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A LEADING CANADIAN
GOLD EXPLORATION
AND DEVELOPMENT
COMPANY

September 2018



CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This presentation (the "Presentation") 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, future events or performance (often but not always using phrases such as "expects", or "does not expect", "is expected", "anticipates" or "does not anticipate", "plans", "budget", "scheduled", "forecasts", "estimates", "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 market capitalization of Osisko Mining Inc. ("Osisko"); the value of Osisko's cash and investments; the timing and ability of Osisko to release a resource estimate in respect of the Windfall/Lynx deposit in May 2018, if at all; the timing and ability of Osisko to release an updated Preliminary Economic Assessment in respect of the Windfall/Osborne Bell deposit in Q2 2018, if at all; the timing and ability of Osisko to release a feasibility study in respect of the Windfall/Lynx deposit in Q1 2019, if at all; the timing and ability of Osisko to advance the exploration ramp at the Windfall/Lynx deposit; the bulk-sampling program at the Windfall Lake gold deposit, if at all; the prior success of the "Osisko Group" in creating strong shareholder value having any impact on the ability of Osisko to create value for shareholders of Osisko; the potential of the

Windfall Lake gold deposit, if any; the proposed exploration activities at the Windfall Lake gold deposit; the target timelines in respect of the Windfall Lake gold deposit and Osisko's ability to make advance the project quickly; planned drilling at the Windfall Lake gold deposit in January 2018; the major shareholders of Osisko going forward; Québec exploration tax credits; the feasibility of the proposed mill complex at Lebel-sur-Quévillon; the development of the ramp, if at all; the timing and success of exploration, development and metallurgical testing activities; the timing, extent and success of mining operations (if any), project development and related permitting; the results of exploration programs; the results of economic analyses (including the Windfall Lake PEA as defined below); the ability to expand mineral resources beyond current mineral resource estimates; opportunities for growth of mineral projects; estimates of gold prices; the ability to adapt to changes in gold prices; estimates of costs, estimates of planned exploration and development expenditures and estimates of mine development and construction. 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.

These uncertainties and risks include, but are not limited to, 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 interests in the Windfall Lake gold project; the ability of Osisko to obtain required approvals and complete transactions on terms announced; the results of exploration activities; risks relating to mining activities; 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; 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 under the issuer profile of Osisko at www.sedar.com. Readers are urged to read these materials and should not place undue reliance on any forward-looking statement and information contained in this Presentation. Except as required by law, Osisko assume no obligation to update the forward-looking statements of beliefs, opinions, projections, or other factors, should they change, except as required by law. Unless otherwise noted, this Presentation has been prepared based on information available as of March 31, 2018. References in this Presentation to Osisko include Osisko Mining Inc. and its subsidiaries.



CAUTIONARY STATEMENTS REGARDING TECHNICAL INFORMATION

MINERAL RESOURCES

This Presentation contains information regarding mineral resources estimated at the projects of the companies referenced herein. Mineral resources are not mineral reserves and do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, socio-political, marketing or other relevant issues. In particular, the quantity and grade of reported inferred mineral resources in the estimates referenced in this Presentation are uncertain in nature and there is insufficient exploration to define these inferred mineral resources as an indicated or measured mineral resource in all cases. It is uncertain in all cases whether further exploration will result in upgrading the inferred mineral resources to an indicated or measured mineral resource category.

For details regarding the key assumptions, parameters and methods used to estimate the mineral resources presented in respect of the Windfall Lake gold project, please see the *"Technical Report for the Windfall Lake Gold Project, Québec"* dated April 17, 2014 (effective date March 3, 2014) filed on SEDAR under the issuer profile of Eagle Hill Exploration Corporation at www.sedar.com. Please note that the Windfall Lake PEA (as defined below) is based on a mineral resource estimate with an effective date of November 13, 2014.

For details regarding the key assumptions, parameters and methods used to estimate the mineral resources presented in respect of the Osborne-Bell Deposit, Quévillon Property, please see the *"NI 43-101 Technical Report and Mineral Resource Estimate – Osborne-Bell Deposit, Quévillon Property"* dated April 23, 2018 (effective date March 2, 2018) filed on SEDAR under the issuer profile of Osisko at www.sedar.com.

For details regarding the key assumptions, parameters and methods used to estimate the mineral resources presented in respect of the Golden Bear project, please see the *"Technical Report for the Golden Bear Project, Ontario"* dated March 3, 2014 (effective December 30, 2013) filed on SEDAR under the issuer profile of Northern Gold Mining Inc. at www.sedar.com.

For details regarding the key assumptions, parameters and methods used to estimate the mineral resources presented in respect of the Marban project, please see the *"Details regarding Technical Report for the Marban project – Marban block property, Ontario"* dated August 15, 2013 (effective date June 1, 2013) filed on SEDAR under the issuer profile of NioGold at www.sedar.com.

PRELIMINARY ECONOMIC ASSESSMENT

The preliminary economic assessment of the Windfall Lake gold project (the **"Windfall Lake PEA"**) is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the Windfall Lake PEA will be realized.

QUALIFIED PERSON

The scientific and technical information contained in this Presentation has been reviewed and approved by Robert Wares, P.Geo. and Executive Vice President Exploration and Resource Development of Osisko, a "qualified person" within the meaning of National Instrument 43-101 – *Standards for Disclosure of Mineral Projects*.



A LEADING CANADIAN GOLD EXPLORATION AND DEVELOPMENT COMPANY

- ~ **\$500M** market capitalization
- ~ **\$118M** cash and investments¹
- Four resource stage projects: Windfall, Osborne Bell, Marban, Garrison
- **Focused on the emerging Windfall district in Québec:**
 - Windfall Deposit & Osborne Bell Deposit resource drilling in progress
 - 640,000 metres drilled to date + 180,000 metres of historical drilling, 8 drills turning
 - Strong geological controls with high confidence in exploration and deposit models
 - Exploration ramp at Windfall progressing: exploration and bulk sampling 2018 - 2019
 - Metallurgical work in progress at Windfall and Osborne Bell
 - **PEA : After-Tax IRR 32.5%, NPV C\$413M, Capex C\$397M**
 - **Year 1 gold production 248,000 oz, average annual gold production 218,000 oz**
 - 2018 – 2019 exploration drilling aimed at further discovery

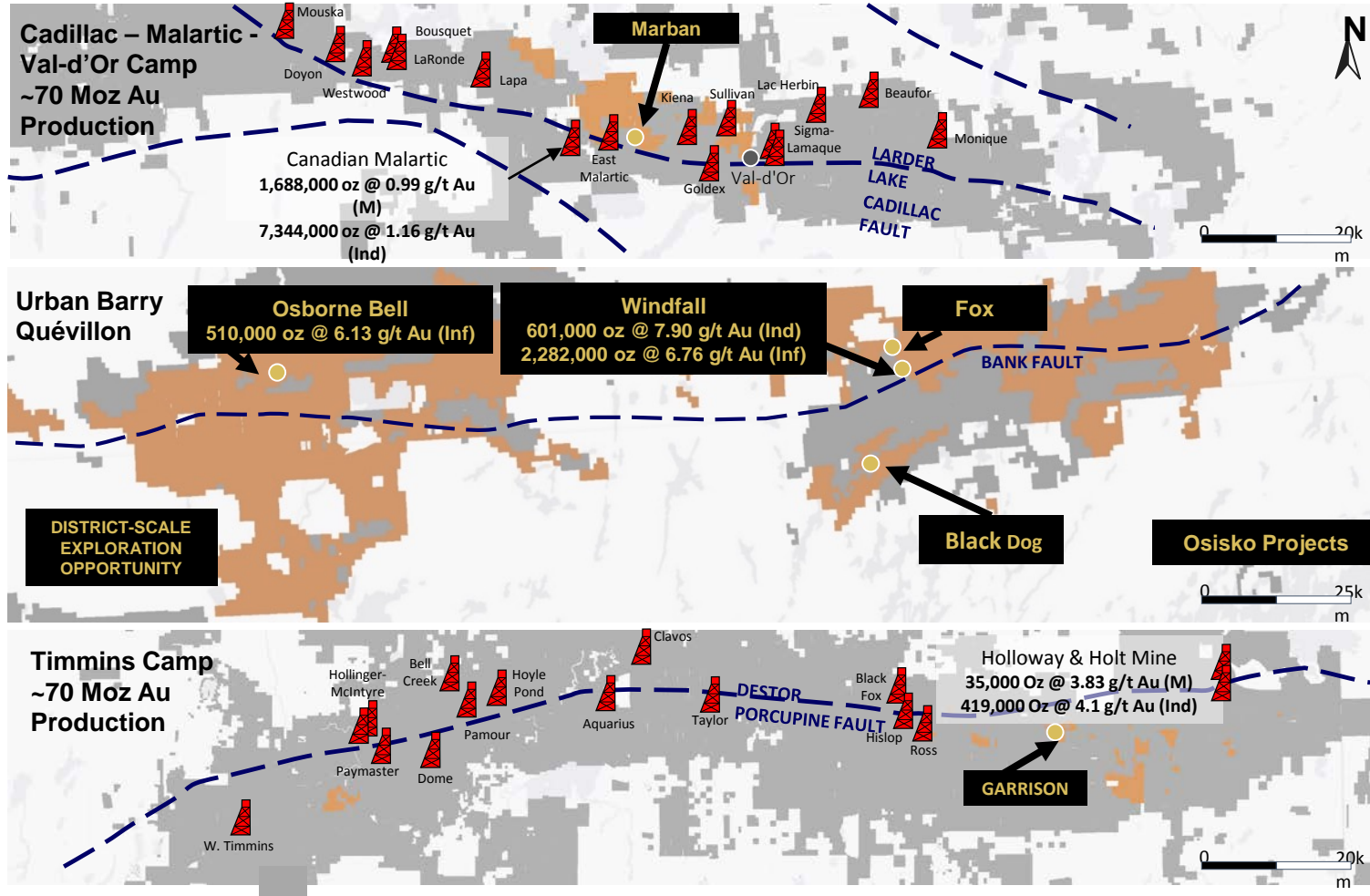
1. Based on the Q2/2018 consolidated financial statements. Some investments may differ from fair market value based on the IFRS accounting treatment.

