductively coupled plasma optical emission spectrometry)
ICP-MS	Inductively coupled plasma mass spectroscopy
ID^2	Inverse distance square
IEC	International Electrotechnical Commission
ILR	Intensive leach reactor
In	Indium
IP	Induced Polarization
IRGD	Intrusion-related gold deposits
IROC	Integrated Remote Operation Center
IRR	Internal rate of return
ISO	International Organization for Standardization
IT	Information technology
JBACE	James Bay Advisory Committee on the Environment
JBNQA	James Bay and Northern Quebec Agreement
K	Potassium
K	Thousand
K_2O	Potassium oxide
K_{80}	80% passing – Particle size
La	Lanthane
LHD	Load haul dump
LLDPE	Linear Low Density Polyethylene
LOI	Loss of ignition
LOM	Life of mine
LOS	Latch-off-stop
LTE	Long Term Evolution (network)
Lu	Lutecium
M	Million
Ma	Mega annum (million years)
MAG	Magnetic
MBBR	Moving bed bioreactor
MDDEP	*Ministère du Développement durable, de l'Environnement et des Parcs du Québec*
MDMER	Metal and Diamond Mining Effluent Regulations
MELCC	*Ministère de l'Environnement et de la Lutte contre les changements climatiques* (Ministry of Environment, and Action against Climate Change) - formerly known as *Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC)* (Ministry of Sustainable Development, Environment, and Action against Climate Change)

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
MELCC	*Ministère de l'Environnement et de la Lutte contre les changements climatiques*
MERN	*Ministère de l'Énergie et Ressources naturelles* (Ministry of Energy and Natural Resources)
MFFP	*Ministère des Forêts, de la Faune et des Parcs*
Mg	Magnesium
MgO	Magnesium oxide
MIBC	Methyl isobutyl carbinol
ML	Machine learning
MM	Mineralized material
MMS	Mineralized material stockpile
MMW	Minimum mining width
Mn	Manganese
MnO	Manganese(II) oxide
Mo	Molybdenum
MPa	Mega pascals
MRE	Mineral Resource Estimate
MRMR	Mineral Resources & Mineral Reserves
MSO	Mineable Stope Optimizer
MTOs	Material take-offs
Na	Sodium
Na_2O	Sodium oxide
$Na_2S_2O_5$	Sodium meta-bisulphite
NaCN	Sodium cyanide
NaOH	Sodium hydroxide
Nb	Niobium
Nd	Neodymium
NH_3	Ammonia
Ni	Nickel
NN	Nearest Neighbour
No.	Number
NPR	Net profits royalty
NPV	Net present value
NQ	NQ- Caliber drill hole
NS	North-south
NSA	Non-significant assay
NSR	Net smelter return

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
NTS	National Topographic System
NVZ	Northern Volcanic Zone
O_2	Oxygen
OER	Environmental Discharges Objectives *(Objectifs environmentaux de rejet*)
OGC	*Ordre des Géologues du Québec*
OGR	Osisko Gold Royalties Ltd.
OHGW	Overhead ground wire
OIQ	*Ordre des Ingénieurs du Québec*
OIT	interface terminal
OK	Ordinary kriging
OPEX	Operational expenditure
OPGW	Optical Ground Wire
OREAS	Ore Research & Exportation Pty Ltd. Assay Standards
Osisko	Osisko Mining Inc.
P	Phosphor
P_2O_5	Phosphorus pentoxide
P_{80}	80% passing - Product size
PAG	Potentially acid generating
PAX	Potassium amyl xanthate
Pb	Lead
$Pb(NO_3)_2$	Lead nitrate
PCS	Process control system
PEA	Preliminary economic assessment
P-factor	Overpressure factor
pH	Potential of hydrogen
PID	Proportional–integral–derivative
PLC	Programmable logic controller
PMP	Probable maximum precipitation
Pr	Praseodymium
PVs	Process variables
QA/QC	Quality Assurance / Quality Control
QEM	Quantitative Evaluation of Materials
QFP	Quartz-feldspar porphyry
QP	Qualified person
Rb	Rubidium
Rec	Recovery

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
REP	Replicate
RES	*Résurgence dans l'eau de surface* (groundwater resurgence)
RL	Reduced level
RMR	Rock mass rating
ROM	Run-of-mine
ROW	Right-of-way
RQD	Rock quality designation
RROHS	Québec Regulation Respecting Occupational Health and Safety in Mines
RWi	Rod work index
S	Sulphur
S.U.	Standard Unit
S^{2-}	Sulphide
SABC	Semi-autogenous ball mill crusher
SAG	Semi-autogenous grinding
Sb	Antimony
Sc	Scandium
SCADA	Supervisory control and data acquisition
SCN	Thiocyanate
SCSE	SAG Circuit Specific Energy
SD	Standard deviation
SEDAR	System for electronic document analysis and retrieval
SG	Specific gravity
Si	Silicon
SIGÉOM	*Système d'information géominière du Québec*
SiO_2	Silicon dioxide / silica
Sm	Samarium
SMBA	Sodium Metabisulphite
SMC	SAG mill comminution
Sn	Tin
SO_2	Sulphur dioxide
Sr	Strontium
SrO	Strontium oxide
Std	Standard S.U.
SW	Southwest
Ta	Tantalum
Tb	Terbium

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
TCS	Confined triaxial compressive strength
TDEM	Time-domain electromagnetic
Te	Tellurium
Th	Thorium
Ti	Titanium
TIMA	TESCAN Integrated Mineral Analyzer
TiO_2	Titanium dioxide
TIR	*Table interministérielle régionale*
Tl	Thallium
Tm	Thulium
TMF	Tailings management facility
TSF	Tailings storage facility
TSS	Total solids in suspension
U	Uranium
U/F	Underflow
UCoG	Underground cut-off grade
UCS	Unconfined compressive strength
UCSE	Unconfined compressive strength with measurements of elastic properties
UG	Underground
USD or US$	United States dollar (examples of use: USD2.5M / US$2.5M)
UTM	Universal Transverse Mercator
V	Vanadium
V1	Felsic volcanic
V2	Intermediate to mafic volcanic
V30	Reamed bore 30 inches in diameter
vs.	Versus
VTEM™	Airborne electromagnetic survey
W	Tungsten
w/w	Weight per weight
WAD	Weak acid dissociable
WAN	Wide area network
WBS	Work breakdown structure
WGC	World Gold Council
WR	Waste rock
WRL	Whole rock leach
WRS	Waste rock stockpile

TABLE OF ABBREVIATIONS	
Abbreviation	**Description**
WSP	WSP Canada Inc.
WTP	Water treatment plant
XRD	X-Ray Diffraction
XRF	X-Ray Fluorescence
Y	Yttrium
Yb	Ytterbium
Zn	Zinc
Zr	Zirconium

TABLE OF ABBREVIATIONS – UNITS OF MEASUREMENT	
Unit	**Description**
$/t	Dollars per metric tonne
%	Percent
% solids	Percent solids by weight
°C	Degrees Celsius
°F	Degrees Fahrenheit
µm	micron
cfm	cubic feet per minute
d	day (24 hours)
dBA	A-weighting decibel
deg. or °	angular degree
ft	feet (12 inches)
ft^2	square feet
g	gram
g/L	grams per Litre
g/t	grams per (metric) tonne
GWh	Gigawatt hour
h	hour (60 minutes)
ha	Hectare
hp	horsepower
in. Hg	inches of mercury
in. or ”	inch
kg	kilogram
kg/h	kilograms per hour
kg/t	kilograms per tonne
km	kilometres
kPa	kilopascal
kt	kilotonne
kW	kilowatt
kWh/t	kilowatt hour per tonne
L	Litre
m	metre
m/d	metres per day
m/s	metres per second
m^2	square metre
m^3	cubic metre
m^3/s	cubic metres per second

TABLE OF ABBREVIATIONS – UNITS OF MEASUREMENT	
Unit	Description
mesh	US Mesh
mg	milligram
min	minute (60 seconds)
ml	millilitre
MLpy	Million litres per year
mm	millimetre
Mt	Million metric tonne
MW	Megawatt
Ø	diameter
oz/t	Troy ounces per tonne
oz/y	Troy ounces per year
ppm	parts per million
psig	pound per square inch gauge
rpm	revolutions per minute
s	second
st	short ton (2,000 lbs)
t	tonne (1,000 kg) (metric ton)
tpd	tonnes per day
tph	tonnes per hour
tpy	tonnes per year
V	Volt
W	Watt
wt%	weight percent
y	year (365 days)

1. SUMMARY

Osisko Mining Inc. ("Osisko") commissioned BBA Inc. ("BBA") to prepare a technical report (the "Report") of the Preliminary Economic Assessment, herein also referred to as the "PEA" or the "Study", for the Windfall Project ("Project") an advanced stage gold exploration project located in the Eeyou Istchee James Bay ("EIJB") region of central-northwest Québec, Canada. The purpose of this Study was to complete a review and compilation of the resources, mining designs, processing options and preliminary economics of this underground gold project.

This report was completed by BBA with the assistance of a number of specialized consultants, including Andrieux & Associates Geomechanics Consulting LP ("A2GC"), Entech Mining Ltd. ("Entech"), GCM Consultants Inc. ("GCM"), Golder Associates Ltd. ("Golder"), and WSP Canada Inc. ("WSP"). This report was prepared according to the guidelines set out under the requirements of National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") to support the results of the Study as disclosed in Osisko's press release entitled "Osisko Mining Delivers Positive PEA Update for Windfall" dated April 7, 2021.

The PEA provides a base case assessment for developing the Windfall deposit as underground mine with a processing plant (3,100 tpd) at the site. The process plant is designed to have a maximum capacity of 3,600 tpd.

All monetary units in the Study are in Canadian dollars (CAD or $), unless otherwise specified. Costs are based on first quarter (Q1) 2021 dollars. Quantity and grades are rounded to reflect that the reported values represent approximations.

1.1 Contributors

The major Study contributors and their respective areas of responsibility are presented in Table 1-1.

Table 1-1: PEA Contributors

Qualified Person / Consulting Firm	General overview of responsibilities
A2GC	
▪ Nicolas St-Onge, P. Eng.	▪ Rock mass characterization and rock engineering in support of the underground mine design
BBA Inc.	
▪ Charlotte Athurion, P. Geo. ▪ Colin Hardie, P. Eng. (ON) ▪ Martin Houde, P. Eng. ▪ Pierre-Luc Richard, P. Geo.	▪ Historical data review; ▪ Current and historical geology, exploration, drilling; ▪ Sample preparation, QA/QC, and data verification; ▪ Geological modelling and mineral resource estimate; ▪ Metallurgical test work management and analysis, ▪ Crusher and process plant mass and water balance,

Qualified Person / Consulting Firm	General overview of responsibilities
	▪ Crusher and process plant design, capital costs and operating costs; ▪ Electrical infrastructure design and costs (supply); ▪ IT and communications infrastructure design and costs (supply and on-site); ▪ Integrated Remote Operations Centre ("IROC") design and costs; ▪ General and administration operating costs; ▪ Financial Analysis and overall NI 43-101 integration.
Entech Mining Ltd.	
Patrick Langlais, P. Eng.	▪ Underground mine design, underground infrastructure, ventilation, production scheduling, underground capital and operating costs.
Golder Associates Ltd.	
▪ Yves Boulianne, P. Eng. ▪ Michel Mailloux, P. Eng.	▪ Geochemical characterization of mineralized material, waste rock, tailings and process water; ▪ Surface tailings management facility designs and costs; ▪ Site wide water balance; ▪ Hydrogeology and groundwater quality input to environmental studies; ▪ Hydrogeology input to underground mine design.
WSP Canada Inc.	
▪ Isabelle Larouche, P. Eng. ▪ Simon Latulippe, P. Eng. ▪ Éric Poirier, P. Eng., PMP	▪ Design and costs of surface infrastructure for Windfall site; ▪ Site utilities design and costs; ▪ Off-site access road to Windfall evaluation and costs; ▪ On-site roads and pads design and costs; ▪ Site Infrastructure electrical distribution design and costs; ▪ Surface mineralized material, waste rock, overburden and topsoil management facility design and costs; ▪ Surface water management infrastructure design and costs; ▪ Tailings filtration plant and dry tailings storage / handling design and costs; ▪ Underground paste backfill distribution and infrastructure design and costs; ▪ Environmental studies, permitting and closure costs; ▪ Regulatory context, social considerations, and anticipated environmental issues; ▪ Geotechnical input for the surface infrastructure design.
GCM Consultants	
▪ Marie-Claude Dion St-Pierre, P. Eng.	▪ Water treatment plant design, capital and operating costs.

1.2 Key Project Outcomes

The reader is advised that the results of the PEA summarized in this report are intended to provide an initial, high-level review of the Project and potential design options. The PEA mine plan and economic model include numerous assumptions and the use of Inferred resources. Inferred resources are considered to be too speculative to be used in an economic analysis, except as allowed for by Canadian Securities Administrators' National Instrument 43-101 in PEA studies. There is no guarantee that Inferred resources can be converted to Indicated or Measured resources and, as such, there is no guarantee the Project economics described herein will be achieved.

The following list details the key project outcomes of the Study:

- Windfall deposit Resources: 0.52 million tonnes at 11.3 g/t Au (Measured), 5.50 million tonnes at 9.4 g/t Au (Indicated) and 16.40 million tonnes at 8.0 g/t Au (Inferred);
- Total mineralized material mined (In-stope and Development): 19.7 million tonnes at 6.9 g/t Au average diluted gold grade (refer to Table 1-4 for more details);
- Mine life of 18 years, with peak year payable production of 328,000 ounces (Year 6), average life of mine (“LOM”) annual payable production of 238,000 ounces of gold;
- Gold payable recovery of 94.8%;
- Payable production (LOM) of 4.17 million Au ounces and 1.51 million Ag ounces;
- Pre-production construction costs of $543.5M, including a $55.4M contingency;
- Sustaining costs of $761.5M (including $95.1M in closure costs);
- Operating cost (total) of $121.76 per tonne milled;
- All-in sustaining costs* of USD610/oz net of by-product credits, including royalties, over LOM;
- Gross revenue of $8.2 billion and an after-tax operating cash flow of $2.6 billion LOM;
- Net present value (“NPV”) of $1.5B at a 5% discount rate, and an internal rate of return (“IRR”) of 39.3% after taxes and mining duties;
- LOM taxes of $1.7B and royalties of $163M;
- NPV of $2.6B at a 5% discount rate, and an IRR of 50.6% before taxes and mining duties;
- Pay-back after-start of production period of 2.0 years pre-tax and 2.2 years after-tax;
- Approximately 500 workers during the construction period and more than 400 employees will be required during operations;
- Process plant construction planned for Q4 2023 with production beginning in Q4 2024.

* All-in sustaining costs are presented as defined by the World Gold Council (“WGC”) less Corporate G&A.

1.3 Property Description and Ownership

The Windfall Project is located 115 km east of the town of Lebel-sur-Quévillon in the Eeyou Istchee James Bay region of central-northwest Québec, Canada, approximately 620 km north-northwest of Montréal and 155 km northeast of Val-d'Or, as shown on Figure 1-1.

Figure 1-1: Windfall Project site location

1.3.1 Windfall and Urban-Barry Properties

The Windfall property is 100% owned by Osisko. On November 30, 2020, the Windfall property consisted of 286 individual claims covering an aggregate area of 12,523 ha. The current property was consolidated from several agreements concluded with previous owners. The main claim blocks inherited from the original agreement are: The Windfall-Noront Option (including the Windfall, Alcane, and South blocks), the 29 Claims Expansion, the 184 Claims Expansion, the Rousseau property, the Windfall 2010, the Windfall 2012, and the Carat Claim. Osisko now holds a 100% interest on all the claim blocks of the property, barring various royalties. The mineral resources discussed herein are located within the Noront-Windfall block of the Windfall option and the 29 Claims Expansion claim blocks. The Urban-Barry property is 100% owned by Osisko Mining Inc. On November 30, 2020, the property comprised 1,916 individual claims covering an aggregate area of approximately 103,778 ha. The property is mostly constituted of claims acquired at different periods from 2015 to 2020, and are subject to various royalties.

The Windfall property and the northern half of the Urban-Barry property are in the Eeyou Istchee James Bay territory. Osisko has obtained all necessary permits and certifications from government agencies to allow for surface drilling, exploration, and bulk sampling on the Windfall property. The Windfall area is serviced by a complete network of well-maintained logging roads and hosts several infrastructure components at the Windfall property including an exploration camp with a capacity for 300 people. An experienced mining workforce is available in Lebel-sur-Quévillon and several well-established nearby mining towns, such as Val-d'Or, Rouyn-Noranda, La Sarre, Matagami and Chibougamau.

1.4 Geology Mineralization and Exploration Model

1.4.1 Windfall Property

The Windfall and Urban-Barry properties occur within the Urban-Barry greenstone belt located in the Northern Volcanic Zone of the Abitibi geological Subprovince. The Urban-Barry greenstone belt contains mafic to felsic volcanic rock units and is cross-cut by several east-trending and east-northeast trending shear zones that delineate major structural domains.

The Windfall property is located in the central part of the Urban-Barry Belt and is located between the Urban and Barry Deformation Zones. The northeast-trending Mazères and Milner shear zones traverse the property and are truncated by the east-west trending Urban Deformation Zone.

The Urban-Barry belt is informally divided into the Fecteau, the Chanceux, the Macho and the Urban formations. The Windfall deposit is hosted within the Windfall Member of the Macho formation, which primarily consists of felsic and intermediate volcanic rocks including tuff and lava units of tholeiitic affinity. In the Windfall deposit area, the stratigraphy trends northeast and dips moderately towards the southeast. Volcanic rocks are intruded by a series of younger quartzfeldspar porphyry dikes, commonly referred to as quartz-feldspar porphyry ("QFP") dikes.

At Windfall, the bulk of the gold mineralization is contained in a high-grade, gold-rich extensive anastomosed network of quartz-rich and pyrite-rich veins. These are hosted within strongly silicified volcanic rocks. Gold mineralization has a pyrite-rich and silica > sericite-carbonate-tourmaline mineral association zoned outward into erratic to low gold grade. This is associated with sericite > silica-carbonate-tourmaline halos, which in turn passes into an outer, barren chlorite > sericite-rutile zone.

The resources are defined from surface to a depth of 1,600 metres as it now includes the Triple 8 (T8) zone. The resources excluding T8 are defined from surface to a depth of 1,200 metres. The mineral resource estimate update is separated into four sectors: the Lynx zone (Lynx Main, Lynx HW, Lynx SW, Triple Lynx, and Lynx 4), the Main zone (Zone 27, Caribou, Bobcat, Mallard, Windfall North, F-Zones), the Underdog zone, and the Triple 8 zone. All zones trend east-northeast and plunge roughly 40°.

Most of the Lynx mineralization zones form an extensive anastomosed network of quartz-rich and pyrite-rich veins hosted within strongly silicified felsic volcanic rocks or gabbros. This system is located on the southern limb of an open fold plunging at 40º towards the east-northeast along the Bank fault-shear zone. It also coincides with the global plunge of most of mineralized zones at Windfall

The Main and Underdog zones are separated by the thick, low-angle, post-mineral granodiorite sill called “Red Dog”. The Main zone is located in the hanging wall, above the Red Dog, and is constrained along east-northeast oriented contacts of narrow subvertical granodioritic dikes within tilted volcanic rocks. Most mineralized envelopes in the Main zone are associated with pyritic stringers occurring near contacts between volcanic rocks and younger intrusive rocks.

The Underdog mineralized zone is located in the footwall, beneath the Red Dog sill. The mineralization in the Underdog zone is composed of disseminated to semi-massive pyrite intervals associated with strong silica and sericite alteration, generally following main intrusive contacts and/or deformation zones. The top of this deeper mineral zone starts at around 600 m depth and continues to depths of roughly 1,600 m where it is still open at depth and down-plunge.

From the early stages of exploration in the Windfall area, the recognition of a relationship between gold and porphyries, in respect to the available information, led to the proposal that the Windfall deposit is an intrusion-related system. Recent exploration advances highlight an important structural component that challenges this early interpretation. The Windfall deposit is characterized as an atypical orogenic gold deposit due to the presence of unique mineralogical assemblages and the temporal and spatial association of gold with intrusive phases. The porphyry intrusions at Windfall appear to have been emplaced during deformation events (D2), subparallel to the early faults and the orientation of the axial plane of the synform in the Lynx area that trends towards the northeast. However, the occurrence of dikes remains an important criterion for the location of the mineralization as they likely acted as rheological anisotropies within the deformed host volcanic sequences and formed ideal structural traps for the mineralizing fluids.

1.5 Status of Exploration and Drilling

1.5.1 Windfall and Urban-Barry Properties

The Windfall property is at an advanced stage of exploration. However, the vast Urban-Barry property is still at an early stage.

The properties' areas have seen a great deal of historical exploration work spanning from 1943 to 2009, with no historical resource estimates or production for that period. The Windfall property area saw renewed exploration activities from 2009 to 2014 by Eagle Hill Exploration, producing three mineral resource estimates and a preliminary economic assessment ("PEA") on the property. From 2018 to 2020, two mineral resource estimates and one PEA were produced based on exploration activities conducted by Osisko.

The 2020 Urban-Barry drilling program was conducted in two parts, from January to March and from October to December. A total of 28 drill holes were drilled for a total of 12,737.5 metres. Four main areas were visited during the first part of the program, namely Fox West, Rouleau, Bank Extension and Urban South Fault. The Bank Extension and Windfall SW areas were visited during the second part.

From October 20, 2015 to November 30, 2020, Osisko completed 3,098 drill holes for a total of 1,224,453 m of drilling on the Windfall deposit. The drilling program was designed to better define the mineralized zones, with a high priority on expanding the Lynx deposit and better define the Underdog mineral zone.

1.6 Mineral Processing and Metallurgical Testing

Metallurgical testwork was conducted using material from various zones within the Windfall deposit including: Main (Zone 27 and Caribou), Lynx and Underdog. Representative samples were selected considering different rock types, precious metal grades and special location (depth and spatial distribution) within the deposit. The projected metallurgical recoveries for gold and silver were established using the results of gravity recovery testwork followed by leaching testwork (CIL) on a composite from the Main, Lynx and Underdog zones.

Leaching optimization test works have been performed to improve the flowsheet. This testwork realized on the same samples have given similar results as the variability testwork program. Metallurgical testwork to date has confirmed that good precious metal recoveries can be achieved using a conventional process consisting of crushing and grinding to 37 µm (P80), with gravity recovery followed by whole ore leaching (24 hrs) of the gravity tailings.

Filtration and paste backfill testing programs were carried out by Pocock Industrial Ltd. and Paterson & Cooke on projected Windfall detoxified tailings. The results show the amenability of producing paste backfill and dry stack for specific design criteria.

- The desired tailings solids concentration for dry stacking (85% w/w) can be achieved using pressure filtration;
- A paste recipe made with 3.7% of GU cement reaches a UCS of 175 kPa after a curing time of 14 days (as required by the mining plan).

1.6.1 Metal Recovery Projections

Based on the proposed flowsheet, the overall projected metallurgical recovery values for gold and silver from the Windfall deposit are presented in Table 1-2.

Table 1-2: Projected metallurgical recoveries values for Au and Ag

Composite	Overall Au recovery (%)	Overall Ag recovery (%)
Main	92.3	77
Lynx	95.3	81
Underdog	95.3	50

1.7 Mineral Resource Estimate

The 2021 MRE for the Windfall deposit was prepared by Osisko and reviewed and approved by the Pierre-Luc Richard, QP. The mineral resource estimate is effective as of November 30, 2020. The estimate follows the November 29, 2019 CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines for reporting mineral resources and reserves.

The resource database contains 3,855 surface and underground diamond drill holes (1,425,842 m). Of these, 3,612 drill holes are located within the resource area, representing 1,343,593 m of drill core.

The 2021 MRE is constrained by 374 mineralization envelopes that were modelled in Leapfrog Geo software from hand selected assays using a minimum true thickness of 2.0 m. Equal-length composites of 2.0 m were calculated inside the mineralized zones. A multiple-step capping strategy was applied to the composites before the grade interpolation to limit the influence of high-grade composites over large distances. The search ellipsoid ranges were defined from variography studies, which also determined the parameters for the ordinary kriging-based gold interpolations. The gold estimation parameters were used for the silver estimations that were produced using ordinary kriging or inverse distance squared interpolations.

The block models were generated in Datamine™ Studio RM software using parent cell sizes of 5 metres NE, 2 metres NW and 5 metres height, and sub-locked to minimum sub-cell sizes of 1.25 metres NE, 0.5 metres NW and 1.25 metres height.

The blocks were assigned to resource categories, or excluded from the resource, based on a series of clipping boundaries delineating areas of blocks with similar confidence levels. Measured resources were defined in areas where: 1) the drill hole spacing is less than 12.5 m; 2) blocks are informed by a minimum of four drill holes; and 3) the reliability of the geological and grade continuity is good, and supported by significant underground workings. Indicated resources were defined in areas where: 1) the drill hole spacing is less than 25 m; 2) blocks are informed by a minimum of two drill holes; and 3) the reliability of the geological and grade continuity is good. The inferred resources were defined from areas where: 1) the drill hole spacing is less than 100 m; 2) blocks are informed by a minimum of two drill holes; and 3) the confidence in geological and grade continuity is moderate.

The mineral resource presented herein is not solely based on the application of a cut-off grade. Isolated and discontinuous blocks above the cut-off grade (3.5 g/t Au) were excluded from the mineral resource estimate. Additionally, “must-take” material, i.e. isolated blocks below cut-off grade located within a potentially mineable volume, was included in the mineral resource estimate.

Table 1-3 presents the updated mineral resource estimate for the Windfall Project.

Table 1-3: Windfall mineral resource estimate (3.5 g/t Au cut-off)

Area	Measured					Indicated					Inferred				
	Tonnes[1] (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au[1] (000 oz)	Ounces Ag[1] (000 oz)	Tonnes[1] (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au[1] (000 oz)	Ounces Ag[1] (000 oz)	Tonnes[1] (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au[1] (000 oz)	Ounces Ag[1] (000 oz)
Lynx[2]	521	11.3	8.1	189	135	3,075	11.0	6.6	1,088	655	7,418	9.9	3.5	2,355	833
Underdog	-	-	-	-	-	562	8.0	1.1	145	20	4,788	6.9	0.9	1,068	139
Main[2]	-	-	-	-	-	1,865	7.3	5.7	436	339	3,540	5.9	3.3	673	375
Triple 8	-	-	-	-	-	-	-	-	-	-	655	7.1	4.7	149	99
Total	**521**	**11.3**	**8.1**	**189**	**135**	**5,502**	**9.4**	**5.7**	**1,668**	**1,013**	**16,401**	**8.0**	**2.7**	**4,244**	**1,446**

Notes: (1) Values are rounded to nearest thousand which may cause apparent discrepancies.
(2) Lynx area includes: Lynx Main, Lynx HW, Lynx SW and Lynx 4, and Triple Lynx.
(3) Main area includes: Zone 27, Caribou, Mallard, Windfall North, and F-Zones.

1. The independent qualified person for the 2021 MRE, as defined by NI 43-101 guidelines, is Pierre-Luc Richard, P.Geo.(OGQ#1119), of BBA Inc. The effective date of the estimate is November 30, 2020.
2. The Windfall mineral resource estimate is compliant with the November 29, 2019 CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines.
3. These mineral resources are not mineral reserves as they have not demonstrated economic viability. The quantity and grade of reported inferred mineral resources in this news release are uncertain in nature and there has been insufficient exploration to define these resources as indicated or measured; however, it is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.
4. Resources are presented undiluted and in situ and are considered to have reasonable prospects for economic extraction. Isolated and discontinuous blocks above the stated cut-off grade are excluded from the mineral resource estimate. Must-take material, i.e. isolated blocks below cut-off grade located within a potentially mineable volume, was included in the mineral resource estimate.
5. As of November 30, 2020, the database comprises a total of 3,612 drill holes for 1,343,593 metres of drilling in the area extent of the mineral resource estimate, of which 2,959 drill holes (1,161,872 metres) were completed and assayed by Osisko. The drill hole grid spacing is approximately 12.5 metres x 12.5 metres for definition drilling, 25 metres x 25 metres for infill drilling and larger for extension drilling.
6. All core assays reported by Osisko were obtained by analytical methods described below under "Quality Control and Reporting Protocols".
7. Geological interpretation of the deposit is based on lithologies, mineralization style, alteration and structural features. Most mineralization envelopes are subvertical, striking NE-SW and plunging approximately 40 degrees towards the north-east. The 3D wireframing was generated in Leapfrog Geo, a modelling software, from hand selections of mineralization intervals. The mineral resource estimate includes a total of 374 tabular, mostly subvertical domains defined by individual wireframes with a minimum true thickness of 2.0 metres.
8. Assays were composited within the mineralization domains into 2.0 metres length composites. A value of 0.00125 g/t Au and 0.0025 g/t Ag (¼ of the detection limit) was applied to unassayed core intervals.

9. High-grade composites were capped. Cappings were determined in each area from statistical studies on groups of zones sharing similar mineralization characteristics. Cappings vary from 10 g/t Au to 200 g/t Au and from 5 g/t Ag to 150 g/t Ag. A multiple capping strategy defined by capping values decreasing as interpolation search distances increase was used in the grade estimations.
10. Block models were produced using Datamine™ Studio RM Software. The models are defined by parent cell sizes of 5 metres NE, 2 metres NW and 5 metres height, and sub-locked to minimum sub-cell sizes of 1.25 metres NE, 0.5 metres NW and 1.25 metres height.
11. Ordinary Kriging ("OK") based interpolations were produced for gold estimations in each area of the Windfall deposit, while silver grade estimations were produced using OK or Inverse Distance Squared ("ID^2") interpolations. Gold estimation parameters are based on composite variography analyses. The gold estimation parameters were used for the silver estimation.
12. Density values of 2.8 were applied to the mineralized zones.
13. The Windfall mineral resource estimate is categorized as measured, indicated and inferred mineral resource as follows:
    a. The measured mineral resource category is manually defined and encloses areas where:
        i. drill spacing is less than 12.5 metres;
        ii. blocks are informed by a minimum of four drill holes;
        iii. geological evidence is sufficient to confirm geological and grade continuity;
        iv. zones have been accessed by underground workings.
    b. The indicated mineral resource category is manually defined and encloses areas where:
        i. drill spacing is generally less than 25 metres;
        ii. blocks are informed by a minimum of two drill holes;
        iii. geological evidence is sufficient to assume geological and grade continuity.
    c. The inferred mineral resource category is manually defined and encloses areas where:
        i. drill spacing is less than 100 metres;
        ii. blocks are informed by a minimum of two drill holes;
        iii. geological evidence is sufficient to imply, but not verify geological and grade continuity.
14. The mineral resource is reported at 3.5 g/t Au cut-off. The cut-off grade is based on the following economic parameters: gold price at USD1,485/oz, exchange rate at 1.30 USD/CAD, 94% mill recovery; payability of 99.95%; selling cost at USD5/oz, 2% NSR royalties, mining cost at CAD100/t milled, G&A cost at CAD30/t milled, processing cost at CAD40/t, transportation cost at CAD2/t considering mill at site, and environment cost at CAD10/t. A cut-off grade of 3.5 g/t Au was selected over the calculated cut-off grade of 3.2 g/t Au to better reflect a realistic mining cut-off.
15. Estimates use metric units (metres, tonnes and g/t). Metal contents are presented in troy ounces (metric tonne x grade / 31.10348).
16. The independent qualified person is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issue, that could materially affect the mineral resource estimate.
17. Values in tonnes and ounces are rounded to nearest thousand which may cause apparent discrepancies.

1.8 Mining Methods

The mineral resources used in the mine plan are contained over a strike length of 2,300 metres to a depth of approximately 1,500 metres. Each zone is characterized by multiple tabular panels, which mainly trend ENE and dip vertically to sub-vertically. The lithology units across the different mining zones are generally brittle, strong and hard rock masses, sparsely jointed to blocky. The volcanic rocks exhibit various intensities of foliation, but the foliation is generally strong. The rock mass quality is only significantly different, and lower, inside the boundaries of the interpreted faults.

The Windfall Project mineralization varies in dip and thickness both along strike and at depth. All geometries are suitably extracted using the Longitudinal Longhole Stoping method with backfill.

The underground mine will have an average production rate of 3,100 tpd. Stope dimensions vary from 10 to 30 metres in strike length and 20 to 25 metres in height, with a minimum thickness of 4 metres. Mineralized material will be extracted using a fleet of 15 tonne load-haul-dump machines and 51 tonne haul trucks using a ramp to surface.

The pre-production of Windfall deposit will start in Q4-2023 and production will finish during Year 2042. Table 1-4 gives the mineralized material resource category for the Windfall Project mining plan.

Table 1-4: Mineralized material resource category for Windfall Project mining plan

Zone	Category	Tonnes (Mt)	Grade (gpt)
Lynx	Measured	0.3	12.41
	Indicated	2.1	11.60
	Inferred	4.8	10.29
	Subtotal	*7.2*	*10.76*
	Waste Dilution	2.3	-
	Total	**9.4**	**8.17**
Main and Underdog	Measured	-	-
	Indicated	1.0	8.41
	Inferred	3.4	7.95
	Subtotal	*4.4*	*8.06*
	Waste Dilution	1.4	-
	Total	**5.9**	**6.10**
Development	Measured	0.1	11.16
	Indicated	0.8	8.25
	Inferred	2.2	7.47
	Subtotal	*3.1*	*7.76*
	Waste Dilution	1.3	-
	Total	**4.4**	**5.43**

Zone	Category	Tonnes (Mt)	Grade (gpt)
Total	Measured	0.4	12.17
	Indicated	3.8	10.08
	Inferred	10.4	8.93
	Subtotal	*14.7*	*9.32*
	Waste Dilution	5.0	-
	Total	**19.7**	**6.94**

1.9 Recovery Methods

The process plant will process a daily average of 3,100 tpd with a target grind size of 37 µm. Gold and silver production will average respectively 238,000 oz/y and 87,000 oz/y based on the LOM plan. It is expected that a ramp up period of three months will be required to reach the design throughput.

Based on the testwork conducted, the process flowsheet consists of primary crushing, followed by a grinding circuit consisting of a SAG mill (in close circuit with a pebble crusher) and ball mill (in close circuit with cyclones – SABC circuit). A gravity circuit followed by intensive leaching recovers coarse gold from the cyclone underflow, while the cyclone overflow is treated in a carbon-in-leach circuit. Gold is recovered in an ADR (Adsorption-Desorption-Reactivation) circuit followed by electrowinning (“EW”) cells.

The tailings filtration plant is located in an annex of the Windfall process plant building. The plant consists of pressure filters and their ancillaries, a paste mixer, a paste pump, a binder storage and dosing system and a dry stack storage facility. The totality of the process tailings is filtered. Based on the mine plan, approximately 40% of the tailings will be transformed into paste backfill. The remaining tailings are disposed of as dry stack.

A simplified flowsheet is presented in Figure 1-2.

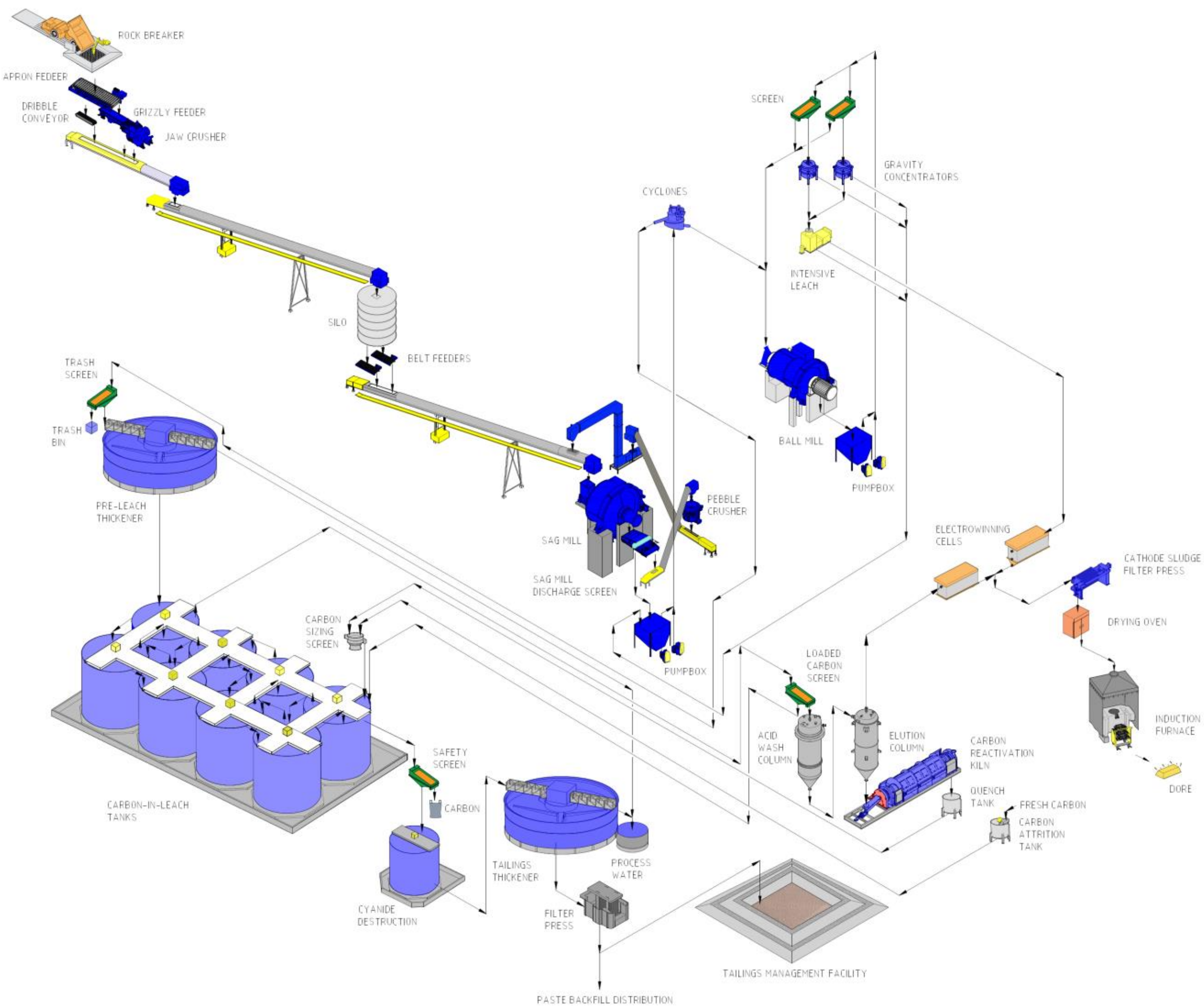


Figure 1-2: Simplified process plant flowsheet

1.10 Project Infrastructure

Most of the Project's Mining and Processing infrastructure is located at the Windfall site.

The Windfall Mine site is currently accessible by way of a 115 km of forestry gravel roads branching off the Chemin du Moulin road, southeast of Lebel-sur-Quévillon. The roads are in good condition and do not require immediate major upgrades. However, some work should be planned. The Wetetnagami River Bridge limits the capacity of the road to 138 tons.

The Project envisions construction or upgrade of the following key surface infrastructure components:

- Windfall Site access road;
- First Nations cultural centre;
- Main gatehouse, remote gatehouses, and site access control;
- Underground Mine portal (Lynx zone);
- Mine ventilation systems (intakes and exhausts);
- Surface truck shop;
- Process plant complex, including crushing line, offices, dry and warehouse;
- 94 km 120 kV overhead transmission line from Lebel-sur-Quévillon;
- 120 kV / 13.8 kV main transformation substation;
- WAN fibre optic link to Lebel-sur-Quévillon as an OPGW on 120 kV power line;
- Hybrid secondary WAN link (fibre optic and microwave radio);
- Private LTE system for surface and underground mine;
- Telecommunication towers;
- Administration office at Lebel-sur-Quévillon;
- Integrated remote operations centre ("IROC");
- Waste rock, overburden, and mineralized material stockpiles;
- Surface water management facility, including ditches, pond and pumping station;
- Tailings management facility ("TMF");
- Final effluent water treatment plant ("WTP");
- Service and haulage roads.

The following is existing infrastructure that will be kept during the operation period:

- Exploration portal (Main zone);
- Camp complex including the dormitories, cafeteria, community hall, fitness room, infirmary, mine rescue, warehouses, potable water and sewage systems;
- Fuel storage and distribution.

The new dormitories will accommodate a total of 244 people in three two-storey sections, designed to be high-end, hotel-quality units; each room will include a private bathroom with shower. A central corridor will provide access to the cafeteria building, the fitness room and the community hall. A laundry room will be located at the centre of both storeys.

The total complex capacity will be 424 people, including the existing 180-person dormitories 200 and 300, which will be kept after the construction period. However, the addition of temporary dormitories (120 people) will allow a total capacity of 544 people during construction period.

The First Nations cultural centre will be located near the camp complex in a private and secluded area to allow for contemplation and reflection. The site will include a teepee, a sanitary building, and a gathering house (meeting area, skin tanning area, woodworking area, and wood stove for traditional food cooking).

1.10.1 Waste Rock Stockpiles

Waste rock will be stored in the existing Waste Rock Stockpile until its capacity of 1.4 Mt (0.69 Mm^3) is reached in 2025. An extension to the main stockpile, which will be built in 2024, will increase its capacity to 5.38 Mt (2.64 Mm^3). The remaining waste rock will be stored on the footprint of the low-grade mineralized material stockpile and its extension, once the mineralized material has been completely processed in 2029. The total waste rock produced over the LOM is estimated to be 6.58 Mt (3.23 Mm^3) and the total available storage capacity is approximately 7.29 Mt (3.58 Mm^3). Waste rock is potentially acid generating (“PAG”) and water from the waste rock will be managed or treated as appropriate.

The design of the proposed waste rock stockpiles is based on the design of the previous waste rock stockpile extensions built in 2018 and 2020.

1.10.2 Mineralized Material Stockpiles

A mineralized material stockpile of a capacity of 27,000 t to 39,000 t (18,000 m^3), depending on the hauling equipment constraints, will be located near the crusher. The low-grade mineralized material stockpile will also be located near the crusher and will be used to store mineralized material until 2029. A first section of this stockpile will be built at the beginning of the mining operations (2022) and will have a capacity of 0.71 Mt (0.33 Mm^3) of low-grade ore. The low-grade stockpile will be extended in 2036 to allow the storage of waste rock. The final total capacity of the low-grade Stockpile is 1,9 Mt (0.94 Mm^3) of waste rock.

1.10.3 Topsoil Stockpiles and Overburden Storage

Two topsoil stockpiles are required: an extension of the existing topsoil stockpile will have a capacity of 0.25 Mm^3, and a second stockpile, located north of the tailings storage facility (“TSF”), will have a capacity of 0.73 Mm^3. Osisko intends to use 0.22 Mm^3 of topsoil as it becomes available for progressive reclamation as soon as it is in the first years of mine operations which allows for reduction of the footprint of the topsoil stockpiles.

Osisko intends to use most of the granular overburden as construction materials; therefore, the exceeding quantities, if any, will be stored in the existing borrow pit, located north of the site.

1.10.4 Water Management Infrastructure

The water management strategy encourages the use of the existing infrastructure and diversion of clean water around the site. Contact water (i.e.: water that has been in contact with mine facilities such as the Waste Rock Stockpiles (“WRS”), the Mineralized Material Stockpiles (“MMS”) or the industrial zone) will be collected and directed into ponds through a system of drainage ditches and pumps. 11 ponds will need to be built to ensure the collection of all the contact water runoff. Contact water will be conveyed to the WTP for appropriate treatment to ensure water quality requirements are met before discharge to the environment. Water from the topsoil stockpiles will be collected in ditches, conveyed to sedimentation ponds and tested, before being discharged to the environment.

1.10.5 Tailings Management Facility

Tailings generated from mineralized material processing will be sent to a tailings management facility located northeast of the plant. The TMF will support deposition for both thickened and filtered tailings, deposited one after the other. The thickened tailings will be deposited in a single cell surrounded by a retention berm in the southeast and by a smaller retention berm in the valley to the northwest. The filtered tailings will be deposited around and above the retention berms and over the thickened tailings. In its final configuration, the thickened tailings cell will be entirely enclosed by the filtered tailings stack.

Geochemical characterization indicates that the tailings are potentially acid generating and leachable for metals. Thus, the design of the TMF includes a geosynthetic liner as a mitigation measure to limit pore water seepage to groundwater.

1.10.6 Water Treatment Plant

Water treatment will be required on site in order to meet mining effluent discharge criteria (Directive 019 and MMER). Water treatment technology selection is based on geochemical study results (Golder, 2020a), on site water analysis and cyanide destruction process laboratory test. Three water treatment systems will be required to treat: 1) TSF water; 2 contact water collected form waste rock pile and mineralized material stockpile; and 3) underground water and site contact water. The main contaminants that require treatment are thiocyanides ("SCN"), metals, suspended solids and ammonia. Considering the limitation of data available to predict water quality, further work will be required to confirm water treatment strategy for the Project.

1.11 Environmental, Permitting and Site Restoration

The Windfall Project is subject to the provincial Northern environmental impact assessment ("EIA") procedure. An EIA statement will have to be submitted for compliance and review by the COMEX and CNG. Additional baseline data collection and assessment are required in order to complete the EIA. No specific inordinate environmental risk to project development was identified.

Following release from the provincial certificate of authorization (EIA approval), the project will require several approvals, permits and authorizations to initiate the construction phase up to the closure phase. The Windfall Project was selected by the Québec government as a pilot project (*Table interministérielle régionale* ("TIR")) to support Osisko in the permitting process and minimize the approval delays.

Consultation and information activities is a continuous process that shall be ongoing until project completion. Discussion with First Nations representatives has been initiated in order to establish a Social and Economic Participation Agreement (an impact and benefit agreement, or "IBA").

Closure costs are estimated at $95.1M, including direct and indirect costs (30% for conceptual design stage), and a 15% contingency.

1.12 Capital and Operating Costs

1.12.1 Capital Costs

The total pre-production capital cost for the Windfall Project is estimated to be $543.5M including allowances for indirect costs and contingency of $145.4M and $55.4M respectively. This estimate was prepared in accordance with the American Association of Cost Engineers ("AACE") Class 4 study definition, with an expected accuracy of +/- 30% of the final Project cost. The capital cost estimate was compiled using a budgetary quotation, database costs, and database factors. Items such as sales taxes, land acquisition, permitting, licensing, feasibility studies and financing costs are not included in the cost estimate. The total does not include the sunk costs of $33M for the grinding mills and camp.

Costs are expressed in first-quarter 2021 Canadian dollars with an exchange rate of 1.00 CAD for 0.77 USD with no allowances for escalation, currency fluctuation or interest during construction.

The cumulative life of mine capital expenditure including costs for pre-production, sustaining, site reclamation and closure is estimated to be $1.3B. Project capital costs estimates are summarized in Table 1-5 and are shown on a percentage basis in Figure 1-3.

Table 1-5: Project capital cost summary

WBS	Cost area	Pre-production capital cost ($M)	Sustaining capital cost ($M)	Total cost ($M)
000	General administration (Owner's costs)	87.4	8.5	96.0
200	Underground mine	75.2	575.4	650.5
300	Mine surface facilities	12.6	4.0	16.7
400	Electrical and communication	49.2	0.8	50.0
500	Site infrastructure	12.2	2.1	14.3
600	Process plant	131.9	47.1	179.0
800	Tailings and water management	61.5	15.1	76.6
900	Indirect costs	57.9	0.7	58.6
999	Contingency	55.4	12.8	68.2
	Total	**543.5**	**666.4**	**1,209.9**
	Site reclamation and closure	-	95.1	95.1
	Total - Forecast to spend	**543.5**	**761.5**	**1,305.0**

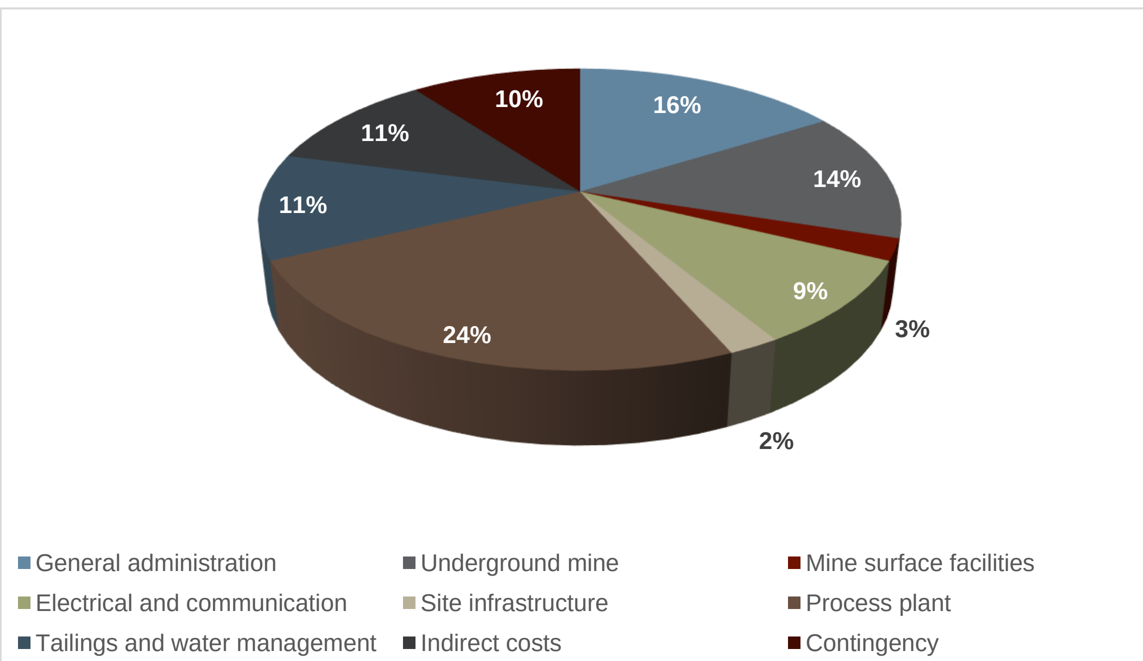


Figure 1-3: Capital cost summary (pre-production)

All capital costs for the Project have been distributed against the development schedule to support the economic cash flow model. Figure 1-4 presents the planned annual and cumulative LOM capital cost profile.

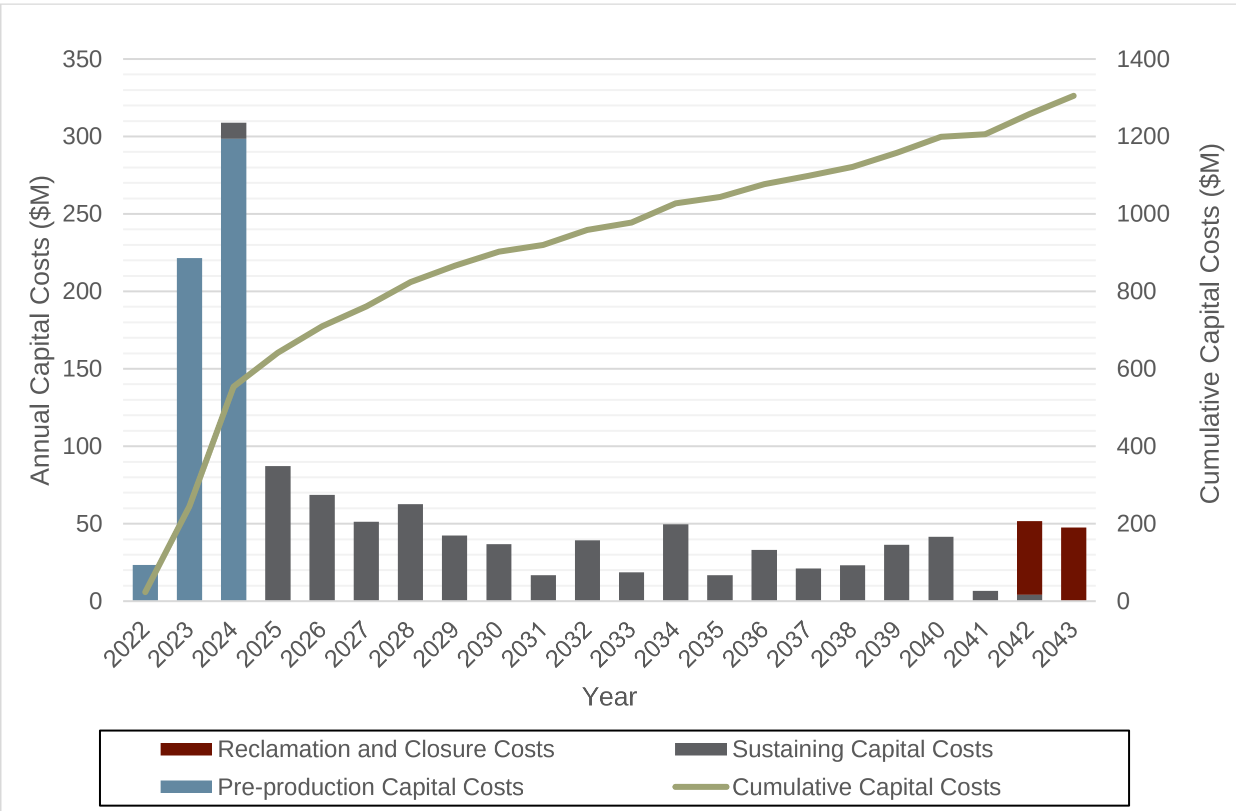


Figure 1-4: Annual and cumulative Project capital costs

1.12.2 Operating Costs

The operating cost estimate ("OPEX") is based on a combination of experience, reference project, budgetary quotes and factors appropriate for a PEA study. The target accuracy of the operating cost is -/+30%. No cost escalation or contingency has been included within the operating cost estimate.

The operating cost estimate in this Study includes the costs to mine, transport and process the mineralized material to produce gold and silver doré. It also includes costs for tailings management, water treatment and general and administration expenses ("G&A").

The average operating cost over the 18-year mine life is estimated to be $121.76/t milled. Total LOM and unit operating cost estimates are summarized in Table 1-6 and are shown on a percentage basis in Figure 1-5.

Table 1-6: Project operating cost summary

Cost area	LOM ($M)	Annual average cost ($M)	Average LOM ($/tonne milled)	Average LOM ($/oz)	OPEX (%)
Underground mining	1,128.6	64.5	57.29	270.3	47.1%
Process plant	528.9	30.2	26.85	126.7	22.0%
Tailings, water treatment and environment	195.3	11.2	9.91	46.8	8.1%
General and administration	545.8	31.2	27.71	130.7	22.8%
Total	**2,398.6**	**137.0**	**121.76**	**574.5**	**100.0%**

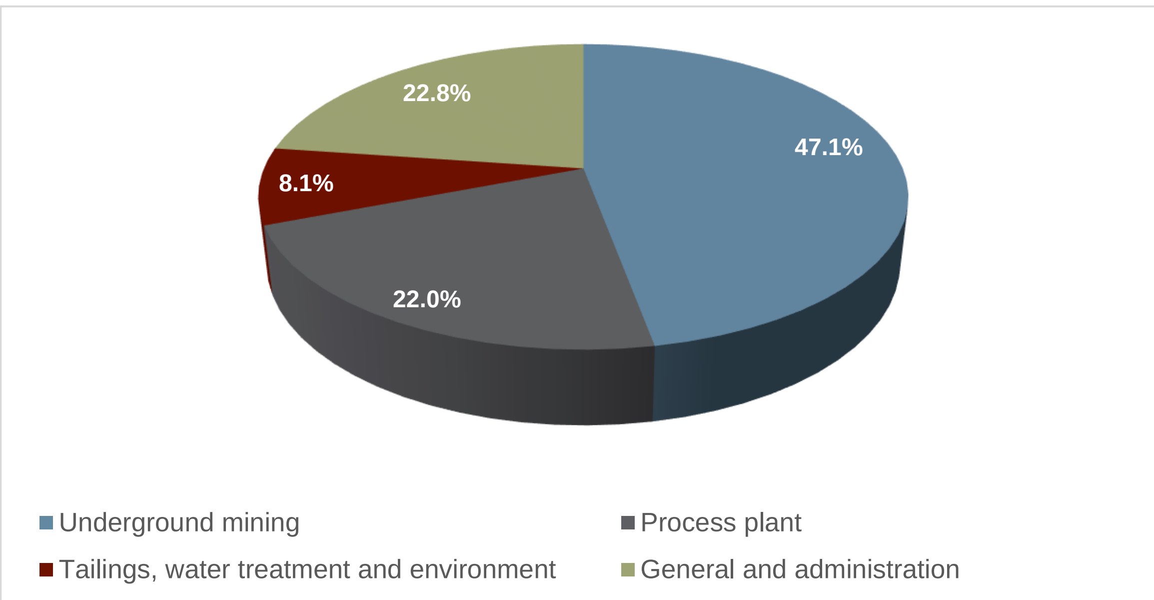


Figure 1-5 Operating cost summary (by area)

It is anticipated that an average of 421 employees (staff and labour) during full production years will be required for operations over the LOM. Table 1-7 provides a summary of the employees by facility.

Table 1-7: Employee summary – all areas

Facility area	Number
Underground Mine	264
Process Plant	64
Tailings, Water Treatment and Environment	33
General and Administration	60
Total – Windfall Project	**421**

1.13 Project Economics

The economic/financial assessment of the Windfall Project was carried out using a discounted cash flow approach on a pre-tax and after-tax basis, based on Q1 2021 metal price projections in US currency ("USD") and cost estimates capital expenditure ("CAPEX") and ("OPEX") in Canadian ("CAD") currency. Inflation or cost escalation factors were not taken into account. An exchange rate of USD 0.77 for CAD 1.00 has been assumed over the life of the Windfall Project. The base case gold and silver prices are USD1,500/oz and USD21.00/oz respectively.

The economic analysis presented in this section contains forward-looking information with regard to the mineral resource estimates, commodity prices, exchange rates, proposed mine production plan, projected recovery rates, operating costs, construction costs and project schedule. The results of the economic analysis are subject to a number of known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those presented here. The reader is cautioned that this PEA is preliminary in nature and includes the use of 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, as such, there is no certainty that the PEA economics will be realized.

The input parameters used, and results of the financial analysis are presented in Table 1-8.

The pre-tax base case financial model resulted in an IRR of 50.6% and an NPV of $2.4B using a 5% discount rate. The pre-tax payback period is 2.0 years after the start of production.

On an after-tax basis, the base case financial model resulted in an IRR of 39.3% and an NPV of $1.5B using a 5% discount rate. The after-tax payback period is 2.2 years after the start of production.

The all-in sustaining costs ("AISC") over the LOM are $610/oz (USD) net of silver credits and including royalties.

Table 1-8: Financial analysis summary

Description	Unit	Value
Total Tonnes Mined	M tonne	19.7
Average Diluted Gold Grade(1)	g/t	6.9
Total Gold Contained	oz	4,400,711
Total Gold Produced	oz	4,174,870
Total Gold Payable	oz	4,172,782
Average Diluted Silver Grade	g/t	3.1
Total Silver Contained	oz	1,942,414
Total Silver Produced	oz	1,521,702
Total Silver Payable	oz	1,514,093
Average Annual Gold Produced	Au oz per year	238,433
Average Annual Silver Produced	Ag oz per year	86,907
Total Pre-production Capital Cost	$M	543.5
Sustaining Capital	$M	666.4
Site Restoration Cost	$M	95.1
Operating Costs	$M	121.8
All-in Sustaining Costs (AISC)	$/t milled	610.1
Total LOM NSR Revenue	$M	8,150
Total LOM Operating Cash Flow	$M	2,399
Total LOM Pre-Tax Cash Flow	$M	4,286.2
Average Annual Pre-tax Cash Flow	$M	244.8
LOM Royalties	$M	163.0
LOM Income Taxes	$M	1,686.6
Total LOM After-Tax Free Cash Flow	$M	2,599.7
Average Annual After-Tax Free Cash Flow	$M	148.5
Discount Rate	%	5.0
Pre-Tax Summary		
Pre-Tax NPV (@ 5% Discount Rate)	$M	2,449.7
Pre-Tax IRR	%	50.6%
Pre-Tax Payback After Start of Production	year	2.0
After-Tax Summary		
After-Tax NPV (@ 5% Discount Rate)	$M	1,534.4
After-Tax IRR	%	39.3%
After-Tax Payback After Start of Production	year	2.2

(1) Refer to Table 1-4 for mineralized material resource category for the Windfall Project mine plan.

A financial sensitivity analysis was conducted on the Project's after tax NPV and IRR using the following variables: capital cost (pre-production and sustaining) operating costs, USD:CAD exchange rate, and the price of gold.

The graphical representations of the financial sensitivity analysis on NPV and IRR are depicted in Figure 1-6 and Figure 1-7. The sensitivity analysis reveals that the gold price has the most significant influence on the NPV compared to the other parameters, based on the range of values evaluated. After the gold price, NPV was most impacted by changes in USD:CAD exchange rates and then to a lesser but equal extent by variations in operating costs and capital costs.

For the Project's IRR, capital cost has the most significant influence followed by gold price variation, then USD:CAD exchange rate and to a lesser extent by the operating cost.

Overall, the NPV and IRR of the Project are positive over the range of values used for the sensitivity analysis when analyzed individually.

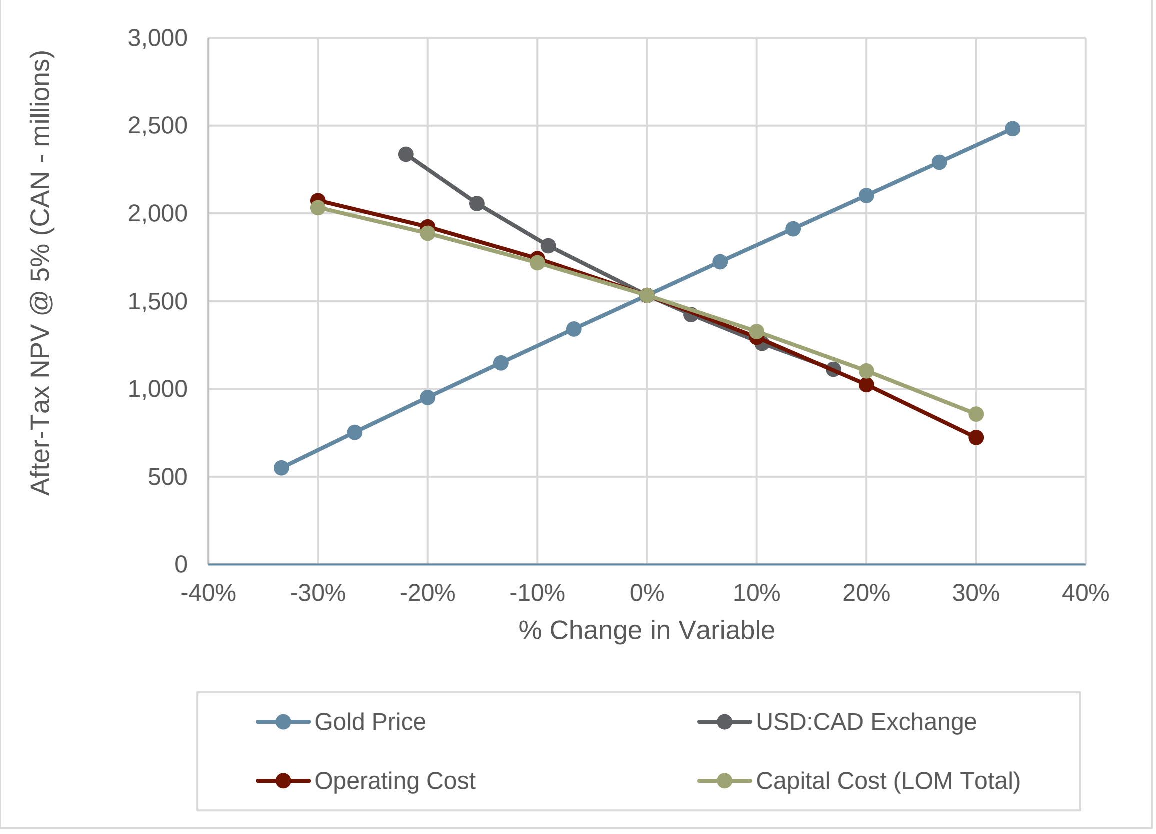


Figure 1-6: Sensitivity of the net present value (after-tax) to financial variables

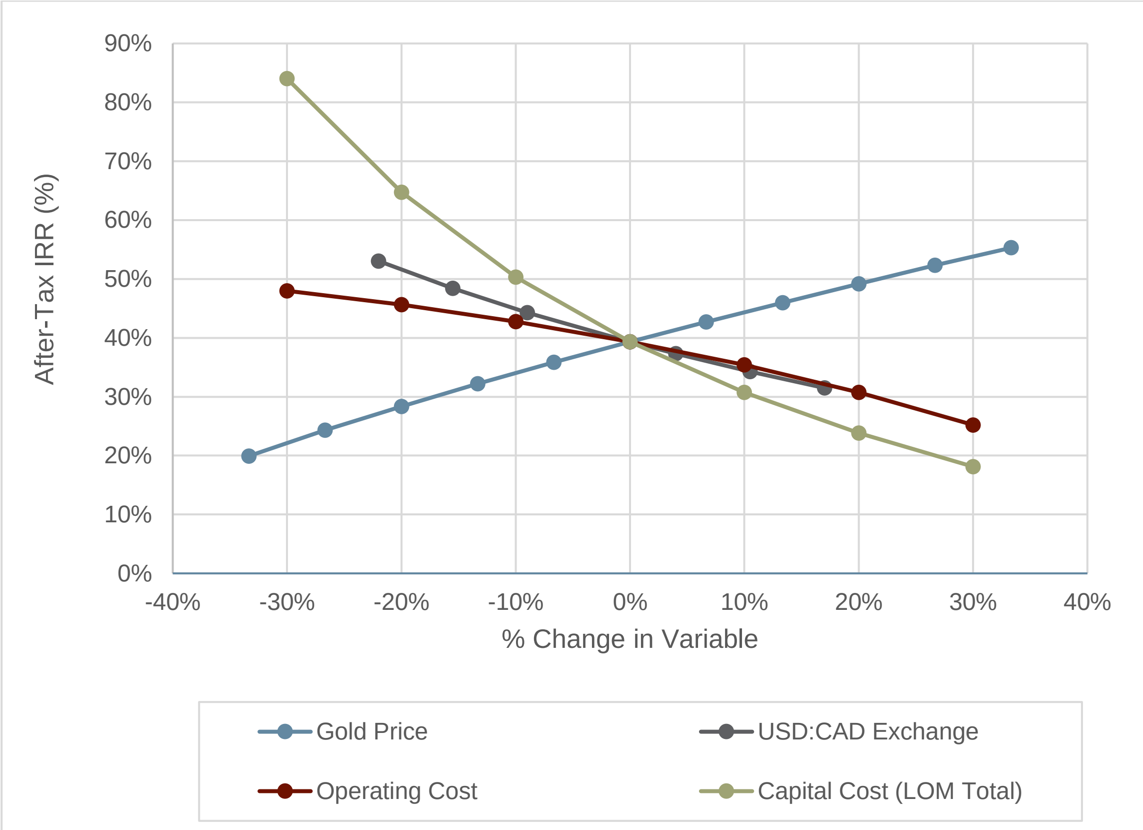


Figure 1-7 Sensitivity of the internal rate of return (after-tax) to financial variables

1.14 Project Schedule and Organization

The execution of the Windfall Project will be directly managed by the Osisko project management team. The engineering and construction works will be contracted out to qualified firms and contractors under the direct supervision of Osisko. Procurement and project control functions such as scheduling, cost control, project logistics and site supervision will be executed directly by Osisko personnel.

The preliminary on-site workforce requirement for construction, including infrastructure, process plant, and development of the underground mines is expected to average 430 construction personnel, peaking at approximately 500 individuals.

The major project activity milestones are presented in Table 1-9. Pending the completion of all studies and receipt of the required permits, the process plant construction is scheduled to begin in Q4 2023 with production planned to begin in Q4 2024.

Table 1-9: Key milestones (preliminary)

Activity	Start Date	Completion Date
Complete PEA study		Q2 2021
Feasibility study		H1 2022
Environmental Assessment	H2 2022	H1 2023
Process plant detailed engineering	H1 2022	H2 2023
Permits and authorizations	H1 2023	Q4 2023
Process plant construction	Q4 2023	Q3 2024
Pre-production mine development	Q4 2023	Q3 2024
End of process plant construction/plant commissioning		Q4 2024

1.15 Interpretations and Conclusions

This PEA was prepared by a group of independent QPs to demonstrate the economic viability of developing the Windfall resources as underground mines and processing the mineralized material using a conventional Gravity/CIL circuit in a centrally located process plant. This report provides a summary of the results and findings from each major area of investigation. Standard industry practices, equipment and processes were used. To date, the QPs are not aware of any unusual or significant risks or uncertainties that could materially affect the reliability or confidence in the Windfall Project based on the information available.

For proposed underground mining scenario for both deposits, using a cut-off grade of 3.50 g/t Au, it is estimated that the Windfall Project contains 189,000 oz of gold at an average of 11.3 g/t Au in the Measured resource category, 1,668,000 oz of gold at an average of 9.4 g/t Au in Indicated resource category and 4,244,000 oz of gold at an average of 8.0 g/t Au in the Inferred resource category.

The PEA is based on Mineral resources that do not have demonstrated economic viability and include Inferred Mineral Resource that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that the results of this PEA will be realized.

The results of the Study indicate that the proposed Project has technical and financial merit using the base case assumptions. It has also identified additional field work, metallurgical testwork, trade-off studies and analysis required to support more advanced mining studies. The QPs consider the PEA results sufficiently reliable and recommend that the Windfall project be advanced to next stage of development through the initiation of a feasibility study.

1.15.1 Risks and Opportunities

An analysis of the results of the investigations has identified a series of risks and opportunities associated with each of the technical aspects considered for the development of the Windfall Project.

Potential Risks

The most significant potential risks associated with the Project are:

- Gold grades and distribution could vary due to the observed nugget effect;
- The variable geometry of the dikes, structural features and mineralized zones is complex to model. The locations of mineralized zones could be off slightly with variable shapes locally;
- Mineralized material is not as continuous as planned leading to lower production rates and higher operating costs;
- Seismicity related issues and in situ stress magnitudes are higher than planned leading to lower mineral recovery and potential seismic events such as rock bursts higher than could be experienced during mining and operations;
- Lynx 4 and Triple Lynx precious metal recovery may be lower than expected (no testwork was performed on this material);
- Physical tailings properties have not yet been fully tested, which may result in higher operating and capital costs;
- Changing tailings technology during the course of the Project may result in additional costs and complexity in terms of construction and operation;
- Increased demand for mining and process equipment causing increase in costs and longer lead times than planned;
- Shortage of qualified workers during construction and operations may result in higher costs and inefficiencies;
- The planned construction period is relatively short and will require significant winter works. This may result in delays and higher costs than planned;
- 120 kV transmission line construction schedule is heavily dependent on the environmental permitting process (COMEX), which may result in delays and higher costs;
- Project can be delayed due to changes in regulations/government representatives as a result of elections.

Many of the previous noted risks are common to most mining projects, many of which may be mitigated, at least to some degree, with adequate engineering, planning and pro-active management.

Key Opportunities

There are numerous opportunities that could improve the economics, timing and/or permitting potential of the Project. The key opportunities that have been identified at this time are as follows:

- As the deposit remains open at depth and towards the northeast, additional exploration drilling in the vicinity of the Windfall Project could increase mineral resources;
- Reducing the drill hole spacing by adding infill drilling would likely upgrade inferred resources to the indicated and measured categories;
- Continuing the underground mapping in the exploration ramp could lead to a better understanding of the distribution of the dikes and the geometry of the structural features and mineralization corridors;
- Increasing the use of automation and technology could increase productivity and reduce operating costs in the mine and process plant;
- If the drilling and blasting performance is good, and rigorous stope back-analyses demonstrate that stope performance exceeds expectations, the strike length of stopes in certain sectors could be increased leading to a productivity increase and lower production costs;
- Continue to optimize the paste backfill recipe. This could result in lower mining and backfill plant operating costs if the mining sequence allows it;
- Optimize some stopes filling with waste rock when deemed beneficial and pursue with paste backfill while considering mass balance. This could reduce waste storage on surface, reduce transport costs and reduce backfill costs;
- Perform additional metallurgical testwork to confirm optimal particle size for gold and silver recovery and validate its impact on thickening, filtration, paste backfill, and tailings disposal as the application of fine grinding may improve gold and silver recovery;
- Use overburden and topsoil material as it becomes available for progressive reclamation on impacted areas of the site or construction purposes. This could reduce size of overburden and topsoil stockpiles hence reduce costs;
- Review the geosynthetic liner requirement once the foundation conditions of the TMF are defined. Future fieldwork could allow the identification of low permeability materials that could serve as groundwater protection to reduce the use of geosynthetic liners and decrease costs;
- Assess the potential for co-disposal of waste rock and filtered tailings. This could lead to overall smaller footprint and allow the construction of a stronger matrix, and steeper slopes for the TMF;
- Work closely with the *Table interministérielle régionale* group to develop a detailed permitting schedule and better understand permit and authorization request content requirements;
- Evaluate a progressive reclamation scenario for the TMF. This would give the opportunity to practice and verify the closure technique, reduce water treatment, possibility to reclaim part of the financial guarantee during operation.

1.16 Recommendations

The QPs recommend that the project be advanced towards the feasibility study stage. In preparation for the feasibility study, additional work, including conversion drilling and further bulk samples is warranted. A budget of $65M for a two-phase program is proposed for drilling, field studies, laboratory testwork and technical studies in 2021 and 2022. Table 1-10 presents the estimated costs for the various phases. Additional details are presented in Chapter 26.

Table 1-10: Work program budget

Phase 1 - Work Program	Budget	
	Description	Cost (CAD)
Surface Drilling	130,000 m	26,000,000
Underground Drilling	50,000 m	10,000,000
Exploration Drilling	20,000 m	4,000,000
Metallurgical Testing	-	340,000
Third Bulk Sample and Underground Ramp for Drilling Station Access	-	7,000,000
Contingencies (~15%)	-	7,100,000
Phase 1 subtotal	**200,000 m**	**54,440,000**
Phase 2 - Work Program	**Budget**	
	Description	**Cost (CAD)**
Mineral Resource Update	-	250,000
Feasibility Study	-	7,770,000
Environment and Permitting	-	1,500,000
Contingencies (~15%)	-	1,200,000
Phase 2 subtotal	**-**	**10,720,000**
Total - Phase 1 and Phase 2		**$65,160,000**

Colin Hardie, QP, finds the recommendations and budgets to be reasonable and justified based on the observations made. It is recommended that Osisko conducts the planned activities subject to funding availability and any other matters that may cause the objectives to be altered in the normal course of project development.

2. INTRODUCTION

This report was prepared and compiled by BBA Inc. ("BBA") at the request of Osisko Mining Inc. ("Osisko"). The purpose of this report is to summarize the results of the Preliminary Economic Assessment Update ("PEA") of the Windfall deposit in accordance with the guidelines of the Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1.

BBA is an independent engineering consulting firm headquartered in Mont-Saint-Hilaire, Québec with the mining group based in downtown Montreal, Québec. This report was prepared with contributions from Osisko as well as Andrieux & Associates Geomechanics Consulting LP ("A2GC"), Entech Mining Ltd. ("Entech"), GCM Consultants Inc. ("GCM"), Golder Associates Ltd. ("Golder"), and WSP Canada Inc. ("WSP").

The property is located in the Eeyou Istchee James Bay ("EIJB") region of central-northwest Québec, Canada.

2.1 Osisko Mining Inc.

Osisko is a mineral exploration company focused on the acquisition, exploration, and development of gold resource properties in Canada. Osisko holds a 100% interest in the high-grade Windfall gold deposit located between Val-d'Or and Chibougamau in Québec and holds a 100% undivided interest in a large area of claims in the surrounding Urban Barry area and nearby Quévillon area (over 2,700 square kilometres).

2.2 Basis of Technical Report

The following report presents the results of the PEA for the development of the Windfall Project. Osisko mandated engineering consulting group BBA to lead and perform the PEA, based on contributions from a number of independent consulting firms including A2GC, Entech, GCM, Golder and WSP. This report was prepared at the request of Ms. Kim-Quyên Nguyên of Osisko Mining Inc. As of the date of this report, Osisko is a Canadian mineral exploration company trading on the TSX under the trading symbol ("OSK"), with its head office situated at:

155 University Avenue, suite 1440
Toronto, Ontario
M5H 3B7

This report, titled "Preliminary Economic Assessment Update for the Windfall Project", was prepared by Qualified Persons ("QPs") following the guidelines of the NI 43-101 and in conformity with the guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") Standards on Mineral Resources and Reserves.

2.3 Report Responsibility and Qualified Persons

The following individuals, by virtue of their education, experience and professional association, are considered QPs as defined in the NI 43-101, and are members in good standing of appropriate professional institutions.

- Nicolas St-Onge, P. Eng. — Andrieux & Associates Geomechanics Consulting LP
- Charlotte Athurion, P. Geo. — BBA Inc.
- Colin Hardie, P. Eng. — BBA Inc.
- Martin Houde, P. Eng. — BBA Inc.
- Pierre-Luc Richard, P. Geo. — BBA Inc.
- Patrick Langlais, P. Eng. — Entech Mining Ltd.
- Marie-Claude Dion St-Pierre, P. Eng. — GCM Consultants Inc.
- Yves Boulianne, P. Eng. — Golder Associates Ltd.
- Michel Mailloux, P. Eng. — Golder Associates Ltd.
- Isabelle Larouche, P. Eng. — WSP Canada Inc.
- Simon Latulippe, P. Eng. — WSP Canada Inc.
- Éric Poirier, P. Eng., PMP — WSP Canada Inc.

The preceding QPs have contributed to the writing of this report and have provided QP certificates, included at the beginning of this report. The information contained in the certificates outlines the sections in this report for which each QP is responsible. Each QP has also contributed figures, tables and portions of Chapters 1 (Summary), 2 (Introduction), 25 (Interpretation and Conclusions), 26 (Recommendations), and 27 (References). Table 2-1 outlines the responsibilities for the various sections of the report and the name of the corresponding Qualified Person.

Table 2-1: Qualified Persons and areas of report responsibility

Chapter	Description	Qualified Person	Company	Comments and exceptions
1.	Executive Summary	C. Hardie	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
2.	Introduction	C. Hardie	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
3.	Reliance on other Experts	C. Hardie	BBA	All Chapter 3
4.	Project Property Description and Location	C. Athurion	BBA	All Chapter 4
5.	Accessibility, Climate, Local Resource, Infrastructure and Physiography	C. Athurion	BBA	All Chapter 5 except for Section 5.2
		Y. Boulianne	Golder	Section 5.2

Chapter	Description	Qualified Person	Company	Comments and exceptions
6.	History	C. Athurion	BBA	All Chapter 6
7.	Geological Setting and Mineralization	C. Athurion	BBA	All Chapter 7
8.	Deposit Types	C. Athurion	BBA	All Chapter 8
9.	Exploration	C. Athurion	BBA	All Chapter 9
10.	Drilling	C. Athurion	BBA	All Chapter 10
11.	Sample Preparation, Analyses and Security	C. Athurion	BBA	All Chapter 11
12.	Data Verification	P.-L. Richard	BBA	All Chapter 12
13.	Mineral Processing and Metallurgical Testing	M. Houde	BBA	All Chapter 13 except for Section 13.3.6
		I. Larouche	WSP	Section 13.3.6
14.	Mineral Resource Estimate	P.-L. Richard	BBA	All Chapter 14
15.	Mineral Reserve Estimate	P. Langlais	Entech	All Chapter 15
16.	Mining Methods	P. Langlais	Entech	All Chapter 16 except for Sections 16.2 and 16.3
		N. St-Onge	A2GC	Section 16.2
		M. Mailloux	Golder	Section 16.3
17.	Recovery Methods	M. Houde	BBA	All Chapter 17 except for Sections 17.3 and 17.4
		I. Larouche	WSP	Sections 17.3 and 17.4
18.	Project Infrastructure	C. Hardie	BBA	Sections 18.2.1 to 18.2.3, 18.3.6 and 18.3.19 Co-author of Sections 18.3.10
		E. Poirier	WSP	Sections 18.1, 18.2.4, 18.3.1, 18.3.2, 18.3.4, 18.3.5, 18.3.7 to 18.3.18 and 18.3.20
		S. Latulippe	WSP	Sections 18.3.3 (except 18.3.3.2), 18.3.22.2, 18.3.24 and 18.3.25 Co-author of Sections 18.3.22.1
		Y. Boulianne	Golder	Sections 18.3.3.2, 18.3.21 and 18.3.22 (except 18.3.22.2)
		MC. Dion	GCM	Section 18.3.23
19.	Market Studies and Contracts	C. Hardie	BBA	Osisko provided exchange rates, metal prices and refining costs.
20.	Environmental Studies, Permitting, and Social or Community Impact	S. Latulippe	WSP	All Chapter 20 (except for Sections 20.1.1.4, 20.2.1, 20.2.4 and 20.2.5)
		M. Mailloux	Golder	Section 20.1.1.4
		Y. Boulianne	Golder	Sections 20.2.1, 20.2.4 and 20.2.5

Chapter	Description	Qualified Person	Company	Comments and exceptions
21.	Capital and Operating Costs	C. Hardie	BBA	Sections 21.1 (except 21.1.3.4, 21.1.3.5, 21.1.3.7, 21.1.3.9, 21.1.4.1, 21.1.4.2, 21.1.4.4, 21.1.4.6 and 21.1.4.7), 21.2 (except 21.2.3 and 21.2.5) and 21.3 Co-author of Sections 21.1.3.6, 21.1.3.8, 21.1.4.3 and 21.1.2.5
		P. Langlais	Entech	Sections 21.1.3.4, 21.1.4.1 and 21.2.3
		Y. Boulianne	Golder	Co-author of Sections 21.1.3.9 and 21.1.4.6.
		E. Poirier	WSP	Sections 21.1.3.5, 21.1.3.7, 21.1.4.2, 21.1.4.4 and 21.1.4.5 Co-author of Sections 21.1.3.6 to 21.1.3.9, 21.1.4.3 and 21.1.4.6
		I. Larouche	WSP	Co-author of Section 21.2.5
		S. Latulippe	WSP	Section 21.1.4.7 Co-author of Sections 21.1.3.9 and 21.1.4.6
		MC. Dion	GCM	Co-author of sections 21.1.3.9, 21.1.4.6 and 21.2.5
22.	Economic Analysis	C. Hardie	BBA	Osisko provided metal prices, exchange rates and royalty costs. WSP provided closure costs. Osisko provided project taxes and after-tax cash flows.
23.	Adjacent Properties	C. Athurion	BBA	All Chapter 23
24.	Other Relevant Data and Information	C. Hardie	BBA	Schedule and execution plan developed based on inputs from all contributors and Osisko.
25.	Interpretation and Conclusions	C. Hardie	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
26.	Recommendations	C. Hardie	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.
27.	References	C. Hardie	BBA	All QPs contributed based on their respective scope of work and the Chapters/Sections under their responsibility.

2.4 Effective Dates and Declaration

This report supports the Osisko press release entitled “Osisko Mining Delivers Positive PEA Update for Windfall” dated April 7, 2021. The overall effective date of the report is April 6, 2021. The report has a number of cut-off dates for information:

- Effective date of the Windfall Mineral Resource Estimate used as the basis for the LOM Plan: November 30, 2020;
- Date of last supply of laboratory testwork and investigations: February 6, 2021;
- Finalization date of the financial analysis: April 6, 2021.

This report was prepared as National Instrument 43-101 Technical Report for Osisko Mining Inc. ("Osisko") by Qualified Persons from the following firms: Andrieux & Associates Geomechanics Consulting LP, BBA Inc., Entech Mining Ltd., GCM Consultants Inc., Golder Associates Ltd., and WSP Canada Inc.; collectively the "Report Authors". The quality of information, conclusions, and estimates contained herein is 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 Osisko subject to the terms and conditions of its respective contracts with the Report Authors. Except for the purposes legislated under Canadian provincial and territorial securities law, any other use of this report by any third party is at the sole risk of that party.

As of the effective date of this report, the QPs are not aware of any known litigation potentially affecting the Project. The QPs did not verify the legality or terms of any underlying agreement(s) that may exist concerning the Project ownership, permits, off-take agreements, license agreements, royalties or other agreement(s) between Osisko and any third parties.

The results of this report are not dependent upon prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings with Osisko and the QPs. The QPs are being paid a fee for their work in accordance with the normal professional consulting practice.

The opinions contained herein are based on information collected throughout the course of the investigations by the QPs, which in turn reflect various technical and economic conditions at the time of writing. Given the nature of the mining business, these conditions can change significantly over relatively short periods of time. Consequently, actual results can be significantly more or less favourable.

2.5 Sources of Information

2.5.1 General

This report is based in part on internal company reports, maps, published government reports, company letters and memoranda, and public information, as listed in Chapter 27 "References" of this report. Sections from reports authored by other consultants may have been directly quoted or summarized in this report and are so indicated, where appropriate.

This PEA has been completed using available information contained in, but not limited to, the following reports, documents and discussions:

- Technical discussions with Osisko personnel;
- QPs' personal inspection of the Windfall Project site(s);
- Report of mineralogical, metallurgical and grindability characteristics of the Windfall deposit, conducted by industry recognized metallurgical testing laboratories on behalf of Osisko;

- Windfall Mineral Resource Estimate provided by Osisko effective as of November 30, 2020;
- A conceptual process flowsheet developed by BBA based on the specific Project testwork and similar operations;
- Internal and commercially available databases and cost models;
- Various reports covering site hydrology, hydrogeology, geotechnical, and geochemistry;
- Various reports covering site physical and biological environment;
- Internal unpublished reports received from Osisko;
- Additional information from public domain sources.

The QPs have no known reason to believe that any of the information used to prepare this report and evaluate the mineral resources presented herein is invalid or contains misrepresentations. The authors have sourced the information for this report from the collection of documents listed in Chapter 27 (References).

2.5.2 A2GC

The following individuals provided specialist input to Mr. Nicolas St-Onge, QP for Section 16-2:

- Mr. Patrick Andrieux, P. Eng. (A2GC), for his technical guidance and peer review.
- Mr. Thierry Lavoie, P. Eng. (A2GC), for his contribution to the numerical modelling.
- Mr. Sébastien Guido, P. Eng. (A2GC), for his contribution to the ground support recommendations.

These specialists are not considered as QPs for the purposes of this NI 43-101 Report.

2.5.3 BBA

The following individuals provided specialist input to Mr. Colin Hardie, QP:

- Osisko and its external advisors have provided an estimate for the Owner's costs and contingencies used in the development of the Project's pre-production capital cost estimate (Chapter 21);
- Osisko provided an estimate for the General & Administration costs and Environmental services/labour costs used in the development of the Project's operating cost estimate (Chapter 21);
- Mr. Gilles Léonard (BBA) provided cost estimates and input for the site communications and IT infrastructure (Chapters 18 and 21);
- Mr. Jean-Francois Beaulieu, Ms. Laura Mottola, Mr. Pierre Lapointe, and Mr. Michel Serres (BBA) provided cost estimates and inputs for Digital Operations of the Windfall site and the Integrated Remote Operations Centre (“IROC”) (Chapters 18 and 21);

- Mr. Yves Robitaille (BBA) and Mr. Richard Maranda (BBA) provided cost estimates and input for the 120 kV transmission line to site (Chapters 18 and 21);
- Mr. Claude Catudal (BBA) and Mr. Jocelyn Marcoux (BBA) provided the industrial standards, norms and factors for the various material, manpower and construction costs used in the development of the process plant capital costs (Chapters 18 and 21);
- Osisko and its external advisors provided input to the Project execution strategy and preliminary milestone schedule (Chapter 24).

The following individuals provided specialist input to Mr. Martin Houde, QP:

- Ms. Helin Girgin (BBA) has provided an estimate for the Project's process plant operating costs;
- Ms. Fanny Pinoul (BBA) provided inputs to the PFDs, and mass and water balance;
- Osisko and Ms. Dominique Lascelles (SGS-Québec City) provided support for the development, analysis and discussions related to the metallurgical testwork program;
- Mr. John Rogans (Kemix) provided proprietary CIL circuit modelling-simulation data and sizing calculations for the CIL equipment.
- Mr. Guillaume Chiasson (SGS) provided a third-party evaluation of the comminution power requirements and mill sizing. The results were evaluated compared to BBA's own calculations to form the design basis for the Project.

These specialists are not considered as QPs for the purposes of this NI 43-101 Report.

2.5.4 Entech

The following individuals provided specialist input to Mr. Patrick Langlais, QP:

- Mr. Patrick McCann (Entech), for his contribution and input in the mine design and cost validation;
- Ms. Yolaine Lavoie, P. Eng. (Meglab), for her contribution and input on electricity and networks;
- Mr. Hugo Dello Sbarba, P. Eng. (Howden), for his contribution and input on ventilation;
- Ms. Annie Pier Maltais, P. Eng. (TechnoSub), for her contribution and input on dewatering;
- Mr. Robert Hamilton, independent consultant, for his contribution and input on mobile equipment;
- Mr. Anas Touijar, P. Eng (WSP) and Mr. Guillaume Turgeon (WSP), for their contribution and input on paste backfill distribution and infrastructure design;
- Mr. Gilles Leonard, P. Eng (BBA), for his contribution and input on the underground communication network;

- Mr. François Girard, P. Eng. (Osisko Development), Mr. Patrick Frenette, P. Eng. (Osisko Development), and Mr. George McIsaac, P. Eng. (G-MEC) for their contribution and input in cost estimation.

These specialists are not considered as QPs for the purposes of this NI 43-101 Report.

2.5.5 GCM

The following individuals provided specialist input to Ms. Marie-Claude Dion St-Pierre, QP:

- Ms. Mélissa Tremblay (GCM) for the water treatment assessment and for the sections on water treatment infrastructure.

This specialist is not considered as QPs for the purposes of this NI 43-101 Report.

2.5.6 Golder

The following individuals provided specialist input to Mr. Yves Boulianne, QP and Mr. Michel Mailloux, QP:

- Mr. Nicolas Pépin, P. Eng. (Golder), for the tailings management facility design and sections on the tailings management facility;
- Mr. Aytaç Göksu, P. Eng. (Golder), for water management infrastructure design of the tailings management facility and sections on surface water management;
- Mr. Paolo Chiaramello, P. Eng. (BC, NU/NT) (Golder), for water management infrastructure design of the tailings management facility and sections on surface water management;
- Ms. Elizabeth Walsh, P. Geo. (Golder), for the geochemical assessment and her contribution to the redaction of the geochemical sections;
- Mr. Ken DeVos, P. Geo. (On) (Golder), for the geochemical assessment and his contribution to the redaction of the geochemical sections;
- Mr. Ramdane Abbacha, CPI (Golder), for the cost estimate for the tailings management facility and its water management infrastructure.

These specialists are not considered as QPs for the purposes of this NI 43-101 Report.

2.5.7 WSP

The following individuals provided specialist input to Ms. Isabelle Larouche, QP:

- Ms. Annie Lavoie (WSP), Mr. Mathieu Bélisle (WSP) and Mr. Steve Léonard (WSP) provided support for the design of the filtration plant and estimation of the capital and operational costs, Chapters 13 and 17.

The following individuals provided specialist input to Mr. Eric Poirier, QP:

- Mr. Stéphan Dupuis (WSP) provided support for the design of the earthworks and civil works required for the surface infrastructure and estimated capital costs, Chapter 18;
- Mr. Stevens Morin (WSP) provided support for the design of the buildings included in surface infrastructure and estimated capital costs, Chapter 18;

The following individuals provided specialist input to Mr. Simon Latulippe, QP:

- Ms. Audrey Bédard (WSP), Ms. Catherine Boudreau (WSP), and Ms. Mylène Sansoucy (WSP) provided support for the design and cost estimate for the surface water management infrastructure, waste rock, mineralized material, and overburden stockpiles, Chapters 18 and 20;
- Ms. Elsa Sormain (WSP) designed the surface water management infrastructure, Chapter 18;
- Ms. Sylvie Baillargeon (WSP) prepared Environmental Studies, Permitting, Social or Community Considerations, and Mine Closure Requirements sections, Chapter 20;
- Ms. Fannie McMurray-Pinard (WSP) estimated the closure costs, Chapter 20.

These specialists are not considered as QPs for the purposes of this NI 43-101 Report.

2.6 Site Visits

2.6.1 Windfall Project Site

The following bulleted list describes which Qualified Persons visited the Windfall Site, the date of the visit, and the general objective of the visit:

- Mr. Eric Poirier (WSP) visited the property on October 6, 2020. The purpose of the visit was to assess the existing site infrastructure and collect information required for design.
- Mr. Yves Boulianne (Golder) visited the site on October 15, 2020. Mr. Boulianne was accompanied by Ms. Andrée Drolet, Osisko Mining, and Ms. Mayana Kissiova from Osisko Development. They visited the actual infrastructure and the potential TMF locations.
- Mr. Patrick Langlais from Entech and Mr. Nicolas St-Onge from A2GC visited the site on December 7, 8 and 9, 2020. Patrick was accompanied by Mr. Patrick McCann (Entech), Mr. Don Njegovan, Mr. Mathieu Savard, and Mr. John Burzynski from Osisko Mining. They visited the camp site, the existing infrastructure and the underground ramp.

- Mr. Pierre-Luc Richard, Ms. Charlotte Athurion, and Mr. Colin Hardie, all from BBA, visited the Windfall Project on January 28 and 29, 2021. The purpose of the visit was to review the Windfall Project with the Osisko team. The site visit included visual inspections of cores, a tour of the core storage facility, an underground visit, a review of planned site infrastructure and a survey of numerous drill hole casings in the field of the Project and discussions with geologists from Osisko. The QPs were also able to see drills in action on site. A review of assaying, QA/QC and drill hole procedures, downhole survey methodologies, and descriptions of lithologies, alterations and structures were also completed during the site visit.

As of the effective date of this report, the following Qualified Persons have not visited the Windfall Project site:

- Mr. Martin Houde (BBA);
- Ms. Marie-Claude Dion St-Pierre (GCM)
- Mr. Michel Mailloux (Golder);
- Ms. Isabelle Larouche (WSP);
- Mr. Simon Latulippe (WSP);

2.6.2 SGS Laboratory (Quebec City)

Mr. Martin Houde (BBA) visited the SGS Metallurgical laboratory in Québec City on June 18, 2020. The visit validated and confirmed that the SGS Québec City laboratory follows the standard sample preparation, metallurgical testwork, assaying and analytical procedures in respect to Industry Standards and in accordance with the NI 43-101.

2.7 Currency, Units of Measure, and Calculations

Unless otherwise specified or noted, the units used in this report are metric. Every effort has been made to clearly display the appropriate units being used throughout this report.

- Currency is in Canadian dollars (“CAD” or “$”);
- All ounce units are reported in troy ounces, unless otherwise stated; 1 oz (troy) = 31.1 g = 1.1 oz (Imperial);
- All metal prices are expressed in US dollars (“USD”);
- A Canadian dollar (CAD) to United States dollar (USD) exchange rate of 0.77 USD for 1.00 CAD was used;
- Cost estimates, unless otherwise stated, have a base date of the first quarter (Q1) of 2021.

This report includes technical information that required subsequent calculations to derive subtotals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, the QPs consider them immaterial.

2.8 Definitions

The Mineral Resources and Mineral Reserves definitions used for this report are those published by CIM Standing Committee on Reserve Definitions and Adopted on May 19, 2014 by the CIM Council in their document "CIM Definition Standards For Mineral Resources and Mineral Reserves". The QPs believe that these definitions are important with respect to understanding Resources and Reserves and how they are applied within the context of a Preliminary Economic Assessment.

2.9 Acknowledgement

BBA and the other study contributors would like to acknowledge the general support provided by the following personnel during this assignment.

The Project benefitted from the specific input of, Louis Grenier, Isabelle Roy, Judith St-Laurent, Marie-Eve Lajoie, Don Njegovan, Mathieu Savard, Alexandra Drapack, Frédéric Côté, Guillaume Lamontagne, Salvatore Spataro, Eric Gilbert, Éric Gagnon, Piero Hardy, Andrée Drolet, Kim-Quyên Nguyên, Daniel Mathieu, Walter Dorn, Christian Laroche, Mayana Kissiova, Fanny Pinoul and Manon Dussault. Their contributions are gratefully acknowledged.

3. RELIANCE ON OTHER EXPERTS

3.1 Introduction

The Qualified Persons ("QPs") have relied on reports, information sources and opinions provided by Osisko and outside experts related to the Project's mineral rights, surface rights, property agreements, royalties, third party agreements and fiscal situation.

As of the date of this Report, Osisko indicates that there are no known litigations potentially affecting the Windfall Project.

A draft copy of the Report has been reviewed for factual errors by Osisko. Any changes made as a result of these reviews did not involve any alteration to the conclusions made. Hence, the statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are neither false nor misleading at the date of this Report.

3.2 Mineral Tenure and Surface Rights

Osisko supplied information about mining titles, option agreements, royalty agreements, environmental liabilities and permits. The QPs are not qualified to express any legal opinion with respect to the property titles or current ownership and possible litigation. A description of such agreements, the property, and ownership thereof, is provided for general information purposes only. In this regard, the QPs have relied on information supplied by Osisko and the work of experts they understand to be appropriately qualified.

This information is used in Chapter 4 (Property Description and Location) of the Report. The information is also used in support of the mineral resource estimate in Chapter 14, and the financial analysis in Chapter 22 (Economic Analysis).

3.3 Taxation

Colin Hardie, QP, has fully relied upon, and disclaims responsibility for, information supplied by Osisko staff and experts retained by Osisko for information related to taxation as applied to the financial model in Chapter 22 (Economic Analysis).

4. PROPERTY DESCRIPTION AND LOCATION

4.1 Introduction

The Windfall Project consists of the following two properties:

- Windfall;
- Urban-Barry.

The mineral resource estimate in this report is based on mineral resources from the Windfall property. Table 4-1 provides a summary of the property.

Table 4-1: Property summary

Property	Au Deposit	Claims	Area (ha)
Windfall	Windfall	286	12,523
Urban-Barry (and Duke)	-	1,916	103,778
Total		**2,202**	**116,301**

4.2 Location

The Windfall and Urban-Barry properties are located in the province of Québec, Canada. The land package covering the properties is located to the east of Lebel-sur-Quévillon, approximately 620 km north-northwest of Montréal and 155 km northeast of Val-d'Or. The Urban-Barry property lies approximately 115 km east of the town of Lebel-sur-Quévillon and surrounds the Windfall property (Figure 4-1). The centre of the Windfall Project is located at approximately 75.66° west longitude and 49.05° north latitude.

4.3 Mining Rights in Québec

The following discussion on the mining rights in the province of Québec was mostly summarized from Guzun (2012), Gagné and Masson (2013), and from the Act to amend the Mining Act (Bill 70; the "*Amending Act*") assented on December 10, 2013 by the National Assembly.

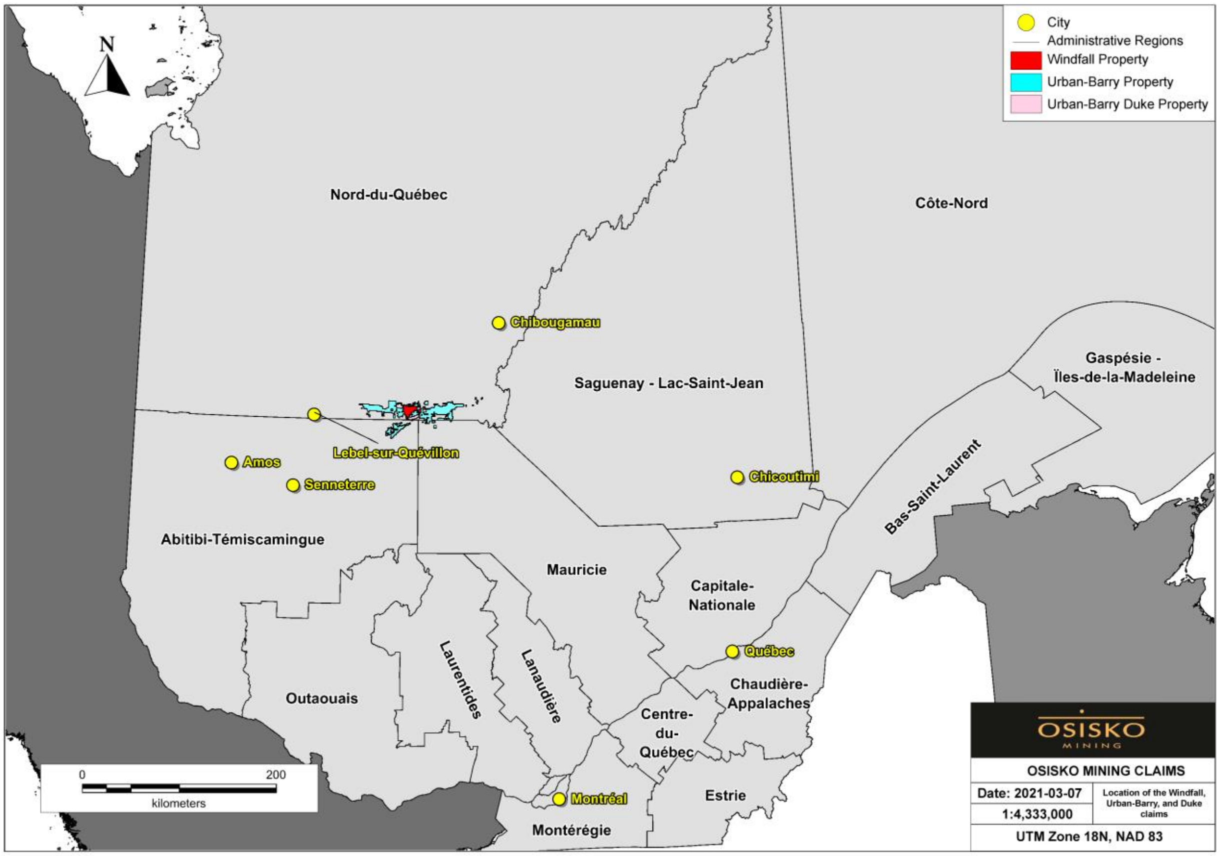


Figure 4-1: Location of the Windfall Project and the Osisko claims in the Province of Québec, Canada, with Provincial Administrative Divisions

In the province of Québec, mining is principally regulated by the provincial government. The Ministry of Energy and Natural Resources ("MERN": *Ministère de l'Énergie et des Ressources Naturelles du Québec*) is the provincial agency entrusted with the management of mineral substances in Québec. The Mining Act and related regulations primarily govern the ownership and granting of mining titles for mineral substances. In Québec, land surface rights are distinct property from mining rights. Rights in or over mineral substances in Québec form part of the domain of the State (the public domain), subject to limited exceptions for privately owned mineral substances. Mining titles for mineral substances within the public domain are granted and managed by the MERN. The granting of mining rights for privately owned mineral substances is a matter of private negotiations, although the Mining Act governs certain aspects of the exploration and mining of such mineral substances.

4.3.1 The Claim

A claim is the only exploration title for mineral substances (other than surface mineral substances, petroleum, natural gas and brine) currently issued in Québec. A claim gives its holder the exclusive right to explore for such mineral substances on the land subject to the claim. Still, it does not entitle its holder to extract mineral substances, except for sampling, and only in limited quantities. To mine mineral substances, the holder of a claim must obtain a mining lease. The electronic map designation is the most common method of acquiring new claims from the MERN whereby an applicant makes an online selection of available pre-mapped claims. In rare territories, claims can be obtained by staking.

In March 2013, the Québec government converted all remaining staked claims of the Windfall property into one or more map-designated claims. Unlike the perimeter of a staked claim defined by posts staked in the ground, the map-designated claims perimeter is defined by the geographic coordinates as determined by the Québec government. The basic unit is 30 seconds of latitude in a north-south direction, and 30 seconds of longitude in an east-west direction. Depending on the latitude, the designated claim cells vary from 40 ha to 60 ha in area.

4.3.2 The Mining Lease

Mining leases are extraction (production) mining titles that give their holder the exclusive right to mine mineral substances (other than surface mineral substances, petroleum, natural gas, and brine). A mining lease is granted to the holder of one or several claims upon proof of the existence of indicators of the presence of a workable deposit on the area covered by such claims and compliance with other requirements prescribed by the Mining Act. A mining lease has an initial term of 20 years but may be renewed for three additional periods of 10 years each. Under certain conditions, a mining lease may be renewed beyond the three statutory renewal periods.

4.4 Mining Title Status and Royalties

The status of the claims was supplied by Osisko Mining Inc. ("Osisko"). The QP has not verified the legal titles to the property or any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties.

4.4.1 Windfall Property

The Windfall property is 100% owned by Osisko. The property is located in the National Topographic System ("NTS") map sheet 32G04 and in the Urban Township. On November 30, 2020, the property consisted of 286 individual claims covering an aggregate area of 12,523 ha. The actual property was consolidated from several agreements concluded with previous owners and presented in Figure 4-2.

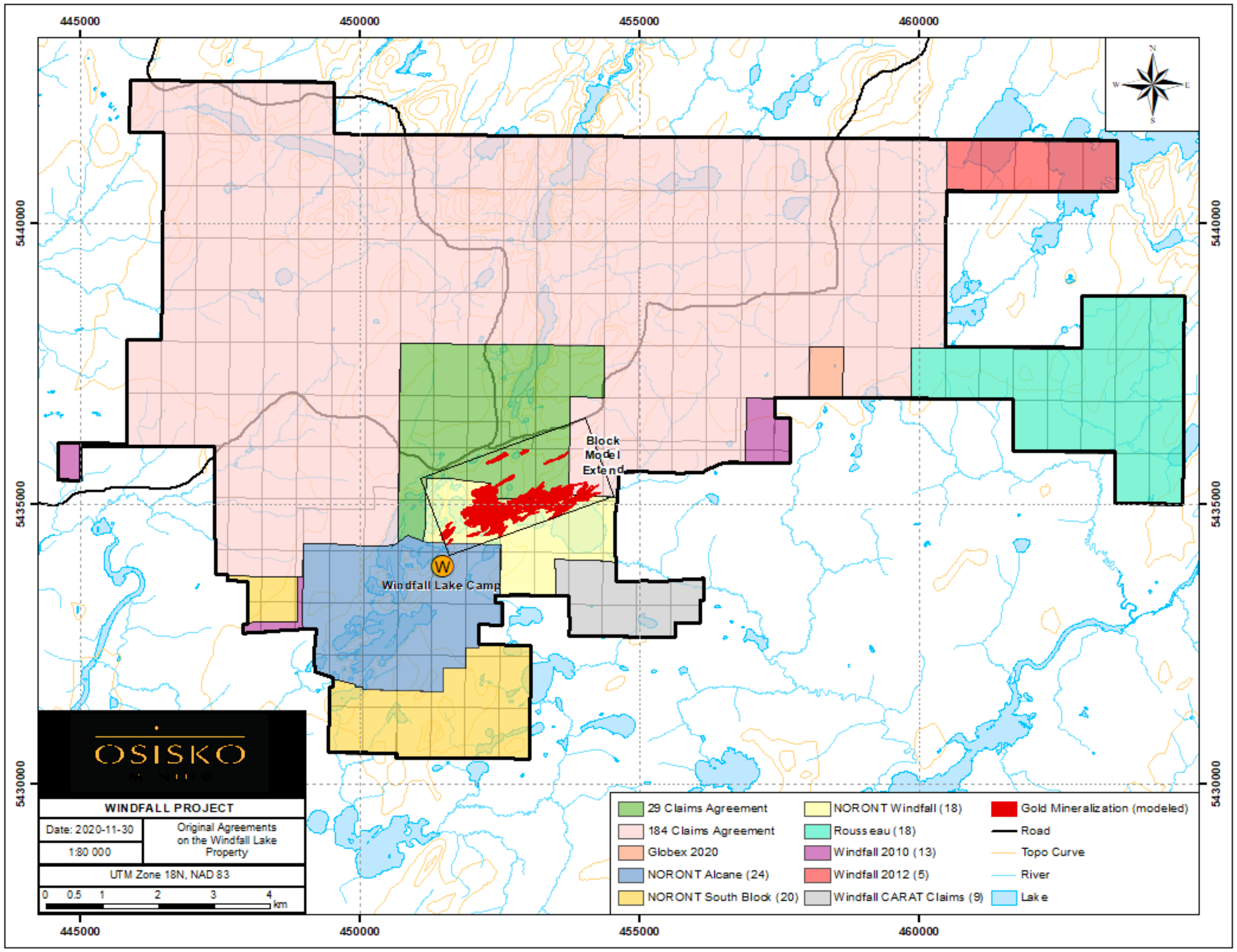


Figure 4-2: Land tenure plan showing the various original agreements on the Windfall property

A summary of the tenure information as extracted from the Québec government GESTIM (*Gestion des Titres Miniers*) website (as of the effective date of this technical report) is presented in Table 4-2. A complete listing of the mineral titles is presented in Appendices A, B, and C at the end of this report. All claims are in good standing, with expiry dates varying between August 2, 2021 and May 3, 2023. Osisko has sufficient work credit to renew all the claims and maintain them in good standing. The active underlying royalties affecting the different portions of the property are presented in Figure 4-3. The boundaries of the claims have not been surveyed legally.

Table 4-2: Mineral tenure summary of the Windfall property (November 30, 2020)

Option / Joint Venture	Registered Owner	No. of Claims	Area (ha)	Expiry date	Mineral Resource	Percentage held by Osisko Mining Inc.
Windfall-Noront Option	Osisko Mining Inc.	6	76.48	22-Jan-23	Yes	100%
		50	1,794.54	25-Sep-21		
The 29 Claims Expansion	Osisko Mining Inc.	9	405.50	05-Mar-22	Yes	100%
		13	429.64	10-Mar-22		
184 Claims Expansion Includes the Carat Claims	Osisko Mining Inc.	29	1,634.03	10-Jun-22	Yes	100%
		13	732.76	24-Sep-22		
		15	578.85	04-Dec-21		
		6	338.13	05-Dec-21		
		40	2,253.41	10-Dec-21		
		43	2,222.26	05-Mar-22		
		16	282.82	10-Mar-22		
		9	274.06	20-Mar-22		
Rousseau	Osisko Mining Inc.	11	620.11	02-May-23	-	100%
		7	394.61	03-May-23		
Windfall 2010	Osisko Mining Inc.	13	148.15	02-Aug-21	-	100%
Windfall 2012	Osisko Mining Inc.	5	281.65	14-Aug-21	-	100%
Globex Mining Enterprises Inc.	Osisko Mining Inc.	1	56.37	10-Aug-22	-	100%
Total		**286**	**12,523.37**	**-**	**-**	**-**

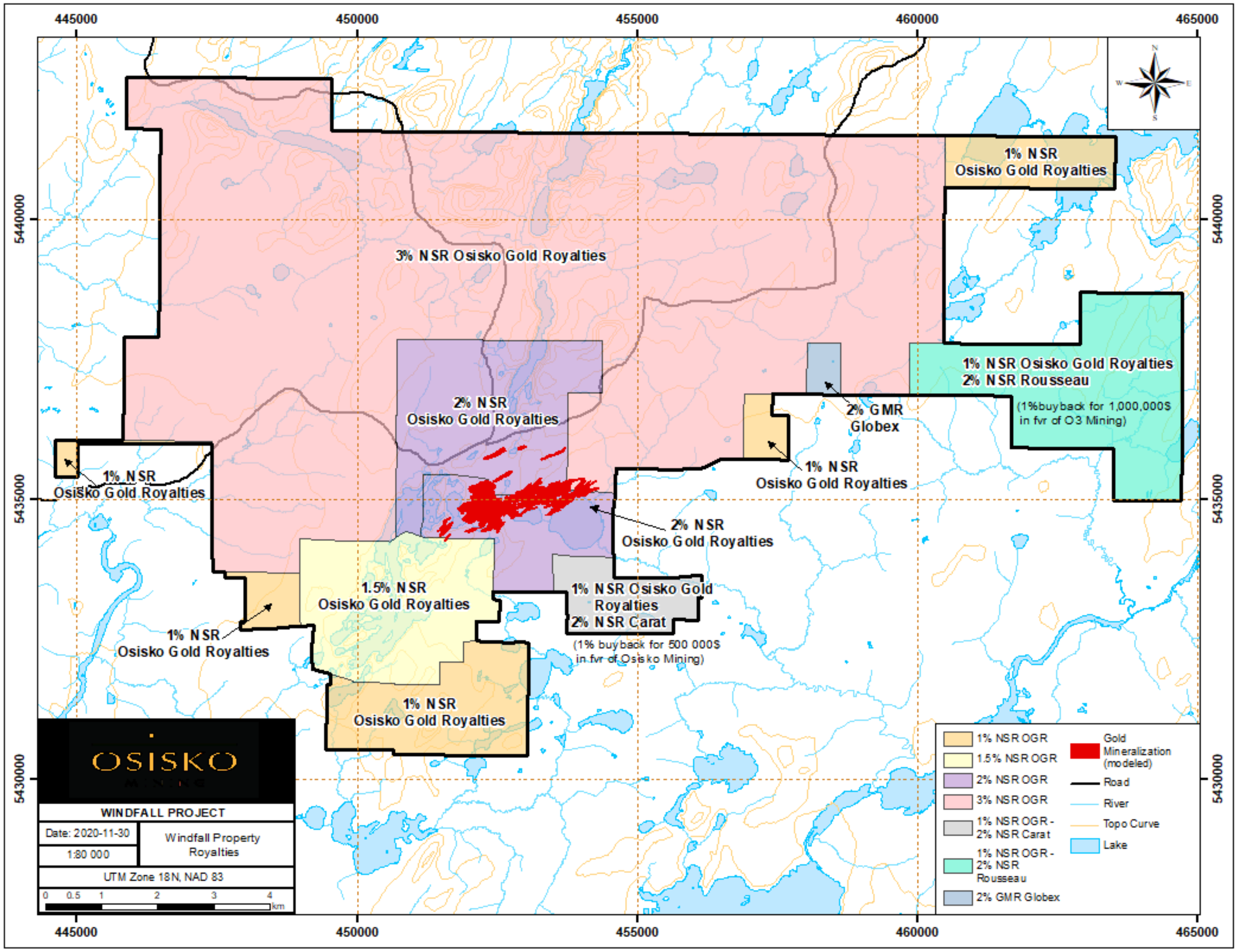


Figure 4-3: Net smelter return royalty agreements for the Windfall property

Osisko's rights to the property arose from several distinct agreements that are discussed in Section 4.4.1.1. The main claim blocks inherited from the original agreement are: The Windfall-Noront Option (including the Windfall, Alcane, and South blocks), 29 Claims Expansion, 184 Claims Expansion, Rousseau property, Windfall 2010, Windfall 2012, and the Carat Claim. Following a series of transactions during the first half of 2014, Eagle Hill Exploration Corp. (now Osisko Mining Inc.) acquired a 100% interest in all the claim blocks of the property, barring various net smelter return ("NSR") royalties discussed in the following sections.

The mineral resources discussed herein are, in the vast majority, located within the Noront-Windfall block of the Windfall option and the 29 Claims Expansion claim blocks. Very limited mineral resources are located on the 184 claims block as shown in Figure 4-2. The vast majority of the claims located within the Windfall mineral resource estimate are subject to a 1% to 2% NSR to Osisko Gold Royalties, except for the Alcane Block (1.5% NSR) and the 184 Block (3% NSR) (Figure 4-2 and Figure 4-3).

4.4.1.1 Windfall Property Surface Rights Option Agreement

On August 25, 2015, Osisko acquired Eagle Hill, which held the Windfall property, resulting in Eagle Hill becoming a wholly-owned subsidiary of Osisko. On January 1, 2019, Eagle Hill was amalgamated into Osisko, resulting in it becoming the successor to Eagle Hill's interest in the Windfall property.

The rights to the Windfall property held by Osisko (then Eagle Hill) arise from a series of option agreements executed by Eagle Hill with various third parties during 2009, 2010, 2013, and 2014:

- The original property option agreement with Noront Resources Ltd. ("Noront") in July 2009;
- The 29 Claims Expansion with Noront, Murgor, and Freewest Resources Canada Ltd. ("Freewest) (since acquired by Cliffs) in October 2009;
- The 184 Claims Expansion with Murgor and Cliffs in October 2009;
- The Rousseau joint venture with Murgor on the Rousseau property in March 2010;
- The purchase of Noront's remaining 25% interest in August 2013;
- The purchase of Murgor's and Cliffs' remaining interests in April 2014;
- The purchase of the Duval and the Boudreault royalties in May 2014.

4.4.1.2 Original Windfall Property Option Agreement with Noront

On July 20, 2009, Eagle Hill entered into an option agreement with Noront, pursuant to which Eagle Hill earned a 75% interest in Noront's interests in 80 claims (156 claims prior to the Québec government conversion) in the property area. Eagle Hill could earn, at Noront's option, a 100% interest subject to a 1% NSR. The property included four contiguous blocks (80 claims) covering a total area of 2,757 ha. Noront had a 50% interest in 24 of the claims post-conversion (the 29 Claims Expansion) and a 100% interest in the remaining 56 claims (127 claims prior to conversion) (the Windfall block of claims). Eagle Hill's primary obligations, as outlined in the option agreement, were as follows:

- Complete an equity financing of at least $1,500,000 on or before October 15, 2009.
- Make an initial consideration payment of $400,000 upon completion of the above financing and receipt of regulatory approval;
- Incur exploration expenditures on the claims and option payments to earn an interest in the claims as follows:
    - $500,000 in exploration expenditures and a cash payment of $200,000 to Noront on or before December 31, 2010 to earn 10% of Noront's interest in the claims;
    - $2,000,000 in additional exploration expenditures on or before December 31, 2011 to earn 51% of Noront's interest in the claims;
    - $2,500,000 in additional exploration expenditures and a cash payment of $400,000 to Noront on or before December 31, 2012 to earn 75% of Noront's interest in the claims.

Purchase of the 100% Interest from Noront

As of April 20, 2012, Eagle Hill had earned the initial 75% interest in Noront's interest in the property, after completing the required expenditures and payments. On June 28, 2013, Eagle Hill entered into a binding letter agreement to acquire the remaining 25% ownership, all royalties, and all other interests in the mineral claims of the property from Noront, by making aggregate cash payments of $5,000,000 and issuing 25,000,000 freely tradable common shares of Eagle Hill to Noront. The transaction was completed on August 14, 2013, and as a result, Eagle Hill now held 100% of the Windfall block. A further result was that Eagle Hill held a 75% interest in the 29 Claims Expansion.

The property, originally owned by Noront, is further divided into three blocks, characterized by different NSR agreements with third parties (Figure 4-3).

The Noront-Windfall block, which contains most of the mineral resource, is subject to a 2% NSR as follows:

- 0.5% NSR: On July 26, 2004, Noront and Alto Ventures Ltd. ("Alto") entered into an agreement under which Noront acquired Alto's interest in the Noront-Windfall block (50%) and the Alcane Block (100%) in exchange for Alto retaining a 0.5% NSR royalty over the Noront-Windfall block and the Alcane Block. On April 7, 2014, Virginia Mines Inc. ("Virginia") and Alto entered into a royalty acquisition agreement under which Virginia acquired the 0.5% NSR royalty. On February 17, 2015, Osisko Gold Royalties Ltd. acquired Virginia, resulting in Virginia becoming a wholly-owned subsidiary of Osisko Gold Royalties Ltd. Then, on December 31, 2015, Osisko Gold Royalties entered into an assignment agreement with Osisko Explorations James Bay Inc. (formerly named Virginia), its wholly-owned subsidiary, such that Osisko Gold Royalties Ltd. now holds this 0.5% NSR royalty directly.
- 0.5% NSR: On January 16, 2020, Osisko and Osisko Gold Royalties Ltd. entered into a royalty agreement pursuant to which a 0.5% NSR royalty was re-granted to Osisko Gold Royalties Ltd. This royalty was repurchased by Osisko from Scandium International Mining Corp., as successor to EMC Metals, Golden Predator Mines, and the successor in interest to Fury Explorations ("Scandium"), and re-granted to Osisko Gold Royalties Ltd. on account of buy-back rights being exercised by Osisko Gold Royalties Ltd. under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd. This royalty was originally granted on June 9, 2004 under a letter agreement between Noront and Scandium (then named Fury Explorations) pursuant to which Noront agreed to purchase an assignment of an option agreement dated September 4, 2002 between Scandium (then named Fury Explorations) and Alto. As part of the consideration for the option assignment, Scandium retained a 1% NSR over the interests held by Noront only (i.e., a 50% interest in the Noront-Windfall block). Noront was granted the right to repurchase the 1% NSR for $1 million (or $500,000 for each 0.5% NSR), and prior to being exercised, such repurchase rights were held by Osisko.
- 1% NSR: On October 4, 2016, Osisko and Osisko Gold Royalties Ltd. entered into a royalty agreement pursuant to which a 1% NSR royalty was granted to Osisko Gold Royalties Ltd. over all of the properties held by Osisko as of August 25, 2015 (including the Noront-Windfall block). Osisko Gold Royalties was granted the right to receive a 1% royalty over all such properties in exchange for a $5 million cash payment under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd.

The Noront-Alcane block, which contains some of the mineral resource along its northern boundary, is subject to a 1.5% NSR as follows:

- 0.5% NSR: On July 26, 2004, Noront and Alto entered into an agreement under which Noront acquired Alto's interest in the Noront-Windfall block (50%) and the Alcane Block (100%) in exchange for Alto retaining a 0.5% NSR royalty over the Noront-Windfall block and the Alcane Block. On April 7, 2014, Virginia and Alto entered into a royalty acquisition agreement under which Virginia acquired this 0.5% NSR royalty. On February 17, 2015, Osisko Gold Royalties Ltd. acquired Virginia, resulting in Virginia becoming a wholly-owned subsidiary of Osisko Gold Royalties Ltd. Then, on December 31, 2015, Osisko Gold Royalties entered into an assignment agreement with Osisko Explorations James Bay Inc. (formerly named Virginia), its wholly-owned subsidiary, such that Osisko Gold Royalties Ltd. now holds this 0.5% NSR royalty directly.
- 1% NSR: On October 4, 2016, Osisko and Osisko Gold Royalties Ltd. entered into a royalty agreement pursuant to which a 1% NSR royalty was granted to Osisko Gold Royalties Ltd. over all of the properties held by Osisko as of August 25, 2015 (including the Noront-Alcane block). Osisko Gold Royalties was granted the right to receive a 1% royalty over all such properties in exchange for a $5 million cash payment under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd.
- Other Royalty Buy-Back: On May 6, 2014, Eagle Hill bought back and cancelled the 2% NSR royalty then held by Boudreault on the Noront-Alcane block.

The Noront South block was not subject to any NSR royalty inherited from the Noront. However, as described above, the Noront South block is subject to a 1% NSR royalty in favour of Osisko Gold Royalties as follows:

- 1% NSR: On October 4, 2016, Osisko and Osisko Gold Royalties Ltd. entered into a royalty agreement pursuant to which a 1% NSR royalty was granted to Osisko Gold Royalties Ltd. over all of the properties held by Osisko as of August 25, 2015 (including the Noront South block). Osisko Gold Royalties was granted the right to receive a 1% royalty over all such properties in exchange for a $5 million cash payment under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd.

As noted above, these three blocks are subject to the following NSR royalties: (i) the Noront Windfall block is subject to a 2% NSR royalty in favour of Osisko Gold Royalties Ltd.; (ii) the Noront-Alcane block is subject to a 1.5% NSR royalty in favour of Osisko Gold Royalties Ltd.; and (iii) the Noront South block is subject to a 1% NSR royalty in favour of Osisko Gold Royalties Ltd.

4.4.1.3 Original Windfall Property Expansion with Murgor and Cliffs

On October 8, 2009, Eagle Hill entered into two separate agreements with Murgor and Cliffs to increase its holdings at the property. Eagle Hill, Murgor, and Cliffs agreed to an amendment to the option agreements on November 23, 2011. The following section describes the details of the option agreements with Murgor and Cliffs.

The 29 Claims Expansion and the 184 Claims Expansion - Murgor and Cliffs

The first of these agreements was an option to acquire the remaining 50% interest in the 29 Claims Expansion block from Murgor and Cliffs. Eagle Hill had acquired the other 50% of these claims through completion of its agreements with Noront. The number of claims was established at 24 claims (for a total of 891 ha), following the consolidation of staked claims into map-designated claims. The terms of the option agreement with Murgor and Cliffs on the 29 Claims Expansion were as follows:

- During the year ended October 31, 2010, Eagle Hill earned an additional 10% interest in the 29 Claims Expansion by issuing 2,500,000 common shares, making a cash payment of $300,000, incurring $400,000 in exploration expenditures, and issuing to Murgor and Cliffs a 2% NSR.
- For an additional 15% interest in the 29 Claims Expansion, Eagle Hill had to incur an additional $1,600,000 in exploration expenditures on or before April 30, 2012.
- For the remaining 25% interest in the 29 Claims Expansion, Eagle Hill had to incur an additional $2,000,000 of exploration expenditures on or before December 31, 2012.

The second agreement was an option to earn up to 100% interest in an additional 172 claims (184 claims prior to conversion) contiguous to the property from Murgor and Cliffs ("the Optionors"). In the event that Eagle Hill did not earn more than a 50% interest in these claims, Murgor and Cliffs had the right to re-purchase such interest for $255,000. In the event that Eagle Hill ultimately earned 100% interest in these claims but did not complete a bankable feasibility study within three years from the date the 100% interest was earned, Murgor and Cliffs had the right to re-purchase the 100% interest in these claims from Eagle Hill for $1,755,000. The terms of this option agreement were as follows:

- For an initial 20% interest in the claims, Eagle Hill had to:
  - Issue 1,000,000 common shares to the Optionors on or before October 31, 2009;
  - Pay $100,000 to the Optionors on or before December 31, 2010; and
  - Incur $350,000 of exploration expenditures on or before December 31, 2010.
- For an additional 30% interest in the claims, Eagle Hill had to incur an additional $500,000 of exploration expenditures on or before April 30, 2012.
- For the remaining 50% interest in the claims, Eagle Hill had to incur an additional $650,000 of exploration expenditures on or before December 31, 2012.

Consolidation of the Windfall Property Extension

On March 13, 2014, Eagle Hill entered into an agreement with Murgor and Cliffs to purchase the remaining interests in the 29 Claims Expansion and the 184 Claims Expansion. In consideration for the remaining interest in the claims, Eagle Hill paid $250,000 and issued 9,500,000 common shares to each of Murgor and Cliffs.

In addition, Eagle Hill granted a 0.5% NSR for the 29 Claims and a 1% NSR for the 184 Claims to each of Murgor and Cliffs. Eagle Hill retained the right to buy back any of the NSRs at any time prior to first commercial production, by paying $500,000 to each holder of the NSR.

On April 7, 2014, Murgor sold all its interests in the property to Gold Royalties Corporation ("Gold Royalties"). The 29 Claims Expansion is subject to a 0.5% NSR to each of Gold Royalties and Cliffs, and the 184 Claims Expansion is subject to a 1% NSR to each of Gold Royalties and Cliffs.

Following the acquisition of Gold Royalties by Sandstorm Gold Ltd. On April 24, 2015, the 29 Claims Expansion subject to a 0.5% NSR and the 184 Claims Expansion subject to a 1% NSR are therefore owned by Sandstorm Gold Ltd.

In addition, one portion of the 29 Claims Expansion was subject to a 2% NSR to Duval, and another distinct portion of the 29 Claims Expansion was subject to a 2% NSR to Boudreault (Figure 4-3). On May 6, 2014, Eagle Hill acquired the NSRs from Duval and Boudreault by paying $30,000 and issuing 1,666,667 shares of Eagle Hill to each of the vendors.

In order to finance the acquisition of Cliffs Naturals Resources Inc. subsidiaries ("Cliffs Chromite Ontario Inc.") by Noront concluded on April 28, 2015, Noront entered into an amended and restated US$25 million loan agreement with Franco-Nevada in exchange for 3% NSR over the Black Thor chromite deposit and a 2% royalty over all of Noront's property excluding Eagle's Nest. In addition, Noront received US$3.5 million in cash consideration as part of the granting of the royalty over the existing Noront property. Considering that Noront acquired Cliffs Chromite Ontario Inc. on March 22, 2015 (amended on April 17, 2015), which owned a 0.5% NSR royalty over 29 Claims Expansion and a 1% NSR over of the 184 Claims Expansion of the Windfall Project, and following the subsequent transaction between Noront and Franco-Nevada, the latter is considered to hold a 0.5% NSR royalty over 29 Claims Expansion and a 1% NSR over of the 184 Claims Expansion.

Both of the NSR royalties on the 29 Claims Expansion and the 184 Claims Expansion were subject to buyback rights. Such royalties were bought back by Osisko (or Eagle Hill) and re-granted to Osisko Gold Royalties Ltd. as described below.

The 29 Claims Expansion, which contains some of the mineral resource in its southeastern boundary, is subject to a 2% NSR royalty, and the 184 Claims Expansion is subject to a 3% NSR royalty, as follows:

- 0.5% NSR (29 Claims) and 1% (184 Claims): On November 16, 2018, Osisko (then Eagle Hill) and Osisko Gold Royalties Ltd. entered into an amended and restated royalty agreement pursuant to which a 0.5% NSR royalty over the 29 Claims Expansion and a 1% NSR Royalty over the 184 Claims Expansion was repurchased and re-granted to Osisko Gold Royalties Ltd. These royalties was repurchased by Osisko from Franco Nevada (as successor to the interest of Cliffs Chromite Ontario Inc.) under the royalty agreement dated March 28, 2014, and re-granted Osisko Gold Royalties Ltd. on account of buy-back rights being exercised by Osisko Gold Royalties Ltd. under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd.
- 0.5% NSR (29 Claims) and 1% (184 Claims): On November 16, 2018, Osisko (then Eagle Hill) and Osisko Gold Royalties Ltd. entered into an amended and restated royalty agreement pursuant to which a 0.5% NSR royalty over the 29 Claims Expansion and a 1% NSR Royalty over the 184 Claims Expansion was repurchased and re-granted to Osisko Gold Royalties Ltd. These royalties were repurchased by Osisko from Sandstorm Gold Ltd. (as successor in interest to Murgor Resources Inc.) under the royalty agreement dated March 28, 2014, and re-granted to Osisko Gold Royalties Ltd. on account of buy-back rights being exercised by Osisko Gold Royalties Ltd. under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd.
- 1% NSR: On October 4, 2016, Osisko and Osisko Gold Royalties Ltd. entered into a royalty agreement pursuant to which a 1% NSR royalty was granted to Osisko Gold Royalties Ltd. over all of the properties held by Osisko as of August 25, 2015 (including the 29 Claims Expansion and the 184 Claims Expansion). Osisko Gold Royalties was granted the right to receive a 1% royalty over all such properties in exchange for a $5 million cash payment under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd.

4.4.1.4 The Rousseau Property Joint Venture

In May 2010, Eagle Hill entered into a joint venture agreement with Murgor (the Rousseau Joint Venture) whereby an equal partnership joint venture was formed.

The Rousseau Joint Venture purchased 100% of a group of 18 mineral claims, contiguous to the property, from another non-related company (9187-1400 Québec Inc.) subject to a 2% NSR. Eagle Hill’s share of the cost to acquire these claims was $5,000 and 100,000 common shares.

On August 2, 2011, Eagle Hill entered into an agreement whereby it acquired the remaining 50% of the Rousseau Joint Venture by paying $5,000 and issuing 200,000 common shares to Murgor. Eagle Hill now holds a 100% interest in the Rousseau property claims block, subject to the NSR provisions of the original agreement. Eagle Hill has the right to buyback the 1% NSR royalty on the Rousseau Joint Venture claims in exchange for $1 million. On October 3, 2018, Osisko (then Eagle Hill) provided written notice to 9187-1400 Québec Inc. of its buyback of 1% of the NSR royalty in exchange for $1 million, in accordance with Section 3.2 of the Option Agreement. Osisko (then Eagle Hill) has not yet received a response from 9187-1400 Québec Inc. in respect of its exercise of such buyback rights.

In addition, the remaining 1% NSR royalty on the Rousseau Joint Venture claims is subject to a right of first refusal in favour of Murgor Resources Inc., an indirect wholly-owned subsidiary of O3 Mining Inc., which it acquired further to its business combination with Alexandria Minerals Corp., which closed on August 1, 2019.

The Rousseau Joint Venture claims are subject to a 1% NSR royalty in favour of Osisko Gold Royalties pursuant to a royalty agreement dated October 4, 2016 between Osisko and Osisko Gold Royalties Ltd. Osisko Gold Royalties was granted the right to receive a 1% royalty over all such properties in exchange for a $5 million cash payment under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd.

4.4.1.5 Windfall 2010

In August 2010, Eagle Hill staked 13 mineral claims (7 claims pre-conversion), covering 102.16 ha, to make the property contiguous. These claims were registered under the name Murgor, as Murgor was operating the exploration activities for Eagle Hill at the time and were subsequently transferred to Eagle Hill. These claims are subject to a 1% NSR royalty that was granted to Osisko Gold Royalties Ltd. over all of the properties held by Osisko as of August 25, 2015.

4.4.1.6 Windfall 2012

In August 2012, Eagle Hill staked five claims (281.65 ha) in the northeast corner of the property to cover the extension of a favourable structure in an underexplored sector. These claims are subject to a 1% NSR royalty that was granted to Osisko Gold Royalties Ltd. over all of the properties held by Osisko as of August 25, 2015.

4.4.1.7 Virginia Mines Alto' NSR acquisition in 2014.

On July 26, 2004, Noront and Alto entered into an agreement under which Noront acquired Alto's interest in the Noront-Windfall block (50%) and the Alcane Block (100%) in exchange for Alto retaining a 0.5% NSR royalty over the Noront-Windfall block and the Alcane Block. On April 7, 2014, Virginia and Alto entered into a royalty acquisition agreement under which Virginia acquired this 0.5% NSR royalty. On February 17, 2017, Osisko Gold Royalties Ltd. acquired Virginia, resulting in Virginia becoming a wholly-owned subsidiary of Osisko Gold Royalties Ltd. Then, on December 31, 2015, Osisko Gold Royalties entered into an assignment agreement with Osisko Explorations James Bay Inc. (formerly named Virginia), its wholly-owned subsidiary, such that Osisko Gold Royalties Ltd. now holds this 0.5% NSR royalty directly

4.4.1.8 Investment Agreement and Royalty Agreement

On October 4, 2016, Osisko and Osisko Gold Royalties Ltd. entered into a royalty agreement pursuant to which a 1% NSR royalty was granted to Osisko Gold Royalties Ltd. over all of the properties held by Osisko as of August 25, 2015. Osisko Gold Royalties was granted the right to receive such 1% royalty over all such properties in exchange for a $5 million cash payment under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd.

For additional background, Osisko Gold Royalties Ltd. entered into the investment agreement dated August 25, 2015 in conjunction with the closing of the business combination of Osisko (then Oban Mining Corporation), Eagle Hill, Corona Gold Corporation and Ryan Gold Corp. further to which Osisko Gold Royalties Ltd. invested $17.8 million in, and became a 19.9% shareholder of, Osisko (then Oban Mining Corporation).

Under the aforementioned investment agreement, Osisko Gold Royalties Ltd. was granted certain rights so long as it holds 10% of the issued and outstanding common shares of Osisko on a non-diluted basis, including: (i) a right of first refusal to participate in royalties and streams created by Osisko, (ii) pro rata financing participation rights, and (iii) a one-time right (which was exercised on October 4, 2016) for a period of five years, should Osisko seek financing in debt or equity markets, to provide financing of $5 million in exchange for a 1% net smelter return royalty over such properties as are wholly owned by Osisko as of August 25, 2015.

4.4.1.9 Repurchase of Royalty

Osisko Gold Royalties has exercised its rights under the investment agreement dated August 25, 2015 to cause Osisko to buyback and re-grant to it three royalties, as follows:

- 0.5% NSR Noront-Windfall Block: On January 16, 2020, Osisko and Osisko Gold Royalties Ltd. entered into a royalty agreement pursuant to which a 0.5% NSR royalty was re-granted to Osisko Gold Royalties Ltd. This royalty was repurchased by Osisko from Scandium International Mining Corp., as successor to EMC Metals, Golden Predator Mines, and the successor in interest to Fury Explorations (Scandium), and re-granted to Osisko Gold Royalties Ltd. on account of buy-back rights being exercised by Osisko Gold Royalties Ltd. under the investment agreement dated August 25, 2015 between Osisko and Osisko Gold Royalties Ltd. See Section 4.4.1.8.

- 0.5% NSR (29 Claims) and 1% (184 Claims): On November 16, 2018, Osisko (then Eagle Hill) and Osisko Gold Royalties Ltd. entered into an amended and restated royalty agreement pursuant to which a 0.5% NSR royalty over the 29 Claims Expansion and a 1% NSR Royalty over the 184 Claims Expansion was repurchased and re-granted to Osisko Gold Royalties Ltd. These royalties were repurchased by Osisko from Franco Nevada (as successor to the interest of Cliffs Chromite Ontario Inc.) under the royalty agreement dated March 28, 2014.
- 0.5% NSR (29 Claims) and 1% (184 Claims): On November 16, 2018, Osisko (then Eagle Hill) and Osisko Gold Royalties Ltd. entered into an amended and restated royalty agreement pursuant to which a 0.5% NSR royalty over the 29 Claims Expansion and a 1% NSR royalty over the 184 Claims Expansion was repurchased and re-granted to Osisko Gold Royalties Ltd. These royalties were repurchased by Osisko from Sandstorm Gold Ltd. (as successor in interest to Murgor Resources Inc.) under the royalty agreement dated March 28, 2014.

4.4.2 Urban-Barry Property

The Urban-Barry property is 100% owned by Osisko Mining Inc. On November 30, 2020, the property comprises 1,916 individual claims covering an aggregate area of approximately 103,608 ha (Table 4-3). The actual property is mostly constituted by claims that were acquired through designation from GESTIM at different period from 2015 to 2019. Claims acquired from agreement from Multi-Ressources Boréal, from Terrence Coyle, and from Hélène Laliberté were consolidated within the Urban-Barry party as shown in Figure 4-4. Claims that were acquired through the acquisition of Beaufield Consolidated Resources were also merge into the Urban-Barry property as shown on Figure 4-4. The 81 claims from the Duke option, also acquired through the Beaufield acquisition, remain in the Urban-Barry property until their earn-in option to Bonterra is completed. The claims are distributed in 17 townships, Barry, Beaucourt, Belmont, Bressani, Buteux, Carpiquet, Effiat, Chambalon, Lacroix, Lespinay, Marceau, Maseres, Picquet, Prevert, Ralleau, Souart, and Urban. The property lies on NTS map sheets 32B13, 32B14, 32F01, 32G02, 32G03, and 32G04.

The following NSRs are applicable for the Urban-Barry property: (i) a 1% NSR royalty in favour of Osisko Gold Royalties; (ii) a 2% NSR royalty to Multi-Ressources Boréal (buyback 2% for $2 million); (iii) a 1% NSR royalty to Terrence Coyle (buyback 1% for $1 million); (iv) a 2% NSR royalty to Hélène Laliberté (buyback 2% for $0.3 million); (v) a 1% NSR royalty to Silverwater Capital (buyback 1% for $1 million); and (vi) a 2% GMR royalty to Globex Mining).

Following the acquisition of Beaufield by Osisko on October 15, 2018, and the subsequent amalgamation on January 1, 2019 of Beaufield into Osisko, all of Beaufield's claims and agreements in the Urban-Barry area were inherited by Osisko, including the following royalties: (i) a 3% NSR royalty on Alto claims (2% NSR royalty in favour of Alcudia and 1% NSR royalty in favour of Alto) (buyback 0.5% of Alto's royalty for $1 million); (ii) a 2% NSR royalty held by Mr. Wayne Holmstead (buyback 1% for $500,000); (iii) a 1.5% NSR royalty held by Garnet Gold Inc. (buyback 0.75% NSR royalty for $0.5 million); (iv) a 2% NSR royalty held by Hinterland Metals Inc. (buyback 1% for $1 million); (v) a 2.3% NSR royalty held by the NAM Group (buyback 1% for $1 million); (vi) a 1.5% Desrosiers Group NSR royalty; (vii) a 10% NPR royalty formerly held Jason Resources Inc., which was dissolved with no known successor; and (viii) a 2% NSR royalty held by Teck (Beaufield has a right of first refusal on the sale or transfer of the NSR royalty) (Figure 4-4).

A summary of the tenure information, as extracted from the Québec government GESTIM on November 30, 2020, is presented in Table 4-3. All claims are in good standing, with expiry dates varying between April 25, 2021 and July 12, 2023. A complete listing of the mineral titles is presented in Appendices A, B and C. Osisko may not, for strategic or prospectivity reason, renew all of the 1,916 claims of the Urban-Barry property but they are currently all in good standing. Given the size and the scale of the Urban-Barry, Osisko, might, from time to time, abandon or let lapse some claims presenting less potential for mineral exploration. On the other hand, Osisko might also acquire a few claims presenting good potential for mineral exploration.

The active underlying royalties affecting the different portions of the Urban-Barry property are presented in Figure 4-4. The boundaries of the claims have not been surveyed legally.

Table 4-3: Mineral tenure summary of the Urban-Barry property (November 30, 2020)

Option/Joint Venture	Registered Owner	No. of Claims	Area (ha)	Expiry Date (d-m-y)	Mineral Resource	Percentage Held by Osisko Mining
Urban-Barry Project Initial Claims Designation	Osisko Mining Inc.	71	4,005.34	24-Nov-21	No	100%
		44	2,479.16	25-Nov-21		
		237	13,367.49	30-Nov-21		
		101	5,696.86	01-Dec-21		
		103	5,806.35	02-Dec-21		
		280	15,792.4	03-Dec-21		
		169	9,539.8	04-Dec-21		
		2	112.9	07-Dec-21		
		59	3,330.27	29-Dec-21		
Terrence Coyle Claim Acquisition	Osisko Mining Inc.	2	112.56	11-Jan-22		
		2	112.72	10-May-22		
		1	56.35	18-May-22		
		2	112.76	20-Aug-22		

Option/Joint Venture	Registered Owner	No. of Claims	Area (ha)	Expiry Date (d-m-y)	Mineral Resource	Percentage Held by Osisko Mining
Urban-Barry Project Additional Claims Designation	Osisko Mining Inc.	15	844.47	25-Apr-21		
		1	56.42	17-Jun-23		
		1	43.81	21-Jun-21		
		11	252.67	22-Jun-21		
		23	1,295.38	16-Jul-21		
		4	88.83	21-Jul-21		
		10	564.85	14-Aug-21		
		186	10,481.64	30-Aug-21		
		3	168.91	26-Oct-21		
		12	676.19	02-Dec-21		
		18	1,019.28	04-Jan-22		
		71	3,997.64	08-Jan-22		
		5	281.88	30-Jan-22		
		4	225.64	14-Feb-22		
		1	56.52	20-Feb-22		
		2	113.11	04-May-22		
		6	338.81	23-May-22		
		10	563.75	10-Aug-22		
		2	112.67	22-Sep-22		
		1	56.4	23-Sep-22		
		3	169.48	20-Nov-22		
		1	56.41	14-Mar-23		
		29	1,635.99	07-Apr-23		
		1	56.38	11-Apr-23		
		42	2,364.6	25-Apr-23		
		2	112.71	17-May-23		
Multi-Ressources Boréal Claim Acquisition	Osisko Mining Inc.	33	1,286.53	30-Jul-22	Yes	100%

Option/Joint Venture	Registered Owner	No. of Claims	Area (ha)	Expiry Date (d-m-y)	Mineral Resource	Percentage Held by Osisko Mining
Urban-Barry Project additional claims from Beaufield	Osisko Mining Inc.	35	1,970.43	04-May-21	No	100%
		8	18.33	12-Jul-23		
		63	3,000.72	10-Nov-21		
		8	161.53	22-Nov-21		
		5	281.94	14-Dec-21		
		21	901.84	31-Dec-21		
		7	394.21	24-Jan-22		
		22	1,238.41	29-Jan-22		
		14	789.78	04-Mar-22		
		10	566.23	07-Mar-22		
		9	298.7	20-Mar-22		
		5	282.81	09-Apr-22		
		6	338.29	03-May-23		
		1	56.35	03-May-22		
		4	225.53	01-Jun-22		
		3	169.56	07-Jul-22		
		1	56.36	29-Jul-22		
		16	557.77	08-Aug-22		
		12	588.01	13-Jan-23		
		9	507.57	22-Apr-23		
Urban-Barry Duke Option to Bonterra	Osisko Mining Inc.	11	250.15	12-Jul-23	No	100%
		68	3,226.77	10-Nov-21		
		1	56.45	28-Jul-21		
Silverwater Capital Corp.	Osisko Mining Inc.	2	112.79	10-Aug-21	No	100%
Globex Mining Enterprises Inc.	Osisko Mining Inc.	2	113.11	04-May-22	No	100%
		3	169.18	10-Aug-22		
Total		**1,916**	**103,778.75**	-	-	-

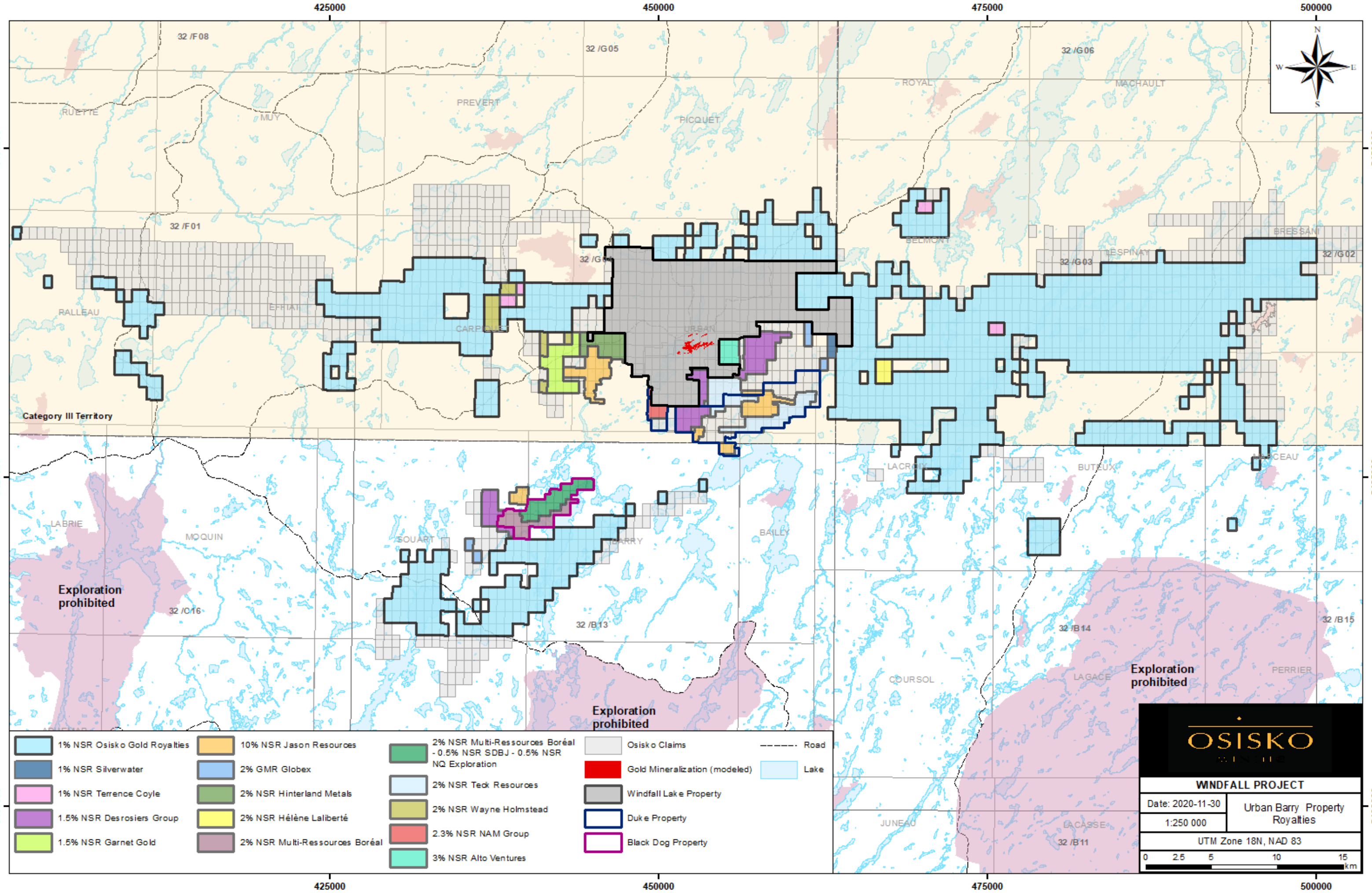


Figure 4-4: Claim map of the Windfall (in gray) and Urban-Barry properties (November 30, 2020) Category III Territory corresponds to Eeyou Istchee land

4.5 Constraints and Restrictions

4.5.1 Windfall and Urban-Barry Properties

The Windfall property and the northern half of the Urban-Barry property are in the Eeyou Istchee James Bay territory (Figure 4-4). Since 2013, this area corresponds to Category III lands where exploration is allowed under specific conditions. A claim titleholder is invited to communicate directly with the Cree Nation Government and the Eeyou Istchee James Bay Regional Government.

