



TSX-V: LIO | OTCQX: LOMLF | ASX: LLO

# TUVATU ALKALINE GOLD PROJECT FIJI ISLANDS

CORPORATE PRESENTATION  
NOVEMBER 2022



# Forward Looking Statements

## DISCLAIMER

The information provided in this presentation is not intended to be a comprehensive review of all matters and developments concerning the Company and should be read in conjunction with all other disclosure documents of the Company. The information contained herein is not a substitute for detailed investigation or analysis. No securities commission or regulatory authority has reviewed the accuracy or adequacy of the information presented.

## FORWARD-LOOKING STATEMENTS

This presentation contains statements and information that constitute forward-looking information within the meaning of Canadian securities legislation, referred to herein as "forward-looking statements", include statements regarding proposed exploration and development activities and their timing, resource estimates, exploration potential and the PEA, including estimates of capital and sustaining costs, anticipated internal rates of return, mine production, estimated recoveries, mine life, estimated payback period and net present values, opportunities to enhance the value of the Tuvatu Gold Project and other plans and objectives of the Company. In making the forward-looking statements herein, the Company has applied several material assumptions, including that (1) required approvals, permits and financing will be obtained; (2) the proposed exploration and development of the Company's properties will proceed as planned and that actual results will be consistent management's expectations;(3) with respect to mineral resource estimates, the key assumptions and parameters on which such estimates are based; (4) market fundamentals will result in sustained metals and minerals prices; and (5) with respect to the PEA, the assumptions underlying the PEA, that the proposed mine plan and recoveries will be achieved, that capital costs and sustaining costs will be as estimated and that no unforeseen accident, fire, ground instability, flooding, labor disruption, equipment failure, metallurgical, environmental or other events that could delay or increase the cost of development will occur.

Forward-looking statements are subject to a variety of known and unknown risks, uncertainties and other factors which could cause actual events or results to differ from those expressed or implied by the forward-looking statements, including: delays or inability to obtain required government or other regulatory approvals, permits or financing, the risk of unexpected variations in mineral resources, grade or recovery rates, of failure of plant, equipment or processes to operate as anticipated, of accidents, labor disputes, and unanticipated delays in completing exploration and development activities, the risk that estimated costs will be higher than anticipated and the risk that the proposed mine plan and recoveries will not be achieved, bad weather, exploration and development risks, actual results of exploration and/or development activities being materially different from those expected by management; uncertainties related to interpretation of drill results and geological tests, failure to meet expenditure and financing requirements, title matters, third party consents, operating hazards, metal prices, political and economic factors, competitive factors and general economic conditions. Actual results may vary from those implied or projected by forward-looking statements and therefore investors should not place undue reliance on such statements. The forward-looking statements herein are made as at the date of this presentation and the Company expressly disclaims any intention or obligation to update or revise any forward-looking statements except as required by applicable securities legislation.

## TECHNICAL DISCLOSURE

The technical information in this presentation has been approved by Sergio Cattalani, P.Geo., Senior Vice President, Exploration of the Company and a Qualified Person as defined by National Instrument "NI" 43-101 Standards of Disclosure for Mineral Projects .

# Investment Highlights

**25km**

from Nadi International Airport in Fiji

**\$31M**

working capital (CAD)  
(Oct. 1, 2022)

**136km<sup>2</sup>**

exploration license area

**12,000**

assay lab monthly sampling capacity

**8/30,000m**

8 rigs /annual drilling capacity

**2035**

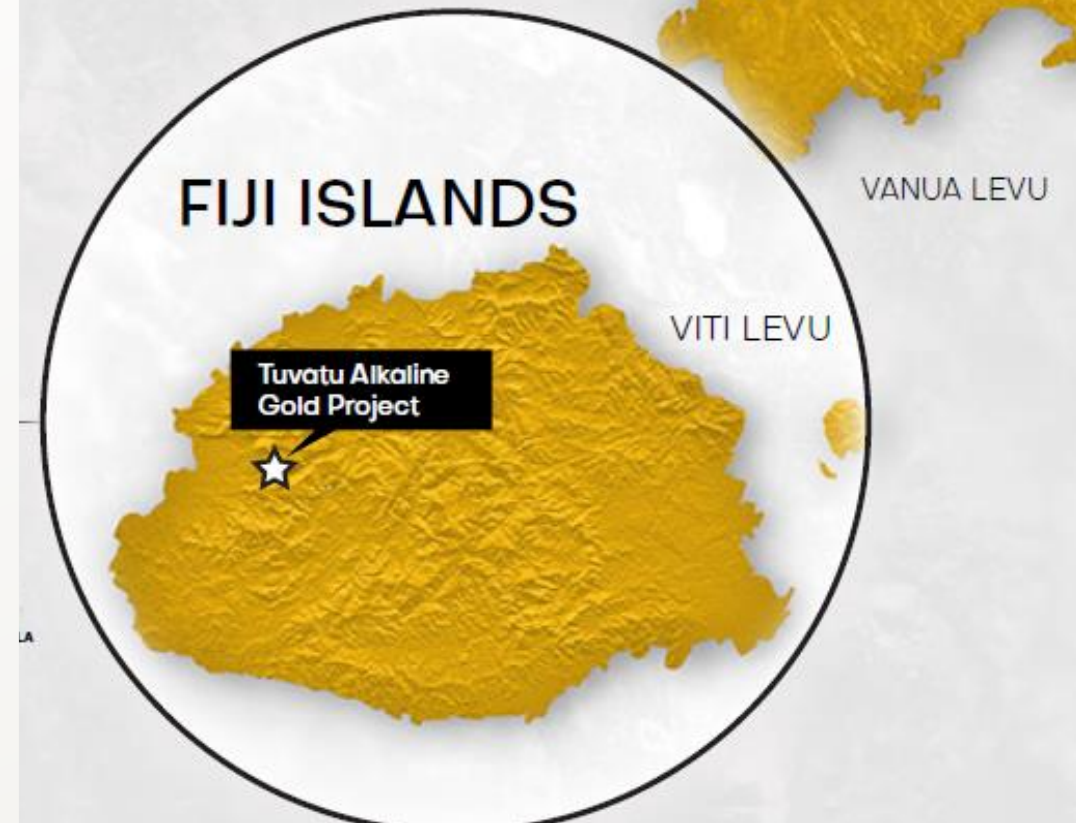
updated Mine Lease renewal

## Recent Drilling Highlights: Globally Significant Intercepts

July 2020: **55.4 g/t Au over 12.7m** from 571m (TUDDH 500)

