



**FIREFOX GOLD CORP.**  
**2018 TECHNICAL (N.I. 43-101) REPORT ON THE  
MUSTAJÄRVI PROPERTY**

Located in Kittilä Municipality, Lapland Region, Finland  
67° 36' N Latitude; 25° 18' E Longitude

-prepared for-

**FIREFOX GOLD CORP.**  
Suite 650, 1021 West Hastings Street  
Vancouver, British Columbia, Canada  
V6E 0C3

-prepared by-

Henry Awmack, P.Eng.

**EQUITY EXPLORATION CONSULTANTS LTD.**  
1510-250 Howe Street  
Vancouver, British Columbia, Canada  
V6C 3R8

Effective Date: July 15, 2018

## TABLE OF CONTENTS

TABLE OF CONTENTS .....	1#
LIST OF APPENDICES.....	1#
LIST OF TABLES .....	2#
LIST OF FIGURES .....	2#
LIST OF PLATES .....	2#
1.0# SUMMARY .....	4#
2.0# INTRODUCTION.....	5#
3.0# RELIANCE ON OTHER EXPERTS .....	5#
4.0# PROPERTY DESCRIPTION AND LOCATION .....	5#
5.0# ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, PHYSIOGRAPHY .....	8#
5.1# Accessibility .....	8#
5.2# Local Resources and Infrastructure.....	8#
5.3# Physiography and Climate.....	8#
6.0# HISTORY .....	10#
7.0# GEOLOGICAL SETTING AND MINERALIZATION .....	11#
7.1# Regional Geology .....	11#
7.2# Local Geology.....	11#
7.3# Local Mineralization .....	15#
7.4# Property Geology.....	15#
7.5# Property Mineralization .....	15#
8.0# DEPOSIT TYPES.....	20#
9.0# EXPLORATION.....	21#
9.1# Till Geochemistry .....	22#
9.2# Ground Magnetic Geophysics .....	22#
9.3# IP Geophysics.....	25#
10.0# DRILLING.....	25#
11.0# SAMPLE PREPARATION, ANALYSES AND SECURITY .....	26#
12.0# DATA VERIFICATION .....	26#
13.0# MINERAL PROCESSING AND METALLURGICAL TESTING .....	28#
14.0# MINERAL RESOURCE ESTIMATES .....	28#
15.0# ADJACENT PROPERTIES .....	28#
16.0# OTHER RELEVANT DATA AND INFORMATION .....	28#
17.0# INTERPRETATION AND CONCLUSIONS .....	28#
18.0# RECOMMENDATIONS.....	29#
18.1# Program .....	29#
18.2# Budget .....	32#

## LIST OF APPENDICES

Appendix A: References#

Appendix B: Qualified Person's certificate#

## LIST OF TABLES

Table 1: CLGB Stratigraphy .....	11#
Table 2: Mustajärvi Drill Hole Location/Orientation Data .....	25#
Table 3: Mustajärvi Drill Hole Intervals with >1 g/t Au .....	26#
Table 4: Author's Check Sampling .....	28#
Table 5: Proposed Drilling .....	30#
Table 6: Recommended Budget.....	32#

## LIST OF FIGURES

Figure 1: Location Map	Figure 2: Tenure Map .....	6#
Figure 3: Area Infrastructure.....		9#
Figure 4: Regional Geology of Finland .....		12#
Figure 5: Local Geology .....		13#
Figure 6: CLGB Stratigraphic Section (Eilu et al., 2013, Figure 4) .....		14#
Figure 7: Property Geology .....		16#
Figure 8: Property Mineralization and Drill Holes .....		17#
Figure 9: Section (MJ-3, MJ-4 and MJ-5) .....		19#
Figure 10: Till Geochemistry.....		23#
Figure 11: Magnetics .....		24#
Figure 12: Proposed Drilling.....		31#

## LIST OF PLATES

Plate 1: Mustajärvi Topography and Vegetation.....	10#
Plate 2: Mustajärvi Alteration and Mineralization.....	18#
Plate 3: Verification of Outokompu Drill Collars.....	27#

## LIST OF UNITS AND ABBREVIATIONS

### Units:

cm	centimetre (1 cm = 0.01 m)
C\$	Canadian dollar
Ga	billion years ago
g/t	grams/tonne (1 g/t = 1 ppm = 1000 ppb)
km	kilometre (1 km = 1000 m)
m	metre (1 m = 100 cm = 0.001 km)
Ma	million years ago
Moz	million troy ounces
oz	troy ounce (1 oz = 31.10348 grams = 0.0310348 kilograms)
ppb	part per billion (1 ppb = $10^{-3}$ ppm = $10^{-3}$ g/t)
ppm	part per million (1 ppm = 1 g/t = 1000 ppb)
US\$	United States dollar (US\$1 = C\$1.3171, as of July 15, 2018)
°C	degree Celsius
µm	micron (1 µm = $10^{-6}$ m)
€	euro (€1 = C\$1.5361, as of July 15, 2018)

### Abbreviations:

E	east
GPS	global positioning system
GTK	Geologian tutkimuskeskus (Geological Survey of Finland)
IP	induced polarization
M.Sc.	Master of Science
N	north
NE	northeast
NW	northwest
NI 43-101	National Instrument 43-101
NSR	net smelter return
S	south
SE	southeast
SW	southwest
TSXV	TSX Venture Exchange
WGS84	World Geodetic System (1984)

## 1.0 SUMMARY

The Mustajärvi property (“Mustajärvi”) consists of a single exploration permit which covers 146.53 hectares (1.47 km<sup>2</sup>) of flat, glacial till-covered terrain in the Lapland region of northern Finland, 17 km east of Kittilä. A high-voltage power-line and Highway 80, which runs between the towns of Kittilä and Sodankylä, pass through the northern part of the property. Two modern gold and base metal mines are in production in this part of Finland, supporting an infrastructure of mining and exploration services and supplies in the area. The region experiences a continental-style climate with cold winters and warm summers; drilling can be carried out year-round with the exception of spring thaw from mid-April through May. Firefox Gold Corp. (“Firefox”) owns 100% of the Mustajärvi exploration permit, subject to a 1% NSR royalty payable to Aurora Exploration Oy (“Aurora”), half of which can be purchased for US\$ 500,000.

The gold potential of the Mustajärvi property was first recognized in a late 1980’s governmental till survey. From 1990-1992, Outokompu Oy (“Outokompu”) carried out till, magnetic and induced polarization (“IP”) surveys on the Mustajärvi prospect, following up with trenching and diamond drilling. They drilled 12 short core holes (706.0 m) to test favourable top-of-bedrock (“TOB”) and trench results. All but one of their holes intersected intervals grading >1 g/t Au but Outokompu allowed their mineral tenure to lapse in 1995. No significant exploration was reported at Mustajärvi until Firefox carried out property-wide magnetic surveying and base-of-till (“BOT”) sampling and initiated an IP survey in 2018.

The Mustajärvi property is located within the Central Lapland Greenstone Belt (“CLGB”), a poorly-explored package of Paleoproterozoic mafic volcanic and sedimentary rocks which underwent three ductile compressional events around 1.79-1.92 Ga followed by one or more brittle stages. The earliest two phases of ductile compression produced thrust faults, the most important of which are the Sirkka (“STZ”) and Venejoki (“VTZ”) thrust zones, both of which have been traced for >100 km. The third phase of ductile compression (D3) produced NE-striking strike-slip shear zones and reactivated or displaced the earlier thrusts. Orogenic gold occurrences in the CLGB are associated with the STZ, the VTZ and the D3 shear zones. Suurikuusikko (Agnico Eagle Mines Limited’s (“Agnico Eagle”) Kittilä mine), with current mineral reserves of 4.1 Moz Au and the most significant gold deposit found to date within the CLGB, is related to one of these NE-striking D3 shear zones. The author has been unable to verify information concerning Suurikuusikko and the information is not necessarily indicative of the mineralization at Mustajärvi.

The Mustajärvi property is located between the Venejoki and Sirkka thrust zones. A NE-trending magnetic low passes along the axis of the Mustajärvi property for 2.6 km, possibly representing a second-order structure like that which hosts the Suurikuusikko deposit 33 km to the north. Outokompu’s TOB sampling defined a gold-bearing mineralized envelope which strikes east-west for approximately 500 m with a width of 10-60 m. It appears to surround a third-order fault or shear conjugate to the NE-trending second-order structure. Outokompu drilled 12 short holes within a 100 x 175 metre area of the east-west mineralized fault or shear to a vertical depth of <40 m; 11 of their holes reported intersections exceeding 1 g/t Au with the best interval averaging 14.58 g/t Au along 2.70 m core-length. Their drilling indicated that the east-west mineralized fault or shear dips at ~35° to the south and tested only a small portion of it.

The author believes that further exploration is warranted on the Mustajärvi property, given: the under-explored nature of the CLGB in general and the Mustajärvi property in particular; the encouraging Au-bearing intervals reported from the few holes drilled to date on the property; the limited extent of Outokompu’s drilling along the E-W fault or shear, which left TOB samples with up to 5.7 ppm Au untested; the minimal testing to depth (<40 m below surface) of this fault/shear; the orogenic nature of Mustajärvi mineralization; previously unrecognized and unexplored structures indicated by ground magnetics; and the lack of systematic property-wide exploration.

A C\$1.5 million exploration program of magnetic interpretation, till geochemistry, excavator trenching and diamond drilling is recommended for the Mustajärvi property. Firefox’s IP survey should be extended over the remainder of the property. Trenches should be excavated to expose, map and sample bedrock in the vicinity of Au-bearing BOT samples and to test shallow geophysical targets. Approximately 3,350 m of HQ core should be drilled in ~26-36 holes. Drilling will be targeted at: (a) duplicating Outokompu’s best two intersections (~100 m); (b) testing the mineralized E-W shear or fault at 50 and 100 m downdip from surface or the deepest Outokompu intersection by drilling holes along N-S sections spaced 50 m apart along 300 m

of the zone's strike (~1,750 m); and (c) following up on mineralized trenches, testing deeper geophysical targets and infilling around Au-rich drill intersections in the E-W shear or fault (~1,500 m).

## 2.0 INTRODUCTION

This NI 43-101 report has been prepared for Firefox Gold Corp. ("Firefox") in support of its listing application for the TSX Venture Exchange (TSXV). Equity Exploration Consultants Ltd. ("Equity") was contracted: to examine Mustajärvi in the field; to compile, summarize and interpret all exploration information available on it; and, if warranted, to prepare budgeted recommendations for its future exploration. This report has been prepared on the basis of personal observations, company reports filed with the Geological Survey of Finland ("GTK"), information and reports supplied by Firefox, news releases issued by Firefox, web-pages, unpublished research by Matthias Mueller in support of his M.Sc. thesis at the University of Oulo in Finland, and publicly available regional geological publications. A complete list of references is provided in Appendix A.

The author travelled to Finland from February 18-26, 2018. During this time, he examined core from Mustajärvi (holes MJ-4, -5, -6, -7 and -9) at the GTK core library in Loppi on February 21 and examined surface exposures on the property on February 23. The author is not a director, officer or shareholder of Firefox and has no interest in the Mustajärvi Property or any nearby properties.

## 3.0 RELIANCE ON OTHER EXPERTS

The author has not relied upon a report, opinion or statement of another expert concerning legal, political, environmental or tax matters relevant to the technical report.

## 4.0 PROPERTY DESCRIPTION AND LOCATION

The Mustajärvi Property consists of a single exploration permit (the Mustajärvi exploration permit) which covers 146.53 hectares (1.47 km<sup>2</sup>) within the Kittilä municipality of northern Finland (Figure 1). It is centred at 67° 36' N latitude and 25° 18' E longitude (WGS84, Zone 35N: 427600E 750000N) within the Lapland region.

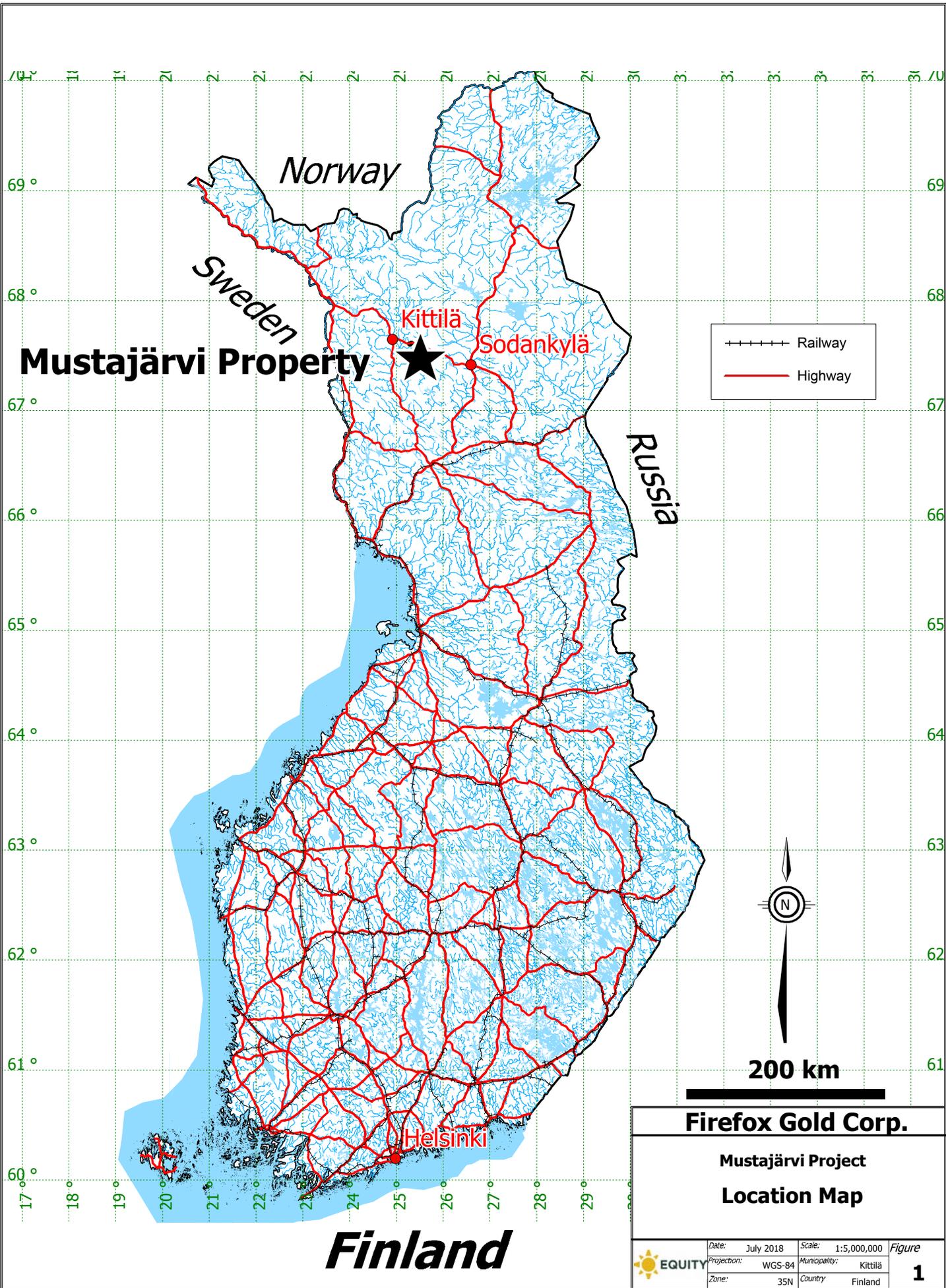
The Mustajärvi exploration permit ("malminetsintälupa"), with Permit ID ML2017:0045, was granted on December 13, 2017 to Aurora Exploration Oy ("Aurora"). The exploration permit is valid for four years (expires December 13, 2021) but Finnish law allows it to be extended for up to an additional 11 years (December 13, 2032). Exploration permit boundaries are specified in the corresponding application. The Mustajärvi exploration permit is divided into three segments since Finnish law does not grant exploration permits within 150 m of a house, under a highway or under a high-voltage power-line (Figure 2). However, the author has been informed that any eventual mining permit could extend under these excluded areas.