Five areas where exploration is prohibited under the Mining Act are adjacent to the Urban-Barry property (Figure 4-4). They are designated as a “Biological Refuge” and the status triggers a temporary suspension of issuance of mineral titles. One area is an experimental forest where exploration is allowed under specific conditions.

4.6 Permits and Environmental Liabilities

This section provides a summary of current permits, authorizations and environmental liabilities for the Windfall property. Osisko has obtained all necessary permits and authorizations from government agencies to allow for exploration through surface and underground drilling and for bulk sampling.

Permits are required for any exploration program that involves tree cutting to create access for the drill rigs. Osisko has obtained all required permits issued by the *Ministère des Forêts, de la Faune et des Parcs* (“MFFP”).

Osisko has three land use leases with the MERN for the Windfall Project; one for the camp sector and another for the ramp sector, 2 km apart. The third lease is for the storage of waste rock and is within the ramp lease boundary.

The camp has a capacity of 300 persons and Osisko has authorizations for three drinking water wells and three septic systems.

At the end of 2018 and the beginning of 2019, Osisko extracted a bulk sample in Zone 27. Prior to proceeding with this work, Osisko obtained an exemption from the environmental and social milieu impact assessment (Environment Quality Act (“EQA”) Chapter II), a transfer of the certificate of authorization (EQA Section 22) to collect a bulk sample, an authorization (EQA Section 32) for dewatering the exploration ramp and an authorization to extract a bulk sample (Mining Act Section 69).

In September 2019, Osisko collected a second bulk sample in the Lynx zone. This work was done after obtaining an exemption from the environmental and social milieu impact assessment (EQA Chapter II), an authorization (EQA Section 22) to collect a bulk sample and to expand the waste rock stockpile and an authorization to extract a bulk sample (Mining Act Section 69).

Finally, Osisko obtained all authorizations to extract a third bulk sample in the Triple Lynx zone and to proceed with additional characterization work. These include exemptions from the environmental and social milieu impact assessment (EQA Chapter II), an authorization (EQA Section 22) to collect a bulk sample and to expand the waste rock stockpile, a modification to the previous authorization (EQA Section 30) and an authorization to extract a bulk sample (Mining Act Section 69). This work has just started, and the Triple Lynx sample has not yet been collected.

Contact water from the stockpile and mine water are collected and treated. Since 2017, Osisko obtained additional authorizations to refine the initial water treatment of the effluent.

The first closure plan for the Windfall Project was prepared in 2007. As required by the Mining Act, the closure plan was updated after 5 years in November 2012 and again in June 2017. When Osisko received the authorizations to take bulk samples in Lynx and later in Triple Lynx, two consecutive closure plan addenda were filed. The last addendum was approved in December 2020 and the current financial guarantee is of $5,601,294. The next 5-year update of the closure plan is scheduled for June 2021.

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

5.1 Accessibility

Access to the Windfall and Urban-Barry properties can be achieved through the town of Lebel-sur-Quévillon. The town can be accessed from Val-d'Or travelling east on the paved Québec TransCanada Highway 117 for about 30 km to provincial Highway 113. Then 36 km northbound on paved Highway 113 to the village of Senneterre, and then continue northbound on Highway 113 for about 87 km to the town of Lebel-sur-Quévillon.

Access to the Windfall Project area can be done from Chantier Chibougamau's pulp mill (formerly Domtar) next to the town of Lebel-sur-Quévillon. The property can be reached by travelling eastbound on well-maintained, un-paved logging road R1050 (Road 1000) for about 12 km towards the former Gonzague-Langlois mine (Nyrstar) and continuing east towards the Urban-Barry area for about 55 km on R0853 (Road 5000) to the junction with R1053 (Road 6000), heading east-northeast on road R1053 for about 46 km to the main Windfall camp gravel road turnoff heading south (Figure 5-1 and Figure 5-2). The main Project zone is located about 2 km south along the main camp road. The camps, offices and core shacks are another 0.5 km south along this main road.

5.2 Climate

The climate characteristics for the Project site were derived from the climate data available at the following stations, all operated by Environment and Climate Change Canada ("ECCC"): Lebel-sur-Quévillon (ID 7094275); Amos (ID 7090120); and Chibougamau-Chapais (ID 7091404). For the purpose of this study, data from these stations were applied to the Project site location (i.e., a correlation analysis to account for distance, elevation and latitude differences between the Project site and the stations was not completed).

January is the coldest month with an average temperature of -17.6°C and July is the warmest month with an average temperature of 17.3°C. The extreme minimum air temperature was recorded at -43°C in January 1981; the extreme maximum air temperature was recorded at 34.4°C in July 1969.

Rainfall is concentrated in the period from May to October, but can occur throughout the entire year. Snowfall is concentrated in the period from November to March, with small amount potentially happening in October, April and May. The average annual total precipitation is 912 mm. July is the wettest month with an average rainfall of up to 121 mm; February is the driest month with an average total precipitation of 31 mm. The 24-hour storm depth for return periods of 2 years and 100 years is 47 mm and 107.8 mm, respectively. The 24-hour probable maximum precipitation ("PMP") is 350 mm.

The average annual lake evaporation is 594 mm. The maximum evaporation of 126 mm is in July. Maximum hourly wind speed ranges from 37 km/hr in the summer to 50 km/hr in January and September. Snow on the ground depth is 69 cm and 118.7 cm for return periods of 2 years and 100 years, respectively.

Additional details on the climate characteristics at the Project site are provided in Golder (2020b).

5.3 Physiography

The Project area is part of the Canadian Shield, characterized by topographically low-lying ridges and valleys (Figure 5-2) modified by remnants of Wisconsin aged glacial activity. The land areas are covered with boreal forests (sparse to dense tree cover) and numerous fresh water lakes, streams and muskeg (Figure 5-3).

5.4 Local Resources and Infrastructure

The Windfall property is located in a remote area, approximately 115 km east of Lebel-sur-Quévillon. Lebel-sur-Quévillon is the closest municipality to the Project, with a population of 2,015 (Statistics Canada, 2016). The mining and forestry industries are the historical cornerstones of Lebel-sur-Quévillon’s local economy.

Although Lebel-sur-Quévillon has its own small airport, Val-d’Or has the closest commercial airport with regularly scheduled direct flights to Montreal. Additionally, the communities of Senneterre, Waswanipi, Chibougamau and Chapais are also in the vicinity of the Windfall property with populations in 2016 of 2,239, 1,759, 6,862 and 1,318, respectively (Statistics Canada, 2016).

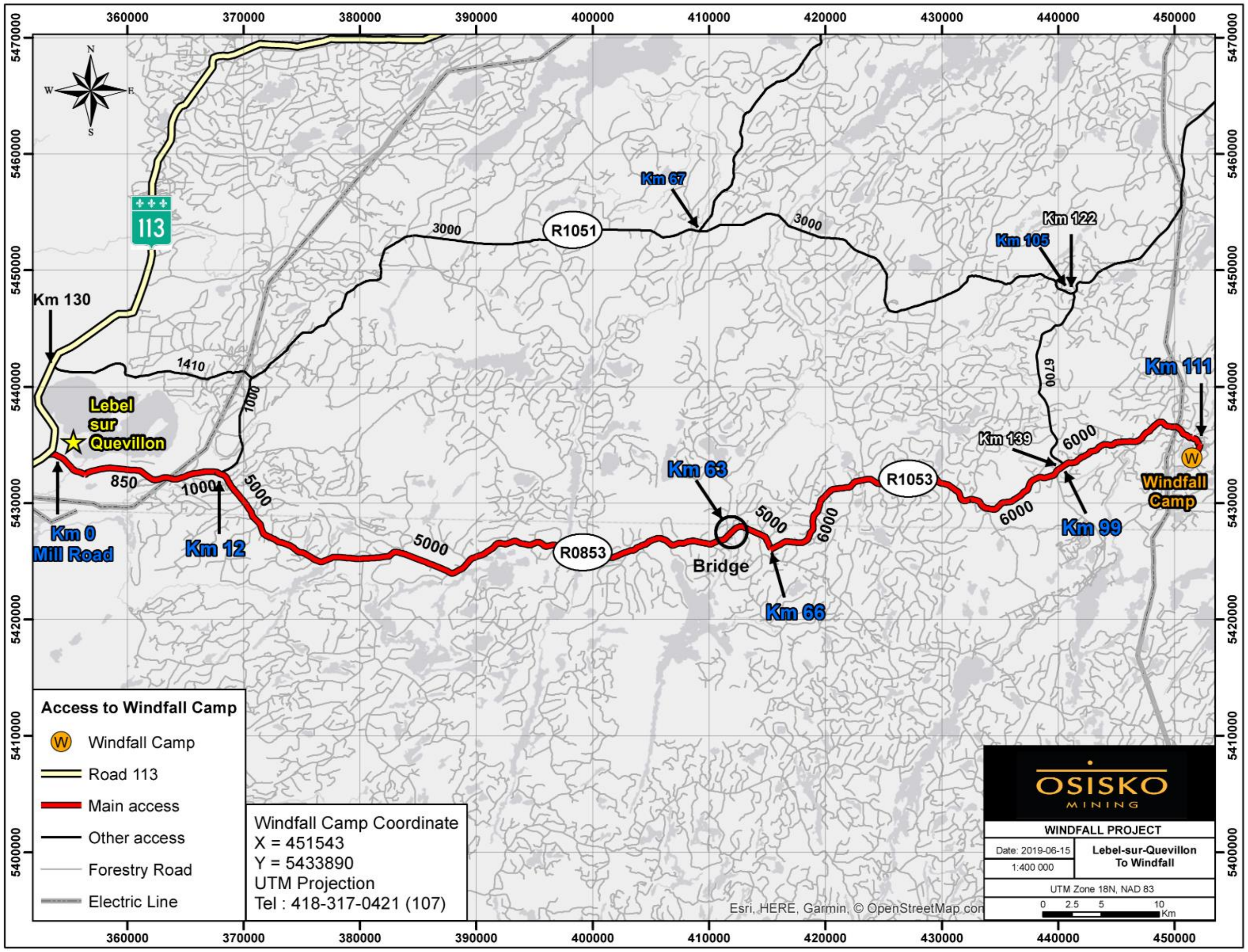


Figure 5-1: Map of the Windfall property area showing various access routes

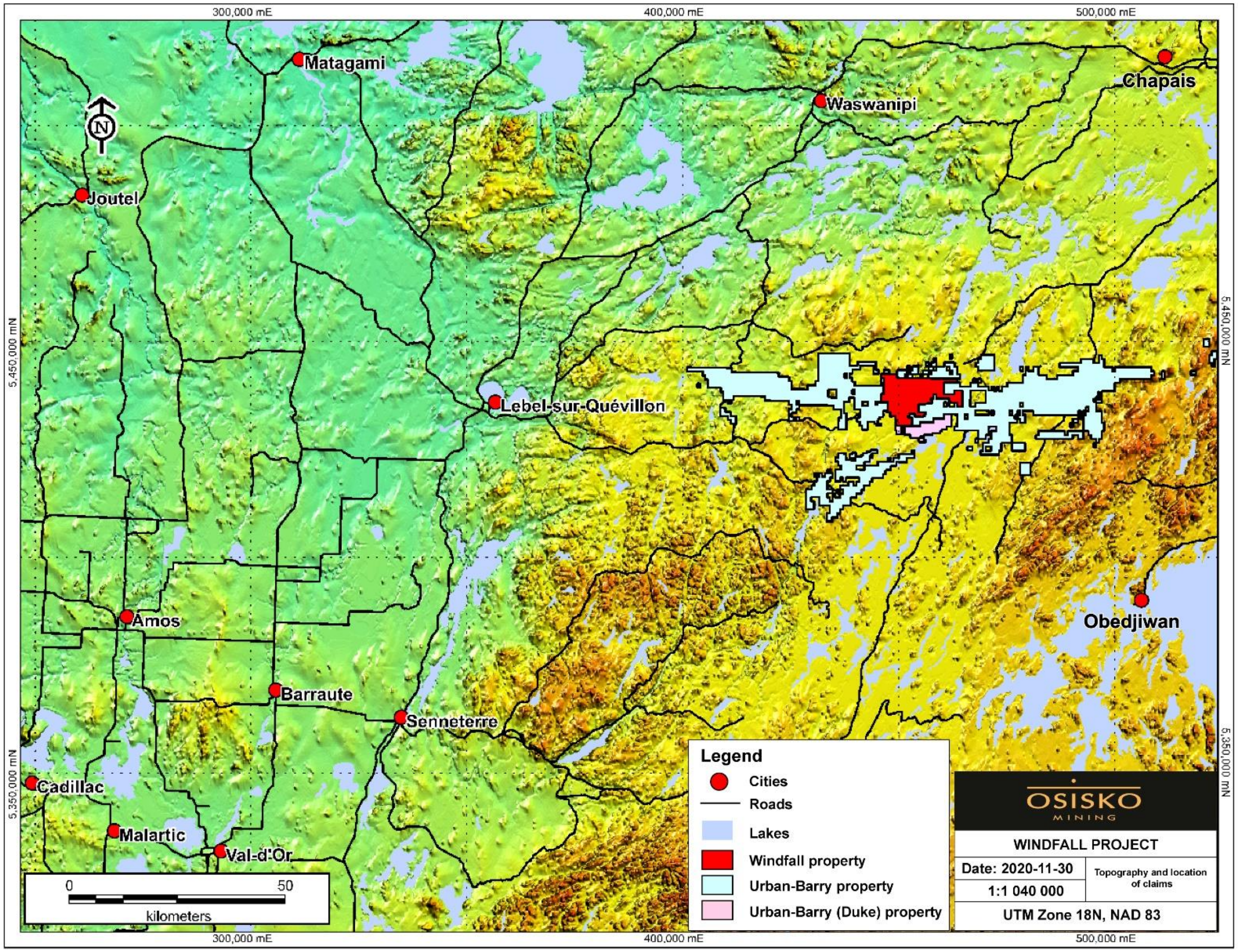


Figure 5-2: Topography and accessibility of the Windfall Project properties

Full infrastructure and an experienced mining workforce are available in several well-established mining towns nearby, such as Val-d'Or, Rouyn-Noranda, Amos, La Sarre and Matagami. Any future mining project would need to bring a skilled workforce from these surrounding communities by road or, if necessary, from elsewhere in the province, by road or chartered flight. Supplies would also have to be trucked or brought by train to Lebel-sur-Quévillon.

5.4.1 Windfall Site

The Windfall area is serviced by a complete network of well-maintained logging roads R1050 (Road 1000) (Km 12), R0853 (Road 5000) (Km 66) and R1053 (Road 6000) (Km 112). The primary users of the logging roads between Lebel-sur-Quévillon and the Windfall camp are workers and other exploration companies' staff in the surrounding areas.

The Windfall camp is powered by four generators, each producing 1.6 MW for a total of 6.4 MW of installed power. They provide electricity to the surface and underground infrastructure. In the event that Osisko would decide to connect their operation to the Hydro-Québec provincial grid, there are two existing options. The first interconnection point is the Lebel substation located 103 km west of Windfall. The second is the existing 120 kV transmission line (circuit 1493) located near the former Langlois mine located 95 km west-northwest of Windfall.

Winter access to the Project site is available as the local roads are plowed. Exploration and eventual mining operation activities can be conducted year-round at Windfall.

Several infrastructure components are still present on the Project site from previous owners. These include an unlined waste rock stockpile and a lined stockpile containing mineralized material/waste rock. Also present are a ramp portal dating back to 2008, a sedimentation pond and a polishing pond. Further south is the Windfall exploration camp, which can accommodate 300 people (Figure 5-3). The exploration camp area includes:

- Temporary trailer-type structures for administrative offices, dormitories and infirmary as well as the kitchen and the dining room;
- Septic fields and an enviro-septic unit;
- Six separate core shacks with core racks;
- One drill core storage area (expansion in progress);
- A core cutting building;
- Three drinking water wells;
- Three megadomes, one for the storage of contaminated residual materials;
- Three temporary maintenance and storage areas for diamond drilling companies (Forages Rouillier Drilling, Orbit-Garant and Major);
- Four generators (1.6 MW each);
- Fuel tanks;
- A helicopter landing area;
- Containers and sheds for storage of equipment;
- Propane storage tank.

Figure 5-3: Aerial photograph showing the Windfall Camp and the typical physiography of the area

The ramp portal sector currently includes the following facilities:

- Access roads;
- A portal and a ramp totalling approximately 1,450 m underground (Noront);
- Underground exploration tunnels totalling approximately 6,866 m of advancement (Osisko);
- An overburden pile;
- An unlined waste rock stockpile;
- A lined stockpile (mineralized material and waste rock) with lined perimeter ditches;
- A sedimentation basin and a polishing basin;
- Water treatment units and Geotubes;
- A garage with concrete slab (2017);
- Sanitary facilities (septic tank and leaching field) built by Noront for about 15 people;
- Construction trailers serving as offices and dry rooms (2017);
- Magazines for storage of explosives and detonators (2017);
- A megadome with concrete foundations (2017);
- A fuel storage tank (2017);
- A ventilation raise with heaters and propane tank (2018);
- A vertical raise (243 m) for ventilation and eventual installation of manway and services (electrical cable, 8" piping, communication, fiber optic) (2020);
- Four refuge stations;
- A composting unit.

The Windfall Project contains three lease agreements, including one industrial lease agreement for the ramp area, another industrial lease agreement for the camp area and a mining lease.

The location of all potential future mining infrastructure (e.g., processing plant, tailings storage area) is currently being evaluated. Nevertheless, the Windfall Project area is located on Crown land capable of accommodating all mining infrastructure.

6. HISTORY

The Windfall and Urban-Barry properties have a long history of exploration. Details of their respective work histories are hereafter presented separately for clarity.

6.1 Windfall Property

6.1.1 Summary of Historical Work

The Windfall Project was subject to several grassroots exploration programs undertaken by various companies from the 1930s to 2020. Below is a summary of the historical work completed near the Windfall deposit (Table 6-1), as well as a map illustrating the drilling activities within the Windfall claim boundaries since 1977 (Figure 6-1). Detailed historical work descriptions can be found in the Preliminary Economic Assessment of the Windfall Project report (Hardie et al., 2018) and the report entitled "Mineral Resource Estimate Update for the Windfall Project" (Richard et al., 2021). Figure 6-1 illustrates the historical drilling undertaken within the current Windfall claim boundary. The Windfall Project has never been in commercial production.

Table 6-1: Historical exploration work in the Windfall area and significant results

Year	Company or Individual	Work Completed	Source	Report
1975 to 1977	Shell Canada	Airborne electromagnetic, prospecting, geological mapping, drilling.	Bergmann (1977) Côté (1977)	GM 32467 GM 38828
1983	Ministère des Ressources Naturelles du Québec	Airborne electromagnetic INPUT survey.	Relevés Géophysique Inc. (1983)	DP-83-08
1986	Kerr-Addison	Drilling (western part of the property; 1.31 g/t Au over 0.3 m).	Frazer (1986)	GM 45089
1987 to 1988	DeMontigny	Line cutting, ground electromagnetic (H.E.M) and magnetic surveys, geological mapping, drilling.	Gaudreault (1987) Gaudreault (1988)	GM 46103 GM 47861
1988 to 1990	Shiva Ventures	Geophysical surveys and drilling (no significant results).	Beauregard and Gaudreault (1988) Lambert (1988)	GM 48316
1996 to 1998	Murgor / Freewest Resources / Fury	Line cutting, ground mag, induced polarization, prospecting, trenching, drilling, discovery of Debris showing.	Coyle (1996) Coyle (1998) Lavoie (1996c) Feneke (1996)	GM 54544 GM 54545 GM 54546 GM 55971

Year	Company or Individual	Work Completed	Source	Report
1996 to 1998	Alto / Noront	Line cutting, ground mag, geological mapping, induced polarization, prospecting, MaxMin II, drilling discovery of Alto and Ritchot showings.	Farrel (1998) Lavoie (1996a) Lavoie (1996) Tremblay (1999a) Tremblay (1999b) Tremblay (1999c) White (1998) Plante (1997, 1998)	GM 56245 GM 54404 GM 54405 GM 56448 GM 57412 GM 56449 GM 56450 GM 56734
1987 to 1988	Resources DeMontigny Kerr Addison Inc.	Magnetic and electromagnetic surveys, geological mapping, 15 diamond drilling (2,806.8m): ([4.0 g/t Au over 1.8 m (MUR-87-1); 4.1 g/t Au over 0.73 m (MUR-87-6); 41.4 g/t Au over 0.87 m (MUR-87-7); and 8.25 g/t Au over 0.75 m (MUR-87-14)].	Gaudreault (1987) Turcotte (1987) Lambert and Turcotte (1988)	GM 46103 GM 44547 GM 47140
1986 to 1996	Shiva Ventures, Freewest Resources Canada, and Fury Exploration	Diamond drilling on the western part of the property.		
1997	Resources Orient	Drilling (no significant results).	Chainey (1997)	GM 55698
1996 to 1999	Inmet Mining, Alto Minerals, Murgor Resources Inc	Line cutting, IP survey, electromagnetic HEM, VLF and magnetic surveys, Pulse E.M., trenching and geological mapping. Alto drilled 34 diamond drilling (10,003 m): 27.5 g/t Au over 4.3 m. Discovery of the Richtot and Alto gold showings. Murgor drilled 6 DDH (1,095 m) to the northeast of the Windfall Main zone (3.47 g/t Au over 1.9 m and 15.1 g/t Au over 1.2 m).	Bernard (1999a) Bernard (1999b) Lambert (1999) Lavoie (1996a) Plante (1998)	GM 57113 GM 57413 GM 57443 GM 54734 GM 56450
2003 to 2004	Fury	Compilation, line cutting, 26 diamond drilling (7,152 M):85.9 g/t Au over 5.4 m.	Thorsen (2004)	-
2004 to 2006	Murgor Resources Inc	IP survey, Time Domain Electro-Magnetic survey (TDEM), 115 diamond drilling (15,967 m), prospecting, and trenching. Discovery of the F-17, F-51 and F-11 gold zones (16.5 g/t Au over 3.0 m, 21.7 g/t Au over 2.0 m, 16 g/t Au over 7.6 m, 44.5 g/t Au over 2.0m).	Coyle (2005) Gagnon (2005) Gagnon (2006) Lanthier (2004 and 2005) Desrochers (2007)	GM 63038
2005 to 2009	Noront	Trenching, mapping, diamond drilling, underground exploration ramp and drifts (1,202 m).	Armstrong (2006) Armstrong (2007) Chance (2009a)	-
2009	Eagle Hill Exploration	Sampling historical core, trenching, channel sampling, BHPEM, IP survey.	Chance (2009b)	-

Year	Company or Individual	Work Completed	Source	Report
2010	Eagle Hill Exploration	BHPEM, TDEM, IP survey, 33 diamond drilling (12,648 m). Discovery of the Zone 27 and the Underdog zone.	Turcotte (2011)	-
2011	Eagle Hill Exploration	Mineral resource update (November 2011), IP survey, diamond drilling. Discovery of the Caribou zone.	El-Rassi et al., (2011) Armstrong (2011) G&T Metallurgical Services Ltd. (2011) Desrochers (2013)	GM 68042
2012	Eagle Hill Exploration	IP survey, Till survey (49 samples), mineral resource update (March 2012), diamond drilling.	El-Rassi et al. (2012) Lambert (2012) Desrochers (2012) Desrochers (2013)	GM 68042 GM 67183
2013	Eagle Hill Exploration	Diamond drilling, hole-to-hole IP & resistivity, down hole optical and acoustic televiewer, ground magnetometer survey, surface IP survey.	Cheman (2013) Lambert (2014) Desrochers and Blouin (2015)	GM 69122
2014-(2015)	Eagle Hill Exploration	Diamond drilling, IP survey, mineral resource update (March 2014), Preliminary Economic Assessment (April 2015).	Simard (2014) Brown and Cheman (2014) Desrochers and Blouin (2015) El-Rassi et al. (2014) McLaughlin et al. (2015)	GM 69122

“GM” (or gîte minier) = geological assessment report.

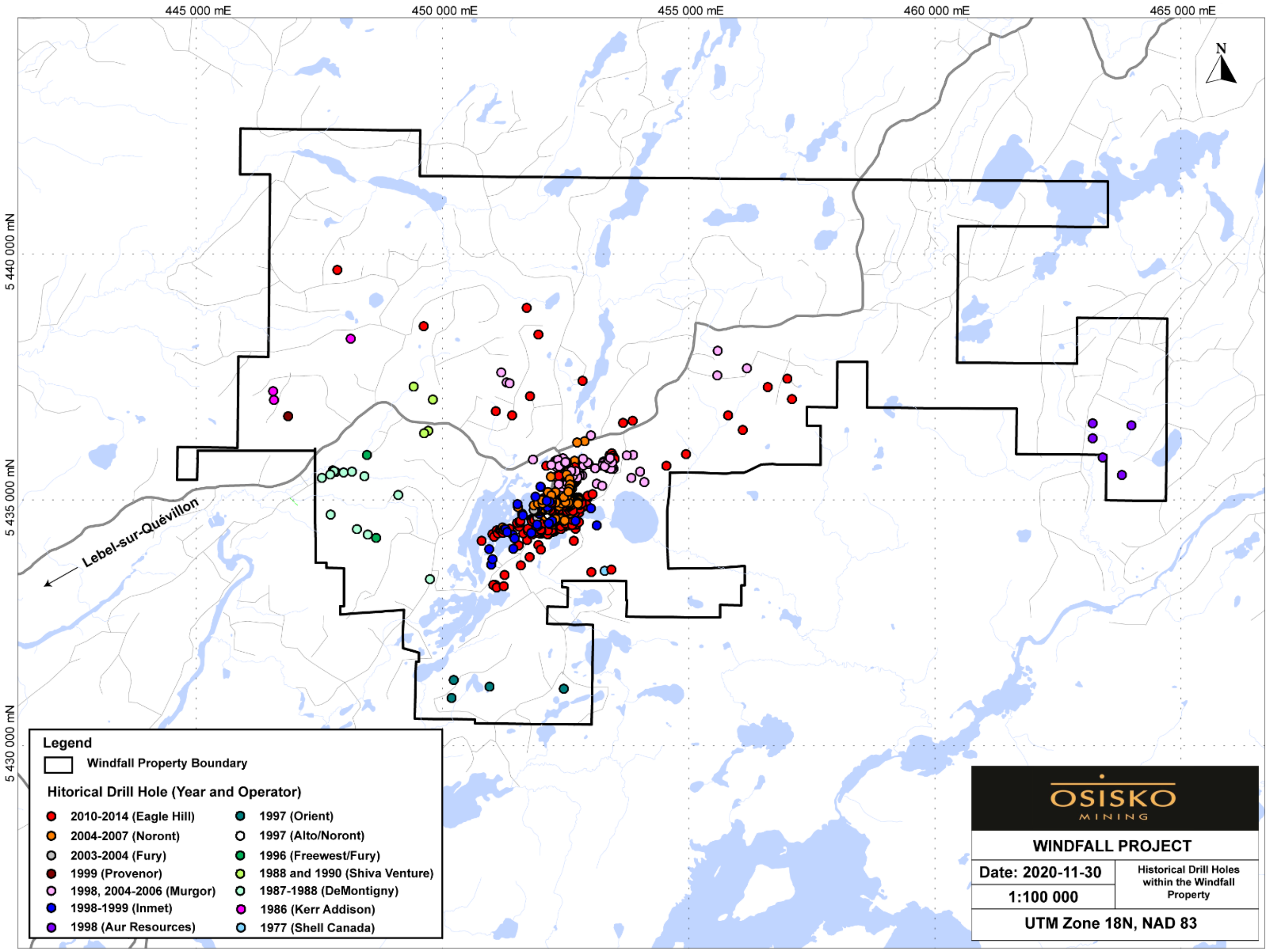


Figure 6-1: Historical drill holes categorized by company within the Windfall property

6.1.2 Mineral Resource Estimates

Between 2011 and April 2015 Eagle Hill Exploration Corporation mandated three NI 43-101-compliant mineral resource estimates from SRK Consulting (Canada) Inc. (El-Rassi et al., 2011; 2012; and 2014). In 2018, Osisko contracted InnovExplo for a new NI 43-101 on the Windfall deposit (St-Laurent et al., 2018). The supporting technical reports are available from SEDAR (sedar.com).

In 2015, Tetra Tech produced a preliminary economic report with an effective date of April 28, 2015, herein also referred to as the PEA, for Eagle Hill Exploration Corporation (McLaughlin et al., 2015) in which SRK reviewed the mineral resource estimate in November 2014. The PEA also proposed mineral processing and metallurgical testing recovery methods and addressed the surface water management, tailings storage and the project’s environmental aspects.

In 2018, BBA Inc. completed a PEA, with an effective date of July 12, 2018, for Osisko (Hardie et al., 2018), which included the Windfall deposit and the Osborne-Bell deposit. The PEA also proposed mineral processing and metallurgical testing recovery methods and addressed the project's tailings, waste, and water management. The 2018 PEA relied on both the 2018 Windfall and Osborne-Bell deposits NI 43-101 reports.

In early 2020, Osisko mandated a NI 43-101 compliant mineral resource estimate from Micon International Ltd (Murahwi and Torrealba, 2020). The QP has not verified the results of these previous estimates, and they are not presented here.

This PEA is based on measured, indicated, and inferred mineral resource estimates completed by Richard et al. (2021) of BBA, described in the NI 43-101 compliant mineral resource estimate report entitled "Mineral Resource Estimate Update for the Windfall Project, Eeyou Istchee James Bay, Québec, Canada" (effective date November 30, 2020) and in Chapter 14 of this report.

The estimates in this technical report supersede all previous mineral resource estimates listed below.

- NI 43-101 Technical Report and Mineral Resource Estimate for the Windfall Project, Windfall and Urban-Barry properties (St-Laurent et al., 2018, effective date May 14, 2018);
- NI 43-101 Technical Report and Mineral Resource Estimate for the Windfall Project, Windfall and Urban-Barry properties (Murahwi and Torrealba, 2020, effective date January 3, 2020).

6.2 Urban-Barry Property (Western, Central, Eastern and Southern Sectors)

6.2.1 Previous Work

The exploration history of the Urban-Barry property outside of the Windfall deposit area is subdivided into four different sectors: West, East, Central and South (Figure 6-2). Most of the exploration work was performed in the Souart, Barry and Urban Townships. The Urban-Barry belt is host to numerous gold deposits/showings that include the Souart (Nubar) (Osisko), Barry (Bonterra Resources, formerly Métanor Resources), Windfall (Osisko), Lac Rouleau (Osisko, formerly Beaufield Resources) and Gladiator (Bonterra Resources) deposits.

The Urban-Barry greenstone belt has been, in recent years, the subject of several regional mapping surveys performed by the Québec government. The entirety of the belt was covered by 1:50,000 scale mapping from 2001 to 2004. The western area was mapped in 2002 (RG200212), the Windfall claims and the Southern portion in 2001 (RG200114) the central and eastern sectors in 2003 (RG200307), and the southeastern limit of the belt in 2004 (RG200402).

Over 300 geological assessment reports (gîte minier or GM) are on file with the Québec government that describes historical exploration work done partly or entirely within the bounds of the current Urban-Barry property. Various companies have conducted prospecting campaigns and secondary environment surveys over the years, but due to the general lack of outcrop, exploration has tended to rely upon geophysics to define targets. Except for the northernmost part, most of the Urban-Barry belt has been covered by airborne surveys. These included MAG, EM, VLF-EM, and more recently, VTEM surveys. A few companies also re-interpreted the INPUT data from government surveys to generate targets. The most extensive airborne surveys on file with the government were carried out by Shell Canada Resources Ltd. in the mid-seventies. Ground geophysics such as IP, MAG, VLF and other EM surveys usually followed.

Table 6-2 summarizes the historical work completed within the Urban-Barry claim boundaries and Figure 6-2 illustrates the drilling activities within the Urban-Barry claim boundaries.

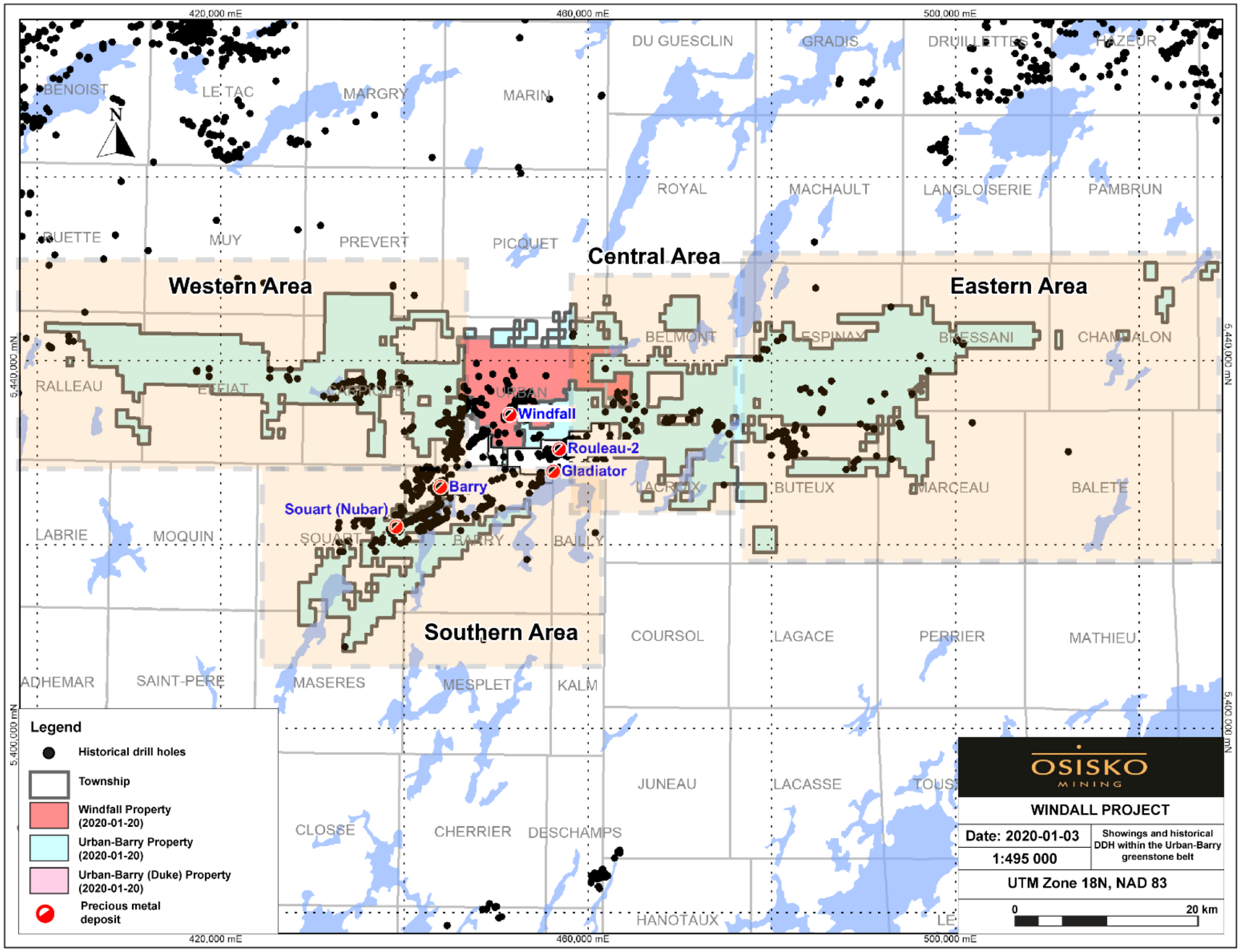


Figure 6-2: Exploration history in the Urban-Barry Greenstone Belt outside of the Windfall deposit area Subdivided into four sectors: Eastern, Southern, Central and Western areas

Table 6-2: Historical exploration work in the Urban-Barry area and significant results

Area	Year	Company or Individual	Work Completed	Report
Western Block	1957	Merrill Island Mining Corp.	13 DDH; Discovery of the Lac Thubière NE gold showing.	GM 05817-B
	1959-1969	Nightlen Mines; Falconbridge	2 DDH (6 km east of Lac Thubière showing). No significant values. Falconbridge drilled 4 holes 2.5 km southwest of the Lac Thubière NE showing and reported minor chalcopyrite and sphalerite.	GM 10409 GM 24493
	1986	Mines Sullivan Inc.	26 DDH to the south and west of Lac Thubière NE showing (grab samples ranged from 1.13 to 9.07 g/t Au on the showing).	GM 45086
	1987-1988	Cambior	6 DDH (1,300 m) – no significant results.	GM 47783
Central Block	1983	Mines Camchib Inc.	6 DDH – no significant results.	GM 41498
	1989	Joint Venture-Beaufield Resources Inc. and Falconbridge Ltd.	Horizontal loop electromagnetic survey (100.2 km); Magnetic survey (114 km); 5 DDH (900 m) to the southwest of Lac Chanceux SW showing. These holes encountered graphite and iron sulphide and returned mostly trace gold values and a few values up to 100 ppb gold in drill hole 104-05	GM 49193
	1997	Kinross Gold and Beaufield	7 DDH (Lac Chanceux Ouest showing returned 1.384 g/t Au over 0.81 m).	GM 56118
	1998	Aur Resources	10 DDH – 1.7 g/t Au over 0.7 m.	GM 57568
	2004	Beaufield Resources	11 DDH southwest of Belmont showing - 11.63g/t Au over 3.73m; 7.65g/t Au over 4.05m).	GM 61527
Eastern Block	1977	Shell Canada Resources Ltd.	25 DDH (2,485 m) – 362 g/t Au over 1.78 cm in a quartz veins in banded pyrrhotite-arsenopyrite-pyrite zone.	GM 38828
	1987-1989	SOQUEM	Diamond drilling and prospecting – A sample in drill hole 87-9 returned 0.55 g/t Au. A grab sample 80 m returned 4.11 g/t Au from a sheared and silicified zone. Resampling of hole 7515-77-16 (Shell,1977) returned 6.5 g/t Au over 1 m. Prospecting (1989) returned 1.08 g/t Au and 1.91% Cu in a shear breccia zone.	GM 48455 GM 46447
Southern block	1950	Roybarn Uranium and Gold Mines Ltd.	Discovery of the Souart (Nubar) deposit following a resistivity survey. Underground development (abandoned in 1951).	GM 00910
	1975-1978	Shell Canada Resources Ltd	Geological mapping, geochemical and geophysical surveys. Discovery of numerous polymetallic showings.	GM 33284 GM 33665
	1985-1988	Oasis Resources Inc.	25 DDH (6,096 m) in 3 mineral zones on their Souart (Nubar) deposit; IP survey.	GM 47768 GM 42923
	1988-1989	Société d'Exploration Minière Dufresnoy Inc.	11 DDH (2,123.9 m) northeast of the Souart (Nubar) deposit (5.15 g/t Au and 28 g/t Ag over 1 m). A total of 28 drill hole intersections had more than 1 g/t Au.	GM 49423

7. GEOLOGICAL SETTING AND MINERALIZATION

This section presents the geological setting and mineralization of the Windfall Project. Further details can be found in the report entitled “Mineral Resource Estimate Update for the Windfall Project” (Richard et al., 2021).

7.1 Regional Geology

The Windfall and Urban-Barry properties are located in the eastern part of the Northern Volcanic Zone (“NVZ”) within the Abitibi Subprovince of the Archean Superior Province (Figure 7-1). The Urban-Barry greenstone belt has an east-west extent of 135 km and is 4 km to 20 km wide. It is bounded to the north by the Father plutonic suite, to the east by the Proterozoic Grenville province, to the south by granitoid and paragneiss rocks of the Barry Complex, and to the west by syn- to late-tectonic granitoid rocks of the Corriveau and Souart Plutons (Figure 7-2).

Rocks of the Urban-Barry greenstone belt are generally metamorphosed to greenschist facies, although near magmatic intrusions and within corridors of intense deformation, conditions locally reached amphibolite assemblages (Joly, 1990). The regional metamorphic temperature-pressure gradient generally increases eastward towards the Grenville Front (Joly, 1990).

7.2 Windfall and Urban-Barry Properties

7.2.1 Local Geology

The Urban-Barry greenstone belt contains mafic to felsic volcanic rock units and sedimentary units that are cross-cut by several east-trending and east-northeast trending shear zones that delineate three major structural domains (Figure 7-2).

The Windfall property is located between the Urban and Barry Deformation Zones. The northeast-trending Mazères and Milner shear zones traverse the property and are truncated to the north by the east-west trending Urban Deformation Zone.

The Urban-Barry belt is informally divided into the Fecteau, Chanceux, Macho, and Urban formations. The Windfall deposit is hosted within the Windfall Member of the Macho formation, which primarily consists of felsic and intermediate volcanic rocks including tuff and lava units of tholeiitic affinity. U-Pb dating of zircon from a felsic volcanic unit of the Windfall member collected roughly 5 km SW of the Windfall property indicates an age of 2,716.9 ±2 Ma (Bandyayera et al., 2002a). Recent U-Pb age dating of the rhyolite unit in the Windfall deposit returned ages of 2705.9 ±2 Ma (Azevedo, unpublished data). In the Windfall deposit area, the stratigraphy trends northeast and dips moderately towards the southeast.

The volcanic rocks are intruded by a series of younger syntectonic quartz-feldspar porphyry (“QFP”) dikes. U-Pb zircon ages from pre- and post-mineralization QFP intrusions were dated at 2698 ±3 Ma and 2697.6 ±0.4 Ma, respectively (Davis 2016, unpublished). The pre- and post-mineralization QFP intrusions at the Windfall deposit bracket the timing of gold mineralization between 2701 to 2697.2 Ma.

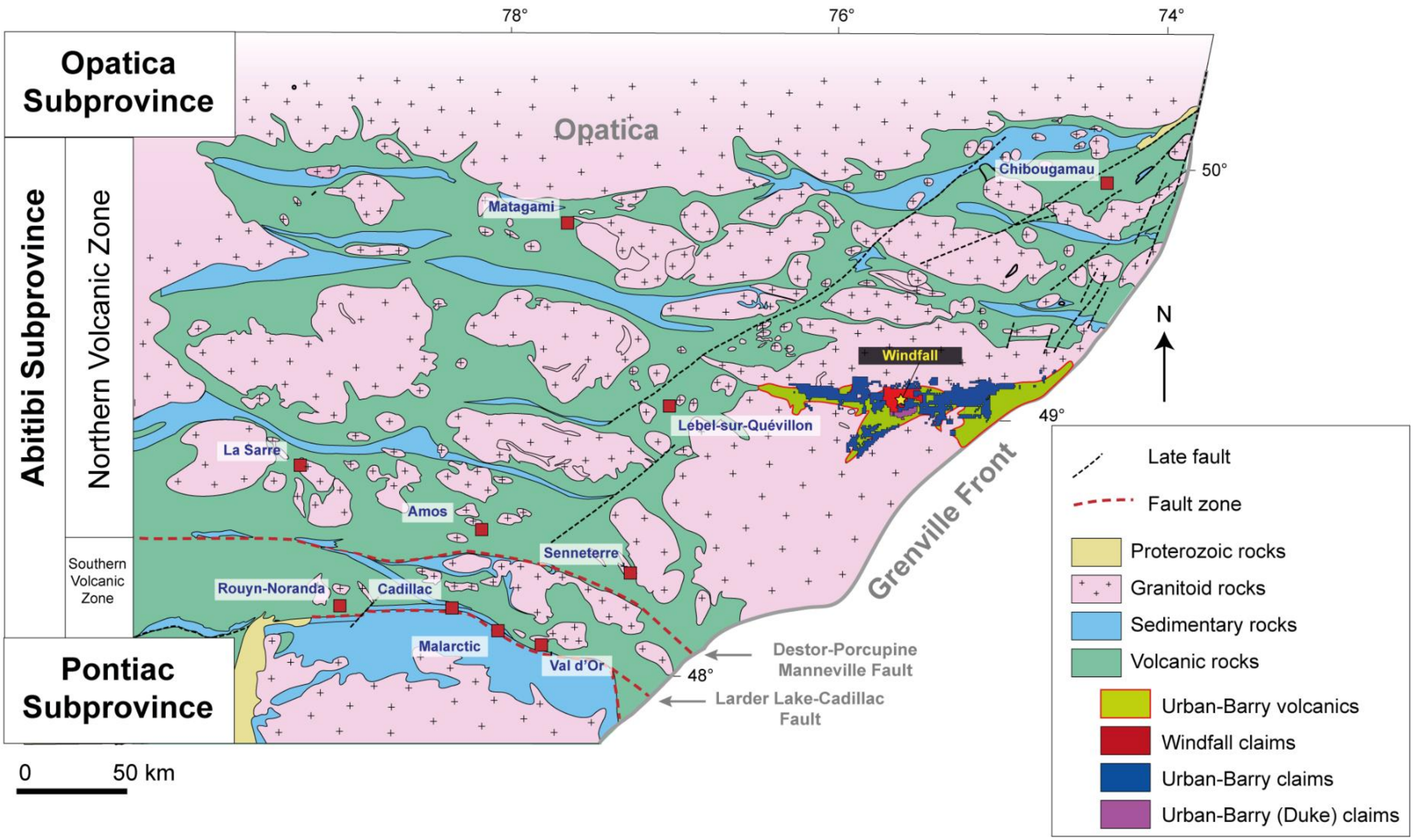


Figure 7-1: Generalized geology of the Archean Abitibi Subprovince and the locations of the Windfall and Urban-Barry properties
The yellow star indicates the location of the Windfall deposit
Modified from Chown et al. (1992), Daigneault et al. (2002) and Daigneault et al. (2004)

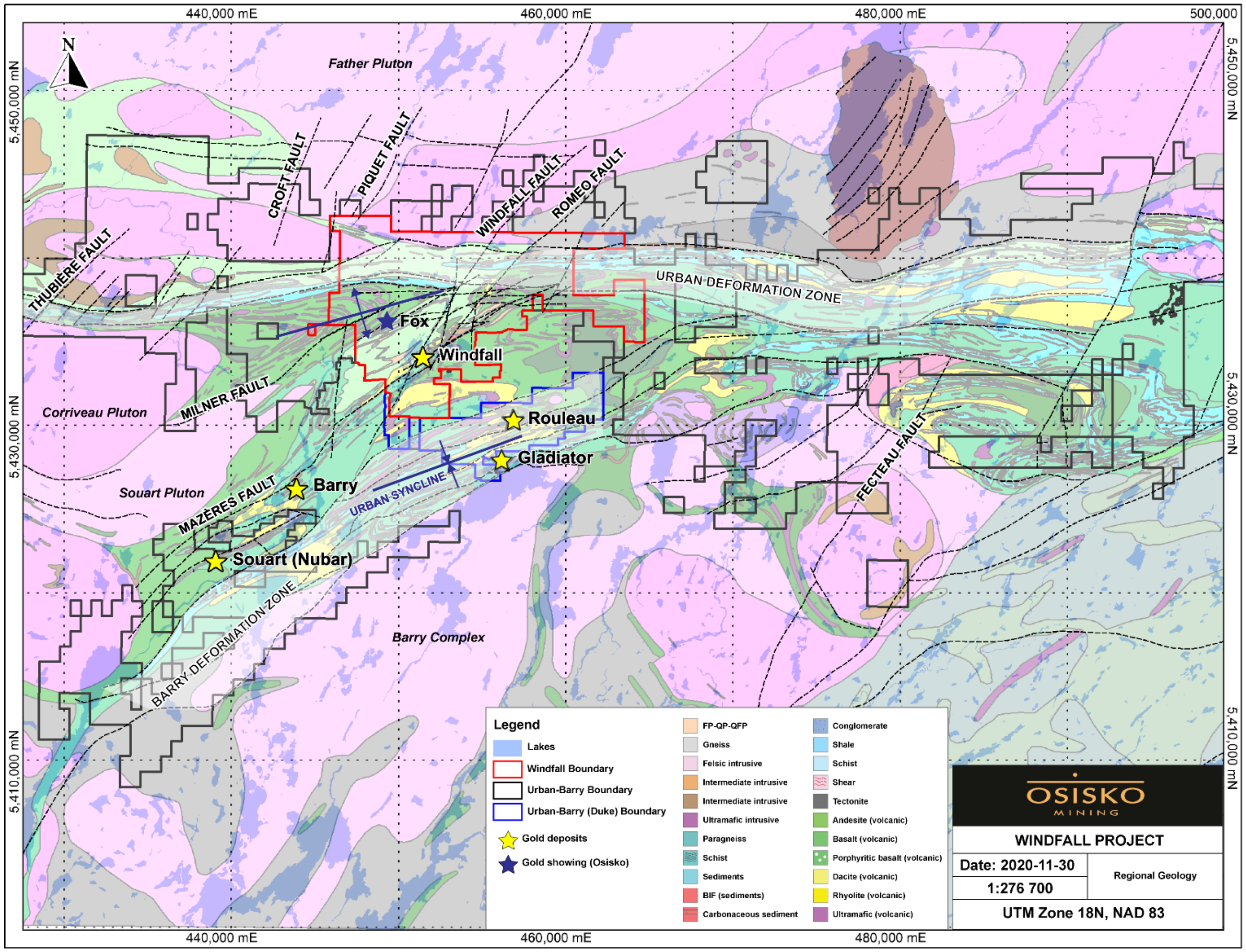


Figure 7-2: Regional geologic setting of the Urban-Barry Greenstone Belt and the location of the Windfall, Urban-Barry and Urban-Barry (Duke) claim boundaries. The yellow stars illustrate the locations of the main gold deposits and the blue star indicates the location of the Fox gold showing. Geology modified after Bandyayera (2002b).

7.2.2 Windfall Property Geology

In the Windfall deposit area, the volcanic stratigraphy strikes north and dips moderately towards the east. The bimodal volcanic rocks are intruded at high angles by a series of calc-alkaline quartz-feldspar porphyry dikes and sills, commonly referred to as QFP dikes. Five texturally distinct QFP dikes are observed to cross-cut the volcanic strata at high angles. The QFP dikes are all of granodiorite composition. The dikes are divided into three main groups based on several criteria: texture, colour, size and abundance of quartz phenocrysts, orientation and timing with respect to deformation and mineralization. From youngest to oldest, these groups are: 1) syn-deformation fragmental and small quartz eye QFPs; 2) syn-deformation large quartz eye QFPs; and 3) post-mineral hematite altered QFPs.

The syn-deformation QFPs are dominantly sub-vertical and plunge 35° east-northeast. They are overprinted by gold mineralization and associated hydrothermal alteration. The post-mineral QFPs strike north and dip 35° towards the east-northeast. The post-mineral intrusions cross-cut gold mineralization and the syn-deformation intrusions as observed in outcrop exposures and drill core.

All dikes and volcanic rocks are affected by the regional foliation. The intensity of the foliation and the overall strain vary greatly within individual rock units and the alteration and mineralization can locally be overprinted by foliation.

7.2.3 Alteration

The nature, distribution and intensity of the alteration are controlled mainly by the composition of the original rock type and its proximity to gold-mineralized zones. Several alteration assemblages are visible throughout the Windfall deposit and mainly include sericite, silica, chlorite, ankerite, fuchsite, and locally biotite alteration at greater depth. Typically, the gold-proximal alteration haloes consist of sericite and silica (± ankerite) associated with strong sulphidation (mainly pyrite) of the immediate vein selvages. In contrast, hydrothermal alteration more distal to gold mineralization consists primarily of chlorite-carbonate with lesser biotite at depth in the deposit. These alteration haloes are observed in all rock types of the deposit. Fuchsite alteration is commonly observed in proximity to mafic-ultramafic sills. Visual alteration types observed in drill core are illustrated in Figure 7-3.

Figure 7-3: Visual alteration assemblages observed in drill core at the Windfall deposit

7.3 Structural Geology

Major and minor structures are observed to cross-cut the Windfall property as identified by observations made in drill core, underground exposures, and surface trenches. They are interpreted from major and minor lineaments in both ground and airborne geophysics (magnetic, gradient EM and IP-resistivity surveys). Extensive drilling and subsequent core logging and mapping have identified the most significant structures that cross-cut the property and a robust database of oriented structural measurements from drill core (n = 165,000) and lithogeochemistry (n = 23,009) help to interpret the structural features observed.

Three deformation events are observed to have affected the rocks of the Windfall deposit and are simply denoted as D1-D3. These include: 1) early folding (D1); 2) north to east-northeast trending faults, shear zones and tectonic fabric (D2); and 3) late north-trending brittle faulting (D3). It is important to note that the deformation sequence noted here is restricted within the Windfall deposit boundaries and is not interpreted within a regional deformation sequence context.

The D1 deformation only affects the volcanic sequence and is characterized by regional-scale open to tight folds with axial planes that trend east-northeast and plunge roughly 35 to 40°. As of yet, layer-parallel fabric associated with this folding event has not been documented. The fold forms an open synform at the Windfall deposit that plunges 35° towards the east-northeast.

The D2 deformation event can be subdivided into: 1) pre- to syn-mineral structures; and 2) post-mineral structures. The pre- to syn-mineral structures occur as a series of conjugate subvertical to moderately dipping faults, shears, high-strain zones, and as a penetrative tectonic fabric. These deformation zones are commonly located in areas of rheological anisotropies that are often associated with the contacts of sub-vertical syn-deformation QFP intrusions and the deformed host volcanic rocks. Three dominant orientations for these pre- to syn-mineral structures are observed: 1) north-striking dipping 30-50° east; 2) east-northeast-striking dipping 70-80° southeast and locally overturned; and 3) west-striking dipping 70-80° north. These pre- to syn-mineral structures are interpreted to have controlled the protracted injection of calc-alkaline felsic magmatism and controlled the emplacement of gold mineralization. Within these deformation zones, high-grade gold veins and replacement intervals form a series of stacked arrays that mimics a Riedel shear-fracture system (Cloutier and Cloos, 1928; Riedel 1929; Katz et al., 2004). Locally the orientations can vary slightly depending on the area within the deposit and the distance to the post-mineral Bank deformation zone. They are also observed to cross-cut the axis and limbs of earlier D1 folds (El-Rassi et al., 2014).

The post-mineral D2 structures are associated with the Bank fault, which is interpreted as a 100-200 m wide corridor of intense deformation expressed as a reverse sinistral fault-shear zone with an unmeasured distance of displacement but is interpreted to be >1 km. The Bank fault cross-cuts and deforms the rocks of the Windfall deposit. The footwall of this structure is host to the Windfall deposit, whereas the hanging wall is characterized by strongly deformed and gold-barren mafic volcanic rocks. The volcanic and QFP dike rocks, the early tectonic fabric, and the gold mineralized vein system are observed to parallel this structure as they approach it. Within 50 m of the immediate footwall of this structure in the Lynx area, the rocks and the mineralized vein system parallel this structure and form a normal drag folding.

The D3 deformation is defined by late brittle faults that overprint all lithologies, shear zones and gold mineralization. These late brittle structures are observed in drill core and underground exposures and are characterized by zones of broken core, fault gouge and cohesive fault breccias. These faults are steep to moderate dipping structures that strike north-northeast (Figure 7-4). The Windfall fault, the Romeo faults, and the Northern fault are part of the D3 fault system and easily visible by magnetic discontinuities observed in airborne geophysics surveys.

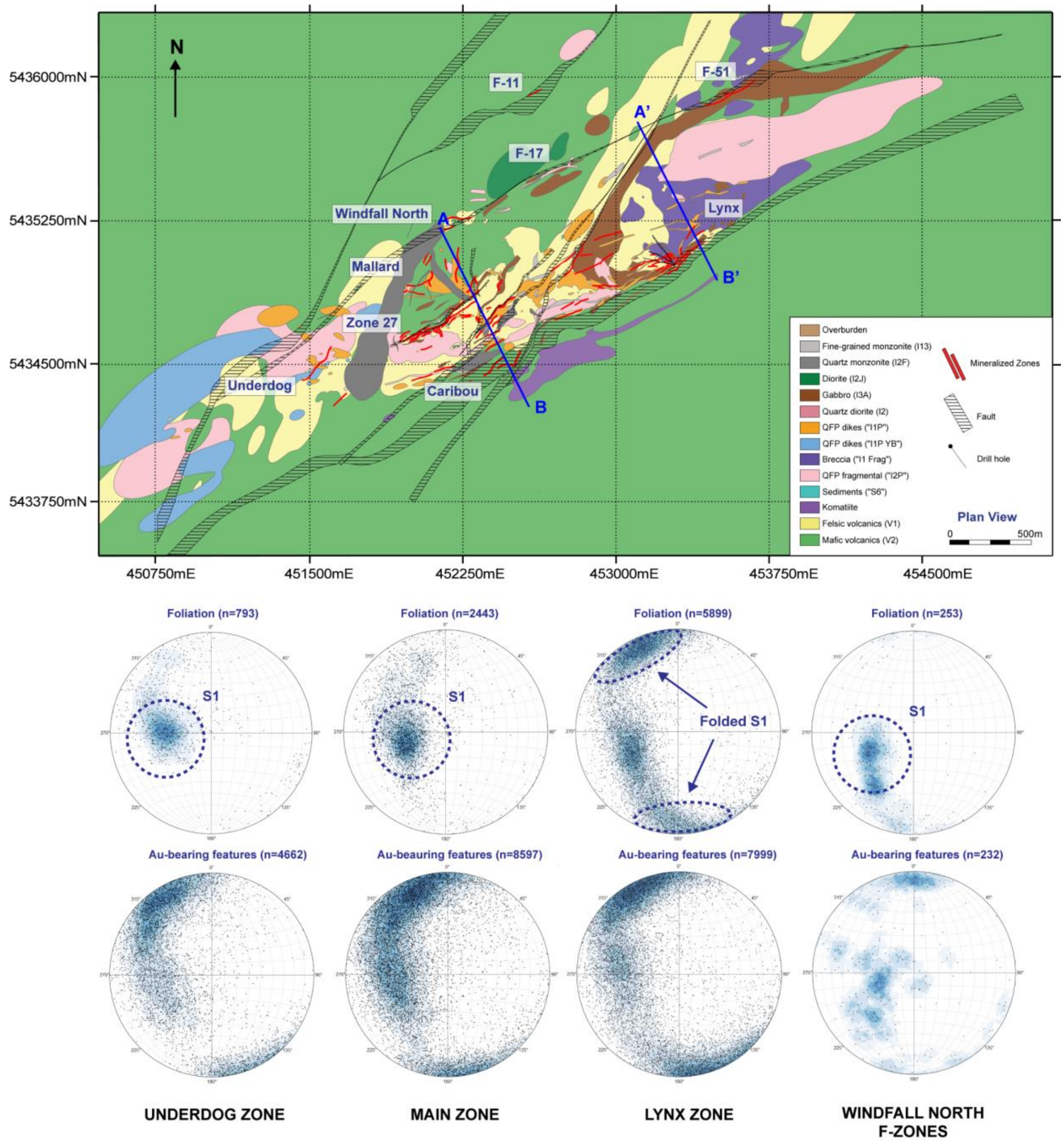


Figure 7-4: Interpreted surface geology of the Windfall gold deposit with logged mineralized zones and lithologies (elevation 235mZ)

The red polygons illustrate the location of mineralized zones. Stereonet projections of the measured schistosity and gold-bearing features from oriented drill core structural measurements within individual mineralized zones show that the mineralization is hosted within sigmoidal-shape features - typical of Riedel-type structures. Refer to Figure 7-9 and Figure 7-10 for vertical cross-sections (A'- B' Lynx zone) and (A - B Main zone), respectively.

7.4 Mineralization Styles and Relative Timing

Gold mineralization in the Windfall deposit is observed in two main settings and include: 1) vein-type mineralization; and 2) replacement-type mineralization.

Vein-type mineralization consists of grey to translucent coloured quartz veins that contain subordinate amounts of ankerite, tourmaline, pyrite and commonly visible gold (Figure 7-5a). The veins have sharp contact margins that are straight or folded. Texturally these veins are massive, but locally can form laminated textures characteristic of fault-fill veins (Robert and Poulsen, 2001). The veins vary in thickness from 0.1 m to 1 m and are generally associated with the highest gold grades ranging on average from 20 g/t to >100 g/t. In the veins, sulphide content ranges from 1% to 80% and is dominated by pyrite with minor concentrations (<1% total sulphide) of chalcopyrite, sphalerite, arsenopyrite, galena, pyrrhotite, tennantite and other Bi-Te minerals, as identified by internal petrographic and microanalytical analyses. This mineralization style is commonly observed to occur in felsic volcanic dominated domains of the deposit (i.e., Caribou and Lynx).

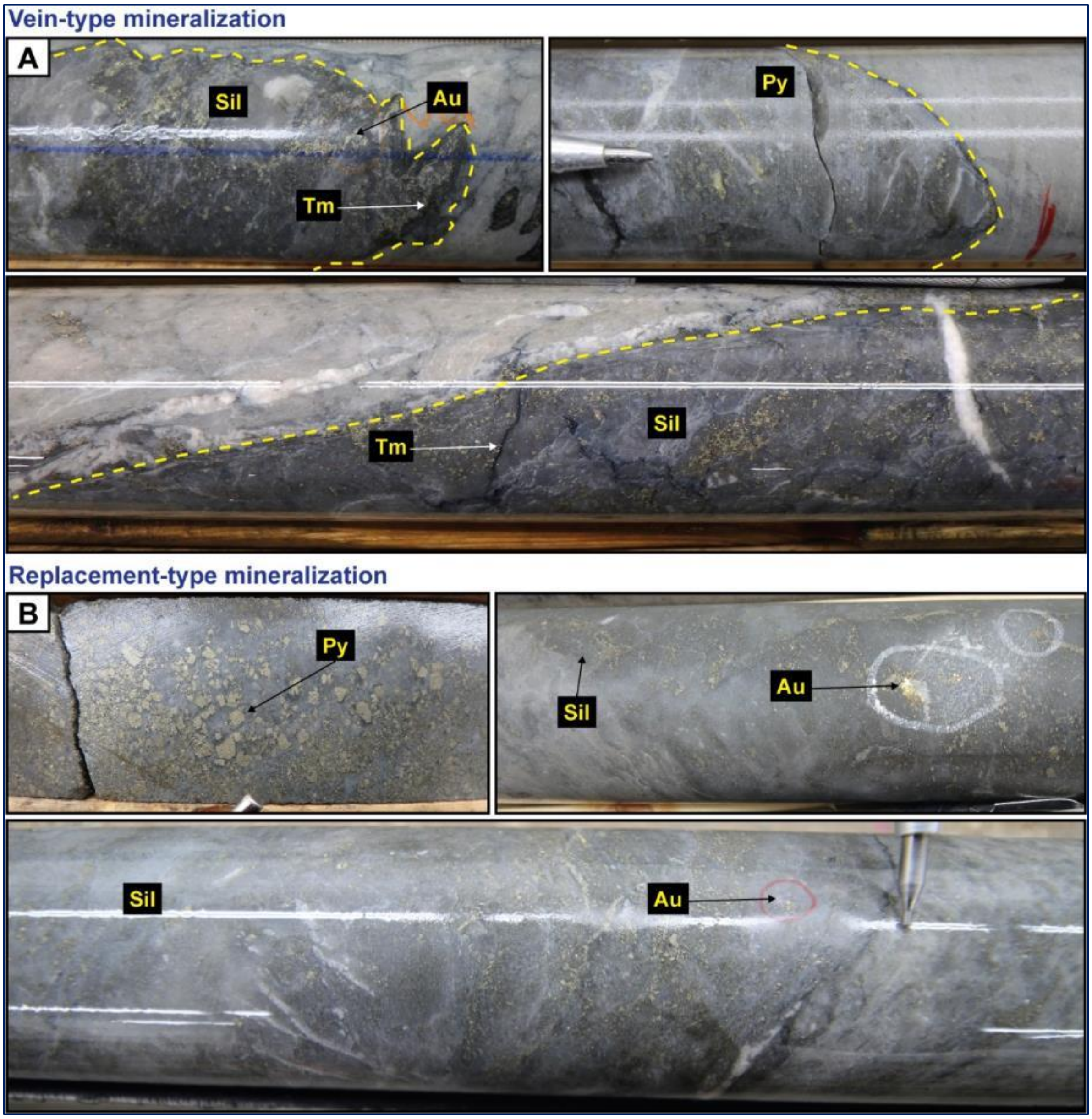


Figure 7-5: Main types of mineralization observed at the Windfall deposit
A) Examples of vein-type mineralization; and B) Examples of replacement-type mineralization

Replacement-type mineralization occurs at the margins of vein-type mineralization or in high strain zones that lack the development of quartz veins. This mineralization style consists of pyrite replacement zones and stockworks associated with a strong pervasive silica-sericite-ankerite ± tourmaline alteration of the host rock (Figure 7-5b). The gangue and precious-metals are identical to those mentioned above in the vein-type mineralization. The gold is associated with disseminated pyrite, which varies from 1 to 80% over mineralized intervals. This mineralization style is commonly observed to occur in the mafic volcanic dominated domains of the deposit (i.e., Main zone).

Visible gold mineralization is commonly observed in the Windfall deposit (Figure 7-6). In drill core, the gold ranges from millimetre-sized nuggets to locally centimetre-sized patches commonly associated with post-vein formation fractures containing cloudy white quartz-carbonate. The late overprint of visible gold suggests late-stage remobilization.

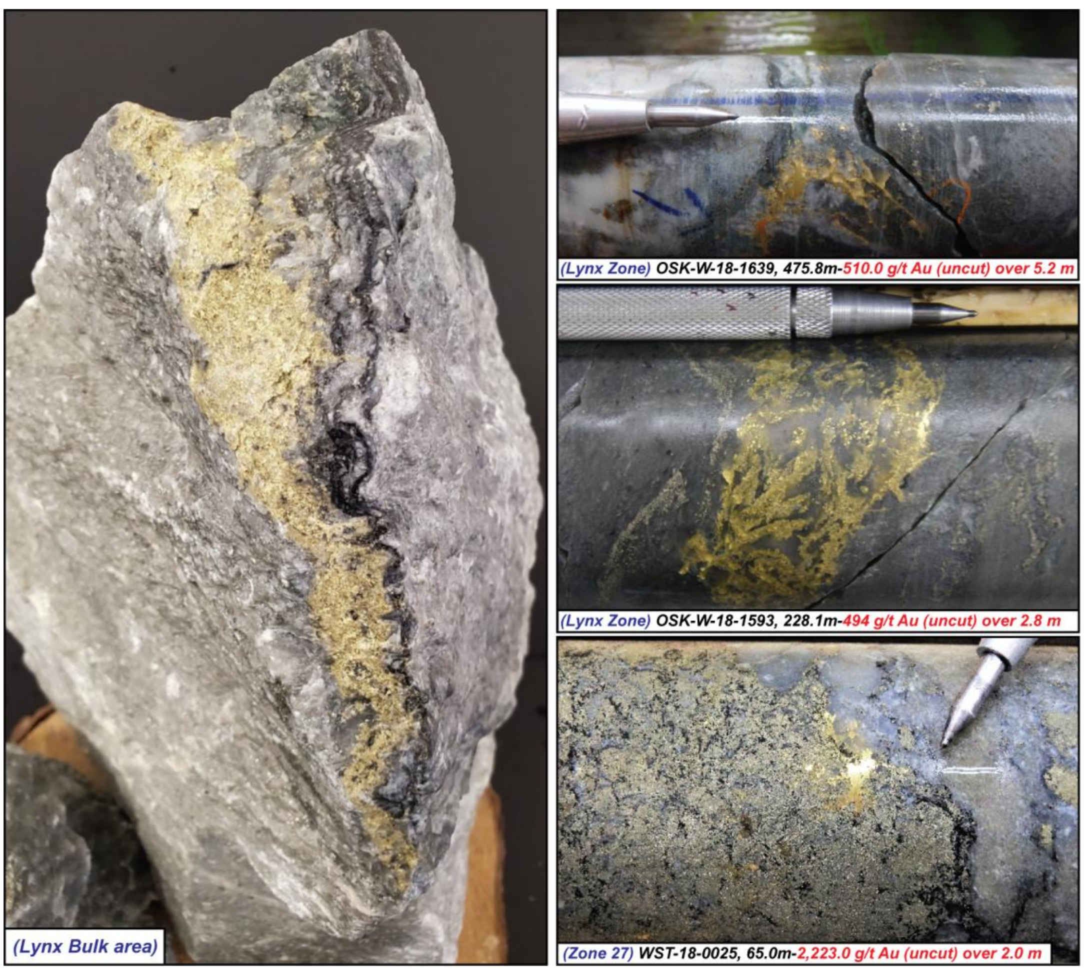


Figure 7-6: Representative images of visible gold observed in vein-type mineralization at the Windfall deposit

Other than the auriferous vein-type and replacement-type mineralization noted above, less significant vein-types include: 1) early gold-barren carbonate-quartz veins with colloform textures (pre-ore); 2) gold-barren sheeted blue quartz veins (pre-ore); 3) laminated-quartz-carbonate-tourmaline veins and tourmaline breccias (post-ore); 4) carbonate-quartz stockworks and breccias cross-cutting mineralized zones and remobilizing gold (post-ore); and 5) late white quartz veins with coarse pyrite and remobilized gold (post-ore).

The relative timing of gold mineralization is well constrained between the syn-deformation and post-mineral QFP intrusions and is interpreted as relatively synchronous with D2 deformation. Locally, foliated, altered and weakly mineralized fragments are observed in the early I2P and I1Frag intrusions. These observations suggest that gold mineralization possibly partly preceded the intrusion of syn-deformation dikes and was terminated before the emplacement of the Red Dog.

7.5 Mineralized Zones

At the Windfall deposit, the high-grade gold mineralization is contained within narrow deformation zones that cross-cut the synvolcanic rocks and syn-deformation QFP intrusions and are locally spatially associated with the contacts of the latter. Mineralization consists of vein-type quartz-carbonate-pyrite-tourmaline-gold veins, or replacement-type pyrite-rich corridors that are zoned from a high-grade inner gold-silica > silica-carbonate-tourmaline mineral assemblage to an outward low-grade gold-sericite > sericite-carbonate-tourmaline assemblage, which in turn transitions to a background of gold-barren chlorite-carbonate > sericite.

The mineralization is currently known for a lateral extent of 3,000 m and a confident vertical extent of approximately 1,600 m. It is separated into four sectors: the Lynx zone (Lynx Main, Lynx HW, Lynx SW, Triple Lynx and Lynx 4), the Main zone (Zone 27, Caribou 1, Caribou 2, Caribou Extension, Bobcat, Mallard, Windfall North, F-Zones), the Underdog zone, and the Triple 8 zone (Figure 7-7). Current drilling is testing the extensions of many of these zones, mainly in the Lynx zone. All zones generally trend east-northeast and plunge roughly 35° to 40°. A brief description of the mineral zones and their location in the deposit is presented below.

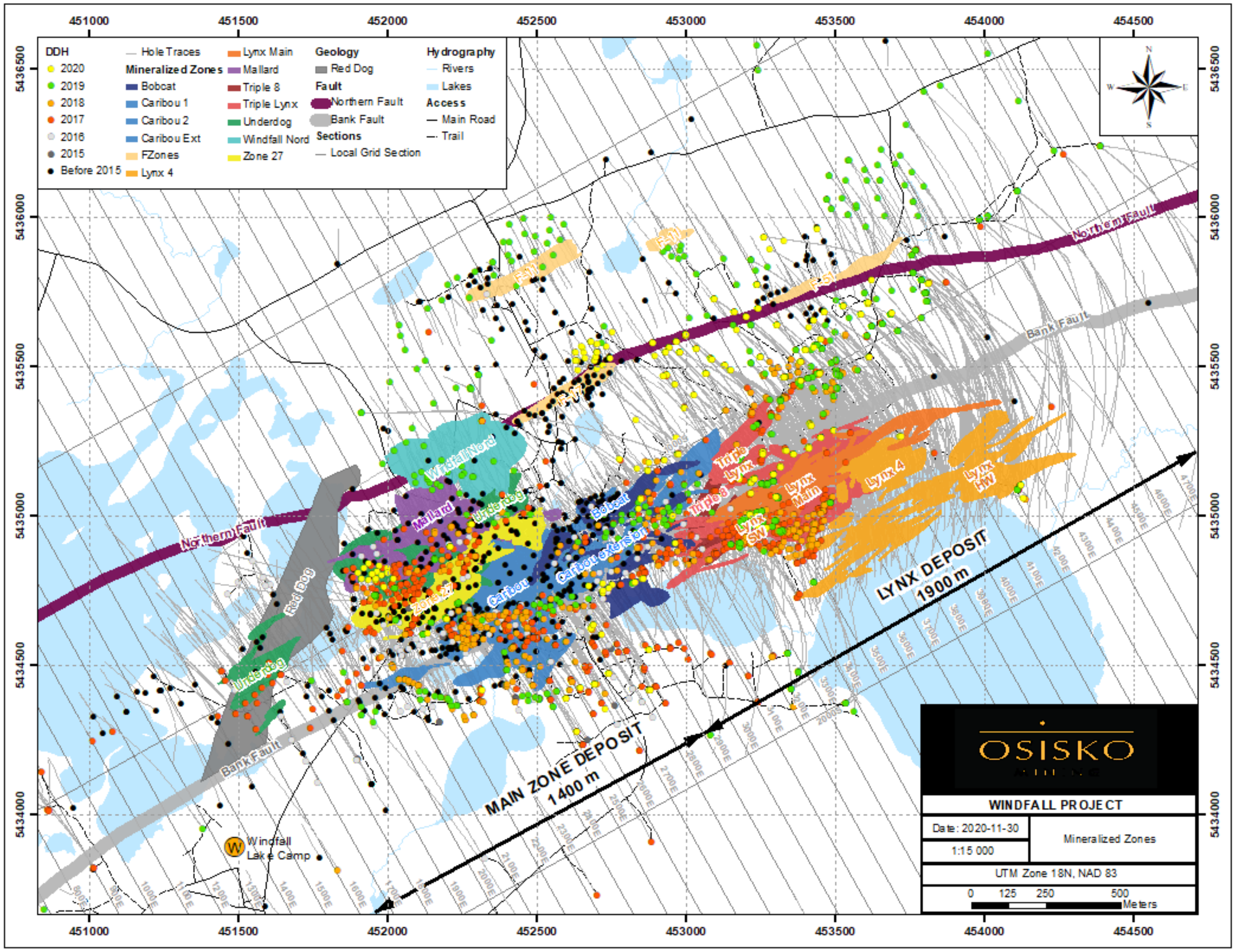


Figure 7-7: Surface projection of the mineralized zones of the Windfall deposit and the locations of drill holes (Osisko) grouped by year The dark grey polygon illustrates the surface projection of the post-mineral Red Dog QFP intrusion.

The Lynx zone consists of five gold mineralized zones located in the east-northeast portion of the deposit (Figure 7-7 and Figure 7-8). Most of the Lynx mineralization zones form an extensive anastomosed network of quartz-rich and pyrite-rich veins hosted within strongly silicified felsic volcanic rocks or gabbros. This system is located on the southern limb of an open fold plunging at 40º towards the east-northeast along the Bank fault-shear zone. It also coincides with the global plunge of most of mineralized zones at Windfall. The Lynx Main, Lynx HW, Lynx SW and Lynx 4 zones are closest to the Bank fault and are locally influenced by the latter. In contrast, the Triple Lynx zone is located roughly 200 m to 300 m lateral distance from this structure and occurs beneath a thick gabbroic sill (e.g., Figure 7-9).

The Main zone consists of five gold mineralized zones located in the central portion of the deposit (Figure 7-7 and Figure 7-8). The gold mineralization is constrained along east-northeast oriented contacts of narrow subvertical granodioritic dikes within tilted volcanic rocks. Most mineralized envelopes in the Main zone are associated with pyritic stringers occurring near contacts between volcanic rocks and younger intrusive rocks. Generally, the gold mineralization is hosted in a mafic dominant domain (i.e., basalt and andesite) with lesser syn-deformation QFP intrusions and mafic intrusions (Figure 7-10). In contrast, the Caribou zone is partly hosted in felsic volcanics. The Main zone terminates at the upper contact of the thick post-mineral Red Dog QFP intrusion.

The Underdog zone is located in the southwestern portion of the deposit (Figure 7-7 and Figure 7-8) and is separated from the Main zone by the post-mineral Red Dog QFP intrusion. The gold mineralization is hosted in a syn-deformation QFP dominant domain (i.e., I2P, I1P QFP dikes) with minor mafic and felsic volcanic rocks (Figure 7-10). The mineralization in the Underdog zone is composed of disseminated to semi-massive pyrite intervals associated with strong silica and sericite alteration, generally following main intrusive contacts and/or deformation zones. The top of this deeper mineral zone starts at around 600 m depth and continues to depths of roughly 1,600 m where it is still open at depth and down-plunge. The Triple 8 zone is located 660 m east from the closest mineralized intercept in the Underdog zone (Figure 7-8).

The F-Zones are located in the northern portion of the deposit (Figure 7-7). Gold mineralization in the F-17, F-11 and F-51 zones differs from that of the Main and Lynx zones. The F-Zones trend to the northeast, subparallel to the Main zone, but dip steeply to the north. F-17 and F-51 are aligned along the same trend but separated by approximately 800 m. The zones are interpreted to be associated to the Northern fault, and the mineralization is typical of shear-hosted replacement-type mineralization. Mineralization continuity between the two zones cannot be established from the current drilling data. F-11 lies in a similar structural context but is located 500 m to the northwest.

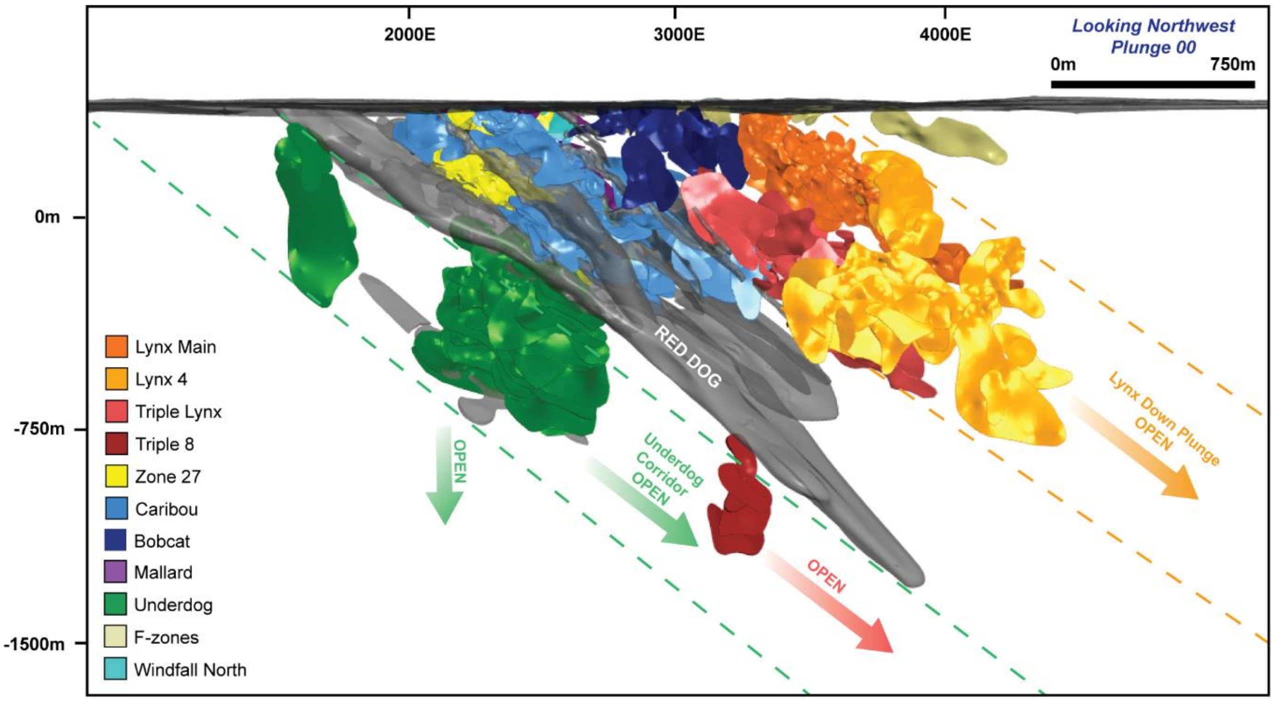


Figure 7-8: Leapfrog 3D modelling longitudinal section (looking northwest) Illustrating the geometry of the mineralized zones plunging 35° to the northeast
Exploration is open at depths for all zones.

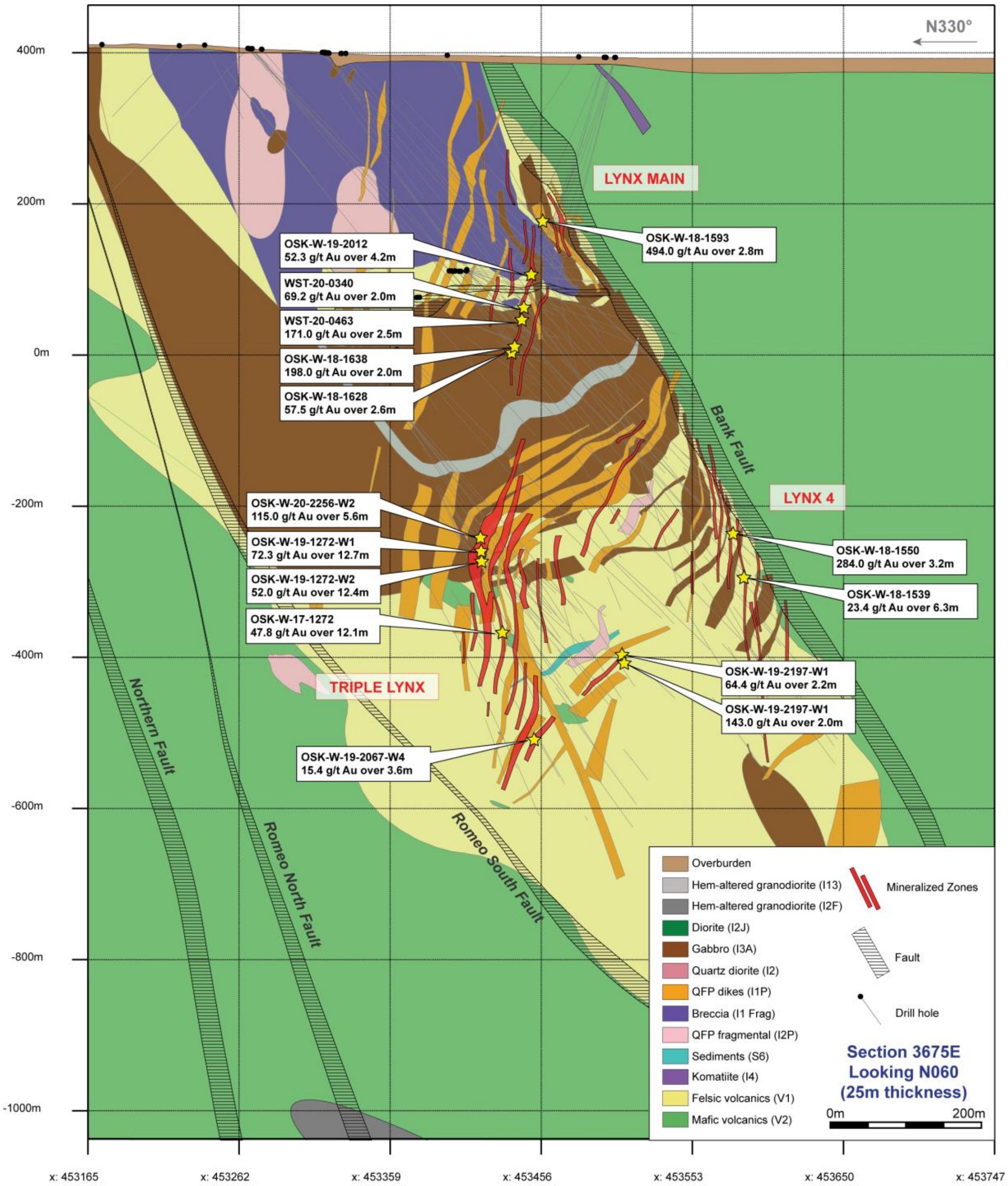


Figure 7-9: Simplified northwest-southeast vertical cross-section of the geology of the Lynx zone of the Windfall deposit
Along grid line 3675E (A'-B' in Figure 7-4), showing the spatial setting and geometry of mineralized zones shown in red (Lynx Main, Lynx 4 and Triple Lynx).

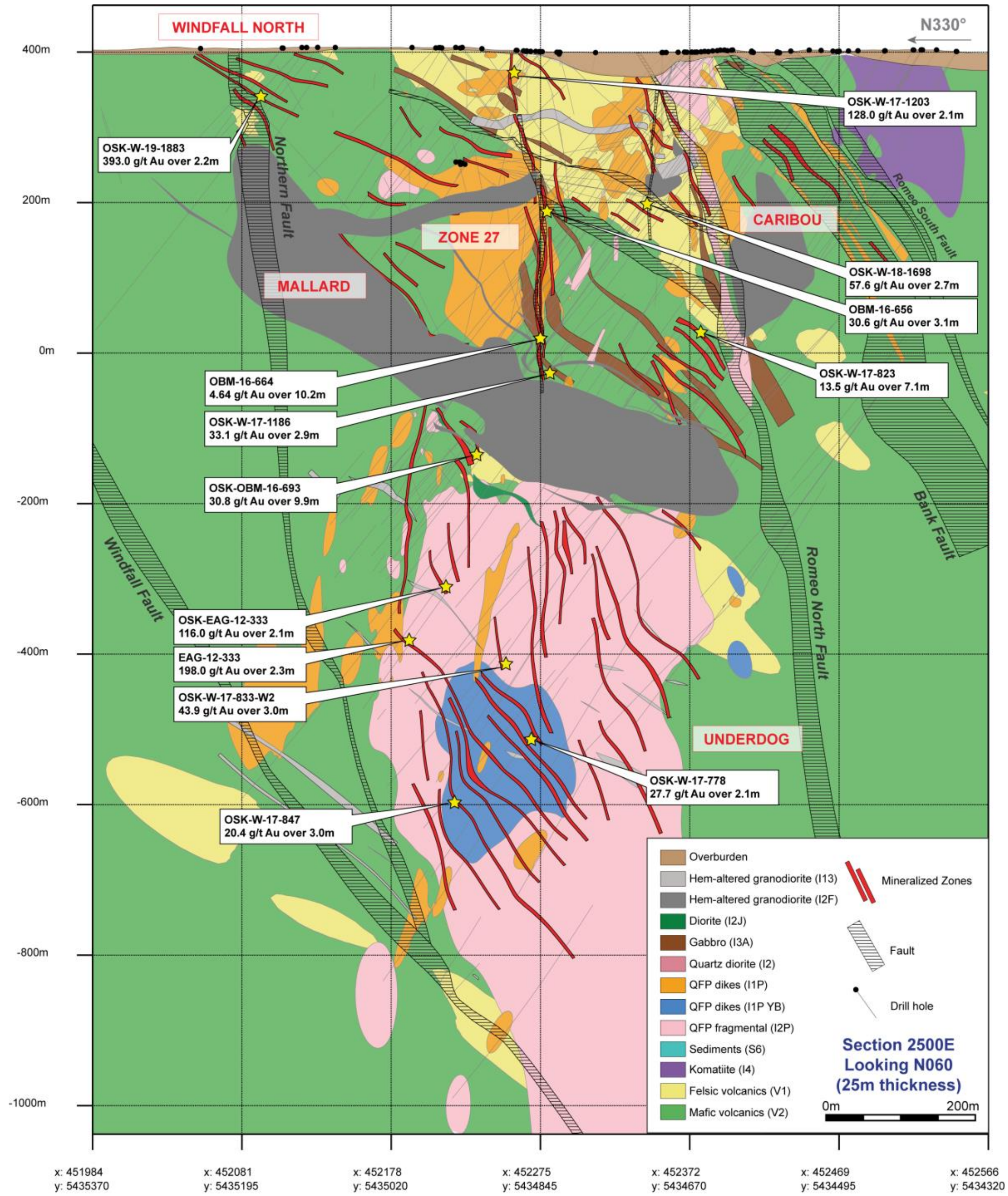


Figure 7-10: Simplified northwest-southeast vertical cross-section of the geology of the Main zone of the Windfall deposit along grid line 2500E (A-B in Figure 7-4), showing the spatial setting and geometry of mineralized zones shown in red (Zone 27, Caribou, Underdog, Mallard and Windfall North).

8. DEPOSIT TYPES

8.1 Windfall Property

The Windfall deposit is characterized as an atypical orogenic gold deposit due to the presence of unique mineralogical assemblages and the temporal and spatial association of gold with intrusive phases (see Chapter 7). Gold mineralization is hosted in: 1) D2 deformation zones that are concentrated in areas of contrasting competencies defined by lithological variations; 2) along geometrical boundaries between flat-lying lithological boundaries and steep gold-bearing structures; and 3) along strong chemical boundaries between ultramafic and felsic rock types. The structural style is variable (i.e. brittle or ductile) and is largely dependent on host rock composition (rhyolite-andesite-gabbro-QFP).

Mineralization consists of a network of quartz-carbonate-pyrite-tourmaline veins and an associated silica-sericite-pyrite alteration assemblage. The mineralization and alteration have strike lengths of >2 km that show, as of yet, no recognized vertical zoning. Gold mineralization is only locally spatially associated with calc-alkaline QFP dikes but shows no genetic association with them. The QFP intrusions were emplaced mainly as a product of tectonism and deformation and act only as competent host rocks that concentrate deformation and gold-bearing hydrothermal fluids.

This model significantly improved the targeting potential of new mineralized zones at the deposit scale and contributed to expanding known mineralized zones. Orogenic gold deposits are defined in the following section.

8.1.1 Orogenic Gold Deposits

The term ‘orogenic gold deposits’ has been used to include all gold-rich deposits, of Precambrian to Phanerozoic age, that have formed from mid- to lower-crustal metamorphic fluids during the late stages of an orogenic cycle (Kerrich and Cassidy, 1994; Groves et al., 1998; Goldfarb et al., 2001, 2005).

These deposits form along convergent margins during the late stages of terrane accretion and mainly develop between major lithological boundaries or strained zones. Greenstone-hosted orogenic gold deposits typically form along first-order crustal-scale fault zones (e.g., Larder Lake-Cadillac Fault Zone). The fault zones act as hydrothermal conduits for channelling deep-seated Au-transporting metamorphic fluids to higher crustal-level depths. Although these first-order fault zones are interpreted as the main loci for hydrothermal fluid channelling, most gold deposits are hosted in second- and third-order faults through seismic pumping and variations in temperature, pH and other physico-chemical processes. This process is known as the continuum model and allows for gold deposits to form up to a depth of 15 km (e.g., Colvine, 1989; Groves, 1993; Gebre-Mariam et al., 1995; Groves et al., 1998).

Orogenic deposits are formed over an extensive time period spanning from the Precambrian to the present (Groves et al., 2005). Most Archean deposits are hosted in deformed volcanic rock-dominated sequences, commonly known as greenstones, that also include subvolcanic intrusions, upper-crustal scale felsic porphyry intrusions, lamprophyre dikes, and lesser clastic sedimentary rock sequences. Archean Gold deposits also occur in lower-amphibolite facies rocks (e.g. deposits in the Yilgarn craton of Western Australia) and in banded Iron Formation ("BIF")-hosted deposits (e.g. Musselwhite, Ontario). In contrast, orogenic gold deposits in the Phanerozoic are commonly hosted in clastic sedimentary sequences, although some are also hosted in volcanic sequences (Goldfarb and Groves, 2015).

One of the main features of orogenic gold deposits is that the mineralization develop syn-kinematically with the main deformation event and are usually controlled by faults, shear zones, or folds. The ore forms during peak greenschist facies or syn-peak amphibolite facies metamorphism. Orogenic gold deposits also have a distinct mineral assemblage consisting of Au-Ag ± As ± B ± Bi ± Sb ± Te ±W and low base metal concentrations. Metal zoning in these deposits is subtle to absent; however, the alteration assemblages are strong and laterally distinct. Wall-rock alteration mainly involves the addition of K, S, CO_2, H_2O, Si, As, Sb, Bi, Te and Au, with variable additions of Na and Ca (Ridley et al., 2000).

The nature and source of the mineralizing fluids are still disputed today as these deposits generally form at depths of up to 15 km and the long fluid flow paths alter the isotopic and fluid inclusion compositions. According to Goldfarb and Groves (2015), a metamorphic fluid can explain most of the characteristics of orogenic gold deposits, including the generation of the low-salinity H-C-O-S-N hydrothermal fluids and the presence of gold as a product of the devolatilization associated with the transition between greenschist to amphibolite metamorphism (Powell et al., 1991; Tomkins, 2010). Some argue that the melting of gold-rich protoliths such as the host metavolcanics rocks, and/or the metasedimentary rocks, may be the source of the gold-rich metamorphic fluids (Phillips and Powell 2010; Large et al., 2011).

9. EXPLORATION

Table 9-1 below briefly summarizes the exploration work completed by Osisko on the Windfall and Urban-Barry properties from April 28, 2015 (the day following the effective date of the Preliminary Economic Assessment report from Tetra Tech in 2015 (McLaughlin et al., 2015)) to November 30, 2020. Detailed exploration work descriptions can be found in the report entitled “Mineral Resource Estimate Update for the Windfall Project” (Richard et al., 2021). Drilling campaigns during that period are covered under Chapter 10.

Table 9-1: Summary of exploration work performed at the Windfall deposit and the Urban-Barry property

Year	Type	Survey	Area	Company	Amount	Reference
2015	Geochemistry	Till survey	Urban-Barry belt and Windfall deposit	Osisko Exploration James Bay (Osisko Gold Royalties Ltd.)	777 samples (fine fractions, gold grain counts and heavy mineral concentrate analysis)	Gaumond and Trépanier (2015)
2016	Geophysics	Airborne electromagnetic and magnetic survey	Urban-Barry belt	SkyTEM Canada Inc.	9,277 km (200 m spacing)	SkyTEM Canada Inc. (2016)
	Geophysics	Airborne magnetic survey	Urban-Barry belt	Geotech Ltd.	35,240 km (50-100 m spacing)	Geotech Ltd. (2016)
	Geochemistry	Till survey	Windfall deposit	Osisko Exploration James Bay (Osisko)	28 samples (fine-fractions) and 19 samples grain counts and heavy mineral concentrate	Gaumond et al. (2016)
	Exploration	Prospecting	Windfall area/ Urban-Barry belt	Osisko Mining Inc.	6 weeks	Sproule and Tuscherer (2016)
	Geophysics	Ground IP survey OreVision®	Project Urban-Barry Canton Buteaux	Abitibi Géophysique Inc.	35.9 km (200 m spacing)	Abitibi Géophysique Inc. (2017b)

Year	Type	Survey	Area	Company	Amount	Reference
2017	Geophysics	Airborne magnetic survey	Urban-Barry belt	Geo Data Solutions GDS Inc.	5,307 km (100 m spacing)	Geo Data Solutions GDS. Inc. (2017)
	Geophysics	Airborne electromagnetic survey (VTEM™)	Urban-Barry belt	Geotech Ltd.	1,496 km (200 m spacing)	Geotech Ltd. (2017)
	Geophysics	Ground IP survey	Fox deposit area	Abitibi Géophysique Inc.	53.9 km (100 m spacing)	Abitibi Géophysique Inc. (2017c)
	Geochemistry	Whole-rock analysis	Urban-Barry belt	Osisko Mining Inc.	447 samples	Girard and Roussel-L'Allier (2018)
	Geochemistry	Till survey	Urban-Barry belt	Osisko Mining Inc.	288 samples (fine fractions, gold grain count, and heavy mineral concentrate analysis. 16 till samples only for fine fraction analysis.	Girard and Roussel-L'Allier (2018)
	Geophysics	IP survey	Black Dog deposit	Abitibi Geophysics Inc.	57.6 km	Abitibi Géophysique Inc. (2017a)
	Geophysics	IP survey	Windfall deposit area	ClearView Geophysics Inc.	121 km^2 (50 and 100 m spacing)	ClearView Geophysiques Inc. (2017)
2018	Geochemistry	Till survey	Urban-Barry belt	Osisko Mining Inc.	274 samples	Girard and Aumond (2018)
	Geochemistry	Prospection	Urban-Barry belt	Osisko Mining Inc.	302 Multi-element analyses and 82 whole-rock analyses	Girard and Aumond (2018)
	Geology	Trenching/ Channel sampling	Urban-Barry belt (Chanceux area)	Osisko Mining Inc.	17 trenches; 368 m of channel sampling	Girard and Aumond (2018)
	Geophysics	IP survey	Urban-Barry Belt (Lacroix Township)	Abitibi Geophysics Inc.	32.125 km (200 m spacing)	Abitibi Geophysics Inc. (2018)
	Geophysics	Hole-to-Hole 3D IP	Windfall deposit area – Triple 8 zone	Abitibi Geophysics Inc.	3 DDH	Abitibi Géophysique Inc. (2018b)

Year	Type	Survey	Area	Company	Amount	Reference
2019	Geophysics	(Cont.) Hole-to-Hole 3D IP	Windfall deposit area – Triple 8 zone	Abitibi Geophysics Inc.	3 DDH	Abitibi Géophysique Inc. (2018b)
	Geophysics	Optical Televiewer	Windfall deposit area	DGI Geoscience Inc.	3 DDH	N/A
	Geophysics	Vp and SG on core samples (stage 1)	Windfall deposit area	HiSeis Ltd.	838 samples in 5 DDH	Villahermosa (2019)
	Underground	Bulk Samples	Zone 27/Lynx	Osisko Mining Inc.	5,500 t (Zone 27) 5,716 t (Lynx 311); additional 4,180 m of ramp development from historical 1,420 m of development from the Noront Ramp)	Roy et al. (2020 a, b)
2020	Geophysics	Cross-hole IP	Discovery 1 DDH	Abitibi Geophysics Inc.	26 DDH pairs	Abitibi Géophysique (2020)
	Geochemistry	Soil survey	Urban-Barry belt	Osisko Mining Inc.	200 B-horizon and 230 peat samples	N/A
	Geochemistry	Prospecting	Urban-Barry belt	Osisko Mining Inc.	11 multi-element analyses and 19 whole-rock analyses	N/A

10. DRILLING

The information reported in this chapter was obtained from Osisko's exploration team during the site visit and through data exchanges. Osisko produced employee's reference documents for logging and sampling procedures.

10.1 Windfall Project

This section summarizes Osisko's drilling program from October 19, 2015 to November 30, 2020 on the Windfall deposit. Osisko's drilling constitutes a significant majority of the drilling completed at the project. Earlier drilling by previous operators can be found in Chapter 6 of this report.

Drilling was carried out by Rouillier Drilling, Orbit Garant-Myuka Drilling and Major Drilling. The number of rigs employed has varied from 1 to 33. Most diamond drilling recovered NQ-sized (47.6 mm) core with down hole orientation surveys performed by the drilling companies using Reflex tools (Reflex EZ-SHOTTM and Reflex EZ-GYROTM) that simultaneously measures azimuth, inclination and total magnetic field and magnetic dip (only in EZ-SHOT). Oban/Osisko used the ''CorientR'' tool or ''Reflex Act III RD'' system to orient the core and measure structural features.

10.1.1 Overview

Since 2015, a total of 1,110,423 m of surface exploration drilling and 114,030 m for underground drilling has been completed by Osisko (formerly Oban Mining Corp.). Figure 10-1 also illustrates historical drill holes in black (drilled before 2015).

Details of the various drilling programs are summarized in Table 10-1. Drilling also included 4,536.5 m for metallurgical studies. The distribution and orientation of drill holes in representative cross-sections in the Lynx zone and the Main zone are illustrated in Figure 10-2 and Figure 10-3, respectively.

Drilling performed by Osisko since 2015 significantly expanded known mineralized corridors in the Underdog zone and also in the Main area in zones such as Caribou, Zone 27, Mallard, Windfall North and specific zones in the F-Zones (e.g., F-51). Moreover, significant new mineralized zones were discovered from the continuous drilling on the deposit. These include the Lynx Main, Triple Lynx, Lynx 4, Lynx 4 Extension, Lynx HW, Lynx SW, and Triple 8 zones. These newly discovered zones substantially contributed to the increase of the gold content of the Windfall deposit described in this current mineral resource estimate. The drilling undertaken since 2015 now brings the mineralization footprint of the deposit to a vertical depth of 1,800 m, to more than 1,700 m laterally, and up to 3,000 m in strike length.

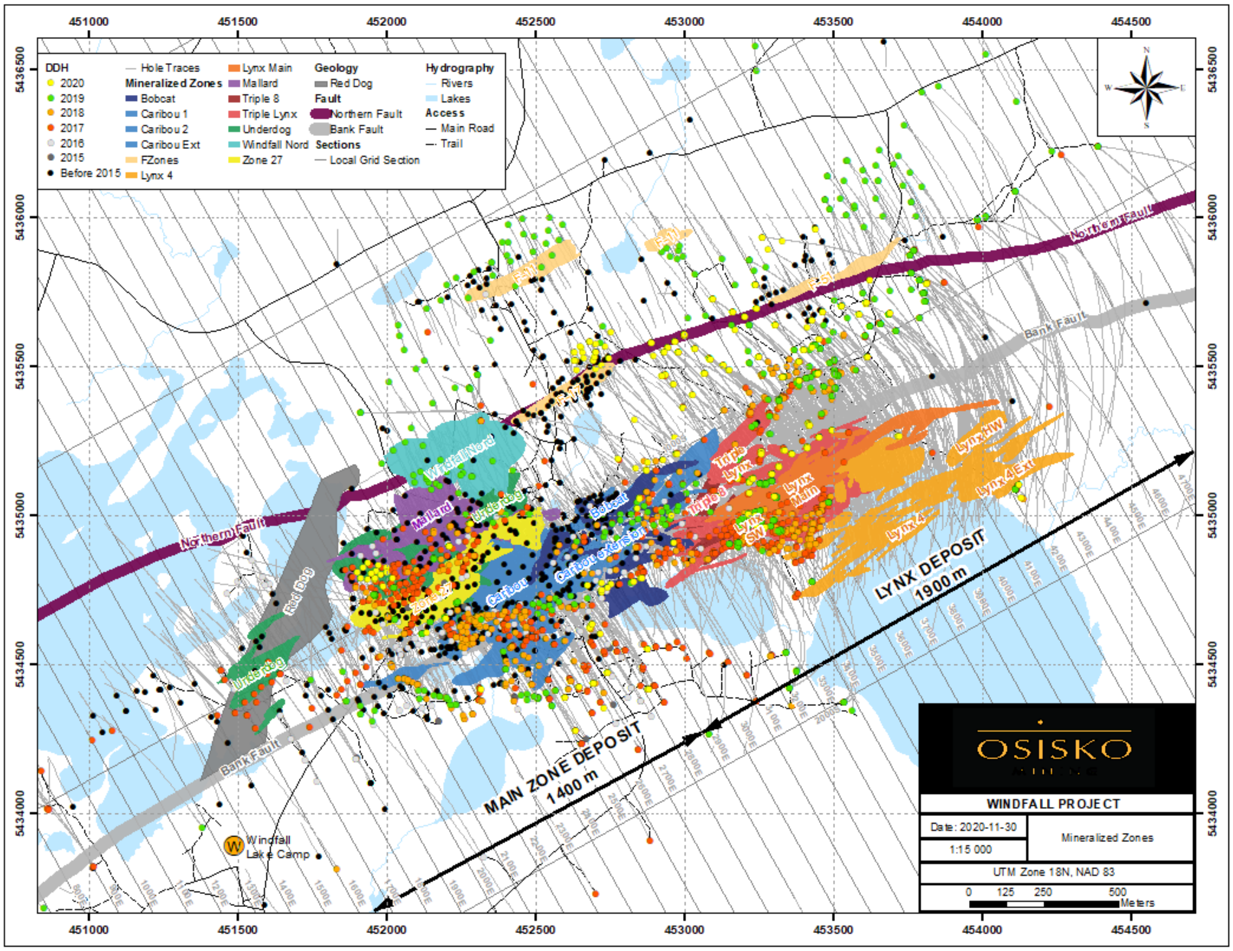


Figure 10-1: Windfall property map showing drill holes completed from 2015 to November 30, 2020 by Oban Mineral Corporation and Osisko Mining.

Historical drill holes are also illustrated and are represented by black circles.

Table 10-1: Drill hole summary and number of assay samples delivered from 2015 to November 30, 2020 (Osisko)

Year	Type	Count	Length (m)	Assay Sample Count [2]
2015	DDH	17	9,473	
	Wedge	0	0	
	Extension	0[1]	189	
	Total	**17**	**9,662**	**4,785**
2016	DDH	203	91,495	
	Wedge	19	12,820	
	Extension	5[1]	1,745	
	Total	**227**	**106,060**	**84,086**
2017	DDH	674	323,941	
	Wedge	93	49,859	
	Extension	31[1]	11,126	
	Total	**798**	**384,925**	**263,615**
2018	DDH	404	138,869	
	WST[3]	43	5,181	
	Wedge	66	27,991	
	Extension	8[1]	7,714	
	Total	**521**	**179,755**	**199,198**
2019	DDH	417	163,342	
	WST[3]	259	32,098	
	Wedge	176	86,093	
	Extension	0[1]	16,663	
	Total	**852**	**298,196**	**176,856**
2020	DDH	178	82,074	
	WST[3]	346	76,751	
	Wedge	159	82,815	
	Extension	0	4,215	
	Total	**683**	**245,855**	**209,104**
Recent drill hole (2015 to 2020)		**3,098**	**1,224,453**	**937,644**
Historical DDH (< 2015)		**757**	**201,170**	
Total		**3,855**	**1,425,623**	

Notes:

[1] Count of only newly created entries in the Windfall central database.

[2] Count by analysis date.

[3] Underground drilling.

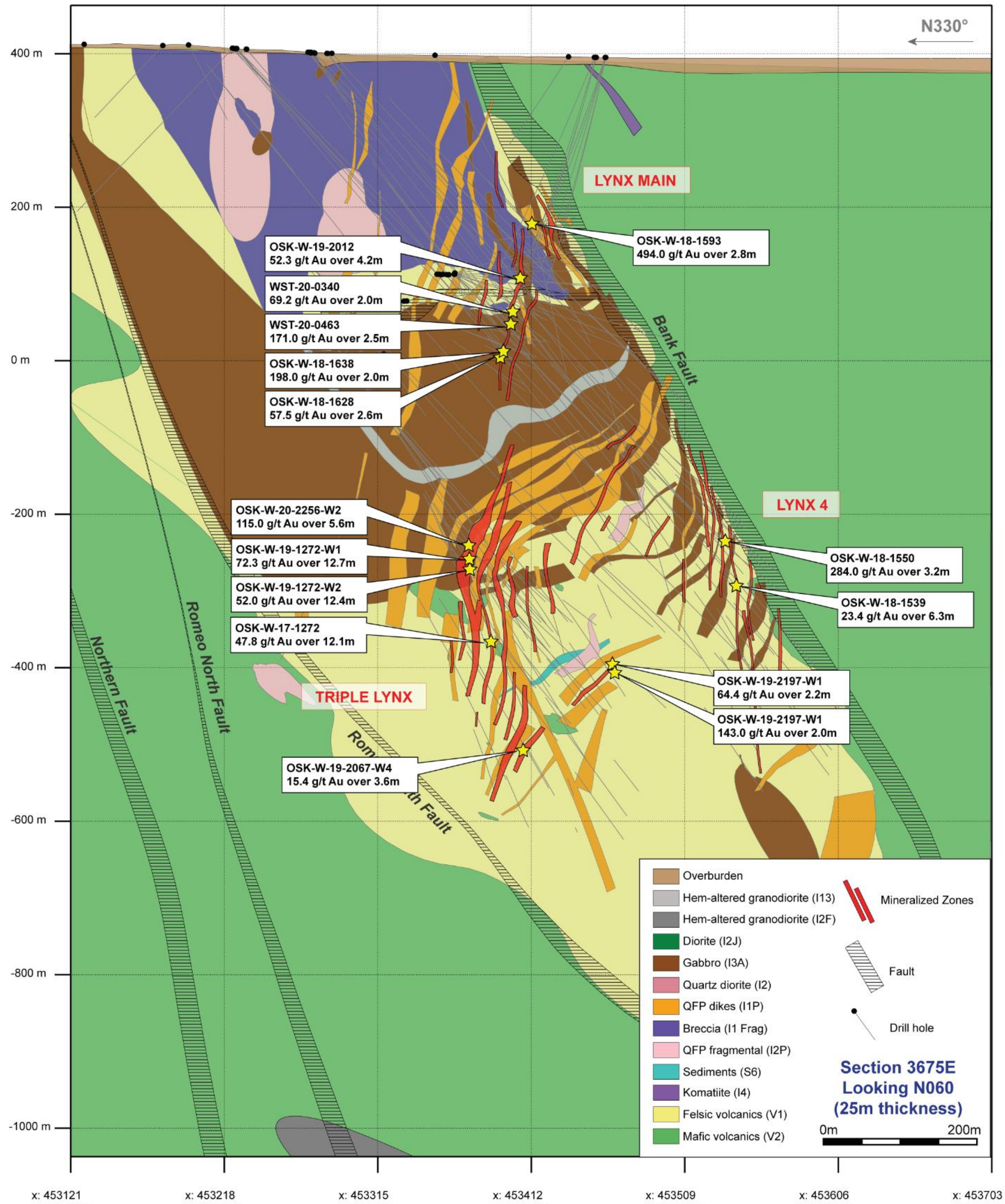


Figure 10-2: Representative geological cross-section showing the distribution of drill hole spacing and orientation in the Lynx zone
Significant assay results are also shown (Section 3675E).
All lengths are core lengths ("CL") unless specified otherwise.

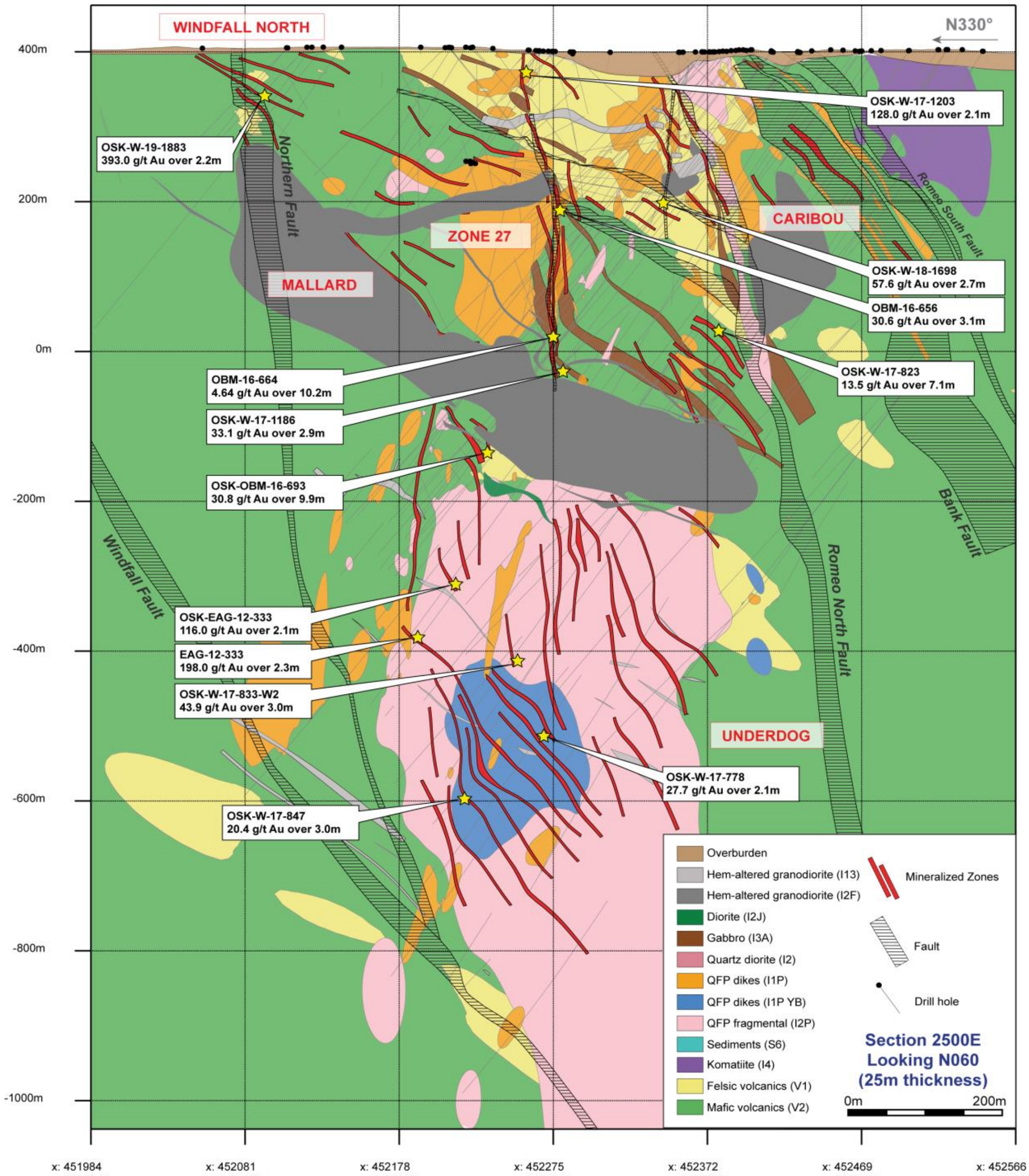


Figure 10-3: Representative geological cross-section showing the distribution of drill hole spacing and orientation in the Main zone
Significant assay results are also shown (Section 2500E).
All lengths are core lengths unless specified otherwise.

10.1.2 Drilling Methods

Most drilling completed at Windfall consists of wireline diamond drilling recovering NQ size (47.6 mm) drill core. Metallurgical drilling used HQ (96 mm) and PQ sized (122.6 mm) core, although wedges have been made from existing metallurgical holes with NQ-sized core. Directional core drilling (Devico©) used AQ sized core (36.4 mm).

Directional core drilling has been used on the Windfall Project since June 2016 using Devico©'s tool DeviDrill™. The DeviDrill™ allows controlled deviation of the drill hole path by making multiple branches from a mother-hole, reaching targets within a one percent error. Field technicians from a qualified license user, Tech Directional Services Inc., are on-site on a full-time basis to control the directional core drilling.

Drill hole deviation surveying at the Windfall Project from 2015 to 2017, included singleshots and multishots using the electronic down hole instrument Reflex EZ-SHOT™. Singleshot measurements are taken every 30 m during drilling. Multishots are taken once the drill hole is completed and measurements are taken every 3 m up hole. From March to December 2017, the North Seeking Champ Gyro™ system provided by TMC Géophysique was used for deviation surveying when the host rock was magnetic. Since January 2018, the Reflex EZ-GYRO™ was used on all drill rigs. Measurements are taken every 9 m down hole.

The Reflex TN14 Gyrocompass™ has been used to align the drill rigs to the correct azimuth and dip since May 2016. Prior to this date, the Azimuth Pointing System ("APS") was used to align the drill rigs. Drill hole coordinates are entered directly into the wireless handheld unit on site, showing the drill rig's live orientation.

Most drill hole casings remain anchored in bedrock to allow for future surveying, drill hole lengthening, or cementation. A red metallic cap flag with the drill hole name is placed on the remaining casing by technicians once the drill hole is completed.

All drill core is stored in the yard of the core shack area at the Windfall camp. Each core box is identified with an aluminum tag indicating the drill hole name, box number and from-and to- metres of the core interval located inside the box.

10.1.3 Field Procedures

The drill core is placed into wooden core boxes at the drill site. Blocks are used to separate the core in the box at the beginning and end of each drill run. The core boxes are labelled and closed with transparent tape by the drillers. The drill core is brought back to the core shacks at the end of every shift from each drill site by drill contractor personnel and the core boxes are placed on individually labeled trestles in front of every core shack. Geo-technicians are responsible for placing the core boxes in order and transporting them into the core shacks and onto the core logging tables.

When working with the "CorientR" tool or the "Reflex Act III RD" system, which provide an oriented drill core reference, the drill core received from the drill is aligned according to the driller’s marks drawn at the end of each 3 m interval drilled. The mark indicates the lower portion of the drill hole. A blue line joining the marks is then traced by a core handling technician, indicating the bottom of the core. The core is then put back into the box, oriented with the blue line in the upright (top) position.

10.1.4 Geological Logging

Once geotechnical measurements are completed and the core is oriented, the drill core is logged by a geologist or an engineer recording a detailed description of the lithologies, structures, mineralization, alteration and veining directly into the Datamine core logging software (DH Logger). Qualified professionals employed by Osisko are members in good standing of the Ordre des Géologues du Québec (“OGQ”) or the Ordre des Ingénieurs du Québec (“OIQ”).

Structures are recorded using the Reflex IQ-Logger™ electronic instrument. Rock units are also occasionally identified using a handheld X-Ray fluorescent (“XRF”) device. Handheld Vanta X-ray fluorescence energy dispersive spectrometer, generally known as an XRF analyzer, is routinely used at Windfall to discriminate between different lithologies, including porphyry dikes, felsic volcanics and intermediate-mafic rocks. A semi-quantitative analysis of a rock sample of 15 to 20 seconds is generally sufficient to determine the geochemical signature of a rock and its respective rock unit. However, for an even more reliable result, a 40-second analysis is recommended. The values (e.g., TiO_2, Zr, Y and Nb) can be written on the core and are documented within the drill log.

After completing the core description, the geologist or engineer is responsible for marking the samples for assay on the core using a red water-proof marker. Photos of the core for the entire drill hole length are then taken with the sample tags (four boxes photographed per picture).

Once the core samples are cut, the boxes containing the remaining core halves are placed in an outdoor permanent core rack.

10.1.5 Core Recovery

Core recovery and rock quality designation (“RQD”) are measured and calculated for each core box and recorded in the drill log. Rock units intersected by drilling are generally solid, yielding an effective core recovery of 99.91%.

10.1.6 Collar Surveys

From 2015 to spring 2018, surface drill hole collars were spotted in the field using an APS instrument. Since the spring of 2018, surface drill hole collars are spotted using a high-precision Leica GPS (precision of ±0.05 m). Down hole surveying has been performed routinely on every drill hole. The coordinate system used is UTM NAD 83 Zone 18.

Before September 2018, the collars were surveyed by Corriveau J. L. & Assoc. Inc. (from Val-d'Or) using a high-precision Leica GPS (precision of ±0.05 m). The drill hole collars are currently surveyed in-house by Osisko's geotechnicians using a high-precision GPS system (Leica GS10 3.0 receiver with a Viva GS16 antenna). The final surveyed coordinates are imported into the database.

Underground drill hole collars are surveyed using a Leica TS16 total station. The coordinates are measured from a network of reference points that cover all of the underground development. The reference network begins at the portal entrance with three permanent stations installed by Corriveau J. L. & Assoc. Inc. (JLC-2017-1, JLC-2017-2 and JLC-2017-3) using the UTM NAD 83, Zone 18 system. The accuracy of measurements decreases by ±0.001 m every 100 m underground.

10.1.7 Drill Hole Validation

DH Logger, from the Fusion suite of software supplied by DATAMINE, is used to plan, log, view and manage down hole-related data. In association with DH Logger, Fusion is a central database and a management system for geological, geochemical, geotechnical, geophysical, assay, QA/QC and any field data.

The logging method at the Windfall Project utilizes a compilation of best logging practices employed in exploration. According to mining industry best practices, the method preserves the integrity of raw results and meets all the current requirements for data capture and management.

10.1.8 Drill Spacing

10.1.8.1 Surface Drilling

Drilling has been conducted over the Windfall deposit on an area 3,500 m in length by 1,800 m in width. The drilling pattern was designed to sample the deposit orthogonal to the interpreted strike and dip of the gold mineralization. The majority of the drill holes were drilled with a dip varying between -45° to -70°.

All drill holes were drilled on sections spaced approximately 25 m apart in most parts of the deposit. Drill hole spacing of 25 to 30 m by 25 to 30 m occurs over the bulk of the mineralized-body to a depth of approximately 800 m below surface. Before 2017, the spacing on Zone 27 and Caribou was 30 m by 30 m. In 2017 the spacing was then reduced to 25 m by 25 m on Lynx and in further drilling on Caribou and Zone 27.

Below 800 m, down to approximately 1,200 m, and in the down plunge-extension of zones, drill hole spacing of 50 m by 50 m is usually observed. The Underdog, Lynx 4, Triple Lynx, Triple 8, F-zones and Mallard zones are mostly drilled with 50 m by 50 m spacing. For definition drilling, drill hole spacing is generally 15 m by 15 m inside the existing 30 m drill spacing, mostly conducted on Zone 27. An area of approximately 200 m by 200 m has been infilled with 15 m spacing. Presently, the drill spacing in the Lynx zone is locally 12.5 m by 12.5 m.

10.1.8.2 Underground Drilling

Underground drilling has been conducted in the Zone 27, Caribou and Lynx zones with 1 to 8 rigs since the fall of 2018. The majority of the drill holes were drilled with a dip varying between -50° and +50° and lengths varying between 15 m and 801.5 m. The spacing used for underground core holes is 25 m by 25 m and 12.5 m by 12.5 m. Drill stations spaced approximately every 100 m to 150 m were used for collars. Systematic cementing of core holes was conducted at the end of work at each drill station.

Underground drilling was used to reduce the length of definition drilling operations, optimize intersection angles, and target sectors unattainable from the surface due to terrain constraints (lakes, swamps, etc.).

10.2 Exploration Drilling, Urban-Barry Property

Drilling performed by Osisko since 2016, over regional targets, led to the discovery of new mineralized zones in the Urban-Barry area, including the Black Dog (discovery hole OSK-BD-16-002 intersected 3.42 g/t Au over 32.1 m CL, including 6.14 g/t Au over 14.4 m CL), the Fox (discovery hole OSX-W-16-717 intersected 3.22 g/t Au over 11.6 m CL) and the Fox West (discovery hole OSK-UB-19-132 returned 16.7 g/t Au over 2.8 m CL) showings. These represent the most significant discoveries outside of the Windfall deposit realized by Osisko since 2016.

The Black Dog showing occurs in the southern block of the Urban-Barry property and is defined for approximately 1,200 m along a northeast-trending linear magnetic feature. The mineralization in the Fox zone is followed over approximately 200 m in an east-northeast orientated corridor. Gold mineralization is spatially associated with the contacts of porphyry dikes with volcanic rocks. The mineralization occurs in both the hanging wall and the footwall of the dikes. The Fox West showing is hosted in an east-north-east corridor over 6 km and consists of altered porphyry dikes hosted in mafic volcanics. The mineralization style in this new zone occurs along intrusive porphyry contacts with volcanic rocks, similar to the mineralization style in the initial 2016 Fox discovery. Regional exploration was successful in demonstrating that gold mineralization occurs outside of the footprint of the Windfall deposit. In the Fox and Fox West showings, the gold mineralizing event is possibly related to the same gold event that formed the Windfall deposit.

The 2016 to 2017 Urban-Barry property drilling program was conducted from November 2016 to June 2017 over different sectors of interest in the area. In 2016, drilling was carried out by Rouillier Drilling and in 2017, drilling was carried out by both Rouillier Drilling and Orbit Garant.

A total of 93 drill holes were drilled for a total of 37,833.5 m. The first part of the program started in the eastern and southern part of the Urban-Barry property on the E1, E2, E7 and Black Dog areas, which were highlighted during the 2016 prospecting campaign. The second part of the program focused on properties in the vicinity, but outside, of the Windfall deposit footprint and included Fox, Bobtar and NE Windfall areas. The location of drill holes for the entire Urban-Barry drilling program is illustrated in Figure 10-4.

The 2018 Urban-Barry drilling program was conducted from January to May. A total of 24 drill holes, representing 7,302.4 m of drill core, were completed in three sectors, Great Bear (formerly known as Mongodon), Black Dog and Hébert Centre areas (Figure 10-4). In 2018, an agreement was signed between Osisko and Osisko Metals Inc. to create a joint venture for base metal and volcanogenic massive sulphide exploration in the Urban-Barry property (Urban-Barry Base Metals). Work conducted between May 2018 and June 2018 by Osisko included eight exploration drill holes, generally in the eastern portion of the claim boundaries (Figure 10-4). A total of 1,742.8 m were drilled.

The 2019 Urban-Barry drilling program was conducted from January to August over various sectors of interest in the Urban-Barry area. Drilling was carried out by Orbit Garant. A total of 69 drill holes were drilled for a total of 16,234 m. Six main areas were visited in the first part of the program, namely Thubière, Chanceux, Rouleau, Fox and Macho (Figure 10-4). The second part of the program focused on the newly named Fox West area located in the Macho block.

The 2020 Urban-Barry drilling program was conducted in two parts, from January to March and from October to December. Orbit Garant carried out drilling for the first part and G4 Drilling for the second. A total of 28 drill holes were drilled for a total of 13,277.9 metres. Four main areas were visited during the first part of the program, namely Fox West, Rouleau, Bank Extension and Urban South Fault (Figure 10-4). The Bank Extension and Windfall SW were visited during the second part.

No drilling from the Urban-Barry property was used in the resource estimate presented in this report. There are no current mineral resources on this property.

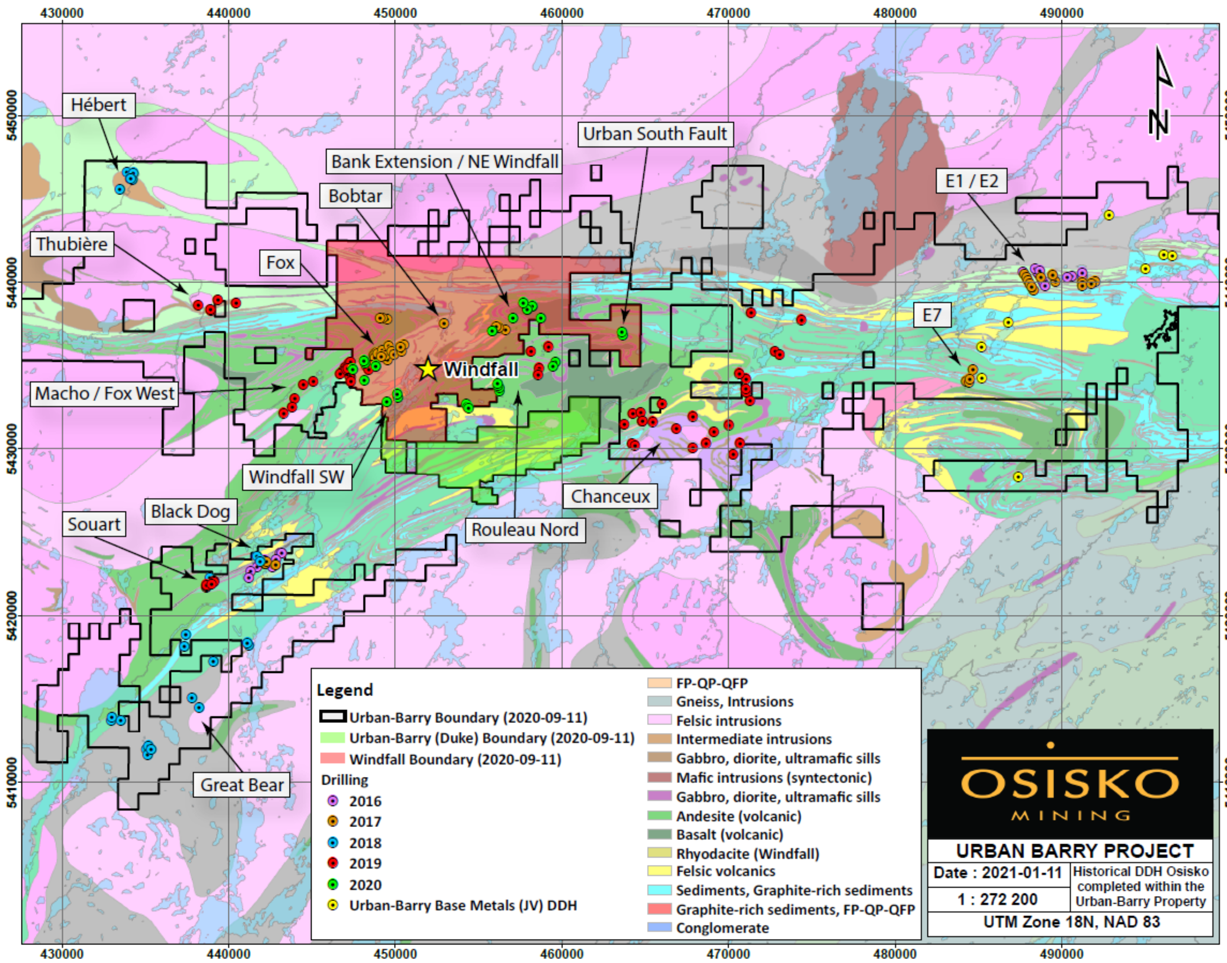


Figure 10-4: Exploration drilling (2016-2020) and the location of the informal sectors in the Urban-Barry property

10.3 Conclusions

The QP has examined the drilling and logging procedures used and described above. In the opinion of the QP, Osisko personnel have used industry standard best practices in the collection, handling and management of drill core and assay samples.

The QP is not aware of any drilling, sampling, or recovery factors that could materially impact the accuracy and reliability of the results presented in this report.

11. SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Windfall and Urban-Barry Properties

The following sections describe Osisko's sample preparation, analysis and security procedures for the diamond drilling programs at the Windfall Project. The QP did not conduct any independent drilling or sampling on the Windfall property. Osisko supplied data related to sampling, analytical, security and quality assurance-quality control ("QA/QC") protocols.

The information included in this chapter relates to samples taken from drilling campaigns for which the assay certificates were received after the 2015 Preliminary Economic Assessment effective date of April 28, 2015 and before the Osisko database close-out date of November 30, 2020.

11.1.1 Laboratories Accreditation and Certification

Osisko used ALS Minerals ("ALS") in Val-d'Or and in Lebel-sur-Quévillon, Québec, Canada as their primary sample preparation laboratories. ALS in Lebel-sur-Quévillon is only used for sample preparation and ALS in Val-d'Or is the primary analytical (assay) laboratory. Depending on capacity, at the discretion of ALS Val-d'Or, samples would be sent to ALS Vancouver, ALS Vientiane, ALS Lima and ALS Reno for analysis. ALS is independent of Osisko. ALS laboratories in Canada are currently accredited by the Standards Council of Canada (accredited laboratory number 689) to ISO 17025 for the analysis of gold by lead collection fire assay with atomic absorption spectrometry finish and the determination of gold by lead collection fire assay with gravimetric finish. The management system of the ALS Minerals Group laboratories is accredited to the International Organization for Standardization ("ISO") 9001:2008 by QMI Management Systems.

As a secondary laboratory, Osisko sends shipments to the Bureau Veritas Commodities Canada Ltd. ("BV") in Timmins, Ontario, Canada where samples are processed and analyzed. BV is independent of Osisko. The laboratory is registered under the corporate ISO 9001 registration. The Timmins laboratory is in the process of seeking ISO 17025 accreditation for fire assay procedures. Still, it is listed on the Vancouver laboratory's ISO 17025 scope of accreditation (accredited laboratory number 720) as a qualified sample preparation facility. Off-site sample preparation and analytical procedures at Timmins follow those of Vancouver and are monitored regularly for QA/QC practices. The management systems of all BV sites are registered with the ISO 9001 Model for Quality Assurance and compliant with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories.

11.1.2 Historical Sampling

Approximately 86% of the total drilled length on the project was drilled by Osisko and 88% of the assays used in the mineral resource estimate were from core drilled by Osisko.

The drill hole sampling preparation, analyses and security procedures utilized by Kerr Addison, DeMontigny, Alto and Inmet between 1986 and 1999 are unknown. Although it is reasonable to assume that these companies conducted their exploration activities in accordance with prevailing industry standards at the time, the QP conducted statistical analysis on both population and concluded that the historical drill holes could be used in the mineral resource estimate.

The drill hole sampling preparation, analyses and security procedures from 2003 to 2014 are presented in the Tetra Tech mineral resource estimate 2015 (McLaughlin et al., 2015).

11.1.3 Osisko Core Handling, Sampling and Security

Routine sampling of the diamond drill core for gold analysis was accomplished by adhering to previously established sampling guidelines. This procedure ensures the quality and accurate representation of the material sampled. The remaining split core is archived for future reference.

Preparation of designated drill core intervals to be sampled was completed using the following method:

- Drill core received from the drill at the core logging facility (core shack) was pieced back into continuous intervals to minimize any spaces between individual pieces of core and check for incorrect placement of the core by the drillers.
- When working with the CorientR tool or the Reflex Act III RD system, which provided an oriented drill core reference, the drill core received from the drill at the logging facility was aligned according to the driller’s marks drawn at the end of each 3 m interval drilled, to indicate lower portion of the borehole. A blue line joining the marks was then traced by a core handling technician, indicating the bottom of the core. The oriented core was put back into the box with the blue line in the upright (top) position.
- After alignment, rotation and records made of the geotechnical measurements (recovery and RQD), the core was marked (with a china pencil) with 1 m hole-depth intervals. This annotation allowed for better depth precision between the drill-run meterage block markers inserted every 3 m run by the drillers.
- Intervals of core selected for sampling were marked with a red china pencil perpendicular to the core axis showing arrows to indicate the “from” and “to” range of each sample. The mark-ups were designed to assist the core cutters in sawing each core sample between the “from-to” arrows and solid red lines marking the end/beginning of each sample.

- Individual core samples are typically taken at 1 m intervals with minimum and maximum sample intervals from 0.3 m to 1.5 m. Collecting samples less than 1 m in length is discouraged unless done to respect lithological and/or mineralization contacts. Samples do not cross a lithological contact (except for minor veins and dikes less than 0.3 m). To minimize sample errors and simplify the entire sampling process, intervals are generally started and ended on a whole metre. Where sampled intervals fall between metre marks, subsequent samples are lengthened or shortened to bring the sequence in line with whole-number metre depths. Exceptions to the 1 m material occur to better represent the geology and or gold grade of the sample interval.
- Books containing numerical sequences of 50 pre-labeled, triplicate, water-durable sample tags are used; one to tag the core sample, a second to indicate the position of the sample in the core box, and the third remained with the book as an archival record of the samples particulars such as sample ID, drill hole ID, sample interval from-to hole-depths, rock type and a brief sample description. From each sample sheet consisting of three identical perforated tags, the last two from the right (the third remaining in the sample book) were separated (torn) from the page and tucked along the side/under the core at the beginning of each sample in such a way that the core cutter could read the tag numbers.
- Digital photographs of the marked and tagged core boxes are taken for archival purposes.
- Blanks and standards are inserted as the sampling progresses to avoid mix-ups.
- Drill core, marked and tagged for sampling, is moved to the sawing room to be cut using electric motorized, diamond-impregnated bladed rock saws. The core saw operator(s) cuts and samples the core, one sample at a time, starting with the first sample tagged and follows through to the next sample tagged in sequence until the end of the batch.
- Unbiased sampling is managed by a consistent selection of the same side from each halved piece of cut core. The sampled core pieces pertaining to a given sample are placed in a heavy-duty transparent plastic bag and the remaining pieces are placed back into their original position in the core box. When working with the CorientR tool or the Reflex Act III RD system, the half containing the blue reference line is selected to be archived for future reference. The other half is put into the sample bag. Broken core (fault-gouge, fault-breccia) is sampled by scooping the right half into a sample bag and by leaving the remaining half in the core box. The paired sample tags are then torn with one tag stapled to the core box at the start of its sample interval and the other tag placed into the sample bag with the core sample.
- Sample bags are also labeled with the sample number written with black permanent marker and the open tops sealed with a plastic zip-tie (one direction).
- For blank samples, the core cutter(s) is/are required to scoop approximately 1 kg to 2 kg of gold-barren limestone gravel (assays <0.005 ppm gold) into a plastic sample bag as per the procedure outlined in the previous step.
- The core-logging geologist assigns certified gold reference materials and the identification code is verified by the core-cutter(s). One pouch of standard material is placed into plastic sample bag. The name of the standard written on the pouch is erased by the core-cutter(s) before putting it into the bag to prevent identification by the assay laboratory. This prevents the assay laboratory from identifying the standard number and knowing the correct result.

- Numerical sequences of five samples, starting with the first sample, are packed into large rice bags and the open tops sealed with plastic zip-ties (one direction). The sample number range and incremental bag number are written on the rice bag, and this information is recorded on a rice-bag sample sheet. This operation is completed by the core cutting staff.
- All samples from a given drill hole are packaged in batches of 20 samples. Batches are generated for each drill hole and submitted to the ALS laboratories in Lebel-sur-Quévillon and Val-d'Or and BV laboratory in Timmins.
- A copy of the Sample Submittal Form and associated rice bag sample sheet are sent by email to the laboratory. When 100 samples (20 rice bags) are ready, they are packed and sent to the laboratory. The samples are then transported by an Osisko exclusive transporter and delivered directly to the ALS laboratory facility in Val-d'Or and/or Lebel-sur-Quévillon. Visual low-grade samples are delivered directly to BV shipment receiving in Timmins.

11.1.4 Lithogeochemical Samples Procedure

In addition to routine samples selected for gold analysis, an ancillary batch of representative samples were tested to better characterize the lithologies based on whole-rock geochemistry.

Whole-rock samples consisted of roughly 20-cm pieces of quarter core. The sample was selected to be the most representative piece of the rock unit being sampled (no veins, preferably weakly to non-mineralized material). A sample was taken at approximately every 30 m of core and samples were also taken to provide insight into the composition of unknown unit lithologies.

11.1.5 Analytical Methods

Historical analytical quality control measures were set in place by Fury in 2003 and 2004 and Noront in 2007. Details of these measures are outlined in previous technical reports produced for the property (El Rassi et al., 2011, 2012, 2014, and McLaughlin et al., 2015). The next sections describe the analytical methods performed during Osisko's period.

11.1.5.1 Samples for Gold Analysis

At the ALS laboratory, samples underwent conventional sample preparation procedures (ALS code PREP-31). Samples were crushed to a fineness of 70% passing ten mesh, or 2 mm. A 250-g split of the crushed material was further comminuted to a sample pulp by pulverizing to 90% passing below 200 mesh, or 70 µm. The pulverizer assembly (steel barrel, rings and puck) was cleaned with silica sand between samples. Most samples were submitted to the primary laboratory for analysis in batches of 20.

At BV, samples underwent conventional sample preparation procedures (BV code PRP90-250). Samples were crushed to 90% passing a 2 mm sieve. A 250 g split of crushed material was pulverized to 85% passing a 75 µm sieve.

Table 11-1 outlines the analysis methods used at both ALS and BV laboratories. Routine samples are analyzed with fire assay. If core-logging geologists identified visible gold, samples were sent for metallic screen analysis. Prepared pulp samples were assayed for gold using a fire assay procedure with atomic absorption finish at ALS and BV on 30- or 50-g pulp charges.

Table 11-1: Analytical methods for gold assays used by Osisko

Laboratory	Method	Method code	Sample weight (g)	Lower limit (ppm)	Upper limit (ppm)	Default over-limit method
ALS Minerals	Fire Assay with Atomic Absorption Finish	Au-AA23	30	0.005	10	Au-GRA21
		Au-AA24	50	0.005	10	Au-GRA22
		Au-AA25	30	0.01	100	Au-GRA21
		Au-AA26	50	0.01	100	Au-GRA22
	Fire Assay with Gravimetric Finish	Au-GRA21	30	0.05	10,000	--
		Au-GRA22	50	0.05	10,000	--
	Metallic Screen	Au-SCR21	1,000	0.05	10,000	--
		Au-SCR24	1,000	0.05	10,000	--
		Au-SCR24G	1,000	0.05	10,000	
		Au-CONSCR	1,000	0.07	1,000,000	
Bureau Veritas	Fire Assay with Atomic Absorption Finish	FA430	30	0.005	10	Gravimetric Method
		FA450	50	0.005	10	
	Fire Assay with Gravimetric Finish	FA530	30	0.9	--	--
		FA550	50	0.9	--	--
	Metallic Screen	FS652	50 - 500	0.05	--	--

At the request of Osisko, all samples exceeding 10 g/t Au using Au-AA26 or FA450 methods, or any samples containing high grade or visible gold were rerun with the metallic screen method (Au-SCR24, Au-SCR24G and FS652 methods). A 1,000-g split of the final prepared pulp is passed through a 75 µm stainless steel screen to separate the oversize fraction. Any +75 µm material remaining on the screen is retained and analyzed in its entirety by fire assay with gravimetric finish (Au-GRA22 and FA550 methods) and reported as the Au(+) fraction result. The 75 µm fraction is homogenized and two 50 g sub-samples are analyzed by fire assay with Atomic Absorption (AA) finish. The average of the two AA results is taken and reported as the Au(-) fraction result. As of August 7, 2019, the -75 µm fractions have been analyzed using gravimetric finish (Au-GRA22) rather than AA finish as ALS encountered difficulties with the fusing of Osisko high-grade samples. All three values are used in calculating the combined gold content of the plus and minus fractions using this equation.

$$\boxed{\text{Au Total (ppm)} =} \quad \frac{((\text{Au(-) av ppm}) \times \text{Wt. Min(g)}) + (\text{Au(+)ppm} \times \text{Wt. Plus (g)})}{(\text{Wt. Min(g)} + \text{Wt. Plus (g)})}$$

11.1.5.2 Multi-elements Analysis

For the multi-elements (Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Hg, Ho, In, K, La, Li, Lu, Mg, Mn, Mo, Na, Nd, Ni, P, Pb, Pr, Rb, Re, S, Sb, Sc, Se, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tl, Tm, U, V, W, Yb, W, Zn), the samples were assayed by an atomic emission spectrometry procedure, ME-MS61, ME-ICP61 (Four acid digestion) or ME-ICP41 (Aqua regia digestion) at ALS. A prepared sample is digested in a graphite heating block. After cooling, the resulting solution is diluted to 12.5 ml with deionized water, mixed and analyzed by inductively coupled plasma-atomic emission spectrometry. The analytical results are corrected for inter-element spectral interferences.

11.1.5.3 Lithogeochemical Samples

For lithogeochemical samples, the sample preparation method was the same as for routine samples. Whole-rock analysis was performed using a package that included major oxides (Al_2O_3, BaO, CaO, Cr_2O_3, Fe_2O_3, K_2O, MgO, MnO, Na_2O, P_2O_5, SiO_2, SrO and TiO_2) loss on ignition ("LOI"), total oxides, plus Zr, Y and Nb. The analytical method was performed using a lithium borate fusion followed by an XRF finish (ALS codes ME-XRF26, ME-XRF06, Zr-XRF05, Y-XRF05 and Nb-XRF05). A calcined or ignited sample (0.9 g) is added to 9.0 g of Lithium Borate Flux (50% - 50% $Li_2B_4O_7$ - $LiBO_2$), well mixed and fused in an auto fluxer between 1,050°C and 1,100°C. A flat molten glass disc is prepared from the resulting melt. This disc is then analyzed by XRF.

11.1.6 Quality Assurance and Quality Control (QA/QC) Programs

The exploration work conducted by Osisko was carried out using a QA/QC program following the industry's recognized best practices. The QP was not involved in the collecting and recording of the data, which Osisko employees performed.

QA/QC for the 2015 to 2020 drilling program consisted of a drill hole database audit, inserting quality control samples within all sample batches submitted for assaying and inter-laboratory check assays. Re-logging and re-sampling programs of core drilled by previous operators were conducted in 2016, 2017 and 2018 to better understand geological constraints on the Windfall deposit. In 2018, a representative batch of metallic screen samples (n = 2,270) previously analyzed without QC samples were quarter-split and sent for reanalysis with QC samples to validate previous Au results. Quarter-split results showed a good correlation with original half core results.

11.1.6.1 Field Assay Standards (Certified Reference Materials and Blanks)

The routine insertion of blank material monitors contamination of samples into the sample stream. The control procedure also included certified reference materials ("CRMs", or gold assay standards) to determine if there were assay problems with specific sample batches and possible long-term biases in the overall dataset. Blanks and CRMs go through the same sample preparation and analytical procedures as the core samples. They were assigned sample IDs at a frequency of at least one of each control type per range of 20 sample tag IDs. Each control type represents approximately 5% of the total batch depending on the total range of samples tags used (Table 11-2).

The results of the quality control samples were assessed by the Batch Authorization module of the Fusion software in DHLogger (Table 11-3).

Table 11-2: Samples submitted to ALS for analysis along with routine drill core samples (April 28, 2015 to November 30, 2020)

Type of sample	Quantity	%
Primary drill core samples	947,514	88%
Field blanks	68,592	6.3%
Certified reference material	61,124	5.7%
Total	**847,104**	**100%**

Summary of samples submitted includes reanalysis and quarter-split samples.

Table 11-3: Current sample QA/QC statuses in DHLogger

ID	Description
Passed	Sample has passed QA/QC review. Controlled by passed QA/QC samples and applied automatically by restrictive QA/QC default rules of the Batch Authorization module of DHLogger software.
QP Accepted	QP Accepted status is determined by Osisko's qualified persons. The decision to accept a failed QA/QC analysis result is based on a set of QA/QC rules following industry QA/QC best practices. Examples of QP Accepted results include: ▪ Suite of samples affected includes no anomalies. ▪ Suite of samples affected includes minor and/or isolated sub- low-grade anomalies. ▪ Au contamination on blank QC sample with no impact on other samples.
Failed	Failed status is applied automatically by the Batch_Authorization module of DHLogger software when Osisko's restrictive QA/QC rules are not met. All Failed statuses are revised and approved by Osisko's qualified persons and trigger request for reassay or quarter-split samples. Examples of Failed results include: ▪ Surpassed maximum/minimum defined standard control values (± 3 SD). ▪ Possible Au contamination and quarter-split request.

<table>
<tr><th>ID</th><th>Description</th></tr>
<tr><td>Failed NSA</td><td>Failed NSA (Failed Non-Significant Assay) status indicates Failed assay result with Au value less than 0.5 ppm. No reassay has been requested.</td></tr>
<tr><td>No QA/QC</td><td>No QA/QC status is applied when a sample is not associated with a least 1 CRM / 1 Blank per batch of 20 samples in the certificates and/or the QA/QC is not following Osisko’s set of QA/QC rules.</td></tr>
<tr><td>No Results</td><td>“No Results” status is rare and is applied in two scenarios:
When the assay result returns empty in the certificate after completing every step in the sampling process (logging, sampling, core-splitting). Most of these “No Results” statuses occur when the certificate indicates NSS (Non-Sufficient material Sample), or when problems occur after core-splitting or at the laboratory.
During various compilation work conducted by Osisko, sample numbers were found associated with historical drill holes but were unable to locate the associated assay certificate and results.</td></tr>
<tr><td>Cancelled</td><td>Cancelled status is rare and is applied when the sample number has been recorded into the database during core logging but was not cut at the core-splitting step. Various reasons can be involved.</td></tr>
</table>

11.1.6.1.1 Blanks

The blank is a coarse crush blank material (limestone gravel) sourced from a regional hardware store. The blank material has not changed since 2014. The blank is submitted with samples for crushing and pulverizing to determine if there has been contamination or sample cross-contamination during the preparation. Elevated values for blanks may also indicate sources of contamination in the fire assay procedure (contaminated reagents or crucibles) or sample solution carry-over during instrumental finish.