June 2022: **20.9 g/t Au over 75.9m** from 443m (TUG 141)

August 2022: **12.22 g/t Au over 54.9m** from 576m (TUDDH 601)



\$13.35 million bought deal financing  
completed in September 2022

# Corporate Snapshot

## CAPITALIZATION

SHARE CAPITAL As of Nov. 1, 2022

Shares Outstanding	173,769,893
Options	13,015,000
Warrants	9,714,880
Shares Fully Diluted	196,499,773
Market Capitalization	\$122M

LIO: \$0.70 | 52wk: \$1.66 \$0.59 | Avg. vol: 372k

Canada  
**TSX-V: LIO**

USA  
**OTCQX: LOMLF**

Australia  
**ASX: LLO**

## ANALYST COVERAGE

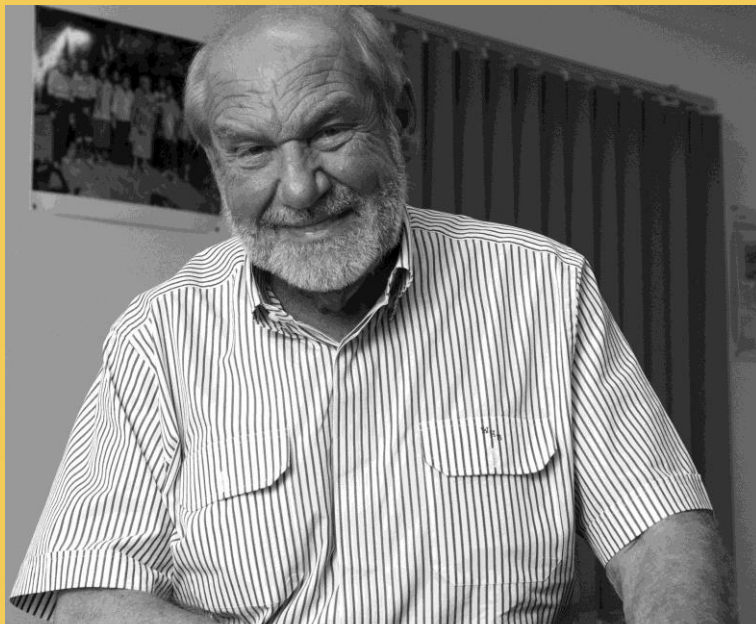
Roth Capital Partners, LLC	Mike Niehuser
Eight Capital Partners	Felix Shafigullin

## LARGEST INVESTORS

Walter Berukoff (CEO)	12.03%
Donald Smith & Co.	6.76%
Franklin Precious Metals	6.38%

## INSTITUTIONAL INVESTORS

RBC Global Precious Metals  
Aegis Value Fund  
CI Precious Metals  
Gabelli Gold Fund  
Mackenzie Precious Metals



## Walter Berukoff

CHAIRMAN & CEO

### Success Stories

**Northern Orion** sold to Yamana in 2007 for \$1.1B

**Miramar Mining** sold to Newmont in 2008 for \$1.5B

**La Mancha** sold in 2012 for \$600M

**Emperor Gold Mines** Fiji Gold Assets  
(Vatukoula & Tuvatu) purchased in 2008.

Lion One Metals Limited created in 2011

# Leadership Team

## THE LION ONE METALS TEAM

### OFFICERS

Walter Berukoff, CEO

Tony Young, CA, CFO

Patrick Hickey, COO

Sergio Cattalani, SVP Exploration

Hamish Greig, VP, Corp. Secretary

### DIRECTORS

Walter Berukoff, Chairman

Richard Meli (ex-Rio Tinto SVP)

Kevin Puil, CFA (RIVI Advisors)

David Tretbar, P.Geo (ex-Sumitomo)

### TECHNICAL TEAM

Kevin Li, P.Eng (ex-Fluor, Pretium)

Dr. Quinton Hennigh, P.Geo (ex-Newmont)

Will Ostrenga, P.Geo (ex-Sumitomo)

Darren Holden, P.Geo

## Patrick Hickey

CHIEF OPERATING OFFICER

Engineer, mine builder, Ex-Newmont/Kinross



## Sergio Cattalani

SENIOR VP, EXPLORATION

Economic geologist, Ex-Osisko Mining,  
Inco-Vale, Equinox Gold, EMX Royalties,  
Cominco



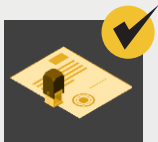


## Key Assets: Lion One Fiji Team – Drilling Fleet – Assay Laboratory



# 2022-23 Mine Development Progress

## MINE DEVELOPMENT



Permits are in place for underground mining operations



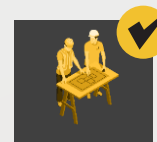
Development of no. 2 underground access portal @ rate of 2m per day; currently at +150m



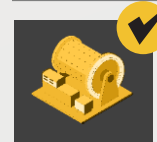
Mobile mining equipment fleet has been purchased or delivered



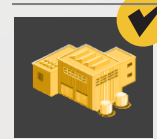
## MILL DESIGN & CONSTRUCTION



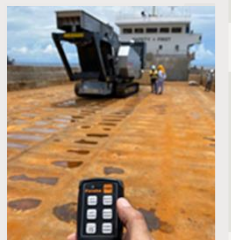
Detailed engineering & procurement underway



Design process completed for scalable mill facility



Installation & initial production planned for Q3 & Q4 2023



# Mine Site Infrastructure: Set Up For Success



**Contracts are complete or in final negotiation for all mine infrastructure including:**

OFFICES  
COMPLETED



TAILINGS  
UNDERWAY



WATER SUPPLY AND  
WASTE-WATER  
TREATMENT UNDERWAY



MINE EXPLOSIVES  
MAGAZINE  
COMPLETED



POWER  
UNDERWAY



COMMUNICATIONS  
INCL. FIBER-OPTIC ACCESS,  
COMPLETED



## ERP SYSTEMS IMPLEMENTATION

Lion One is Implementing a fully integrated HRIS and Enterprise Resource Platforms (ERP) for Accounting, Supply Chain, Maintenance, Inventory, Cost Control and Personnel tracking.



