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Au
Gold
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DEVELOPING ANOTHER WORLD CLASS GOLD DEPOSIT IN QUÉBEC

September 2020



CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This presentation (the "Presentation") of Osisko Mining Inc. ("Osisko" or the "Corporation") contains "forward-looking information" and "forward-looking statements" (collectively, "forward-looking statements") within the meaning of the applicable Canadian securities legislation. All statements, other than statements of historical fact, are forward-looking statements and are based on expectations, estimates and projections as at the date of this Presentation. Any statement that involves discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, feasibility, potential, future events or performance (often but not always using phrases such as "expects", or "does not expect", "is expected", "interpreted", "management's view", "anticipates" or "does not anticipate", "plans", "budget", "scheduled", "forecasts", "estimates", "potential", "feasibility", "believes" or "intends" or variations of such words and phrases or stating that certain actions, events or results "may" or "could", "would", "might" or "will" be taken to occur or be achieved) are not statements of historical fact and may be forward-looking statements.

In this Presentation, forward-looking statements relate, among other things, to: the Windfall Lake gold deposit being one of the highest-grade resource-stage gold projects in Canada and having world-class scale; the key assumptions, parameters and methods used to estimate the mineral resource estimate disclosed in this Presentation; the prospects, if any, of the Windfall Lake gold deposit; timing and ability of Osisko to file a technical report for the mineral resource estimate disclosed in this Presentation; the timing and ability of Osisko, if at all, to publish a feasibility study for the Windfall Lake gold deposit; the projected capital expenditures of mining activities at the Windfall Lake gold deposit; upgrading an inferred mineral resource to a measured mineral resource or indicated mineral resource category; future drilling at the Windfall Lake gold deposit; the deposit remaining open along strike to the northeast and at depth; significant high-grade zones (Lynx 4, Triple Lynx) remaining open down plunge; the

plunge potential of the Lynx and Underdog zones; the significance of historic exploration activities and results. Such factors include, among others, risks relating to the ability of exploration activities (including drill results) to accurately predict mineralization; errors in management's geological modelling; the ability of Osisko to complete further exploration activities, including drilling; property and royalty interests in the Windfall Lake gold deposit; the ability of the Corporation to obtain required approvals; the results of exploration activities; estimates of gold prices; the ability to adapt to changes in gold prices; risks relating to mining activities; the global economic climate; metal prices; dilution; environmental risks; and community and non-governmental actions. All forward-looking statements entail various risks and uncertainties that are based on current expectations and actual results may differ materially from those contained in such information.

Such factors include, among others, risks relating to the ability of exploration activities (including drill results) to accurately predict mineralization; errors in management's geological modelling; the ability of Osisko to complete further exploration activities, including drilling; property and royalty interests in the Windfall Lake gold deposit; the ability of the Corporation to obtain required approvals; the results of exploration activities; risks relating to mining activities; the global economic climate; metal prices; fluctuations in spot and forward prices of gold, silver, base metals or certain other commodities; fluctuations in currency markets (such as the Canadian dollar to United States dollar exchange rate); change in international, national and local government, legislation, taxation, controls, regulations and political or economic developments; risks and hazards associated with the business of mineral exploration, development and mining (including environmental hazards, industrial accidents, unusual or unexpected formations pressures, cave-ins and flooding); inability to obtain adequate insurance to cover risks and hazards; the presence of laws and

regulations that may impose restrictions on mining; employee relations; dilution; environmental risks; community and non-governmental actions; relationships with and claims by local communities and indigenous populations; availability of increasing costs associated with mining inputs and labour; the speculative nature of mineral exploration and development (including the risks of obtaining necessary licenses, permits and approvals from government authorities); and title to properties.

Risks and uncertainties about Osisko's business are more fully discussed in the disclosure materials filed with the securities regulatory authorities in Canada, which are available on SEDAR (www.sedar.com) under Osisko's issuer profile. Readers are urged to read these materials and should not place undue reliance on any forward-looking statement and information contained in this Presentation.

Although the forward-looking statements contained in this Presentation is based upon what management believes, or believed at the time, to be reasonable assumptions, Osisko cannot assure shareholders and prospective purchasers of securities of the Corporation that actual results will be consistent with such forward-looking statements, as there may be other factors that cause results not to be as anticipated, estimated or intended, and neither Osisko nor any other person assumes responsibility for the accuracy and completeness of any such forward-looking statements. Osisko does not undertake, and assumes no obligation, to update or revise any such forward-looking statements contained herein to reflect new events or circumstances, except as may be required by law.

Unless otherwise noted, this Presentation has been prepared based on information available as of February 20, 2020.



CAUTIONARY STATEMENTS REGARDING TECHNICAL INFORMATION



MINERAL RESOURCE ESTIMATE

This Presentation contains information regarding the updated mineral resource estimate for Osisko's 100% owned Windfall lake gold deposit, located in the Abitibi greenstone belt, Urban Township, Eeyou Istchee James Bay, Québec, as disclosed in the news release of Osisko dated February 19, 2020 (entitled "*Osisko Windfall Updated Mineral Resource Estimate*", a copy of which is available available on SEDAR (www.sedar.com) under Osisko's issuer profile.

The key assumptions, parameters and methods used in the mineral resource estimate disclosed in this Presentation, certain of which are described in this Presentation, will be further described in the full technical report being prepared for this updated mineral resource estimate in accordance with National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101") and will be available on SEDAR (www.sedar.com) under Osisko's issuer profile within 45 days.

CAUTIONARY STATEMENT REGARDING MINERAL RESOURCE ESTIMATES

This Presentation uses the terms measured, indicated and inferred mineral resources as a relative measure of the level of confidence in the resource estimate. Readers are cautioned that mineral resources are not mineral reserves and that the economic viability of resources that are not mineral reserves has not been demonstrated. The mineral resource estimate disclosed in this Presentation may be materially affected by geology, environmental, permitting, legal, title, socio-political, marketing or other relevant issues. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to an indicated or measured mineral resource category. The mineral resource estimate is classified in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum's "CIM Definition Standards on Mineral Resources and Mineral Reserves" incorporated by reference into NI 43-101. Under NI 43-101, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies or economic studies except for preliminary economic assessments. Readers are cautioned not to assume that further work on the stated resources will lead to mineral reserves that can be mined economically.

QUALIFIED PERSON

The Windfall mineral resource estimate, with an effective date of January 3, 2020, was (i) prepared by Judith St-Laurent, P.Geo (OGQ #1023), B.Sc., Senior Resource Geologist of Osisko, and (ii) reviewed and approved by Charley Murahwi, M.Sc, P.Geo., FAusIMM, each of whom is a "qualified person" within the meaning of NI 43-101. Mr. Murahwi is an employee of Micon International Limited and is considered to be "independent" of Osisko for purposes of section 1.5 of NI 43-101. The scientific and technical content in Presentation has been reviewed and approved by Mr. Mathieu Savard, P.Geo (OGQ #510), Senior Vice President Exploration of Osisko, who is a "qualified person" within the meaning of NI 43-101.