In Finland, exploration permits confer rights to mineral exploration only. Mine development requires conversion of an exploration permit to a mining permit; the exploration permit holder is given priority in granting a mining permit. Surface rights over the Mustajärvi property are owned by private landowners (~70%) and the state (~30%), as administered by Kittilä municipality. The ownership of other rights (timber, water, trapping, reindeer herding, etc.) over the Mustajärvi property has not been investigated by the author.

The terms of the exploration permit require the holder to pay the landowners (surface-right holders):

- 1) €20/hectare for each of the first four years of the exploration permit;
- 2) €30/hectare per year for the fifth, sixth, and seventh year of the exploration permit;
- 3) €40/hectare per year for the eighth, ninth, and tenth year of the exploration permit; and
- 4) €50/hectare for the eleventh and subsequent years of the exploration permit.

For the Mustajärvi exploration permit, this landowner payment amounts to €2,930.60/year until December 13, 2021, the first year of which (until December 13, 2018) has already been paid. In addition, the permit holder is required to submit an annual exploration report to the GTK.



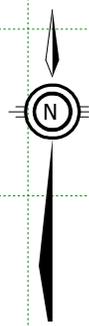
**Mustajärvi Property**

Kittilä  
Sodankylä

Helsinki

**Finland**

+++++	Railway
—	Highway



200 km

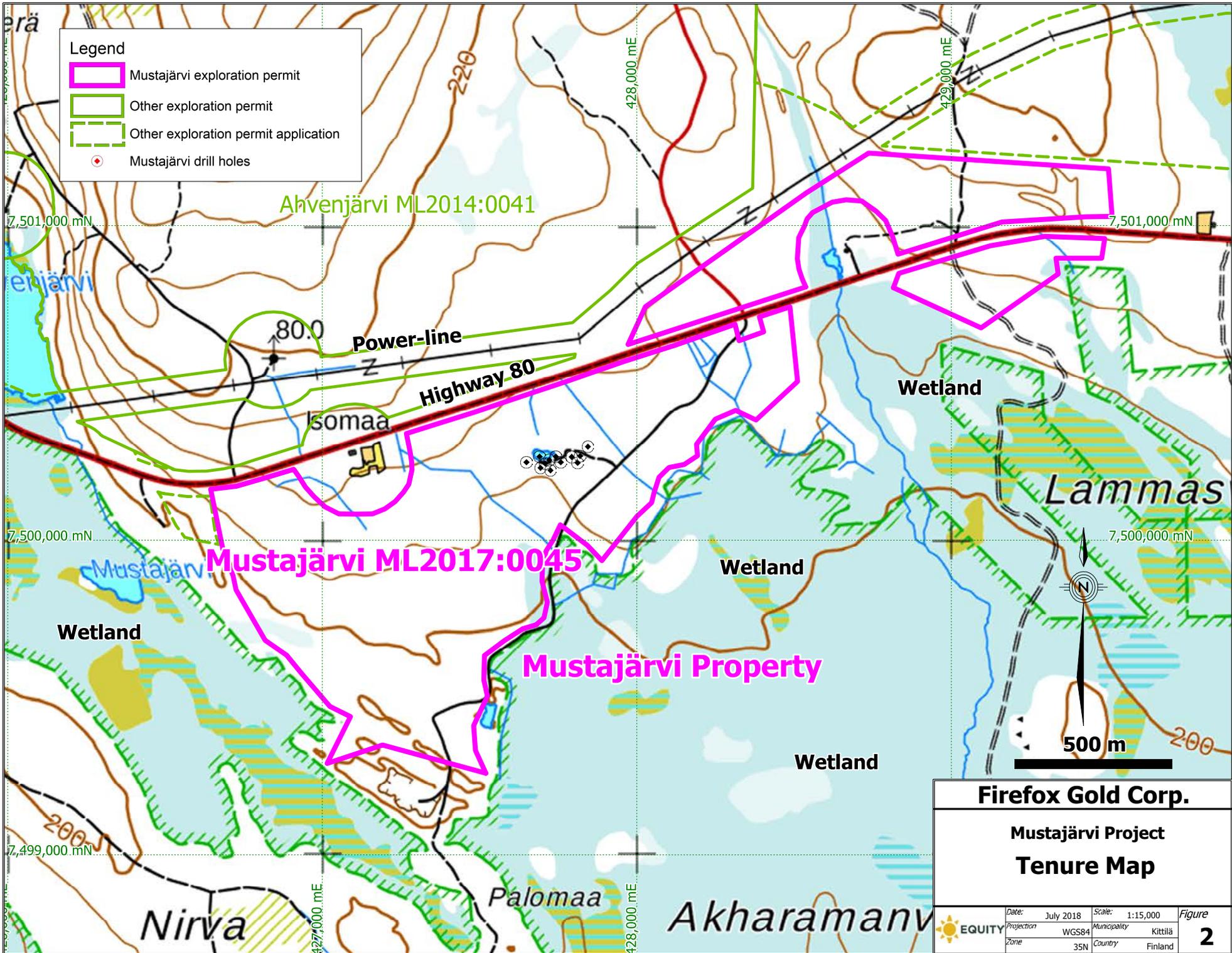
**Firefox Gold Corp.**

**Mustajärvi Project  
Location Map**



Date:	July 2018	Scale:	1:5,000,000
Projection:	WGS-84	Municipality:	Kittilä
Zone:	35N	Country:	Finland

Figure  
**1**



**Legend**

- Mustajärvi exploration permit
- Other exploration permit
- Other exploration permit application
- Mustajärvi drill holes

Ahvenjärvi ML2014:0041

Mustajärvi ML2017:0045

Mustajärvi Property

Wetland

Wetland

Wetland

Lammassaari

Palomaa

Akharamaanjärvi

Nirva

Isomaa

Power-line

Highway 80

80.0

7,501,000 mN

7,501,000 mN

7,501,000 mN

7,500,000 mN

7,499,000 mN

428,000 mE

429,000 mE

428,000 mE

427,000 mE

500 m

**Firefox Gold Corp.**

**Mustajärvi Project  
Tenure Map**



Date:	July 2018	Scale:	1:15,000	Figure
Projection:	WGS84	Municipality:	Kittilä	<b>2</b>
Zone:	35N	Country:	Finland	

Firefox acquired a 100% interest in the Mustajärvi exploration permit, subject to a 1% NSR, pursuant to a purchase/sale agreement with Aurora dated December 14, 2017. This purchase was effected by payment of €30,000 and issuance of 400,000 Firefox shares to Aurora. Firefox can purchase half of the NSR (0.5%) for US\$500,000 (FirefoxGoldCorp., 2017).

In addition to the 1% NSR held by Aurora, Finnish law stipulates that after an exploration permit is converted to a mining permit, the land-owners (surface-right holders) will be paid a 0.15% gross royalty on the value of material mined under their property and paid an annual “excavation fee” of €50/hectare for the mining permit area. The author is not aware of any other royalties, back-in rights, payments or other agreements and encumbrances to which the property is subject.

There is a small pit measuring approximately 20 m wide by 70 m long by 2-5 m deep excavated by a previous operator on the Mustajärvi prospect. Otherwise, the author is not aware of any significant environmental liabilities on the Mustajärvi property.

Permits are not required for mechanized exploration on exploration permits so Firefox may carry out the proposed exploration program. Compensation must be paid to landowners for any damages incurred during exploration.

The author is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform work on the property.

## **5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, PHYSIOGRAPHY**

### **5.1 Accessibility**

Highway 80, which is part of the paved Finnish national highway grid, passes through the northern part of the Mustajärvi claim between the towns of Sodankylä and Kittilä (Figure 3). A network of tertiary roads provides good access to the remainder of the Mustajärvi property. Kittilä, which is 17 km west of Mustajärvi, is a winter travel destination with daily flights to Helsinki and several other European cities through the winter, although fewer flights would be expected in other seasons.

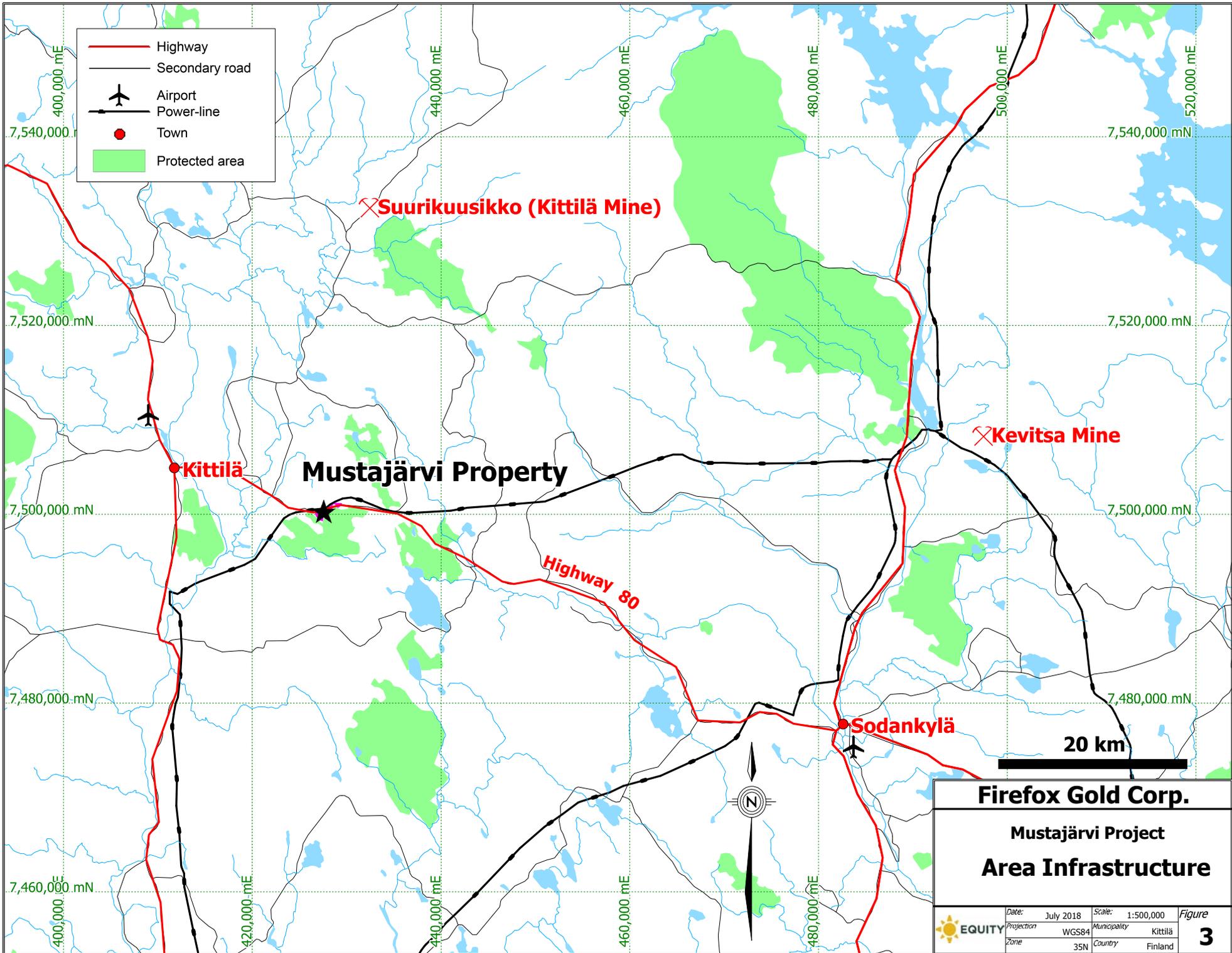
### **5.2 Local Resources and Infrastructure**

Sodankylä and Kittilä, each with a population of 6,000-9,000 people, are located about 80 km apart on Highway 80 (Figure 3). Agnico Eagle’s Kittilä mine, which extracts 5,000 tonnes/day of underground gold ore, is located 35 km north of Kittilä. Boliden’s Kevitsa mine, which produces 22,000 tonnes/day of Ni-Cu ore from an open pit, is located 35 km north of Sodankylä. These mines support a local mining and exploration infrastructure; most of their workers live in Kittilä and Sodankylä, respectively. Each of the towns offers a full range of services and supplies for mineral exploration, including skilled and unskilled labour, freight, heavy equipment, accommodation, groceries and hardware. In addition, ALS Laboratories has a sample preparation lab in Sodankylä.

Surface rights over the Mustajärvi property are owned by private landowners (~70%) and the state (~30%). State lands are administered by Kittilä municipality. Finnish law provides that surface rights will be made available for any eventual mining operation, subject to payment of an excavation fee and gross royalty as detailed in Section 4.0. Surface rights are returned to the land-owner upon completion of mining and reclamation. A high-voltage power-line passes through the Mustajärvi exploration permit. There is abundant water in the area and water rights could likely be obtained for milling. It is still too early to determine potential tailings storage areas, potential waste disposal areas, and potential processing plant sites.

### **5.3 Physiography and Climate**

Mustajärvi lies within the northern boreal vegetation zone, which is characterized by spruce/pine/ birch forests, marshes and bogs. On the property, vegetation consists almost entirely of an open pine and birch forest, although it is flanked to the south by marshy wetlands. The property is almost flat, with elevations ranging between 195 and 210 m above sea level (Plate 1, Figure 2). The entire property is covered by glacial



- Highway
- Secondary road
- Airport
- Power-line
- Town
- Protected area

<b>Firefox Gold Corp.</b>			
<b>Mustajärvi Project</b>			
<b>Area Infrastructure</b>			
EQUITY	Date: July 2018	Scale: 1:500,000	Figure
	Projection: WGS84	Municipality: Kittilä	<b>3</b>
	Zone: 35N	Country: Finland	

overburden, the depth of which is minimal. Till sampling has shown that much of the property is covered by <5 m of till, although a gravel pit immediately south of the western part of the property contains thicker gravels believed to be glacio-fluvial. A few people live in scattered houses along the highway, either working in town or as reindeer herders.