From April 28, 2015 to November 30, 2020, there were a total of 68,592 blanks submitted to ALS and BV with the samples (Table 11-4). Blank materials were considered failed when the returned gold value exceeded 10x the lower detection limit of the analytical method (Table 11-1). A general guideline for success on a contamination quality control program is a success rate of 90% of blanks showing no contamination exceeding the acceptable limits. Table 11-4 and Figure 11-1 to Figure 11-7 summarize the performance of the blanks. Depending on the method used during the analyses, on average, 95.03% of the blanks analyzed passed the process (Table 11-4).

All failed samples were investigated and appropriate action was taken to rectify the abnormal results. Samples did not require follow-up where contamination did not affect succeeding samples or where the batch did not include samples with significant results. If carry-over from the previous gold sample at the preparation stage was suspected to affect subsequent samples, a quarter-split of the remaining core was sent for reanalysis with new QC samples. Other actions on blank fails are discussed further in this section (see comments for Monitoring Contamination).

Table 11-4: Blanks submitted for analysis along with routine drill core samples (April 28, 2015 to November 30, 2020)

Method	Lab	Qty Inserted	Expected Au Value	Fail Value	Osisko Mean Grade (ppm)	Osisko Min (ppm)	Osisko Max (ppm)	Failed	% Passing
AU_PPM_AA24	ALS	7,380	0	0.05	0.003	0.0025	9.42	10	99.86%
AU_PPM_AA26	ALS	48,038	0	0.1	0.014	0.005	48.2	1015	97.89%
AU_PPM_FA450	BV	8,346	0	0.05	0.003	0.0025	10	11	99.87%
AU_PPM_GRA22	ALS	1,447	0	0.5	0.118	0.025	114	154	89.36%
AUTOTAL_GPT_FS652	ALS	199	0	0.5	0.026	0.025	12.04	12	93.97%
AUTOTAL_PPM_SCR24	ALS	2,462	0	0.5	0.073	0.025	35.2	104	95.78%
AUTOTAL_PPM_SCR24G	ALS	720	0	0.5	0.121	0.025	255	83	88.47%
Total		**68,592**						**1,389**	**95.03%**

Blank_Au_PPM_AA24
Summary Statistics

Observed Values		
Number of Samples		7380
Mean		0.003

	#	%
Failed	10	0.14%
Passed	7370	99.86%

Gross Outliers	
Greater than 0.1 ppm (20xDL)	
Number of Samples	4

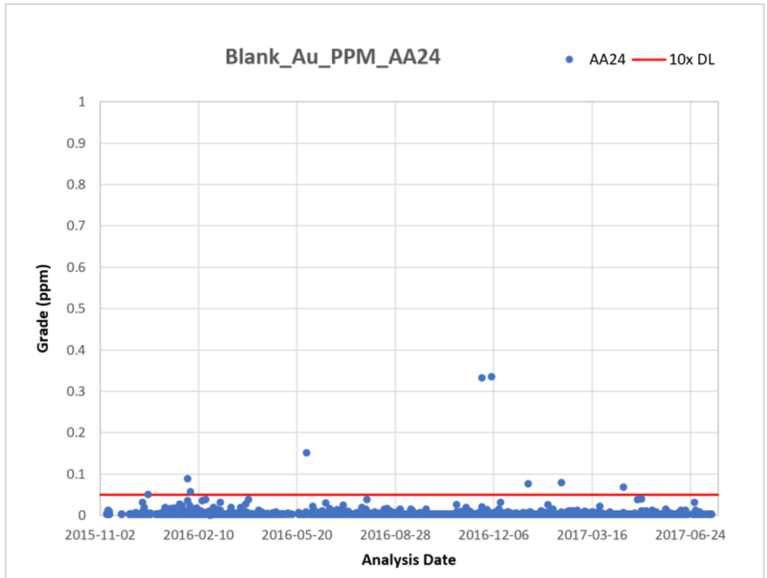


Figure 11-1: Time series plot for blank samples assayed by ALS (AA24 Method) Failure limits set at 0.05 g/t Au (10x detection limit)

Blank_Au_PPM_AA26
Summary Statistics

Observed Values		
Number of Samples		48038
Mean		0.014

	#	%
Failed	1015	2.11%
Passed	47023	97.89%

Gross Outliers	
Greater than 0.2 ppm (20xDL)	
Number of Samples	581

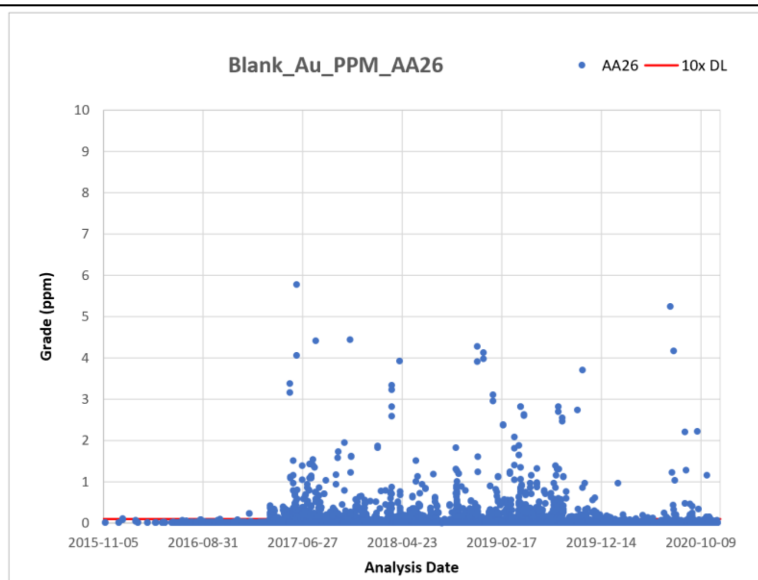


Figure 11-2: Time series plot for blank samples assayed by ALS (AA26 Method) Failure limits set at 0.1 g/t Au (10x detection limit)

Blank_Au_PPM_FA450
Summary Statistics

Observed Values	
Number of Samples	8346
Mean	0.003

	#	%
Failed	11	0.13%
Passed	8335	99.87%

Gross Outliers	
Greater than 0.1 ppm (20xDL)	
Number of Samples	6

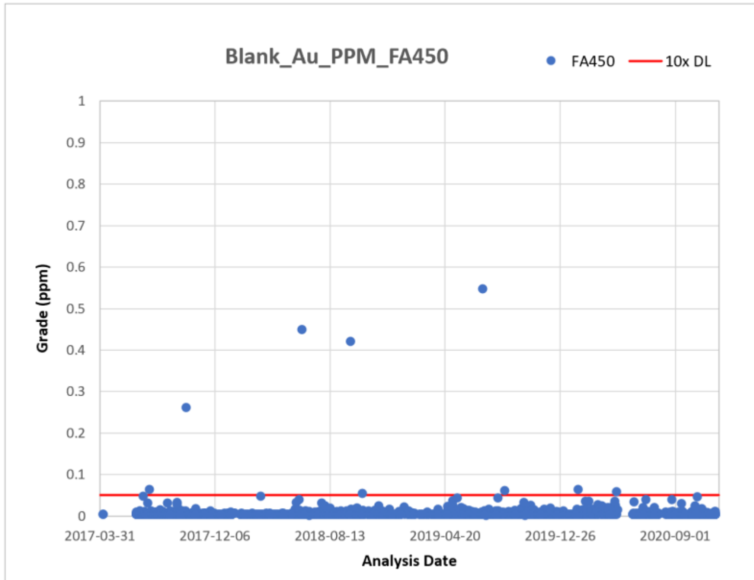


Figure 11-3: Time series plot for blank samples assayed by Bureau Veritas (FA450 Method) Failure limits set at 0.05 g/t Au (10x detection limit)

Blank_Au_PPM_GRA22
Summary Statistics

Observed Values	
Number of Samples	1447
Mean	0.118

	#	%
Failed	154	10.64%
Passed	1293	89.36%

Gross Outliers	
Greater than 1 ppm (20xDL)	
Number of Samples	65

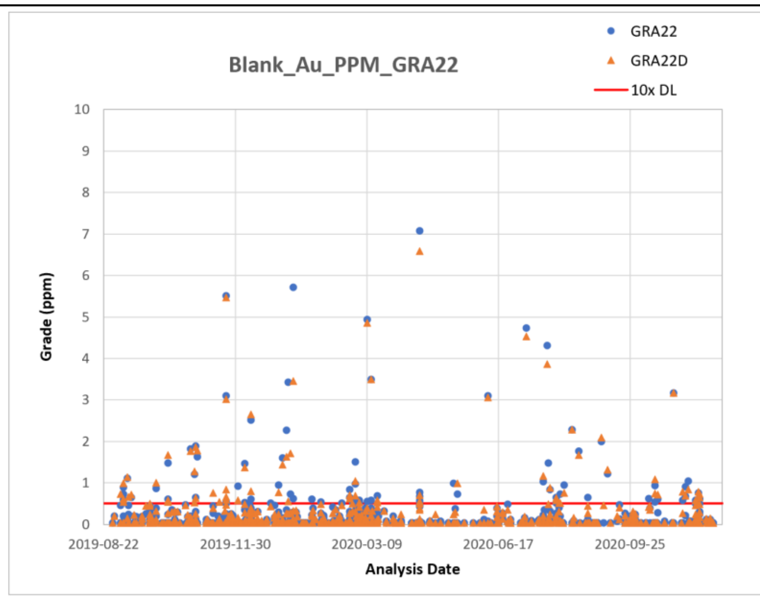


Figure 11-4: Time series plot for blank samples assayed by ALS (GRA22 Method) Failure limits set at 0.5 g/t Au (10x detection limit)

Blank_Au_PPM_FS652
Summary Statistics

Observed Values	
Number of Samples	199
Mean	0.026

	#	%
Failed	12	6.03%
Passed	187	93.97%

Gross Outliers	
Greater than 1 ppm (20xDL)	
Number of Samples	12

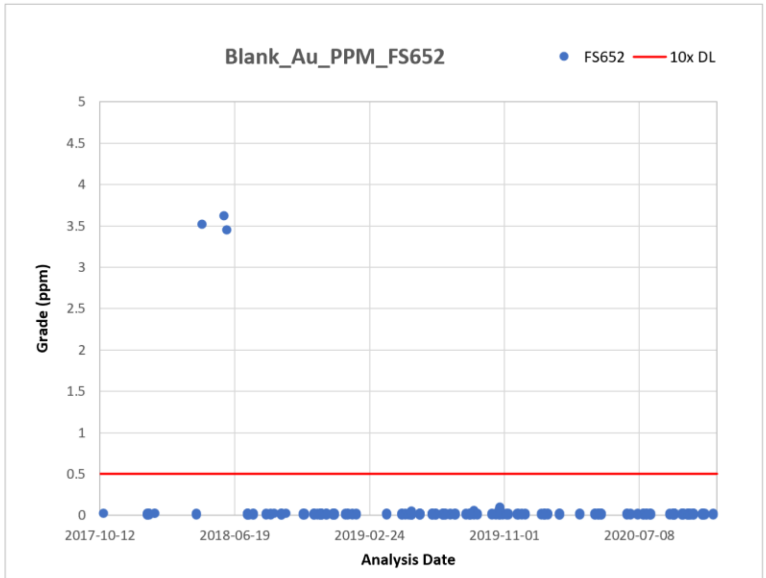


Figure 11-5: Time series plot for blank samples assayed by Bureau Veritas (FS652 Method) Failure limits set at 0.5 g/t Au (10x detection limit)

Blank_AuTotal_PPM_SCR24
Summary Statistics

Observed Values	
Number of Samples	2462
Mean	0.073

	#	%
Failed	104	4.22%
Passed	2358	95.78%

Gross Outliers	
Greater than 1 ppm (20xDL)	
Number of Samples	54

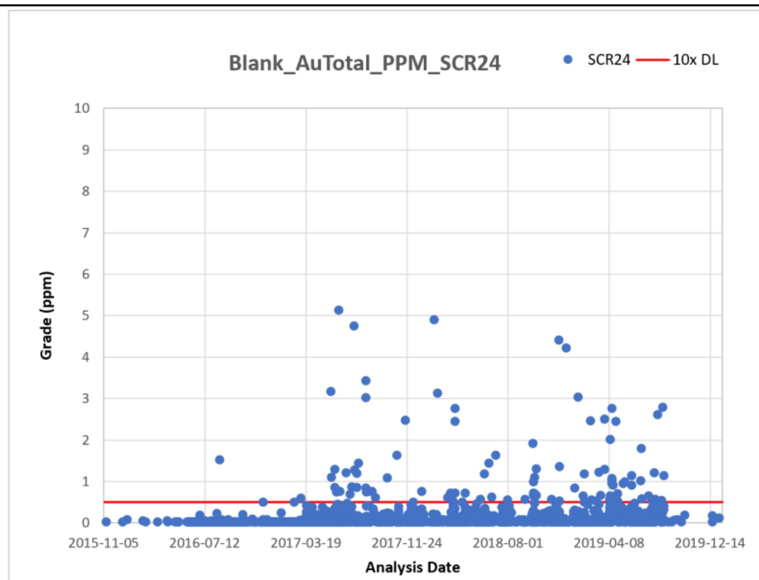


Figure 11-6: Time series plot for blank samples assayed by ALS (SCR24 Method) Failure limits set at 0.5 g/t Au (10x detection limit)

Blank_AuTotal_PPM_SCR24G
Summary Statistics

Observed Values	
Number of Samples	720
Mean	0.121

	#	%
Failed	83	11.53%
Passed	637	88.47%

Gross Outliers	
Greater than ppm ppm (20xDL)	
Number of Samples	43

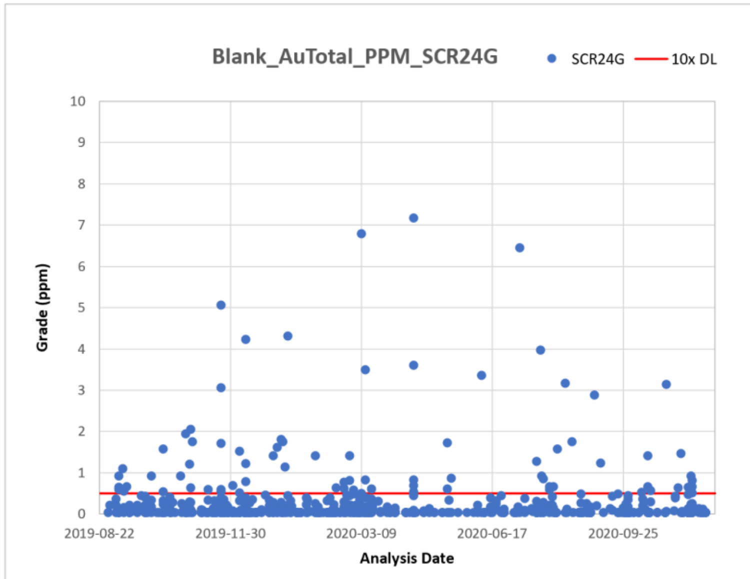


Figure 11-7: Time series plot for blank samples assayed by ALS (SCR24G Method) Failure limits set at 0.5 g/t Au (10x detection limit)

Comments for Monitoring Contamination

Given the high gold values and the amount of visible gold at Windfall, blanks are systematically inserted after each sample that could potentially cause contamination. When the potential for contamination is high, Osisko asks the laboratory for additional cleaning processes of the crusher and sprayer before passing the blank. Despite these precautions, there are still cases of contamination.

A higher number of failures can be seen beginning from March 2017 onwards. A possible cause for the increase of failures is the sharp rise in the drilling rate during March 2017 (from 12 to 24 drills) associated with the increase of high-grade results provided by the Lynx discovery. The massive influx of core managed and logged by Osisko's personnel and the samples treated by ALS for this period could explain the quality control performance. In reviewing failed blanks, the majority did not require follow-up as they were not found to affect subsequent samples or were not associated with samples of significant results.

Osisko is aware of this problem and has taken action accordingly. In all cases, each rejected blank value is tracked by Osisko to validate and rectify the problem. Most exceedances are due to cross-contamination between two samples. Inversion of a blank by a CRM and an erroneous entry in the database are also possible errors. In cases where a high-grade sample caused a blank fail and a clear contamination trail was identified, succeeding affected samples, along with the failed blank control would be resampled using quarter-split method and analyzed. In the case where the contamination source and/or contamination trail is not identifiable, all affected samples preceding and succeeding the failed blank would be quarter-split and analyzed. The process is applied until an uncontaminated blank or a value below 10x the detection limit is obtained.

11.1.6.1.2 Certified Reference Materials

The insertion of CRMs monitored accuracy and precision at the rate of once every 20 samples. A total of 61,124 CRM samples (of 45 different CRMs) were submitted from April 28, 2015 to November 30, 2020 (Table 11-2 and Table 11-5). CRMs cover a range of gold grades from 0.2 g/t to 12.11 g/t. Standards are obtained from Ore Research & Exploration Pty Ltd. ("OREAS").

Most CRMs have enough values to be represented on a control chart. Control charts showing analytical concentration values against warning limits (horizontal lines) have been prepared for each standard. Figure 11-8 to Figure 11-11 are representative charts of AA26 CRM performance at varying grades.

Standard materials were considered as failed when a gold result exceeded three standard deviations ("SD") (±3 SD) beyond the expected value (Table 11-5). A total of 2,781 events were recorded and commented upon when the analytical values of the CRM fell between the warning limits and the ±3 SD control limits. Failed CRMs are flagged to the laboratory with instructions to reassay all the pulps of the certificates (20 samples) affected with failed CRMs. If the analytical value fell between ±2 SD and ±3 SD, no reassaying was performed. If the analytical value exceeded the ±3 SD control limits, systematic reassaying was not always requested, particularly if the value was on the threshold of the limits. However, for mineralized zones, resampling was systematically performed. In cases where the analytical value clearly exceeded the ±3 SD control limit, reassaying was requested.

Table 11-5: Certified standards values, 95% confidence limits for gold reference material (ppm) with fire assay (April 28, 2015 to November 30, 2020)

Constituent (CRM)	Supplier	Certified Au value (ppm)	SD	95% Confidence limits	
				Low	High
OREAS 12a	OREAS	11.79	0.24	11.68	11.89
OREAS 15d	OREAS	1.559	0.042	1.54	1.579
OREAS 16a	OREAS	1.81	0.06	1.78	1.84
OREAS 19a	OREAS	5.49	0.1	5.45	5.54
OREAS 200	OREAS	0.34	0.012	0.336	0.345
OREAS 201	OREAS	0.514	0.017	0.507	0.521
OREAS 202	OREAS	0.752	0.026	0.742	0.763
OREAS 203	OREAS	0.871	0.03	0.859	0.884
OREAS 205	OREAS	1.244	0.053	1.221	1.267

Constituent (CRM)	Supplier	Certified Au value (ppm)	SD	95% Confidence limits	
				Low	High
OREAS 208	OREAS	9.248	0.438	9.052	9.444
OREAS 209	OREAS	1.58	0.044	1.56	1.59
OREAS 210	OREAS	5.49	0.152	5.42	5.55
OREAS 215	OREAS	3.54	0.097	3.51	3.57
OREAS 216b	OREAS	6.66	0.158	6.61	6.71
OREAS 217	OREAS	0.338	0.01	0.334	0.341
OREAS 218	OREAS	0.531	0.017	0.526	0.536
OREAS 219	OREAS	0.76	0.024	0.753	0.768
OREAS 220	OREAS	0.866	0.02	0.86	0.873
OREAS 221	OREAS	1.062	0.036	1.051	1.074
OREAS 222	OREAS	1.223	0.033	1.211	1.234
OREAS 223	OREAS	1.78	0.045	1.765	1.795
OREAS 224	OREAS	2.154	0.053	2.136	2.171
OREAS 226	OREAS	5.45	0.126	5.41	5.49
OREAS 228	OREAS	8.73	0.279	8.63	8.83
OREAS 228b	OREAS	8.57	0.199	8.51	8.63
OREAS 229	OREAS	12.11	0.206	12.05	12.18
OREAS 229b	OREAS	11.95	0.288	11.86	12.04
OREAS 239	OREAS	3.55	0.086	3.52	3.58
OREAS 501b	OREAS	0.248	0.01	0.244	0.251
OREAS 502b	OREAS	0.495	0.015	0.489	0.501
OREAS 504b	OREAS	1.61	0.04	1.59	1.62
OREAS 600	OREAS	0.2	0.006	0.198	0.202
OREAS 601	OREAS	0.78	0.031	0.769	0.791
OREAS 603	OREAS	5.18	0.151	5.12	5.23
OREAS 607	OREAS	0.69	0.024	0.681	0.699
OREAS 609	OREAS	5.16	0.139	5.11	5.2
OREAS 60c	OREAS	2.47	0.08	2.44	2.5
OREAS 60d	OREAS	2.47	0.079	2.44	2.5
OREAS 61d	OREAS	4.76	0.14	4.69	4.83
OREAS 61e	OREAS	4.43	0.15	4.38	4.48
OREAS 62c	OREAS	8.79	0.21	8.69	8.88
OREAS 62d	OREAS	10.5	0.33	10.36	10.64
OREAS 62e	OREAS	9.13	0.41	8.97	9.3
OREAS 62f	OREAS	9.71	0.239	9.63	9.8
OREAS 65a	OREAS	0.52	0.017	0.513	0.528

Oreas 218_Au_PPM_AA26
Summary Statistics

Expected Values	
Mean	0.531
Standard Deviation	0.017
Coefficient of Variation (CV)	3.20%

Observed Values	
Number of Samples	5839
Mean	0.531
Standard Deviation	0.017
Coefficient of Variation (CV)	3.21%
Failed	140
Failure %	2%
% Within 3 SD of Certified Mean	3%
% Within 2 SD of Certified Mean	24%
% Within 1 SD of Certified Mean	70%

Gross Outliers	
Less than 0.446 ppm and greater than 0.616 ppm	
Number of Samples	68

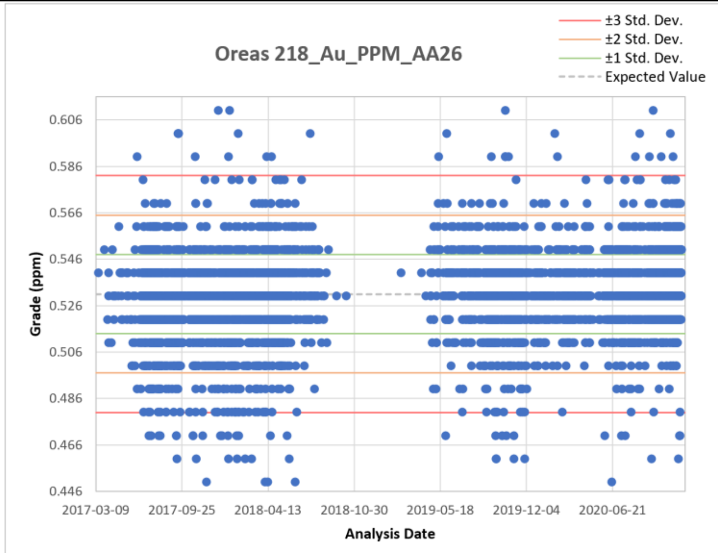


Figure 11-8: Results of standard OREAS 218 using AA26 Method

Oreas 221_Au_PPM_AA26
Summary Statistics

Expected Values	
Mean	1.062
Standard Deviation	0.036
Coefficient of Variation (CV)	3.39%

Observed Values	
Number of Samples	3818
Mean	1.059
Standard Deviation	0.033
Coefficient of Variation (CV)	3.07%
Failed	87
Failure %	2%
% Within 3 SD of Certified Mean	2%
% Within 2 SD of Certified Mean	14%
% Within 1 SD of Certified Mean	61%

Gross Outliers	
Less than 0.882 ppm and greater than 1.242 ppm	
Number of Samples	43

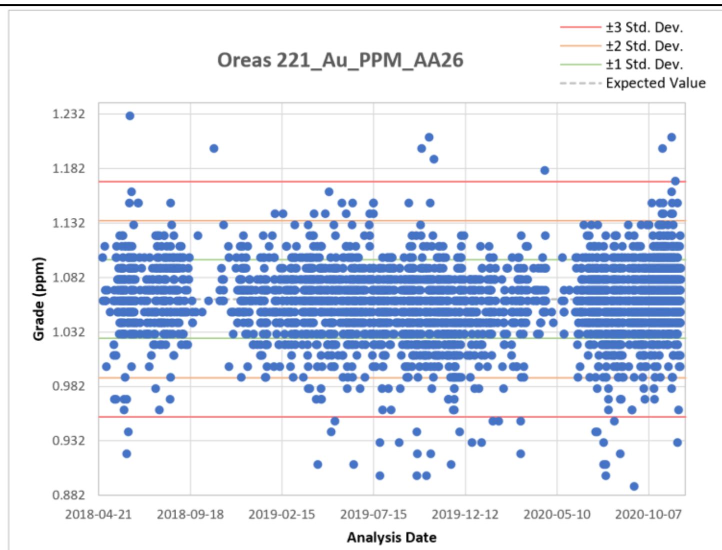


Figure 11-9: Results of standard OREAS 221 using AA26 Method

Oreas 215_Au_PPM_AA26
Summary Statistics

Expected Values	
Mean	3.540
Standard Deviation	0.097
Coefficient of Variation (CV)	2.74%

Observed Values	
Number of Samples	2405
Mean	3.490
Standard Deviation	0.097
Coefficient of Variation (CV)	2.78%
Failed	95
Failure %	4%
% Within 3 SD of Certified Mean	4%
% Within 2 SD of Certified Mean	23%
% Within 1 SD of Certified Mean	69%

Gross Outliers	
Less than 3.055 ppm and greater than 4.025 ppm	
Number of Samples	37

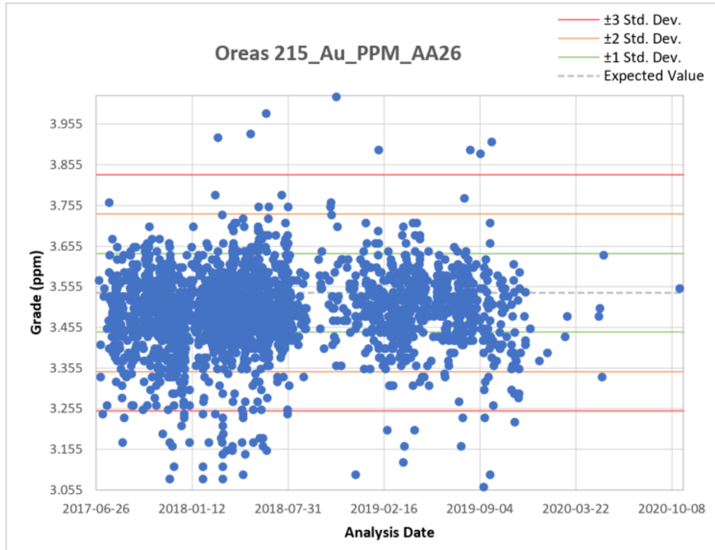


Figure 11-10: Results of standard OREAS 215 using AA26 Method

Oreas 228_Au_PPM_AA26
Summary Statistics

Expected Values	
Mean	8.730
Standard Deviation	0.279
Coefficient of Variation (CV)	3.20%

Observed Values	
Number of Samples	1224
Mean	8.543
Standard Deviation	0.249
Coefficient of Variation (CV)	2.91%
Failed	56
Failure %	5%
% Within 3 SD of Certified Mean	4%
% Within 2 SD of Certified Mean	24%
% Within 1 SD of Certified Mean	67%

Gross Outliers	
Less than 7.335 ppm and greater than 10.125 ppm	
Number of Samples	28

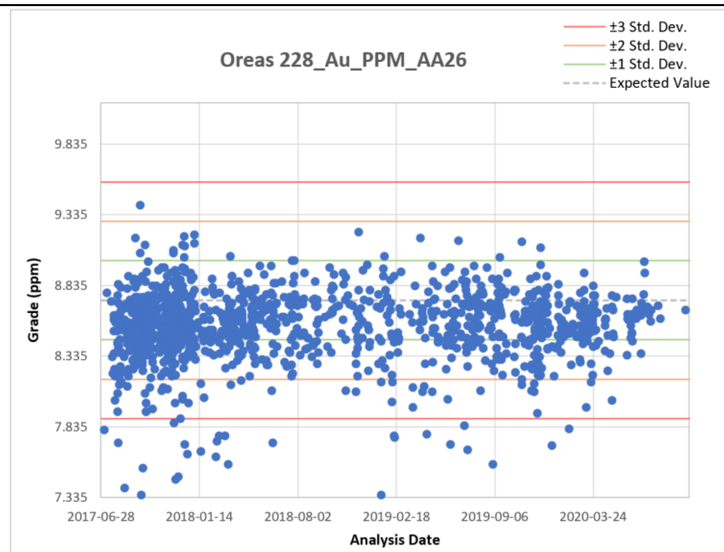


Figure 11-11: Results of standard OREAS 228 using AA26 Method

Comments for Monitoring Accuracy and Precision

The accuracy of the result (as a percentage of error) is measured as the difference between the average of the standard and the value assigned for the standard; gross outliers are excluded from this operation. For a laboratory, good accuracy constitutes the ability to give results as near as possible to the expected value.

The CRMs generally report within ±10% of the expected value and within three standard deviations. The mean accuracy of all inserted reference materials is 0.63%. Most results for the standards range from precise (<3%) to typical, according to standard industry precision criteria (3% to 5%). Accuracy over 5% concerns only seven CRMs with an insignificant number of samples.

The precision of the result (as a percentage) is represented by the value dispersion of the standard versus its average. Good precision for a laboratory constitutes the ability to repeat results with the smallest standard deviation possible. The mean precision of all inserted CRMs is 3.06%. These results are considered precise according to the standard industry precision criteria (3% to 5%).

The QP did not identify any accuracy or precision issues and concluded that the analytical data reviewed are acceptable to support a mineral resource estimate.

11.1.6.1.3 Umpire Check Assays

A component of the QA/QC program included umpire check assays or the determination of the analytical precision (repeatability) of the original gold assay data from the laboratory. ALS pulps were submitted to BV for inter-laboratory check assays (Figure 11-12). The assays for the pulp duplicates provide an estimate of the reproducibility related to the uncertainties inherent in the analytical method and the homogeneity of the pulps. The precision or relative percent difference calculated for the pulp duplicates indicates whether pulverizing specifications should be changed and/or whether alternative methods, such as screen metallics assays for gold, should be considered.

Prior to statistical analysis and plotting of the duplicates, outliers were removed from the dataset. Outliers are extreme values that can have a disproportionate influence on precision estimates based on duplicate data. In this case, only gross outliers (±300% difference) were manually removed as they could have been the result of human error. In addition, to prevent unwanted bias due to reproducibility issues on samples with very low grades or grades close to the detection limits, only samples above the lower limit value of 0.005 ppm were used.

The original ALS 3,605 pulps and BV pulps duplicates assays are plotted in Figure 11-12. Duplicate sets are presented as log-scaled plots to provide detail at lower concentrations. The scatter plot of pulps yielded a linear regression slope of 0.85 and a determination coefficient of 91.4%, which indicates that the average grade is close to the average original grade and there is good reproducibility.

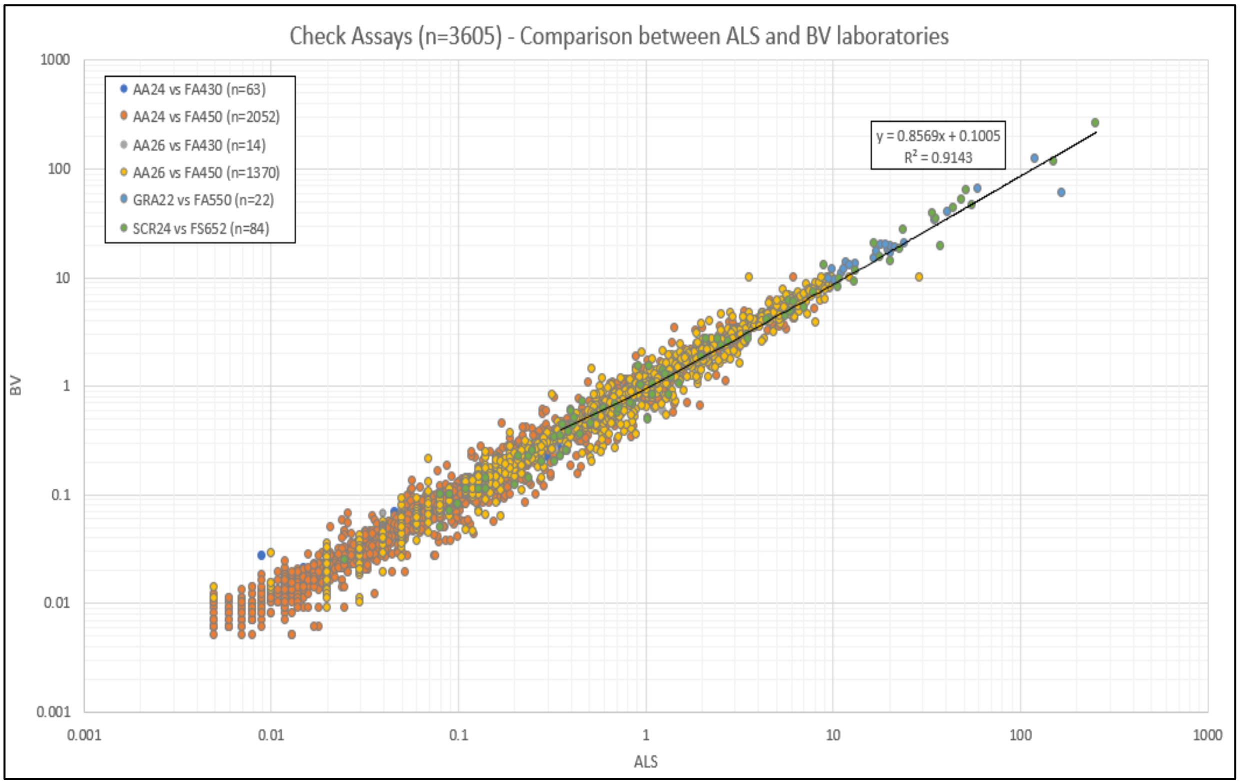


Figure 11-12: Post 2014 mineral resource estimate laboratory pulp duplicates for gold (g/t)
Values ≤ 0.005 ppm and outliers are removed from trend analysis

11.1.6.1.4 Density and Specific Gravity

Density and Specific gravity ("SG") are measured on a selection of samples, mostly within the mineralized zones. For the resource estimate, the database contains 155,230 samples with SG/Density values for 1,136,985 assay samples. Four different protocols have been used: GRA08b, GRA08, SPG04 and ELEDEN.

SG was measured by pycnometry by ALS Minerals (ALS code OA-GRA08b) and BV in Timmins (BV code SPG04).

In 2013, Eagle Hill conducted an internal test that compared specific gravity measurements using a water displacement method (GRA08 ALS method) and those obtained from pycnometry on pulverized material (GRA08B ALS method). The test results showed some variability when comparing the SG values of approximately 15 cm-long sample pieces. However, when the results from a number of these smaller pieces taken from one sample interval were averaged, the resulting SG data compared favourably to those data obtained from the ALS pycnometry.

In 2018, Osisko began an internal bulk density measurement program by the electronic densimeter method (ELEDEN method). The program has been completed on the Lynx zone, the Main zone and other sub-zones. Within the database, excluding outliers, there are 1,146 internal bulk density measurements from Eagle Hill and Osisko, along with laboratory SG comparable associated with resource samples. Table 11-6 shows basic statistics between methods, with gross outliers removed. Figure 11-13 shows the correlation between laboratory and internal bulk density measurements.

Table 11-6: Summary statistics between specific gravity GRA08b and electronic densimeter methods
(n = 1146)

Statistic	GRA08b (Unity)	Densimeter (Unity)
Min	2.47	2.02
Max	4.38	4.28
Mean	2.84	2.84
Median	2.81	2.80
Std Dev	0.14	0.15

Comments on density

The mean density between the two methods is identical at 2.84 (Table 11-6). The SG diagram trend indicates that laboratory measurements below 3.0 tend to be lower compared to internal measurements (Figure 11-13).

The slight difference in results between the two methods is not surprising. With the pycnometer method, the material is a homogenized pulp from the entire interval assayed. The electronic densimeter method uses a 10- to 15-cm long core sample and considers the porosity that is destroyed when grinding with the pycnometer method.

The QP considers the density results to be adequate for the preparation of a mineral resource estimate. The average density values are in line with the results expected of this deposit type.

11.1.6.2 Laboratory Quality Assurance and Quality Control

11.1.6.2.1 ALS Minerals

ALS follows an in-house QA/QC program. To ensure quality control at the sample preparation stage, ALS monitors the fineness of crushing and pulverizing according to the method specifications and inserts one sample preparation duplicate per batch of 50, taken from coarse crushed material. At the analytical stage, ALS runs its own blanks, reference materials and pulp duplicates. The frequency of analytical quality control can be seen in Table 11-7. Three months of pulp duplicate data from the most frequently used assay method, Au-AA26, taken from the ALS Webtrieve™ system, is plotted in Figure 11-14.

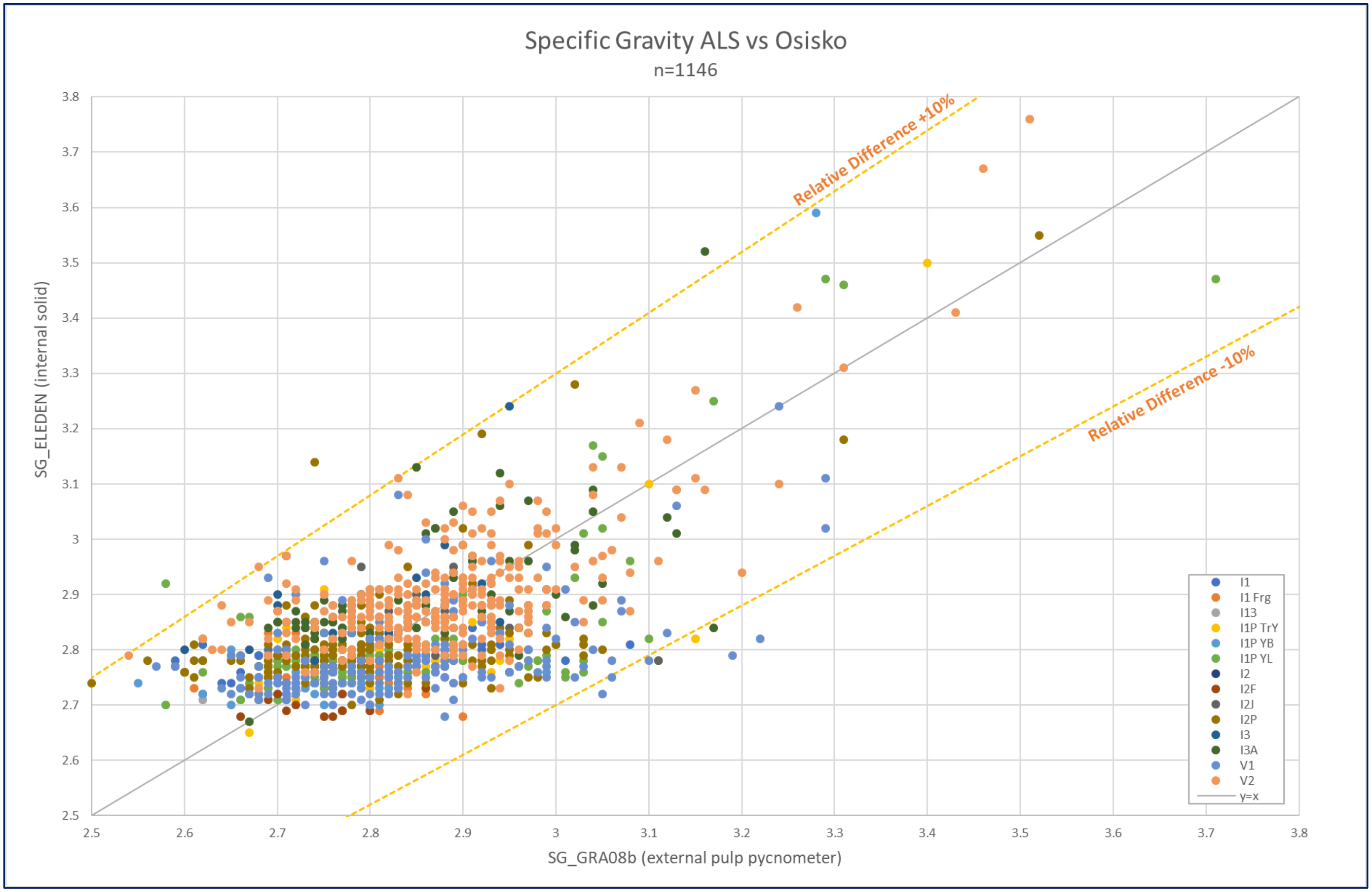


Figure 11-13: Laboratory specific gravity (OA_GRA08b) and internal bulk density measurement correlation (Eagle Hill and Osisko) Specific gravity measurements are coded by rock type

Table 11-7: ALS analytical quality control – Reference materials, blanks and duplicates

Rack size	Method	Quality control sample allocation
20	Specialty methods including specific gravity, bulk density and acid insolubility	2 standards, 1 duplicate, 1 blank
28	Specialty fire assay, assay-grade, umpire and concentrate methods	1 standard, 1 duplicate, 1 blank
39	XRF methods 2 standards, 1 duplicate, 1 blank	1 standard, 1 duplicate, 1 blank
40	Regular AAS, ICP-AES and ICP-MS methods	2 standards, 1 duplicate, 1 blank
84	Regular fire assay methods	2 standards, 3 duplicates, 1 blank

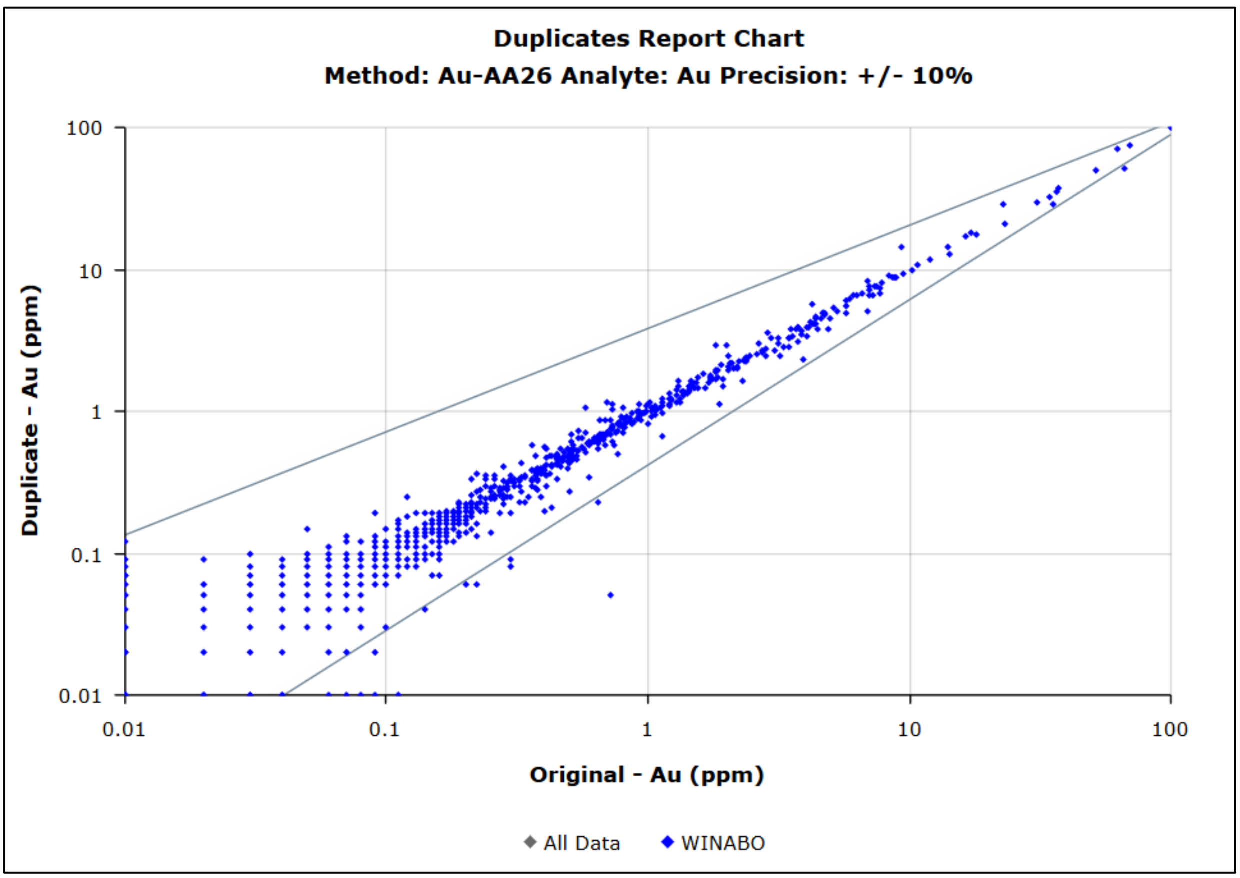


Figure 11-14: ALS pulp duplicates for Windfall samples (AA26)
WINABO: Client code at ALS for Windfall samples

11.1.6.2.2 Bureau Veritas

BV conducts its own internal laboratory quality control program. Laboratory analytical batches typically consist of 40 or 84 samples, with 10% to 15% laboratory-inserted control materials. At the sample preparation stage for rock and drill core samples submitted, granite or quartz sample-prep blanks are carried through all stages of preparation and analysis to confirm the cleaning protocols suffice. Reject duplicates ("DUP") of -10 mesh are created during the preparation stage and analyzed along with samples. Internal analytical controls include pulp replicates ("REP") to monitor analytical precision, reagent blanks ("BLK") to measure background and CRMs ("STD"). Pulp duplicates of FA450 data from the BV WebAccess system is shown in Table 11-8 and Figure 11-15.

Table 11-8: Bureau Veritas analytical quality control – Reference materials, blanks and duplicates

Internal quality control	Analytical lab batch of 40	Fire assay lab batch of 84
Analytical blank	1	2
Pulp replicate	1	2
Preparation duplicate	1	2
Reference material	2	3

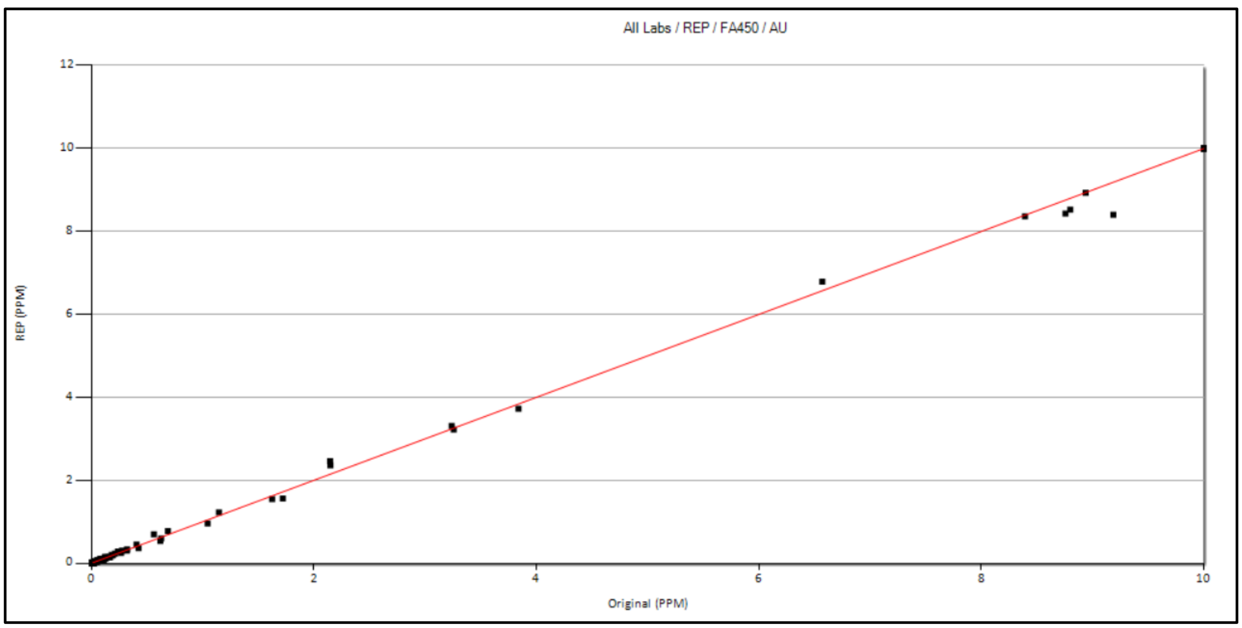


Figure 11-15: Bureau Veritas pulp duplicates (Method FA450)

11.1.6.3 Final Gold Value

In cases where multiple analysis methods were used to analyze gold content, a priority sequence was used to identify the final gold value to be used in resource estimation. The ranking priority is listed in Table 11-9. The formula used to select the final gold value for the database will choose the highest priority rank that has passed QA/QC; i.e., should AuTotal_ppm_SCR24 fail QA/QC, but the lower-ranked Au_ppm_AA24 passed QA/QC, the final gold value would be sourced from the Au_ppm_AA24 method.

Table 11-9: Gold method priority ranking

Ranking	Method code	Laboratory
1	AuTotal_ppm_SCR24	ALS Minerals
2	AuTotal_ppm_SCR24g	ALS Minerals
3	AuTotal_ppm_SCR21	ALS Minerals
4	AuTotal_ppm_CONSCR	ALS Minerals
5	AuTotal_gpt_FS652	Bureau Veritas
6	Au_ppm_GRA22	ALS Minerals
7	Au_ppm_GRA21	ALS Minerals
8	Au_ppm_AA26	ALS Minerals
9	Au_ppm_AA25	ALS Minerals
10	Au_ppm_AA24	ALS Minerals
11	Au_ppm_AA23	ALS Minerals
12	Au_ppm_PyroSAA	Bourlamaque(1)
13	Au_gpt_FA550	Bureau Veritas
14	Au_ppm_FA450	Bureau Veritas
15	Au_ppm_FA430	Bureau Veritas
16	Au_ppm_FAGRAV	Intertek – Chimitec(1)
17	Au_ppm_FAGEO	LabExpert1
18	Au_gpt_FAGr	Intertek - Chimitec(1)
19	Au_ppm_FA	Intertek - Chimitec(1)
20	Au_gpt_PYROGRAV	Bourlamaque(1)
21	Au_ppm_FA30	Intertek - Chimitec(1)
22	Au_ppm_FA50	Intertek - Chimitec(1)

Notes:
(1) Laboratory used for historical analyses.

11.2 Conclusions

The QP reviewed the sample preparation, analytical and security procedures, as well as insertion rates and the performance of blanks, CRM and umpire check assays for the Osisko drill holes and concluded that the observed failure rates are within expected ranges and that no significant assay biases are present. According to the QP's opinion, the procedure and the quality of the data are adequate to industry standards and the resulting database is suitable for the purpose of the Mineral Resource Estimate.

12. DATA VERIFICATION

The Mineral Resource Estimate ("MRE") in this report is based on drill data from several eras of drilling at the Windfall Project that include the historical holes completed between 1977 and 2015, and the current Osisko programs since 2015.

The overall database close-out dates for the resource estimates is November 30, 2020.

The project database contains 3,855 drill holes and 510 channels. The last drill hole included in the resource database is hole OSK-W-20-2413.

For the purpose of this MRE, the QP performed a basic verification on the entire Project database and checked 100% of the new holes since the last MRE (Murahwi and Torrealba, 2020).

12.1 Site Visits

Pierre-Luc Richard, P. Geo., and Charlotte Athurion, P. Geo., both from BBA, visited the Windfall Project on January 28 and 29, 2021 as part of the current mandate. The purpose of the visit was to review the Windfall Project with the Osisko team.

The 2021 site visit included visual inspections of cores, a tour of the core storage facility, an underground visit and a survey of numerous drill hole casings in the field and discussions with geologists from Osisko (Figure 12-1 to Figure 12-5). The QPs were also able to see drills in action on site (Figure 12-2).

A review of assaying, QA/QC and drill hole procedures, downhole survey methodologies, and descriptions of lithologies, alterations and structures were also completed during the site visit (Figure 12-3 and Figure 12-4).

12.2 Sample Preparation, Analytical, QA/QC and Security Procedures

Osisko procedures are described in Chapters 10 and 11 of the current report. Discussions held with on-site geologists allowed to confirm said procedures were adequately applied.

The QPs reviewed several sections of mineralized core while visiting the project. All core boxes were labelled and properly stored. Sample tags were present in the boxes and it was possible to validate sample numbers and confirm the presence of mineralization in witness half-core samples from the mineralized zones (Figure 12-4).

Figure 12-1: Drill collar review during the site visit

Figure 12-2: Visit of an active drill on site during the site visit

Figure 12-3: A) and B) Sample preparation room; C and D) Samples ready for shipment to the laboratory

Figure 12-4: A) and B) Core review in the core logging facility, with C) Sample tags; and D) Identification tags

Figure 12-5: A) Underground visit; and B) Observed mineralization

12.3 Drill Hole Database

12.3.1 Drill Hole Location

For drilling conducted since the previous MRE, all drill collars have been surveyed by Osisko Mining using a LEICA high-definition GPS. This internal surveying process for all surface and underground drill holes is regularly validated by external consulting surveyors.

For the data acquired since the last MRE, 100% of the drill hole locations recorded in the database were checked against the original certificates provided by the surveyor..

Random field checks with hand help GPSMAP 64S were conducted for six drill holes during the site visit from various drilling campaigns (Figure 12-1). The differences between the database location and the recorded measurement are within the order of precision of the handheld GPS (+/- 3 m).

12.3.2 Downhole Survey

Spurious measurements were tagged by Osisko geologists in the database and were not considered by the software for the modelling.

Consistency of the whole downhole survey table was checked by the QP by visually looking for unrealistic pathways and with automatic check of large variation of dip or azimuth in Excel.

12.3.3 Assays

The QP was granted access to the original assay certificates directly from the laboratories for all holes drilled by Osisko since the last MRE report (Murahwi and Torrealba, 2020) on the project. The assays recorded in the database were compared to the original certificates from the different laboratories and no discrepancies were detected.

As explained in Chapter 10 of the herein report, in the assay table, the final Au result, recorded as "Au_FINAL", is based on two tiers of ranking, including QA/QC status and analysis method. The "Au_FINAL" field is selected with an automated procedure that follows very precise rules about the selection of the final Au result, and is executed daily. The value recorded as "Au_FINAL" always corresponds to the Au value obtained by fire assay fusion and metallic screen method, when available, followed by fire assay fusion with gravimetric finish result, when available. If none of these results are available, the fire assay fusion with atomic absorption spectroscopy ("AAS") finish is selected for the "Au_FINAL" value.

The lower detection limits were set to half the detection limit.

This rule seems to have also been applied with historical assays data.

12.4 Conclusion

The QP is of the opinion that the drilling, sampling and assaying protocols in place are adequate. The database for the Windfall Project is of good overall quality. In the QP's opinion, the project database has been adequately validated and is suitable for use in the estimation of mineral resources.

13. MINERAL PROCESSING AND METALLURGICAL TESTING

The following chapter presents metallurgical testwork results for work conducted on the Windfall deposit as well as results from the following previously published reports:

- "NI 43-101 Technical Report Preliminary Economic Assessment of the Windfall Lake Project, Lebel-sur-Quévillon, Québec" by BBA (Hardie et al., 2018) ("PEA 2018");
- "An Updated Mineral Resource Estimate For The Windfall Lake Project, Located in the Abitibi Greenstone Belt, Urban Township, Eeyou Istchee James Bay" by Micon International Ltd. (Murahwi and Torrealba, 2020) ("MRE 2020");
- "Mineral Resource Estimate Update for the Windfall Project, located in Eeyou Istchee James Bay, Québec, Canada" by BBA (Richard et al., 2021) ("MRE 2021").

The testwork included in this report was carried out from June 2017 to December 2020.

13.1.1 Windfall Historical Testwork

The following sections related to the Windfall Lake PEA Testwork presents a summary of the testwork described from the BBA PEA 2018 report, the Micon 2020 and BBA 2021 MRE reports.

The metallurgical test program for the Windfall Lake Project PEA started in June 2017. The testwork program was performed under the supervision of BBA in collaboration with Osisko. The metallurgical test plan aimed to determine an optimal flowsheet and generate engineering data for average mineralized material feed grades. The metallurgical test plan included composite samples from four zones: Zone 27, Caribou, Lynx, and Underdog.

SGS laboratories in Québec City and Lakefield (Verret, 2018), (Samme, 2018 and 2019) provided most of the metallurgical services required. Additional thickening, rheology and filtration tests were performed by Pocock Industrial in Utah, USA (Pocock Industrial, 2018). A flow property testwork program was conducted by Jenike and Johanson Ltd. (Boucher, 2018). Bulk samples test on Zone 27 and Lynx were carried out at Northern Sun Redstone concentrator (Nguyên, 2019 and 2020). Detoxification tests were performed at Cyanco, Nevada (Cyanco Corporation, 2019).

13.1.2 PEA (2018)

Variability in term of zones, lithology, gold head grade, depth, and spatial distribution were considered. Further details for sample selection and compositing can be found in the PEA 2018 report (Hardie et al., 2018).

Composites for the metallurgical testwork program were submitted to head assays to evaluate chemical composition and specific gravity. A summary of the analysis results is presented in Table 13-1.

Table 13-1: Metallurgical testwork samples head assays range

	Assays					
	Au (g/t)	Ag (g/t)	Cu (%)	Zn (g/t)	S (%)	Fe (g/t)
Tested samples	1.2 - 14.8	<5 to 35.3	<0.01 to 0.073	39 – 7,030	2.73 - 17.3	29,800 - 166,000

13.1.2.1 PEA (2018) Comminution Testwork

Composites representing Zone 27, Caribou, Lynx and waste material, and blends of Zone 27 and Caribou were submitted to comminution testing that included SMC, RWi, BWi and Ai. The results of the comminution testwork are presented in Table 13-2. Figure 13-1 presents the signature plot (Mehrfert, 2018) from a sample (bulk pyrite flotation concentrate) that underwent 11 passes through the mill to reduce the particle size from a feed P_{80} of 150 µm to a produce P_{80} of 11.9 µm.

Table 13-2: PEA (2018) Summary of average SMC and Bond comminution test results per zone

Composite by zone	No. samples tested	Specific gravity	SMC		RWi (kWh/t)	BWi (kWh/t)	Ai (g)
			Axb	t_a			
Zone 27	8	2.98	32.8	0.3	-	10.7	-
Caribou	7	2.98	32.3	0.3	-	12.5	-
Lynx	1	2.77	22.4	0.2	-	13.5	
#9 (waste)	1	2.82	19.8	0.3	18.9	15.3	0.068

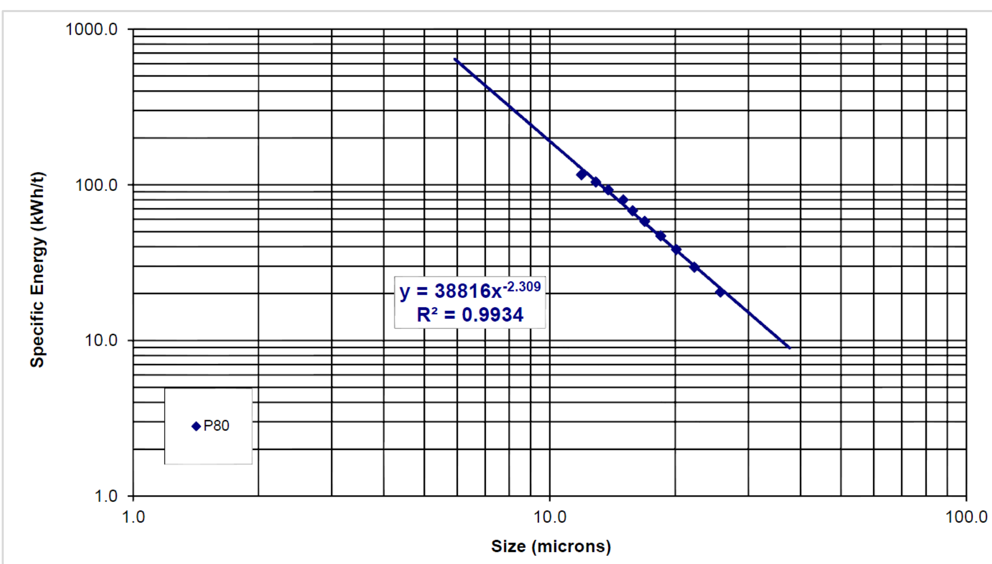


Figure 13-1: Flotation concentrate signature plot

13.1.2.2 PEA (2018) Gravity Recovery Testwork - Extended Gravity Recoverable Gold (e-GRG)

The composites for Zone 27, Lynx and Caribou were submitted to e-GRG testing at SGS Lakefield. The e-GRG test results were used by FLS to simulate (Fullam, 2018) potential gold recovery if gravity units were to be installed on either the cyclone feed (ball mill discharge) or on the cyclone underflow (“U/F”). Gravity recoverable gold (“GRG”) results were 41.4%, 25.8% and 40.7% gold recovery for Zone 27, Caribou and Lynx, respectively.

13.1.2.3 PEA (2018) Recovery Options with Gravity

Bulk Gravity Sample Preparation

Prior to the evaluation of the gold recovery in the flotation and leaching circuits, the Zone 27, Caribou and Lynx composites underwent a gravity pre-treatment. Only the gravity tailings were submitted to flotation testing. The bulk gravity results were 19.8%, 9.6% and 22.4% gold recovery for Zone 27, Caribou and Lynx respectively.

Flotation Testwork

Kinetic rougher pyrite flotation tests were conducted on the Zone 27, Caribou and Lynx composites following a gravity pre-treatment. Each test was conducted over 10 min, with intermittent sampling at 1, 2, 4 and 10 minutes. Both the PAX collector and the MIBC (methyl isobutyl carbinol) frother were dosed at various points during the test.

The results of the flotation tests indicated that weight recovery to the rougher concentrate correlated very well with the sulphur grade in the flotation feed. For all three zones, gold recovery to the concentrate was 96%, 92% and 91% for the Zone 27, Caribou and Lynx composites respectively. The concentrate ranged between 15% and 29% of the initial flotation feed mass for the three composites.

Leaching Testwork

Two series of leaching tests were conducted on the Windfall composites. The first consisted of whole rock leach (“WRL”) of the gravity tailings, while the second involved leaching of both the concentrate and tailings products resulting from flotation of the gravity tails.

A single WRL test was performed using the Lynx material gravity tails. Recovery of 85.2% was achieved for gold.

For pyrite flotation concentrate leaching, a series of bottle roll leaching tests were conducted on the Zone 27, Lynx and Caribou. Prior to leaching, the pyrite concentrates were reground to and P_{80} of approximately 12 µm in a laboratory scale ball mill. The reground concentrates were then re-pulped to 35% (w/w) solids to be leached for 18 hours with intermittent sample collection. No pre-treatment was applied. For all three zones, gold recovery was 83.5%, 90.6% and 86.7% for the Zone 27, Caribou and Lynx composites respectively.

Gold recovery from the flotation tailings leach was assessed in a series of bottle roll tests conducted on all three composites, Zone 27, Lynx and Caribou. The tailings did not undergo regrinding or pre-treatment prior to cyanidation. The flotation tailings were re-pulped to 50% (w/w) solids and leached for 24 hours with intermittent sample collection. The average gold recovery was 78.8%, 74.4% and 62.1% for the Zone 27, Caribou and Lynx composites respectively.

13.1.2.4 PEA (2018) Recovery Options without Gravity

Flotation Testwork (without Gravity)

Kinetic rougher pyrite flotation tests were conducted on the 26 samples from Zone 27, 20 samples from Caribou and two tests on Lynx composites with no gravity pre-treatment. Each test was conducted over 10 min, with intermittent sampling at 1, 2, 4 and 10 min. Both the PAX collector and the MIBC frother were dosed at various points during the test.

For all three zones, the rougher flotation response showed a very strong correlation between sulphur head grade and weight recovery to the concentrate.

Gold and silver recoveries to the flotation concentrate were 92.0% and 83.8% respectively for Zone 27 and 93.4% and 89.1% for Caribou. Gold recovery to the Lynx concentrate was lower at 84.5%, however, the feed was not considered representative of the zone with a head grade of ~21 g/t. Both the flotation concentrates and tailings products had disproportionately high gold grades of ~86 g/t and 4 g/t respectively.

Leaching (without Gravity)

Three types of leaching tests were conducted on samples with no previous gravity pre-treatment: WRL with and without carbon, leaching of reground pyrite flotation concentrates and leaching of pyrite flotation tailings. In each series, optimization tests were conducted to determine the ideal conditions for variability testing. Some of the parameters evaluated include the effect of grind size, pulp density, leach time and NaCN dosage as well as leaching with and without carbon. All leaching tests, unless otherwise noted, were conducted as bottle rolls.

The optimized test conditions selected for each type of test are presented in Table 13-3.

Table 13-3: Leaching test conditions

Test	Feed K_{80} (µm)	Pulp density (% w/w)	Leaching parameters					
			Time (h)	Carbon (g/L)	$Pb(NO_3)_2$ (g/t)	NaCN (g/L)	DO (ppm)	pH
Whole rock leach (CIL)	47	40	72	10	500	1.2	8-9	10.5
Whole rock leach (no carbon)	76	40	72	n/a	n/a	1.2-1.5	6-10	10.5
Flotation concentrate - optimization	11-32	35	18-72	n/a	n/a	0.7-1.5	4-7	10.5
Flotation concentrate - variability	~12	35	18	n/a	n/a	1.5	3.4-4.5	10.5
Flotation tails - optimization	92-170	45-50	24-48	n/a	n/a	0.5	8-11.3	10.5
Flotation tails - variability	156	50	24	n/a	n/a	0.5	5-8	10.5

Gold recoveries ranging from 86% to 91% were observed for the 12 WRL tests conducted. A marked improvement of approximately 5% in recovery was observed for the tests conducted with carbon ("CIL") when compared to those without carbon. For both the Zone 27 and Caribou materials, the improvement in recovery was accompanied by increases in both NaCN and lime consumption. Lead nitrate was added to the CIL series of tests, and a finer feed size, P_{80} of 47 µm, was used.

The concentrate of pyrite flotation without gravity pre-treatment were reground and submitted to cyanidation. For all materials tested, gold recoveries ranging from 84% to 98% were observed. Silver recovery values were more variable with a minimum and maximum of 47% and 87% respectively.

The observed gold recoveries from leaching of the flotation tailings in individual tests from Zone 27 and Lynx zone ranged from 31.3% to 88.8%, while silver recoveries varied between a minimum value of 7.3% and a maximum value of 74.5%.

The recovery for the Lynx blend flotation tails was 84.2% for gold and 79.8% for silver.

13.1.2.5 PEA (2018) Thickening Testwork

Static settling tests were conducted on blended samples of flotation concentrates, flotation tailings and on the PEA sample leach residue. The tests including flocculant screening showed that each sample flocculated and settled well using the Magnafloc 10 or SNF AF910AH flocculant, reaching an underflow density over 61%(w/w).

13.1.2.6 PEA (2018) Rheology

The slurry rheology (Pocock Industrial, 2018) was assessed using Fann and Haake (for paste-range) viscometers to establish the link between spindle speed (shear rate) and slurry density to apparent viscosity. The relationship between shear stress and shear rate also enables to get the yield value over the range of solids content of interest. The results for the combined reground pyrite concentrate and flotation tailings are illustrated in Figure 13-2.

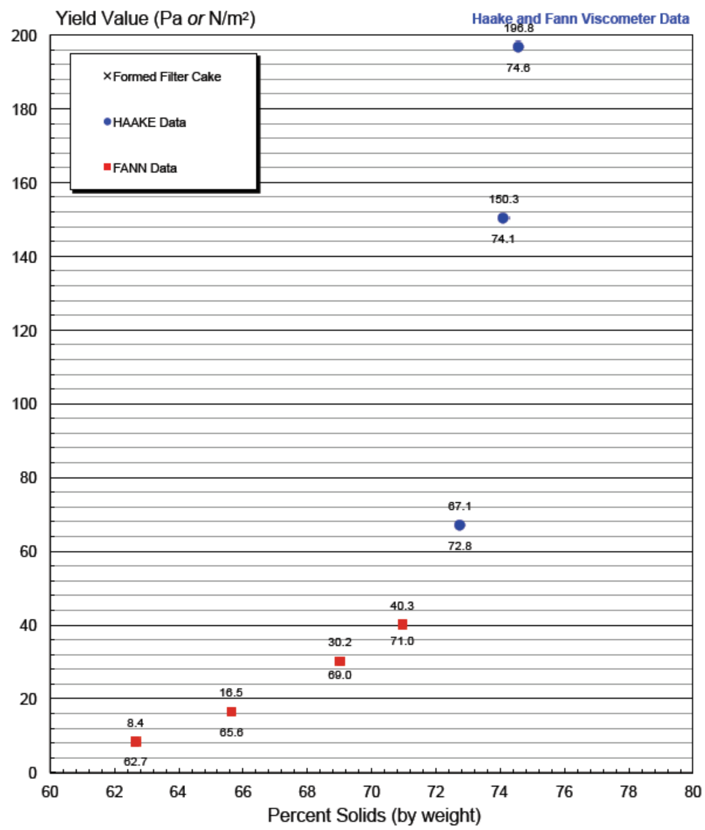


Figure 13-2: Yield stress vs. slurry density for combined reground pyrite concentrate and flotation tailings.

13.1.2.7 PEA (2018) Filtration Testwork

Testing (Pocock Industrial, 2018) was performed on the thickened blend of flotation concentrate and tailings leach residues.

Based on the filtration results obtained by Pocock, pressure filtration under a variety of conditions yielded cake moistures ranging from 6% to 14%. Several operating conditions were identified under which a dry, stackable cake was produced with good filtrate clarity.

13.1.3 Mineralogical Study (2017-2018)

Gold deportment studies were conducted by SGS (Zhou and Downing, 2017 and 2018) on five composites: P1-CA-D and P1-CA-U from Caribou, P1-27-D and P1-27-U from Zone 27, and P3-Lynx (from Lynx). The composites head assays ranged from 5.18 to 8.88 Au g/t. For all samples, except P1-CA-U, gold minerals identified occur mainly as Au/Ag alloys, including native gold (varying from 63% to 90%), electrum (5% to 25%) and petzite (17.1% for P3-Lynx). For the sample P1-CA-U, the gold minerals were identified mainly as kustelite (46 %), electrum (44%) and minor amount of electrum (9%). The main findings for the visible microscopic gold mineral grains (≥0.5um) are summarized in Table 13-4.

Table 13-4: Characteristics of microscopic gold per sample

Sample ID	# of gold grains	% liberated & exposed	Average size (µm)	Minerals associated with exposed and locked Au-minerals
P1-CA-D	555	83.3	0.6 - 55.4	Pyrite 62.7%, quartz 25.3%, dolomite 3.46%, silicate2.83%, silicate/pyrite 2.90%, pyrite/quartz 1.29%, and other minerals <1%
P1-CA-U	419	77.9	0.6 – 102.2	Pyrite 63.3%, dolomite 10.3%, silicate 9.23%, quartz 6.55%, CuS/pyrite 6.45%, and other minerals <1%
P1-27-D	566	67.6	0.5 – 90.0	Pyrite 59.1%, silicate 17.2%, quartz/pyrite 12.4%, silicate/pyrite 4.42%, calcite 1.59%, quartz 1.35%, arsenopyrite/pyrite 1.11%, and other minerals <1%
P1-27-U	376	79.0	0.6 – 49.0	Pyrite 73.1%, silicate/pyrite 8.75%, silicate 6.29%, arsenopyrite/pyrite 3.96%, quartz/pyrite 3.21%, sphalerite 2.21%, and other minerals <1%
P3-Lynx	2,807	41.6	0.6 – 209.6	Pyrite 45.6%, pyrite/quartz 20%, 2 to 10% quartz, silicates, dolomite, hessite, altaite, altaite/hessite, and <2% pyrite/silicates, hessite/pyrite, silver, galena/pyrite, chalcopyrite, and other minerals

13.1.4 Flow Property Testwork (2018)

A flow property testwork program was conducted by Jenike and Johanson Ltd. (Boucher, 2018). The objective of the program was to provide mineralized material flow properties and a conceptual design for a mineralized material storage silo of 2,000 t capacity, including a material reclaim system. The details and results are presented in the MRE 2020 report (Murahwi and Torrealba).

13.1.5 Bulk Samples Test

Both bulk samples tests (Zone 27 and Lynx) were performed at the Northern Sun Redstone concentrator at an average throughput of 30 tonnes per hour. Mineralized material processing produced gravity and flotation concentrates. Further details can be found in the MRE 2020 report.

Zone 27 and Lynx bulk sample results are presented in Table 13-5 and Table 13-6.

Table 13-5: Zone 27 bulk sample reconciled results

Tonnes (dry)	Head grade		Contained ounces		Gravity concentrate		Flotation concentrate		Overall recovery		Recovered ounces	
	Au (g/t)	Ag (g/t)	Au	Ag	Tonnes (dry)	Au Rec (%)	Tonnes (dry)	Au Rec (%)	Au Rec (%)	Ag Rec (%)	Au	Ag
5,500	8.53	8.2	1,508	1,450	11.6	34.5	398.1	59.2	93.7	93.4	1,413	1,355

Table 13-6: Lynx zone bulk sample reconciled results

Tonnes (dry)	Head grade		Contained ounces		Gravity concentrate		Flotation concentrate		Overall recovery		Recovered ounces	
	Au (g/t)	Ag (g/t)	Au	Ag	Tonnes (dry)	Au Rec (%)	Tonnes (dry)	Au Rec (%)	Au Rec (%)	Ag Rec (%)	Au	Ag
5,716	17.8	11.2	3,271	2,176	9.7	66.7	284.4	91.7	97.2	94.3	3,181	2,052

13.2 MRE (2021)

13.2.1 MRE (2021) Comminution Testwork

Additional comminution testwork on waste, Zone 27, Caribou, Lynx and Underdog composites was performed at SGS including SMC, RWi, BWi and Ai. The results of the comminution testwork are presented in Table 13-7. For Zones 27 and Caribou, Axb is harder than the values obtained during the PEA 2018 testwork campaign. For the waste, it is softer than the previous values but only one sample was tested.

Table 13-7: Summary of average SMC and Bond comminution test results per zone

Composite by zone	No. samples tested	Specific gravity	SMC		CWi (kWh/t)	RWi (kWh/t)	Bwi (kWh/t)	Ai (g)
			Axb	t_a				
Zone 27	4	2.87	29.8	0.3	-	14.9	12.1	-
Caribou	4	2.86	29.2	0.3	-	15.7	12.9	-
Lynx	4	2.76	27.5	0.3	-	15.5	12.4	
Underdog	2	2.84	25.1	0.2	-	-	15.25	-
Waste	27	2.80	27.7	0.4	18.3	16.5	13.5	0.2

13.2.2 MRE (2021) Gravity Recovery Testwork

13.2.2.1 Extended Gravity Recoverable Gold (e-GRG)

Regarding the gap observed during the PEA 2018 Lynx bulk sample vs. the tested Lynx composite test phase, material from this same bulk sample was submitted to e-GRG testing at SGS Lakefield. The tested GRG value was 66.9%, similar to the result obtained during the Lynx bulk sample.

Considering the variance between the two results and the amount of visible gold reported by the geologists, it is recommended to perform more e-GRG tests to obtain a more reliable idea of the GRG.

An e-GRG test was also performed on a composite from Underdog zone leading to a GRG of 44.1%.

13.2.2.2 Bulk Gravity Testwork

Prior to the evaluation of the gold recovery in the leaching circuit, the Zone 27, Caribou and Lynx composites underwent a gravity pre-treatment. Only the gravity tailings were submitted to leaching testing. The bulk gravity results are presented in Table 13-8. The gold distribution in percentage varies from 1.2% to 20.0%.

Table 13-8: Bulk gravity reconciled results

Zone	Sample	Weight (kg)	P_{80} (µm)	Head grade calculated Au g/t	Falcon - Mozley Concentrate		
					Grade Au g/t	Distribution (%)	
						Weight	Au
Caribou	P3-A	20.2	110	8.36	333.9	0.05	1.83
Caribou	P3-B	27.8	105	9.18	378.8	0.03	1.19
Caribou	P3-C	17.3	100	6.17	795.0	0.05	6.2
Caribou	P3-D	12.3	99	11.62	2,460.0	0.05	9.65
Caribou	Caribou HP-LG	9.9	~150	3.23	247.0	0.1	6.8
Caribou	Caribou LP-LG	11.1	~150	3.46	289.0	0.1	6.7
Zone 27	P3-E	29.8	107	3.89	249.0	0.03	1.84
Zone 27	P3-F	8.7	132	10.36	650.0	0.10	6.09
Zone 27	P3-G	19.7	114	3.55	538.0	0.04	5.56
Zone 27	P3-H	17.8	96	8.63	4,165.0	0.03	16.6
Zone 27	HP-LG	11.1	~150	5.09	245.0	0.1	4.5
Zone 27	LP-LG	9.7	~150	2.85	109.0	0.1	4.3

Zone	Sample	Weight (kg)	P_{80} (µm)	Head grade calculated Au g/t	Falcon - Mozley Concentrate		
					Grade Au g/t	Distribution (%)	
						Weight	Au
Lynx	P3-I	21.4	101	4.71	277.0	0.04	2.22
Lynx	P3-J	22.3	115	11.54	859.0	0.04	2.95
Lynx	P3-K	21.4	103	6.31	1,396.3	0.04	8.15
Lynx	P3-L	20.7	103	10.32	1,518.2	0.05	7.26
Underdog	HP-HG	10.87	~150	6.35	1,448.0	0.06	13.39
Underdog	HP-MG	10.91	~150	6.93	679.0	0.12	11.99
Underdog	LP-LG	11.04	~150	3.21	227.0	0.11	7.46
Underdog	LP-MG	11.1	~150	7.19	1,605	0.09	19.97
Underdog	LP-HG	11.3	~150	10.22	1,903	0.05	10.22
Underdog	HP-LG	11.2	~150	2.54	70.0	0.08	2.28

Theses results were used by FLS (Arnold, 2020) to re-simulate potential gold recovery if the gravity units with intensive leach reactor were to be installed on either the cyclone feed (ball mill discharge) or on the cyclone U/F.

Gravity recovery estimated by the simulations with 100% cyclone underflow were 30.9%, 40.9% and 36.3% gold recovery for Main, Lynx and Underdog respectively

13.2.3 MRE (2021) Leaching Testwork

Following the PEA 2018, it was determined the best processing option was a comminution circuit with gravity followed by CIL. Optimization testwork was performed to determine the optimal leaching parameters on the gravity tails. A total of 38 CIL optimization tests were carried out varying: pre-leaching parameters, with or without $Pb(NO_3)_2$ at different concentrations, leaching feed size, slurry density, leaching time, NaCN concentration and DO concentration. pH was maintained at approximatively 10.5.

The following Table 13-9 presents the parameters considered as optimal following this optimization phase.

Table 13-9: MRE (2021) Optimized leaching parameters

Feed		Pre-leaching parameters				Leaching parameters				
K_{80} (µm)	Density (%)	Time (h)	DO (ppm)	pH	$Pb(NO_3)_2$ (g/t)	Time (h)	Temp (ºC)	Carbon (g/L)	DO (ppm)	pH
37	40	4	12-14	10.5	300	24	19	10	12-14	10.5

Subsequently, variability testwork was performed on gravity tails composites from different zones, gold head grade, depth, and spatial area. The results are presented in the Table 13-10. 23 tests were performed, results ranging from 80.8% to 97.2% Au recovery and 67.4% to 91.2% Ag recovery.

Table 13-10: Variability leaching results

Zone	Sample Name	Reagent Addition		Reagent Consumption		WAD	Au Test Results		Ag Test Results	
		NaCN kg/t	CaO kg/t	NaCN kg/t	CaO kg/t	mg/L	Head Calc. Au g/t	Au Rec %	Head Calc. Ag g/t	Ag Rec %
Caribou	P3-A	0.88	4.51	0.53	4.49	88.8	5.97	91.22	4.68	76.96
Caribou	P3-B	0.91	4.64	0.57	4.62	93.7	8.50	94.54	8.71	81.75
Caribou	P3-C	0.90	4.07	0.47	4.04	110	5.13	92.84	4.49	80.05
Caribou	P3-D	0.98	4.63	0.66	4.61	90.2	10.67	93.73	8.34	79.04
Caribou	Caribou HP-LG	0.80	2.25	0.43	2.23	109	2.71	86.96	9.73	67.40
Caribou	Caribou LP-LG	0.89	3.47	0.53	3.40	80.1	2.98	88.72	3.28	78.16
Zone 27	P3-E	0.92	3.23	0.54	3.22	110	3.71	88.99	6.31	85.37
Zone 27	P3-F	0.95	4.10	0.55	4.08	74.3	8.54	93.30	12.80	84.93
Zone 27	P3-G	0.98	3.28	0.54	3.27	81.3	4.48	92.89	3.99	70.22
Zone 27	P3-H	0.99	3.19	0.66	3.18	78.6	6.82	91.78	6.82	81.48
Zone 27	Zone 27 HP-LG	0.80	2.57	0.40	2.51	85.7	3.98	92.27	5.00	73.75
Zone 27	Zone 27 LP-LG	0.79	2.02	0.36	1.97	125	2.76	80.79	6.32	74.83
Lynx	P3-iI	1.16	3.34	0.86	3.32	62.3	4.11	91.38	3.57	82.87
Lynx	P3-J	0.88	2.45	0.63	2.43	86.7	10.46	93.92	10.79	84.34
Lynx	P3-K	0.96	2.54	0.43	2.51	110	5.35	93.84	5.86	82.43
Lynx	P3-L	1.03	2.55	0.65	2.54	91.8	8.61	97.16	13.27	91.19
Lynx	Lynx HP-LG	0.80	1.89	0.25	1.83	166	2.35	88.98	2.64	72.68
Lynx	Lynx LP-LG	0.82	2.73	0.40	2.66	117	3.23	87.92	3.26	72.01
Underdog	Underdog HP-HG	0.94	2.88	0.56	2.84	107	9.29	95.60	5.14	89.46
Underdog	Underdog HP-MG	0.85	2.74	0.45	2.72	112	6.12	93.29	3.20	80.88
Underdog	Underdog LP-LG	0.88	2.25	0.47	2.23	124	2.97	94.81	2.29	76.87
Underdog	Underdog LP-HG	0.87	2.20	0.59	2.20	110	8.73	94.06	8.40	80.94
Underdog	Underdog HP-LG	1.06	2.83	0.75	2.78	97.5	2.65	92.27	2.51	79.47

13.2.4 MRE (2021) Rheology Testwork

Additional rheology testwork was performed at SGS on a leach variability sample to determine at which %solid a degree of thixotropic response was exhibited. In this case, above 62.7% w/w solids, the resistance to flow decreases during constant shearing (Ashbury & Liu, 2018). Test results are summarized in Figure 13-3.

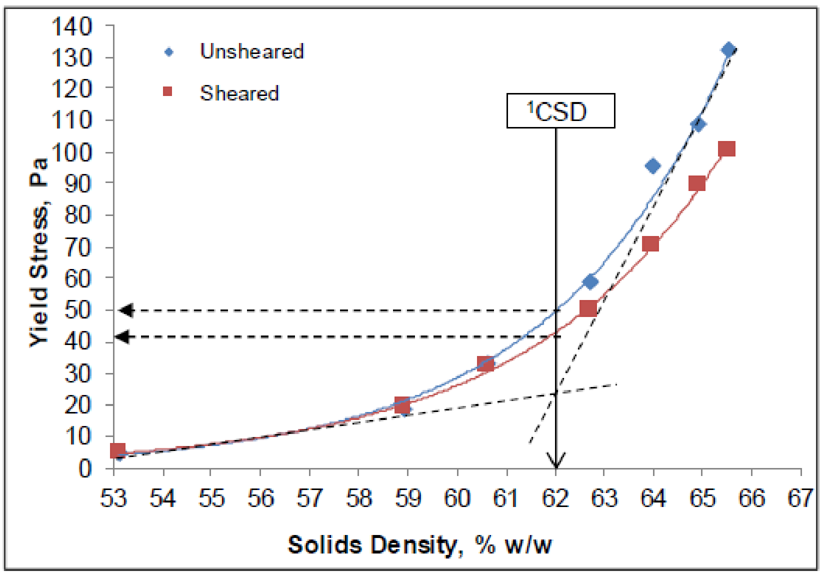


Figure 13-3: Yield stress results vs. solids density

13.2.5 MRE (2021) Detoxification Testwork

The SO_2/AIR process was investigated at Cyanco's lab in Sparks, Nevada (Cyanco Corporation, 2019). The sample, a mix of Lynx, Main, Underdog and Osborne zones derived from the leach variability testwork was sent from SGS to Cyanco where it has been split in two: "Sample with GoldiLOX[1]" and "Sample Without GoldiLOX".Leach testwork showed GoldiLOX led to an increase in gold recovery and detox was then performed to validate its impact on the detox process itself, allowing trade-off study.

Testwork showed 2 hours of retention time are required and the two targets, below 10 and 5 CN_{WAD} could be met for all samples at 40 or 45% solid. SO_2 addition ranged from 4.0 to 6.0 (g/g CN_{WAD}) and $Ca(OH)_2$ addition ranged from 2.1 to 3.5 (g/gCN_{WAD}). Cu^{2+} as catalyzer is not required.

[1] GoldiLOX is a product from Gekko. It is an advanced leach accelerant that can increase gold recovery while shortening intensive cyanidation times, making gold production a faster and more effective process.

13.3 Windfall Recent Testwork

The following sections present a summary of the testwork performed since the PEA 2018, MRE 2020 and MRE 2021 reports.

The testwork program was performed under the supervision of BBA in collaboration with Osisko. The metallurgical test plan aimed to collect further metallurgical information. The metallurgical test plan included composite samples from four zones: Zone 27, Caribou, Lynx and Underdog.

SGS laboratories in Québec City and Lakefield (Samme, 2018 & 2019) provided most of the metallurgical services required.

Additional tailings filtration and paste production laboratory testwork was carried out by Pocock Industrial and Paterson & Cooke. The purpose of the laboratory program was to provide information on dewatering, rheological and strength characteristics of the mill tailings to determine the most suitable paste backfill mix design to reach the underground mine needs.

13.3.1 PEA Sample Selection and Compositing

Composites samples were prepared from NQ drill hole intervals located within the mineral resource envelope for metallurgical testing. A total of 936 intervals totalling 784 m of core from 317 different drill holes were selected to prepare composites, each having a sufficient quantity of material to complete the proposed metallurgical testwork.

The hole locations are illustrated in Figure 13-4 and Figure 13-5.

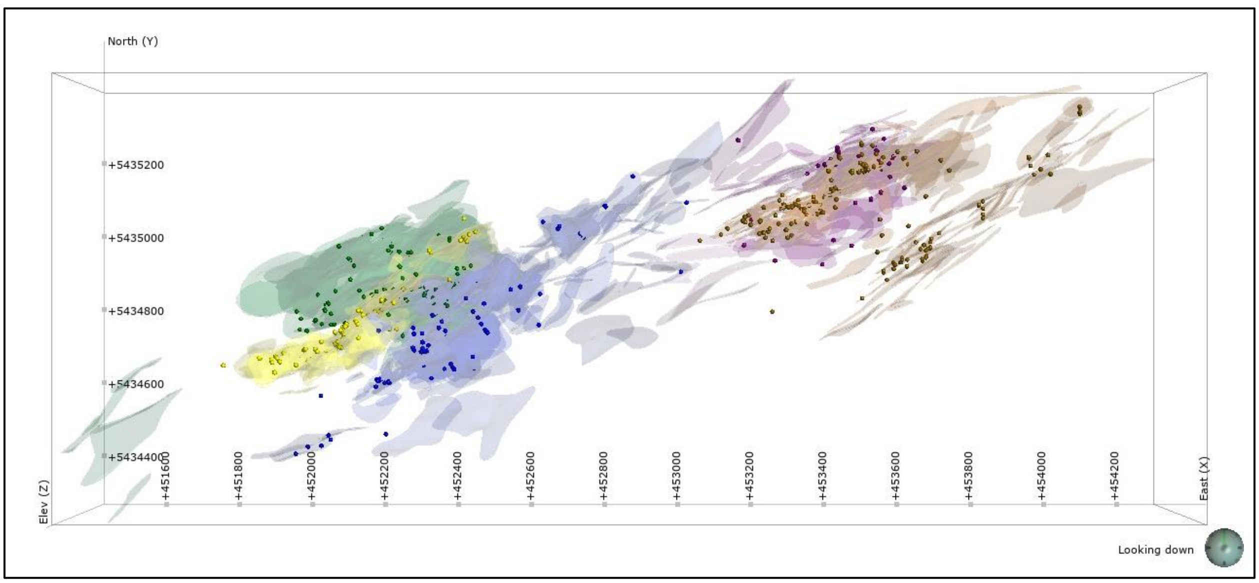


Figure 13-4: Plan view of the PEA 2021 sample hole locations

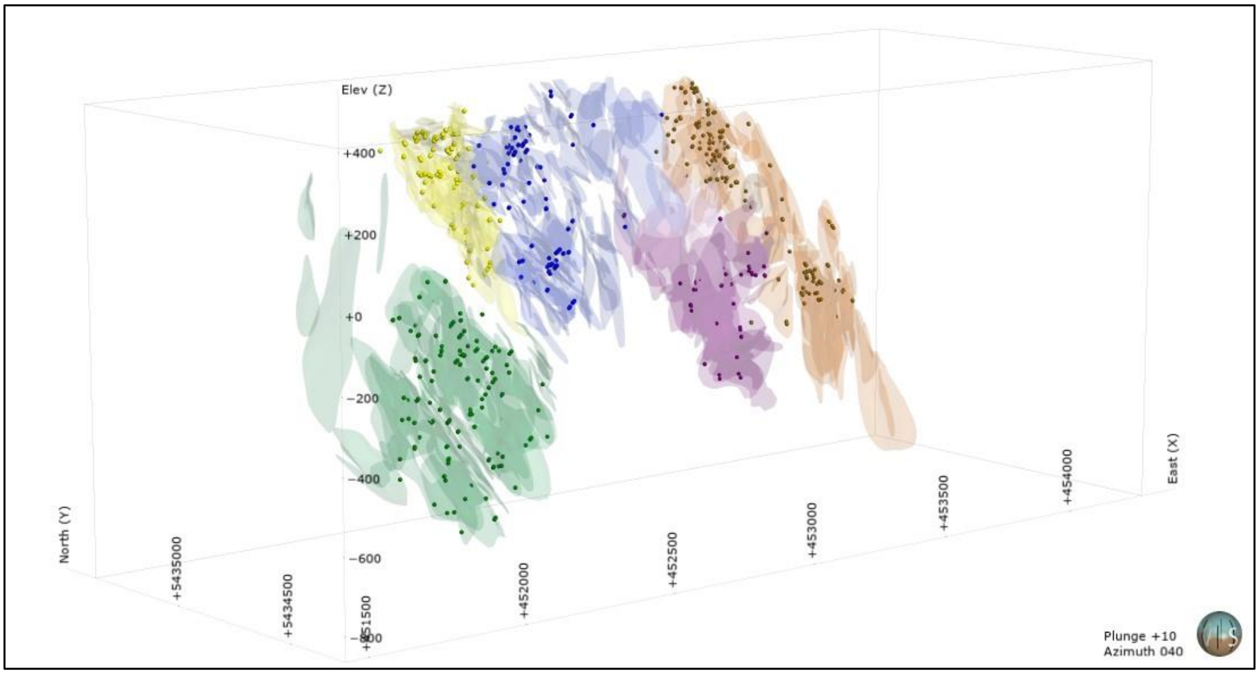


Figure 13-5: View looking N040 of the PEA 2021 sample hole locations

13.3.2 Mineralogical Study

TESCAN Integrated Mineral Analyzer ("TIMA") and Quantitative Evaluation of Materials ("QEM") for gold were conducted by SGS (Fleury-Frenette and Grammatikopoulos, 2021) on one composite from Underdog zone. The composites head assay was 6.56 Au g/t. Gold minerals identified occur mainly as pyrite (18%), including quartz/feldspar (9%) and complex (5%). In term of exposure, 71.3% of the gold is exposed, 26.1% is liberated and 2.6% is locked. By frequency, 84% of gold minerals occur as fine grains (<5 µm), which account for only 19% of the total gold (by mass). The main findings for the visible microscopic gold mineral grains (≥0.5um) are summarized in Table 13-11.

Table 13-11: Characteristics of microscopic gold for Underdog sample

Sample ID	Au-Mineral abundance	Size range ECD[2] (µm)	Average ECD (µm)	Main minerals associated with exposed and locked Au-minerals
Underdog Comp	Gold (89%), electrum (8%), and non-identified Bi-Minerals (Au/Ag) (3%)	0.6-30.6	3.5	Pyrite 18%, quartz/feldspars 9%, complex 5%,

[2] ECD: Equivalent Circular Diameter

13.3.3 Comminution Testwork

A total of 68 samples, comprising 40 samples considered as mineralized material and 28 samples as waste, were submitted for comminution testwork at SGS in various phases of testing. This testwork was completed by SGS at Lakefield (Samme, 2018 & 2019; Verret, 2018; Zhou and Downing, 2017 & 2018 – Report 16159-001) and Vancouver (Lascelles and Samme, 2021 – Report 16159-11). A summary of the grindability tests and statistic is presented in Table 13-12.

Table 13-12: Grindability test results and statistics

Statistics	Relative density			JP parameters				Work indices (kWh/t)							RWi / BWi	AI	Assays (ppm, %)		
	CWi	DWT	SMC	Axb[(1)]	Axb[(2)]	t_a[(1)]	SCSE	CWi	RWi	BWi @80M	BWi @170M	BWi @230M	BWi @270M	BWi @325M		(g)	Au	Si	S
Number of samples	21	23	66	23	66	23	66	21	26	37	9	6	2	7	26	29	53	57	57
Overall average	2.79	2.80	2.84	26.2	29.6	0.38	12.1	18.4	16.3	13.1	12.3	13.5	11.5	14.1	1.25	0.199	4.19	27.8	3.93
Overall 80th percentile	2.74	2.74	2.77	21.1	25.8	0.28	12.7	22.1	18.8	14.7	14.6	16.3	11.5	15.8	1.34	0.282	8.18	30.5	7.43

(1) Axb and t_a from DWT (drop weight test)

(2) Axb from SMC (SAG mill comminution)

Additional comminution testwork on a composite of Lynx and zone 27 was performed at SGS including SMC, BWi and MacPherson tests. The results of the comminution testwork are presented in Table 13-13. The results are slightly softer than the ones observed in Table 13-7.

Table 13-13: Bulk Mix Lynx-27 Sample SMC, Bond and MacPherson comminution test results

Specific gravity	SMC		BWi (kWh/t)	MacPherson Autogenous Grindability							
	Axb	t_a		Feed (kg/h)	Hardness percentile	F_{80} (µm)	P_{80} (µm)	Gross work index (kWh/t)	Correlated work index (kWh/t)	Hardness percentile	Gross specific energy input (kWh/t)
2.89	30.5	0.3	12.0	10.4	51	22,197	171	10.5	10.5	19	7.3

13.3.4 Gravity and Intensive Leach Testwork

A test has been performed on a composite from Lynx Bulk Sample to determine the recovery of the gravity concentrate to intensive leach. Each of the e-GRG concentrate pass has been leached using 0.05g LeachAid[3], Hydrogen Peroxide to maintain a dissolved oxygen value higher than 20ppm and 20.0g/L cyanide for 24 hours. The gold and silver recoveries were very high, yielding values higher than 98.0% and 94.4% respectively. The results are presented in Table 13-14 below.

Table 13-14: Intensive leach results

e-GRG Pass #	Head Au (g/t)	Au recovery (%)	Head Ag (g/t)	Ag recovery (%)
1	1,249	98.5	508	97.9
2	1,127	99.2	489	96.7
3	602	98.0	300	94.4

13.3.5 Leaching Testwork

Further optimization testwork was performed to determine the optimum plant operating parameters for the mineralized material being processed on the gravity tails. A total of 20 CIL optimization tests were carried out with varying parameters: pre-leaching parameters, with or without $Pb(NO_3)_2$ at different concentrations; leaching feed size; slurry density; leaching time; NaCN concentration and DO concentration. The pH was maintained at approximatively 10.5. The results are presented in Table 13-15 and were compared to the results in Table 13-10.

[3] LeachAid is a product from GCA Consep Acacia used as a liquid oxygen and peroxide replacement in intensive leach reactors.

Table 13-15: Variability leaching results

Zone	Sample Name	Objective	Density (%)	Residue P_{80} (µm)	Reagent consumption		Gold		Silver	
					NaCN (kg/t)	CaO (kg/t)	Calculated head (Au g/t)	Au Rec (%)	Calculated head (Ag g/t)	Ag Rec (%)
Lynx	e-GRG Gravity Tails	Effect of grind size on kinetics	40	32	0.45	1.53	4.50	94.9	6.6	84.8
Lynx	e-GRG Gravity Tails	Effect of grind size on kinetics	40	42	0.34	1.39	5.19	93.6	5.0	71.9
Lynx	e-GRG Gravity Tails	Effect of grind size on kinetics	40	50	0.29	1.19	5.31	94.0	6.8	83.9
Lynx	e-GRG Gravity Tails	Effect of 50% solids on reagent consumption	50	34	0.19	1.62	5.15	94.3	6.4	80.0
Caribou	P3-B-Gravity Tails	Effect of 50% solids on reagent consumption	50	46	0.34	1.30	8.05	92.3	9.0	79.9
Caribou	P3-B-Gravity Tails	Effect of 50% solids on reagent consumption	40	43	0.63	2.56	7.20	90.9	8.7	77.3
Zone 27	P3-F-Gravity Tails	Effect of 50% solids on reagent consumption	50	44	0.28	1.71	8.79	89.5	9.7	74.8
Zone 27	P3-F-Gravity Tails	Effect of 50% solids on reagent consumption	40	48	0.39	1.73	8.91	90.1	136	81.0
Lynx	P3-K-Gravity Tails	Effect of 50% solids on reagent consumption	50	38	0.24	1.70	4.64	88.5	3.8	73.6
Lynx	P3-J-Gravity Tails	Effect of 50% solids on reagent consumption	40	44	0.22	1.90	9.87	89.6	11.1	78.9
Lynx	P3-J-Gravity Tails	Effect of 50% solids on reagent consumption	50	43	0.24	1.73	10.19	89.7	11.4	78.4
Lynx	e-GRG Gravity Tails	No pre-leach, with lead nitrate, DO 7-8 with air	50	37	0.43	1.25	4.44	94.1	6.5	81.6
Lynx	e-GRG Gravity Tails	No pre-leach, with lead nitrate, DO 12-15 with O_2	50	37	0.50	1.17	5.08	94.9	6.8	83.8
Lynx	e-GRG Gravity Tails	No pre-leach, no lead nitrate, DO 7-8 with air	50	36	0.63	0.94	5.05	95.3	7.2	82.0
Lynx	e-GRG Gravity Tails	No pre-leach, no lead nitrate, DO 12-15 with O_2	50	36	0.53	0.95	4.86	94.7	6.8	80.9

Zone	Sample Name	Objective	Density (%)	Residue P_{80} (µm)	Reagent consumption		Gold		Silver	
					NaCN (kg/t)	CaO (kg/t)	Calculated head (Au g/t)	Au Rec (%)	Calculated head (Ag g/t)	Ag Rec (%)
Mix Lynx - Zone27 - Caribou	G1 Gravity Tails	No pre-leach, with lead nitrate, DO 7-8 with air	50	41	0.44	1.30	6.17	91.7	6.2	78.8
Mix Lynx - Zone27 - Caribou	G1 Gravity Tails	No pre-leach, with lead nitrate, DO 12-15 with O_2	50	43	0.48	0.88	5.72	91.4	5.8	76.9
Mix Lynx - Zone27 - Caribou	G1 Gravity Tails	No pre-leach, no lead nitrate, DO 7-8 with air	50	40	0.56	1.17	4.89	90.4	5.3	78.5
Mix Lynx - Zone27 - Caribou	G1 Gravity Tails	No pre-leach, no lead nitrate, DO 12-15 with O_2	50	40	0.41	1.15	5.14	91.4	5.3	76.1
Mix Lynx - Zone27 - Caribou	Comp P3 OPT	No pre-leach, no lead nitrate, DO 12-15 with O_2	50	37	0.64	1.50	6.31	91.4	6.8	74.0

Analysis of the optimization test results led to the following parameters considered as optimal. They are presented in Table 13-16.

Table 13-16: PEA (2021) Optimized leaching parameters

Feed		Pre-leaching parameters	Leaching parameters			
K_{80} (µm)	Density (%)	No Pre-leach	Time (h)	Carbon (g/L)	DO (ppm)	pH
37	50		24	10	6-8	10.5

13.3.6 Tailings Filtration and Paste Production Laboratory Testwork

Pocock Industrial conducted testwork on flotation products generated during hydrometallurgical flowsheet development studies that took place for the Windfall Project. Samples were labelled as "P3-ML-CIL4_FEA" and were used to develop data for designing thickening and filtration equipment for dewatering prior to further processing/final disposal. This section of the report focuses on the rheology and filtration work. Results of the thickening testwork are included in Chapter 13 of the PEA 2018 report (Hardie et al.).

Laboratory tests for Paterson & Cooke were performed on tailings leach residue samples prepared by SGS. Ten 5-gallon pails containing tailings leach residue samples at a total weight of 188 kg along with one 5-gallon pail of binder (Type GU) at 25 kg were sent to the Paterson & Cooke Sudbury laboratory. Once samples arrived at the laboratory, supernatant water was decanted from each pail and tailings material were homogenized via the "cone and quarter" method and divided into sub-samples.

WSP was not involved in the samples selection and preparation process and cannot determine the degree of representativity of the future Windfall Mill tailings.

13.3.6.1 Pocock Industrial – Rheology Testwork

Tests were performed to evaluate the rheological properties of the thickened slurries. Rheological testing was performed on thickener underflow slurry samples collected using a Fann (Model 35A) Viscometer and a Haake™ Viscotester™ VT550 with a vane spindle attachment.

Data collected from the Fann viscometer provided information required to determine the maximum design underflow densities for a conventional and high rate thickener. This information is also required for downstream pump and pipeline design. Data collected from the Haake Viscometer provided information required to determine the maximum possible underflow densities for the ultra-high rate thickener using industry accepted design criteria.

The static yield stress test results determined the minimum force required to initiate flow at various underflow densities (refer to Figure 13-6).

Correlations between apparent viscosity and shear rate shown in Figure 13-7 indicates that the material is classified as a non-Newtonian fluid and displays shear-thinning. This means that a specific shear rate must be achieved and maintained in order to initiate and maintain flow. Decrease in apparent velocity with increasing shear rate, as seen in Figure 13-7, shows the material belongs in the pseudoplastics category of non-Newtonian fluids. Apparent viscosity at a specific shear rate can be attributed in part by grind size, solids concentration, mineralogical composition, temperature, flocculant concentration/dosage and pH. Figure 13-8 shows the material shear stress versus shear rate results.

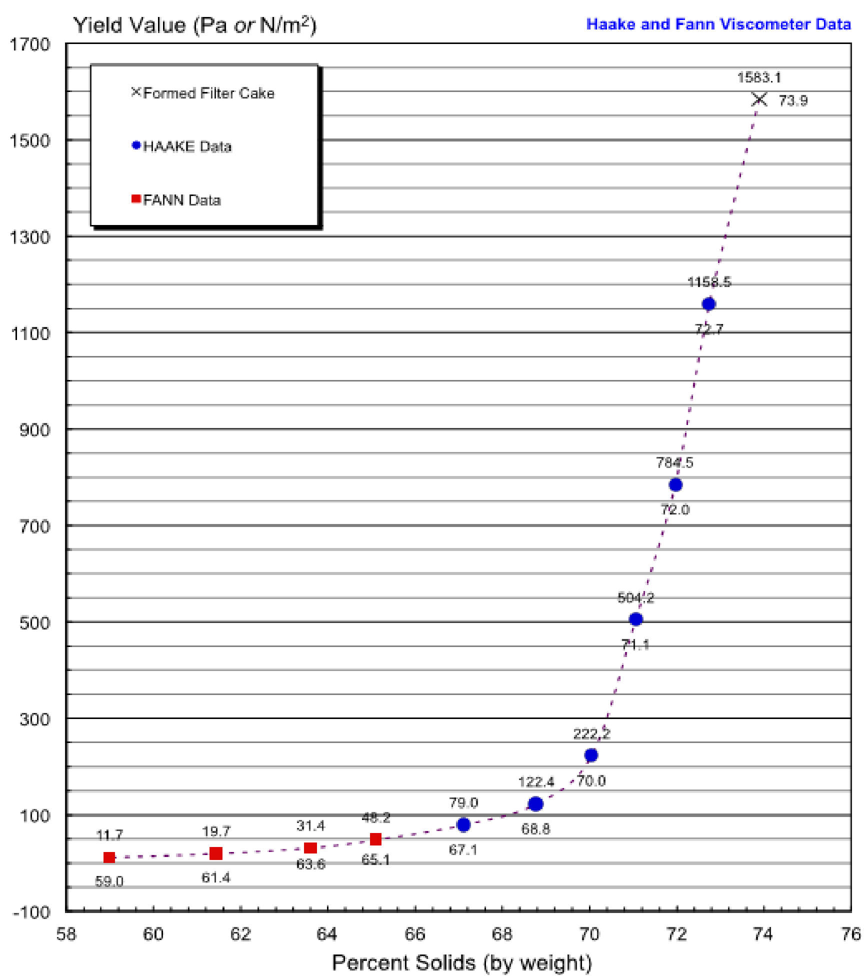


Figure 13-6: Yield stress vs. wt% solids

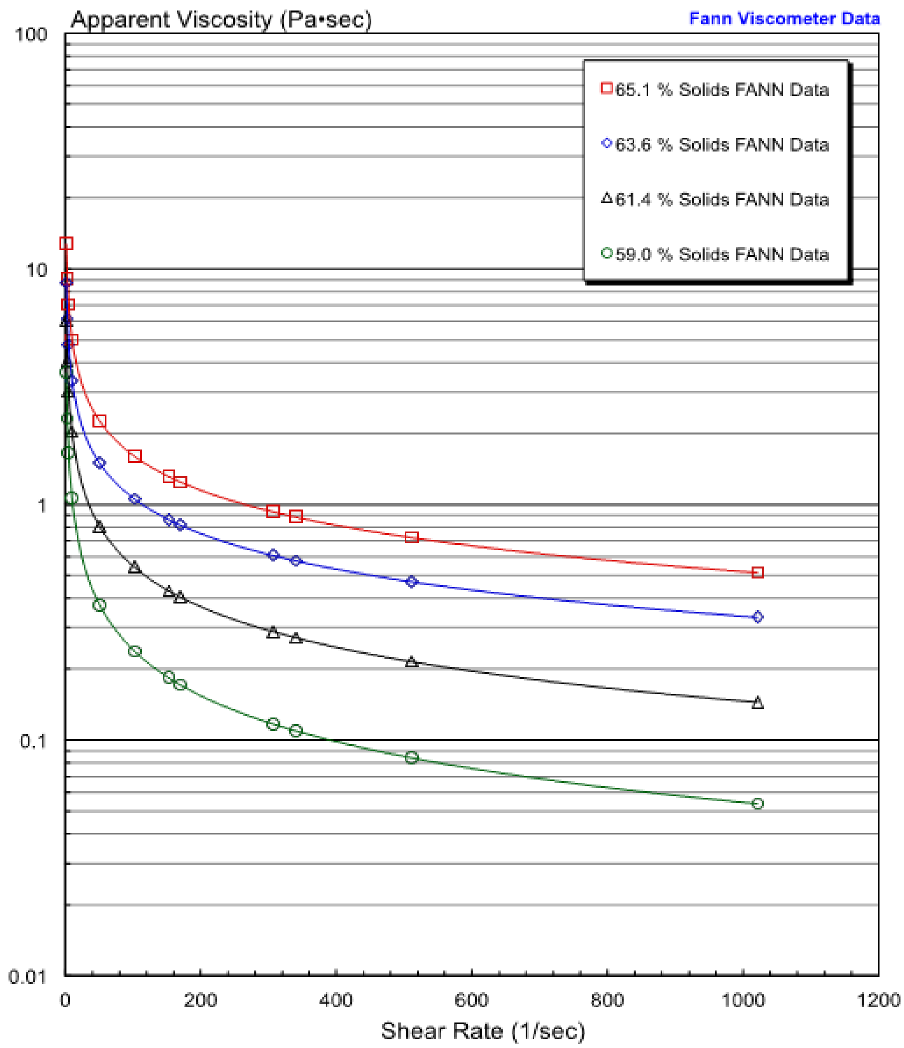


Figure 13-7: Apparent viscosity vs. Shear rate

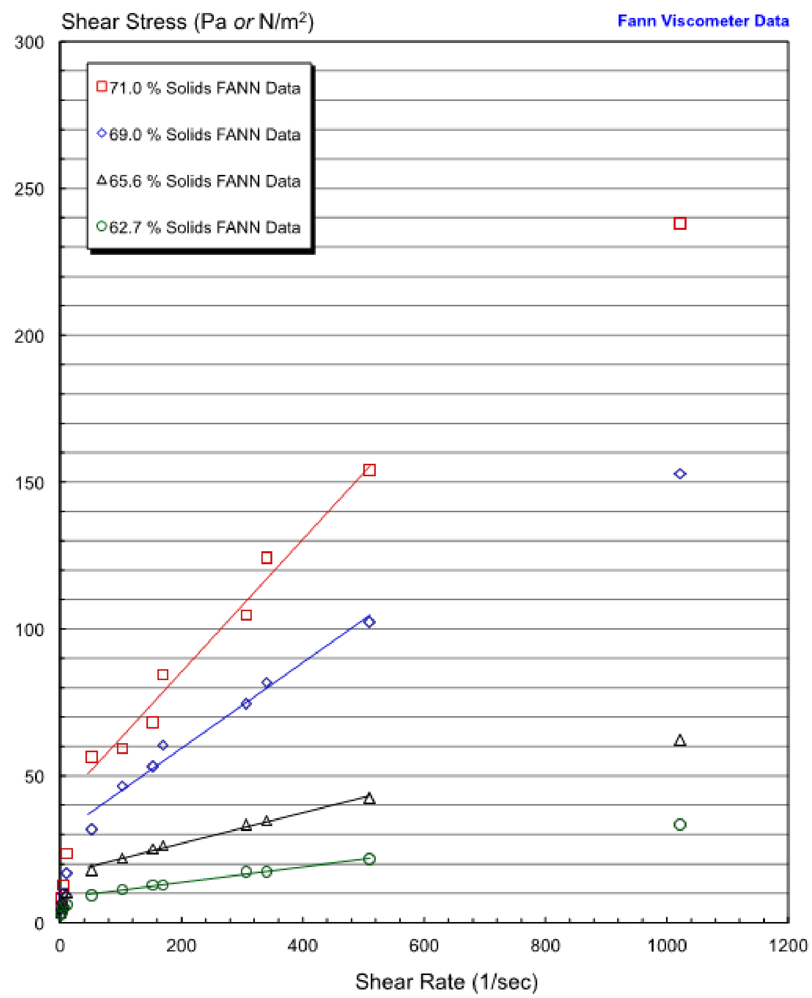


Figure 13-8: Shear stress vs. Shear rate

13.3.6.2 Pocock Industrial – Pressure Filtration

Pressure filtration tests were performed to determine the effects of cake thickness and dry time on production rate and filter cake moisture. These data were collected for pressure filter design and sizing. Sample slurry of a given weight was introduced to a pressure chamber equipped with an 8-10 cfm/ft^2 Mono-Multifilament Polypropylene filter cloth. Once the sample port was closed, 80 psig pressure was applied above the slurry and the cake formation/dewatering commenced. Once the last of the filtrate was produced, a known amount of wash solution was applied and pushed through the cake. The dry time was then implemented. The cake was also squeezed at a known force between the cycles. Two operational scenarios were tested: air blow dry only; and membrane squeeze during air blow (100 psig squeeze applied until the last 30 seconds of air blow and 232 psig squeeze applied for the remaining time).

The test summary for the two operational scenarios and selected design parameters are presented in Table 13-17. The cake moistures selected for design showed good discharge and stacking properties at reasonable dry times (3 minutes for air blow only, 2.5 minutes for membrane squeeze with air blow). Increased dry time and filtration area would be required for lower cake moistures. It is not recommended to increase the design cake moisture as this would display thixotropic properties that would negatively affect the discharge and stacking properties.

The membrane squeeze during air blow tests exhibited lower cake moistures. This resulted in lower design moistures by 0.5 to 0.8 % compared to that of the air blow only option. In general, cakes produced from air blow only exhibited good discharge properties but were not always stackable. Slight amounts of shrinkage and cracking were observed, which may be attributed to air short circuiting during the blow cycle. The membrane squeeze showed a slightly lower area basis production rate due to additional time required to activate and retract the membrane.

Table 13-17: Pressure filtration test results – Summary and design conditions

Material type	Test type	Feed solids conc. (%)	Dry bulk density (Mt/m^3)	Design thickness	Sizing basis (m^3/Mt)	Design cake moisture (%)	Total cycle time (min)	Volumetric production rate (Mtpd/m^3)	Area basis production rate (Mtpd/m^2)
Thickened combined P3-ML-CIL4-FEA Windfall (October 2018)	Air Blow Only	61.6	1,307	Chamber 60 mm / Cake 60 mm	0.956 (60 mm cake)	13.6	12.0	104.55	3.04
	Membrane Squeeze / Air Blow	61.6	1,412	Chamber 60 mm / Cake 56 mm	0.886 (56 mm cake)	13.1	12.0	112.93	2.95

13.3.6.3 Patterson & Cooke / Pocock Industrial - Particle Size Analysis

Samples for the Pocock Industrial testwork were screened at 500 mesh and Ro-Tapped through an 8-screen stack. The particle size of sample "P3-ML-CIL4-FEA" showed a P_{80} of 35.2 µm and an average solids specific gravity of 2.87.

Patterson & Cooke used a laser diffraction technique to determine the tailings particle size distribution. Results showed the samples were 60.8% passing 20 µm, had a D_{90} of 47.2 µm and a D_{50} of 15.5 µm (more details available in Table 13-18). The average solids specific gravity tested on the samples resulted in 3.024. Sample pH was an average of 7.66. Conductivity averaged 2.92 mS/cm.

Table 13-18: Tailings particle size distribution

Sample	D_{10} (µm)	D_{30} (µm)	D_{50} (µm)	D_{60} (µm)	D_{80} (µm)
Tailings Slurry	3.5	9.1	15.5	19.6	32.9

13.3.6.4 Patterson & Cooke – Minerology and Chemical Analysis

Chemical and mineralogical whole rock analyses were performed on the samples using X-Ray Diffraction ("XRD") and ICP. The ICP scan showed elevated levels of Si, Al, Fe, Ca, Mg and K, which indicates quartz, feldspar and pyrite minerology. Results are presented in Table 13-19 and Table 13-20.

Table 13-19: Chemical composition of sample (wt%)

Compound	Tailings slurry (wt%)
S	1.2
SiO_2	72.5
Al_2O_3	10.9
Fe_2O_3	3.8
CaO	2.8
MgO	1.5
Na_2O	0.6
K_2O	2.4
TiO_2	0.3
MnO	0.1
BaO	0.2
Loss On Ignition	5.1
Total	**101.4**

Table 13-20: Mineralogical composition

Mineral SQ-XRD	Chemical composition	wt%
Quartz	SiO_2	71.0
Muscovite	$(H,K)AlSiO_4$	14.2
Ankerite	$Ca(Mg_{0.67}Fe_{0.33}^{2+})(CO_3)_2$	10.1
Clinochlore	$(Mg,Fe)_6(Si,Al)_4O_{10}(OH)_8$	2.9
Pyrite	FeS_2	1.7

Decanted water from the samples were also subjected to chemical analysis to determine if they would be suitable for backfill use (refer to Table 13-21). The decanted water mostly consisted of alkali sulfates and some alkali chlorides. High sulfate contents can cause sulfate attacks on the concrete that can lead to cracking, strength loss and disintegration. Sulfate contents were found within the acceptable limits to not have detrimental effects on the concrete. Sulfates contained in liquid phase can promote early Ettringite formation. This can help mitigate the effects of a sulfate attack where high sulfide minerology is present. Chloride contents were also found to be within acceptable limits for concrete use and should not interfere with the hydration dynamics of the cementitious reactions. No large presence of any heavy metals or problematic compounds were found during the analysis; therefore, the water is considered suitable for backfill use.

Table 13-21: Decanted water chemical analysis

Parameter	ppm
Sulfate	1,400
Sodium	400
Calcium	147
Chloride	32
Potassium	26
Magnesium	15

13.3.6.5 Patterson & Cooke – Rheology Testwork

Rheological testing was done to evaluate the flow and handling properties. Cemented and uncemented tailings properties over a range of solids mass concentrations were compared. The Haake™ Viscotester™ VT550 with a vane spindle was used to perform static yield stress tests to determine the minimum force required to initiate the flow. Results are shown in Figure 13-9.

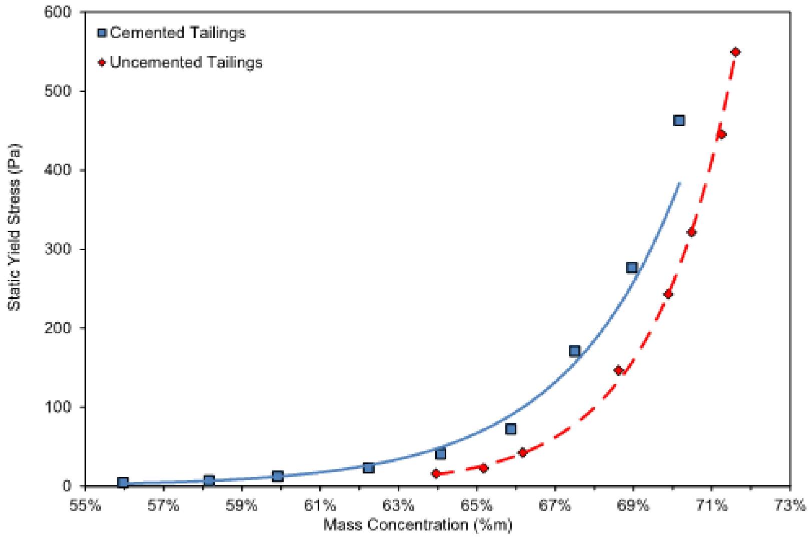


Figure 13-9: Static yield stress vs. wt% solids

The Boger slump height verses solids mass concentrations were also compared (refer to Figure 13-10). A 78-mm Boger slump cylinder was used to determine the slump. A linear relationship between the slump and mass concentration was observed for both cemented and uncemented tailings.

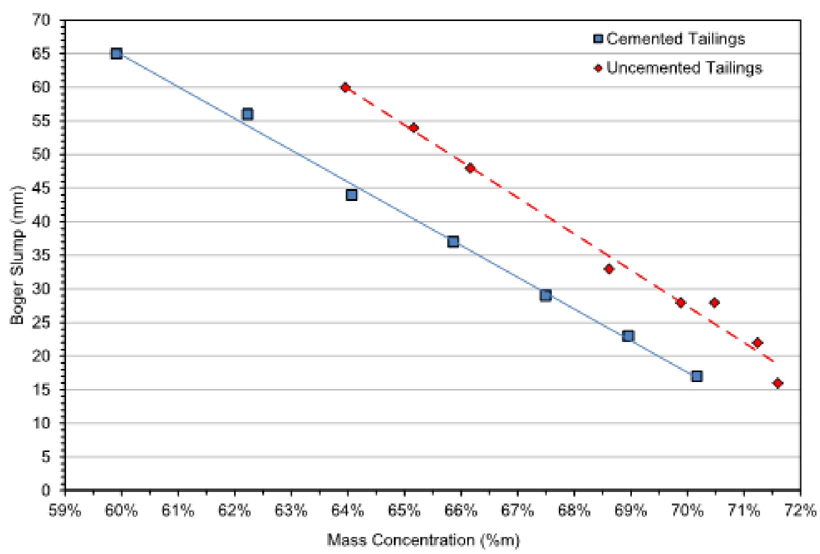


Figure 13-10: Boger slump vs. Mass concentration

Cemented and uncemented samples were also subjected to the infinite bob and cup method where the measurement is made by a sensor rotated inside a cup that contains the sample. Tailings rheograms are presented in Figure 13-11 and Figure 13-12. Figure 13-13 and Figure 13-14 show the Bingham yield stress and plastic viscosity relationships.

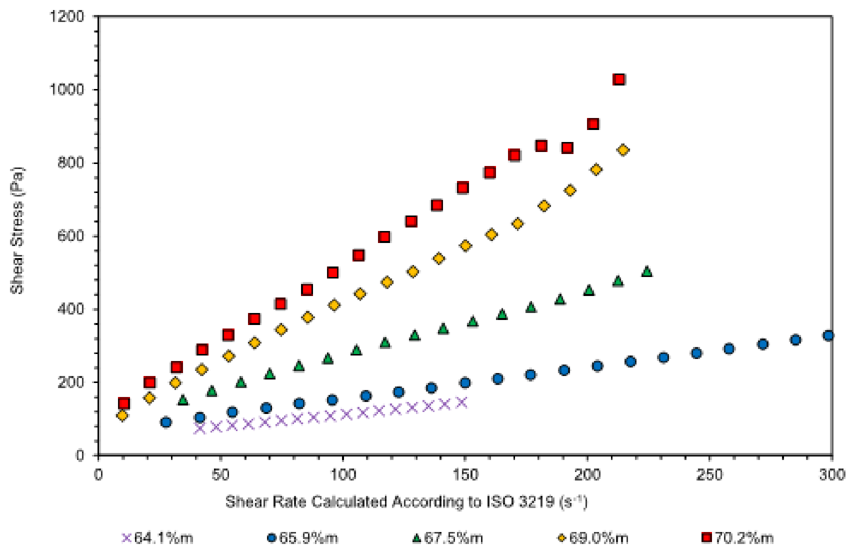


Figure 13-11: Cemented tailings rheogram

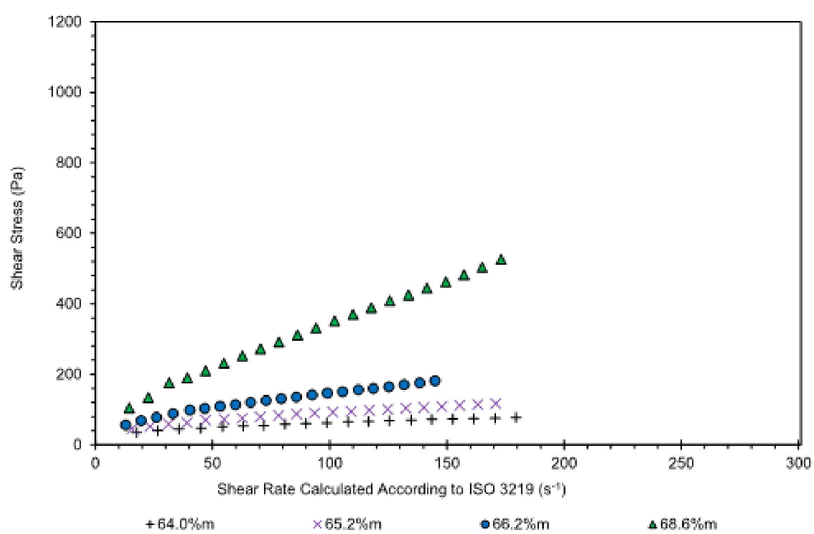


Figure 13-12: Uncemented tailings rheogram

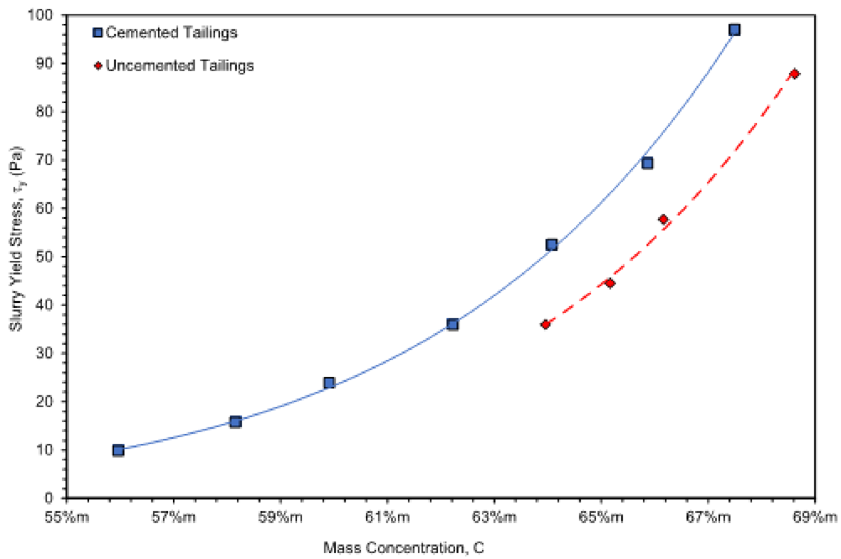


Figure 13-13: Bingham yield stress vs. Slurry mass concentration

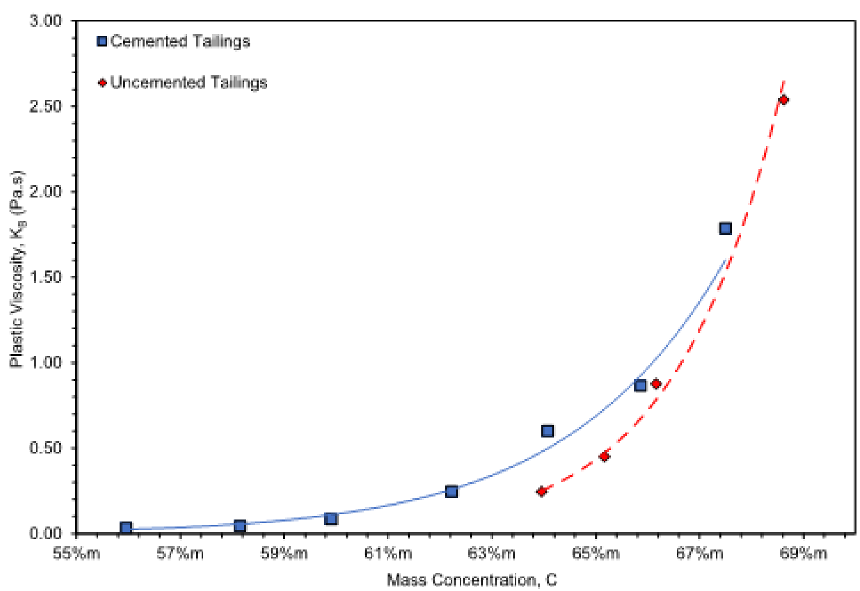


Figure 13-14: Plastic viscosity vs. Slurry mass concentration

13.3.6.6 Patterson & Cooke - Strength Testwork

Strength testwork was conducted at various paste recipes for a range of solids mass concentration and binder content. This was to evaluate the effects of variable binder concentrations on paste backfill strength over a range of different cure times. Two different types of binder were tested: Type GU and Terraflow. Tailings samples were mixed with varying amounts of binder to create a homogenous paste. The mixture was then placed in a 2-inch by 4-inch cylinder mold and cured for 7, 28, and 56 days undisturbed in a controlled environment at an ambient temperature of 23°C (±2°C) and greater than 95% relative humidity. These conditions were used to simulate the underground mine environment. Cylinder samples were then subjected to a Humbodt soil testing load frame equipped with S-type load cells and linear displacement transducers to produce stress-strain curves. Compressive test results are presented in Table 13-22. The water present in a unit of backfill per unit of binder required (water:binder ratio) versus the strength exhibited is shown in Figure 13-15 and Figure 13-16.

Table 13-22: Unconfined compressive test (UCS) results

Mix	Binder Type	Binder concentration (%)	As cast mass concentration (%m)	Water:Binder ratio	UCS (kPa)		
					7-day	28-day	56-day
1	Type GU	15.3%	69.3%m	2.9	1,404	2,180	2,119
2	Type GU	7.7%	69.2%m	5.8	441	594	717
3	Type GU	5.1%	69.1%m	8.8	261	410	326
4	Type GU	3.8%	68.6%m	12.2	196	264	282
5	Terraflow	15.3%	68.5%m	3.0	1,731	3,401	3,704
6	Terraflow	7.7%	68.7%m	5.9	637	1,992	2,497
7	Terraflow	5.1%	68.8%m	8.9	341	1,100	1,185
8	Terraflow	3.8%	68.9%m	11.9	229	603	800

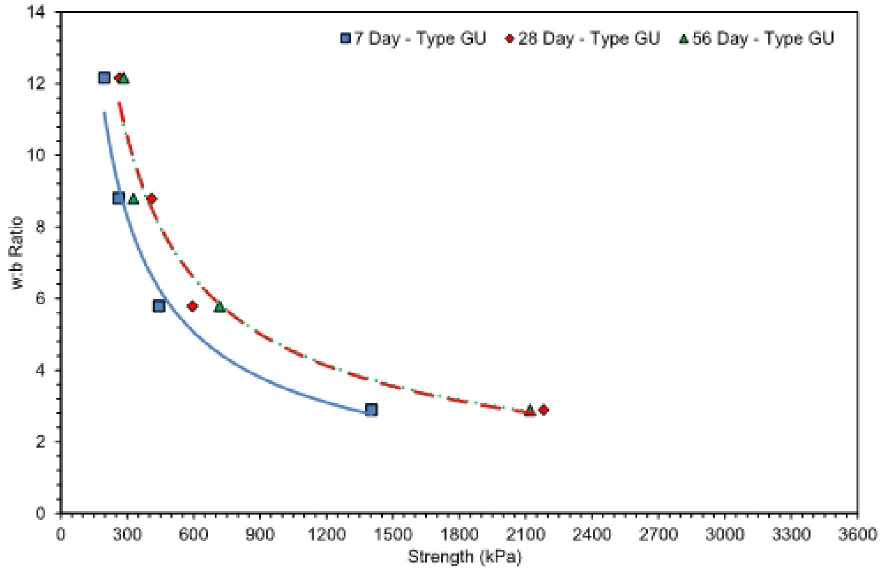


Figure 13-15: Water-to-binder ratio curves with "Type GU" binder

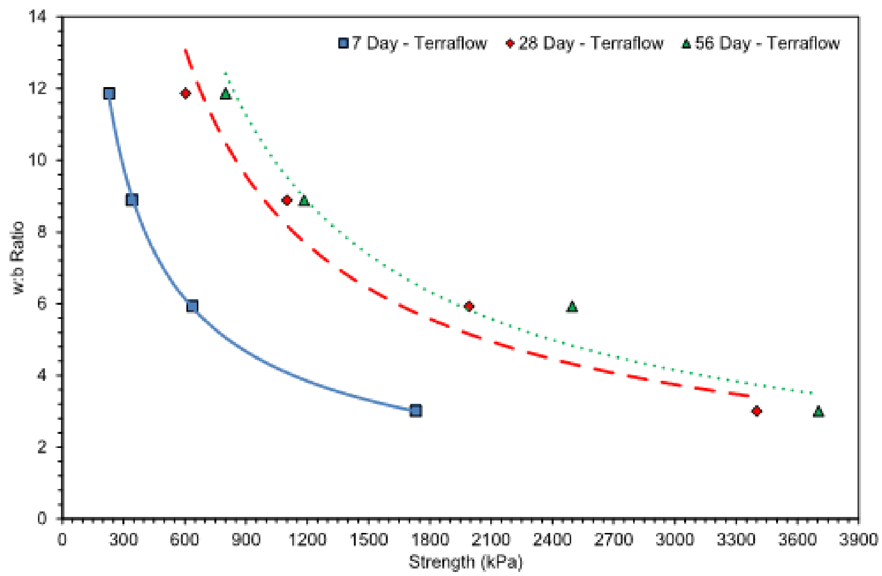


Figure 13-16: Water-to-binder ratio curves with "Terraflow" binder

13.4 Overall Recovery – Windfall

The Windfall gold and silver recoveries are the combination of the gravity recovery and the leach recovery. The distribution between the gravity recovery and leach recovery is presented in Table 13-23. To be noted, Main zone is a combination of Zone 27 and Caribou.

Table 13-23: Overall gold and silver recovery with gravity and leach

Composite	Gravity				Leach (Gravity tails)				Overall Au recovery (%)	Overall Ag recovery (%)
	Au distr; (%)	Ag distribution (%)	Au recovery (%)	Ag recovery (%)	Au distribution (%)	Ag distribution (%)	Au recovery (%)	Ag recovery (%)		
Main	32	14	30.9	13.4	69	86	89.7	73.9	92.3	77
Lynx	42	20	40.9	19.7	58	80	93.4	76.6	95.3	81
Underdog	37	0	36.3	0,0	61	100	93.7	50.1	95.3	50

The gravity gold recoveries for each zone were determined by SGS e-GRG testworks and by FLS gravity circuit simulations at the cyclone U/F with intensive leach reactor. The gravity silver recovery was determined by modelling the ratio of silver and gold in the gravity concentrate vs. the ratio of silver and gold in the head.

The gold and silver leach recoveries for each zone were determined by modelling the existing kinetic CIL testwork data to predict the recovery at the 24-hour retention time used for the process design criteria.

With consideration of the parameters currently in the geological model, a relationship between the residue grade and the gold head assay has been developed based on the least square equation. A similar process has been applied for the silver. The equations are presented in the following Figure 13-17 to Figure 13-22.

Based on Windfall PEA life of mine, its mineralized material stockpile management and this equation, the overall gold recovery is estimated at 94.9% and the silver recovery is estimated at 78%.

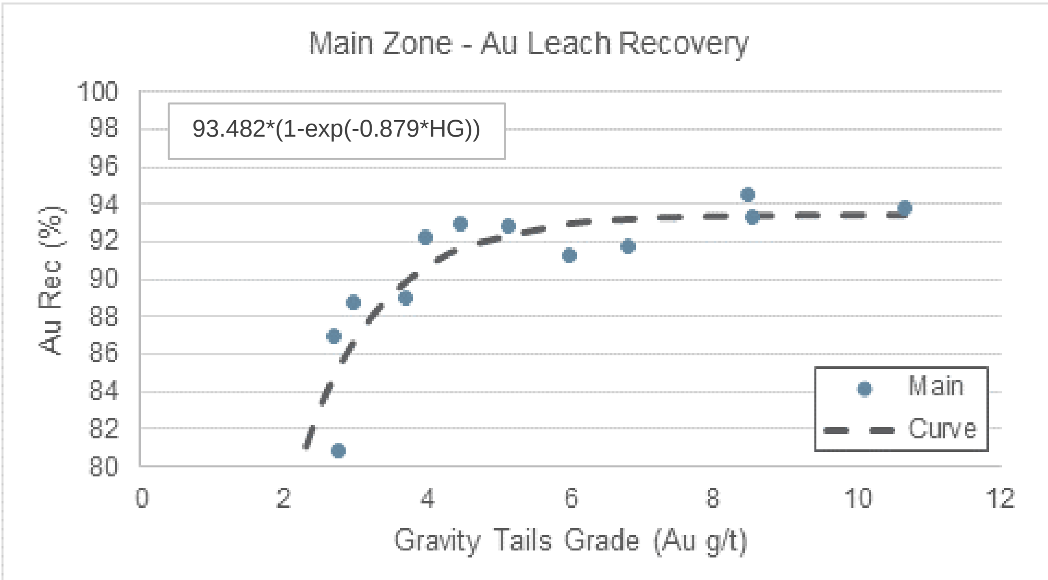


Figure 13-17: Main zone gold recovery curve

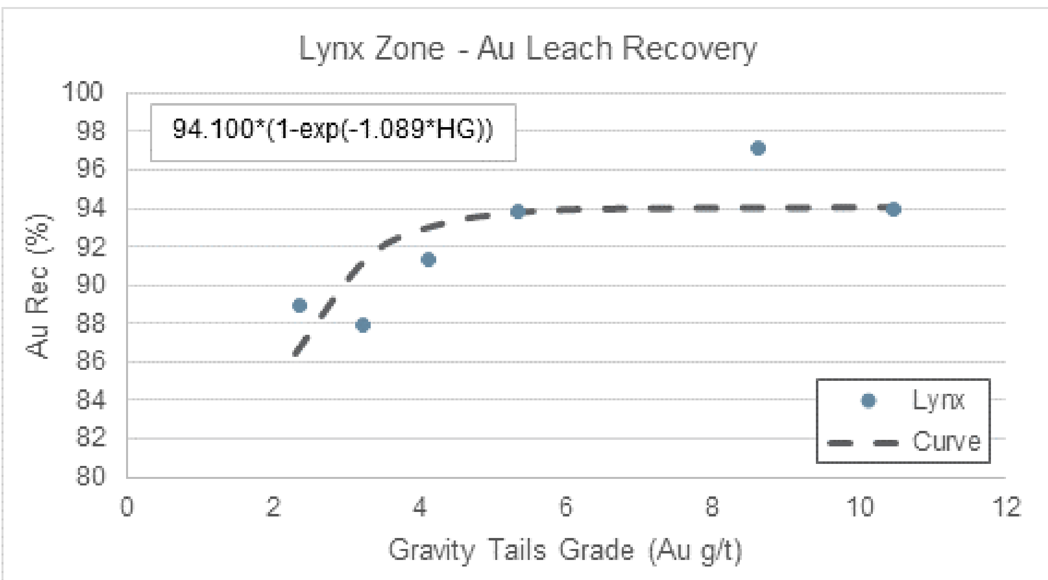


Figure 13-18: Lynx zone gold recovery curve

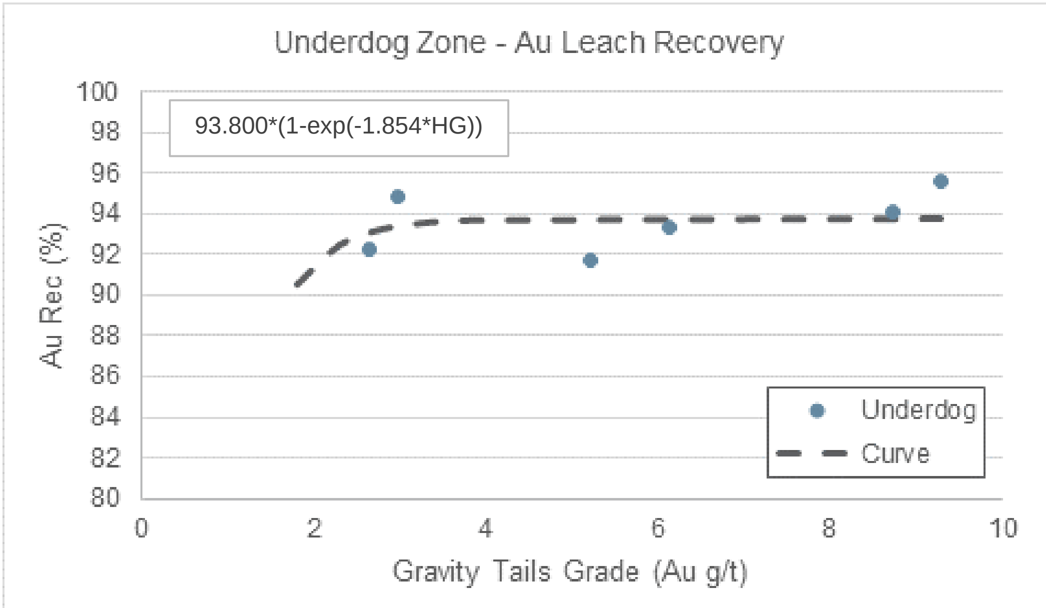


Figure 13-19: Underdog zone gold recovery curve

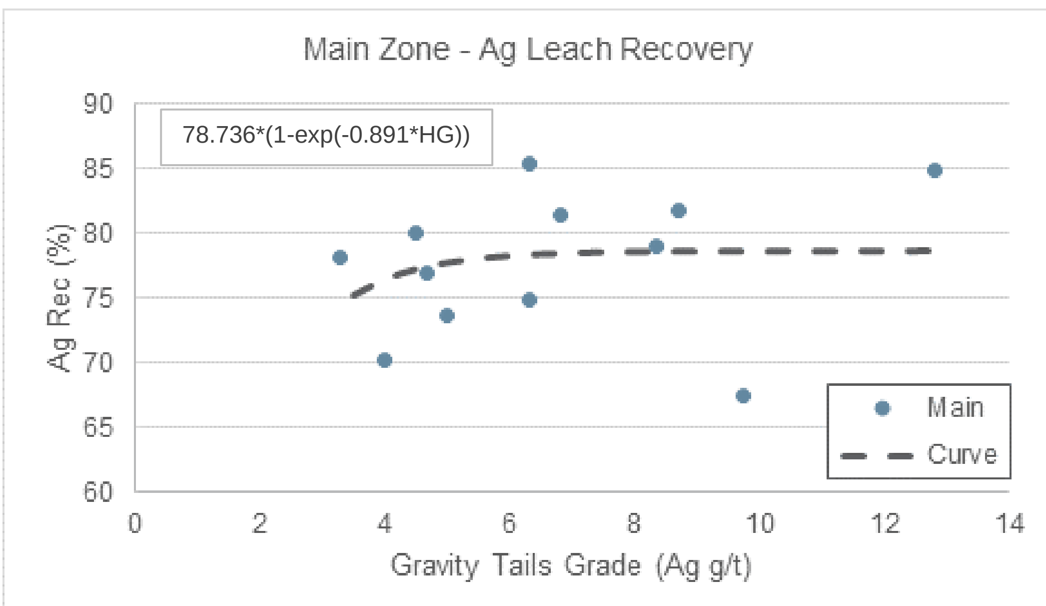


Figure 13-20: Main zone silver recovery curve

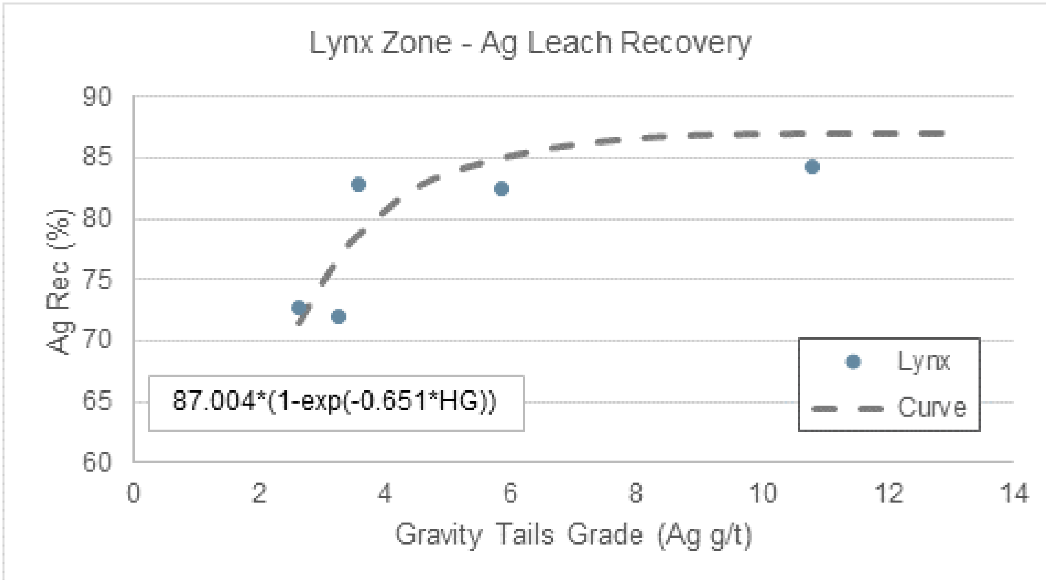


Figure 13-21: Lynx zone silver recovery curve

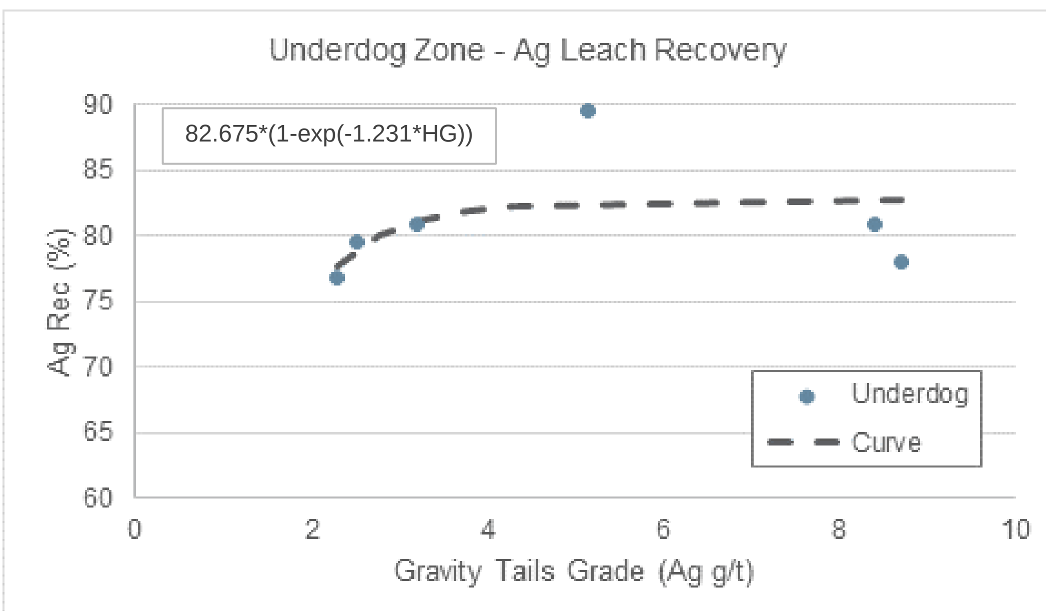


Figure 13-22: Underdog zone silver recovery curve

14. MINERAL RESOURCE ESTIMATES

The mineral resource estimate presented herein (the "2021 MRE") was prepared by Osisko technical staff and reviewed and approved by the QP.

The QP, Pierre-Luc Richard, conducted an extensive review of the Datamine Studio RM projects. During these reviews, compositing and capping, block model coding, interpolation, classification and reporting process were validated.

The 2021 MRE is compliant with the "CIM Definition Standards - For Mineral Resources and Mineral Reserves" and the November 29, 2019 "CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines". The resource of the Windfall gold deposit includes the Lynx, Underdog, Main zone and Triple 8 mineralized areas, which include several corridors as presented in Table 14-1.

The 2021 resource area measures 3.0 km on strike, 1.7 km in width and is 1.6 km deep. However, excluding the Triple 8 zone, the resource area is 1.2 km deep.

The mineral resources reported herein are not mineral reserves and the economic viability of the resources has not been demonstrated. The 2021 MRE includes measured, indicated and inferred resources and is based on the assumption that the deposit will be potentially developed and mined using underground methods. The effective date of the estimate is November 30, 2020.

14.1 Methodology

The 2021 MRE detailed in this report was prepared using Leapfrog GEO v.6.0.1 ("Leapfrog"), Snowden Supervisor v.8.13 ("Supervisor") and Datamine Studio RM v.1.6.87.0 ("Studio RM") software. Leapfrog was used for modelling purposes, including the construction of 419 mineralization wireframes in Lynx, Underdog, Main zone and Triple 8 areas. Studio RM was used for the grade estimation and block modelling. Statistical studies were done using Supervisor and Microsoft Excel software.

The main steps in the methodology were as follows:

- Database compilation and validation for the diamond drill holes used in the mineral resource estimate.
- Modelling of mineralized zones based on metal content, mineralization style, lithologies, alteration, and structural features.
- Generation of drill hole intercepts for each mineralized zone.
- Grade compositing.
- Capping studies on composite data.
- Spatial statistics.
- Grade interpolations.
- Validation of grade interpolations.

A block model was created for each of the following mineralized corridors: 1) Lynx Main; 2) Lynx4-HW (grouping Lynx 4 and Lynx HW); 3) Triple Lynx (grouping Triple Lynx and Lynx SW); 4) Main zone (grouping Zone 27, Caribou 1, Caribou 2, and Windfall North); 5) Mallard; 6) Bobcat; 7) Caribou Extension; 8) F-Zones; 9) Underdog; and 10) Triple 8. The ten block models were established in ten Studio RM projects.