EXPERIENCED MANAGEMENT, BOARD AND TECHNICAL TEAM
DISCOVERY – FINANCING – CONSTRUCTION – PRODUCTION



AN EMERGING MINING DISTRICT

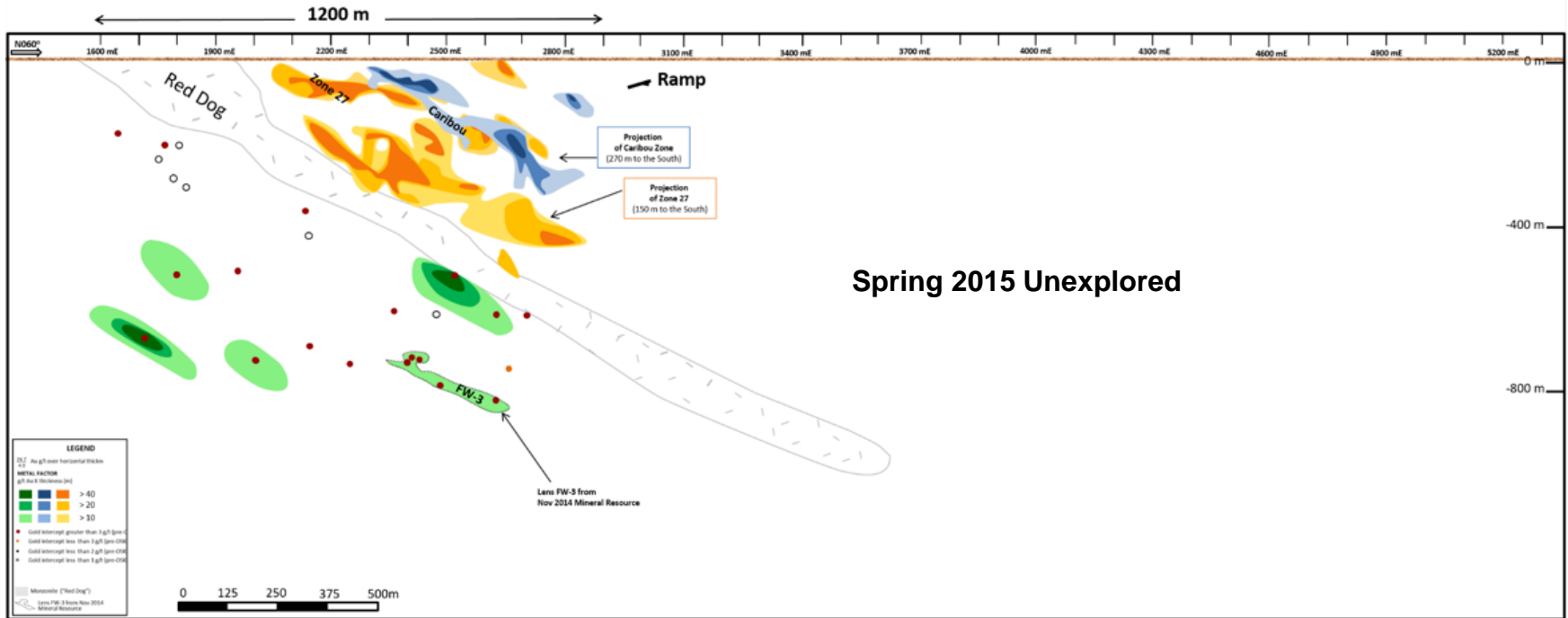
District-Scale: Over 3300 km² Property Position





WINDFALL DEPOSIT SPRING 2015 PRE-OSISKO RESOURCE

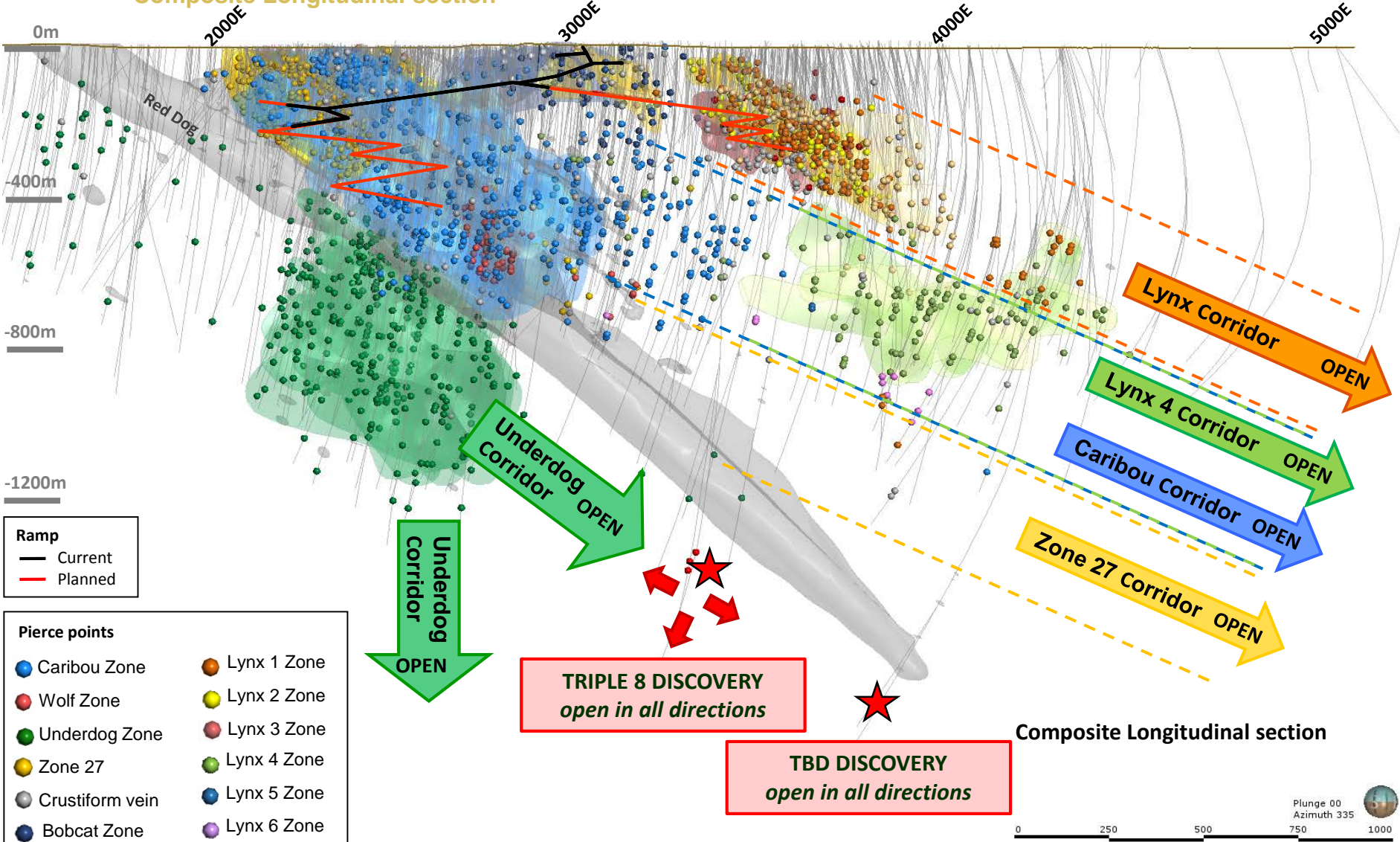
Composite Long Section





WINDFALL DEPOSIT SEPTEMBER 2018 +640,000 METRES DRILLING

Composite Longitudinal section



Ramp
 — Current
 — Planned

- Pierce points**
- Caribou Zone
 - Wolf Zone
 - Underdog Zone
 - Zone 27
 - Crustiform vein
 - Bobcat Zone
 - Lynx 1 Zone
 - Lynx 2 Zone
 - Lynx 3 Zone
 - Lynx 4 Zone
 - Lynx 5 Zone
 - Lynx 6 Zone

