



79
Au
Gold
.....
196.967

DEVELOPING THE HIGH-GRADE WORLD CLASS WINDFALL GOLD DEPOSIT IN QUÉBEC

February 2021



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) 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 17, 2021.



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 17, 2021 (entitled "Osisko Mining updates Windfall Mineral Resource Estimate", a copy of which will be available on SEDAR (www.sedar.com) under Osisko's issuer profile within 45 days from the press release date.

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 entitled "Mineral Resource Estimate for the Windfall Project", "Located in the Abitibi Greenstone Belt, Urban Township, Eeyou Istchee James Bay, Québec, Canada" (with an effective date of November 30, 2020) that will be available within 45 days from February 17, 2021 in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") available on SEDAR (www.sedar.com) under Osisko's issuer profile.

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 November 30, 2020 was (i) prepared by Judith St-Laurent, P.Geo (OGQ #1023), B.Sc., Director of Resources Evaluation at Osisko, and (ii) reviewed and approved by Pierre-Luc Richard, P.Geo.(OGQ#1119), each of whom is a "qualified person" within the meaning of NI 43-101. Mr. Richard is an employee of BBA Inc. 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), President of Osisko, who is a "qualified person" within the meaning of NI 43-101.



- ✓ Windfall is world-class in scale and grade and continues to grow
- ✓ M&I ounces average 9.6 g/t Au and have increased by 54% to 1.86M oz
- ✓ Year end MRE targeting +3M oz M&I
- ✓ Lynx: 11.3 g/t Au Measured; 11.0 g/t Au Indicated; 9.9 g/t Au Inferred (60% of MRE)
- ✓ Discovery Cost \$US38/oz¹, 4.5 oz defined per metre drilled²
- ✓ Bulk samples have reconciled with higher grade (26% - 89%)
- ✓ Exploration ramp continues towards Triple Lynx bulk sample and test stoping in progress
- ✓ Advancing work on mill sizing, power line, IBA, feasibility and permitting



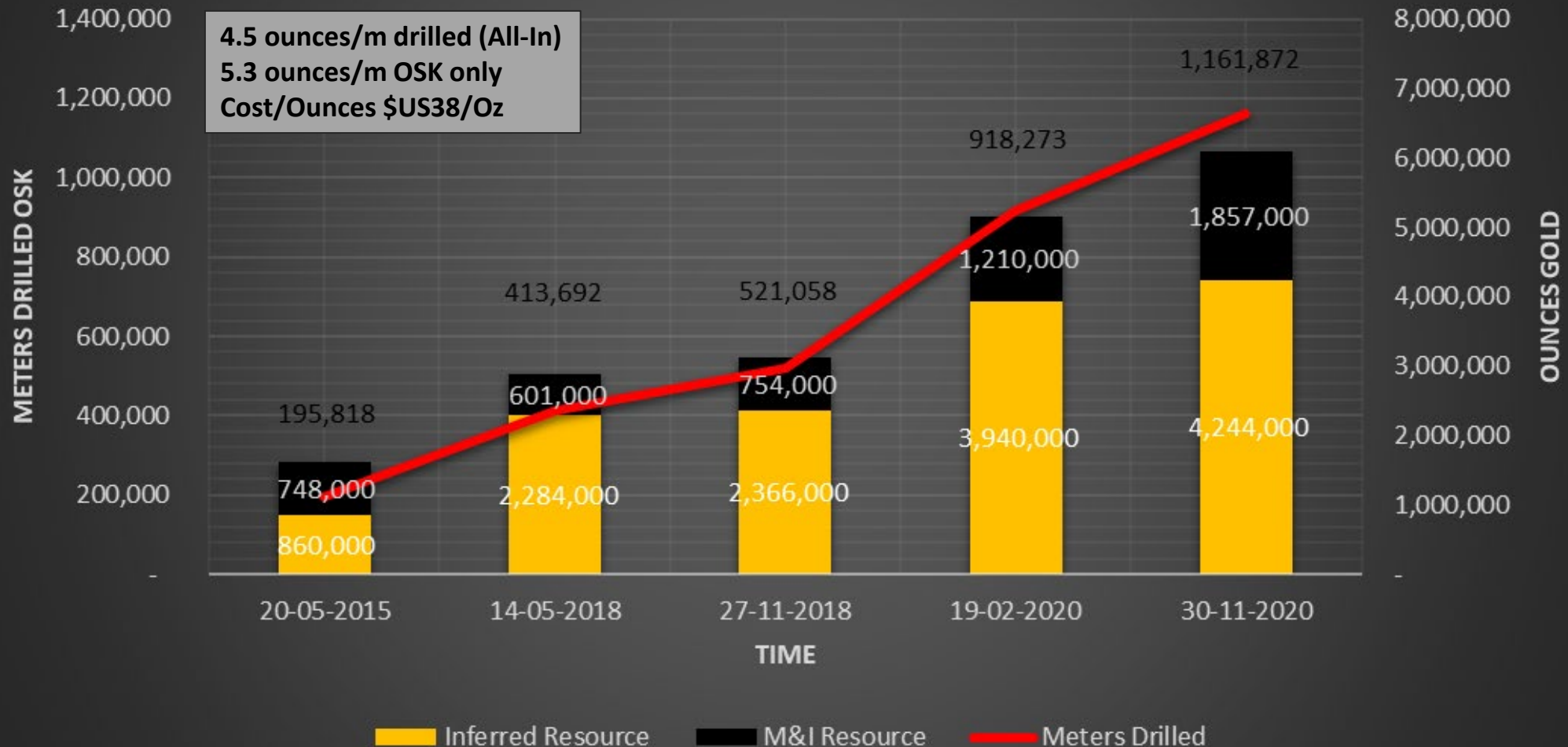
Lynx Making a Difference





Drilling and Resource Growth: Lynx Adding Significant Ounces

Osisko's Windfall Resource Progression





Updated Windfall Mineral Resource Estimate (February 17, 2021)



Windfall Gold Deposit Mineral Resource Estimate 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	4,214	11.9	6.8	1,614	918	10,525	10.2	3.3	3,454	1,133
4.5	4,721	11.1	6.5	1,692	981	12,090	9.5	3.1	3,693	1,215
4	5,304	10.4	6.2	1,771	1,059	14,045	8.8	2.9	3,960	1,319
3.5	6,023	9.6	5.9	1,857	1,149	16,401	8	2.7	4,244	1,446
3	6,882	8.8	5.7	1,947	1,257	19,561	7.3	2.6	4,574	1,604
2.5	7,971	8	5.4	2,043	1,381	23,676	6.5	2.4	4,937	1,806

Notes: ¹ The MRE uses a cut-off grade of 3.5 g/t Au.