14.2 Drill Hole Database

The diamond drill hole ("DDH") database of the Windfall Project contains 3,855 surface and underground drill holes, which corresponds to the holes completed at the Windfall Project as of November 30, 2020. The resource database did not retain every hole drilled on the property because many holes are too far from the main mineralized corridors (see Chapters 6 and 10 for details on exploration and drilling activities). Figure 14-1 shows the 3,612 drill holes that were considered for the resource estimate, including 1,161,872 m in 2,959 drill holes (in red) drilled by Osisko. A total of 243 drill holes were excluded from the 2021 mineral resource estimate because they were not located in the close vicinity of the deposit.

The drill holes cover the strike length of the resource area at a drill spacing ranging from 12.5 m to 100 m and were drilled at variable orientations. The 3,612 resource drill holes represent 1,343,593 m of drill core.

The DDH database was closed at different times during the year as the drilling programs were completed in each area. The series of dates, ending with the database closing on November 30, 2020 for the Lynx zones, is provided in Table 14-1. No significant drilling information was acquired in 2020 in the Underdog, Zone 27, Caribou 1, Caribou 2 and Windfall North areas, therefore the database closing date of November 14, 2019, as used in the last published MRE in 2020, is still in effect for these areas.

Regular validation routines are performed on the drilling database. Some additional verifications on the collar, down hole surveys and assay tables were executed prior to modelling and grade estimation.

Table 14-1: Mineralized corridors included in areas reported in the 2021 MRE

Area	Mineralized corridors	Database closing date
Lynx	Lynx Main	2020-11-30
	Triple Lynx	
	Lynx SW	
	Lynx 4	
	Lynx HW	
Underdog	Underdog	2019-11-14
Main Zone	Mallard	2020-11-16
	F-Zones	2020-11-13
	Bobcat	2020-06-17
	Caribou Extension	2020-06-09
	Zone 27	2019-11-14
	Caribou 1	
	Caribou 2	
	Windfall North	
Triple 8	Triple 8	2020-06-09

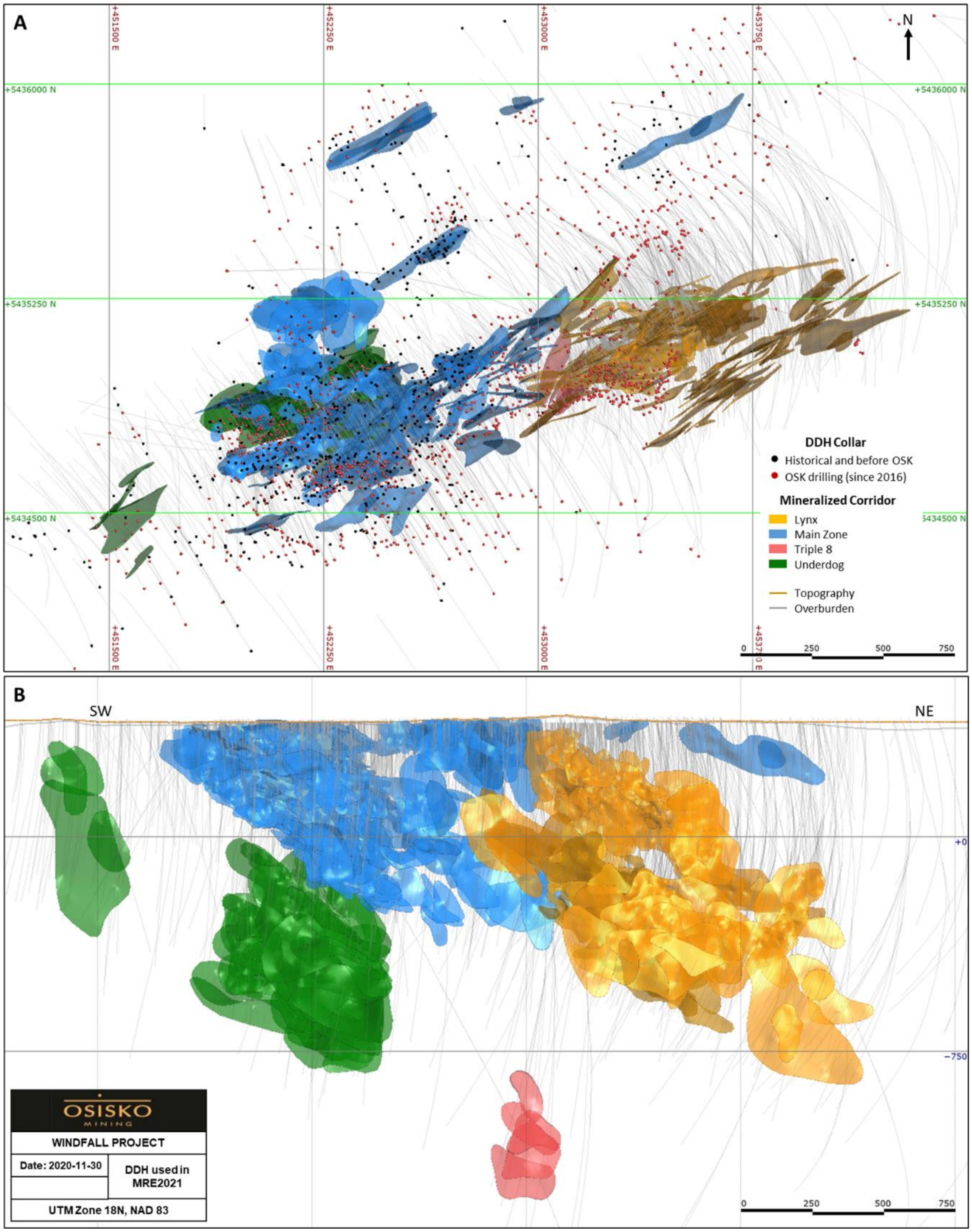


Figure 14-1: Diamond drill holes in the Windfall database used for the resource estimate A) Plan view; and B) Longitudinal view (looking north)

14.3 Geological Model

The geological model was developed by the Windfall geological team. The main lithological units of the deposit presented in the model include a series of felsic to mafic dikes cross-cutting volcanic rocks. The geological model, dated as of November 2020, constitutes the basis for the interpretation of the mineralization. The Red Dog (I2F), the I13 and the I2J post-mineralization dikes (Figure 14-3) were included in the block models and were treated as barren units overprinting the mineralized zones for the grade interpolation.

14.4 Interpretation of Mineralization Zones

The interpretation of the geology and of the mineralization of the Windfall deposit is supported by surface and underground infill drilling, underground mapping in the exploration ramp development and bulk sample results. The mineralization model is based on gold grade, mineralization style, lithologies, alteration and structural features. The estimation of silver grades were computed in the modelled gold lenses.

A total of 419 distinct mineralization solids were constructed. The details of the number of zones modelled per area is presented in Table 14-2. Note that the 2021 MRE reported herein is constrained by 374 of the gold-bearing individual wireframes. Different block modelling processes have contributed to the filtering of 45 zones out of the reported resource, such as the selection of grade blocks above the cut-off grade, resource classification and creation of mineable volumes.

Table 14-2: Number of mineralized envelopes modelled and reported per area with their average thickness

Area	Number of modelled zones	Number of zones reported in the resource	Average zone thickness (m)
Lynx Main	57	41	3.1
Triple Lynx - SW	47	44	4.3
Lynx 4-HW	40	40	3.1
Underdog	50	47	3.4
Zone 27	49	46	3.4
Caribou 1	38	32	3.4
Caribou 2	35	34	3.5
Caribou Extension	21	17	3.4
Bobcat	28	26	3.2
Mallard	28	26	3.0
Windfall North	11	7	3.1
F-Zones	10	9	3.0
Triple 8	5	5	5.6
Total	**419**	**374**	**-**

The 3D wireframing was generated in Leapfrog from hand-selected mineralized intervals on combined cross-sections and plan views. The wireframes are snapped to drill hole intercepts and have a minimum true thickness of 2.0 m to reflect the underground minimum mining width. The average thickness of the modelled zones by area is presented in Table 14-2.

Most mineralized envelopes are subvertical, striking northeast-southwest and plunging approximately 40º towards the northeast. Other mineralized domains, mainly located in the Underdog and the Main zone areas, are striking northeast-southwest, dipping 45º to the southeast and plunging between 40º and 60º towards the northeast.

The zone wireframes represent grade envelopes of continuous mineralization aiming at enclosing composite grades greater than 3.0 g/t Au over 2 m.

In the Triple Lynx corridor, 29 lower grade wireframes surrounding the higher grade zones were modelled based on composite grades greater than 1.0 g/t Au over 2 m. The low-grade domains were not reported in the 2021 MRE, but will serve as a dilution envelope for mining studies.

The lateral extensions of the mineralized domains were limited by the shortest distance between 50 m from the last composite or half the distance to the next drill hole. A zone wireframe must be based on at least four drill holes that demonstrate 3D mineralization continuity.

The mineralized solids were clipped to the overburden surface.

Some isolated gold intercepts exist outside the interpreted mineralized envelopes. Those isolated values are not attributed to any zone given the lack of mineralization continuity.

Figure 14-2 and Figure 14-3, respectively, show the distribution of the 419 mineralized domains within the four mineralized areas and their spatial and geometric relationship with the post-mineralization dikes (barren units).

The geological interpretation of the Lynx area is subdivided into five corridors: Lynx Main, Lynx 4, Lynx HW, Lynx SW and Triple Lynx. The Main zone area is subdivided into eight corridors: Zone 27, Caribou 1, Caribou 2, Bobcat, Caribou Extension, Mallard, Windfall North, and F-Zones. Figure 14-4 and Figure 14-5 show the location of the zones modelled in these different areas.

The QP reviewed the geological model in 3D view, plan view and cross-section and is of the opinion that the level of detail to which the geology model was constructed represents adequately the complexity of the deposit. In the QP's opinion, the geological model is appropriate for the size, grade distribution and geometry of the mineralized zones and is suitable for the resource estimation of the Windfall deposit.

14.5 Voids Model

The 3D wireframe of the exploration ramp and bulk sample stopes, surveyed by Osisko as of November 30, 2020, intersects some of the mineralized zones in the Lynx and Main zone areas (Figure 14-6). The mined-out volume from the ramp and stope development (for the excavation of the bulk samples in Lynx Main and Zone 27) was included in the block models as voids.

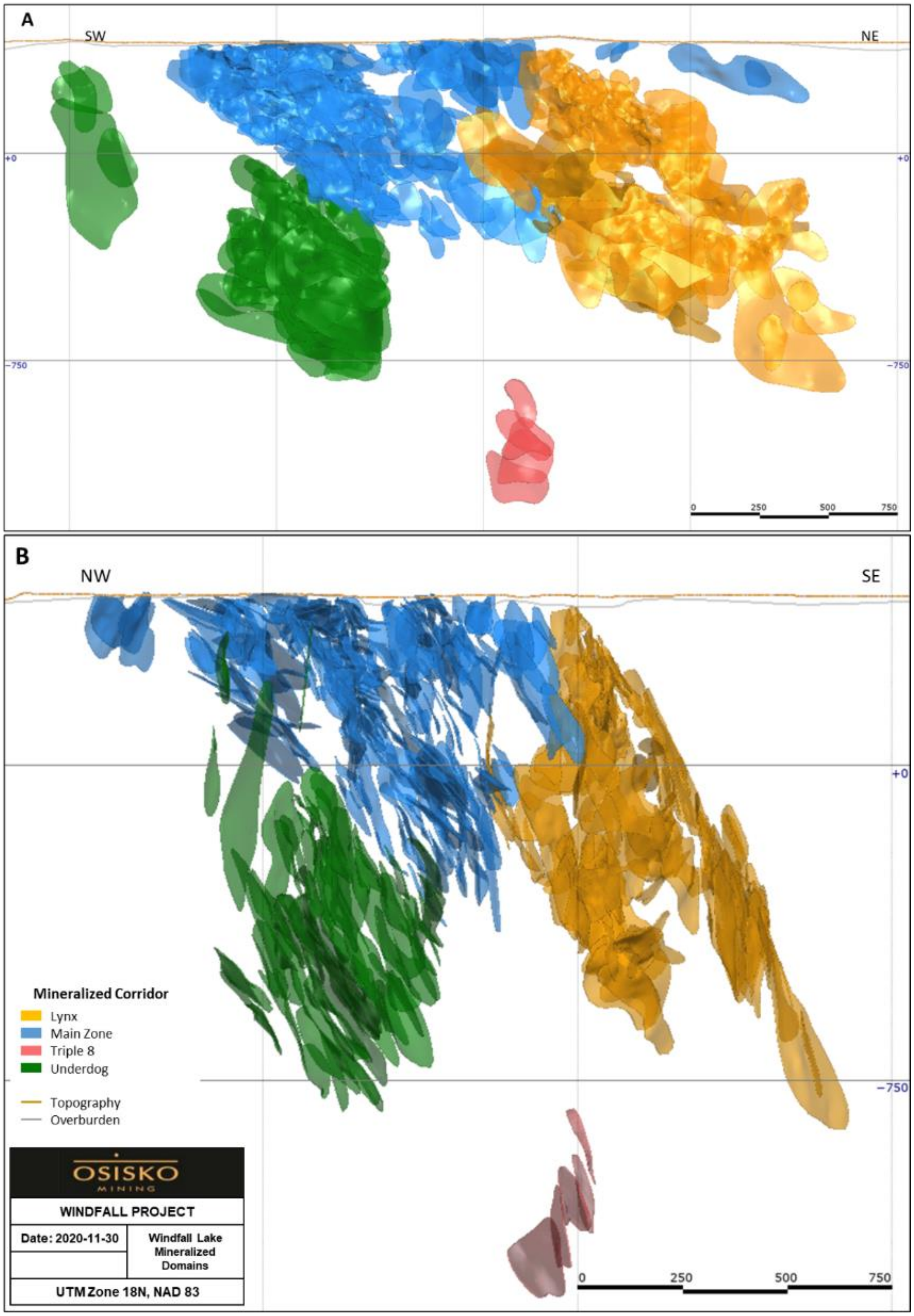


Figure 14-2: Mineralized domains modelled in the Windfall deposit
A) Longitudinal view (looking northwest); and B) Cross-section view (looking northeast)

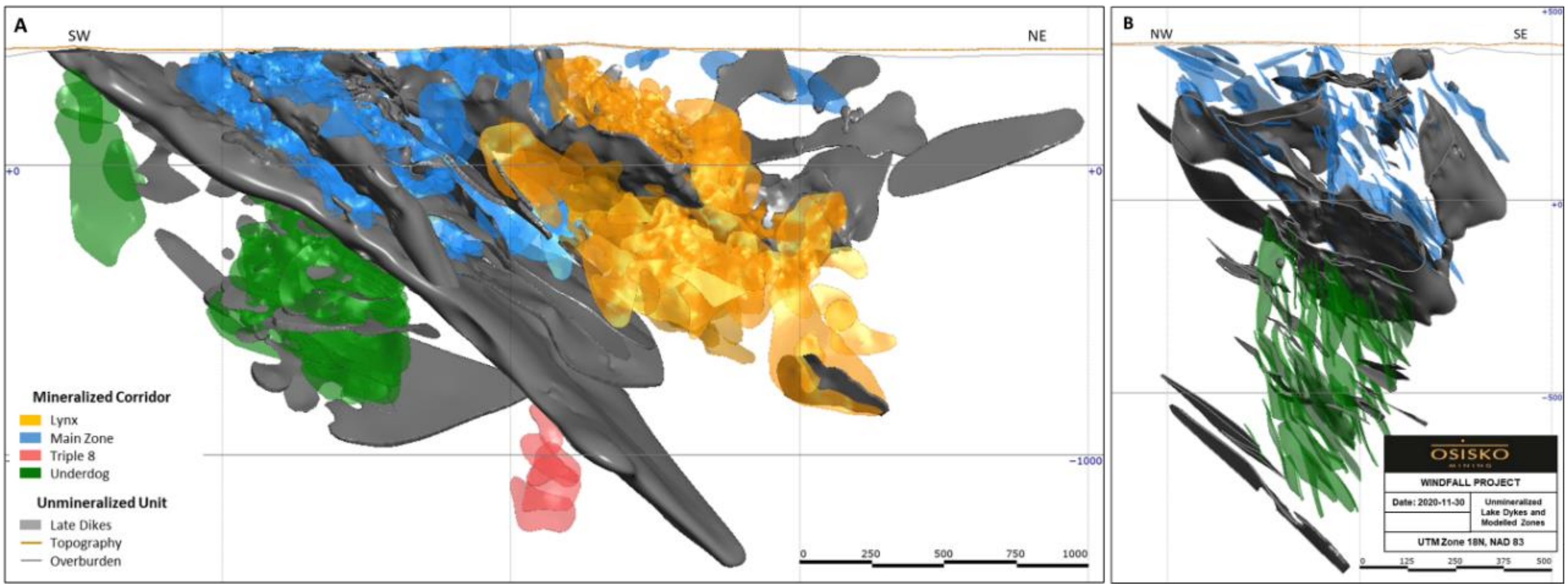


Figure 14-3: Unmineralized late dikes and modelled zones in the Windfall deposit
A) Longitudinal view (looking northwest); and B) Cross-section view (looking northeast)

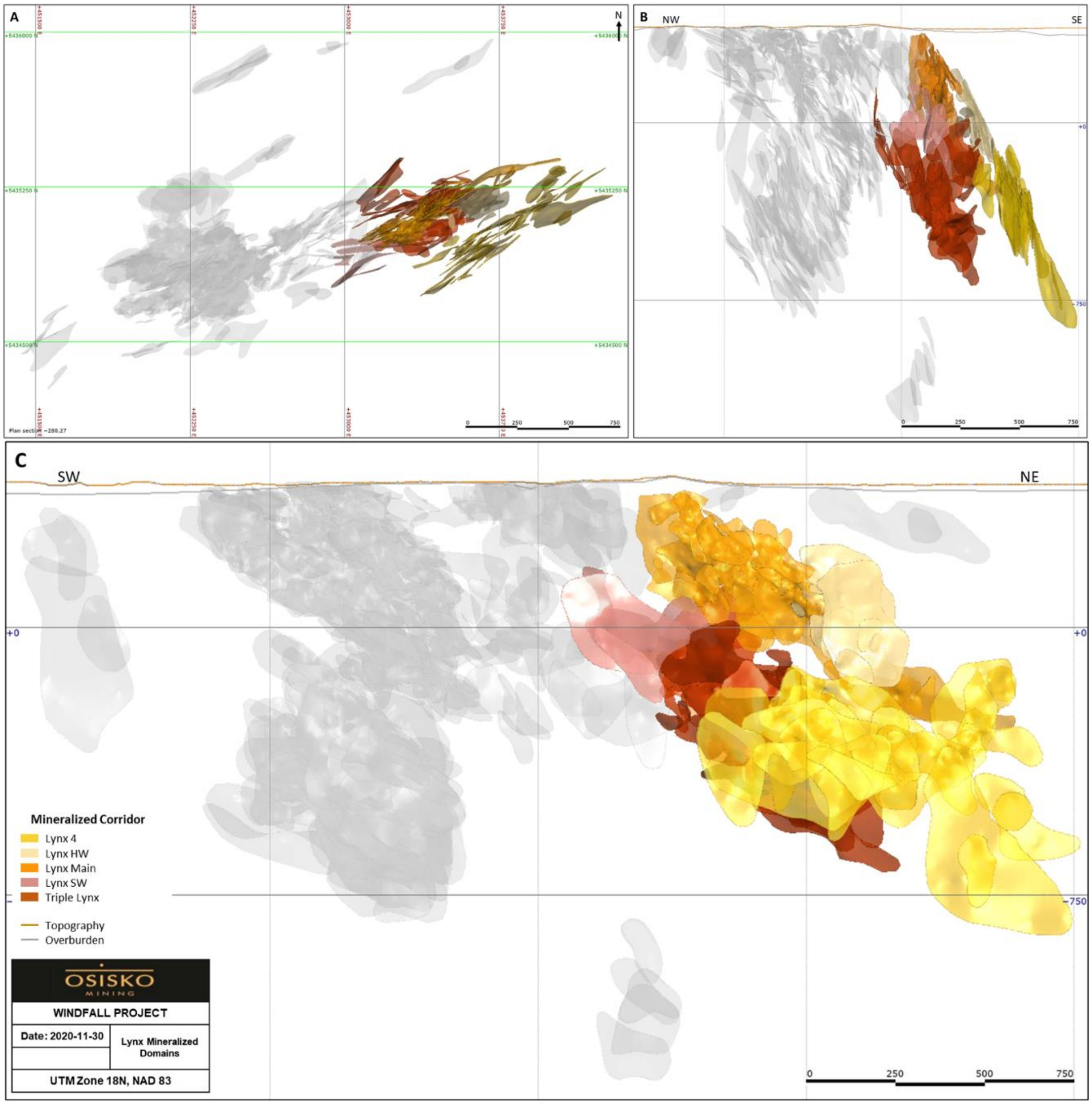


Figure 14-4: Lynx mineralized domains in the Windfall deposit
A) Plan view; B) Cross-section view (looking northeast); and C) Longitudinal view (looking north)

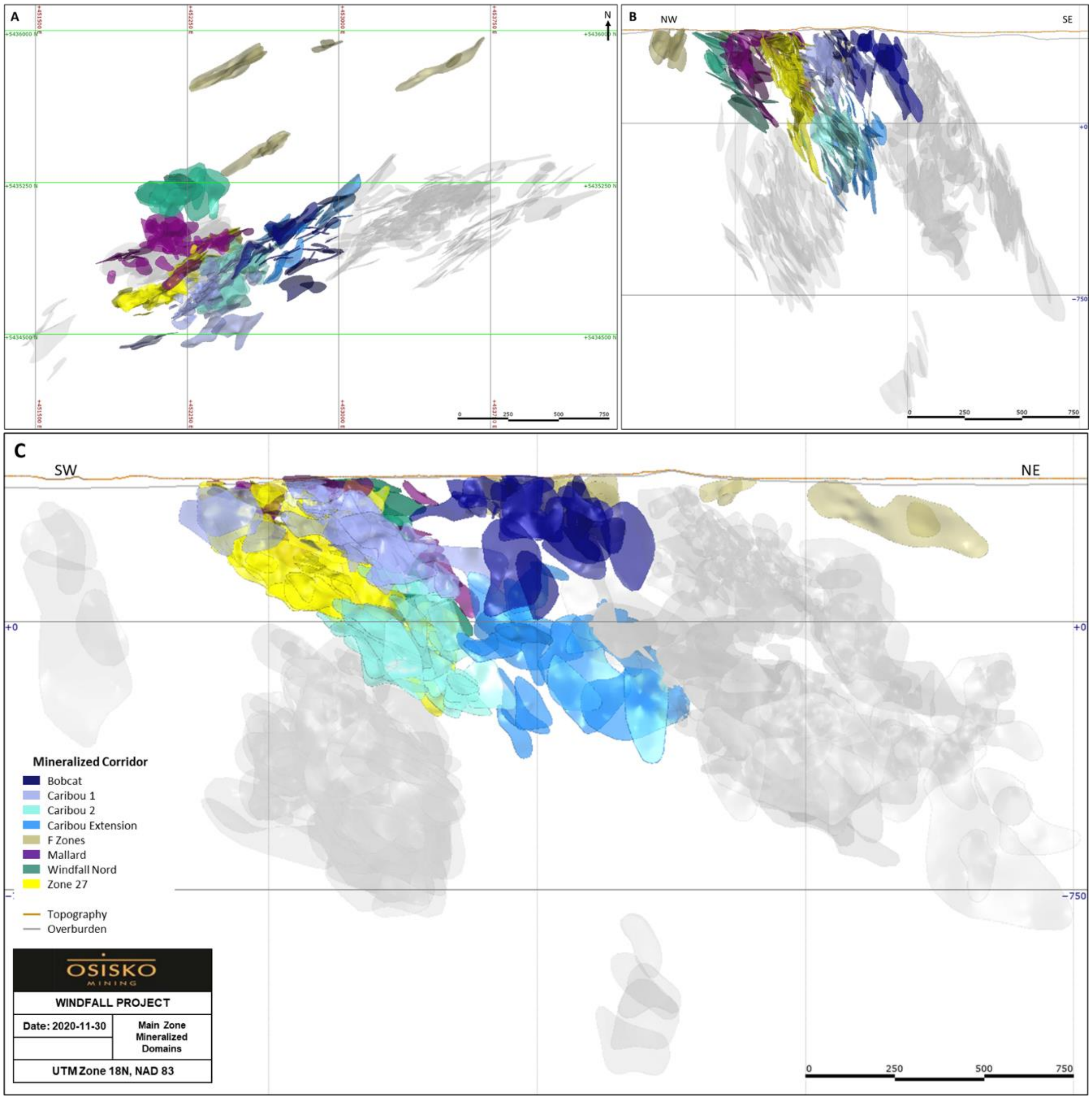


Figure 14-5: Main zone mineralized domains in the Windfall deposit
A) Plan view; B) Cross-section view (looking northeast); and C) Longitudinal view (looking north)

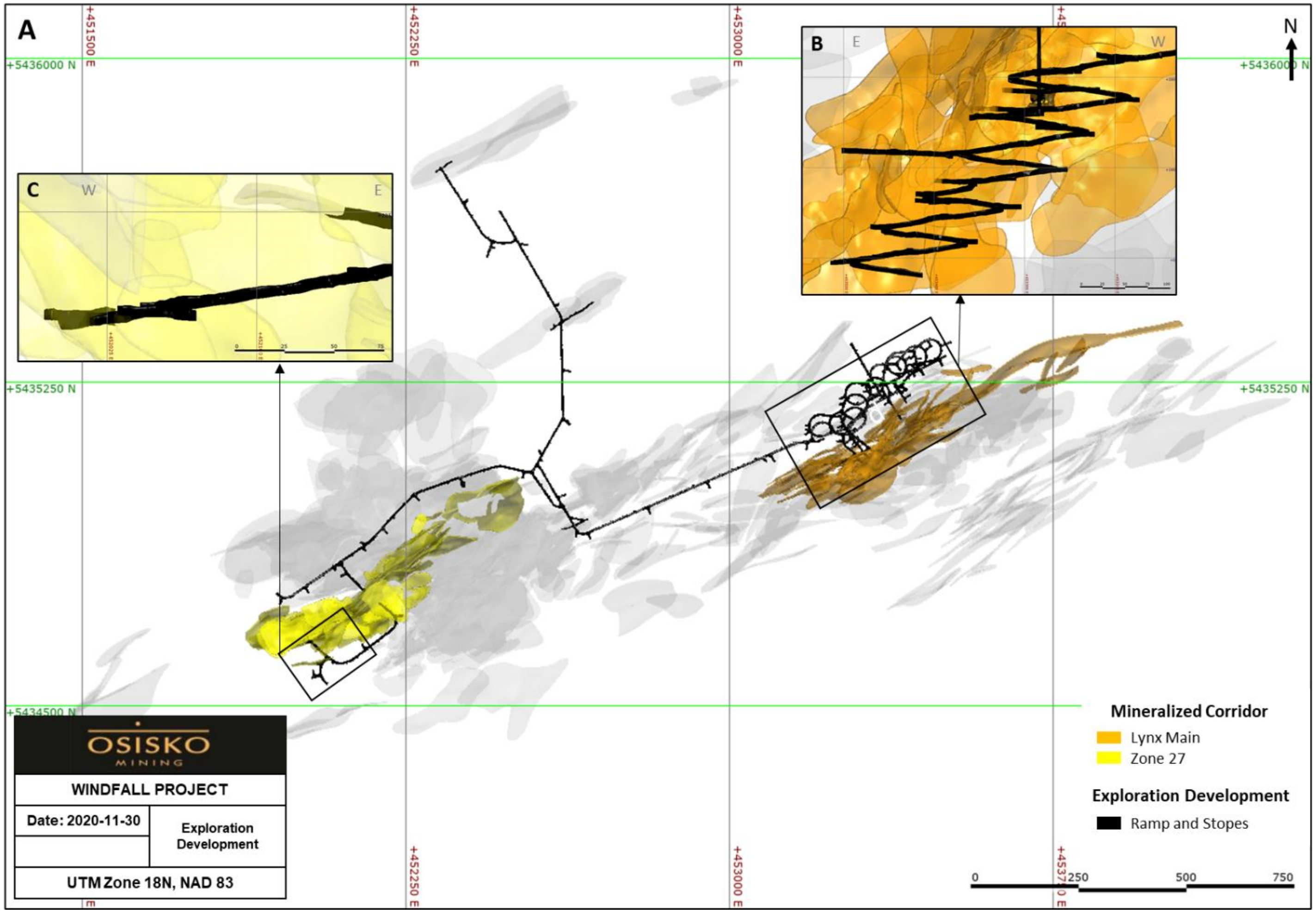


Figure 14-6: Exploration ramp intersecting Lynx Main and Zone 27 mineralization
A) Plan view; B) Close-up view (looking south) in Lynx; and C) 3D close-up view (looking north) in Zone 27

14.6 Compositing and High-grade Capping

Every drill hole interval intersecting a mineralized domain was attributed a zone code based on the name of the 3D solid. The coded intercepts were used to generate univariate statistics on sample lengths, gold and silver grades of raw assays. The results are presented in Table 14-3 and Table 14-4.

14.6.1 Compositing

In order to minimize any bias introduced by varying sample lengths, the gold and silver assays of the drill hole data were composited within each mineralized zone. The thickness of the mineralized domains, the proposed block size, and the average sample length were considered for the selected composite length.

Composites of 2.0 m (down hole) with distributed tails were generated inside the mineralized wireframes. If the last interval was shorter than 1.0 m (tails), composites lengths were adjusted to keep all intervals equal. All intervals located within the mineralized zones that were not assayed were given a value of ¼ the detection limit (0.00125 g/t Au and 0.0025 g/t Ag) during the compositing. Additionally, gold composites were discarded when they were located within a zone interval where pending or QA/QC failed assays were present; this measure was not applied to silver composites. Exceptionally for Lynx Main and Triple Lynx corridors, pending gold assays within a zone interval with partial results were given a value of ¼ the detection limit (0.00125 g/t Au).

A total of 12,942 gold composites were generated for the Lynx area, 2,751 for Underdog, 11,641 for Main zone and 130 for Triple 8 in the mineralized zones.

A total of 3,508 silver composites were generated for the Lynx area, 708 for Underdog, 6,726 for Main zone and 71 for Triple 8 in the mineralized zones. Unlike gold assays, samples were not analyzed systematically for silver content. As such, the number of silver composites is lower than the gold composites.

14.6.2 High-grade Capping

High-grade capping values for gold and silver were applied on composite data using a multiple-step capping strategy where capping values decrease as interpolation search distances increase. The multiple capping strategy limits the influence of high-grade composites during interpolation over long ranges by using lower capping values.

High-grade capping values were established on a per zone basis or per group of zones. The mineralized zones were usually grouped by geographic location, geological characteristics and/or by grade range to facilitate the statistical studies but were also examined individually. Generally, a set of capping grades was determined for higher grade zones with a good mineralization continuity, and another set of capping values was defined for the group of lower grade zones.

Table 14-3: Statistics on gold raw assays presented by area

Area	Number of zones	Number of raw assays	Minimum (g/t Au)	Maximum (g/t Au)	Uncut mean (g/t Au)	Median (g/t Au)	Standard deviation	CV
Lynx Main	57	14,099	0.001	90,700.0	16.9	0.4	770.5	45.7
Triple Lynx - SW	47	8,783	0.001	3,120.0	6.3	0.6	55.3	8.8
Lynx 4-HW	40	9,477	0.001	9,830.0	8.9	0.3	117.5	13.2
Underdog	50	6,356	0.001	2,590.0	5.1	0.4	34.3	6.8
Zone 27	49	10,826	0.001	6,070.0	4.7	0.5	70.5	14.9
Caribou 1	38	4,221	0.001	486.0	2.6	0.4	12.1	4.6
Caribou 2	35	2,827	0.001	4,620.0	4.5	0.3	68.0	15.2
Caribou Extension	21	1,166	0.001	3,020.0	4.5	0.7	63.3	14.2
Bobcat	28	2,594	0.001	4,911.2	6.2	0.2	111.3	18.0
Mallard	28	2,585	0.001	5,550.0	4.8	0.2	107.7	22.3
Windfall North	11	886	0.001	1,725.0	3.3	0.1	50.1	15.1
F-Zones	10	1,114	0.001	305.7	3.3	0.4	12.1	3.7
Triple 8	5	354	0.005	278.0	5.5	1.3	17.3	3.2

Table 14-4: Statistics on silver raw assays presented by area

Area	Number of zones	Number of raw assays	Minimum (g/t Au)	Maximum (g/t Au)	Uncut mean (g/t Au)	Median (g/t Au)	Standard deviation	CV
Lynx Main	52	5,060	0.003	1,345.0	7.0	1.1	37.1	5.3
Triple Lynx	47	659	0.003	1,430.0	6.0	1.0	41.9	6.9
Lynx 4-HW	39	2,516	0.003	2,550.0	11.6	0.9	76.4	6.6
Underdog	48	1,568	0.003	100.0	2.2	0.9	6.5	2.9
Zone 27	49	7,266	0.003	385.0	3.9	1.2	10.2	2.6
Caribou 1	38	2,448	0.003	100.0	4.3	1.1	9.7	2.3
Caribou 2	35	2,035	0.003	314.0	3.3	1.0	9.2	2.8
Caribou Extension	20	662	0.003	100.0	5.4	2.4	10.5	1.9
Bobcat	27	749	0.003	100.0	5.0	1.2	12.8	2.5
Mallard	28	1,040	0.003	644.0	2.4	1.0	14.8	6.2
Windfall North	11	137	0.003	100.0	3.2	1.2	8.0	2.5
F-Zones	9	108	0.001	32.2	1.3	0.1	3.5	2.7
Triple 8	5	190	0.250	62.0	6.0	3.0	9.1	1.5

The series of capping values were defined by abnormal breaks or changes of slope on probability plots of grade distribution or by scattered points outside the main distribution curve (see examples illustrated in Figure14-7).

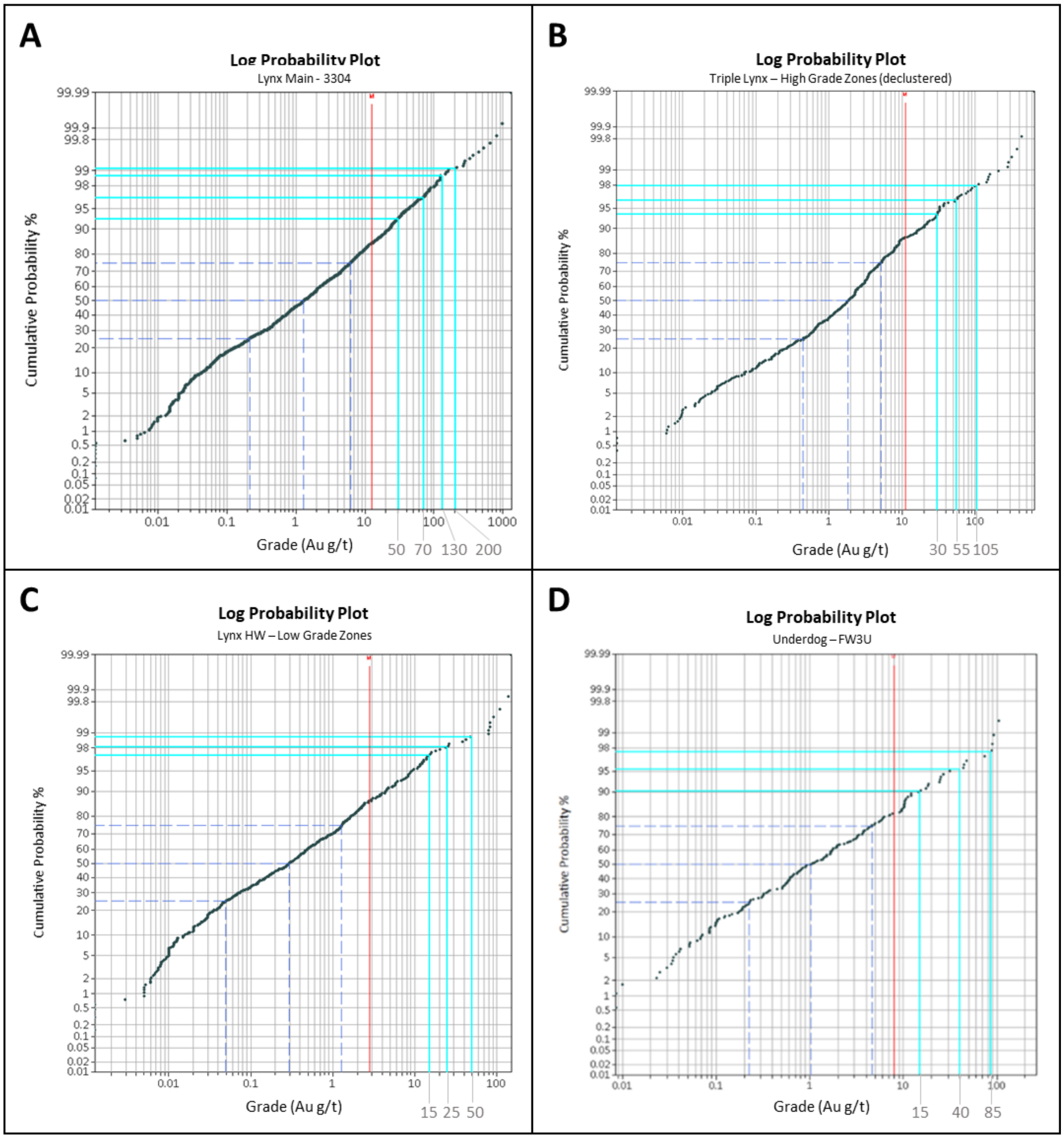


Figure14-7: Examples of multiple-step gold grade capping on composites using a grade distribution probability plot
A) Lynx Main, Zone 3304; B) High-grade zones of Triple Lynx area;
C) Low-grade zones of Lynx Hanging Wall area; and D) FW3U group in Underdog area

The following criteria were also checked to validate the first capping value or to adjust it if needed:

- No more than 10% of the overall contained metal must be contained within the first 1% of the highest-grade samples.
- The log-normal distribution of grades must not show any erratic grade bins or distant values from the main population.
- The coefficient of variation must be approximately 2.00.

Table 14-5 and Table 14-6 present the selection of the capping limits used in the grade interpolation passes by group of zones for each area. A three-step capping strategy was used for all areas except Lynx Main for which some groups of zones were interpolated using a four-step strategy.

Table 14-7 and Table 14-8 present a summary of the statistical analysis of the composites for each mineralized corridor. Note that the metal loss values appearing in this table represent an estimation based on the ratio of the sum of composites before and after capping. This estimation is not perfectly representative given the uneven drill spacing and inherent over-representation of extreme assay values in this type of metal loss estimation.

Table 14-5: Compilation of gold capping limits applied to composites, by interpolation pass

Area	Group description	Capping (g/t Au)			
		Pass 1	Pass 2	Pass 3	Pass 4
Lynx Main	3311, 3304	200	130	70	30
	3308	110	70	30	-
	Group A: other zones with max>75g/t and/or good geological continuity	110	75	50	30
	Group B: zones with max<75g/t or moderate continuity	45	30	20	-
Triple Lynx	High-grade zones	105	50	30	-
	Other zones	65	35	15	-
	North of Lynx	20	20	10	-
Lynx SW	All zones	25	25	15	-
Lynx HW	High-grade zones	65	40	25	-
	Other zones	50	25	15	-
Lynx 4	High-grade zones	130	75	35	-
	Zone 3449	130	60	35	-
	Medium grade zones	75	40	25	-
	Other zones	55	30	20	-
Underdog	FW0 & SW	25	25	15	-
	FW1 without 4100-4102	65	30	15	-
	4100-4102	75	40	15	-
	FW3U	85	40	15	-
	FW3-FW4-FW4b-FW3Ub	50	30	15	-

Area	Group description	Capping (g/t Au)			
		Pass 1	Pass 2	Pass 3	Pass 4
Zone 27	Zone 1115	100	30	15	-
	Vertical zones	75	30	15	-
	Horizontal zones	30	15	10	-
Caribou 1 & 2	Higher grade zones	55	30	15	-
	Lower grade zones	30	15	10	-
Caribou Extension	All zones	25	15	10	-
Bobcat	Group A: Central area	60	20	15	-
	Group B: Bank fault area	65	30	15	-
Mallard	All zones	50	30	15	-
Windfall North	All zones	50	20	10	-
F-Zones	All zones	50	30	15	-
Triple 8	All zones	55	25	15	-

Table 14-6: Compilation of silver capping limits applied to composites, by interpolation pass

Area	Group description	Capping (g/t Ag)			
		Pass 1	Pass 2	Pass 3	Pass 4
Lynx Main	3304	150	100	60	25
	other zones	100	60	25	-
Triple Lynx-SW	All zones	60	30	10	-
Lynx HW	All zones	90	40	15	-
Lynx 4	High-grade zones	150	80	40	-
	Other zones	60	35	15	-
Underdog	All zones	20	10	10	-
Zone 27	Zone 1115	55	40	20	-
	Vertical zones	40	20	15	-
	Horizontal zones	30	20	15	-
Caribou 1	Group A	55	30	15	-
	Group B-C-D-E-F	25	15	10	-
Caribou 2	All zones	40	20	15	-
Caribou Extension	All zones	40	20	10	-
Bobcat	All zones	45	35	20	-
Mallard	All zones	30	15	10	-
Windfall North	All zones	10	10	5	-
F-Zones	All zones	10	5	5	-
Triple 8	All zones	no cap	20	15	-

Table 14-7: Summary statistics comparing the uncapped and capped gold composites, by area

Area	Number of zones	Uncapped composite information						Capped composite Information (based on first capping)				
		Number of composites	Minimum (g/t Au)	Maximum g/t Au)	Mean (g/t Au)	Standard deviation	CV	Number of capped composites	Metal loss (%)	Mean (g/t Au)	Standard deviation	CV
Lynx Main	57	5,587	0.001	13,634.3	9.7	186.3	19.1	47	38%	6.0	18.0	3.0
Triple Lynx-SW	47	3,506	0.001	638.5	6.3	28.8	4.6	42	23%	4.8	12.2	2.6
Lynx 4-HW	40	3,849	0.001	3,252.7	8.7	68.4	7.8	71	37%	5.5	16.4	3.0
Underdog	50	2,751	0.001	389.0	4.8	17.5	3.6	36	15%	4.1	9.5	2.3
Zone 27	49	4,773	0.001	1,767.0	4.6	39.0	8.5	29	30%	3.3	8.8	2.7
Caribou 1	38	1,895	0.001	318.5	2.7	9.6	3.5	14	8%	2.5	5.5	2.2
Caribou 2	35	1,291	0.001	2,100.7	5.0	59.0	11.7	12	27%	3.2	6.5	2.0
Caribou Extension	21	475	0.005	605.1	4.5	28.5	6.4	5	35%	2.9	4.1	1.4
Bobcat	28	1,160	0.001	3,078.1	6.1	92.0	15.0	9	54%	2.8	7.6	2.7
Mallard	28	1,155	0.001	1,385.1	4.8	49.1	10.3	11	50%	2.4	6.8	2.8
Windfall North	11	371	0.001	417.3	3.3	24.8	7.6	4	48%	1.7	6.2	3.7
F-Zones	10	521	0.001	87.6	3.4	8.6	2.5	4	5%	3.2	7.1	2.2
Triple 8	5	130	0.026	86.7	5.5	10.8	2.0	1	5%	5.3	9.2	1.7

Table 14-8: Summary statistics comparing the uncapped and capped silver composites, by area

Area	Number of zones	Uncapped composite information						Capped composite Information (based on first capping)				
		Number of composites	Minimum (g/t Ag)	Maximum g/t Ag)	Mean (g/t Ag)	Standard deviation	CV	Number of capped composites	Metal loss (%)	Mean (g/t Ag)	Standard deviation	CV
Lynx Main	49	2,145	0.003	486.8	6.8	22.6	3.3	13	10%	6.2	14.5	2.3
Triple Lynx-SW	47	310	0.003	434.7	5.3	26.8	5.0	3	28%	3.8	8.9	2.4
Lynx 4-HW	39	1,053	0.003	543.2	11.5	45.9	4.0	24	29%	8.1	22.8	2.8
Underdog	50	708	0.003	41.0	2.1	3.7	1.7	9	5%	2.0	3.0	1.5
Zone 27	49	3,336	0.003	138.2	3.9	7.5	1.9	20	3%	3.7	6.3	1.7
Caribou 1	38	1,153	0.003	100.0	4.6	8.2	1.8	4	2%	4.4	7.1	1.6
Caribou 2	35	954	0.003	143.3	3.4	6.9	2.1	6	3%	3.2	5.0	1.6
Caribou Extension	20	280	0.003	45.4	5.6	7.3	1.3	4	1%	5.5	7.1	1.3
Bobcat	27	396	0.003	100.0	5.1	10.2	2.0	6	5%	4.8	8.3	1.7
Mallard	28	488	0.003	131.9	2.4	7.5	3.1	4	14%	2.1	3.6	1.7
Windfall North	11	57	0.003	25.4	3.2	4.2	1.3	2	12%	2.8	2.7	1.0
F-Zones	9	62	0.001	14.4	1.3	2.6	2.0	2	5%	1.2	2.2	1.8
Triple 8	5	71	0.250	27.5	6.0	6.4	1.1	0	-	-	-	-

14.7 Density

Densities are used to calculate tonnages for the estimated volumes derived from the resource-grade block model.

For the 2021 MRE, a total of 153,102 density measurements were evaluated for the resource database. Most of the specific gravity ("SG") measurements were determined by the pycnometer method on pulps by ALS Minerals in Val-d'Or and Bureau Veritas in Timmins.

Summary statistics of the SG assay data related to the area of the resource estimation were evaluated for late dikes and host rocks. The results are presented in Table 14-9. The statistics for the material included in the mineralized zones were based on 2.0 m specific gravity composites and are presented by area in Table 14-10.

Fixed density values were applied to the following rock type material in the block model: mineralized envelopes, late dikes and host rocks. The densities integrated in the block model are listed in Table 14-11. The selected values correspond to SG median values drawn from a representative group of matching rock type. Areas for which the number of data is low (< 100) were not considered as a representative group of study.

A density of 2.0 g/cm^3 was assigned to the overburden.

Table 14-9: Statistics on specific gravity by rock type

Lithology	Number	Minimum	Maximum	Mean	Median	Standard deviation	CV
Late dikes							
REDDOG	5,041	2.40	3.11	2.71	2.71	0.09	0.03
I13	1,579	2.44	3.14	2.71	2.70	0.08	0.03
I2J	1,140	2.56	3.17	2.84	2.83	0.10	0.04
Host rocks							
I1	2,623	2.42	3.68	2.76	2.76	0.10	0.04
I1 Frg	1,486	2.46	3.28	2.78	2.78	0.09	0.03
I1P	24,451	2.23	4.38	2.77	2.76	0.11	0.04
I1P YB	3,836	2.40	3.80	2.73	2.73	0.10	0.04
I2P	27,921	2.12	4.03	2.77	2.77	0.10	0.04
V1	25,602	2.15	4.05	2.77	2.76	0.11	0.04
I2 BIZ	313	2.55	3.08	2.76	2.77	0.09	0.03
I2	1,369	2.47	3.35	2.81	2.80	0.11	0.04
I3	10,757	2.29	3.70	2.81	2.81	0.11	0.04
V2-V3-V4	45,126	2.27	3.91	2.85	2.85	0.11	0.04
I4	773	2.56	3.29	2.82	2.81	0.11	0.04
S	93	2.60	3.05	2.81	2.81	0.09	0.03
Breccia	992	2.48	3.82	2.80	2.79	0.11	0.04

Table 14-10: Statistics on specific gravity composites located inside mineralized zones, by area

Area	Number	Minimum	Maximum	Mean	Median	Standard deviation	CV
Lynx Main	979	2.52	3.28	2.80	2.80	0.09	0.03
Triple Lynx - SW	301	2.57	3.17	2.8	2.79	0.08	0.03
Lynx 4-HW	340	2.52	3.28	2.82	2.81	0.10	0.04
Underdog	982	2.58	3.43	2.81	2.79	0.11	0.04
Zone 27 - Vertical	1,061	2.48	3.95	2.85	2.83	0.13	0.05
Zone 27 - Horizontal	236	2.54	3.33	2.85	2.84	0.11	0.04
Caribou 1	612	2.55	4.05	2.84	2.83	0.16	0.05
Caribou 2	540	2.55	3.60	2.86	2.85	0.13	0.05
Caribou Extension	126	2.64	3.24	2.87	2.87	0.12	0.04
Bobcat	188	1.92	3.19	2.84	2.82	0.13	0.05
Mallard	114	2.56	3.51	2.88	2.85	0.14	0.05
Windfall North	11	2.76	3.17	2.97	2.98	0.14	0.05
F-Zones	68	2.70	2.99	2.87	2.88	0.06	0.02
Triple 8	35	2.64	3.43	3.02	2.96	0.20	0.07

Table 14-11: Density compilation for rock types coded in the block models

Rock type	Rock code	Density (g/cm^3)
Above topography	0	-
Ramp	5	-
Overburden	10	2.0
Late dikes	80	2.7
Zones	>1,000, <9,000	2.8
Host rocks	> 20,000	2.8

14.8 Block Model

A block model was created for each of the following areas: 1) Lynx Main; 2) Lynx4-HW (grouping Lynx 4 and Lynx HW); 3) Triple Lynx (grouping Triple Lynx and Lynx SW); 4) Main zone (grouping Zone 27, Caribou 1, Caribou 2, and Windfall North); 5) Mallard; 6) Bobcat; 7) Caribou Extension; 8) F-Zones; 9) Underdog; and 10) Triple 8.

The block models were rotated 25° counter-clockwise (X-axis oriented along N65°). Parent block cells have dimensions of 5 m long (X-axis) by 2 m wide (Y-axis) by 5 m vertical (Z-axis). The block dimensions were chosen to reflect the sizes of the mineralized zones and plausible underground mining methods.

Table 14-12 presents the properties of the block models. Figure 14-8 shows the geographical distribution of the block models in the Windfall Project.

Table 14-12: Block models properties by area

Area	Properties	X (Column)	Y (Row)	Z (Level)
Lynx Main	Origin coordinates	453,123.39	5,434,847.16	-400.00
	Number of blocks	230	130	165
	Block extent (m)	1,150	260	825
	Block size (m)	5	2	5
	Rotation	25°		
Triple Lynx Lynx SW	Origin coordinates	452,939.07	5,434,650.88	-800.00
	Number of blocks	220	275	200
	Block extent (m)	1,100	550	1,000
	Block size (m)	5	2	5
	Rotation	25°		
Lynx 4-HW	Origin coordinates	453,358.93	5,434,625.98	-1,000.00
	Number of blocks	260	250	260
	Block extent (m)	1,300	500	1,300
	Block size (m)	5	2	5
	Rotation	25°		
Underdog	Origin coordinates	451,465.06	5,434,179.79	-905.00
	Number of blocks	270	280	255
	Block extent (m)	1,350	561	1,275
	Block size (m)	5	2	5
	Rotation	25°		
Zone 27, Caribou 1, Caribou 2, Windfall North	Origin coordinates	451,998.06	5,434,137.05	-410.00
	Number of blocks	208	510	170
	Block extent (m)	1,040	1,020	850
	Block size (m)	5	2	5
	Rotation	25°		
Caribou Extension	Origin coordinates	452,599.56	5,434,669.10	-410.00
	Number of blocks	160	210	120
	Block extent (m)	800	420	600
	Block size (m)	5	2	5
	Rotation	25°		

Area	Properties	X (Column)	Y (Row)	Z (Level)
Bobcat	Origin coordinates	452,544.36	5,434,515.37	-135.00
	Number of blocks	160	250	120
	Block extent (m)	800	500	600
	Block size (m)	5	2	5
	Rotation	25°		
Mallard	Origin coordinates	451,914.90	5,434,527.77	-50.00
	Number of blocks	180	250	98
	Block extent (m)	900	500	490
	Block size (m)	5	2	5
	Rotation	25°		
F-Zones	Origin coordinates	452,389.94	5,435,118.63	100.00
	Number of blocks	320	400	90
	Block extent (m)	1,600	800	450
	Block size (m)	5	2	5
	Rotation	25°		
Triple 8	Origin coordinates	452,838.16	5,434,559.68	-1,600.00
	Number of blocks	170	300	200
	Block extent (m)	850	600	1 000
	Block size (m)	5	2	5
	Rotation	25°		

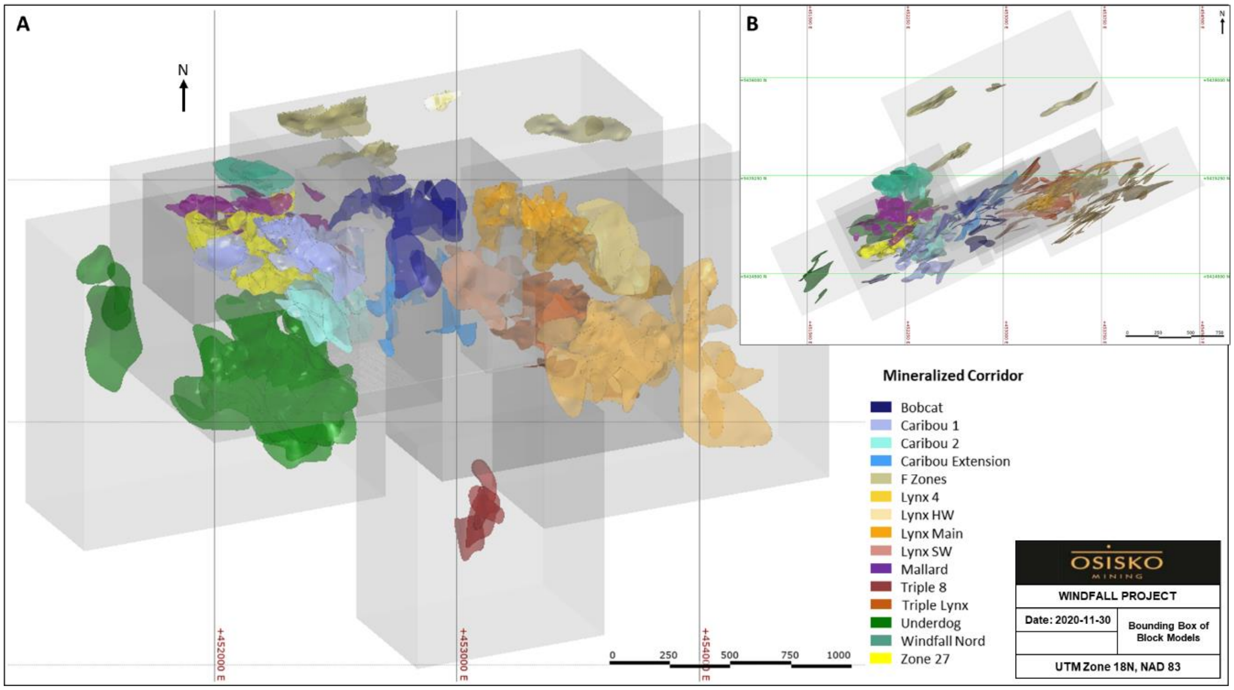


Figure 14-8: Bounding box of the block models
A) 3D view; and B) Plan view

14.9 Rock Coding and Sub-Celling

Parent blocks were divided into sub-cells when these intersected wireframes. A resolution of 4 in each axis direction was used in the division of the parent cells. Subsequently, the minimum sub-cell size is of 1.25 m long (X-axis) by 0.5 m wide (Y-axis) by 1.25 m vertical (Z-axis).

The rock coding sequence involved the following wireframes: 1) mineralized envelopes; 2) post-mineralization dikes; 3) overburden; 4) topography; and 5) exploration ramp and bulk sample stopes. Overlapping solids were handled by priority ranking where the last stated wireframe overprints the previous wireframes in the list. The list of rock codes integrated in the block models is presented in the Table 14-13.

Table 14-13: Rock codes identified in the block models

Resource area	Wireframes	Zone codes (or Serie)
All	Ramp	5
	Overburden	10
	Late dikes	80
Lynx	Lynx Main	3300
	Triple Lynx high-grade	3100
	Triple Lynx mid-grade	3800
	Lynx SW	3500
	Lynx 4	3400
	Lynx HW	3200
Main Zone	Zone 27	1000
	Caribou 1	2500
	Caribou 2	2200
	Caribou Extension	2500
	Bobcat	2300
	Mallard	5000
	F-Zones	6000
	Windfall North	7000
Underdog	Underdog	4000
Triple 8	Triple 8	8000

14.10 Variography and Search Ellipsoids

14.10.1 Variography

Three-dimensional ("3D") directional variography was performed on the 2.0 m gold grade composites on major mineralized zones (containing more than 300 composites) and/or geographical groups of zones in each area. The studies were carried out using Supervisor software. The overall approach to model the variography is described below:

- Examination of the strike and dip of the mineralized zones to determine the axes of better continuity.
- Estimation of the nugget effect (C_0) based on the down hole variogram.
- Modelling of the major, semi-major and minor axes of continuity using spherical models.

Due to the variability of the grades within the mineralized zones, the moderately high nugget effect and the lack of information in some zones or groups of zones, it was decided to refer to the variography analysis based on the most representative groups of zones in each area. The parameters of the variogram models are presented in Table 14-14. Figure 14-9 shows an example of the variography study in Lynx Main for zones of the 304-308-311 group.

Table 14-14: Variogram model parameters selected for each area

Area	Zone description	Number of zones	Variography components									
			Nugget	Model type	First structure				Second structure			
					Sill	Range X (m)	Range Y (m)	Range Z (m)	Sill	Range X (m)	Range Y (m)	Range Z (m)
Lynx Main	3304-3308-3311	3	0.40	Spherical	0.30	20	10	5	0.30	60	25	15
	NE	33	0.60	Spherical	0.10	10	10	5	0.30	40	25	15
	NS	10	0.25	Spherical	0.20	15	5	5	0.55	30	15	10
	Bank	11	0.60	Spherical	0.20	15	5	5	0.20	30	15	10
Triple Lynx-SW	All zones	47	0.40	Spherical	0.40	20	10	5	0.30	40	25	15
Lynx HW	All zones	10	0.60	Spherical	0.40	40	25	15	-	-	-	-
Lynx 4	All zones	30	0.20	Spherical	0.55	25	15	10	0.25	40	25	15
Underdog	All zones	50	0.60	Spherical	0.40	30	20	15	-	-	-	-
Zone 27	Vertical zones	27	0.45	Spherical	0.55	25	20	15	-	-	-	-
	Horizontal zones	22	0.20	Spherical	0.80	25	15	15	-	-	-	-
Caribou 1 & 2	Caribou 1 and zones in faulted area from Caribou 2	43	0.30	Spherical	0.50	5	8	5	0.20	20	15	15
Caribou 2	Caribou 2 not in faulted area	30	0.50	Spherical	0.50	30	30	15	-	-	-	-
Caribou extension	All zones	17	0.40	Spherical	0.60	60	40	15	-	-	-	-
Bobcat	Group A	8	0.50	Spherical	0.50	20	15	15	-	-	-	-
	Group B	15	0.50	Spherical	0.50	25	15	15	-	-	-	-
	Group C	6	0.50	Spherical	0.50	25	20	15	-	-	-	-
Mallard	All zones	28	0.30	Spherical	0.70	35	20	15	-	-	-	-
Windfall North	All zones	11	0.50	Spherical	0.50	40	35	35	-	-	-	-
F-Zones	All zones	10	0.40	Spherical	0.60	30	25	10	-	-	-	-
Triple 8	All zones	5	0.20	Spherical	0.80	60	40	20	-	-	-	-

The down hole variograms suggest nugget effects varying between 40% and 60% for most of the mineralized zones in Lynx, Underdog and Main zone areas. Lower nugget effects varying from 20% to 30% were observed in Lynx 4, Triple 8, and minor groups of zones within Lynx Main and in the Main zone area.

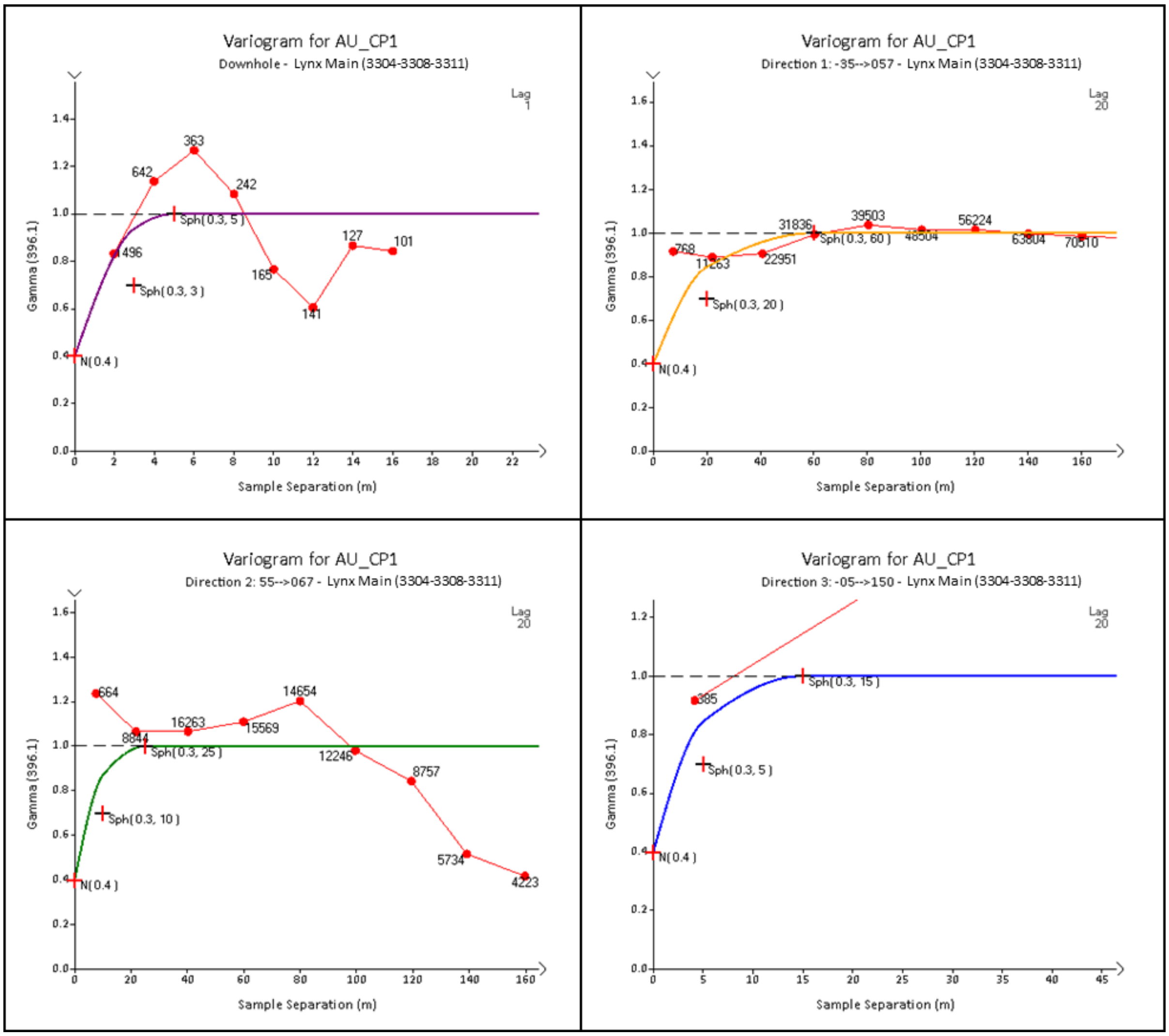


Figure 14-9: Example of variogram models in the Lynx Main area

14.10.2 Search Ellipsoids

The search ellipsoids were oriented dynamically so that the strike and dip follow the undulations of the mineralized wireframes. The strike and dip data information was collected through Leapfrog software from the orientations of the triangles of each of the mineralized meshes. The direction of the mineralization plunge was determined for each zone from observations based on longitudinal views showing mineralization trends. Although occasionally isotropic, it is mainly varying from 30 to 60 degrees to the northeast. The plunge data and a decluttered version of the Leapfrog structural data information was then stored into each block located inside a zone, using a nearest neighbour interpolation. For the grade interpolation, the search ellipsoid orientation was set according to the strike, dip and plunge data stored in each block. Figure 14-10 illustrates an example of the dynamic anisotropy configuration of the search ellipsoids in Lynx Main.

The ellipsoid ranges were based on the variography study. The grade interpolation is a multiple-pass process, cumulatively defining grade blocks through each pass. A three-pass scenario was used for all areas except Lynx Main. The ranges of the ellipsoids for the first interpolation pass correspond to 0.75x to 1.5x the variography range results, to 1x to 3x the variography results for the second pass and to 3x to 8x the variography results for the third and last pass. This last pass considers larger ellipsoids to populate the remaining blocks inside the mineralized envelopes. For two groups of zones in Lynx Main, a four-pass interpolation was performed using a smaller search ellipse for the first pass with 0.5x the variography range.

The search ellipsoids were built using the anisotropy ratio determined from the best fit variogram model in each group of zones. Where the mineralization plunge was not apparent, isotropic ranges in the first and second directions were used in the search, e.g. a search of 25 m by 25 m by 15 m was used for vertical zones with no discernable trend plunge in Zone 27 in the first interpolation pass.

Table 14-15 summarizes the parameters of the ellipsoids used for each interpolation pass.

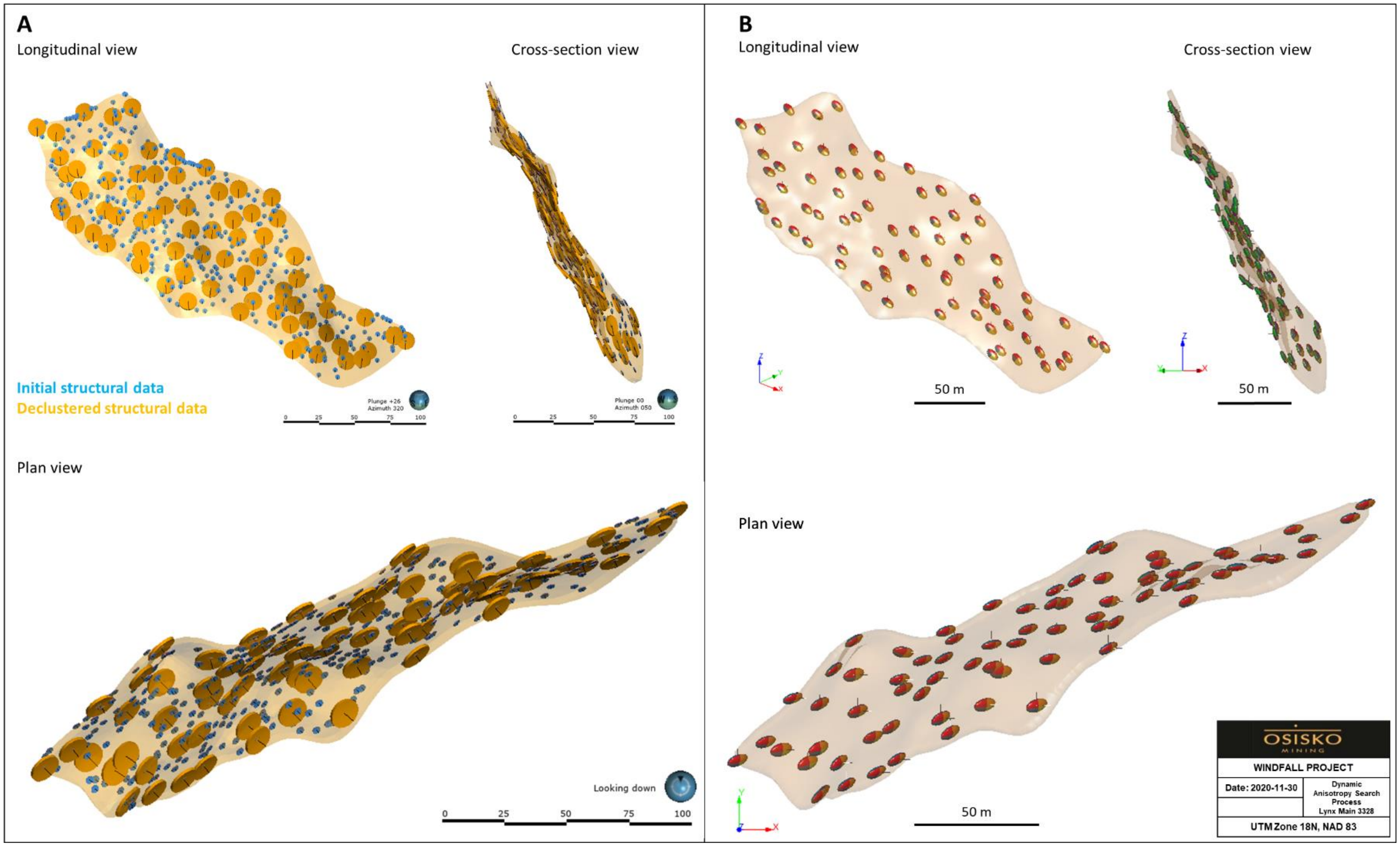


Figure 14-10: Example of the dynamic anisotropy search process in Zone 3328, Lynx Main
A) Structural data collected on the wireframe through Leapfrog; and B) Ellipsoids illustrating the moving orientation (based on structural data and plunge) of the search volume during the grade interpolation

Table 14-15: Search ellipsoid ranges defined by interpolation pass

Area	Group description	Number of zones	Pass 1				Pass 2				Pass 3				Pass 4			
			Vario multiplier	X (m)	Y (m)	Z (m)	Vario multiplier	X (m)	Y (m)	Z (m)	Vario multiplier	X (m)	Y (m)	Z (m)	Vario multiplier	X (m)	Y (m)	Z (m)
Lynx Main	3304-3311	2	0.5	30	12.5	7.5	0.75	45	18.75	11.25	1	60	25	15	3	180	75	45
	3308	1	0.75	45	18.75	11.25	1	60	25	15	3	180	75	45	-	-	-	-
	NE capping group A	8	0.5	20	12.5	7.5	0.75	30	18.75	11.25	1	40	25	15	3	120	75	45
	NE capping group B	25	0.75	30	18.75	11.25	1	40	25	15	3	120	75	45	-	-	-	-
	NS, Bank-EW capping group A	5	0.5	15	7.5	5	0.75	22.5	11.25	7.5	1	30	15	10	3	90	45	30
	NS, Bank-EW capping group B	16	0.75	22.5	11.25	7.5	1	30	15	10	3	90	45	30	-	-	-	-
Triple Lynx-SW	All zones	47	1	40	25	15	1.5	60	37.5	22.5	5	200	125	75	-	-	-	-
Lynx HW	All zones	10	0.75	30	18.75	11.25	1.5	60	37.5	22.5	5	200	125	75	-	-	-	-
Lynx 4	Zone 3449	1	1	40	25	15	1.5	60	37.5	22.5	5	200	125	75	-	-	-	-
	Other zones	29	0.75	30	18.75	11.25	1.5	60	37.5	22.5	5	200	125	75	-	-	-	-
Underdog	All zones	50	1.5	45	30	22.5	2	60	40	30	8	240	160	120	-	-	-	-
Zone 27	Vertical zones	27	1	25	20	15	3	75	60	45	8	200	160	120	-	-	-	-
	Horizontal zones	22	1	25	15	15	3	75	45	45	8	200	120	120	-	-	-	-
Caribou 1 & 2	Caribou 1 and zones in faulted area from Caribou 2	43	1.5	30	22.5	22.5	3	60	45	45	8	160	120	120	-	-	-	-
Caribou 2	Caribou 2 not in faulted area	30	1.5	45	45	22.5	3	90	90	45	8	240	240	120	-	-	-	-
Caribou Extension	All zones	21	0.75	45	30	11.25	1	60	40	15	4	240	160	60	-	-	-	-
Bobcat	Group A	8	1	20	15	15	2	40	30	30	5	100	75	75	-	-	-	-
	Group B	14	1	25	15	15	3	75	45	45	5	125	75	75	-	-	-	-
	Group C	6	1	25	20	15	3	75	60	45	5	125	100	75	-	-	-	-
Mallard	All zones	28	0.75	26.25	15	11.25	1.5	52.5	30	22.5	5	175	100	75	-	-	-	-
Windfall North	All zones	11	1	40	35	35	2	80	70	70	6	240	210	210	-	-	-	-
F-Zones	All zones	10	1	30	25	10	2	60	50	20	4	120	100	40	-	-	-	-
Triple 8	All zones	5	0.75	45	45	15	1.5	90	90	30	3	180	180	60	-	-	-	-

14.11 Grade Interpolation

The parameters for interpolating the gold and silver grade models were derived from the variography study based on the capped gold composites. The interpolations were executed on sets of points providing the locations X, Y, Z, the zone code and grade extracted from the 2.0 m capped composites for gold, and for silver.

The composite points were assigned zone codes corresponding to the mineralized zone in which they occur. The interpolation profiles specified a single composite zone code for each mineralized solid, thus establishing hard boundaries between the zones. Blocks are estimated using composite points associated with the same zone.

The Ordinary Kriging ("OK") method was selected for the resource estimate of gold for all areas of the Windfall deposit. The Inverse Distance Square ("ID^2") method was used for the estimation of silver in Lynx 4-HW, Triple Lynx and Underdog corridors; the OK method was used elsewhere.

As described above, a multiple-step capping process on composites was used to limit unreasonable extrapolation of very high-grade composites. The first interpolation pass used composites where the highest capping value was applied and subsequent passes used lower capping limits on composites. For example, in Lynx 4, for the group of higher grade zones, gold composites were capped at: 1) 130 g/t Au; 2) 75 g/t Au; and 3) 35 g/t Au and were respectively used in interpolation passes 1 to 3 (refer to Table 14-5 and Table 14-6 for capping limits).

The interpolations were run in successive passes characterized by increasing search ranges and decreasing minimum number of composites (Table 14-15 and Table 14-16). Three passes were most commonly applied. The first pass used a relatively small radius search ellipsoid to interpolate the mineralization blocks located in the close vicinity of the drill holes. The second pass interpolated the blocks that were not interpolated during the previous pass. The third and last pass was defined to populate the remaining blocks within the mineralization solids. For two groups of zones in Lynx Main, four passes were set-up including a smaller first pass to interpolate the most well-informed blocks with a higher capping value.

Figure 14-11 and Figure 14-12 illustrate examples of grade distribution on typical cross-section and longitudinal views.

Table 14-16: Composite search specifications by interpolation pass

Area	Zone description	Number of zones	Composite number								Maximum number of composites per drill hole
			Pass 1		Pass 2		Pass 3		Pass 4		
			Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
Lynx Main	3304-3311	2	9	12	7	12	5	12	3	12	2
	3308	1	9	12	7	12	5	12	3	12	2
	NE, NS, Bank-EW capping group A	13	7	12	5	12	3	12	3	12	2
	NE, NS, Bank-EW capping group B	41	7	12	5	12	3	12	3	12	2
Triple Lynx-SW	All zones	47	3	12	3	12	3	12	-	-	2
Lynx 4-HW	All zones	49	3	12	3	12	3	12	-	-	2
Underdog	All zones	50	5	12	3	12	3	12	-	-	2
Zone 27	All zones	49	5	18	3	18	3	18	-	-	2
Caribou 1 & 2	All zones	73	5	18	3	18	3	18	-	-	2
Caribou Extension	All zones	21	5	12	3	12	3	12	-	-	2
Bobcat	All zones	28	3	12	3	12	3	12	-	-	2
Mallard	All zones	28	3	12	3	12	3	12	-	-	2
Windfall North	All zones	11	5	18	3	18	3	18	-	-	2
F-Zones	All zones	10	5	12	3	12	3	12	-	-	2
Triple 8	All zones	5	5	12	3	12	3	12	-	-	2

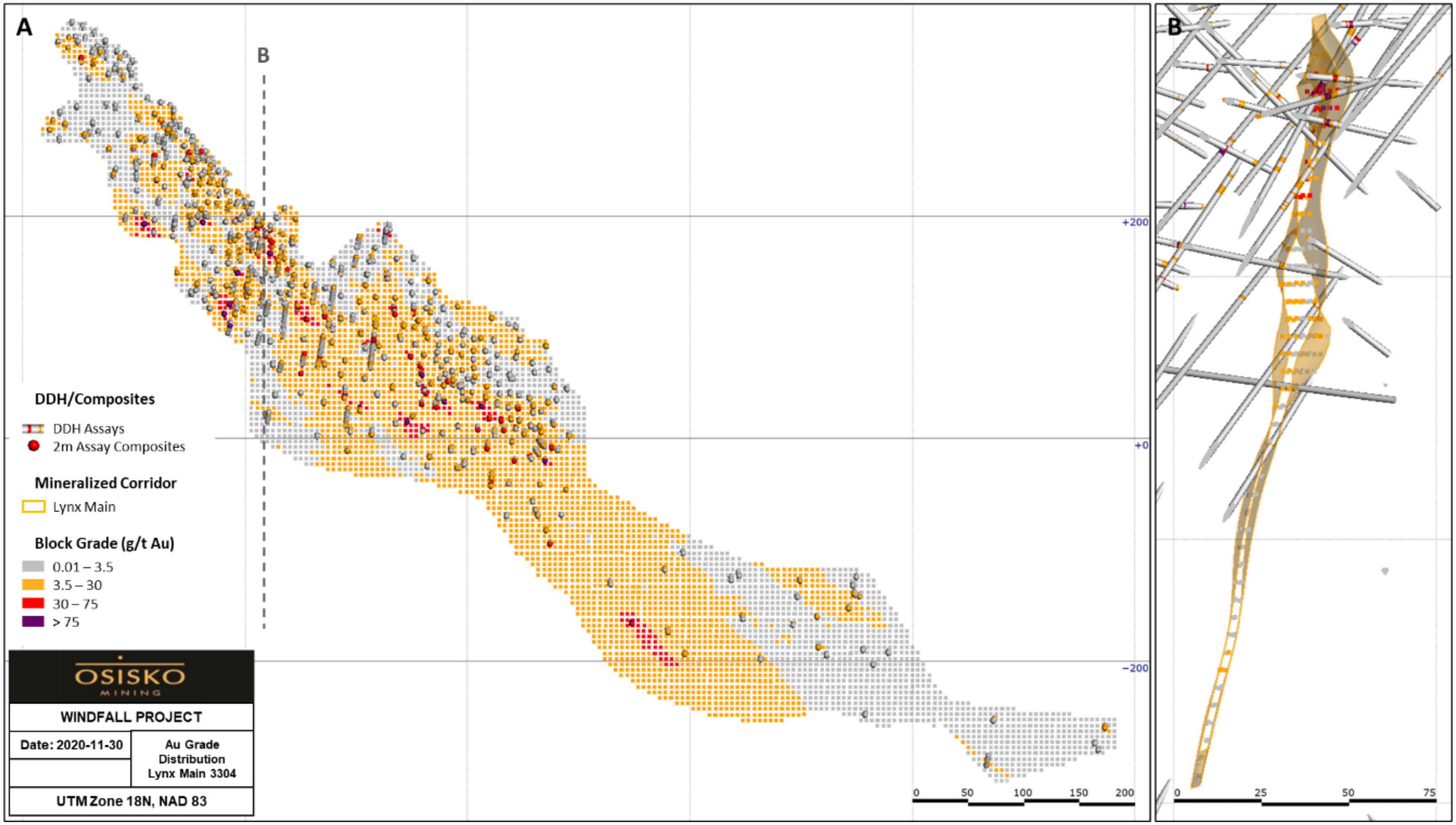


Figure 14-11: Gold grade distribution in mineralized Zone 3304, Lynx Main Corridor
A) Longitudinal view looking N-NW - the dashed line shows the location of the cross-section; and B) Cross-section looking NE (±10 m)

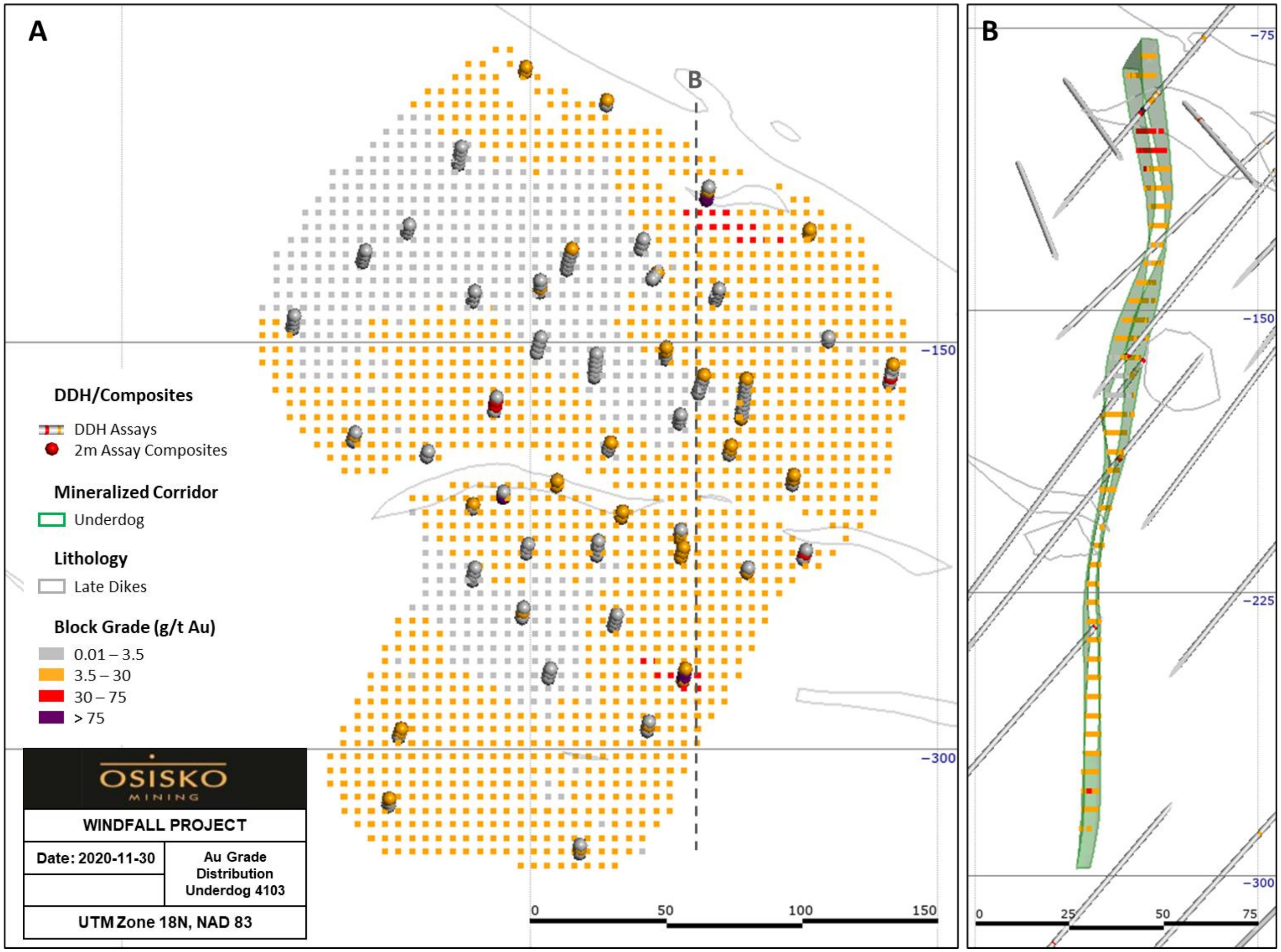


Figure 14-12: Gold grade distribution in mineralized Zone 4103, Underdog Corridor
A) Longitudinal view looking N-NW - the dashed line shows the location of the cross-section; and B) Cross-section looking NE (±10 m)

14.12 Block Model Validation

14.12.1 Visual Validation

A visual comparison between block model grades, composite grades and assays was conducted on sections, plans and longitudinal views for both densely and sparsely drilled areas. No significant differences were observed during the comparison and it generally provided a good match in grade distribution without excessive smoothing in the block model. The silver grade estimations required further verifications to exclude areas where the number of Ag composites was too low to define appropriate silver grades.

Visual comparisons were also conducted between OK, ID^2 and Nearest Neighbour ("NN") gold interpolation scenarios. The ordinary kriging scenarios selected for the gold estimations, produced a block grade distribution representative of the mineralization style observed in the deposit.

14.12.2 Statistical Validation

Table 14-17 compares the global gold composite mean of the blocks (including all classified blocks weighted on their volume inside a mineralized zone) at a zero cut-off grade to the composite grades for each mineralized zone. The comparison was done using the composite grades capped at the highest capping value (i.e. first pass capping limit).

The comparison between composite and block grade distributions did not identify significant issues. As expected, the block grades are generally lower than the composite grades. Slightly lower grades are observed in composites versus estimated blocks in the cases of Lynx HW and Mallard corridors; the higher density of drill holes intercepting lower grade areas, and the angle of the DDH (locally subparallel to the zones in Lynx HW) explains the difference between the mean grades.

Table 14-17: Comparison of the block and composite mean grades at a zero cut-off grade for blocks of all resource classes

Area	Number of composites	Composite (g/t Au)	Number of blocks	OK Grade model (g/t Au)	ID^2 Grade model (g/t Au)	NN Grade model (g/t Au)
Lynx Main	5,587	6.0	62,278	5.3	5.3	5.2
Triple Lynx - SW	3,506	4.8	157,365	4.6	4.6	4.6
Lynx HW	1,365	2.8	29,082	3.2	3.1	3.0
Lynx 4	2,484	7.0	99,950	6.9	6.8	6.8
Underdog	2,751	4.1	266,033	3.3	3.4	3.5
Zone 27	4,773	3.3	80,385	3.0	3.0	3.1
Caribou 1	1,895	2.5	46,790	2.2	2.2	2.3
Caribou 2	1,291	3.2	66,373	3.2	3.3	3.5

Area	Number of composites	Composite (g/t Au)	Number of blocks	OK Grade model (g/t Au)	ID² Grade model (g/t Au)	NN Grade model (g/t Au)
Caribou Extension	475	2.9	45,700	2.7	2.7	2.8
Bobcat	1,160	2.8	41,024	2.5	2.5	2.6
Mallard	1,155	2.4	46,667	2.7	2.7	2.8
Windfall North	371	1.7	39,511	1.5	1.5	1.3
F-Zones	521	3.2	34,306	2.8	2.8	2.9
Triple 8	130	5.3	20,365	4.1	4.2	4.5

Figure 14-13 illustrates the cross-section swath plots for gold to compare the block model grades with the composite grades for each major area. In general, the model correctly reflects the trends shown by the composites, with the expected smoothing effect.

Based on visual and statistical reviews, it is the QP's opinion that the Windfall block models provide a reasonable estimate of in situ gold resources.

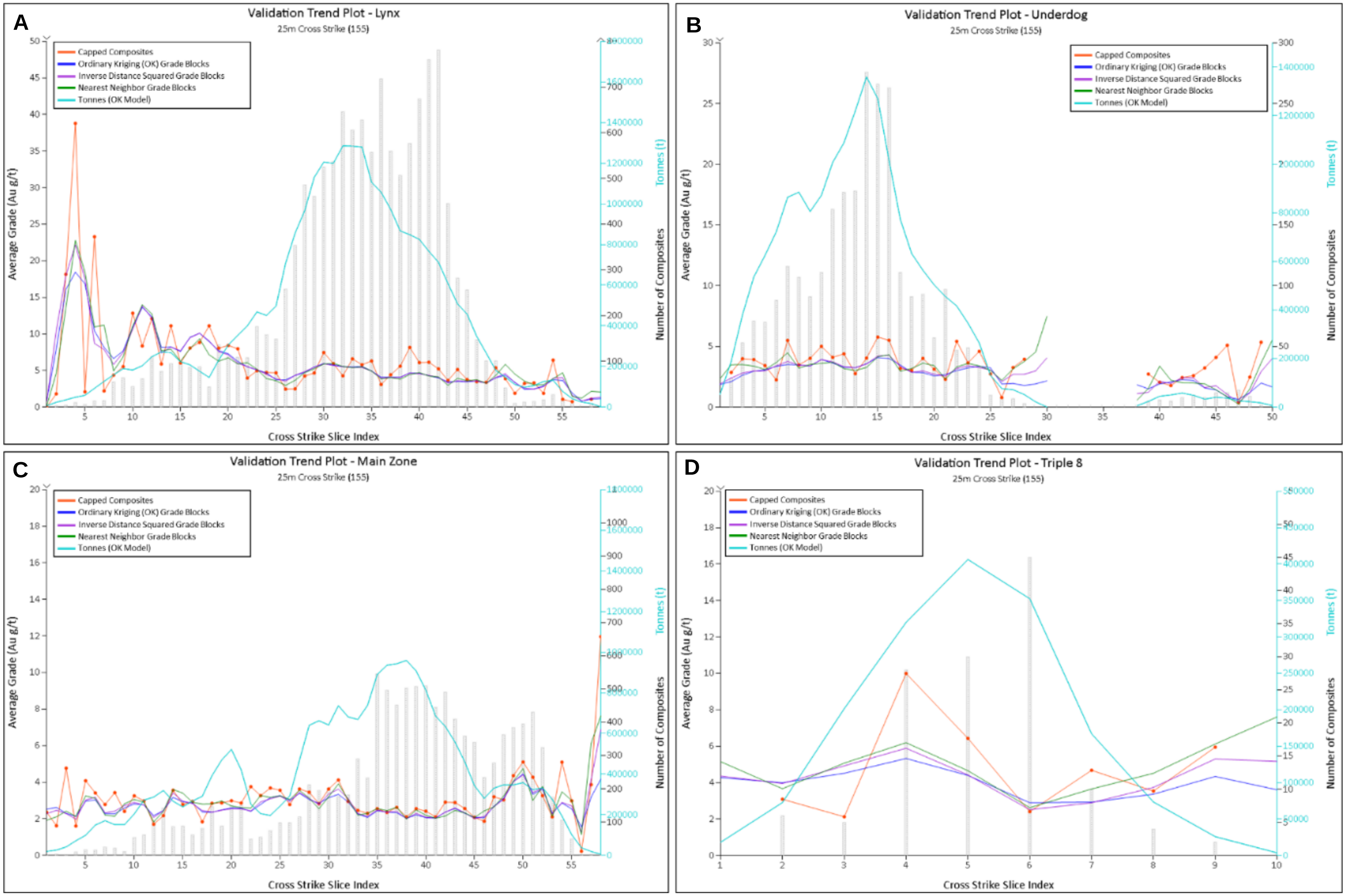


Figure 14-13: Cross-section swath plots by mineralization area
A) Lynx; B) Underdog; C) Main zone; and D) Triple 8

14.13 Cut-off Parameters

According to CIM's best practice guidelines (2019), the cut-off grade should take into account the following (CIM, 2019):

- Reasonable long-term commodity price(s);
- Assumed mining methods;
- Exchange rate(s);
- Mineral process recovery; and
- Operating costs relating to mining, processing, general and administration, smelter terms, and royalties, among others.

Additional considerations include deposit location and scale, geologic and grade continuity, environmental and social considerations, and waste disposal costs.

In addition, according to the CIM best practice guideline (2019), "variations of rock characteristics, metallurgy, mining methods, processing methods, etc. within the mineral resource model may necessitate more than one cut-off grade or economic limit for different parts of the deposit".

The selected cut-off grade of 3.5 g/t Au was used to determine the mineral potential of the deposit and report the mineral resources. The underground cut-off grade ("UCoG") was determined based on the parameters presented in Table 14-18. The cut-off calculation has been rounded up to 3.5 g/t Au to better represent a future mining cut-off.

Gold price and exchange rates were established using the three-year moving average method.

The cut-off grades should be re-evaluated in light of future prevailing market conditions (metal prices, exchange rate, mining cost, etc.).

It should be noted that all parameters are either based on similar projects or reasonable technical and economic factors. The QP of this report section believe that the calculated cut-off grades and the parameters used are relevant for a mineral resource estimate, as they are relevant to the grade distribution of the project and that the mineralization exhibits sufficient continuity. However, these parameters must be analyzed in future studies and, subsequently, could change.

Table 14-18: Parameters used to estimate the UCoG for the 2021 MRE

Parameters	Unit	Value
Gold Price	USD/oz	1,485
Exchange Rate	USD/CAD	1.3
Mill Recovery	%	94
Payability	%	99.95
Sell Cost	USD/oz	5
Royalties (NSR)	%	2
Mining Cost	CAD/t milled	100
G&A Cost	CAD/t milled	30
Processing Cost	CAD/t milled	40
Transportation	CAD/t milled	2
Environment	CAD/t milled	10
Calculated Cut-off Grade	g/t Au	3.2
2021 MRE Cut-off Grade	**g/t Au**	**3.5**

14.14 Mineral Resource Classification

14.14.1 Mineral Resource Classification Definition

The resource classification definitions used for this report are those published by the Canadian Institute of Mining, Metallurgy and Petroleum in their documents “CIM Definition Standards - For Mineral Resources and Mineral Reserves” and “CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines” published in May 10, 2014 and November 2019, respectively.

The definitions are as follow:

Inferred Mineral Resource:

- An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.
- An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Indicated Mineral Resource:

- An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.
- Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.
- An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Measured Mineral Resource:

- A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.
- Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.
- A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

14.14.2 Mineral Resource Classification for the Windfall Gold Deposit

Several criteria were considered for the gold resource classification into the Inferred, Indicated and Measured categories:

- The distance to the closest drill hole;
- The interpolation pass;
- The number of holes informing a grade block;
- The variogram ranges;
- The anisotropy ratio of search ellipsoids;
- The level of confidence in the continuity and the geological understanding of the mineralized zones.

Table 14-19 presents the main criteria that were used to categorize the blocks in each class.

Table 14-19: Main criteria for resource classification

Resource category	Drill hole spacing (m)	Number of holes informing a block	Interpolation pass	Reliability of the geological and grade continuity
Measured	≤ 12.5	Mostly ≥ 4	First pass	Good and supported by underground workings
Indicated	≤ 25	Mostly ≥ 3	Mostly first pass	Good
Inferred	≤ 100	≥ 2	First to third pass	Moderate

A series of outline rings (or clipping boundaries) were created manually for each mineralized zone on longitudinal views using the classification criteria described above. The resource boundaries were drawn, keeping in mind that a significant cluster of blocks is necessary to delineate a resource category. In some cases, blocks that did not meet the criteria of a category were upgraded to that category to homogenize the class group (i.e. no “spotted dog” effect).

Blocks were assigned to the chosen resource category based on the classification clipping boundaries.

In some areas, interpolated blocks remained unclassified due to the lack of confidence in grade and/or mineralization continuity. This declassification mainly occurs where drill hole spacing is wide.

Measured resources were defined in well-informed areas (drill spacing less than 12.5 m and blocks informed by at least 4 holes) that have a certain amount of underground workings supporting the interpretation of the mineralization. Such criteria were met in the Lynx Main corridor. Although a bulk sample was completed in Zone 27, no measured resources were defined in this area yet as the grade estimations were not updated in this 2021 MRE.

Figure 14-14 illustrates an example of the resource classification decision-making in Zone 3449 in the Lynx 4 corridor.

The silver resource is reported based on the gold classification. The silver grade was set to zero for poorly informed blocks (less than two drill holes or wide spacing) or blocks that did not meet the criteria of any of the interpolation passes. These blocks were identified through queries or by using clipping boundaries.

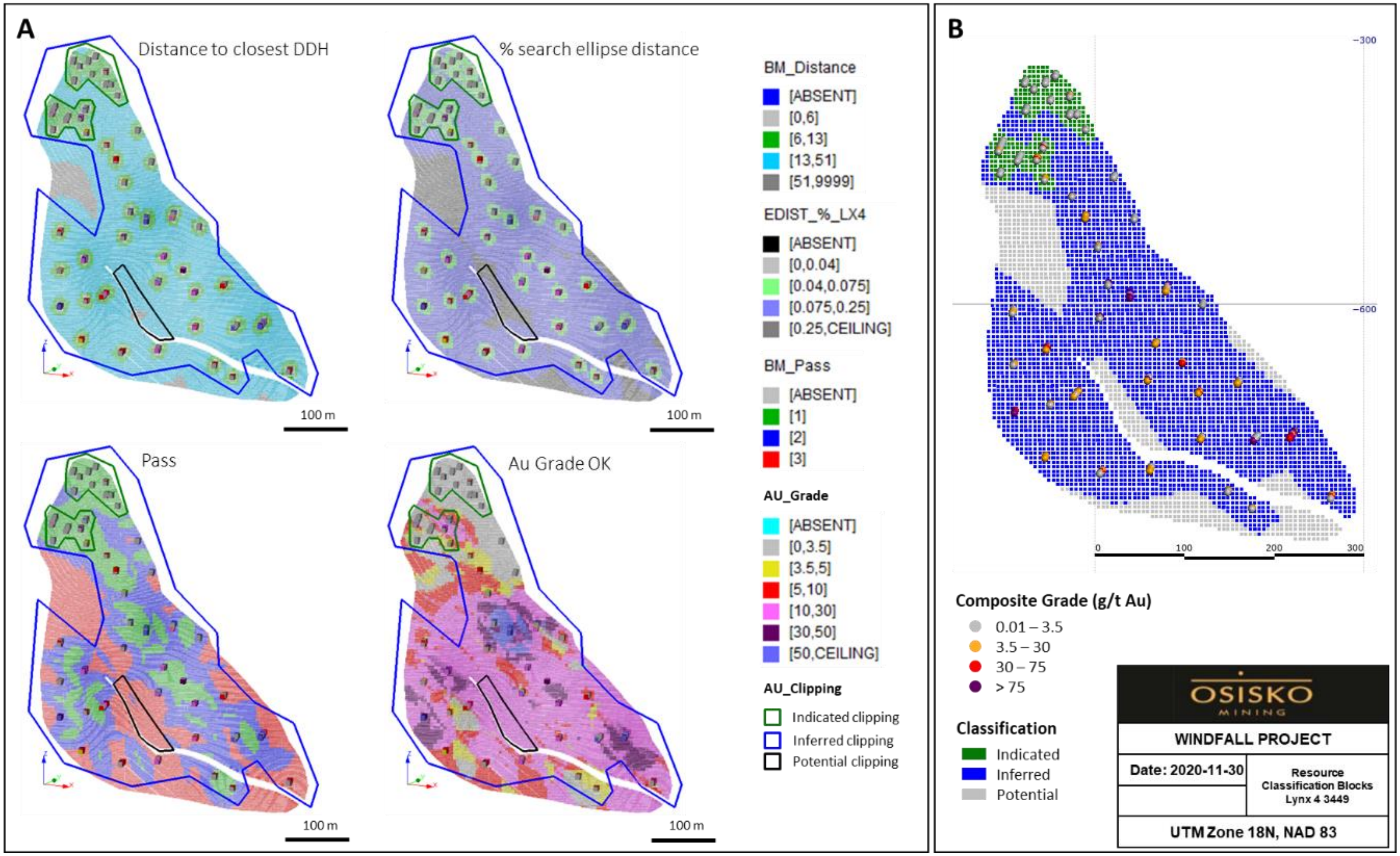


Figure 14-14: Example of resource classification for blocks in Zone 3449 in Lynx 4 Corridor
A) Main criteria used for the decision-making in the drawing of the resource clipping boundaries; and B) Resource classification result

Constraining Volumes to Meet Reasonable Prospects for Eventual Economic Extraction

The mineral resource reported herein is not solely based on the application of a cut-off grade. In order to satisfy the reasonable prospects for eventual economic extraction for underground mining scenarios, as required by the CIM, blocks were included or excluded from the mineral resource based on the following mineable shape considerations:

1. Isolated and discontinuous blocks above the reported cut-off grade were excluded from the mineral resource.
2. Must-take material, i.e. isolated blocks below cut-off grade located within a potentially mineable volume, were included in the mineral resource.

The application of these conditions was performed in Studio RM considering all blocks, on a per zone basis. The process involved grouping the measured, indicated and inferred blocks above cut-off grade and grouping blocks below cut-off grade, followed by filtering in or out of the resource the block clusters based on their volume and grade category.

The clusters of blocks above cut-off grade for which the volume was less than 100 m^3 (equivalent to the volume of two parent-size blocks) were excluded from the mineral resource. The clusters of blocks below cut-off grade surrounded by blocks above cut-off grade (must-take material) for which the volume is less than 100 m^3 were included in the mineral resource.

Figure 14-15 shows a comparison between the blocks selected above cut-off grade and the actual reported blocks, including the blocks below cut-off grade added in the mineral resource.

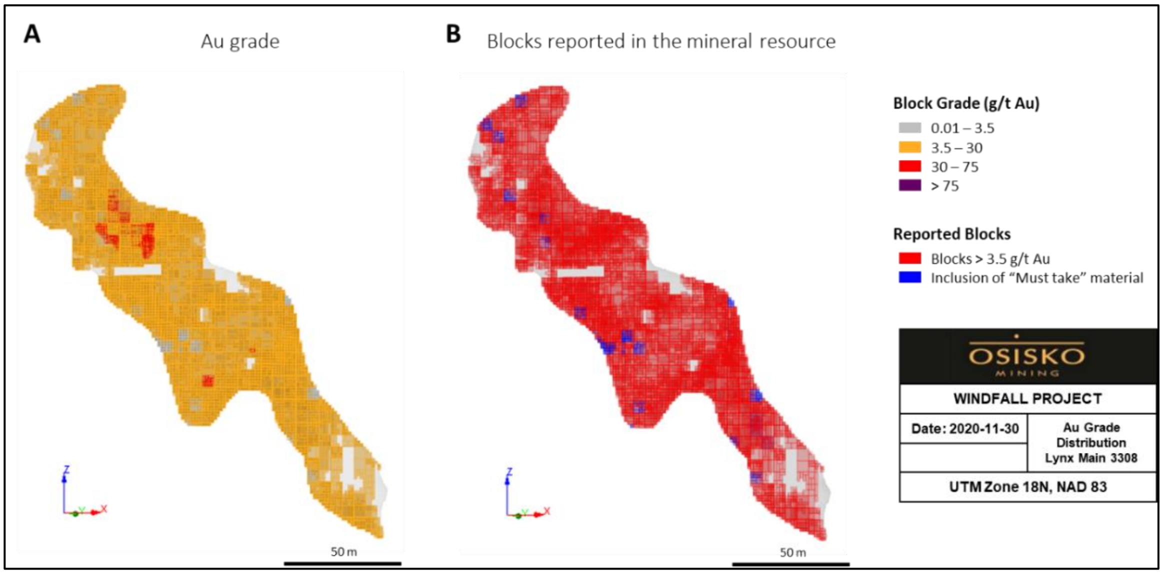


Figure 14-15: Example of blocks discarded or included in the mineral resource in Zone 3308, Lynx Main Corridor
A) Selection of blocks above 3.5 g/t Au; B) Reported blocks based on the mineable shape criteria

14.15 Mineral Resource Estimate

Given the density of the processed data, the search ellipse criteria, the drilling density and the specific interpolation parameters, the current mineral resource estimate was classified as measured, indicated and inferred resources. The present mineral resource estimate was based on reliable quality data and reasonable hypotheses and parameters following the CIM Definition Standards.

Table 14-20 and Table 14-21 present the results of the 2021 MRE for the Windfall gold deposit at the 3.5 g/t Au cut-off grade. Table 14-22 presents the in situ resource and sensitivity at other cut-off grade scenarios for all areas. The reader should be cautioned that the figures provided in Table 14-22 should not be interpreted as a mineral resource statement. The reported quantities and grade estimates at different cut-off grades are presented with the sole purpose of demonstrating the sensitivity of the resource model to the selection of varying reporting cut-off grades.

Table 14-20: Windfall gold deposit measured, indicated and inferred mineral resources by area

Area	Measured					Indicated					Inferred				
	Tonnes[1] (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au[1] (000 oz)	Ounces Ag[1] (000 oz)	Tonnes[1] (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au[1] (000 oz)	Ounces Ag[1] (000 oz)	Tonnes[1] (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au[1] (000 oz)	Ounces Ag[1] (000 oz)
Lynx[2]	521	11.3	8.1	189	135	3,075	11.0	6.6	1,088	655	7,418	9.9	3.5	2,355	833
Underdog	-	-	-	-	-	562	8.0	1.1	145	20	4,788	6.9	0.9	1,068	139
Main[2]	-	-	-	-	-	1,865	7.3	5.7	436	339	3,540	5.9	3.3	673	375
Triple 8	-	-	-	-	-	-	-	-	-	-	655	7.1	4.7	149	99
Total	**521**	**11.3**	**8.1**	**189**	**135**	**5,502**	**9.4**	**5.7**	**1,668**	**1,013**	**16,401**	**8.0**	**2.7**	**4,244**	**1,446**

Notes: (1) Values are rounded to nearest thousand which may cause apparent discrepancies.
(2) Lynx area includes: Lynx Main, Lynx HW, Lynx SW and Lynx 4, and Triple Lynx.
(3) Main area includes: Zone 27, Caribou, Mallard, Windfall North, and F-Zones.

1. The independent qualified person for the 2021 MRE, as defined by NI 43-101 guidelines, is Pierre-Luc Richard, P.Geo.(OGQ#1119), of BBA Inc. The effective date of the estimate is November 30, 2020.
2. The Windfall mineral resource estimate is compliant with the November 29, 2019 CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines.
3. These mineral resources are not mineral reserves as they have not demonstrated economic viability. The quantity and grade of reported inferred mineral resources in this news release are uncertain in nature and there has been insufficient exploration to define these resources as indicated or measured; however, it is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.
4. Resources are presented undiluted and in situ and are considered to have reasonable prospects for economic extraction. Isolated and discontinuous blocks above the stated cut-off grade are excluded from the mineral resource estimate. Must-take material, i.e. isolated blocks below cut-off grade located within a potentially mineable volume, was included in the mineral resource estimate.
5. As of November 30, 2020, the database comprises a total of 3,612 drill holes for 1,343,593 metres of drilling in the area extent of the mineral resource estimate, of which 2,959 drill holes (1,161,872 metres) were completed and assayed by Osisko. The drill hole grid spacing is approximately 12.5 metres x 12.5 metres for definition drilling, 25 metres x 25 metres for infill drilling and larger for extension drilling.
6. All core assays reported by Osisko were obtained by analytical methods described below under "Quality Control and Reporting Protocols".
7. Geological interpretation of the deposit is based on lithologies, mineralization style, alteration and structural features. Most mineralization envelopes are subvertical, striking NE-SW and plunging approximately 40 degrees towards the north-east. The 3D wireframing was generated in Leapfrog Geo, a modelling software, from hand selections of mineralization intervals. The mineral resource estimate includes a total of 374 tabular, mostly subvertical domains defined by individual wireframes with a minimum true thickness of 2.0 metres.

8. Assays were composited within the mineralization domains into 2.0 metres length composites. A value of 0.00125 g/t Au and 0.0025 g/t Ag (¼ of the detection limit) was applied to unassayed core intervals.
9. High-grade composites were capped. Cappings were determined in each area from statistical studies on groups of zones sharing similar mineralization characteristics. Cappings vary from 10 g/t Au to 200 g/t Au and from 5 g/t Ag to 150 g/t Ag. A multiple capping strategy defined by capping values decreasing as interpolation search distances increase was used in the grade estimations.
10. Block models were produced using Datamine™ Studio RM Software. The models are defined by parent cell sizes of 5 metres NE, 2 metres NW and 5 metres height, and sub-locked to minimum sub-cell sizes of 1.25 metres NE, 0.5 metres NW and 1.25 metres height.
11. Ordinary kriging ("OK") based interpolations were produced for gold estimations in each area of the Windfall deposit, while silver grade estimations were produced using OK or ID^2" interpolations. Gold estimation parameters are based on composite variography analyses. The gold estimation parameters were used for the silver estimation.
12. Density values of 2.8 were applied to the mineralized zones.
13. The Windfall mineral resource estimate is categorized as measured, indicated and inferred mineral resource as follows:
    a. The measured mineral resource category is manually defined and encloses areas where:
        i. drill spacing is less than 12.5 metres;
        ii. blocks are informed by a minimum of four drill holes;
        iii. geological evidence is sufficient to confirm geological and grade continuity;
        iv. zones have been accessed by underground workings.
    b. The indicated mineral resource category is manually defined and encloses areas where:
        i. drill spacing is generally less than 25 metres;
        ii. blocks are informed by a minimum of two drill holes;
        iii. geological evidence is sufficient to assume geological and grade continuity.
    c. The inferred mineral resource category is manually defined and encloses areas where:
        i. drill spacing is less than 100 metres;
        ii. blocks are informed by a minimum of two drill holes;
        iii. geological evidence is sufficient to imply, but not verify geological and grade continuity.
14. The mineral resource is reported at 3.5 g/t Au cut-off. The cut-off grade is based on the following economic parameters: gold price at USD1,485/oz, exchange rate at 1.30 USD/CAD, 94% mill recovery; payability of 99.95%; selling cost at USD5/oz, 2% NSR royalties, mining cost at CAD100/t milled, G&A cost at CAD30/t milled, processing cost at CAD40/t, transportation cost at CAD2/t considering mill at site, and environment cost at CAD10/t. A cut-off grade of 3.5 g/t Au was selected over the calculated cut-off grade of 3.2 g/t Au to better reflect a realistic mining cut-off.
15. Estimates use metric units (metres, tonnes and g/t). Metal contents are presented in troy ounces (metric tonne x grade / 31.10348).
16. The independent qualified person is not aware of any known environmental, permitting, legal, title-related, taxation, socio-political or marketing issues, or any other relevant issue, that could materially affect the mineral resource estimate.
17. Values in tonnes and ounces are rounded to nearest thousand which may cause apparent discrepancies.

Table 14-21: Windfall gold deposit measured, indicated and inferred mineral resources detailed by area

Area	Measured + Indicated					Inferred				
	Tonnes (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au (000 oz)	Ounces Ag (000 oz)	Tonnes (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au (000 oz)	Ounces Ag (000 oz)
Bobcat	163	7.1	5.3	37	28	346	6.2	4.6	69	51
Caribou 1	268	6.0	6.2	52	53	184	5.2	4.3	31	26
Caribou 2	230	5.6	4.5	41	34	1,055	6.4	4.5	218	151
Caribou Extension	-	-	-	-	-	653	4.8	3.9	101	82
F-Zones	75	8.2	0.3	20	1	459	5.8	0.2	86	3
Lynx HW	318	8.9	7.8	91	80	223	8.4	3.7	60	27
Lynx SW	-	-	-	-	-	395	5.8	0.9	73	11
Lynx 4	622	14.8	11.1	296	222	2,829	12.6	7.5	1,145	678
Lynx Main	1,382	10.3	7.8	456	348	458	9.1	2.1	134	31
Mallard	91	10.4	2.9	30	9	439	6.2	1.9	88	26
Triple 8	-	-	-	-	-	655	7.1	4.7	149	99
Triple Lynx	1,275	10.6	3.4	435	140	3,511	8.3	0.8	941	86
Underdog	562	8.0	1.1	145	20	4,788	6.9	0.9	1,068	139
Windfall North	-	-	-	-	-	213	6.1	1.2	42	8
Zone 27	1,037	7.7	6.4	255	215	191	6.2	4.7	38	29
Total	**6,023**	**9.6**	**5.9**	**1,857**	**1,149**	**16,401**	**8.0**	**2.7**	**4,244**	**1,446**

Notes: The notes listed for Table 14-20 apply for this table.

Table 14-22: Windfall Project measured, indicated and inferred mineral resource sensitivity table

Cut-off Grade (g/t Au)	Measured + Indicated					Inferred				
	Tonnes (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au (000 oz)	Ounces Ag (000 oz)	Tonnes (000 t)	Grade Au (g/t)	Grade Ag (g/t)	Ounces Au (000 oz)	Ounces Ag (000 oz)
5.00	4,214	11.9	6.8	1,614	918	10,525	10.2	3.3	3,454	1,133
4.50	4,721	11.1	6.5	1,692	981	12,090	9.5	3.1	3,693	1,215
4.00	5,304	10.4	6.2	1,771	1,059	14,045	8.8	2.9	3,960	1,319
3.50	6,023	9.6	5.9	1,857	1,149	16,401	8.0	2.7	4,244	1,446
3.00	6,882	8.8	5.7	1,947	1,257	19,561	7.3	2.6	4,574	1,604
2.50	7,971	8.0	5.4	2,043	1,381	23,676	6.5	2.4	4,937	1,806

Figure 14-16 to Figure 14-22 show the distribution of the blocks reported in the mineral resource in the Lynx, Underdog, Main zone and Triple 8 areas of the Windfall deposit.

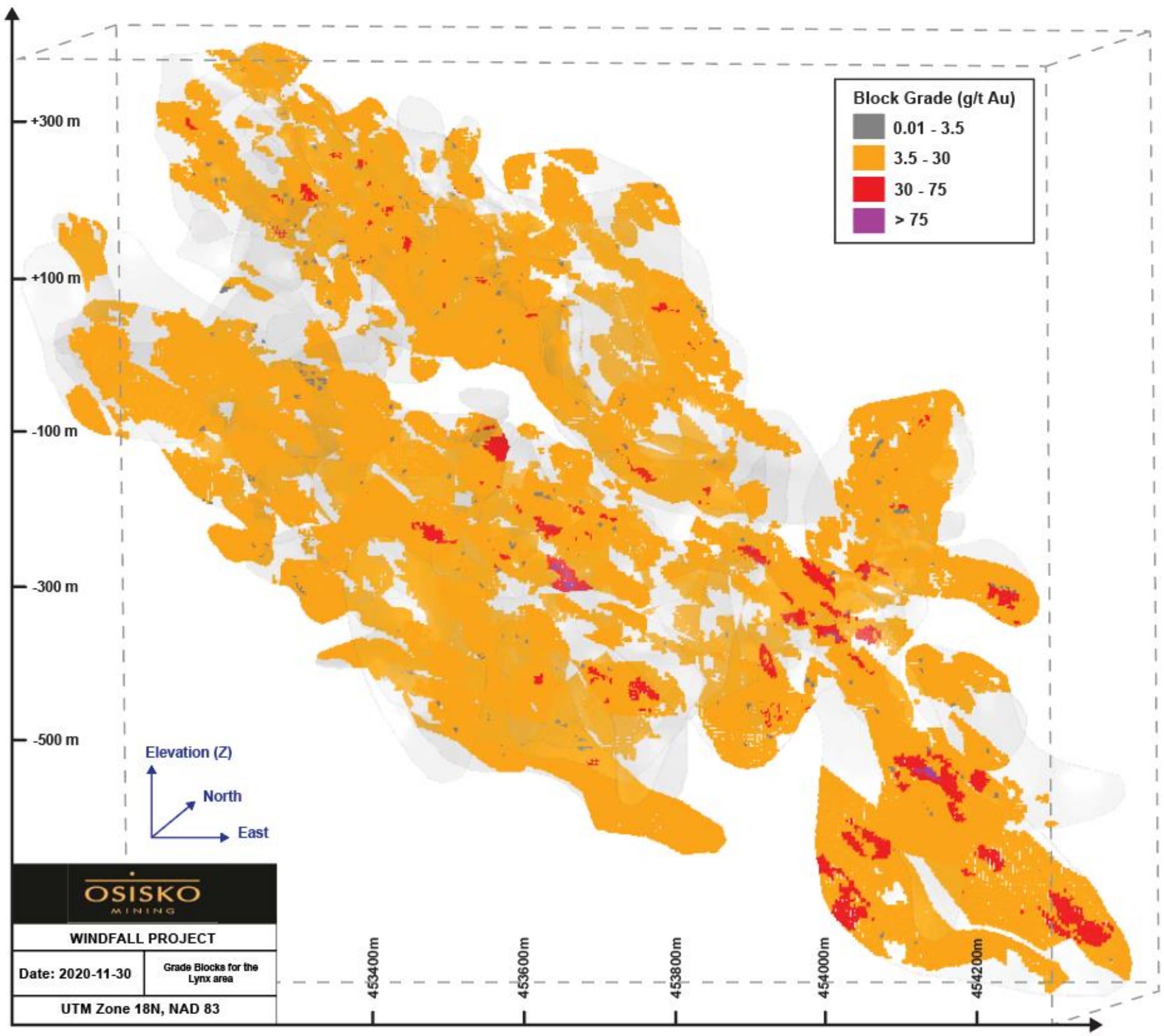


Figure 14-16: 3D view looking north showing the block grades of the reported mineral resource in the Lynx area

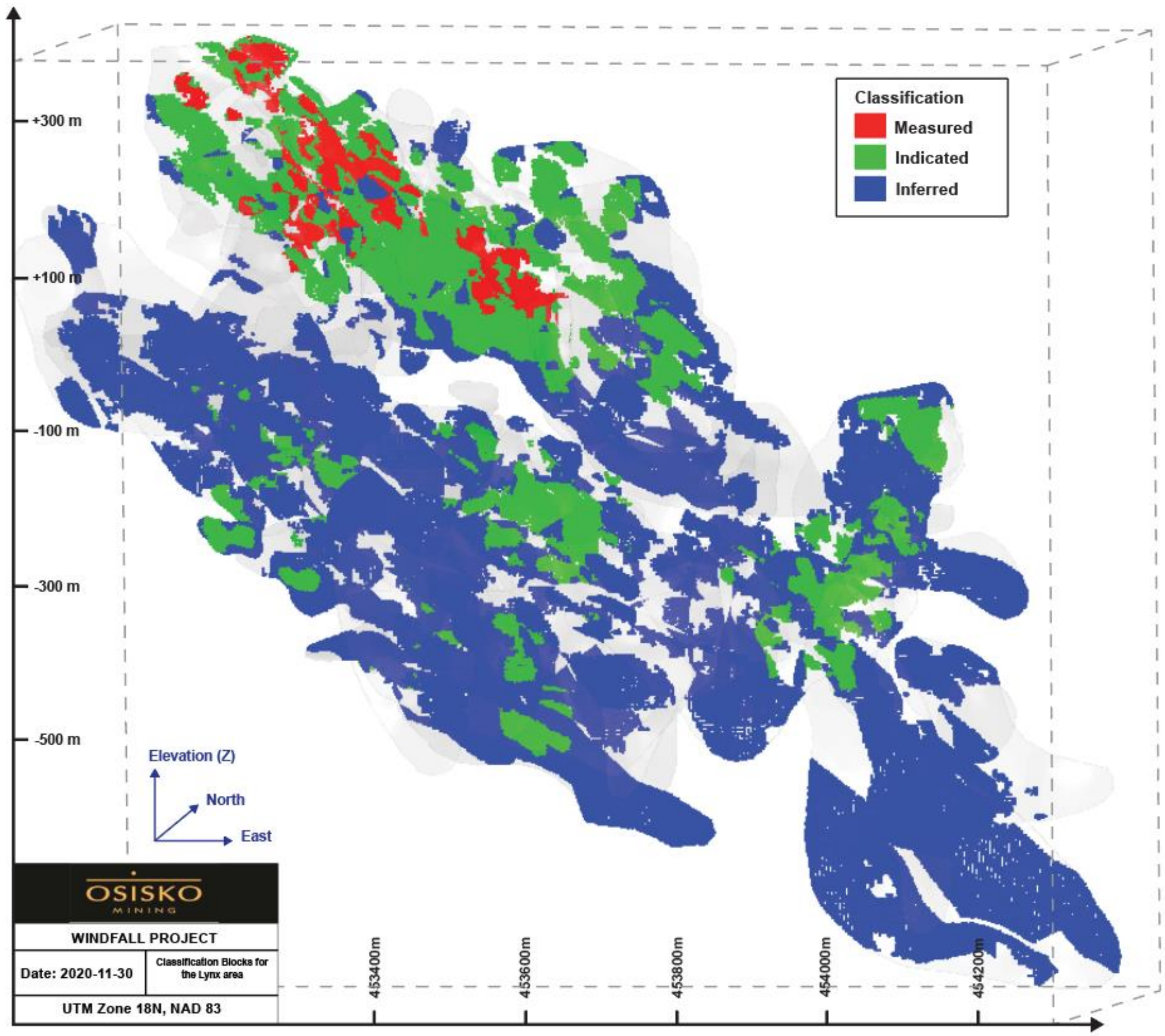


Figure 14-17: 3D view looking north showing reported mineral resource classification in the Lynx area

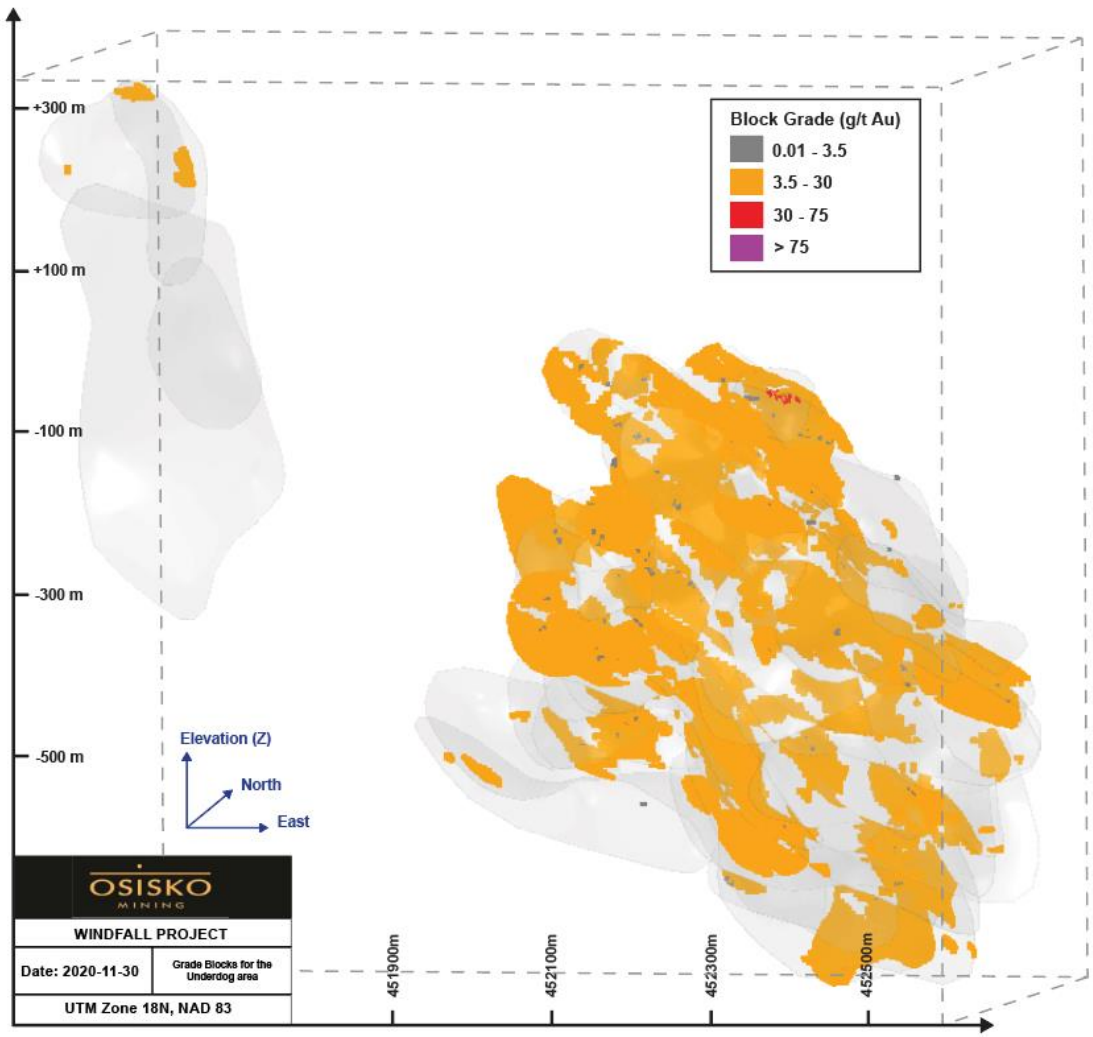


Figure 14-18: 3D view looking north showing the block grades of the reported mineral resource in the Underdog area

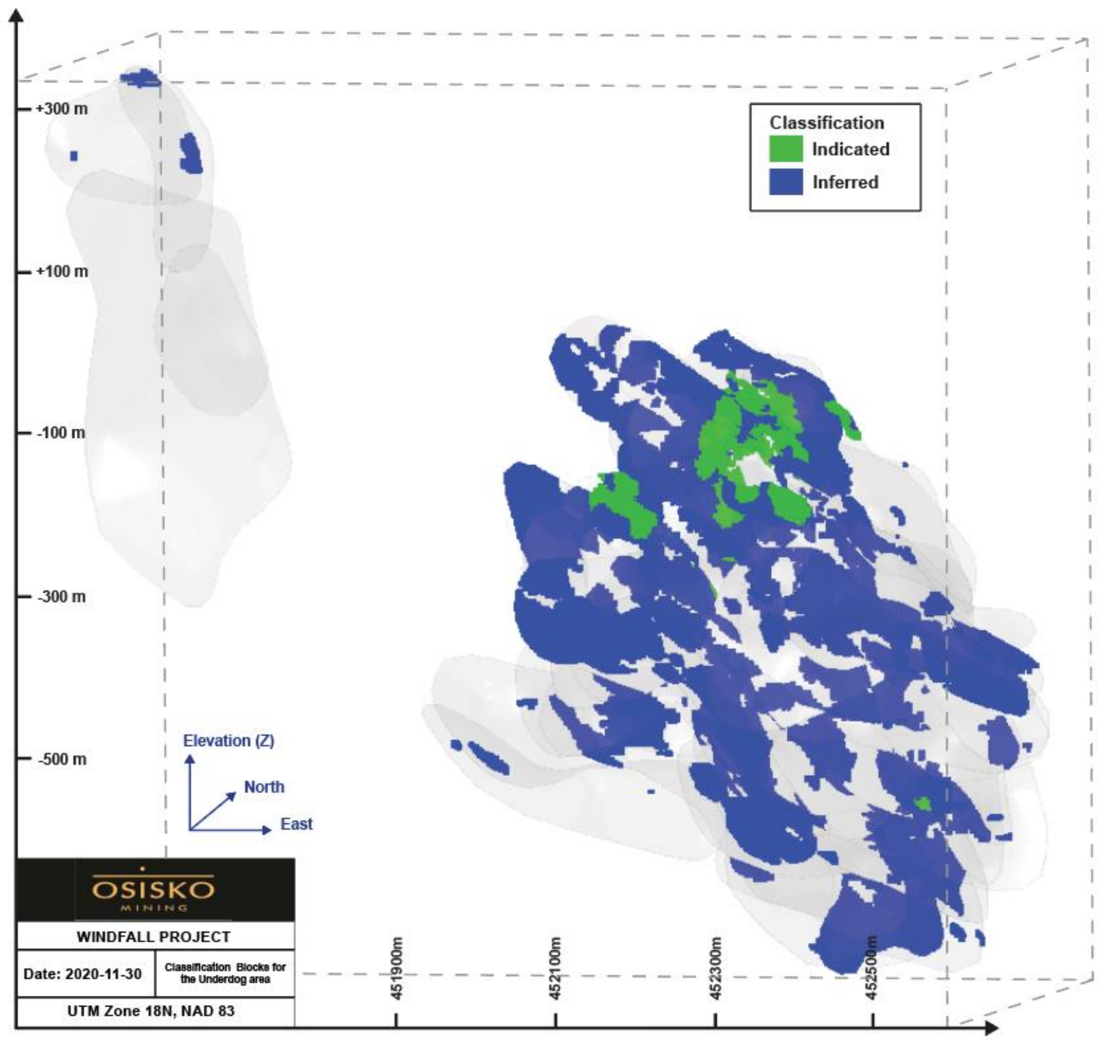


Figure 14-19: 3D view looking north showing the reported mineral resource classification in the Underdog area

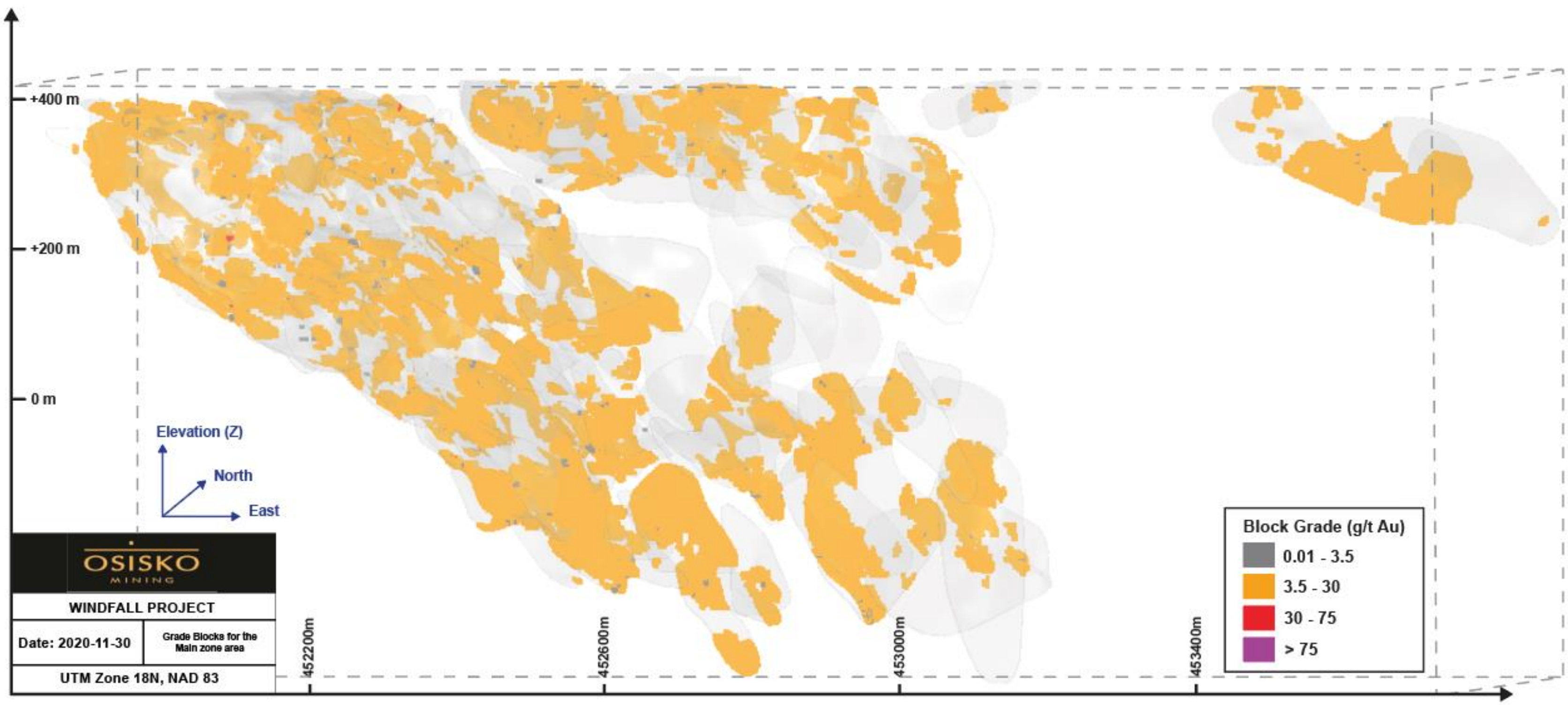


Figure 14-20: 3D view looking north showing the block grades of the reported mineral resource in the Main zone area

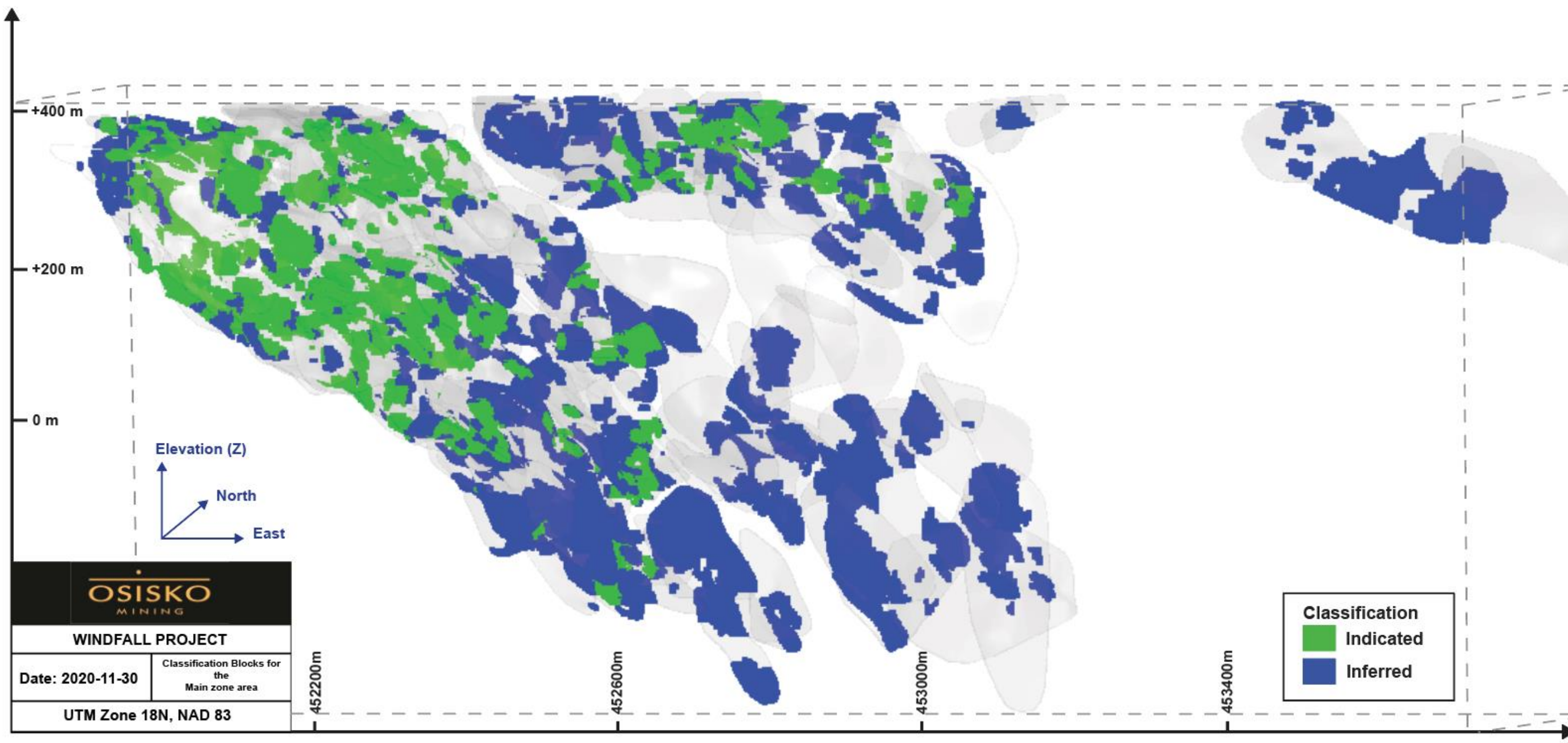


Figure 14-21: 3D view looking north showing the reported mineral resource classification in the Main zone area

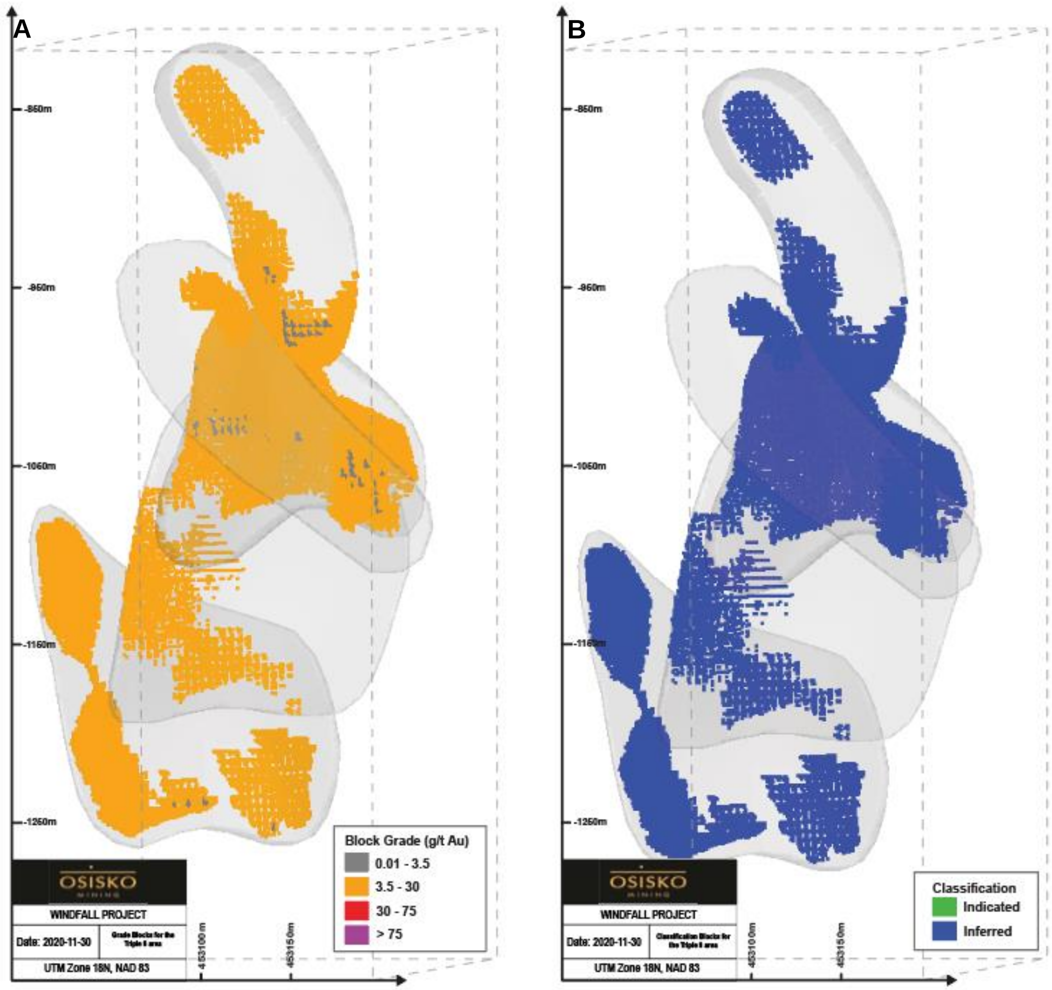


Figure 14-22: 3D views looking north showing the reported mineral resource in the Triple 8 area A) Block grade (g/t Au); and B) Resource classification

14.16 Comparison to Previous Mineral Resource Estimates

The previous MRE published on the Windfall Project was filed on April 3, 2020 (see Technical Report entitled "An Updated Mineral Resource Estimate for the Windfall Lake Project, Located in the Abitibi Greenstone Belt, Urban Township, Eeyou Istchee James Bay, Québec, Canada", effective date January 3, 2020) (Murahwi and Torrealba, 2020) and is available on SEDAR (www.sedar.com) under Osisko Mining Inc.

Compared to the MRE published in 2020, the Windfall resource has increased by 54% (adding 651,000 ounces) in the measured and indicated resource categories, and increased by 8% (adding 306,000 ounces) in the inferred category. The resource comparison is presented in Table 14-23.

The 2020 drilling program has provided significant amounts of new geological and assay information. Specifically, the additional DDH data in the Lynx Main and Triple Lynx areas has supported positive adjustments in the modelling of the zones and block modelling parameters. The changes included the addition of new zones and the extension of some zone wireframes, as well as higher capping values on composites and longer search ellipsoid distances based on increased ranges of maximum mineralization continuity (supported by variogram models).

The gains in the measured and indicated resource categories are mainly attributed to the Triple Lynx area, one of the main targets of the infill drilling campaign. Inferred resources in other areas, namely Lynx Main, Lynx 4 and Lynx HW were also converted to the measured or indicated categories. The addition of the Triple 8 area accounts for about half of the increase in the inferred resources, the other half originates from expanded zones in the Triple Lynx and Lynx SW areas.

The significant number of ounces added to the resource in the Lynx area has increased the overall grade of the Windfall resource.

Table 14-23: Comparison of the MRE 2020 to the MRE 2021

Area	MRE Feb 2021						MRE Feb 2020					
	M&I			Inferred			M&I			Inferred		
	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces	Tonnes	Grade	Ounces
	000 t	g/t Au	000 oz Au	000 t	g/t Au	000 oz Au	000 t	g/t Au	000 oz Au	000 t	g/t Au	000 oz Au
Lynx	3,596	11.0	1,277	7,418	9.9	2,355	1,817	11.3	661	6,349	10.9	2,233
Underdog(1)	562	8.0	145	4,788	6.9	1,068	561	8.0	145	4,776	6.9	1,067
Main	1,865	7.3	436	3,540	5.9	673	1,749	7.1	401	3,407	5.8	638
Triple 8(2)	-	-	-	655	7.1	149	-	-	-	-	-	-
Total	**6,023**	**9.6**	**1,857**	**16,401**	**8.0**	**4,244**	**4,127**	**9.1**	**1,206**	**14,532**	**8.4**	**3,938**

Notes: (1) As no significant drilling program was done in Underdog, the resource remains unchanged from the MRE 2020.
(2) Triple 8 is a new addition to the Windfall resource and therefore cannot be compared to the MRE 2020.

15. MINERAL RESERVE ESTIMATES

This report is a Preliminary Economic Assessment ("PEA"), no Mineral Reserves have been estimated for the Windfall Project as per NI 43-101 regulations. In-stope resources are described in Chapter 16 of this report.

16. MINING METHODS

16.1 Introduction

This Preliminary Economic Assessment update is based on mineral resources published on February 17, 2021.

The Windfall Project is located 115 km east of Lebel-sur-Quévillon, in the James Bay region of Québec. The mineral resources used in the mine plan are contained in three different zones (Lynx, Main, and Underdog) over a length of 2,300 m and span from surface down to a depth of approximately 1,500 m. Each zone is characterized by multiple veins, which mainly trend ENE and plunge vertically to sub-vertically. This study considers underground mining options for the deposit. The mining method selected is long-hole stoping with longitudinal retreat. All material will be extracted using a fleet of 15 t (load-haul-dump) LHDs and 51 t haul trucks at an average rate of 4,400 tpd (inclusive of waste).

16.2 Rock Engineering

This section is summarized from the rock engineering study completed in support of the mine design (A2GC, 2021). The rock engineering study was completed based on a preliminary life of mine stope layout and mining sequence (dated December 23, 2020) with all identified geomechanical guidelines incorporated into the final mine design.

16.2.1 Geomechanical Rock Mass Conditions

16.2.1.1 In situ Stress Conditions

There are no known in situ stress measurements at the Windfall Project or in its vicinity. The closest known measurements are in the Abitibi mining district, 200 kilometres southwest, and near Matagami, 200 kilometres northwest. The average stress magnitudes from the 2015 update of the *Canadian Shield Stress Database* (Mirarco, 2015) were considered for the Project. Table 16-1 summarizes the in situ stress tensor considered for the Project. No core disking was reported in the core recovered from the exploration drill holes, with many of the holes going deeper than the current project maximum depth. This supports the assumption that using average in situ stress conditions is reasonable at this stage of the Project.

Table 16-1: In situ stress tensors considered for the Windfall Project

Principal stress component	Orientation (dip/azimuth)	Magnitude (MPa)
Major principal stress σ_1	00° / 155°	1.35 σ_3 + 9.50
Intermediate principal stress σ_2	00° / 065°	0.92 σ_3 + 8.88
Minor principal stress σ_3	90° / 000°	0.026 z Where z is the depth in metres

16.2.1.2 Rock Mass Geomechanical Domains

The geological setting of the Windfall deposit is complex, but that complexity does not transfer into the geomechanical conditions of the deposit. The lithology units across the different mining zones are generally brittle, strong and hard rock masses, sparsely jointed to blocky. The volcanic rocks exhibit various intensities of foliation, but the foliation is generally strong. The rock mass quality is only significantly different, and lower, inside the boundaries of the interpreted faults.

In the 2018 Preliminary Economic Assessment (Hardie et al., 2018), it was concluded that the different lithologies have comparable geomechanical properties and could be grouped together in one single geomechanical domain per mining zone for geomechanical assessments. The QP came to the same conclusion after the update of the rock mass characterization. It must be recognized that this conclusion is not typical and still results in some level of variability within these combined domains. The Red Dog barren dike, between the Main and Underdog mining zones, had enough geotechnical data to be differentiated into its own geomechanical domain.

16.2.1.3 Available Geotechnical Data

The available geomechanical data from drill holes is summarized in Table 16-2. The drill hole data has been collected along specified intervals in selected exploration drill holes, principally around the mineralization lenses.

The Osisko site engineering team is performing geomechanical scanline mapping on a regular basis in the exploration development. Rock quality data (“RQD”) is also regularly measured as part of the exploration logging. The exploration drill hole database provided by Osisko (dated March 2020) includes approximately 1,100,000 metres of drill holes with RQD data. This data was used to generate RQD block models, which were used as input for the numerical modelling.

The amount and quality of data is sufficient for this level of study. Data gaps are discussed by A2GC (2021).

Table 16-2: Summary of available geotechnical data from drill holes for the Windfall deposit

Type of data	Golder, 2018	Golder, 2020	2020 Investigation
Detailed geomechanical core logging	1,118 m (3 holes)	3,580 m (11 holes)	1,118 m (3 holes)
Summary geomechanical core logging	359 m (3 holes)	359 m (8 holes)	-
Televiewer surveys	2,371 m (6 holes)	-	-
Laboratory testing	16 UCS[(1)] tests 9 UCSE[(2)] tests 18 TCS[(3)] tests 12 BTS[(4)] tests	20 UCS tests 6 UCSE tests 12 TCS tests 12 BTS tests	20 UCS tests 5 UCSE tests 30 TCS tests 18 BTS tests
Point load tests	374 tests	1,592 tests	330 tests

Notes:
(1) UCS = Unconfined compressive strength.
(2) UCSE = Unconfined compressive strength with measurements of elastic properties.
(3) TCS = Confined triaxial compressive strength.
(4) BTS = Indirect splitting tensile strength (Brazilian test).

16.2.1.4 Intact Rock Properties

The normalized peak unconfined compressive strength (UCS_{50}), indirect splitting tensile strength (“BTS”) and elastic properties (Young’s Modulus and Poisson’s Ratio) of the intact rock units were determined from the laboratory tests performed on rock core samples. The values per geomechanical domain (mining zones) are shown in Table 16-3 (including all test failure types).

Table 16-3: Summary of laboratory test results

Domain	UCS_{50}		BTS		Young’s Modulus		Poisson’s Ratio	
	Number of specimens	Average (MPa)	Number of specimens	Average (MPa)	Number of specimens	Average (MPa)	Number of specimens	Average (MPa)
Lynx	43	120	27	9	10	62	10	0.32
Main	18	133	7	16	4	60	4	0.31
Red Dog dike	3	205	2	22	-	-	-	-
Underdog	11	148	6	21	6	67	6	0.24

16.2.1.5 Faults

At the scale of the property, two main fault systems are present:

1. The Bank fault, which is associated with the D2 deformation event. The Bank fault delimits the southern flank of the Lynx mining zone.
2. The late stage brittle faults associated with the D3 deformation event, which include the Romeo, Windfall and Northern faults. The Romeo fault is steeply dipping and striking northeast and divides the property between the Main/Underdog zones to the west and the Lynx zone to the east. The Romeo fault cuts across the Bank fault and offsets it about mid-point along the strike length of the property. The Romeo fault intersects stopes of the Main, Bobcat, Central and Triple 8 zones. The Windfall fault is a regional-scale structure located away from the main mining areas. The Northern fault is a deposit-scale structure generally located away from the main mining areas, but it still intersects stopes in the F-zone and is close to the northern stopes of the Underdog area.

16.2.1.6 Rock Mass Jointing

The mean orientation of the interpreted joint sets is provided in Table 16-4.

Table 16-4: Summary of mean joint set orientations

Set	Lynx (dip(1)/dip direction(2))	Main (dip(1)/dip direction(2))	Red Dog dike (dip(1)/dip direction(2))	Underdog (dip(1)/dip direction(2))	Comment
J1	50 / 065	51 / 088	41 / 067	42 / 061	D1 fabric (foliation)
J2	68 / 128	61 / 139	77 / 158	60 / 130	D2 fabric (mineralization)
J3	28 / 273	45 / 244	28 / 264	36 / 271	Associated with late hydrothermal event
j4	87 / 357	69 / 178	-	74 / 173	Local variation of J2?
j5	09 / 089	13 / 109	14 / 088	15/096	Local variation of J1, J2 and J3
j6	70 / 266	80 / 264	-	89 / 267	Local variation of J3?
j7	-	48 / 012	-	-	Local variation of J1?

