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Au

Gold

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## DEVELOPING ANOTHER WORLD CLASS GOLD DEPOSIT IN QUÉBEC

February 2020

[WWW.OSISKOMINING.COM](http://WWW.OSISKOMINING.COM) | TSX:OSK



## 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 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 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 gold deposit; the projected capital expenditures of mining activities at the Windfall gold deposit; upgrading a inferred mineral resource to a measured mineral resource or indicated mineral resource category; future drilling at the Windfall 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 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 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](http://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 are 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 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](http://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](http://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.



# UPDATED WINDFALL MINERAL RESOURCE ESTIMATE

**Windfall Gold Deposit Mineral Resource Estimate Sensitivity Table**

<b>Cut-off Grade (Au)</b>	<b>Indicated</b>			<b>Inferred</b>		
	<b>Tonnes <sup>(1)</sup> (000 t)</b>	<b>Grade (g/t)</b>	<b>Ounces Au <sup>(1)</sup> (000 oz)</b>	<b>Tonnes <sup>(1)</sup> (000 t)</b>	<b>Grade (g/t)</b>	<b>Ounces Au <sup>(1)</sup> (000 oz)</b>
5.00 g/t	2,792	11.4	1,026	9,495	10.7	3,258
4.50 g/t	3,150	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	1,206	14,532	8.4	3,938
3.00 g/t	4,773	8.3	1,274	17,212	7.6	4,218

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

<b>Zone</b>	<b>Indicated</b>			<b>Inferred</b>		
	<b>Tonnes <sup>(1)</sup> (000 t)</b>	<b>Grade (g/t)</b>	<b>Ounces Au <sup>(1)</sup> (000 oz)</b>	<b>Tonnes <sup>(1)</sup> (000 t)</b>	<b>Grade (g/t)</b>	<b>Ounces Au <sup>(1)</sup> (000 oz)</b>
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	638
<b>Total</b>	<b>4,127</b>	<b>9.1</b>	<b>1,206</b>	<b>14,532</b>	<b>8.4</b>	<b>3,938</b>

**Notes:** <sup>1</sup> Values are rounded to nearest thousand which may cause apparent discrepancies.

<sup>2</sup> Lynx area includes: Lynx Main, Lynx HW, Lynx SW and Lynx 4, Triple Lynx.

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

<sup>4</sup> See Windfall Gold Deposit Mineral Resource Estimate Notes further below.



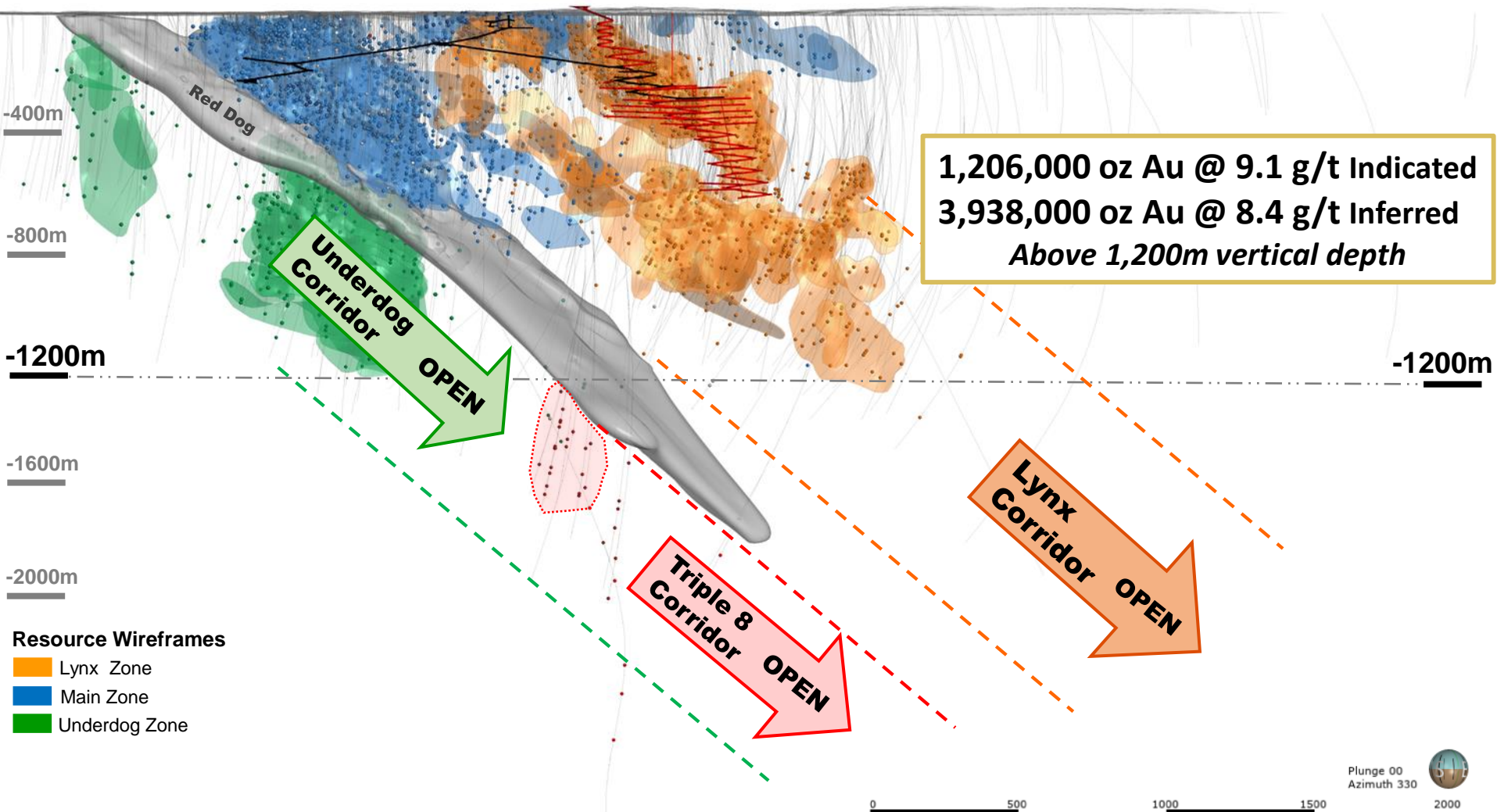
## **HIGHER GRADE – MORE TONNES – MORE OUNCES**

- Windfall is a **world-class deposit** and **continues to grow** with drilling
- Mineral resource **estimate entirely above 1,200m vertical depth**
- **2019 drill program:** **indicated** mineral resource estimate increased by **62% (added 452,000 ounces)** and **inferred** mineral resource estimate increased by **60% (added 1,572,000 ounces)**
- **Lynx** hosts **average grade** of **>10 g/t Au** and the **majority** of indicated and inferred **mineral resource estimate**
- **Significant high-grade zones** (Lynx 4, Triple Lynx) remain **open down plunge**



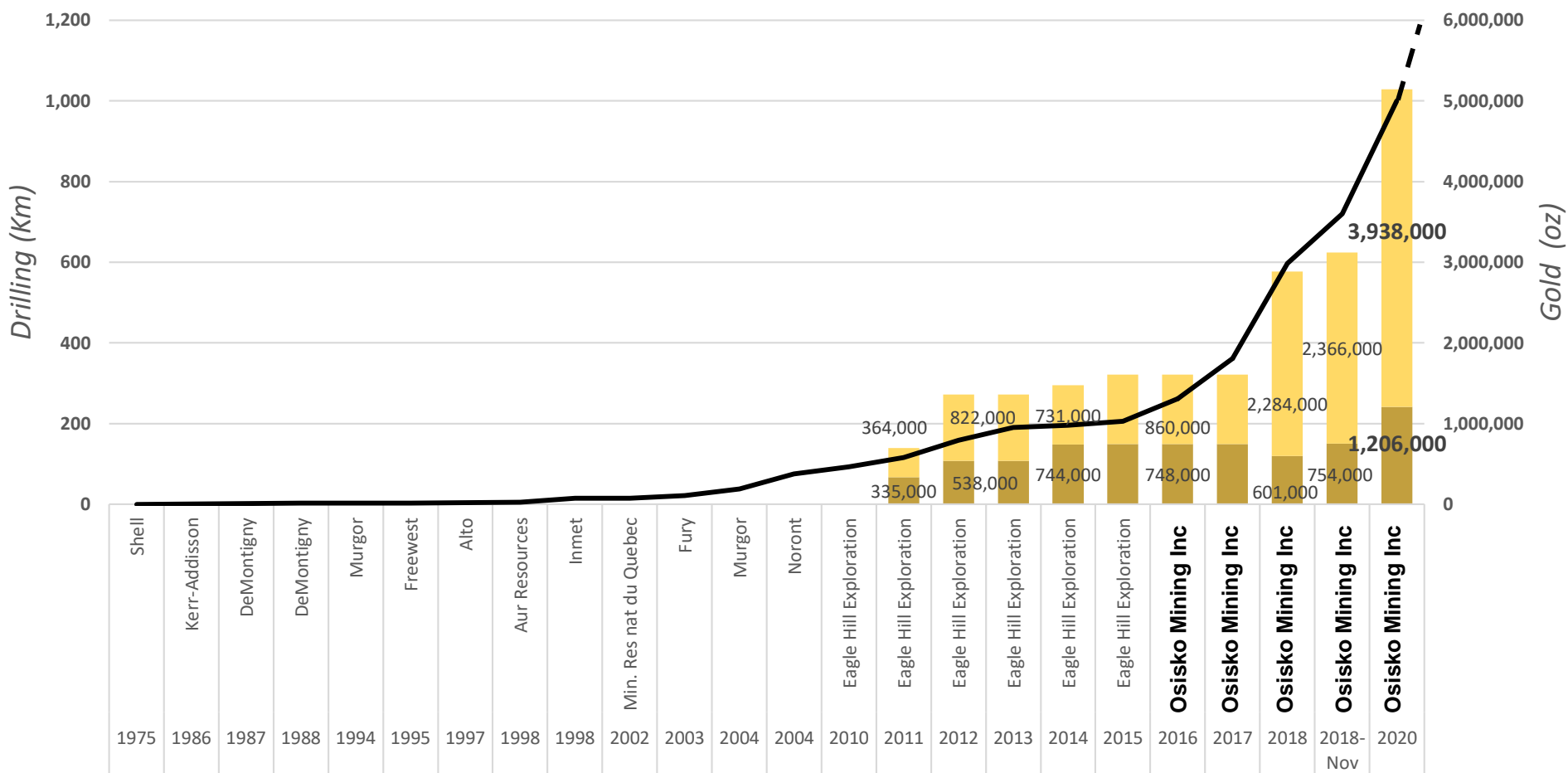
# WORLD-CLASS WINDFALL DEPOSIT AFTER 1,000,000 METRES - OPEN DOWN PLUNGE AND EXPANDING