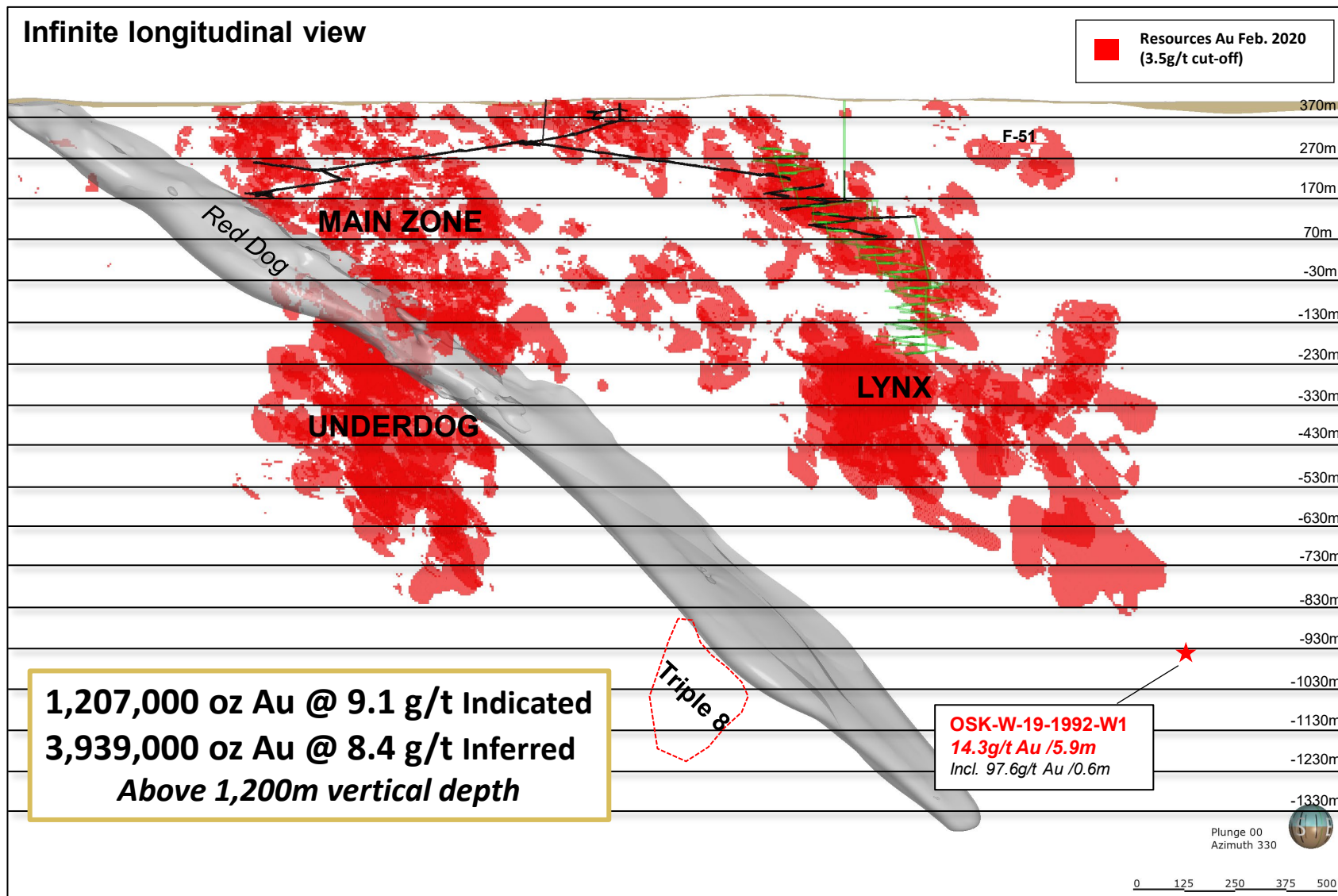


SUMMARY AND CATALYSTS

- **Windfall is a rare world-class project (>5M oz and >8g/t Au) located in one of the world's best mining jurisdictions: Québec**
- **Well financed with approx. \$320M cash and equities (approx. \$500M fully diluted)**
- **Singular focus on Windfall & District: *no acquisitions***
- **Additional 300,000 metres of drilling at Windfall in 2020 with >20 drills: *completion of resource drilling for feasibility is priority. Expansion, Triple Lynx bulk sample, exploration at Fox and regional targets***
- **Hydro line studies, elements of feasibility work have commenced**