# Fiji: A Stable And Supportive Mining Jurisdiction



Mining key to national economy – gold is one of the key exports



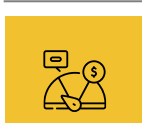
Long mining history including the Vatukoula / Emperor Gold Mine



Mining Act and Administration was founded on British Law



Reasonable royalty and taxation structures, as well as negotiable taxation concessions

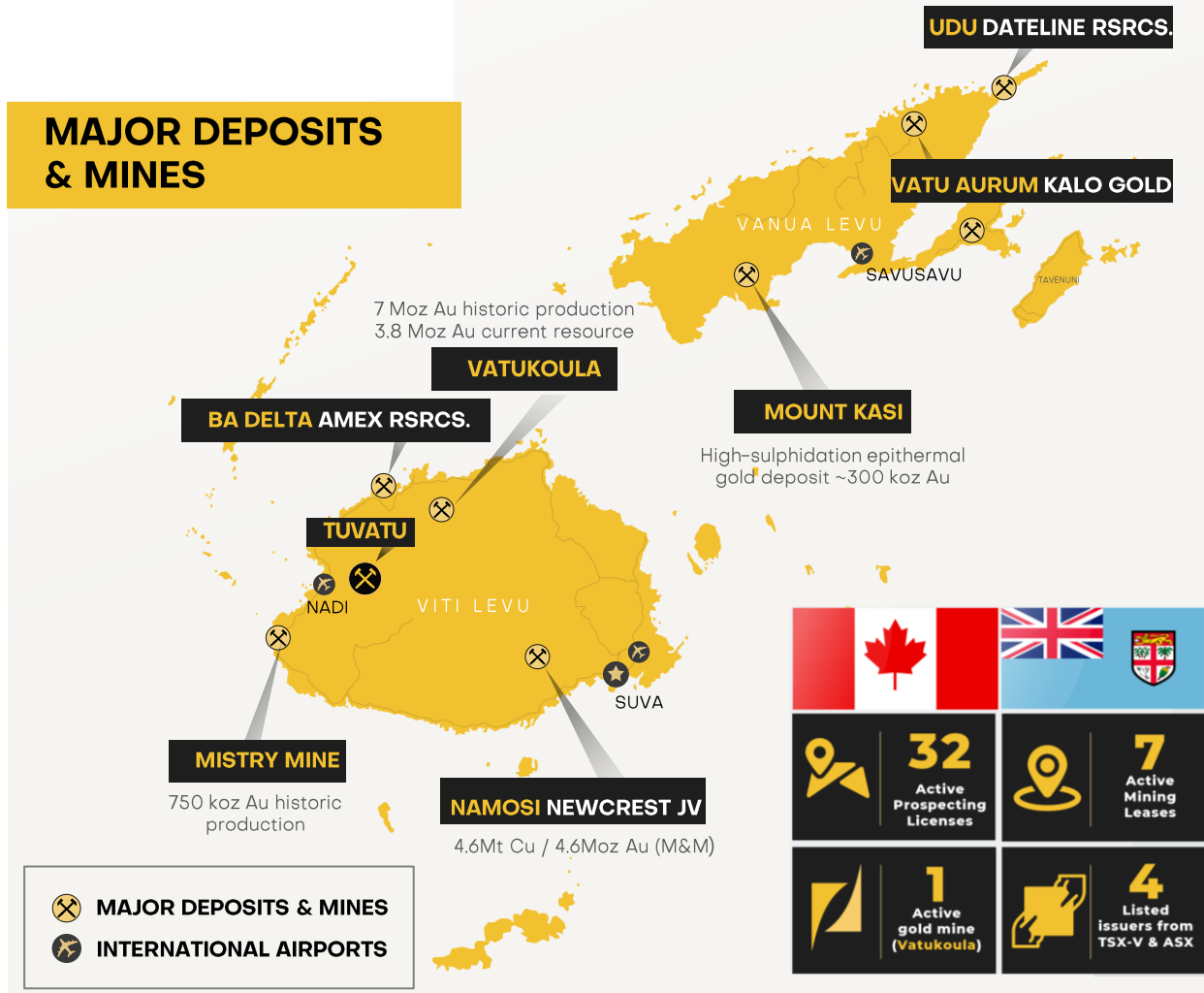


Low sovereign, political and social risk



Skilled domestic workforce and low operating costs

## MAJOR DEPOSITS & MINES



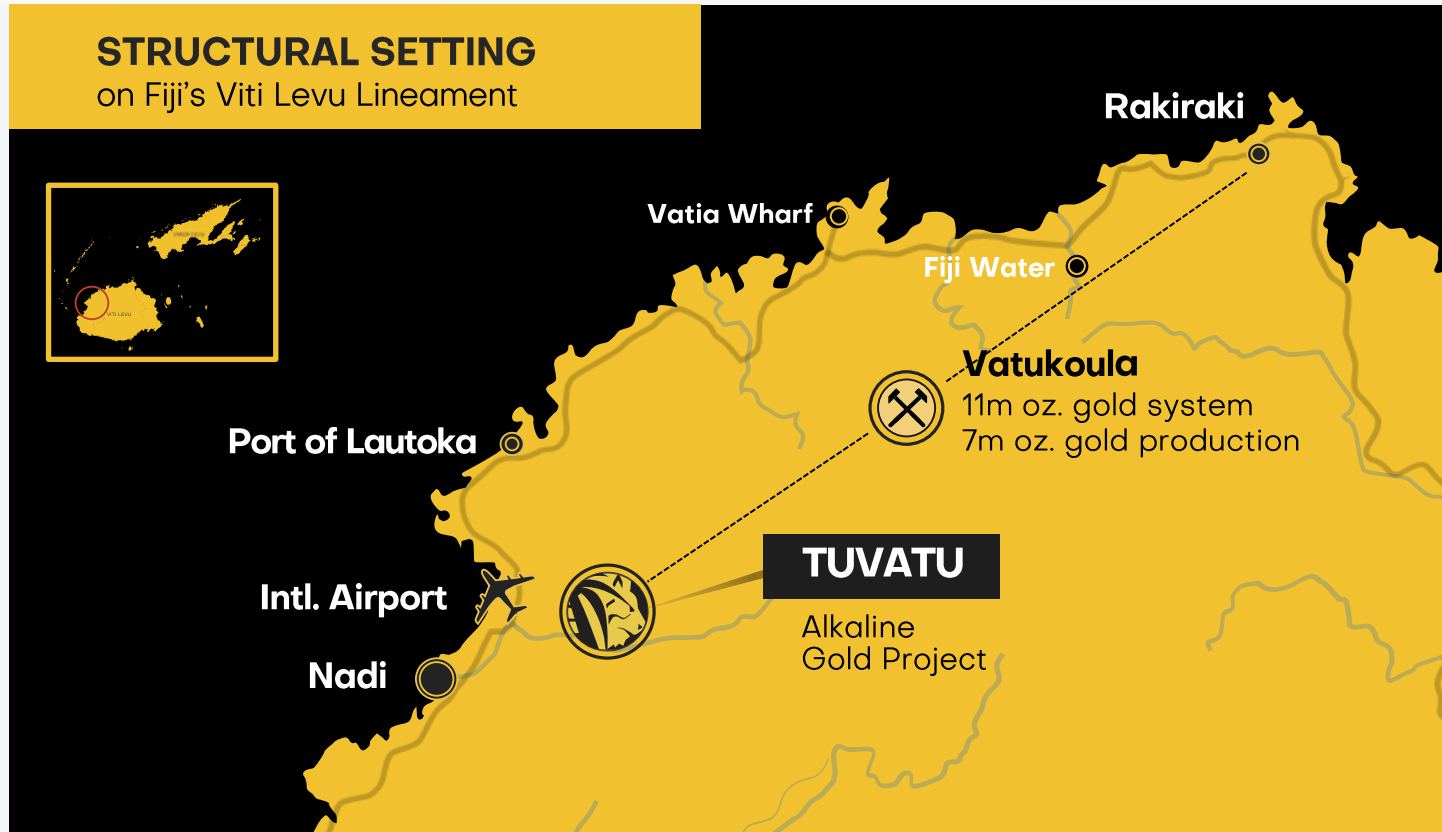
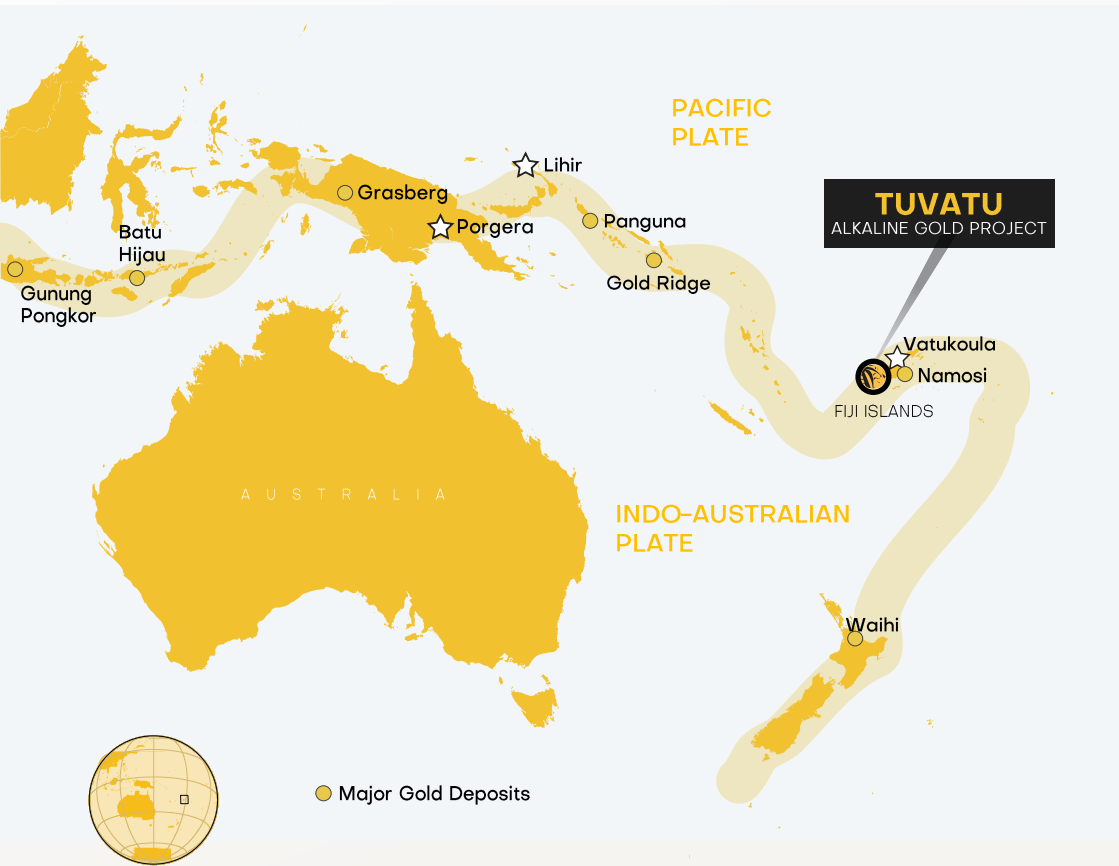
	<b>32</b> Active Prospecting Licenses		<b>7</b> Active Mining Leases
	<b>1</b> Active gold mine (Vatukoula)		<b>4</b> Listed issuers from TSX-V & ASX