Notes:

(1) Dip is measured downwards from horizontal and varies between 00 (horizontal) and 90º (vertical).

(2) Dip direction varies clockwise from north (North is 000, East is 090, South is 180 and West is 270º).

16.2.1.7 Rock Mass Classification

Rock mass quality classification was performed from geomechanical data collected from drill holes with three distinct classification methods: the *Q*-system (Barton et al., 1974), the GSI (Hoek, 1994; and Hoek et al., 1995), and the RMR system (Bieniawski, 1989). All of the geomechanical domains are classified as '*Good*' quality rock masses in both the *Q*-system and the RMR system.

The rock mass classification results are provided in Table 16-5 in terms of 30th and 50th percentile of the distribution of the ratings weighted per drill hole interval length. These percentiles, which can be considered on the conservative side, are commonly used for projects at the economic studies stage of development.

Table 16-5: Summary of rock mass classification

Domain	*Q*-system[(1)]		GSI		RMR system[(2)]	
	30th percentile	50th percentile	30th percentile	50th percentile	30th percentile	50th percentile
Lynx	13	23	76	79	77	82
Main	12	16	74	77	72	76
Red Dog dike	8	11	74	76	79	81
Underdog	12	16	72	75	73	76

Notes:

(1) Assume dry conditions and exclude influence of active stresses (exclude Jw and SRF factors)

(2) Assume dry conditions

16.2.2 Anticipated Rock Mass Behaviour

The anticipated rock mass behaviour can be differentiated into the following main categories:

- From surface to approximately 600 m in depth (approximately 35% of the project tonnes):
  - Due to the low stress conditions, the rock mass behaviour will be largely structurally controlled and mainly influenced by the spacing and persistence of the natural discontinuities. The occurrence, persistence and characteristics of the major geological structures and rock mass fabric, as well as their intersections, will, for the most part, control the rock mass behaviour around the openings.
  - The ground instabilities in stopes and around development will be controlled by relaxation of the jointed rock mass, which can create gravity-driven wedges.

- Due to relaxation, the dilution off the stope walls will be particularly sensitive to the length of time the stopes will remain open, and the rock mass damage originating from poor drilling and blasting practices.
- Minimum to no rock mass damage due to the induced stresses is expected to occur around typical stopes in this depth range.

- From 600 m to 1,000 m in depth (approximately 53% of the project tonnes):
  - This depth range will constitute a transition between mainly relaxation-driven instabilities to stress damage-driven instabilities. With increasing depth and extraction, mining-induced stresses can be expected to concentrate around the excavations and are anticipated to be generally observable as localized fracturing and light spalling, outside sill pillar levels.
  - Stress concentrations on sill levels, in retreat zones between converging mining fronts and in waste pillars can be expected to lead to spalling and local instabilities at these locations, as well as slippage and deformation along geological discontinuities.
- From 1,000 m to 1,500 m in depth (approximately 12% of the project tonnes):
  - Starting at a depth of 1,000 m, the rock mass behaviour is anticipated to be driven mostly by instabilities induced by stress concentrations. The strength of the intact rock and healed discontinuities (like veins) will become the control of rock mass stability.
  - Stress damage can be expected as fracturing and spalling will occur. Seismic (and possibly rock bursting) conditions are likely to develop in sill pillar levels from 1,000 m to 1,500 m in depth.
- Sill pillar levels:
  - Production will come from distinct mining horizons to meet production targets, which will create sill pillar levels. The bottom-up sequence will push ground stresses upwards and concentrate them in sill pillars. As mentioned above, stress concentration on sill levels is anticipated to lead to spalling and local instabilities in the 600 m to 1,000 m range, whereas more intense spalling and potentially rock bursting conditions can be expected below 1,000 m. Operational challenges are likely during the mining of sill pillar stopes at depth.
  - It is anticipated that stress related issues will mostly occur in the Lynx mining zones where the stope panels are more continuous, as compared to the Underdog mining zone where the panels are fragmented and discontinuous.
  - Approximately 14 % of the total project tonnes will be located in sill pillar stopes.
- Bank fault:
  - The rock mass in the interpreted Bank fault corridor is expected to be of lower quality. Stopes located in and near the Bank fault are anticipated to experience higher levels of dilution (91 stopes in total, representing approximately 4 % of the total project tonnes).
  - Areas of poor RQD associated with the Bank fault could provide conduits for water infiltration into mine workings.

The geological settings of the deposit are quite complex and the main joint set orientations are expected to be highly variable throughout the deposit. The geometry of gravity-driven wedge instabilities is thus anticipated to vary throughout the mine. At the scale of a drift, the large variability and complexity of the rock mass jointing is anticipated to result in highly variable conditions in terms of wedge instabilities. Development crossing other known faults, such as the Romeo fault, will encounter lower rock mass quality and unraveling conditions. Other small-scale faults and geological features can also be expected to influence the rock mass behaviour locally.

16.2.3 Geomechanical Guidelines for Mine Design

The geomechanical recommendations and guidelines presented below are based on geomechanical assessments that included empirical methods (stope dimensions, dilution estimates, crown pillar dimensions) and mine-wide numerical simulations of the mining sequence conducted using the advanced explicit three-dimensional (“3D”) finite-difference program for continuum mechanics engineering applications *FLAC3D™* (Itasca, 2019).

16.2.3.1 Stope Dimensions and Dilution Estimates

Stope dimensions were first established for the stopes to be stable according to the Stability Graph (Mathews et al. (1981) and updated by Potvin (1988) and Nickson (1992), amongst others) and to have an external dilution of less than 1.0 m according to the equivalent linear overbreak/slough (“ELOS”) empirical method (Clark, 1998). These dimensions were later confirmed with the numerical modelling results. This recommended ELOS value is considered to cover blasting-induced dilution, the effects of wall undercutting and local instabilities due to rock conditions.

The stope dimensions summarized in Table 16-6 are recommended for the economic evaluation of the deposit. These recommendations apply to stopes with an undiluted horizontal width less than, or equal to, 8 metres (which covers approximately 95% of the project stopes). Due to the depth of the Triple 8 zone (between 1,350 m and 1,550 m below ground surface), a smaller strike length dimension is recommended for stopes in this zone.

Table 16-6: Recommended stope dimensions for stopes with undiluted horizontal width ≤ 8 m

Scenario	Vertical height between levels (floor-to-floor)	Strike length (east-west)	ELOS Estimate
1	20 m	32 m	HW: 0.5 m FW: 0.5 m
2	25 m	28 m	
Stopes in Triple 8 mining zone	20 m	25 m	

It is recommended to include a backfill dilution of ELOS = 0.25 m for each exposed backfill wall.

16.2.3.2 Dimension of Pillars

Waste Rib Pillars

Rib pillars are not planned to be left in place as part of the selected mining method. However, waste rib pillars might be considered when the mineralization is not continuous. Multiple instances of waste rib pillars were observed in the proposed stope layout. The rib pillar should maintain at least a 1:1 aspect ratio, i.e., a rib pillar strike length equal to, or longer than, the diluted horizontal width of the stope. At depth, it would be preferable to systematically mine small rib pillars (with an aspect ratio less than 1:1) to avoid stress concentration and seismicity related problems.

Inter-Lens Pillars

A waste pillar between two parallel mineral-bearing mining lenses is defined as an "inter-lens" pillar. Mineralized lenses tend to generally be away from each other across the mining zones, but some lenses are locally in close proximity, creating inter-lens pillars of concern. The following guidelines are provided based on A2GC's experience and the insights from the numerical modelling assessments:

- It is recommended that the horizontal width of the inter-lens pillar (in the north-south direction) be at least twice the diluted horizontal width of the widest of the two lodes it will separate.
- If parallel veins are in closer proximity, they should be mined concurrently as a single lens, taking the waste gap along.

Crown Pillars

The minimum crown pillar vertical thickness was evaluated using empirical methods (Carter, 1992, 2014) and confirmed with the numerical modelling results. The minimum crown pillar vertical rock thickness (excluding any overburden layer) recommended for the economical evaluation of the Project is as follows:

1. 30 m for stopes with a diluted horizontal width less than or equal to 6 m;
2. 40 m for stopes with a diluted horizontal width between 6 and 9 m.

As specified in the Québec regulations concerning occupational health and safety in mines, excavations to be mined within 100 m of a water body must be subject of a detailed geotechnical and hydrogeological study before mining.

16.2.3.3 Stand-off Distance of Main Accesses

The minimum stand-off distance between the first haulage drive (closest to the level access infrastructure) should be at least two times the diluted horizontal width of the stope panel. At the extremities of the mining lenses, the minimum stand-off distance may be reduced to 1.5 times the diluted horizontal width of the mining zone. It is important to remember that when in close proximity, parallel lenses can combine their widths. The stand-off distance then needs to take the effective, or combined, widths into consideration.

16.2.3.4 Sill Pillar Mining

The results of the geomechanical assessments suggest that stress related problems are likely to occur during sill pillar mining, and mainly at depth in the Lynx zone where stope panels are more continuous. Stopes in the Lynx sill pillars on levels 97, 109 and below should be “penalized” in the economics to account for the increased stress hazards (more difficult mining conditions are expected), either by reducing recovery (from 50% to 60%), increasing stoping cycle time (by 60-75% of the normal mining rate), and/or adding rehabilitation costs and delays. Heavier ground support is recommended for the undercut accesses located on sill pillar levels (Table 16-7).

16.2.3.5 Backfill Strength Requirement

The stopes will be backfilled with the following backfill types:

- Cemented rockfill (“CRF”) and uncemented rockfill; and
- Cemented paste backfill (“CPB”).

CRF is planned to be used mainly in the early years until the CPB plant is commissioned later in the mine life to provide flexibility to backfill stopes located away from the main CPB piping system, or in case of operational issues with the CPB plant.

The minimum backfill strength requirement was first estimated using the equation proposed by Mitchell et al. (1982) for the design of free self-standing backfill. For most of the stope widths in the Project (4-6 m), the minimum required backfill strength would be relatively low, between 100--150 kPa according to the Michell equation. However, for CPB, a minimum strength is generally targeted to prevent liquefaction that can be triggered by nearby blasting or seismic events. This minimum strength varies in the literature between 100 kPa and 200 kPa. A minimum value of 175 kPa is recommended to be used as the minimum strength requirement for backfill for the Project, which is similar to the value recommended by Landriault (2001). It is recommended to also apply this minimum strength to CRF, as the slight incremental strength will be beneficial to reduce dilution from blasting.

That minimum of 175 kPa strength is an overall value meant to help estimate the quantities of binder required for the Project. Large stopes and stopes sitting immediately above sill pillar stopes will need higher backfill strength as they will be undercut during sill mining.

16.2.3.6 Seismic Conditions

The rock mass is anticipated to produce seismic conditions at depth due to its stiff, strong and brittle nature. The results of the numerical modelling analyses suggest that seismic conditions will develop starting at a depth of about 650 m in sill pillar stopes, around waste pillars and in converging mining fronts, and will further increase with depth. The narrowness of the stopes will tend to keep higher stress concentrations in closer proximity to the excavations and in converging mining fronts.

Mitigating measures would include the following:

- Optimizing the sequence to promote mining-induced stress changes to occur as far away as possible from active mining areas;
- Installing dynamic ground support in seismic-prone sectors; and
- Installing and maintaining a sufficiently sensitive and accurate microseismic monitoring system.

It is recommended to include the costing for the installation of a microseismic monitoring system in the next stage of the Project.

16.2.4 Ground Support

Ground support standards have already been developed by Osisko for the needs of the underground exploration development. A review of these standards was performed by the A2GC following a site visit (A2GC, 2020). The existing standards were validated using deterministic kinematic analyses of potential unstable wedges (A2GC, 2021).

The ground support recommended for costing purposes is presented at Table 16-7 (refer to A2GC, 2021 for the accompanying notes and details). The recommendations are based on the assessments performed and A2GC's experience. The ground support needs should be reassessed when the rock mass conditions and behaviour are confirmed, once the mine is in operation. Change of conditions should be monitored for and ground support modified accordingly.

Table 16-7: Development ground support recommendations

<table>
<tr><th>Type of excavation</th><th>Dimension</th><th>Back support</th><th>Wall support</th></tr>
<tr><td>Ramp, level access, ventilation access, paste, stockpiles, booster stations</td><td>5.2 wide by 5.5 m high</td><td rowspan="5">2.4 m long Ø20 mm, fully encapsulated resin grouted rebar on a 1.35 m x 1.2 m spacing with 6-gauge 4-inches squares galvanized welded wire mesh.</td><td rowspan="5">1.5 m long FS35 Split sets on a 1.35 m x 1.2 m spacing down to 1.5 m from the floor with 6-gauge 4-inches squares galvanized welded wire mesh from the shoulders down to 1.5 m from the floor.</td></tr>
<tr><td>Refuge, pump station, explosive and detonator magazines</td><td>5.5 wide by 5.0 m high</td></tr>
<tr><td>Access to stoping areas</td><td>4.3 m wide by 4.3 m high</td></tr>
<tr><td>Stope overcut and undercut sill drive not in sill pillar levels</td><td>4.0 m to 4.3 m wide by 4.0 m to 4.3 m high</td></tr>
<tr><td>Sump</td><td>4.5 m wide by 4.5 m high</td></tr>
<tr><td>Stope undercut sill drive in sill pillar levels (> 600m deep)</td><td>4.0 m to 4.3 m wide by 4.0 m to 4.3 m high</td><td>2.4 m long Ø20 mm, fully encapsulated resin grouted rebar on a 1.35 m x 1.2 m spacing with 6-gauge 4-inches squares galvanized welded wire mesh.
2.4 m long Ø20 mm, fully encapsulated resin grouted rebar added in the dice of the main bolt pattern.</td><td>2.4 m long Ø20 mm, fully encapsulated resin grouted rebar on a 1.35 m x 1.2 m spacing with 6-gauge 4-inches squares galvanized welded wire mesh from the shoulders down to 1.5 m from the floor.
1.5 m long FS35 Split sets added in the dice of the main bolt pattern.</td></tr>
<tr><td>Mudwizard station</td><td>6.5 m wide by 5.0 m high</td><td rowspan="2">2.4 m long Ø20 mm, fully encapsulated resin grouted rebar on a 1.35 m x 1.2 m spacing with 6-gauge 4-inches squares galvanized welded wire mesh.</td><td rowspan="3">1.5 m long FS35 Split sets on a 1.35 m x 1.2 m spacing down to 1.5 m from the floor with 6-gauge 4-inches squares galvanized welded wire mesh from the shoulders down to 1.5 m from the floor.</td></tr>
<tr><td>Electrical sub-station</td><td>7.0 m wide by 4.5 m high</td></tr>
<tr><td>Material bay</td><td>8.5 m wide by 5.0 m high</td><td>2.4 m long Ø20 mm, fully encapsulated resin grouted rebar on a 1.35 m x 1.2 m spacing with 6-gauge 4-inches squares galvanized welded wire mesh.
5.0 m long Ø15.2 mm bulged cable bolts (single cable per hole) on a 2.0 m x 2.0 m spacing.</td></tr>
<tr><td>Typical intersection</td><td>Less than 11.0 m wide by less than 6.0 m high</td><td>5.0 m long Ø15.2 mm bulged cable bolts (single cable per hole) on a 2.0 m x 2.0 m spacing.</td><td>-</td></tr>
</table>

Type of excavation	Dimension	Back support	Wall support
Loading intersection in front of stockpile	Less than 11.0 m wide by less than 7.5 m high	6.0 m long Ø15.2 mm bulged cable bolts (single cable per hole) on a 1.8 m x 1.8 m spacing.	2.4 m long Ø20 mm, fully encapsulated resin grouted rebar on a 1.35 m x 1.2 m spacing with 6-gauge 4-inches squares galvanized welded wire mesh from the shoulders down to 1.5 m from the floor.
Central intersection of retreating zone	Less than 9.0 m wide by 4.0 m high	6.0 m long Ø15.2 mm bulged cable bolts (single cable per hole) on a 1.5 m x 1.5 m spacing.	-
Stope hanging wall for stopes adjacent to Bank fault	-	-	Three rows of 4.0 m long Ø15.2 mm bulged cable bolts (single cable per hole) on a 1.5 m x 2.0 m spacing starting at 1.0 m from the open stope brow.
Alimak ventilation raise	3.0 m diameter	(temporary horizontal work face) 1.2 m long FS35 Split sets on a 1.2 m x 1.2 m spacing with 6-gauge 4-inches squares galvanized welded wire mesh.	(final vertical walls) 1.5 m long FS35 Split sets on a 1.2 m x 1.2 m spacing with 6-gauge 4-inches squares galvanized welded wire mesh. 1.5 m long FS35 Split sets added in the dice of the main bolt pattern.
Escape way	3.0 m diameter		(final vertical walls) 2.4 m long Ø20 mm, fully encapsulated resin grouted rebar on a 1.2 m x 1.2 m spacing with 6-gauge 4-inches squares galvanized welded wire mesh. 1.5 m long FS35 Split sets added in the dice of the main bolt pattern.

16.3 Mine Hydrogeology

The hydrogeological conditions in the vicinity of the Windfall Project site were defined based on the fieldwork conducted in 2017 (Golder, 2018b) and 2019 (Golder, 2020c) and past hydrogeological studies (Genivar, 2008). The results of these investigations are summarized in Golder (2020c). The fall 2017 investigation program consisted in the completion of packer tests (13 tests in two exploration boreholes) and the implementation of eight observation wells. These observation wells were installed in the overburden and shallow bedrock. Static water level measured during the 2019 field campaign in observation and exploration wells throughout the site range from 0.64 m to 14.8 m below ground surface. The 2019 field work program consisted in 42 packer tests in four exploration boreholes and water level measurement in 25 existing observation wells and 15 exploration boreholes.

The generally flat topography is characterized by the presence of some streams and lakes. Surface deposits consist of fluvio-glacial sediments (sand and gravel), glacial till resting on felsic to mafic rocks intruded by granitoids and sub-vertical dikes which are associated with the gold mineralization. Those geological formations are intersected by a complex network of brittle-ductile sub-vertical structures including Windfall and Romeo faults, directed NNE, and Bank fault related to the *Maséres* NE shear zone. Following the documentary review and hydrogeological characterization of the Windfall Project Mine Site, a hydrogeological conceptual model has been developed by Golder. Four hydrostratigraphic units have been identified.

16.3.1 Hydrostratigraphic Unit and Groundwater Flow Conditions

Fluvio-glacial Deposits (Esker)

Fluvio-glacial deposits consist of sand and gravel lying in the northern part of the site with thickness varying from 1 m to 25 m. The hydraulic conductivity of these units varies between 2 x 10^{-6} m/s and 7 x 10^{-4} m/s with a geometric mean of 7 x 10^{-5} m/s (based on 16 hydraulic tests results).

Till

Till is a heterogeneous glacial unit encountered just above the bedrock contact. A hydraulic conductivity of 3 x 10^{-7} m/s was measured at a single location. Considering the heterogeneous nature of this material, a hydraulic conductivity in the 10^{-5} m/s and 10^{-7} m/s range is expected for this unit.

Bedrock

Bedrock consists of basaltic flows and volcanoclastic rocks. The bedrock is mostly found below the till or fluvioglacial sediment layer.

A total of 92 hydraulic tests were conducted on the bedrock unit including slug test, packer test (maximum depth tested of 400 m) and pumping test. The measured hydraulic conductivity of bedrock varies between 4 x 10^{-10} m/s and 2 x 10^{-5} m/s with a geometric mean of 1 x 10^{-7} m/s. Based on the distribution of hydraulic conductivity with depth presented in the Golder (2018b) report and on the groundwater flow model calibration, a hydraulic conductivity of 1 x 10^{-7} m/s was assigned to the upper bedrock (up to an elevation of 370 m), and 7 x 10^{-9} m/s for deep bedrock. A lower hydraulic conductivity was assigned to deep bedrock because according to Stober and Bucker (2007), bedrock hydraulic conductivity of Precambrian rock of the Canadian Shield tends to decrease with depth.

Structural Elements (Faults)

Osisko provided a file that contains the main faults identified in the area of the Windfall Project. These faults were included in the groundwater flow model used to estimate groundwater inflow into the mine as discrete fracture (Section 16.3.2). A hydraulic conductivity value of 7 x 10^{-8} m/s was assigned to the faults following the calibration of the groundwater flow model based on the dewatering rate of the actual exploration ramp (1,165 m^3/d) measured by Osisko in December 2020.

Groundwater Level

Measured groundwater levels were generally close to the ground surface with depth ranging from 0.64 m to 14.8 m. Topography generally controls the groundwater flow directions. Hydraulic gradients range from 0.013 m/m to the southeast in the southern area of the existing waste rock pile to 0.03 m/m to the northwest in the direction of the lake at the foot of the esker.

Using the Darcy's law equation and the previous information on bedrock hydraulic conductivities, and a 0.01 effective porosity, the estimated groundwater flow speed would be around 0.01 m/d for the upper part of the bedrock.

16.3.2 Groundwater Inflow Estimation

A groundwater flow model (FEFLOW version 7.4) was initially developed by Golder (2020) for the purpose of estimating groundwater inflow into the exploration ramp. The same model was used to estimate groundwater inflow into the underground mine workings based on the mine plan provided on February 24, 2021, assuming that 10% of stopes will be backfilled with waste rock and the rest with paste backfill. Groundwater inflow into the mine was estimated at 4,200 m^3/d based on the calibrated model.

The groundwater flow model was calibrated against water level measurements made from 27 observation wells and based on the dewatering rate of the actual exploration ramp (measured flow rate of 1,165 m^3/d in December 2020, calculated flow rate of 1,170 m^3/d obtained with the model).

It is recommended to continue monitoring the dewatering rate from the exploration ramp during its development and exploration drilling work, and update the groundwater flow model periodically.

16.4 Proposed Mining Method

The Windfall Project mineralized zones vary in dip and thickness both along strike and at depth. All geometries are suitably extracted using the Longitudinal Longhole Stoping method.

16.4.1 Longitudinal Longhole with Backfill

Longitudinal longhole mining is suitable where the dip of the mineralization is 45° or greater, and the materialized zones are of sufficient width and grade that the estimated dilution does not eliminate the profitable recovery of the material. Longitudinal longhole mining consists of an undercut level and an overcut level, each accessed from the main ramp or a transportation drift. Each sill is accessed perpendicularly from the ramp or transportation drift, and then developed along strike of the vein to the economic extents of the mineralization.

Once sill development is completed on each level, a longhole rig drills production holes between the sills that are then blasted until the stoping panel is completed. Stope panel lengths are based on geotechnical guidance as outlined in Section 16.2. A maximum panel length of 30 m and 25 m (for stope heights of 20 m and 25 m, respectively) has been set before being backfilled. Once a sufficient distance along strike has been extracted and backfilled, mining can progress up-dip and extraction can recommence opening another mining location. A production layout example for a mining block is illustrated in Figure 16-1. Note that mining blocks with 20 m shapes will have six lifts.

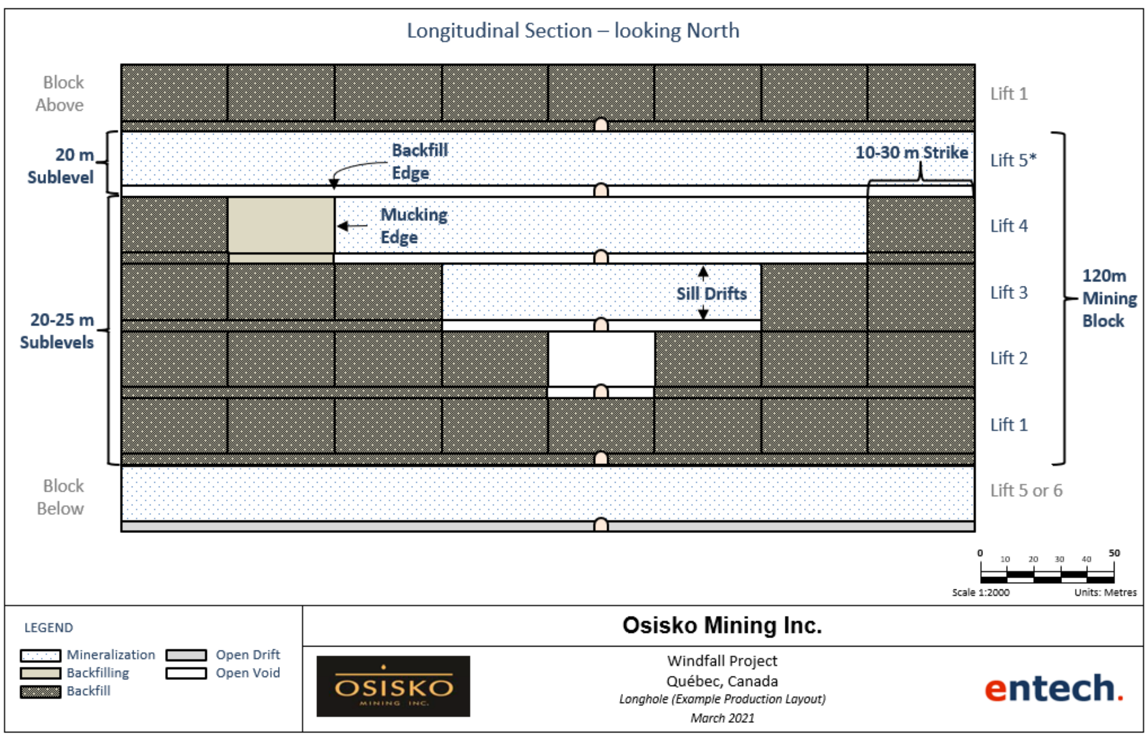


Figure 16-1: Production layout example

Stope heights were selected based on the expected vertical continuity of the mineralization. For the entire Main/Underdog zones and the Lynx zone above -198 mRL, 20 m stope heights were found to provide improved selectivity within the mineralized lenses. In the Lynx zone below -198 mRL, a 25-m stope height was more appropriate. Stope heights are measured from the floor of the undercut to the floor of the overcut level.

Stope heights used throughout the Windfall Project are illustrated in Figure 16-2.

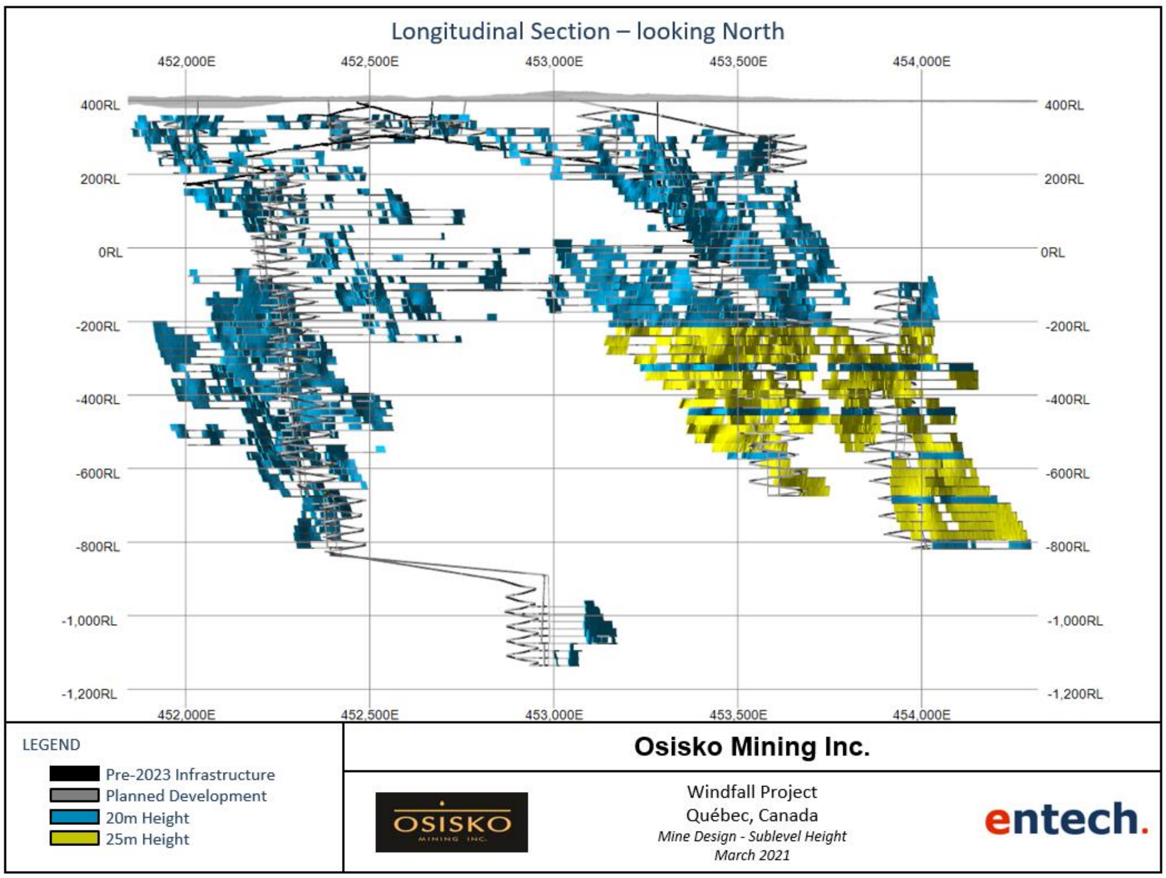


Figure 16-2: Sublevel heights

16.5 Underground Mining

16.5.1 Stope Design Methodology

Stope shapes were created using Datamine® Stope Optimiser and considered various stope heights, widths, and cut-offs during the assessment. Stope lengths were assessed over 5 m sections and then combined to create stopes up to 25 m or 30 m long depending on the stope height, in line with geotechnical recommendations.

A minimum horizontal mining width of 4.0 m was applied, which is based on a minimum vein width of 3.0 m plus an allowance for 0.5 m of unplanned dilution on both the hanging wall and foot wall. Although drill and blast techniques can mine narrower than this width, a larger width was deemed prudent given the level of study and current knowledge of the mineralization. A total of 19 stopes (0.7%) were wider than 15 m and were panelled along strike to minimize production mucking difficulties; additional dilution and schedule delays were assigned to these stopes.

Geotechnical investigations recommended that a bedrock pillar of 30 m exists for stopes less than 6 m diluted width, and 40 m for stopes greater than 6 m diluted width. All stopes inside the crown pillar have been removed from the mining plan or have had their height reduced based on these criteria.

Based on preliminary mining costs, a preliminary cut-off grade (“COG”) of 3.50 g/t was used for the stope optimization.

All parameters used in the creation of MSO shapes can be seen in Table 16-8.

Table 16-8: MSO Parameters

MSO Parameter	Unit	Value
Default Density	t/m^3	2.80
Default Dip	Degrees	67.5 - 135
Default Strike	Degrees	0
Cut-off Grade	g/t	3.5
Rotation Relative to Axis		Same as model
Stope Length - Sections (U)	m	5
Stope Height - Levels (V)	m	20 - 25
Slice Interval (increment to width)	m	0.25
Stope Width Min (“MMW”)	m	3
Stope Width Max	m	100
Dilution - near/far	m	0.5 / 0.5
Minimum Pillar between Parallel Stopes	m	10

MSO Parameter	Unit	Value
Stope Dip Angles		
Min	Degrees	45
Max	Degrees	135
Maximum Change	Degrees	5
Stope Strike Angle		
Min	Degrees	-45
Max	Degrees	45
Maximum Change	Degrees	5
Maximum Stope Thickness Ratio		
Top to Bottom		20
Left to Right		20

Once the stopes were generated and mining locations identified, an economic analysis of the stope design was completed to identify which production shapes were to be included in the schedule using Deswik's Interactive Scheduler®.

16.5.2 Dilution and Mining Recovery

For the study, dilution has been estimated using a combination of planned dilution and unplanned dilution. An example of dilution and underbreak is illustrated below in Figure 16-3.

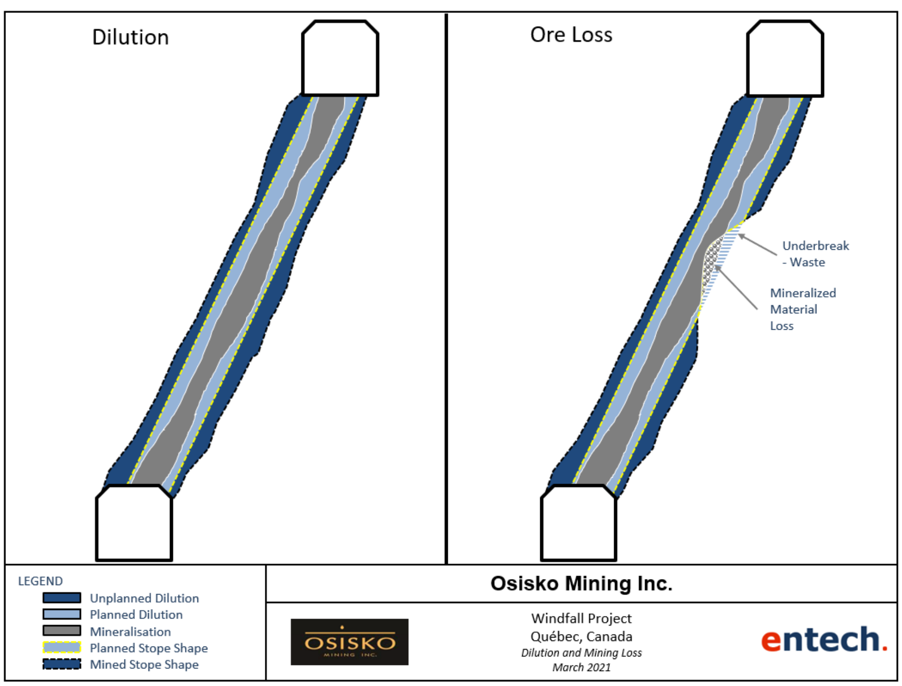


Figure 16-3: Dilution and mining recovery

Table 16-9 summarizes unplanned dilution by mining method.

Table 16-9: Dilution factors

Mining Method	Unplanned Rock Dilution	Unplanned Paste Dilution
Development	10%	-
Stoping	1.0 m ELOS (0.5 m HW, 0.5 m FW)	0.25 m ELOS per exposed face

The average planned and unplanned dilution is approximately 20% and 23%, respectively.

Longitudinal section views of the mine design showing the planned dilution, unplanned dilution and total dilution are illustrated in Figure 16-4, Figure 16-5 and Figure 16-6.

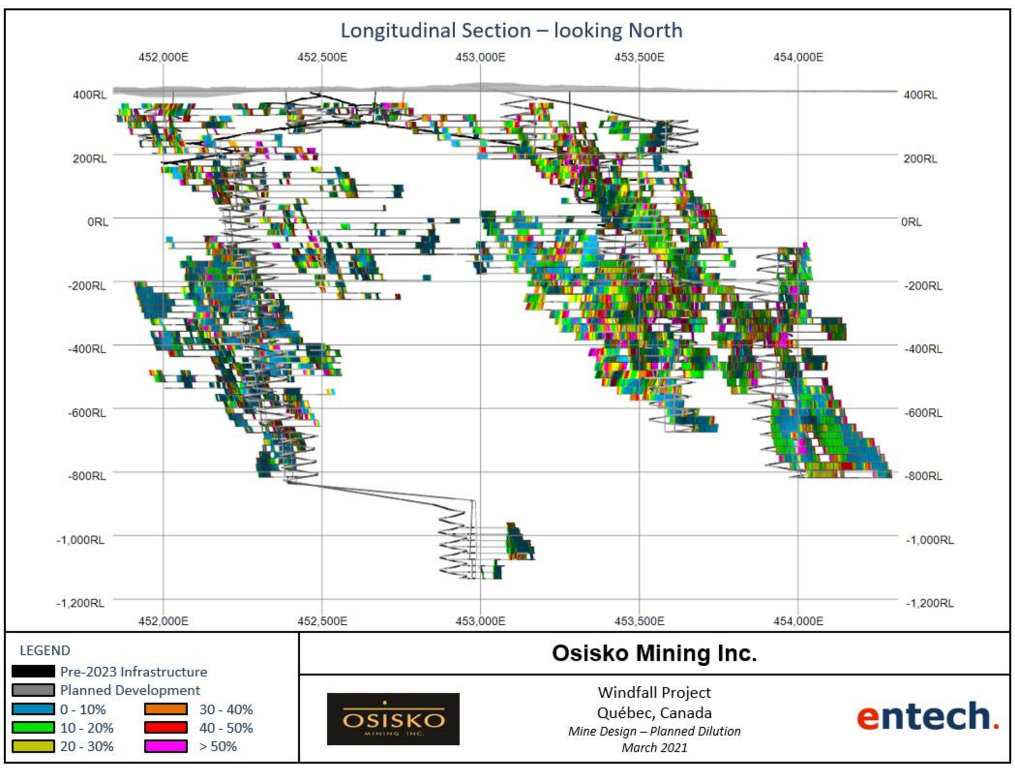


Figure 16-4: Estimated planned dilution (%)

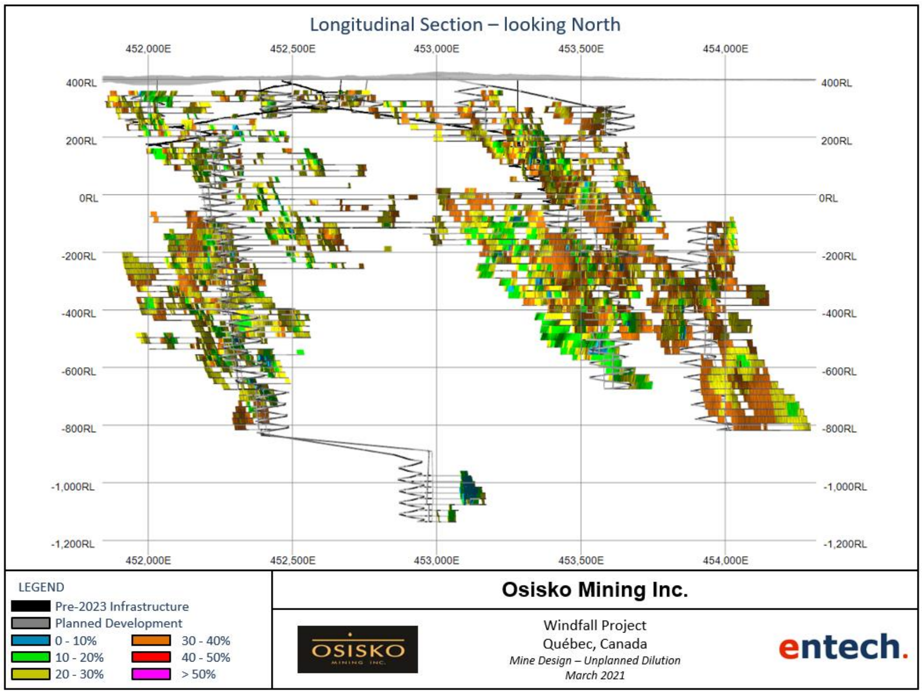


Figure 16-5: Estimated unplanned dilution (%)

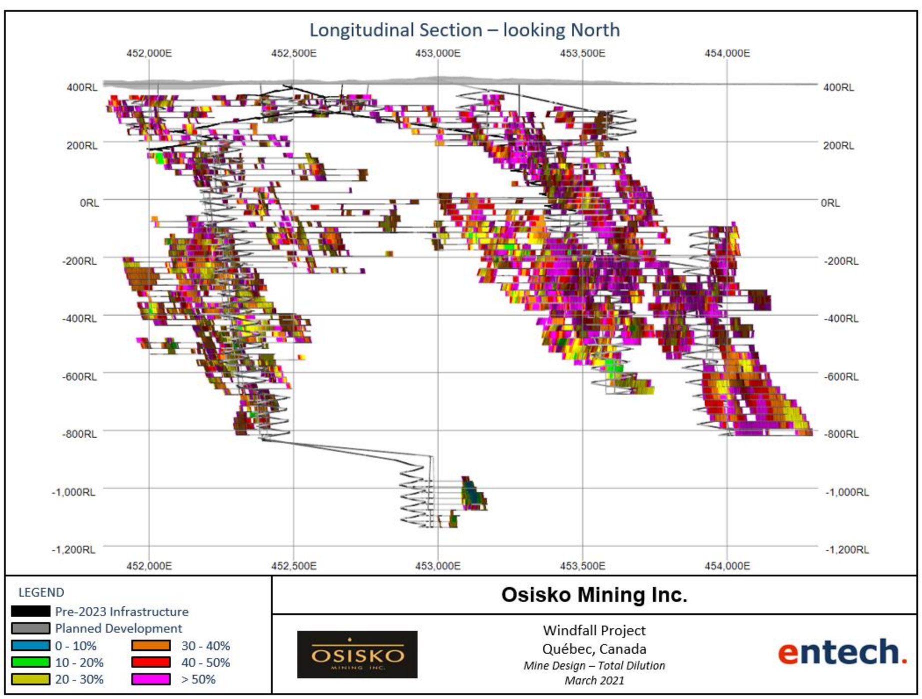


Figure 16-6: Estimated total dilution (%)

Assumed mining recoveries are 98% for development, 92% for stopes with an overcut and undercut, 85% for stopes with an undercut only, and 60% for sill pillar stopes on levels 97 and 109 of the Lynx zone to account for the increased stress hazards as per geotechnical recommendations.

A longitudinal section view of the mine design showing the mining recovery is illustrated in Figure 16-7.

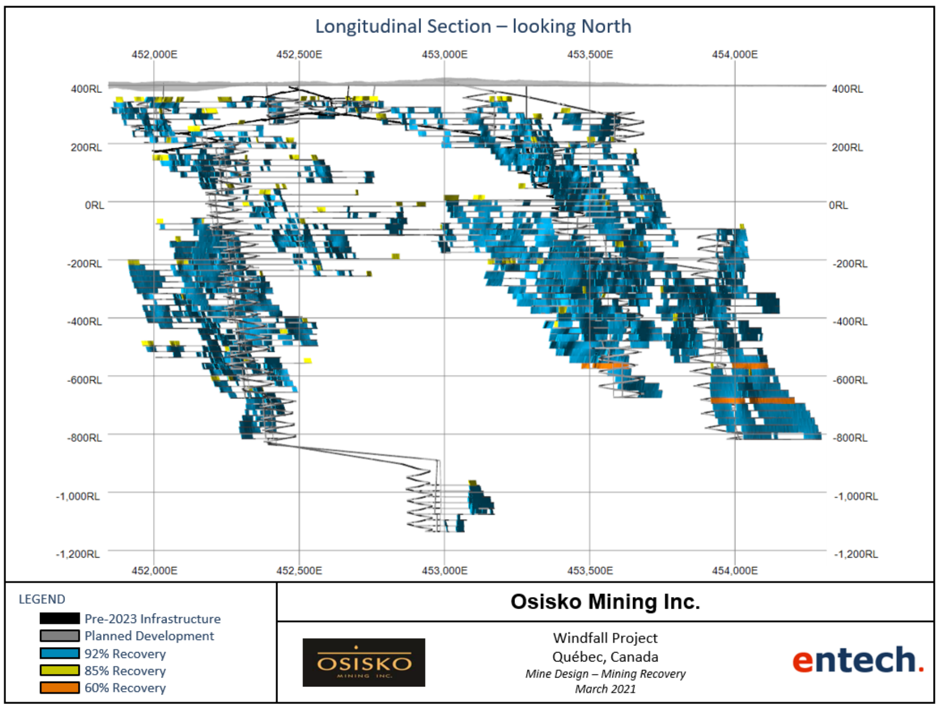


Figure 16-7: Mining recovery (%)

16.6 Development

The Windfall Project has existing underground infrastructure based on current exploration activities, with development planned and budgeted into early 2022.

The Windfall Project has three primary zones: Lynx, Main and Underdog. For design and scheduling purposes, the infrastructure was divided into two principal mining zones defined by ramp access: Lynx and Main. For the remainder of this chapter, when referencing Main zone, it is inclusive of the Underdog Zone.

Both zones trend roughly east-northeast and dip vertically between 45° to 90°. The Main zone is the western portion of the planned mining area and the Lynx zone is the eastern portion. The zones are accessed by three main ramp systems, with two surface portals for transportation and material haulage.

The ramps and level accesses (up to the vent raise access) will be 5.2 m high by 5.5 m wide allowing the passage of 51 t haulage trucks as well as secondary ventilation ducting and service piping. Development in mineralized material will be 4.0 m high by 4.0 m wide, while access drives will be 4.3 m high by 4.3 m wide. A summary of the various development profiles considered in the design are found in Table 16-10.

Table 16-10: Development profiles

Development Type	Width (m)	Height (m)
Ramp	5.2	5.5
Level Access	5.2	5.5
Sump	4.5	4.5
Stockpile	5.2	5.5
Electrical Station	7.0	4.5
Egress Access	4.3	4.3
Egress Raise	2.4	-
Return Air Access	5.2	5.5
Return Air Raise	4.0 - 6.0	-
Paste Drift	4.3	4.3
Access Drive	4.3	4.3
Sill Drives	4.0	4.0

Figure 16-8 illustrates the proposed development for the Windfall Project along with existing exploration drives, broken down into the two principal mining zones.

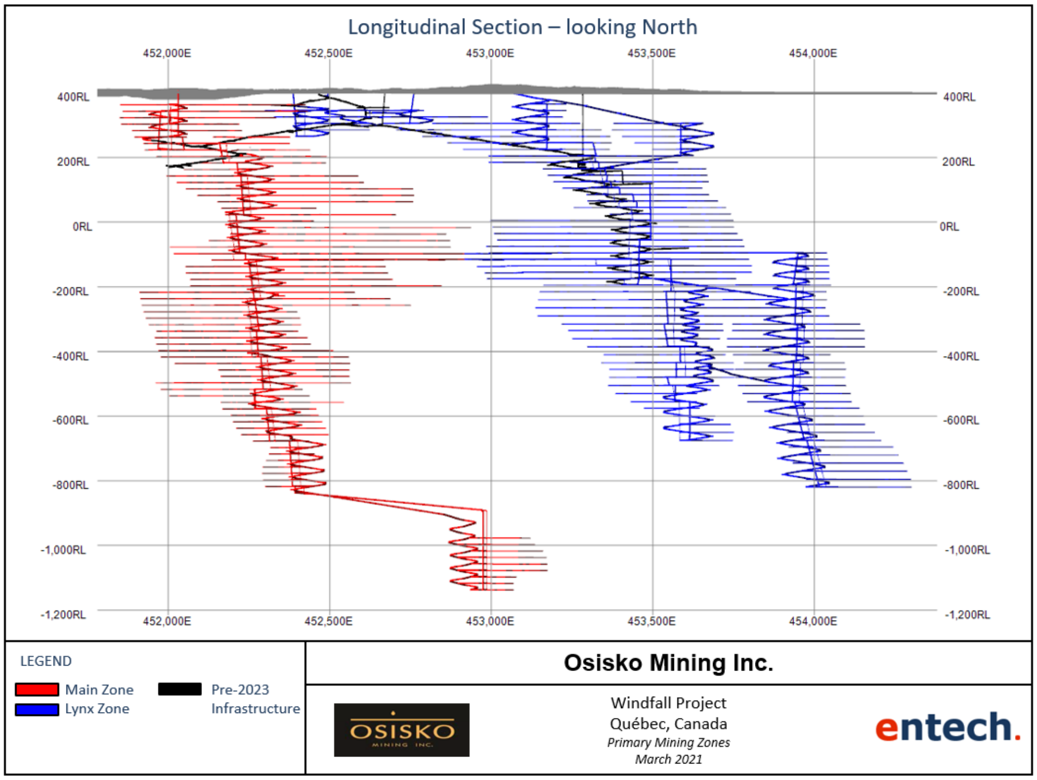


Figure 16-8: Windfall development design

16.6.1.1 Lynx Zone

The Lynx zone is located on the eastern side of the deposit and is an amalgamation of five smaller zones: Bobcat, F-zone, Lynx 4-HW, Lynx Main and Triple Lynx. The Lynx zone extends from surface at 410 mRL down to -820 mRL on 55 levels spaced 20 m to 25 m apart. A total of 130 km of lateral development is scheduled in Lynx and stope production is expected to be 9.4 Mt.

A longitudinal view with the ramp, levels and zones can be seen in Figure 16-9.

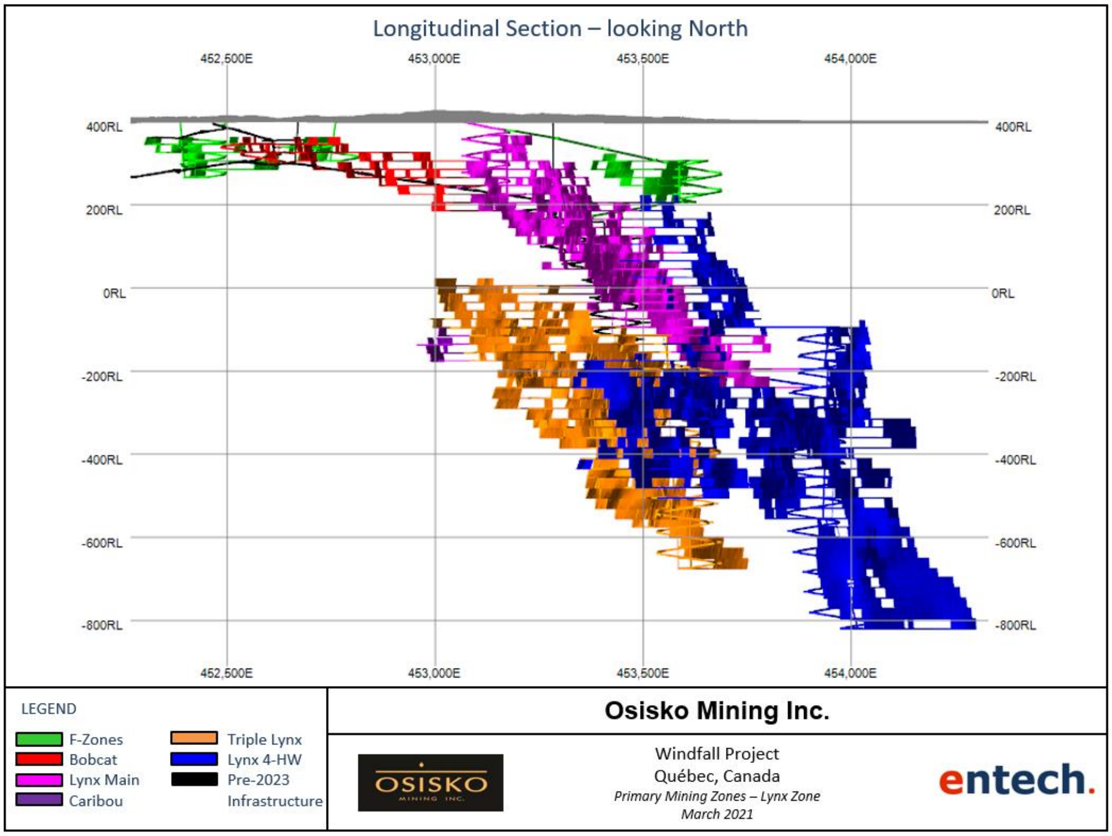


Figure 16-9: Lynx zone development design

The Lynx zone contains two primary ramp systems that share infrastructure above -177 mRL. The shared ramp portion of the design has been completed from 235 mRL to -46 mRL with plans and budget in place to complete down to -198 mRL. The central Lynx ramp provides access to the Lynx Main and Triple Lynx zones down to -680 mRL. The eastern ramp provides access to the Lynx 4-HW zone down to -810 mRL. The Lynx zone also contains four internal ramps to access the Bobcat and F zones.

16.6.1.2 Main Zone

The Main zone is located on the western side of the deposit and is an amalgamation of five smaller zones: Caribou, Zone 27, Mallard, Underdog and Triple 8. It extends from surface at 390 mRL down to -1,140 mRL with mineralization accessed by 69 levels spaced 20 m apart. A total of 107 km of lateral development is scheduled in Main and stope production is expected to be 5.9 Mt.

A longitudinal view with the ramp, levels and zones is illustrated in Figure 16-10.

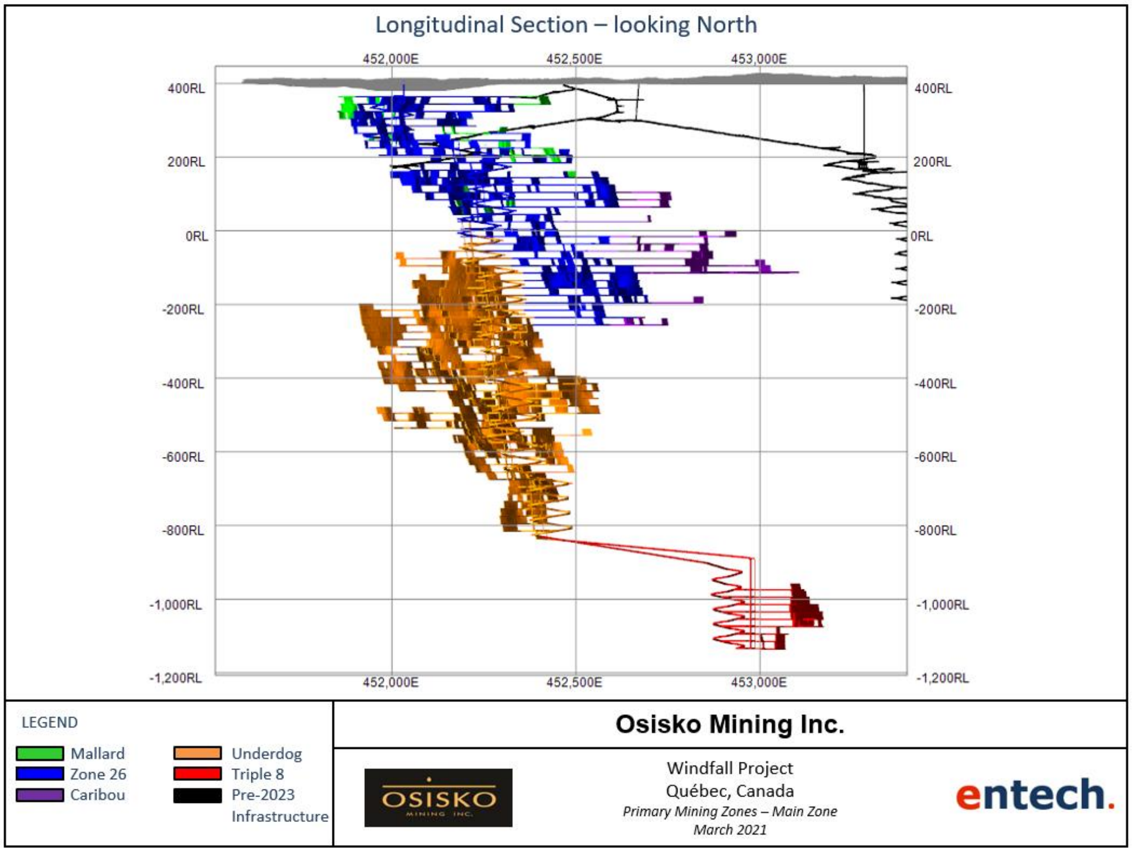


Figure 16-10: Main zone development design

The Main zone has an existing ramp from surface to 165 mRL, providing access to the Main zone from 250 mRL down to 205 mRL. The Project's planned ramp system extends from the existing ramp at 205 mRL to the bottom of the Triple 8 zone at -1,140 mRL and extends up from current infrastructure at 250 mRL to the top of the Main zone at 360 mRL.

16.6.2 Primary Infrastructure

The primary infrastructure for the Windfall Project includes a garage and its components, a cement silo and storage area, a paste backfill booster pump, fuel bays, refuge stations, explosive magazines, material bays and pumping stations.

Lynx and Main zones are connected near surface by existing infrastructure and through a bypass at -120 mRL.

Figure 16-11 illustrates the ramp systems and shared infrastructure of the mine.

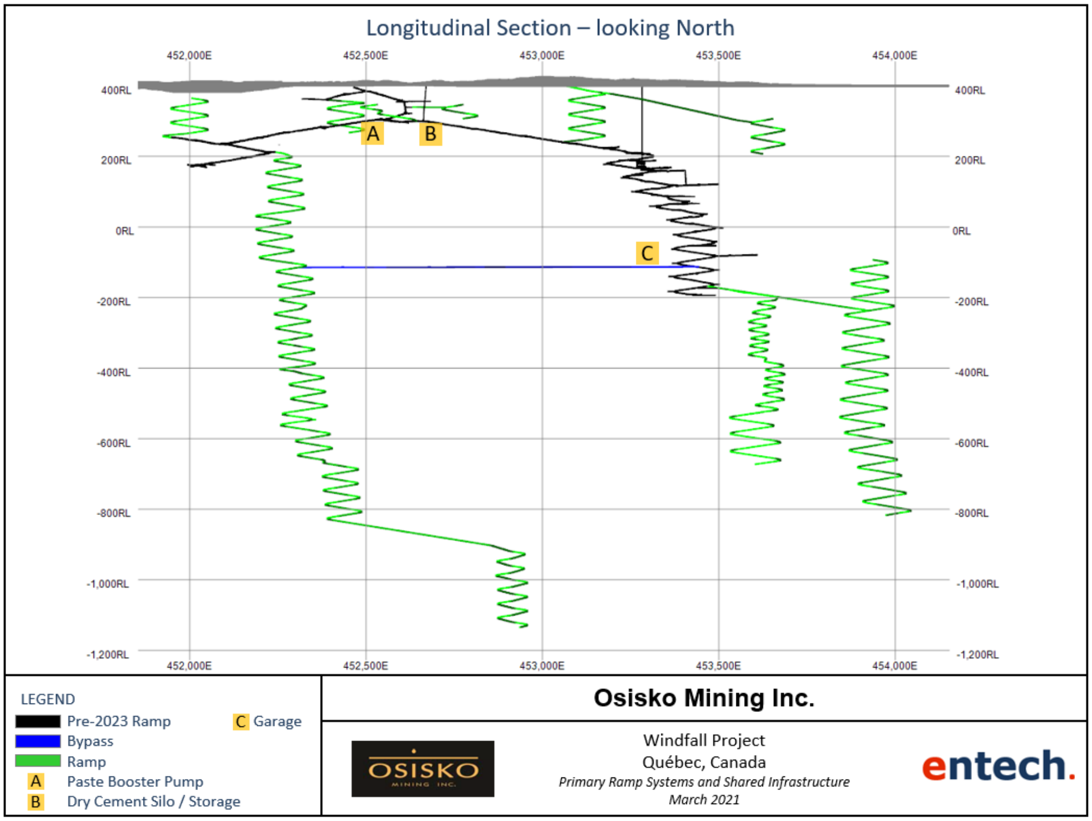


Figure 16-11: Primary ramp systems and shared infrastructure

The garage is located on the Lynx zone side of the bypass at -120 mRL. It is accessible by the Lynx zone ramp and from the Main zone via the bypass. The garage includes two shop bays, welding bay, oil bay, wash bay, warehouse, tire bay, electrical bay, electrical substation, and refuge station.

A dry cement storage silo for cemented backfill is located east of the junction between Main and Lynx at 270RL. This silo has a 20-tonne storage capacity and will be filled using 1,500 kg bags.

16.6.3 Production Level Infrastructure

The development design for level infrastructure adheres to the geotechnical recommendations for minimum stand-off required to the mineralized zone. Adherence to this distance will minimize any damage to infrastructure from ground stress changes and blasting from stope extraction.

Planned production level development includes the following:

- Access drifts;
- Sumps (Wilson sump or Pump station as required);

- Electrical stations;
- Stockpiles;
- Escapeways and accesses to the escapeways;
- Return airways and accesses to the return airways;
- Paste fill reticulation drifts;
- Sills (development on mineralization); and
- Operating waste development (sills mining material below cut-off).

A typical level layout as well as the typical truck loading arrangement are illustrated in Figure 16-12 and Figure 16-13, respectively.

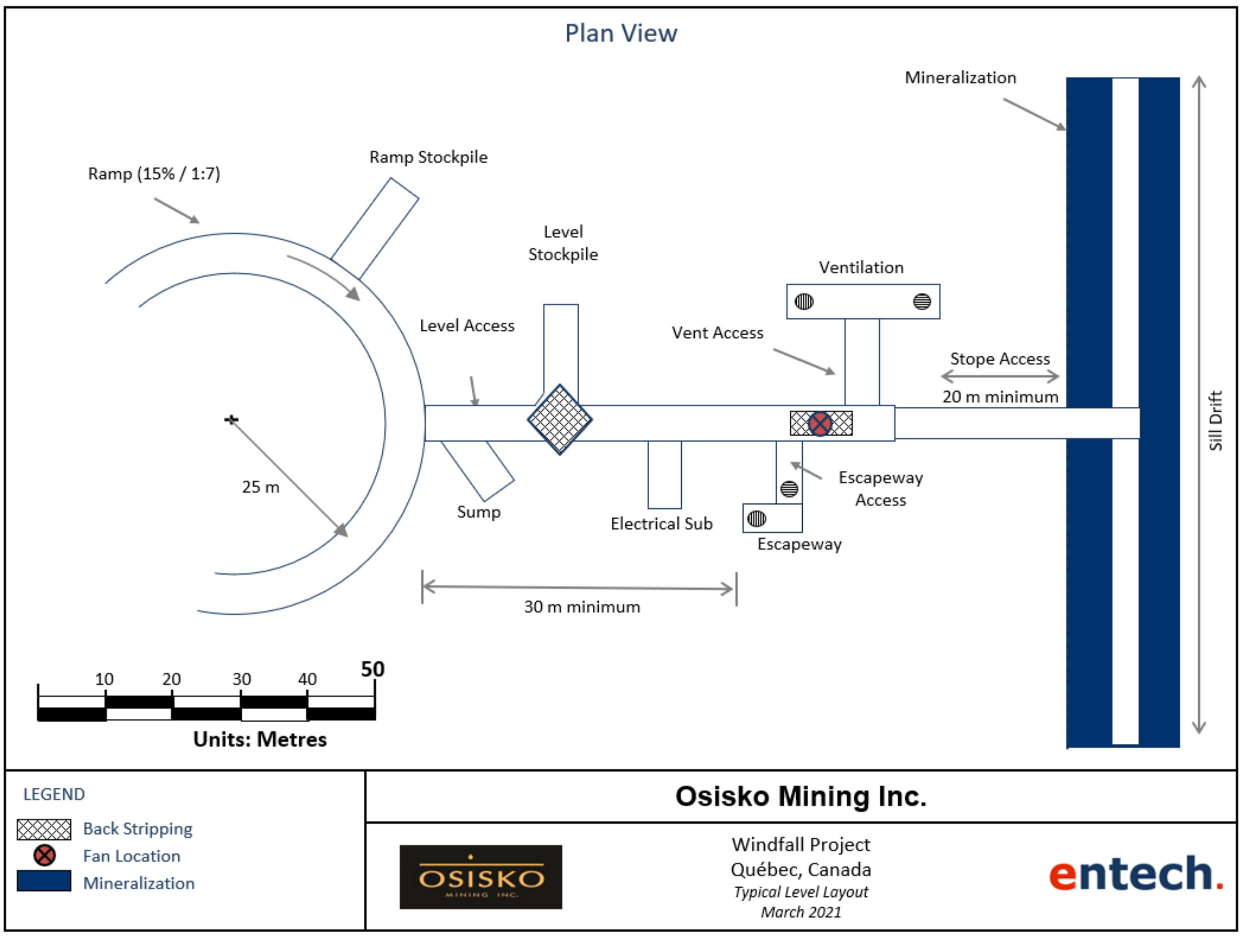


Figure 16-12: Typical level layout

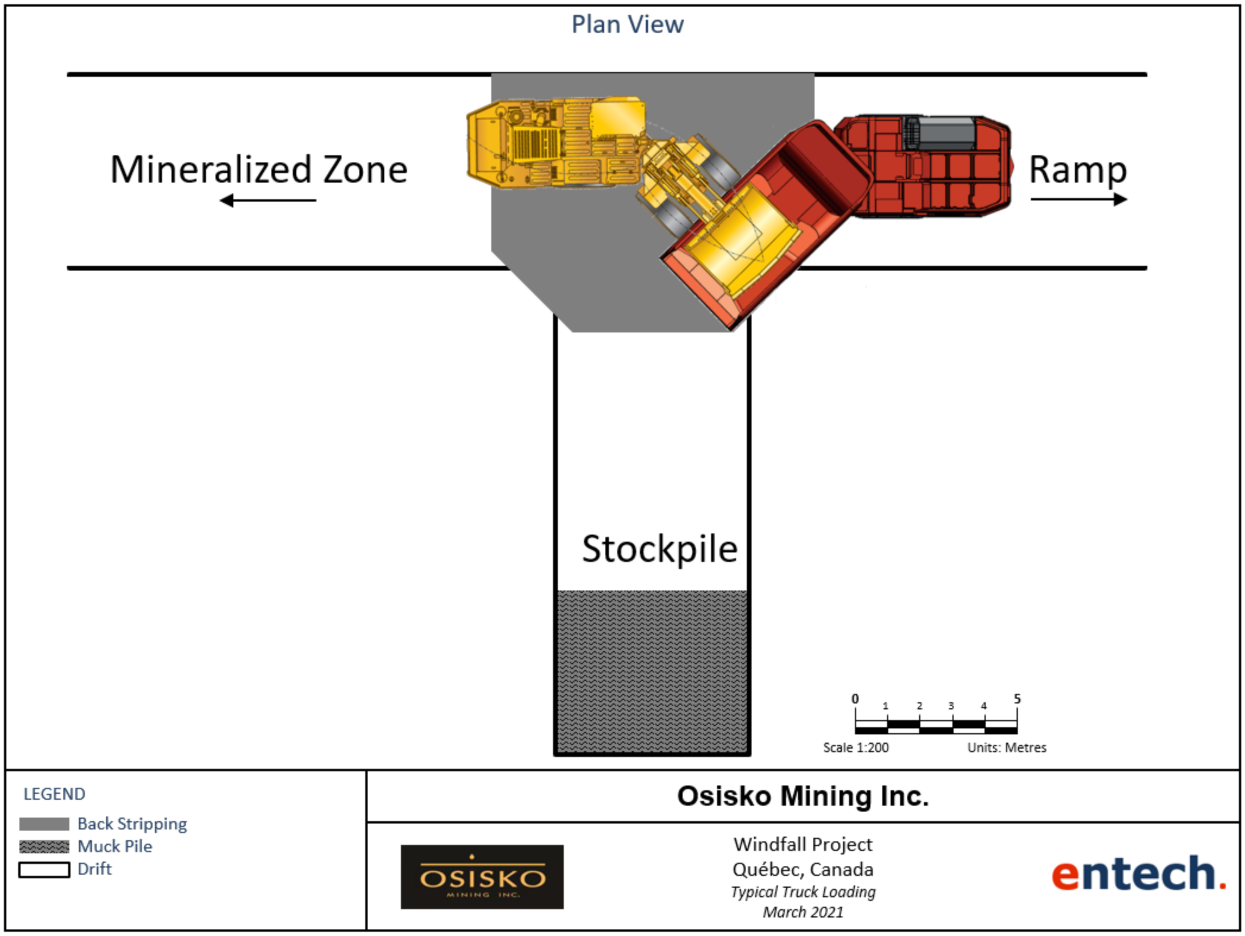


Figure 16-13: Typical level truck loading arrangement

16.7 Mine Schedule

16.7.1 Economic Evaluation

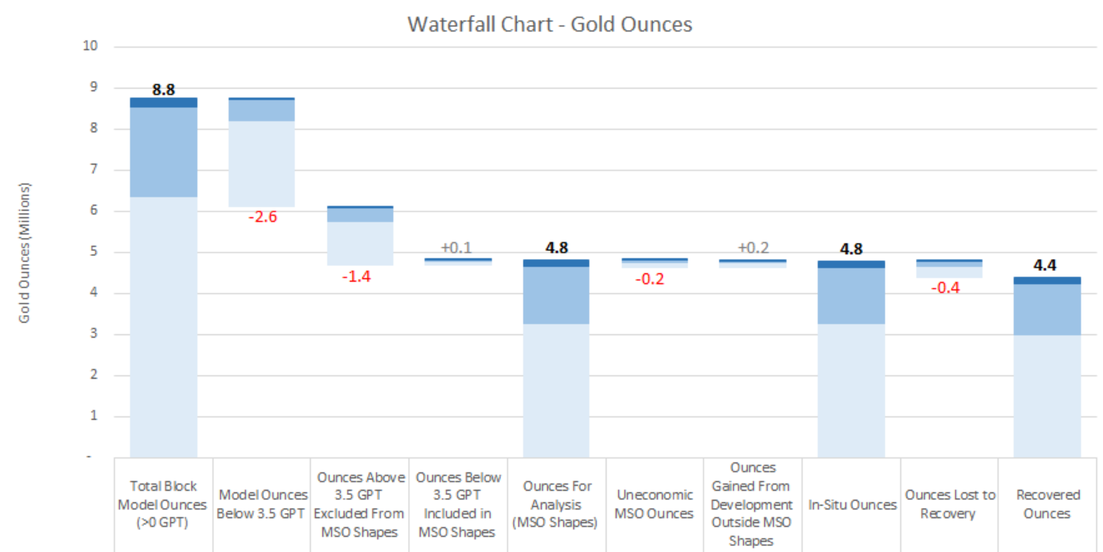
Preliminary mining costs and revenues from gold were used to determine the economic potential of entire levels as well as individual stopes. Stopes on the extents of the mineralized zones required a minimum return of 39% as directed by the project team. Silver revenue was not considered in the economic analysis. Silver revenues represent less than 1% of the expected revenue.

Table 16-11 summarizes the final economic, diluted, and recovered stope metrics from the stope design process for the Windfall Project.

Table 16-11: Economic stope metrics

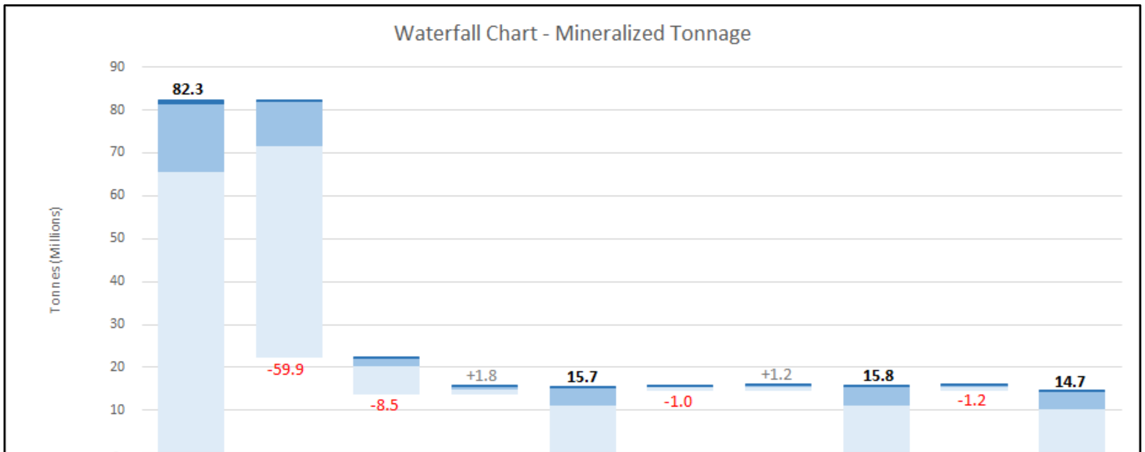
Item	Unit	Lynx	Main	Total Windfall Project
Diluted tonnage	t ('000s)	9,445	5,850	**15,295**
Au Diluted grade	g/t	8.17	6.10	**7.38**
Ag Diluted grade	g/t	3.88	2.15	**3.22**
Minimum width	m	4.0	4.0	**3.5**
Average width	m	6.6	6.5	**6.6**
Average length	m	23	23	**23**
Average tonnage	t	5,800	5,700	**5,700**
Downhole stopes	#	1,312	827	**2,139**
Uphole stopes	#	307	216	**523**

A summary outlining the material totals throughout the various steps of the process, from mineral resource to recovered mineralized material, is outlined in Figure 16-14 and Figure 16-15.



	Total Block Model Ounces (>0 GPT)	Model Ounces Below 3.5 GPT	Ounces Above 3.5 GPT Excluded From MSO Shapes	Ounces Below 3.5 GPT Included in MSO Shapes	Ounces For Analysis (MSO Shapes)	Uneconomic MSO Ounces	Ounces Gained From Development Outside MSO Shapes	In-Situ Ounces	Ounces Lost to Recovery	Recovered Ounces
Measured	0.21	0.02	0.03	0.00	0.16	0.00	0.01	0.16	0.01	0.15
Indicated	2.18	0.51	0.32	0.04	1.38	0.05	0.02	1.36	0.11	1.25
Inferred	6.36	2.11	1.05	0.07	3.27	0.12	0.13	3.27	0.28	2.99

Figure 16-14: Waterfall chart for gold ounces



	Total Block Model Tonnes (>0 GPT)	Model Tonnes Below 3.5 GPT	Tonnes Above 3.5 GPT Excluded From MSO Shapes	Tonnes Below 3.5 GPT Included in MSO Shapes	Tonnes For Analysis (MSO Shapes)	Uneconomic MSO Tonnes	Tonnes Gained From Development Outside MSO Shapes	In-Situ Tonnes	Tonnes Lost to Recovery	Recovered Tonnes
Measured	0.84	0.33	0.15	0.05	0.41	0.02	0.02	0.42	0.03	0.39
Indicated	15.64	10.16	1.90	0.52	4.10	0.24	0.30	4.16	0.31	3.85
Inferred	65.82	49.44	6.42	1.19	11.14	0.72	0.84	11.26	0.84	10.42

Figure 16-15: Waterfall chart for mineralized tonnes

16.7.2 Development Schedule

The proposed lateral development schedule for Windfall has been established using performances of 10 m per day per crew, with a maximum advance of 4 m per day per heading. It is assumed that contractor crews will be used during pre-production with a changeover to owner-operated crews once in operation. Up to five crews will be needed during the life of the Project.

Vertical development is completed using a raise boring machine, owned and operated by a contractor.

Early pre-production development focuses on the establishment of level accesses and their related infrastructure, such as ventilation exhaust and emergency egress raises, for all levels with existing ramp access. Development then focuses on the Triple Lynx and Lynx 4-HW down ramps, in addition to the sill drives for the initial levels of multiple mining fronts in Lynx Main and Triple Lynx.

Production begins in late 2024 and reaches the target production rate of 3,000 tpd in early 2025. Longhole stoping provides approximately 75% of the total production with the remainder comprised of sill development.

Annual advance totals can be found by zone in Table 16-12 and by type in Table 16-13.

Table 16-12: Development schedule

Development type	Unit	Pre-production		Production																			Total
		2023	2024	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	
Lynx Lateral CAPEX	km	5.6	6.0	1.4	5.5	5.2	4.8	5.8	4.3	4.3	0.3	0.2	0.1	1.1	0.8	0.2	2.3	1.8	2.6	1.0	0.0	0.1	**53**
Lynx Lateral OPEX	km	0.5	6.1	3.2	11.8	9.3	5.8	5.3	5.6	4.5	2.6	2.5	2.1	1.9	1.4	2.1	1.9	2.2	2.8	4.8	0.1	0.0	**77**
Lynx Vertical CAPEX	km	0.5	0.0	0.0	0.5	0.7	0.2	0.4	0.1	0.3	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.3	0.0	0.0	0.0	**4**
Main Lateral CAPEX	km	0.0	0.0	0.0	0.0	0.0	4.5	2.7	1.1	2.0	3.7	3.4	3.2	3.2	3.4	3.5	3.2	3.1	2.5	3.0	0.7	0.0	**43**
Main Lateral OPEX	km	0.0	0.0	0.0	0.0	0.0	1.9	2.5	3.7	2.8	5.8	6.4	6.1	5.1	5.2	5.6	5.5	4.6	4.8	3.2	0.7	0.0	**64**
Main Vertical CAPEX	km	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.2	0.2	0.0	0.2	0.2	0.1	0.3	0.2	0.2	0.0	0.4	0.0	0.0	**3**
Total Lateral CAPEX	km	5.6	6.0	1.4	5.5	5.2	9.3	8.5	5.4	6.3	4.0	3.6	3.3	4.2	4.2	3.7	5.4	4.8	5.2	4.0	0.7	0.1	**96**
Total Lateral OPEX	km	0.5	6.1	3.2	11.8	9.3	7.8	7.8	9.4	7.3	8.5	9.0	8.3	7.0	6.5	7.7	7.4	6.8	7.6	8.0	0.8	0.0	**141**
Total Lateral	km	6.1	12.1	4.6	17.3	14.5	17.1	16.3	14.8	13.6	12.4	12.6	11.6	11.3	10.8	11.4	12.9	11.6	12.8	12.0	1.5	0.1	**237**
Total Vertical	km	0.5	0.0	0.0	0.5	0.7	0.5	0.5	0.5	0.5	0.3	0.0	0.2	0.2	0.4	0.3	0.2	0.3	0.4	0.5	0.0	0.0	**6**
Crews	#	2	2	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	1	1	

Table 16-13: Development metres per type per year

Development type	Unit	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	Total
Ramp	km	0.05	2.30	1.32	1.70	3.00	2.64	0.59	1.17	0.55	0.50	0.61	1.15	1.14	0.80	1.59	1.51	1.69	1.39	0.00	0.00	**23.7**
Level Access and Infrastructure - CAPEX	km	5.10	2.94	1.62	1.78	3.95	2.23	1.63	2.53	1.03	1.73	1.01	1.70	1.72	1.20	2.01	2.29	2.35	2.25	0.39	0.08	**39.5**
Sill Drive - CAPEX Waste	km	0.41	2.19	2.59	1.71	2.36	3.59	3.18	2.61	2.39	1.38	1.67	1.40	1.39	1.67	1.84	1.05	1.12	0.36	0.31	0.00	**33.2**
Sill Drive - OPEX Waste	km	0.25	2.44	3.68	2.83	2.63	2.80	4.39	2.13	3.30	3.76	3.06	1.84	1.37	2.54	2.28	1.56	2.42	3.02	0.09	0.00	**46.4**
Sill Drive - OPEX Mineralization	km	0.27	6.87	8.14	6.47	5.15	5.00	4.97	5.16	5.16	5.23	5.21	5.20	5.17	5.18	5.17	5.21	5.20	4.97	0.74	0.00	**94.5**
Vertical (Raise bore)	km	0.51	0.00	0.52	0.69	0.50	0.47	0.45	0.51	0.33	0.04	0.21	0.18	0.36	0.28	0.18	0.33	0.36	0.46	0.00	0.00	**6.4**

16.8 Production Schedule

16.8.1 Longhole Drilling

Longhole drilling productivity has been scheduled using varying rates dependant on the activity. Each stope will have a slot raise composed of drill holes surrounding a 30-inch V30 raise bore, in addition to the stope drill pattern. The mine schedule averages 270 m per day of production drilling (98 km per year), at an average drill factor of 9 t/m drilled.

The daily rates for drill and blast activities are shown in Table 16-14.

Table 16-14: Drill and blast daily rates

Task	Rate	Duration
Slot Slash Holes	125 m/d	-
Slot Raise	-	2 d
Production Drilling	200 m/d	-
Production Cable bolts	-	1 d
Load and Blast	-	1 d

16.8.2 Material Movement

Stope mucking will utilize tele-remote operation technology to support efficient production and reduce hazards to operators. The main accesses have been designed with a 15 m stockpile per level, with many sill drives available that can serve as temporary stockpiles. The LHD will be teleoperated while digging the mineralized material and once the bucket is full, it will automatically drive to the level access stockpile. When the loader reaches the stockpile, the loader will dump the load while being tele-operated. Once the stockpile is full, a dedicated LHD will conventionally load trucks until the stockpile is empty. During this time, the tele-remote operator can continue to muck the stope to a temporary stockpile or move to an alternate level to commence tele-remote loading.

Stope mucking rates are reduced based on haulage distance to the access stockpile. Additional mucking capacity is utilized in the plan (when possible) allowing the stope loaders to utilize temporary re-mucks with much shorter haulage distances, increasing the stope mucking rates.

The production loader productivity is presented in Table 16-15.

Table 16-15: Production loader productivity

Loader tram distance	Access stockpile rate	Temp stockpile rate	Average rate	Stope count
Less than 100 m	1,218	2,013	1,587	111
100 m to 200 m				663
200 m to 300 m				785
300 m to 400 m	1,044	1,479	1,379	606
400 m to 500 m	910	1,289	1,216	283
500 m to 600 m	805	1,092	1,066	120
600 m to 700 m	720	977	968	59
700 m to 800 m	651	883	878	21
800 m to 900 m	593	805	772	7
More than 900 m	459	623	540	6
		Average	**1,453**	**-**
			Total	**2,661**

Haul truck requirements were determined based on the truck capacity, average haulage distance to the portal, and loading and dumping cycle times. Annual haulage requirements are illustrated in Figure 16-16.

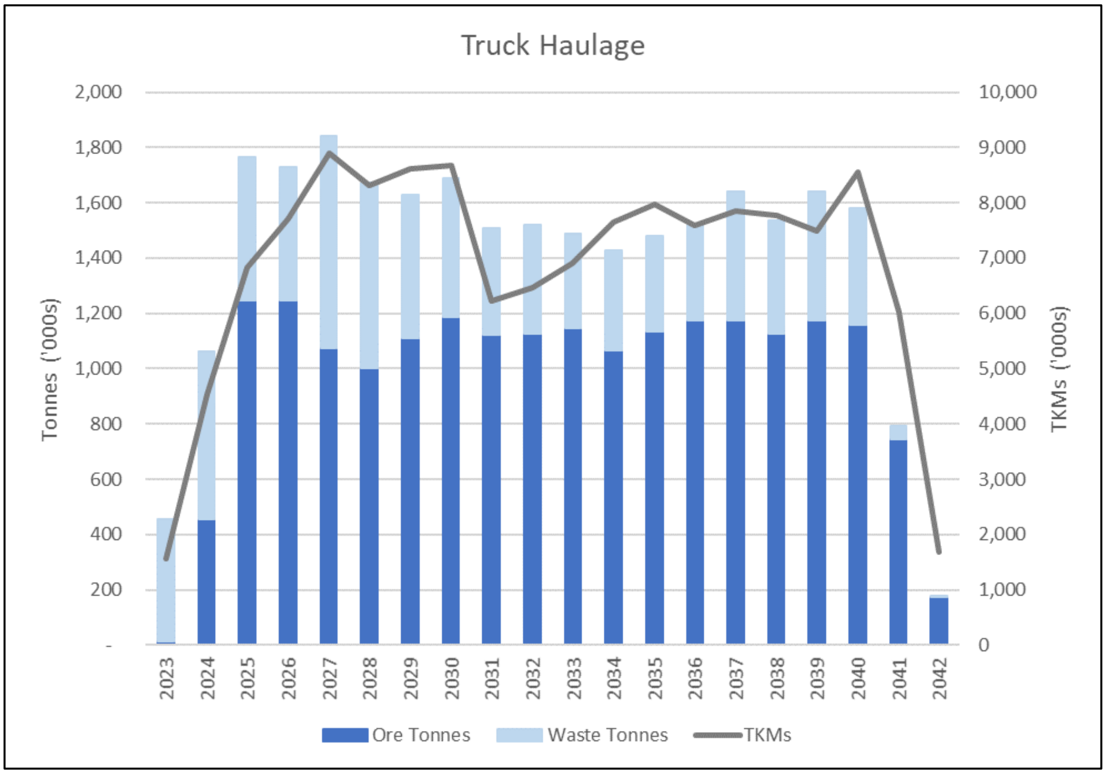


Figure 16-16: Truck haulage requirements

16.8.3 Backfill

The selected mining method requires the use of backfill to minimize dilution and to maximize recovery. The construction of the paste backfill facility will not be complete until Q4 2025. During this initial period, cemented rockfill ("CRF") will be utilized from late-2024 to late-2025.

A mobile cemented rockfill mixing truck, with a 12-t capacity of dry material, will bring the cement from the storage silo at 270 mRL to the backfill site, where it will use an onboard grout mixer to create cement slurry batches for dispensing into the backfill LHD. A 4.0% cement content in the cemented rockfill was utilized for cost estimates. The use of the Swatcrete Mobile CRF mixing truck eliminates the need for a complete cement mix/slurry distribution network.

Proposed to begin once construction is complete, the paste backfill will be delivered underground at a rate of approximately 1,400 m^3 per day, at a density of 1.8 t/m^3, with an average cement content of 3.7% to reach a free-face strength requirement of 175 kPa in 14 days. While the schedule allows 14 days of cure time, the paste backfill testing completed to support this study determined the required strength can be achieved after 7 days.

Paste backfill activities and their durations can be found in Table 16-16.

Table 16-16: Paste backfill activity durations

Task	Rate	Duration
Paste berm/wall	-	2 d
First paste pour (plug)	1,380 m^3/d	-
Initial cure	-	1 d
Second paste pour	1,380 m^3/d	-
Final cure	-	14 d
Paste fill development (as required)	-	0.5 d

16.8.4 Mine Production Schedule Summary

It is estimated that a total of 4.4 Mt of mineralized material will be recovered through development and 15.3 Mt via stoping for a total of 19.7 Mt at 6.94 g/t.

Table 16-17 summarises the Windfall production plan.

Table 16-17: Windfall production plan

Mine production (mineralized material)	Unit	Pre-production		Production (000's)																			
		2023	2024	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	Total
Development	t	15	203	113	374	296	240	230	229	240	238	242	240	240	240	240	240	240	240	231	36	0	**4,367**
Gold Grade	Au g/t	6.86	5.88	6.60	5.19	7.30	5.82	8.22	6.07	6.67	4.47	4.37	4.83	4.35	5.43	5.03	4.35	4.67	4.46	4.30	6.58	0.00	**5.43**
Stoping	t	0	0	140	874	949	834	771	880	947	885	883	907	826	895	934	936	888	935	929	711	172	**15,295**
Gold Grade	Au g/t	0.00	0.00	6.94	8.00	7.44	9.25	8.53	9.80	9.62	8.83	7.29	6.45	6.55	6.39	6.13	6.95	6.07	6.14	5.81	6.12	8.29	**7.38**
Total	t	15	203	252	1,248	1,246	1,074	1,002	1,109	1,187	1,123	1,125	1,147	1,066	1,135	1,174	1,176	1,128	1,175	1,159	746	172	**19,662**
Gold Grade	Au g/t	6.86	5.88	6.79	7.16	7.41	8.49	8.46	9.03	9.02	7.90	6.66	6.11	6.06	6.18	5.91	6.42	5.77	5.80	5.51	6.15	8.29	**6.94**
High Grade (Dil. Grade > 3.5)	t	9	126	214	1,081	1,141	960	914	1,010	1,088	1,000	997	1,034	939	1,042	1,077	1,052	1,027	1,052	1,050	732	172	**17,716**
	Au g/t	10.19	7.99	7.57	7.90	7.86	9.21	9.05	9.68	9.63	8.59	7.22	6.49	6.52	6.51	6.21	6.88	6.09	6.17	5.83	6.21	8.29	**7.44**
Medium Grade (2.28 < Dil. Grade < 3.5)	t	3	41	20	78	54	57	47	50	47	60	64	68	84	59	59	72	62	78	60	12	0	**1,075**
	Au g/t	3.25	2.93	2.92	2.99	2.98	3.00	2.93	2.97	2.97	2.92	2.95	2.98	3.03	3.00	3.03	3.06	3.00	2.98	2.96	3.21	0.00	**2.99**
Low Grade (1.23 < Dil. Grade < 2.28)	t	4	36	18	89	50	57	41	49	52	63	64	44	43	34	38	52	40	44	50	2	0	**870**
	Au g/t	1.95	1.81	1.81	1.77	1.86	1.80	1.72	1.78	1.79	1.75	1.79	1.89	1.86	1.74	1.81	1.79	1.81	1.80	1.83	1.81	0.00	**1.80**

Table 16-18 shows the breakdown of measured, indicated and inferred material included in the mine production schedule. Waste dilution includes planned and unplanned dilution as described in Section 16.5.2.

Table 16-18: Mineralized material resource category

Zone	Category	Tonnes (Mt)	Grade (gpt)
Lynx	Measured	0.3	12.41
	Indicated	2.1	11.60
	Inferred	4.8	10.29
	Subtotal	*7.2*	*10.76*
	Waste Dilution	2.3	-
	Total	**9.4**	**8.17**
Main	Measured	-	-
	Indicated	1.0	8.41
	Inferred	3.4	7.95
	Subtotal	*4.4*	*8.06*
	Waste Dilution	1.4	-
	Total	**5.9**	**6.10**
Development	Measured	0.1	11.16
	Indicated	0.8	8.25
	Inferred	2.2	7.47
	Subtotal	*3.1*	*7.76*
	Waste Dilution	1.3	-
	Total	**4.4**	**5.43**
Total	Measured	0.4	12.17
	Indicated	3.8	10.08
	Inferred	10.4	8.93
	Subtotal	*14.7*	*9.32*
	Waste Dilution	5.0	-
	Total	**19.7**	**6.94**

16.9 Underground Mine Services

16.9.1 Electrical Services

16.9.1.1 Electrical Distribution

A distribution network of 13.8 kV will be deployed from the existing surface network to meet the energy needs at the Windfall Project. The Lynx zone is already supplied with 13.8 kV in the exploration ramp, with a second 13.8 kV supply required to service the Main zone.

Each level will be powered by a 13.8 kV substation.

The 13.8 kV stations will be divided into five or six groups, allowing isolation within those groups. When electrical work is required, partial outages would replace mine-wide outages, allowing mine operations to resume in the majority of the mine.

Once the Main and Lynx zones are joined at the level 51 bypass, a redundant system will be installed for improved reliability.

16.9.1.2 13.8 kV Installation

To supply power to the mining equipment, portable 13.8 kV/600V substations will be installed in electrical substations with a junction box to provide point connection to the main Network.

Switch circuit breaker, 600V distribution panel, transformer, and service panel of 120V/240V, starters with variable speed and PTOs will be installed on the side wall. Each station will be designed according to the needs for that level and the level beneath it.

16.9.1.3 600V Installations

Where there is less need for energy, 13.8 kV portable substations will not be used. A 600V distribution from the upper level will be deployed.

16.9.2 Communication Network

16.9.2.1 Voice Communication System

The fibre optic network will be installed through every electrical substation, providing mine-wide network coverage. A Long Term Evolution (“LTE”) network will be installed alongside the fibre network to provide vocal communication between employees and wireless communication for the equipment.

A FEMCO communication system will be available in every refuge with a direct link to surface, as well as a telephone system for emergencies.

16.9.2.2 Fibre Optics

A 48-fibre cable will be installed alongside the 13.8 kV power cable from surface into the mine. Full coverage is proposed throughout the mine with redundancy as described with the 13.8 kV distribution.

The fibre optic network will be spread between each of the levels from the surface. This network will be the main network for the Windfall Project.

16.9.2.3 LTE Network

An LTE network will be deployed on all levels, providing greater flexibility and practicality than optical fibre. The effectiveness of personnel and vehicle tracking will be improved with this network.

16.9.3 Automation Network (PLC)

An automation network will be deployed to obtain real-time information and control on pumping, ventilation, and other installations.

16.9.4 Teleoperation

LTE hotspots will be installed and positioned to allow complete coverage of the production levels. It will be connected to the fibre optic network in each substation.

16.9.5 Ventilation-on-demand

The optical fibre and coaxial cable network will be used for the teleoperation of the ventilation-on-demand system.

Vehicle and cap lamp tags will allow the software to locate personnel and vehicles anywhere in the mine. Air supply can then be adjusted according to their positions.

16.9.6 Collision Warning System

The tag installed in the lamps and on the vehicles can also serve as a collision warning system with the installation of a module in the vehicle.

16.9.7 Fuel Distribution Network

Windfall will have three fuel bays, located on the Lynx side of the bypass at -120 mRL, at -215 mRL in the Lynx 4-HW zone, and at -346 mRL in the Main zone. Fuel will be sent underground in 5,000L cassettes, requiring two cassette bays per fuel station. The general fueling strategy will be for haulage trucks and personnel carriers to be fueled on surface, while the remainder of the equipment is fueled underground. A cassette carrier with fuel and lube cassettes will also service equipment that cannot easily reach the fuel bay. The expected maximum consumption for all mobile equipment at Windfall is 5 million litres of diesel per year.

16.9.8 Permanent Mine Pumping Network

A water management system has been designed to handle 6,400 m^3/day of water. This volume includes water from infiltration and mining activities. The planned system will treat and recirculate clear water directly from the underground operations, limiting volumes pumped to surface. The water management part of the Project is divided into two phases: development and operations.

As the ramp progresses downwards, each sump will be outfit with a submersible Tsurumi GPN415 pump designed to handle 20% solids. Two pumps will be installed in parallel when required to manage higher than expected flow rates.

When a down-ramp has advanced to a 100 m vertical distance, a mobile high-solid pumping system will be installed. This system consists of two Cornell model 3622MP pumps, sized at 100 hp per pump for the Main zone and 150 hp per pump for the Lynx zone. This system is installed on a transport skid, equipped with an 8-m^3 water tank. This mobile unit will move every 100 m of development, until they reach their final position on each respective level.

Where appropriate, a submersible pump system will be installed as a permanent pumping station. These systems will utilize various Tsurumi pump models to meet their pumping requirements, such as the GPN415, LH430 and LH675 for 20 hp, 40 hp and 100 hp ratings, respectively. The location of all planned pumping stations is illustrated in Figure 16-17.

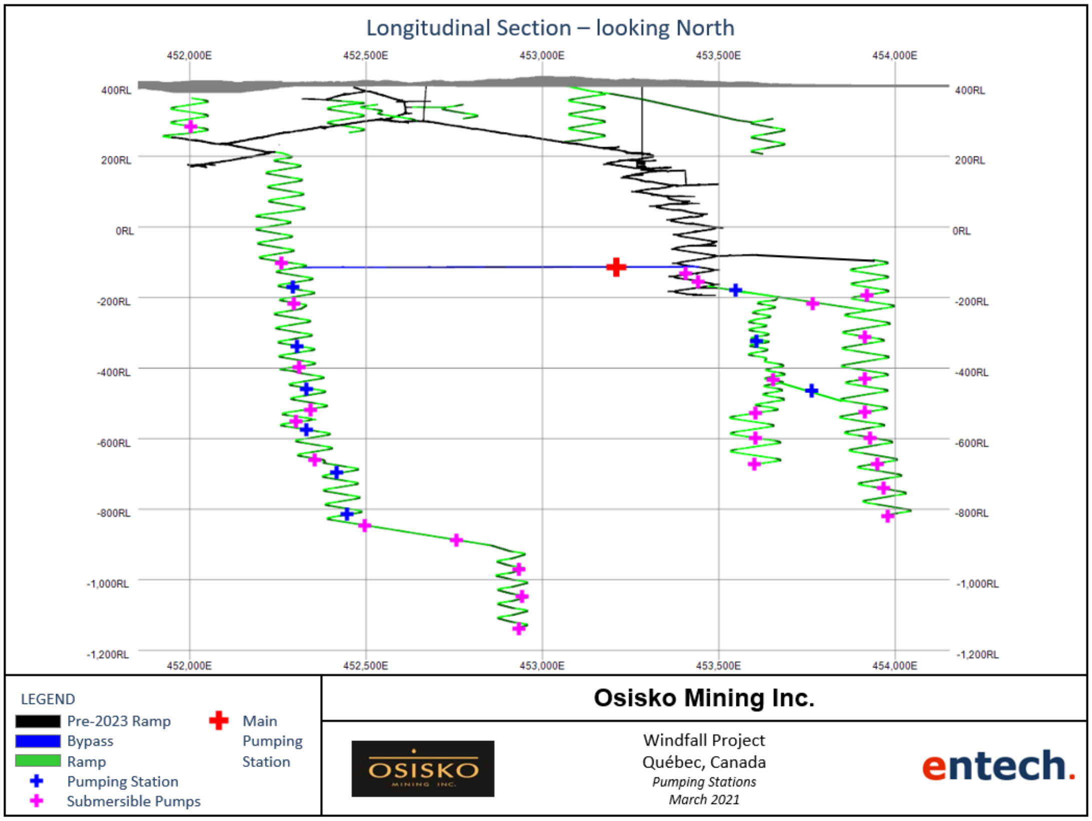


Figure 16-17: Pumping stations

16.9.9 Ventilation Network

16.9.9.1 Primary Ventilation

The Windfall Project currently has two ventilation raises to surface, which will be used as exhaust raises for the Bobcat and Lynx zones, with three planned raises to surface providing exhaust for the Main zone, and two satellite at F-zones mining areas. These exhaust raises will be equipped with fans and will create a pull system with fresh air being drawn down the two portal ramps.

The proposed ventilation circuit was imported into Ventsim®, an industry-standard software used in ventilation modelling, to model the flows predicted for the mine. The ventilation demand was estimated based on Québec Regulation Respecting Occupational Health and Safety in Mines ("RROHS"), which requires adherence to CAN/CSA-M424.2-M90 Non-railbound Diesel-powered Machines for use in Non-gassy Underground Mines for approved diesel engines or a minimum ventilating airflow of 145 CFM per hp (0.09 m^3/s per kW) of mobile equipment where the engine has not been approved by MMSL-CANMET. The estimated ventilation demand is shown in Table 16-19.

Table 16-19: Ventilation demand estimate

Equipment	Model		Engine	Power		Utilization (%)	Main Zone			Lynx Zone		
				(hp)	(kW)		Units	kCFM	m³/s	Units	kCFM	m³/s
LHD	Sandvik	LH515i	Tier 4 Engine Volvo TAD1171 VE	355	265	80	4	40	19	7	70	33
Truck	Sandvik	TH551i	Tier 4 Engine Volvo TAD1662 VE	690	515	80	7	128	60	7	128	60
Jumbo	Sandvik	DD422	Tier 4 Engine Cummins QSB 4.5	163	122	25	3	3	2	5	6	3
Prod. drill	Sandvik	DL432i	Tier 4 Engine Cummins QSB 4.5	163	122	25	2	2	1	2	2	1
Bolter	Sandvik	DS411	Tier 4 Engine Deutz TC4 4.1 L04	147	115	25	4	6	3	5	7	3
Bolter	Maclean	TAD572	Tier 4 Engine Volvo TAD 572	214	160	25	1	1	1	1	1	1
Emulsion Charger	Maclean	EC3	Tier 4 Engine Volvo TAD 570	141	105	50	2	2	1	3	3	1
Scissor Lift	Maclean	SL3	Tier 4 Engine Volvo TAD 570	141	105	50	3	3	1	4	4	2
Water Cannon	Maclean	WC3	Tier 4 Engine Volvo TAD 570	141	105	50	1	1	1	1	1	1
Boomtruck	Maclean	BT3	Tier 4 Engine Volvo TAD 572	214	160	50	3	4	2	3	4	2
Personnel Carrier	Maclean	PC3	Tier 4 Engine Volvo TAD 572	214	160	50	3	4	2	3	4	2
CS3 With cassette	Maclean	CS3	Tier 4 Engine Volvo TAD 572	214	160	50	2	3	1	2	3	1
Fuel-Lube	Maclean	FL3	Tier 4 Engine Volvo TAD 572	214	160	50	2	3	1	2	3	1
Shotcrete sprayer	Maclean	SS3 Carrier	Tier 4 Engine Volvo TAD 572	147	110	50	2	3	1	1	1	1
Cement mobile unit	Maclean	SS3 Carrier	Tier 4 Engine Volvo	201	160	50	1	1	1	1	1	1
LR3 load reach truck	Maclean	LR3	Tier 4 Engine Volvo TAD 570	141	105	50	1	1	1	1	1	1
Grader	Caterpillar	UG20M	Tier 4 Engine Volvo TAD 572	214	160	50	2	3	1	2	3	1
Mine pickup	Landcruiser	1HZ	1HZ PCNA	127	95	50	8	29	14	8	29	14
Mine tractor	Kubota	L5740	V2403-M-T, Tier 4i with EGR	59	44	50	5	8	4	5	8	4
Mech Truck	Maclean	MT2	Tier 4 Engine Volvo TAD 572	214	160	50	2	3	1	2	3	1
Block Holder	Maclean	BH3	Tier 4 Engine Volvo TAD 570	141	105	50	1	1	1	1	1	1
Forklift	Caterpillar	P-6000	Caterpillar P-6000	61	45	50	1	4	2	1	4	2
Equipment Airflow Requirement								287	135		287	137
Leakage								52	25		52	25
Contingency								90	43		90	43
Total Airflow Requirement								429	203		429	203
Total Mine Airflow Required											**788**	**372**

Two primary fans are proposed to be installed at the surface extents of the Main and Lynx exhaust raises to pull exhaust air out of the mine, with 360 kCM and 430 kCM exhausted from the Main and Lynx, respectively, for a total of 790 kCFM to the mine, with several booster fans installed to assist with maintaining adequate airflow throughout the mine. Short raises near the portal entrances will be utilized to provide heated air throughout the ramp during the winter months. The proposed fan installations are illustrated in Figure 16-18 and summarized in Table 16-20 and Table 16-21.

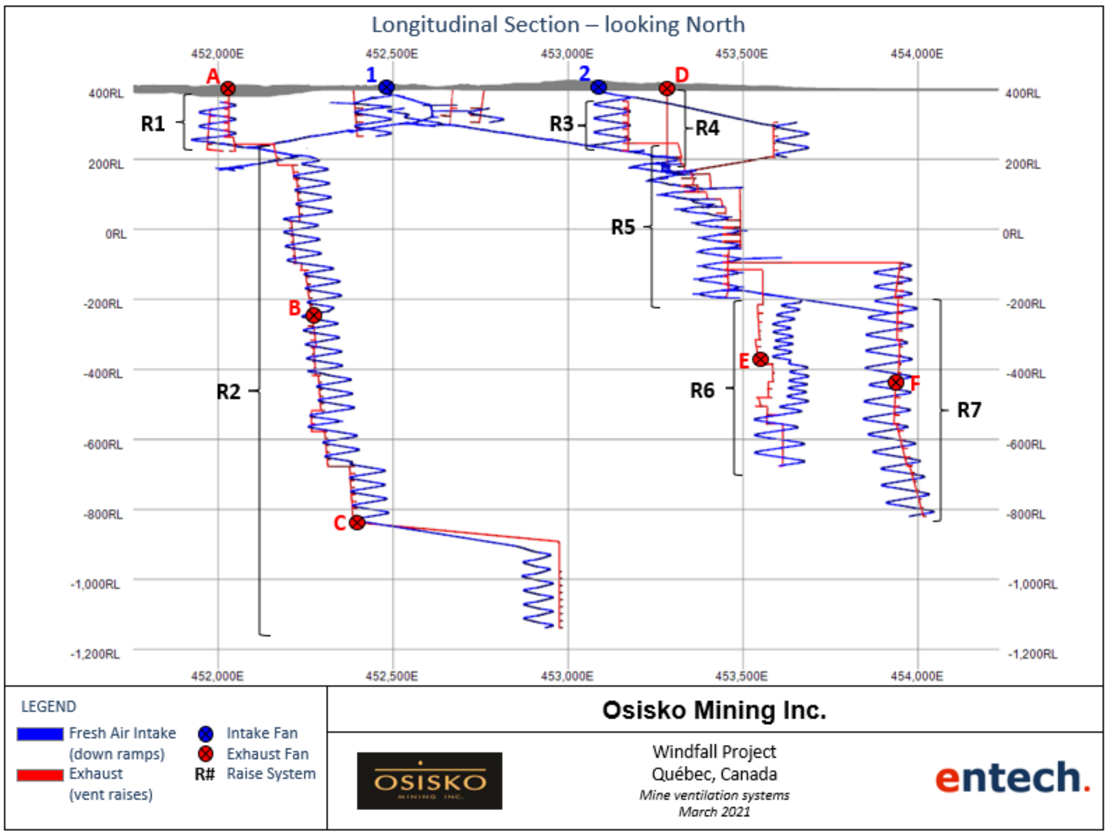


Figure 16-18: Primary mine ventilation system

Table 16-20: Primary ventilation fan summary

Figure label	Name	Fan size	Q value (m^3/s)	Ps value (kPa)	Description
Exhaust Fans					
A	Main Zone Exhaust Fan	600 hp	60-170	0.32-2.55	2 fans in parallel
B	Main Exhaust Booster Fan #1	600 hp	150	1.22	single fan in bulkhead
C	Main Exhaust Booster Fan #2	500 hp	150	0.87	single fan in bulkhead
D	Lynx Zone Exhaust Fan	700 hp	100-203	0.8-3.3	2 fans in parallel
E	East Lynx Booster Fan	350 hp	100	1.03	single fan in bulkhead
F	West Lynx Booster Fan	350 hp	100	1.03	single fan in bulkhead
Intake Fans					
1	Main Portal Intake Fan	150 hp	173	0.3	2 fans in parallel
2	Lynx Portal Intake Fan	125 hp	66	0.3	single fan

Table 16-21: Ventilation raise summary

From figure	Elevation	Diameter (m)	K value (kg/m^3)	Comment
R1	surface to 280RL	6	0.071	Emergency escapeway
R2	280RL to bottom	5	0.005	
R3	360RL to 220RL	4	0.005	
R4	surface to 155RL	6	0.071	Existing; Emergency escapeway
R5	280RL to -200RL	6	0.005	
R6	-200RL to bottom	4	0.005	
R7	-200RL to bottom	4	0.005	

16.9.9.2 Auxiliary Ventilation

Where headings are outside of the primary ventilation circuit, auxiliary fans are required to push the air to the working headings. Auxiliary ventilation fans of 100 hp will be in flow-through airflow on each level access with rigid, low-resistance, low-leakage ducting delivering approximately 12.5–22 kCFM (6–10 m^3/s) to each working heading. Where appropriate, different fan sizes and airflow requirements may be required.

16.9.10 Secondary Means of Egress and Refuge Chambers

The Windfall Project mine design includes the installation of refuge stations in compliance with the Québec Regulation Respecting Occupational Health and Safety in Mines. The mine also has an emergency escapeway raise system to surface equipped with ladders and is planned to be accessible from every level.

16.10 Underground Mine Equipment

To minimize fleet complexity, 15 t capacity LHDs have been selected for all mucking and loading activities. Production LHDs will utilize temporary re-mucks when required to maximize stope extraction and minimize stope cycle times. Dedicated haulage LHDs will be used to load the 51 t trucks at the level access and ramp stockpiles.

The working schedule for the production and development crews is two shifts per day, at 12 h/shift, 365 d/year. A utilization of 85% was assumed for all major equipment.

Productive working time was calculated using assumed delays, as can be seen in Table 16-22.

Table 16-22: Productive working time calculation

Item	Unit	Rate
Shifts Per Day	#	2
Shift Length	hour	12
Productivity Weighting	min/hour	60
Handover	min	15
Pre-shift Meeting	min	20
Travel To	min	30
Lunch Break	min	30
Misc. time (setup, tramming, etc.)	min	30
Travel From	min	30
Firing Time	min	30
Inactive Time Per Shift	min	185
Available Time Per Shift	min	720
Productive Time Per Shift	min	535
Productive Time Per Day	**min**	**1,070**

16.10.1 Mine Equipment List

Development activities up to the production start date of late-2024 will be completed by a contractor using contractor equipment, with the purchase of new equipment for company use occurring ahead of the production date. A total of 65 units of mobile equipment will be required for the Project as listed in Table 16-23.

Table 16-23: Mining equipment

Mining Equipment	Make and Model	2024-2042 Max units
Production / Development Equipment		
Jumbo (2 boom)	Sandvik DD422i	5
Bolter	Sandvik DS411	5
Cable Bolter	Maclean Omnia 975	1
Emulsion Charger	Maclean EC3	3
LHD 15 t	Sandvik LG515i	8
Truck 51 t	Sandvik TH551i	8
Production Drill	Sandvik DL432i	3
Scissor Lift	Maclean SL3	4
Service Equipment		
Block Holer	Maclean BH3	1
Boom Truck	Maclean BT3	3
Forklift	Caterpillar P-6000	1
Fuel and Lube Truck	Maclean CS-3	2
Grader (M-120)	Caterpillar M-120	1
Load Reach Truck	Maclean LR3	1
Light Vehicles	Toyota BTE-001 1500	6
Mechanical Service Truck	Maclean MT2	2
Mine Rescue	Toyota BTE-808	1
Personnel Carrier	Maclean PC3	3
Survey Truck	Toyota BTE 2000	1
Tractors	Kubota L6060 HST	5
Water Truck	Maclean WC3	1

16.11 Mine Personnel

The Windfall Project will operate seven days per week, with 12-hour shifts day and night, 365 days per year. Table 16-24 lists the personnel requirements for the underground operation. Note that not all positions work night shifts.

Table 16-24: Underground personnel requirements

Personnel	2024-2042
	Max Headcount
Mine Operations	
Jumbo Operator	20
Bolter Operator	20
Production Drill Operator	12
Blaster	20
LHD Operator	32
Truck Operator	32
Services Miner	24
Contractors	38
Services	
General Services Miner	16
Construction	12
Grader Operator	4
Maintenance	
Mobile Mechanics	34
Fixed Maintenance Mechanics	6
Fuel & Lube Attendant	8
Automation/Communication Specialist	2
Electricians	8

Personnel	2024-2042
	Max Headcount
Administration	
Mine Superintendent	1
Mine Assistant Superintendent	1
Mine Captain	2
Mine Supervisors	12
Maintenance Superintendent	1
Maintenance General Foreman	1
Maintenance Supervisor	4
Electrical Supervisor	2
Mechanical Supervisor	2
Mechanical/Electrical Planner Supervisor	2
Instrumentation Technician	2
Reliability Technician	2
Total	**320**

17. RECOVERY METHODS

The process plant design for the Project is based on a robust metallurgist flowsheet designed for optimum recovery with minimum operating costs. The flowsheet for the Windfall Project was established on the basis of laboratory-scale testwork, mainly performed at the SGS Québec and SGS Lakefield laboratories. The metallurgical testwork programs were carried out using composites prepared from drill core intervals representing both deposits. The testwork results are described in Chapter 13. The resulting flowsheet reflects the results of this initial testwork and forms the basis for the plant design and plant capital and operating costs development.

The process plant consists of primary crushing, followed by a grinding circuit consisting of a semi-autogenous ball mill (''SAG'') in close circuit with a pebble crusher and ball mill (in close circuit with cyclones – ("SABC") circuit). A gravity circuit, followed by intensive leaching, recovers coarse gold form the cyclone underflow, while the cyclone overflow is treated in a carbon-in–leach ("CIL") circuit. Gold and silver is recovered in an adsorption-desorption-recovery ("ADR") circuit, electrowinning ("EW") cells and gold room recover the gold and produce doré. The plant also includes a reagent preparation area and process and industrial water circuits to service the entire plant.

The process plant is followed by a tailings pond for the first year and by a tailings filtration plant with filter press to produce paste back to send underground or dry material for tailings dry stack storage.

A schematic process flow diagram of the process plant is presented in Figure 17-1.

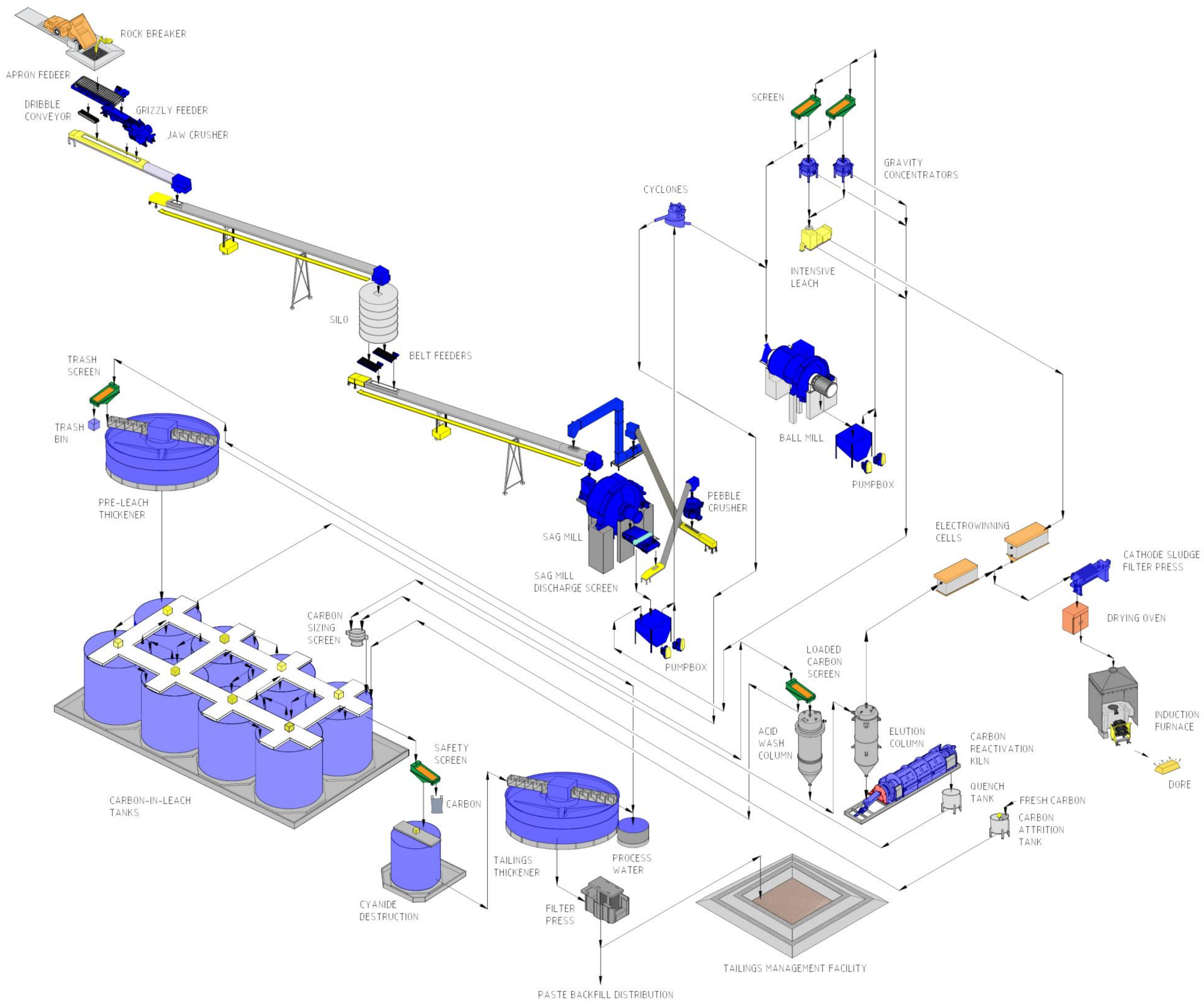


Figure 17-1: Simplified process flow diagram

17.1 Process Plant Design Criteria

The design criteria to determine the sizing of the equipment are based on a nominal process plant throughput capability of 3,000 tpd, with a 92% availability factor. With the design factor used, the maximal throughput is 3,600 tpd.

Table 17-1 presents an overview of the main design criteria parameters used. The values presented were derived from testwork data, benchmarked values, BBA's database or based on Osisko's requirements.

Table 17-1:Summary of key process design criteria

Description	Unit	Value
Plant throughput	tpd	3,000
Average Au feed grade	g/t	6.9
Average Ag feed grade	g/t	3.1
Crushing plant utilization	%	65
Process plant utilization	%	92
Au recovery by gravity circuit	%	38
Ag recovery by gravity circuit	%	15
Grind size to CIL, P_{80}	µm	37
CIL retention time	hr	24
Au recovery by CIL	%	56
Ag recovery by CIL	%	63
Carbon stripping, regeneration capacity	tpd	4
Overall recovery	-	-
▪ Au Recovery	%	94.9
▪ Ag recovery	%	78.3
Residual total cyanide concentration at plant discharge, (average/max)	mg/L	10/20
Final tailings slurry density target	% w/w	63

17.2 Process Plant Facilities Description

17.2.1 Crushing, Storage and Reclaim

Mineralized material transported from the underground mine will have a P_{80} of 350 mm. Each rear dump truck from Windfall Mine ramps will carry a total of 51 tonnes per load. A run-of mine ("ROM") stockpile close to the crushing plant will be primarily utilized for emergency storage. A static grizzly (400 mm), mounted above the ROM bin, and a rock breaker will be installed. Material is withdrawn from below by an apron feeder that feeds the vibrating grizzly where the oversize material is directed to an open circuit jaw crusher to further reduce the material to a P_{80} of 130 mm. The jaw crusher product and vibrating grizzly undersize are collected onto a conveyor belt feeding the crushed rock silo. The live silo capacity is 1,500 t, or 12 hours of nominal capacity. A layout is presented in Figure 17-2.

One belt feeder reclaims rock from the silo and transfers it onto the semi-autogenous grinding ("SAG") mill feed conveyor that will convey the crushed rock to the SAG mill feed chute. The SAG mill feed conveyor will be fitted with a weightometer.

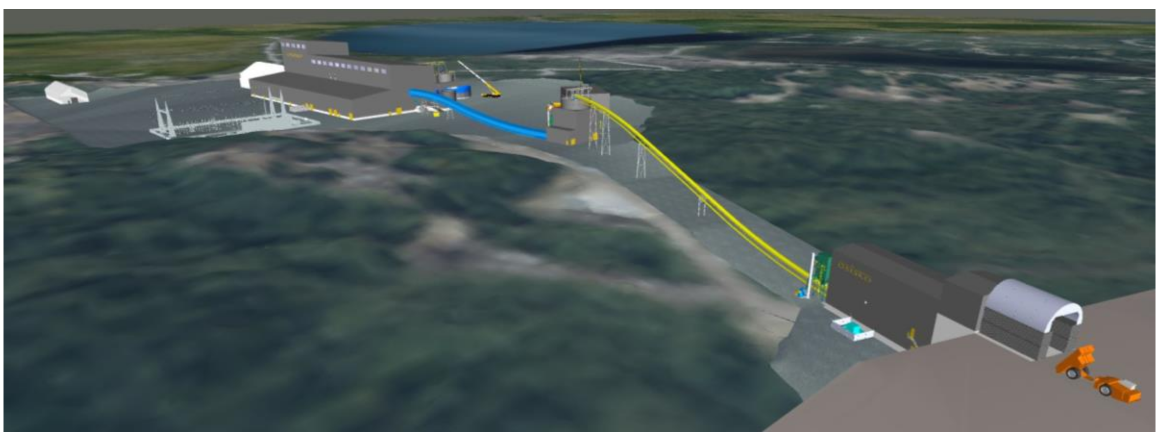


Figure 17-2: Process plant feeding circuit

17.2.2 Grinding Circuit and Gravity Recovery

The grinding circuit will be a SABC circuit, comprised of a single variable speed SAG and a single fixed speed ball mill. The SAG mill will operate in closed-circuit with a pebble crusher, followed by a ball mill, operated in closed-circuit with cyclones. The product particle size exiting the grinding circuit cyclone overflow will contain 80% passing 37 µm material. The SAG and ball mill area is serviced by overhead crane.

SAG Mill Circuit

The reclaimed crushed rock is conveyed to the SAG mill feed chute via the SAG mill feed conveyor. Water is added to the mill feed chute to control the in-mill pulp density and achieve a slurry density of 75% solids within the mill. A SAG mill size of Ø6.71 m x 3.66 m (Ø22' x 12') effective grinding length ("EGL") was selected with a total installed power of 2,700 kW to grind the rock from a F_{80} of 130 mm to a P_{80} of 1.1 mm. The SAG mill will be fitted with discharge grates.

The mill is operated with a charge of Ø125 mm steel balls.

The SAG mill product discharges to a single-deck vibrating screen. The oversize is conveyed to the pebble crusher and the undersize discharges into a pump box which then feeds the ball mill via a cyclone cluster. The crushed pebbles are recirculated to the SAG mill feed conveyor via a flexible conveyor. A layout of the SAG mill circuit is shown in Figure 17-3.

Oversize from the SAG mill discharge screen will be conveyed to the pebble crusher via two belt conveyors. A self-cleaning tramp metal magnet will be mounted above the pebble recycle conveyor. Downstream of the tramp metal, the pebble will pass under a metal detector, prior to discharging on a swing belt feeder.

Undersize from the SAG mill discharge screen will be pumped to the cyclone via a pump box. The cyclone cluster is fed via a variable-speed centrifugal pump connected on the cyclone feed pump box. Water is added to the cyclone feed pump box to control the slurry density.

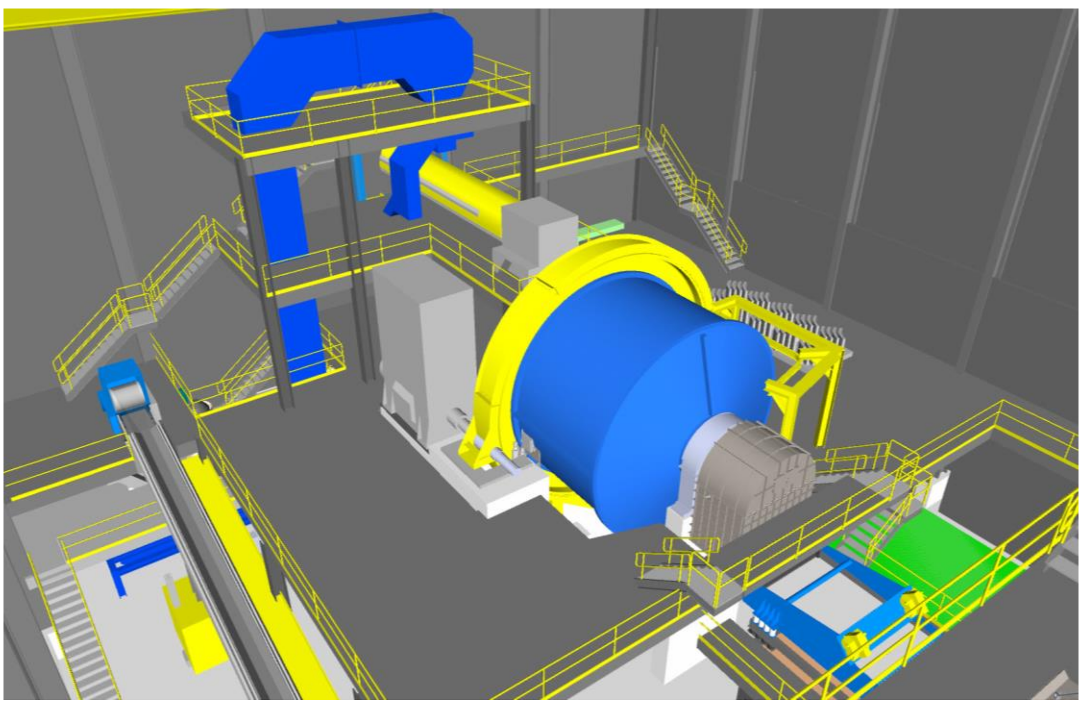


Figure 17-3: SAG mill circuit

Ball Mill Circuit

A ball mill, Ø45.03 m x 7.47 m (Ø17' x 25') EGL, fitted with a trommel screen, was selected for secondary grinding. The total installed power is 3,900 kW. The ball mill will be operated in closed-circuit with a cluster of hydrocyclones producing an average product P_{80} of 37 µm. This product will feed the pre-leach thickener, with a pulp density of 30% (w/w) solids.

The ball mill will be charged to 34% of its volume with Ø50 mm steel balls. The ball mill is fitted with a trommel screen and discharges into a pump box which then feeds the gravity concentrators via the gravity concentrator screens.

The cyclone overflow is sent to the vibrating trash screen ahead of the pre-leach thickener and the CIL circuit, while the oversize material in the underflow is returned to the ball mill for further grinding. A layout of the ball mill circuit is shown in Figure 17-4.

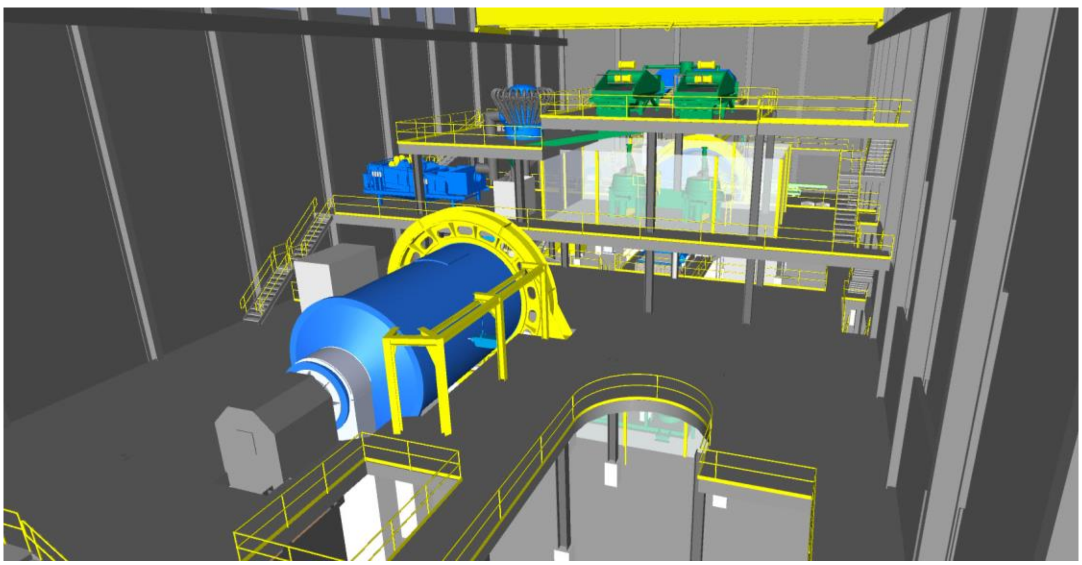


Figure 17-4: Ball mill circuit

Gravity Circuit

The gravity circuit feed pump box at the ball mill trommel undersize will feed two gravity scalping screens via a split box. The coarse material from the scalping screen will return directly at the ball mill feed. The undersized material from the screens will feed two gravity concentrators, arranged in parallel. The gold concentrate from both gravity concentrators will feed an intensive leaching reactor ("ILR") operating by batch, one batch per day. The gravity concentrator tails will return to the cyclone feed pump box.

The pregnant leach solution from the ILR will be pumped to a dedicated electrowinning cell via a pregnant solution tank located in the gold room. A sampler will be installed on the pregnant leach solution line. The ILR tailings will be returned to the cyclone feed pump box via a pump.

17.2.3 Carbon-in-Leach

Pre-leach Thickening

Prior to leaching, the ground slurry received from the cyclone overflow will pass through a trash screen before feeding the pre-leach thickener feed box. Underflow from the pre-leach thickener at 50% (w/w) will be pumped to the CIL circuit feed distribution box. Based on dynamic settling test results, a Ø23 m thickener was selected. The thickener overflow water is sent to the process water tank.

CIL

The pre-leach thickener underflow slurry will be pumped to the CIL feed distribution box. The slurry from the CIL leach feed distribution box will gravitate to the first CIL tank.

The CIL circuit will consist of a bank of eight agitated CIL tanks, each 11 m in diameter, mechanically agitated operating in series. Lime is added to the tanks to maintain a pH of approximately 11 and sodium cyanide is also added to leach gold along with process air sparged through the agitators. Slurry travels through the CIL circuit via inter-stage pumping screens, while gold-loaded carbon is pumped counter-current to the slurry flow by carbon transfer pumps to the previous CIL tank and finally to the loaded carbon screen. Gold-loaded carbon is extracted from the first tank, screened and washed to remove the slurry solids. The clean carbon then feeds the ADR circuit by gravity. The undersize material from the screen (mineral slurry) flows by gravity back to the first CIL tank.

Once passed through the CIL circuit, the slurry flows by gravity to a carbon safety screen. The undersize material discharges into a pump box which feeds the cyanide destruction ("CND") tank.

A layout presenting the CIL circuit, CND tank and thickeners is shown in Figure 17-5.

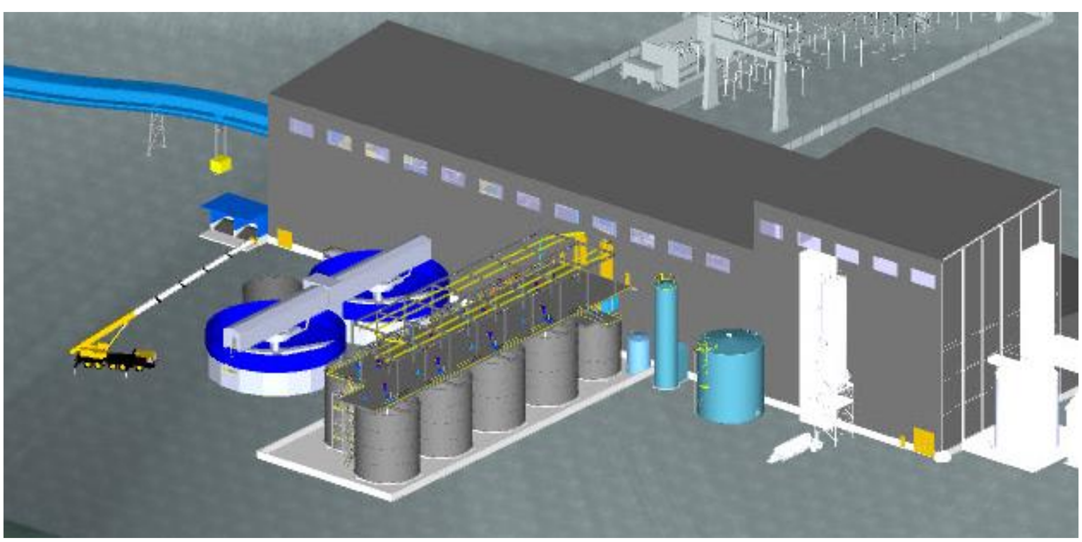


Figure 17-5: Pre-leach thickener, CIL circuit, CND tank and tailings thickener

17.2.4 Adsorption, Desorption and Recovery Circuit

The gold recovery circuits are based on the processing of 4 tpd of loaded carbon with a high pressure Zadra process

Carbon Elution

Loaded carbon from the CIL circuits is transferred intermittently into the 4 t capacity acid wash vessel. Carbon transport water drains from the acid wash vessel and returns to the carbon water tank.

A batch of 3% (w/w) hydrochloric acid cold solution is prepared in the dilute acid wash tank by transferring concentrated acid (32%) and fresh water. The acid wash sequence will involve the injection of the dilute acid solution into the column, by the Hydrochloric Acid Dosing Pump, via the feed manifold located beneath the column. Once the required amount of acid has been added to the column, the Hydrochloric Acid Dosing Pump will be stopped, and the carbon will be allowed to soak for a period of one hour.

Upon completion of the acid soak, the acid rinse cycle will be initiated by pumping water through the column, to displace the spent acid solution to the tailings thickener. Acid rinse water will be sourced from the Transfer Water Tank and pumped through the column by the Transfer Water Pump. During the rinse cycle, water will be pumped through the column. Part of the water will include a caustic injection, to neutralize the acid waste, whilst the other is fresh water rinse only. Acid waste and displaced solution from both the acid rinse and wash steps will pass through the Acid Wash Discharge Strainer before discharging to the Tails Thickener Feed Box.

The sequence will conclude with carbon being hydraulically transferred to the Elution Column. Water, for carbon transfer between the acid wash and elution columns, will be supplied from the Transfer Water Tank via the Transfer Water Pump.

Carbon elution, or stripping, is initiated when a barren strip solution of 1% NaOH and 0.5% NaCN circulates through the elution column at a flow rate of two bed volumes per hour for 8 hours at an elevated temperature and pressure. The solution exits the elution column as pregnant solution (e.g. loaded strip solution). The recirculated strip solution flows from the barren tank through a heat exchanger before entering the stripping vessel. Final heating of barren solution is achieved using another heat exchanger, where the strip solution is contacted with hot water from propane powered boilers, to reach the nominal strip solution temperature of 135°C. A pressure control valve on the pregnant solution line maintains the column at a nominal pressure of 650 kPa to ensure that the strip solution does not boil. All, or part, of the elution solution can be discarded on a routine basis to prevent build up of contaminants.

After a carbon strip is complete, transport water flows to the elution column and a pump transfers the carbon to a dewatering screen. The undersize fraction from the carbon dewatering screen reports to the carbon water tank and the oversize reports to the carbon regeneration kiln feed bin.

Carbon Regeneration and Fines Handling

A propane powered carbon regeneration kiln reactivates the stripped carbon. The regeneration kiln operates at a nominal temperature of 700-800°C to reactivate the carbon activity close to its original level.

The kiln discharge reports to the carbon quench tank.

New carbon enters through a carbon attrition tank. Carbon fines overflow from the tank and report to the carbon water tank. New carbon and regenerated carbon pass through a sizing screen. Undersize carbon reports to the carbon water tank while the oversize is pumped to the CIL circuit.

Settled carbon from the carbon water tank will be transferred to a plate-and-frame filter press for dewatering. The filter press cake is bagged in tote bags and transported off-site once sufficient inventory has built up. The fines are sold to a third party for recovery of the metal values contained in the carbon. The carbon fines filter press filtrate returns to the carbon water tank.

Electrowinning and Gold Casting

Two electrowinning cells recover gold and silver from the pregnant strip solution. The solution exiting the cells reports to the EW cell discharge pump box and is pumped to the barren stripping solution tank. A separate dedicated EW cell treats the intensive cyanidation pregnant solution. Each EW cell is equipped with a rectifier.

A third electrowinning cell will be dedicated to the ILR pregnant solution. Pregnant eluate from the intensive cyanidation reactor will be stored within a dedicated ILR Pregnant Eluate Tank. Once sufficient pregnant eluate is available, within the ILR Pregnant Eluate Tank, the electrowinning sequence will be initiated by starting the ICR Electrowinning Feed Pump. The flow of pregnant eluate to the dedicated ILR electrowinning cell will be manually controlled to sustain the desired linear velocity. During the electrowinning cycle, the electrowinning cell discharge will be continuously returned to the ILR Pregnant Eluate Tank, via gravity.

The EW cells are fitted with stainless steel anodes and stainless steel basketless cathodes. A cleaning system, using high-pressure water, washes the gold-bearing sludge from the cathodes. A filter press removes excess moisture from the separated gold sludge. Following filtration, the precious metal sludge is dried in an oven to remove all additional moisture in preparation for smelting.

The dry EW sludge is cooled and mixed with fluxes before being fed to the induction smelting furnace. The gold and silver doré is poured from the furnace into a cascade of moulds. The refining area and gold room are secure areas.

17.2.5 Cyanide Destruction Circuit and Tailings Treatment

Cyanide Destruction

Slurry from the CIL circuit will go to a carbon safety screen via the carbon safety screen feed box. The safety screen oversize will report to a fine carbon bin while the undersize will gravitate to the cyanide destruction feed box. A sampler, installed on the carbon safety screen feed, will periodically collect a sample of the adsorption tail stream.

A CND circuit treats the CIL residue slurry at 50% (w/w) solids. Cyanide destruction is completed using the SO_2/Air process.

The CND process occurs in a tank, providing a retention time of 2 hours. A sodium meta-bisulphite solution is added to the tank as a source of SO_2 and process air is injected through cone spargers located at the bottom of tank to oxidize the cyanide species present. If required, copper sulphate will be added. Hydrated lime addition controls the pH in the tank. An agitator ensures adequate mixing and gas dispersion.

The treated tails are subsequently pumped to the tailings thickener.

Tailings Thickening

The detoxified slurry is pumped to the Ø23 m tailings thickener to be thickened to 63% (w/w). The tailings thickener overflow water is combined with the pre-leach thickener overflow in the process water tank. The thickened tails will then be pumped to the tailings management facility ("TMF") during the first year of operation and to the filtration plant during subsequent years.

17.3 Tailings Filtration Plant Design Criteria

The tailings filtration plant receives process plant tailings, which are produced at a nominal throughput of 136 tph (3,000 tpd at 92% availability). The tailings filtration plant design includes a 20% design factor, allowing the plant to process up to 163 tph of mill tailings.

Based on mine backfill requirements, filtered tailings are planned to be directed to the paste production circuit 60% of the time and to dry stacking 40% of the time.

A summary of the key design criteria is presented in the table below.

Table 17-2: Tailings filtration plant design criteria

Description	Unit	Value
Tailings production rate - nominal	tpd	3,000
Tailings filtration plant design factor	%	20
Tailings filtration plant production rate - design	tph	163
Paste production time (vs. total)	%	60
Dry stacking time (vs. total)	%	40
Paste characteristics	-	-
▪ Paste solid content	%	68.5
▪ Paste binder content	%	3.7
▪ Paste binder	-	Cement
Dry stack characteristics	-	-
▪ Dry stack solid content	%	85

17.4 Tailings Filtration Plant Process Description

17.4.1 Summary

The tailings filtration plant is located in an annex to the process plant building and is equipped with three filter presses that process all the process plant's tailings. Two are in operation to meet to plant's required capacity while one is on stand-by. After filtration, the filtered tailings are directed to either the paste production circuit or to the dry stack storage facility. Proximity to the process plant allows the sharing of services such as process, industrial and fresh water.

17.4.2 Filtration

The thickened process plant tailings slurry is pumped to an agitated filter feed tank. The filtre feed tank is sized to provide a 5-hour residence time to manage fluctuating flows and brief stoppages. The tailings have a solid content of 63% with a D_{80} of 37 microns. Three slurry pumps (one per filter) are installed to feed the filter presses.

Two operating filter presses (third press is on stand-by) are used to increase the slurry density to 85%. Filter cakes from the presses are then discharged onto the reversible belt conveyors where they will be sent either for dry stacking or for paste mixing. Industrial water from the process plant provides core and cloth wash water for the filter press wash cycle. The filtrate, core and cloth wash water from all three filters are collected into a common agitated filtrate tank, which has a 30-minute storage capacity. As they contain solids, they are pumped back to the process plant's tailings thickener.

The filtration strategy consists of a batch process in a sequential manner where one filter is in operation at a time. This is to optimize tank volumes around the filtration process and reduce peaks in filter wash water volume.

One drying air compressor, one pressing air compressor and their designated air receivers service the three filter presses.

17.4.3 Paste Production

For paste mixing, the filter cakes are sent from the reversible belt conveyors onto a series of conveyors and an apron feeder to continuously feed a twin shaft paste mixer with a minimum retention time of 2.5 minutes. Cement slurry and process water are continuously added into the paste mixer to prepare the desired recipe. The cement content in the paste is 3.7%, with an overall paste percent solid of 68.5%.

Cement is stored in a silo adjacent to the tailings filtration plant and has a 48-hour retention time. The cement is discharged from the bottom of the silo by a screw feeder which then discharges onto a weighing belt conveyor. The weighing belt conveyor controls the cement addition rate to a mixing tank where it is mixed with process water to achieve a slurry of 25% solids.

The paste mixer discharges through a paste hopper into a hydraulic piston paste pump to distribute paste to the underground piping network. The paste mixer is equipped with a high-pressure wash system which uses fresh water from the process plant. The piping network is then purged with process water from the process plant.

17.4.4 Dry Stacking

For dry stacking, the filter cakes are sent from the reversible belt conveyors to the dry stack conveyor where it is then sent to the dry stack storage facility, which has a capacity of 14 h and approximately 1,300 m^3. Trucks then transport the material to the TMF.

17.4.5 Simplified Flowsheet

Figure 17-6 presents a simplified flowsheet of the tailings filtration plant.

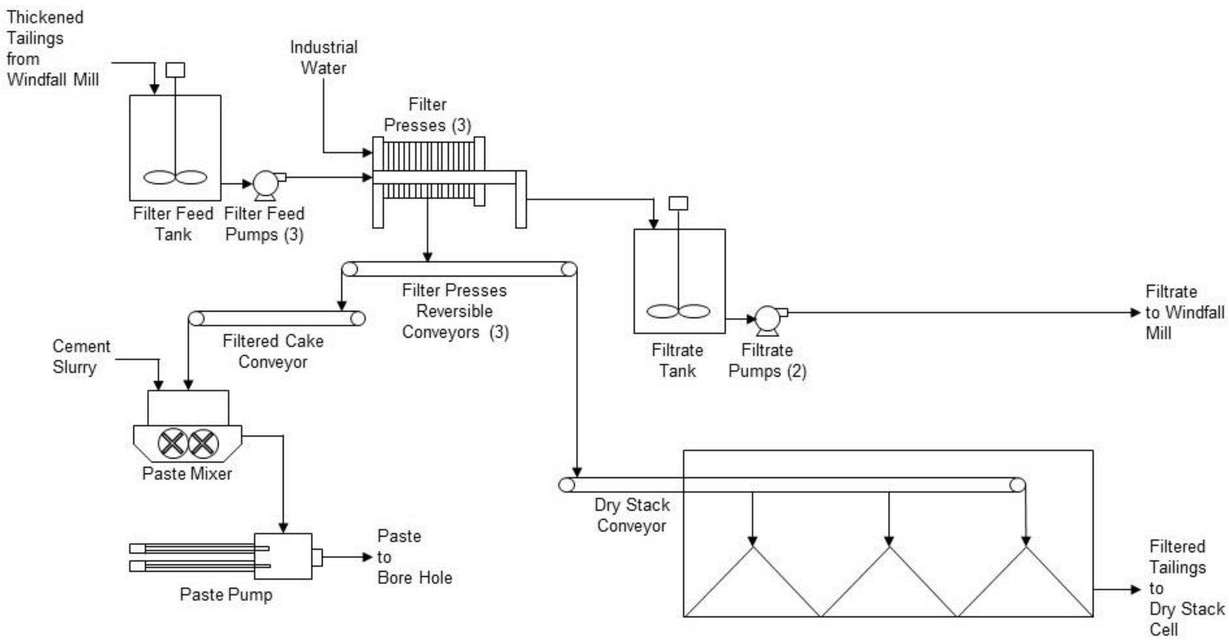


Figure 17-6: Tailings filtration plant simplified flowsheet

17.4.6 Reagent Systems

A summary of the reagents required in the process plant is presented in Table 17-3, along with the expected form of supply and mixing requirements.

Table 17-3: Reagent mixing systems

Reagent	Delivery	Preparation
Quick lime (“CaO”)	Trucks – solid	Lime slaking system, water addition
Sodium cyanide (“NaCN”)	Tankers – liquid	No preparation required
Hydrochloric acid (“HCl”)	Totes – liquid	Mixing tank, water addition
Sodium hydroxide (“NaOH”)	Tanker – liquid	No preparation required
Flocculant	Bags – solid	Eductor, mixing tank, water addition to in-line mixer
Sodium meta-bisulphite (“$Na_2S_2O_5$”)	Super sacks – solid	Mixing tank, water addition
Copper sulphate (“$CuSO_4.5H_2O$”)	Super sacks – solid	Mixing tank, water addition
Anti-scalant	Tote – liquid	No preparation required
Leach Aid (“ILR”)	Bucket – solid	No preparation required
Fluxes	Bags – solid	No preparation required
Cement	Trucks – solids	No preparation required

Receiving tanks are provided for liquid sodium cyanide and sodium hydroxide and are sized to hold approximately the capacity of one delivery tanker plus 2 days and 1 week of consumption respectively. For solid reagents, an agitated mixing tank is provided with batch controllers used to mix to the required reagent concentration. The mixing tank is typically sized so that no more than one batch per day is required to be prepared.

The liquid reagent tanks are contained in bermed areas of sufficient volume to handle the full volume in case of a vessel failure. Non-compatible reagents will have individual bunded areas.

The reagents are distributed throughout the plant via metering pumps or, in the case of lime and cyanide, pumps feeding a pressurized distribution loop. All pumps are provided in pairs, one operating and one stand-by.

17.5 Energy, Water and Consumable Requirements

17.5.1 Energy Requirements

The electrical energy requirements for the process plant were derived from the equipment list in which expected motor sizes for all equipment and ancillaries have been provided. Each motorized item of equipment was assigned utilization, efficiency, and load factors to derive the data presented in Table 17-4. Crushing and material handling loads are included in “other”.

Table 17-4: Process plant power demand by area

Area	Connected load (kW)	Load factor	Utilization	Yearly consumption (GWh)
SAG mill	2,700	85%	92%	20.0
Ball mill	3,900	82%	92%	27.9
Process - other	2,750	80%	92%	19.3
Total	**9,350**	**-**	**-**	**67.2**

Network losses of 2.5% were accounted for in the total.

In addition to electricity, a natural gas consumption of 0.76 million litres per year (“MLpy”) is required to cover the needs for heating the carbon stripping solution, as well as for the carbon regeneration kiln. Another 3.4 MLpy is pegged for building air exchange heating.

17.5.2 Water Requirements

The water requirements for the plant are divided into three main areas, fresh water, industrial water and process water.

The process plant fresh water demand is assumed to be extracted from the groundwater inflows and is used in the following areas:

- Carbon elution (acid wash, strip solution make-up, EW solution cooling);
- Reagent preparation.

The fresh water requirement for the process plant was estimated at approximately 200 m^3/d.

The industrial water is a combination of excess process water and water collected at the tailings pond and is used in the following areas:

- Gravity circuit;
- Intensive leach reactor;
- Filter wash water;
- Gland seal water;
- Paste mixer.

Process water is used throughout the plant and is a combination of the pre-leach thickener and tailings thickener overflows.

17.5.3 Consumable Requirements

The main consumables for the process plant include the grinding media and liners for the SAG and ball mills, as well as the reagents used in the CIL, gold recovery and CDN circuits.

The grinding media consumption for the SAG and ball mills was estimated using benchmarking data for similar projects and adjusted using power calculations (Bond equation or Moly-Cop tools software). The average media consumption for both grinding applications is presented in Table 17-5.

Table 17-5: Estimated grinding media consumption

Area	Type	Size (mm)	Consumption (tpy)
SAG mill	Forged steel	125	871
Ball mill	Forged steel	50	1,560

The crushers (Jaw Crusher and Pebble), SAG and ball mills liner replacement schedules were based on vendor recommendations and BBA's database.

The average reagent consumptions and addition points are outlined in Table 17-6.

Table 17-6: Reagents – Application and consumption

Area	Use	Consumption (tpy)
Quick lime (“CaO”)	pH modifier	2,936
Sodium cyanide (“NaCN”)	Gold lixiviant, gold eluant	979
Activated carbon	Adsorption of gold	49
Hydrochloric acid (“HCl”)	Carbon wash	423
Sodium hydroxide (“NaOH”)	Carbon stripping/washing	236
Flocculant	Flocculation of solids in thickeners	90
Sodium metabisulphite (“SMBS”)	Cyanide destruction	951
Copper sulphate (“$CuSO_4.5H_2O$”)	Cyanide destruction reaction catalyst	-
Leach aid	Improving leach efficiency	4
Refining fluxes	Gold room	5
Anti-scalant	Scale control	19
Cement	Binders for Paste	28,500

17.6 Process Plant Personnel

A total of 64 workers are required in the process plant, including 24 salaried staff and 40 hourly workers. Table 17-7 and Table 17-8 present the salaried and the hourly manpower requirements, respectively, for the process plant.

Table 17-7: Process plant salaried personnel

Position	No. of employees
Process plant production superintendent	1
Process plant maintenance superintendent	1
Planner	2
Mechanical foreman	2
Electrical engineer and foreman	2
Instrumentation technician	4
Automation technician	2
Metallurgist	2
Metallurgical technician	4
Lab Analyst	2
Lab Technician	2
Total	**24**

Table 17-8: Process plant hourly personnel

Position	No. of employees
Crushing and grinding	4
General labourer	6
CIL-Elution operator	4
Control room operator	4
Loader operator	2
Lab operator	4
Industrial mechanic	12
Electrician	4
Total	**40**

17.7 Plant Control System

The following provides a broad overview of the control strategy that will be employed for the plant.

The general control philosophy for the plant will be one with a high level of automation and remote control facilities, to allow process critical functions to be carried out with minimal operator intervention. Instrumentation will be provided within the plant to measure and control key process parameters.

The main control room, located in the Site Office, will house two PC-based operator interface terminals ("OIT") and a single server. These workstations will act as the control system supervisory control and data acquisition ("SCADA") terminals. The control room is intended to provide a central area from where the plant is operated and monitored and from which the regulatory control loops can be monitored and adjusted. All key process and maintenance parameters will be available for trending and alarming on the process control system ("PCS").