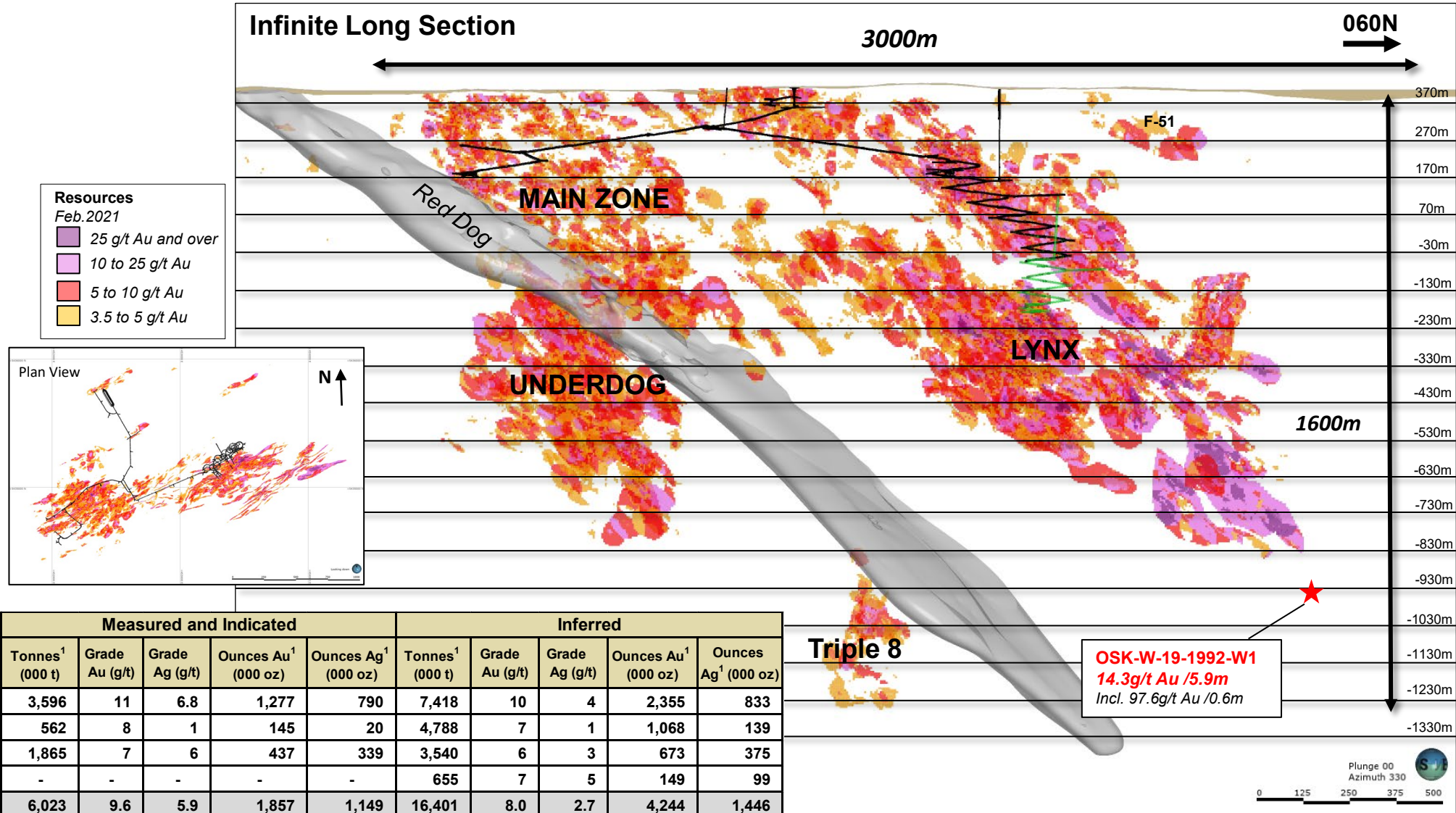
Windfall Gold Deposit Mineral Resource Estimate by Area (3.5 g/t Au cut-off)

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	6.6	1 088	655	7 418	9.9	3.5	2 355	833
Underdog	-	-	-	-	-	562	8	1.1	145	20	4 788	6.9	0.9	1 068	139
Main ³	-	-	-	-	-	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, Triple Lynx. ³ Main area includes: Zone 27, Caribou, Mallard, Windfall Nord and F-Zones. See Windfall Gold Deposit Mineral Resource Estimate Notes further below.