A. Looking west in flat terrain along Highway 80, flanked by open pine and birch forest.



B. Looking west at the eastern end of the artisanal mining pit. Snow is about 1 m deep. Vegetation consists of pine and birch trees.

### Plate 1: Mustajärvi Topography and Vegetation

The region experiences a typical continental-style climate with cold winters and warm summers. In Kittilä, the daily average temperature ranges from  $-15^{\circ}\text{C}$  in January to  $+14^{\circ}\text{C}$  in July. The coldest months are December to March, with Kittilä the site of Finland's record cold temperature of  $-51^{\circ}\text{C}$ . Kittilä has 48 cm of annual precipitation, spread fairly evenly through the year. Beginning in November, about a metre of snow accumulates and generally covers the ground until May or early June. Drilling and mechanized exploration can be conducted year-round on the property with the exception of spring thaw from mid-April through May.

## 6.0 HISTORY

The exploration potential of Mustajärvi was first recognized when a GTK regional till survey in the late 1980's returned anomalous Au values (Eilu and Nykänen, 2011, p. 24). Outokompu Oy investigated this anomaly in 1990-91 with 23 N-S lines of till samples; samples were taken at 10 or 20 metre intervals along lines spaced 50-300 m apart. Elevated Au values were returned from ten consecutive lines (Hugg, 1996). Where possible, samples were taken from bedrock at the bedrock/till interface; otherwise, samples were taken from as deep as possible (generally 2-7 m depth) from the till.

In 1991, Outokompu excavated seven trenches of 72.5 m aggregate length; they reported "short intervals containing high, in the best cases a few tens of ppms Au", but did not report assay intervals (Hugg, 1996). In 1991-92, Outokompu carried out a heavy mineral till survey and ran a small magnetic/IP survey (Hugg, 1996). Between December 1991 and December 1992, Outokompu drilled 12 short holes totaling 706.0 m. The holes were drilled towards  $315^{\circ}$  along eight parallel sections generally spaced 20 m apart within their Au-in-till geochemical anomaly. All but one of the holes encountered mineralization grading  $>1$  g/t Au with intersections ranging from 1.0 m @ 1.57 g/t Au (MJ-3) to 2.7 m @ 14.58 g/t Au (MJ-1) and 12.0 m @ 2.68 g/t Au (MJ-4) (Anttonen, 1993). Core from seven holes is preserved at the GTK's Loppi core library but mineralized intervals are absent from these holes, apparently sampled in their entirety. Outokompu allowed their mineral tenure to lapse in 1995.

Gold Mine Siitonen & Saiho AY ("Siitonen & Saiho") held the claim covering the Mustajärvi prospect in 2002-2010 and 2013-2016. Siitonen & Saiho excavated a 20 x 70 x 2-5 metre deep pit along the surface

trace of mineralization in the drilled area, apparently guided by Outokompu trench maps. They processed the mineralized material at their rudimentary concentrator in Kittilä but no production data have been reported.

Agnico Eagle apparently drilled three holes on the Mustajärvi property in the early 2010's but encountered drilling problems and dropped their option without releasing any information (M. Mueller, pers. comm., 2018).

There have been no historical mineral resource or mineral reserve estimates for the Mustajärvi property and there has been no significant production from it.

## 7.0 GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 Regional Geology

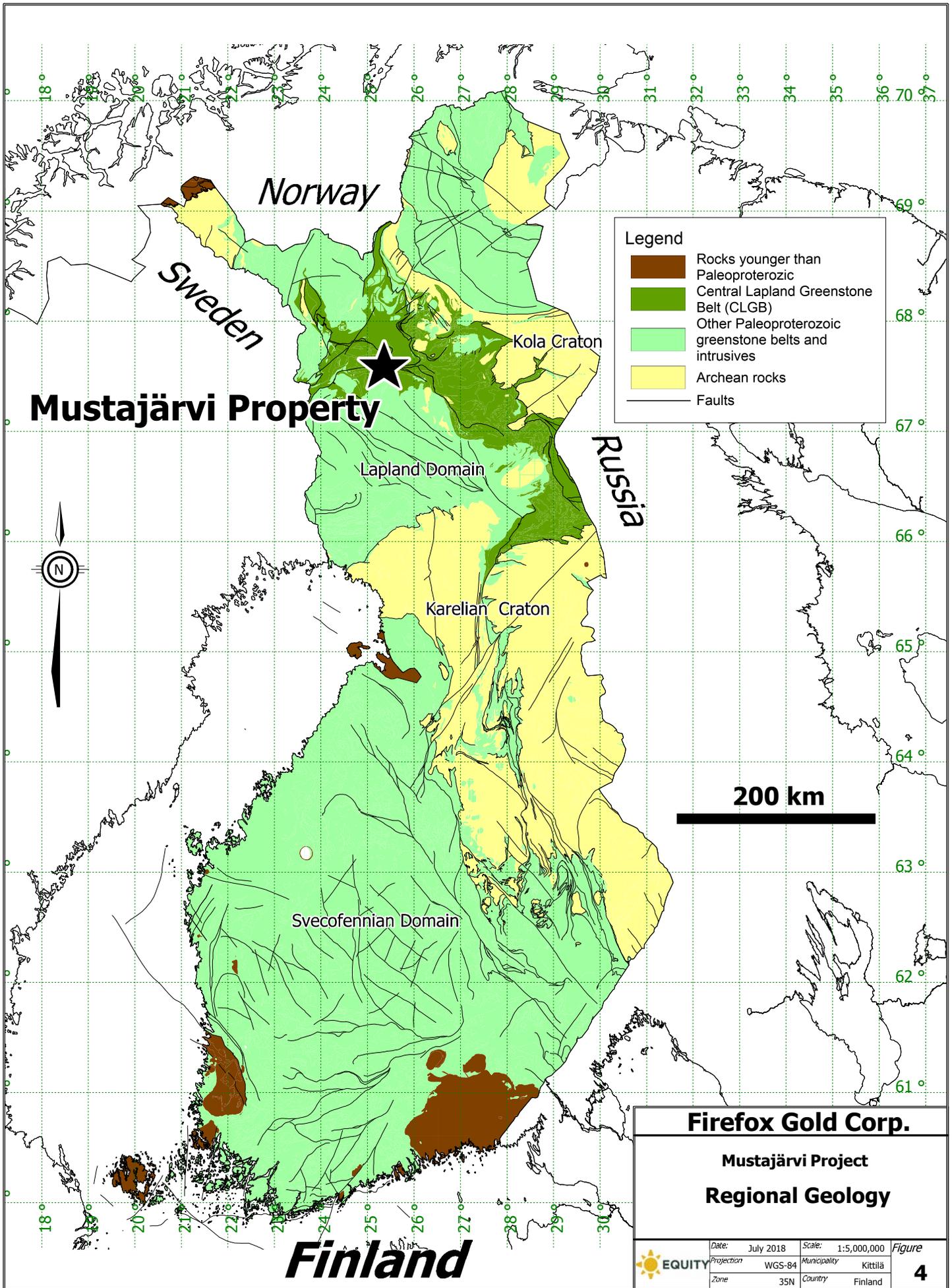
Finland lies within the predominantly late Archean and Paleoproterozoic Fennoscandian Shield; its bedrock can be broadly subdivided into three domains that have shared a common history since about 1.8 Ga. These three crustal units essentially comprise a late Archean nucleus (Karelian craton) flanked on both sides by Paleoproterozoic mobile belts (Figure 4). The Mustajärvi property lies within the Lapland domain, which records the amalgamation of several distinct crustal units of both Proterozoic and Archean age to the northeast margin of the Karelian craton at around 1.9 Ga. In contrast, the Svecofennian domain, to the southwest of the Karelian craton, is entirely Paleoproterozoic in age, with a history of relatively rapid formation and accretion of new crust between about 1.97 and 1.86 Ga. Extensive crustal reworking between 1.84 and 1.80 Ga is recorded in all three domains, represented mainly by potassic monzogranitic magmatism and low-pressure, high-temperature metamorphism (Eilu et al., 2003).

### 7.2 Local Geology

Within the Lapland domain, the Mustajärvi property and the majority of known gold deposits and prospects are hosted by the CLGB, which is the largest mafic volcanic-dominated province preserved in Finland (Figures 4 and 5). Eilu et al (2013) divided the CLGB into seven stratigraphic groups (Table 1, Figure 6).

**Table 1: CLGB Stratigraphy**

<b>Group</b>	<b>Dominant Rock Types</b>
Kumpu	Quartzite, siltstone, conglomerate, intermediate to felsic volcanic rocks
Kittilä	Tholeiitic volcanic rocks, graphite- and sulphide-bearing tuffite, BIF, phyllite, mica schist, greywacke
Savukoski	Tholeiitic and komatiitic volcanic rocks, phyllite, graphite and sulphide-bearing schist, tuffite, dolomite
Sodankylä	Quartzite, mica schist, mica gneiss, mafic volcanic rocks
Kuusamo	Tholeiitic and komatiitic volcanic rocks
Salla	Intermediate to felsic volcanic rocks
Vuojärvi	Quartzite, mica gneiss, possibly volcanic in origin



**Legend**

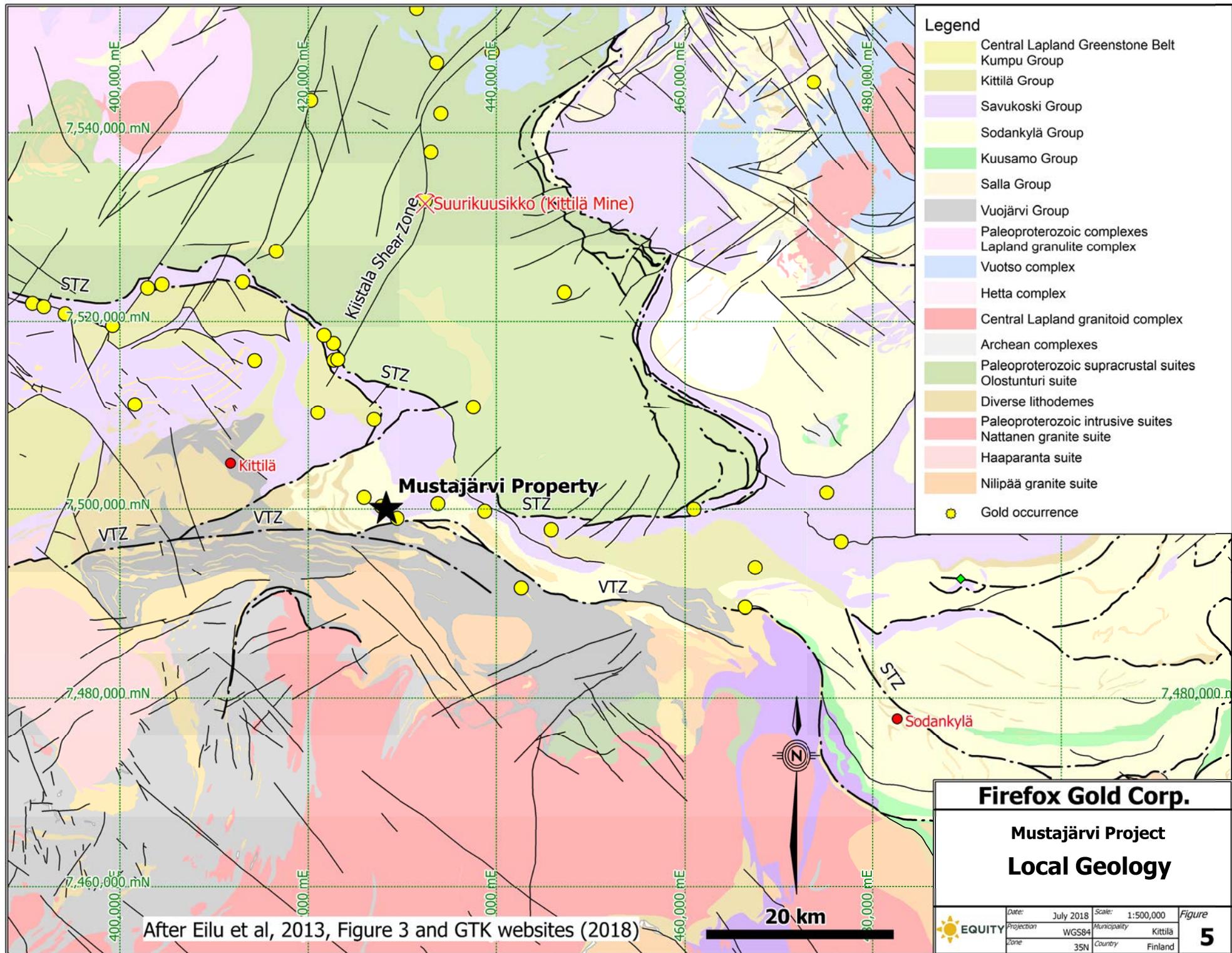
- Rocks younger than Paleoproterozoic
- Central Lapland Greenstone Belt (CLGB)
- Other Paleoproterozoic greenstone belts and intrusives
- Archean rocks
- Faults

**Firefox Gold Corp.**

**Mustajärvi Project**

**Regional Geology**

	Date:	July 2018	Scale:	1:5,000,000	<i>Figure</i>
	Projection:	WGS-84	Municipality:	Kittilä	
	Zone:	35N	Country:	Finland	<b>4</b>