Two additional OITs will be provided for data logging and engineering / programming functions.

A field touch panel will be installed in the feed preparation area to allow local operator control of the crushing plant to facilitate ease of operation for rock breaking and jaw crusher. A second field touch panel will be installed in the elution area to allow local operator control of the elution sequence. A third field touch panel will be supplied for the milling and gravity circuit area. A fourth field touch panel will be supplied for the filtration and paste backfill plant.

The process control system that will be used for the plant will be a programmable logic controller ("PLC") and SCADA based system. The PCS will control the process interlocks and the proportional–integral–derivative ("PID") control loops for non-packaged equipment. Control loop set-point changes for non-packaged equipment will be made at the OIT.

In general, the plant process drives will report their ready, run and start pushbutton status to the PCS and will be displayed on the OIT. Local control stations will be located in the field in proximity to the relevant drives. These will, as a minimum, contain start and latch-off-stop ("LOS") pushbuttons, which will be hard-wired to the drive starter. Plant drives will predominantly be started by the control room operator, after inspection of equipment by an operator in the field.

The OITs will allow drives to be selected to Auto, Local, Remote, Maintenance or Out-of-Service modes via the drive control popup. Statutory interlocks such as emergency stops and thermal protection will be hardwired and will apply in all modes of operation. All PLC generated process interlocks will apply in Auto, Local and Remote modes. Process interlocks will be disabled or bypassed in Maintenance mode with the exception of critical interlocks such as lubrication systems on the mill.

Local selection will allow each drive to be operated by the operator in the field via the local start pushbutton which is connected to a PLC input. Remote selection will allow the equipment to be started from the control room via the drive control popup. Maintenance selection will allow each drive to be operated by maintenance personnel in the field via the local start pushbutton, which is connected to a PLC input. A PLC output will be wired to each drive starter circuit for starting and stopping drives. Status indication of process interlocks, as well as the selected mode of operation, will be displayed on the OIT.

Vendor-supplied packages will use vendor standard control systems as required throughout the Project. Vendor packages will generally be operated locally with limited control or set-point changes from the PCS system. General equipment fault alarms from each vendor package will be monitored by the PCS system and displayed on the OIT. Fault diagnostics and troubleshooting of vendor packages will be performed locally.

The use of actuated isolation or control valves will be implemented around the plant for automatic control loops or sequencing as part of the plant control or the elution sequence. All actuated valves and control valves will be operated from the OITs with remote position indication available. Automatic control valves will be controlled by PID loops within the PCS.

The PCS will perform all digital and analogue control functions, including PID control, for all non-packaged plant. Faceplates on the PCS displays will facilitate the entry of set-points, readout of process variables ("PVs") and controlled variables ("CVs") and entry of the three PID parameters (Proportional, Integral and Derivative).

The majority of equipment interlocks will be software configurable. However, selected drives will be hard wired to provide the required level of personal safety protection, e.g. the emergency stop buttons associated with each and every motor and the pull wire switches associated with conveyors.

All alarm and trip circuits from field or local panel mounted contacts will be based on fail-safe activation. Alarm and trip contacts will open on abnormal or fault condition. If equipment shutdown occurs due to loss of main power supply, the equipment will return to a de-energized state and will not automatically restart upon restoration of power.

Sequential group starts and sequential group stops will not be incorporated for non-packaged plant equipment, with the exception of the elution circuit. However, in any process, critical safety and equipment protection interlocks will cause a cascade stop in the event of interlocked downstream equipment stopping (e.g. a trip of the SAG mill feed conveyor will result in a stop of the apron feeder). Standard vendor packages may include automatic sequence start / stop controls within the vendor package only.

17.8 Mine-to-Mill

Mine-to-mill integration will be implemented along with Integrated Planning and Scheduling to optimize the production value stream across the mine and process plant. The mine-to-mill value will be to control block sizes, particle size distribution, waste, grade and mineralized material traceability from mining face to processing plant. The overall value of mine-to-mill and traceability will be to manage variation, waste, and overburdening of people and equipment, within upper and lower limits, across the value stream. This will have an implied impact on energy and water balance optimization across the mine and the process plant.

18. PROJECT INFRASTRUCTURE

18.1 General

The Windfall Project is located 115 km east of Lebel-sur-Quévillon, in the Eeyou Istchee James Bay territory. An existing gravel road for lumber transport from Lebel-sur-Quévillon is already in use for site access. The Project location is shown in Figure 18-1.

Figure 18-1: Windfall Project location

The Windfall Project intends to maintain or upgrade the capacity of the following existing buildings and infrastructure:

- Windfall Site access road;
- Light structure, fabric covered domes;
- Camp complex including the dormitories, cafeteria, fitness room, community hall, reception, infirmary and luggage storage;
- Potable water and sewage system at camp area;
- Exploration portal (Main zone);
- Waste rock stockpile;
- Overburden stockpile;
- Diesel storage and distribution system;
- Propane storage and distribution system;
- Helipad;
- Telecommunication tower.

The Project will require new key infrastructure as follows:

- Process plant complex, including crushing line, offices, dry and warehouse;
- 94 km 120 kV overhead transmission line from Lebel-sur-Quévillon;
- 120 kV main substation;
- WAN fibre optic link to Lebel-sur-Quévillon as an OPGW on 120 kV power line;
- Hybrid secondary WAN link (fibre optic and microwave radio);
- Private LTE system for surface and underground mine;
- An additional telecommunication tower;
- Rental of an administration office at Lebel-sur-Quévillon;
- Integrated remote operation centre;
- Potable and sewage system for the mine area;
- Final effluent water treatment plant;
- Mineralized material stockpile;
- Surface water management facilities, including ditches, sumps, ponds, pumping stations and pipelines;
- Site and haulage roads;
- Tailings management facility;
- Underground Mine portal (Lynx zone)
- Ventilation systems (intake and exhaust);

- Main gatehouse and remote gatehouses (2);
- Surface truck shop;
- Production core shack.

Some existing buildings and infrastructure will be dismantled after completion of Project construction including:

- Exploration core shacks and saw rooms;
- Existing infirmary and quarantine modules;
- Dormitories 500 to 800;
- Modular final effluent water treatment;
- Diesel generator not reused for emergency backup.

18.2 Off-Site Infrastructure

18.2.1 Administration Office

The project envisions an administration office in Lebel-sur-Quévillon mostly for human resource and accounting personnel.

18.2.2 Integrated Remote Operations Centre

The Windfall Project will be operated from an Integrated Remote Operation Centre ("IROC"), whose geographical location is not yet identified. The IROC will act as centralized control room to operate the mine when required and the processing plant in an integrated process and allow operators to escalate issues. In addition, management offices, for dispatch, shifts, maintenance strategy and mine managers will be designed to facilitate collaboration at all levels. New job descriptions and processes will be developed to ensure a smooth transition.

A dedicated data management room will be part of the design. Data scientists will use real-time data to develop new AI and ML models (artificial intelligence and machine learning) to optimize further People, Process and Technology Philosophy from the IROC.

18.2.3 Power Line (120 kV Transmission Line)

Electricity will be supplied to the site at a voltage level of 120 kV via a new transmission line approximately 94 km long. This new line will mainly run through wooded and some wetland areas. Many roads or forest trails cross the routing and allow an easier access to the right-of-way ("ROW") for construction. The line will tie onto Hydro-Quebec's 120 kV existing transmission line near Lebel substation.

The preliminary line routing is shown on Figure 18-2.

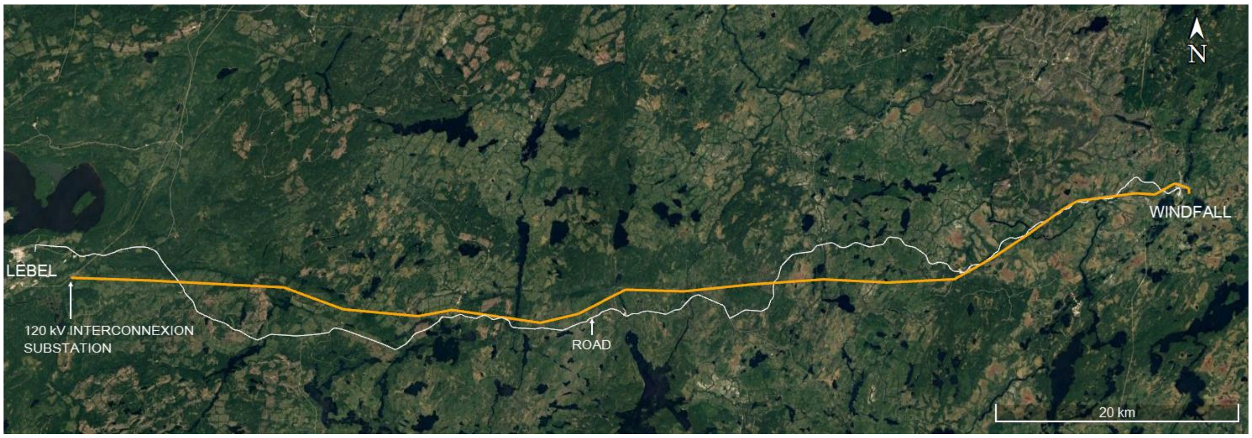


Figure 18-2: Proposed 120 kV transmission line

The new 120 kV overhead line is mostly composed of H-Frame wood portals with steel X-brace and crossarm. The average span considered is 185 m with an average pole height of 70'.

The main characteristics of the transmission line are presented in Table 18-1.

Table 18-1: Transmission line main characteristics

Description	Characteristics
Type	120 kV – single circuit
Length	94 km
Average span	185 m
Conductor	3 x ACSR 477 kcmil - HAWK
OPGW	12 mm / 48 fibers
OHGW	Galvanized steel 9.8 mm
Tangent Structure	Wooden H-frame
Angle and Dead-end Structure	Guyed wood portal
Average Pole Height	70'
Approximate number of Structures	Tangent: 470 Angle and dead-end: 40
Insulators	Ball and socket 120 kN
Typical Right-of-way	45 m

A section view of the typical right-of-way is presented at the following Figure 18-3.

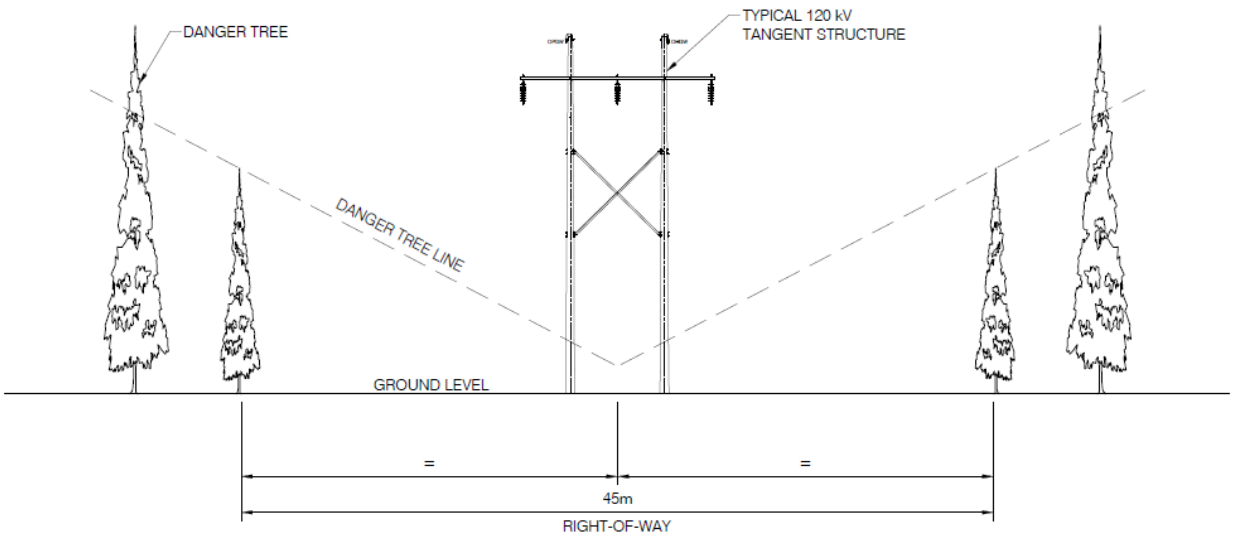


Figure 18-3: Typical ROW and structure configuration

18.2.4 Off-site Access Road

The Windfall mine site is currently accessible by way of a 115 km gravel road branching off the *Chemin du Moulin* road, southeast of Lebel-sur-Quévillon. Access is mostly via a Grade 1 forestry road (10 km R-1000, 55 km R-5000) and 47 km of Grade 2 forestry road (R-6000) (see Table 18-1). The Grade 1 road was built as a main road for hauling oversized commercial wood in the early 1990s and was eventually extended by a Grade 2 road to access new lands to develop wood exploitation in the area of the Windfall site.

A road inspection was conducted in September 2020 and a report entitled “2020-10-22 Lake Windfall Road Inspection” was issued. In summary, the report states that the roads are generally in good condition and do not require immediate major upgrades. The Wetetnagami River Bridge (R0853-03) is in good condition. The bridge capacity is 138 tons for long logging trucks. It is estimated that there are at least 300 culverts on the total length of the road.

Table 18-2: Windfall off-site access road details

Section	Description	Length (km)	Width (m)	Grade	Capacity (tonnes)	Details
1	R1050 (R-1000)	10.0	10.50	1	138	Grade 1 forestry road Good condition
2	R0853 (R-5000)	55.0	10.50	1	138	Major culverts at km 14 (R0853-01) Major culvert at km 47 (R0853-02) Bridge at km 65 (R0853-03) Good condition
3	R1053 (R-6000) / SE-6000.00	47.0	10.0	2	138	Grade 2 forestry road Good condition

18.3 Windfall Site Infrastructure

18.3.1 General

The Project benefits from an existing access road and infrastructure developed during the Exploration stage. Some of the infrastructure components will be improved or increased in capacity, but are always taken into account in the design of the new required infrastructure.

On site, there is an existing 300-person capacity lodging camp with kitchen and all related infrastructure for exploration drilling, ramp development for bulk sampling, waste rock storage, and effluent water treatment.

The Windfall Project site is currently divided into two main areas: the mining infrastructure area and the camp complex area. Both areas will have new and upgraded infrastructure and are separated by approximately 1 km of existing road.

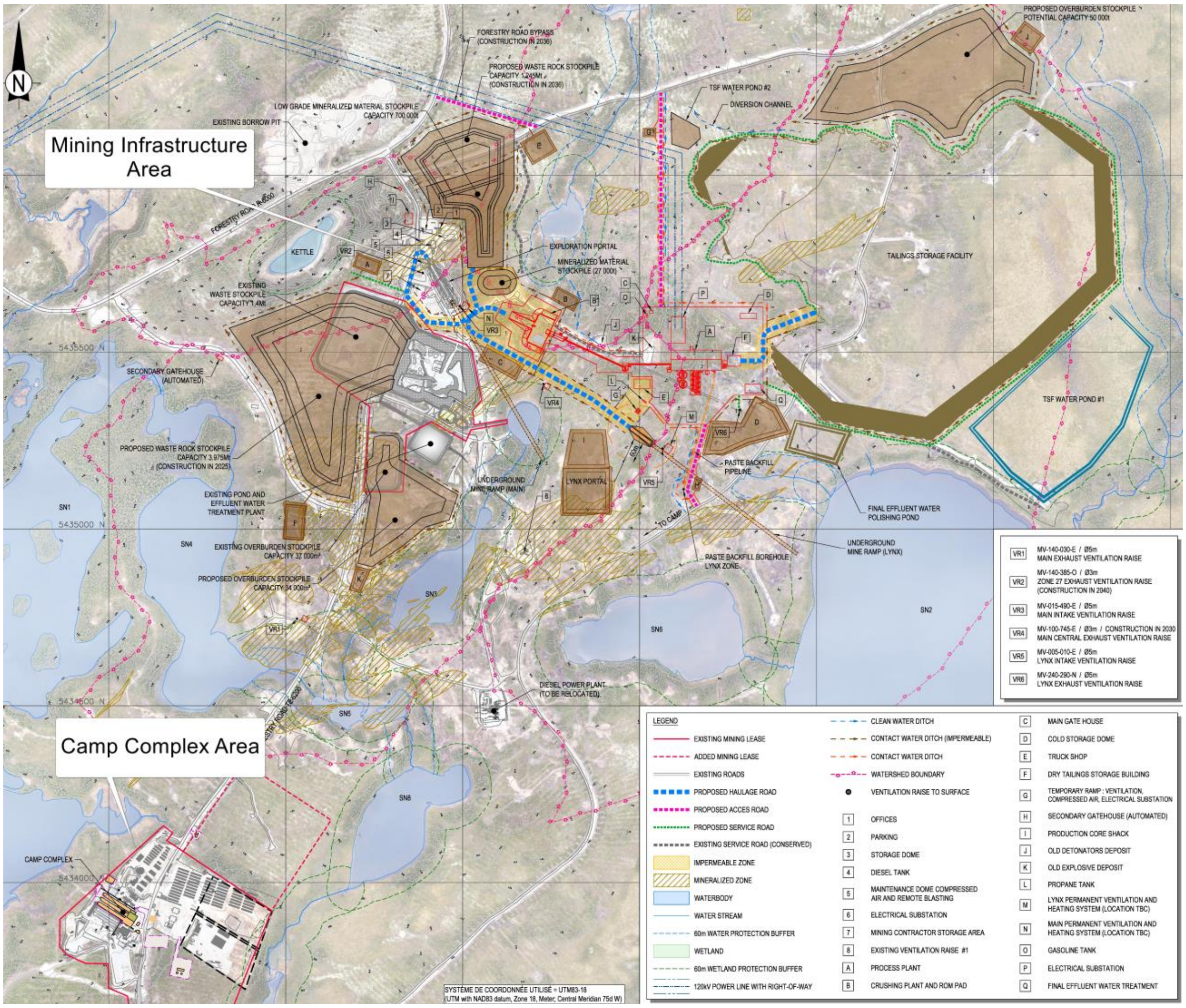


Figure 18-4: Windfall site layout

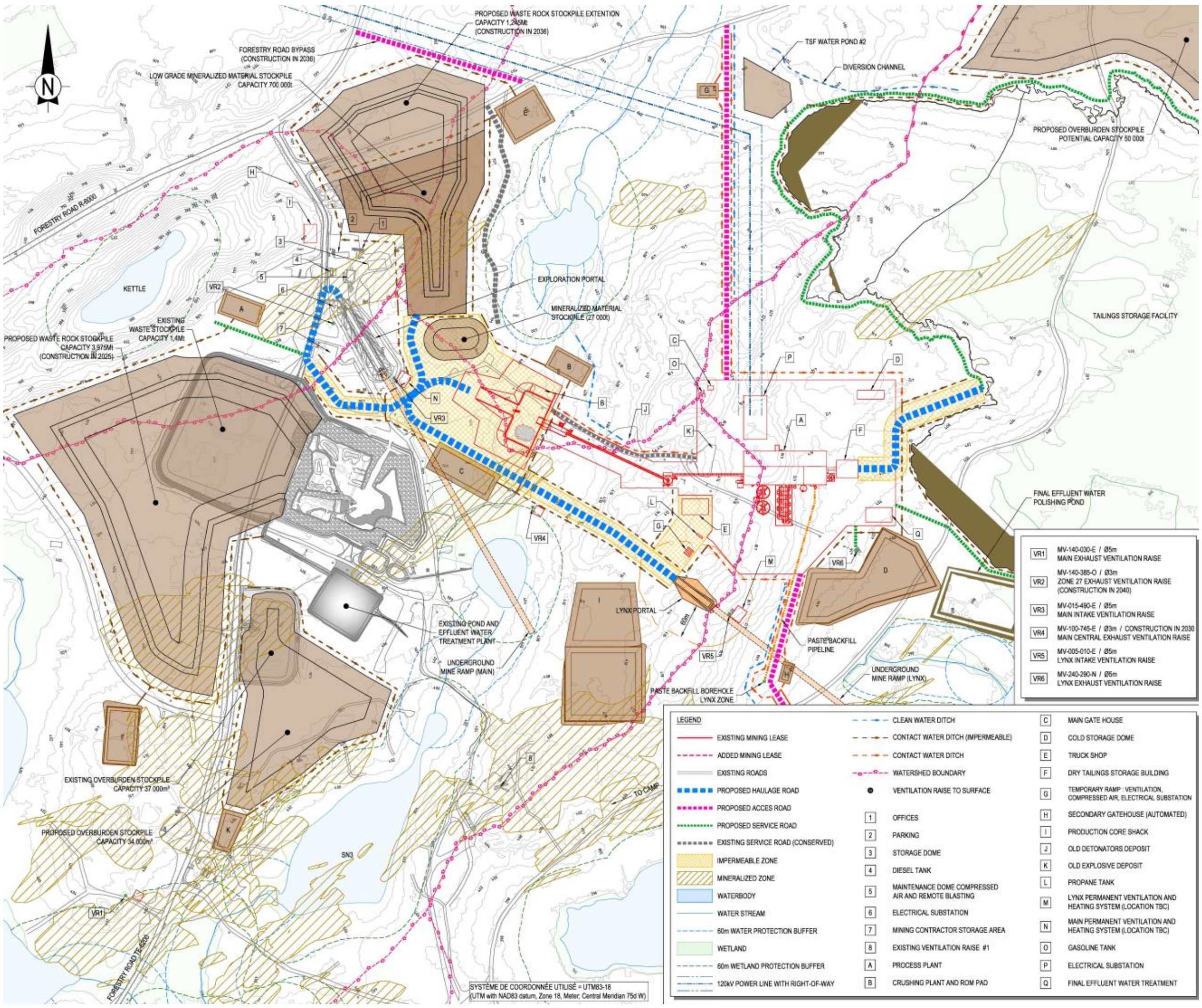


Figure 18-5: Mining infrastructure area layout

18.3.2 Site Preparation

Whenever possible, existing earthwork, roads, and pads will be preserved and used for the Windfall Mine operation phase infrastructure. Existing pads prepared for the camp and other buildings will be upgraded only if required. Some areas on site will serve new purposes (for example, the main parking area will be located in front of the existing camp). Some work will be executed on the slopes between the pad levels to ease movement of personnel or vehicles.

18.3.3 Geotechnical Studies

18.3.3.1 Surface infrastructure

Regional surface deposits consist of fluvio-glacial sediments and glacial till. Fluvio-glacial sediments are mainly composed of sand and gravel and are located in the northern part of the site, while till is found in the eastern sector of the site. It is a heterogeneous glacial unit encountered just above the bedrock contact. A limited number of geotechnical boreholes were completed at the site (Genivar, 2008, Golder, 2018a). The available geotechnical information in the vicinity of the waste and water management infrastructure generally shows the following stratigraphy:

- Organic layer with a variable thickness from 0.5 m to 2 m;
- Sand layer consisting generally of a fine to medium grained sand with traces of gravel and silt. The thickness varies from 1 m to 8 m;
- Bedrock.

The compactness of the sand layer varies in general from loose to compact. The water level was measured between 1 m to 6 m below the surface.

18.3.3.2 Tailings Management Facility

Geotechnical field investigations for the TMF area and water management infrastructure are to be carried out in the next phases of the project. The topography at the location of the TMF is generally flat to the southeast, and gently rising to the northwest, with a maximum difference in elevation of approximately 60 m. A 3D model was prepared by Osisko to assess the thickness of the overburden at the mine site based on information collected from exploration drillholes. The model indicates that the average thickness of the overburden varies generally between 10 m to 15 m along the centre line of the southeastern retention berm. Based on this model, the maximum overburden thickness is expected to be around 23 m. For the northwest retention berm, the overburden average thickness varies generally between 3 m to 4 m and the maximum thickness is expected to be around 5.5 m.

Government geological surface deposit maps (Paradis, 2004; Ministère des forêts, de la faune et des parcs (MFFP) 2013) indicate the presence of peat and organics at surface on top of a till layer. The peat and organics layer is qualified as thin to the northwest and as thick to the southeast of the TMF. The till layer is qualified as discontinuous to the northwest and generally continuous to the southeast. A photointerpretation analysis completed by WSP (2021) suggests the presence of peat overlying till with a thickness of peat varying from 0 m to 2 m.

18.3.4 Site Access Control

The Windfall main modular gatehouse building will be located on the north section of the process plant pad at the end of the main access road. The gatekeepers will be able to keep track of personnel on site and material delivery.

Remotely controlled barriers will be installed at the southeast entrance near the helipad and on the bypass road. There will be no gatekeepers at these locations. The main gate operator will be able to control the secondary gatehouse barrier remotely to allow passage of vehicles, including those carrying lumber.

Both the main and secondary gatehouses will be equipped with a surveillance camera system and an intercom system.

18.3.5 On-site Roads

Where possible, the reuse of existing forestry roads and roads prepared for exploration work is prioritized. Construction of the Windfall Project will result in some forest roads no longer being accessible to users. This will include Road TE 6200, which will be accessible only via the new access road and through the main gatehouse. Three types of roads are planned: haulage, service, and main access.

18.3.5.1 Light Vehicle Service Roads

For site operations, several service roads will be built. Where possible, they are being planned to reuse existing routes, such as the service road that will connect the crushing plant and the process plant. Service roads are also planned to facilitate inspections and monitoring of the stockpiles, as well as ventilation raises.

New service roads are planned to access the following added infrastructure:

- Ponds;
- Paste backfill distribution pipeline;
- Lynx intake and exhaust ventilation raises;
- TSF water ponds;
- Tailings storage facility.

18.3.5.2 Main Access Road

A new access road to the process plant will be built to the north of the process plant to facilitate access from Road R-6000. This means that staff and delivery trucks will not have to circulate within the site operations. Also, a second access road will be built to the south of the process plant so that workers can move from the camp to their work area without having to leave the gatehouse-controlled site. Contact water from the main access road will be collected in Pond G for delivery to the Final Effluent treatment plant.

18.3.5.3 Haulage Roads

A new 10-m wide haulage road will be constructed to allow mine truck circulation from the Lynx portal to the crushing plant, mineralized material stockpile, and waste rock stockpile.

A small portion of the existing storage pad near the exploration portal will be upgraded to be used as a haulage road. The haulage roads and ditches will be equipped with a geomembrane to recover contaminants generated by the material identified as being leachable and potentially acid-generating.

A similar haulage road will be built between the dry-stack storage and the TSF.

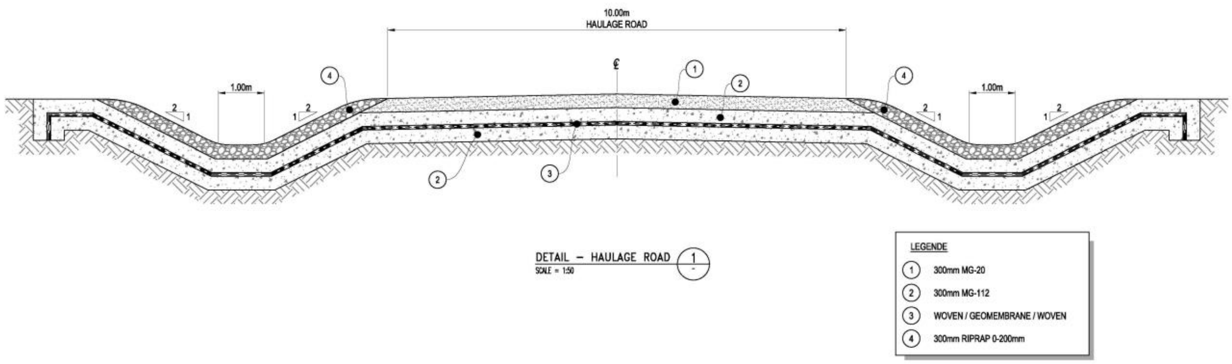


Figure 18-6: Haulage Road - Typical

18.3.6 Electrical Infrastructure and Consumptions

Windfall Project site is currently feed by a diesel power plant with both mine and camp areas connected by a 13.8 kV overhead line. Most of this overhead line will be kept and generator sets are planned to be reused for emergency power during construction and operation phases.

18.3.6.1 Power Supply

Electricity will be supplied to the site at a voltage level of 120 kV originating from an interconnection point in the vicinity of Lebel substation on the existing Hydro-Québec transmission line. The existing 120 kV line was built by Hydro-Québec in the 90's to supply the Langlois mine facilities from the Lebel substation, but this mine is no longer in operation.

18.3.6.2 Substation and Site Distribution

At the site, the outdoor substation will step down voltage from 120 kV to 13.8 kV. The output of the main transformers will feed 13.8 kV switchgears of "AIS" type (air insulated switchgear) located in an electrical room within the process plant. The main switchgears will distribute power throughout the complex. Some 13.8 kV feeders will supply transformers to further step down the distribution voltage to useable 600 V voltage levels while others will be dedicated for the SAG mill and ball mills, underground and surface infrastructure electrical distribution. Considering the distance between buildings on the site, 13.8 kV power will mostly be distributed using overhead lines.

The largest motors will be those of the SAG and ball mills, accounting for over 30% of the total site power demand. The mills will be controlled by variable frequency drives and will be configured to keep the harmonics generation within acceptable limits as per Hydro-Québec requirements.

18.3.6.3 Power Demand

The power demand of the overall Windfall Project is approximately 20.5 MW. The calculated power demand was derived from the mechanical and process equipment list while considering standby equipment and applying representative efficiency and load factors.

Table 18-3 shows the distribution of power by area/sector for the site.

Table 18-3: Power demand by area

Area Description	Power Demand (MW)
Underground Mine and Mine Surface Facilities	6.3
Site Infrastructure	2.2
Process Plant	8.3
Paste Backfill Plant	2.3
Tailings	0.9
Electrical Network Losses (2.5%)	0.5
Total	**20.5**

18.3.6.4 Emergency Power

Emergency diesel generator units (600 V) are planned for the purpose of supplying electricity to the critical process equipment/installations when the main power is lost. The generators will be installed outdoors in a shelter near the 120 kV main substation as an emergency power source. Critical loads will be grouped into different categories where some will be started automatically (lighting and critical services) and others controlled manually.

The emergency load requirements will exceed the planned installed power generation as is typically the case. Therefore, an adequate starting and sequencing of critical loads program (PLC based) is planned to ensure that the installed back up power capacity is sufficient for the emergency load requirements.

18.3.7 First Aid / Emergency Services

A first aid room will be provided in the camp complex. Two examination rooms and an observation room are also planned. The infirmary reception room will be annexed to the ambulance reception double-door area, and a secured pharmacy is planned near the main entrance to the first aid room, for a total area of 71 m².

There is a fire truck permanently on site, parked in the mechanical installations megadome.

18.3.8 Camp Complex Area

The camp complex area will include the following:

- Permanent camp complex, including:
  - Infirmary and mine rescue room;
  - Community hall and fitness room;
  - Cafeteria with kitchen;
  - Rooms with private bathroom;
  - Luggage storage;
  - Quarantine room;
  - Electrical room;
  - Laundry rooms.
- Potable water well P4;
- First Nations cultural centre;
- Employee parking.

The camp complex area includes exploration phase facilities currently on site. The same area will be used for future permanent facilities during the mine operation phase. Exploration phase facilities include some of the buildings currently on site serving an essential purpose, such as the cafeteria and dormitories, which will have to be kept for the duration of the construction work. A dismantling sequence for these buildings is presented in Section 18.3.1.

The following existing facilities are also located in the camp complex area:

- Potable water wells P1, P2 and P3, and distribution network;
- Wastewater treatment systems (existing);
- Environmental material storage megadome;
- Mechanical maintenance megadome;
- Fuel storage and distribution;
- Exploration core shacks (to dismantle);
- Core storage;
- Waste compactor and composter.

18.3.8.1 New Permanent Camp Complex

The camp complex will be housed in a two-storey modular structure, resting on steel tripods. The building will include a luggage storage area, a reception area, an infirmary, a cafeteria, a community hall, a fitness room, as well as single- and double-occupancy bedrooms.

The complex will comprise three sections:

- Section 1 will include the baggage storage and reception areas as well as the infirmary.
- Section 2 will include the cafeteria, the community hall and the fitness room on two floors.
- Section 3 will include the dormitories.

Section 2 will be separated from Section 3 by a fire-proofing wall (see Drawing 531-G-0604), therefore no fire protection system is required.

The kitchen, with a surface area of 1,061m², will include all the amenities necessary for meal preparation, a food delivery and storage area, a large walk-in freezer, and refrigerators. The cafeteria will seat 204 people. Cooking equipment will be propane-fueled.

The fitness room will have an approximate area of 114 m², annexed to the community hall. The community hall area will be approximately 472 m². The fitness room and the community hall will be located on the second floor, above the kitchen area.

The entire underside (skirt) of the complex will be heated by a propane-fire system. The existing 6,000-gallon propane tank and distribution system currently used for the exploration camp has sufficient capacity and will be kept for the permanent camp.

18.3.8.2 Dormitory

The bedrooms will be arranged on two floors of modular buildings. The bedroom modules will be 3.65 m x 18.29 m (12’ x 60’) and will rest on steel tripods. The modules will accommodate approximatively five high-end rooms when installed side by side (see Figure 18-7 for typical layout). The stairwells (emergency exit) will be located in the middle and at the end of each wing of the building.

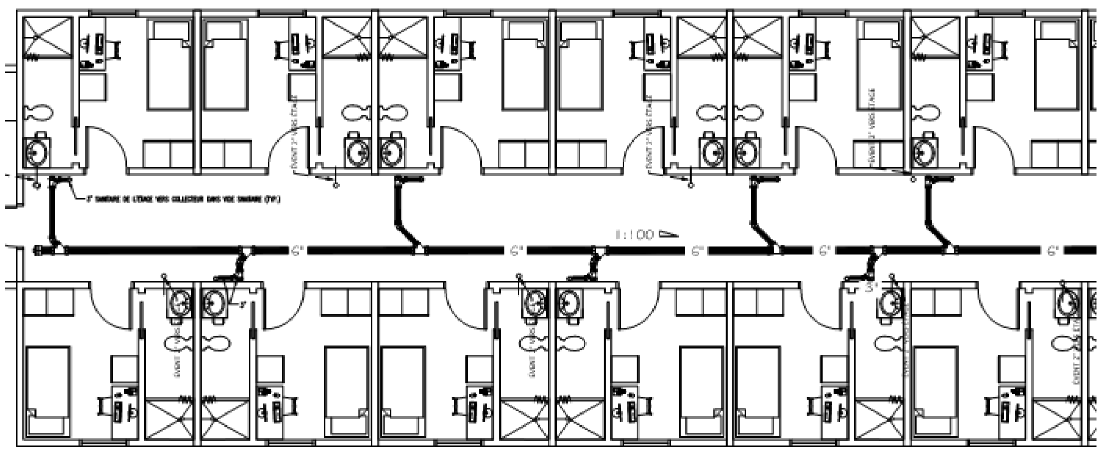


Figure 18-7: Windfall dormitory layout – typical room with private bathroom

There will be a total of 236 rooms in the dormitory: 226 single-occupancy, 8 double-occupancy for couples, 1 quarantine room, as well as 1 bedroom to accommodate a person with reduced mobility. These will be high-end, hotel-quality units; each room will include a large bed and will have a private bathroom with shower. A central corridor will provide access to the cafeteria building, the fitness room and the community hall. A laundry room will be located at the centre of both storeys. The complex will accommodate a total of 244 people.

Heating in the bedrooms will be provided by electric baseboards for occupant comfort, and tempered air ventilation will be provided by supply and return grids in each room.

18.3.8.3 First Nations Cultural Centre

A First Nations cultural centre will be developed on the site near the accommodations complex; it will be located in a private and secluded area to allow for contemplation and reflection. The site will include a teepee, a sanitary building, and a gathering house (see Figure 18-8).

The teepee will have a diameter of 10 m at the base and will be made of wood pieces that join in the centre, covered with a waterproof canvas. The sanitary building will have two restrooms. The gathering house will include a meeting space, a skin tanning area, a woodworking area, and a wood stove for cooking traditional food.

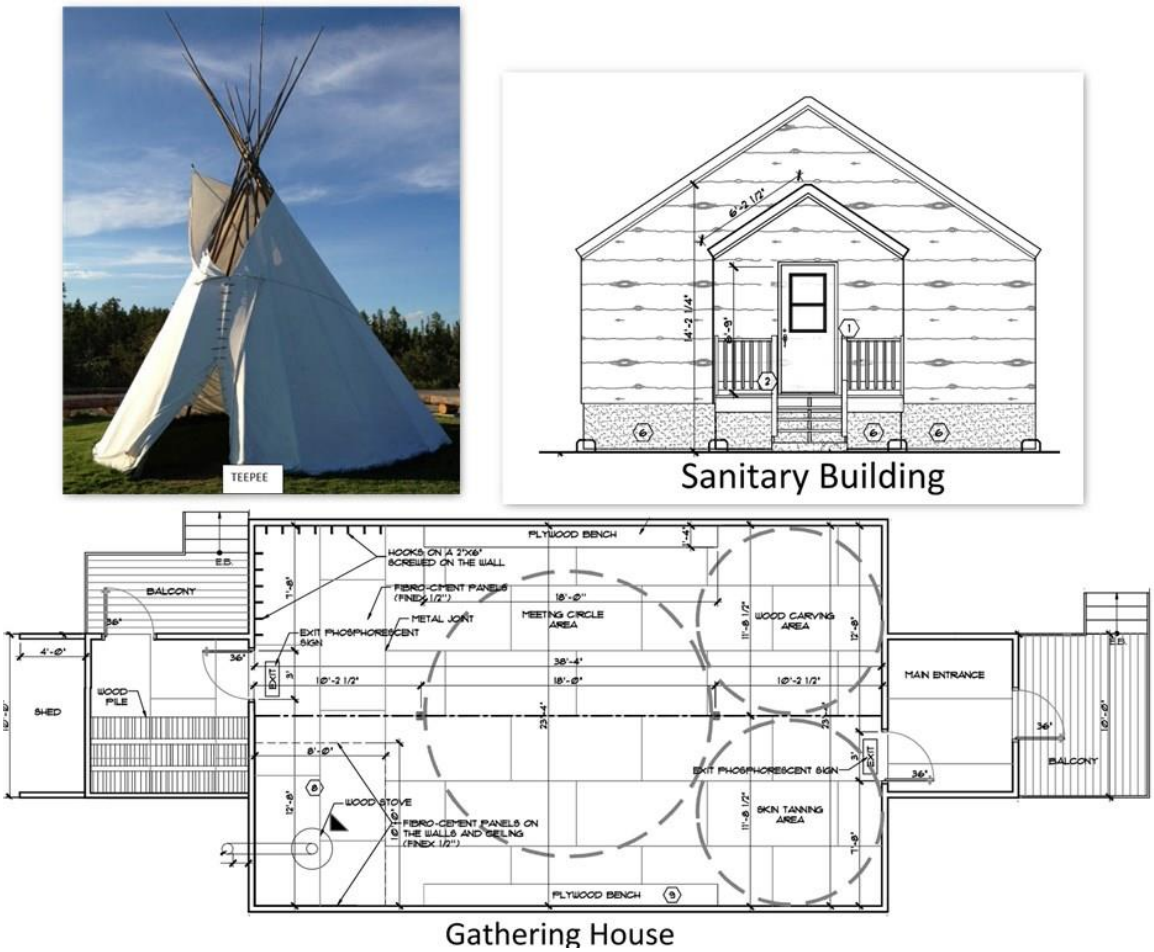


Figure 18-8: First Nations Cultural Centre

18.3.8.4 Dismantling of Existing Buildings and New Construction Sequence

Several modular buildings currently used for the exploration camp will have to be dismantled or moved. The work is scheduled for the second year of operation and will be carried out using a phased approach.

The proposed dismantling/moving/construction sequence is as follows, and is shown on Figure 18-9, Figure 18-10 and Figure 18-11:

1. Dismantling of the exploration office, relocated with temporary office modules in the playground area.
2. The existing fitness room will have to be rotated 90° to allow for future temporary camps.

3. Dismantling of the water pipes and junction to Camp 400, which will be dismantled due to its advanced state of obsolescence.
4. Construction of pads for the future parking lot and a pad for the Cree cultural site. The existing reception area with luggage storage will be relocated to the parking pad. Camps 500, 600, 700 and 800 will be temporarily relocated to the south side of Camps 200 and 300. Two other temporary camp modules will be located on the Cree cultural site pad. Drinking water and water services will be provided for each temporary unit. The garbage disposal area will be moved.
5. Camps 200 and 300, as well as the existing kitchen, will be kept.
6. Dismantling of the existing retaining wall. The pad for the future permanent camp will be rebuilt to provide an adequate bearing capacity.
7. Construction of the permanent camp including bedrooms, cafeteria, fitness room, community hall, infirmary, reception (relocated) and luggage storage.
8. Dismantling of the temporary camp and the existing kitchen.
9. Construction of the Cree cultural site.

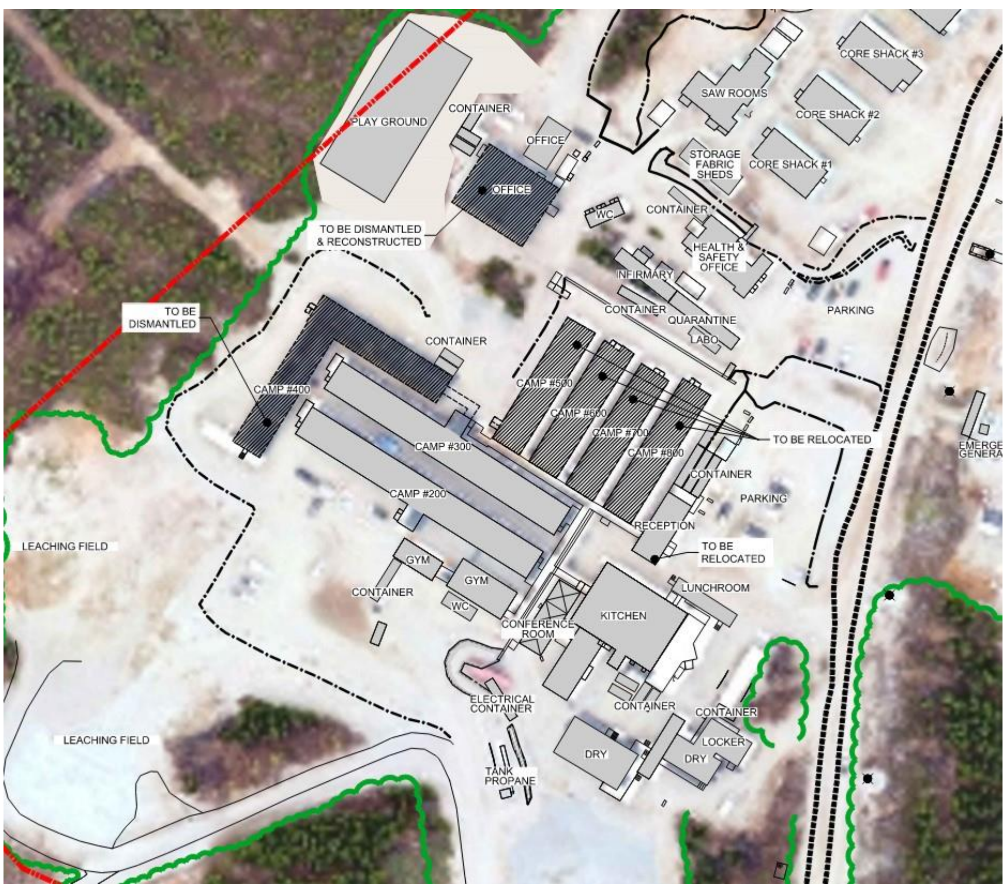


Figure 18-9: Existing site layout

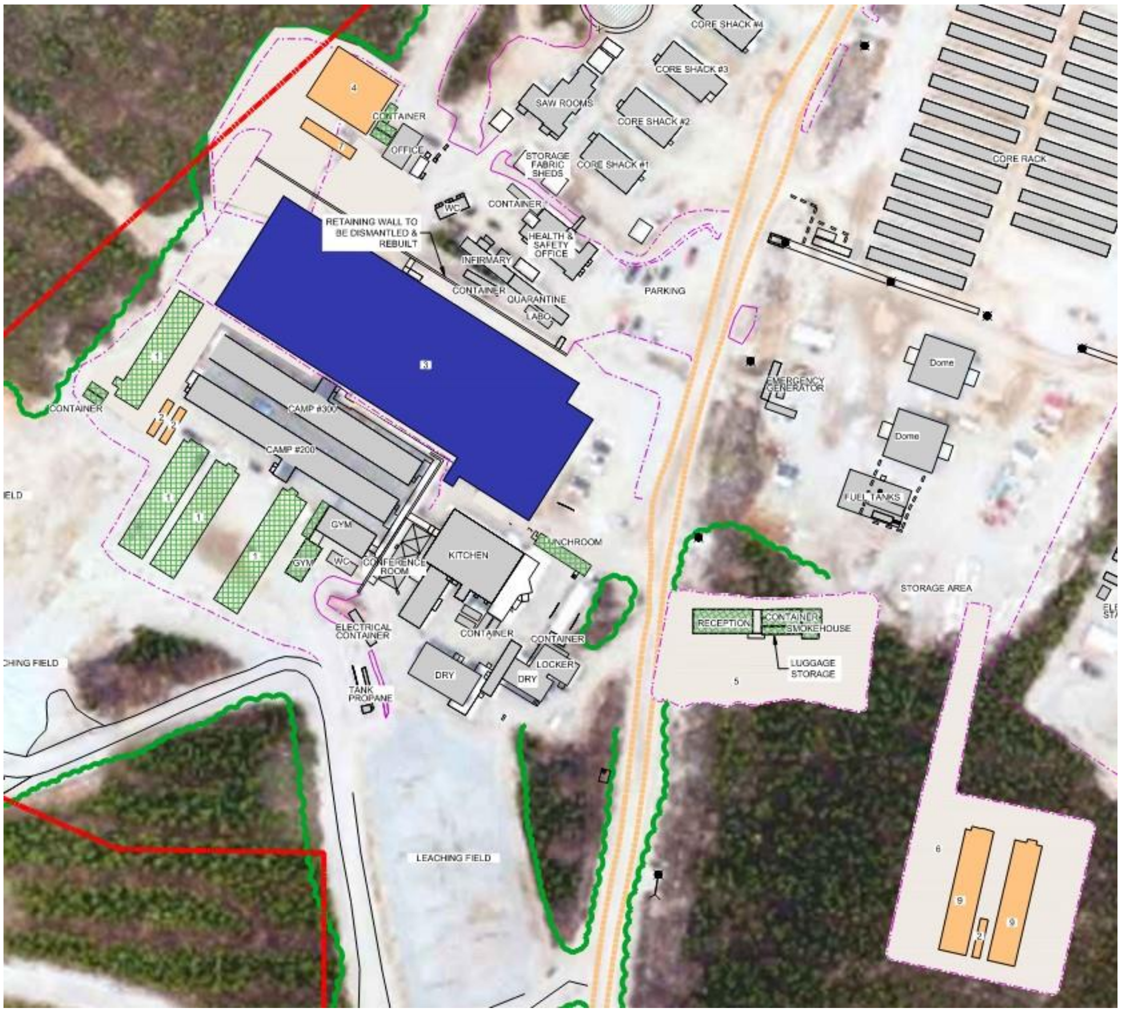


Figure 18-10: Transition prior to permanent camp layout

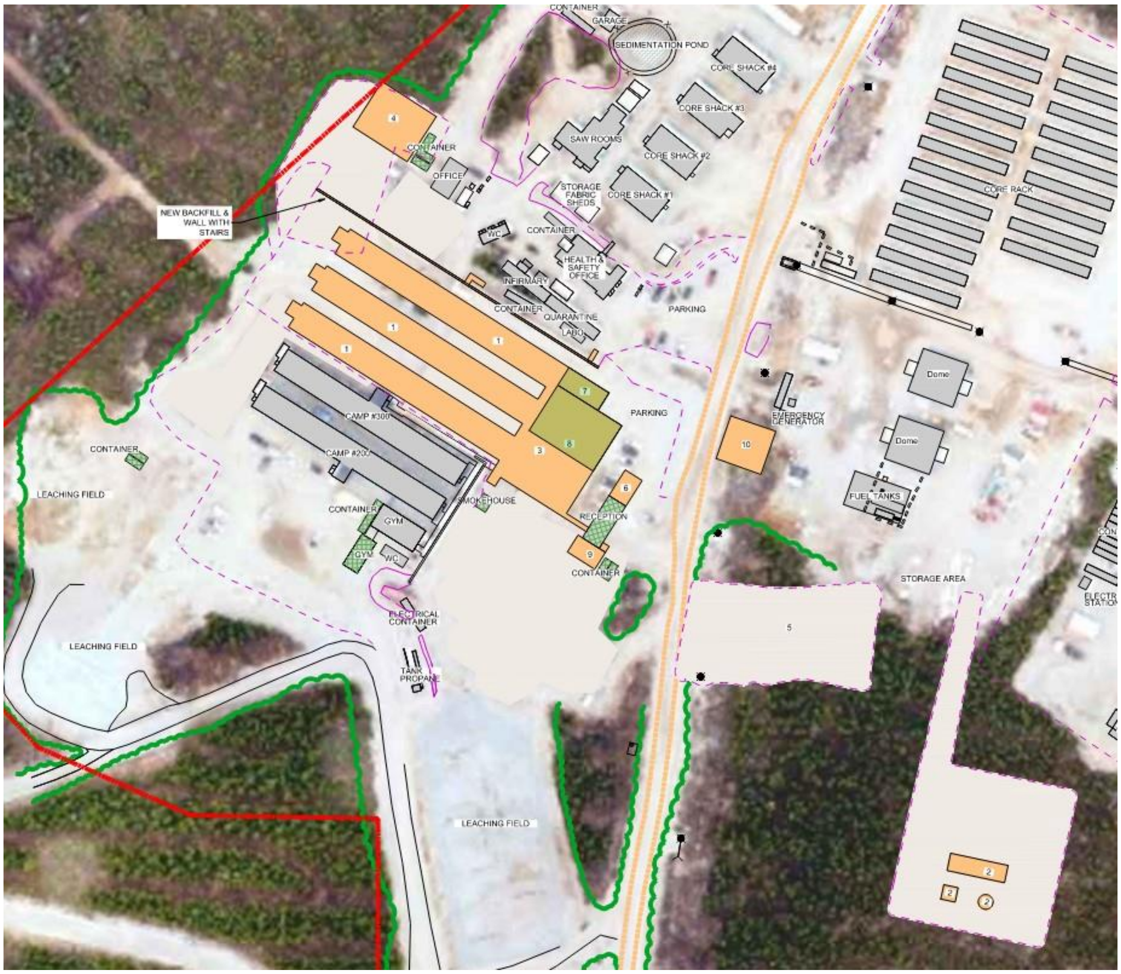


Figure 18-11: Final accommodation complex layout

18.3.9 Bulk Explosives Storage and Magazines

All explosives and cap magazines will be stored in the underground mine; refer to chapter 16 for details.

18.3.10 Fire Water and System

The existing exploration fire water system for the camp complex area will remain the same, as the permanent camp will not require a sprinkled system.

For the Mine Site, a new fire protection pumping station with a diesel backup pump and a buried piping network will be installed to feed the process plant and the truck shop

The sprinklers for the process plant area will be fed by water supplied from a local insulated water tank. The system will be equipped with an electrical booster pump as well as a diesel back up pump of equal capacity located in an enclosed fire-proof section of the process plant. The sprinkler system will be installed so as to meet legal and insurance obligations in areas such as belt conveyors, hydraulic and lube units, and cyclone clusters. Wall outlets for fire protection are planned around the process building.

18.3.11 Lighting

Road lighting will be limited to minimal requirements at intersections. There is an overhead line along the road, and a single-phase transformer will be installed if needed; however, current will come from adjacent buildings wherever possible.

Lighting will be present in pedestrian areas and in working or storage areas. There will be dedicated exterior lighting installed on the building at all garage doors or man doors. For all exterior lighting, LED fixtures will be used to reduce maintenance time. Photocells will be installed to reduce power consumption.

18.3.12 Truck Shop and Warehouse

18.3.12.1 Surface Truck Shop

In addition to the garage built in the underground mine, a two-storey 1,150 m^2 maintenance garage will be built on surface for heavy equipment and light vehicles. There will be three bays dedicated to the maintenance of heavy equipment, one bay for light vehicles, and one wash bay. A 15-tonne overhead crane will be installed in the heavy equipment maintenance area. A storage area for parts and a welding workshop will be attached to the garage. Various rooms will be built on the first floor. These include a tool crib, oil deposit, box and tool deposits, sharpening and drill bits, hydraulic components room, pressure washer and water treatment, as well as male and female restrooms (Figure 18-12). The second floor (Figure 18-13) will include a meeting room, a dining room, an electrical workshop, a mechanical room, as well as offices for the mechanical foreman, the general foreman, and a planning and engineer office.

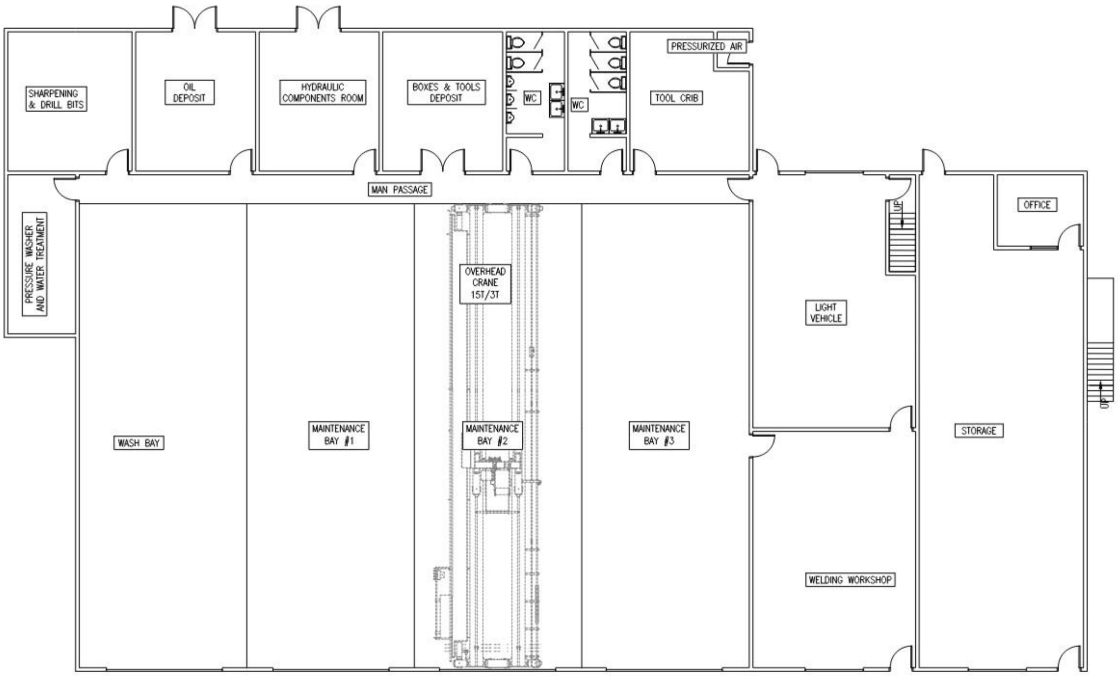


Figure 18-12: Maintenance garage - First floor

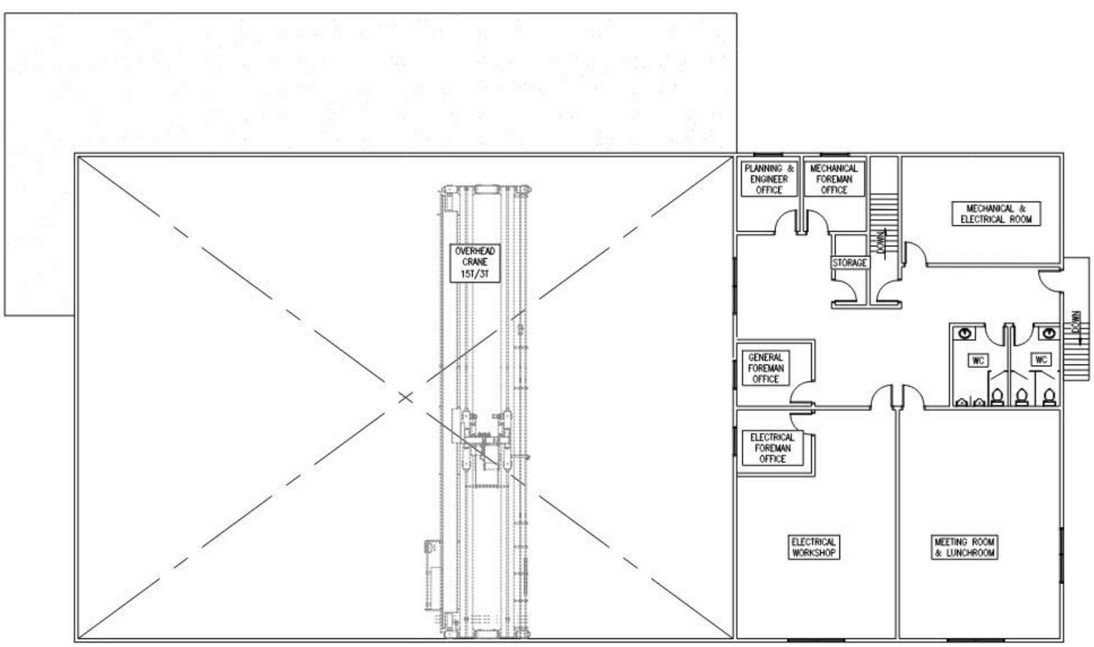


Figure 18-13: Maintenance garage - Second floor

18.3.12.2 Warehouses and Storage Areas

There are currently four megadomes on site: two located near the exploration portal and two located in front of the camp complex. They are used for maintenance of surface vehicles and mostly for material storage. A concrete slab and an oil recuperation system will be installed in buildings where mechanical maintenance is performed. All these warehouses will be kept during operation.

A new light-structure fabric dome will be added near the process plant; it will be used as a cold shed and will be installed during construction period.

Surface storage of the mining material will be on existing pads near the exploration portal, but containers will be added to increase storage capacity and efficiency. A similar storage area will be implanted near the Lynx portal.

18.3.12.3 Production Core Shack

The core shack will be a 630 m^2 wood structure with worktables (84 in all) where drill core can be measured and logged (Figure 18-14). A saw room with four carousel-type hydraulic saws will be provided, as well as a core receiving area, a storage area, an office, and restrooms. The space will accommodate up to 12 geologists working at the same time. In its current configuration, the core shack is set up so that 1,800 m of core can be logged per 12-hour period (150 m/d/geologist). The anticipated production capacity is 2,000 m of core samples per day at a rate of 250 m of core/saw/12h.

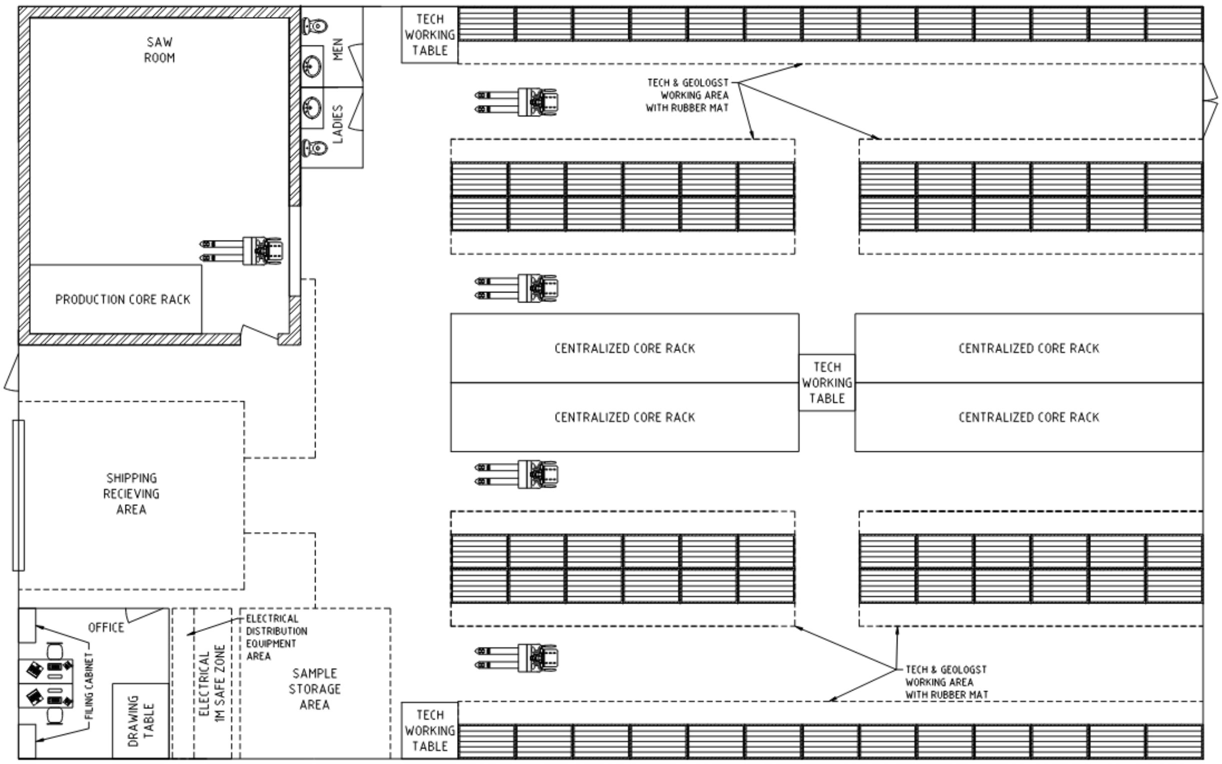


Figure 18-14: Production core shack layout

18.3.13 Diesel and Mobile Equipment – Surface

The surface maintenance and dry tailings transportation/stacking mobile equipment will be purchased (lease-to-own financing) and operated by Windfall staff. Table 18-4 provides the list of surface mobile equipment.

Table 18-4: Surface mobile equipment

	Mobile Equipment	Qty
Surface Maintenance	988 XE Loader - Surface loader (6-7 m^3) with rock bucket	1
	950 Loader - Surface service loader (3 m^3) with forks, snow bucket & snowplough	1
	D8 Dozer- Surface Dozer (hp)	1
	14M grader - Surface Grader (14 ft blade) with side wing	1
Filtered Tailings handling	980M - Tailing loader	1
	CS56 - Tailing compactor	1
	745 - Tailing articulated truck (45t)	3
	D6 - Tailing Dozer	1

18.3.14 Fuel Storage and Distribution

There are currently two diesel storage and distribution systems on site and their capacity will be sufficient for the operations period:

- Mine Site area – Main portal (50,000 litres);
- Camp complex area, near the megadomes (2 x 50,000 litres).

Both systems include double-walled vacuum tanks for leak prevention and sealing, both verifiable by pressure control. The tanks include an environmental management console.

Near the portal, a reinforced concrete slab will be built next to the pump to accommodate trucks during fill-up and to facilitate clean-up in case of a spill.

For gasoline vehicles, a similar system will be added near the main gatehouse, which will include a concrete slab, a 10,000-litre double-walled tank, a distribution pump, and a level monitoring sensor.

18.3.15 Weather Station

A weather station is already installed on site and will be kept for the project.

18.3.16 Used Disposal Facilities

The waste management strategy for both the mine and camp complex areas consists in waste being transported by a specialized contractor from the mine and camp complex areas to authorized sites. Temporary collection and dedicated storage systems per category of waste material will be implemented to ease loading onto trucks and transportation to authorized sites. Categories of waste material are shown in Table 18-5. Sorting of waste material at the point of generation is crucial; therefore, adequate bins and containers will be provided on site. The Windfall site is equipped with a composter; therefore, all compostable waste will be composted.

This waste management method will leave virtually no environmental footprint and will require no post-closure management during site restoration.

Table 18-5: Waste material categories

Waste material category	Description
Recyclable material	Paper, glass, plastic, metal.
Compostable material	Scraps, food waste from the cafeteria, carcasses, expired food, grease. To be confirmed if they are accepted in nearby area.
Hazardous Household Waste (“HHW”)	Antifreeze, solvent, aerosol, paint, fluorescent bulbs, lamps, batteries, smoke detector.
Waste oil, grease and oily water	Various, from mechanical workshops.
Construction, renovation and demolition debris	Wood, aggregates, various composite objects that end up in the ultimate waste depending on their level of contamination.
Ultimate waste	Bulky waste, litter bags, polystyrene foam, packaging, sanitary tissue, composite objects, contaminated objects, non-recyclable plastic, rubber, ash, process waste, various empty containers.
Septic tank sludge	Excluded from residual materials. Tanks are emptied frequently by a specialized pump truck service.
Contaminated soils	Excluded from residual materials. Refer to the Land Protection and Rehabilitation Regulation for the management of contaminated soils.
Biomedical waste	Excluded from waste materials. Refer to Regulation for management by the on-site medical department.

18.3.17 Potable Water

18.3.17.1 Camp Area

The Windfall exploration camp has a 300-person capacity. It is served by three bored wells (P1, P2 and P3).

The new permanent camp will have a 544-person capacity during the construction phase, and a 424-person capacity during mine operation. The average daily flowrate capacity shall be 108.8 m^3/d and the hourly peak flowrate will be 340 L/min.

A new well with submersible pump (P4) will be installed to feed a new 128 m^3 water reservoir through a 3-in. pipe to ensure equilibrium and emergency reserves. The reservoir will be 6.55 m x 6.55 m x 3 m. and will be made of concrete, with an interior coating.

A new pumping station will be built to receive the distribution pumping set-up and the chlorination system. A complete control system will monitor the operation. The distribution pump will take the water from the reservoir and feed the water distribution network. A chlorination system will allow to maintain potable water in the reservoir and in the distribution network.

A new 3-in. main line distribution network and secondary lines will be installed to feed the new and existing buildings that will be kept for the permanent camp and for the temporary construction camp.

18.3.17.2 Mine Area

A potable water system including well, pumps, reservoir, and chlorine treatment system is planned to supply the following mine area buildings:

- Process plant complex, including offices and dry;
- Truck shop;
- Production core shack.

18.3.18 Sewage Treatment

18.3.18.1 Camp Area

The Windfall exploration camp sewage system has a current authorized capacity of 300 people. That capacity will be increased to 544 people during the construction phase, then reduced to 424 people during mine operation.

The existing sewage collection system will be modified to serve the new and existing buildings that will be kept for the permanent camp, with the authorization adjusted to 424 people.

The existing sewage system has three different treatment systems to serve the entire camp area:

- TEU #1 (48 people – originally built in 2007 and reconstructed in 2017);
- TEU#2 (61 people – constructed in 2016);
- TEU #3 – Enviro-Septic (317 people – constructed in 2017).

The Enviro-Septic system has the capacity to treat a sewage flowrate of 317 people compared to the current 189 people. Upstream from the Enviro-Septic system, the volume of the septic tank and the grease interceptor will be increased to accommodate the new sewage flowrate created by 430 people. The existing pumping station has the capacity to meet the new sewage flowrate.

The flow in the camp's sanitary sewer system is achieved mainly by pipe slope and by acceleration due to gravity. The new exploration office will be served by the existing pumping station (SP-1)

The temporary construction camp of 120 people will have its own temporary sewage collection and modular treatment system (Kodiak from Bionest) so as to be able to handle the excess capacity of the permanent system during this period.

18.3.18.2 Mine Area

A system similar to the Enviro-Septic camp's installation, including buried piping, manholes, and pumping stations, is planned for the mine area to receive and adequately treat wastewater from the following buildings:

- Process plant complex, including offices and dry;
- Truck shop;
- Production core shack.

18.3.19 Process Plant

The process area will consist of three main buildings, the process plant being divided into two subsections:

Table 18-6: Process plant buildings

Description	Width	Length	Height
Crushing building			
Primary crusher	12 m	42 m	15 m
Crushed mineralized material building			
Crushed mineralized material silo	16 m	16 m	16 m
Process plant building - Process section			
Grinding and gold recovery	30 m	102 m	23 m
Filtration	30 m	39 m	35 m
Process plant building - Service and offices section			
Service Mechanical room, electrical room warehouse and gold room	26.5 m	66 m	10 m
Office and dry Infirmary, laboratory, mine and plant dry, electrical room, lunch room and control room	26.5 m	75 m	10 m

18.3.19.1 Crushing Area

The crushing area will contain the feeders, jaw crusher, air compressor, electrical room and sacrificial conveyor. An overhead crane will allow service of equipment. A local dust collector will ensure proper dust management in the area.

18.3.19.2 Crushed Mineralized Material Area

The crushed mineralized material area will provide heat to the bottom section of the silo. The silo mass flow hopper and related belt feeder will be inserted in the building. A local dust collector will ensure proper dust management in the area.

18.3.19.3 Process Plant

A plan view of the process plant is presented in Figure 18-15.

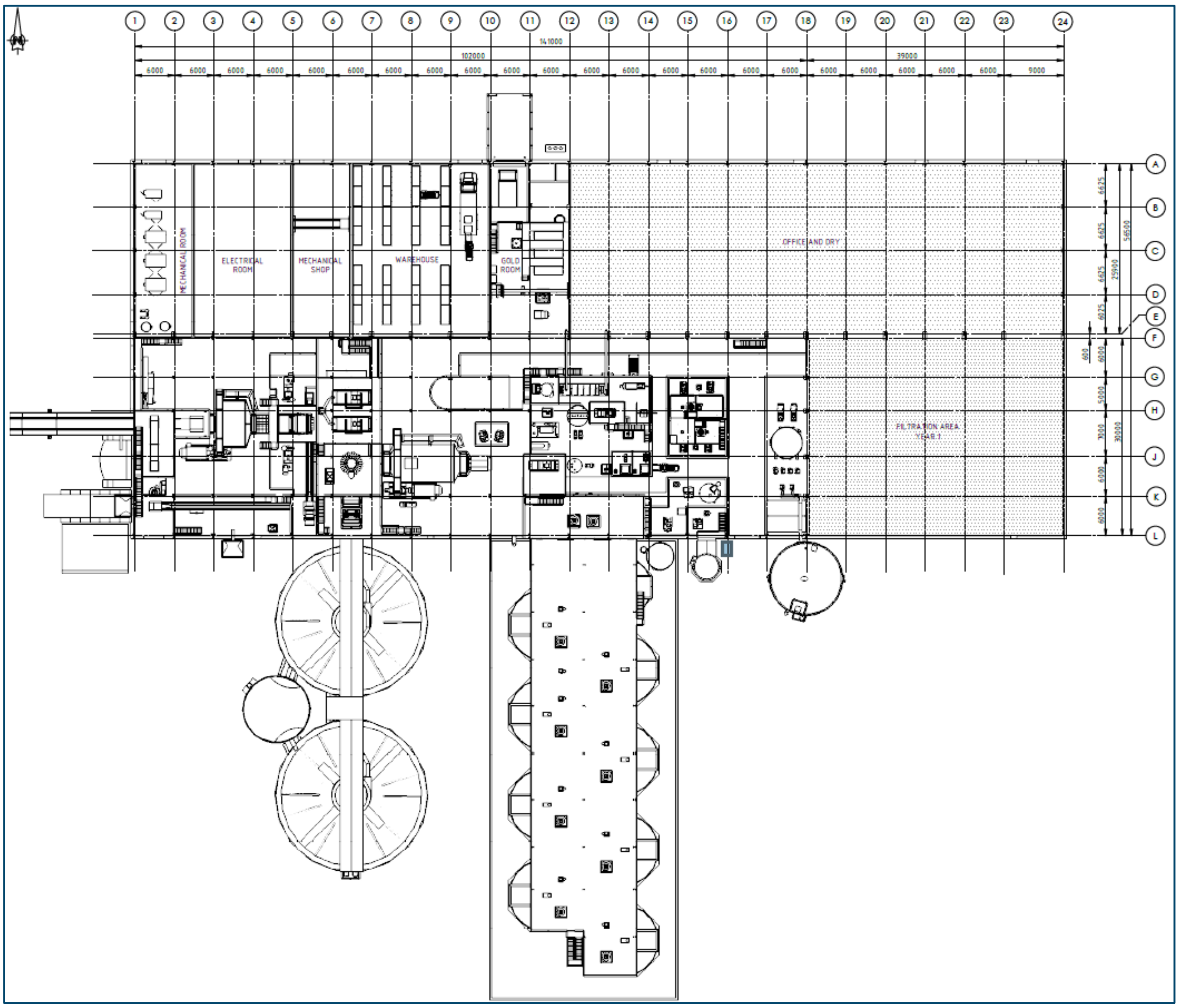


Figure 18-15: Plan view of the process plant

Grinding and Gold Recovery Area

The grinding area will contain the SAG and ball mills, along with the cyclone cluster, gravity circuit and intensive leach reactor. This area will be serviced by an overhead crane with enough capacity to lift the heaviest mill parts.

The gold recovery area will contain the carbon stripping, the reagent preparation areas, water systems and various pump boxes and related pumps. This area will be serviced by a second crane using the same rail system as the grinding area.

Service Section

The gold room (including electrowinning and refining), plant maintenance shops, main electrical room and process plant warehouse will be located in the service section of the building.

Outdoor Area

The pre-leach thickener, CIL tanks, tailings thickener, cyanide destruction tank, cyanide tank, lime silo and the fresh/fire water tank will be located outside of the process plant. Both thickeners are located close to one another, with the flocculant system located in the heated section below the tailings thickener.

18.3.19.4 Office Section

The administrative, mine and process offices located east of the service section of the main building.

The area holds 50 administration offices where 14 are closed offices. Conference rooms, a control room, a documentation room, a computer server room, a mine rescue room, a dispatch room, an infirmary, a 120 seated place cafeteria, bathrooms and the process plant laboratory are also located in this building.

It has been estimated that approximately 150 workers per shift from all departments will use the dry facilities located inside the process plant building, in the office's vicinities. The Figure 18-16 shows the layout of the different items.

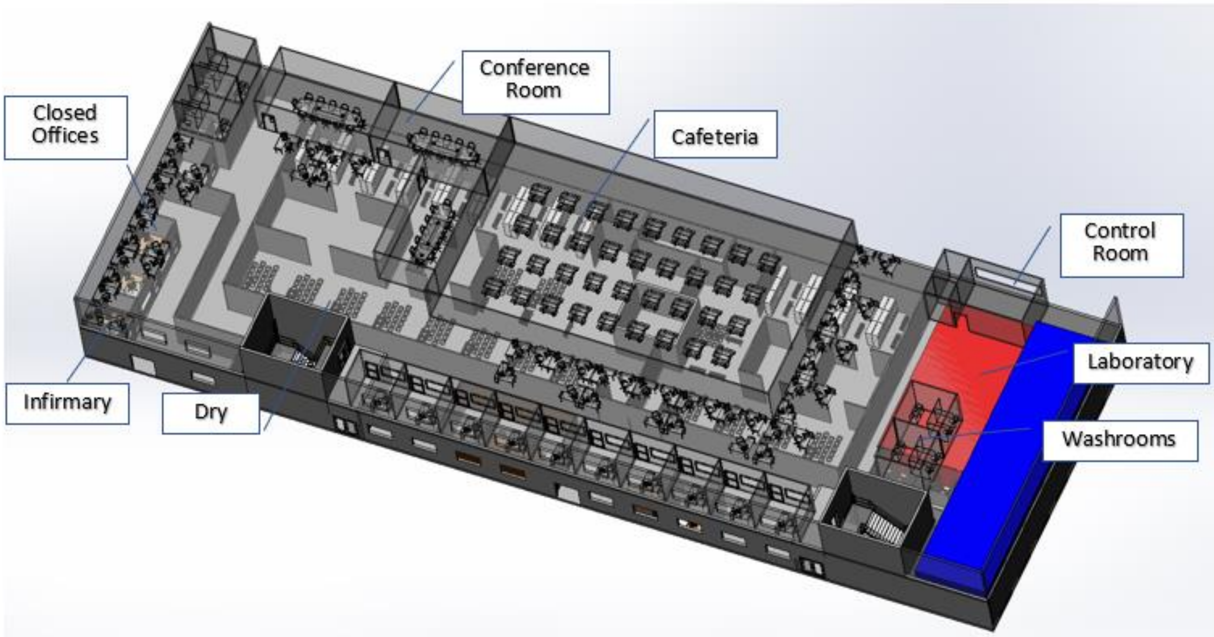


Figure 18-16: Mine office and dry layout

18.3.20 Tailings Filtration and Paste Backfill Plant

The tailings filtration and paste backfill plant will be located within the process plant building. The area will be 30 m wide x 39 m long and 35 m high. A filtered tailings storage building of 30 m wide x 37 m long x 18 m high will be located east of the plant. An isometric view of the tailings filtration and paste backfill plant is found on Figure 18-17.

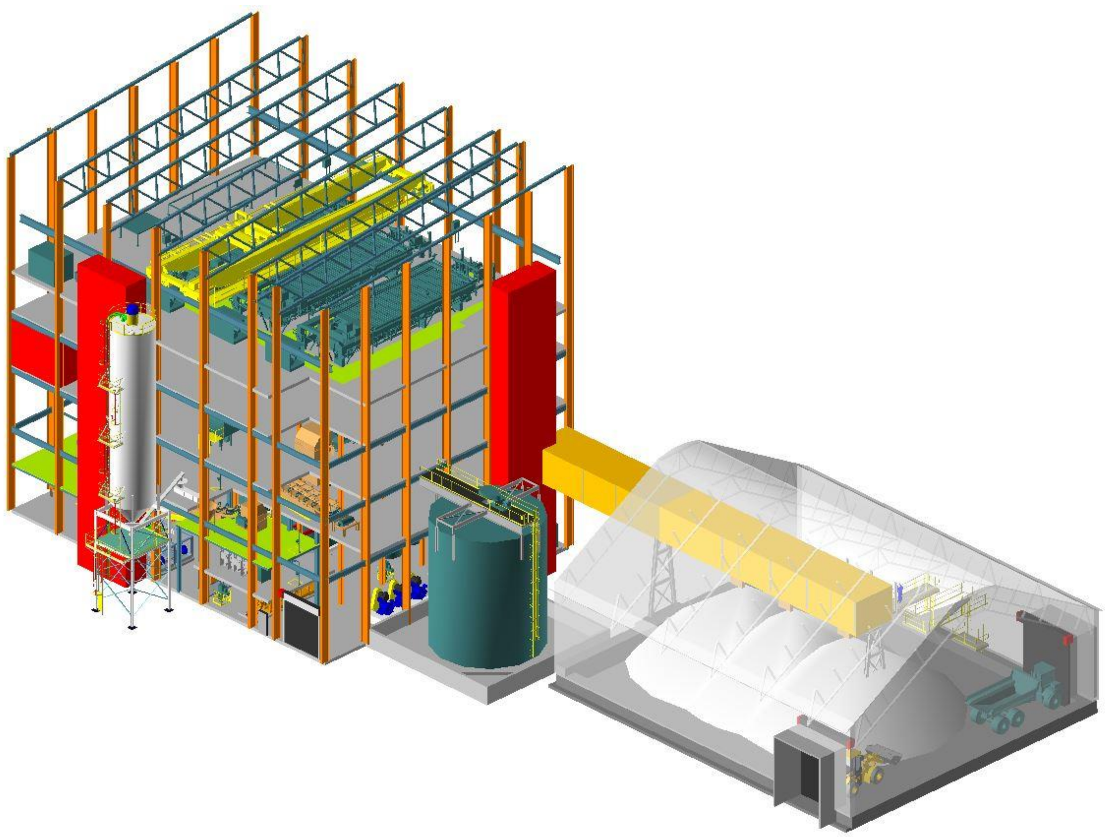


Figure 18-17: Tailings filtration and paste backfill plant layout

The tailings filtration and paste backfill plant area will house the filter presses and control room, the paste mixer, a positive displacement pump, a compressor room, conveyors, a feeder, tanks and pumps, a metallurgical laboratory, and an electrical room. The tailings filter feed tank and the paste backfill binding material silo will be located outside the building.

Fire protection will be installed over hydraulic units, conveyors, control room and compressors.

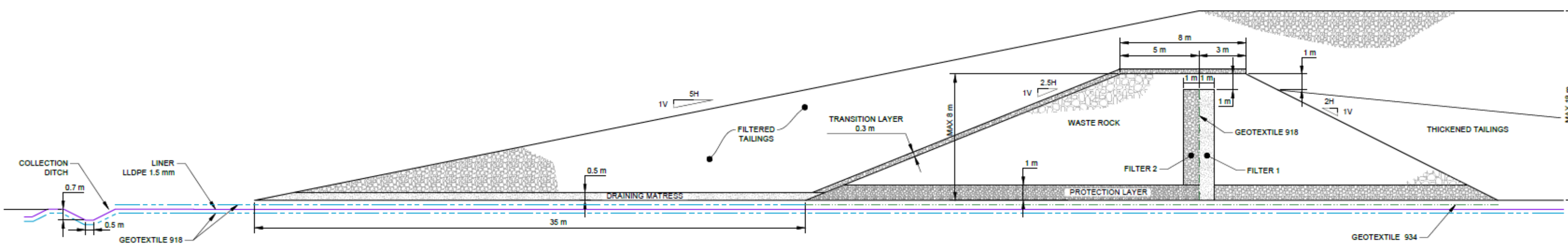
The filtered tailings storage area is in a dome-style building constructed next to the concentrator building. This area has a storage capacity of 14 hours and can be accessed by mobile equipment (dry tailings transport trucks and front loader).

18.3.21 Tailings Management Infrastructure

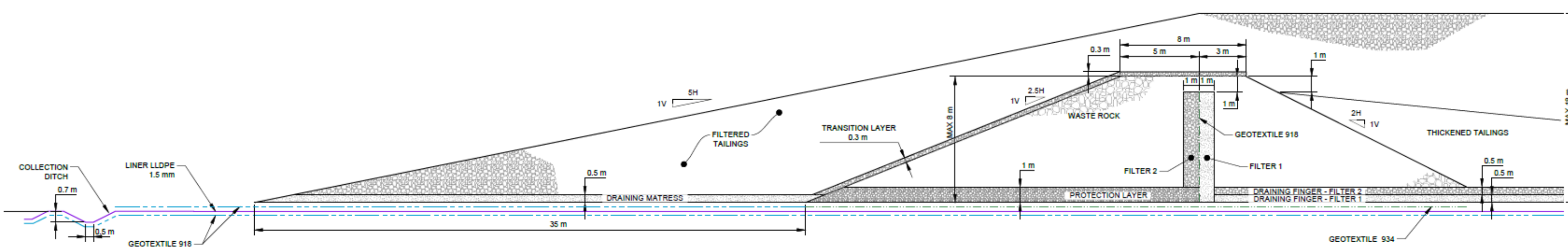
The following section describes the actual design for the TMF and water management infrastructure related to the TMF. The design was made based on available information and will need to be reviewed at the feasibility stage.

18.3.21.1 Tailings Management Facility

An alternatives assessment analyses was completed following the methodology recommended by Environment and Climate Change Canada guidelines (ECCC, 2016). The alternatives assessment allowed identifying the best technology for the management of the tailings as well as the best location for the tailings management infrastructure (Golder, 2021b). Tailings generated from mineralized material processing will be sent to the TMF located northeast of the Process Plant. The TMF design supports production sequence based on a start-up with thickened tailings, and later transitioning to filtered tailings. During the first three years (Year 1 to Year 3) the operation will generate thickened tailings to allow for a construction period to set up the filtering plant. Filtered tailings will be produced from Year 4 to Year 18. Figure 18-4 shows the general arrangement of the TMF and related water management infrastructure. The thickened tailings will be deposited in a single cell surrounded by a retention berm to the southeast and by a smaller retention berm located in the valley to the northwest. Both berms will be extended to the natural topography thus generating a total cell capacity of 1.9 Mt of thickened tailings. The cell will be developed in two stages using the downstream raise method. From Year 4 to Year 18, filtered tailings will be deposited around and above the thickened tailings cell. In its final configuration, the thickened tailings cell will be entirely enclosed by the filtered tailings stack. Figure 18-18 shows a typical cross-section of the TMF.



TYPICAL CROSS-SECTION OF THE TAILINGS MANAGEMENT FACILITY



TYPICAL CROSS-SECTION OF THE TAILINGS MANAGEMENT FACILITY WITH CONNECTION TO THE DRAINING FINGERS

Figure 18-18: Typical cross-section of the tailings management facility

The tailings production, and main physical properties of the tailings used for the TMF design are summarized in Table 18-7.

Table 18-7: Tailings production and main properties of the tailings

Description	Unit	Thickened tailings	Filtered tailings
Total production tonnage	Mt	1.9	10.9
Solids content (w/w) percentage	%	63	82
Grain size at 80% passing	µm	37	37
Dry density	t/m³	1.4	1.6

The thickened tailings retention berms will have a maximum height of 8 m. The emergency spillway invert elevation has been set 1 m below the retention berm crest. The TMF design is based on providing a permeable infrastructure allowing draining and settlement of the thickened tailings. Thickened tailings retention berms will be built with waste rock. The berms will be built with a transition filtering system to allow efficient drainage of water and retention of fine particles. The filter system will also include a geotextile. The filtering system has been designed to allow adequate transition between the fine grained tailings and much coarser waste rock material. Three finger drains will be placed inside the thickened tailings cell, prior to the deposition of tailings, to increase drainage. The finger drains will be built with granular material and are shown on the typical cross-section (Figure 18-18). A draining mattress will be extended downstream of the retention berms and bellow the filtered tailings be placed.

Geochemical characterization indicates that the tailings are potentially acid generating and leachable for metals. The metallurgical processing includes cyanide destruction step for tailings. Considering the potential for acid generating, metal leaching and the potential presence of residual traces of cyanide in the tailings pore water, the design of the TMF includes a geosynthetic liner as a mitigation measure to limit pore water seepage to groundwater. A liner system including linear low-density polyethylene (“LLDPE”) liner with a thickness of 1.5 mm and two geotextile layers is proposed at this stage of the study. Soil stripping and foundation preparation will be required before liner system installation. The liner system also includes adequate underlaying protection of the LLDPE and geotextiles to prevent any damage to the liner by coarse granular material (waste rock) used to build the main body of the berms.

Thickened tailings will be deposited directly on the liner. It is assumed that the tailings distribution system will include extended pipes down the slope of the berms and rub sheets to protect liner against abrasion; hence no granular protection layer on the liner system is planned at this stage. Access roads for tailings deposition will be needed during operation to efficiently fill the thickened tailings cell. Filtered tailings will be placed directly over the draining mattress downstream of the retaining berms and directly over the thickened tailings upstream of the berms. Mitigation measures, such as placement of some finger drains might be needed to improve thickened tailings geomechanical properties prior to deposition of filtered tailings. Filtered tailings will be compacted to achieve target compaction levels as measured in laboratory conditions with Standard Proctor testing. Variable compaction requirements are planned for the filtered tailings. Downstream of the retaining berms and the outer shell of the TMF tailings will be compacted to target compaction level of 95% of Standard Proctor optimum dry density to allow creating a higher density shell. Inside this shell, filtered tailings may be placed with a lesser effort of compaction. A simple transition layer will be needed for the placement of filtered tailings over the rock berms to prevent losses of filtered tailings into the berm body. This transition layer will be made of granular material.

18.3.21.2 TMF Water Management Facilities

The TMF will include a series of ditches and two ponds to collect runoff and seepage from the deposited tailings, as well as a clean water diversion structure. The layout of the TMF water management structures is provided in Figure 18-4.

18.3.21.3 TMF Ponds

The main collection pond will be located south of the TMF; the second pond will be located northwest of the TMF. The ponds are sized based on Quebec Directive 019 design requirements for environmental flood storage capacity. Climate change was accounted for in the sizing calculations.

The ponds will be built as a cut and fill operation with predominant excavation with the addition of small embankments to provide required storage capacity. The ponds will be lined with geosynthetic liners over geotextile. Each pond will have an emergency spillway to pass floods generated by storm events beyond the environmental flood storage event, and up to the Probable Maximum Precipitation (“PMP”). An allowance for dead storage of sediment accumulation was assumed for each pond.

Water collected in the ponds will be pumped to the process plant for re-use or to the water treatment plant prior to discharge in the environment, as required.

The hydrologic sizing of the TMF ponds is presented in Table 18-8.

Table 18-8: TMF ponds storage capacity

Parameters	Unit	TMF Main Pond	TMF Northwest Pond
2000 year, 24-hour storm	mm	150.8	150.8
100-year snow on the ground	cm	118.7	118.7
Density (assumed)	g/ml	0.32	0.32
Snow Water Equivalent	mm	379.9	379.9
Total design event	mm	530.7	530.7
Runoff coefficient (weighted average)	-	0.8	0.8
Climate change factor	-	1.18	1.18
Total design event volume	m^3	327,300	40,100
Dead Storage	m^3	20,000	5,000
Total required Storage	m^3	347,300	45,100

18.3.21.4 TMF Contact Water Ditches

Contact water collection ditches will be built along the toe of the TMF to collect and convey drainage from the TMF to the TMF ponds. A non-contact water diversion ditch will be built along the north western limit of the TMF to divert runoff from a small undisturbed catchment north of the TMF.

The contact water collection ditches will be constructed in excavation along the toe of the TMF; small berms may be constructed in areas with flatter topography to reduce excavation requirements. The ditches will be lined with an exposed LLDPE liner. Small sumps will be constructed at topographic low point along the toe of the TMF to collect runoff and seepage and pump it to the TMF ponds.

18.3.21.5 TMF Non-contact Water Diversion

The non-contact water diversion ditch will extend along the northwestern toe of the TMF and will continue around the TMF Northwest Pond to the discharge into a natural creek past the pond. The non-contact water diversion ditch will be lined with riprap material for erosion protection. An energy dissipation structure will be constructed at discharge to the environment for erosion protection.

18.3.22 Water Management

18.3.22.1 Water Management Infrastructure Description

Water management infrastructure for the mine will include:

- Non-contact water diversion ditches to collect and divert external catchments runoff around the TMF (see Section 18.3.21.5) and runoff from small undisturbed areas throughout the mine site;
- Contact water collection ditches to collect runoff and seepage from the TMF (see detailed description in Section 18.3.21.4) and from disturbed areas at the mine site (e.g., waste rock piles, mineralized material stockpiles, platform and haul roads) and convey it to collection ponds;
- TMF ponds (see Section 18.3.21.3) and other collection ponds (ponds A to I) to temporary store contact water runoff and seepage for re-use in the mining process or treatment and discharge to the environment;
- Pumping systems to pump water from the collection ponds to the process plant for re-use or to the water treatment plant;
- Sumps, pumps and pipelines to collect groundwater inflows to the underground mine and pump it to the process plant for use in the mineral process and/or to treatment prior to discharge to the environment;
- Water treatment plant to treat contact water in order to meet water quality criteria for discharge (see Section 18.3.23);
- Polishing pond downstream of the water treatment plant for monitoring prior to discharge;
- Existing water management structures (e.g. ditches and ponds for the existing waste rock facility) will be integrated with the new system of ditches and ponds.

The layout of the water management structures is provided in Figure 18-4.

The site contact water includes the water that has been in contact with the WRS (ponds A, F), the MMS (ponds E), as well as the industrial zone, which includes the ROM pad, the crusher, the process plant, the roads, etc. (ponds B, C, G, H). This water will be collected and directed to two accumulation ponds by a system of peripheral ditches, transition basins and pumps, as shown in Figure 18-4 and Figure 18-5. Water from the WRS and the MMS will be directed to one of the accumulation ponds (pond I) (WRS/MMS contact water), and the rest of the water from the industrial zone will be directed to the other accumulation pond (site contact water) (pond D), because of the expected different water quality resulting in different treatment. Water from the topsoil stockpiles is collected in ditches, conveyed to sedimentation ponds (ponds J, K) and tested before being discharged into the environment.

18.3.22.2 Water Management Infrastructure

The proposed water management design uses most of the existing ditches and ponds to minimize construction costs and minimize the environmental footprint. Existing water management infrastructure include:

- Two small size ponds and one larger pond located next to the existing water treatment plant which collect the existing WRS contact waters;
- Peripheral ditches around the existing WRS.

The capacity of each transition and accumulation pond, as well as the infrastructure to which it is associated is listed in Table 18-9. A water pumping system is required as site constraints do not allow for gravitational flow between ponds. The available space in some areas is insufficient to allow the construction of large-size ponds, therefore some pump capacities have been increased.

All ditches and ponds conveying site contact water are designed with geosynthetic liners to ensure no contact water is released into the environment. Therefore, no direct discharge of site contact waters into the environment is expected, as per applicable regulation. The construction works also include topsoil removal, backfill and excavation when required, installation of geosynthetic materials (geotextiles and geomembrane), and backfill of granular protection material. Considering that rock excavation was necessary during the 2020 construction of the WRS expansion and pond, similar works are expected for the upcoming infrastructure construction. The geotechnical investigation planned in 2021 will provide further information on the need for drilling and blasting operations.

Table 18-9: Proposed pond capacities

Pond Identification	Type	Capacity (m^3)
Pond A	Transition	4,700
Pond B	Transition	5,100
Pond C	Transition	16,400
Pond D	Accumulation	71,500
Pond E	Transition	11,800
Pond F	Transition	11,000
Pond G	Transition	1,200
Pond H	Transition	900
Pond I	Accumulation	118,500
Pond J	Sedimentation	14,600
Pond K	Sedimentation	7,200

18.3.22.3 Underground Mine Water Management

Groundwater inflows to the underground mine are estimated to range from approximately 1,650 m^3/day at the beginning of mine operation to approximately 4,200 m^3/day. Groundwater inflows will be collected in a series of sumps within the underground mine and will be pumped to the process plant for use in the mineral process, with excess pumped to the treatment plant prior to discharge to the environment.

Contact water from different mine areas will be collected separately based on water quality, to the practicable extent. Details on treatment requirements for contact water from different areas are provided in Section 18.3.23.

18.3.22.4 Mine Water Balance

A monthly water balance model was developed to estimate the amount of mine water available at the mine site and identify requirements for water treatment.

The water balance model accounts for all three tailings streams: thickened tailings, paste backfill, and filtered tailings. Water contained in the various tailings streams was estimated based on the tailings production rate and characteristics of the different tailings materials. It was assumed that all water in the placed filtered tailings (in the TMF) and paste tailings (in the underground) would remain within the tailings material, representing a loss to the system. Losses in the thickened tailings deposited in the TMF (entrapment losses) were calculated based on estimated long term tailings consolidation rate.

Drainage from precipitation over the mine facilities was estimated based on available climate characteristics (see Chapter 5) and assumed runoff coefficients. The facilities are modelled based on the final mine footprint. The progressive development of mine facilities is not accounted for in the water balance model, except for the mineralized stockpile expanding into a waste rock piles in Year 10.

Mine water at the site was divided in the following categories:

- Mine water from mineralized material stockpiles and waste rock piles;
- Mine water from platforms and haul roads;
- Mine water from the TMF;
- Water extracted from the filter plant;
- Mine water from overburden stockpiles;
- Groundwater inflows to the underground mine.

The process plant fresh water demand is assumed to be extracted from the groundwater inflows at the rate of 216 m^3/day constantly throughout the life of mine. The following priorities for use as make-up water at the process plant were considered in the water balance model:

1. Filter plant extracted water (when filter plant in function);
2. TMF contact water;
3. Surface water from mine facilities other than the TMF (mineralized material piles and platforms/haul roads);
4. Underground mine dewatering (i.e., groundwater inflows to the underground mine).

Any amount of mine water exceeding the process plant demand is assumed to be sent to the water treatment plant.

Conceptual water balance flow diagrams are provided in Figure 18-19 and Figure 18-20, including key model results for Year 17 of the life of mine. Year 17 was selected as it is representative of normal mine operations (steady state tailings productions, after initial ramp-up period) with larger estimated treatment requirements (compared to previous years of the life of mine). Figure 18-19 and Figure 18-20 provide, for the key flow paths, estimated annual average flow rates and maximum monthly flow rates respectively.

The flow diagrams include all tailings processes (thickened tailings, filtered tailings and paste tailings). Some of the tailings streamflows will be inactive during periods of the life of mine, e.g. paste and filtered tailings will not be produced in the early years of mine operations and thickened tailings will not be produced from Year 4 onwards.

Water returned to the process plant by drainage from the mine facilities represents drainage from all types of facilities (mineralized material piles, waste rock piles, platforms and haul roads). The prioritization of surface water use among these facilities will be refined at the feasibility stage.

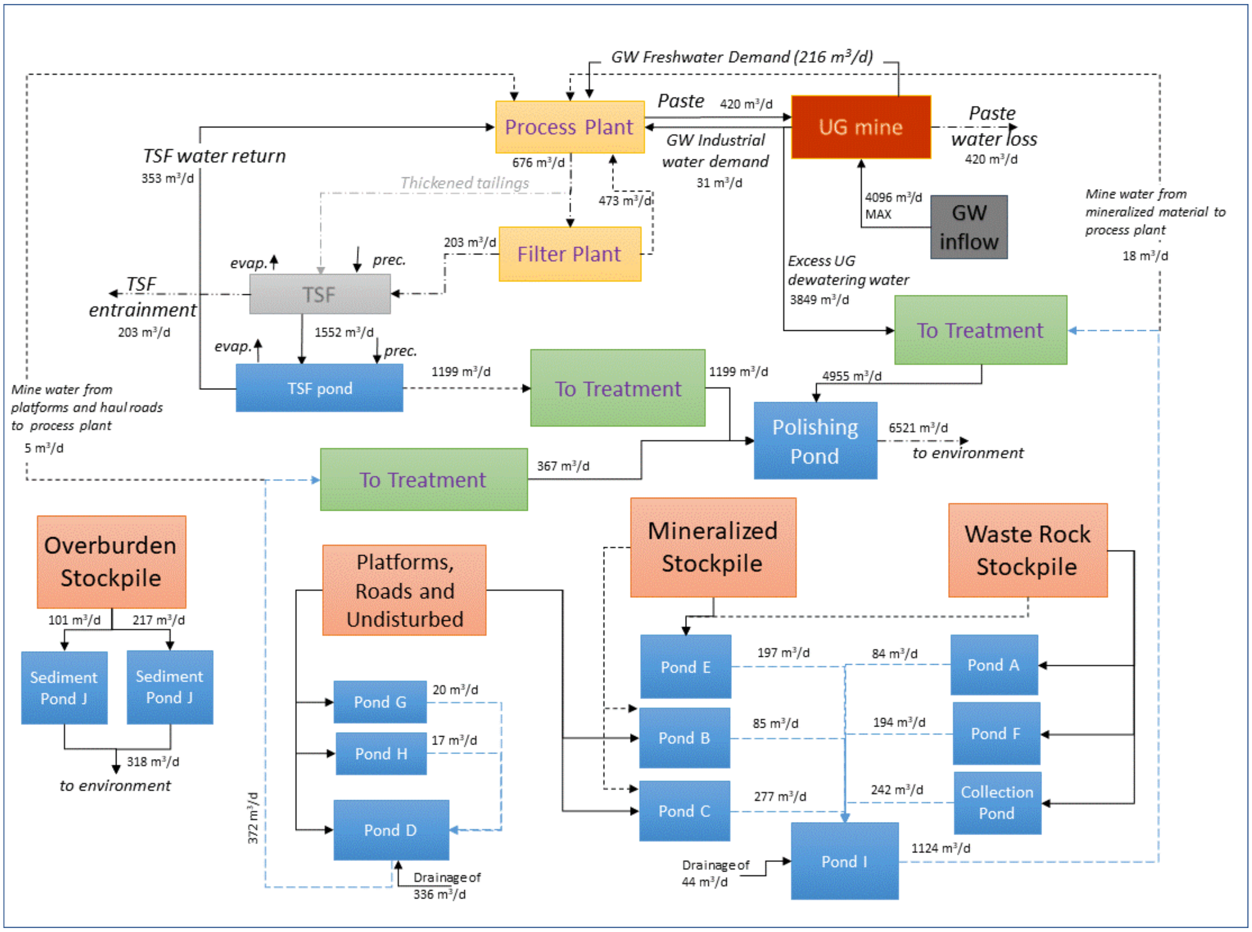


Figure 18-19: Water balance conceptual flow diagram – Average annual flows Year 17

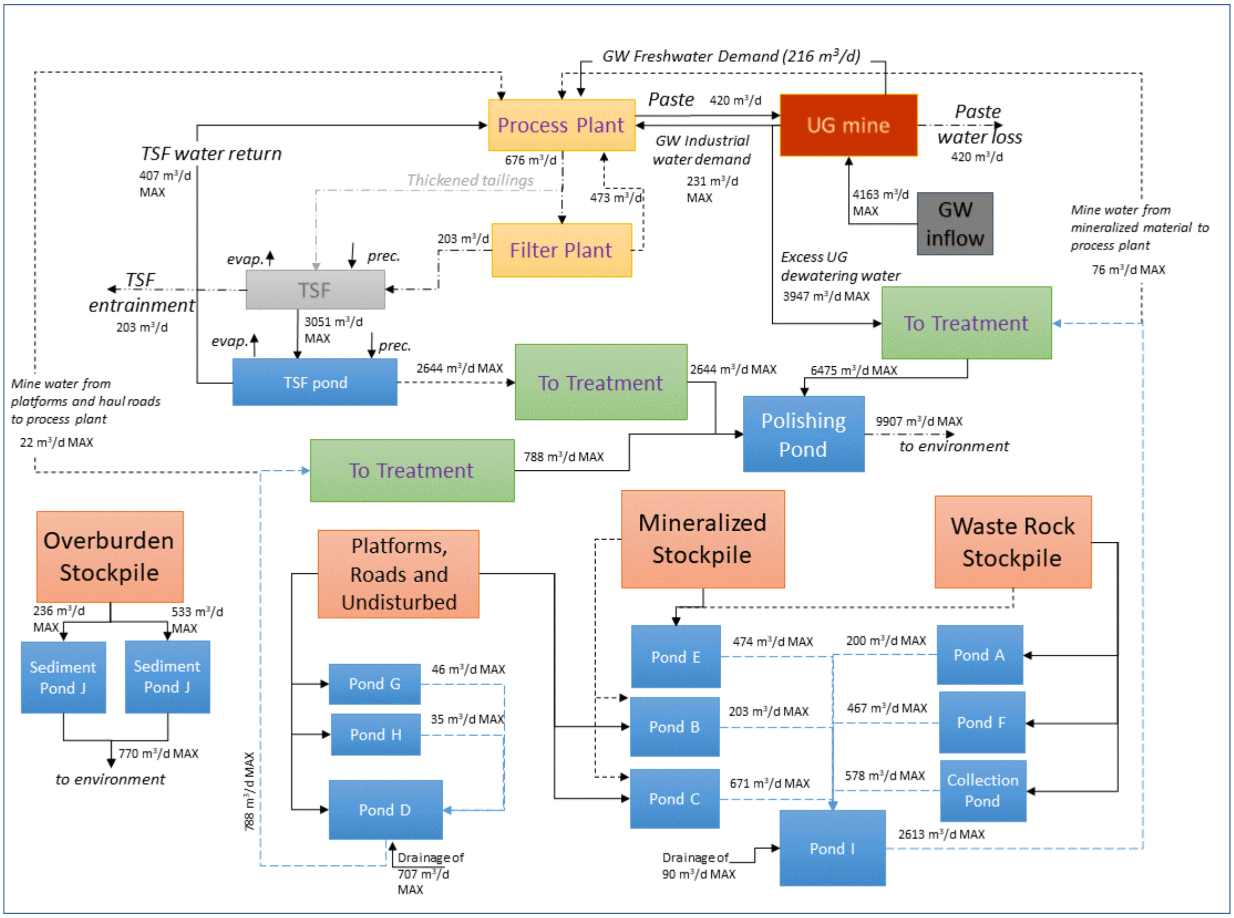


Figure 18-20: Water balance conceptual flow diagram – maximum monthly flows – Year 17 (Note that this diagram does not show water balance since it presents monthly maximums)

18.3.22.5 Polishing Pond

After going through the treatment plant (see section 18.3.23), water will be conveyed to a polishing pond. The polishing pond is designed for a capacity of about 19,000 m³. Its purpose is to allow 48 hours of residence to finalize the treatment and for a final water quality check before discharge to the environment. The pond will be partially excavated and be surrounded by a dike.

18.3.23 Water Treatment

Water treatment will be required at the Windfall Project site to:

- Meet the Mining effluent discharge criteria form the provincial Directive 019 (MDDEP, 2012) and the Metal and Diamond Mining Effluent Regulations (“MDMER”) (Fisheries Act, 2019) from Environment and Climate Change Canada.
- Aim, within economic and technical limits, to meet potential Environmental discharges objectives (“OER”) which have not been defined for the project yet.

Three types of water have been identified based on treatment requirement. Types of water and maximum flowrates, based on water balance results developed by Golder (Golder, 2021) and extreme events, are presented in Table 18-10.

Table 18-10: Maximum flowrates and constituents to treat for each type of water

Type of water	Constituents to treat	Maximum flowrate (m^3/h)	
		Y0 to Y2	Y3 and up
Site contact water(1)	Total suspended solids (TSS)	100	100
TMF water(2)	Metals, TSS, Thiocyanides (SCN)(4)	35	70
WRS/MMS contact water and UG water(3)	Metals, TSS, (Ammonia) NH_3	132.5	224

Notes:

(1) Site contact water is the runoff water from the site infrastructure such as plant, roads, pads, etc.

(2) TMF water is the water pumped from the TMF pond (extreme event flowrates still under review).

(3) WRS/MMS contact water is run off water from the waste rock stockpiles and the mineralized material stockpile. UG water is the water pumped from the underground mine.

(4) SCN treatment will not be required once the tailing technology switches to filtered tailings.

The preliminary process flow diagram of the water treatment plant is presented in Figure 18-21

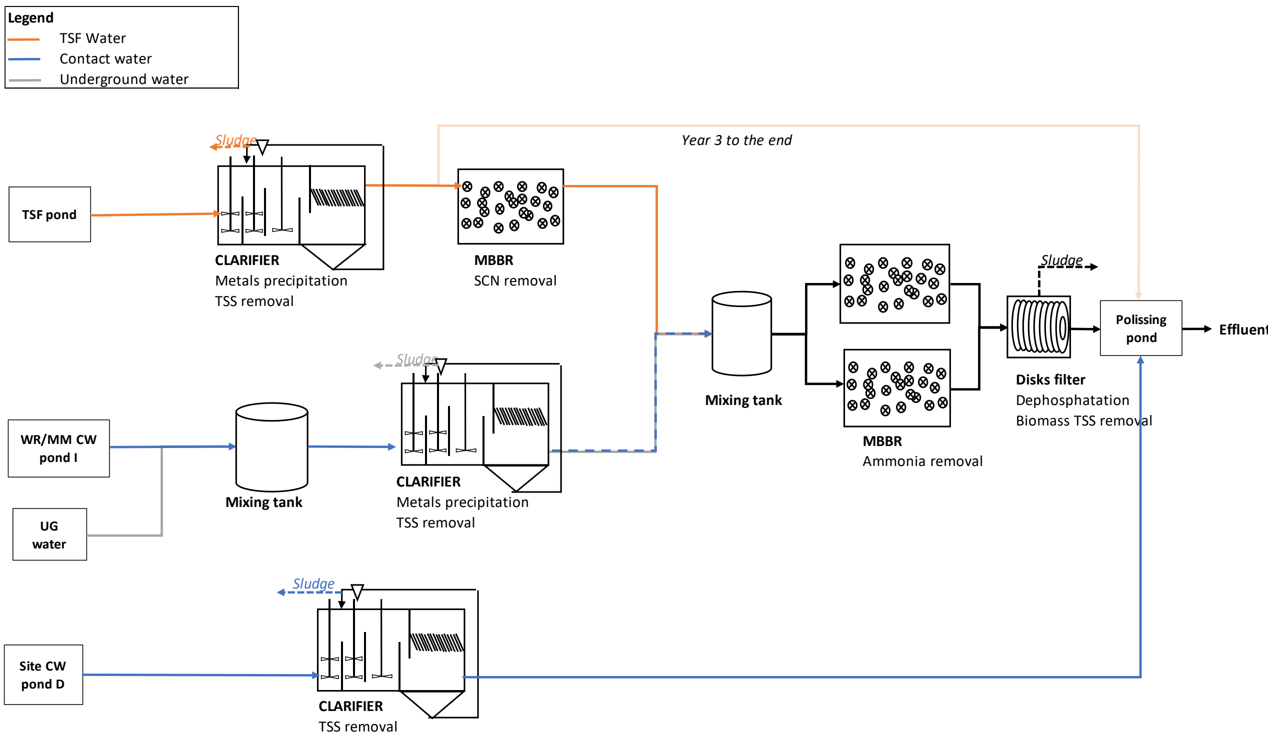


Figure 18-21: Preliminary process flow diagram of the Windfall mine site water treatment plant

Water from the TMF will be treated for metals and TSS in a combined reactor/lamellar clarification unit prior to being processed through biological units (moving bed bioreactor: MBBR) to remove thiocyanides. Thiocyanides bio-oxidation produces ammonia which will be managed with other ammonia contaminated waters (WRS/MMS and UG) in the final nitrification step. Site contact water will be collected into pond D and treated in a single step clarification unit to remove TSS. WRS/MMS contact water will be collected in pond I. Treatment of WRS/MMS contact water and UG water will start with metals and TSS removal in a combined reactor/lamellar clarification unit, followed by a MBBR unit for nitrification of ammonia. The effluent from the biological plant will be filtered into a disks filter unit to remove biomass flocs and excess phosphorus prior to discharge. Sludge management will be considered at the next phase of the Project.

The three clarifiers are rent-to-own over a three-year period. The other units will be bought new for permanent installation.

More details are available in the GCM technical memorandum 2021.

18.3.24 Waste Rock Stockpile

18.3.24.1 Design and general considerations

The waste rock volumes to be stored have been calculated from the tonnage estimated in the LOM document. A swell factor of 1.3 and a rock density of 2.65 t/m^3 were assumed. It is expected that a total of 6.58 Mt (3.23 Mm^3) of waste rock will be stored on the stockpile at the end of the LOM. The volume of waste rock that was used for construction purposes and that needs to be returned to the stockpiles during reclamation has been considered. The location of the main and secondary stockpiles is shown in Figure 18-3.

The main WRS, which is in use since the acquisition of the Windfall site by Osisko, was expanded a first time in 2018 and again in 2020. The 2020 extension is currently in use and has a total capacity of 1.4 Mt (0.69 Mm^3). The maximum capacity is expected to be reached in mid-2025, therefore, an extension of 3.98 Mt (1.95 Mm^3) to the west is planned to be built in 2024. The capacity of this last extension is expected to be reached in the beginning of 2037. The remaining waste rock is planned to be stored on the footprint of the low-grade MMS once it is empty and expanded; the low-grade MMS has a total capacity of 1.9 Mt (0.94 Mm^3) of waste rock.

Considering the cumulative total storage capacity described above is of 7.29 Mt (3.58 Mm^3) for currently required capacity of 6.58 Mt (3.23 Mm^3), a 10% additional storage capacity is available.

The proposed design for the extension of the main WRS and the secondary WRS, located on the exact same footprint prior used by the low-grade MMS, is based on the following geometry:

- Maximum height of 20 m;
- Overall final slopes of 3H:1V;
- Bench height of 10 m, for a total of two benches;
- Berm width of 10 m between each bench.

The location and design of the WRS aim to reduce the impact on the environment by limiting the mine site footprint and hauling distances in building the stockpile next to the existing waste rock stockpile. The use of the low-grade MMS footprint for waste rock storage towards the end of LOM also allows Osisko to reuse impacted surfaces. Site constraints such as topography, the presence of lakes and marshlands, as well as the presence of access roads were also considered. The proposed design follows the Design for Closure Concept as low-profile stockpiles reduce the rework required during reclamation and allows for a better integration into the surrounding landscape.

Required works for the construction of the WRS include topsoil removal, backfill and compaction and excavation where required, and landscaping. Rock excavation will most likely be required during the construction of the low-grade MMS and has been included in the construction cost estimate. As the waste rock is classified as leachable for metals (silver, arsenic, barium, copper, mercury, molybdenum, and/or zinc); but not classified as high-risk for metal leaching and some lithologies are classified as PAG, the WRS footprint will be lined with a geomembrane and two protective layers of geotextile (one beneath and one on top) to promote contact water conveyance to the peripheral ditches. A layer of 0-56 mm granular material will be placed on top of the geosynthetic liners for protection against heavy machinery traffic. The two previous WRS extensions (2018 and 2020) were built following the same construction sequence and have proven to be effective.

18.3.24.2 Geotechnical considerations

The proposed design for the WRS is supported by preliminary stability analyses conducted for the 2020 WRS extension and is based on geotechnical data such as soil type and depth and hydrogeological data such as in-situ piezometric values. This data was obtained from previous site investigations conducted over the years (Genivar, 2008). Data and observations show that the overburden is mainly composed of poorly graded sand to silty sand, with little occurrence of clayey materials (WSP, 2020).

Geotechnical investigations planned for in 2021 will confirm the proposed design assumptions and allow to conduct stability analyses specific to the stockpile design proposed in this PEA. These works will be carried out within the framework of the feasibility study.

18.3.25 Mineralized Material, Topsoil and Overburden Stockpiles

18.3.25.1 Mineralized Material Stockpile

A mineralized material stockpile with a capacity of 18,000 m^3 (27,000 t to 39,000 t), depending on the hauling equipment constraints) is planned to be located next to the crushing plant, as shown in Figure 18-3. A mineralized material density of 2.8 t/m^3 and a swell factor of 1.3 were assumed.

The stockpile is designed to have a maximum height of 4 m and 4H:1V slopes and will be used as temporary storage before the mineralized material is transferred to the crusher.

As the mineralized material are classified as PAG and leachable for metals (silver, arsenic, cadmium, copper, mercury, selenium, and/or zinc); but not classified as high-risk for metal leaching, this stockpile footprint will be lined with geomembrane and protective layers of geotextile. A peripheral drainage ditch which encircles the process plant area is designed to collect the runoff water. Other construction works required are topsoil removal, overburden excavation, landscaping and backfill of a layer of granular material to ensure the protection of the geosynthetic liners.

18.3.25.2 Low-Grade Mineralized Material Stockpile

A low-grade mineralized stockpile is planned to be located near the crushing plant and the MMS, as shown in Figure 18-5. This low-grade MMS is expected to be built in two stages:

- The southern section construction is planned for 2022 to store 0.71 Mt (0.33 Mm^3) of low-grade mineralized material until 2029;
- The northern section has a capacity of 1.24 Mt (0.61 Mm^3) of waste rock and is planned to be built in 2036 to store waste rock once the main WRS capacity is reached.

Once empty of mineralized material and expanded, this facility will reach a total capacity of 1.9 Mt (0.94 Mm^3) of waste rock.

It is assumed that the mineralized material will be stockpiled following the same geometry as the waste rock stockpiles:

- Maximum height of 20 m;
- Overall final slopes of 3H:1V;
- Bench height of 10 m, for a total of two benches;
- Berm width of 10 m between each bench.

However, since the required mineralized material storage capacity (0.62 Mt) is lower than the available capacity (0.71 Mt), the pile geometry may be changed to optimize hauling costs of low-grade mineralized material.

The low-grade MMS footprint will be lined and encircled by a peripheral drainage ditch which is designed to collect the site contact water from the crushing plant and the MMS area thus collecting and conveying contact water to the WTP. The low-grade MMS will be built following the same sequence as the MMS. However, photointerpretation of surface deposits and rock topography extracted from borehole logs confirms the presence of rock outcrops and it is therefore expected that rock excavation works will be required.

18.3.25.3 Topsoil and Organic Material Stockpile

The topsoil to be stored and managed at the Windfall site comes mainly from the site preparation required for the construction of the TMF, the process plant, as well as the stockpiles and ponds. The required storage capacity was estimated using the area of the proposed infrastructure, the topsoil thickness estimated from previous site works, and surface deposit mapping from aerial photos. It is expected that topsoil thickness varies between 0.5 m and 2 m. Therefore, the total estimated overburden volume to be stored is approximately 1.4 Mm^3 and will mainly include organic material such as peat and small trees.

Osisko intends to use 0.22 Mm^3 of topsoil as it becomes available for progressive reclamation in the first years of mine operations which allows for reduction of the footprint of the topsoil stockpiles.

Located south of the existing WRS, the existing topsoil stockpile has estimated capacity of 0,04 Mm^3. It is planned to build an extension of 0,25 Mm^3. The total combined capacity of this stockpile is designed to be 0.29 Mm^3.

The topsoil excavated prior to the construction of the TMF will be stored in a second topsoil stockpile with a capacity of 0.73 Mm^3 located north of the TMF. This second proposed location reduces haulage distances during the construction of the TMF and during reclamation works at the end of the LOM.

The footprint of the two proposed topsoil stockpiles will be covered with a geotextile layer and protected with some granular material. The stockpiles will not be lined with a geomembrane, but runoff water will be captured by peripheral ditches and directed to sedimentation ponds before it is released to the environment. In the event of contact water not meeting water quality guidelines, the topsoil stockpile runoff water will be treated by the WTP prior to discharge to the environment. The water management infrastructure can be adjusted for this purpose if required. The proposed topsoil stockpiles design uses 4H:1V overall slopes, and a single lift of a maximum height of 7 m.

18.3.25.4 Overburden storage

The overburden excavated during the construction of the Windfall Project consists mainly of granular material such as sand and silty sand. Most of this material will be used as soon as it becomes available for infrastructure works and road construction. If required, the exceeding material will be temporarily stored in the existing borrow pit, located to the north east of the low-grade MMS, which is already considered as an impacted area.

Table 18-11: Existing and proposed stockpile capacities

Stockpile	Capacity (Mm^3)	Capacity (Mt)
Existing Waste Rock Stockpile (WRS)	0.69	1.40
Waste Rock Stockpile (WRS, West Extension)	1.95	3.98
Low-Grade Mineralized Material Stockpile (Low-Grade MMS)	0.33	0.71
Low-Grade Mineralized Material Stockpile (Low-Grade MMS), Waste Rock Storage (WRS) including extension.	0.94	1.9
Mineralized Material Stockpile (MMS)	0.018	0.039
Topsoil Stockpile (north of TMF)	0.73	-
Topsoil Stockpile (Extension of existing topsoil dump)	0.25	-

19. MARKET STUDIES AND CONTRACTS

19.1 Introduction

The Windfall Project will produce gold and silver in the form of doré bars. The market for doré is well established and accessible by all new producers. Doré bars produced from the Windfall Project are and will be refined in a certified refinery of which there are many available in the Eastern North America and the gold and silver sold on the spot market.

19.2 Market Studies

Gold and silver are freely traded precious metal commodities on the world market, for which there is a steady demand from numerous buyers. The markets for gold and silver are global in nature and is unlikely to be affected by production from the Project.

Due to their widely traded nature, it is not difficult to determine the market value of gold or silver at any particular time. Gold and silver are typically sold through commercial banks and metal traders with sales price obtained from the World Spot or London fixes. These contracts are easily transacted and standard terms apply. BBA expects that the terms of any sales contracts would be typical of, and consistent with, standard industry practices and would be similar to contracts for the supply of doré elsewhere in the world. Limited additional effort is expected to be required to develop the doré marketing strategy.

19.3 Exchange Rate and Precious Metal Price Projections

This PEA assumes a long-term CAD/USD exchange rate of 1.30:1.00, a gold price of USD1,500/oz and a silver price of USD21.00/oz to support the base case economic analysis as summarized in Chapter 22. The CAD/USD exchange rate and metal prices were established by Osisko based on consensus pricing derived from bank analysts' long-term forecasts (March 2021), historical metal price averages and prices used in recent publicly disclosed comparable studies that were deemed to be credible. The forecasted exchange rate and precious metal prices are kept constant and are meant to reflect long term expectations over the life of the Project. It should be noted that exchange rate and precious metal prices can be volatile and that there is the potential for deviation from the LOM forecasts.

19.4 Contracts

There are no refining agreements or sales contracts currently in place for the Project that are relevant to this Technical Report. BBA expects that terms contained within any sales contract that could be entered into would be typical of and consistent with standard industry practices, and be similar to contracts for the supply of gold and silver elsewhere in the world.

There are several large third party precious metal refineries with well-established industry relationships in North America. Among the more notable ones are:

- Metalor Technologies USA; North Attleboro, Massachusetts, USA;
- Johnson Matthey; Salt Lake City, Utah, USA;
- Canadian Mint; Ottawa, Ontario, Canada.

None of the aforementioned companies have been contacted to provide a competitive treatment bid.

This PEA assumes a refining, transportation and insurance charge of USD5.00/oz of gold and payable terms of 99.95% for gold content and 99.5% for silver content. Over the life of mine, it is estimated that refining charges will total approximately CAD28.1M.

19.5 QP Note

Colin Hardie, QP, notes that Osisko's gold and silver pricing as well as the CAD/USD exchange rate, used in the cashflow analysis, are aligned with BBA's internal guidelines and recent surveys of industry-consensus prices available in the public domain.

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

This chapter summarizes the existing environmental and social conditions within the Project area based on data available at this stage of the Project. It also provides the environmental requirements for mineralized material, waste rock and tailings disposal, site monitoring, and water management. The regulatory context applicable to the Project, including the environmental impact assessment ("EIA") process and preliminary permitting requirements, is then overviewed, as well as the social and community requirements. The consultation activities conducted so far and the main concerns raised by the different stakeholders consulted are also listed. Finally, it outlines the mine closure requirements and costs.

20.1 Environmental Baseline Studies

During the period spanning 2007-2015, several environmental studies, analyses, and reports have been completed for the Project, more specifically at the Windfall site. After Osisko acquired the Project, additional baseline studies were carried out between 2015 and 2020 at the Windfall site to obtain up-to-date data as well as get an accurate picture of existing conditions within the Project area to allow assessing the Project's impacts for the EIA.

Environmental components studied include the following:

- Aquatic fauna;
- Fauna (avifauna, mammals and herpetofauna);
- Geochemical assessment (on-going);
- Hydrology;
- Hydrogeology and groundwater quality (on-going);
- Noise;
- Surface water and sediments;
- Vegetation and wetlands.

Since 2018, new project components located outside of the previous study areas have been added. To complete the previous studies and to establish the existing conditions of the new areas, additional field inventories will be carried out in 2021, such as:

- Aquatic fauna;
- Hydrology;
- Hydrogeology and groundwater quality;
- Noise;
- Soil natural background assessment;
- Surface water and sediments;
- Wildlife (avifauna, mammals, herpetofauna, chiropterans).

Finally, the following environmental assessments will be required to comply with the EIA requirements:

- Atmospheric dispersion modelling;
- Climate change resilience;
- Greenhouse gas emissions assessment;
- Hydrogeological modelling;
- Noise and vibration modelling;
- Water quality modeling.

The following sub-sections summarize the existing environmental baseline conditions and outline potential environmental issues.

20.1.1 Baseline Conditions

The following sub-sections summarize the Project's current biophysical environmental conditions. Unless mentioned otherwise, the information comes from WSP's studies.

20.1.1.1 Aquatic Fauna

Three recent field campaigns were conducted in the summers of 2016, 2017 and 2018 to characterize fish communities in 10 lakes and 14 watercourses. Except for the Kettle Lake, fish were caught in all waterbodies inventoried. Twelve species were captured, which some are of interest for sport and traditional fishing. All watercourses having a direct link with a waterbody where fish presence has been confirmed should be considered as fish habitat, unless obstacle to free flow of fish has been documented. Information from workers and members of the Waswanipi community regarding fish will be gathered along the EIA process and be used to complete field data. No special status species have been recorded.

According to available data and preliminary assumptions, the mine waste disposal facilities (tailings and waste rock) and their related water ponds are not located on fish habitat.

20.1.1.2 Wildlife

Avifauna

Inventories of avian fauna were carried out in 2016 and 2017. A total of 70 bird species (28 families) were observed. Of this number, the nesting was confirmed for 16 species, and was judged probable for 17 and possible for 35. Two additional species were observed, but no nesting status was given. By combining the observations from the inventories and public database, the list of species using the study area or its surroundings during the spring migration, nesting, fall and winter migration periods, shows the presence of 76 species.

Along with the bald eagle, a total of five special status bird species were observed within the Windfall Project area: the common nighthawk (*Chordeiles minor*), the rusty blackbird (*Euphagus carolinus*), the olive-sided flycatcher (*Contopus cooperi*), and the Canada warbler (*Cardellina canadensis*).

Micromammals

Inventories carried out in August 2016 confirmed the presence of five species of micromammals.No special status species were found, and no mention is recorded in the government databases in a 15 km radius from the Windfall Project site.

Chiropterans

Inventories on chiropterans were carried out in 2016 and 2017. The presence of six species was confirmed: the hoary bat (*Lasiurus cinereus*), the northern long-eared bat (*Myotis septentrionalis*), the red bat (*Lasiurus borealis*), the big brown bat (*Eptesicus fuscus*), the little brown bat (*Myotis lucifugus*), and the silver-haired bat (*Lasionycteris noctivagans*).

Both the northern long-eared bat and the little brown bat are on the federal endangered species list of the *Species at Risk Act*, whereas the hoary bat, red bat and silver-haired bat are listed on the provincial list of wildlife species, which are likely to be designated as threatened or vulnerable. No hibernacle nor maternity were confirmed within the Project's area during the 2016-2017 inventories.

Other Mammals

No specific inventories were done to document terrestrial wildlife, with the exception of the woodland caribou (see below) and the moose. However, the presence of seven species was confirmed during the field work conducted in 2016 and 2017. Information from workers and members of the Waswanipi community regarding wildlife will be gathered along the EIA process and be used to complete field data.

The woodland caribou (or Boreal caribou) is a federal and provincial special status species whose presence has been documented in Northern Quebec. The closest population, designated as the Assinica herd, which occupies the territory northeast of Lebel-sur-Quévillon, is the most likely to frequent the Project study area. The inventory carried out in March 2018 found only three caribou in the southern limit of the study area, nearly 20 km from the Windfall Project site. Observations from the 2018 inventory, combined with current knowledge, indicate that woodland caribou have made very little use of the study area over the past decade within a radius of approximately 50 km from the Windfall Project site.

The Windfall Project site is located 80 km south of the application area for *the Woodland Caribou Habitat Stewardship Plan*. Furthermore, the Project's influence area (50 km radius) does not overlap with critical habitat defined in the *Recovery Strategy for the Woodland Caribou in Canada*.

Herpetofauna

Inventories on herpetofauna were carried out in 2017. Opportunistic observations were also noted during various field campaigns conducted in 2016 and 2017. The presence of eight species was observed. Based on the Atlas of Amphibians and Reptiles of Québec, six other herpetofauna species could potentially be found within the study area.

No special status species were found, and no mention is recorded in the government databases in a 10 km radius from the site.

20.1.1.3 Hydrology

Four field surveys, two in 2015 and two in 2016, were conducted to characterize watercourses likely to be affected by the Project. The two targeted watercourses belong to different watersheds: watercouse R1 is part of watershed 03AA000, which flows into Matagami Lake via the Waswanipi River, and watercourse R2 is part of watershed 03AC000, which also flows into Matagami Lake, but via the Bell River.

The specific average annual flow of both watercourses has been estimated at 33.5 L/s/km². The annual low flow rate of $Q_{10.7}$ has been estimated between 0.8 and 5.2 L/s/km², while the annual low flow rate of $Q_{2.7}$ has been estimated between 1.7 and 6.5 L/s/km². The high flow rate for a 2-year return period varies from 280 to 320 L/s/km². Those low values are mainly explained by the relatively flat watersheds containing a high proportion of waterbodies and wetlands.

20.1.1.4 Hydrogeology and Groundwater Quality

This section describes the hydrogeological context at the Windfall Mine Site as presented in Section 16.3.

The hydrogeological conditions in the vicinity of the Windfall Project site were defined based on the field work conducted in 2017 and 2020 and past hydrogeological study (Genivar, 2008; Golder, 2018; Golder, 2020b). The results of these investigations are summarized in Golder (2020b). Surface deposits consist of fluvio-glacial sediments (sand and gravel), glacial till resting on felsic to mafic rocks intruded by granitoids and subvertical dikes, which are associated with the gold mineralization. Those geological formations are intersected by a complex network of brittle-ductile subvertical structures including Windfall and Romeo faults, directed NNE, and Bank fault related to the *Maséres* NE shear zone. Measured groundwater levels were overall close to the ground surface with depth ranging from 0.64 m to 14.8 m. Topography generally controls the groundwater flow directions.

Baseline Groundwater Quality

Groundwater quality data is available since 2007 and a bi-annual groundwater quality program is in place since 2017. The results of the groundwater sampling program for 2020 were compared to the *Ministère de l'Environnement et de la Lutte contre les Changements climatiques* ("MELCC") water consumption ("EC") and groundwater resurgence ("RES") criteria (Beaulieu, 2019). The criteria comparison was made for the 2020 results as they are the most recent data and considered the most representative of actual groundwater quality conditions.

Twenty-three wells were sampled in 2020. The groundwater samples were analyzed for dissolved metals, anions, cations, cyanides and nitrogen compounds, petroleum hydrocarbons C10-C50 and radionuclides. Physicochemical parameters including pH, electrical conductivity, oxidation reduction potential and temperature were also measured in situ during the sampling program. A similar analytical program was used for groundwater samples collected on previous years.

EC criteria exceedances were observed for Benzo(a)pyrene, ammoniacal nitrogen, nitrite, nitrite and nitrate, manganese, arsenic, aluminum, sulphide as H_2S, sulphide as S^{2-} and nickel. RES criteria exceedances were observed for ammoniacal nitrogen, barium, copper, manganese, mercury, nickel, nitrite, phosphorus, sulphide as H_2S, sulphide as S^2 and zinc.

20.1.1.5 Noise

Ambient noise level baseline was carried out in July 2017 at nine sensitive areas (residences, cottages, etc.) along the access road from Lebel-sur-Quévillon to the Windfall Project site, as well as within the Windfall Project site itself, in order to determine the ambient noise before the mining activities, and to determine the noise criteria for each sensitive area according to land uses and applicable regulations. Noise criterions depend on the Project phase (construction vs mining activities) and on the station location (sensitive zone vs non sensitive zone).

For the construction phase, all measured residual noise levels are lower than those provided for in *Lignes directrices relativement aux niveaux sonores provenant d'un chantier de construction industriel* (MDDELCC, 2015) (55 dB_A at day and 45 dB_A at night).

For the mining phase, all measured residual noise levels are lower than those provided for in Table 1 of *Directive 019 sur l'industrie minière* (45 dB_A at day and 40 dB_A at night / 70 dBA day or night for station P1 (Lebel-sur-Quévillon non-sensitive zone)).

Along the access road, all measured residual noise levels are lower than those provided for in the *Politique sur le bruit routier* of the Transports Ministry of Québec (MTQ, 1998) (55 dBA).

The next step will be to model noise levels resulting from mining activities. If required, site-specific mitigation measures will be proposed to respect applicable noise regulations.

20.1.1.6 Surface Water and Sediments Quality

Sampling campaigns were conducted in 2010, 2015, 2016 and 2017 to characterize surface water and sediment quality of water bodies and water courses that could be affected by mining activities. Over the years, nine water bodies and six water courses were sampled.

The surface water results from the 2016-2017 campaign (6 campaigns; 7 stations) show that aluminum and mercury are the parameters with the most concentration exceedances. All stations had at least one campaign with either one or both of those metals in exceedance. A number of exceedances of one or several criteria were observed at some stations during one or several campaigns for phosphorus, lead, zinc and pH.

The surface water results from the 2015 campaign (1 campaign; 6 stations) show that aluminum and iron are the parameters with the most concentration exceedances.

The surface water results from the 2010 campaign (1 campaign; 4 stations) show that aluminum, copper and lead are the parameters with the most concentration exceedances in the samples collected at the bottom of Windfall Lake and SN1.

Sediments samples were collected in 2017 at 4 stations. The results are all below applicable criterions, except for SN4 where the sample showed exceedances for mercury concentrations. This sample also showed higher concentration for several parameters compared to the three others water bodies sampled in the 2017.

Sediments samples were collected in 2015 at six stations. The results are all below applicable criterions, except for CE-5 where the sample showed exceedances for arsenic and cadmium concentrations.

Sediments samples were collected in 2010 at four stations. The results are all below applicable criteria. However, some detection limits were above the criterion, which did not allow the interpretation of all the results.

20.1.1.7 Vegetation and Wetlands

A total of 88 characterization plots or validation points were carried out in 2016 and 2017 to describe the vegetation and wetlands within an extended and limited study areas.

Across the extended study area totalling 3,502 ha, 60.6% (2,121.96 ha) is occupied by terrestrial vegetation, while 37.3% (1,305,8 ha) are wetlands and waterbodies. As for the limited study area totalling 447 ha, 80.5% (360.15 ha) is occupied by terrestrial vegetation, while 12.9% (57,67 ha) are wetlands and waterbodies. The rest are anthropic lands.

Terrestrial vegetation is mainly represented by regenerating forest groups dominated by black spruce and white pine. Wetlands are dominated by both open and forested bogs.

No special status or invasive species have been reported.

Thirty-six (36) plants of potential interest by the Cree for traditional purposes were noted either on the field or in the literature. Those are common and abundant species within the Project area and the region.

The proposed layout will directly affect wetlands. The Regulation respecting compensation for adverse effects on wetlands and bodies of water applies to the entire territory of Québec situated south of the 49th parallel, except the part of the territory covered by section 133 (James Bay territory region located south of the 55th parallel) of the Environmental Quality Act (“EQA”). Also, the Project is not located on territories listed in Schedule I of the regulation. Therefore, no financial contribution will have to be paid. However, the MELCC might ask, during the EIA process for a compensation program to reclaim or create wetlands or bodies of water.

20.2 Mineralized Material, Waste Rock, Tailings and Water Management Requirements

The following sections describe the environmental requirements for mining materials storage management facilities based on available information. The Directive 019 is the main guideline for mineralized material, waste rock, tailings and water environmental management requirements.

20.2.1 Geochemical Assessment

An independent study was carried out by Golder (2021a) to define the geo-environmental properties of the mineralized material, tailings, and waste rock to be produced by the operations at the Windfall Project related to the potential for acid rock drainage (“ARD”) and metal leaching. The results are used to classify these materials according to the *Guide de caractérisation des résidus miniers et du minerai* (MELCC, 2020) (Provincial Guide). Process water chemistry was also evaluated; these results are expected to be used to inform the water management and treatment plan. Water quality modelling has not yet been completed and is expected to be carried out at a later stage.

Mineralized material, tailings, and process water samples were selected and provided by Osisko. They were not independently reviewed or verified; however, the geochemical results appear to be reasonable relative to the range of values expected for the mineralized material tested. There is some variability in material expected to be mined, relative to the samples used to evaluate tailings and process water quality. Changes in the process, or mined mineralized material relative to the sampled and tested materials will result in changes to the values observed. Waste rock samples from 2017-2018 were selected and collected by Golder, with the exception of the I1 Frag samples, which were selected by Osisko; however, the geochemical results for these I1 Frag samples appear to be reasonable relative to the range of values expected for the material tested. The waste rock samples collected in 2020 were selected by Golder, collected by Osisko, and a representative subset were then selected for inspection by Golder. Geochemical tests for these samples were managed by Golder.

It should be noted that rates to acidification presented herein are based on laboratory conditions of individual samples; these will vary under field conditions, and it is recommended that larger mixed-material column tests, field-cell tests, and/or monitoring programs of existing waste rockpiles be designed and conducted as the mine plan is developed to provide a better estimation of the scaling from laboratory to field conditions. It is also noted that waste rock samples were collected before the current mine plan was finalized; the representativeness of the 2017-2020 sampling program should therefore be revaluated and confirmed against the current mine plan (and any mine plan updates) to confirm adequate numbers of samples have been analyzed in order to sufficiently characterize all units that will be mined.

Mineralized Material

Twenty-one composite samples of mineralized material have been provided by Osisko from the Main Zone (a mix of Zone 27 and Caribou), Underdog, Lynx Main, Triple Lynx, and Lynx 4. The composite samples include variable lithology proportions, ore grades (low to high), and depths of mineralized zones when applicable (e.g., upper and lower zones for Caribou, Zone 27 and Lynx).

A summary of the geochemical characterization results obtained for samples of mineralized material is presented in Golder (2021a). The samples were classified as potentially acid generating (“PAG”) and leachable for metals (silver, arsenic, cadmium, copper, mercury, selenium, and/or zinc); they were not classified as high-risk for metal leaching. Mineral depletion calculations from kinetic testing suggest that all samples have the potential for acid generation in approximately 10 to 306 years, based on laboratory conditions. Management measures will need to account for the potential development of ARD and metal leaching in mineralized material stored on the surface for several years or more.

Waste Rock

One hundred and thirty three waste rock samples were collected from Caribou, Zone 27, Underdog, Lynx Main, and Triple Lynx between 2017 and 2020. As the mine plan had not been fully developed, waste rock was selected based on a cut-off of 3 g/t of gold. Quantities of waste rock per lithology were not available, so estimates of the quantity of each rock type were determined based on their proportions in the borehole database and estimated quantity of total waste rock to be generated. The major sampled lithologies are rhyolite or felsic volcanics (V1), andesite or mafic volcanics (V2), fragmental porphyry units (I2P and I1P Frag), granodiorite dike ‘Red Dog’ (I2F), porphyry dikes (I1P YL, I1P TrY, I1P YB), and mafic sill (I3A).

A summary of the geochemical characterization results obtained for waste rock is presented in Golder (2021a). PAG classification of waste rock is variable depending on lithology and variable within some lithologies. In general, rhyolitic or felsic volcanics (V1), andesite or mafic volcanics (V2), porphyry dikes (I1P), and fragmental porphyry (I2P) lithologies are mostly classified as PAG, while fragmental porphyry (I1 Frag), granodiorite dike ‘Red Dog’ (I2F), and mafic sill (I3A) lithologies are mostly classified as non-PAG. The highest proportions of PAG samples were observed in the

Underdog zone (79%), followed by Zone 27 (69%), Caribou (50%), Lynx Main (16%), and Triple Lynx (8%). Waste rock samples were classified as leachable for metals (silver, arsenic, barium, copper, mercury, molybdenum, and/or zinc); they were not classified as high risk for metal leaching. Mineral depletion calculations from kinetic testing suggest that most samples have the potential for acid generation in approximately 2 to 304 years, based on laboratory conditions. Management measures will need to account for the potential development of ARD and metal leaching in waste rock.

Tailings and Process Water

Between 2017 and 2020, nine composite tailings samples and process water samples were provided by Osisko following pilot testing, to represent potential ore combinations that will be processed during the life of mine. A summary of the geochemical characterization results obtained for tailings and process water is presented in Golder (2021a). All tailings samples were classified as PAG and leachable for metals (arsenic, cadmium, copper, mercury, lead, and/or zinc); they were not classified as high-risk for metal leaching.

Mineral depletion calculations from kinetic testing suggest all samples have the potential for acid generation in approximately 1 to 34 years, based on laboratory conditions. Management measures will need to account for the potential development of ARD and metal leaching in tailings. Exceedances of applicable effluent and water quality guidelines were observed in process water. The process water (process plant discharge water) will need to be treated to meet the applicable water criteria before discharge to the environment.

20.2.2 Mineralized Material Management

Based on the geochemical characterization outcome for the mineralized material, and as mentioned in Section 18.3.25, it is planned to install a geosynthetic liner system for the mineralized material stockpiles (low-grade Mineralized Material and Mineralized Material Stockpiles). The liner system will limit infiltration of contact water to groundwater, as required by the provincial guidelines. Adequate measures to control dust and to collect and manage contact water will be implemented to all mineralized material storage areas.

20.2.3 Waste Rock Management

Based on the geochemical characterization outcome for the waste rock, and as mentioned in Section 18.3.24, it is planned to install a geosynthetic liner system for the waste rock stockpiles to allow proper groundwater protection as required by Provincial guidelines.

WSP’s 2018 hydrogeological study of existing waste rock stockpiles includes a model establishing that the proposed measures are sufficient to prevent degradation of groundwater quality even in the event of a damaged liner (2,5 holes/ha). This hydrogeological study will have to be updated to account for project changes, but no significant modifications to the proposed system are expected.

20.2.4 Tailings Management

An assessment of alternatives for mine waste disposal was completed to identify the best location for the TMF and the best suited technology for tailings management. The assessment was completed in agreement with Environment Canada Guidelines (ECCC, 2016) and also considered indications provided in provincial Directive 019 Guideline (MDDEP, 2012).

The identified preferred location for the TMF is near the process plant in an area where the topography presents a gentle slope towards the southeast. Contact water collection pond will be located downstream of the TMF. Tailings will be managed as thickened slurry for limited period (see Chapter 18 for detailed description) and then as filtered material for the duration of the LOM. No water will be allowed to pond within the facility.

The tailings are PAG and leachable for metals. The entire area of the TMF and contact water management infrastructure will be lined with a Linear Low Density Polyethylene ("LLDPE") geomembrane to provide an adequate groundwater protection measure as required by provincial Directive 019 Guideline. Details of the proposed TMF design are presented in Chapter 18. Closure and reclamation concept will consist in an engineered cover to limit infiltration and potentially oxygen ingress to control the acid-generating potential of the tailings. A vegetated top layer will be incorporated to allow integration in surrounding natural landscape.

20.2.5 Water Management

This section provides a general description of the surface water management plan and water balance for the mine site. A detailed description of the water management structures at the mine site, as well as the site wide water balance, is provided in Chapter 18.

Water management at the mine site will include:

- Diverting runoff from undisturbed areas through diversion channels, to the practicable extent;
- Collecting runoff and seepage from mine facilities (mine water) in collection ponds for reuse in the mine process, with excess conveyed to the water treatment plants before discharge to the environment;
- Collecting groundwater inflows to the underground mine (part of mine water) for use in the mining process, with excess conveyed to the water treatment plant before discharge to the environment.

The layout of the water management structures is provided in Figure 18-4.

Runoff and seepage from different mine areas and groundwater inflows will be collected separately based on water quality, to the practicable extent.

One treatment plant will be constructed at the mine site, with separate treatment units to account for specific treatment requirements for the different types of mine water.

Some of the water management infrastructure are designed with a geosynthetic liner system to allow a proper groundwater protection measure by limiting water infiltration into the ground.

Water treatment is required to ensure that the mining effluent discharge meets the Directive 019 and MDMER quality criteria. Additional environmental discharge objectives ("EDO") criteria could be added to the previous ones. Those EDO criteria will be defined by the MELCC during the permitting process. The water treatment system is described in Section 18.3.23.

20.2.6 Site Monitoring

The objective of the environmental monitoring program is to detect and document any changes in the environment in relation to the baseline (whether or not related to the project), to verify the impact assessment and to evaluate the effectiveness of the mitigation or compensation measures proposed in the impact assessment. As part of the Project, an environmental monitoring program will be implemented. The main components of the environmental monitoring program for the site are as follows:

- Effluents Quality Monitoring (Directive 019 and MDMER);
- Groundwater Quality and Piezometric Level (Directive 019);
- Water Quality Monitoring Studies (MDMER);
- Biological Monitoring Studies (MDMER);
- Mitigation Measures Monitoring (air quality, noise, vibration, runoff, etc.).

An additional monitoring program could be required as a condition of an authorization delivered by the government.

20.3 Regulatory Context

The regulatory context described in the following sections is based on regulations and acts in force at the time of the preparation of this PEA report.

20.3.1 Environmental Impact Assessment Process

20.3.1.1 Provincial Authorities

The EIA procedure in the province of Québec is divided into two regimes: Southern and Northern. The Windfall Project location falls into the Northern regime, with the provisions applicable to the James Bay region located south of the 55th parallel (EQA, Title II, Chapter II). The Project is located in the territory covered by the James Bay and Northern Quebec Agreement (“JBNQA”). The projects listed in Schedule A of the EQA are automatically subject to the EIA and review procedure. Mining projects are listed in Paragraph (a) of Schedule A:

(a) All mining developments, including the additions to, alterations or modifications of existing mining developments.

Therefore, the Project must follow the environmental assessment and review procedures under the Regulation respecting the environmental and social impact assessment and review procedure applicable to the territory of James Bay and Northern Québec.

On May 19, 2017, Osisko provided preliminary information to the MELCC, which was then transmitted to the Evaluating Committee (“COMEV”). Based on the preliminary information, the COMEV formulated recommendations to the Minister regarding the scope of the assessment statement, and on August 11, 2017, the MELCC issued a Guideline (“Directive”) for the preparation of an EIA statement. The next steps in the provincial EIA process are:

- Preparation and transmission of the EIA statement to the MELCC according to the directions and recommendations of the Minister.
- The Minister sends a copy of the EIA statement to the Review Committee (COMEX) and to the Cree Nation Government (“CNG”). The CNG, and any Band or Cree community may, within 30 days following the reception of the EIA statement by the CNG, submit representations to the COMEX. Furthermore, where the interested Band or Cree community so allows, any person interested may submit written or verbal representations to the COMEX.
- Within 45 days following the reception of the EIA statement by the COMEX, the latter shall recommend to the Minister whether to authorize the project or not and, as the case may be, on what conditions, or shall recommend that the applicant is required to carry out supplementary research or studies.
- Where the Minister is satisfied with the EIA statements provided, he shall transmit a global certificate of authorization (“CoA”) or a refusal in writing. Copy of such decision is transmitted to the CNG. Conditions that the applicant must respect in the carrying out and in the operation of his project may be added to the CoA.

The release of the global CoA does not affect or restrict the application of the EQA. It is the responsibility of the proponent to verify with the MELCC and any other municipal or government entity whether additional authorizations are required in the carrying out of the mining operations (see Section 20.3.2).

20.3.1.2 Federal Authorities

On June 5, 2017, Osisko, provided a project description to the Canadian Environmental Assessment Agency (Agency). Based on the project description, the Agency has determined on July 31, 2017, that an environmental assessment is required under *Canadian Environmental Assessment Act, 2012* (CEAA, 2012).

On August 28, 2019, the new *Impact Assessment Act* ("IAA") came into force, along with a new set of regulations. The IAA repeals the CEAA 2012, but continues the approach taken under CEAA 2012 to designate projects by type and thresholds prescribed by regulation.

The provisions in the schedule to the *Physical Activities Regulations* describing the project, in whole or in part are the following:

- *18(c) The construction, operation, decommissioning and abandonment of a new metal mine, other than a rare earth element mine, placer mine or uranium mine, with an ore production capacity of 5,000 t/day or more.*
- *18(d) A new metal mill, other than a uranium mill, with an ore input capacity of 5,000 t/day or more.*

Transitional provisions in the IAA (Paragraph 181) states that any environmental assessment of a designated project by the former Agency commenced under the CEAA 2012 before the day on which the IAA comes into force, in respect of which the former Agency has posted the notice of commencement, is continued under the CEAA 2012 as if that Act had not been repealed. However, if the proponent does not provide the information or studies within three years after the day on which the IAA comes into force, the environmental assessment is terminated.

With its average mineralized material extraction rate of 3,000 tpd and a process plant with a capacity of 3,000 tpd, the preliminary analysis of the Project indicates that it is not subject to the new IAA.

20.3.2 Permitting Requirements

Throughout all stages of the Project, activities conducted by Osisko will be required to comply with provincial and federal acts and regulations.

The next sections present the most significant acts, regulations, directives and guidelines with which the Project could have to comply with. This list is non-exhaustive and is based on information known so far. Their applicability will have to be reviewed as the Project components are defined.

The Windfall Project was selected by the Quebec government as a pilot project (*Table interministérielle régionale* ("TIR")). The objective of the TIR is to work with the proponent to coordinate the issuance of the rights specific to a project. The TIR supports Osisko with the permitting process and facilitates the involvement of different ministries or government organizations based on the project needs.