- MAJOR DEPOSITS & MINES
- INTERNATIONAL AIRPORTS

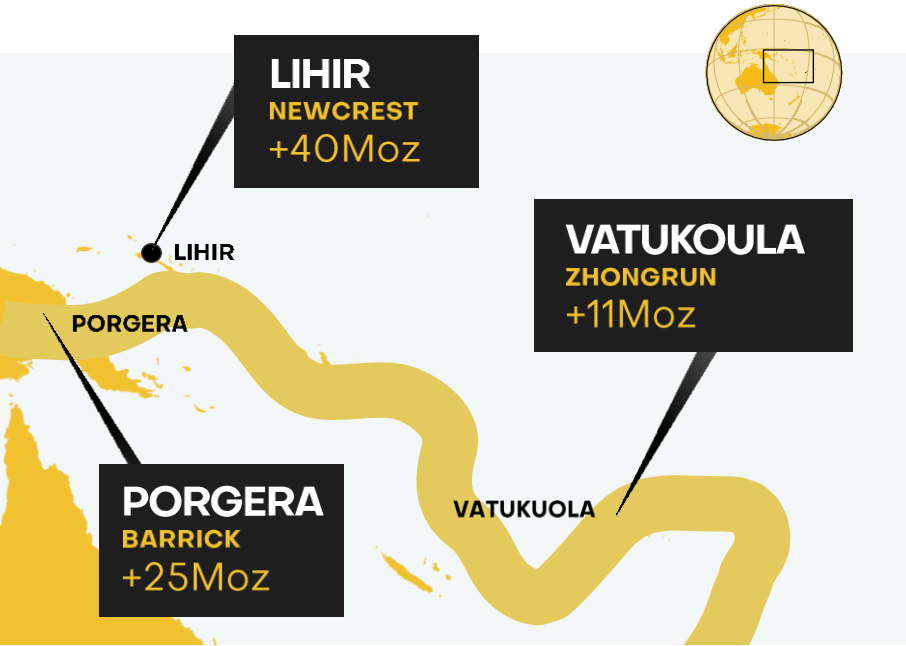


# Prime Location & Setting

TECTONIC SETTING IN THE SOUTH PACIFIC RING OF FIRE

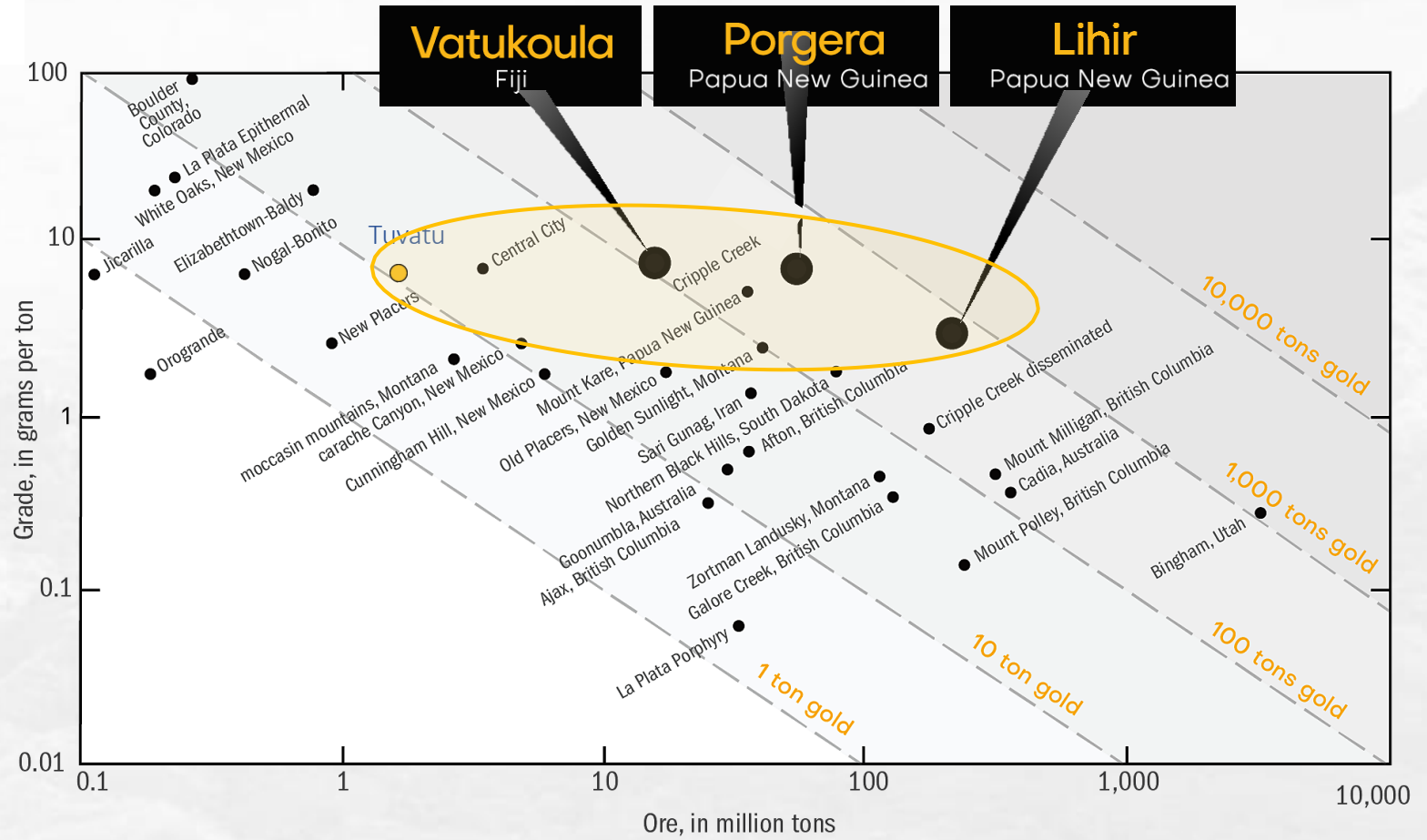