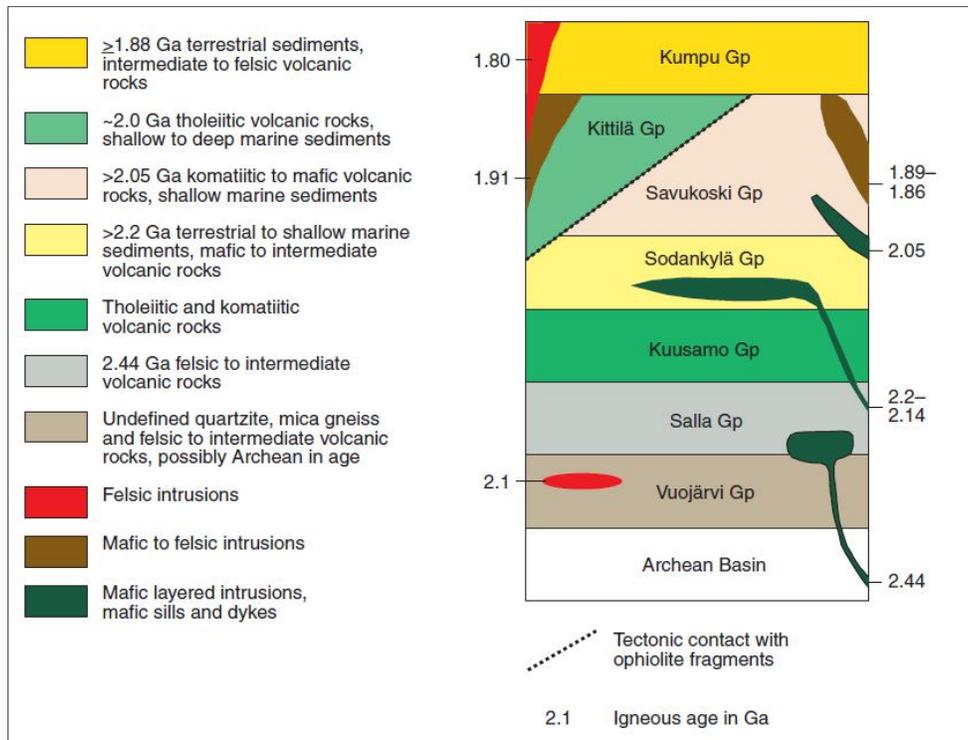


After Eilu et al, 2013, Figure 3 and GTK websites (2018)

**Firefox Gold Corp.**

**Mustajärvi Project  
Local Geology**

EQUITY	Date:	July 2018	Scale:	1:500,000	Figure <b>5</b>
	Projection:	WGS84	Municipality:	Kittilä	
	Zone:	35N	Country:	Finland	



**Figure 6: CLGB Stratigraphic Section (Eilu et al., 2013, Figure 4)**

Structural deformation within the CLGB can be divided into three ductile compressional events followed by one or more brittle stages. The earliest mapped deformation stages (D1 and D2) relate to SW-directed thrusting and N-directed thrusting from the northeastern and southern margins of the CLGB, respectively. The SW-directed thrusting relates to the collision of the Kola and Karelian cratons and the thrusting of the Lapland Granulite belt and adjacent Vuotso complex onto CLGB successions. The north directed thrusting was driven by Svecofennian orogenic events, taking place along the STZ and the VTZ. The D3 deformation stage relates to thrusting from SW or W along the western margin of the CLGB. Based on indirect evidence, D1 (SW-directed thrusting) is dated at 1.92-1.90 Ga, D2 (N-directed thrusting) at 1.91-1.86 Ga, and D3 (E/NE-directed thrusting) at 1.86-1.79 Ga (Niiranen, 2015).

Clear overprinting features are absent, so the first two deformation events are generally referred to as D1-D2. The earliest foliation (S1) is bedding-parallel and can locally be seen in F2 fold hinges and as inclusion trails in andalusite, garnet and staurolite porphyroblasts. The main deformation features consist of flat-lying to gently-dipping S2 foliation and recumbent or reclined F3 folding. The orientation of F3 folds is highly variable with east and north striking axial traces dominating. The ductile deformation features are overprinted by brittle faulting related to the latest deformation stage D4.

The >100 km long STZ is a rheological boundary between the Savukoski Group volcano-sedimentary sequence in the south and the Kittilä Group in the north (Figure 5). It consists of a series of vertical to sub-vertical shear zone segments and closely-spaced thrusts which dip about 40 degrees to the south to a depth of at least 9 km. The subparallel VTZ, also >100 km long, has been mapped 5-25 km to the south of the STZ. The D3 stage resulted in the development of a set of north to north-east striking strike-slip shear zones which intersect and, in some places, displace the early thrust zones. There are also clear indications of reactivation of early thrust structures during D3. A number of gold occurrences are spatially correlated to the D3 structures, including Agnico Eagle's Suurikuusikko deposit, in addition to those associated with the STZ and VTZ. Abrupt changes in metamorphic grade are associated with D3 shear zones suggesting that they were active after the peak of metamorphism, which ranges from lower greenschist to upper amphibolites facies (Eilu et al., 2013).

### 7.3 Local Mineralization

Eilu et al (2013) reported that more than 30 orogenic gold deposits and prospects were indicated by drilling at that time within the STZ and along its subsidiary faults. By far the most significant of the known deposits is Suurikuusikko, located 33 km north of the Mustajärvi property along the N to NE striking Kiistala Shear Zone (KiSZ) related to D3 deformation (Figure 5). Agnico Eagle Mines Limited's Kittilä mine has been producing ~200,000 oz/year from the Suurikuusikko deposit since 2009; proven and probable mineral reserves were reported as 27 million tonnes grading 4.74 g/t Au (4.1 Moz) as of December 31, 2017 (Agnico-Eagle, 2018a). These mineral reserves are located along a 4.5 km segment of the KiSZ although mineralization has been encountered along more than 25 km of it (Agnico-Eagle, 2018b).

The Suurikuusikko deposit is hosted by greenschist-facies metavolcanic rocks of the Kittilä Group, which has a maximum thickness of 6-7 km in the deposit area. The ore is mostly hosted by the transitional Porkonen Formation (mafic tuffs, graphitic metasedimentary rocks, black chert and banded iron formation) which separates two thick mafic lava sequences and which coincides with the KiSZ. The structurally disrupted Porkonen Formation separates Kautoselka Formation Fe-rich tholeiitic basalts to the west from Vesmajärvi Formation Mg-rich tholeiitic basalt, coarse volcanoclastic units, graphitic schist and minor chemical sedimentary rocks to the east (Doucet et al., 2010). In the Suurikuusikko area, the KiSZ is subvertical or dips steeply to the east; it is a complex structure, recording several phases of movement. Mineralisation occurs within N-striking and less frequently NE-striking shear zone segments. Orebody envelopes trend north and have a moderate northerly plunge; controls on orebody plunge remain unknown. Much of the geometry of shear structures, formation of many shear zones and their complex kinematic history could be explained by flattening of a layered stratigraphy. Gold is refractory, occurring as lattice substitutions or submicroscopic inclusions within arsenopyrite and arsenian pyrite, accompanied by intense carbonate and albite alteration (Patisson et al., 2013). The author has been unable to verify information concerning Suurikuusikko and the information is not necessarily indicative of the mineralization at Mustajärvi.

### 7.4 Property Geology

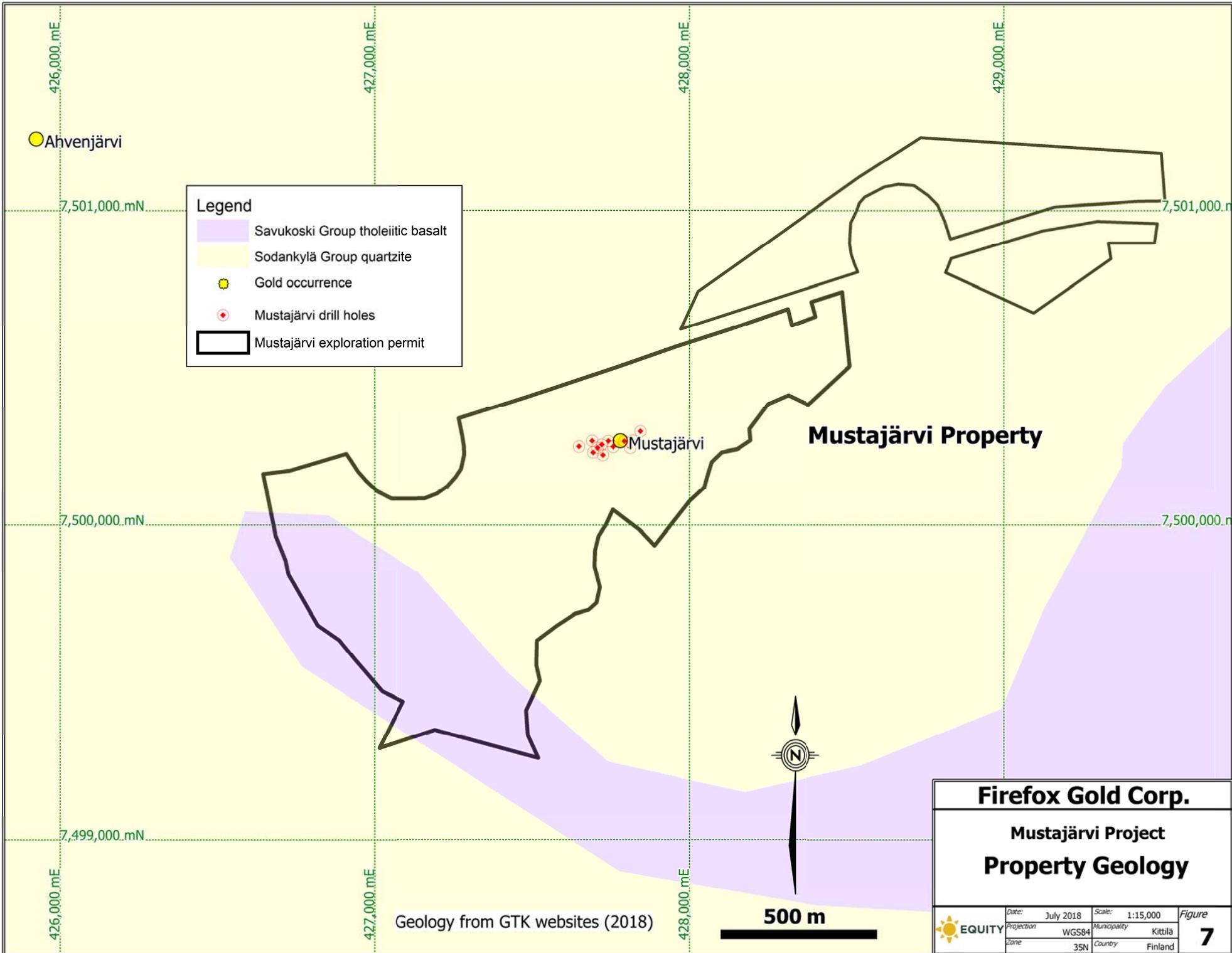
No property mapping has been reported at Mustajärvi. Most of the property is covered by a few m of glacial till and outcrop is scarce or non-existent. Regional mapping, largely based on geophysical interpretation, indicates that most of the property is underlain by Honkavaara Formation quartzite of the Sodankylä Group, with a tongue of Linkupalo Formation tholeiitic basalt of the Savukoski Group extending easterly from the southwestern end of the property (Figure 7).

This geophysical interpretation, at least for the Sodankylä Group quartzite, does not appear correct. In the area of drilling and the small-scale pit, underlain by quartzite on the regional mapping, the dominant lithology appears to be a volcanoclastic rock although extensive albitization makes identification tenuous. Less-altered mafic volcanic rock was also noted in core, identified at least in part as komatiitic from its trace element geochemistry (M. Mueller, pers. comm., 2018).

### 7.5 Property Mineralization

Mineralization on the Mustajärvi property is known only from TOB analyses done by Outokompu in the course of their 1990-91 till survey, their 1991-92 follow-up drilling within a 100 x 175 metre area and a 20 x 70 metre pit excavated in the early 2000's to expose and mine the surface trace of the zone encountered by drilling (Figure 8).

Outokompu collected 483 TOB samples during their 1991 till sampling (Hugg, 1996). Several of these samples exceeded 1 ppm Au and were used to target Outokompu's 1991-92 trenching and drilling program. These TOB samples were probably similar to the gossanous material reported in the pit, produced by surface weathering of orogenic gold mineralization at the bedrock/surface interface. Hugg (1996) did not report lithologies, alteration or mineralization for Outokompu's TOB samples, although multi-element analyses and depth information were provided to Firefox by the GTK. Outokompu's TOB samples indicate a gold-bearing mineralized zone, or gold-bearing envelope surrounding a mineralized zone, which strikes east-west for approximately 500 m with a width of 10-60 m (Figure 8). This mineralized envelope is defined by TOB samples exceeding 0.013 ppm Au (90<sup>th</sup> percentile),



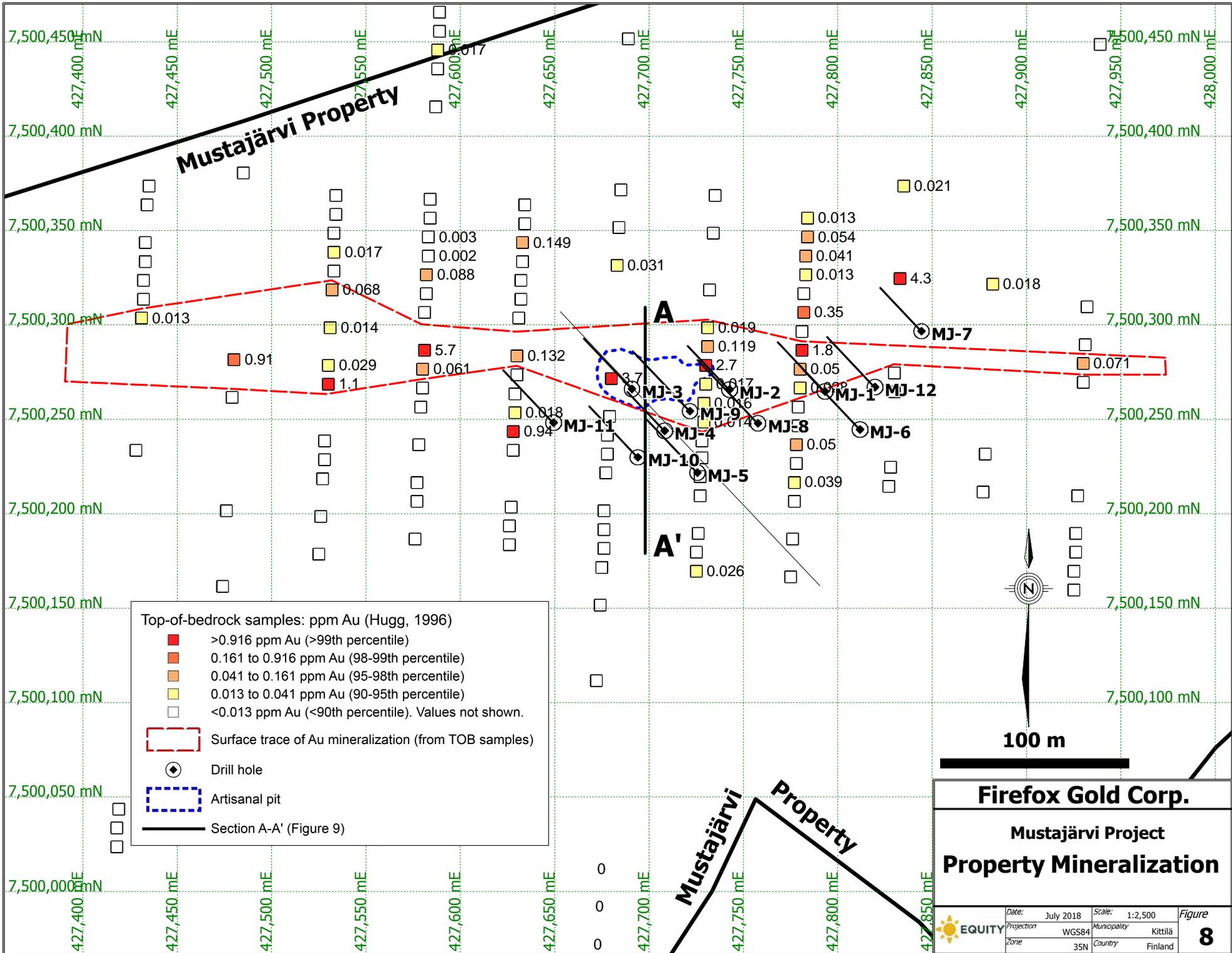
**Legend**

- Savukoski Group tholeiitic basalt
- Sodankylä Group quartzite
- Gold occurrence
- Mustajärvi drill holes
- Mustajärvi exploration permit

<b>Firefox Gold Corp.</b>			
<b>Mustajärvi Project</b>			
<b>Property Geology</b>			
EQUITY	Date: July 2018	Scale: 1:15,000	Figure
	Projection: WGS84	Municipality: Kittilä	<b>7</b>
	Zone: 35N	Country: Finland	

Geology from GTK websites (2018)

**500 m**



**Top-of-bedrock samples: ppm Au (Hugg, 1996)**

- >0.916 ppm Au (>99th percentile)
- 0.161 to 0.916 ppm Au (98-99th percentile)
- 0.041 to 0.161 ppm Au (95-98th percentile)
- 0.013 to 0.041 ppm Au (90-95th percentile)
- <0.013 ppm Au (<90th percentile). Values not shown.