Provincial Jurisdiction

- Mining Act (M-13.1)
  - Regulation respecting mineral substances other than petroleum, natural gas and brine (M 13.1, r. 2)
- Environmental Quality Act (Q-2)
  - Regulation respecting the regulatory scheme applying to activities on the basis of their environmental impact
  - Regulation respecting activities in wetlands, bodies of water and sensitive areas
  - Clean Air Regulation (Q-2, r. 4.1)
  - Regulation respecting industrial depollution attestations (Q-2, r. 5)
  - Regulation respecting pits and quarries (Q-2, r. 7.1)
  - Regulation respecting compensation for adverse effects on wetlands and bodies of water (Q-2, r. 9.1)
  - Regulation respecting the declaration of water withdrawals (Q-2, r. 14)
  - Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (Q-2, r. 15)
  - Regulation respecting the burial of contaminated soils (Q-2, r. 18)
  - Regulation respecting the landfilling and incineration of residual materials (Q-2, r. 19);
  - Regulation respecting waste water disposal systems for isolated dwellings (Q-2, r. 22)
  - Regulation respecting halocarbons (Q-2, r. 29)
  - Regulation respecting hazardous materials (Q-2, r. 32)
  - Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains (Q-2, r.35)
  - Water Withdrawal and Protection Regulation (Q-2, r. 35.2)
  - Land Protection and Rehabilitation Regulation (Q-2, r. 37)
  - Regulation respecting the quality of the atmosphere (Q-2, r. 38)
  - Regulation respecting the quality of drinking water (Q-2, r. 40)
  - Regulation respecting the charges payable for the use of water (Q-2, r. 42.1)
- Threatened or Vulnerable Species Act (E-12.01)
  - Regulation respecting threatened or vulnerable wildlife species and their habitats (E 12.01, r.2)
  - Regulation respecting threatened or vulnerable plant species and their habitats (E-12.01, r.3)

- Watercourses Act (R-13)
  - Regulation respecting the water property in the domain of the State (R-13, r. 1)
- Sustainable Forest Development Act (A-18.1)
  - Regulation respecting the sustainable development of forests in the domain of the State (A-18.1, r. 0.01)
- Conservation and Development of Wildlife Act (C-61.1)
  - Regulation respecting wildlife habitats (C-61.1, r. 18)
- Lands in the Domain of the State Act (c. T-8.1)
- Building Act (c. B-1.1)
  - Construction Code (B-1.1, r. 2)
  - Safety Code (B-1.1, r. 3)
- Explosives Act (E-22)
  - Regulation under the Act respecting explosives (E-22, r. 1)
- Cultural Heritage Act (P-9.002)
- Highway Safety Code (C-24.2)
  - Transportation of Dangerous Substances Regulation (C-24.2, r. 43)
- Occupational Health and Safety Act (S-2.1)
  - Regulation respecting occupational health and safety in mines (S-2.1, r. 14)
- Dam Safety Act (S-3.1.01)
  - Dam Safety Regulation (S-3.1.01, r. 1)
- Directives and Guidelines
  - Directive 019 sur l'industrie minière (2012)
  - Lignes directrices relatives à la valorisation des résidus miniers (2015)
  - Guidelines for preparing mine closure plans in Quebec (2017)
  - Guide d'intervention – Protection des sols et réhabilitation des terrains contaminés (2019)
  - Guide de caractérisation des résidus miniers et du minerai (2020)

Federal Jurisdiction

- Fisheries Act (R.S.C., 1985, c. F-14)
  - Metal and Diamond Mining Effluent Regulations (SOR/2002-222)
- Canadian Environmental Protection Act (S.C. 1999, c. 33)
  - PCB Regulations (SOR/2008-273)
  - Environmental Emergency Regulations (SOR/2003-307)
  - Federal Halocarbon Regulations (SOR/2003-289)
  - National Pollutant Release Inventory

- Species at Risk Act (S.C. 2002, c. 29)
- Canada Wildlife Act (R.S.C., 1985, c. W-9)
  - Wildlife Area Regulations (C.R.C., c. 1609)
- Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22)
  - Migratory Birds Regulations (C.R.C., c. 1035)
- Nuclear Safety and Control Act (S.C. 1997, c. 9)
  - General Nuclear Safety and Control Regulations (SOR/2000-202)
  - Nuclear Substances and Radiation Devices Regulations (SOR/2000-207)
- Hazardous Products Act (R.S.C., 1985, c. H-3)
- Explosives Act (R.S.C., 1985, c. E-17)
- Transportation of Dangerous Goods Act (1992)
  - Transportation of Dangerous Goods Regulations (SOR/2001-286)
- Directives and Guidelines
  - Environment Canada Environmental code of practice for metal mines (2009)
  - Guidelines for the Assessment of Alternatives for Mine Waste Disposal (2016)
  - Strategic climate change assessment (2020)

Following receipt of the provincial global CoA (EIA approval), the Project will require several approvals, permits and authorizations to initiate the construction phase, operate the project and close the project. In addition, Osisko will be required to comply with any other terms and conditions associated with the global CoA issued by the provincial authority.

Table 20-1 presents a non-exhaustive list of required approvals, authorizations, permits or licences based on the known components of the Windfall Project and typical activities related to mining projects.

Table 20-1: Preliminary and non-exhaustive list of permitting requirements

Activities	Type of request	Authority
Rehabilitation and restoration plan	Approval	MERN
Mining operations	Lease	MERN
Mine waste management facilities and processing plant location	Approval	MERN
Mine waste management facilities	Lease	MERN
Infrastructure implantation on public land	Lease	MERN
Construction and operation of an industrial establishment, the use of an industrial process and an increase in the production of property or services	Authorization	MELCC
Withdrawal of water, including related work and works	Authorization	MELCC
Establishment of potable, waste water and mine water management and treatment facilities	Authorization	MELCC
Work, structures or other interventions carried out in wetlands and bodies of water	Authorization	MELCC
Installation and operation of any other apparatus or equipment designed to treat water to prevent, abate or stop the release of contaminants into the environment	Authorization	MELCC
Installation and operation of an apparatus or equipment designed to prevent, abate or stop the release of contaminants into the atmosphere	Authorization	MELCC
Industrial depollution attestation	Attestation	MELCC
Carry out an activity likely to modify a wildlife habitat	Authorization	MFFP
Forest intervention licence for mining activities	Licence	MFFP
Harvest wood on public land where a mining right is exercised	Permits	MFFP
Build or improve a multi-use road	Permits	MFFP
Use of high-risk petroleum equipment	Permits	RBQ
Construction	Permits	City
Construct, place, alter, rebuild, remove or decommission a work in, on, over, under, through or across any navigable water	Notice	Transport Canada
Harmful alteration, disruption or destruction of fish habitat	Authorization	DFO
High-risk petroleum equipment	Permit	RBQ
Explosives possession, magazine and transportation	Permit	SQ
Explosives manufacturing plant and magazine	Licence	MNR
Explosives transportation	Permit	MNR
Use of nuclear substances and radiation devices	Licence	CNSC
Notice and Environmental Emergency Plan	-	ECC

20.4 Social or Community Considerations

20.4.1 Consultation Activities

Osisko implemented a communication and consultation plan focused on the involvement of populations affected by the Project, to ensure a meaningful public participation into the impact assessment. This plan is intended for First Nations and other local communities. Osisko has taken a proactive approach toward stakeholder consultation, holding more than 170 communication activities since 2015, primarily with the Cree First Nation of Waswanipi (“CFNW”) and Lebel-sur-Quévillon communities. Information has also been shared with the communities of Chapais, Chibougamau, Senneterre, the Lac Simon Anishinabeg First Nation and the Atikamekw First Nation of Obedjiwan, as they have expressed an interesting in learning about the project. Consultation on the project with Aboriginal and non-Aboriginal communities was initiated in 2015.

The main objectives of the communication and consultation plan are to:

- Inform communities affected by the Project and gather their concerns and comments;
- Document the land use in the study area;
- Assess the foreseen social and environmental impacts of the Windfall Project;
- Communicate results of field studies;
- Improve the Project and its social acceptability by incorporating the involvement of the First Nations and other local communities into the project design and implementation.

The approach, which integrates the communities’ traditional knowledge, also wishes to facilitate the project’s harmonious integration within the receiving environment.

Several measures were implemented to meet the objectives of the communication and consultation plan. Since 2017 and up to now, the main communication activities have been conducted by Osisko, and part of the consultations were conducted by Osisko and its consultant.

Information sharing and consultation activities are an ongoing process that will continue throughout the project development, the authorization process, and the construction, operation and closure phases of the project. Since March 2020, meetings have been held by videoconference due to restrictions related to Covid-19.

20.4.1.1 First Nations

The Windfall Project is located on the traditional territory of the CFNW, specifically on the traplines of Mr. Marshall Icebound (W25B) and Mr. Gary Cooper (W25A). Between 2017 and 2021, several meetings with these tallymen and members of their families were conducted. The objective was to document: the land use in the area of the Project (main users and camps, activities, state of resources, valued areas, accessibility, etc.), the projected use of the trapline, and the foreseen impacts and cumulative impacts related to the Project. It also aimed to gather concerns, comments and suggestions regarding the Project, and develop measures to mitigate or improve the impacts. These kind of interviews were also held, in July 2018, with tallymen and land users using traplines along the road on which increased traffic could be experienced: Traplines W-24C, W-24D, W-25A, W-25B, lot 16, lot 17 and lot 19.

Moreover, as part of its information sharing and consultation activities, the Windfall Environmental Monitoring Committee including representatives from the CFNW, the tallyman W25B, the Mining Coordinator and Local Environmental Advisor was established in 2019. The purpose of this committee is to keep the CFNW informed about the Project, to ensure adequate consultation on the activities and answer to concerns, to present and review the sectorial reports of the Environmental Assessment, and to gather traditional knowledge and additional information on land use. Moreover, Osisko includes members of the community in the baseline data collection field campaigns. Osisko has also regular discussions with the CFNW (representatives and tallymen), and the Grand Council of the Crees (Eeyou Istchee)/CNG.

Osisko utilizes a video presentation of the Windfall Project Description in three languages: Cree, English or French (according to the choice of the participants) at the beginning of consultation sessions, to ensure a good comprehension of the Project. The videos are also available on the Osisko web-site.

Osisko also shared information on the Project development through meetings, presentations and information letters with the CFNW Council members and other CFNW stakeholders. These information and consultation meetings were held from 2017 to 2021. Members of the following organisations were notably informed and consulted in June 2018:

- Cree School Board, including the Regional Vocational Training Centre;
- Cree Health Board, including the Community Miyupimaatisiiun Centre (Health centre);
- Different departments of the Band Council: Cree Human Resources Development, Justice Department, Public Works, Natural Resources and the Cree Mineral Exploration Board;
- Cree Trappers' Association;
- Waswanipi entrepreneurs.

In addition, in June 2018, focus groups were held with women, elders, and youth.

The positive impacts of the Windfall Project noted by community members from the CFNW are related to the employment opportunities for youth and business opportunities, but subject to the protection and respect of the environment. Many community members expressed reservations, concerns and expectations regarding the genuine involvement of members of the community in the Project, the maximization of the project benefits for the community, as well as the importance of the efficient management of environmental impacts. Other positive impacts of the presence of Osisko were also mentioned as possible sponsorship in the community and in-kind services for land users (e.g. to plow snow from an access road).

The main concerns raised by the CFNW members are the following:

- Disruptions to the environment, land use and traditional activities;
- Impacts on all wildlife (by noise, dust and other pollution);
- Cumulative impacts slowly taking the Cree culture away;
- Land protection, especially lands with undisturbed forests;
- Potential effects on water quality;
- Disturbance of cultural sites and hunting periods related to the planning work activities;
- Appropriate inclusion and documentation of traditional knowledge in the EIA statement;
- Concerns were also raised regarding Cree people that could be hired on the Mine Site;
- Social or family problems when one member works at the mine and is away from home;
- Personal or psychological difficulties due to harassment, difficult interpersonal relationships, racism or addictions;
- Pressure on community structures or services.

The different consultations held by Osisko in the CFNW also intended to define or refine measures that can mitigate or improve the impacts of the Project, notably at the work camp but also on the land and in the community.

As mentioned before, the consultation and information process will continue through all the phases of the Project. Note that since 2017, a Cree liaison advisor is employed by Osisko with an office in Waswanipi to facilitate the link between the community and Osisko. In 2018, Osisko hired a First Nation Human Resources Facilitator to help with the integration of First Nation workers at the Windfall site.

20.4.1.2 Local Communities

To ensure a clear understanding of the Project and meaningful public participation, since 2017, Osisko has been sharing information on the project development, through meetings, presentations, interviews and information letters. Activities were held in different towns in the Northern Quebec region, mostly in Lebel-sur-Quévillon, notably:

- Interviews with various community organizations (Cree Board of Health and Social Services of James Bay, Snowmobile Club, Youth Centre, *Réseau québécois de Villes et Villages en santé*, etc.) (2018);
- Sending of 108 letters to lease holders, followed by phone interviews (2018);
- Consultation with outfitter owners (2018);
- Consultations with families holding a camp in the Project area (2017 and 2020);
- Focus groups with women and youth (2018);
- Interviews with city officials (2018);
- Meetings with local entrepreneurs and public presentation (2018);
- Two open houses (82 and 85 attendees) (2017 and 2018);
- Presentation to members of the Société d'aide au développement des collectivité in Lebel-sur-Quévillon with 100 attendees (2019);
- Discussion with Lebel-sur-Quévillon representatives (2019);
- The French version of the Project Description video was played in the Lebel-sur-Quévillon cinema preceding regular programming (2017 and 2018).

As part of its public information and consultations, Osisko, as mentioned above, also held activities in other towns that could have an interest in the Project:

- Participation to a panel in La Sarre with 90 attendees (2019);
- Discussion with Senneterre representatives (2019);
- Client and supplier Networking day in Chapais (2018);
- Presentation of the Project in Chibougamau (75 attendees) (2017).

A collaboration agreement has been reached between Osisko and the city of Lebel-sur-Quévillon in 2017. This collaborative process primarily aims to ensure transparency and effective communication with the city, to foster the social acceptability of the Project, and to maximize the socioeconomic benefits of the Project for Lebel-sur-Quévillon, all in a spirit of partnership.

As part of the collaborative committee in Lebel-sur-Quévillon, Osisko continues to maintain regular discussions with city officials, notably the:

- Mayor;
- Executive Director and Clerk;
- Director of Economic Development;
- Director of Public Works and Urban Planning;
- Executive Director of the Administration Régionale Baie James ("ARBJ") - since 2019.
- Consultations with the public, lease owners, other stakeholders and representatives has raised different concerns and comments. The major concerns raised by the citizens of Lebel-sur-Quévillon relate mainly to the potential economic benefits for the City, and the Project's timetable. In 2020, during the meetings with the City Officials, the announcement of the location of the plant on the Windfall Mine Site reinforced the concerns related to economic benefits and opportunities, and the employment possibilities. The timetable regarding training and business opportunities was questioned and the need to maintain an effective and clear communication was emphasized.

As for Senneterre, Chapais and Chibougamau, even though the Windfall Project is not on their territory, stakeholders felt that local entrepreneurs could benefit from business opportunities generated by the Project.

20.4.2 Social Components

20.4.2.1 Land Planning, Development and Use

The Windfall Project is in the Northern Quebec administrative region (Region 10), on the territory of the Eeyou Istchee James Bay Regional Government ("EIJB Regional Government"). The closest municipality is Lebel-sur-Quévillon, about 115 km west from the Windfall Project.

The Windfall Project is located on the territory covered by the James Bay and Northern Quebec Agreement ("JBNQA") signed in 1975 between the Governments of Canada and Québec, the Grand Council of the Crees and the *Association des Inuits du Nouveau-Québec*.

The land regime defined in the JBNQA is a determining factor in land use. It provides for the division of the James Bay territory into Category I, II and III lands. The Windfall Project is located on Category III lands, which are mostly public lands that are managed by the EIJB Regional Government. On Category III lands, the Crees have exclusive trapping rights (except in the southern zone), as well as certain non-exclusive hunting and fishing rights.

No federal land is located within the Windfall Project area. No federal lands will be used for the purpose of carrying out the Project.

No established or planned protected areas are located in the Windfall Project area.

20.4.2.2 Population and Economics

The population of the EIJB Regional Government was estimated at 18,347 people in 2020 (ISQ, 2021a).

With 7,405 inhabitants (2020), Chibougamau has the largest population in the region, while Lebel-sur-Quévillon has a population of 2,089 (2020) (ISQ, 2021b).

The economy revolves essentially around three resources: energy, mines and forests.

20.4.2.3 Archaeology and Heritage

There are no known archaeological manifestations within the Project’s area (Archéo-08, 2018).

An evaluation of the archaeological potential was completed in 2007 by an archeologist (Archeo-08, 2007). When an area presented a potential, it was rated low, medium or high. Stream banks are considered to have high archeological potential. They hold characteristics that are conducive to human occupation and are also located within areas historically used by First Nations for their livelihood activities. Areas likely to contain portage trails were considered to have a medium archeological potential. The report also states that very little is known regarding the archeology of the Windfall Project region.

Archeological surveys were performed in 2017-2018 in high potential areas that could be affected by planned exploration activities (Archéo-08, 2018), as recommended in the 2007 archaeological potential study. No artefacts or archeological sites were found. Two family members of the Talliman’s family (W25B) participated in the field activities.

20.4.2.4 First Nations

Cree First Nation of Waswanipi

The Cree First Nation of Waswanipi has a registered population of 2,302 members (February 2021), of which 1,690 live in the Waswanipi community, and 492 live off community (INAC, 2021). The rest of the members live on other communities or on Band Crown land.

With an area of 23 511 ha (MAMH, 2021), the Waswanipi community is located 69 km north-west from the Windfall Project, and 154 km west of Chibougamau.

The Cree First Nation of Waswanipi is represented by a Band Council formed by a Chief, a Deputy Chief, and seven Councillors (INAC, 2021).

Opitciwan Atikamekw First Nation

The Opitciwan Atikamekw First Nation has a registered population of 3,121 members (February 2021), of which 2,508 live in the Obedjiwan community and 568 live off community (INAC, 2021). The rest of the members live on other communities or on Band Crown land.

With an area of 892 ha (MAMH, 2021), the Obedjiwan community is located 69 km south-east from the Windfall Project, and 193 km west of Roberval.

The Opitciwan Atikamekw First Nation is represented by a Band Council formed by a Chief and six Councillors (INAC, 2021).

Anishnabe Nation of Lac Simon

The Anishnabe Nation of Lac Simon has a registered population of 2,267 members (February 2021), of which 1,769 live on the territory of the Lac Simon community and 429 live off community (INAC, 2021). The rest of the members live on other communities or on Band Crown land.

With an area of 679 ha (MAMH, 2021), the Lac Simon community is located 169 km from the Windfall Project, and 32 km south of Val-d'Or.

The Anishnabe Nation of Lac Simon is represented by a Band Council made up of a Chief, a Vice Chief and three councillors (INAC, 2021).

20.4.3 Social Related Requirements

20.4.3.1 Engagement Activities Requirements

The Provincial government recommends that project initiators engage in good faith, as soon as possible, in a process of information and consultation with locals and First Nation communities, with an approach based on respect, transparency and collaboration. The MELCC published the *Guide sur la démarche d'information et de consultation réalisée auprès des communautés autochtones par l'initiateur d'un projet assujetti à la procédure d'évaluation et d'examen des impacts sur l'environnement* (MELCC, 2020) for the implementation of an information and consultation process with indigenous communities for projects subject to the EQA assessment and review procedure. The *Ministère de l'Énergie et des Ressources naturelles* (MERN) also published a *Native Community Consultation Policy specific to the mining sector* (MERN, 2019).

Also, both the James Bay Advisory Committee on the Environment ("JBACE") and the COMEX published guidelines for consultations and public engagement activities (JBACE, 2019; COMEX, not dated).

Consultation and communication activities with the stakeholders were initiated in 2015 and are ongoing, notably with the CFNW and the municipality of Lebel-sur-Quévillon (see Section 20.4).

In accordance with the *Mining Act*, Osisko will have to establish a monitoring committee to foster the involvement of the local community. The committee must be established within 30 days after the mining lease is issued and must be maintained until all the work provided for in the rehabilitation and restoration plan has been completed. The lessee determines the number of representatives who are to sit on the committee. However, the committee must include at least one representative of the municipal sector, one representative of the economic sector, one member of the public and, if applicable, one representative of an Indigenous community consulted by the Government with respect to the Project.

20.4.3.2 Agreements

The previous owner of the Windfall property (Eagle Hill Corporation) held several information meetings with CFNW representatives, including former Chief Paul Gull. These meetings led to the signing, in 2012, of an *Advanced Exploration Agreement* with the CFNW, the Grand Council of the Crees and the Cree Regional Authority. Osisko continues to honour the terms of the 2012 *Advanced Exploration Agreement*. Among other things, the Agreement stipulates the negotiation of a *Social and Economic Participation Agreement* (an impact and benefit agreement, or IBA) if the Project is shown to be economically viable. Discussions are underway with Waswanipi representatives and preliminary negotiations for an IBA commenced on December 19, 2017, in Waswanipi.

Osisko signed a Collaboration Agreement with the city of Lebel-sur-Quévillon in 2017. This process aims to ensure transparency and effective communication with the city, to foster the social acceptability of the Project, and to maximize its socio-economic benefits for Lebel-sur-Quévillon, all in a spirit of partnership. We invited the Administration Régionale Baie-James to participate in the Collaboration Committee in 2019.

20.4.3.3 Additional Studies

The following components regarding social environment will be studied as part of the EIA process:

- Traditional Aboriginal Land Use;
- Economic benefits assessment;
- Visual integration (landscape).

20.5 Mine Closure Requirements

Under the *Mining Act*, a person who performs prescribed exploration or mining work must submit a closure plan for the land affected by their operations, subject to approval by the MERN and is conditional upon receipt of a favourable decision from the MELCC. This approval is required for the release of the mining lease and the mining operations to begin (including the construction phase).

The main objective of a mining closure plan is to return the site to an acceptable condition. Protection, reclamation and closure measures that will be presented will aim to return the site to a satisfactory condition by:

- Eliminating unacceptable health hazards and ensuring public safety;
- Limiting the production and spread of contaminants that could damage the receiving environment and, in the long term, aiming to eliminate all forms of maintenance and monitoring;
- Returning the site to a condition in which it is visually acceptable (reclamation);
- Returning the infrastructure areas (excluding the tailings impoundment and waste rock piles) to a state that is compatible with future use (rehabilitation).

An amendment to Section 111 of the *Regulation respecting Mineral Substances other than Petroleum, Natural Gas and Brine* was made in 2013 (Decree 838-2013). Thus, mining companies must now provide a financial guarantee. This financial guarantee ensures that funds will be available to carry out the work provided for in the closure plan in the event of default by the proponent. It covers the entire cost of land rehabilitation and reclamation work for the entire mine site as provided for in the closure plan.

Moreover, in November 2017, the MERN published the Guidelines for the preparing mine closure plans in Québec. A detailed breakdown of the dismantling cost for all infrastructure built on-site must now be provided and the engineering and supervision fees (indirect costs) have been fixed to a minimum of 30% of the direct cost (conceptual stage), which include the post-restoration monitoring. A mandatory contingency of 15% must be added to the estimated cost. The proponent who engages in mining operations must pay the financial guarantee according to the following terms:

- The guarantee must be paid in three instalments;
- The first payment must be made within 90 days of receiving the plan's approval;
- Each subsequent payment must be made on the anniversary of the plan's approval;
- The first payment represents 50% of the total amount of the guarantee, and the second and third payments represent 25% each.

Total guarantee for the Windfall Project is estimated at $95.1M, including the direct and indirect costs, and a 15% contingency. This cost includes site rehabilitation and restoration as well as the post-restoration monitoring. The guarantee must remain in effect until the certificate of release provided for in Section 232.10 of the *Mining Act* has been issued.

All buildings and surface infrastructure will be dismantled, including water management facilities, electrical and support infrastructure, unless it is shown that they are necessary to achieve and maintain a satisfactory condition, or to support the area's socio-economic development. The openings of raises, declines or all other means of access to underground worksites will be secured.

All areas affected by mining operations (for example, building sites, TMF, waste rock piles, and road surfaces and shoulders) will be revegetated to control erosion and to return the site to a natural appearance integrated in the surrounding landscape.

Before the revegetation of the affected areas, a characterization study certified by an expert authorized under section 31.65 of the EQA must be submitted to the regional branch of the MELCC. If the study reveals the presence of contaminants in a concentration exceeding the regulatory limit values, a land rehabilitation plan must be submitted for approval.

The accumulation areas will be reclaimed to ensure geotechnical stability and to prevent AMD. The reclamation concept for the TMF consists in the implementation of an engineered cover. The reclamation concept for the waste rock piles consists in the implementation of a of an engineered cover.

A post-closure monitoring and maintenance program will have to be carried out to ensure the physical stability of all infrastructure and the effectiveness of any remedial measures applied at the site. The post-closure monitoring and maintenance program will include:

- A physical stability monitoring and maintenance program;
- An environmental monitoring program;
- An agronomical monitoring program.

Closure work must begin within three years of the cessation of operations.

A certificate of release may be issued when:

- The MERN is satisfied that the closure work has been completed in accordance with the closure plan approved by the MERN, and no sum of money is due to the MERN with respect to the performance of the work;
- The MERN is satisfied that the condition of the land affected by the mining operations no longer poses a risk for the environment or for human health and safety;
- The MERN receives a favourable decision from the MELCC.

The certificate of release relates only to the obligations under the *Mining Act* and does not release a person from the obligations under the EQA and its regulations.

21. CAPITAL AND OPERATING COSTS

The capital and operating cost estimates presented in this PEA for the Windfall Project are based on the construction of one underground mine, a process plant and tailings management facility based at the Windfall site. The process plant will treat a daily average of 3,100 tpd over the LOM.

All capital and operating cost estimates cited in this report are referenced in Canadian dollars. Due to rounding, some numbers in the tables might not add up.

21.1 Capital Costs

21.1.1 Summary

The total pre-production capital cost for the Windfall Project is estimated to be $544M (including contingencies and indirect costs). The total does not include sunk costs of $33.1M planned to be spent before the feasibility for the process plant grinding mills and the camp complex. The cumulative life of mine capital expenditure including costs for pre-production, sustaining, site reclamation and closure is estimated to be $1.3B. Figure 21-1 provides an overview of the capital costs (pre-production and sustaining) on an annual and cumulative basis for the life of the Project.

Table 21-1: Project pre-production capital cost summary

Area	Description	Pre-production capital cost ($M)	Sustaining capital cost ($M)	Total cost ($M)
000	General administration (Owner's costs)	87.4	8.5	96.0
200	Underground mine	75.2	575.4	650.5
300	Mine surface facilities	12.6	4.0	16.7
400	Electrical and communication	49.2	0.8	50.0
500	Site infrastructure	12.2	2.1	14.3
600	Process plant	131.9	47.1	179.0
800	Tailings and water management	61.5	15.1	76.6
900	Indirect costs	57.9	0.7	58.6
999	Contingency	55.4	12.8	68.2
	Total	**543.5**	**666.4**	**1,209.9**
	Site reclamation and closure	-	95.1	95.1
	Total - Forecast to spend	**543.5**	**761.5**	**1,305.0**

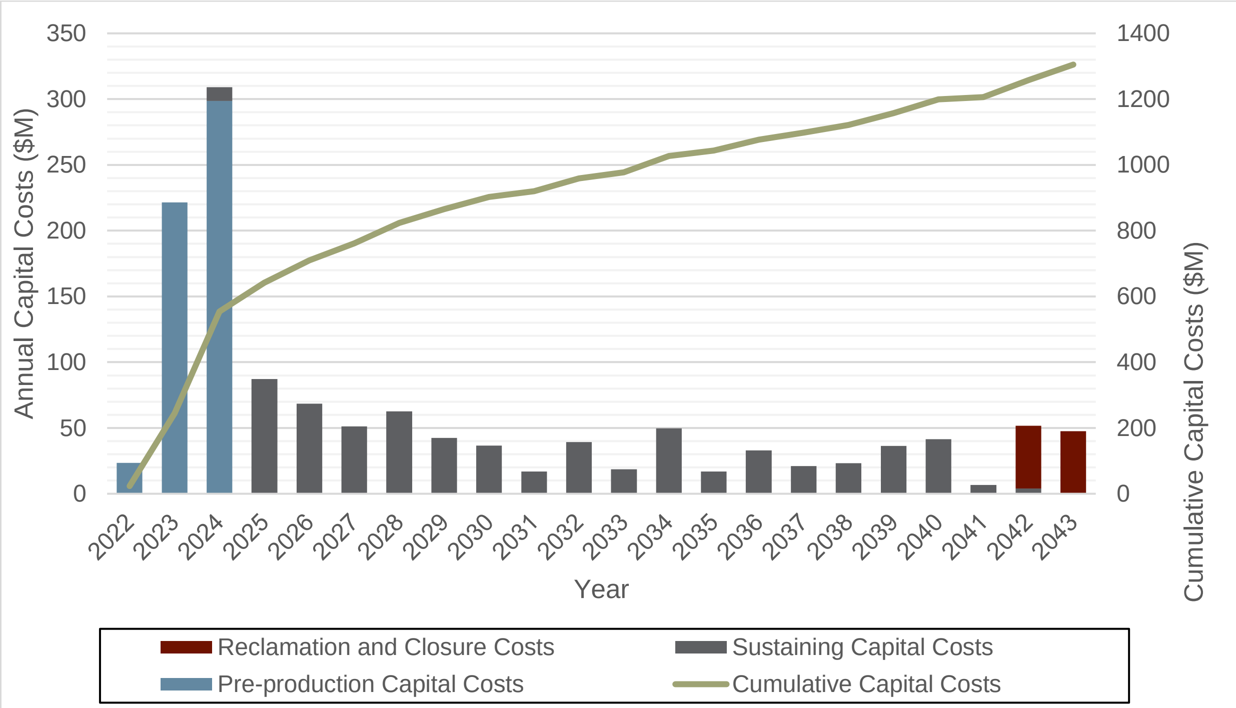


Figure 21-1: Annual and cumulative project capital costs.

21.1.2 Scope and Structure of Capital Cost Estimate

The overall capital cost estimate developed in this Preliminary Economic Assessment Study generally meets the AACE Class 4 requirements and has an accuracy range of between -30% and +30%. The capital cost estimate for this study forms the basis for the approval of further development of the Project by means of a feasibility study. Generally, engineering performed to date is between 1% to 15% of full project definition.

The capital cost estimate abides by the following criteria:

- Reflects general accepted practices in the cost engineering profession;
- Assumes contracts will be awarded to reputable contractors on a cost reimbursable basis;
- Labour costs are based on the current Québec Industrial construction collective bargaining agreement;
- Winter conditions are expected between the months of October and April. This is incorporated within the project productivity factors;
- Pre-production capital costs are expressed in constant Q1 2021 Canadian dollars (CAD); with an exchange rate of 1.00 CAD for 0.77 US Dollar (USD).

The project schedule, from the feasibility study, detail engineering to start-up, was also used in the estimate preparation; refer to Chapter 24 for the execution plan and schedule. The decision to proceed with construction of the Project is expected to be made in H2 2023. Any capital expenditures before this date are considered "Early Works" (work plan capital) and are not included in this capital cost estimate. The cost estimate was divided into the following elements:

- Pre-production Capital Costs:
  - Owner's costs (WBS 000 General Administration): costs associated with the project specific personnel, management, support infrastructure, safety and environmental, community relations, administration and finance, human resources, training and others;
  - Direct costs (WBS 200 to 800): costs for productive works and permanent infrastructure. Includes productive infrastructure, services and equipment required for the extractive process;
  - Indirect costs (WBS 900): costs needed to support the construction of the facilities included in the direct costs. Includes engineering, procurement and construction management ("EPCM") services, EPCM temporary facilities (infrastructure) and construction management, capital spare parts, freight and logistics;
  - Contingency (WBS 999): includes variations in quantities, differences between estimated and actual equipment and material prices, labour costs and site-specific conditions. Also accounts for variation resulting from uncertainties that are clarified during detail engineering, when basic engineering designs and specifications are finalized.
- Sustaining Capital Costs:
  - Capital expenditures after the start of operations: include costs for continued development of the tailings management facility, surface tailings and reclaim water pipelines, underground mine extensions and associated infrastructure, production equipment replacement, and closure costs. These costs are included in the financial analysis in Chapter 22 in the year in which they are incurred. Capital costs after Q3 2024 are classified as sustaining capital.

21.1.2.1 Work Breakdown Structure (WBS) and Estimate Responsibilities

The capital cost estimate was developed in accordance with Osisko's work breakdown structure ("WBS") with the estimate responsibilities summarized in Table 21-2:

Table 21-2: CAPEX estimate responsibilities by WBS

WBS area	Description	Responsible entity
000	General administration (Owner's cost)	Osisko, BBA, Entech and WSP
200	Underground mine	Entech
300	Mine surface facilities	WSP
400	Electrical and communication	BBA and WSP
500	Plant site infrastructure	WSP
600	Process plant	BBA and WSP
800	Tailings and water management	GCM, Golder and WSP
900	Indirect costs	Osisko
999	Contingency	Osisko
	Site closure and reclamation	WSP

21.1.2.2 Exclusions

The following items were excluded from the capital cost estimate:

- Certain land acquisitions;
- Licensing and financing costs;
- Project development costs incurred to date, including studies and early works;
- Taxes (included in the financial model);
- Geotechnical anomalies (must be considered as risk);
- Pre-operations testing and start-up beyond C4 certificate;
- Operating costs;
- Changes to design criteria;
- Work stoppages;
- Scope changes or an accelerated schedule;
- Hydrological, environmental or hazardous waste issues;
- Costs relating to certain agreements with third parties.

21.1.3 Pre-production Capital Costs

The pre-production capital cost summary for the Project is outlined in Table 21-3 and shown as a pie chart in Figure 21-2. The capital cost breakdown descriptions are outlined in the following sections. The pre-production capital costs does not include sunk costs of $33.1M incurred for the process plant grinding mills and the camp complex.

Table 21-3: Project pre-production capital cost summary

Area	Description	Total cost ($M)	CAPEX (%)
000	General administration	87.4	16.1
200	Underground mine	75.2	13.8
300	Mine surface facilities	12.6	2.3
400	Electrical and communication	49.2	9.1
500	Site infrastructure	12.2	2.2
600	Process plant	131.9	24.3
800	Tailings and water management	61.5	11.3
900	Indirect costs	57.9	10.7
999	Contingency	55.4	10.2
	Total	**543.5**	**100.0**

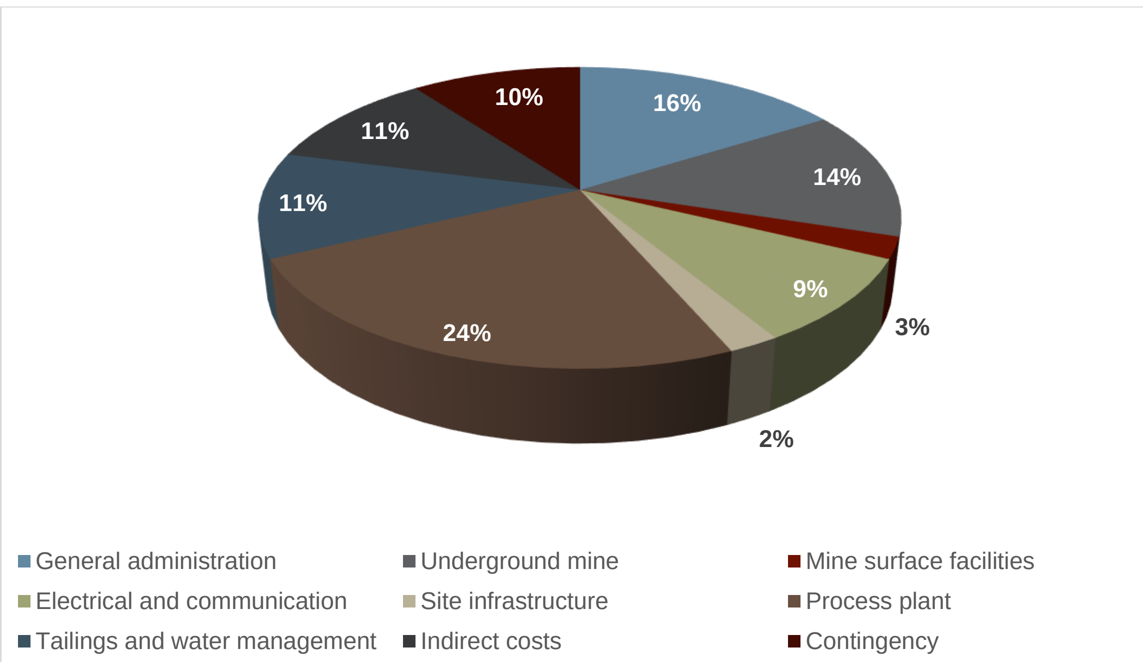


Figure 21-2: Distribution of pre-production capital costs

21.1.3.1 Direct Costs (Areas 000 to 800)

Direct cost details, based on the previously described assumptions, construction crew wages and productivities for the mine, process plant, site infrastructure, and tailings and water management are provided in the following sections according to the Project WBS:

21.1.3.2 General Administration (Area 000) – Owner's Costs

The following items are part of the General Administration area, representing the Owner's costs during pre-production:

- Employee salaries until production begins;
- Energy, consumables and maintenance costs during mine development;
- Insurance during pre-production;
- Surface mobile equipment for the site and the warehouse;
- Environmental management and mitigation;
- Security;
- Pre-investment costs;
- Personnel training;
- Administration, financial and human resources costs;
- Community relations.

Owner's costs total $87.4M. Table 21-4 summarizes the General Administration pre-production capital costs.

Table 21-4: General administration (Owner's costs) pre-production capital cost summary

Description	Total cost ($M)	CAPEX (%)
General management	38.9	44.5
Mine pre-production Owner's costs	45.6	52.2
Process plant pre-production Owner's costs	1.0	1.1
Insurance	1.0	1.1
Mobile equipment	1.0	1.1
Total	**87.4**	**100.0**

21.1.3.3 Exploration and Geology (Area 100)

Exploration and geology work for the Windfall Project was completed prior to the effective date of the FS and is thus considered part of the Early Works. The exploration and geology costs have not been included in the pre-production capital costs.

21.1.3.4 Underground Mine (Area 200)

Entech provided estimates for all underground mine capital costs. The total underground mine pre-production capital cost is $75.2M for the Windfall Project. Underground mine Owner's cost ($45.6M) are included in the General Administration cost centre as mentioned in Section 21.1.3.2.

Table 21-5 summarizes the pre-production underground capital costs and provides a breakdown per item. Pre-production capital costs includes material, consumables, and manpower for each category.

Table 21-5: Underground mine pre-production capital costs

Description	Total cost ($M)	CAPEX (%)
Underground infrastructure	10.6	14.1
Underground ventilation	8.1	10.7
Underground water management	2.2	2.9
Underground electrical	2.4	3.2
Underground communications	2.2	3.0
Underground mobile equipment	7.8	10.3
Underground backfill	0.0	0.0
Contractor-operated development	41.9	55.8
Underground mine developement	0.0	0.0
Total pre-production capital costs	**75.2**	**100.0**

21.1.3.5 Mine Surface Facilities (Area 300)

The Mine Site infrastructure capital costs for the Windfall Site infrastructure were prepared and assembled to respect the WBS defined for the Project. Material take-offs ("MTOs") were derived from the general arrangement drawings prepared for site infrastructure, based on neat quantities, with applied factors for waste. However, no design growth factor was applied on these quantities. Costs were estimated using these MTOs, similar project benchmarks, and handbooks. Labour rates and productivity factors were defined based on a 70 -hour per week schedule. The total capital cost of the Windfall mine surface facilities site is estimated to be $12.7M.

The mine surface infrastructure capital costs are shown in Table 21-6:

Table 21-6: Mine surface facilities pre-production capital costs

Area	Description	Total cost ($M)	CAPEX (%)
314	Lynx Portal	0.94	7.4
320	Air Intake	4.37	34.6
325	Air exhaust	2.20	17.4
345	Surface Truck Shop	5.14	40.6
	Total	**12.65**	**100.0**

21.1.3.6 Electrical and Communication (Area 400)

The site electrical distribution and electrical feeders and communication systems for reclaim water and surface pump houses were estimated by WSP. The electrical and communication general, 120 kV transmission line, and site telecommunications and IT systems capital costs were estimated by BBA. These costs account for telecommunications and IT systems designed to support an integrated remote operations centre (“IROC”) with surface and underground connectivity using fibre optic and Private LTE technology. Connectivity with the Internet will be provided by a primary optical ground wire (“OPGW”) fibre optic WAN link and secondary hybrid microwave/fibre optic WAN link following a totally different end-to-end path offering very robust redundancy.

The transmission line cost estimation was based on a 94-km 120 kV wood structure with a connexion point near Lebel-sur-Quévillon. The cost also includes fibre optic running along the line through an OPGW. The indirect costs ($3.55M) related to the transmission line are included in the indirect cost centre as stated in Section 21.1.3.11.

The total capital cost for electrical and communication is estimated to be $49.2M.

The Windfall Site electrical and communication capital costs are shown in Table 21-7:

Table 21-7: Electrical and Communication pre-production capital costs

Area	Description	Total cost ($M)	CAPEX (%)
400	Electrical and Communication General	2.50	5.1
405	Transmission Line	38.46	78.1
415	Electrical Site Distribution	1.43	2.9
430	Telecommunications and IT systems	6.28	12.8
440	Electrical and Communication Reclaim Water Pump House	0.54	1.1
	Total	**49.21**	**100.0**

21.1.3.7 Site Infrastructure (Area 500)

The site surface infrastructure capital costs were estimated by WSP. The capital costs for the Site infrastructure were determined by performing preliminary level engineering and architectural design to define material take-off and generate factored estimates based on the building surface area. The total capital cost of the Site infrastructure facilities is estimated to be $12.2M. This total excludes the camp complex cost ($25.7M), which is considered in the sunk costs as Osisko is planning to invest in this infrastructure before the feasibility.

Assumptions used to determine the capital cost of site infrastructure include the following:

- The Windfall site is accessed using existing roads, which implies only minor additional costs for site access road maintenance;
- Capital for the service building, administration building, and site access control building is based on factored estimates to complete the work;
- Fire protection system costs are included in the capital costs for each building (where it is required);
- Buried piping costs were estimated using a site layout and each of the building's requirements.

Potential borrow pits were identified for both access road rehabilitation and site works, and hauling distances were considered in costs. Aggregate is assumed to be produced near the site, using a portable crushing and screening plant.

A summary of the site surface infrastructure capital costs is provided in Table 21-8.

Table 21-8: Site infrastructure pre-production capital costs

Area	Description	Total cost ($M)	CAPEX (%)
505	Site Preparation	6.39	52.5
510	Public Road	0.99	8.1
515	Site Roads	0.84	6.9
520	Site Access Control	0.43	3.5
531	Camp	0.96	7.9
545	Fuel Storage Facility	0.04	0.3
555	Fire Protection System	1.27	10.4
560	Potable Water	0.88	7.2
565	Sewage Disposal	0.39	3.2
	Total	**12.18**	**100.0**

21.1.3.8 Process Plant (Area 600)

The design of the process plant was largely based on BBA and Osisko experience on recent projects. This design included the production of a general arrangement drawing of the process plant by BBA and Osisko during the PEA. An equipment list was developed with equipment sizes, capacities, and motor power from the process flow diagrams developed for the PEA. The process plant cost estimate was calculated from factors based on purchase cost of process equipment and the process plant layout. Quantities were summarily developed for concrete and steel to validate the factoring methodology. The cost estimate includes the equipment and materials for tailings discharge from the process plant and water reclaim from the TMF as well as a megadome costed by WSP. The cost estimate excludes the primary grinding mills ($7.4M) as they will be purchased before the feasibility.

The total capital cost of the process plant facility is estimated to be $131.9M as summarized in Table 21-9:

Table 21-9: Process plant pre-production capital costs

Description	Total cost ($M)	CAPEX (%)
Site works	6.0	4.6
Concrete activities	12.2	9.3
Structural elements	10.2	7.7
Architectural finishes	7.4	5.6
Mechanical - Process - Equipment	52.5	39.8

Description	Total cost ($M)	CAPEX (%)
Mechanical - Building - Utilities	5.9	4.5
Piping	13.4	10.2
Electrical	15.5	11.8
Automation and telecommunication	8.5	6.5
Storage	0.2	0.1
Total	**131.9**	**100.0**

The following sections provide the basis for the capital cost estimates for the major component costs of constructing the process infrastructure.

Mechanical

An equipment list, including platework, was developed from the process flow diagrams. Budget pricing was obtained for the primary process equipment while the remainder of the equipment was factored based on a recent firm pricing obtained on a similar project. The Installation cost is factored from the purchase value.

Concrete

Preliminary design sketches were used to develop the concrete quantities to validate the cost factoring methodology.

Structural

Preliminary design sketches were used to develop the steel quantities to validate the cost factoring methodology.

Other Disciplines

Supply and installation costs of architectural works, (i.e. siding, roofing, doors, plant offices, etc.), HVAC (units and ducting), electrical distribution (e-rooms equipment, cable tray and power cables), and automation (instruments, control and communication cabling) were factored from the supply cost of process equipment based on BBA's and Osisko's experience on past projects of similar magnitude and geographical location.

Construction Labour

Construction Labour Force was inferred from the factored installation cost and crew rates and productivity loss factors developed on a recent similar project in the same geographical area.

21.1.3.9 Tailings and Water Management (Area 800)

The tailings management facility, retention and polishing ponds capital costs were estimated by Golder. Waste, overburden and mineralized material stockpiles, site drainage, pumping stations, piping, and settling ponds capital costs were estimated by WSP, based on project's unit costs. Water treatment plant ("WTP") capital costs were estimated by GCM.

The tailings management facility will be built in 3 stages. The pre-production capital cost estimate includes the first stage representing the capacity required for the first 2 years of operations.

The total pre-production capital cost of material, tailings and water management infrastructure for the Windfall Project is estimated to be $61.5M, and is summarized in Table 21-10.

Table 21-10: Tailings and water management pre-production capital costs

Area	Description	Total cost ($M)	CAPEX (%)
801	Tailings and Water Management General	21.0	34.2
805	Surface Tailings Management Facility	0.2	0.3
810	Waste Rock Pile	7.8	12.7
815	Tailings Reclaim Pipelines	0.4	0.6
835	Water Treatment Plant	14.8	24.0
840	Site Drainage and Settling Pond	10.2	16.6
845	Polishing Pond	0.4	0.7
850	Collecting and Emergency Spill Pond	6.7	10.9
	Total	**61.5**	**100.0**

For the tailings management facility, the earthwork unit costs for the capital cost estimate were based on recent quotations from local contractors. The capital cost estimate for the tailings management facility does not include the following items: tailings thickener and delivery system to TMF, water pumping stations and pipelines, earthworks for pumping stations or thickening plant, earthworks for access road to TMF, mineralized material and waste stockpiles, waste and water management infrastructure reclamation cost.

Capital cost estimates for the WTP infrastructure components were developed using the factored cost method. The capital costs are estimated as proportion of equipment costs, having competed only a limited amount of engineering for the WTP facilities. Equipment costs are estimated based on past costs for other projects by GCM within North America within the last five years. The capital cost estimate for the WTP does not include allowances for site-specific and infrastructure costs, such as: power supply to the plant, roads, lighting, drinking water, sewage disposal, fencing, and it does not include feed pipelines and effluent pumping systems and sludge handling costs.

21.1.3.10 Direct Cost Summary (Area 000 to 800)

The overall pre-production capital direct costs (WBS Areas 000 to 800) for the Windfall Project total $430.1M. The total does not include sunk costs of $33.1M incurred for the process plant grinding mills and the camp complex.

21.1.3.11 Indirect Costs (Area 900)

Indirect costs for the Windfall Project include all costs needed to carry out the engineering, procurement, and construction management services. These costs were calculated by Osisko's estimating group. The main costs in this category are EPCM services, temporary facilities, third-party services, spare parts, freight, and customs.

For the project indirect costs included within the pre-production capital cost estimate, an itemized list of elements has been used to generate factored estimates. The following have been covered:

- EPCM;
- Costs associated with permitting and public consultations;
- Construction temporary facilities erection and operation;
- Land and ocean freight for process and major electrical equipment;
- Pre-operational verifications;
- Commissioning support;
- Vendor representatives;
- Capital spares;
- One year operating spares;
- Commissioning spares;
- First fills;
- Waste disposal;
- Sanitary blocks;
- Construction temporary power;
- Indirect costs related to the transmission line.

The indirect costs were calculated using various sources of information, including the construction execution plan and information provided by Osisko. Indirect costs, excluding Owner's costs (WBS 000) total $57.9M.

21.1.3.12 Contingency (Area 999)

Contingency is an allowance included in the pre-production capital cost estimate that is expected to be spent to cover unforeseeable items within the scope of the estimate. These can arise due to currently undefined items of work or equipment, or to uncertainty in the estimated quantities and unit prices for labour, equipment and materials. Contingency does not cover scope changes or project exclusions.

The pre-production cost contingency for the Project was calculated as a whole by Osisko using a deterministic approach based on their experience, execution philosophy, historic data, assessment of major risks/opportunities, level of project definition and advancement of engineering as well as contributions from the various firms according to their scope of work.

The total amount calculated for the pre-production contingency is $55.4M, which represents 15% of the pre-production capital costs ($488 M) less mining related owner's, capitalized OPEX, development, and infrastructure costs ($118.6M).

It is expected that in order to meet the budget for the Project, sufficiently developed engineering, adequate project management and tight construction cost controls will be implemented.

21.1.4 Sustaining Capital Costs

The sustaining capital costs incurred over the eighteen years of production (Q4 2024 to 2042) from the Windfall mine are estimated to total $761.5M of project-related capital expenditures, including site reclamation and closure costs. The breakdown of LOM sustaining capital expenditures by area is provided in Table 21-11 and Figure 21-3, while a detailed sustaining capital schedule is provided in Table 21-12. The sustaining capital costs include a contingency of 15% except the underground mining costs, which have no contingency allowance as these costs were estimated based on actual contracts currently in place.

Table 21-11: Project sustaining capital cost summary

Area	Description	Total cost ($M)	CAPEX (%)
000	General Administration	8.5	1.1
200	Underground Mine	575.4	75.6
300	Mine Surface Facilities	4.0	0.5
400	Electrical and Communication	0.8	0.1
500	Site Infrastructure	2.1	0.3
600	Process Plant	47.1	6.2
800	Tailings and Water Management	15.1	2.0
900	Indirect costs	0.7	0.1
999	Contingency	12.8	1.7
	Total	**666.4**	**87.5**
	Site reclamation and closure	95.1	12.5
	Total	**761.5**	**100.0**

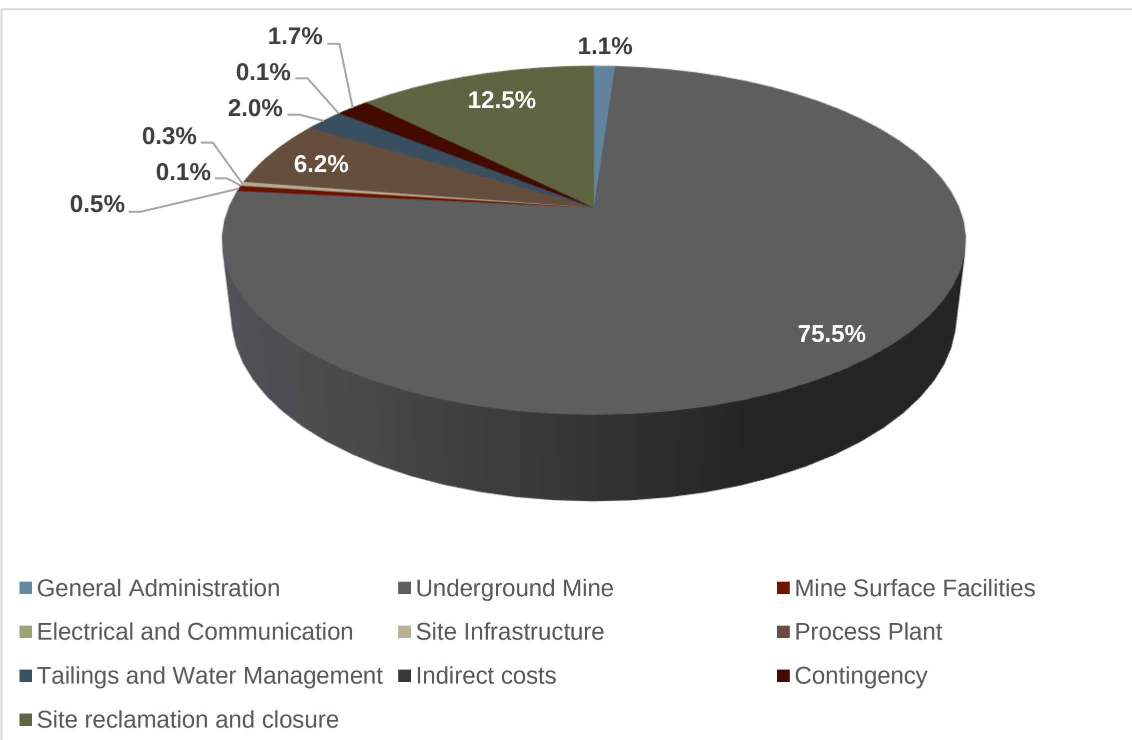


Figure 21-3 Project sustaining capital cost summary

Table 21-12: Sustaining capital cost breakdown

	Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total cost ($M)	CAPEX (%)
Area	Description	Sustaining Capital Cost ($M)																					
000	General Administration	1.1	0.7	2.0	1.6	1.6	0.8	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5	1.1
200	Underground Mine	8.7	36.1	44.5	49.1	60.7	41.3	33.5	16.8	39.2	18.5	46.5	16.8	32.9	21.0	23.2	36.2	39.7	6.6	4.1	-	575.4	75.6
300	Mine Surface Facilities	-	0.8	-	-	-	-	1.6	-	-	-	-	-	-	-	-	-	1.6	-	-	-	4.0	0.5
400	Electrical and Communication	-	0.4	-	-	-	-	0.3	-	-	-	-	-	0.1	-	-	-	-	-	-	-	0.8	0.1
500	Site Infrastructure	-	1.3	0.7	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	2.1	0.3
600	Process Plant (Paste Backfill)	-	40.1	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47.1	6.2
800	Tailings and Water Management	-	1.0	11.1	0.2	-	-	-	-	-	-	2.7	-	-	-	-	-	-	-	-	-	15.1	2.0
900	Indirect costs	0.4	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	0.1
999	Contingency	0.3	6.7	3.2	0.4	0.3	0.2	0.5	0.0	0.0	0.1	0.5	0.1	0.1	0.1	0.0	0.1	0.3	0.0	0.0	-	12.8	1.7
	Total	**10.5**	**87.3**	**68.5**	**51.3**	**62.6**	**42.3**	**36.7**	**16.8**	**39.2**	**18.6**	**49.7**	**16.9**	**33.0**	**21.1**	**23.2**	**36.3**	**41.6**	**6.6**	**4.1**	**-**	**666.4**	**87.5**
	Site Reclamation and Closure	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47.6	47.6	95.1	12.5
	Total	**10.5**	**87.3**	**68.5**	**51.3**	**62.6**	**42.3**	**36.7**	**16.8**	**39.2**	**18.6**	**49.7**	**16.9**	**33.0**	**21.1**	**23.2**	**36.3**	**41.6**	**6.6**	**47.6**	**47.6**	**761.5**	**100.0**

21.1.4.1 Underground Mining (Area 200)

The total underground sustaining capital is $575.4M for the Windfall Project and are broken down by activity in Table 21-13.

Sustaining capital costs consider the following:

- Capitalized underground excavations completed after pre-production;
- Underground construction;
- Equipment and mine services networks (general constructions, ventilation, water management, electrical, communication, backfill);
- Contractor development; and,
- Mobile equipment.

Limited contingency has been applied.

Table 21-13: Underground sustaining capital costs

Description	Total cost ($M)	CAPEX (%)
Underground infrastructure	31.6	5.5
Underground ventilation	28.8	5.0
Underground water management	7.6	1.3
Underground electrical	10.4	1.8
Underground communications	6.8	1.2
Underground mobile equipment	267.3	46.5
Underground backfill	11.0	1.9
Contractor-operated development	28.9	5.0
Underground mine development	183.0	31.8
Total	**575.4**	**100.0**

21.1.4.2 Mine Surface Facilities (Area 300)

The sustaining capital costs for the mine surface facilities required by underground mining operations at the Windfall site are estimated to be $4.0M and are broken down by activity in Table 21-14. Sustaining capital for the mine surface facilities includes the construction of air exhaust and core shack.

The Mine Site infrastructure sustaining capital costs for Windfall site infrastructure were prepared and assembled to respect the WBS defined for the Project. Material take-offs were derived from the general arrangement drawings prepared for site infrastructure, based on neat quantities, with applied factors for waste. However, no design growth factor was applied on these quantities. Costs were estimated using these MTOs, similar projects factorization, or handbooks. Labour rates and productivity factors were defined based on a 70-hour per week schedule.

Table 21-14: Mine surface facilities sustaining capital costs

Description	Total cost ($M)	CAPEX (%)
Air Exhaust	3.2	80.6
Production Core Shack	0.8	19.4
Total	**4.0**	**100.0**

21.1.4.3 Electrical and Communication (Area 400)

The sustaining capital costs for the electrical and communication required at the Windfall site are estimated to be $0.8M and are broken down by activity in Table 21-14. Sustaining capital for the electrical and communication includes the relocation of the actual genset.

Table 21-15: Electrical and communication sustaining capital costs

Description	Total cost ($M)	CAPEX (%)
Electrical Site Distribution	0.6	75.4
Electrical and Communication Reclaim Water Pump House	0.2	24.6
Total	**0.8**	**100.0**

21.1.4.4 Site Infrastructure (Area 500)

The sustaining capital costs for the site infrastructure facilities are estimated to be $2.1M and are broken down by activity in Table 21-16. Significant sustaining capital for the plant site includes the public road maintenance.

Table 21-16: Site infrastructure sustaining capital costs

Description	Total cost ($M)	CAPEX (%)
Public road	1.5	71.3
Camp	0.6	28.7
Total	**2.1**	**100.0**

21.1.4.5 Paste Backfill Plant (Area 600)

The design of the paste backfill plant was largely based WSP experience on recent projects. This design included the production of a general arrangement drawing of the paste backfill plant by WSP during the PEA. An equipment list was developed with equipment sizes, capacities, and motor power from the process flow diagrams developed for the PEA. The paste backfill plant cost estimate was calculated from vendors quotes and historical purchase cost of process equipment and the process plant layout. Quantities were summarily developed for concrete and steel to validate the factoring methodology.

The paste backfill plant is estimated at $41.7M.

21.1.4.6 Tailings and Water Management (Area 800)

The sustaining tailings management facility costs (which will be built in 3 stages) for the Windfall site were estimated by Golder. Waste rock piles, site draingage and settling ponds capital costs were estimated by WSP.

The tailings and water management sustaining costs are estimated to be $15.1M as shown in Table 21-17. Significant sustaining capital for the plant site includes the activities for the remaining two construction stages of the surface tailings management facility to reach the LOM tailings capacity requirement of 12.8 Mt as well as waste stockpiles to reach the 7.29 Mt capacity. Included in the TMF costs are site preparation, dyke construction and material, rock and gravel fill and geotextile liners.

Table 21-17: Tailings and water management sustaining capital costs

Description	Total cost ($M)	CAPEX (%)
Tailings and Water Management General	0.9	6.1
Surface Tailings Management Facility	0.6	4.1
Waste Rock Pile	10.0	66.7
Site Drainage and Settling Pond	3.5	23.2
Total	**15.1**	**100.0**

21.1.4.7 Rehabilitation and Mine Closure Capital Costs

Reclamation and closure costs for all three sites were provided by WSP and estimated to total $95.1M. This estimate includes the reclamation, dismantling and removal of proposed buildings and foundations, restoration of the surface footprint of the infrastructure, restoration of the waste rock piles, restoration of the tailings storage facility, and restoration of the water storage ponds. Reclamation for Windfall site will start in 2042 after the end of the mine production. The remaining rehabilitation activities are expected to be performed in Year 18 (2042), coinciding with the termination of Windfall operations. Table 21-18 provides a breakdown of the costs associated with site rehabilitation and closure. The costs include the engineering and contingency as required by MERN guidelines.

Table 21-18: Site rehabilitation and closure capital costs

Description	Total cost ($M)	CAPEX (%)
Mine Site Securisation	0.3	0.3
Camping Sector Dismantling	0.9	0.9
Portal Sector Dismantling	10.7	11.3
Building, storage area and roads restoration	2.6	2.8
Overburden piles restoration	1.1	1.1
Mineralized material piles restoration	0.0	0.0
Waste piles restoration	6.1	6.4
Tailings management restoration	34.5	36.2
Pond restoration	7.0	7.3
Soils characterization program	0.3	0.3
Indirect costs	19.2	20.2
Contingency	12.4	13.0
Total	**95.1**	**100.0**

21.2 Operating Costs

21.2.1 Summary

The average operating cost over the 18-year mine life is estimated to be $121.76/t milled or $575/oz (CAD). Table 21-19 below, provides the breakdown of the projected operating costs for the Windfall Project.

Table 21-19: Windfall Project operating cost summary

Cost area	LOM ($M)	Average annual cost ($M)	Average ($/tonne milled)	Average LOM ($/oz)	OPEX (%)
Underground mining	1,128.6	64.5	57.29	270.3	47.1
Process plant	528.9	30.2	26.85	126.7	22.0
Tailings, water treatment and environment	195.3	11.2	9.91	46.8	8.1
General and administration	545.8	31.2	27.71	130.7	22.8
Total	**2,398.6**	**137.0**	**121.76**	**574.5**	**100.0**

21.2.2 Basis of Operating Cost Estimate

The operating cost estimate was based on Q1 2021 assumptions. The estimate has an accuracy of ±25%. All operating cost estimates are in CAD. Mining, process and tailings management are generally itemized in detail, however, General and Administration ("G&A") items are calculated estimates, or have been included as an allowance. Many items of the operating cost estimate are based on budget quotations, allowances are based on in-house data and salaries are based on Osisko's projected salary chart.

The operating cost estimate is based on the mine schedule indicative tonnage per time period that was produced by Entech on March 15, 2021 and inclusive of site costs to final Project close-out (LOM) including waste management facilities. Costs up to and including C4 commissioning are excluded from operating costs and are included in the capital cost estimate.

Assumptions and Exclusions

The following items were assumed:

- All equipment and materials will be new;
- The labour rate build-up will be based on the statutory laws governing benefits to workers that were in effect at the time of the estimate;
- No cost of commissioning assistance post C4 certificate issuance is included in the operating cost estimate;
- Freight estimates are based on vendor supplied freight quotations or in-house data. Freight for reagents is included in the price of those commodities. Freight for steel consumables is included in the price of that material. Freight for spare parts is calculated as a percentage of equipment cost expected to be used annually;
- Limited contingency has been applied;
- No cost escalation (or de-escalation) is assumed;
- No costs relating to certain agreements with third parties;

The following items were specifically excluded from the operating cost estimate, unless identified by the Owner's team and included in the Owner's costs:

- Cost of financing and interest;
- Pre start-up operations and maintenance training;
- Corporate G&A costs;
- Transport and handling of doré (included in the financial analysis).

Estimate Responsibilities

The overall operating cost estimate combined inputs from a number of sources, including BBA, Entech, WSP, and Osisko as summarized in Table 21-20.

Table 21-20: OPEX estimate responsibilities

Cost area	Responsible entity
Mining	Entech
Process plant	BBA
Tailings, waste and water management and environment	WSP, Osisko
General and administration	Osisko

General Unit Rates

General rates used in the operating cost estimate are summarized in Table 21-21.

Table 21-21: General rate and unit cost assumptions

Parameter	Unit	Value
Average daily LOM tonnage	tpd	3,082
Years of operations	year	17.5
LOM Production	M tonnes	19.7
LOM gold grade	Au g/t	6.9
LOM silver grade	Ag g/t	3.1
Average annual gold produced	Au Koz	238.4
Average annual silver produced	Ag Koz	86.9
Power at Windfall site	$/KWh	0.05
Propane	$/L	0.50
Coloured Diesel	$/L	0.99
Clear Diesel	$/L	0.86

21.2.3 Mining

Entech provided estimates for all underground mine operating costs. The total underground mine operating cost is $1,128.6M for Windfall. The operating unit costs were calculated over the total mineralized material mined from development and from production, including the mineralized material stockpiled at surface before construction. The unit cost is $57.29/t milled for Windfall.

Total mining operating costs consider the following:

- The backfill OPEX excludes the maintenance and operation of the paste backfill network on surface, as well as the costs to produce and supply the paste backfill underground;
- The backfill OPEX includes the underground installation and maintenance of the paste backfill distribution;
- Mining manpower excludes Technical Services; and,
- Mining manpower cost excludes food and lodging allowances, which are included in the General & Administration operating costs (Section 21.2.6).

Table 21-22 summarizes the underground operating costs and provides a breakdown per item.

Table 21-22: Underground mining operating costs

Operating costs		Total LOM cost	Average LOM cost	OPEX
Activity	**Sub-activity**	**($M)**	**($/t milled)**	**(%)**
Grade control	Definition Drilling	28.2	1.43	2.5
Mine development	Mine Development	275.4	13.98	24.4
Production	Production - Stope Preparation	21.0	1.07	1.9
	Production - Raise, Drilling & Blasting	158.4	8.04	14.0
	Production - Mucking & Hauling	158.2	8.03	14.0
	Production - Backfill	78.5	3.98	7.0
Services	UG Services	188.9	9.59	16.7
	Maintenance	157.2	7.98	13.9
	Energy Cost	62.9	3.19	5.6
	Total	**1,128.6**	**57.29**	**100.0**

The next Table 21-23 presents a more detailed overview of the underground operating costs. It provides a breakdown per item and per year.

Table 21-23: Underground mine operating costs per year

Operating costs – Mining		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	Total cost
Activity	**Sub-activity**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**	**($M)**
Grade control	Definition Drilling	0.3	1.6	1.7	1.6	1.5	1.6	1.7	1.6	1.6	1.6	1.5	1.6	1.7	1.7	1.7	1.7	1.7	1.4	0.4	**28.2**
Mine development	Mine Development	5.7	20.6	18.5	13.7	14.2	18.4	14.3	17.9	18.7	18.4	16.0	14.9	16.9	14.8	14.5	15.2	16.8	6.1	0.0	**275.4**
Production	Production - Stope Preparation	0.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.3	**21.0**
	Production - Raise, Drilling & Blasting	1.8	9.1	9.6	9.2	8.6	9.4	9.7	9.0	9.2	9.1	8.6	9.0	9.3	9.3	9.0	9.3	9.3	7.9	2.1	**158.4**
	Production - Mucking & Hauling	2.3	9.6	9.6	10.7	10.7	10.8	10.8	8.5	8.4	8.4	8.4	8.5	8.5	8.5	8.4	8.4	8.5	7.2	2.1	**158.2**
	Production - Backfill	2.6	10.2	4.0	4.2	4.4	4.0	4.1	4.4	4.2	4.1	4.0	3.8	4.2	3.9	3.9	4.1	3.9	3.6	1.0	**78.5**
Services	UG Services	3.5	13.1	10.6	10.6	10.5	10.7	10.5	10.6	10.7	10.5	10.4	10.5	10.7	10.7	10.6	10.7	10.8	9.9	3.4	**188.9**
	Maintenance	2.5	8.8	8.8	8.8	9.0	9.2	8.8	9.5	8.8	9.0	9.2	8.8	9.5	8.8	8.8	8.8	8.8	8.8	2.6	**157.2**
	Energy Cost	0.5	2.6	2.4	2.9	3.6	4.0	3.8	3.8	4.1	4.0	4.0	3.8	3.6	3.8	3.9	3.9	3.5	2.8	2.1	**62.9**
	Total	**19.5**	**76.8**	**66.4**	**62.8**	**63.6**	**69.3**	**64.9**	**66.4**	**66.8**	**66.5**	**63.2**	**62.0**	**65.4**	**62.6**	**61.8**	**63.3**	**64.6**	**48.8**	**13.9**	**1,128.6**

21.2.4 Process Plant

The average process plant operating costswere calculated over the LOM. The annual operating cost was estimated to be $30.2M or $26.85 per tonne milled. These costs do not include the operating costs for the paste backfill or tailings filtration (see 21.2.5).

The steady-state operating costs include reagents, equipment consumables and maintenance, grinding media, personnel (including contractors), electrical power, as well as external laboratory assays and an allowance for special projects. The process consumables include grinding media as well as mill and crusher liners. A breakdown of the steady-state process plant operating costs, without contingency, is presented in Table 21-24.

Table 21-24: Process plant operating costs

Cost area	Average annual cost ($M)	Cost per tonne milled ($/t)	OPEX (%)
Reagents	6.1	5.41	20.1
Equipment consumables and maintenance	5.6	5.00	18.6
Grinding media	4.3	3.79	14.1
Personnel	7.8	6.97	25.9
Utilities	5.3	4.70	17.5
Miscellaneous	1.1	0.98	3.7
Total	**30.2**	**26.85**	**100.0**

Reagents

Numerous reagents are required for the Windfall process flowsheet to operate the CIL, elution and cyanide destruction circuits as well as the thickeners. The reagent consumptions were estimated based on testwork results, industrial references and literature, and are presented in Chapter 17.

Budgetary prices, including delivery to site, were obtained for all reagents.

A summary of the average annual cost for each of the reagents is presented in Table 21-25.

Table 21-25: Average reagent costs

Cost item	Average annual cost ($M)	Cost per tonne milled ($/t)	OPEX (%)
Quick lime (CaO)	0.7	0.62	11.5
Sodium cyanide (NaCN)	3.5	3.11	57.5
Activated carbon	0.2	0.15	2.8
Hydrochloric acid (HCl)	0.3	0.23	4.2
Sodium hydroxide (NaOH)	0.1	0.11	2.1
Flocculant	0.4	0.34	6.2
Leach aid	0.1	0.09	1.7
SMBS	0.8	0.69	12.8
Anti-scalant	0.1	0.05	1.0
Refining fluxes	0.0	0.01	0.3
Reagent preparation & distribution system rental	0.0	0.00	0.0
Total	**6.1**	**5.41**	**100.0**

The average annual cost of reagents was calculated to be $6.1M, or $5.41 per tonne milled. Nearly 60% of the reagents costs are for cyanide alone, and an additional 24% for quick lime and SMBS.

Personnel

A total of 64 workers are required in the process plant, including 24 salaried staff and 40 hourly workers divided amongst management and technical services, laboratory, operations and maintenance departments. The list of personnel, along with the salaries and benefits, including bonuses where applicable, associated with each position was provided by Osisko. An allowance for maintenance contractors was also included in the personnel cost, it was estimated at an average cost of $7.8M per year or $6.97 per tonne milled.

Equipment Consumables, Spares and Maintenance

The replacement costs of major equipment consumables such as the SAG, ball mill and pebble crusher liners, the jaw crusher fixed and movable liners, screen panels and pump cell screens were calculated based on recommended change-out schedules and budgetary quotations, and using BBA’s internal database. The total cost for these items was estimated to average $1.6M per year or $1.41 per tonne milled.

The general maintenance of the process plant equipment was calculated by applying fixed percentages to the indicated capital cost of a given area. The processing areas and percentages applied to the mechanical, electrical and instrumentation equipment, as well as the piping materials in the process plant, are presented in Table 21-26.

Table 21-26: Process plant maintenance costs by area

Process plant equipment	Percentage of capital costs applied (%)
Mechanical	
▪ Crushing and conveying	9.5
▪ Grinding	8.0
▪ Reagent handling	3.0
▪ CIL	3.0
▪ Gravity	5.0
Plant services	3.0
Piping	10.0
Electrical	2.0
Automation	2.0

The average annual maintenance costs were calculated to be $4.0M or $3.59 per tonne milled, including an allowance for mobile equipment rental.

Grinding Media

The Windfall process flowsheet includes two sizes of steel media for the SAG and ball mills. The consumption rates for the SAG mill (Ø127 mm) and ball mill (Ø51 mm) media were calculated using MolyCop tools and the Bond method respectively. The input data considered the average operating conditions for the SAG and ball mills, in terms of power draw, rotational speed and media loading. Budgetary quotations were obtained for each type of media used. The wear and annual media consumption rates for each type are presented in Table 21-27.

Table 21-27: Media wear and consumption rates

Cost item	Type	Size (mm)	Consumption (tpy)
SAG mill	Forged steel	127	871
Ball mill	Forged steel	51	1,560

The average annual cost of media for was estimated to be $4.3M or $3.79 per tonne milled, which represents 14% of the process plant operating costs.

Electricity and Propane

The annual electrical power consumption for the processing facility was estimated to be 67.2 GWh excluding network losses.

The process plant electrical consumption was calculated by first determining the requirements for the SAG and ball mills. Various factors (efficiency, load, and utilization) were applied to derive the power used versus installed and include network losses. The remaining process plant loads were factored assuming the grinding functions make-up 60% of the power consumption. Plant services and heating consumptions were estimated based on BBA's internal database of similar projects.

The specific energy (kWh/t) for both the SAG and ball mills was estimated from the testwork data. The specific energies were converted to an annual power demand (GWh) based on the annual tonnage processed through the mills.

The process plant area HVAC, carbon regeneration and elution circuits will be using propane, their propane consumption has been estimated at 4.2 million liters annually.

The electrical and propane costs represent approximately 18% of the total process operating costs, at an average yearly cost of $5.3M or $4.70 per tonne milled. These are based on a unit price of $0.04 per kWh for the first four full years of production and $0.05 per kWh provided by BBA. The 20% reduction in kWh cost for the first four full years are based on the admissibility of available programs.

Miscellaneous

The miscellaneous costs for the process plant include items such as on-site laboratory fees, special projects, R&D, rental of a cyanide control system. As there will be an on-site laboratory, costs has been included for manpower and laboratory consumables.

The miscellaneous annual cost is $1.1M, or $0.98 per tonne milled.

21.2.5 Tailings, Water Treatment and Environment

The tailings (backfill and filtration), water treatment and environmental operating costs were based on PEA level estimates provided by GCM, WSP and Osisko. The average annual operating costs were determined to be $11.2M per year or $9.91 per tonne milled.

This area includes the following operating costs:

- Labour costs;
- Water treatment plant operations, maintenance and consumables;
- Tailings management facility operating costs;
- Tailings filtration;

- Environmental services group labour costs and associated expenses estimated such as:
  - Recycling and waste disposal fees;
  - Permitting costs;
  - Equipment rental;
  - Sampling and analytical fees;
  - Consulting and contract services.

A breakdown of the steady-state costs, without contingency, is presented in Table 21-28.

Table 21-28: Tailings, water treatment and environment operating costs

Cost area	Average annual cost ($M)	Cost per tonne milled ($/t)	OPEX (%)
Labour	0.6	0.49	5.0
Water treatment plant operations	1.8	1.60	16.1
Waste and water management	1.2	1.10	11.1
Tailings Filtration Plant	7.4	6.62	66.8
Environmental services fees	0.1	0.11	1.1
Total	**11.2**	**9.91**	**100.0**

The labour for the Tailings, water treatment and environment area includes 6 employees in the environmental services group and 8 employees who will operate and maintain the tailings Management area at the Plant Site during years the first two years of operation when thickened tailings will be produced. The employee total for this area is 14. This does not include labour for the tailings filtration plant.

The projected Windfall site carbon emission has been calculated on a yearly basis and it was determined that even the highest tonnes of CO_2eq release would be lower than the 25,000 t CO_2eq threshold requiring compensation for carbon taxes. Therefore, no allowance has been included for carbon taxes.

21.2.5.1 Tailings Filtration Plant

The tailings filtration plant operating costs have been calculated over the Windfall Project life-of-mine. On an average operating year, when both paste and filtered tailings are produced, the annual operating cost was estimated to be $8.1M or $6.94 per tonne milled (equivalent to tailings production of 1.16M tonnes per year).

The steady-state operating costs include reagents, energy, maintenance, manpower, consulting and laboratory fees. A breakdown of the steady-state average processing operating costs (Year 2027 to Year 2040, $112.9M, 16.3 M tonnes of tailings), without contingency, is presented in Table 21-29.

Table 21-29: Filtration plant operating costs

Cost area	Average annual cost ($M)	Cost per tonne milled ($/t)	% of total OPEX (%)
Reagents	3.1	2.70	38.9
Energy	0.5	0.46	6.7
Maintenance	1.7	1.44	20.7
Manpower	2.7	2.30	33.1
Consulting and Laboratory	0.05	0.04	0.6
Total	**8.1**	**6.94**	**100.0**

21.2.5.1.1 Reagents

Cement consumption for paste production was reported in Sections 13 and 17.

A budget quote (including shipping costs) was obtained from a cement supplier in early 2021. The operating cost related to cement consumption is estimated at an average of $3.1M per year or $2.70 per tonne milled. They represent almost 40% of the total operating costs.

21.2.5.1.2 Energy

Estimate of electrical energy consumption for the Tailings Filtration Plant was based on the electrical load list. An average consumption of 10.3 M kWh is expected.

The energy costs represent almost 7% of the total process operating costs, at an average yearly cost of $0.5M or $0.46 per tonne milled.

21.2.5.1.3 Maintenance Materials and Mobile Equipment

Maintenance materials costs for the Tailings Filtration Plant were estimated based on the equipment capital cost. Allowances were added for piping, electrical and instrumentation materials.

Filter cloths replacement costs were estimated based on the selected filter presses characteristics (size and number of cloths) and on cloth costs and expected life from previous projects.

Costs related to the operation of the mobile equipment have been provided by Osisko Mining. Dedicated usage to the dry stack operations are estimated at about 63% of the time. The remaining time, the mobile equipment is considered to service other users and the associated operating costs are included in General & Administration budget.

The total operating costs for general maintenance materials, filter cloths and mobile equipment were estimated to average $1.7M per year or $1.44 per tonne milled and represent approximately 21% of the total operating costs.

21.2.5.1.4 Personnel

The Tailings Filtration Plant employs dedicated filter press operators, paste plant operators, general laborers and maintenance personnel (mechanics and electricians). Mobile equipment operators share their time between the Tailings Filtration Plant and other duties. Dry stack operations are estimated at about 63% of the time. In total, 26 part-time and full-time employees are required to operate the Filtration Plant.

Salaries and benefits have been provided by Osisko and yearly working ratios have been estimated based on the mobile equipment operating time and plant requirements.

The labour costs represent one third of the total operating costs and are estimated at an average cost of $2.7M per year or $2.30 per tonne milled.

21.2.5.1.5 Consulting and Laboratory Fees

Consulting, internal and external laboratory requirements have been estimated based on similar projects.

These operating costs are estimated at an average of $46 000 per year or $0.04 per tonne milled.

21.2.6 General and Administration

General and Administrative (“G&A”) costs are expenses not directly related to the production of goods and encompass items not included in the mining, processing, refining, and transportation costs of the Project. These costs were developed based on the Osisko’s past project experience, similar sized operations, and BBA’s in-house database. The costs do not include salaries and benefits for 9 part-time personnel affiliated to corporate G&A, evaluated at $1.5M per year.

The G&A area includes the following items:

- Site administration and management labour;
- Human Resources, Information Technology (“IT”) and Health Services labour;
- Mine and Geology Technical Services labour;

- Employee transport to site;
- Office furniture and supplies;
- Computer hardware and software costs/license fees;
- Infrastructure electrical power and heating;
- Propane utilization for camp and kitchen;
- Health and Safety supplies;
- Building Insurance (including loss of production);
- Security, maintenance, cafeteria, laundry, snow removal and janitorial service contracts;
- Warehouse administration and supplies;
- Waste collection and recycling services;
- Integrated operations (IROC), telecommunications and data service fees;
- Training;
- Municipal and school taxes.

The labour included in the General and Administration area includes three management employees, 16 administration (Accounting, IT and Warehousing) employees, two employees in Human Resources, two employees in Health and Safety, six employes for Windfall site services and 31 employees dedicated to Technical Services (Mine Engineering and Geology). The employee total for the overall General and Administration services is 60. From 2027, an average of 35% of the time, 10 equipment operators will be available for surface work such as on-site road maintenance or stockpile management.

In general, the management and administrative staff will work 40 hours per week on day shift. Warehousing personnel will work a 12-hour shift per day to support the 24 hours of required daily operations.

On an annual basis, the General and Administration costs are estimated to be $31.2M per year or approximately $545.8M over the mines planned 18 years of operations. The G&A cost is $27.71 per tonne milled (LOM).

The major costs broken down by item within the General and Administration category are shown in Table 21-30. The greatest cost within the G&A category is labour, representing approximately 23%, while contract services (Cafeteria, Laundry, Janitorial and Security) is the second greatest cost accounting for approximately 18%. Mobile equipment operations and maintenance represents approximately 14% of the G&A costs.

Table 21-30: General and administrative costs

Cost area	Average annual cost ($M/year)	Cost per tonne milled ($/t)	OPEX (%)
Labour	7.3	6.49	23.4
Management	0.3	0.31	1.1
Administration	2.7	2.42	8.7
IT & Communication	2.8	2.50	9.0
Health and safety	0.9	0.77	2.8
Technical services	0.1	0.13	0.5
Insurance	1.0	0.85	3.1
Electricity and heating	3.5	3.08	11.1
Building maintenance and rental fees	0.4	0.40	1.4
Cafeteria, laundry, janitorial and security services	5.7	5.06	18.3
Roads maintenance and snow removal	0.4	0.34	1.2
Mobile equipment operations & maintenance	4.2	3.74	13.5
Taxes (municipal and school)	1.8	1.63	5.9
Total	**31.2**	**27.71**	**100.0**

21.3 Site Personnel Summary – All Areas

A total facility workforce averaging 421 employees during full production years is estimated for the Windfall Project. A summary of labour averages in all areas is shown in Table 21-31. Contract employees are not included in the previously mentioned project work force total.

Table 21-31: Project site personnel (average) – All areas

Facility area	Role	Total
General & Administration	Management	3
	Administration and communication and IT	16
	Human Resources and Community Relations	2
	Health and Safety	2
	Windfall site Services	6
	Technical Services (Mine and Geology)	31
	Subtotal	**60**
Underground mine	Definition drilling	2
	Underground services	49
	Maintenance	73
	Mobile equipment	140
	Subtotal	**264**
Process plant	Staff and Supervision - including laboratory	24
	Operations	24
	Maintenance	16
	Subtotal	**64**
Tailings, water management and environment	Staff and Supervision	7
	Operations	20
	Maintenance	6
	Subtotal	**33**
Windfall Project	**Total**	**421**

22. ECONOMIC ANALYSIS

The economic/financial assessment of the Windfall Project for Osisko Mining was carried out using a discounted cash flow approach on a pre-tax and after-tax basis, based on consensus equity research long-term commodity price projections (as at March 3, 2021) in United States currency and cost estimates in Canadian currency. An exchange rate of 0.77 USD per 1.00 CAD was assumed to convert USD market price projections and particular components of the capital cost estimates into Canadian Dollars (“CAD”). No provision was made for the effects of inflation. Current Canadian tax regulations were applied to assess the corporate tax liabilities, while the most recent provincial regulations were applied to assess the Québec mining tax liabilities.

The internal rate of return (“IRR”) on total investment was calculated based on 100% equity financing, even though Osisko Mining may decide in the future to finance part of the Project with debt financing. The net present value (“NPV”) was calculated from the cash flow generated by the Project, based on a discount rate of 5%. The payback period, based on the undiscounted annual cash flow of the Project, is also indicated as a financial measure. Furthermore, a sensitivity analysis has been performed for the after-tax base case to assess the impact of variations in the Project capital costs, USD:CAD exchange rate, price of gold, and operating costs.

The economic analysis presented in this section contains forward-looking information with regard to the mineral resource estimates, commodity prices, exchange rates, proposed mine production plan, projected recovery rates, operating costs, construction costs and project schedule. The results of the economic analysis are subject to a number of known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those presented here. The reader is cautioned that this PEA is preliminary in nature and includes the use of 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, as such, there is no certainty that the PEA economics will be realized.

22.1 Assumptions and Basis

The economic analysis was performed using the following assumptions and basis:

- The Project Executive Schedule developed in Chapter 24, taking into consideration key project milestones;
- Commercial production start-up is scheduled to begin in the fourth quarter (“Q4”) of 2024. The first full year of production is therefore 2025. Operations are estimated to span a period of approximately 18 years;
- The base case gold and silver prices are 1,500 USD/oz. and 21.00 USD/oz., respectively;

- The long-term prices of gold and silver were estimated on the basis of discussions with experts, consensus analyst estimates and recently-published economic studies that were deemed to be credible (March 3, 2021). The forecasts used are meant to reflect the average metal price expectation over the life of the Project. No price inflation or escalation factors were taken into account. It is understood that commodity prices can be volatile and that there is the potential for deviation from the LOM forecasts;
- The United States to Canadian dollar exchange rate has been assumed to be 0.77 USD: 1.00 CAD over the life of mine (CAD:USD exchange rate of 1.30);
- All cost estimates are in constant Q1 2021 Canadian dollars with no inflation or escalation factors taken into account;
- All metal products are assumed sold in the same year they are produced;
- Cash flows are taken to occur at the beginning of each period;
- Working capital cash outflows and inflows are included in the model;
- Class specific Capital Cost Allowance rates are used for the purpose of determining the allowable taxable income;
- Final rehabilitation and closure costs will start in 2042 (Year 18) and be completely spent in 2043 (Year 19);
- Project revenue is derived from the sale of gold/silver doré into the international marketplace. No contractual arrangements for doré smelting or refining exist at this time.

This financial analysis was performed on both a pre-tax basis and after-tax basis with the assistance of an external tax consultant. The general assumptions used for this financial model, LOM plan tonnage and grade estimates are summarized in Table 22-1, and are outlined in Table 22-2.

Table 22-1: Financial model parameters

Description	Unit	Value
Long term gold price	USD/oz	1,500
Long term silver price	USD/oz	21.00
Exchange rate	USD:CAD	0.77
Discount rate	%	5
Mine life	year	17.5
Total mined and milled	Million tonnes	19.7
Gold grade	g/t	6.9
Silver grade (1)	g/t	3.1
Process plant gold recovery	%	94.9
Process plant silver recovery	%	78.3
Underground mining operating cost	$/t milled	57.29
Processing operating cost	$/t milled	26.85

Description	Unit	Value
Tailings and water management operating cost	$/t milled	9.91
General and administration operating cost	$/t milled	27.71
Royalties	% NSR	2.0
Pre-production capital cost	$M	543.5
Sustaining capital cost	$M	666.4
Reclamation and closure cost	$M	95.1

(1) As not all silver assays were analyzed and considered in the block model, all the data missing silver has been assigned a zero value. The silver grade reflects the use of only the blocks in the block model with silver grades but averaged on the overall tonnage mined.

22.2 Gold and Silver Production

Over the life of mine, a total of 4.17 Moz of gold (payable) (average annual: 238,000 oz) and a total of 1.51 Moz of silver (payable) (average annual: 86,000 oz) will be produced. Figure 22-1 provides a summary of the payable gold and silver production by year.

Metallurgical testwork and drill core assays have shown that the mineralization for Windfall deposit contains silver. Silver assays were not available for all samples when the database was closed. A value of 0 g/t silver was used when there was no silver assay available.

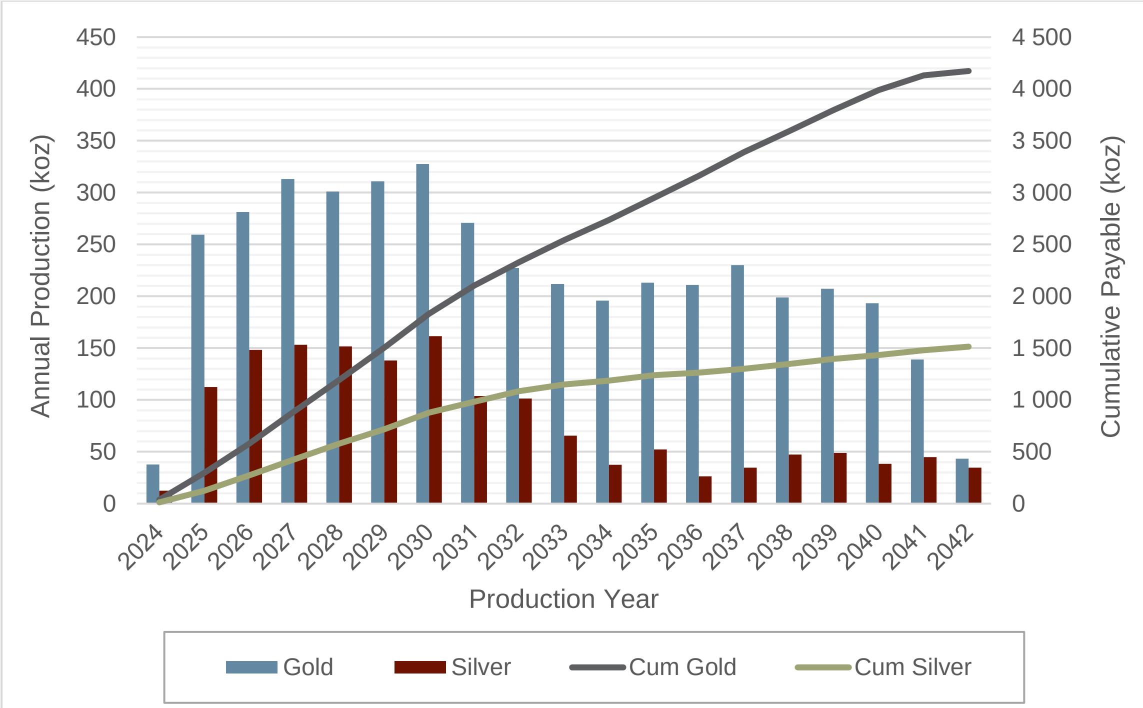


Figure 22-1: Payable gold and silver production (oz)

22.3 Pre-production and Sustaining Capital Costs

All capital costs (pre-production, sustaining, reclamation and closure) for the Project have been distributed against the development schedule to support the economic cash flow model. Figure 22-2 presents the planned annual and cumulative LOM capital cost profile, excluding sunk costs ($33M).

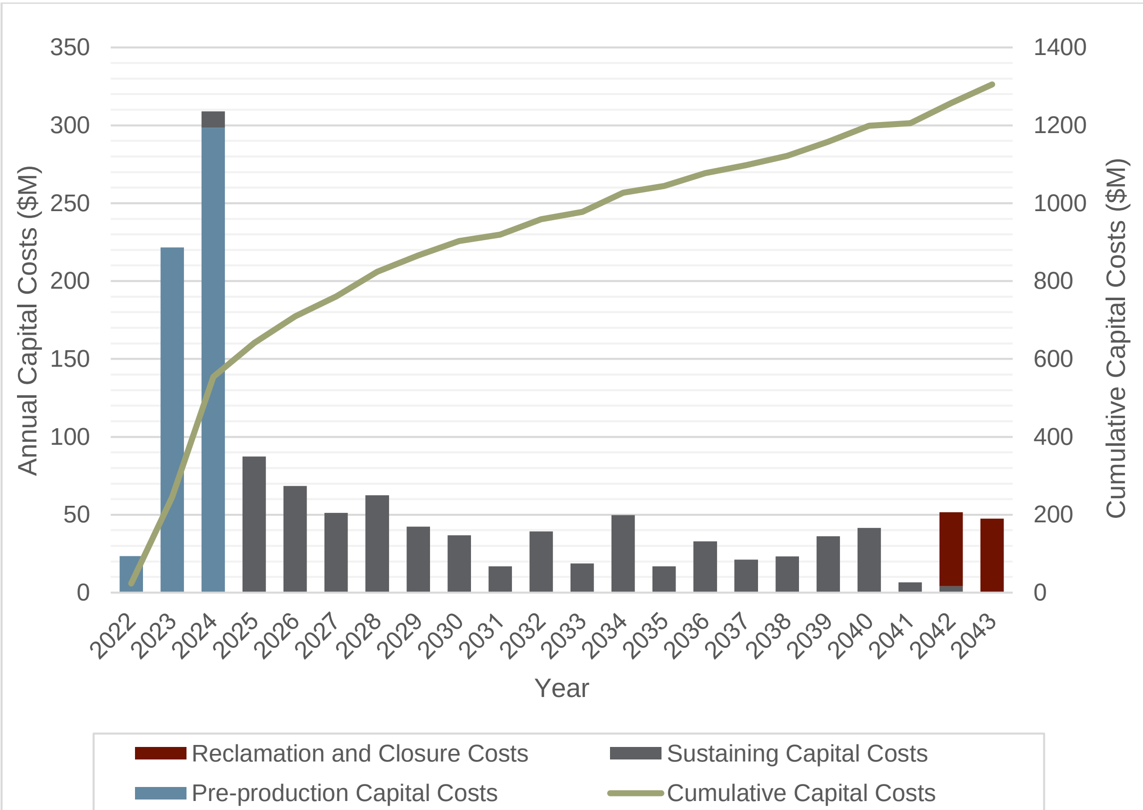


Figure 22-2: Overall Windfall Project capital cost profile

22.4 Royalties

Over the life of the Project, based on the various agreements in place, an overall 2.0% NSR royalty has been assumed for the Windfall deposit. It is estimated that approximately $163M in royalties is expected to be paid over the life of mine based on the base case metal prices and project assumptions.

22.5 Taxation

The Windfall Project is subject to three levels of taxation, including federal income tax, provincial income tax, and provincial mining taxes. Osisko Mining compiled the taxation calculations for the Windfall Project with assistance from third party taxation experts.

The current Canadian tax system applicable to Mineral Resource Income was used to assess the annual tax liabilities for the Project. This consists of federal and provincial corporate taxes, as well as provincial mining taxes. The federal corporate tax currently applicable over the operating life of the Project is 15.0% of taxable income while the provincial corporate tax is 11.5%. The marginal tax rates applicable in Québec are 16%, 22% and 28% of taxable income and are dependent on the three profit margin categories ranging from 0% to 35%, 35% to 50% and above 50%. It has been assumed that the 10% processing allowance rate associated with transformation of the mine product to a more advanced stage within the province would be applicable in this instance.

The tax calculations are underpinned by the following key assumptions:

- The Project is held 100% by a corporate entity and the after-tax analysis does not attempt to reflect any future changes in corporate structure or property ownership;
- Assumes 100% equity financing and therefore does not consider interest and financing expenses;
- Payments projected relating to NSR royalties are allowed as a deduction for federal and provincial income tax purposes, but are added back for provincial mining tax purposes;
- Actual taxes payable will be affected by corporate activities, and current and future tax benefits, with respect to these activities have not been considered.

The combined effect on the Project of the three levels of taxation, including the elements described above, is an approximate cumulative effective tax rate of 30%, based on project net profits of $5.59B. It is anticipated, based on the Project assumptions, that Osisko will pay approximately $1.69B in income and mining tax payments over the life of the Project.

22.6 Financial Analysis Summary

A 5% discount rate was applied to the cash flow to derive the NPV for the Project on a pre-tax and after-tax basis. Cash flows have been discounted to Q1 2022 under the assumption that the Project construction decision will be made and major project financing would be carried out at this time. The summary of the financial evaluation for the base case of the Project is presented in Table 22-2.

Table 22-2: Financial analysis summary (pre-tax and after-tax)

Description		Unit	Base case
Pre-tax	Net present value (0% disc)	$M	4,286.2
	Net present value (5% disc)	$M	2,449.7
	Internal rate of return	%	50.6%
	Payback Period After Start of Production	year	2.0
After-tax	Net present value (0% disc)	$M	2,599.7
	Net present value (5% disc)	$M	1,534.4
	Internal rate of return	%	39.3%
	Payback Period After Start of Production	year	2.2

The pre-tax base case financial model resulted in an internal rate of return of 50.6% and an NPV of $2,449.7.4M with a discount rate of 5%. The pre-tax payback period after start of production is 2.0 years. On an after-tax basis, the base case financial model resulted in an internal rate of return of 39.3% and an NPV of $1,534.4M with a discount rate of 5%. The after-tax payback period after start of production is 2.2 years.

The summary of the Windfall Project discounted cash flow financial model (pre-tax and after-tax) is presented in Table 22-3.

Table 22-3: Windfall Project financial model summary

Year	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	
Production Summary																							
Total tonnes mined (kt)			508	1,248	1,246	1,074	1,002	1,109	1,187	1,123	1,125	1,147	1,066	1,135	1,174	1,176	1,129	1,175	1,159	746	172	0	**19,700**
Total tonnes milled (kt)			166	1,150	1,241	1,241	1,244	1,145	1,187	1,123	1,125	1,147	1,066	1,135	1,174	1,176	1,129	1,175	1,159	746	172	0	**19,700**
Mill head grade Au (g/t)			7.48	7.38	7.41	8.23	7.91	8.87	9.02	7.90	6.66	6.11	6.06	6.18	5.91	6.42	5.77	5.80	5.51	6.15	8.29	0.0	**6.95**
Mill head grade Ag (g/t)			3.14	3.83	4.52	4.65	4.60	4.57	5.07	3.69	3.58	2.50	1.50	2.04	1.16	1.41	1.81	1.82	1.53	2.49	7.76	0.0	**3.07**
Gold production (koz)			37.9	259.6	281.3	313.2	301.2	311.0	327.9	271.0	227.3	211.8	195.8	213.2	210.9	230.2	199.0	207.5	193.6	139.2	43.4	0.0	**4,174.9**
Silver production (koz)			12.6	113.0	149.2	154.1	152.6	138.8	162.4	104.3	101.9	65.9	37.6	52.6	26.5	35.0	47.6	49.1	38.5	45.2	34.8	0.0	**1,521.7**
Payable gold (koz)			37.8	259.4	281.2	313.0	301.0	310.8	327.7	270.9	227.2	211.7	195.7	213.1	210.8	230.1	198.9	207.4	193.5	139.1	43.4	0.0	**4,172.8**
Payable silver (koz)			12.6	112.4	148.4	153.3	151.8	138.2	161.6	103.8	101.4	65.6	37.4	52.3	26.4	34.8	47.4	48.8	38.3	44.9	34.6	0.0	**1,514.1**
Revenue																							
Exchange rate (USD:CAD)	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	**0.77**
Gross revenue ($M)			74.2	509.2	552.6	615.0	591.4	610.2	643.8	531.4	446.1	414.9	382.8	417.2	412.0	449.9	389.4	405.9	378.5	272.6	85.6	0.0	**8,182.5**
Operating Expenditures																							
Mining ($M)			19.5	76.8	66.4	62.8	63.6	69.3	64.9	66.4	66.8	66.5	63.2	62.0	65.4	62.6	61.8	63.3	64.6	48.8	13.9	0.0	**1.128.6**
Processing ($M)			5.8	30.2	31.2	31.1	31.0	30.6	31.0	30.3	30.4	30.6	29.7	30.5	30.9	30.9	30.4	30.9	30.7	26.3	6.3	0.0	**528.9**
Environment & Tailings ($M)			1.0	6.9	10.3	11.7	11.4	11.8	12.0	11.7	11.7	11.8	11.5	11.8	11.8	11.8	11.6	11.8	11.7	10.6	2.3	0.0	**195.3**
General & Administration ($M)			8.4	31.7	30.2	31.1	31.2	31.3	31.2	31.4	32.1	31.1	31.2	30.9	30.9	30.9	30.7	30.8	30.7	29.8	10.2	0.0	**545.8**
Operating Costs ($M)			34.8	145.7	138.0	136.7	137.2	143.0	139.1	139.9	141.0	140.0	135.7	135.2	138.9	136.1	134.5	136.7	137.8	115.6	32.7	0.0	**2,398.6**
Royalty payments ($M)			1.5	10.1	11.0	12.2	11.8	12.2	12.8	10.6	8.9	8.3	7.6	8.3	8.2	9.0	7.8	8.1	7.5	5.4	1.7	0.0	**163.0**
Capital Expenditures																							
Pre-production ($M)	23.4	221.6	298.5																				**543,5**
Sustaining ($M)			10.5	87.3	68.5	51.3	62.6	42.3	36.7	16.8	39.2	18.6	49.7	16.9	33.0	21.1	23.2	36.3	41.6	6.6	4.1	0.0	**666,4**
Reclamation and closure ($M)																					47.6	47.6	**95,1**
Total Capital Costs ($M)	23.4	221.6	309.0	87.3	68.5	51.3	62.6	42.3	36.7	16.8	39.2	18.6	49.7	16.9	33.0	21.1	23.2	36.3	41.6	6.6	51.7	47.6	**1,305.0**
Changes in working capital ($M)[1]	0.0	0.0	(0.7)	(4.1)	0.7	0.5	(0.2)	(0.2)	0.5	(0.8)	(0.7)	(0.2)	(5.9)	0.3	(0.4)	0.5	(0.2)	(0.1)	(0.3)	1.5	7.0	2.7	**0.0**
Pre-Tax Cash Flow																							
Pre-tax cash flow ($M)	(23.4)	(221.6)	(270.6)	268.2	332.1	411.8	377.7	410.4	452.1	362.8	255.8	246.5	194.1	254.9	230.6	281.5	222.6	223.3	190.4	142.4	(7.8)	(47.6)	**4,286.2**
Cumulative Pre-Tax Cash Flow ($M)	(23.4)	(245.0)	(515.6)	(247.5)	84.7	496.4	874.1	1,284.6	1,736.7	2,099.4	2,355.2	2,601.7	2,795.8	3,050.8	3,281.4	3,562.9	3,785.5	4,008.8	4,199.2	4,341.6	4,333.8	4,286.2	

Year	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	
Taxes and Duties[2]																							
Federal corporate income tax ($M)		0.0	0.0	0.0	(18.1)	(45.5)	(43.7)	(45.7)	(50.8)	(39.0)	(30.2)	(27.2)	(24.6)	(28.5)	(28.0)	(32.7)	(26.4)	(28.1)	(10.2)	(15.0)	0.0	0.0	(493.6)
Provincial corporate income tax ($M)		0.0	0.0	0.0	(14.1)	(34.8)	(33.5)	(35.0)	(38.9)	(29.9)	(23.2)	(20.9)	(18.8)	(21.8)	(21.4)	(25.1)	(20.2)	(21.6)	(7.8)	(11.5)	0.0	0.0	(378.7)
Québec mining duties ($M)		0.0	0.0	0.0	(39.5)	(75.9)	(71.7)	(76.7)	(88.2)	(65.4)	(46.0)	(41.4)	(34.5)	(44.4)	(41.9)	(52.7)	(39.8)	(42.2)	(34.5)	(19.7)	0.0	0.0	(814.3)
Total Taxes and Duties ($M)		0.0	0.0	0.0	(71.8)	(156.2)	(148.9)	(157.4)	(177.9)	(134.2)	(99.3)	(89.5)	(77.9)	(94.7)	(91.4)	(110.4)	(86.4)	(91.8)	(52.6)	(46.2)	0.0	0.0	(1,686.6)
After-Tax Cash Flow																							
After-Tax Cash flow ($M)	(23.4)	(221.6)	(270.6)	268.2	260.4	255.6	228.8	253.0	274.2	228.6	156.5	157.0	116.2	160.2	139.3	171.0	136.1	131.5	137.8	96.2	(7.8)	(47.6)	2,599.7
Cumulative After-Tax Cash Flow ($M)	(23.4)	(245.0)	(515.6)	(247.5)	12.9	268.5	497.3	750.4	1,024.6	1,253.2	1,409.6	1,566.6	1,682.8	1,843.0	1,982.3	2,153.4	2,289.5	2,421.0	2,558.8	2,655.0	2,647.2	2,599.7	

(1) A negative value indicates a decrease in working capital.

(2) A negative value indicates a reimbursement of taxes and duties.

Figure 22-3 shows the cumulative cash flows for the Project projected for the life of the mine on a pre-tax and after-tax basis.

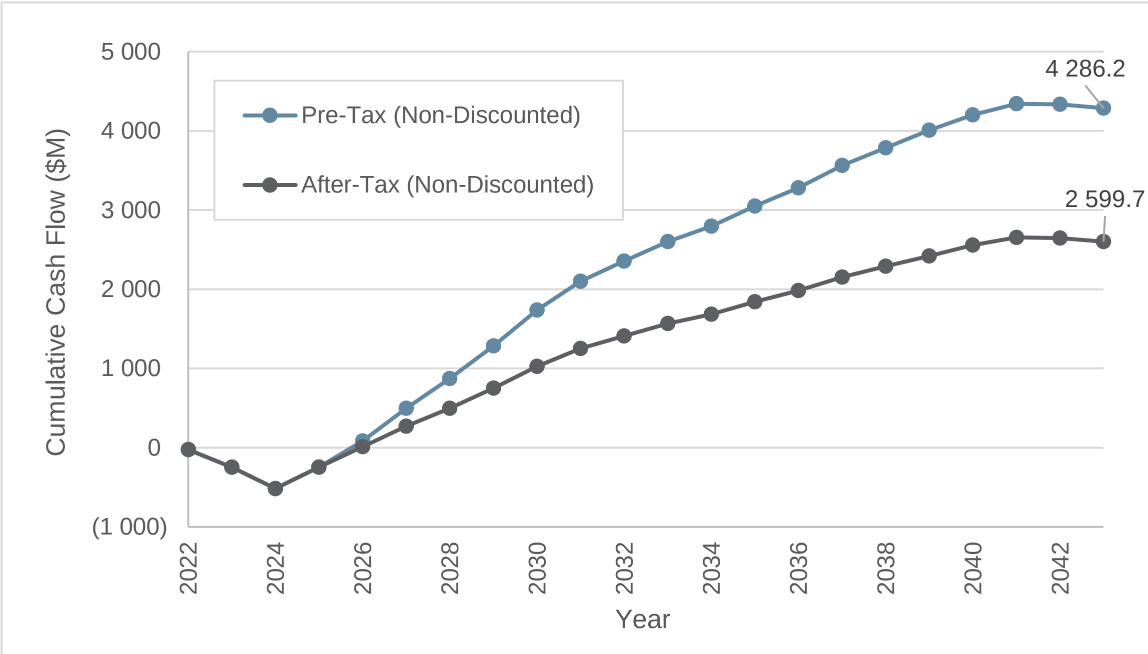


Figure 22-3: Life of mine cash flow projection (cumulative, pre-tax and after-tax)

22.7 Production Costs

A summary of the Project's production costs is provided in Table 22-4. All costs are in USD. Total cash costs are calculated per ounce on a payable basis using the costs of mining, processing, tailings and water treatment, on-site G&A, refining and smelting, transport, and royalties. A credit for by-product silver revenues is then applied.

The LOM operating cash cost per ounce (Including by-product credits) is 470 USD/oz Au. The LOM cost all-in sustaining cost ("AISC"[1]) per ounce is 610 USD/oz Au derived from the total cash costs plus sustaining capital, and closure costs. The operating margin over the LOM has been estimated to be 1,030 USD/oz Au based on a gold price of 1,500 USD/oz.

[1] All-in Sustaining Costs are presented as defined by the World Gold Council ("WGC") less Corporate G&A.

Table 22-4: Production cost summary

Description	Unit	LOM
Metal Payable		
Gold	Moz	4.17
Silver	Moz	1.51
Costs, Royalties and Credits		
Mining	USD M	868.2
Processing	USD M	406.8
General & administration	USD M	150.2
Environment & tailings	USD M	419.8
Refining and smelting	USD M	21.6
Royalties	USD M	125.4
By-product credit (Ag)	USD M	(32.0)
Total operating cost (after credit)	USD M	1,960.1
AISC Costs and Profit Margins (per oz payable)		
Gold price	USD/oz	1,500.0
Cash cost (operating)	USD/oz	469.7
Sustaining and closure costs (net of salvage value)	USD M	585.8
Total costs (operating and sustaining)	USD M	2,545.9
AISC costs (1)	USD/oz	610.1
Operating margin	USD/oz	1,030.3

(1) As defined by the World Gold Council less corporate G&A costs.

22.8 Sensitivity Analysis

A financial sensitivity analysis was conducted on the base case after-tax cash flow NPV and IRR of the Project, using the following variables: capital costs, operating costs, USD:CAD exchange rate, price of gold and discount rate. The after-tax results for the Project IRR and NPV based on the sensitivity analysis are summarized in Table 22-5 through Table 22-9.

Table 22-5: NPV sensitivity results (after-tax) for metal price and exchange rate variations

USD: CAD	Gold Price (USD/ounce)										
	1,000	**1,100**	**1,200**	**1,300**	**1,400**	**1,500**	**1,600**	**1,700**	**1,800**	**1,900**	**2,000**
0.90	245.8	425.8	602.7	775.8	944.8	1,112.3	1,279.0	1,443.8	1,606.9	1,768.7	1,929.6
0.85	352.0	540.8	725.9	905.6	1,083.1	1,259.8	1,434.5	1,607.2	1,778.4	1,949.0	2,121.3
0.80	470.9	669.0	861.2	1 050.1	1,238.1	1,424.0	1,607.5	1,789.4	1,970.9	2,153.9	2,336.9
0.77	550.7	754.5	952.3	1,148.4	1,342.6	1,534.4	1,724.5	1,912.5	2,102.8	2,293.2	2,483.2
0.70	752.9	970.1	1,185.4	1,398.4	1,608.3	1,816.0	2,023.9	2,233.1	2,442.0	2,650.6	2,859.0
0.65	920.9	1,152.9	1,382.6	1,608.7	1,832.3	2,056.6	2,281.8	2,506.7	2,731.2	2,955.6	3,180.1
0.60	1,114.8	1,364.1	1,609.3	1,851.4	2,094.7	2,338.7	2,582.1	2,825.3	3,068.4	3,311.5	3,553.5

Table 22-6: IRR sensitivity results (after-tax) for metal price and exchange rate variations

USD: CAD	Gold Price (USD/ounce)										
	1,000	**1,100**	**1,200**	**1,300**	**1,400**	**1,500**	**1,600**	**1,700**	**1,800**	**1,900**	**2,000**
0.90	12.6%	17.1%	21.1%	24.7%	28.2%	31.5%	34.6%	37.7%	40.6%	43.5%	46.2%
0.85	15.3%	19.7%	23.7%	27.4%	30.9%	34.3%	37.5%	40.6%	43.6%	46.6%	49.5%
0.80	18.1%	22.5%	26.5%	30.3%	33.9%	37.3%	40.6%	43.8%	46.9%	50.0%	53.0%
0.77	19.9%	24.3%	28.3%	32.2%	35.8%	39.3%	42.7%	45.9%	49.2%	52.3%	55.3%
0.70	24.3%	28.7%	32.9%	36.9%	40.7%	44.3%	47.8%	51.3%	54.7%	57.9%	61.0%
0.65	27.7%	32.3%	36.6%	40.7%	44.6%	48.4%	52.1%	55.7%	59.1%	62.5%	65.8%
0.60	31.6%	36.2%	40.7%	44.9%	49.0%	53.1%	56.8%	60.5%	64.2%	67.7%	71.1%

Table 22-7: NPV sensitivity results (after-tax) for operating and capital cost variations

CAPEX	OPEX						
	-30%	-20%	-10%	0%	10%	20%	30%
-30%	2,574.1	2,424.1	2,244.3	2,034.3	1,794.8	1,524.5	1,223.6
-20%	2,427.1	2,277.1	2,097.3	1,887.3	1,647.8	1,377.5	1,076.5
-10%	2,260.4	2,110.4	1,930.6	1,720.6	1,481.1	1,210.8	909.9
0%	2,074.2	1,924.2	1,744.3	1,534.4	1,294.9	1,024.6	723.6
10%	1,868.3	1,718.3	1,538.5	1,328.5	1,089.0	818.7	517.8
20%	1,642.9	1,492.9	1,313.0	1,103.0	863.5	593.2	292.3
30%	1,397.8	1,247.8	1,067.9	858.0	618.4	348.1	47.2

Table 22-8: IRR sensitivity results (after-tax) for operating and capital cost variations

CAPEX	OPEX						
	-30%	-20%	-10%	0%	10%	20%	30%
-30%	98.8%	94.7%	89.7%	83.9%	77.3%	69.8%	61.3%
-20%	76.8%	73.4%	69.4%	64.6%	59.2%	53.0%	45.9%
-10%	60.4%	57.6%	54.3%	50.3%	45.7%	40.4%	34.3%
0%	47.9%	45.6%	42.7%	39.3%	35.4%	30.7%	25.2%
10%	38.2%	36.2%	33.7%	30.7%	27.2%	23.0%	17.9%
20%	30.5%	28.7%	26.5%	23.8%	20.6%	16.7%	11.7%
30%	24.3%	22.6%	20.6%	18.1%	15.1%	11.3%	6.0%

Table 22-9: NPV sensitivity results (after-tax) for discount rate

	Discount Rate						
	0%	3%	5%	7%	9%	11%	13%
NPV ($M)	2,599.7	1,884.8	1,534.4	1,256.1	1,032.8	851.9	704.0

The graphical representations of the financial sensitivity analysis are depicted below in Figure 22-4 for the Project's NPV and Figure 22-5 for the Project's IRR.

The sensitivity analysis reveals that the gold price has the most significant influence on the NPV compared to the other parameters, based on the range of values evaluated. After the gold price, NPV was most impacted by changes in USD:CAD exchange rates and then to a lesser but equal extent by variations in operating costs and capital costs.

For the Project's IRR, capital cost has the most significant influence followed by gold price variation, then USD:CAD exchange rate and to a lesser extent by the operating cost.

Overall, the NPV and IRR of the Project are positive over the range of values used for the sensitivity analysis when analyzed individually.

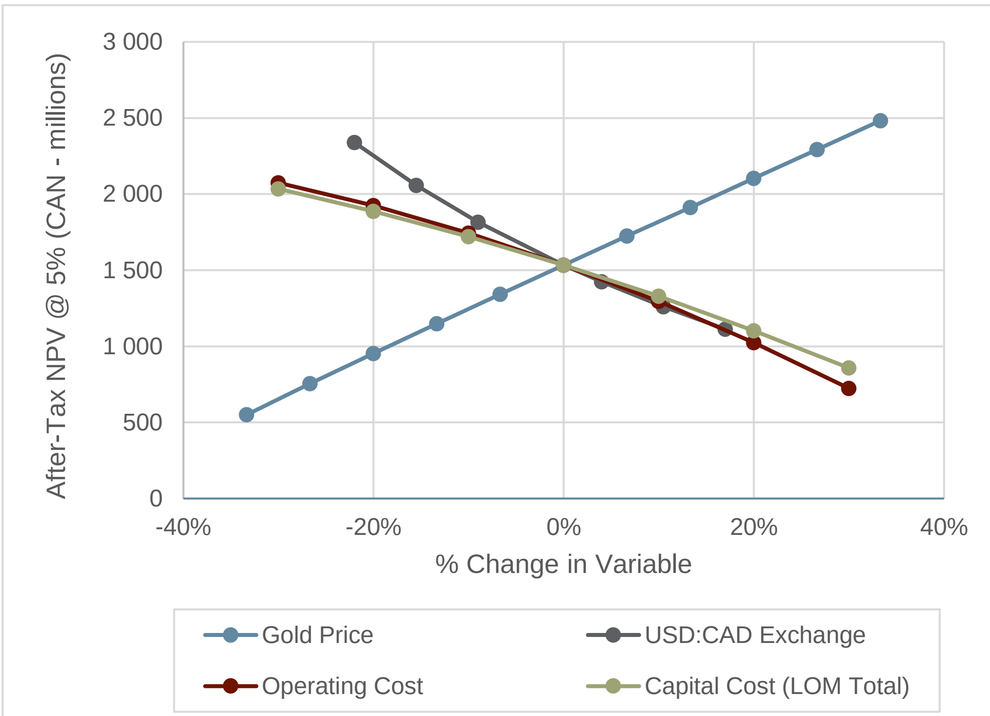


Figure 22-4: Sensitivity of the net present value (after-tax) to financial variables

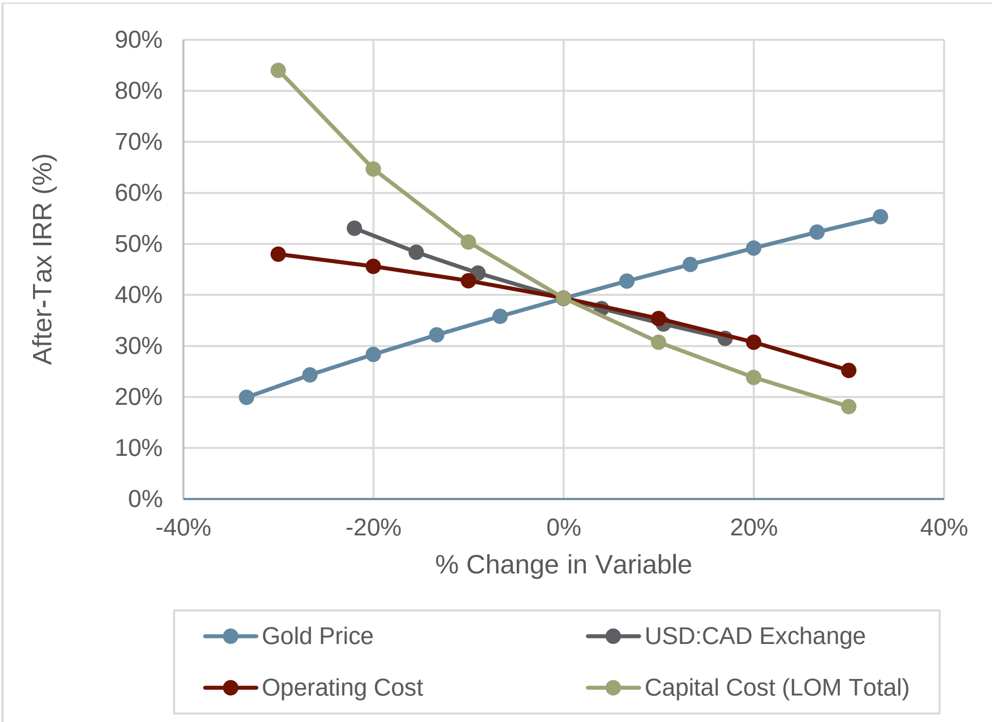


Figure 22-5: Sensitivity of the internal rate of return (after-tax) to financial variables

23. ADJACENT PROPERTIES

23.1 Windfall and Urban-Barry Properties

Exploration in the Urban-Barry greenstone belt has led to the discovery of numerous gold prospects, all within a 20 km radius surrounding the Windfall deposit. Three properties holding gold deposits in adjacent projects are presented below and in Figure 23-1. The remainder of the tenements in the region principally consist of small land packages owned by junior exploration companies or prospectors. Recent exploration on adjacent properties by competitor companies and independent prospectors has focused on gold and base metals.

The QP has not verified the information presented below from the adjacent properties. This information is not necessarily indicative of the mineralization on the Windfall and Urban-Barry properties (the subject of this report).

23.1.1 Gladiator Gold Deposit - Bonterra Resources

The Gladiator deposit is located approximately 10 km southeast of the Windfall deposit. A mineral resource estimate and technical report were completed on this property with an effective date of May 24, 2019 and is available on the company's filings on SEDAR (Armitage and Vadnais-Leblanc, 2019). The Gladiator deposit is described as highly altered mafic volcanics cross-cut by syenite and quartz porphyry intrusions. Mineralization is mainly hosted at the contact between the wall rocks and intrusions with smoky quartz veins. At least five distinct mineral zones have been identified.

23.1.2 Barry Gold Deposit - Bonterra Resources

The Barry Gold deposit is located approximately 10 km southwest of the Windfall deposit. The Barry Gold Deposit was recently acquired by Bonterra Resources on September 24, 2018. A NI 43-101-compliant technical report on an updated mineral resource estimate was carried out in 2019 with an effective date of May 24, 2019 and is available on the company's filings on SEDAR (Armitage and Vadnais-Leblanc, 2019). The former Barry pit is reported to have produced 43,682 ounces of gold between 2008 and 2010.

Gold mineralization at the Barry deposit is located in silicified-carbonatized basalts near the contacts with quartz-feldspar porphyry dikes and in albite-carbonate-quartz veins adjacent to altered wall rocks.

23.1.3 Lac Rouleau - Osisko Mining Inc. (Formerly Beaufield Resources Inc.)

On October 19, 2018, Osisko acquired Beaufield Resources Inc., which included the Lac Rouleau Claim Block located approximately 5 km from the Windfall deposit. It contains three main gold mineralized zones (Zones 14, 17 and 18) and six showings (1, 2, 3, 4, Quesnel and Cominco showings), mainly surrounding Rouleau Lake. Mineralization is generally hosted in altered volcanic rocks adjacent to quartz-feldspar porphyry intrusions. A technical report was produced in 2018 (Beauregard et al., 2018); however, no mineral resource estimate was carried out in the Lac Rouleau Claim Block.

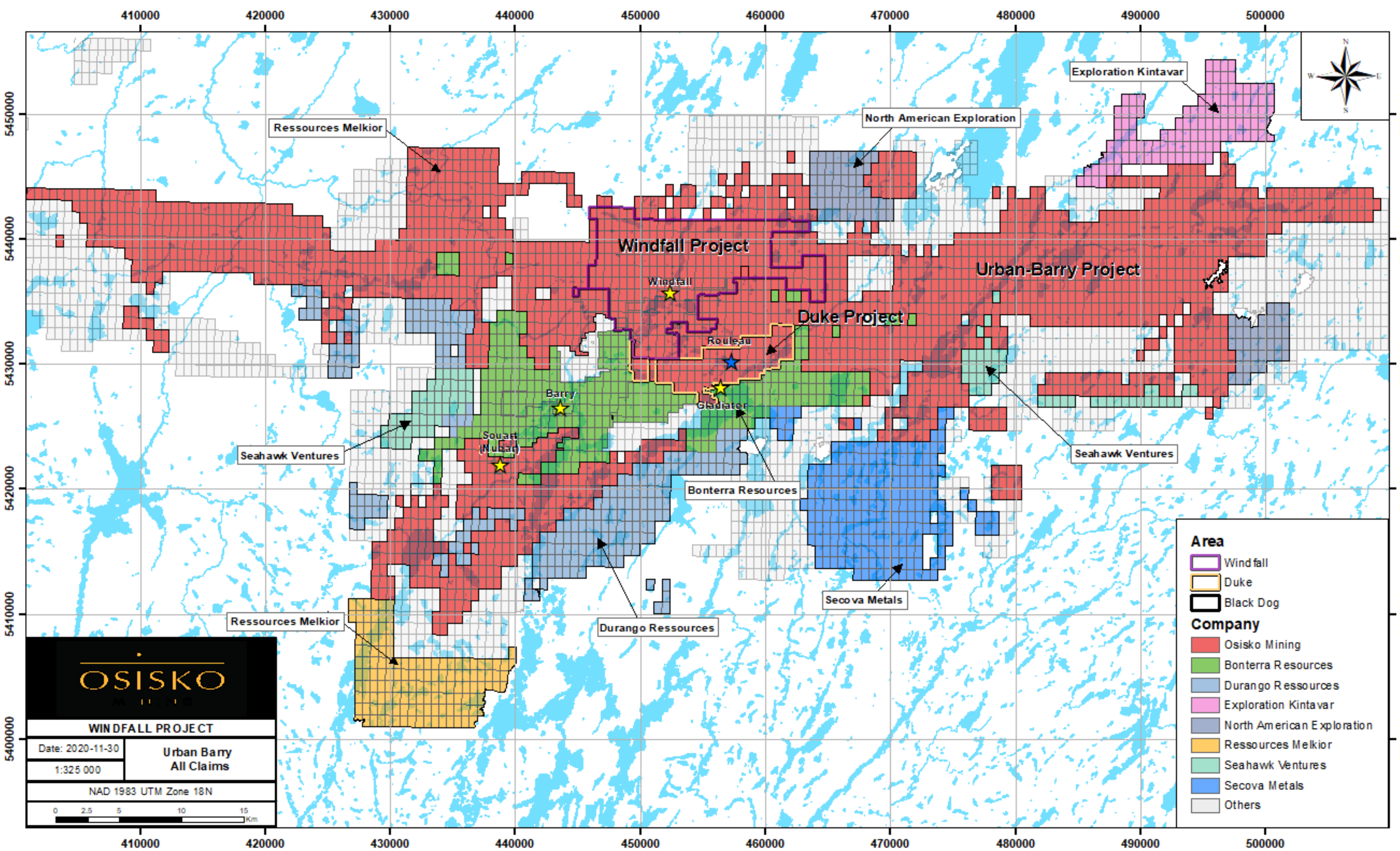


Figure 23-1: Properties and mineralization in the vicinity of the Windfall and Urban-Barry properties as of November 30, 2020

24. OTHER RELEVANT DATA AND INFORMATION

24.1 Project Execution Plan

All the infrastructure will be developed at the Windfall Project site, except for the 120 kV transmission line that will be connecting the site to the substation at Lebel-sur-Quévillon

The Project organization and execution philosophy reflects this situation.

24.1.1 Project Organization

Management

All Project phases including detailed engineering, procurement, pre-production and construction activities will be under the direction of the Osisko Vice-President, Engineering and Construction.

Permitting and project financing will be supported by Osisko Environmental and Financial teams respectively.

Osisko has an internal experienced mine project development team that will be in charge of the project management functions for the Windfall Project. The team consists of highly experienced individuals familiar with the local construction conditions and contractors. They have successfully managed projects in challenging conditions and remote environments from the engineering and planning stages through construction to commissioning and operations.

Osisko's technical and environmental groups will supervise the feasibility study, the environmental and social impact assessment study, and eventually the project detailed engineering. The requirements for an early works program will be evaluated and planned during the FS phase. Specialized engineering firms will be selected for each portion of the Project to assemble a strong integrated design and execution team. They will be responsible for the following functions in the respective phases:

- Feasibility Study Phase:
  - Preliminary technical specification and scope of work documents;
  - Equipment procurement and selection support;
  - 3D modelling, drawings production and material take-offs;
  - Cost estimating of direct cost components.
- Execution Phase:
  - Definite specification and scope of work documents;
  - Technical and economical evaluations;
  - Short list meetings;
  - Purchase order requisition preparation;
  - Drawing management and approval.

The Osisko technical team will be responsible for the following activities in the respective phases:

- Feasibility Study Phase:
  - Budgetary/firm bid request;
  - Addenda;
  - Reception of bids;
  - Indirect cost estimate;
  - Project execution plan.
- Project Execution Phase:
  - Definite bid request;
  - Addenda;
  - Bid reception;
  - Final negotiation;
  - Contract award;
  - Purchase order release;
  - Progressive payment;
  - Shop visits;
  - Site logistics.

Due to the complexity of major process equipment logistics, Osisko will retain the services of a specialized company to develop the project logistics plan during the feasibility study and for its implementation during the project execution phase.

24.1.2 Construction Management

In the feasibility study phase of the Windfall Project, construction management will contribute to the project design with constructability reviews. In the project execution phase, Construction Management will be performed by Osisko with the support of third party construction and contract administration specialists under the supervision of the construction manager. The Construction Management Team ("CMT") will include the following services:

- Constructability reviews;
- Site supervision;
- Project cost control;
- Scheduling;
- Reporting;
- Health, safety and environment;
- Contract administration;
- Construction progress measurement.

It is recognized that an effective health and safety program during the Project is a necessity. The success of the construction safety program is contingent upon its enforcement at all stages of the Project, including design, construction planning, construction execution, and start-up and commissioning.

The CMT will also follow the Osisko procedures and work methods to ensure the protection of the environment. Furthermore, the CMT will work closely with each department of the operations group to ensure proper installation and functional results. During the construction phase, personnel from operations will be integrated into the construction team as coordinators and supervisors.

The Osisko operations group will support the CMT for the following services during the construction phase:

- Staff payroll;
- Accounting support;
- IT support;
- Site security;
- Public relations;
- Environmental and permitting;
- Medical and first aid;
- Site logistics.

24.2 Project Execution Schedule

The preliminary project execution schedule has been developed to a scoping level and therefore conceptual in nature. The execution plan and schedule will be further developed and detailed during the feasibility study. The preliminary project execution schedule, developed in this PEA and described herein, covers the period from the end of the PEA (Q2 2021) up to the achievement of commercial operation in the fourth quarter (Q4) of 2024.

Major project milestones for the Project activities are shown in Table 24-1.

Table 24-1: Key milestones (preliminary)

Activity	Start Date	Completion Date
Complete PEA study		Q2 2021
Feasibility study		H1 2022
Environmental assessment	H2 2022	H1 2023
Process plant detailed engineering	H1 2022	H2 2023
Permits and authorizations	H1 2023	Q4 2023
Process plant construction	Q4 2023	Q3 2024
Pre-production mine development	Q4 2023	Q3 2024
Process plant commissioning		Q4 2024

The Project's critical path runs through the feasibility study, completion of the environmental impact study, reception of the global certificate of authorization ("CoA"), detail engineering, and procurement and construction of the process plant facility. The ongoing environmental baseline study will feed the environmental impact study to be presented to COMEX for analysis and public participation. Following its analysis, COMEX recommends whether or not the Project should be authorized. Once the administrator receives the recommendation of COMEX, he approves the Project and the global CoA is issued. This process is expected to be completed in the first half of 2023. Detail engineering is expected to begin in the first half of 2022 and be completed over a 15-month period. Construction of the process plant will begin in the fourth quarter of 2023 and be completed in the third quarter of 2024.

Over the construction period, an average of 430 construction personnel will be present on site. This personnel count includes direct construction labour force for both underground and surface facilities, contractor supervision, owner and seconded construction management team, third party testing technicians, vendor representatives for installation and commissioning support, and underground construction crews.

25. INTERPRETATION AND CONCLUSIONS

25.1 Overview

A2GC, BBA, Entech, GCM, Golder and WSP were mandated by Osisko Mining to prepare a preliminary economic assessment conforming to NI 43-101 standards to demonstrate the economic viability of the Windfall Project. The Project is based on the 2021 mineral resources estimate prepared for the Windfall deposit.

This NI 43-101 compliant technical report on Windfall Project was prepared by experienced and competent independent consultants using accepted geologic and engineering methodologies and standards. It provides a summary of the results and findings from each major area of investigation including exploration, geological modelling, mineral resource, plant feed estimations, mine design, metallurgy, process design, infrastructure, environmental management, tailings and water management, capital and operating costs and economic analysis. The level of investigation for each of these areas is considered to be consistent or surpassing with that normally expected with a preliminary economic assessment for resource development projects.

The mutual conclusion of the QPs is that the Windfall Project as summarized in this PEA contains adequate detail and information to support the positive preliminary economic outcome shown. The Windfall Project contains substantial precious metal resources that can be mined by underground methods and recovered using conventional processing technologies. To date the Qualified Persons are not aware of any fatal flaws in the Windfall Project and the results are considered sufficiently reliable to guide Osisko Mining management in a decision to further advance the Project. This would typically involve the preparation of a preliminary feasibility study or a feasibility study.

25.2 Geology and Mineral Resources

The 2021 MRE used to build the PEA Mine plan reflects the current status of the geological interpretation supported by drilling, underground mapping and bulk sample results. The resource includes newly defined mineralization zones in Triple 8, as well as additional drilling information largely in the Lynx area. The resource reported herein is constrained by 374 gold-bearing individual solids. The mineralization wireframes were modelled based on the geological interpretation of the deposit involving various lithological environments, mineralization style, alteration and structural features.

The block modelling parameters were defined based on the geological context and statistical studies of the drill hole data. The gold price, project costs and exchange rate assumptions for the cut-off grade determination were revised to reflect the 2021 market conditions. The 2021 resource area measures 3.0 km on strike and 1.7 km wide and is 1.6 km deep. The estimate was based on a compilation of 3,612 surface and underground drill holes. The estimate is categorized into the measured, indicated and inferred resources categories based on data density, search ellipse criteria, drill hole density, and reliability of the geological and grade continuity. The effective date of the estimate is November 30, 2020. Mineral resources are not mineral reserves as they do not have demonstrated economic viability.

The QPs consider the report and the resource estimate to be reliable and thorough, based on the quality of the data, reasonable hypotheses and parameters that are compliant with NI 43-101 criteria and the CIM Definition Standards.

After conducting a detailed review of all pertinent information for the Windfall Project and completing the 2021 MRE, the following conclusions have been drawn:

- Geological and reasonable grade continuity have been demonstrated for 374 gold-bearing zones on the project;
- For an underground mining scenario, using a cut-off grade of 3.5 g/t Au, it is estimated that the project contains 521,000 tonnes at an average grade of 11.3 g/t Au for 189,000 ounces of gold in the measured category, 5.502 million tonnes ("Mt") at an average grade of 9.4 g/t Au for 1,668,000 ounces of gold in the indicated category and 16.401 Mt at an average grade of 8.0 g/t Au for 4,244,000 ounces of gold in the inferred category (Section 14.16);
- It is considered likely that additional diamond drilling would upgrade most of the inferred resources to indicated resources;
- The potential for adding new resources with additional drilling on the project is considered to be good at depth, mainly in the Lynx and Underdog areas. The mineralization is open down plunge and towards the northeast;

25.3 Mining Methods

The mining plan utilizes mining methods appropriate to the current understanding of the geological, geotechnical and hydrological properties of the deposit.

The LOM plan has been developed using mill throughput targets and anticipated trucking capacity based on average haulage distances. The plan aims to maximize efficiency and utilizes achievable rates for the selected equipment fleet.

The constraints and limits applied to the schedule are suitable to support the project economics.

25.4 Metallurgy and Processing

Metallurgical testwork was conducted using material from various zones within the Windfall deposit including: Main (Zone 27 and Caribou), Lynx and Underdog. Representative samples were selected considering different rock types, precious metal grades and special location (depth and spatial distribution) within the deposit. The projected metallurgical recovery was established using the results of gravity recovery testwork followed by leaching testwork (CIL) on a composite from the

Main, Lynx and Underdog zones. No testwork was performed on gabbro rock type. Additional grindability indices and metallurgical recovery testwork will be conducted on Triple Lynx, and Lynx 4 material as well as mineralized gabbro rock type.

Considering the variance between the two e-GRG results from Lynx bulk sample material and Lynx composite during the PEA (Hardie et al., 2018) and the amount of visible gold reported by the geologists, it is recommended to perform more e-GRG tests to obtain a more reliable idea of the GRG.

Leaching optimization test works have been performed to improve the flowsheet. These testworks realized on the same samples have given similar results as variability testworks. Metallurgical testwork to date has confirmed that good precious metal recoveries can be achieved using a conventional process consisting of crushing and grinding to 37 µm (P_{80}), with gravity recovery followed by whole ore leaching (24 hrs) of the gravity tailings.

Filtration and paste backfill testing programs were carried out by Pocock Industrial Ltd. and Paterson & Cooke on projected Windfall detoxified tailings. The results show the amenability of producing paste backfill and dry stack for specific design criteria.

- The desired tailings solids concentration for dry stacking (85% w/w) can be achieved using pressure filtration;
- A paste recipe made with 3.7% of GU cement reaches a UCS of 175 kPa after a curing time of 14 days (as required by the mine plan).

25.4.1 Process Flowsheet

Based on the testwork conducted, the process flowsheet consists of primary crushing, followed by a grinding circuit consisting of a SAG mill (in close circuit with a pebble crusher) and ball mill (in close circuit with cyclones – SABC circuit). A gravity circuit followed by intensive leaching recovers coarse gold from the cyclone underflow, while the cyclone overflow is treated in a carbon-in-leach circuit. Gold is recovered in an ADR (Adsorption-Desorption-Reactivation) circuit followed by electrowinning (“EW”) cells.

The tailings filtration plant is located in an annex of the Windfall process plant building. The plant consists of pressure filters and their ancillaries, a paste mixer, a paste pump, a binder storage and dosing system and a dry stack storage facility. The totality of the process tailings is filtered. Based on the mine plan, approximately 40% of the tailings are transformed in paste backfill. The remaining tailings are disposed of as dry stack.

25.4.2 Metal Recovery Projections

Based on the proposed flowsheet, the overall projected metallurgical recovery values for gold and silver from the Windfall deposit are presented in Table 25-1.

Table 25-1: Projected metallurgical recoveries values for Au and Ag

Composite	Overall Au recovery (%)	Overall Ag recovery (%)
Main	92.3	77
Lynx	95.3	81
Underdog	95.3	50

25.5 Infrastructure

The Windfall Project Mining and Processing infrastructure is located at the Windfall site deposit, where it is currently divided into two main areas: the mining infrastructure area and the camp complex area.

The Windfall Project envisions keeping or upgrading capacity of the following existing buildings and infrastructure:

- Windfall Site access road;
- Light structure, fabric covered domes;
- Camp complex including the dormitories, cafeteria, fitness room, community hall, reception, infirmary and luggage storage;
- Potable water and sewage system at camp area;
- Exploration portal (Main zone);
- Waste rock stockpile;
- Overburden stockpile;
- Diesel storage and distribution system;
- Propane storage and distribution system;
- Helipad;
- Telecommunication tower.

The Project will require new key infrastructure as follows:

- Process plant complex, including crushing line, offices, dry and warehouse;
- 94 km 120 kV overhead transmission line from Lebel-sur-Quévillon;

- 120 kV main substation;
- WAN fibre optic link to Lebel-sur-Quévillon;
- Hybrid secondary WAN link (fibre optic and microwave radio);
- Private LTE system for surface and underground mine;
- An additional telecommunication tower;
- Administration office at Lebel-sur-Quévillon;
- Integrated remote operation centre (“IROC”);
- Potable and sewage system for the mine area;
- Final effluent water treatment plant;
- Mineralized material stockpile;
- Surface water management facilities, including ditches, sumps, ponds, pumping stations and pipelines;
- Site and haulage roads;
- Tailings management facility;
- Underground Mine portal (Lynx zone)
- Ventilation systems (intake and exhaust);
- Main gatehouse and remote gatehouses (2);
- Surface truck shop;
- Production core shack.

25.5.1 Tailings Management Facility

Tailings generated from mineralized material processing will be sent to the TMF located northeast of the Process Plant. TMF design supports production sequence based on a start-up with thickened tailings, and later transitioning to filtered tailings. The TMF is developed for total combined capacity of 12.8 Mt of tailings. The thickened tailings will be deposited in a single cell of 1.9 Mt capacity confined by a permeable Retention Berm to the southeast and by a second smaller Retention Berm located in the valley to the northwest. Both berms will be extended to natural topography. The thickened tailings cell will be developed in two stages, while filtered tailings placement will start at Year 4.

Bleed and contact water from the TMF will be diverted to two ponds using a network of collection ditches. The water stored in the ponds will be recirculated to the Processing Plant or treated prior to discharged to the environment. Diversion ditches will collect and redirect non-contact water to the environment.

The tailings are PAG and leachable for metals. The entire area of the TMF and contact water management infrastructure will be lined with a Linear Low Density Polyethylene geomembrane to provide an adequate groundwater protection measure.

25.5.2 Waste Rock, Mineralized Material and Overburden Storage

A total of two WRS (waste rock stockpiles) and two topsoil and organics stockpiles will be required to store the estimated 6.58 Mt (3.23 Mm^3) of waste rock and 1,4 Mm^3 of organics and topsoil produced during operations. The stockpiles are designed to reduce reworking during reclamation and closure works. Stored topsoil will be used for progressive reclamation during mining operation and at closure. Most of the granular overburden is planned to be used as construction material; therefore, the exceeding quantities, if any, will be stored in the existing borrow pit, located north of the site.

During mining operations, a MMS (mineralized material stockpile) of a capacity of 27,000 t to 39,000 t (18,000 m^3) depending on the hauling equipment constraints, and a low-grade MMS i of 0.71 Mt (0.33 Mm^3) will be located near the crusher. After Year 6, it is planned to use the low-grade MMS as a waste rock storage facility. The low-grade MMS will be extended in Year 13 to a total capacity of 1.9 Mt (0.94 Mm^3).

The waste rock is acid generating. A drainage and pond system including three transition ponds and two sedimentation ponds will be built to collect runoff and contact waters from the waste rock and topsoil stockpiles. Water from the topsoil stockpiles is collected in ditches, conveyed to sedimentation ponds and tested, before being discharged into the environment. Contact water from WRS, MMS and low-grade MMS will be conveyed to the WTP for treatment.

The information and assumptions used in the design of the stockpiles are sufficient to support a PEA. Field work and further design studies are recommended to support subsequent design phases.

25.5.3 Water Treatment Plant

Water treatment will be required on site to meet mining effluent discharge criteria (Directive 019 and MDMER). Water treatment technology selection is based on geochemical study results (Golder, 2020a), on limited site water analysis and one cyanide destruction process laboratory test. More water quality data and a water quality model will be required to confirm water treatment strategy for the Project.

A polishing pond will be built to finalize treatment and monitor water before release to the environment.

25.6 Environment, Permitting and Site Restoration

The Windfall Project is subject to the provincial Northern EIA procedure. An EIA statement will have to be submitted for compliance and review by the COMEX and Cree Nation Government (“CNG”). Additional baseline data collection and assessment are required in order to complete the EIA.

Current project definition is sufficient to provide a basis upon which most anticipated environmental and social impacts can be identified. No specific inordinate environmental risk to project development was identified. Although they are some environmental and social sensitive elements, optimization could be made to eliminate or reduce the effect on these components. Consultation and engagement activities with local and First Nations communities may highlight additional issues and mitigation approaches,

Discussion with First Nations representatives has been initiated in order to establish a Social and Economic Participation Agreement (an impact and benefit agreement, or “IBA”).

Closure costs are estimated at $95.1M, including direct and indirect costs (30% for conceptual design stage), and a 15% contingency. The costs estimate is based on the dismantling the mine’s infrastructure, the camp complex area and the reclamation of the surface TMF site.

25.7 Capital and Operating Costs

The total pre-production capital cost for the Windfall Project is estimated to be $544M (including contingencies and indirect costs). The total does not include sunk costs of $33.1M planned to be spent before the feasibility study for the process plant grinding mills and the camp complex. The cumulative life of mine capital expenditure including costs for pre-production, sustaining, site reclamation and closure is estimated to be $1.3B.

The overall capital cost estimate developed in this study meets the AACE Class 4 requirements and has an accuracy range of –30% and +30%. Items such as sales taxes, permitting, licensing, and financing costs are not included in the cost estimate. The project capital cost summary is outlined in Table 25-2.

Table 25-2: Project pre-production capital cost summary

WBS	Cost area	Pre-production capital cost ($M)	Sustaining capital cost ($M)	Total cost ($M)
000	General administration (Owner's costs)	87.4	8.5	96.0
200	Underground mine	75.2	575.4	650.5
300	Mine surface facilities	12.6	4.0	16.7
400	Electrical and communication	49.2	0.8	50.0
500	Site infrastructure	12.2	2.1	14.3
600	Process plant	131.9	47.1	179.0
800	Tailings and water management	61.5	15.1	76.6
900	Indirect costs	57.9	0.7	58.6
999	Contingency	55.4	12.8	68.2
	Total	**543.5**	**666.4**	**1,209.9**
	Site reclamation and closure	-	95.1	95.1
	Total - Forecast to spend	**543.5**	**761.5**	**1,305.0**

The average operating cost over the 18-year mine life is estimated to be $121.76/t milled or $575/oz (CAD). Table 25-3 below, provides the breakdown of the projected operating costs for the Windfall Project.

Table 25-3: Windfall Project operating cost summary

Cost area	LOM ($M)	Annual average cost ($M)	Average LOM ($/tonne milled)	Average LOM ($/oz)	OPEX (%)
Underground mining	1,128.6	64.5	57.29	270.3	47.1
Process plant	528.9	30.2	26.85	126.7	22.0
Tailings, water treatment and environment	195.3	11.2	9.91	46.8	8.1
General and administration	545.8	31.2	27.71	130.7	22.8
Total	**2,398.6**	**137.0**	**121.76**	**574.5**	**100.0**

It is anticipated that an average of 421 employees (staff and labour) will be required for operations.

25.8 Indicative Economic Results

The financial analysis performed as part of this preliminary economic assessment using the base case assumptions results in an after-tax NPV 5% of $1,534.4 million and an internal rate of return of 39.3% (base case exchange rate of USD 0.77 for CAD 1.00). The cumulative cash flow for the Project (after-tax) is $2,599.7 million over the planned mine life of 18 years. The payback period is 2.2 years after the start of production.

The PEA plant feed is partly based on 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 based on these Mineral Resources will be realized.

25.9 Project Risks and Opportunities

As with most mining projects, there are risks that could affect the economic viability of the Project. Many of these risks are based on a lack of detailed knowledge and can be managed as more sampling, testing, design, and engineering are conducted at the next study stages. Table 25-4 identifies what are currently deemed to be the most significant internal project risks, potential impacts, and possible mitigation approaches that could affect the technical feasibility, and economic outcome of the Project.

External risks are, to a certain extent, beyond the control of the project proponents and are much more difficult to anticipate and mitigate, although, in many instances, some risk reduction can be achieved. External risks are things such as the political situation in the Project's region, metal prices, exchange rates and government legislation. These external risks are generally applicable to all mining projects. Negative variance to these items from the assumptions made in the economic model would reduce the profitability of the mine and the mineral resource estimates.

There are significant opportunities that could improve the economics, timing, and/or permitting potential of the Project. The major opportunities that have been identified at this time are summarized in Table 25-5 excluding those typical to all mining projects, such as changes in metal prices, exchange rates, etc. Further information and assessments are needed before these opportunities should be included in the project economics.

Table 25-4: Project risks (preliminary risk assessment)

Area	Risk Description and Potential Impact	Mitigation Approach
Geology and Mineral Resources	1. Gold grades estimated inside the mineralized zones could vary due to the presence of nugget effect in the gold distribution of the deposit. 2. The variable geometry of the dikes and structural features is complex to model, as is the modelling of the mineralized zones. The locations of mineralized zones could be off slightly with variable shapes locally. 3. The structural model is not entirely integrated as it is ongoing, along with the drilling program. The shape and geometry of the mineralization zones could be impacted by further refinements of the structural model. 4. Density for the mineralized zones in the block model is fixed at 2.80 g/cm^3.	1. Additional surface and underground definition drilling will increase the definition of the gold grade distribution. 2. Additional underground mapping and definition drilling will help better define the shapes of the zones and confirm their geological and grade continuity. 3. Complete the structural study and update the structural and mineralization models based on the conclusions of the study. 4. A different density per zone (and/or lithology) would likely improve the precision of the tonnage estimates..
Underground Mine	1. Mineralized material continuity may vary compared to plan, leading to lower production rates and higher operating costs. 2. Stope external dilution is greater than planned based on the following: ▪ Rock mass damage originating from poor drilling and blasting practices can result in higher external dilution. Excessive blasthole deviation, poor collaring accuracy and positioning of the slot raise will impact the amount of dilution from the stope walls. ▪ Rock mass conditions lower than expected can result in higher external dilution. ▪ Lack of control in the development of the longitudinal stope mineralized material drives and positioning of the mineralized material drives compared to the hanging walls can result in higher external dilution caused by the undercutting of the hanging walls.	1. Prove continuity though ongoing exploration, development and geological modelling work. 2. Implement and maintain good drill and blast practices. Perform back-analyses of stope performance from the start of mining. Install cable bolts from the undercut and overcut accesses to help control dilution where appropriate.

Area	Risk Description and Potential Impact	Mitigation Approach
Rock Mechanics	1. Unstable stope walls can lead to higher dilution, lower mining recovery, lower grades, and higher operating costs. 2. In-situ stress magnitudes are higher and more variable than assumed. ▪ Seismicity related issues would be encountered earlier in the mine life (at shallower depth) and the magnitude and frequency at depth would be higher; ▪ Stress accumulation in sill pillars at depth can lead to strain bursts and lower mineral recovery. 3. Gravity-driven structurally controlled ground instabilities. Could affect wide intersections or excavations and slow down / stall production temporarily. 4. Mining of stopes towards a centralized access point. At depth, this could result in high stress concentrations building up in the access pillar, increased seismic activity and rockbursts. 5. Some stopes are located near or under lakes and some stopes would require thinner crown pillars than generally recommended. A hydraulic connection could be made with the lakes and/or the crown pillar could become instable.	1. Regular mapping and characterization of the rock mass as development advances. 2. Perform in-situ stress measurements to confirm the stress assumptions and include proper parameters in the numerical models. Install a microseismic monitoring system early in the project life to allow early decisions if conditions are not as anticipated. Implement tactical measures such as: ▪ Optimize the sequence, to have mining-induced stress changes occur as far away as possible from active mining areas; ▪ Install dynamic ground support in seismicity-prone sectors. 3. Keep spans to the absolute minimum possible, especially in intersections. Locate wide excavations in good ground and sufficiently far away from mining areas to not be affected by the stress changes they will induce. Monitor particularly wide excavations, or those that will otherwise be associated with greater risk. 4. Plan for heavier ground support in the central pillar and budget for some rehabilitation. The intersections in the central pillars should be excavated carefully to limit overbreak. Managing how sub-parallel veins in close proximity are recovered could be one mitigating measure in this respect, by using one vein to stress-shadow the other. 5. Investigate the rock mass conditions (including the hydrogeological conditions) in the crown pillars under or near lake and in planned thin crown pillars to confirm the planned crown pillar thickness requirements prior to mining.