Composite longitudinal section





# WINDFALL – METRES DRILLED vs RESOURCE SIZE



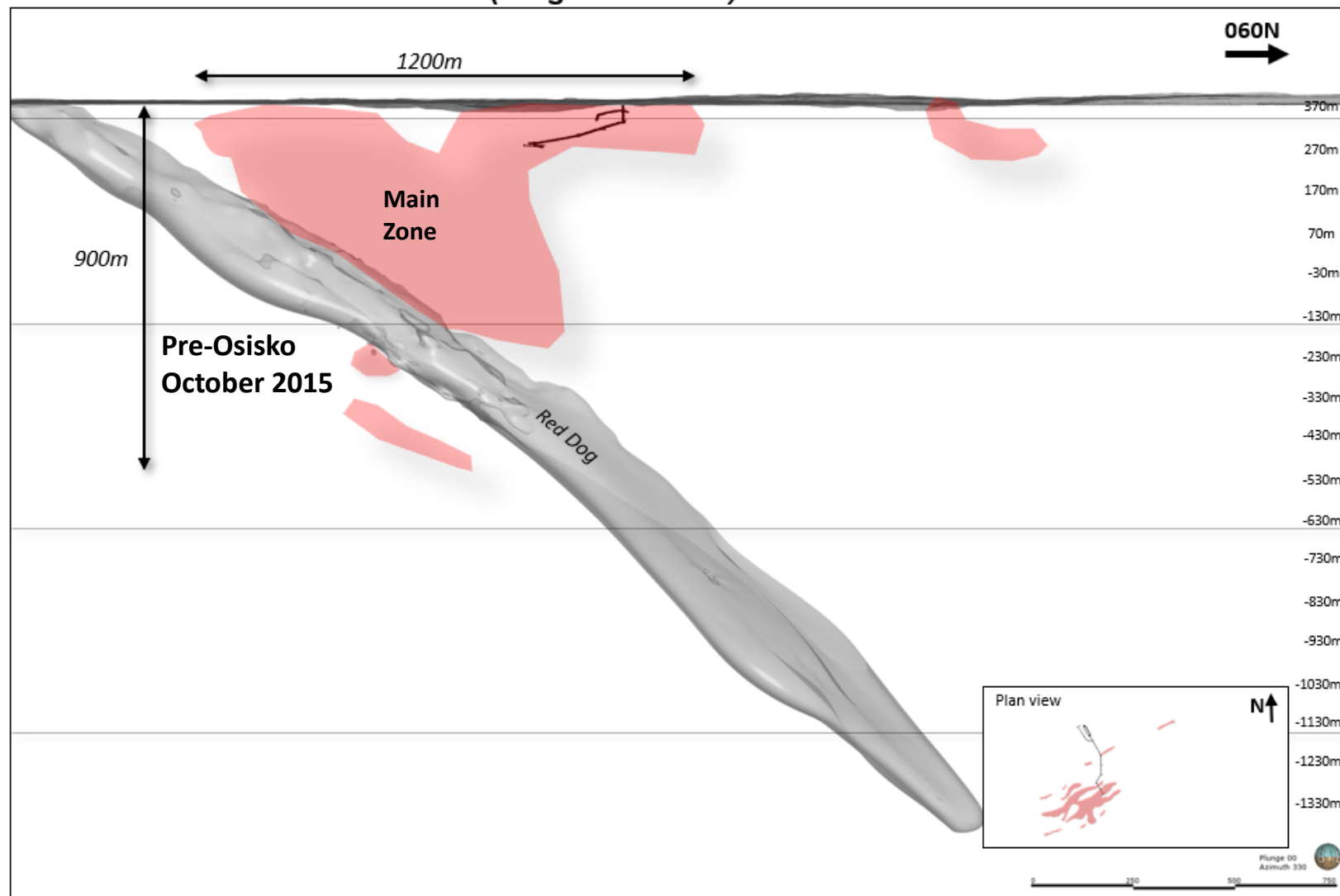
Windfall Exploration by Year and Company

Indicated resources (000) Au oz      Inferred resources (000) Au oz      Total number of metres drilled



# WINDFALL RESOURCE AREAS 2015

Windfall – General Resource Area (3.0 g/t Au cut-off)