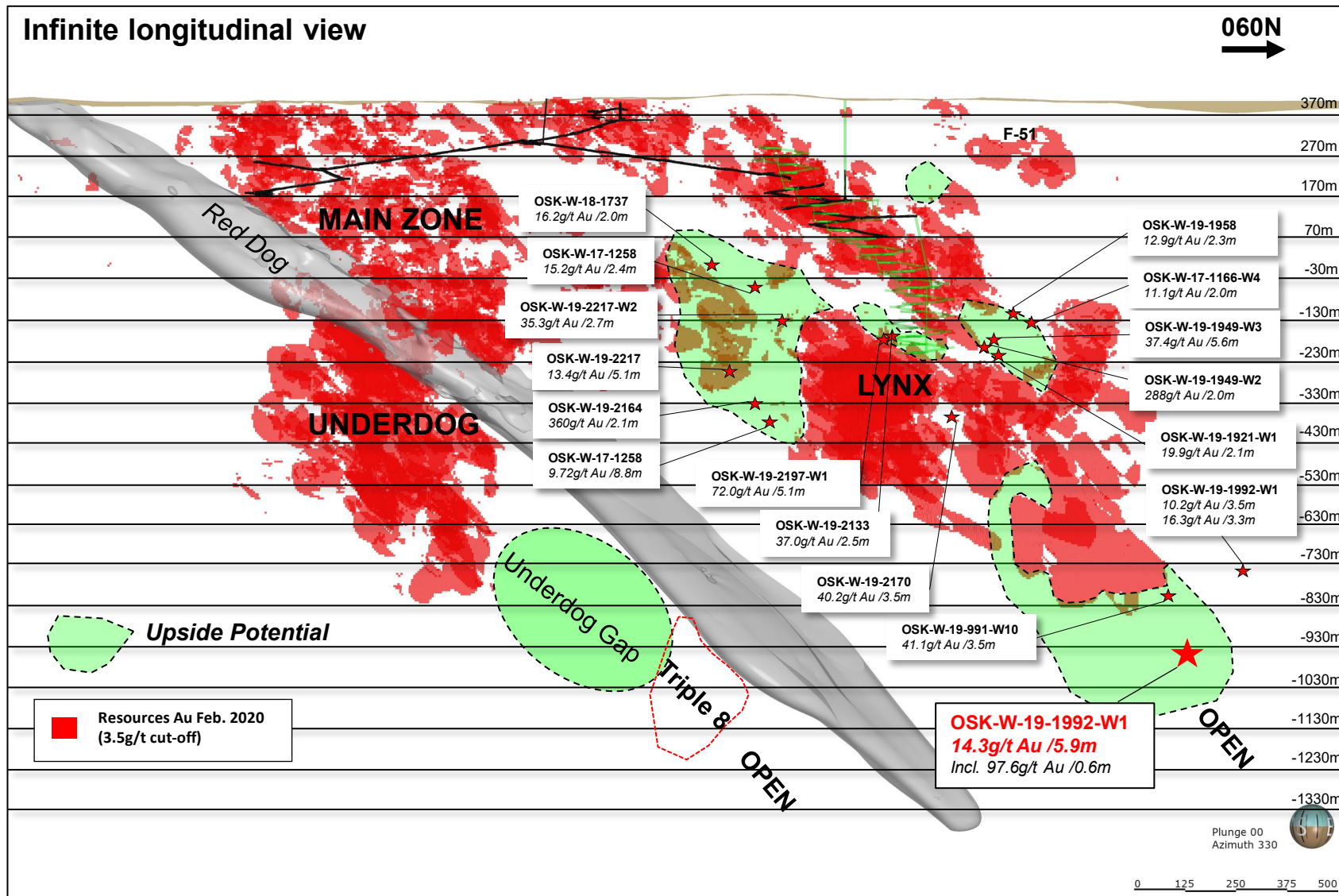


WORLD-CLASS WINDFALL DEPOSIT AFTER 1,000,000 METRES OF DRILLING





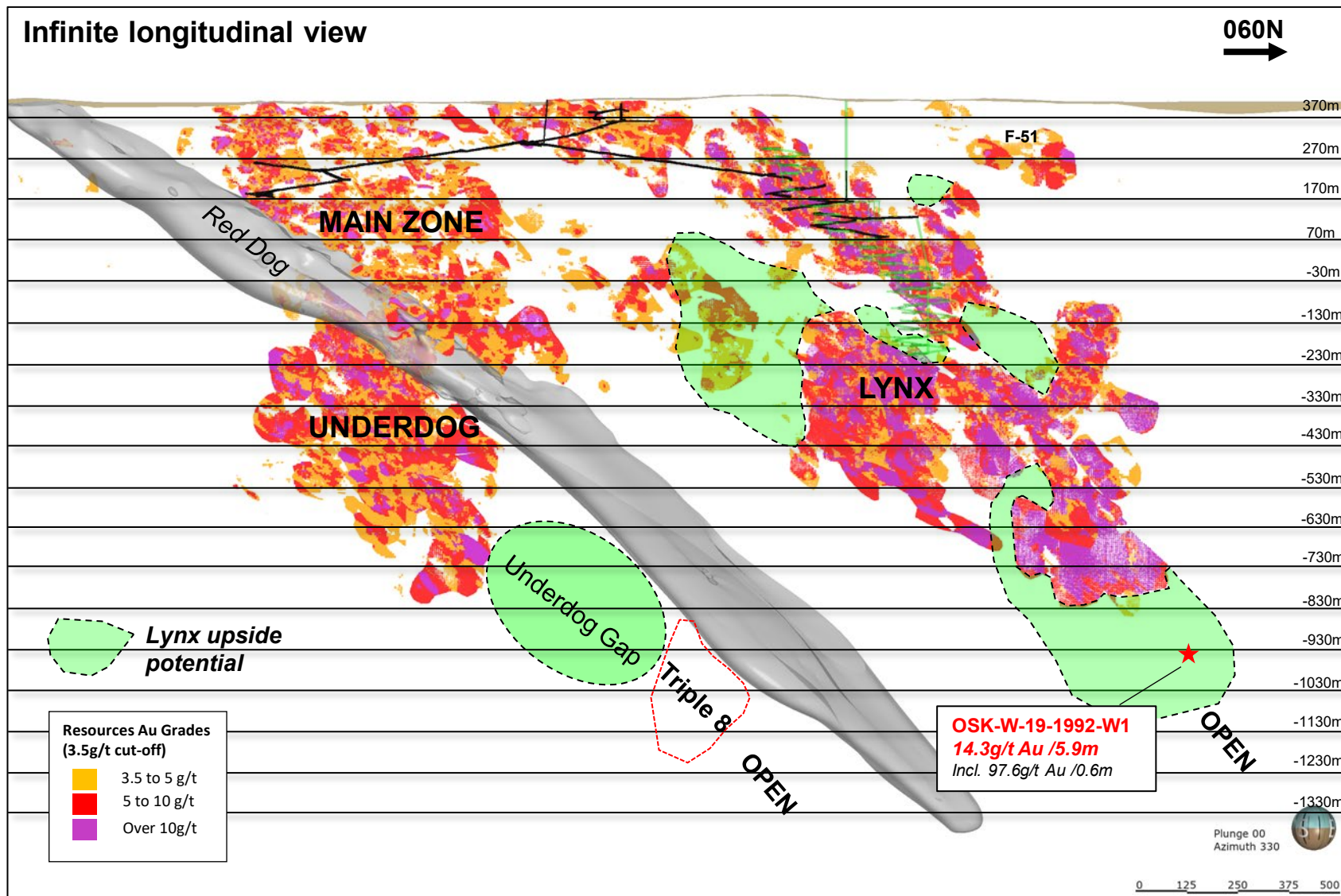
WORLD-CLASS WINDFALL DEPOSIT AFTER 1,000,000 METRES – STILL OPEN UP AND DOWN PLUNGE AND EXPANDING