- Surface trace of Au mineralization (from TOB samples)
- Artisanal pit
- Section A-A' (Figure 9)

**Firefox Gold Corp.**

**Mustajärvi Project**

**Property Mineralization**

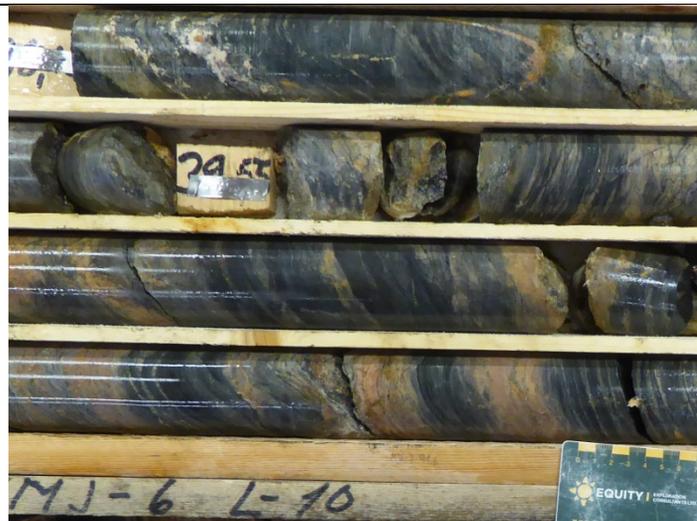
	Date: July 2018	Scale: 1:2,500	Figure
	Projection: WGS84	Municipality: Kittilä	<b>8</b>
	Zone: 35N	Country: Finland	

with a maximum of 5.7 ppm Au. These TOB samples were taken at 10 m spacings along lines spaced 50 m apart so the zone indicated by gold-bearing samples is only coarsely indicated but appears to correspond to the major zone of faulting/shearing and gold mineralization in Outokompu's subsequent drilling. It should be noted that several other TOB samples, particularly north of the main zone, contained elevated gold contents (maximum 4.3 ppm Au); it is believed that these sampled isolated veins.

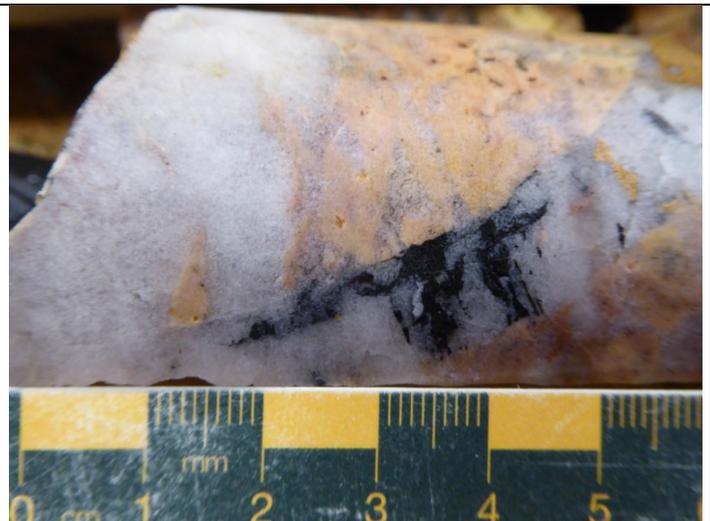
All but one of Outokompu's 12 short drill holes intersected intervals grading >1 g/t Au. However, mineralized intervals are not well described in Outokompu's drill logs and all mineralized core has been removed during successive sampling campaigns (Plate 2C). From the wall rock core, which is preserved in good condition, and from a small amount of fine material left behind in mineralized intervals (Plate 2D), it appears probable that most of the mineralized intervals are associated with quartz-pyrite±tourmaline veining (Plate 2B) in a fault or shear zone localized within albitized and carbonatized volcanoclastic(?) rocks (Plate 2A). Narrower isolated gold-bearing intervals were noted along lithologic contacts and with local specularite-pyrite and quartz-pyrite-tourmaline veining.

It appears that the main fault or shear zone drilled to date at Mustajärvi strikes approximately 090° and dips approximately 35° to the south (Figure 9). It is variably mineralized, with 1.0 m sections grading from 0.06-7.25 g/t Au; the best intersection was 12.0 m @ 2.68 g/t Au (hole MJ-4). The zone appears to be >10 m wide in places, but not mineralized throughout. Hole MJ-7 was collared north of the zone and drilled entirely in its footwall (Figure 8). The bottom of hole MJ-6 appears similar to the main zone in the other holes, characterized by lost core and minor quartz veining; this hole may have been lost as it was entering the main fault or shear zone. Given the limited drilling, the absence of mineralized core for inspection and the rudimentary drill logs, it is not yet possible to determine controls on gold mineralization or whether there are ore-shoots of better grade within the mineralized zone.

In the early 2000's, small-scale miners excavated a 20 x 70 metre pit, 2-5 m deep, along the surface trace of the main mineralized zone (Figure 8, Plate 1B). It was snow-covered when visited by the author but samples of gossanous material were reported from this pit by the property vendor with up to 17.4 and 79.8 g/t Au (Aurora, 2017). The author examined sawn sections of other well-mineralized boulders reportedly from the pit; they consisted of quartz-carbonate-pyrite±tourmaline veins with abundant goethite (Plate 2E, 2F).

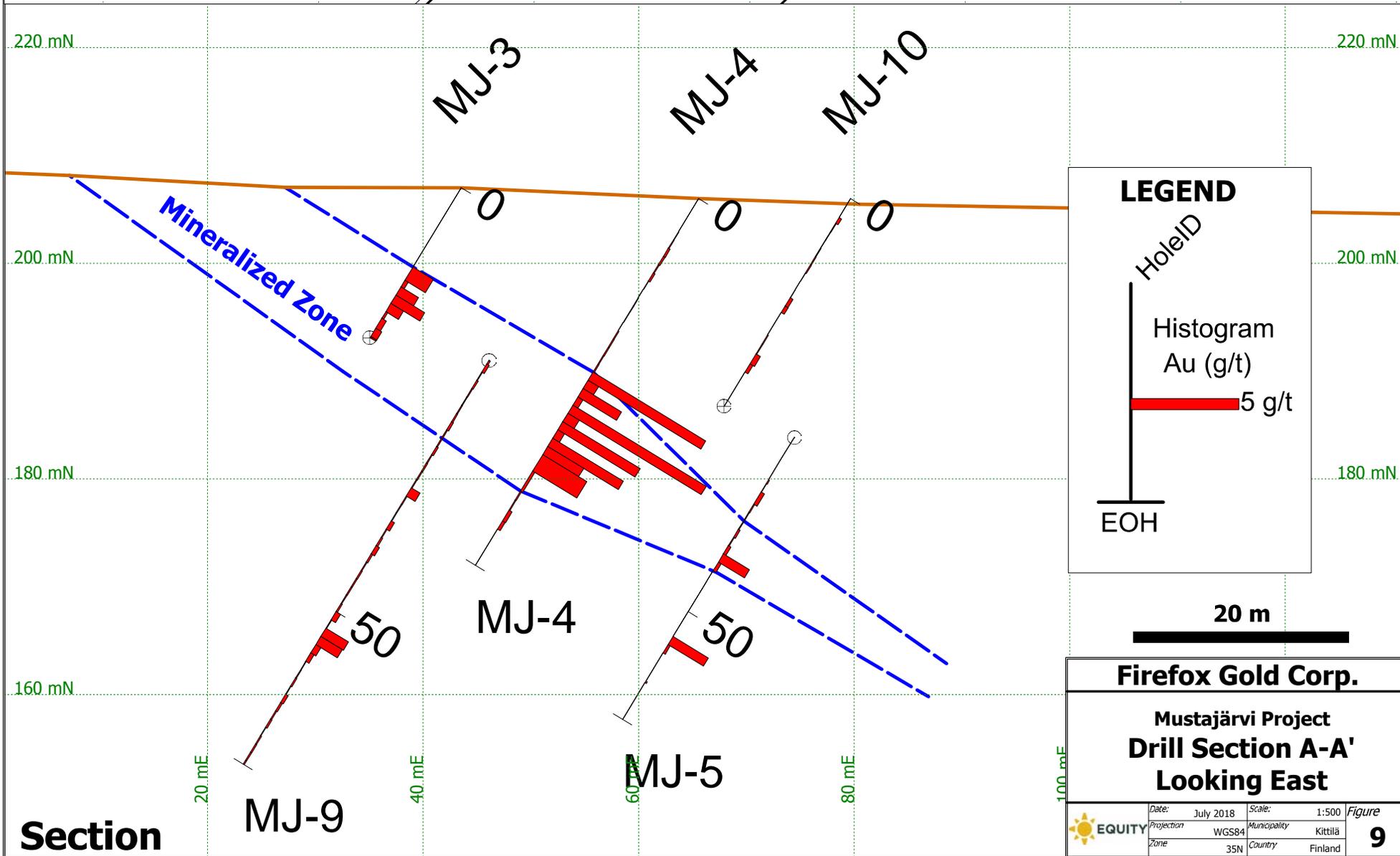
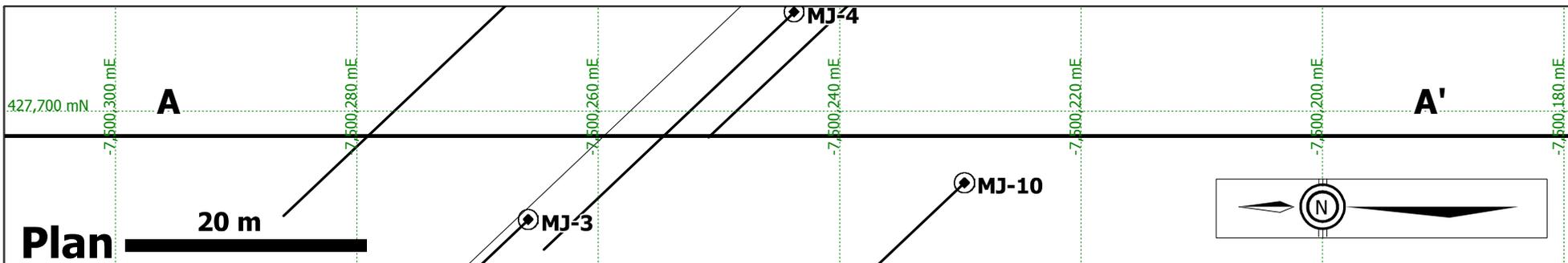


A. Hole MJ-6 (38.0-41.5 m). Strongly albitized and weakly carbonatized volcanoclastic(?) rock.



B. Hole MJ-3 (33.3 m). 1 cm quartz-tourmaline vein cutting more diffuse quartz vein in strong silicification. Part of a barren metre (0.06 g/t Au) within a Au-bearing section (5.7 m @ 0.52 g/t Au)

**Plate 2: Mustajärvi Alteration and Mineralization**

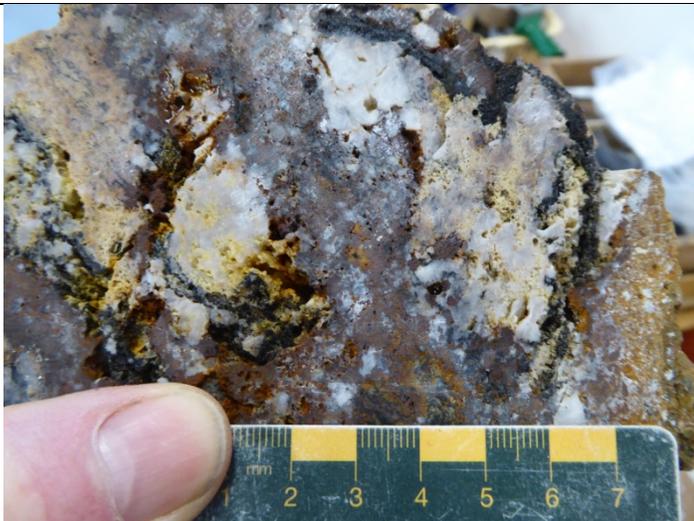




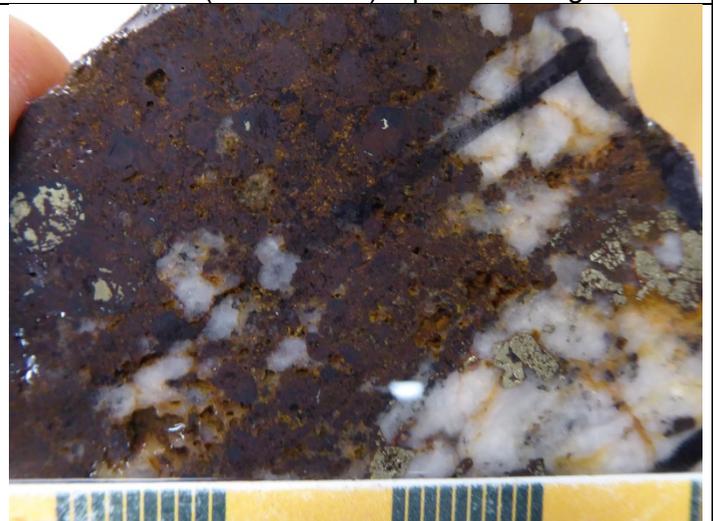
C. Hole MJ-4. Core has been entirely sampled from Au-bearing intervals (19.0-25.8 m in this photo).