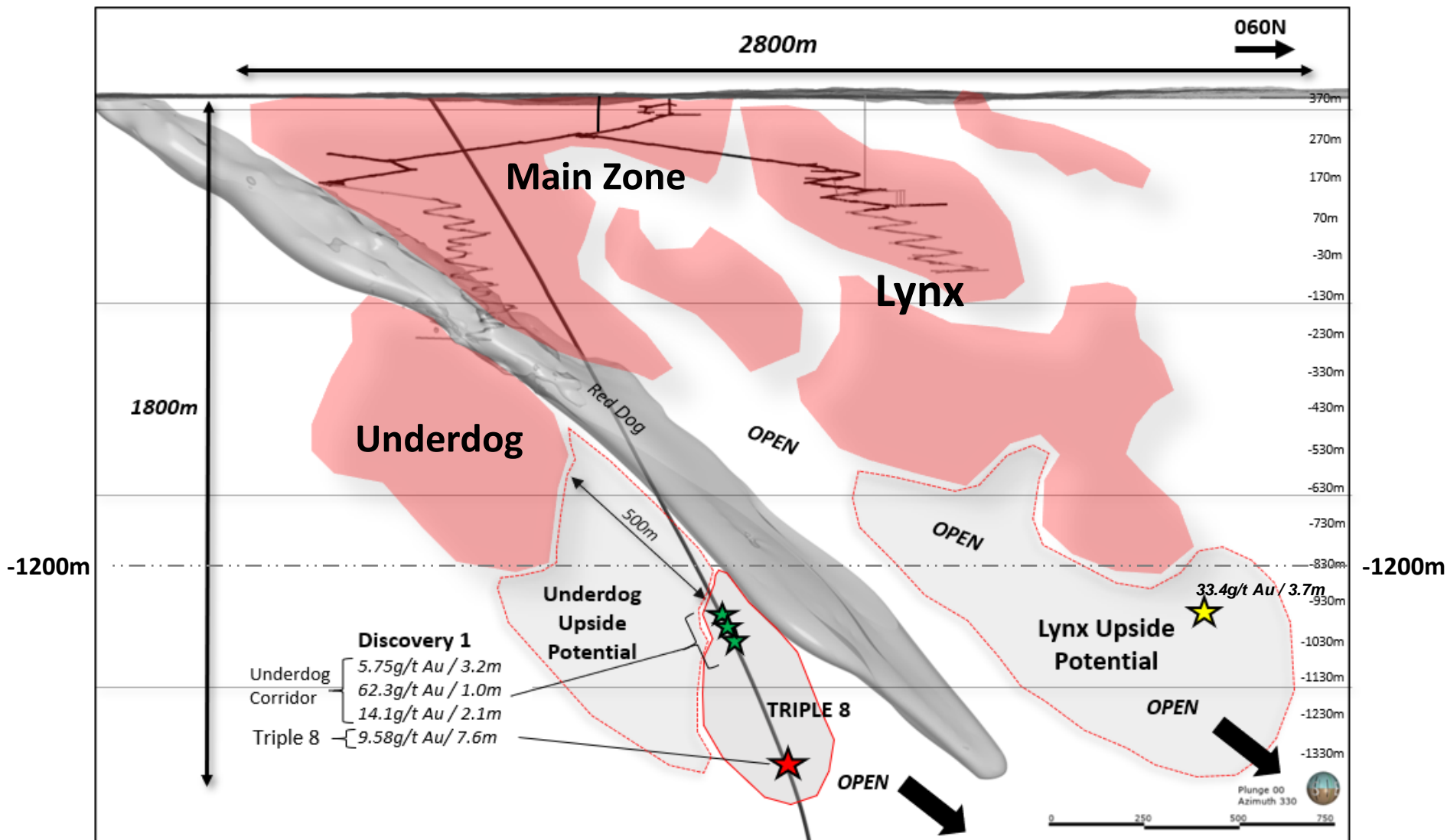






# WINDFALL RESOURCE AREAS 2020 AND AREAS FOR POTENTIAL RESOURCE EXPANSION

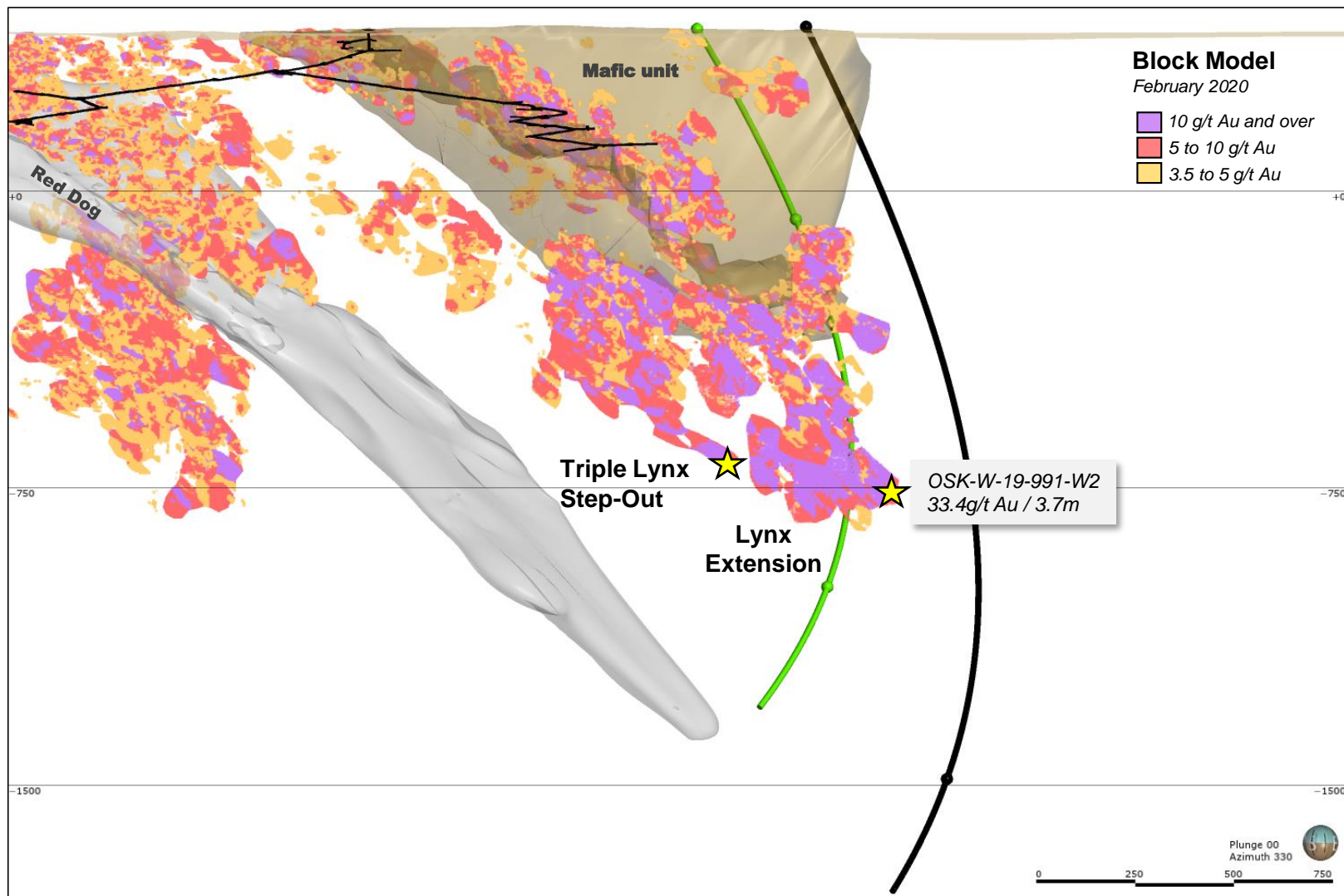
Windfall – General Resource Area – February 2020 (3.5 g/t Au cut-off)