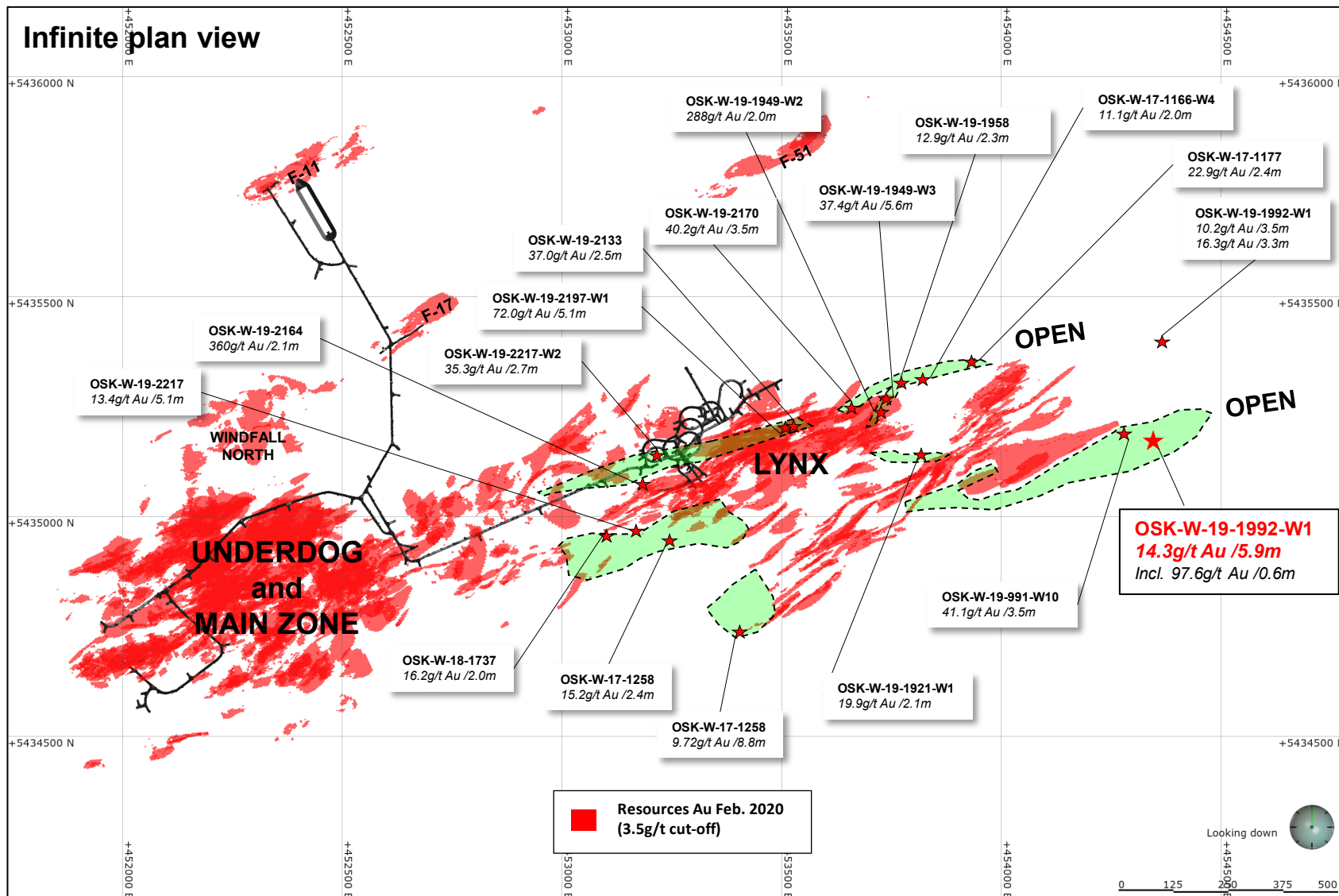
WORLD-CLASS WINDFALL DEPOSIT

LYNX GRADE AND WIDTH INCREASING DOWN PLUNGE



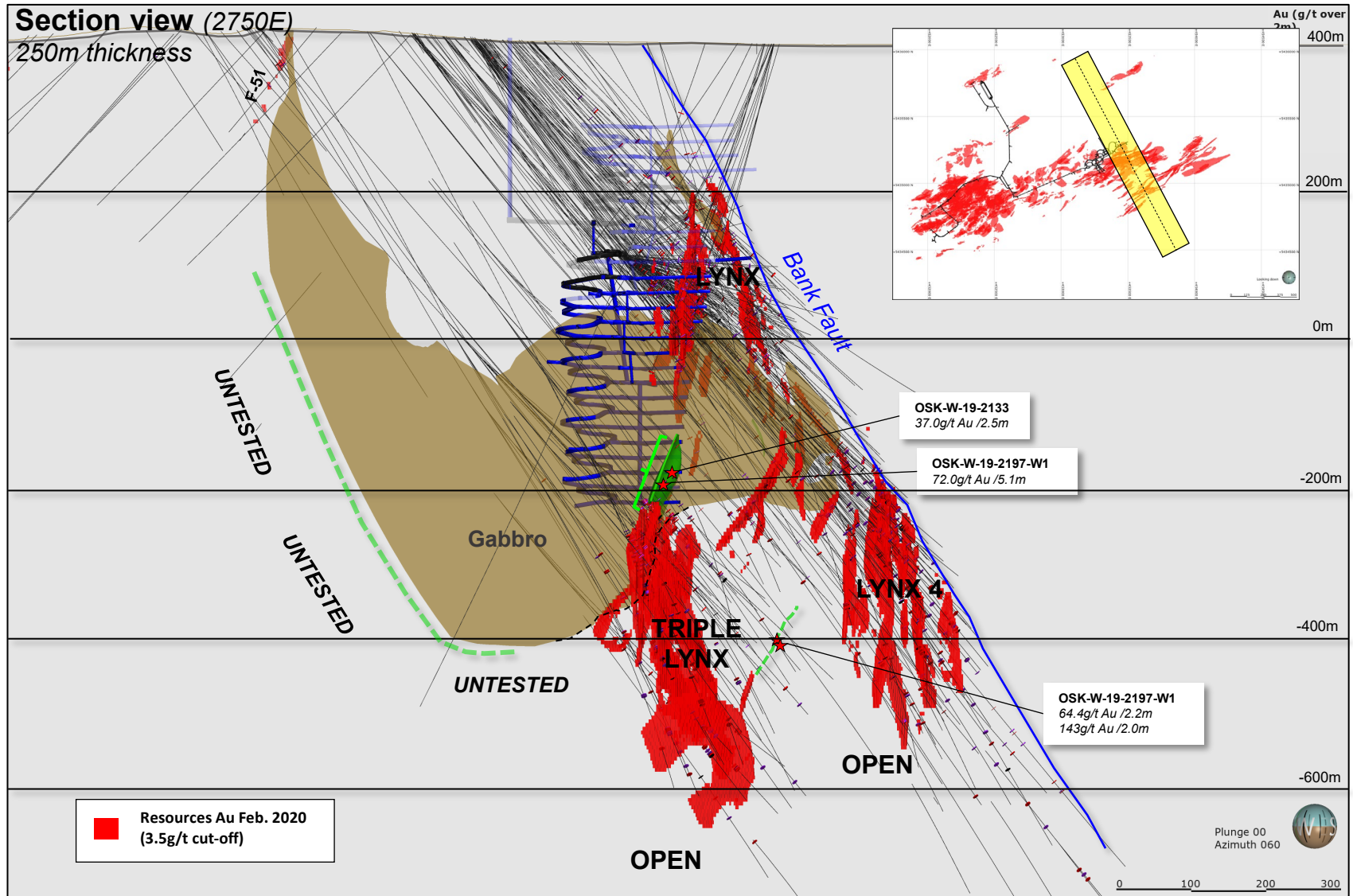
WINDFALL DEPOSIT PLAN VIEW

AREAS OF IMMEDIATE UPSIDE FOR GROWTH





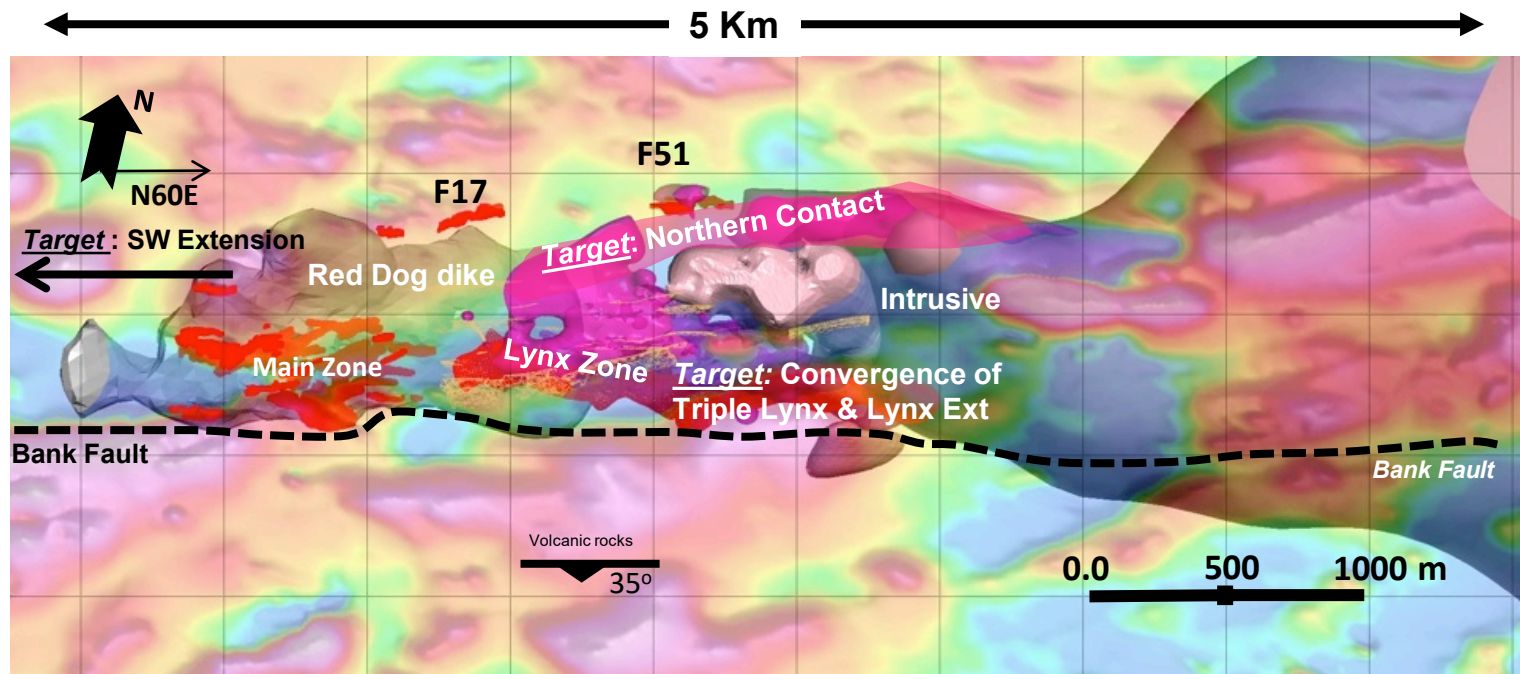
TRIPLE LYNX AND LYNX 4 PLANNED UNDERGROUND ACCESS, BULK SAMPLE AND UNTESTED AREAS





WINDFALL INTRUSIVE SYSTEM

- New zones discovered in 2019: Lynx 4 Extension, Triple Lynx, Windfall N
- Areas within the known deposit with no drilling to date
- Down plunge mineralized zones remain open, subject of ongoing drilling
- Northern intrusive contact largely unexplored



Surface Projection of the N60E - 35° NE plunging intrusive center



UPDATED WINDFALL MINERAL RESOURCE ESTIMATE

Windfall Gold Deposit Mineral Resource Estimate Sensitivity Table

Cut-off Grade (Au)	Indicated			Inferred		