D. Hole MJ-4 (25.7 m). This is a close-up within the previous photo, showing a little fine material left unsampled: vein quartz and goethitic rubble (fault? shear?). This sample interval (25.0-26.0 m) reported 7.25 g/t Au.



E. Boulder from Mustajärvi pit. Quartz-carbonate vein with 5% pyrite (partially replaced by goethite) and 1% tourmaline (<1 mm).



F. Boulder from Mustajärvi pit. Quartz-pyrite vein (pyrite largely replaced by goethite).

### Plate 2: Mustajärvi Alteration and Mineralization (cont'd)

## 8.0 DEPOSIT TYPES

Exploration on the Mustajärvi property is targeted at discovering an orogenic gold deposit. This class of deposit includes some of the largest gold deposits and districts in the world (e.g. Kalgoorlie in Australia, Timmins in Ontario, and Ashanti in Ghana). Their name reflects the recognition that these deposits have temporal and spatial associations with late stages of orogenesis (Dubé and Gosselin, 2007; Goldfarb et al., 2005; Goldfarb et al., 2001; Groves et al., 1998). Formation of most orogenic gold mineralization was concentrated during the time intervals of 2.8 to 2.55 Ga (Archean), 2.1 to 1.8 Ga (Early Proterozoic) and 600 to 50 Ma (Phanerozoic); these periods coincide with major orogenic events. An important subtype of orogenic

gold deposits is dominantly hosted by mafic metamorphic rocks in granite-greenstone terranes, and is referred to here as greenstone-hosted orogenic gold.

Greenstone-hosted orogenic gold deposits are structurally controlled, complex epigenetic deposits that are hosted in deformed and regionally metamorphosed terranes. They consist of simple to complex networks of gold-bearing, laminated quartz-carbonate fault-fill veins in moderately to steeply dipping, compressional brittle-ductile shear zones and faults, with locally associated extensional veins and hydrothermal breccias. They are dominantly hosted by mafic metamorphic rocks of greenschist to locally lower amphibolite facies and formed at intermediate depths (5-10 km). The relative timing of mineralization is syn- to late-deformation and typically post-peak greenschist-facies or syn-peak amphibolite facies metamorphism. They are formed from low salinity, H<sub>2</sub>O-CO<sub>2</sub>-rich hydrothermal fluids with typically anomalous concentrations of CH<sub>4</sub>, N<sub>2</sub>, K, and S. Gold is mainly confined to the quartz-carbonate vein networks but may also be present in significant amounts within iron-rich sulphidized wall rock.

Greenstone-hosted orogenic gold deposits were formed during compressional to transpressional deformation processes at convergent plate margins in accretionary and collisional orogens. Orogenic gold systems are typically associated with deep-crustal fault zones that usually mark the convergent margins between major lithological blocks, such as volcano-plutonic and sedimentary domains. Furthermore, some of the largest greenstone-hosted orogenic gold deposits are spatially associated with fluvio-alluvial conglomerate (e.g. Timiskaming conglomerate) distributed along these crustal fault zones (e.g. Destor Porcupine Fault), suggesting an empirical space-time relationship between large-scale deposits and regional unconformities (Dubé and Gosselin, 2007).

Large gold camps are commonly associated with curvatures, flexures, and dilational jogs along major compressional fault zones which have created dilational zones that increase migration of hydrothermal fluids. Ore shoots can be localized by dilational jogs or various intersections between a structural element (e.g. a fault, shear or vein) and a favourable lithological unit, such as a competent gabbroic sill, an iron formation or a particularly reactive rock, or by the intersection between different structural elements active at the time of vein formation. Individual vein thickness varies from just a few cm to over 10 m, even though entire deposits may be wider than 1 km and extend along strike for as much as 2 to 5 km. Some deposits have been economically mined to depths of 1-3 km.

The main ore mineral is native gold that occurs with, in order of decreasing abundance, pyrite, pyrrhotite, and chalcopyrite, along with trace amounts of molybdenite and telluride in some deposits. Arsenopyrite commonly represents the main sulphide phase in amphibolite-facies rocks, and in deposits hosted by clastic sediments. Sulphide minerals generally constitute less than 10% and typically less than 5% of the volume of the ore bodies and exhibit little vertical zoning. The main gangue minerals are quartz and carbonate (calcite, dolomite, ankerite, and siderite), with variable amounts of white mica, chlorite, tourmaline and, locally, scheelite.

Gold-bearing veins are typically enveloped by alteration halos that, in greenschist-facies rocks, grade outwards from iron-carbonate + sericite + sulphide (pyrite ± arsenopyrite) assemblages to various amounts of chlorite, calcite and, locally, magnetite. The dimensions of these alteration haloes vary with the composition of the host rocks and may envelope entire deposits hosted by mafic and ultramafic rocks. Pervasive chromium- or vanadium-rich green micas (fuchsite and roscoelite) and ankerite with zones of quartz-carbonate stockwork are common in sheared ultramafic rocks. Hydrothermal assemblages associated with gold mineralization in amphibolite-facies rocks include biotite, amphibole, pyrite, pyrrhotite, and arsenopyrite, and, at higher grades, biotite/phlogopite, diopside, garnet, pyrrhotite and/or arsenopyrite, with variable proportions of feldspar, calcite, and clinozoisite. The variations in alteration styles have been interpreted as a direct reflection of the depth of formation of the deposits (Dubé and Gosselin, 2007).

## 9.0 EXPLORATION

Since its acquisition of the Mustajärvi property in December 2017, Firefox has: (a) completed a property-wide ground magnetic survey; (b) collected till samples across the entire property; and (c) carried

out an IP survey over a portion of the property. For completeness, the following discussion covers exploration carried out by previous operators as well as by Firefox.

### 9.1 Till Geochemistry

In 1991, Outokompu reported “till” samples from north-south lines over the Mustajärvi property (Hugg, 1996). Where it was possible, samples were taken from bedrock at the bedrock/till interface; these 483 TOB samples are discussed above in Section 7.5. Where it was not possible to reach bedrock, till samples were collected from the greatest depth possible (614 samples; Figure 10).

In early 2018, Firefox collected 598 till samples from 325 sites at 20 m intervals along north-south lines on the Mustajärvi property (FirefoxGoldCorp., 2018). Two samples were generally collected at each site, a lower one at the bedrock/till interface and an upper one from till 0.5 metres above the interface. Firefox’s lower samples, considered as BOT samples since they consist of a mixture of till and weathered bedrock, were taken at depths of 1.5-9.0 metres and are plotted on Figure 10. Percentile levels for the Outokompu BOT and Firefox BOT samples are quite similar, and areas with anomalous till samples in one survey are commonly anomalous in the other (Figure 10).

The glacial divide between ice flowing southwards and northwards was located over Lapland during the Pleistocene glaciation. The shifting local direction of ice flow and the possibility that different till samples could have been collected from different till beds complicates any interpretation of till geochemistry in the region. It is not obvious by inspection how far and in which direction metals in the till samples have been displaced from their bedrock source, but it appears to be in the order of a few metres or tens of metres, possibly to the northeast.

Several gold-bearing till samples were taken from the northeastern corner of the Mustajärvi property. Their significance is unknown at present; outcrop is absent and TOB samples are scarce in this area. A few till samples with elevated gold content are located along a NE-striking magnetic low inferred to be a D3 fault or shear connecting the VTZ and STZ (see Section 9.2). A poorly-defined east-west trend of gold-bearing till samples extends for 600 m to the west of the inferred D3 structure, 300 m to the south of the mineralized fault or shear zone drilled by Outokompu (Figure 10); it may indicate another mineralized zone in bedrock.

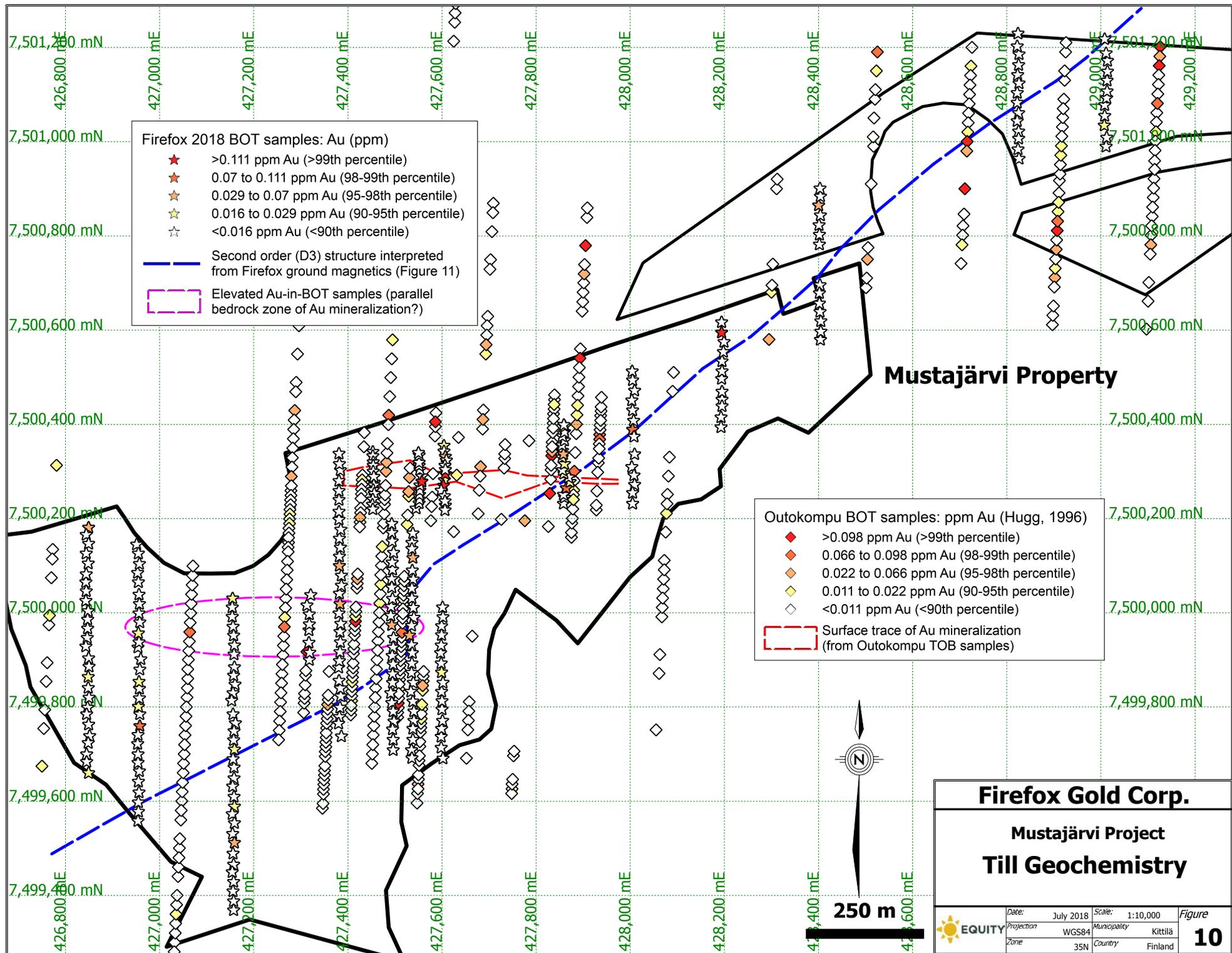
### 9.2 Ground Magnetic Geophysics

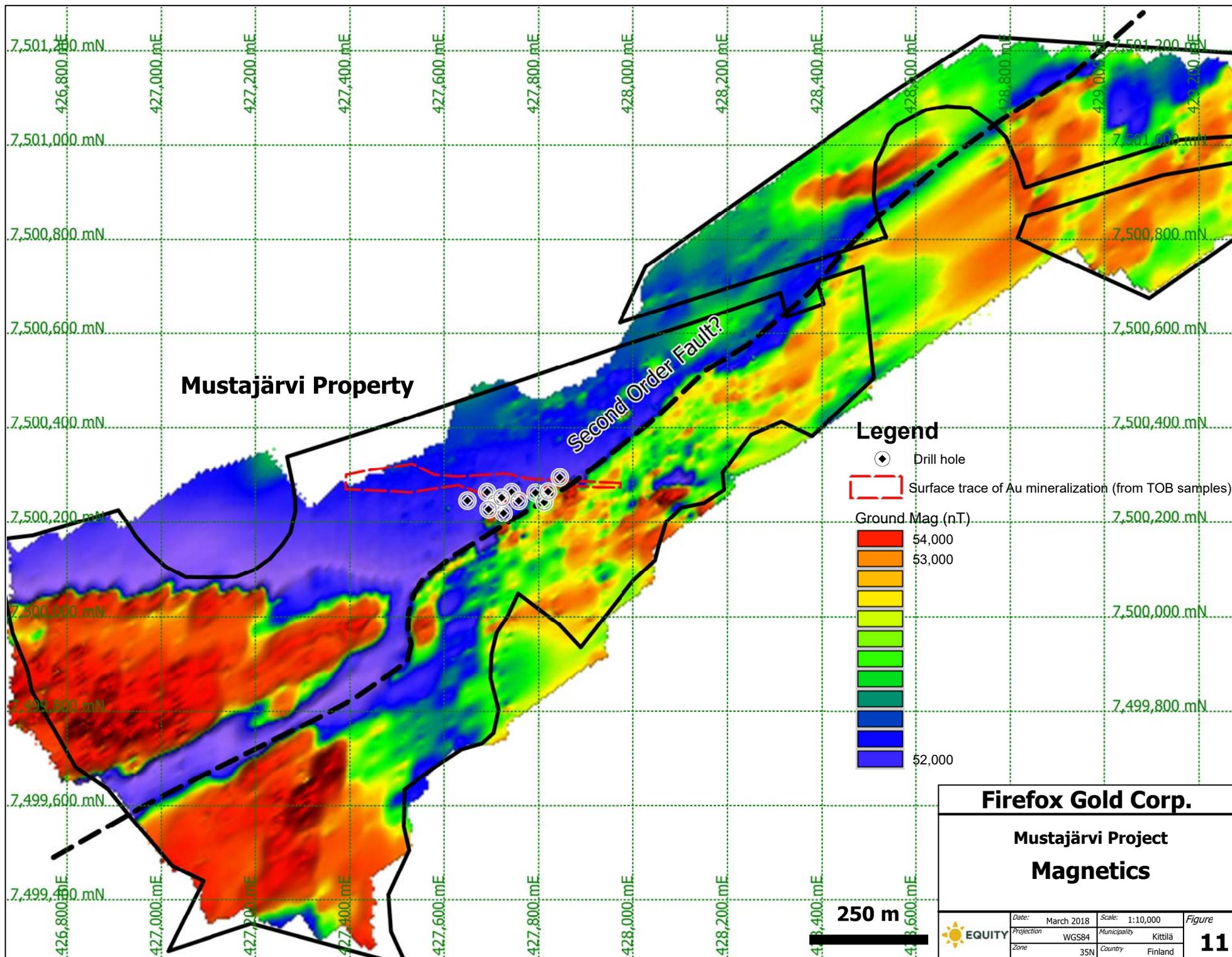
In 1991 and 1992, Outokompu carried out a ground magnetic survey over a 500 x 1,000 metre area which included their drilling. Readings were taken at 10 m intervals along lines spaced 50 m apart; survey equipment and protocol was not described and only a single magnetic (presumably total magnetic field) plan was submitted (Hugg, 1996).