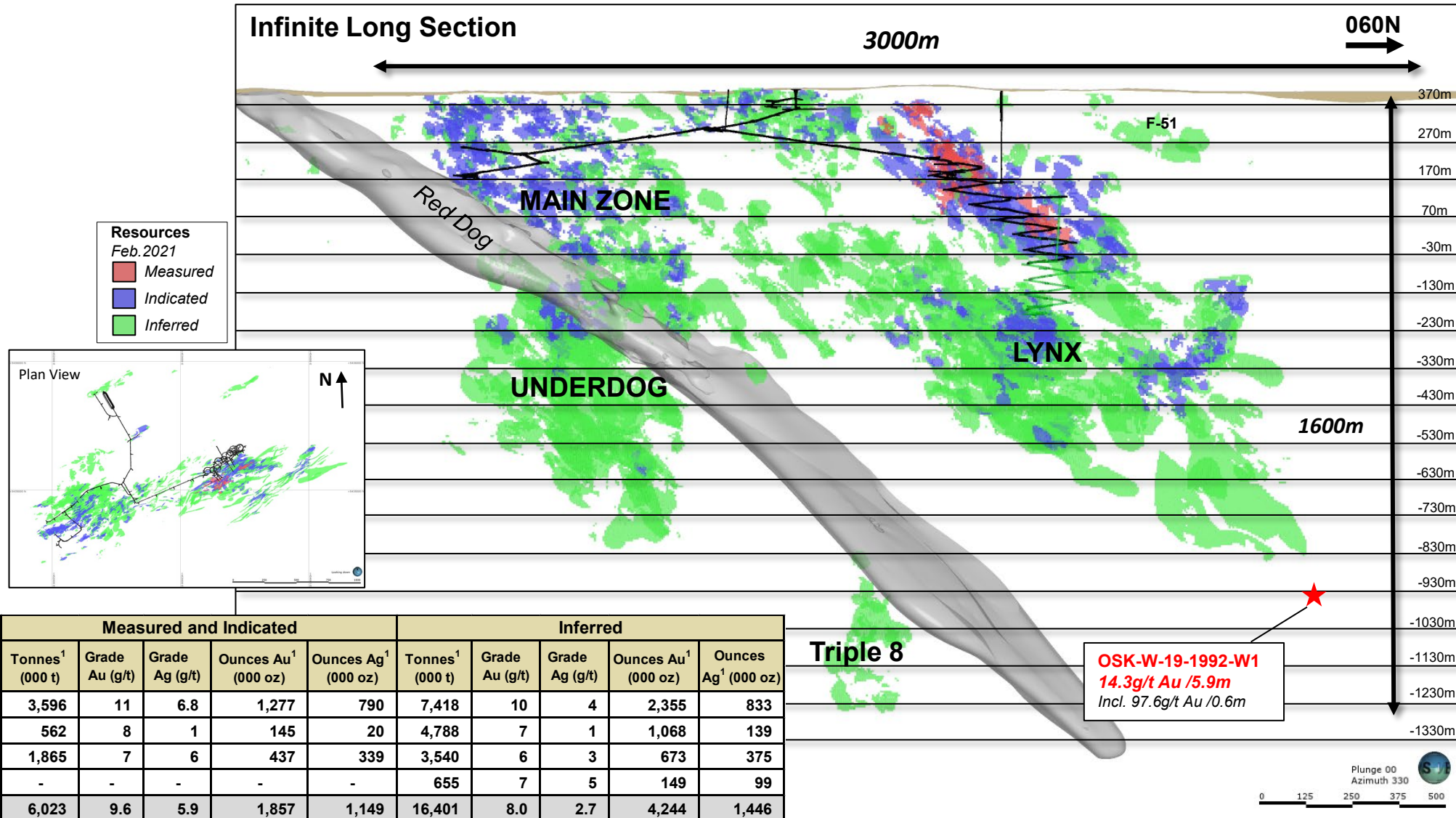


Windfall MRE February 2021 (3.5 g/t Au Cut-Off)





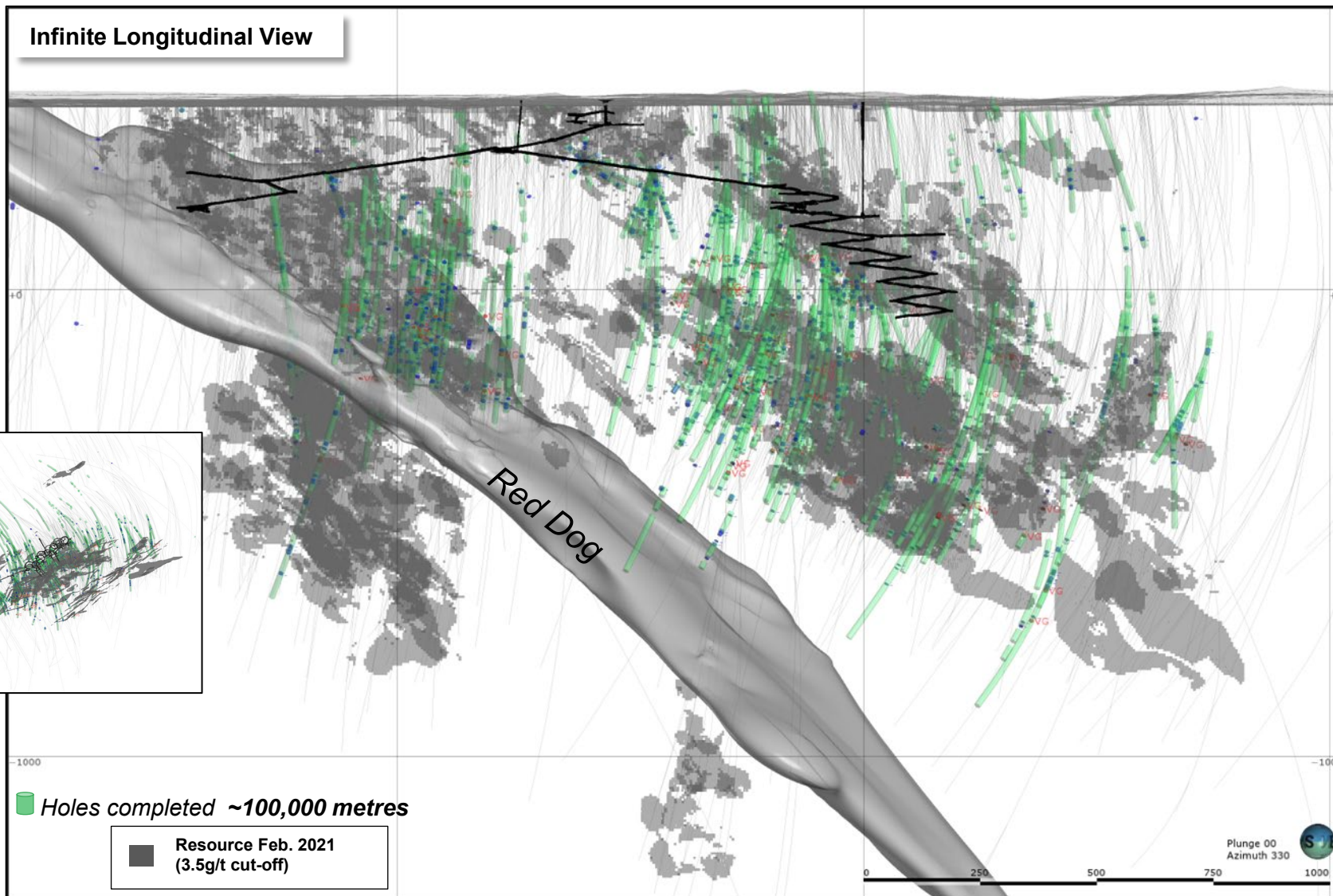
Windfall MRE Footprint February 2021 (3.5 g/t Au Cut-Off)





Drilling Completed Since Nov. 30, 2020

Infinite Longitudinal View



Top 10 Results Since Nov. 30/20 (by metal factor)