TRIPLE 8 DISCOVERY
open in all directions

TBD DISCOVERY
open in all directions

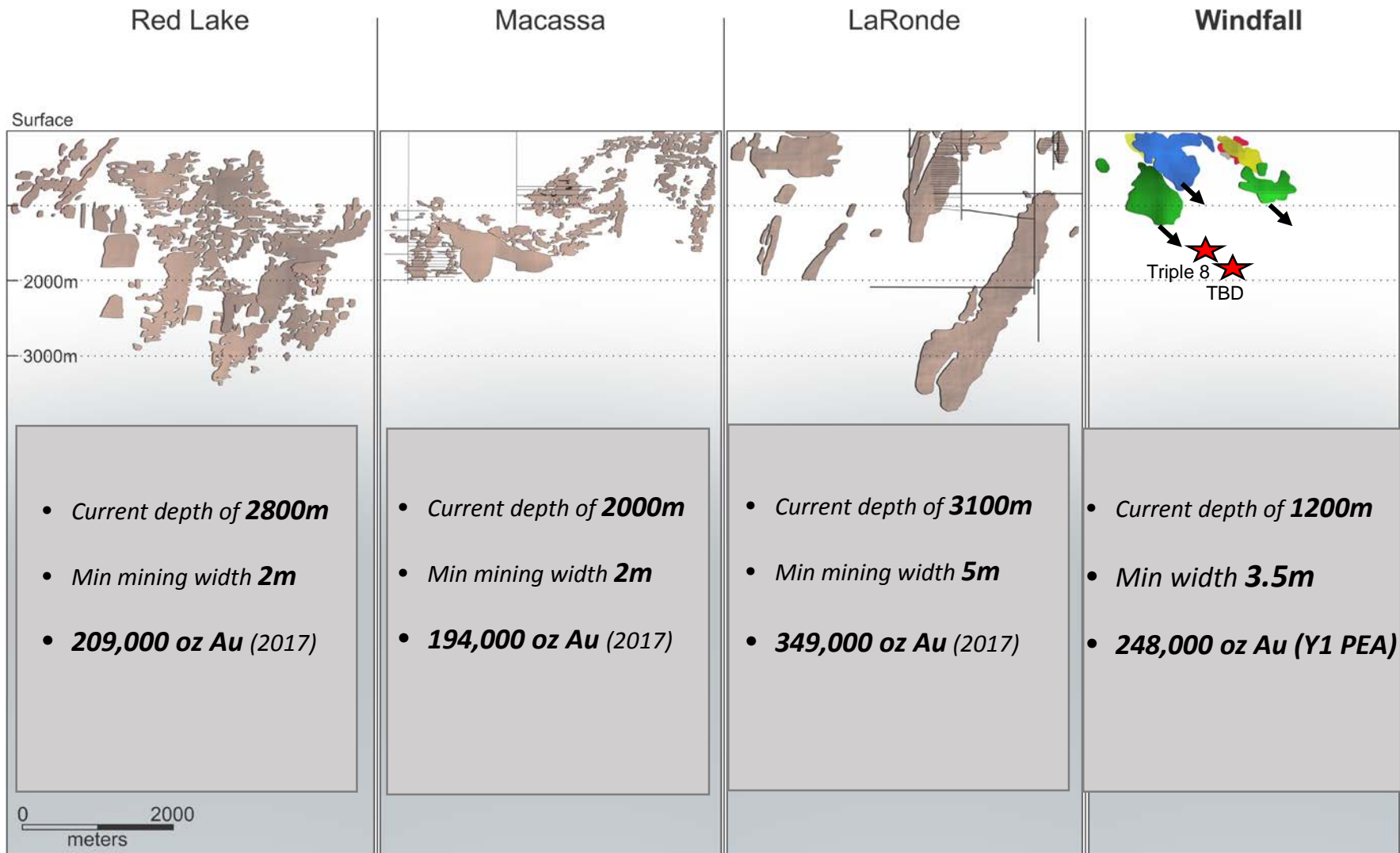
Composite Longitudinal section

Plunge 00
 Azimuth 335

0 250 500 750 1000

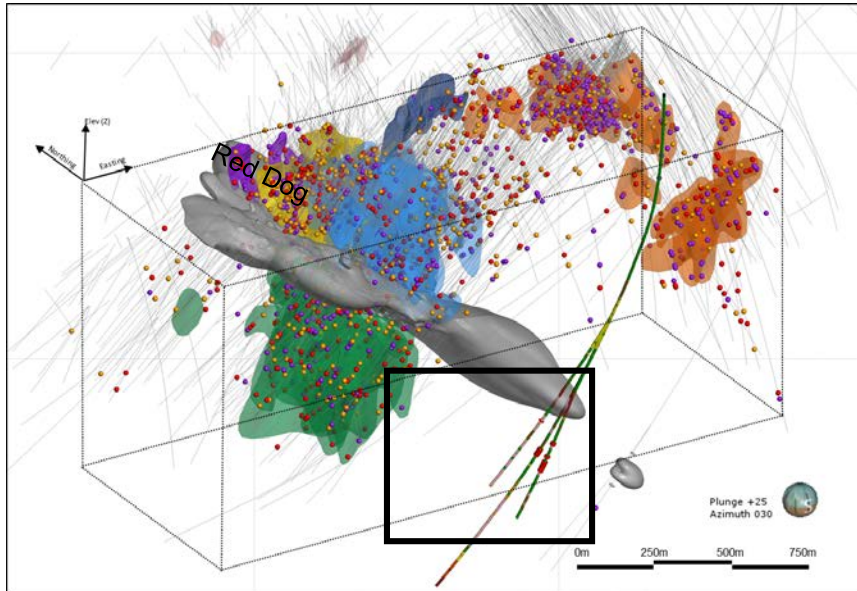
Major Canadian Archean Gold Deposits – Vertical Extent

Windfall Remains Open At Depth - Strong Potential to Grow





TRIPLE 8 DISCOVERY



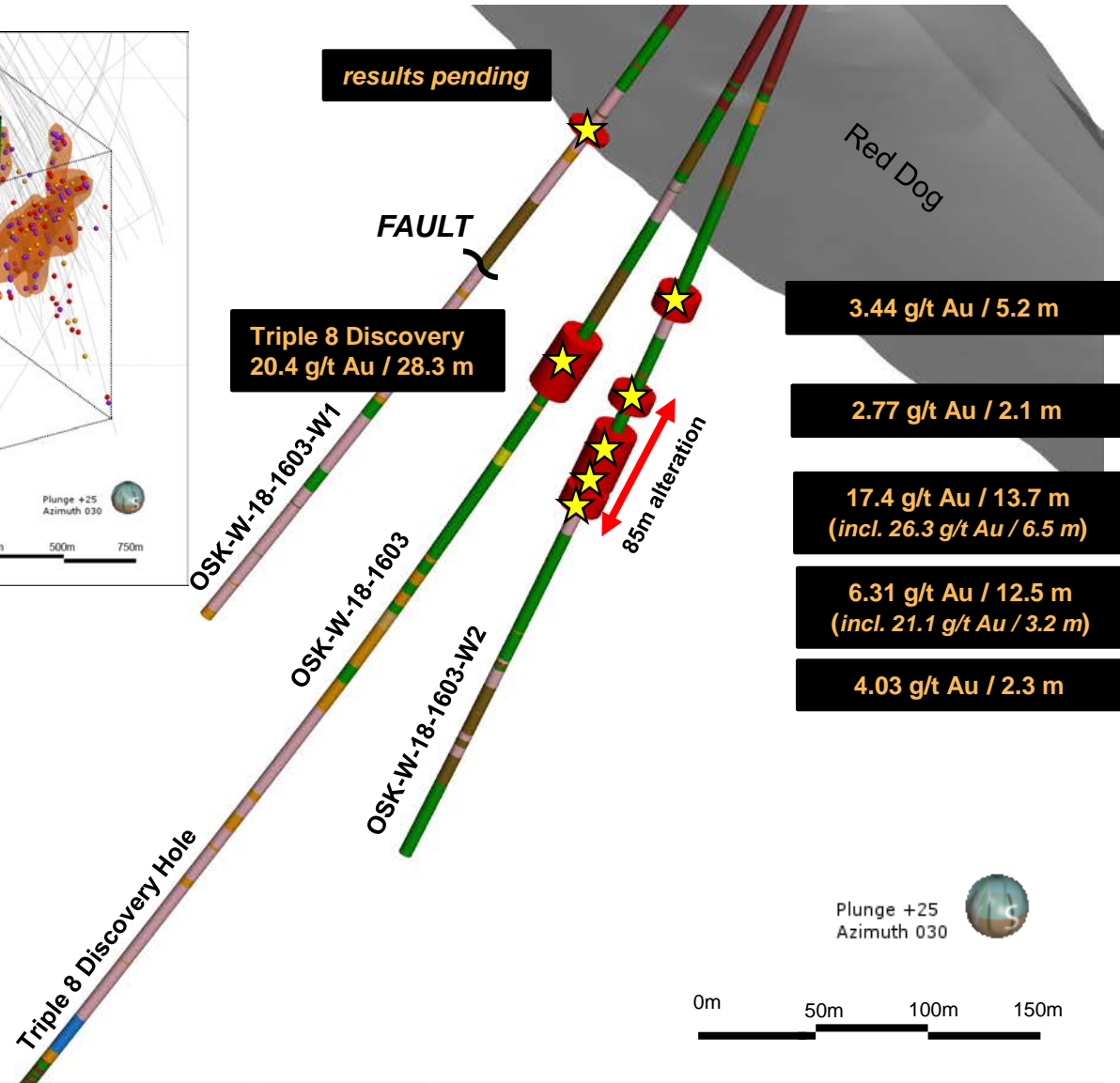
Zones

- Zone 27
- Caribou
- Bobcat
- Underdog
- Lynx
- F-Zones

Lithologies

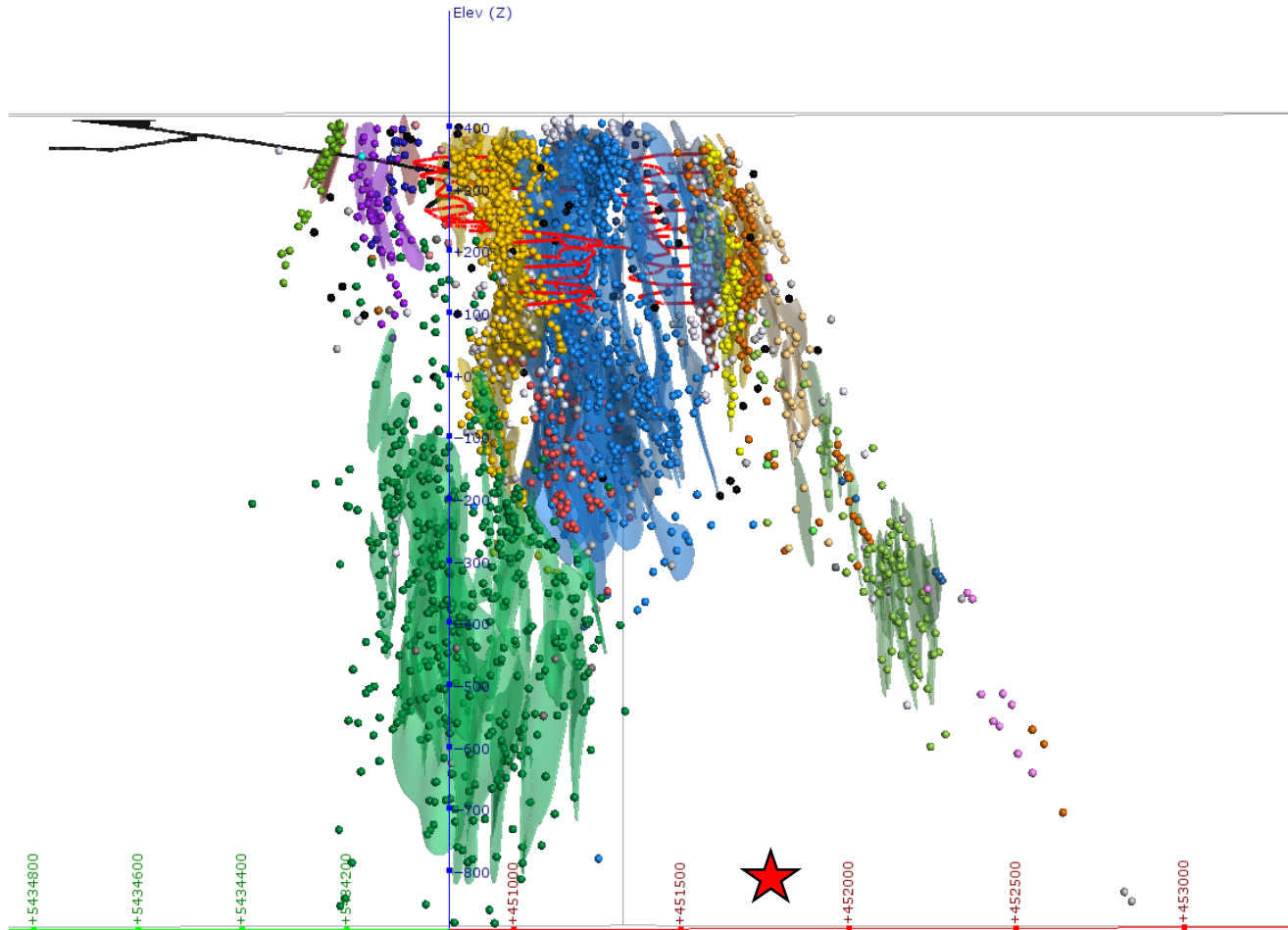
- Mafic volcanics
- Felsic volcanics
- Gabbro
- Pre-mineral felsic porphyry (I2P)
- Syn-mineral felsic porphyry (I1P)
- Red Dog