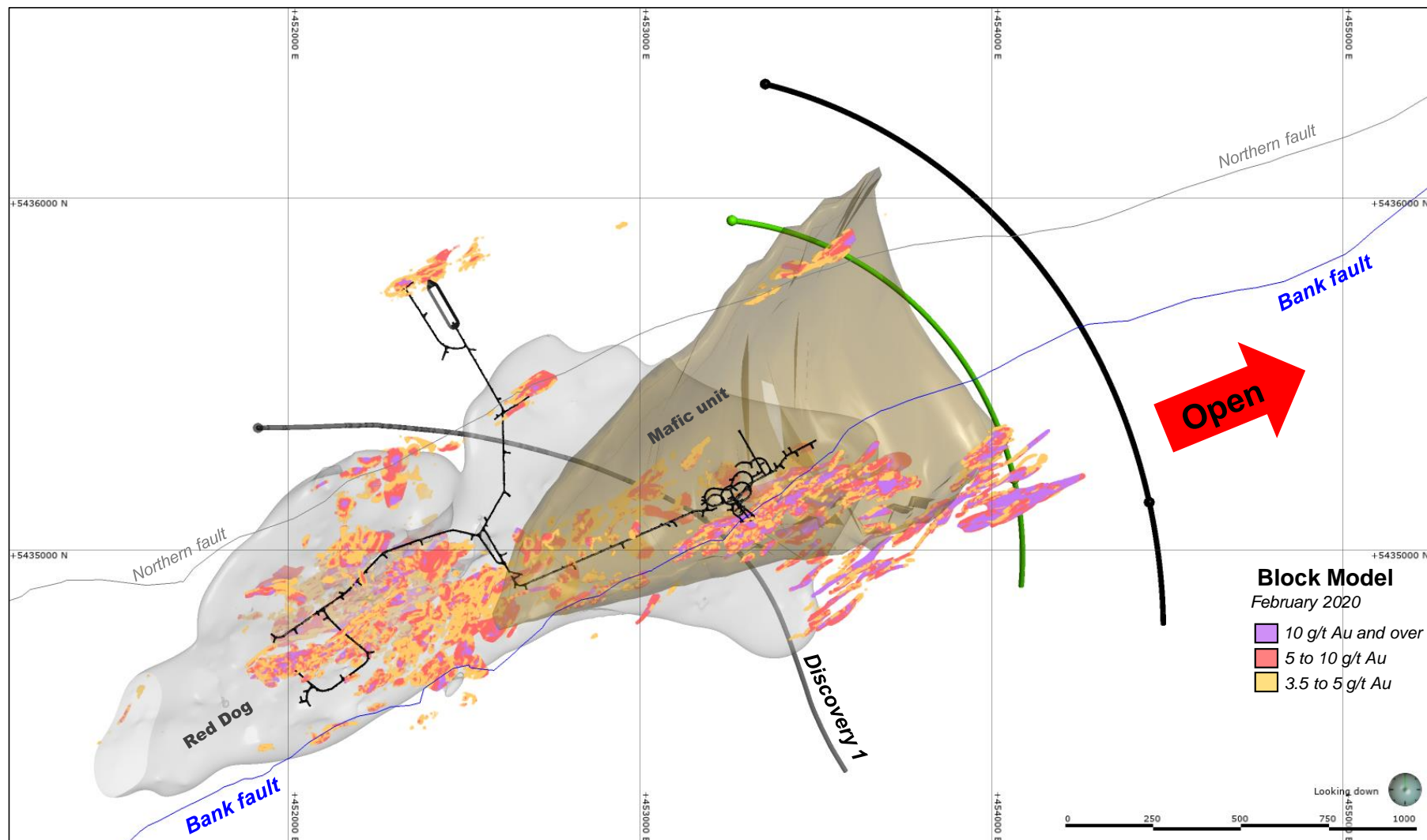


# POTENTIAL FOR RESOURCE EXPANSION: LYNX CONTINUES TO GROW

## Long Section



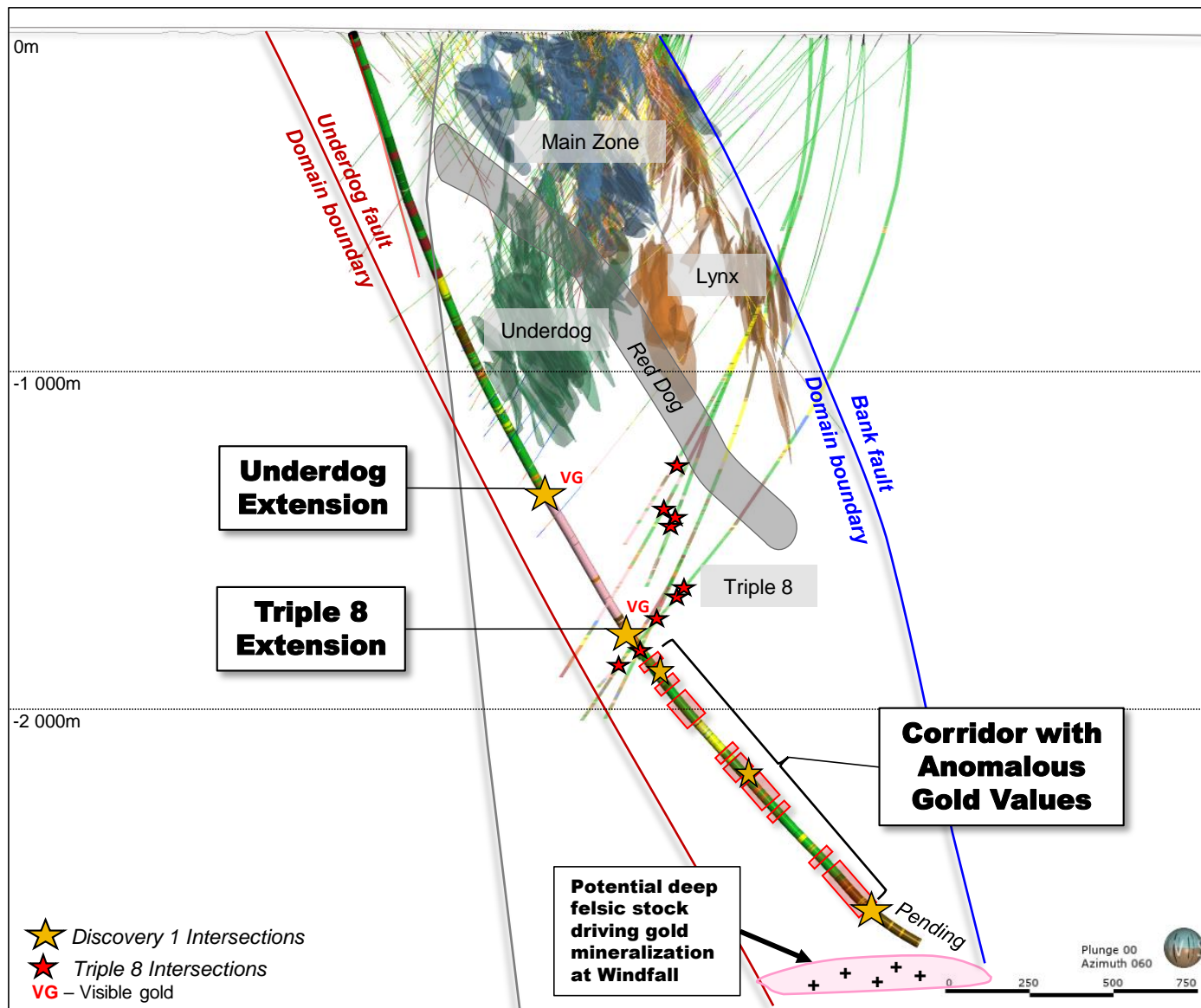
# POTENTIAL RESOURCE EXPANSION: LYNX DOWN PLUNGE AREAS BEING TESTED





# DISCOVERY 1: STRONG INDICATIONS OF MORE

Section 3100 E 700m thickness

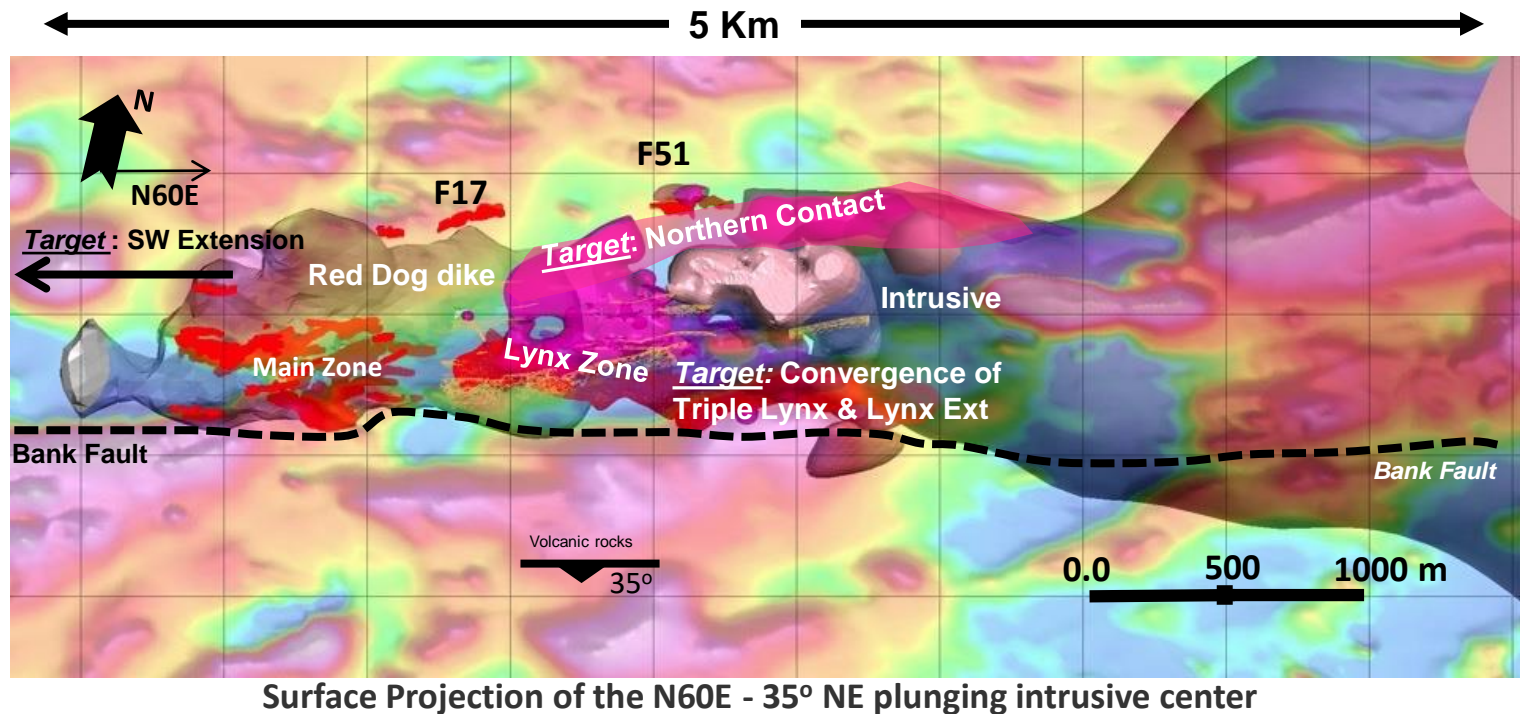






# WINDFALL INTRUSIVE SYSTEM

- New zones discovered in 2019: Lynx 4 Extension, Triple Lynx, Windfall North
- 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

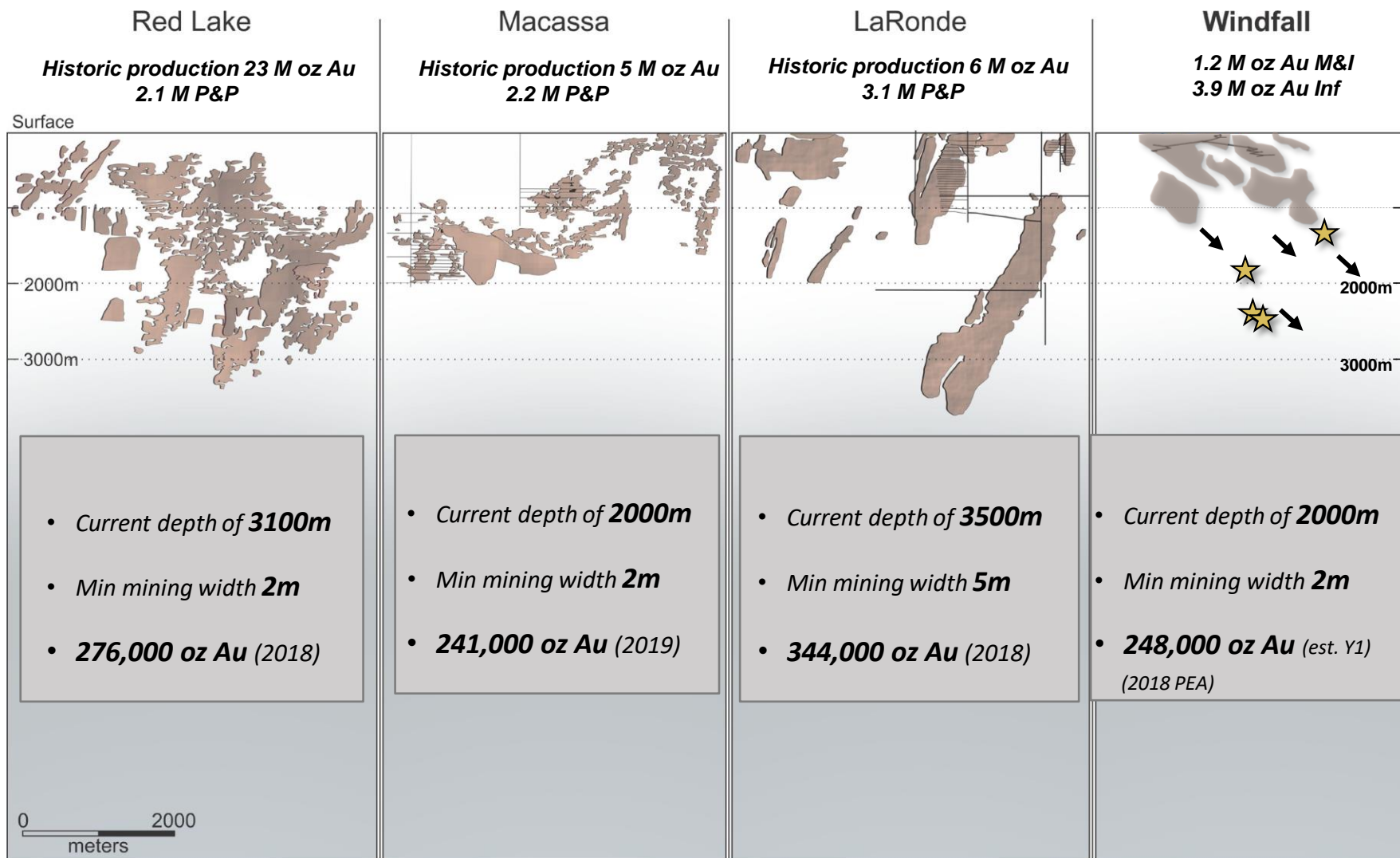






# Major Canadian Archean Gold Deposits – Vertical Extent

*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 AND ZONE 27 BULK SAMPLES



# 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



# ZONE 27 BULK SAMPLE RECONCILED RESULTS

- Average grade of **8.53 g/t Au** is **26% higher** than predicted in the 12.5 metre infill drilling block model
- Average Au recovery of **93.7%** was achieved using the contract mill
- **34.5%** 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
5,500	8.53	8.20	1,508	1,450	11.6	34.5	398.1	59.2	93.7	93.4	1,413	1,355

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 Bimlat.