	Tonnes ⁽¹⁾ (000 t)	Grade (g/t)	Ounces Au ⁽¹⁾ (000 oz)	Tonnes ⁽¹⁾ (000 t)	Grade (g/t)	Ounces Au ⁽¹⁾ (000 oz)
5.00 g/t	2,792	11.4	1,026	9,495	10.7	3,258
4.50 g/t	3,151	10.7	1,081	10,844	9.9	3,464
4.00 g/t	3,586	9.9	1,141	12,566	9.2	3,701
3.50 g/t	4,127	9.1	1,207	14,532	8.4	3,939
3.00 g/t	4,773	8.3	1,273	17,212	7.6	4,218

Notes: ¹ Values are rounded to nearest thousand which may cause apparent discrepancies.

Windfall Gold Deposit Mineral Resource Estimate by Area (3.5 g/t Au cut-off)

Zone	Indicated			Inferred		
	Tonnes ⁽¹⁾ (000 t)	Grade (g/t)	Ounces Au ⁽¹⁾ (000 oz)	Tonnes ⁽¹⁾ (000 t)	Grade (g/t)	Ounces Au ⁽¹⁾ (000 oz)
Lynx	1,817	11.3	661	6,349	10.9	2,233
Underdog	561	8.0	145	4,776	6.9	1,067
Main Zone	1,749	7.1	401	3,407	5.8	639
Total	4,127	9.1	1,207	14,532	8.4	3,939

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, Triple Lynx.

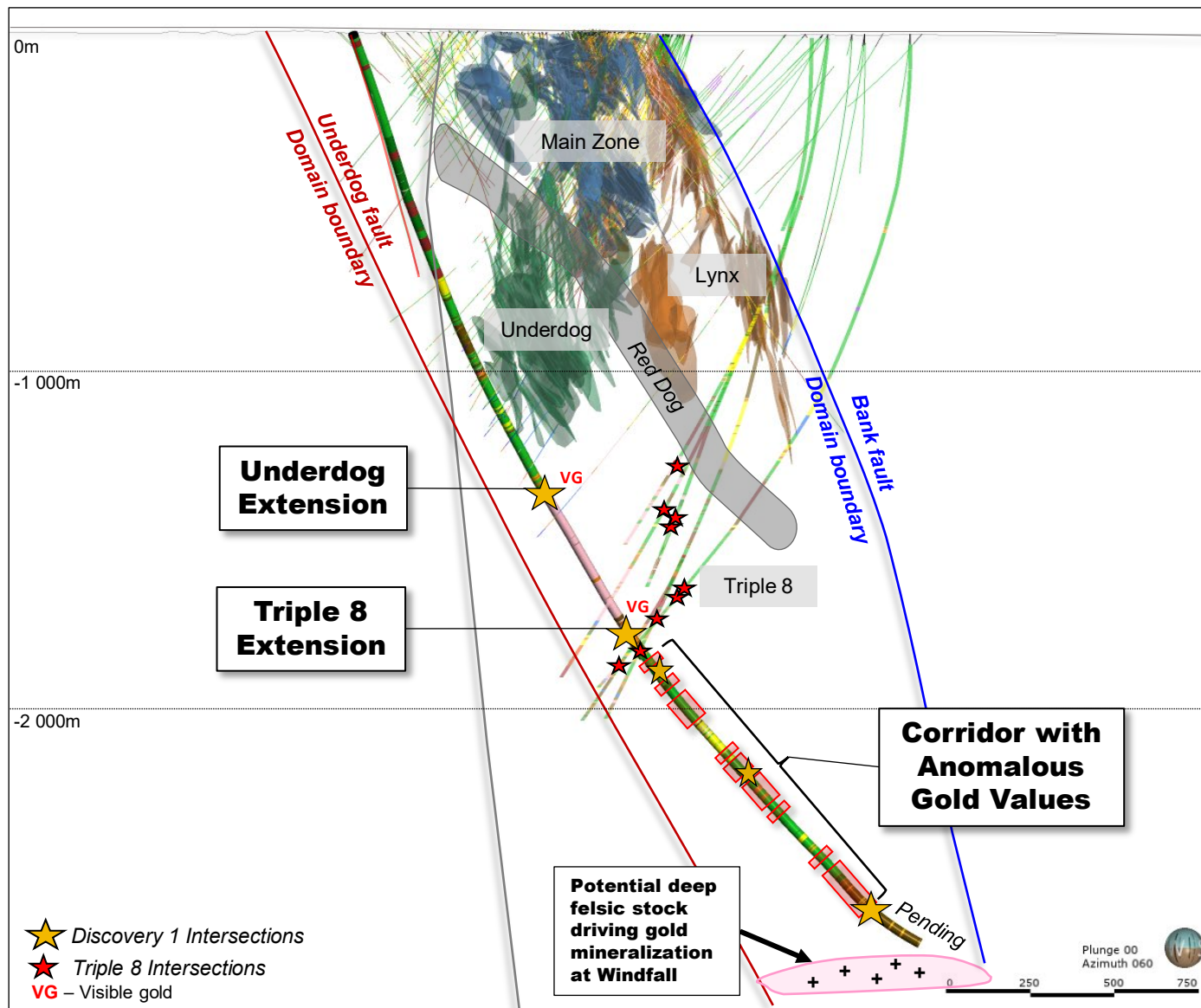
³ Main area includes: Zone 27, Caribou, Mallard, Windfall Nord and F-Zones.