108 g/t Au over 10.5 metres
OSK-W-20-2256-W7

90.5 g/t Au over 9.7 metres
OSK-W-20-2252-W7

114 g/t Au over 2.6 metres
OSK-W-20-2280-W5

21.7 g/t Au over 11.3 metres
OSK-W-20-2271-W3

76.7 g/t Au over 3.0 metres
OSK-W-20-2377

38.4 g/t Au over 5.5 metres
OSK-W-20-2252-W8

72.0 g/t Au over 2.8 metres
WST-20-0544

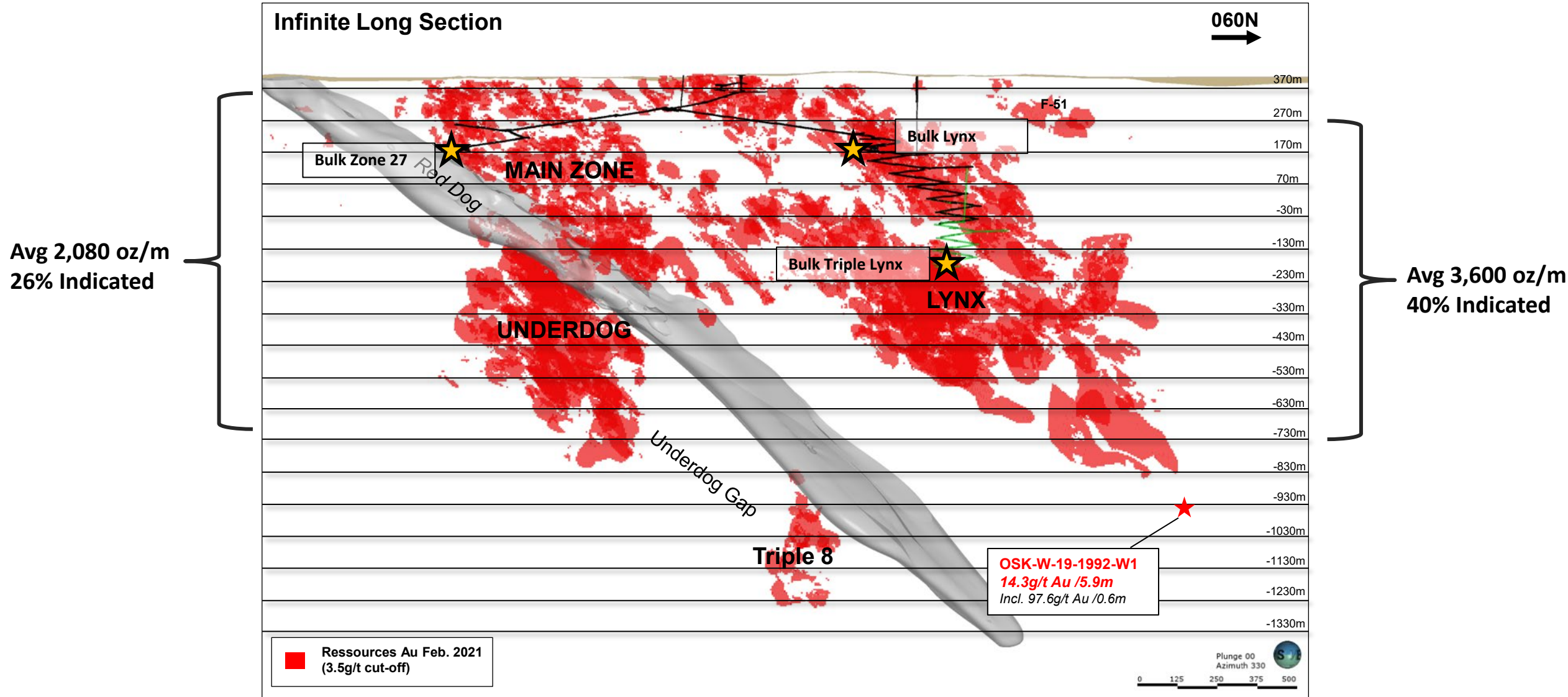
30.4 g/t Au over 6.0 metres
OSK-W-20-2280-W5

30.9 g/t Au over 4.5 metres
OSK-W-20-2292-W4

32.2 g/t Au over 3.7 metres
OSK-W-20-2243-W6



Bulk Samples





Positive Reconciliation Results from Lynx Bulk Sample

WINDFALL: LYNX BULK SAMPLE RETURNS 17.8 g/t Au

*Average grade of the bulk sample is **89% higher** than the infill drilling block model*

- **Average grade of 17.8 g/t Au is 89% higher** than predicted in the 12.5 metre infill drilling block model.
- Sample contained **3,271 ounces Au** and **2,176 ounces Ag**
- **Average Grade Recovery of 97.2%** was achieved using 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

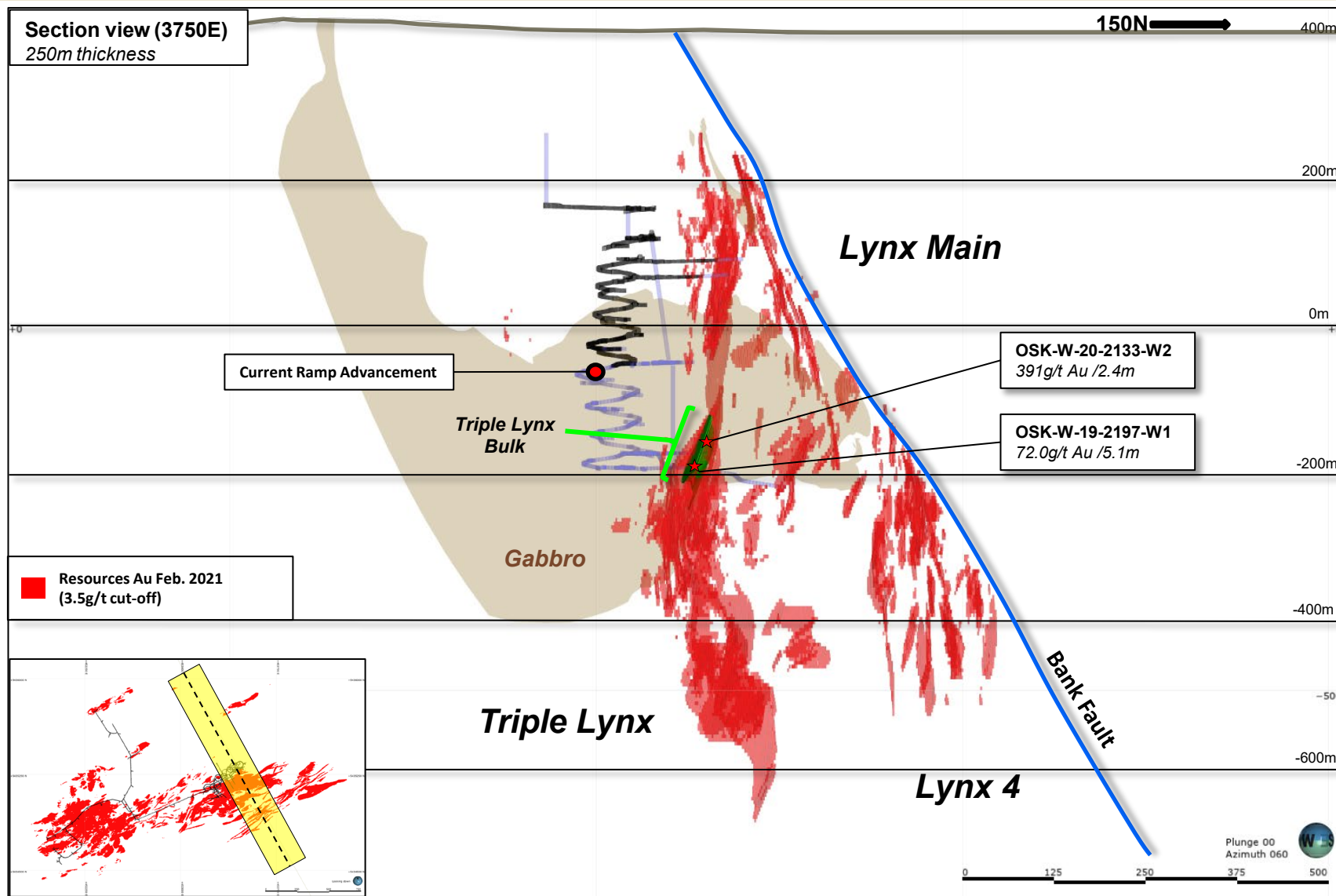
Mill feed tonnages used in the sample processing reconciliation were provided by Northern Sun. Daily composite samples collected during the processing of the bulk sample were assayed by external independent laboratories. Bulk sample results were reconciled by an external independent consultant using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