Area	Risk Description and Potential Impact	Mitigation Approach
Paste Backfill	1. Performance of the backfill recipe and distribution network does not meet the requirements. Potential issues that can occur include: ▪ The dilution of the stopes will be sensitive to the length of time the stopes will remain open. A stope filling rate lower than expected will result in stopes being left open for a longer period, which can lead to more stope hanging wall instabilities; ▪ A stope filling rate lower than expected could delay and/or stall the stope mining sequence; ▪ Backfill strength lower than expected can cause more dilution from backfill.	1. Ensure that the planned CRF and paste backfill infrastructure include some flexibility, and that budgeted rates include some room for potential problems. Implement a quality control program for the backfill from the start of mining. Design sectors to have more stopes available than required to meet the production rate.
Site Infrastructure	1. Delays in Transmission Line construction could cause a project construction challenges and increase costs. 2. There is only 1 road that provides access to the mine site. Any issues with the road during construction or operations may cause delays, logistical problems and increased costs.	1. Monitor the transmission line construction schedule closely and plan for the use of diesel power generators as a backup. 2. Plan for frequent road inspections and refurbish infrastructure if required.
Mineral Processing	1. Lynx 4 and Triple Lynx precious metal recoveries may be lower than expected (no testwork was performed on this material).	1. Revise recovery estimates based on the ongoing Metallurgical test work on Lynx 4 and Triple Lynx.
Process Plant	1. Gravity recoverable gold may be lower than expected. Performing additional gravity testwork to obtain a more reliable idea of the GRG. 2. Overall gold recovery may be lower and operating costs may be higher than planned.	1. Additional GRG testing to confirm gravity recovery. Ensure that the leach circuit is designed to deal with potential GRG variability. 2. Additional CIL optimization testwork: ▪ Optimizing grind size may increase gold recovery; ▪ Reducing CIL retention time will lower capital investment and may reduce the operating cost by reducing reagent consumption; ▪ Potential for reduction of CAPEX/OPEX.

Area	Risk Description and Potential Impact	Mitigation Approach
Geotechnical and Hydrogeology	1. Poorer geotechnical and hydrogeological conditions than estimated may result in a higher CAPEX. 2. Considering the presence of lakes and permeable overburden, there is a potential of an increase in groundwater inflow if mine workings intersect a permeable fault.	1. Carry out geotechnical and hydrogeological investigations to gather more precise data and better define foundation conditions and stability of planned infrastructure. 2. Keep reviewing flow data obtained from exploration holes drilled underground to identify in advance the permeable faults and the associated potential flows.
Water Treatment	1. Current assumptions on TSF water quality are based on one SO2-Air lab test results that show variability. Additional TSF water treatment steps might be required to meet discharge requirements. Higher CAPEX and OPEX. 2. Underestimation of water volume or contaminants concentrations to be treated could lead to an undersized water treatment plant (CAPEX) and underestimated treatment cost (OPEX).	1. More SO_2/Air tests will be needed to confirm the process water quality. A water quality model will be completed at the feasibility level. 2. The water balance will be refined and a water quality model will be completed. If more water needs to be treated than planned, larger metal precipitation/TSS removal units can be purchased or leased. The MBBR units are designed assuming 40% ("SCN") and 63% (NH_3) media levels. if higher concentration/flow treatment capacity are required, the fill factor could be increased to 70%.
Tailings Management Facility	1. Testing of physical properties of tailings (i.e., rheological, geotechnical, hydrogeological) is not completed. Parameters that differ from the currently anticipated ones may result in an increase in CAPEX. 2. Changing tailings technology during the course of the Project brings additional complexity in terms of construction and operation. Costs associated with the migration from one technology to the other are difficult to estimate and may negatively influence sustaining CAPEX and OPEX.	1. Complete tailings characterization and adjust TMF components, if needed. 2. Explore the possibility of implementing filtered tailings technology from the start of the operation in the next phases of the Project by conducting appropriate trade-off studies.
Construction (Costs and Schedule)	1. Fire hazards in the region could impact the construction schedule. 2. COVID-19. 3. Increase in mining and process equipment demand causing an increase in costs and lead times. 4. Shortage of qualified construction personnel.	1. Prepare an emergency and contingency plan for the construction phase. 2. Monitor situation and determine if it needs to be taken into consideration for the project schedule and cost estimate.

Area	Risk Description and Potential Impact	Mitigation Approach
	5. Short construction period, which will result in process plant civil and concrete trade work being completed in winter conditions. This exposes the Project more than usual to the impact of inclement weather. Potential schedule delays, health and safety problems and increased costs. 6. Construction material price and exchange rate fluctuations leading to higher CAPEX. 7. Some potential borrow sources have been identified but not characterized. Material sourcing and preparation may differ; design may need to be adjusted, which could result in higher CAPEX.	3. Monitor situation and determine if it needs to be taken into consideration in cost estimate and purchase time. Order critical long lead equipment early. 4. Monitor situation and determine if it needs to be taken into consideration in cost estimate 5. Review construction schedule. Detail planning of heating and hoarding requirements. Investigate potential of using pre-cast or prefabricated modules to reduce onsite works during the winter. 6. Monitor situation and determine if it needs to be taken into consideration in cost estimate. 7. Carry out detailed borrow source investigation to estimate quantities and define material characteristics.
Environmental, Permitting and Social License (ESG)	1. Transmission Line schedule impacted by the environmental permitting process (COMEX). 2. Increasing Environmental, Social, and Corporate Governance ("ESG") awareness and pressure from market. 3. Transmission Line Social acceptability and significant environmental impact 4. Project subject to the federal impact assessment process (CEAA, 2012) if EIA report is submitted before August 29, 2022. This could result in project delays. 5. Changes in regulations/government representatives because of elections: Project delayed. 6. Authorizations and permits could take longer than expected: Project delayed. 7. Project is not accepted by the local communities. Project delays and increased costs. 8. Inadequate consultation with Indigenous groups could lead to the government delaying the Project until consultation requirements are fulfilled.	1. Monitor situation and determine if it needs to be taken into consideration in cost estimate. 2. Deliberately embed ESG concepts into every aspect of the Project, from engineering to construction, procurement, commissioning, ramp-up, operation, and closure (Sustainability by Design). 3. Follow-up closely on Environmental study and discussions with community. 4. Submit EIA report after August 29, 2022. 5. Stay alert to the changes of law enforcement, discuss regularly with government officials. 6. Develop and keep a realistic schedule. Keep close contact with the authorities throughout the process. 7. Keep regular communication/consultation with stakeholders. Sign Impact Benefit Agreement with the Crees by end of 2021. 8. Proactive stakeholder consultation process. Share consultation approach with government frequently during the environmental assessment. Include and document well traditional knowledge in the EIA report.

Area	Risk Description and Potential Impact	Mitigation Approach
	9. Potential project encroachment by planned mine infrastructure on fish habitat may result in significant delays to obtain project permits and approvals. 10. Waste rock, mineralized material, and tailings materials have the potential to generate acid and to leach metals. The actual rates to acidification and metal leaching may be faster than the rates determined based on laboratory testing. Some parameters of concern may not have been identified in the geochemical evaluations conducted to date.	9. Avoid fish habitats when possible. Proceed with studies to confirm presence or absence of fish nearby lakes (e.g. Kettle Lake) if they are planned to be used as a water source or are near to project infrastructure. 10. The geochemical study should be updated to include the results of large-scale pilot testing and water quality modelling when they become available. The geochemical behaviour of materials should be reassessed and updated as the Project progresses.
Rehabilitation and Closure	1. Delay of mining lease issue due to delays in getting the closure plan approval. 2. Modifications to the Project could lead to revisions to the closure plan: Project delayed; more costs incurred.	1. Develop a detailed closure plan during feasibility stage. Review the closure plan early with MERN and other key stakeholders. 2. The Project must be sufficiently detailed and not prone to major changes to provide required inputs for the closure plan.
Integrated Operations	1. Connectivity issues with site might prevent IROC to communicate with local systems and workers	1. Plan for disaster recovery strategy and local redundancy for integrated operations functions.
Ramp-Up	1. Risk of not meeting project ramp-up objectives, in terms of time and quality (recovery and throughput).	1. Operational Readiness program combined with Integrated Operations business model and IROC environment.
General	1. Availability of skilled mining labour for operations	1. Define the needs and develop a proactive hiring plan. Implement a training program prior to start-up to meet project needs.

Table 25-5: Project opportunities

Area	Opportunity Explanation	Benefit
Geology and Mineral Resources	1. As the deposit remains open at depth and towards the northeast, additional exploration drilling in the vicinity of the Windfall Project could increase mineral resources. 2. Reducing the drill spacing by adding infill drilling would likely upgrade inferred resources to the indicated and measured categories. 3. Continuing the underground mapping in the exploration ramp could lead to a better understanding of the distribution of the dikes and the geometry of the structural features and mineralization corridors. 4. Underground definition drilling could increase the confidence in the distribution of the mineralization. 5. Completing the silver assaying program in the areas where the data is incomplete.	1. Potential to increase resources. 2. Potential to convert inferred resources to the indicated and measured categories. 3. Better understanding and definition of the structural and mineralization models. 4. Potential to upgrade some inferred resources to the indicated and measured categories. 5. Potential to increase the silver resources.
Underground Mine	1. Look for ways to increase the availability of the mobile equipment fleet. 2. Increase the use of automation and technology. 3. Evaluate the opportunity to recover heat from the underground mine. 4. If drilling and blasting performance is good, and rigorous stope back-analyses demonstrate that stope performance exceeds expectations, the strike length of stopes in certain sectors could be increased. 5. Maintain consistent stope height across the mine.	1. Decrease the time required to meet the mine production plan, allowing to advance the mine at a faster rate. 2. Increase productivity and reduce operating costs. 3. Reduce heating costs on site. 4. Stopes with longer strike length will increase the productivity (lower production costs). 5. Sill pillars can be positioned based on continuity and grade, potentially increasing recovery.
Rock Mechanics	1. Go to underhand long-hole mining in higher-stress ground at depth. 2. Investigate a narrower mining width.	1. Increase mined recovery of mineralized material. 2. Reduce internal dilution, increase diluted grade to process plant.
Paste Backfill	1. Optimize the binder consumption in the paste recipe with additional laboratory testwork.	1. Reduce mining operating costs if the mining sequence allows it.

Area	Opportunity Explanation	Benefit
	2. Optimize some stopes filling with waste rock when deemed beneficial and pursue with paste backfill while considering mass balance.	2. Reduce waste storage on surface, reduce transport costs, reduce backfill costs.
Mineral Processing and Metallurgy	1. Perform additional testwork to confirm optimal particle size for gold and silver recovery and verify its impact on thickening, filtration, paste backfill, and tailings disposal.	1. Application of fine grinding may improve gold and silver recovery.
Process Plant	1. Implementation of an energy recovery loop to use heat generated from equipment to pre-heat the fresh air sent into the building (winter condition). 2. Maximize the use of electrical power versus fuel powered systems.	1. Decrease fuel, carbon footprint and costs associated with building heating (OPEX). 2. Possible OPEX savings.
Mineralized Material, Waste, and Water Management	1. Review and optimize Stockpile designs to incorporate Design for Closure concepts. 2. Prioritize previously impacted areas for construction of new infrastructure to reduce the site's footprint. 3. Use overburden and topsoil material as it becomes available for progressive reclamation on impacted areas of the site or construction purposes.	1. Potential reduction in reclamation costs and financial guarantees required by Quebec Governmental Authorities (MERN). 2. Reduce environmental impact of the site and reclamation works. 3. Reduced size of overburden and topsoil stockpiles hence reduced CAPEX.
Tailings Management Facility	1. Review the design of the planned TMF foundation liner system. Field foundation investigation at the location of the TMF and borrow search could identify the availability of low permeability layers or materials to be incorporated in the liner design and potentially reduce the use of geosynthetic liner. 2. Investigate the potential for using filtered tailings technology at the beginning and continuously over the life of the mine. 3. Assess the potential for co-disposal of waste rock and filtered tailings.	1. Potential CAPEX savings if soil conditions or borrow materials can provide adequate groundwater protection and/or alternative construction materials. 2. Operations could potentially be simplified by eliminating the planned transition between two different tailings deposition technologies. Potential benefits include smaller containment infrastructure, decreased TMF footprint, and the ability to undertake progressive closure earlier in the mine life. 3. Co-disposal of waste rock and filtered tailings would lead to overall footprint decrease, would allow building stronger matrix, and steeper overall final slopes for the TMF.
Construction (Costs and Schedule)	1. Look at opportunities to reduce on-site construction requirements by using prefabricated buildings/structures, modules or pre-cast concrete.	1. Reduce risks associated with the short construction schedule. Reduced manpower on site during construction phase.

Area	Opportunity Explanation	Benefit
Environmental, Permitting and Social License (ESG)	1. Carbon-neutrality will depend on energy sources (GHG scope 2) and level of electrification reached across the site (GHG scope 1). 2. Conduct a geochemical characterization of surface rock outcrops, to be excavated in order to meet foundation grades to confirm if they can be used as construction material. 3. If the EIA report is ready for submittal prior to August 29, 2022, consider asking the CNG to request that the federal environmental impact assessment process be modified. 4. Obtain support letters for the Project from key stakeholders such as the Cree First Nation of Waswanipi (“CFNW”) and the town of Lebel-sur-Quévillon. 5. Work closely with the Table interministérielle régionale (“TIR”) group to develop a detailed permitting schedule and better understand permit and authorization request content requirements.	1. Connection to the electrical grid provides green energy combined with electrification of underground equipment. 2. Reduction of purchased construction materials. 3. If the project is only required to follow the provincial environmental impact assessment process (COMEX), the overall project schedule could be shortened. 4. Ease the assessment of adequacy of consultation by the government. 5. Ensure all permit and authorization requests are submitted in a timely manner to avoid any delays and reduce number of questions. Potentially improved schedule to receive project permits and authorizations.
Rehabilitation and Closure	1. Geochemical testing shows notable delays before the potential onset of acid rock drainage and metal leaching. Implementing progressive closure at the earliest possible date will help mitigate adverse environmental effects. 2. Adopt design for closure concept for the TMF and all surface waste rock stockpiles should be carried over into the next steps of the project. 3. Evaluate a progressive reclamation scenario for the TMF.	1. Implementing progressive closure at the earliest possible date will contribute to decrease overall closure costs and to limit active management period in the long term. 2. Avoid rework of the stockpile and TMF configuration and minimize civil work. Design for closure can significantly impact the closure costs, active management, and legacy of the Project. 3. Opportunity to practice and verify your final closure technique. This could potentially reduce water treatment requirements and allow partial reclamation of the financial guarantee during operation.
IT, Networking, Telecom & Cybersecurity	1. Deploy the Private LTE system before the construction phase.	1. Avoids rework and additional costs involved in replacing the existing DOCSIS and leaky feeder VHF system currently being deployed. Allows for the LTE to be used during the construction phase.

Area	Opportunity Explanation	Benefit
Integrated Remote Operation	1. Attract, and train talent early in the project lifecycle to sufficiently prepare for an Integrated Operations environment (and IROC) 2. Start building the production system digital twin to model entire value chain before construction phase.	1. Allow for enough time to train and develop high performance teams so they learn from the project team and contribute in ramp-up & commissioning. 2. The digital twin will mature and evolve during engineering & construction phases and will be ready for use by integrated operations for commissioning & ramp-up. The digital-twin will allow Osisko to perform what-if scenarios and closely monitor the operation system.

26. RECOMMENDATIONS

This NI 43-101 compliant technical report on Osisko's Windfall Project was prepared by experienced and competent independent consultants using accepted engineering methodologies and standards. It provides a summary of the results and findings from each major area of investigation including exploration, geological modelling, mineral resource, mine design, metallurgy, process design, infrastructure, environmental management, tailings and water management, capital and operating costs and economic analysis. The level of investigation for each of these areas is considered to be consistent or surpassing with that normally expected with a Preliminary Economic Analysis.

The mutual conclusion of the QPs is that the Windfall Project as summarized in this PEA contains adequate detail and information to support the positive economic outcome shown. The results of this study indicate that the Windfall Project is technically feasible and has financial merit at the base case assumptions considered.

In summary, the QPs recommend that the Project proceed to the Feasibility Study Phase. It is also recommended that environmental and permitting continue as needed to support Osisko's development plans and project schedule.

An extensive work program including additional exploration drilling (2 phases) and the feasibility study has been developed based on QP recommendations. The work program is estimated to cost approximately $65M including a $8.3M contingency. A breakdown of this budget is summarized in Table 26-1.

Table 26-1: Work program budget

Phase 1 - Work Program	Budget	
	Description	Cost (CAD)
Surface Drilling	130,000 m	26,000,000
Underground Drilling	50,000 m	10,000,000
Exploration Drilling	20,000 m	4,000,000
Metallurgical Testing	-	340,000
Third Bulk Sample and Underground Ramp for Drilling Station Access	-	7,000,000
Contingencies (~15%)	-	7,100,000
Phase 1 subtotal	**200,000 m**	**54,440,000**
Phase 2 - Work Program	**Budget**	
	Description	**Cost (CAD)**
Mineral Resource Update	-	250,000
Feasibility Study	-	7,770,000
Environment and Permitting	-	1,500,000
Contingencies (~15%)	-	1,200,000
Phase 2 subtotal	**-**	**10,720,000**
Total - Phase 1 and Phase 2		**$65,160,000**

Analysis of the results and findings from each major area of investigation completed as part of this preliminary economic assessment suggests numerous recommendations for further investigations to mitigate risks and/or improve the base case designs. Sections 26.1 to 26.3 provide additional details to support the recommended work program outlined in Table 26-1.

26.1 Phase 1

In Phase 1, the QPs recommend addressing the following technical aspects of the Project:

26.1.1 Conversion Drilling

Conversion drilling from surface and underground to a vertical depth of 1,000 m is recommended to upgrade inferred resources to the indicated category. Approximately 130,000 m of surface drilling and 50,000 m of underground drilling is recommended.

A drill hole spacing of 25 m is recommended for the indicated category. Additional drilling to evaluate the extensions of the Triple Lynx (up-plunge and down-plunge) and Underdog zones should also be considered.

26.1.2 Exploration Drilling

The objective of the exploration drilling program would be to continue investigating untested gold targets on the entire Windfall Project and any potential lateral and depth extensions of known mineralization. Positive results would potentially add inferred resources.

On the Urban-Barry regional exploration front, the QPs recommend that exploration work be performed to assess the mineralization potential outside the actual footprint of the known deposit, along favourable geological features present regionally (i.e., the Bank fault) and other known gold prospects (i.e., Fox showing). To properly explore that extensive regional structure, a 20,000 m drilling program is recommended.

26.1.3 Bulk Sampling

A third bulk sample in the Triple Lynx area would also bring additional information and additional underground drilling stations. This would gain a better understanding of the deposit in several areas. It would also validate different mining and metallurgical assumptions and improve the lithostructural model using data from underground mapping collected during development.

26.2 Phase 2

In Phase 2, the following technical aspects should be addressed (contingent upon the success of Phase 1:

26.2.1 NI 43-101 Mineral Resource Estimate Update on the Windfall Project

The QPs propose updating the mineral resource estimate after completing the drilling program. This update should be used as the basis for the planned feasibility study.

26.2.2 NI 43-101 Feasibility Study on the Windfall Project

The QPs propose a feasibility study. This feasibility study should be based on the Mineral Resource Estimate (also in Phase 2) and include the following data collection, trade-off studies and other related activities:

26.2.2.1 Rock Engineering

Additional geomechanical data collection work is recommended to address the data gaps in the geomechanical rock mass conditions:

- Perform in situ stress measurements to confirm the stress assumptions;
- Perform geomechanical logging of oriented core in drill holes located in the Underdog mining zone, in the lower part of the Lynx mining zone and in the Triple 8 mining zone, to confirm the rock mass conditions ahead of mining;

- Develop and perform an exhaustive laboratory testing program from core collected in the lower third of the mine, to gain knowledge of the intact rock properties where seismicity related issues could occur. The program should include enough samples from each lithology unit to be able to assess whether the properties of the various units are different or not;
- Continue the geotechnical joint mapping currently performed by the site team. Once a good understanding of the condition of the joint surface per joint set will be acquired, the joint mapping could be simplified to only orientation, spacing and persistence, to capture the spatial variation of the geometry of the joint sets;
- Collect data on the water inflows intercepted in the exploration drill holes (date, location, inflow rates). Compile the data in a database that can be represented in 3D space.

The RQD block models created by Osisko should be updated and maintained. They are a valuable tools to assess the conditions of the rock mass. It is recommended to update these block models each time there is a major update of the resources.

The variation of the rock mass quality in and around the interpreted faults should be investigated in more detail before driving development and mining stopes near the faults. A better definition and understanding in 3D of the zones with lower rock mass quality will be beneficial for the detailed planning of the excavations. The geomechanical characterization and the geological interpretation of the faults should be performed together.

Further geomechanical numerical modelling should focus on the behaviour of the rock mass joints using a discontinuum distinct element-based method (“DEM”) to validate the stope dimensions, crown pillar thickness recommendations and the dilution assumptions. Discontinuum modelling would also allow to perform sensitivity analyses to estimate the effects of rock bridging.

26.2.2.2 Mining

For the feasibility study, it is recommended that the following activities be initiated to support the mine design:

- Perform additional trade-off studies concerning:
  - Narrower minimum width as it will have an impact on resources, continuity, in situ and diluted grades, sublevel height, stope productivity, operating costs and equipment availability and automation options;
  - Diesel vs. electric mobile equipment as it will have an impact on life-of-equipment productivity, availability, maintenance, total hours and costs;
  - Consideration of mobile equipment automation to determine cost impacts;
- Perform sensitivity study of ELOS and stope length combinations on diluted grades, total resources and operating costs.

26.2.2.3 Metallurgical Testing

It is recommended to consider the following elements:

- Perform additional metallurgical testwork on mineralized material from the Windfall deposit, particularly on zones not already tested. The testwork program should include additional comminution and metallurgical tests (gravity separation followed by cyanidation of mineralized material) according to the parameters of the variability tests and according to the parameters of the flowsheet selected;
- Rheological tests should be performed based on the selected flowsheet and target particle size. It is recommended that the testwork is conducted on representative composite samples from Main, Lynx and Underdog;
- Continue the multi-element analysis program throughout the deposit to better optimize the metallurgical processes (e.g., Ag, Cu, S);
- Confirm the metallurgical flowsheet and process. Tailings grind size and chemical composition have significant impacts on the dewatering process, equipment selection and paste recipe. As a result, capital and operating costs could be affected;
- Confirm the Windfall Mill tailings filtration rate in order to validate the filter selection. Filter presses are high capital cost equipment and require multiple auxiliary services. The impact on capital and operating costs can be significant;
- Conduct paste backfill testwork including paste recipe optimization, rheological testwork and loop tests. Loop tests are required to design the paste backfill distribution network and to determine the paste pump operating pressure;
- Confirm whether industrial water meets quality requirements for use as filter cloth wash water and review water management strategy accordingly.

26.2.2.4 Site Infrastructure

Additional geotechnical investigations and studies are required at site to characterize foundation conditions under planned infrastructure to assess soil conditions such as soil stratigraphy, depth to bedrock, groundwater levels and soil properties. The investigations should include an extensive laboratory and in situ testing program. Requirements of this geotechnical investigation campaign will be detailed prior to site works to fulfill the necessary gaps for the feasibility study.

Borrow source identification and assessment for material properties and estimates for borrow source quantities should be undertaken to define available materials for the construction of all surface infrastructure, including roads, pads, stockpiles, ponds, water management, and TMF.

Also, if waste rock can be identified as non potentially acid generating and non-leachable, this material could be used for road and pad construction, thus reducing borrow source material.

A feasibility study would increase the level of detail included in the site general arrangement and confirm infrastructure footprint and locations.

26.2.2.5 Geochemistry

Detailed recommendations are provided in Golder (2021a).

- The representativeness of the 2017-2020 sampling program should be revaluated and confirmed against the current mine plan (and any mine plan updates) to confirm an that adequate number of samples have been analyzed in order to sufficiently characterize all units that will be mined. Notably, waste rock from the Lynx 4 zone and the sedimentary unit (S6) in the Lynx Zone should be geochemically characterized. New mineralized zones (e.g., Triple 8, Bobcat) should be characterized, if they are to be included in the mining plan;
- Additional recommended work includes: i) continued evaluation of materials via long-term humidity cell kinetic testing; ii) implementation of larger mixed-material column tests, field-cell tests, and/or monitoring programs of existing waste rockpiles to estimate the scaling from laboratory to field conditions; iii) development of a site water quality model; and iv) evaluation of tailings and process water produced during large-scale process testing;
- Ongoing validation of geochemical characteristics of each material during the life of the mine should be planned for in order to assess design components and other potential opportunities;
- Management and design features will need to be further refined with respect to the potential development of ARD and metal leaching in mineralized material, waste rock, and tailings.

26.2.2.6 Tailings and Water Management

For the next stage of the Project, the following additional studies are recommended:

- Design of tailings and water management infrastructure will be refined and brought to appropriate detail level. The design will consider laboratory and field characterization results, reviews of draining and filtration capacity and adjustments made to the mine plan;
- Conduct a trade-off study to assess the implementation of filtered tailings technology at the start of the Project and only use filtered tailings as management strategy;
- Assess the potential for co-disposal of waste rock and filtered tailings;
- Review of liner requirements and selection, and assess liner geotechnical properties and geochemical compatibility with process water;
- Refined climate data analysis and model water balance for the entire LOM including post-closure;
- Project risk assessment, including containment structure classification and breach analysis, if necessary;

- Instrumentation plan to monitor foundation behaviour and infrastructure performance during operation and at closure;
- An appropriate closure scenario should be defined including identification/selection of the low-permeability cover system adapted to the quality of available borrow sources;
- Preliminary assessment of climate change effects on infrastructure as part of closure scenario evaluation.

26.2.2.7 Water Treatment

The recommendations regarding water treatment are:

- Refine the water balance as the Project progresses;
- Complete a water quality model based on additional water quality data from laboratory cyanide destruction tests and on-site water samples;
- Review and upgrade the water treatment sequence based on the water quality prediction model.

26.3 Environment and Permitting

The recommendations regarding environment and permitting are:

- Complete additional studies in order to prepare the environmental and social impact assessment;
- Initiate the provincial environmental assessment and review the procedure, and prepare an EIA statement;
- Continue the consultations and engagement activities;
- Continue the negotiation and agreements with First Nations, and private and public stakeholders.

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Appendix A: List of claims 2020 – Windfall

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
1106259	32G04	56.37	2002-12-06	2021-12-05	Osisko Mining Inc.
1106260	32G04	56.36	2002-12-06	2021-12-05	Osisko Mining Inc.
1106261	32G04	56.36	2002-12-06	2021-12-05	Osisko Mining Inc.
1106262	32G04	56.35	2002-12-06	2021-12-05	Osisko Mining Inc.
1106263	32G04	56.35	2002-12-06	2021-12-05	Osisko Mining Inc.
1106264	32G04	56.34	2002-12-06	2021-12-05	Osisko Mining Inc.
1107033	32G04	56.35	2002-12-11	2021-12-10	Osisko Mining Inc.
1107034	32G04	56.35	2002-12-11	2021-12-10	Osisko Mining Inc.
1107035	32G04	56.35	2002-12-11	2021-12-10	Osisko Mining Inc.
1107036	32G04	56.35	2002-12-11	2021-12-10	Osisko Mining Inc.
1107037	32G04	56.35	2002-12-11	2021-12-10	Osisko Mining Inc.
1107038	32G04	56.35	2002-12-11	2021-12-10	Osisko Mining Inc.
1107039	32G04	56.35	2002-12-11	2021-12-10	Osisko Mining Inc.
1107040	32G04	56.35	2002-12-11	2021-12-10	Osisko Mining Inc.
1107041	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107042	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107043	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107044	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107045	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107046	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107047	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107048	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107049	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107050	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107051	32G04	56.34	2002-12-11	2021-12-10	Osisko Mining Inc.
1107052	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107053	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107054	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107055	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107056	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107057	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107058	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107059	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107060	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107061	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107062	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107063	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107064	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
1107065	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107066	32G04	56.33	2002-12-11	2021-12-10	Osisko Mining Inc.
1107067	32G04	56.32	2002-12-11	2021-12-10	Osisko Mining Inc.
1107068	32G04	56.32	2002-12-11	2021-12-10	Osisko Mining Inc.
1107069	32G04	56.32	2002-12-11	2021-12-10	Osisko Mining Inc.
1107070	32G04	56.32	2002-12-11	2021-12-10	Osisko Mining Inc.
1107071	32G04	56.32	2002-12-11	2021-12-10	Osisko Mining Inc.
1107072	32G04	56.32	2002-12-11	2021-12-10	Osisko Mining Inc.
1119376	32G04	10.67	2003-05-23	2022-03-05	Osisko Mining Inc.
1119377	32G04	11.15	2003-05-23	2022-03-05	Osisko Mining Inc.
1119378	32G04	3.29	2003-05-23	2022-03-05	Osisko Mining Inc.
1119379	32G04	56.39	2003-05-23	2022-03-05	Osisko Mining Inc.
1119380	32G04	56.39	2003-05-23	2022-03-05	Osisko Mining Inc.
1119381	32G04	45.66	2003-05-23	2022-03-05	Osisko Mining Inc.
1119386	32G04	56.38	2003-05-23	2022-03-05	Osisko Mining Inc.
1119387	32G04	55.18	2003-05-23	2022-03-05	Osisko Mining Inc.
1119388	32G04	27.07	2003-05-23	2022-03-05	Osisko Mining Inc.
1119389	32G04	27.33	2003-05-23	2022-03-05	Osisko Mining Inc.
1119390	32G04	27.63	2003-05-23	2022-03-05	Osisko Mining Inc.
1119391	32G04	41.61	2003-05-23	2022-03-05	Osisko Mining Inc.
1119392	32G04	56.38	2003-05-23	2022-03-05	Osisko Mining Inc.
1119393	32G04	54.73	2003-05-23	2022-03-05	Osisko Mining Inc.
1119394	32G04	46.55	2003-05-23	2022-03-05	Osisko Mining Inc.
1119395	32G04	46.83	2003-05-23	2022-03-05	Osisko Mining Inc.
1119396	32G04	46.86	2003-05-23	2022-03-05	Osisko Mining Inc.
1119397	32G04	41.71	2003-05-23	2022-03-05	Osisko Mining Inc.
1119398	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119399	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119400	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119401	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119402	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119403	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119404	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119405	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119406	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119407	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119408	32G04	56.27	2003-05-23	2022-03-05	Osisko Mining Inc.
1119409	32G04	56.18	2003-05-23	2022-03-05	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
1119410	32G04	56.37	2003-05-23	2022-03-05	Osisko Mining Inc.
1119411	32G04	56.36	2003-05-23	2022-03-05	Osisko Mining Inc.
1119412	32G04	56.36	2003-05-23	2022-03-05	Osisko Mining Inc.
1119413	32G04	56.36	2003-05-23	2022-03-05	Osisko Mining Inc.
1119414	32G04	56.36	2003-05-23	2022-03-05	Osisko Mining Inc.
1119415	32G04	56.36	2003-05-23	2022-03-05	Osisko Mining Inc.
1119416	32G04	56.36	2003-05-23	2022-03-05	Osisko Mining Inc.
1119417	32G04	56.36	2003-05-23	2022-03-05	Osisko Mining Inc.
1119418	32G04	56.36	2003-05-23	2022-03-05	Osisko Mining Inc.
1119419	32G04	56.36	2003-05-23	2022-03-05	Osisko Mining Inc.
1119420	32G04	56.35	2003-05-23	2022-03-05	Osisko Mining Inc.
1119421	32G04	56.35	2003-05-23	2022-03-05	Osisko Mining Inc.
1119422	32G04	56.35	2003-05-23	2022-03-05	Osisko Mining Inc.
1119423	32G04	56.35	2003-05-23	2022-03-05	Osisko Mining Inc.
1119424	32G04	56.35	2003-05-23	2022-03-05	Osisko Mining Inc.
1119425	32G04	56.35	2003-05-23	2022-03-05	Osisko Mining Inc.
1119426	32G04	56.35	2003-05-23	2022-03-05	Osisko Mining Inc.
1119427	32G04	56.34	2003-05-23	2022-03-05	Osisko Mining Inc.
1119428	32G04	56.34	2003-05-23	2022-03-05	Osisko Mining Inc.
1119429	32G04	56.34	2003-05-23	2022-03-05	Osisko Mining Inc.
1119430	32G04	56.34	2003-05-23	2022-03-05	Osisko Mining Inc.
1125116	32G04	22.76	2003-07-02	2021-12-04	Osisko Mining Inc.
1125117	32G04	56.39	2003-07-02	2021-12-04	Osisko Mining Inc.
1125118	32G04	56.39	2003-07-02	2021-12-04	Osisko Mining Inc.
1125120	32G04	56.38	2003-07-02	2021-12-04	Osisko Mining Inc.
1125121	32G04	56.38	2003-07-02	2021-12-04	Osisko Mining Inc.
1125122	32G04	56.38	2003-07-02	2021-12-04	Osisko Mining Inc.
1125124	32G04	56.37	2003-07-02	2021-12-04	Osisko Mining Inc.
1126615	32G04	56.37	2003-06-11	2022-06-10	Osisko Mining Inc.
1126616	32G04	56.37	2003-06-11	2022-06-10	Osisko Mining Inc.
1126617	32G04	56.37	2003-06-11	2022-06-10	Osisko Mining Inc.
1126618	32G04	56.36	2003-06-11	2022-06-10	Osisko Mining Inc.
1126619	32G04	56.36	2003-06-11	2022-06-10	Osisko Mining Inc.
1126620	32G04	56.36	2003-06-11	2022-06-10	Osisko Mining Inc.
1126621	32G04	56.36	2003-06-11	2022-06-10	Osisko Mining Inc.
1126622	32G04	56.36	2003-06-11	2022-06-10	Osisko Mining Inc.
1126623	32G04	56.35	2003-06-11	2022-06-10	Osisko Mining Inc.
1126624	32G04	56.35	2003-06-11	2022-06-10	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
1126625	32G04	56.35	2003-06-11	2022-06-10	Osisko Mining Inc.
1126626	32G04	56.35	2003-06-11	2022-06-10	Osisko Mining Inc.
1126627	32G04	56.35	2003-06-11	2022-06-10	Osisko Mining Inc.
1126628	32G04	56.35	2003-06-11	2022-06-10	Osisko Mining Inc.
1126629	32G04	56.34	2003-06-11	2022-06-10	Osisko Mining Inc.
1126630	32G04	56.34	2003-06-11	2022-06-10	Osisko Mining Inc.
1126631	32G04	56.34	2003-06-11	2022-06-10	Osisko Mining Inc.
1126632	32G04	56.34	2003-06-11	2022-06-10	Osisko Mining Inc.
1126633	32G04	56.34	2003-06-11	2022-06-10	Osisko Mining Inc.
1126634	32G04	56.34	2003-06-11	2022-06-10	Osisko Mining Inc.
1126635	32G04	56.34	2003-06-11	2022-06-10	Osisko Mining Inc.
1126636	32G04	56.33	2003-06-11	2022-06-10	Osisko Mining Inc.
1126637	32G04	56.33	2003-06-11	2022-06-10	Osisko Mining Inc.
1126638	32G04	56.33	2003-06-11	2022-06-10	Osisko Mining Inc.
1126639	32G04	56.33	2003-06-11	2022-06-10	Osisko Mining Inc.
1126640	32G04	56.33	2003-06-11	2022-06-10	Osisko Mining Inc.
1126641	32G04	56.33	2003-06-11	2022-06-10	Osisko Mining Inc.
1126642	32G04	56.33	2003-06-11	2022-06-10	Osisko Mining Inc.
1126643	32G04	56.33	2003-06-11	2022-06-10	Osisko Mining Inc.
1133001	32G04	56.38	2005-07-11	2022-03-05	Osisko Mining Inc.
2225915	32G03	56.39	2010-05-03	2023-05-02	Osisko Mining Inc.
2225916	32G03	56.39	2010-05-03	2023-05-02	Osisko Mining Inc.
2225917	32G03	56.38	2010-05-03	2023-05-02	Osisko Mining Inc.
2225918	32G03	56.38	2010-05-03	2023-05-02	Osisko Mining Inc.
2225919	32G03	56.37	2010-05-03	2023-05-02	Osisko Mining Inc.
2225920	32G03	56.37	2010-05-03	2023-05-02	Osisko Mining Inc.
2225921	32G03	56.36	2010-05-03	2023-05-02	Osisko Mining Inc.
2225922	32G03	56.36	2010-05-03	2023-05-02	Osisko Mining Inc.
2225923	32G04	56.38	2010-05-03	2023-05-02	Osisko Mining Inc.
2225924	32G04	56.37	2010-05-03	2023-05-02	Osisko Mining Inc.
2225925	32G04	56.36	2010-05-03	2023-05-02	Osisko Mining Inc.
2226346	32G04	56.38	2010-05-04	2023-05-03	Osisko Mining Inc.
2226347	32G04	56.38	2010-05-04	2023-05-03	Osisko Mining Inc.
2226348	32G04	56.37	2010-05-04	2023-05-03	Osisko Mining Inc.
2226349	32G04	56.37	2010-05-04	2023-05-03	Osisko Mining Inc.
2226350	32G04	56.37	2010-05-04	2023-05-03	Osisko Mining Inc.
2226351	32G04	56.37	2010-05-04	2023-05-03	Osisko Mining Inc.
2226352	32G04	56.37	2010-05-04	2023-05-03	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2360634	32G04	56.33	2012-08-15	2021-08-14	Osisko Mining Inc.
2360635	32G04	56.33	2012-08-15	2021-08-14	Osisko Mining Inc.
2360636	32G04	56.33	2012-08-15	2021-08-14	Osisko Mining Inc.
2360637	32G04	56.33	2012-08-15	2021-08-14	Osisko Mining Inc.
2360638	32G04	56.33	2012-08-15	2021-08-14	Osisko Mining Inc.
2371957	32G04	6.05	2013-01-21	2021-08-02	Osisko Mining Inc.
2371958	32G04	11.17	2013-01-21	2021-08-02	Osisko Mining Inc.
2371959	32G04	3.75	2013-01-21	2021-08-02	Osisko Mining Inc.
2371960	32G04	5.22	2013-01-21	2021-08-02	Osisko Mining Inc.
2372910	32G04	28.34	2013-01-21	2021-08-02	Osisko Mining Inc.
2372911	32G04	3.72	2013-01-21	2021-08-02	Osisko Mining Inc.
2372912	32G04	3.36	2013-01-21	2021-08-02	Osisko Mining Inc.
2372913	32G04	3.00	2013-01-21	2021-08-02	Osisko Mining Inc.
2372914	32G04	1.60	2013-01-21	2021-08-02	Osisko Mining Inc.
2376794	32G04	12.38	2013-03-04	2021-08-02	Osisko Mining Inc.
2376795	32G04	47.15	2013-03-04	2021-08-02	Osisko Mining Inc.
2376796	32G04	6.88	2013-03-04	2021-08-02	Osisko Mining Inc.
2376797	32G04	15.53	2013-03-04	2021-08-02	Osisko Mining Inc.
2376841	32G04	9.08	2013-03-11	2023-01-22	Osisko Mining Inc.
2376842	32G04	15.06	2013-03-11	2023-01-22	Osisko Mining Inc.
2376843	32G04	21.71	2013-03-11	2023-01-22	Osisko Mining Inc.
2376844	32G04	27.22	2013-03-11	2023-01-22	Osisko Mining Inc.
2376845	32G04	1.51	2013-03-11	2023-01-22	Osisko Mining Inc.
2376846	32G04	1.90	2013-03-11	2023-01-22	Osisko Mining Inc.
2376847	32G04	56.44	2013-03-11	2021-09-25	Osisko Mining Inc.
2376848	32G04	56.44	2013-03-11	2021-09-25	Osisko Mining Inc.
2376849	32G04	56.43	2013-03-11	2021-09-25	Osisko Mining Inc.
2376850	32G04	56.43	2013-03-11	2021-09-25	Osisko Mining Inc.
2376851	32G04	56.43	2013-03-11	2021-09-25	Osisko Mining Inc.
2376852	32G04	56.43	2013-03-11	2021-09-25	Osisko Mining Inc.
2376853	32G04	56.42	2013-03-11	2021-09-25	Osisko Mining Inc.
2376854	32G04	56.42	2013-03-11	2021-09-25	Osisko Mining Inc.
2376855	32G04	56.42	2013-03-11	2021-09-25	Osisko Mining Inc.
2376856	32G04	56.42	2013-03-11	2021-09-25	Osisko Mining Inc.
2376857	32G04	56.41	2013-03-11	2021-09-25	Osisko Mining Inc.
2376858	32G04	56.41	2013-03-11	2021-09-25	Osisko Mining Inc.
2376859	32G04	56.41	2013-03-11	2021-09-25	Osisko Mining Inc.
2376860	32G04	56.41	2013-03-11	2021-09-25	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2376861	32G04	56.40	2013-03-11	2021-09-25	Osisko Mining Inc.
2376862	32G04	56.40	2013-03-11	2021-09-25	Osisko Mining Inc.
2376863	32G04	56.40	2013-03-11	2021-09-25	Osisko Mining Inc.
2376864	32G04	56.40	2013-03-11	2021-09-25	Osisko Mining Inc.
2376865	32G04	56.44	2013-03-11	2021-09-25	Osisko Mining Inc.
2376866	32G04	56.40	2013-03-11	2021-09-25	Osisko Mining Inc.
2376867	32G04	0.01	2013-03-11	2021-09-25	Osisko Mining Inc.
2376868	32G04	9.56	2013-03-11	2021-09-25	Osisko Mining Inc.
2376869	32G04	34.34	2013-03-11	2021-09-25	Osisko Mining Inc.
2376870	32G04	44.73	2013-03-11	2021-09-25	Osisko Mining Inc.
2376871	32G04	5.93	2013-03-11	2021-09-25	Osisko Mining Inc.
2376872	32G04	30.09	2013-03-11	2021-09-25	Osisko Mining Inc.
2376873	32G04	51.10	2013-03-11	2021-09-25	Osisko Mining Inc.
2376874	32G04	24.57	2013-03-11	2021-09-25	Osisko Mining Inc.
2376875	32G04	6.49	2013-03-11	2021-09-25	Osisko Mining Inc.
2376876	32G04	51.45	2013-03-11	2021-09-25	Osisko Mining Inc.
2376877	32G04	6.15	2013-03-11	2021-09-25	Osisko Mining Inc.
2376878	32G04	23.36	2013-03-11	2021-09-25	Osisko Mining Inc.
2376879	32G04	4.55	2013-03-11	2021-09-25	Osisko Mining Inc.
2376880	32G04	22.22	2013-03-11	2021-09-25	Osisko Mining Inc.
2376881	32G04	43.10	2013-03-11	2021-09-25	Osisko Mining Inc.
2376882	32G04	55.34	2013-03-11	2021-09-25	Osisko Mining Inc.
2376883	32G04	13.53	2013-03-11	2021-09-25	Osisko Mining Inc.
2376884	32G04	51.13	2013-03-11	2021-09-25	Osisko Mining Inc.
2376885	32G04	51.60	2013-03-11	2021-09-25	Osisko Mining Inc.
2376886	32G04	1.57	2013-03-11	2021-09-25	Osisko Mining Inc.
2376887	32G04	47.91	2013-03-11	2021-09-25	Osisko Mining Inc.
2376888	32G04	9.53	2013-03-11	2021-09-25	Osisko Mining Inc.
2376889	32G04	1.60	2013-03-11	2021-09-25	Osisko Mining Inc.
2376890	32G04	31.91	2013-03-11	2021-09-25	Osisko Mining Inc.
2376891	32G04	4.21	2013-03-11	2021-09-25	Osisko Mining Inc.
2376892	32G04	8.15	2013-03-11	2021-09-25	Osisko Mining Inc.
2376893	32G04	5.86	2013-03-11	2021-09-25	Osisko Mining Inc.
2376894	32G04	3.56	2013-03-11	2021-09-25	Osisko Mining Inc.
2376895	32G04	20.80	2013-03-11	2021-09-25	Osisko Mining Inc.
2376896	32G04	1.83	2013-03-11	2021-09-25	Osisko Mining Inc.
2379285	32G04	56.40	2013-03-25	2021-12-04	Osisko Mining Inc.
2379286	32G04	56.40	2013-03-25	2021-12-04	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2379287	32G04	10.28	2013-03-25	2021-12-04	Osisko Mining Inc.
2379288	32G04	21.50	2013-03-25	2021-12-04	Osisko Mining Inc.
2379289	32G04	28.59	2013-03-25	2021-12-04	Osisko Mining Inc.
2379290	32G04	29.19	2013-03-25	2021-12-04	Osisko Mining Inc.
2379291	32G04	6.03	2013-03-25	2021-12-04	Osisko Mining Inc.
2379292	32G04	9.41	2013-03-25	2021-12-04	Osisko Mining Inc.
2379293	32G04	15.90	2013-03-25	2022-03-20	Osisko Mining Inc.
2379294	32G04	34.77	2013-03-25	2022-03-20	Osisko Mining Inc.
2379295	32G04	48.16	2013-03-25	2022-03-20	Osisko Mining Inc.
2379296	32G04	35.65	2013-03-25	2022-03-20	Osisko Mining Inc.
2379297	32G04	33.48	2013-03-25	2022-03-20	Osisko Mining Inc.
2379298	32G04	35.68	2013-03-25	2022-03-20	Osisko Mining Inc.
2379299	32G04	25.16	2013-03-25	2022-03-20	Osisko Mining Inc.
2379300	32G04	19.83	2013-03-25	2022-03-20	Osisko Mining Inc.
2379301	32G04	25.43	2013-03-25	2022-03-20	Osisko Mining Inc.
2379355	32G04	10.73	2013-03-25	2022-03-10	Osisko Mining Inc.
2379356	32G04	1.20	2013-03-25	2022-03-10	Osisko Mining Inc.
2379357	32G04	29.31	2013-03-25	2022-03-10	Osisko Mining Inc.
2379358	32G04	29.05	2013-03-25	2022-03-10	Osisko Mining Inc.
2379359	32G04	28.75	2013-03-25	2022-03-10	Osisko Mining Inc.
2379360	32G04	14.77	2013-03-25	2022-03-10	Osisko Mining Inc.
2379361	32G04	1.65	2013-03-25	2022-03-10	Osisko Mining Inc.
2379362	32G04	9.83	2013-03-25	2022-03-10	Osisko Mining Inc.
2379363	32G04	9.55	2013-03-25	2022-03-10	Osisko Mining Inc.
2379364	32G04	9.52	2013-03-25	2022-03-10	Osisko Mining Inc.
2379365	32G04	14.67	2013-03-25	2022-03-10	Osisko Mining Inc.
2379366	32G04	0.10	2013-03-25	2022-03-10	Osisko Mining Inc.
2379367	32G04	30.39	2013-03-25	2022-03-10	Osisko Mining Inc.
2379368	32G04	38.76	2013-03-25	2022-03-10	Osisko Mining Inc.
2379369	32G04	46.96	2013-03-25	2022-03-10	Osisko Mining Inc.
2379370	32G04	33.04	2013-03-25	2022-03-10	Osisko Mining Inc.
2379371	32G04	51.84	2013-03-25	2022-03-10	Osisko Mining Inc.
2379372	32G04	34.17	2013-03-25	2022-03-10	Osisko Mining Inc.
2379373	32G04	42.85	2013-03-25	2022-03-10	Osisko Mining Inc.
2379374	32G04	54.79	2013-03-25	2022-03-10	Osisko Mining Inc.
2379375	32G04	52.18	2013-03-25	2022-03-10	Osisko Mining Inc.
2379376	32G04	50.53	2013-03-25	2022-03-10	Osisko Mining Inc.
2379377	32G04	37.09	2013-03-25	2022-03-10	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2379378	32G04	26.00	2013-03-25	2022-03-10	Osisko Mining Inc.
2379379	32G04	25.99	2013-03-25	2022-03-10	Osisko Mining Inc.
2379380	32G04	16.99	2013-03-25	2022-03-10	Osisko Mining Inc.
2379381	32G04	2.33	2013-03-25	2022-03-10	Osisko Mining Inc.
2379382	32G04	9.23	2013-03-25	2022-03-10	Osisko Mining Inc.
2379383	32G04	0.19	2013-03-25	2022-03-10	Osisko Mining Inc.
2499652	32G04	56.37	2017-08-11	2022-08-10	Osisko Mining Inc.
2611	32G04	56.38	2003-09-25	2022-09-24	Osisko Mining Inc.
2612	32G04	56.38	2003-09-25	2022-09-24	Osisko Mining Inc.
2613	32G04	56.37	2003-09-25	2022-09-24	Osisko Mining Inc.
2614	32G04	56.37	2003-09-25	2022-09-24	Osisko Mining Inc.
2615	32G04	56.37	2003-09-25	2022-09-24	Osisko Mining Inc.
2616	32G04	56.37	2003-09-25	2022-09-24	Osisko Mining Inc.
2619	32G04	56.36	2003-09-25	2022-09-24	Osisko Mining Inc.
2620	32G04	56.36	2003-09-25	2022-09-24	Osisko Mining Inc.
2621	32G04	56.36	2003-09-25	2022-09-24	Osisko Mining Inc.
2622	32G04	56.36	2003-09-25	2022-09-24	Osisko Mining Inc.
2623	32G04	56.36	2003-09-25	2022-09-24	Osisko Mining Inc.
2624	32G04	56.36	2003-09-25	2022-09-24	Osisko Mining Inc.
2625	32G04	56.36	2003-09-25	2022-09-24	Osisko Mining Inc.

Appendix B: List of claims 2020 – Urban-Barry

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2360749	32G/04	56.42	2012-09-04	2021-12-31	Osisko Mining Inc.
2360750	32G/04	56.42	2012-09-04	2021-12-31	Osisko Mining Inc.
2360751	32G/04	56.41	2012-09-04	2021-12-31	Osisko Mining Inc.
2360752	32G/04	56.42	2012-09-04	2021-12-31	Osisko Mining Inc.
2360753	32G/04	56.41	2012-09-04	2021-12-31	Osisko Mining Inc.
2360754	32G/04	7.56	2012-09-04	2021-12-31	Osisko Mining Inc.
2360755	32G/04	56.43	2012-09-04	2021-12-31	Osisko Mining Inc.
2360756	32G/04	56.42	2012-09-04	2021-12-31	Osisko Mining Inc.
2360757	32G/04	56.41	2012-09-04	2021-12-31	Osisko Mining Inc.
2360758	32G/04	36.80	2012-09-04	2021-12-31	Osisko Mining Inc.
2360759	32G/04	55.13	2012-09-04	2021-12-31	Osisko Mining Inc.
2360760	32G/04	56.41	2012-09-04	2021-12-31	Osisko Mining Inc.
2360761	32G/04	49.18	2012-09-04	2021-12-31	Osisko Mining Inc.
2360762	32G/04	18.71	2012-09-04	2021-12-31	Osisko Mining Inc.
2360763	32G/04	14.87	2012-09-04	2021-12-31	Osisko Mining Inc.
2360764	32G/04	52.03	2012-09-04	2021-12-31	Osisko Mining Inc.
2360765	32G/04	54.94	2012-09-04	2021-12-31	Osisko Mining Inc.
2360766	32G/04	14.33	2012-09-04	2021-12-31	Osisko Mining Inc.
2360767	32G/04	1.75	2012-09-04	2021-12-31	Osisko Mining Inc.
2360768	32G/04	41.99	2012-09-04	2021-12-31	Osisko Mining Inc.
2360769	32G/04	46.80	2012-09-04	2021-12-31	Osisko Mining Inc.
2360794	32B/13	4.94	2012-09-04	2021-11-22	Osisko Mining Inc.
2360795	32B/13	25.52	2012-09-04	2021-11-22	Osisko Mining Inc.
2360796	32B/13	8.64	2012-09-04	2021-11-22	Osisko Mining Inc.
2360797	32B/13	53.78	2012-09-04	2021-11-22	Osisko Mining Inc.
2360798	32B/13	9.79	2012-09-04	2021-11-22	Osisko Mining Inc.
2360799	32B/13	6.45	2012-09-04	2021-11-22	Osisko Mining Inc.
2360800	32B/13	42.51	2012-09-04	2021-11-22	Osisko Mining Inc.
2360801	32B/13	9.90	2012-09-04	2021-11-22	Osisko Mining Inc.
2360802	32B/13	56.53	2012-09-04	2023-01-13	Osisko Mining Inc.
2360803	32B/13	56.52	2012-09-04	2023-01-13	Osisko Mining Inc.
2360804	32B/13	56.52	2012-09-04	2023-01-13	Osisko Mining Inc.
2360805	32B/13	56.51	2012-09-04	2023-01-13	Osisko Mining Inc.
2360806	32B/13	56.51	2012-09-04	2023-01-13	Osisko Mining Inc.
2360807	32B/13	56.53	2012-09-04	2023-01-13	Osisko Mining Inc.
2360808	32B/13	56.54	2012-09-04	2023-01-13	Osisko Mining Inc.
2360809	32B/13	56.54	2012-09-04	2023-01-13	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2360810	32B/13	55.44	2012-09-04	2023-01-13	Osisko Mining Inc.
2360811	32B/13	4.76	2012-09-04	2023-01-13	Osisko Mining Inc.
2360812	32B/13	21.16	2012-09-04	2023-01-13	Osisko Mining Inc.
2360813	32B/13	54.45	2012-09-04	2023-01-13	Osisko Mining Inc.
2364938	32B/13	56.53	2012-10-23	2022-07-30	Osisko Mining Inc.
2364939	32B/13	56.53	2012-10-23	2022-07-30	Osisko Mining Inc.
2364940	32B/13	56.52	2012-10-23	2022-07-30	Osisko Mining Inc.
2364941	32B/13	56.52	2012-10-23	2022-07-30	Osisko Mining Inc.
2364942	32B/13	56.51	2012-10-23	2022-07-30	Osisko Mining Inc.
2364943	32B/13	51.77	2012-10-23	2022-07-30	Osisko Mining Inc.
2364944	32B/13	4.97	2012-10-23	2022-07-30	Osisko Mining Inc.
2364945	32B/13	1.10	2012-10-23	2022-07-30	Osisko Mining Inc.
2364946	32B/13	23.98	2012-10-23	2022-07-30	Osisko Mining Inc.
2364947	32B/13	2.09	2012-10-23	2022-07-30	Osisko Mining Inc.
2364948	32B/13	56.54	2012-10-23	2022-07-30	Osisko Mining Inc.
2364949	32B/13	16.65	2012-10-23	2022-07-30	Osisko Mining Inc.
2364950	32B/13	56.64	2012-10-23	2022-07-30	Osisko Mining Inc.
2364951	32B/13	56.53	2012-10-23	2022-07-30	Osisko Mining Inc.
2364952	32B/13	33.04	2012-10-23	2022-07-30	Osisko Mining Inc.
2364953	32B/13	3.63	2012-10-23	2022-07-30	Osisko Mining Inc.
2364954	32B/13	56.53	2012-10-23	2022-07-30	Osisko Mining Inc.
2364955	32B/13	14.78	2012-10-23	2022-07-30	Osisko Mining Inc.
2364956	32B/13	56.53	2012-10-23	2022-07-30	Osisko Mining Inc.
2364957	32B/13	18.35	2012-10-23	2022-07-30	Osisko Mining Inc.
2364958	32B/13	56.53	2012-10-23	2022-07-30	Osisko Mining Inc.
2364959	32B/13	56.52	2012-10-23	2022-07-30	Osisko Mining Inc.
2364960	32B/13	48.02	2012-10-23	2022-07-30	Osisko Mining Inc.
2364961	32B/13	2.91	2012-10-23	2022-07-30	Osisko Mining Inc.
2364962	32B/13	56.52	2012-10-23	2022-07-30	Osisko Mining Inc.
2364963	32B/13	9.72	2012-10-23	2022-07-30	Osisko Mining Inc.
2364964	32B/13	56.52	2012-10-23	2022-07-30	Osisko Mining Inc.
2364965	32B/13	56.51	2012-10-23	2022-07-30	Osisko Mining Inc.
2364966	32B/13	30.69	2012-10-23	2022-07-30	Osisko Mining Inc.
2364967	32B/13	33.19	2012-10-23	2022-07-30	Osisko Mining Inc.
2364968	32B/13	49.76	2012-10-23	2022-07-30	Osisko Mining Inc.
2364969	32B/13	49.48	2012-10-23	2022-07-30	Osisko Mining Inc.
2364970	32B/13	44.42	2012-10-23	2022-07-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2369488	32G/04	0.01	2012-12-03	2023-07-12	Osisko Mining Inc.
2369489	32G/04	1.07	2012-12-03	2023-07-12	Osisko Mining Inc.
2369490	32G/04	0.11	2012-12-03	2023-07-12	Osisko Mining Inc.
2369491	32G/04	8.49	2012-12-03	2023-07-12	Osisko Mining Inc.
2369492	32G/04	0.04	2012-12-03	2023-07-12	Osisko Mining Inc.
2369493	32G/04	8.51	2012-12-03	2023-07-12	Osisko Mining Inc.
2369494	32G/04	0.01	2012-12-03	2023-07-12	Osisko Mining Inc.
2369495	32G/04	0.09	2012-12-03	2023-07-12	Osisko Mining Inc.
2369713	32G/04	56.40	2012-12-03	2022-08-08	Osisko Mining Inc.
2369714	32G/04	56.40	2012-12-03	2022-08-08	Osisko Mining Inc.
2369715	32G/04	56.39	2012-12-03	2022-08-08	Osisko Mining Inc.
2369716	32G/04	56.40	2012-12-03	2022-08-08	Osisko Mining Inc.
2369717	32G/04	28.05	2012-12-03	2022-08-08	Osisko Mining Inc.
2369718	32G/04	7.22	2012-12-03	2022-08-08	Osisko Mining Inc.
2369719	32G/04	52.67	2012-12-03	2022-08-08	Osisko Mining Inc.
2369720	32G/04	1.47	2012-12-03	2022-08-08	Osisko Mining Inc.
2369721	32G/04	42.07	2012-12-03	2022-08-08	Osisko Mining Inc.
2369722	32G/04	53.03	2012-12-03	2022-08-08	Osisko Mining Inc.
2369723	32G/04	3.42	2012-12-03	2022-08-08	Osisko Mining Inc.
2369724	32G/04	11.30	2012-12-03	2022-08-08	Osisko Mining Inc.
2369725	32G/04	53.39	2012-12-03	2022-08-08	Osisko Mining Inc.
2369726	32G/04	12.64	2012-12-03	2022-08-08	Osisko Mining Inc.
2369727	32G/04	34.89	2012-12-03	2022-08-08	Osisko Mining Inc.
2369728	32G/04	32.03	2012-12-03	2022-08-08	Osisko Mining Inc.
2376832	32G/04	56.40	2013-02-27	2022-03-20	Osisko Mining Inc.
2376833	32G/04	19.37	2013-02-27	2022-03-20	Osisko Mining Inc.
2376834	32G/04	35.60	2013-02-27	2022-03-20	Osisko Mining Inc.
2376835	32G/04	17.48	2013-02-27	2022-03-20	Osisko Mining Inc.
2376836	32G/04	31.24	2013-02-27	2022-03-20	Osisko Mining Inc.
2376837	32G/04	30.38	2013-02-27	2022-03-20	Osisko Mining Inc.
2376838	32G/04	28.86	2013-02-27	2022-03-20	Osisko Mining Inc.
2376839	32G/04	52.34	2013-02-27	2022-03-20	Osisko Mining Inc.
2376840	32G/04	27.03	2013-02-27	2022-03-20	Osisko Mining Inc.
2387601	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387602	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387612	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387613	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2387614	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387615	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387616	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387617	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387618	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387619	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387626	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387627	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387628	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387629	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387630	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387631	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387632	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387635	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387636	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387637	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387638	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387639	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387640	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387641	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387642	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387643	32G/04	56.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387644	32G/04	56.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387645	32G/04	56.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387646	32G/04	56.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387647	32G/04	56.39	2013-07-18	2021-11-10	Osisko Mining Inc.
2387648	32G/04	56.39	2013-07-18	2021-11-10	Osisko Mining Inc.
2387649	32G/04	56.39	2013-07-18	2021-11-10	Osisko Mining Inc.
2387654	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387655	32G/04	56.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387657	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387658	32G/04	56.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387659	32G/04	56.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387661	32G/04	4.83	2013-07-18	2021-11-10	Osisko Mining Inc.
2387662	32G/04	56.38	2013-07-18	2021-11-10	Osisko Mining Inc.
2387664	32G/04	56.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387665	32G/04	56.39	2013-07-18	2021-11-10	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2387666	32G/04	3.37	2013-07-18	2021-11-10	Osisko Mining Inc.
2387667	32G/04	56.38	2013-07-18	2021-11-10	Osisko Mining Inc.
2387671	32G/04	41.68	2013-07-18	2021-11-10	Osisko Mining Inc.
2387672	32G/04	39.39	2013-07-18	2021-11-10	Osisko Mining Inc.
2387673	32G/04	0.08	2013-07-18	2021-11-10	Osisko Mining Inc.
2387675	32G/04	56.38	2013-07-18	2021-11-10	Osisko Mining Inc.
2387677	32G/04	56.38	2013-07-18	2021-11-10	Osisko Mining Inc.
2387678	32G/04	2.11	2013-07-18	2021-11-10	Osisko Mining Inc.
2387681	32G/04	56.37	2013-07-18	2021-11-10	Osisko Mining Inc.
2387682	32G/04	56.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387685	32G/04	5.30	2013-07-18	2021-11-10	Osisko Mining Inc.
2387687	32G/04	40.85	2013-07-18	2021-11-10	Osisko Mining Inc.
2387690	32G/04	49.51	2013-07-18	2021-11-10	Osisko Mining Inc.
2387692	32G/04	56.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387699	32G/04	45.22	2013-07-18	2021-11-10	Osisko Mining Inc.
2387701	32G/04	20.74	2013-07-18	2021-11-10	Osisko Mining Inc.
2387702	32G/04	13.32	2013-07-18	2021-11-10	Osisko Mining Inc.
2387703	32G/04	20.76	2013-07-18	2021-11-10	Osisko Mining Inc.
2387704	32G/04	21.64	2013-07-18	2021-11-10	Osisko Mining Inc.
2387706	32G/04	4.06	2013-07-18	2021-11-10	Osisko Mining Inc.
2387707	32G/04	36.59	2013-07-18	2021-11-10	Osisko Mining Inc.
2402808	32G/04	56.44	2014-04-23	2023-04-22	Osisko Mining Inc.
2402809	32G/04	56.44	2014-04-23	2023-04-22	Osisko Mining Inc.
2402810	32G/04	56.44	2014-04-23	2023-04-22	Osisko Mining Inc.
2402811	32G/04	56.38	2014-04-23	2023-04-22	Osisko Mining Inc.
2402812	32G/04	56.38	2014-04-23	2023-04-22	Osisko Mining Inc.
2402813	32G/04	56.38	2014-04-23	2023-04-22	Osisko Mining Inc.
2402814	32G/04	56.37	2014-04-23	2023-04-22	Osisko Mining Inc.
2402815	32G/04	56.37	2014-04-23	2023-04-22	Osisko Mining Inc.
2402816	32G/04	56.37	2014-04-23	2023-04-22	Osisko Mining Inc.
2417076	32G/03	56.46	2014-11-25	2021-11-24	Osisko Mining Inc.
2417077	32G/03	56.46	2014-11-25	2021-11-24	Osisko Mining Inc.
2417078	32G/03	56.46	2014-11-25	2021-11-24	Osisko Mining Inc.
2417079	32G/03	56.45	2014-11-25	2021-11-24	Osisko Mining Inc.
2417080	32G/03	56.45	2014-11-25	2021-11-24	Osisko Mining Inc.
2417081	32G/03	56.45	2014-11-25	2021-11-24	Osisko Mining Inc.
2417082	32G/03	56.45	2014-11-25	2021-11-24	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417083	32G/03	56.44	2014-11-25	2021-11-24	Osisko Mining Inc.
2417084	32G/03	56.44	2014-11-25	2021-11-24	Osisko Mining Inc.
2417085	32G/03	56.44	2014-11-25	2021-11-24	Osisko Mining Inc.
2417086	32G/03	56.44	2014-11-25	2021-11-24	Osisko Mining Inc.
2417088	32G/03	56.43	2014-11-25	2021-11-24	Osisko Mining Inc.
2417089	32G/03	56.43	2014-11-25	2021-11-24	Osisko Mining Inc.
2417090	32G/03	56.43	2014-11-25	2021-11-24	Osisko Mining Inc.
2417091	32G/03	56.43	2014-11-25	2021-11-24	Osisko Mining Inc.
2417092	32G/03	56.43	2014-11-25	2021-11-24	Osisko Mining Inc.
2417093	32G/03	56.43	2014-11-25	2021-11-24	Osisko Mining Inc.
2417094	32G/03	56.42	2014-11-25	2021-11-24	Osisko Mining Inc.
2417095	32G/03	56.42	2014-11-25	2021-11-24	Osisko Mining Inc.
2417096	32G/03	56.42	2014-11-25	2021-11-24	Osisko Mining Inc.
2417097	32G/03	56.42	2014-11-25	2021-11-24	Osisko Mining Inc.
2417098	32G/03	56.42	2014-11-25	2021-11-24	Osisko Mining Inc.
2417099	32G/03	56.42	2014-11-25	2021-11-24	Osisko Mining Inc.
2417100	32G/03	56.42	2014-11-25	2021-11-24	Osisko Mining Inc.
2417101	32G/03	56.42	2014-11-25	2021-11-24	Osisko Mining Inc.
2417102	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417103	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417104	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417105	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417106	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417107	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417108	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417109	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417110	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417111	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417112	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417113	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417114	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417115	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417116	32G/03	56.43	2014-11-25	2021-11-24	Osisko Mining Inc.
2417117	32G/03	56.43	2014-11-25	2021-11-24	Osisko Mining Inc.
2417118	32G/03	56.42	2014-11-25	2021-11-24	Osisko Mining Inc.
2417119	32G/03	56.41	2014-11-25	2021-11-24	Osisko Mining Inc.
2417120	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417121	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417122	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417123	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417124	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417125	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417126	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417127	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417128	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417129	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417130	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417131	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417132	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417133	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417134	32G/03	56.40	2014-11-25	2021-11-24	Osisko Mining Inc.
2417135	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417136	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417137	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417138	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417139	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417140	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417141	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417142	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417143	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417144	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417145	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417146	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417147	32G/03	56.39	2014-11-25	2021-11-24	Osisko Mining Inc.
2417220	32G/03	56.38	2014-11-26	2021-11-25	Osisko Mining Inc.
2417221	32G/03	56.37	2014-11-26	2021-11-25	Osisko Mining Inc.
2417222	32G/03	56.36	2014-11-26	2021-11-25	Osisko Mining Inc.
2417223	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417224	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417225	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417226	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417227	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417228	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417229	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417230	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417231	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417232	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417233	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417234	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417235	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417236	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417237	32G/03	56.35	2014-11-26	2021-11-25	Osisko Mining Inc.
2417238	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417239	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417240	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417241	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417242	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417243	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417244	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417245	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417246	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417247	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417248	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417249	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417250	32G/03	56.34	2014-11-26	2021-11-25	Osisko Mining Inc.
2417251	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417252	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417253	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417254	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417255	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417256	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417257	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417258	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417259	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417260	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417261	32G/03	56.33	2014-11-26	2021-11-25	Osisko Mining Inc.
2417266	32G/04	56.38	2014-11-26	2021-11-25	Osisko Mining Inc.
2417267	32G/04	56.37	2014-11-26	2021-11-25	Osisko Mining Inc.
2417382	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.
2417383	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.
2417384	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417385	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417386	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417387	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417388	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417389	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417390	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417391	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417392	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417393	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417394	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417395	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417396	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417397	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417398	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417399	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417400	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417401	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417402	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417403	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417404	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417405	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417406	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417407	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417408	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417409	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417410	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417411	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417412	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417416	32G/03	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417417	32G/03	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417418	32G/03	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417419	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.
2417420	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417421	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417422	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417423	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417424	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417425	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417426	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417427	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417428	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417429	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417430	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417431	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417432	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417433	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417434	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417435	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417436	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417437	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417438	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417439	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417440	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417441	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417442	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417443	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417444	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417445	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417446	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417447	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417448	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417449	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417450	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417451	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417452	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417453	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417454	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417457	32G/03	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417458	32G/03	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417537	32B/13	56.60	2014-12-01	2021-11-30	Osisko Mining Inc.
2417538	32B/13	56.60	2014-12-01	2021-11-30	Osisko Mining Inc.
2417539	32B/13	56.60	2014-12-01	2021-11-30	Osisko Mining Inc.
2417540	32B/13	56.60	2014-12-01	2021-11-30	Osisko Mining Inc.
2417541	32B/13	56.60	2014-12-01	2021-11-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417542	32B/13	56.60	2014-12-01	2021-11-30	Osisko Mining Inc.
2417543	32B/13	56.59	2014-12-01	2021-11-30	Osisko Mining Inc.
2417544	32B/13	56.59	2014-12-01	2021-11-30	Osisko Mining Inc.
2417545	32B/13	56.59	2014-12-01	2021-11-30	Osisko Mining Inc.
2417546	32B/13	56.59	2014-12-01	2021-11-30	Osisko Mining Inc.
2417547	32B/13	56.59	2014-12-01	2021-11-30	Osisko Mining Inc.
2417548	32B/13	56.59	2014-12-01	2021-11-30	Osisko Mining Inc.
2417549	32B/13	56.59	2014-12-01	2021-11-30	Osisko Mining Inc.
2417550	32B/13	56.59	2014-12-01	2021-11-30	Osisko Mining Inc.
2417551	32B/13	56.58	2014-12-01	2021-11-30	Osisko Mining Inc.
2417552	32B/13	56.58	2014-12-01	2021-11-30	Osisko Mining Inc.
2417553	32B/13	56.58	2014-12-01	2021-11-30	Osisko Mining Inc.
2417554	32B/13	56.58	2014-12-01	2021-11-30	Osisko Mining Inc.
2417555	32B/13	56.56	2014-12-01	2021-11-30	Osisko Mining Inc.
2417556	32B/13	56.56	2014-12-01	2021-11-30	Osisko Mining Inc.
2417557	32B/13	56.56	2014-12-01	2021-11-30	Osisko Mining Inc.
2417558	32B/13	56.56	2014-12-01	2021-11-30	Osisko Mining Inc.
2417559	32B/13	56.56	2014-12-01	2021-11-30	Osisko Mining Inc.
2417560	32B/13	56.56	2014-12-01	2021-11-30	Osisko Mining Inc.
2417561	32B/13	56.56	2014-12-01	2021-11-30	Osisko Mining Inc.
2417562	32B/13	56.56	2014-12-01	2021-11-30	Osisko Mining Inc.
2417563	32B/13	56.55	2014-12-01	2021-11-30	Osisko Mining Inc.
2417564	32B/13	56.55	2014-12-01	2021-11-30	Osisko Mining Inc.
2417565	32B/13	56.55	2014-12-01	2021-11-30	Osisko Mining Inc.
2417566	32B/13	56.55	2014-12-01	2021-11-30	Osisko Mining Inc.
2417567	32B/13	56.55	2014-12-01	2021-11-30	Osisko Mining Inc.
2417568	32B/13	56.55	2014-12-01	2021-11-30	Osisko Mining Inc.
2417569	32B/13	56.55	2014-12-01	2021-11-30	Osisko Mining Inc.
2417570	32B/13	56.55	2014-12-01	2021-11-30	Osisko Mining Inc.
2417571	32B/13	56.54	2014-12-01	2021-11-30	Osisko Mining Inc.
2417572	32B/13	56.54	2014-12-01	2021-11-30	Osisko Mining Inc.
2417573	32B/13	56.54	2014-12-01	2021-11-30	Osisko Mining Inc.
2417574	32B/13	56.54	2014-12-01	2021-11-30	Osisko Mining Inc.
2417575	32B/13	56.54	2014-12-01	2021-11-30	Osisko Mining Inc.
2417576	32B/13	56.54	2014-12-01	2021-11-30	Osisko Mining Inc.
2417577	32B/13	56.54	2014-12-01	2021-11-30	Osisko Mining Inc.
2417578	32B/13	56.54	2014-12-01	2021-11-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417579	32B/13	56.50	2014-12-01	2021-11-30	Osisko Mining Inc.
2417581	32G/03	56.46	2014-12-01	2021-11-30	Osisko Mining Inc.
2417582	32G/03	56.46	2014-12-01	2021-11-30	Osisko Mining Inc.
2417583	32G/03	56.46	2014-12-01	2021-11-30	Osisko Mining Inc.
2417584	32G/03	56.46	2014-12-01	2021-11-30	Osisko Mining Inc.
2417585	32G/03	56.46	2014-12-01	2021-11-30	Osisko Mining Inc.
2417586	32G/03	56.45	2014-12-01	2021-11-30	Osisko Mining Inc.
2417587	32G/03	56.45	2014-12-01	2021-11-30	Osisko Mining Inc.
2417588	32G/03	56.45	2014-12-01	2021-11-30	Osisko Mining Inc.
2417589	32G/03	56.45	2014-12-01	2021-11-30	Osisko Mining Inc.
2417590	32G/03	56.45	2014-12-01	2021-11-30	Osisko Mining Inc.
2417593	32G/03	56.44	2014-12-01	2021-11-30	Osisko Mining Inc.
2417594	32G/03	56.44	2014-12-01	2021-11-30	Osisko Mining Inc.
2417595	32G/03	56.44	2014-12-01	2021-11-30	Osisko Mining Inc.
2417596	32G/03	56.44	2014-12-01	2021-11-30	Osisko Mining Inc.
2417597	32G/03	56.43	2014-12-01	2021-11-30	Osisko Mining Inc.
2417598	32G/03	56.43	2014-12-01	2021-11-30	Osisko Mining Inc.
2417599	32G/03	56.43	2014-12-01	2021-11-30	Osisko Mining Inc.
2417600	32G/03	56.42	2014-12-01	2021-11-30	Osisko Mining Inc.
2417601	32G/03	56.42	2014-12-01	2021-11-30	Osisko Mining Inc.
2417602	32G/03	56.42	2014-12-01	2021-11-30	Osisko Mining Inc.
2417603	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417604	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417605	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417606	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417607	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417608	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417609	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417610	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417611	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417612	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417613	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417614	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417615	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417618	32G/04	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417619	32G/04	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417620	32G/04	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417621	32G/04	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417622	32G/04	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417623	32G/04	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417624	32G/04	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417625	32G/04	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417626	32G/04	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417627	32G/04	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417628	32G/04	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417629	32G/04	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417630	32G/04	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417631	32G/04	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417632	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417633	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417634	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417636	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417638	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417639	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417640	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417641	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417642	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417643	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417644	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417645	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417646	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417650	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417651	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417652	32G/04	56.30	2014-12-01	2021-11-30	Osisko Mining Inc.
2417653	32G/04	56.30	2014-12-01	2021-11-30	Osisko Mining Inc.
2417654	32G/04	56.30	2014-12-01	2021-11-30	Osisko Mining Inc.
2417655	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.
2417656	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.
2417657	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.
2417658	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.
2417659	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.
2417660	32G/03	56.40	2014-12-01	2021-11-30	Osisko Mining Inc.
2417661	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417662	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417663	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417664	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417665	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417666	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417667	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417668	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417669	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417670	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417671	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417672	32G/03	56.39	2014-12-01	2021-11-30	Osisko Mining Inc.
2417673	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417674	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417675	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417676	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417677	32G/03	56.38	2014-12-01	2021-11-30	Osisko Mining Inc.
2417678	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417679	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417680	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417681	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417682	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417683	32G/03	56.37	2014-12-01	2021-11-30	Osisko Mining Inc.
2417684	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417685	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417686	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417687	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417688	32G/03	56.36	2014-12-01	2021-11-30	Osisko Mining Inc.
2417689	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417690	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417691	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417692	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417693	32G/03	56.35	2014-12-01	2021-11-30	Osisko Mining Inc.
2417694	32G/03	56.34	2014-12-01	2021-11-30	Osisko Mining Inc.
2417695	32G/04	56.32	2014-12-01	2021-11-30	Osisko Mining Inc.
2417699	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417700	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417701	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417703	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2417704	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417705	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417708	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417709	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417710	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417711	32G/04	56.31	2014-12-01	2021-11-30	Osisko Mining Inc.
2417713	32G/04	56.30	2014-12-01	2021-11-30	Osisko Mining Inc.
2417721	32G/04	56.29	2014-12-01	2021-11-30	Osisko Mining Inc.
2417723	32G/04	56.29	2014-12-01	2021-11-30	Osisko Mining Inc.
2417724	32G/04	56.29	2014-12-01	2021-11-30	Osisko Mining Inc.
2417728	32G/04	56.28	2014-12-01	2021-11-30	Osisko Mining Inc.
2417734	32G/04	56.27	2014-12-01	2021-11-30	Osisko Mining Inc.
2418096	32G/03	56.40	2014-12-02	2021-12-01	Osisko Mining Inc.
2418097	32G/03	56.40	2014-12-02	2021-12-01	Osisko Mining Inc.
2418098	32G/03	56.40	2014-12-02	2021-12-01	Osisko Mining Inc.
2418099	32G/03	56.40	2014-12-02	2021-12-01	Osisko Mining Inc.
2418100	32G/03	56.40	2014-12-02	2021-12-01	Osisko Mining Inc.
2418101	32G/03	56.40	2014-12-02	2021-12-01	Osisko Mining Inc.
2418102	32G/03	56.40	2014-12-02	2021-12-01	Osisko Mining Inc.
2418103	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418104	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418105	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418106	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418107	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418108	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418109	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418110	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418111	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418112	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418113	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418114	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418115	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418116	32G/03	56.39	2014-12-02	2021-12-01	Osisko Mining Inc.
2418117	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418118	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418119	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418120	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418121	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418122	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418123	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418124	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418125	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418126	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418127	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418128	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418129	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418130	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418131	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418132	32G/03	56.46	2014-12-02	2021-12-01	Osisko Mining Inc.
2418133	32G/03	56.45	2014-12-02	2021-12-01	Osisko Mining Inc.
2418134	32G/03	56.43	2014-12-02	2021-12-01	Osisko Mining Inc.
2418135	32G/03	56.41	2014-12-02	2021-12-01	Osisko Mining Inc.
2418136	32G/03	56.40	2014-12-02	2021-12-01	Osisko Mining Inc.
2418137	32G/03	56.40	2014-12-02	2021-12-01	Osisko Mining Inc.
2418138	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418139	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418140	32G/03	56.38	2014-12-02	2021-12-01	Osisko Mining Inc.
2418141	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418142	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418143	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418144	32G/03	56.37	2014-12-02	2021-12-01	Osisko Mining Inc.
2418145	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418146	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418147	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418148	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418149	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418150	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418151	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418152	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418153	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418154	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418155	32G/03	56.36	2014-12-02	2021-12-01	Osisko Mining Inc.
2418156	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418157	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418158	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418159	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418160	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418161	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418162	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418163	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418164	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418165	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418166	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418167	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418168	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418169	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418170	32G/03	56.35	2014-12-02	2021-12-01	Osisko Mining Inc.
2418192	32B/14	56.50	2014-12-02	2021-12-01	Osisko Mining Inc.
2418193	32B/14	56.50	2014-12-02	2021-12-01	Osisko Mining Inc.
2418194	32B/14	56.50	2014-12-02	2021-12-01	Osisko Mining Inc.
2418195	32B/14	56.50	2014-12-02	2021-12-01	Osisko Mining Inc.
2418196	32B/14	56.50	2014-12-02	2021-12-01	Osisko Mining Inc.
2418197	32B/14	56.50	2014-12-02	2021-12-01	Osisko Mining Inc.
2418198	32B/14	56.50	2014-12-02	2021-12-01	Osisko Mining Inc.
2418202	32B/14	56.49	2014-12-02	2021-12-01	Osisko Mining Inc.
2418205	32B/14	56.49	2014-12-02	2021-12-01	Osisko Mining Inc.
2418206	32B/14	56.49	2014-12-02	2021-12-01	Osisko Mining Inc.
2418207	32B/14	56.49	2014-12-02	2021-12-01	Osisko Mining Inc.
2418208	32B/14	56.49	2014-12-02	2021-12-01	Osisko Mining Inc.
2418212	32B/14	56.48	2014-12-02	2021-12-01	Osisko Mining Inc.
2418213	32B/14	56.48	2014-12-02	2021-12-01	Osisko Mining Inc.
2418214	32B/14	56.48	2014-12-02	2021-12-01	Osisko Mining Inc.
2418215	32B/14	56.48	2014-12-02	2021-12-01	Osisko Mining Inc.
2418216	32B/14	56.48	2014-12-02	2021-12-01	Osisko Mining Inc.
2418217	32B/14	56.48	2014-12-02	2021-12-01	Osisko Mining Inc.
2418218	32B/14	56.48	2014-12-02	2021-12-01	Osisko Mining Inc.
2418219	32B/14	56.47	2014-12-02	2021-12-01	Osisko Mining Inc.
2418224	32B/14	56.47	2014-12-02	2021-12-01	Osisko Mining Inc.
2418225	32B/14	56.47	2014-12-02	2021-12-01	Osisko Mining Inc.
2418226	32B/14	56.47	2014-12-02	2021-12-01	Osisko Mining Inc.
2418227	32B/14	56.47	2014-12-02	2021-12-01	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418228	32B/14	56.47	2014-12-02	2021-12-01	Osisko Mining Inc.
2418229	32B/14	56.47	2014-12-02	2021-12-01	Osisko Mining Inc.
2418370	32G/03	56.41	2014-12-03	2021-12-02	Osisko Mining Inc.
2418371	32G/03	56.40	2014-12-03	2021-12-02	Osisko Mining Inc.
2418372	32G/03	56.40	2014-12-03	2021-12-02	Osisko Mining Inc.
2418373	32G/03	56.40	2014-12-03	2021-12-02	Osisko Mining Inc.
2418374	32G/03	56.40	2014-12-03	2021-12-02	Osisko Mining Inc.
2418375	32G/03	56.38	2014-12-03	2021-12-02	Osisko Mining Inc.
2418376	32G/03	56.37	2014-12-03	2021-12-02	Osisko Mining Inc.
2418377	32G/03	56.37	2014-12-03	2021-12-02	Osisko Mining Inc.
2418378	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418379	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418380	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418381	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418382	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418383	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418384	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418385	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418386	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418387	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418388	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418389	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418390	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418391	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418392	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418393	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418394	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418395	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418396	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418397	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418398	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418399	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418400	32G/03	56.32	2014-12-03	2021-12-02	Osisko Mining Inc.
2418401	32G/03	56.31	2014-12-03	2021-12-02	Osisko Mining Inc.
2418402	32G/03	56.31	2014-12-03	2021-12-02	Osisko Mining Inc.
2418403	32G/03	56.31	2014-12-03	2021-12-02	Osisko Mining Inc.
2418404	32G/03	56.31	2014-12-03	2021-12-02	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418405	32G/03	56.31	2014-12-03	2021-12-02	Osisko Mining Inc.
2418406	32G/03	56.31	2014-12-03	2021-12-02	Osisko Mining Inc.
2418407	32G/03	56.31	2014-12-03	2021-12-02	Osisko Mining Inc.
2418408	32G/03	56.31	2014-12-03	2021-12-02	Osisko Mining Inc.
2418409	32G/03	56.31	2014-12-03	2021-12-02	Osisko Mining Inc.
2418410	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418411	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418412	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418413	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418414	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418415	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418416	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418417	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418419	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418420	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418421	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418422	32G/03	56.46	2014-12-03	2021-12-02	Osisko Mining Inc.
2418423	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418424	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418425	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418426	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418427	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418428	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418429	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418430	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418431	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418432	32G/03	56.45	2014-12-03	2021-12-02	Osisko Mining Inc.
2418433	32G/03	56.43	2014-12-03	2021-12-02	Osisko Mining Inc.
2418434	32G/03	56.42	2014-12-03	2021-12-02	Osisko Mining Inc.
2418435	32G/03	56.42	2014-12-03	2021-12-02	Osisko Mining Inc.
2418436	32G/03	56.39	2014-12-03	2021-12-02	Osisko Mining Inc.
2418437	32G/03	56.39	2014-12-03	2021-12-02	Osisko Mining Inc.
2418438	32G/03	56.39	2014-12-03	2021-12-02	Osisko Mining Inc.
2418439	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.
2418440	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.
2418441	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.
2418442	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418444	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418445	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418450	32G/03	56.42	2014-12-03	2021-12-02	Osisko Mining Inc.
2418451	32G/03	56.41	2014-12-03	2021-12-02	Osisko Mining Inc.
2418452	32G/03	56.41	2014-12-03	2021-12-02	Osisko Mining Inc.
2418453	32G/03	56.38	2014-12-03	2021-12-02	Osisko Mining Inc.
2418454	32G/03	56.38	2014-12-03	2021-12-02	Osisko Mining Inc.
2418455	32G/03	56.37	2014-12-03	2021-12-02	Osisko Mining Inc.
2418456	32G/03	56.37	2014-12-03	2021-12-02	Osisko Mining Inc.
2418457	32G/03	56.37	2014-12-03	2021-12-02	Osisko Mining Inc.
2418458	32G/03	56.36	2014-12-03	2021-12-02	Osisko Mining Inc.
2418459	32G/03	56.36	2014-12-03	2021-12-02	Osisko Mining Inc.
2418460	32G/03	56.36	2014-12-03	2021-12-02	Osisko Mining Inc.
2418461	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.
2418462	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.
2418463	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.
2418464	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.
2418465	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.
2418466	32G/03	56.35	2014-12-03	2021-12-02	Osisko Mining Inc.
2418467	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418472	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418473	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418474	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418475	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418476	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418477	32G/03	56.34	2014-12-03	2021-12-02	Osisko Mining Inc.
2418484	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418485	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418486	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418487	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418488	32G/03	56.33	2014-12-03	2021-12-02	Osisko Mining Inc.
2418541	32G/03	56.46	2014-12-04	2021-12-03	Osisko Mining Inc.
2418542	32G/03	56.46	2014-12-04	2021-12-03	Osisko Mining Inc.
2418544	32G/03	56.45	2014-12-04	2021-12-03	Osisko Mining Inc.
2418545	32G/03	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418546	32G/03	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418547	32G/03	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418548	32G/03	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418549	32G/03	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418550	32G/03	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418551	32G/03	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418552	32G/03	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418553	32G/03	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418554	32G/03	56.41	2014-12-04	2021-12-03	Osisko Mining Inc.
2418555	32G/03	56.40	2014-12-04	2021-12-03	Osisko Mining Inc.
2418556	32G/03	56.40	2014-12-04	2021-12-03	Osisko Mining Inc.
2418557	32G/03	56.40	2014-12-04	2021-12-03	Osisko Mining Inc.
2418558	32G/03	56.40	2014-12-04	2021-12-03	Osisko Mining Inc.
2418559	32G/03	56.40	2014-12-04	2021-12-03	Osisko Mining Inc.
2418560	32G/03	56.40	2014-12-04	2021-12-03	Osisko Mining Inc.
2418561	32G/03	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418562	32G/03	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418563	32G/03	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418564	32G/03	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418565	32G/03	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418572	32G/03	56.33	2014-12-04	2021-12-03	Osisko Mining Inc.
2418574	32G/03	56.33	2014-12-04	2021-12-03	Osisko Mining Inc.
2418575	32G/03	56.33	2014-12-04	2021-12-03	Osisko Mining Inc.
2418576	32G/03	56.33	2014-12-04	2021-12-03	Osisko Mining Inc.
2418577	32G/03	56.33	2014-12-04	2021-12-03	Osisko Mining Inc.
2418578	32G/04	56.32	2014-12-04	2021-12-03	Osisko Mining Inc.
2418579	32G/04	56.32	2014-12-04	2021-12-03	Osisko Mining Inc.
2418580	32G/04	56.32	2014-12-04	2021-12-03	Osisko Mining Inc.
2418581	32G/04	56.32	2014-12-04	2021-12-03	Osisko Mining Inc.
2418582	32G/04	56.32	2014-12-04	2021-12-03	Osisko Mining Inc.
2418583	32G/04	56.31	2014-12-04	2021-12-03	Osisko Mining Inc.
2418584	32G/04	56.31	2014-12-04	2021-12-03	Osisko Mining Inc.
2418585	32G/04	56.31	2014-12-04	2021-12-03	Osisko Mining Inc.
2418586	32G/04	56.31	2014-12-04	2021-12-03	Osisko Mining Inc.
2418587	32G/04	56.31	2014-12-04	2021-12-03	Osisko Mining Inc.
2418589	32G/04	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418590	32G/04	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418591	32G/04	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418592	32G/04	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418594	32G/04	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418595	32G/04	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418596	32G/04	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418600	32G/04	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418601	32G/04	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418602	32G/04	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418603	32G/04	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418618	32B/13	56.62	2014-12-04	2021-12-03	Osisko Mining Inc.
2418619	32B/13	56.62	2014-12-04	2021-12-03	Osisko Mining Inc.
2418620	32B/13	56.62	2014-12-04	2021-12-03	Osisko Mining Inc.
2418621	32B/13	56.62	2014-12-04	2021-12-03	Osisko Mining Inc.
2418622	32B/13	56.62	2014-12-04	2021-12-03	Osisko Mining Inc.
2418623	32B/13	56.62	2014-12-04	2021-12-03	Osisko Mining Inc.
2418624	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418625	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418626	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418627	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418628	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418629	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418630	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418631	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418632	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418633	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418634	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418635	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418636	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418637	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418638	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418639	32B/13	56.61	2014-12-04	2021-12-03	Osisko Mining Inc.
2418640	32B/13	56.60	2014-12-04	2021-12-03	Osisko Mining Inc.
2418641	32B/13	56.60	2014-12-04	2021-12-03	Osisko Mining Inc.
2418642	32B/13	56.60	2014-12-04	2021-12-03	Osisko Mining Inc.
2418643	32B/13	56.60	2014-12-04	2021-12-03	Osisko Mining Inc.
2418644	32B/13	56.60	2014-12-04	2021-12-03	Osisko Mining Inc.
2418645	32B/13	56.59	2014-12-04	2021-12-03	Osisko Mining Inc.
2418646	32B/13	56.58	2014-12-04	2021-12-03	Osisko Mining Inc.
2418647	32B/13	56.58	2014-12-04	2021-12-03	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418648	32B/13	56.58	2014-12-04	2021-12-03	Osisko Mining Inc.
2418649	32B/13	56.57	2014-12-04	2021-12-03	Osisko Mining Inc.
2418650	32B/13	56.57	2014-12-04	2021-12-03	Osisko Mining Inc.
2418651	32B/13	56.57	2014-12-04	2021-12-03	Osisko Mining Inc.
2418652	32B/13	56.57	2014-12-04	2021-12-03	Osisko Mining Inc.
2418653	32B/13	56.57	2014-12-04	2021-12-03	Osisko Mining Inc.
2418654	32B/13	56.57	2014-12-04	2021-12-03	Osisko Mining Inc.
2418655	32B/13	56.56	2014-12-04	2021-12-03	Osisko Mining Inc.
2418656	32B/13	56.56	2014-12-04	2021-12-03	Osisko Mining Inc.
2418657	32B/13	56.56	2014-12-04	2021-12-03	Osisko Mining Inc.
2418658	32B/13	56.56	2014-12-04	2021-12-03	Osisko Mining Inc.
2418659	32B/13	56.56	2014-12-04	2021-12-03	Osisko Mining Inc.
2418660	32B/13	56.55	2014-12-04	2021-12-03	Osisko Mining Inc.
2418661	32B/13	56.55	2014-12-04	2021-12-03	Osisko Mining Inc.
2418662	32B/13	56.55	2014-12-04	2021-12-03	Osisko Mining Inc.
2418663	32B/13	56.55	2014-12-04	2021-12-03	Osisko Mining Inc.
2418664	32B/13	56.53	2014-12-04	2021-12-03	Osisko Mining Inc.
2418665	32B/13	56.53	2014-12-04	2021-12-03	Osisko Mining Inc.
2418666	32B/13	56.53	2014-12-04	2021-12-03	Osisko Mining Inc.
2418667	32B/13	56.53	2014-12-04	2021-12-03	Osisko Mining Inc.
2418668	32F/01	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418669	32F/01	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418670	32F/01	56.43	2014-12-04	2021-12-03	Osisko Mining Inc.
2418671	32F/01	56.43	2014-12-04	2021-12-03	Osisko Mining Inc.
2418672	32F/01	56.43	2014-12-04	2021-12-03	Osisko Mining Inc.
2418673	32F/01	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418674	32F/01	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418675	32F/01	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418676	32F/01	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418677	32F/01	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418678	32F/01	56.42	2014-12-04	2021-12-03	Osisko Mining Inc.
2418679	32F/01	56.40	2014-12-04	2021-12-03	Osisko Mining Inc.
2418680	32F/01	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418681	32F/01	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418682	32F/01	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418683	32F/01	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418684	32F/01	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418685	32F/01	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418686	32F/01	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418687	32F/01	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418688	32F/01	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418689	32F/01	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418690	32F/01	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418691	32F/01	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418692	32F/01	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418693	32F/01	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418694	32F/01	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418695	32F/01	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418696	32F/01	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418697	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418698	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418699	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418700	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418701	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418702	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418703	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418704	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418705	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418706	32F/01	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418707	32F/01	56.32	2014-12-04	2021-12-03	Osisko Mining Inc.
2418708	32G/03	56.41	2014-12-04	2021-12-03	Osisko Mining Inc.
2418709	32G/03	56.41	2014-12-04	2021-12-03	Osisko Mining Inc.
2418710	32G/03	56.40	2014-12-04	2021-12-03	Osisko Mining Inc.
2418711	32G/03	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418712	32G/03	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418713	32G/03	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418714	32G/03	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418719	32G/03	56.33	2014-12-04	2021-12-03	Osisko Mining Inc.
2418733	32G/03	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418734	32G/03	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418735	32G/03	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418736	32G/03	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418737	32G/03	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418738	32G/03	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418739	32G/03	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418740	32G/03	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418741	32G/03	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418742	32G/03	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418743	32G/03	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418744	32G/03	56.28	2014-12-04	2021-12-03	Osisko Mining Inc.
2418745	32G/03	56.28	2014-12-04	2021-12-03	Osisko Mining Inc.
2418746	32G/03	56.27	2014-12-04	2021-12-03	Osisko Mining Inc.
2418747	32G/03	56.27	2014-12-04	2021-12-03	Osisko Mining Inc.
2418748	32G/03	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418749	32G/03	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418750	32G/03	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418751	32G/03	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418752	32G/03	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418753	32G/03	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418754	32G/03	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418755	32G/03	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418775	32G/03	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418776	32G/03	56.29	2014-12-04	2021-12-03	Osisko Mining Inc.
2418778	32G/03	56.28	2014-12-04	2021-12-03	Osisko Mining Inc.
2418779	32G/03	56.28	2014-12-04	2021-12-03	Osisko Mining Inc.
2418781	32G/03	56.27	2014-12-04	2021-12-03	Osisko Mining Inc.
2418787	32G/04	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418789	32G/04	56.45	2014-12-04	2021-12-03	Osisko Mining Inc.
2418790	32G/04	56.45	2014-12-04	2021-12-03	Osisko Mining Inc.
2418791	32G/04	56.45	2014-12-04	2021-12-03	Osisko Mining Inc.
2418792	32G/04	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418793	32G/04	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418794	32G/04	56.44	2014-12-04	2021-12-03	Osisko Mining Inc.
2418795	32G/04	56.43	2014-12-04	2021-12-03	Osisko Mining Inc.
2418796	32G/04	56.43	2014-12-04	2021-12-03	Osisko Mining Inc.
2418797	32G/04	56.43	2014-12-04	2021-12-03	Osisko Mining Inc.
2418799	32G/04	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418800	32G/04	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418801	32G/04	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418802	32G/04	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418803	32G/04	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418804	32G/04	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418805	32G/04	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418806	32G/04	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418807	32G/04	56.39	2014-12-04	2021-12-03	Osisko Mining Inc.
2418808	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418809	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418810	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418811	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418812	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418813	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418814	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418815	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418816	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418817	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418818	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418819	32G/04	56.38	2014-12-04	2021-12-03	Osisko Mining Inc.
2418820	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418821	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418822	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418823	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418824	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418825	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418826	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418827	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418828	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418829	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418830	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418831	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418832	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418833	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418834	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418835	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418836	32G/04	56.37	2014-12-04	2021-12-03	Osisko Mining Inc.
2418837	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418838	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418839	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418840	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418841	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418842	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418843	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418844	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418845	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418846	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418847	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418848	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418849	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418850	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418852	32G/04	56.31	2014-12-04	2021-12-03	Osisko Mining Inc.
2418853	32G/04	56.31	2014-12-04	2021-12-03	Osisko Mining Inc.
2418856	32G/04	56.31	2014-12-04	2021-12-03	Osisko Mining Inc.
2418858	32G/04	56.30	2014-12-04	2021-12-03	Osisko Mining Inc.
2418863	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418864	32G/04	56.36	2014-12-04	2021-12-03	Osisko Mining Inc.
2418865	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418866	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418867	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418868	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418869	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418870	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418871	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418872	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418873	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418874	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418875	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418876	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418877	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418878	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418879	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418880	32G/04	56.35	2014-12-04	2021-12-03	Osisko Mining Inc.
2418881	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418882	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418883	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418884	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418885	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418886	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418887	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418888	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418889	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418890	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418891	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418892	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418893	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418894	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418895	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418896	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418897	32G/04	56.34	2014-12-04	2021-12-03	Osisko Mining Inc.
2418898	32G/04	56.33	2014-12-04	2021-12-03	Osisko Mining Inc.
2418899	32G/04	56.33	2014-12-04	2021-12-03	Osisko Mining Inc.
2418900	32G/04	56.33	2014-12-04	2021-12-03	Osisko Mining Inc.
2418912	32G/03	56.44	2014-12-05	2021-12-04	Osisko Mining Inc.
2418913	32G/03	56.44	2014-12-05	2021-12-04	Osisko Mining Inc.
2418914	32G/03	56.44	2014-12-05	2021-12-04	Osisko Mining Inc.
2418915	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2418916	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2418917	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2418918	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2418919	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2418920	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2418921	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2418922	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2418923	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418924	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418925	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418926	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418927	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418928	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418929	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418930	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418931	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418932	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2418933	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418934	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2418935	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2418936	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2418937	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2418938	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2418939	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2418940	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2418941	32G/03	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2418942	32G/03	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2418943	32G/03	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2418944	32G/03	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2418945	32G/03	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2418946	32G/03	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2418947	32G/03	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2418948	32G/03	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2418949	32G/03	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.
2418950	32G/03	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.
2418951	32G/03	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.
2418953	32B/13	56.61	2014-12-05	2021-12-04	Osisko Mining Inc.
2418955	32B/13	56.60	2014-12-05	2021-12-04	Osisko Mining Inc.
2418956	32B/13	56.60	2014-12-05	2021-12-04	Osisko Mining Inc.
2418957	32B/13	56.60	2014-12-05	2021-12-04	Osisko Mining Inc.
2418958	32B/13	56.60	2014-12-05	2021-12-04	Osisko Mining Inc.
2418959	32B/13	56.60	2014-12-05	2021-12-04	Osisko Mining Inc.
2418962	32B/13	56.59	2014-12-05	2021-12-04	Osisko Mining Inc.
2418963	32B/13	56.59	2014-12-05	2021-12-04	Osisko Mining Inc.
2418964	32B/13	56.59	2014-12-05	2021-12-04	Osisko Mining Inc.
2418965	32B/13	56.59	2014-12-05	2021-12-04	Osisko Mining Inc.
2418966	32B/13	56.59	2014-12-05	2021-12-04	Osisko Mining Inc.
2418970	32B/13	56.58	2014-12-05	2021-12-04	Osisko Mining Inc.
2418971	32B/13	56.58	2014-12-05	2021-12-04	Osisko Mining Inc.
2418972	32B/13	56.58	2014-12-05	2021-12-04	Osisko Mining Inc.
2418973	32B/13	56.58	2014-12-05	2021-12-04	Osisko Mining Inc.
2418974	32B/13	56.58	2014-12-05	2021-12-04	Osisko Mining Inc.
2418979	32B/13	56.57	2014-12-05	2021-12-04	Osisko Mining Inc.
2418980	32B/13	56.57	2014-12-05	2021-12-04	Osisko Mining Inc.
2418981	32B/13	56.57	2014-12-05	2021-12-04	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2418982	32B/13	56.57	2014-12-05	2021-12-04	Osisko Mining Inc.
2418986	32B/13	56.56	2014-12-05	2021-12-04	Osisko Mining Inc.
2418988	32B/13	56.56	2014-12-05	2021-12-04	Osisko Mining Inc.
2418990	32B/13	56.56	2014-12-05	2021-12-04	Osisko Mining Inc.
2418991	32B/13	56.56	2014-12-05	2021-12-04	Osisko Mining Inc.
2418992	32G/03	56.46	2014-12-05	2021-12-04	Osisko Mining Inc.
2418993	32G/03	56.46	2014-12-05	2021-12-04	Osisko Mining Inc.
2418994	32G/03	56.46	2014-12-05	2021-12-04	Osisko Mining Inc.
2418995	32G/03	56.46	2014-12-05	2021-12-04	Osisko Mining Inc.
2418996	32G/03	56.46	2014-12-05	2021-12-04	Osisko Mining Inc.
2418997	32G/03	56.46	2014-12-05	2021-12-04	Osisko Mining Inc.
2418998	32G/03	56.46	2014-12-05	2021-12-04	Osisko Mining Inc.
2418999	32G/03	56.46	2014-12-05	2021-12-04	Osisko Mining Inc.
2419000	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419001	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419002	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419003	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419004	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419005	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419006	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419007	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419008	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419009	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419010	32G/03	56.45	2014-12-05	2021-12-04	Osisko Mining Inc.
2419013	32G/03	56.44	2014-12-05	2021-12-04	Osisko Mining Inc.
2419014	32G/03	56.44	2014-12-05	2021-12-04	Osisko Mining Inc.
2419015	32G/03	56.44	2014-12-05	2021-12-04	Osisko Mining Inc.
2419016	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2419017	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2419018	32G/03	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2419020	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2419021	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2419022	32G/03	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2419024	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2419025	32G/03	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2419028	32G/03	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2419029	32G/03	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2419031	32G/03	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419032	32B/14	56.54	2014-12-05	2021-12-04	Osisko Mining Inc.
2419033	32B/14	56.54	2014-12-05	2021-12-04	Osisko Mining Inc.
2419034	32B/14	56.54	2014-12-05	2021-12-04	Osisko Mining Inc.
2419035	32B/14	56.54	2014-12-05	2021-12-04	Osisko Mining Inc.
2419040	32B/14	56.54	2014-12-05	2021-12-04	Osisko Mining Inc.
2419041	32B/14	56.54	2014-12-05	2021-12-04	Osisko Mining Inc.
2419042	32B/14	56.54	2014-12-05	2021-12-04	Osisko Mining Inc.
2419043	32B/14	56.54	2014-12-05	2021-12-04	Osisko Mining Inc.
2419049	32B/14	56.53	2014-12-05	2021-12-04	Osisko Mining Inc.
2419050	32B/14	56.53	2014-12-05	2021-12-04	Osisko Mining Inc.
2419051	32B/14	56.53	2014-12-05	2021-12-04	Osisko Mining Inc.
2419052	32B/14	56.53	2014-12-05	2021-12-04	Osisko Mining Inc.
2419070	32B/14	56.48	2014-12-05	2021-12-04	Osisko Mining Inc.
2419075	32B/14	56.47	2014-12-05	2021-12-04	Osisko Mining Inc.
2419082	32F/01	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2419083	32F/01	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2419085	32F/01	56.43	2014-12-05	2021-12-04	Osisko Mining Inc.
2419086	32F/01	56.42	2014-12-05	2021-12-04	Osisko Mining Inc.
2419090	32F/01	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2419091	32F/01	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2419092	32F/01	56.41	2014-12-05	2021-12-04	Osisko Mining Inc.
2419095	32F/01	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2419096	32F/01	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2419097	32F/01	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2419109	32G/04	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2419110	32G/04	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2419111	32G/04	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2419112	32G/04	56.40	2014-12-05	2021-12-04	Osisko Mining Inc.
2419113	32G/04	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.
2419114	32G/04	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.
2419115	32G/04	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.
2419116	32G/04	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.
2419117	32G/04	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.
2419118	32G/04	56.39	2014-12-05	2021-12-04	Osisko Mining Inc.
2419119	32G/04	56.38	2014-12-05	2021-12-04	Osisko Mining Inc.
2419120	32G/04	56.38	2014-12-05	2021-12-04	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2419121	32G/04	56.38	2014-12-05	2021-12-04	Osisko Mining Inc.
2419122	32G/04	56.38	2014-12-05	2021-12-04	Osisko Mining Inc.
2419123	32G/04	56.38	2014-12-05	2021-12-04	Osisko Mining Inc.
2419124	32G/04	56.38	2014-12-05	2021-12-04	Osisko Mining Inc.
2419125	32G/04	56.38	2014-12-05	2021-12-04	Osisko Mining Inc.
2419126	32G/04	56.38	2014-12-05	2021-12-04	Osisko Mining Inc.
2419127	32G/04	56.37	2014-12-05	2021-12-04	Osisko Mining Inc.
2419128	32G/04	56.37	2014-12-05	2021-12-04	Osisko Mining Inc.
2419129	32G/04	56.37	2014-12-05	2021-12-04	Osisko Mining Inc.
2419130	32G/04	56.37	2014-12-05	2021-12-04	Osisko Mining Inc.
2419131	32G/04	56.37	2014-12-05	2021-12-04	Osisko Mining Inc.
2419132	32G/04	56.36	2014-12-05	2021-12-04	Osisko Mining Inc.
2419133	32G/04	56.36	2014-12-05	2021-12-04	Osisko Mining Inc.
2419134	32G/04	56.36	2014-12-05	2021-12-04	Osisko Mining Inc.
2419135	32G/04	56.36	2014-12-05	2021-12-04	Osisko Mining Inc.
2419136	32G/04	56.36	2014-12-05	2021-12-04	Osisko Mining Inc.
2419137	32G/04	56.36	2014-12-05	2021-12-04	Osisko Mining Inc.
2419138	32G/04	56.36	2014-12-05	2021-12-04	Osisko Mining Inc.
2419139	32G/04	56.36	2014-12-05	2021-12-04	Osisko Mining Inc.
2419140	32G/04	56.36	2014-12-05	2021-12-04	Osisko Mining Inc.
2419141	32G/04	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419142	32G/04	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419143	32G/04	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419144	32G/04	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419145	32G/04	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419146	32G/04	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419147	32G/04	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419148	32G/04	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419149	32G/04	56.35	2014-12-05	2021-12-04	Osisko Mining Inc.
2419157	32B/13	56.61	2014-12-05	2021-12-04	Osisko Mining Inc.
2419158	32B/13	56.60	2014-12-05	2021-12-04	Osisko Mining Inc.
2419159	32B/13	56.60	2014-12-05	2021-12-04	Osisko Mining Inc.
2419160	32B/13	56.59	2014-12-05	2021-12-04	Osisko Mining Inc.
2419161	32B/13	56.57	2014-12-05	2021-12-04	Osisko Mining Inc.
2419169	32B/13	56.52	2014-12-05	2021-12-04	Osisko Mining Inc.
2419170	32B/13	56.51	2014-12-05	2021-12-04	Osisko Mining Inc.
2419580	32G/04	56.45	2014-12-08	2021-12-07	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2419581	32G/04	56.45	2014-12-08	2021-12-07	Osisko Mining Inc.
2419873	32G/04	56.36	2014-12-15	2021-12-14	Osisko Mining Inc.
2419874	32G/04	56.40	2014-12-15	2021-12-14	Osisko Mining Inc.
2419875	32G/04	56.40	2014-12-15	2021-12-14	Osisko Mining Inc.
2419876	32G/04	56.39	2014-12-15	2021-12-14	Osisko Mining Inc.
2419877	32G/04	56.39	2014-12-15	2021-12-14	Osisko Mining Inc.
2420621	32B/13	56.63	2014-12-30	2021-12-29	Osisko Mining Inc.
2420622	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420623	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420624	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420625	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420626	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420627	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420628	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420629	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420630	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420631	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420632	32B/13	56.62	2014-12-30	2021-12-29	Osisko Mining Inc.
2420633	32B/13	56.56	2014-12-30	2021-12-29	Osisko Mining Inc.
2420634	32B/13	56.56	2014-12-30	2021-12-29	Osisko Mining Inc.
2420636	32B/13	56.55	2014-12-30	2021-12-29	Osisko Mining Inc.
2420637	32B/13	56.55	2014-12-30	2021-12-29	Osisko Mining Inc.
2420639	32B/13	56.54	2014-12-30	2021-12-29	Osisko Mining Inc.
2420640	32B/13	56.54	2014-12-30	2021-12-29	Osisko Mining Inc.
2420641	32B/13	56.53	2014-12-30	2021-12-29	Osisko Mining Inc.
2420642	32B/13	56.53	2014-12-30	2021-12-29	Osisko Mining Inc.
2420643	32B/13	56.53	2014-12-30	2021-12-29	Osisko Mining Inc.
2420646	32B/13	56.52	2014-12-30	2021-12-29	Osisko Mining Inc.
2420647	32B/13	56.52	2014-12-30	2021-12-29	Osisko Mining Inc.
2420648	32B/13	56.52	2014-12-30	2021-12-29	Osisko Mining Inc.
2420649	32B/13	56.52	2014-12-30	2021-12-29	Osisko Mining Inc.
2420650	32B/13	56.52	2014-12-30	2021-12-29	Osisko Mining Inc.
2420653	32B/13	56.51	2014-12-30	2021-12-29	Osisko Mining Inc.
2420654	32B/13	56.51	2014-12-30	2021-12-29	Osisko Mining Inc.
2420655	32B/13	56.51	2014-12-30	2021-12-29	Osisko Mining Inc.
2420656	32B/13	56.51	2014-12-30	2021-12-29	Osisko Mining Inc.
2420657	32B/13	56.51	2014-12-30	2021-12-29	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2420663	32F/01	56.38	2014-12-30	2021-12-29	Osisko Mining Inc.
2420664	32G/03	56.32	2014-12-30	2021-12-29	Osisko Mining Inc.
2420665	32G/03	56.32	2014-12-30	2021-12-29	Osisko Mining Inc.
2420672	32G/04	56.42	2014-12-30	2021-12-29	Osisko Mining Inc.
2420673	32G/04	56.41	2014-12-30	2021-12-29	Osisko Mining Inc.
2420674	32G/04	56.34	2014-12-30	2021-12-29	Osisko Mining Inc.
2420675	32G/04	56.34	2014-12-30	2021-12-29	Osisko Mining Inc.
2420676	32G/04	56.34	2014-12-30	2021-12-29	Osisko Mining Inc.
2420677	32G/04	56.33	2014-12-30	2021-12-29	Osisko Mining Inc.
2420678	32G/04	56.33	2014-12-30	2021-12-29	Osisko Mining Inc.
2420679	32G/04	56.33	2014-12-30	2021-12-29	Osisko Mining Inc.
2420680	32G/04	56.33	2014-12-30	2021-12-29	Osisko Mining Inc.
2420681	32G/04	56.33	2014-12-30	2021-12-29	Osisko Mining Inc.
2420682	32G/04	56.32	2014-12-30	2021-12-29	Osisko Mining Inc.
2420683	32G/04	56.32	2014-12-30	2021-12-29	Osisko Mining Inc.
2420684	32G/04	56.31	2014-12-30	2021-12-29	Osisko Mining Inc.
2420685	32G/04	56.31	2014-12-30	2021-12-29	Osisko Mining Inc.
2420686	32G/04	56.31	2014-12-30	2021-12-29	Osisko Mining Inc.
2420687	32G/04	56.31	2014-12-30	2021-12-29	Osisko Mining Inc.
2420688	32G/04	56.31	2014-12-30	2021-12-29	Osisko Mining Inc.
2420689	32G/04	56.30	2014-12-30	2021-12-29	Osisko Mining Inc.
2420690	32G/04	56.30	2014-12-30	2021-12-29	Osisko Mining Inc.
2420691	32G/04	56.30	2014-12-30	2021-12-29	Osisko Mining Inc.
2420692	32G/04	56.30	2014-12-30	2021-12-29	Osisko Mining Inc.
2420693	32G/04	56.30	2014-12-30	2021-12-29	Osisko Mining Inc.
2420694	32G/04	56.30	2014-12-30	2021-12-29	Osisko Mining Inc.
2420695	32G/04	56.30	2014-12-30	2021-12-29	Osisko Mining Inc.
2420834	32G/03	55.97	2014-12-30	2021-12-29	Osisko Mining Inc.
2424083	32G/04	56.43	2015-03-05	2022-03-04	Osisko Mining Inc.
2424084	32G/04	56.43	2015-03-05	2022-03-04	Osisko Mining Inc.
2424085	32G/04	56.43	2015-03-05	2022-03-04	Osisko Mining Inc.
2424086	32G/04	56.43	2015-03-05	2022-03-04	Osisko Mining Inc.
2424087	32G/04	56.42	2015-03-05	2022-03-04	Osisko Mining Inc.
2424088	32G/04	56.42	2015-03-05	2022-03-04	Osisko Mining Inc.
2424089	32G/04	56.41	2015-03-05	2022-03-04	Osisko Mining Inc.
2424090	32G/04	56.41	2015-03-05	2022-03-04	Osisko Mining Inc.
2424091	32G/04	56.41	2015-03-05	2022-03-04	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2424092	32G/04	56.40	2015-03-05	2022-03-04	Osisko Mining Inc.
2424093	32G/04	56.40	2015-03-05	2022-03-04	Osisko Mining Inc.
2424094	32G/04	56.40	2015-03-05	2022-03-04	Osisko Mining Inc.
2424095	32G/04	56.40	2015-03-05	2022-03-04	Osisko Mining Inc.
2424096	32G/04	56.39	2015-03-05	2022-03-04	Osisko Mining Inc.
2426099	32B/13	56.57	2015-04-10	2022-04-09	Osisko Mining Inc.
2426100	32B/13	56.57	2015-04-10	2022-04-09	Osisko Mining Inc.
2426101	32B/13	56.56	2015-04-10	2022-04-09	Osisko Mining Inc.
2426102	32B/13	56.56	2015-04-10	2022-04-09	Osisko Mining Inc.
2426103	32B/13	56.55	2015-04-10	2022-04-09	Osisko Mining Inc.
2427494	32G/04	56.36	2015-05-11	2022-05-10	Osisko Mining Inc.
2427495	32G/04	56.36	2015-05-11	2022-05-10	Osisko Mining Inc.
2427776	32G/04	56.35	2015-05-19	2022-05-18	Osisko Mining Inc.
2428339	32G/04	56.37	2015-06-02	2022-06-01	Osisko Mining Inc.
2428340	32G/04	56.37	2015-06-02	2022-06-01	Osisko Mining Inc.
2428341	32G/04	56.36	2015-06-02	2022-06-01	Osisko Mining Inc.
2428342	32G/04	56.43	2015-06-02	2022-06-01	Osisko Mining Inc.
2429947	32B/13	56.53	2015-07-08	2022-07-07	Osisko Mining Inc.
2429948	32B/13	56.52	2015-07-08	2022-07-07	Osisko Mining Inc.
2429949	32B/13	56.51	2015-07-08	2022-07-07	Osisko Mining Inc.
2431719	32G/04	56.36	2015-07-30	2022-07-29	Osisko Mining Inc.
2432474	32G/03	56.38	2015-08-21	2022-08-20	Osisko Mining Inc.
2432475	32G/03	56.38	2015-08-21	2022-08-20	Osisko Mining Inc.
2440496	32G/03	56.40	2016-04-08	2023-04-07	Osisko Mining Inc.
2440497	32G/03	56.44	2016-04-08	2023-04-07	Osisko Mining Inc.
2440498	32G/03	56.44	2016-04-08	2023-04-07	Osisko Mining Inc.
2440499	32G/03	56.44	2016-04-08	2023-04-07	Osisko Mining Inc.
2440500	32G/03	56.44	2016-04-08	2023-04-07	Osisko Mining Inc.
2440501	32G/03	56.43	2016-04-08	2023-04-07	Osisko Mining Inc.
2440502	32G/03	56.43	2016-04-08	2023-04-07	Osisko Mining Inc.
2440503	32G/03	56.43	2016-04-08	2023-04-07	Osisko Mining Inc.
2440504	32G/03	56.43	2016-04-08	2023-04-07	Osisko Mining Inc.
2440505	32G/03	56.43	2016-04-08	2023-04-07	Osisko Mining Inc.
2440506	32G/03	56.42	2016-04-08	2023-04-07	Osisko Mining Inc.
2440507	32G/03	56.42	2016-04-08	2023-04-07	Osisko Mining Inc.
2440508	32G/03	56.41	2016-04-08	2023-04-07	Osisko Mining Inc.
2440509	32G/03	56.41	2016-04-08	2023-04-07	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2440510	32G/03	56.40	2016-04-08	2023-04-07	Osisko Mining Inc.
2440511	32G/03	56.40	2016-04-08	2023-04-07	Osisko Mining Inc.
2440516	32G/03	56.42	2016-04-08	2023-04-07	Osisko Mining Inc.
2440517	32G/03	56.42	2016-04-08	2023-04-07	Osisko Mining Inc.
2440518	32G/03	56.41	2016-04-08	2023-04-07	Osisko Mining Inc.
2440519	32G/03	56.41	2016-04-08	2023-04-07	Osisko Mining Inc.
2440520	32G/03	56.41	2016-04-08	2023-04-07	Osisko Mining Inc.
2440521	32G/03	56.40	2016-04-08	2023-04-07	Osisko Mining Inc.
2440522	32G/03	56.40	2016-04-08	2023-04-07	Osisko Mining Inc.
2440523	32G/03	56.40	2016-04-08	2023-04-07	Osisko Mining Inc.
2440524	32G/03	56.39	2016-04-08	2023-04-07	Osisko Mining Inc.
2440525	32G/03	56.39	2016-04-08	2023-04-07	Osisko Mining Inc.
2440526	32G/03	56.39	2016-04-08	2023-04-07	Osisko Mining Inc.
2440527	32G/03	56.39	2016-04-08	2023-04-07	Osisko Mining Inc.
2440528	32G/03	56.39	2016-04-08	2023-04-07	Osisko Mining Inc.
2440725	32G/03	56.38	2016-04-12	2023-04-11	Osisko Mining Inc.
2443381	32G/03	56.32	2016-04-26	2023-04-25	Osisko Mining Inc.
2443382	32G/03	56.32	2016-04-26	2023-04-25	Osisko Mining Inc.
2443383	32G/03	56.32	2016-04-26	2023-04-25	Osisko Mining Inc.
2443384	32G/03	56.32	2016-04-26	2023-04-25	Osisko Mining Inc.
2443385	32G/03	56.32	2016-04-26	2023-04-25	Osisko Mining Inc.
2443386	32G/03	56.31	2016-04-26	2023-04-25	Osisko Mining Inc.
2443387	32G/03	56.31	2016-04-26	2023-04-25	Osisko Mining Inc.
2443388	32G/03	56.31	2016-04-26	2023-04-25	Osisko Mining Inc.
2443389	32G/03	56.31	2016-04-26	2023-04-25	Osisko Mining Inc.
2443390	32G/03	56.31	2016-04-26	2023-04-25	Osisko Mining Inc.
2443391	32G/03	56.30	2016-04-26	2023-04-25	Osisko Mining Inc.
2443392	32G/03	56.30	2016-04-26	2023-04-25	Osisko Mining Inc.
2443393	32G/03	56.30	2016-04-26	2023-04-25	Osisko Mining Inc.
2443394	32G/03	56.30	2016-04-26	2023-04-25	Osisko Mining Inc.
2443395	32G/03	56.30	2016-04-26	2021-04-25	Osisko Mining Inc.
2443396	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443397	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443398	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443399	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443400	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443401	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2443402	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443403	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443404	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443405	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443406	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443407	32G/03	56.29	2016-04-26	2021-04-25	Osisko Mining Inc.
2443410	32G/03	56.28	2016-04-26	2023-04-25	Osisko Mining Inc.
2443411	32G/03	56.28	2016-04-26	2023-04-25	Osisko Mining Inc.
2443412	32G/03	56.28	2016-04-26	2023-04-25	Osisko Mining Inc.
2443413	32G/03	56.28	2016-04-26	2023-04-25	Osisko Mining Inc.
2443414	32G/03	56.28	2016-04-26	2023-04-25	Osisko Mining Inc.
2443417	32G/03	56.28	2016-04-26	2021-04-25	Osisko Mining Inc.
2443418	32G/03	56.28	2016-04-26	2021-04-25	Osisko Mining Inc.
2443419	32G/03	56.27	2016-04-26	2021-04-25	Osisko Mining Inc.
2443421	32G/03	56.32	2016-04-26	2021-04-25	Osisko Mining Inc.
2443422	32G/03	56.32	2016-04-26	2021-04-25	Osisko Mining Inc.
2443423	32G/03	56.32	2016-04-26	2021-04-25	Osisko Mining Inc.
2443424	32G/03	56.32	2016-04-26	2021-04-25	Osisko Mining Inc.
2443425	32G/03	56.32	2016-04-26	2023-04-25	Osisko Mining Inc.
2443426	32G/03	56.32	2016-04-26	2023-04-25	Osisko Mining Inc.
2443427	32G/03	56.32	2016-04-26	2023-04-25	Osisko Mining Inc.
2443428	32G/03	56.31	2016-04-26	2023-04-25	Osisko Mining Inc.
2443429	32G/03	56.31	2016-04-26	2023-04-25	Osisko Mining Inc.
2443430	32G/03	56.30	2016-04-26	2023-04-25	Osisko Mining Inc.
2443431	32G/03	56.30	2016-04-26	2023-04-25	Osisko Mining Inc.
2443432	32G/03	56.30	2016-04-26	2023-04-25	Osisko Mining Inc.
2443433	32G/03	56.30	2016-04-26	2023-04-25	Osisko Mining Inc.
2443434	32G/03	56.30	2016-04-26	2023-04-25	Osisko Mining Inc.
2443435	32G/03	56.30	2016-04-26	2021-04-25	Osisko Mining Inc.
2443436	32G/03	56.30	2016-04-26	2021-04-25	Osisko Mining Inc.
2443437	32G/03	56.30	2016-04-26	2021-04-25	Osisko Mining Inc.
2443439	32G/03	56.29	2016-04-26	2021-04-25	Osisko Mining Inc.
2443440	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443441	32G/03	56.29	2016-04-26	2023-04-25	Osisko Mining Inc.
2443468	32G/03	56.29	2016-04-26	2021-04-25	Osisko Mining Inc.
2443469	32G/03	56.29	2016-04-26	2021-04-25	Osisko Mining Inc.
2444055	32G/02	56.32	2016-05-05	2021-05-04	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2444056	32G/02	56.32	2016-05-05	2021-05-04	Osisko Mining Inc.
2444057	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444058	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444059	32G/02	56.32	2016-05-05	2021-05-04	Osisko Mining Inc.
2444060	32G/02	56.32	2016-05-05	2021-05-04	Osisko Mining Inc.
2444061	32G/02	56.32	2016-05-05	2021-05-04	Osisko Mining Inc.
2444062	32G/02	56.32	2016-05-05	2021-05-04	Osisko Mining Inc.
2444063	32G/02	56.32	2016-05-05	2021-05-04	Osisko Mining Inc.
2444064	32G/02	56.32	2016-05-05	2021-05-04	Osisko Mining Inc.
2444065	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444066	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444067	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444068	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444069	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444070	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444071	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444072	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444073	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444074	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444075	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444076	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444077	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444079	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444080	32G/02	56.31	2016-05-05	2021-05-04	Osisko Mining Inc.
2444081	32G/02	56.29	2016-05-05	2021-05-04	Osisko Mining Inc.
2444082	32G/02	56.28	2016-05-05	2021-05-04	Osisko Mining Inc.
2444083	32G/02	56.27	2016-05-05	2021-05-04	Osisko Mining Inc.
2444084	32G/02	56.27	2016-05-05	2021-05-04	Osisko Mining Inc.
2444085	32G/02	56.27	2016-05-05	2021-05-04	Osisko Mining Inc.
2444086	32G/02	56.25	2016-05-05	2021-05-04	Osisko Mining Inc.
2444087	32G/02	56.25	2016-05-05	2021-05-04	Osisko Mining Inc.
2444088	32G/02	56.24	2016-05-05	2021-05-04	Osisko Mining Inc.
2444089	32G/02	56.24	2016-05-05	2021-05-04	Osisko Mining Inc.
2444090	32G/02	56.24	2016-05-05	2021-05-04	Osisko Mining Inc.
2450641	32G/03	43.81	2016-06-22	2021-06-21	Osisko Mining Inc.
2450960	32G/03	51.35	2016-06-23	2021-06-22	Osisko Mining Inc.
2450961	32G/03	54.66	2016-06-23	2021-06-22	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2450962	32G/03	7.80	2016-06-23	2021-06-22	Osisko Mining Inc.
2450963	32G/03	43.56	2016-06-23	2021-06-22	Osisko Mining Inc.
2450964	32G/03	47.50	2016-06-23	2021-06-22	Osisko Mining Inc.
2450965	32G/03	24.03	2016-06-23	2021-06-22	Osisko Mining Inc.
2450966	32G/03	2.27	2016-06-23	2021-06-22	Osisko Mining Inc.
2450967	32G/03	0.50	2016-06-23	2021-06-22	Osisko Mining Inc.
2450968	32G/03	0.11	2016-06-23	2021-06-22	Osisko Mining Inc.
2450969	32G/03	13.30	2016-06-23	2021-06-22	Osisko Mining Inc.
2450970	32G/03	7.59	2016-06-23	2021-06-22	Osisko Mining Inc.
2454299	32G/03	0.04	2016-07-22	2021-07-21	Osisko Mining Inc.
2454300	32G/03	2.62	2016-07-22	2021-07-21	Osisko Mining Inc.
2454301	32G/03	54.46	2016-07-22	2021-07-21	Osisko Mining Inc.
2454302	32G/03	31.71	2016-07-22	2021-07-21	Osisko Mining Inc.
2457563	32B/14	56.49	2016-08-15	2021-08-14	Osisko Mining Inc.
2457564	32B/14	56.49	2016-08-15	2021-08-14	Osisko Mining Inc.
2457565	32B/14	56.49	2016-08-15	2021-08-14	Osisko Mining Inc.
2457566	32B/14	56.49	2016-08-15	2021-08-14	Osisko Mining Inc.
2457567	32B/14	56.49	2016-08-15	2021-08-14	Osisko Mining Inc.
2457568	32B/14	56.48	2016-08-15	2021-08-14	Osisko Mining Inc.
2457569	32B/14	56.48	2016-08-15	2021-08-14	Osisko Mining Inc.
2457570	32B/14	56.48	2016-08-15	2021-08-14	Osisko Mining Inc.
2457571	32B/14	56.48	2016-08-15	2021-08-14	Osisko Mining Inc.
2457572	32B/14	56.48	2016-08-15	2021-08-14	Osisko Mining Inc.
2459947	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459948	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459949	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459950	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459951	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459952	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459953	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459954	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459955	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459956	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459957	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459958	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459959	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459960	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2459961	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2459962	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459963	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459964	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459965	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459966	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459967	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459968	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459969	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459970	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459971	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459972	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459973	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459974	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459975	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459976	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459977	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459978	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459979	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459980	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459981	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459982	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459983	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459984	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459985	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459986	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459987	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2459988	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459989	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459990	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459991	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459992	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459993	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459994	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459995	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459996	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459997	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2459998	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2459999	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460000	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460001	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460002	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460003	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460004	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460005	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460006	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460007	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460008	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460009	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460010	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460011	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460012	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460013	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460014	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460015	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460016	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460017	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460018	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460019	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460020	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460021	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460022	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460023	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460024	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460025	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460026	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460305	32F/01	56.37	2016-08-31	2021-08-30	Osisko Mining Inc.
2460306	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460307	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460308	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460309	32F/01	56.36	2016-08-31	2021-08-30	Osisko Mining Inc.
2460310	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460311	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460312	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2460313	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460314	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460315	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460316	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460317	32F/01	56.35	2016-08-31	2021-08-30	Osisko Mining Inc.
2460318	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460319	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460320	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460321	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460322	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460323	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460324	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460325	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460326	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460327	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460328	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460329	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460330	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460331	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460332	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460333	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460334	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460335	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460336	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460337	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460338	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460339	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460340	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460341	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460342	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460343	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460344	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460355	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460356	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460357	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460358	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460359	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2460360	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460361	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460362	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460363	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460364	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460365	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460366	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460367	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460368	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460369	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460370	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460371	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460372	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460373	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460374	32F/01	56.34	2016-08-31	2021-08-30	Osisko Mining Inc.
2460375	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460376	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460377	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460378	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460379	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460380	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460381	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460382	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460383	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460384	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460385	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460386	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460387	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460388	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460389	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460390	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460391	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460392	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460393	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460394	32F/01	56.33	2016-08-31	2021-08-30	Osisko Mining Inc.
2460395	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460396	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2460397	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460398	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460399	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460400	32F/01	56.32	2016-08-31	2021-08-30	Osisko Mining Inc.
2460404	32F/01	56.39	2016-08-31	2021-08-30	Osisko Mining Inc.
2460405	32F/01	56.39	2016-08-31	2021-08-30	Osisko Mining Inc.
2460406	32F/01	56.39	2016-08-31	2021-08-30	Osisko Mining Inc.
2460407	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460408	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460409	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460410	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460411	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460412	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460413	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460414	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460415	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460416	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460417	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460418	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460419	32F/01	56.39	2016-08-31	2021-08-30	Osisko Mining Inc.
2460420	32F/01	56.39	2016-08-31	2021-08-30	Osisko Mining Inc.
2460421	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460422	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2460423	32F/01	56.38	2016-08-31	2021-08-30	Osisko Mining Inc.
2467259	32G/03	56.31	2016-10-27	2021-10-26	Osisko Mining Inc.
2467260	32G/03	56.30	2016-10-27	2021-10-26	Osisko Mining Inc.
2467262	32G/03	56.30	2016-10-27	2021-10-26	Osisko Mining Inc.
2471661	32B/13	56.66	2017-01-05	2022-01-04	Osisko Mining Inc.
2471662	32B/13	56.66	2017-01-05	2022-01-04	Osisko Mining Inc.
2471663	32B/13	56.65	2017-01-05	2022-01-04	Osisko Mining Inc.
2471664	32B/13	56.65	2017-01-05	2022-01-04	Osisko Mining Inc.
2471665	32B/13	56.65	2017-01-05	2022-01-04	Osisko Mining Inc.
2471666	32B/13	56.65	2017-01-05	2022-01-04	Osisko Mining Inc.
2471667	32B/13	56.64	2017-01-05	2022-01-04	Osisko Mining Inc.
2471668	32B/13	56.64	2017-01-05	2022-01-04	Osisko Mining Inc.
2471669	32B/13	56.64	2017-01-05	2022-01-04	Osisko Mining Inc.
2471670	32B/13	56.64	2017-01-05	2022-01-04	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2471671	32B/13	56.63	2017-01-05	2022-01-04	Osisko Mining Inc.
2471672	32B/13	56.63	2017-01-05	2022-01-04	Osisko Mining Inc.
2471673	32B/13	56.63	2017-01-05	2022-01-04	Osisko Mining Inc.
2471674	32B/13	56.63	2017-01-05	2022-01-04	Osisko Mining Inc.
2471675	32B/13	56.63	2017-01-05	2022-01-04	Osisko Mining Inc.
2472018	32B/13	56.55	2017-01-05	2022-01-04	Osisko Mining Inc.
2472019	32B/13	56.55	2017-01-05	2022-01-04	Osisko Mining Inc.
2472020	32B/13	56.55	2017-01-05	2022-01-04	Osisko Mining Inc.
2472079	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472080	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472081	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472082	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472083	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472084	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472086	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472087	32G0/4	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472088	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472089	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472090	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472091	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472092	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472093	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472094	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472095	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472096	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472097	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472098	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472099	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472100	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472101	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472102	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472152	32G/03	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472153	32G/03	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472157	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472158	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472159	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472160	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2472161	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472162	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472163	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472164	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472165	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472166	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472167	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472168	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472169	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472170	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472171	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472287	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472288	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472289	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472290	32G/04	56.33	2017-01-09	2022-01-08	Osisko Mining Inc.
2472291	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472292	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472293	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472294	32G/04	56.32	2017-01-09	2022-01-08	Osisko Mining Inc.
2472295	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472296	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472297	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472298	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472299	32G/04	56.31	2017-01-09	2022-01-08	Osisko Mining Inc.
2472300	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472301	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472302	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472303	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472304	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472305	32G/04	56.30	2017-01-09	2022-01-08	Osisko Mining Inc.
2472306	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472307	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472308	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472309	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472310	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472311	32G/04	56.29	2017-01-09	2022-01-08	Osisko Mining Inc.
2472312	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2472313	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472314	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472315	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472316	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472317	32G/04	56.28	2017-01-09	2022-01-08	Osisko Mining Inc.
2472465	32G/03	56.28	2017-01-12	2022-01-11	Osisko Mining Inc.
2472466	32G/03	56.28	2017-01-12	2022-01-11	Osisko Mining Inc.
2473525	32G/02	56.33	2017-01-25	2022-01-24	Osisko Mining Inc.
2473526	32G/02	56.32	2017-01-25	2022-01-24	Osisko Mining Inc.
2473527	32G/02	56.32	2017-01-25	2022-01-24	Osisko Mining Inc.
2473528	32G/02	56.32	2017-01-25	2022-01-24	Osisko Mining Inc.
2473529	32G/02	56.32	2017-01-25	2022-01-24	Osisko Mining Inc.
2473530	32G/02	56.32	2017-01-25	2022-01-24	Osisko Mining Inc.
2473532	32G/02	56.28	2017-01-25	2022-01-24	Osisko Mining Inc.
2473853	32G/02	56.32	2017-01-30	2022-01-29	Osisko Mining Inc.
2473854	32G/02	56.32	2017-01-30	2022-01-29	Osisko Mining Inc.
2473855	32G/02	56.31	2017-01-30	2022-01-29	Osisko Mining Inc.
2473856	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473857	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473858	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473859	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473860	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473861	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473862	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473863	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473864	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473865	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473866	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473867	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473868	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473869	32G/02	56.30	2017-01-30	2022-01-29	Osisko Mining Inc.
2473870	32G/02	56.26	2017-01-30	2022-01-29	Osisko Mining Inc.
2473871	32G/02	56.26	2017-01-30	2022-01-29	Osisko Mining Inc.
2473873	32G/02	56.25	2017-01-30	2022-01-29	Osisko Mining Inc.
2473874	32G/02	56.25	2017-01-30	2022-01-29	Osisko Mining Inc.
2473875	32G/02	56.24	2017-01-30	2022-01-29	Osisko Mining Inc.
2475585	32G/02	56.33	2017-01-31	2022-01-30	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2475586	32G/03	56.44	2017-01-31	2022-01-30	Osisko Mining Inc.
2475587	32G/03	56.38	2017-01-31	2022-01-30	Osisko Mining Inc.
2475588	32G/03	56.37	2017-01-31	2022-01-30	Osisko Mining Inc.
2475589	32G/03	56.36	2017-01-31	2022-01-30	Osisko Mining Inc.
2479157	32G/03	56.41	2017-02-15	2022-02-14	Osisko Mining Inc.
2479158	32G/03	56.41	2017-02-15	2022-02-14	Osisko Mining Inc.
2479159	32G/03	56.41	2017-02-15	2022-02-14	Osisko Mining Inc.
2479160	32G/03	56.41	2017-02-15	2022-02-14	Osisko Mining Inc.
2480169	32B/13	56.52	2017-02-21	2022-02-20	Osisko Mining Inc.
2483697	32B/13	56.63	2017-03-08	2022-03-07	Osisko Mining Inc.
2483698	32B/13	56.63	2017-03-08	2022-03-07	Osisko Mining Inc.
2483699	32B/13	56.63	2017-03-08	2022-03-07	Osisko Mining Inc.
2483703	32B/13	56.63	2017-03-08	2022-03-07	Osisko Mining Inc.
2483704	32B/13	56.63	2017-03-08	2022-03-07	Osisko Mining Inc.
2483705	32B/13	56.63	2017-03-08	2022-03-07	Osisko Mining Inc.
2483709	32B/13	56.62	2017-03-08	2022-03-07	Osisko Mining Inc.
2483710	32B/13	56.62	2017-03-08	2022-03-07	Osisko Mining Inc.
2483714	32B/13	56.61	2017-03-08	2022-03-07	Osisko Mining Inc.
2483718	32B/13	56.60	2017-03-08	2022-03-07	Osisko Mining Inc.
2491514	32G/04	56.40	2017-05-04	2023-05-03	Osisko Mining Inc.
2491515	32G/04	56.39	2017-05-04	2023-05-03	Osisko Mining Inc.
2491516	32G/04	56.39	2017-05-04	2023-05-03	Osisko Mining Inc.
2491517	32G/04	56.38	2017-05-04	2023-05-03	Osisko Mining Inc.
2491518	32G/04	56.38	2017-05-04	2023-05-03	Osisko Mining Inc.
2491519	32G/04	56.35	2017-05-04	2023-05-03	Osisko Mining Inc.
2491520	32G/04	56.35	2017-05-04	2023-05-03	Osisko Mining Inc.
2491610	32B13	56.56	2017-05-05	2022-05-04	Osisko Mining Inc.
2491611	32B13	56.55	2017-05-05	2022-05-04	Osisko Mining Inc.
2491612	32B/13	56.56	2017-05-05	2022-05-04	Osisko Mining Inc.
2491613	32B/13	56.55	2017-05-05	2022-05-04	Osisko Mining Inc.
2492749	32G/04	56.42	2017-05-24	2022-05-23	Osisko Mining Inc.
2493123	32B/14	56.49	2017-05-24	2022-05-23	Osisko Mining Inc.
2493124	32B/14	56.49	2017-05-24	2022-05-23	Osisko Mining Inc.
2493125	32B/14	56.47	2017-05-24	2022-05-23	Osisko Mining Inc.
2493126	32B/14	56.47	2017-05-24	2022-05-23	Osisko Mining Inc.
2493127	32B/14	56.47	2017-05-24	2022-05-23	Osisko Mining Inc.
2499643	32G04	56.38	2017-08-11	2022-08-10	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2499645	32G/04	56.41	2017-08-11	2022-08-10	Osisko Mining Inc.
2499646	32G04	56.41	2017-08-11	2022-08-10	Osisko Mining Inc.
2499647	32G/04	56.40	2017-08-11	2022-08-10	Osisko Mining Inc.
2499648	32G/04	56.39	2017-08-11	2022-08-10	Osisko Mining Inc.
2499651	32G04	56.39	2017-08-11	2022-08-10	Osisko Mining Inc.
2499653	32G/04	56.40	2017-08-11	2022-08-10	Osisko Mining Inc.
2499654	32G/04	56.38	2017-08-11	2022-08-10	Osisko Mining Inc.
2499655	32G/04	56.45	2017-08-11	2022-08-10	Osisko Mining Inc.
2499656	32G/04	56.44	2017-08-11	2022-08-10	Osisko Mining Inc.
2499658	32G/03	56.27	2017-08-11	2022-08-10	Osisko Mining Inc.
2499659	32G/03	56.27	2017-08-11	2022-08-10	Osisko Mining Inc.
2499660	32G/03	56.35	2017-08-11	2022-08-10	Osisko Mining Inc.
2499661	32G/03	56.35	2017-08-11	2022-08-10	Osisko Mining Inc.
2499684	32G/04	56.43	2017-08-11	2022-08-10	Osisko Mining Inc.
2505919	32G/03	56.69	2017-11-21	2022-11-20	Osisko Mining Inc.
2505921	32G/03	56.40	2017-11-21	2022-11-20	Osisko Mining Inc.
2505922	32G/03	56.39	2017-11-21	2022-11-20	Osisko Mining Inc.
2514697	32G/03	56.41	2018-03-15	2023-03-14	Osisko Mining Inc.
2518170	32G/03	56.36	2018-05-18	2023-05-17	Osisko Mining Inc.
2518171	32G/03	56.35	2018-05-18	2023-05-17	Osisko Mining Inc.
2519774	32G/04	56.42	2018-05-18	2023-06-17	Osisko Mining Inc.
2520781	32G/03	56.34	2018-07-17	2023-06-17	Osisko Mining Inc.
2520782	32G/03	56.33	2018-07-17	2023-06-17	Osisko Mining Inc.
2520783	32G/03	56.33	2018-07-17	2023-06-17	Osisko Mining Inc.
2520784	32G/03	56.33	2018-07-17	2023-06-17	Osisko Mining Inc.
2520785	32G/03	56.33	2018-07-17	2023-06-17	Osisko Mining Inc.
2520786	32G/03	56.33	2018-07-17	2023-06-17	Osisko Mining Inc.
2520787	32G/03	56.33	2018-07-17	2023-06-17	Osisko Mining Inc.
2520788	32G/03	56.33	2018-07-17	2023-06-17	Osisko Mining Inc.
2520789	32G/03	56.33	2018-07-17	2023-06-17	Osisko Mining Inc.
2520790	32G/03	56.32	2018-07-17	2023-06-17	Osisko Mining Inc.
2520791	32G/03	56.32	2018-07-17	2023-06-17	Osisko Mining Inc.
2520792	32G/03	56.32	2018-07-17	2023-06-17	Osisko Mining Inc.
2520793	32G/03	56.32	2018-07-17	2023-06-17	Osisko Mining Inc.
2520794	32G/03	56.32	2018-07-17	2023-06-17	Osisko Mining Inc.
2520795	32G/03	56.32	2018-07-17	2023-06-17	Osisko Mining Inc.
2520796	32G/03	56.32	2018-07-17	2023-06-17	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2520797	32G/03	56.32	2018-07-17	2023-06-17	Osisko Mining Inc.
2520798	32G/03	56.31	2018-07-17	2023-06-17	Osisko Mining Inc.
2520799	32G/03	56.31	2018-07-17	2023-06-17	Osisko Mining Inc.
2520800	32G/03	56.31	2018-07-17	2023-06-17	Osisko Mining Inc.
2520801	32G/03	56.31	2018-07-17	2023-06-17	Osisko Mining Inc.
2520802	32G/03	56.30	2018-07-17	2023-06-17	Osisko Mining Inc.
2520803	32G/03	56.30	2018-07-17	2023-06-17	Osisko Mining Inc.
2528426	32F/01	56.36	2018-12-03	2021-12-02	Osisko Mining Inc.
2528427	32F/01	56.36	2018-12-03	2021-12-02	Osisko Mining Inc.
2528428	32F/01	56.36	2018-12-03	2021-12-02	Osisko Mining Inc.
2528429	32F/01	56.35	2018-12-03	2021-12-02	Osisko Mining Inc.
2528430	32F/01	56.35	2018-12-03	2021-12-02	Osisko Mining Inc.
2528431	32F/01	56.35	2018-12-03	2021-12-02	Osisko Mining Inc.
2528432	32F/01	56.35	2018-12-03	2021-12-02	Osisko Mining Inc.
2528433	32F/01	56.35	2018-12-03	2021-12-02	Osisko Mining Inc.
2528434	32F/01	56.34	2018-12-03	2021-12-02	Osisko Mining Inc.
2528435	32F/01	56.34	2018-12-03	2021-12-02	Osisko Mining Inc.
2528436	32F/01	56.34	2018-12-03	2021-12-02	Osisko Mining Inc.
2528437	32F/01	56.34	2018-12-03	2021-12-02	Osisko Mining Inc.
2543515	32G/04	56.34	2019-09-23	2022-09-22	Osisko Mining Inc.
2543516	32G/04	56.33	2019-09-23	2022-09-22	Osisko Mining Inc.
2543581	32G/04	56.40	2019-09-24	2022-09-23	Osisko Mining Inc.

Appendix C: List of claims 2020 – Urban-Barry Duke

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2369502	32G/04	3.37	2012-12-03	2023-07-12	Osisko Mining Inc.
2369503	32G/04	25.53	2012-12-03	2023-07-12	Osisko Mining Inc.
2369504	32G/04	24.83	2012-12-03	2023-07-12	Osisko Mining Inc.
2369505	32G/04	15.00	2012-12-03	2023-07-12	Osisko Mining Inc.
2369506	32G/04	56.45	2012-12-03	2023-07-12	Osisko Mining Inc.
2369507	32G/04	56.44	2012-12-03	2023-07-12	Osisko Mining Inc.
2369508	32G/04	0.37	2012-12-03	2023-07-12	Osisko Mining Inc.
2369509	32G/04	1.77	2012-12-03	2023-07-12	Osisko Mining Inc.
2369510	32G/04	4.97	2012-12-03	2023-07-12	Osisko Mining Inc.
2369511	32G/04	56.44	2012-12-03	2023-07-12	Osisko Mining Inc.
2369512	32G/04	4.98	2012-12-03	2023-07-12	Osisko Mining Inc.
2387580	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387581	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387582	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387583	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387584	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387585	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387586	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387587	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387588	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387589	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387590	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387591	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387592	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387593	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387594	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387595	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387596	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387597	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387598	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387599	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387600	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387603	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387604	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387605	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387606	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387607	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2387608	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387609	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387610	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387611	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387620	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387621	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387622	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387623	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387624	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387625	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387633	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387634	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387650	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387651	32G/04	56.44	2013-07-18	2021-11-10	Osisko Mining Inc.
2387652	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387653	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387656	32G/04	56.45	2013-07-18	2021-11-10	Osisko Mining Inc.
2387663	32G/04	54.90	2013-07-18	2021-11-10	Osisko Mining Inc.
2387668	32G/04	39.58	2013-07-18	2021-11-10	Osisko Mining Inc.
2387669	32G/04	56.43	2013-07-18	2021-11-10	Osisko Mining Inc.
2387670	32G/04	9.54	2013-07-18	2021-11-10	Osisko Mining Inc.
2387674	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387676	32G/04	39.24	2013-07-18	2021-11-10	Osisko Mining Inc.
2387679	32G/04	45.34	2013-07-18	2021-11-10	Osisko Mining Inc.
2387680	32B/13	44.58	2013-07-18	2021-11-10	Osisko Mining Inc.
2387683	32G/04	56.42	2013-07-18	2021-11-10	Osisko Mining Inc.
2387684	32G/04	0.65	2013-07-18	2021-11-10	Osisko Mining Inc.
2387686	32G/04	3.49	2013-07-18	2021-11-10	Osisko Mining Inc.
2387688	32G/04	40.40	2013-07-18	2021-11-10	Osisko Mining Inc.
2387689	32G/04	29.34	2013-07-18	2021-11-10	Osisko Mining Inc.
2387691	32G/04	55.67	2013-07-18	2021-11-10	Osisko Mining Inc.
2387693	32B/13	56.47	2013-07-18	2021-11-10	Osisko Mining Inc.
2387694	32G/04	6.04	2013-07-18	2021-11-10	Osisko Mining Inc.
2387695	32G/04	18.77	2013-07-18	2021-11-10	Osisko Mining Inc.
2387696	32G/04	6.01	2013-07-18	2021-11-10	Osisko Mining Inc.
2387697	32G/04	53.14	2013-07-18	2021-11-10	Osisko Mining Inc.
2387698	32G/04	6.32	2013-07-18	2021-11-10	Osisko Mining Inc.

Title	NTS	Area (ha)	Staking Date	Expiration Date	Owner (According to GESTIM)
2387700	32G/04	54.93	2013-07-18	2021-11-10	Osisko Mining Inc.
2387705	32G/04	6.36	2013-07-18	2021-11-10	Osisko Mining Inc.
2387708	32G/04	39.41	2013-07-18	2021-11-10	Osisko Mining Inc.
2387709	32B/13	23.47	2013-07-18	2021-11-10	Osisko Mining Inc.
2387710	32G/04	5.05	2013-07-18	2021-11-10	Osisko Mining Inc.
2387711	32G/04	48.50	2013-07-18	2021-11-10	Osisko Mining Inc.
2431684	32G/04	56.45	2015-07-29	2022-07-28	Osisko Mining Inc.