## Infill Resource Block Model Predictions vs. Actual Processed

Predicted Block Model (12.5m Infill Spacing)			Actual Processed Material		
Tonnes	Au g/t	Au Ounces	Tonnes	Au g/t	Au Ounces
5,512	6.76	1,198	5,500	8.53	1,508





## CONCEPTUAL SITE LAYOUT - DEPOSIT ACCESS

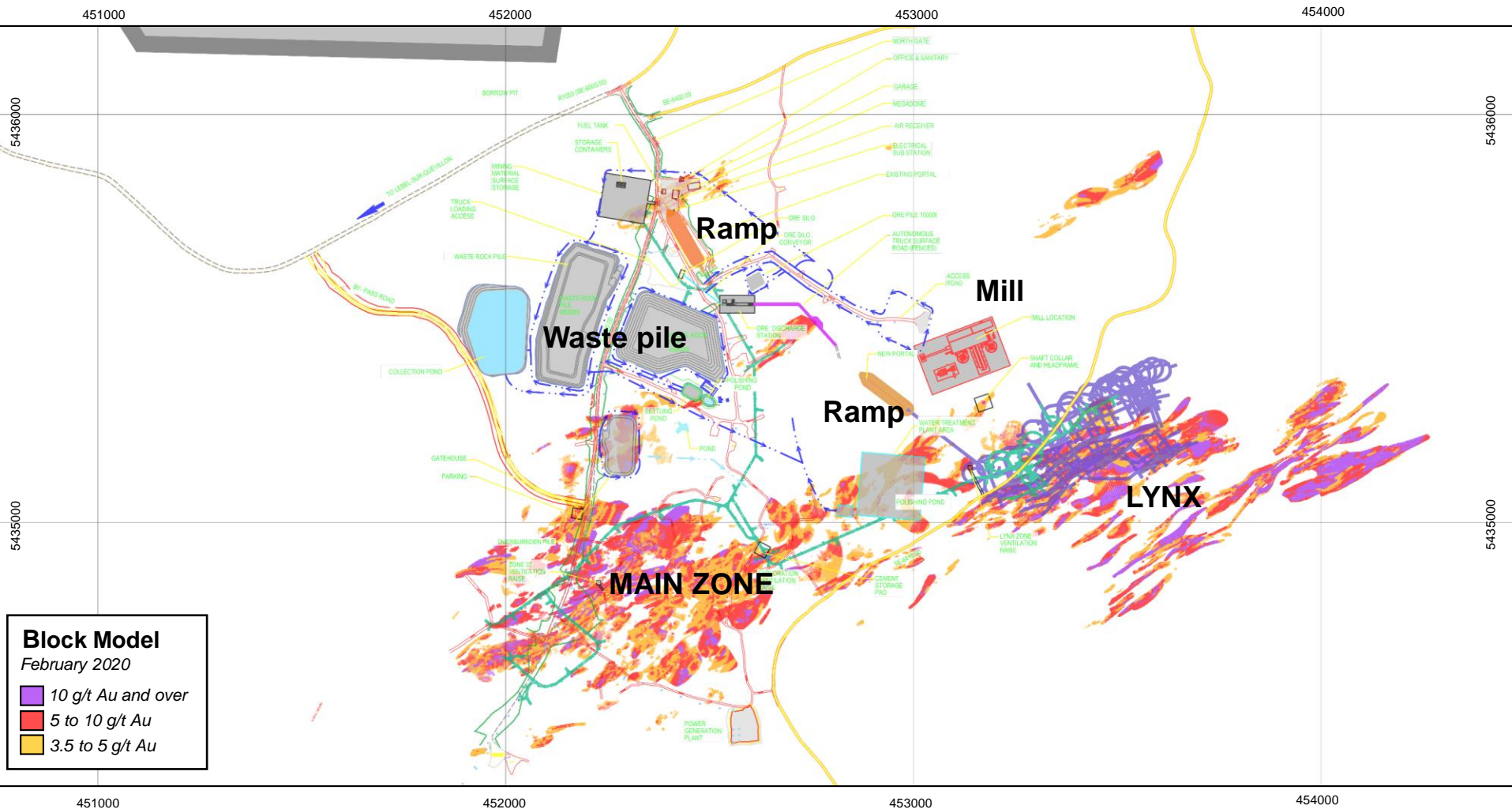






# PLAN VIEW OF PROPOSED INFRASTRUCTURE

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**
- **100s of km of new power lines** and electrification of industrial projects



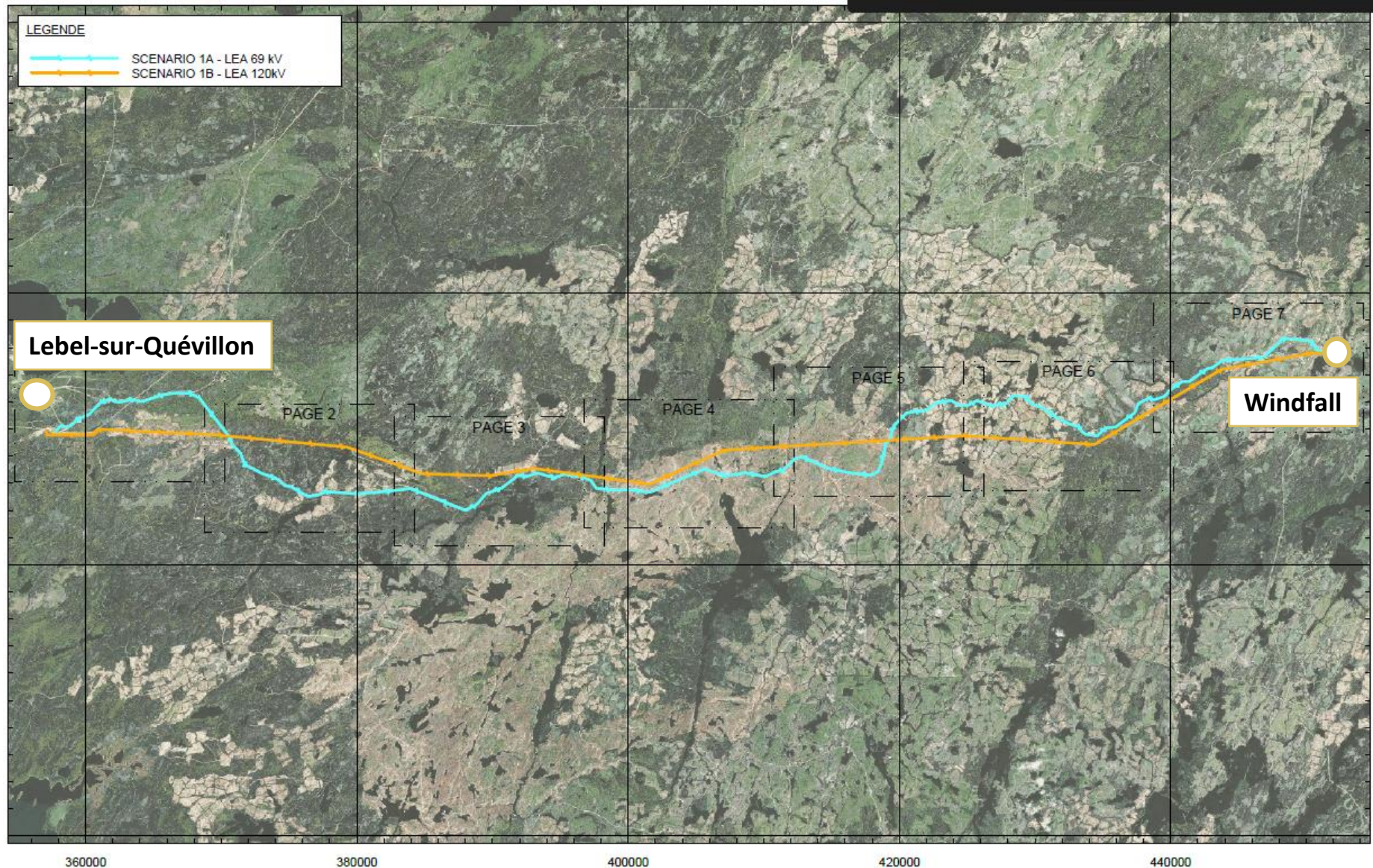
Cree Grand Chief Abel Bosum (seated left) and Quebec Premier François Legault, Cree community chiefs and provincial ministers at the signing of the Grande Alliance economic development agreement MOU.