Mineralized intervals





Windfall - Lynx Deposits Mineral Resource Wireframes Looking NE



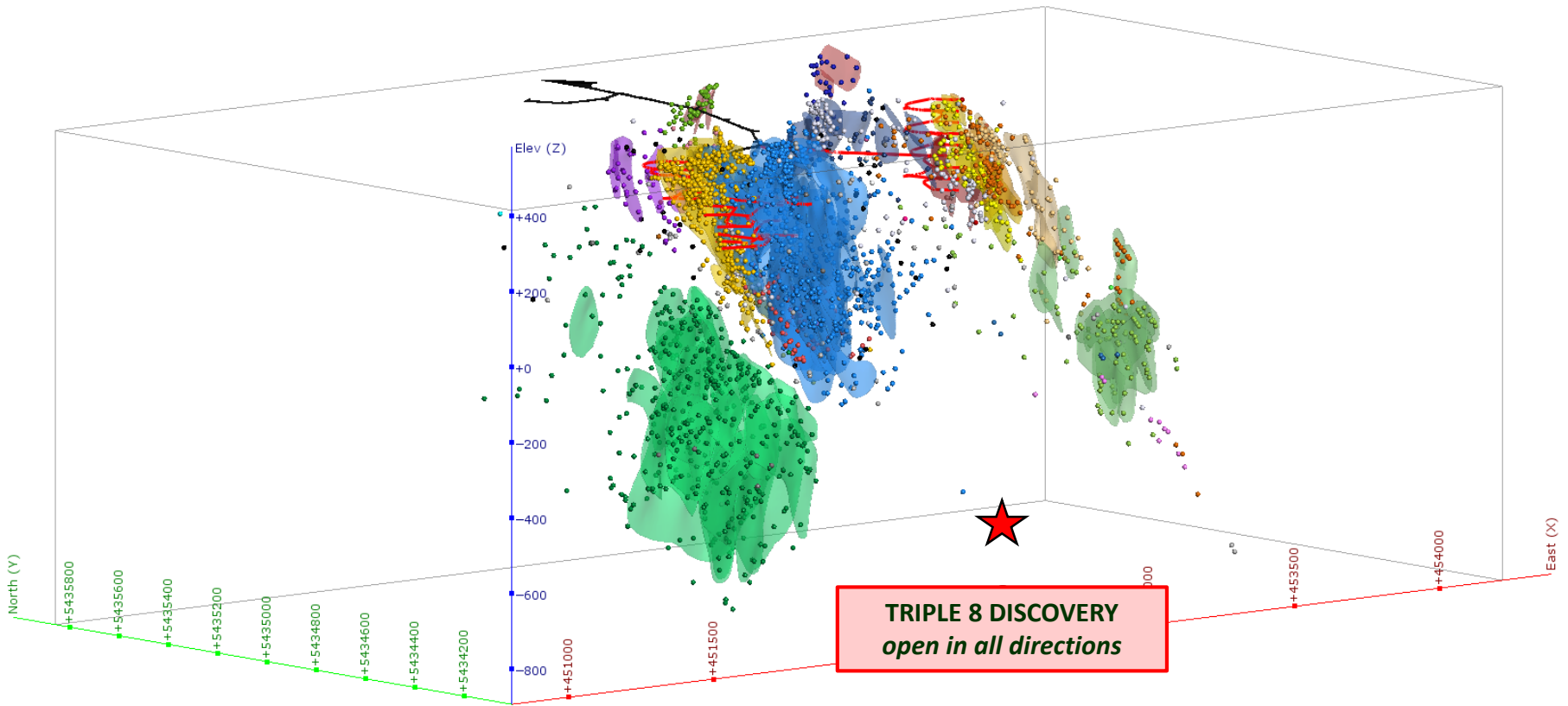
TRIPLE 8 DISCOVERY
open in all directions

Plunge 00
Azimuth 057





Windfall - Lynx Deposits Mineral Resource Wireframes Looking NNE



Plunge +08
Azimuth 040





PEA Highlights*

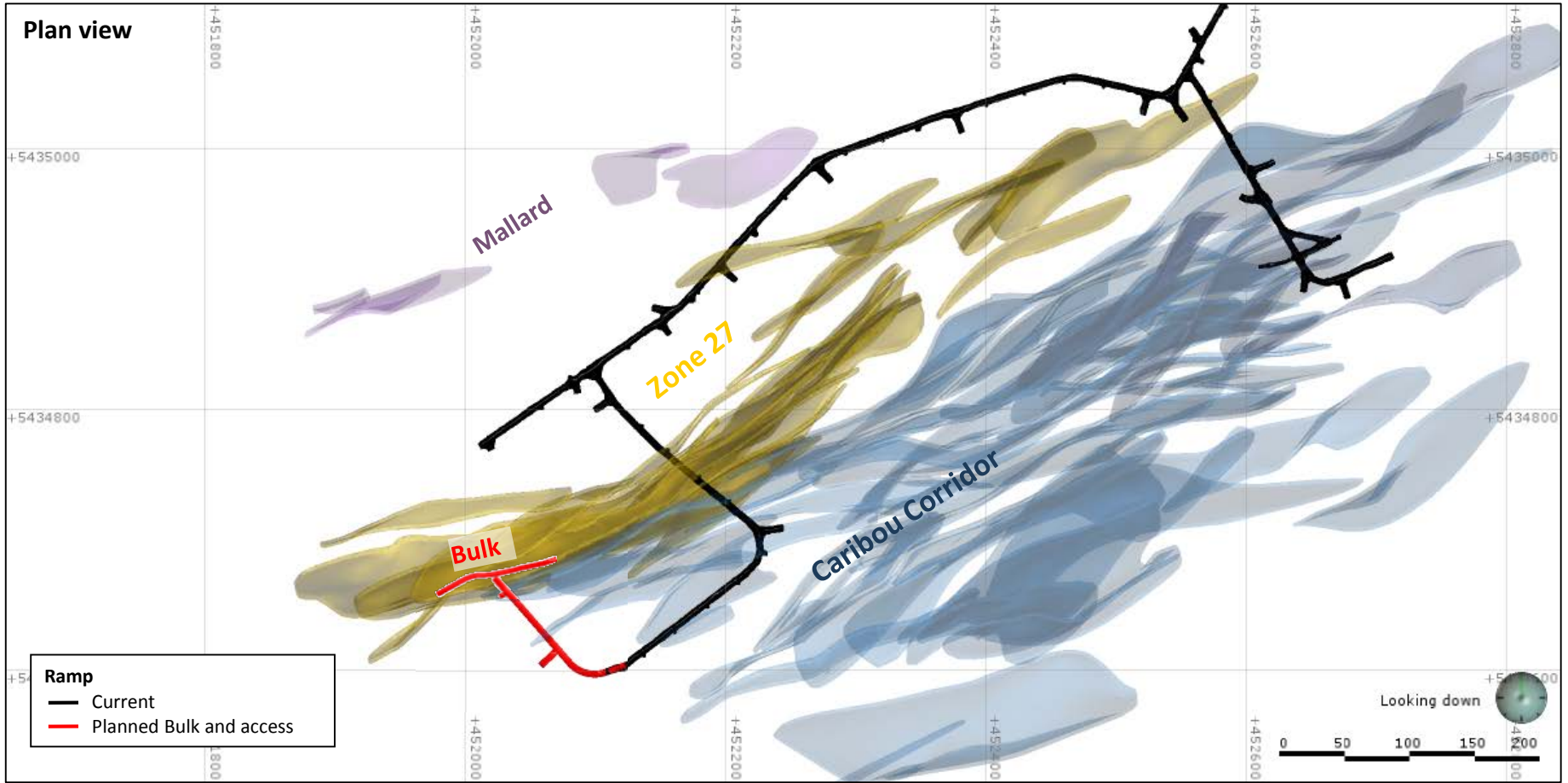
Base Case	
Gold price US\$1,300/oz, Silver price US\$17.00/oz, Exchange rate C\$1.00 = US\$0.78, 5% discount rate	
IRR after taxes and mining duties	32.7%
NPV after taxes and mining duties	C\$413.2 million
Pre-Production Construction costs (including C\$51.8 M contingency)	C\$397.3 million
Peak-year 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
NPV before taxes and mining duties	C\$625.4 million
IRR before taxes and mining duties	39.7%

*Cautionary Statement: The reader is advised that the PEA summarized in this presentation is intended to provide only an initial, high-level review of the project potential and 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.



ZONE 27 BULK SAMPLE

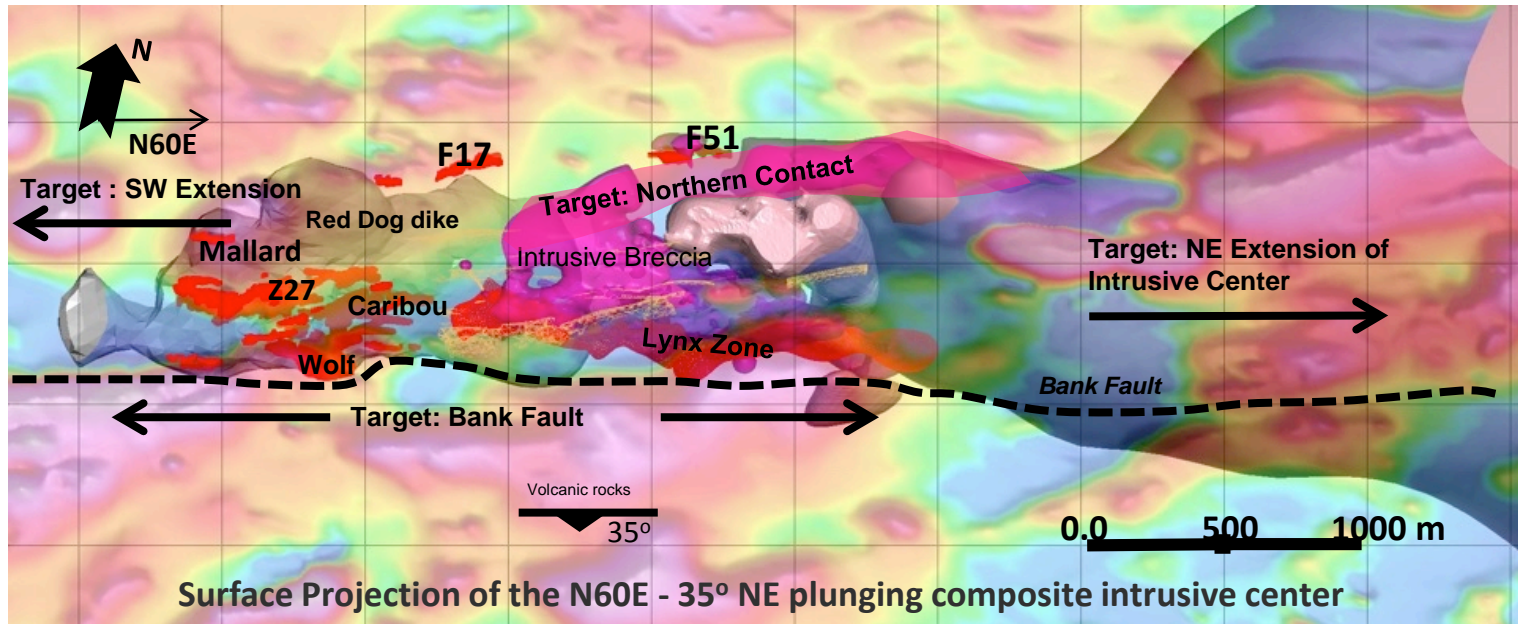




WINDFALL AND LYNX DEPOSITS INTRUSIVE RELATED MINERALIZATION

- **SW Extension:** up plunge extensions of mineralized corridors
- **NE Extension:** potential for new discoveries
- **Near Deposit:** northern contact, Bank Fault plus extensions and new zones in known corridors