In 2017, M. Mueller covered the Mustajärvi property with a walking ground magnetic survey as part of his M.Sc. thesis, taking readings on lines ~50 m apart over most of the property and ~25 m apart in the drilled area (Figure 11). This survey shows a marked linear NE-striking low which extends for 2,600 m along the entire length of the long axis of the Mustajärvi property. No outcrop or drilling provides information about the bedrock under this linear low, but it appears to be a second-order structure related to the crustal-scale VTZ and STZ thrusts. Its orientation suggests that it is a D3 fault or shear, sub-parallel to the Kiistala Shear Zone which hosts the major Suurikuusikko orogenic gold deposit.

Interestingly, the east-west mineralized shear or fault indicated by Outokompu’s TOB sampling and drilling extends westward from the NE-striking magnetic low (second-order structure). Orientations suggest that they may be conjugate structures. No exploration has been done to determine whether the east-west mineralized zone is truncated by the NE-striking structure.

The NE-striking magnetic low (second-order structure) exhibits a sharp flexure approximately 500 m southwest of the Outokompu drilling. TOB sampling has not been reported over this flexure, which could be an interesting structural target for more orogenic gold mineralization.





### 9.3 IP Geophysics

In 1991-92, Outokompu carried out an IP survey over an area of 320 x 620 m which included their drill area (Hugg, 1996). Hugg provided no information on the line spacing, the dipole spacing or even whether it was a pole-dipole or dipole-dipole survey. Hugg presented plan maps for resistivity and chargeability without specifying what they represented. The resistivity and chargeability patterns appear somewhat related to the drill hole pattern but the lack of information makes any interpretation moot.

In April, 2018, Firefox commenced a 5.85 line-km dipole-dipole IP survey ( $a=50$  m) in the vicinity of Outokompu's drilling. The IP survey was carried out over eight NW-SE lines spaced 100-200 m apart. No results were available as of the effective date of this report.

### 10.0 DRILLING

Firefox has not carried out any drilling on the Mustajärvi property since acquiring it in December 2017. Outokompu drilled 12 short holes totalling 706.0 m of NQ core in 1991-92 (Anttonen, 1993; Hugg, 1996). A T-76 drill was used because of broken ground and poor drilling conditions. No other information is available on drilling and core handling procedures. Core recovery was not reported in the rudimentary drill logs but blocks were placed in the core to indicate intervals of lost core. Although recovery was excellent in the unmineralized sections of core, core loss was pronounced in the mineralized fault/shear zone. For instance, Outokompu's record of core loss would indicate 75% recovery for the interval 21.0-33.0 m in hole MJ-4 (12.0 m @ 2.68 g/t Au). This poor core recovery materially impacts the accuracy and reliability of the drill results; it cannot be determined whether there are other drilling or sampling factors which could also affect the results.

Table 2 summarizes the collar location and orientation data for the Mustajärvi drill holes (Figure 8); no downhole surveys were reported. Table 3 lists all intersections with >1 g/t Au in the drilling.

**Table 2: Mustajärvi Drill Hole Location/Orientation Data**

Hole	Easting <sup>1</sup>	Northing <sup>1</sup>	Azimuth	Dip	Length (m)
MJ-1	427793	7500264	315	-50	56.5
MJ-2	427743	7500265	315	-50	50.0
MJ-3	427691	7500266	315	-50	57.7
MJ-4	427708	7500244	315	-50	44.4
MJ-5	427726	7500221	315	-50	63.1
MJ-6	427812	7500244	315	-50	68.2
MJ-7	427844	7500296	315	-50	49.8
MJ-8	427758	7500248	315	-50	72.4
MJ-9	427722	7500254	315	-50	68.5
MJ-10	427694	7500230	315	-50	58.2
MJ-11	427649	7500248	315	-50	60.2
MJ-12	427820	7500267	315	-50	57.2
					706.0

<sup>1</sup>WGS84, Zone 35N

**Table 3: Mustajärvi Drill Hole Intervals with >1 g/t Au**

Hole	Zone	From (m)	To (m)	Interval (m)	Au (g/t)
MJ-1	???	20.70	23.40	2.70	14.58
MJ-1	???	37.10	37.50	0.40	3.99
MJ-2	???	22.00	23.00	1.00	12.20
MJ-3	Main F/S	9.60	11.20	1.60	1.11
MJ-3	Main F/S	13.00	14.00	1.00	1.57
MJ-3	???	30.50	31.70	1.20	1.21
MJ-4	Main F/S	21.00	33.00	12.00	2.68
MJ-5	Main F/S	43.00	44.00	1.00	1.42
MJ-5	???	53.00	54.00	1.00	1.92
MJ-6	???	27.85	29.05	1.20	5.45
MJ-7	???	23.50	24.90	1.40	6.02
MJ-9	Main F/S	6.00	7.00	1.00	4.78
MJ-9	???	52.00	54.00	2.00	1.20
MJ-10	???	41.00	42.00	1.00	18.80
MJ-11	???	34.80	36.50	1.70	1.80
MJ-12	???	48.10	49.40	1.30	1.08

All but one of the 12 Mustajärvi drill holes had at least one interval grading >1 g/t Au (Table 3). The main fault or shear zone ("Main F/S" in Table 3) appears to dip ~35° to the south (Figure 9), whereas all drilling was directed at -50° to the northwest, so the true thickness of mineralization hosted by this fault/shear will be approximately 70% of the core interval. The other gold-bearing intervals appear to be related to isolated veins and contacts and it is not possible at this time to determine the relationship between sample interval and true thickness of the mineralization.

## 11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Outokompu did not report their sample preparation methods, their quality control measures employed before dispatch of core samples to an analytical laboratory, their process for sample splitting or their security measures employed to ensure the validity and integrity of samples. No information was provided regarding sample preparation and assaying procedures at the analytical laboratory, the name of the laboratory which analyzed the samples or the particulars of any certification of that laboratory. No analytical certificates are available. Nor is there any record of the nature, extent and results of quality control procedures employed or quality assurance actions taken, if any (Anttonen, 1993; Hugg, 1996).

The author does not believe that sample preparation, security and analytical procedures, as currently known, were adequate for the 1990-1992 Outokompu exploration work on the Mustajärvi property.

## 12.0 DATA VERIFICATION

The author examined core from the Mustajärvi property in the GTK's Loppi core facility on February 21, 2018; it is a requirement in Finland that exploration companies offer any core drilled to the GTK for storage at Loppi and subsequent re-examination. On February 23, 2018, he inspected the Mustajärvi property in the field. During his examinations, the author performed a number of checks to verify historic data and information provided by Firefox.

- he located one of Outokompu's drill collars (MJ-5) in the field (Plate 3A, 3B) and compared the coordinates he obtained from a hand-held GPS and the orientation of the drill plug with those in the drill database;

- he compared descriptions in the drill logs from five holes (MJ-4, MJ-5, MJ-6, MJ-7 and MJ-9) with the corresponding core;
- he compared sample intervals and sample numbers on Outokompu's hand-written logs with markings in the core boxes for two holes (MJ-3 and MJ-4);
- he compared sample intervals and Au assays noted on Outokompu's hand-written logs with those reported by Anttonen (1993) for two holes (MJ-3 and MJ-4);
- he collected two duplicate core samples by quartering Au-bearing core intervals from hole MJ-9 and compared the sample results to those reported by Anttonen (1993);
- he calculated weighted averages for all intervals grading >1 g/t Au and compared them to those calculated by Anttonen (1993).



A. Looking southwest at the drill plug for hole MJ-5.



B. Close-up of the drill plug for hole MJ-5 (2" x 2" wooden plug, painted red near the top, no visible markings remaining, oriented at approximately -50°→316°)

### Plate 3: Verification of Outokompu Drill Collars

The result of these verification checks were:

- a drill plug was located for hole MJ-5, inclined at approximately 50° towards 316° (Plate 3A, 3B), matching the reported collar orientation very well;
- the author's handheld GPS showed coordinates of 427727E 7500230N (WGS84, Zone 35N) for the collar of hole MJ-5, matching those in the database (427726E 7500221N) to within the limit of handheld GPS accuracy;
- core lithologies and alteration matched the rudimentary drill log descriptions for the examined holes well, although no comparison could be made in mineralized zones where all core was missing;
- sample intervals and sample numbers noted on Outokompu's hand-written logs for holes MJ-3 and MJ-4 were the same as those marked on the core-boxes;
- sample intervals and Au assays noted on Outokompu's hand-written logs were identical to those reported by Anttonen (1993) for holes MJ-3 and MJ-4;
- weighted averages calculated by the author for all drill intervals grading >1 g/t Au were similar to those calculated by Anttonen (1993); the differences were due to Anttonen including a few samples with 0.1-1.0 g/t Au and the author's weighted averages were the same for the expanded intervals;
- Table 4 below compares sample assays reported by Anttonen (1993) to those of the author's check samples. The author's samples were analyzed by ALS Minerals at their Loughrea Ireland lab (ISO 17025:2005 accredited) with Au analysis by fire assay with AA finish (Au-

AA23). Au assays in both check samples were anomalous but lower than those reported by Antonnen, although 932623 is within 5% of the Antonnen's reported grade. The check samples indicate that gold is present in the core, although apparently not at the reported levels. Unfortunately, all of the core for higher-grade intervals was missing and these two sample intervals were the ones with highest reported Au content which could be check sampled. Regardless of how they compare to the reported results, it should not be assumed that intervals reporting >1 g/t Au would behave similarly in check assays.

**Table 4: Author's Check Sampling**

Hole	From (m)	To (m)	Antonnen Sample	Antonnen Au (g/t)	Author Sample	Author Au (g/t)
MJ-9	14.0	15.0	9217210	0.20	932622	0.052
MJ-9	50.0	51.0	9217246	0.28	932623	0.268

Despite the inability to confirm Au grades reported for drill core, the author believes that the data is adequate for the purposes of this technical report.

### 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

No mineral processing or metallurgical testwork has been reported on the Mustajärvi property.

### 14.0 MINERAL RESOURCE ESTIMATES

No estimates of mineral resources or mineral reserves have been made for the Mustajärvi property.

### 15.0 ADJACENT PROPERTIES

There is no information on adjacent properties which is necessary to make the technical report understandable and not misleading.

### 16.0 OTHER RELEVANT DATA AND INFORMATION

No other information or explanation is necessary to make this technical report understandable and not misleading.

### 17.0 INTERPRETATION AND CONCLUSIONS

The Mustajärvi property lies within the CLGB, a poorly explored package of Paleoproterozoic mafic volcanic and sedimentary rocks which underwent three ductile compressional events around 1.79-1.92 Ga, followed by one or more brittle stages. The earliest two phases of ductile compression produced thrust faults, the most important of which are the STZ and VTZ, both of which have been traced for >100 km. The third phase of ductile compression (D3) produced NE striking strike-slip shear zones and reactivated or displaced the earlier thrusts. Orogenic gold occurrences in the CLGB are associated with the STZ, the VTZ and the D3 shear zones.

Most of the CLGB has minimal relief or outcrop exposure and is generally covered by a few metres of glacial till. As a result, orogenic gold mineralization was not recognized in the belt until the 1980's. For instance, Suurikuusikko, the most significant deposit found to date in the belt and which is currently producing ~200,000 oz Au annually for Agnico Eagle, was first indicated in 1986 by the discovery of visible gold in a road cut. Most exploration in the 1980's and 1990's consisted of simply drilling Au anomalies in till samples; little exploration for gold was carried out through the 2000's.

Exploration at Mustajärvi underwent a similar trajectory. It was first indicated in regional till sampling done by the GTK in the late 1980's. This was fleshed out by Outokompu with their own till sampling, small magnetic/IP surveys and limited trenching in 1990-1992. With favourable results, Outokompu then drilled 12 short holes into their TOB gold anomaly and intersected >1 g/t Au in all but one of their holes. However, Outokompu dropped their claims in 1995 because they saw no "hints of economically viable gold concentrations in the bedrock" (Hugg, 1996). No further work of any significance was reported on the property until Firefox commenced surface exploration in 2018.

Magnetics indicates a NE-striking structure through the centre of the Mustajärvi property, an orientation similar to that of the Kiistala Shear Zone which hosts the major Suurikuusikko deposit thirty km to the north. This NE-trending break on the Mustajärvi property appears to be a second-order structure linking the VTZ to the south with the STZ to the north. The main zone of gold mineralization found by Outokompu on the Mustajärvi property trends east-west and dips ~35° to the south; it may be a third-order fault or shear bounded to the east by the NE-trending second-order structure. Outokompu's TOB sampling indicates this east-west zone of structural disruption and Au mineralization to have an open-ended strike length of at least 500 m within a Au-bearing envelope 10-60 m wide. Drilling to date has been confined to 175 m of its strike length to a depth of <40 m, sufficient to indicate that the zone dips at ~35° to the south. Clearly, more drilling is warranted in this area to understand controls on the gold variability and to test its extent and significance beyond the small portion drilled by Outokompu.

The Mustajärvi property is small. At the exploration stage, it appears even smaller, since it is cut up by mandatory setbacks from the highway, the power-line and houses. However, mineral tenure will apparently be granted under these areas once a mining license is granted. Although the main east-west mineralized zone projects to the claim boundary approximately 340 m west of the westernmost drilling, mineral tenure should extend a further 350 m along this projection upon issuance of a mining license.

Outokompu's data cannot be relied upon: mineralized core sections are absent; no analytical certificates are available; and almost no documentation was reported for drilling, sample handling, analytical or quality control procedures. However, enough of the historical data can be verified to believe that the holes were drilled where they are reported to be and that gold is present in significant amounts on the property.