Infll 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



Next Bulk Sample in Triple Lynx





Preliminary Economic Assessment (Based on May 2018 MRE)

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 <i>(including C\$51.8 M contingency)</i>	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/ tonnemilled
Gross revenue	C\$2.96 billion
Operating cash flow	C\$1.12 billion
Mine start-up/Full production	Q2 2022/Q3 2022





Grande Alliance: Québec Government and Cree First Nation

- **\$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 seaports**
- **New power lines** and electrification of industrial projects

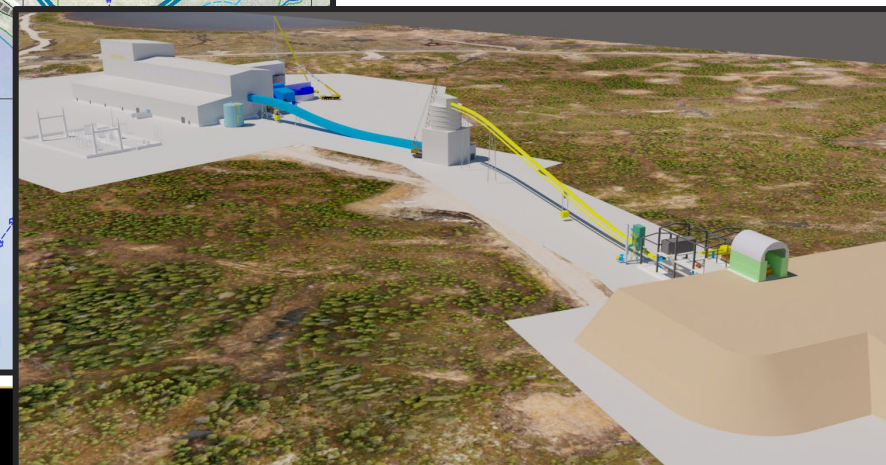
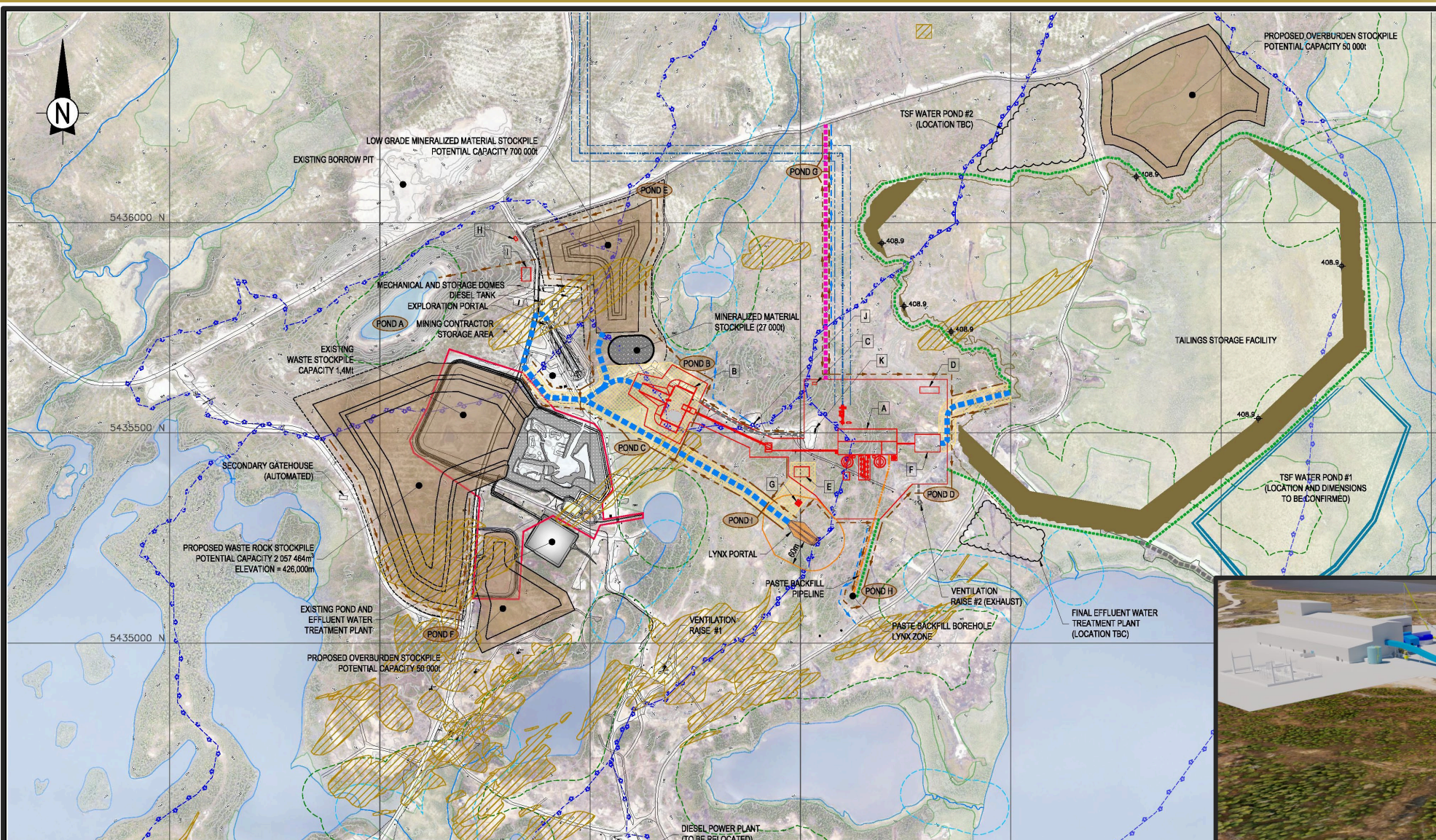