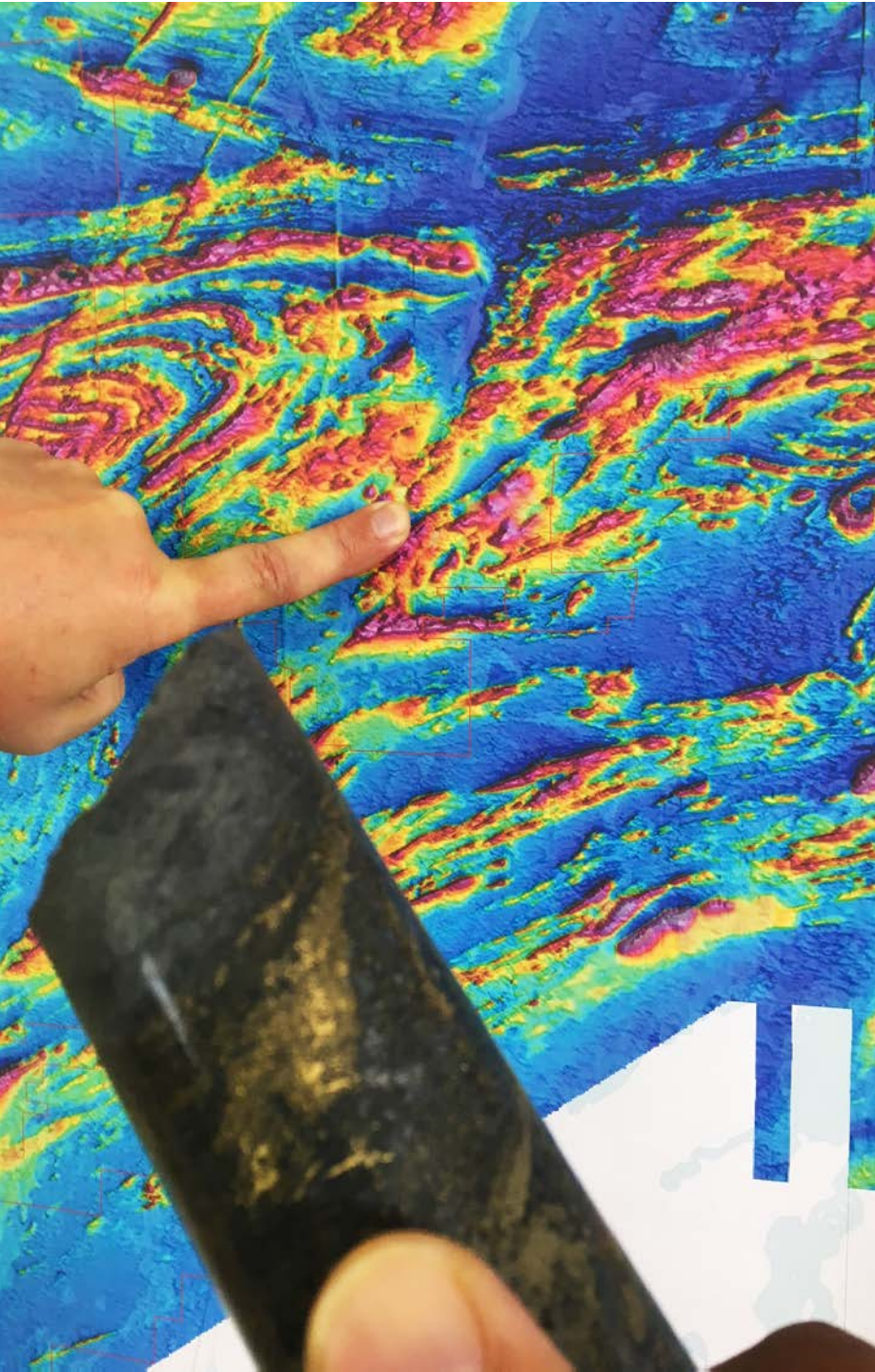
← 5 Km →





SUMMARY AND CATALYSTS 2018 - 2019

- **Well financed: \$118M in cash and equities**
- **Four resource stage properties in Québec and Ontario**
- **8 drills turning: Windfall remains wide open at depth**
- **Excellent discovery potential on 3300 km² property**
- **Ramp progressing, first bulk sample in coming months**
- **Resource update before end of the year (Lynx)**
- **2019: full resource update, feasibility**



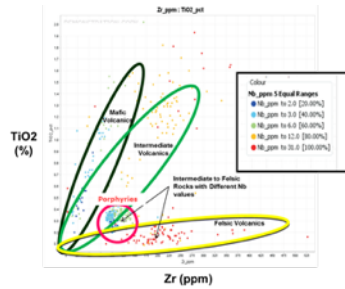
APPENDIX "A"



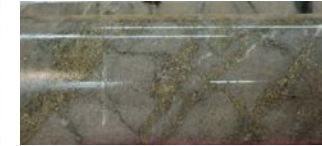
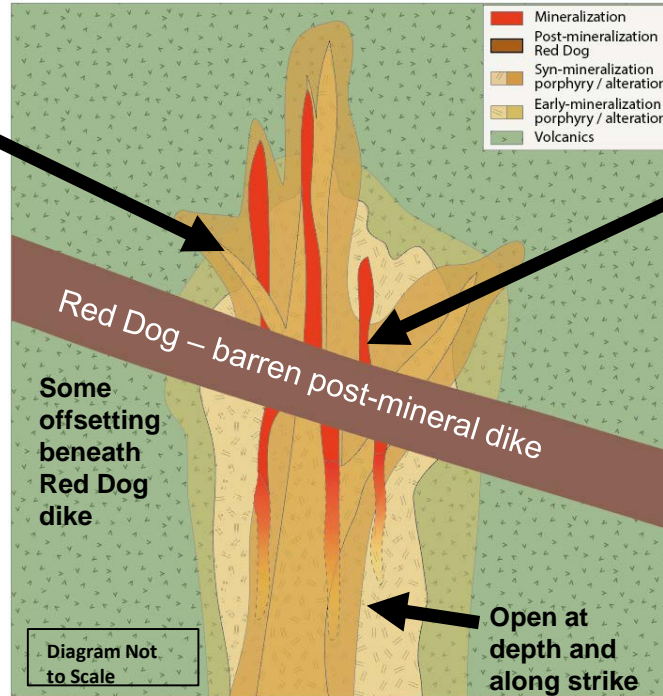
WINDFALL AND LYNX DEPOSITS INTRUSIVE RELATED MINERALIZATION



Multiphase Porphyry Intrusive Complex - Gold mineralization genetically related to porphyry dikes.



Immobile element geochemistry used to identify intrusive phases and “see through” alteration processes.



Mineralization hosted in texture destructive quartz-sericite alteration. Gold mineralization associated with pyrite forming stringers and disseminations in stockwork.

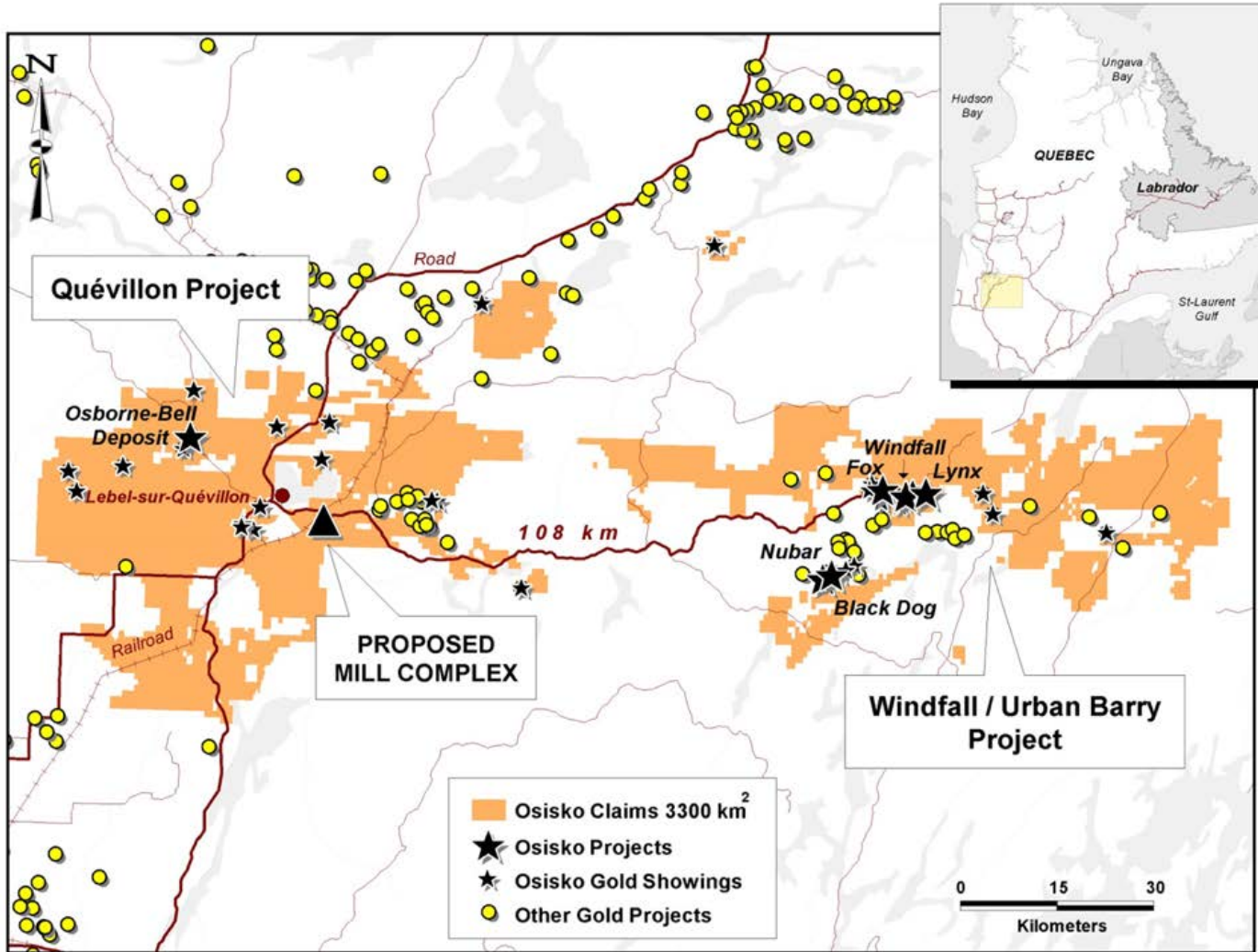
Host 2718Ma Macho formation volcanic units are intruded by Windfall porphyry dykes at about 2697Ma