⁴ See Windfall Gold Deposit Mineral Resource Estimate Notes further below.



DISCOVERY 1: STRONG INDICATIONS OF MORE

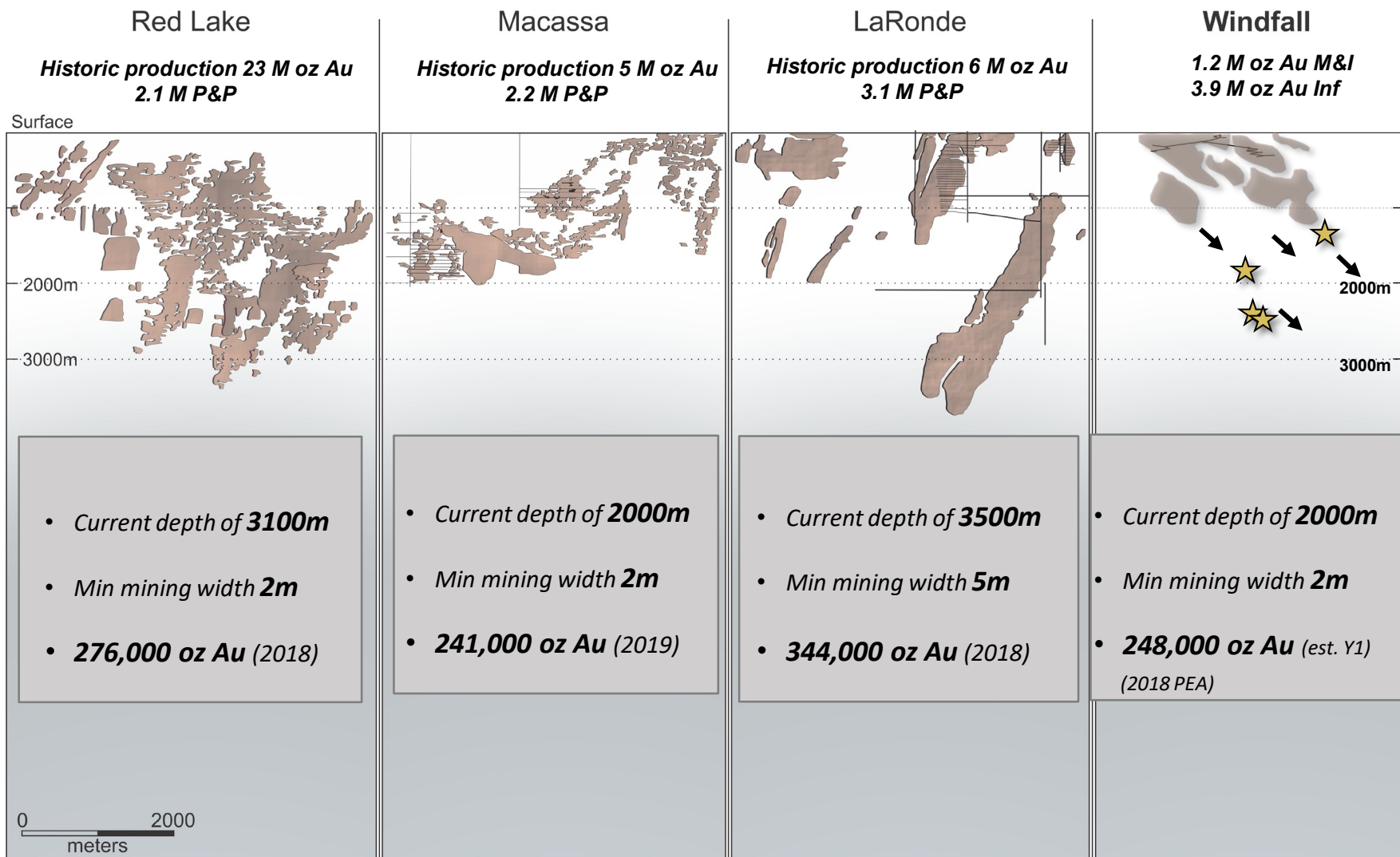
Section 3100 E 700m thickness





Major Canadian Archean Gold Deposits – Vertical Extent

Windfall Remains Open Down Plunge - Strong Potential to Grow





JULY 2018 PRELIMINARY ECONOMIC ASSESSMENT BASED ON MAY 2018 RESOURCE

Base Case: *Gold price US\$1,300/oz*, Silver price US\$17.00/oz, Exchange rate C\$1.00 = US\$0.78, 5% discount rate

IRR after taxes and mining duties **32.7%**

NPV after taxes and mining duties **C\$413.2 million**

Pre-Production Construction costs (*including C\$51.8 M contingency*) **C\$397.3 million**

Peak-year payable production **248,000 oz (year 1)**

Average LOM payable production **218,000 oz**

Net gold payable recovery **92.4%**

Average diluted gold grade **6.7 g/t Au**

Life of mine (LOM) **8.1 years**

Total mineralized material mined **8,914,000 tonnes**

Contained gold in mined resource **1,915,000 oz**

Payable gold LOM **1,769,000 oz**

Payable silver LOM **557,000 oz**

All-in Sustaining Costs net of by-product credits and royalties over LOM **US\$704.00/oz**

Estimated All-in cost (CAPEX plus OPEX) **US\$879.00/oz**

Total unit operating cost **C\$126.47/ tonne milled**

Gross revenue **C\$2.96 billion**

Operating cash flow **C\$1.12 billion**

Mine start-up/Full production **Q2 2022/Q3 2022**

LYNX BULK SAMPLE RECONCILED RESULTS

- Average grade of **17.8 g/t Au** is **89% higher** than predicted in the 12.5 metre infill drilling block model
- Average Au recovery of **97.2%** was achieved using the contract mill
- **66.7%** of the gold was recovered in the gravity concentrate

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	11.8	3,271	2,176	9.7	66.7	284.4	91.7	97.2	94.3	3,181	2,052

Mill feed tonnages used in the sample processing reconciliation were provided by Northern Sun. Daily composite samples collected during the processing of the bulk sample were assayed by external independent laboratories. Bulk sample results were reconciled by an external independent consultant using Bimat.