# CONCEPTUAL POWERLINE FROM LEBEL-SUR-QUÉVILLON

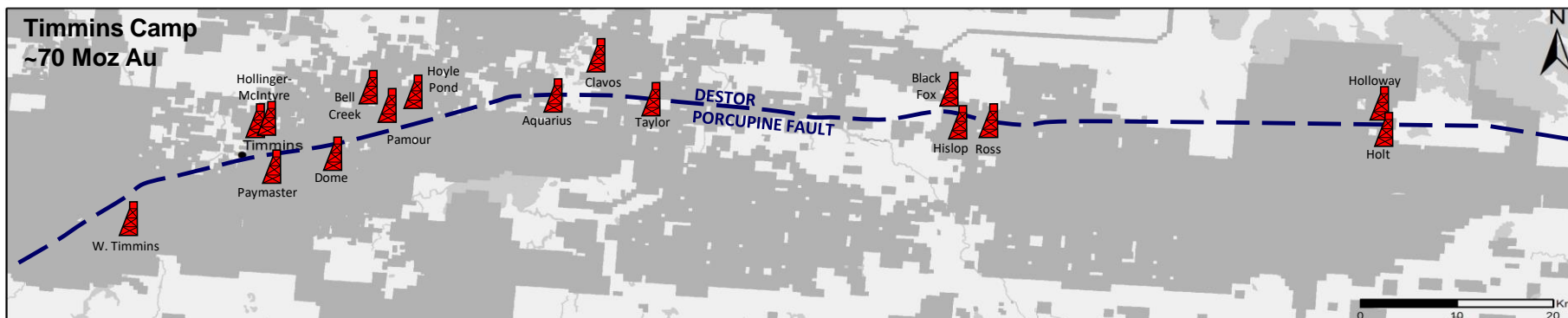
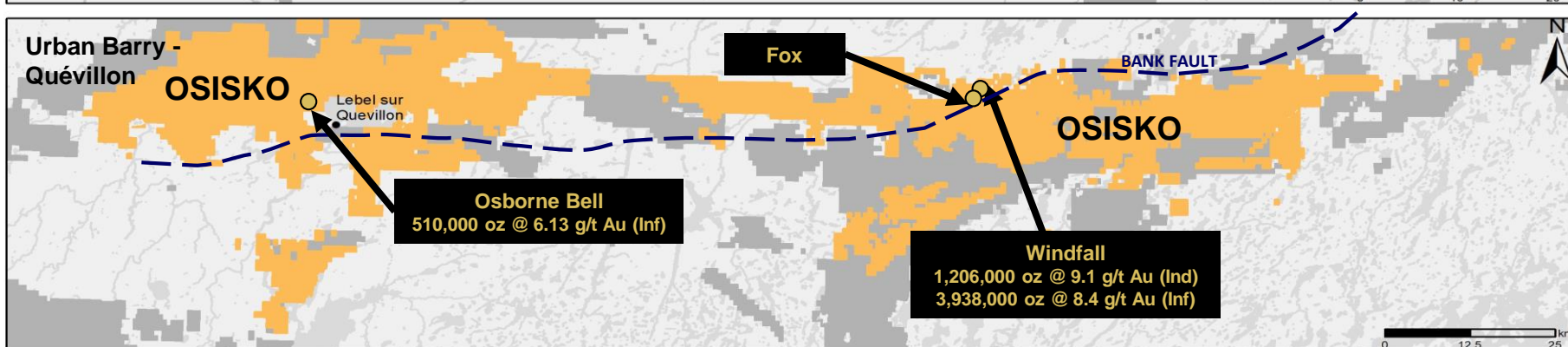
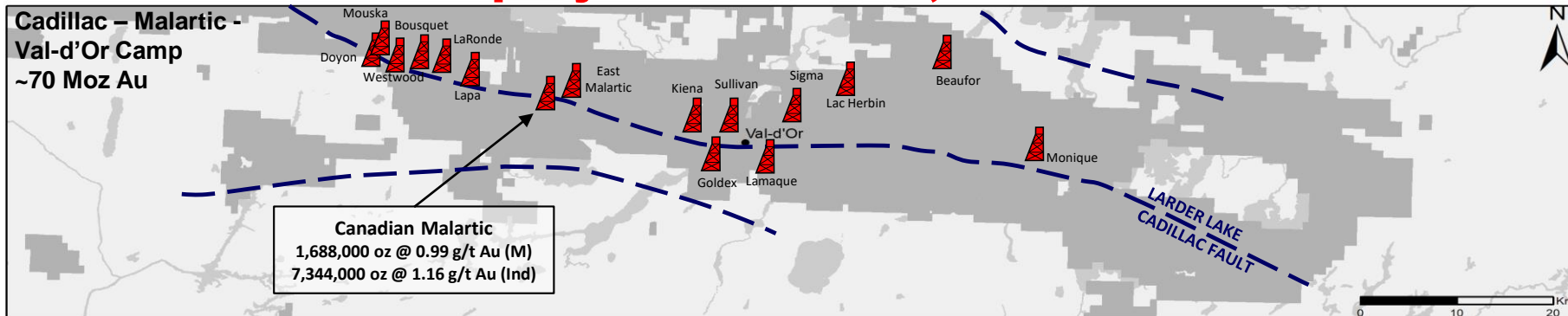






# AN EMERGING MINING DISTRICT

**District-Scale Property Position: Over 2,700 km<sup>2</sup>**







# SUMMARY AND CATALYSTS

- **Windfall** is a **rare world-class project** located in **one of the world's best mining jurisdictions: Québec**
- **Well financed** with **>\$250M** in fully diluted cash and equities
- **Singular focus** on **Windfall & District: *no acquisitions***
- Additional **250,000 metres** of drilling at Windfall **in 2020** with **20+ drills: *infill, expansion, Fox and regional targets***
- **Positive reconciliation** from **bulk samples** in **Lynx** and **Zone 27**
- **Feasibility study in progress**



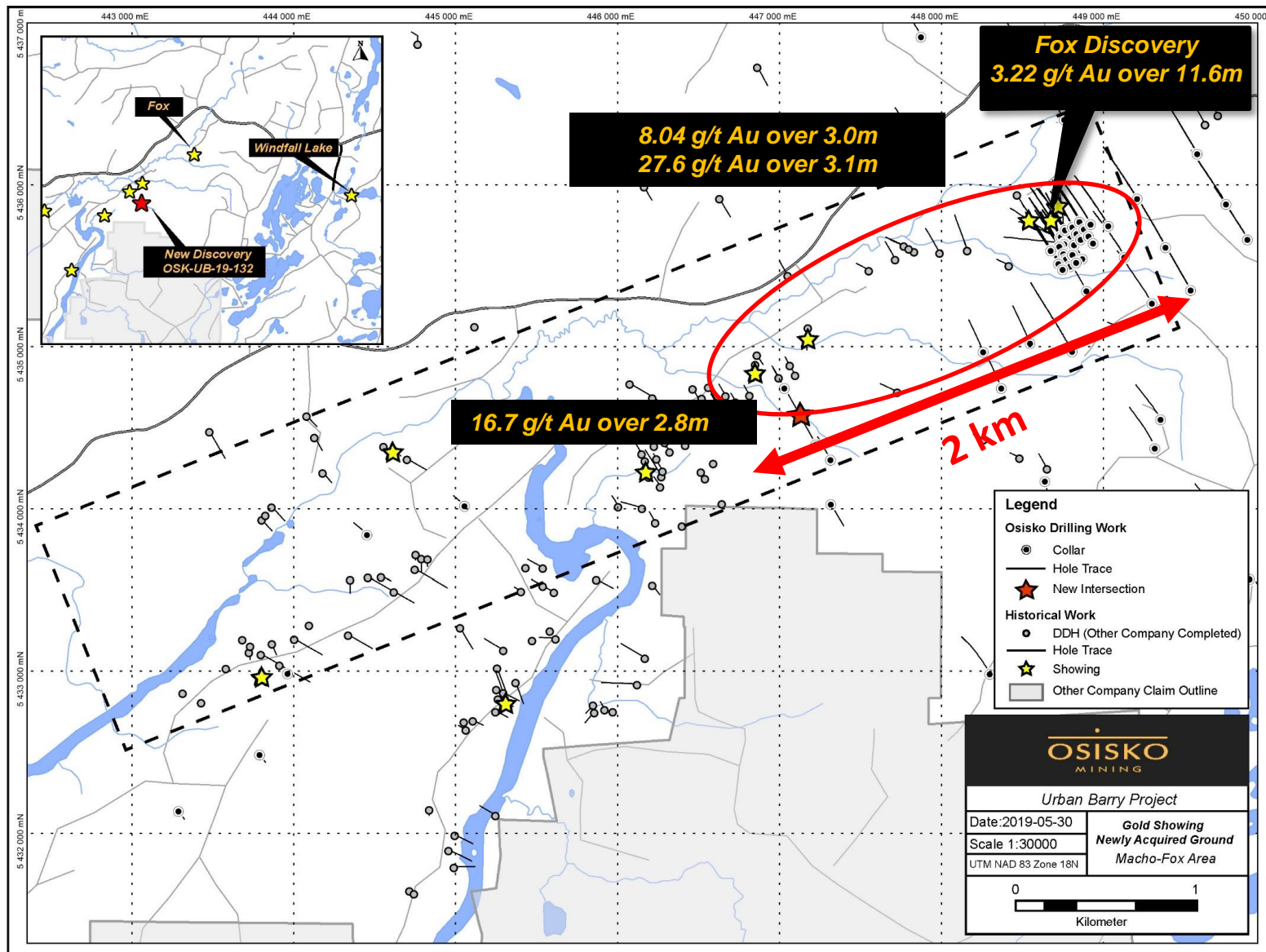
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## APPENDIX