Visible gold associated with dark-grey silica alteration at Lynx.
(OSK-W-17-834 293.0-293.5m)



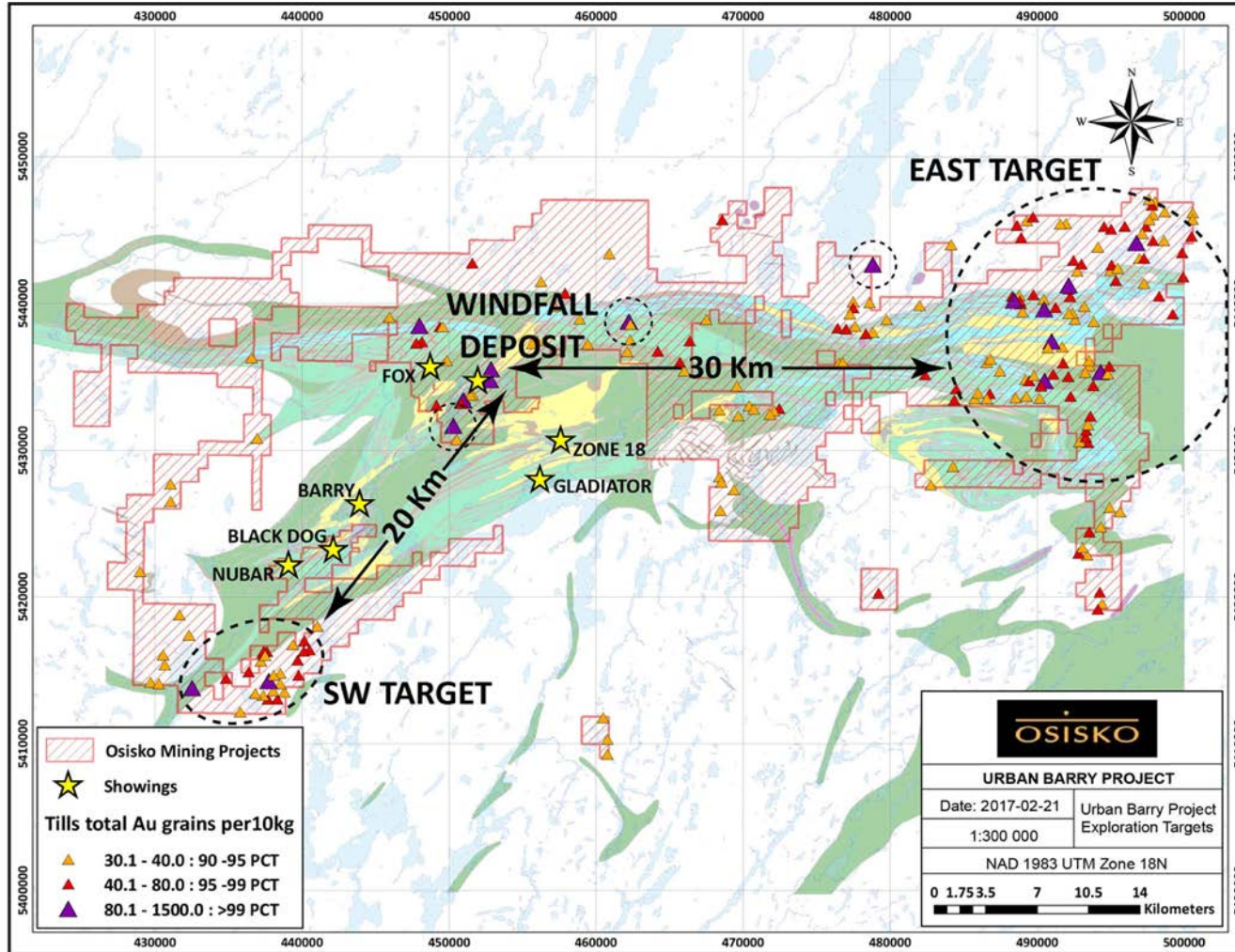
URBAN BARRY AND QUÉVILLON PROPERTIES





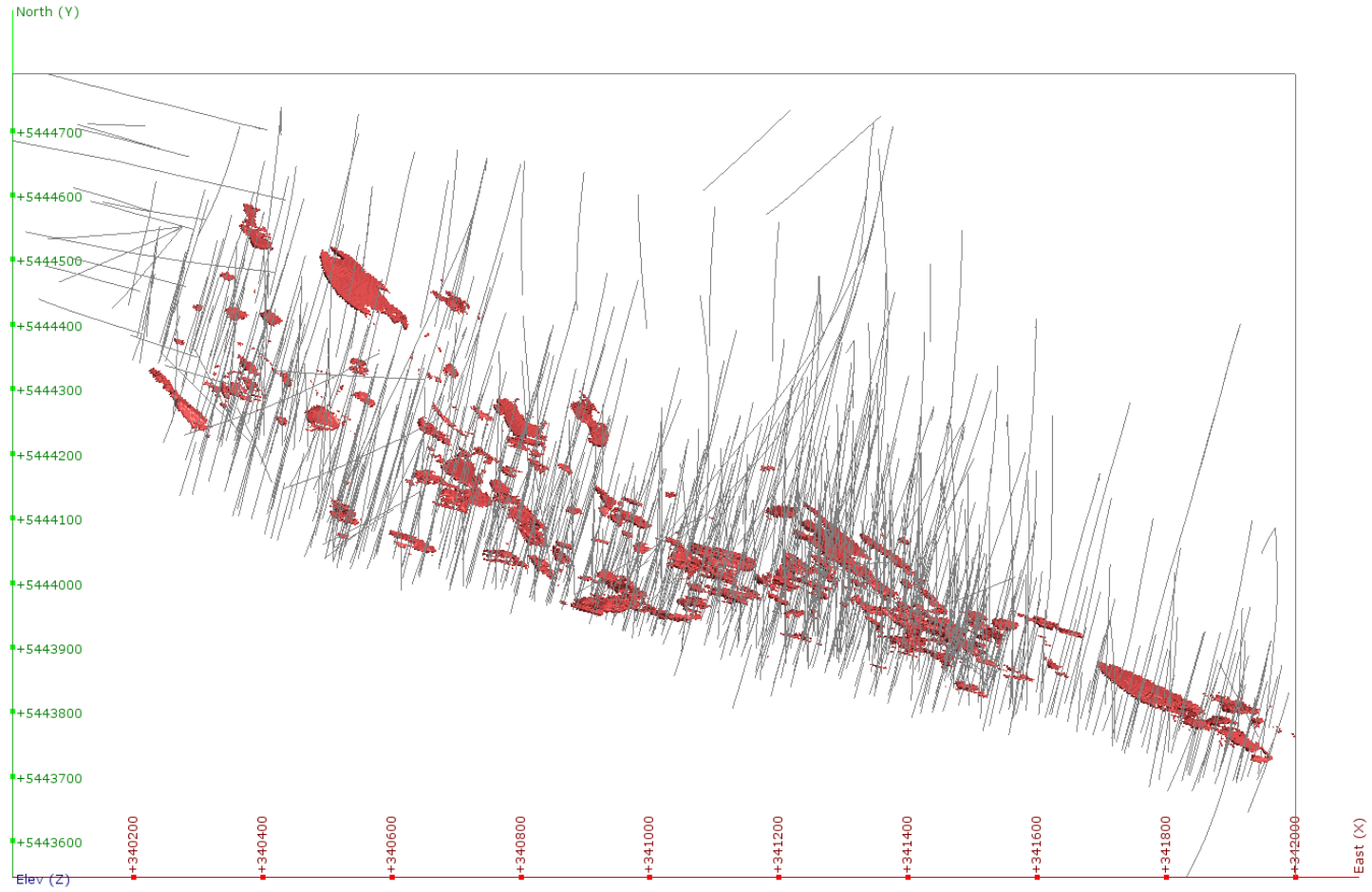
URBAN BARRY PROPERTY

Exploration pipeline of 100+ targets



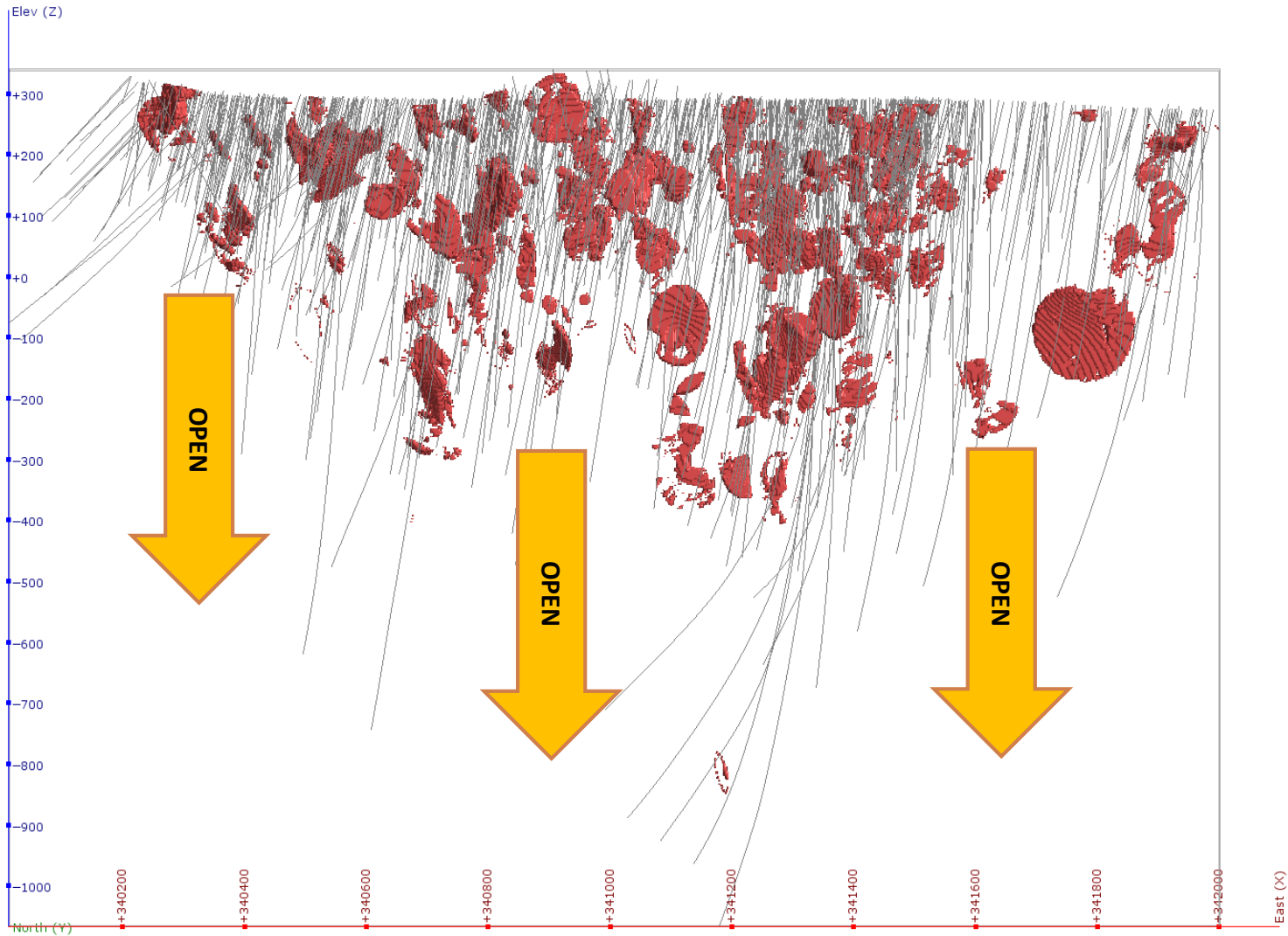


Osborne Bell Deposit Mineral Resource Wireframes Plan View





Osborne Bell Deposit Mineral Resource Wireframes Longitudinal View





WINDFALL INDICATED AND INFERRED RESOURCES

Table 1: Windfall Gold Deposit Indicated and Inferred Mineral Resources by Zone (3.0 g/t Au cut-off)