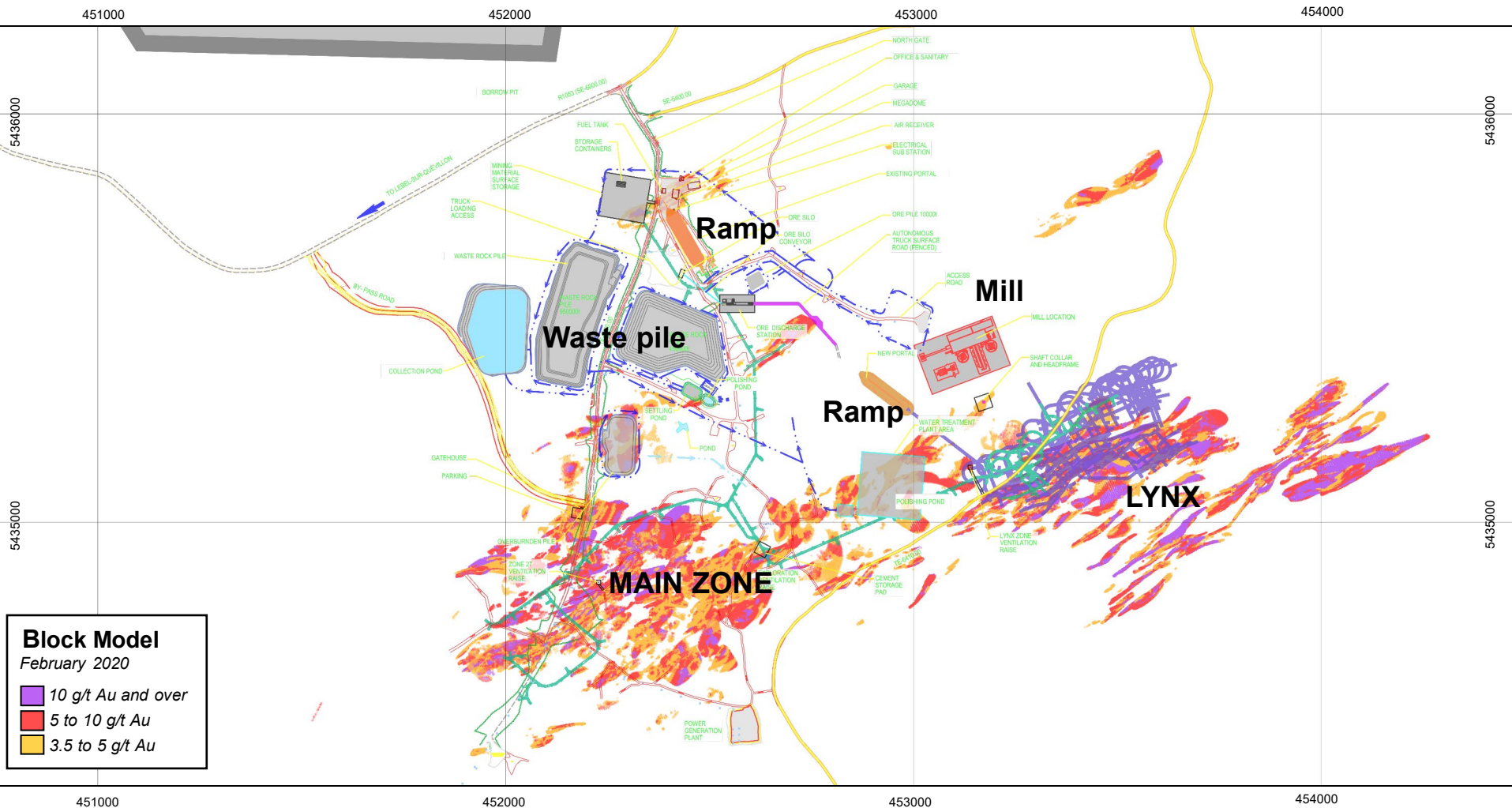
Infill Resource Block Model Predictions vs. Actual Processed

Predicted from Block Model (12.5m Infill Spacing)			Actual Processed Material		
Tonnes	Au g/t	Au Ounces	Tonnes	Au g/t	Au Ounces
5,717	9.40	1,736	5,716	17.8	3,271



PLAN VIEW OF PROPOSED INFRASTRUCTURE

Indicated and Inferred Resources from 0 – 1200m vertical





QUÉBEC AND EYYOU ISTCHEE CREE GRAND ALLIANCE

- **\$4.7-Billion development deal** between the Eeyou Istchee James Bay Cree and the Government of Quebec
- **30-year** economic development plan
- **Road, Rail, Deep sea port**
- **New power lines** and electrification of industrial projects