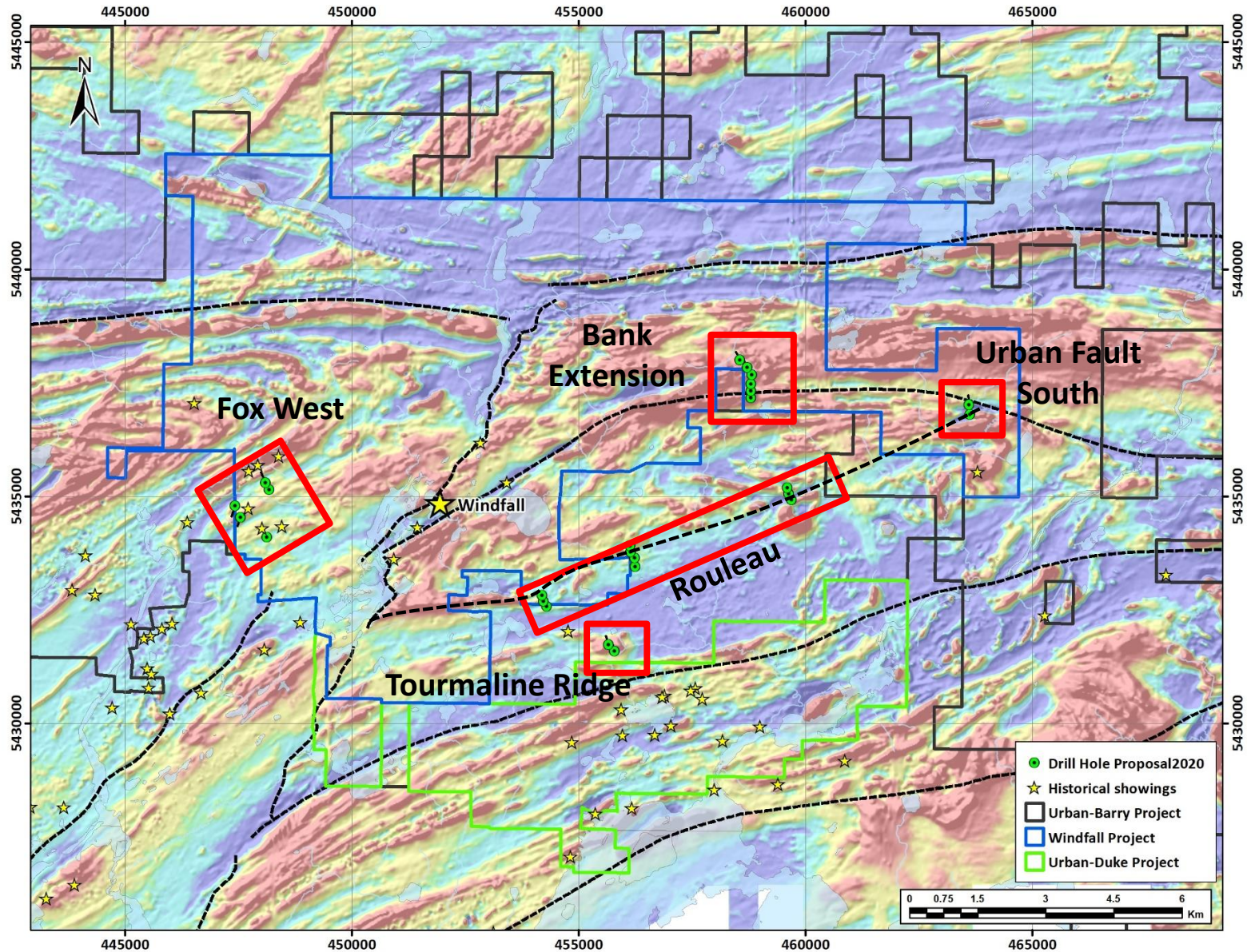
# FOX DISCOVERY





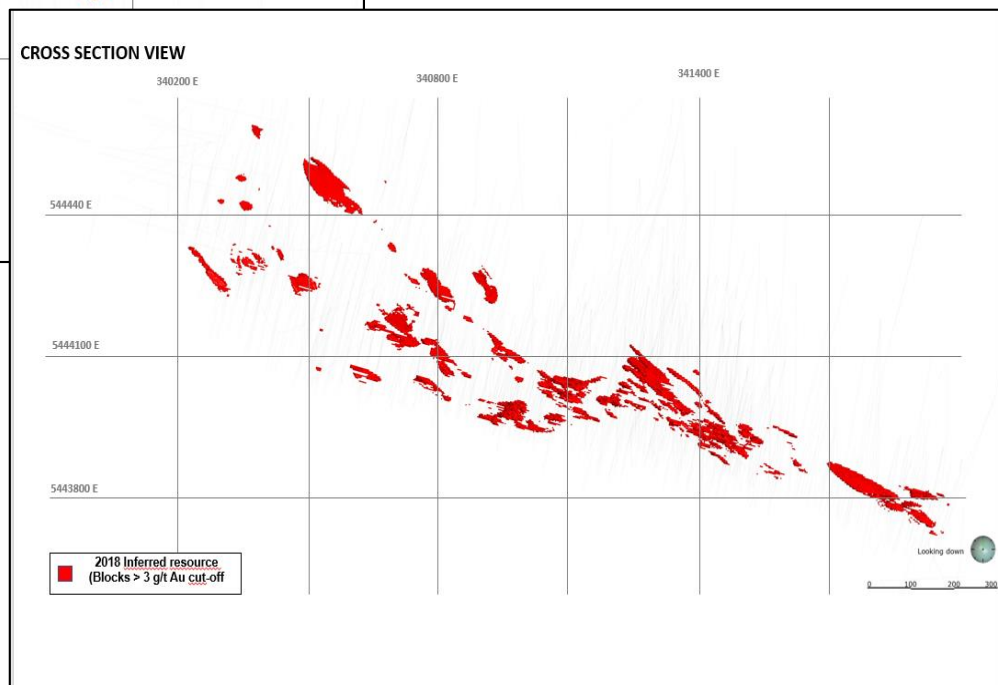
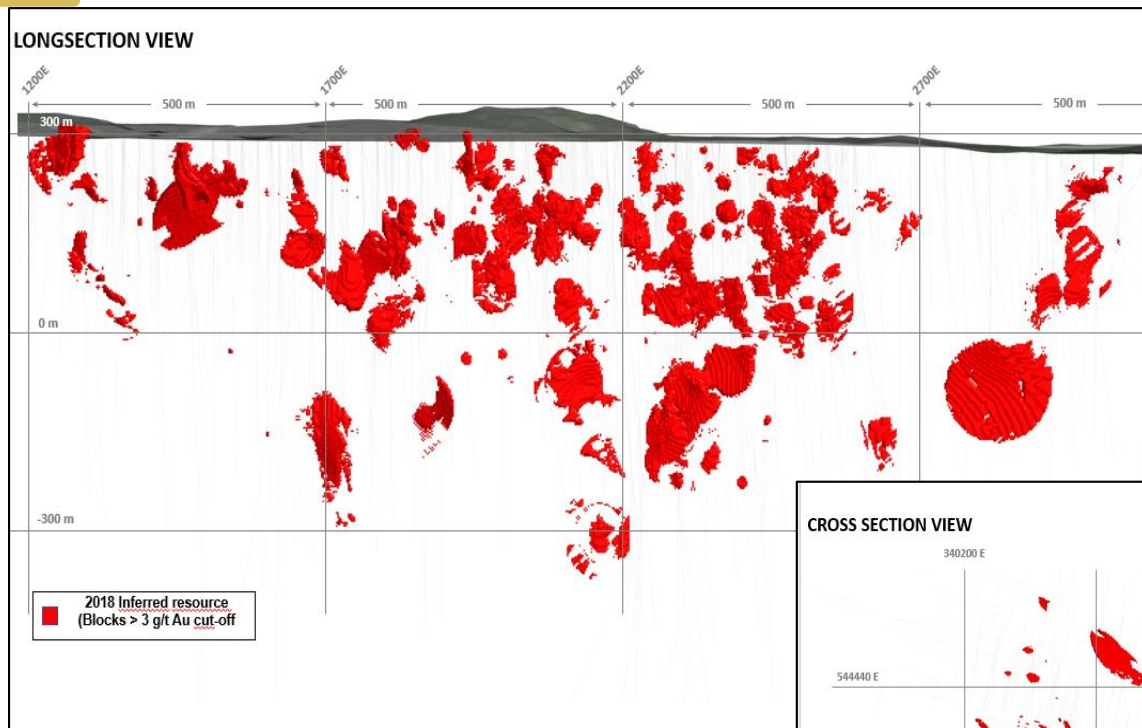


# 2020 URBAN BARRY REGIONAL EXPLORATION





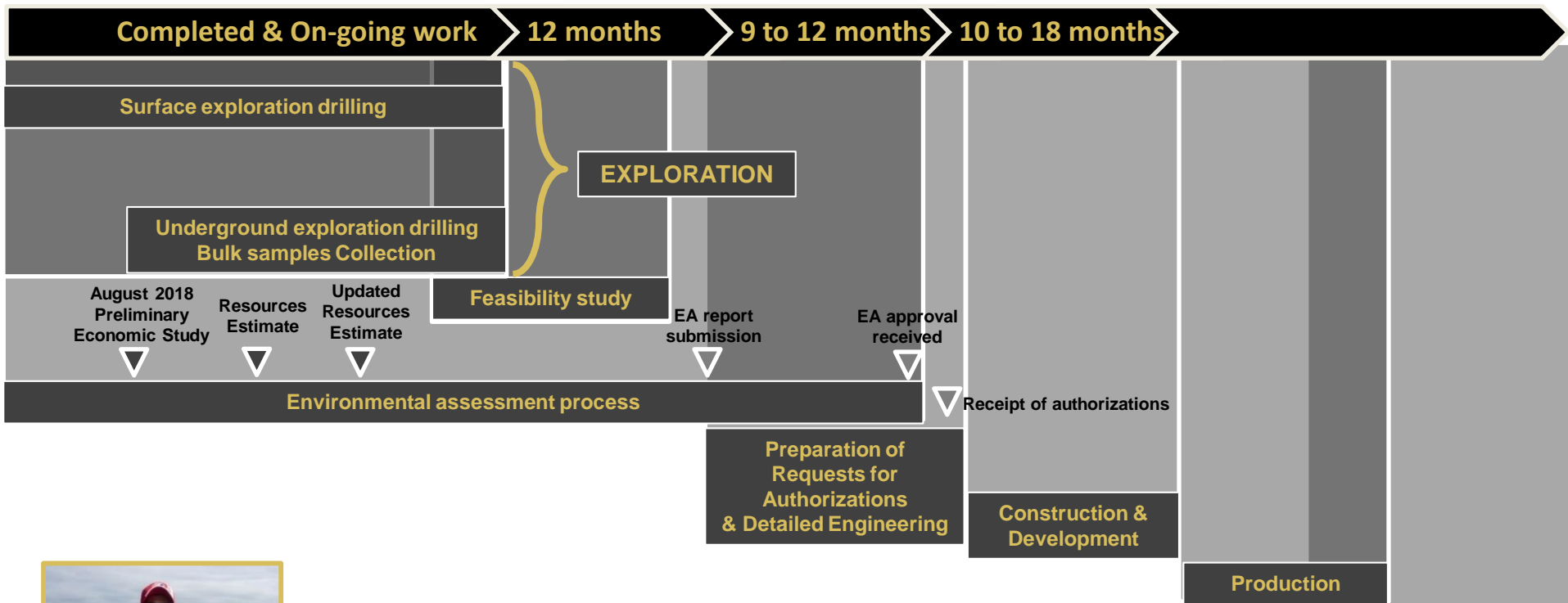
# OSBORNE BELL DEPOSIT MARCH 2018







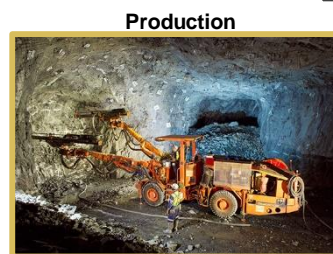
# PROJECT SCHEDULE



Environmental Assessment (EA)