Zone	Indicated			Inferred		
	Tonnes (000 t) ⁽¹⁾	Grade (g/t)	Ounces Au ⁽²⁾ (000 oz)	Tonnes ⁽¹⁾ (000 t)	Grade (g/t)	Ounces Au ⁽²⁾ (000 oz)
Lynx	1,254	7.51	303	2,257	7.48	543
Zone 27	628	8.69	175	852	7.28	199
Caribou	318	7.12	73	2,767	5.80	516
Underdog	147	9.00	43	4,380	6.77	953
Other	34	6.58	7	348	6.37	71
Total	2,382	7.85	601	10,605	6.70	2,284

Table 2: Windfall Gold Deposit Indicated and Inferred Mineral Resource Sensitivity Table

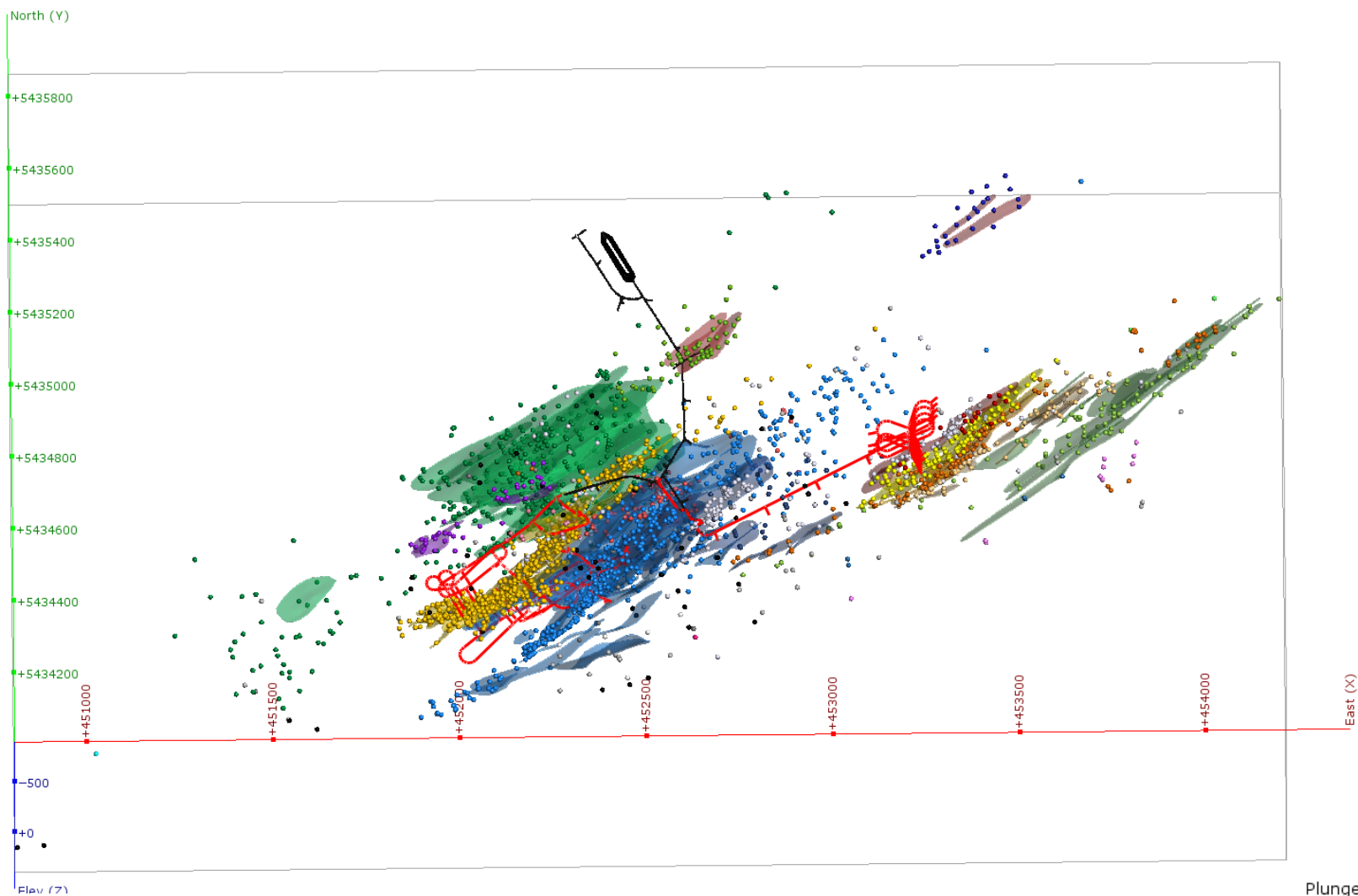
Cut-off Grade	Indicated			Inferred		
	Tonnes ⁽¹⁾ (000 t)	Grade (g/t)	Ounces Au ⁽²⁾ (000 oz)	Tonnes ⁽¹⁾ (000 t)	Grade (g/t)	Ounces Au ⁽²⁾ (000 oz)
5.00 g/t	1,476	10.28	487	5,764	9.06	1,679
4.00 g/t	1,858	9.08	543	7,749	7.88	1,964
3.50 g/t	2,093	8.48	571	9,091	7.27	2,126
3.00 g/t	2,382	7.85	601	10,605	6.70	2,284
2.50 g/t	2,741	7.18	633	12,434	6.12	2,445

Windfall – Osborne Bell Mineral Resource Estimate (3.0 g/t Au cut-off)

	Indicated			Inferred		
	Tonnes ⁽¹⁾ (000 t)	Grade (g/t)	Ounces Au ⁽²⁾ (000 oz)	Tonnes ⁽¹⁾ (000 t)	Grade (g/t)	Ounces Au ⁽²⁾ (000 oz)
Windfall	2,382	7.85	601	10,605	6.70	2,284
Osborne-Bell	-	-	-	2,587	6.13	510
Total	2,382	7.85	601	13,192	6.59	2,793



Windfall – Lynx Deposits Mineral Resource Wire Frames Plan View



Plunge +75
Azimuth 181





Sensitivities (base case in bold)

Gold Price US\$/oz	\$1,100	\$1,200	\$1,250	\$1,300	\$1,400	\$1,500	\$1,600
Pre-Tax NPV 5% (C\$M)	304.0	464.7	545.0	625.4	786.1	946.8	1,107.6
After-Tax NPV 5% (C\$M)	75.8	244.5	328.9	413.2	581.9	750.6	919.3
Pre-Tax IRR	23.4%	31.7%	35.8%	39.7%	47.3%	54.7%	62.0%
After-Tax IRR	11.1%	22.6%	27.8%	32.7%	42.0%	50.9%	59.4%
Pre-Tax Payback (Years)	4.9	4.2	3.9	3.7	3.4	3.2	3.0
After-Tax Payback (Years)	5.9	4.7	4.2	3.9	3.5	3.1	2.9

FX: US\$:C\$1.00	0.90	0.85	0.80	0.78	0.70	0.65	0.60
Pre-Tax NPV 5% (C\$M)	346.7	453.3	573.2	625.4	864.3	1,043.4	1,252.4
After-Tax NPV 5% (C\$M)	120.7	232.5	358.4	413.2	663.9	852.0	1,071.4
Pre-Tax IRR	25.6%	31.2%	37.1%	39.7%	51.0%	59.2%	68.6%
After-Tax IRR	14.4%	21.9%	29.6%	32.7%	46.4%	56.1%	66.9%
Pre-Tax Payback (Years)	4.7	4.2	3.9	3.7	3.3	3.0	2.8
After-Tax Payback (Years)	5.5	4.7	4.1	3.9	3.3	3.0	2.8



OSISKO MINING MINERAL INVENTORY



Project	Measured (MM oz)	Indicated (MM oz)	Total (M&I) (MM oz)	Inferred (MM oz)
WINDFALL⁽¹⁾				
Tonnes (Mt)	-	2.38	2.38	10.61
Grade		7.85	7.85	6.70
Au (Moz)	-	0.60	0.60	2.28
OSBORNE BELL⁽²⁾				
Tonnes (Mt)	-	-	-	2.59
Grade	-	-	-	6.13
Au (Moz)	-	-	-	0.51
SUBTOTAL Windfall/Osborne				
	-	-	0.60	2.79
GARRISON⁽³⁾				
Tonnes (Mt)	15.10	15.00	30.1	7.87
Grade	1.07	1.40	1.24	3.19
Au (Moz)	0.51	0.68	1.20	0.81
MARBAN⁽⁴⁾				
Tonnes (Mt)	7.70	29.40	37.00	3.60
Grade	1.47	1.18	1.24	1.15
Au (Moz)	0.36	1.12	1.48	0.13
TOTAL Osisko				
	0.87	2.40	3.28	3.73