The regional setting, alteration style and vein mineralogy/textures all indicate that gold mineralization at Mustajärvi is orogenic in nature. This type of mineralization has delivered large, economic gold deposits in Paleoproterozoic greenstone belts around the world, including elsewhere within the CLGB at Suurikuusikko. The footprint of even sizeable underground-mineable ore-shoots is small and their discovery and delineation requires persistence. Given its favourable structural setting and good initial drill results, the author believes that further exploration is fully warranted on the Mustajärvi property. The author has been unable to verify information concerning Suurikuusikko and the information is not necessarily indicative of the mineralization at Mustajärvi.

## **18.0 RECOMMENDATIONS**

### **18.1 Program**

An exploration program is recommended for the Mustajärvi property, consisting of geophysical surveying, mechanized trenching and diamond drilling.

Data from Firefox's ground magnetic survey should be processed by a geophysicist to: (a) determine data quality; (b) produce other useful products (e.g. first vertical derivative, inversions, etc.); (c) interpret lithologies, alteration and structure; and (d) define structural targets for TOB sampling and drilling.

The IP survey commenced by Firefox in April 2018 over the area drilled by Outokompu should be extended over the remainder of the property with lines spaced 100 m apart and oriented parallel to the ones already surveyed. Technical specifications should be identical to those of the spring 2018 survey and data should be processed and interpreted jointly.

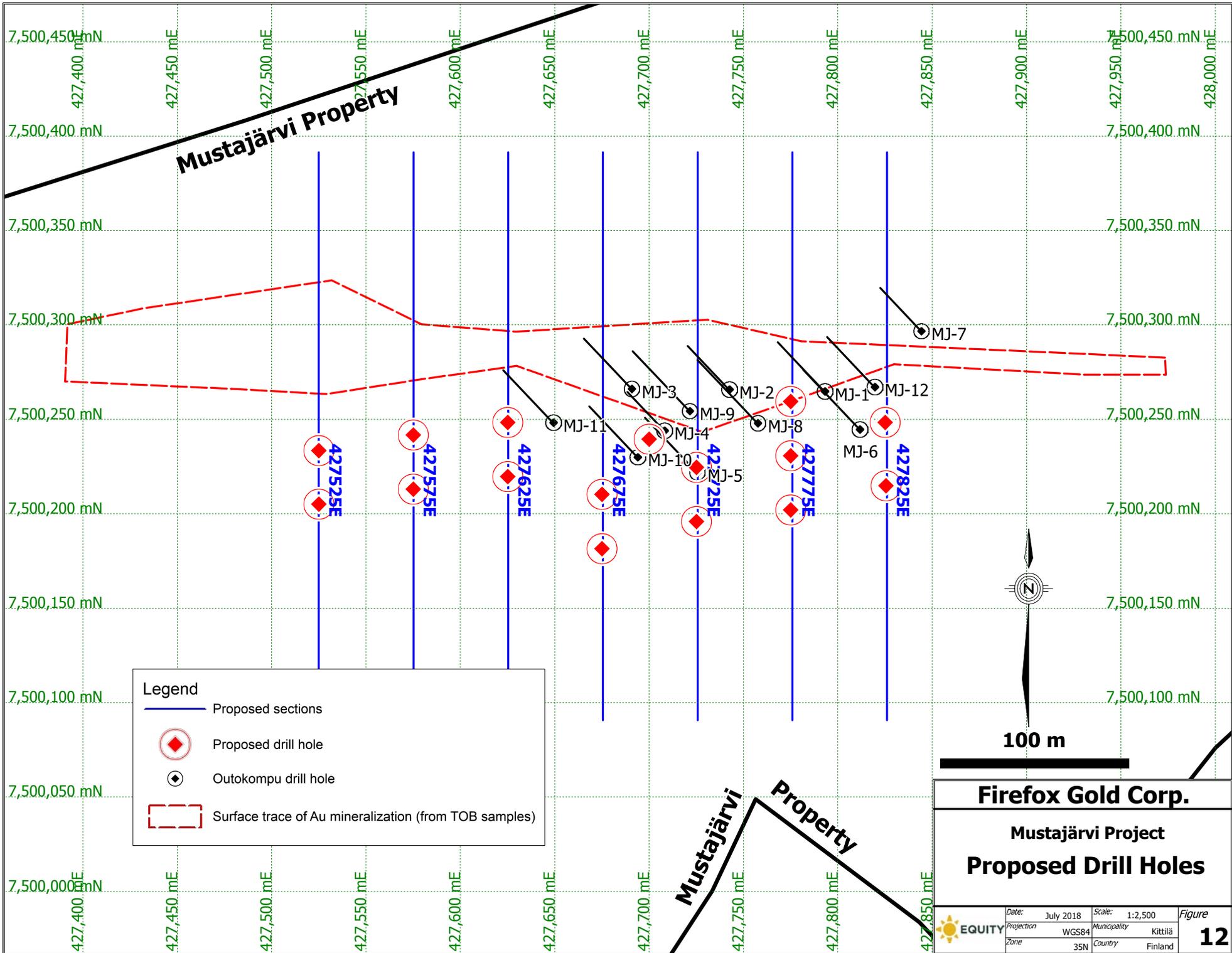
Trenches should be excavated to expose bedrock where high Au values have been received from Firefox's lower till samples and in other areas where targets have been developed from the magnetic and IP interpretations. Trenching should be limited to those areas where till sampling has shown the till/bedrock interface to be sufficiently shallow. Trenches should be carefully mapped and sampled.

A program of 3,350 m of diamond drilling is recommended, focusing primarily on the main mineralized fault or shear zone from Outokompu's work (Figure 12). Special attention must be paid to improving on the poor core recovery from Outokompu's NQ drilling; this could probably be achieved by drilling HQ core and implementing a modern mud program. Holes on the main zone should be drilled at  $-55^{\circ}$  towards  $360^{\circ}$ , roughly perpendicular to its apparent orientation. The drilling in Table 5 has been allocated as follows:

- a) **Corroborate Outokompu intersections:** Two holes should be directed at Outokompu's best intersections in holes MJ-1 (20.7-23.4 m: 2.7 m @ 14.58 g/t Au) and MJ-4 (21.0-33.0 m: 12.0 m @ 2.68 g/t Au). The purpose of these holes would be to: (1) validate the reported intersections if possible, and; (2) understand the nature of this mineralization and its controls.
- b) **Systematically test main mineralized fault/shear zone:** Holes should be drilled on sections 50 m apart along 300 m of the main zone's strike length from 427525E to 427825E (Outokompu reported a TOB sample with 1.1 g/t Au on section 427525E; holes MJ-6, MJ-12 and MJ-7 lie on section 427825E). Two holes should be drilled on each section: one designed to intersect the main zone at 50 m downdip from surface or from the deepest Outokompu intersection, and the second hole designed to intersect the main zone a further 50 m downdip.
- c) **Infill main fault/shear zone and test new targets:** A further 1500 m of drilling in 10-20 holes has been allocated to follow up on the results of the excavator trenching, geophysical targets and initial diamond drilling. On the main mineralized fault/shear zone, drilling will be directed at bracketing previously-drilled Au-bearing intervals to better understand the extent and plunge of ore-shoots. Outside of the main zone, drilling will test significant mineralization uncovered by excavator trenching and deeper targets suggested by the IP and magnetic surveys.

**Table 5: Proposed Drilling**

Target	Holes	Length/Hole (m)	Total Metres
a) Twin MJ-1 and MJ-4	2	50	100
b) Main zone - 50 m downdip	7	100	700
b) Main zone - 100 m downdip	7	150	1050
c) Infill and new targets	10-20	50-200	1500
Total proposed drilling	26-36	50-200	3350



## 18.2 Budget

A budget for the proposed program is presented below in Table 6. All figures are in Canadian dollars. The recommended program will cost approximately C\$1.5 million to complete.

**Table 6: Recommended Budget**

<b>Item</b>	<b>Cost</b>
Magnetic interpretation	C\$10,000
IP survey: 20.1 km @ C\$8500/km (all-in)	C\$170,850
Excavator trenching: 500 m @ C\$315/m (all-in)	C\$157,500
Diamond drilling: 3350 m @ C\$275/m (all-in)	C\$921,250
Planning, supervision and reporting	C\$100,000
<b>Sub-total</b>	<b>C\$1,359,600</b>
Contingency (10%)	C\$135,960
<b>Total</b>	<b>C\$1,495,560</b>

Respectfully submitted,

*“signed and sealed”*

---

Henry J. Awmack, P.Eng.

EQUITY EXPLORATION CONSULTANTS LTD.

Vancouver, British Columbia

Date of Signing: September 3, 2018

Effective Date: July 15, 2018

**Appendix A: References**

- Agnico-Eagle, 2018a, Agnico Eagle Mines Limited Detailed Mineral Reserves and Resources Data, [www.agnicoeagle.com/English/operations-and-development-projects/reserves-and-resources/default.aspx](http://www.agnicoeagle.com/English/operations-and-development-projects/reserves-and-resources/default.aspx) web-page.
- Agnico-Eagle, 2018b, Kittila Mine, [www.agnicoeagle.com/English/operations-and-development-projects/operations/kittila/default.aspx](http://www.agnicoeagle.com/English/operations-and-development-projects/operations/kittila/default.aspx) web-page.
- Anttonen, R., 1993, Exploration report on the Jerusalemjänkä, Mustajärvi and Torsavaara prospects: Outokompu report (written in Finnish and translated into English by Firefox Gold) submitted to GTK 030/2734/RSA/93, p. 82.
- Aurora, 2017, Mustajärvi Au Prospect, Central Lapland Greenstone Belt, Finland: Powerpoint presentation prepared by Aurora Exploration Ltd., p. 11.
- Doucet, D., Girard, D., Grondin, L., and Matte, P., 2010, Technical Report on the December 31, 2009, Mineral Resource and Mineral Reserve Estimate and the Suuri Extension Project, Kittila Mine, Finland: Technical report for Agnico Eagle Mines Limited. published on SEDAR March 4 2010, p. 126.
- Dubé, B., and Gosselin, P., 2007, Greenstone-hosted quartz-carbonate vein deposits *in* Goodfellow, W. D., ed., Mineral Deposits of Canada: A Synthesis of Major Deposit-types, District Metallogeny, the Evolution of Geological Provinces, and Exploration Methods, Special Publication 5, Mineral Deposits Division, Geological Association of Canada, p. 49-73.
- Eilu, P., Niiranen, T., and Lauri, L., 2013, Geological and tectonic evolution of the northern part of the Fennoscandian shield, *in* Eilu, P., and Niiranen, T., eds., Gold deposits in northern Finland, 12th SGA Biennial Meeting Excursion Guidebook FIN1, p. 8-21.
- Eilu, P., and Nykänen, V., 2011, Active and ongoing gold exploration and mining in Northern Finland: Excursion Guide, 25th International Applied Geochemistry Symposium, p. 47.
- Eilu, P., Sorjonen-Ward, P., Nurmi, P., and Niiranen, T., 2003, A Review of Gold Mineralization Styles in Finland: *Economic Geology*, v. 98, p. 1329-1353.
- FirefoxGoldCorp., 2017, Firefox Gold acquires Mustajarvi Gold Project in Central Lapland Greenstone Belt (Finland): News release date December 20, 2017.
- FirefoxGoldCorp., 2018, Firefox expands historic gold anomaly at Mustajärvi gold project in Central Lapland Greenstone Belt (Finland): News release dated July 12, 2018.
- Goldfarb, R. J., Baker, T., Dube, B., Groves, D. I., Hart, C. J. R., and Gosselin, P., 2005, Distribution, Character, and Genesis of Gold Deposits in Metamorphic Terranes: *Economic Geology* 100th Anniversary Volume, p. 407-450.
- Goldfarb, R. J., Groves, D. I., and Gardoll, S. J., 2001, Orogenic gold and geologic time: a global synthesis: *Ore Geology Reviews*, v. 18, p. 1-75.
- Groves, D. I., Goldfarb, R. J., Gebre-Mariam, M., Hagemann, S. G., and Robert, F., 1998, Orogenic gold deposits: A proposed classification in the context of their crustal distribution and relationship to other gold deposit types: *Ore Geology Reviews*, v. 13, p. 7-27.
- Hugg, R., 1996, Exploration report on the Mustajärvi prospect: Outokompu report (written in Finnish and translated into English by Firefox Gold) submitted to GTK 080/2734 05/REH/96, p. 10.
- Niiranen, T., 2015, A 3D structural model of the central and eastern part of the Kittilä terrane: GTK archive report 90-2015, p. 21.
- Patison, N., Ojala, J., Eilu, P., and Niiranen, T., 2013, Kittilä gold mine (Suurikuusikko deposit), *in* Eilu, P., and Niiranen, T., eds., Gold deposits in northern Finland, 12th SGA Biennial Meeting Excursion Guidebook FIN1, p. 31-42.

**Appendix B: Qualified Person's certificate**

### Qualified Person's certificate

I, Henry J. Awmack, P.Eng., do hereby certify:

THAT I am a Professional Engineer with offices at 1510-250 Howe Street, Vancouver, British Columbia, Canada, and residing at 1843 Crescent Road, Victoria, British Columbia, Canada.

THAT I am the author of the Technical Report entitled "2018 Technical (NI 43-101) Report on the Mustajärvi Property" and with an effective date of July 15, 2018, relating to the Mustajärvi Property (the "Technical Report"). I am responsible for the entire content of this Technical Report.

THAT I am a member in good standing (#15,709) of the Association of Professional Engineers and Geoscientists of British Columbia and a Fellow of the Society of Economic Geologists.

THAT I graduated from the University of British Columbia with a Bachelor of Applied Science (Honours) degree in geological engineering (Mineral Exploration Option) in 1982, and I have practiced my profession continuously since 1982.

THAT since 1982, I have been involved in mineral exploration for gold, silver, copper, lead, zinc, cobalt, nickel and tin in Canada, Costa Rica, Panamá, Chile, Argentina, Brazil, Perú, Ecuador, Venezuela, Nicaragua, Bolivia, Mexico, Indonesia, China, Sénégal, Colombia, Namibia and Egypt.

THAT I am a Consulting Geologist with Equity Exploration Consultants Ltd., a geological consulting and contracting firm, and have been so since February 1987.

THAT I have read the definition of "independence" set out in Part 1.5 of National Instrument 43-101 ("NI 43-101") and certify that I am independent of Firefox Gold Corp. and the property which is the subject of the Technical Report.

THAT I have examined the property which is the subject of the Technical Report in the field (February 21 and 23, 2018).

THAT I have had no prior involvement with the property which is the subject of the Technical Report.

THAT I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I am a "qualified person" for the purposes of NI 43-101.

THAT as of the effective date of the Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

THAT I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Dated at Victoria, British Columbia, with an effective date of July 15, 2018.

*"signed and sealed"*

Henry J. Awmack, P. Eng.