Cree Grand Chief Abel Bosum (seated left) and Quebec Premier François Legault, Cree community chiefs and provincial ministers at the signing of the Grande Alliance economic development agreement MOU





Surface Infrastructure – Preliminary Mine Layout





Contributors to Technical Studies

OSISKO
MINING

BBA

WSP


GOLDER

SGS


A²GC




Howden


G-MEC
Geology & Mining Evaluation Consulting


GCM
CONSULTANTS

Technsub

meglab

entech.
Mining Engineering and Management

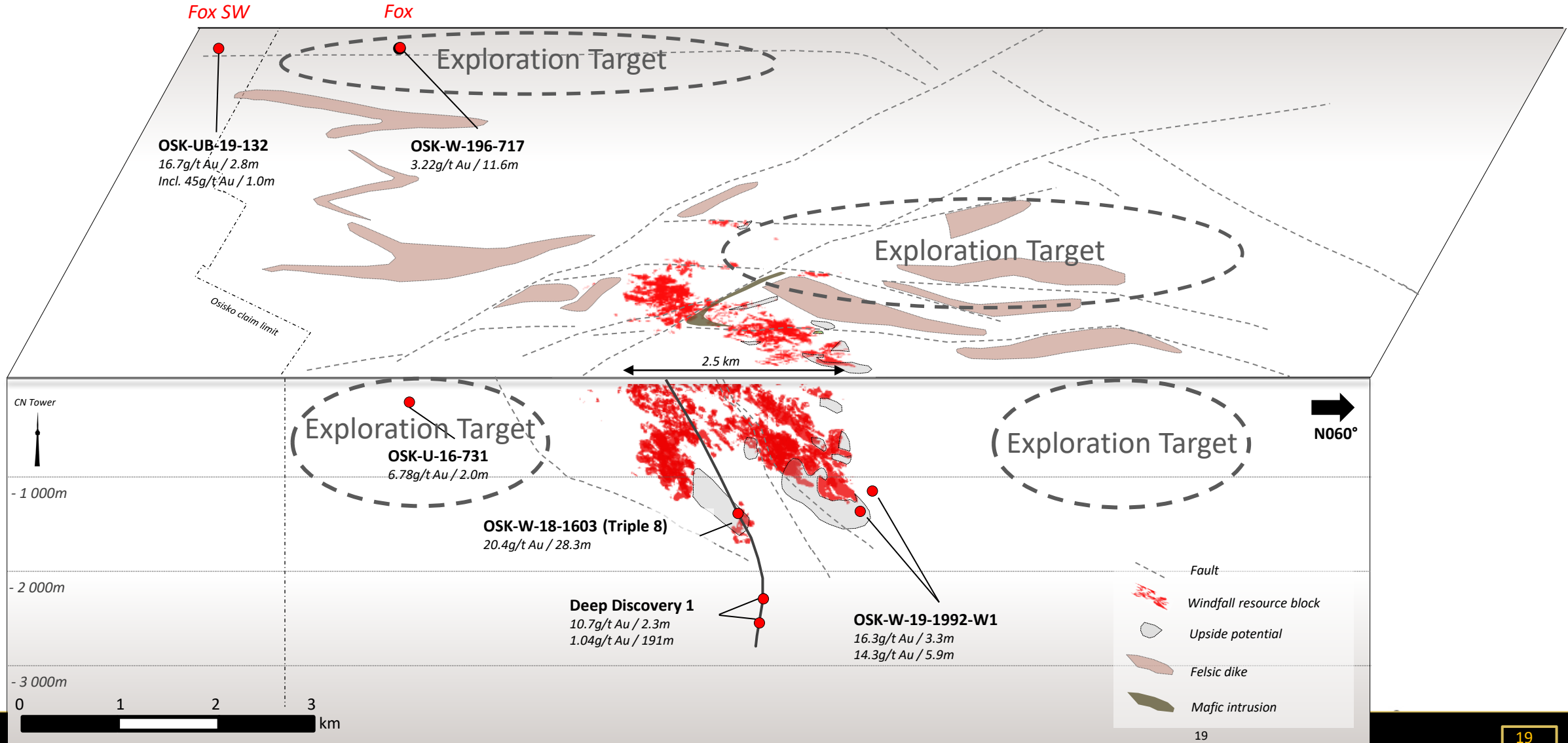




STRONG UPSIDE POTENTIAL

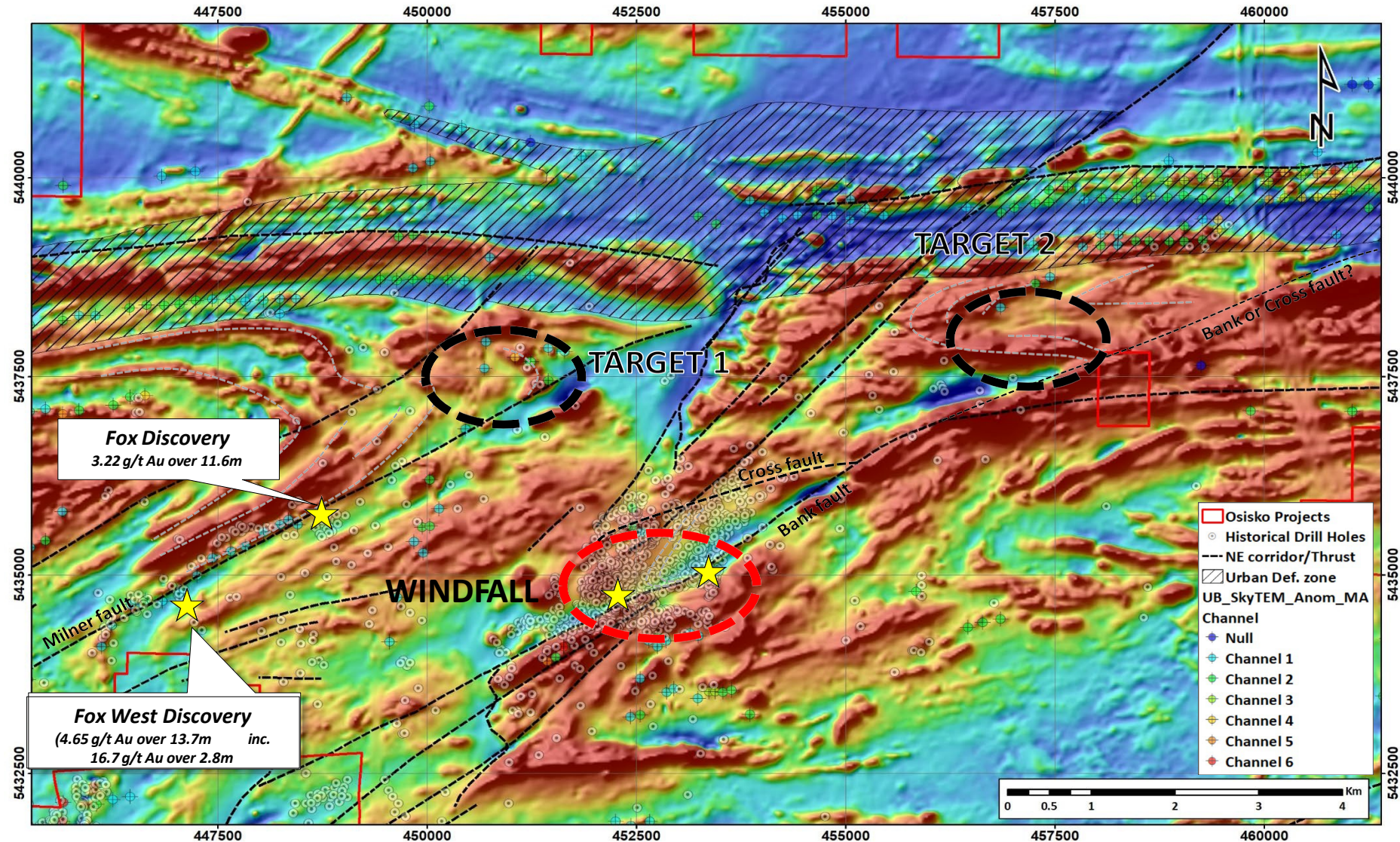


District Scale with Strong Upside Potential





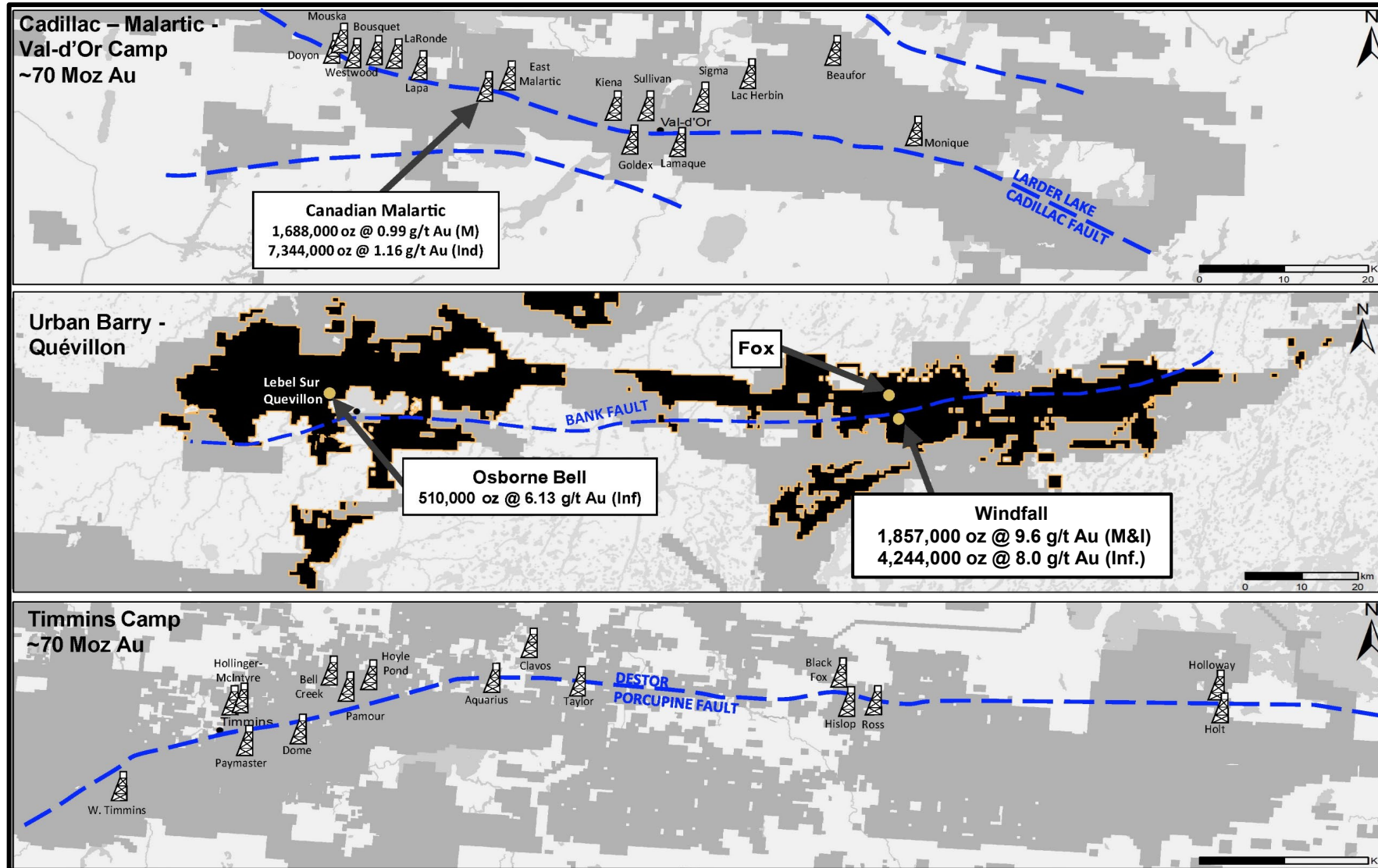
Regional Drilling in 2021: Fox, Target 1 and Target 2