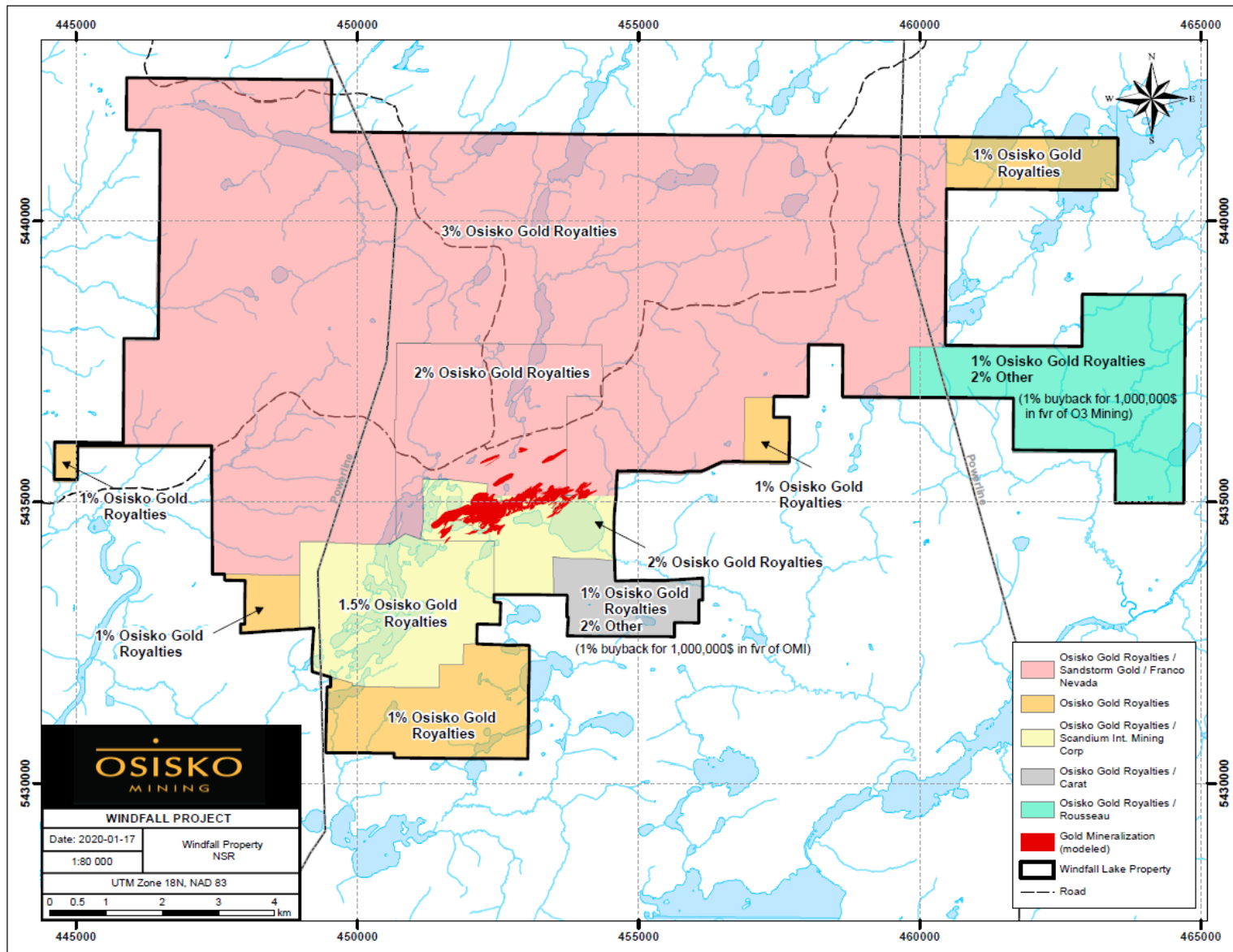
Construction



Monitoring and management continues



# WINDFALL ROYALTIES





# SIGNIFICANT INDEPENDENT GOLD DEVELOPMENT PROJECTS IN CANADA



## Golden Triangle Projects

### Ascot Resources

1,849,000 Oz Au @ 7.9 g/t Au (M&I)  
1,250,000 Oz Au @ 7.1 g/t Au (Inferred)

### Cow Mountain

#### Barkerville Gold Mines (100% OR)

2,400,000 Oz @ 5.6 g/t Au (M&I)  
1,900,000 Oz @ 5.0 g/t Au (Inferred)

### Back River Project Sabina Gold and Silver Corp

1,346,000 Oz @ 6.0 g/t Au (Proven)  
1,157,000 Oz @ 6.7 g/t Au (Probable)

### Springpole First Mining Gold

4,670,000 Oz @ 1.04 g/t Au (M&I)  
230,000 Oz @ 0.63 g/t Au (Inferred)

### Madsen Project Pure Gold

1,000,000 Oz @ 9.0 g/t Au (P&P)  
2,100,000 Oz @ 8.9 g/t Au (M&I)

### Horne 5 Project Falco Resources (12.7% OR)

6,139,000 Oz AuEq @ 2.4 g/t AuEq (P&P)  
7,501,000 Oz AuEq @ 2.6 g/t AuEq (M&I)

### Marban O3 Mining Inc.

296,000 Oz @ 1.4 g/t Au (Measured)  
1,235,000 Oz @ 1.5 g/t Au (Indicated)  
599,000 Oz @ 1.1 g/t Au (Inferred)

### Valentine Gold Project Marathon Gold Corp

3,090,000 Oz @ 1.8 g/t Au (M&I)  
960,000 Oz @ 1.8 g/t Au (Inferred)

### Windfall Gold Project Osisko Mining Inc.

1,206,000 Oz @ 9.1 g/t Au (Indicated)  
3,938,000 Oz @ 8.4 g/t Au (Inferred)





# Windfall Gold Deposit Mineral Resource Estimate Notes



- The Windfall mineral resource estimate is compliant with the November 29, 2019 CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines (as defined below).
- 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, were included in the mineral resource estimate.
- As of January 3, 2020, the database comprises a total of 2,941 drill holes for 1,101,008 metres of drilling in the area extent of the mineral resource estimate, of which 2,280 drill holes (918,273 metres) were completed and assayed by Osisko. The drill hole grid spacing is approximately 25 metre x 25 metre for infill drilling and larger for extension drilling.
- All core assays reported by Osisko were obtained by analytical methods described below under "Quality Control and Reporting Protocols".
- 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 292 tabular, sub-vertical gold-bearing domains defined by individual wireframes with a minimum true thickness of 2.0 metres.
- Assays were composited within the mineralization domains into 2.0 metres length composites. A value of 0.00125 g/t Au ( $\frac{1}{4}$  of the detection limit) was applied to unassayed core intervals.
- 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 15 g/t Au to 130 g/t Au and are applied using a three-step capping strategy where the capping value decreases as interpolation search distances increase.
- Five (5) 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 sublocked to minimum subcell sizes of 1.25 metres NE, 0.5 metres NW and 1.25 metres height.
- Ordinary Kriging (OK) based interpolations were produced for each area of the Windfall gold deposit. Estimation parameters are based on composite variography analyses.
- Density values of 2.8 were applied to the mineralized zones.
- The Windfall mineral resource estimate is categorized as indicated and inferred mineral resource as follows:
  - The indicated mineral resource category is manually defined and encloses areas where drill spacing is generally less than 25 metres, blocks are informed by a minimum of two drill holes, and reasonable geological and grade continuity is shown.
  - The inferred mineral resource category is manually defined and encloses areas where drill spacing is less than 100 metres, blocks are informed by a minimum of two drill holes, and reasonable, but not verified, geological and grade continuity is observed.
- The mineral resource is reported at 3.5 g/t Au cut-off. The cut-off grade is calculated using the following economic parameters: gold price at 1,325 US\$/oz, exchange rate at 1.30 USD/CAD, 93% mill recovery; selling cost at 5 C\$/oz, 2% NSR royalties, mining cost at 100 C\$/t milled, G&A cost at 30 C\$/t milled, processing cost at 40 C\$/t, transportation cost at 2 C\$/t considering mill at site, and environment cost at 4 C\$/t.
- Estimates use metric units (metres, tonnes and g/t). Metal contents are presented in troy ounces (metric tonne x grade / 31.10348).
- Micon International Limited 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.
- These mineral resources are not mineral reserves as they do not have 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 inferred mineral resources as indicated or measured mineral resources, and it is uncertain if further exploration will result in upgrading them to these categories.