# The Next World Class Alkaline Gold Deposit



**PORGERA, LIHIR, VATUKOULA:**  
Three Globally Significant Alkaline Gold Systems

**PORGERA IS TUVATU'S CLOSEST ANALOG**  
16.4M oz. Gold Produced / 30M oz. Resource Inventory



# Project Overview

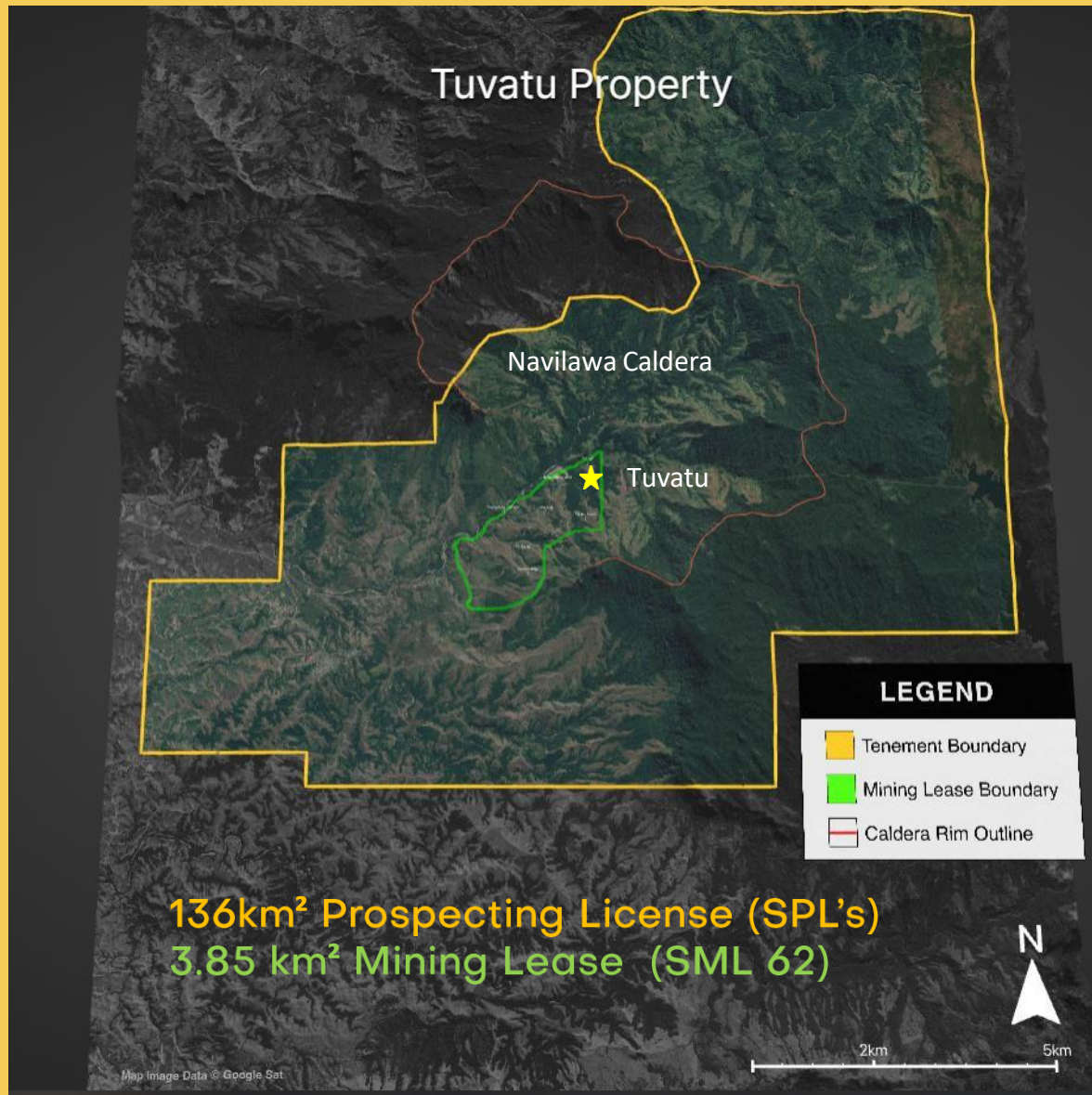
**HIGH GRADE RESOURCE**

**PERMITTED FOR PRODUCTION**

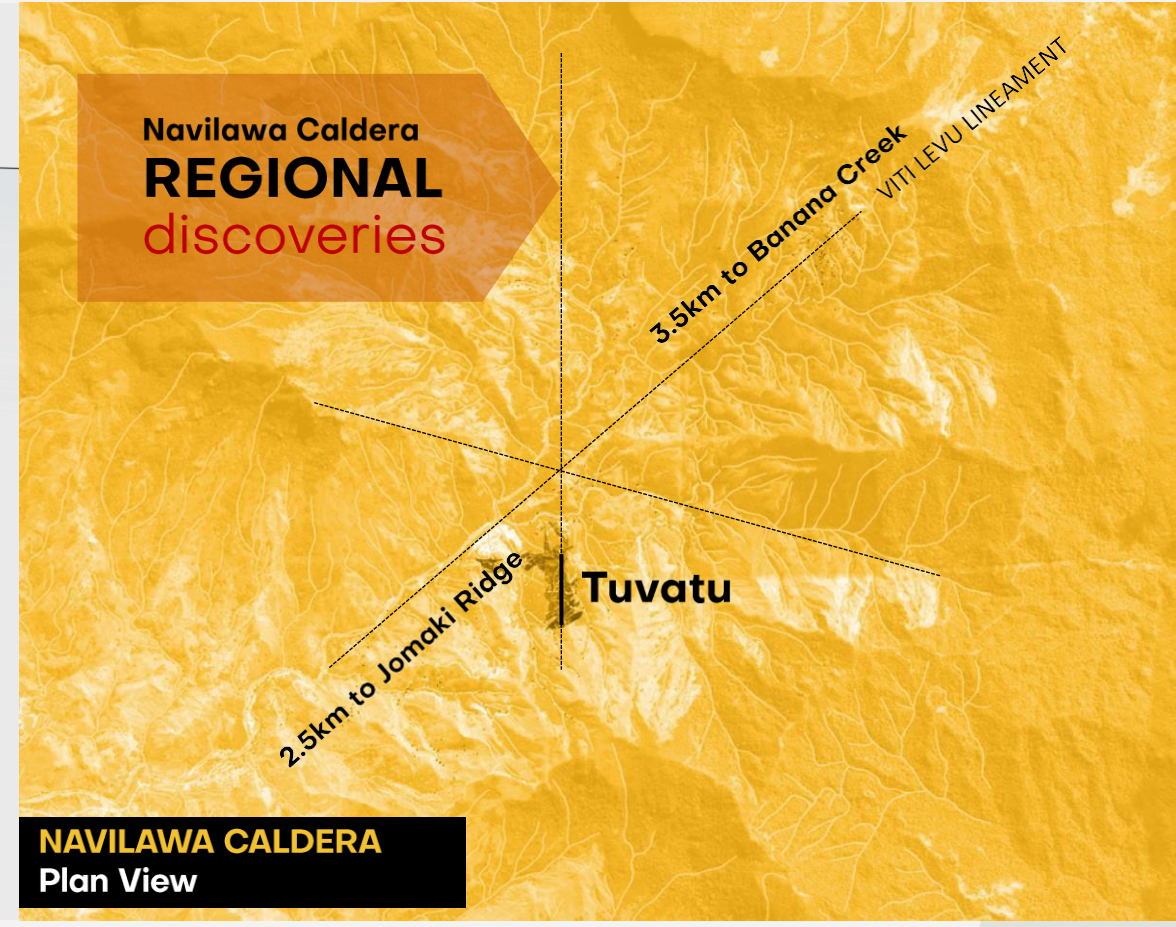
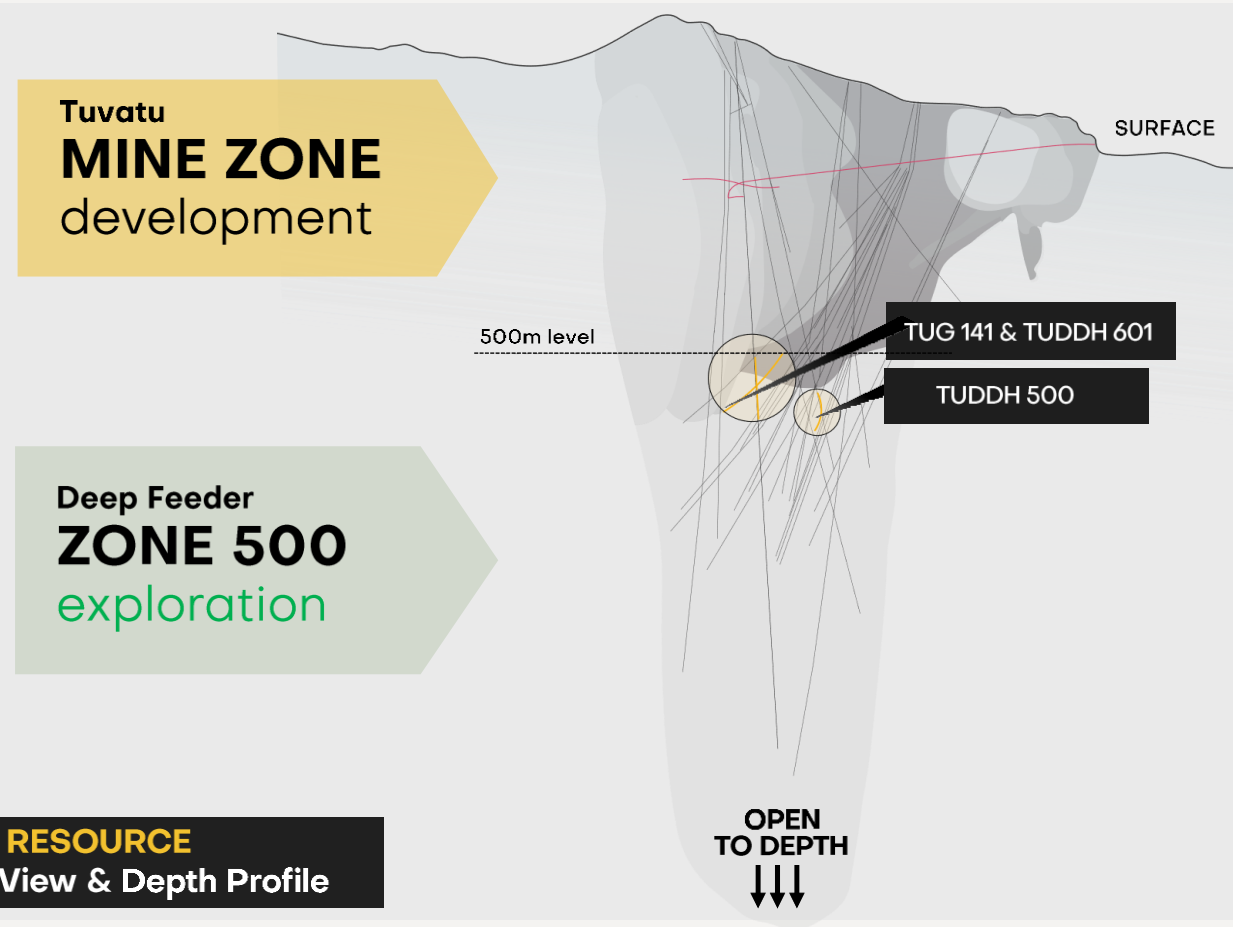
**PRIME GEOLOGICAL SETTING**