Urban-Barry: An Emerging Mining District

Property covering ~70% of the district: More than 2,700 km²



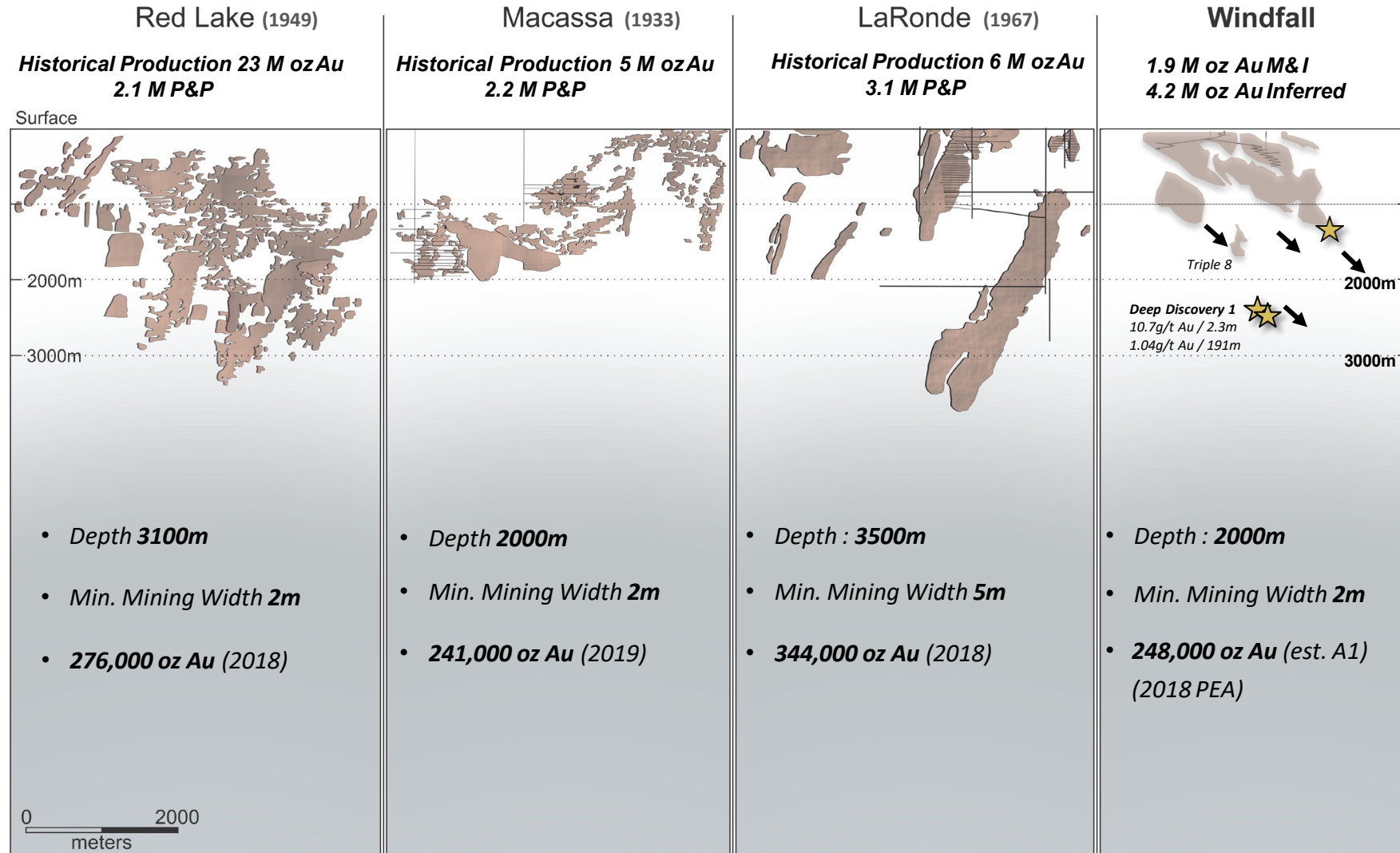


WINDFALL COMPARED TO OTHER CANADIAN MINING DISTRICTS



Major Canadian Archean Gold Deposits – Vertical Extent

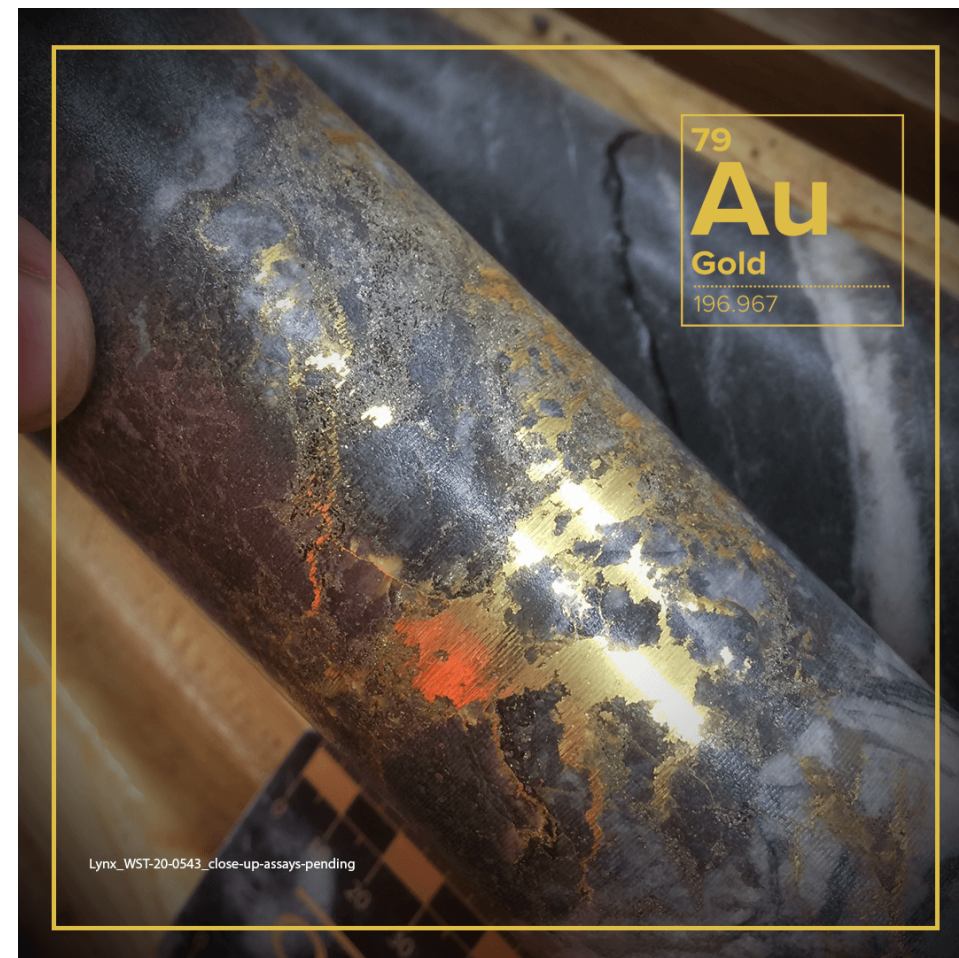
Major Canadian Archean Gold Deposits – Vertical Extent





Outlook for 2021

- ✓ Revised economics by mid-year
- ✓ Completion of infill program by Q3 2021
- ✓ Mill equipment ordering and powerline update by mid-year
- ✓ Final MRE Q4 2021
- ✓ Feasibility study first quarter 2022
- ✓ Triple Lynx bulk sample and Lynx test stopes
- ✓ Acceleration of near deposit exploration
- ✓ Well financed





Notes on the Mineral Resource Estimation of Windfall

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 metre x 12.5 metre for definition drilling, 25 metre x 25 metre 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 sub-vertical 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 subblocked to minimum subcell 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 Ordinary Kriging (OK) or Inverse Distance Squared (ID²) 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 1,485 USD/oz, exchange rate at 1.30 USD/CAD, 94% mill recovery; payability of 99.95%; selling cost at 5 USD/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 10 C\$/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.