(1). Innov-Explo May 15th 2018

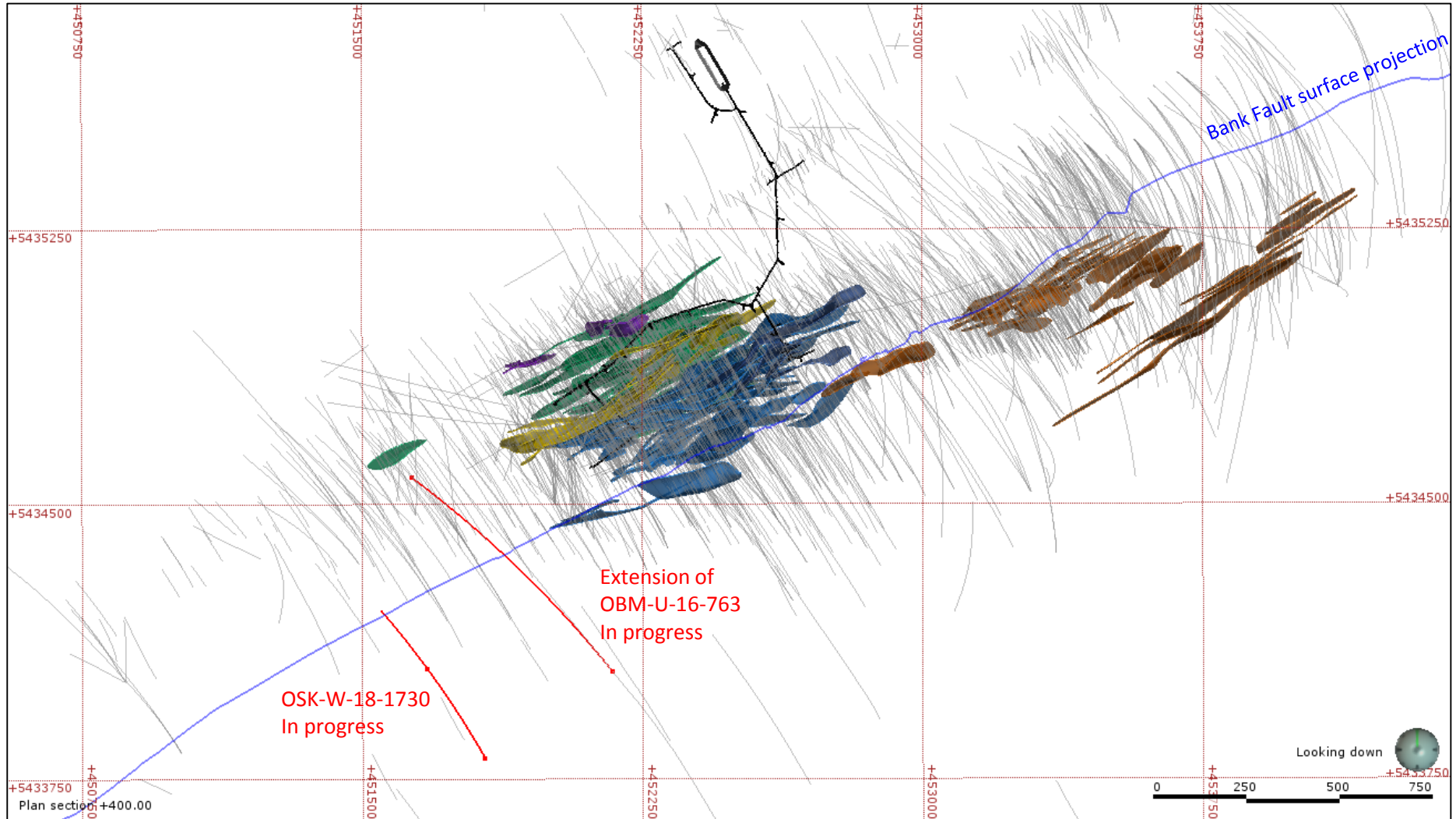
(2). Innov-Explo March 2nd 2018

(3). A.C.A Howe International Limited December 30th 2013

(4). Belzile Solutions Inc. June 1st, 2016

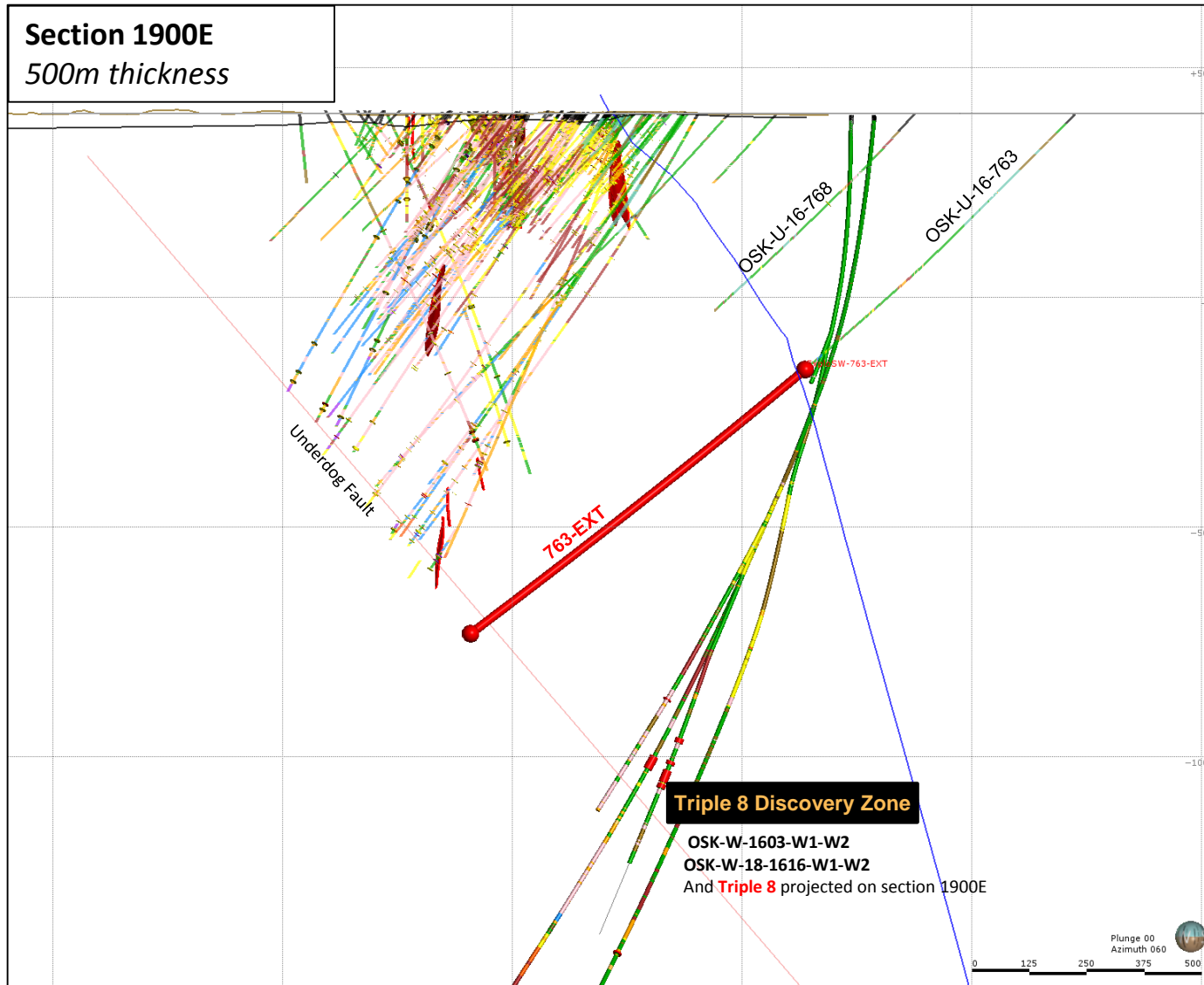


Plan View of New Deep Exploration Holes



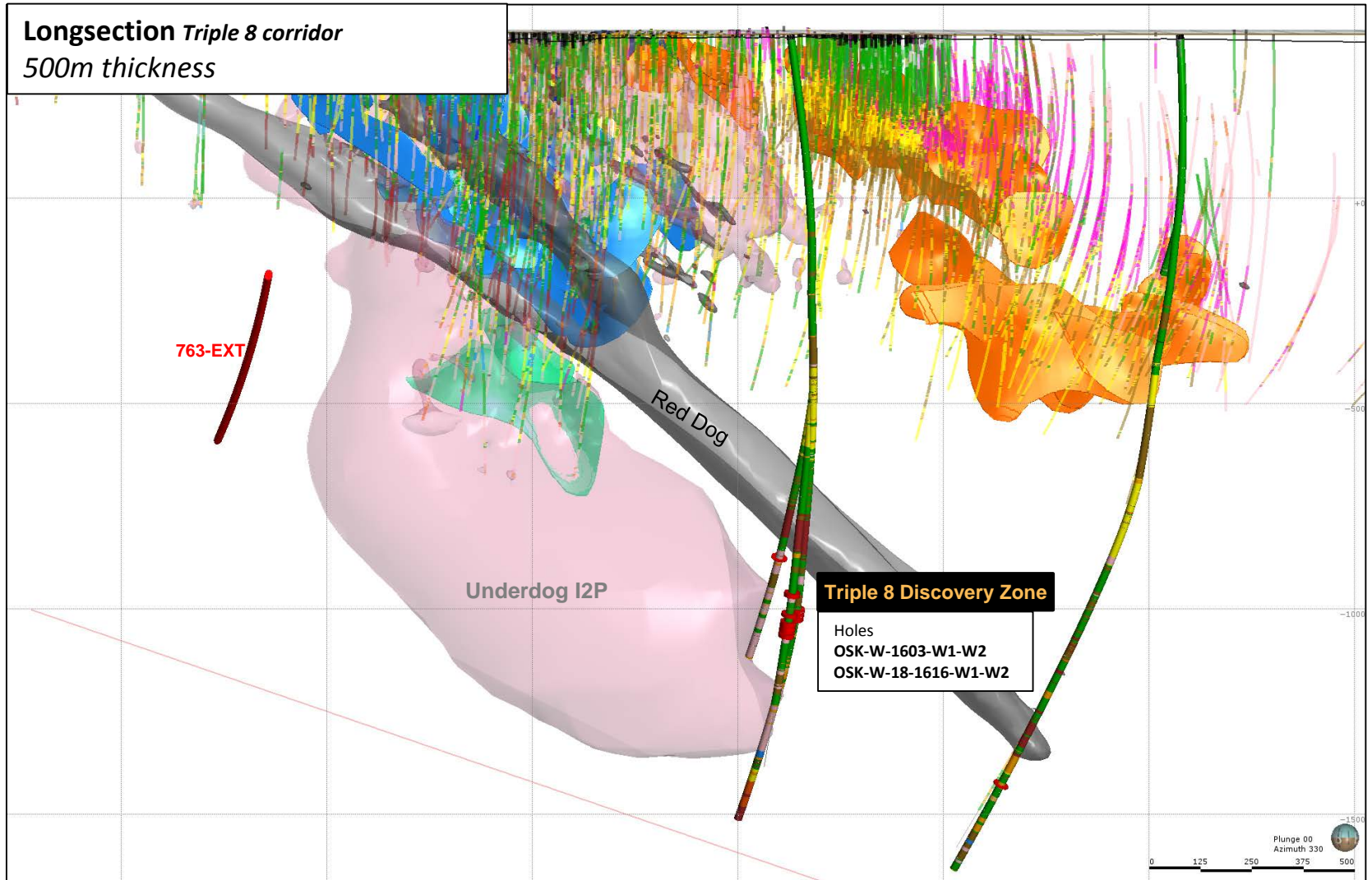


Cross Section of OSK-U-16-763-EXT Deep Exploration Hole





Long Section of OSK-U-16-763-EXT Deep Exploraton Hole





Underground Development in Main Zone