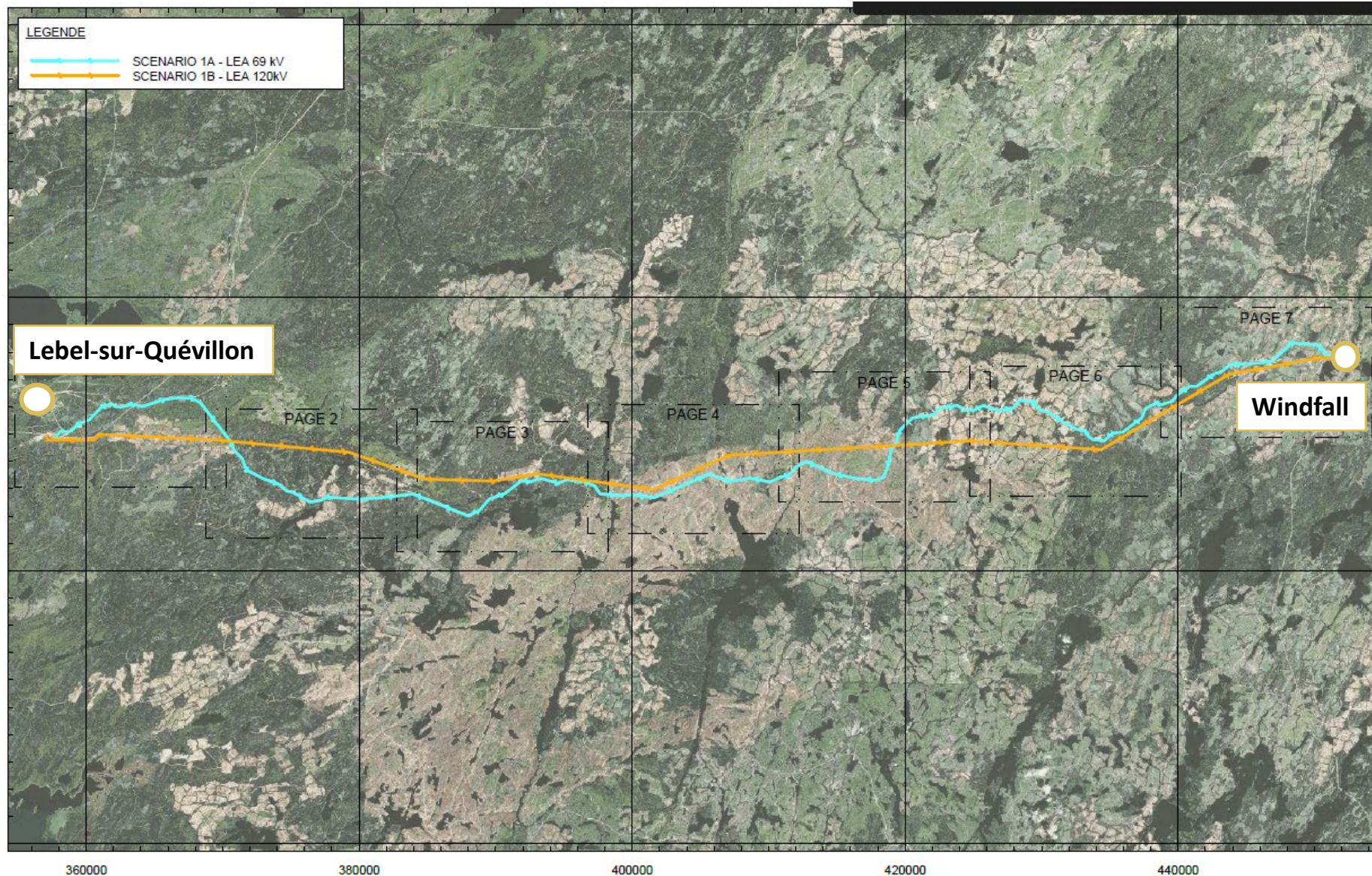


Cree Grand Chief Abel Bosum (seated left) and Quebec Premier François Legault, Cree community chiefs and provincial ministers at the signing of the Grande Alliance economic development agreement MOU





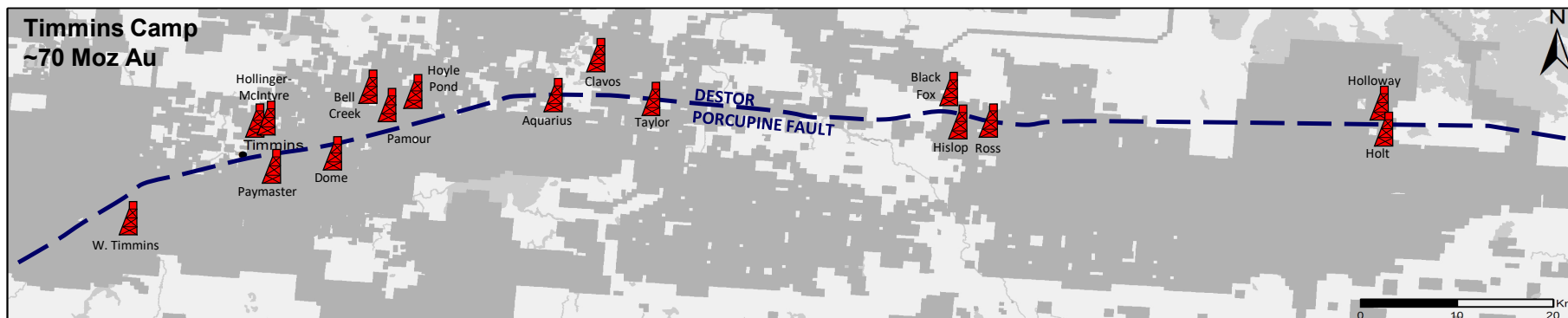
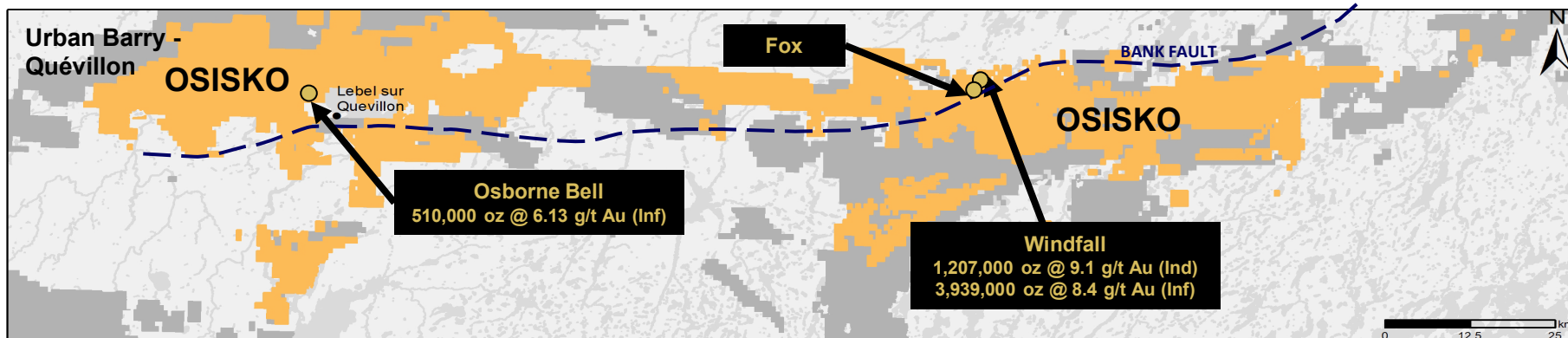
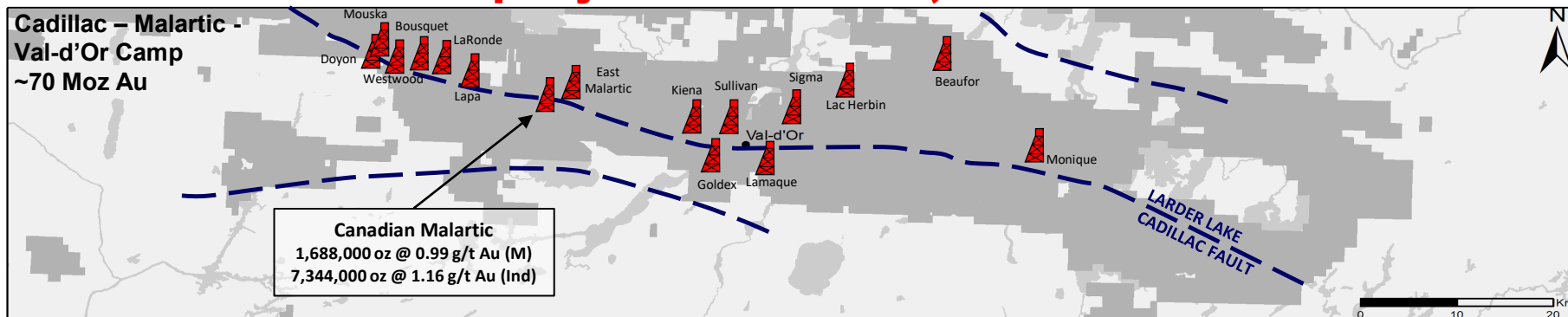
CONCEPTUAL POWERLINE FROM LEBEL-SUR-QUÉVILLON





AN EMERGING MINING DISTRICT

District-Scale Property Position: Over 2,700 km²



DETAILED DRILLING FOR THE NEXT WINDFALL STARTS THIS FALL: FOX, TARGET 1 AND TARGET 2