**PROXIMITY TO INFRASTRUCTURE**

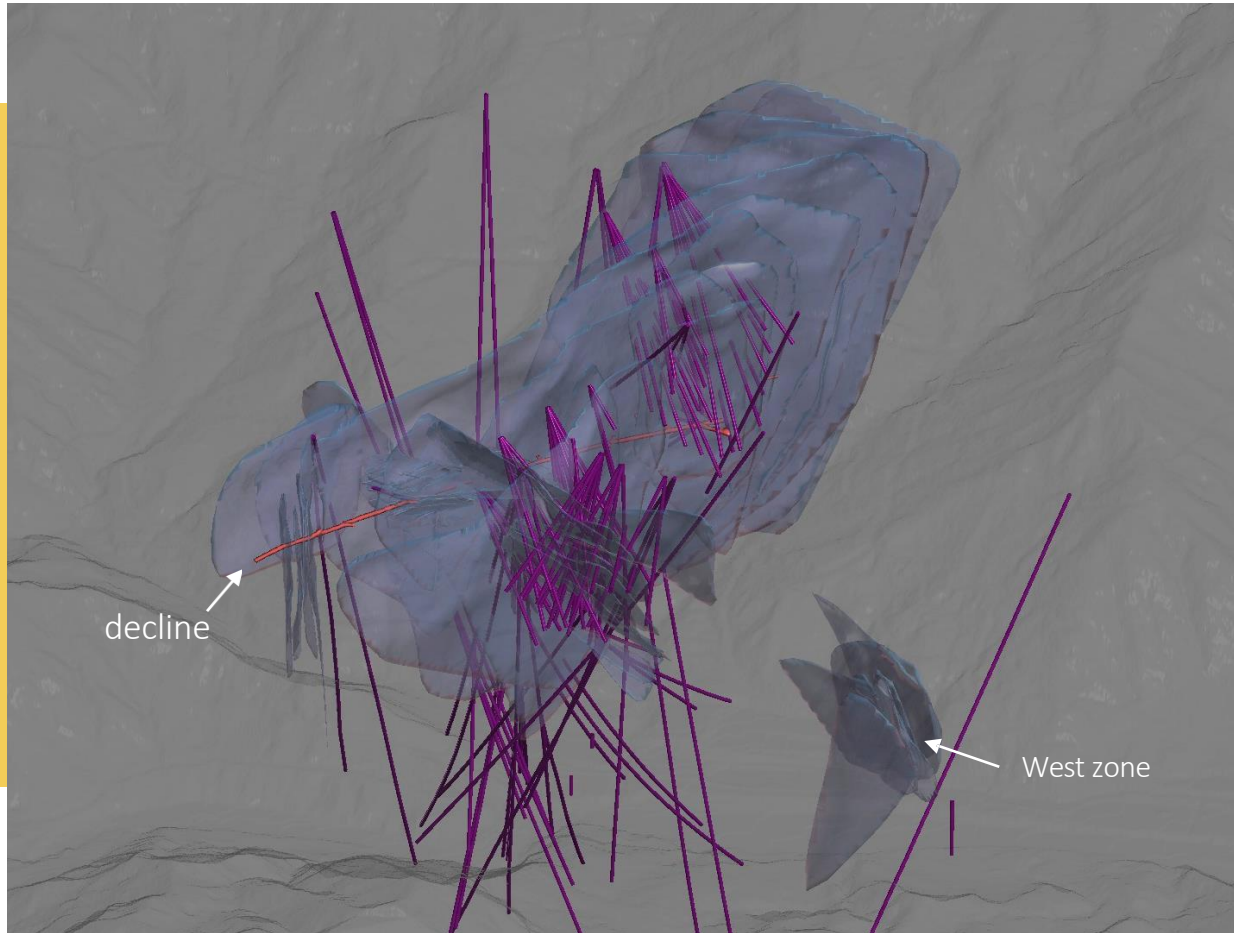
**PRO-MINING COUNTRY**



# Exploration Strategy



# Tuvatu Exploration

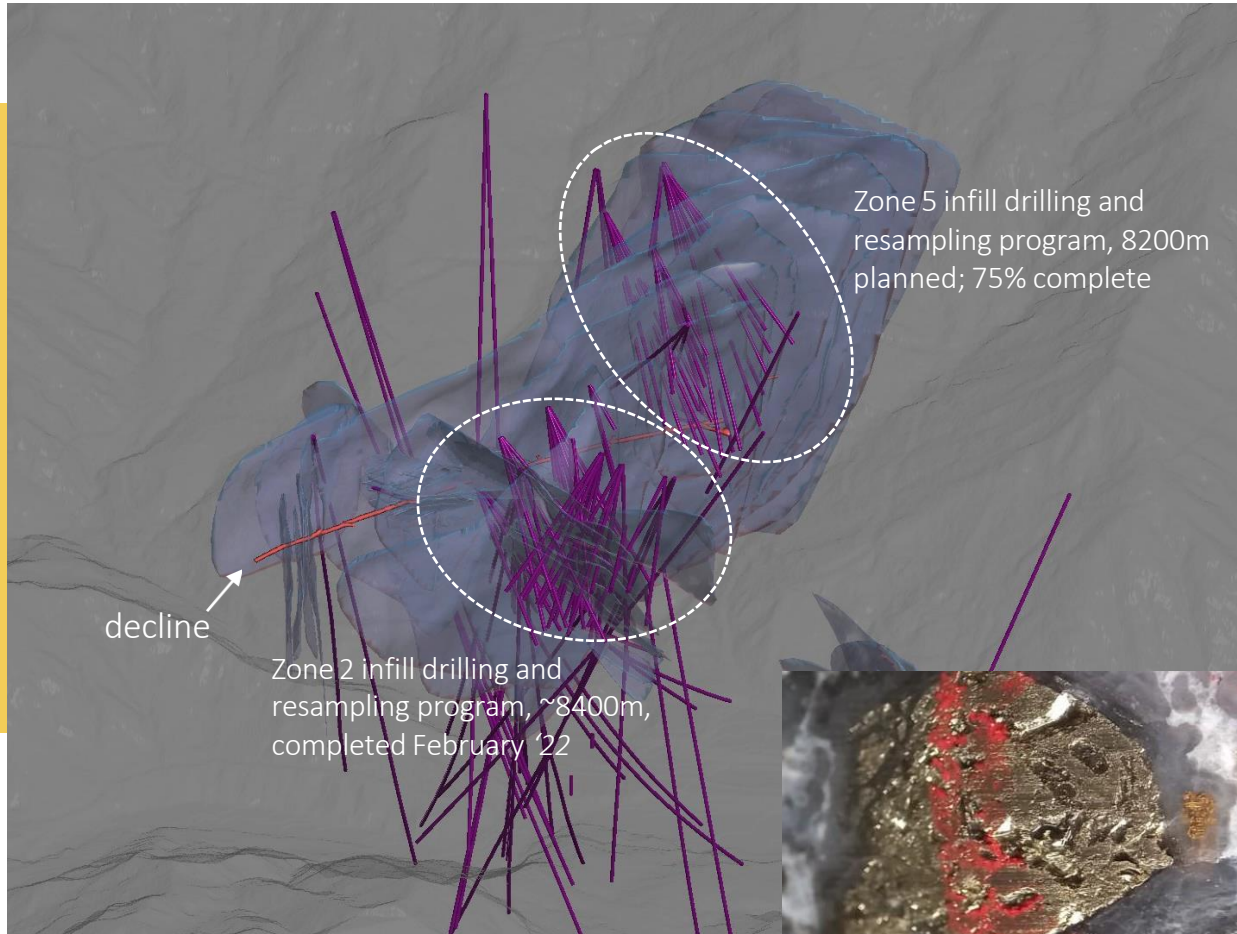


**2022 infill drilling refining grade and continuity ahead of mining planned for Q4 2023**

+1,100m deep high-grade Au system coming into view; targeting +1m oz. resource +10 g/t Au

TUDDH 500, TUG 141 & TUDDH 601: depth extensions of current resource with exceptional high-grade profile

# Tuvatu Exploration



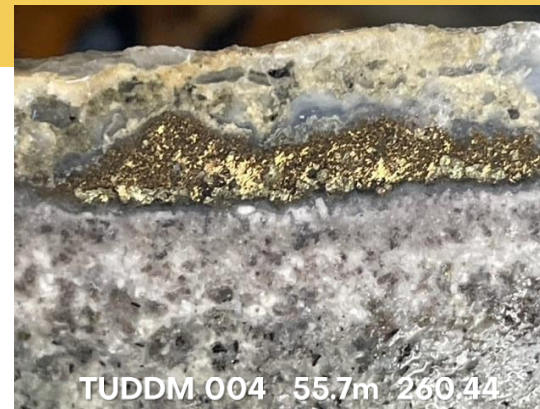
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TUDDH 563 52.5m 63.3  
g/t Au

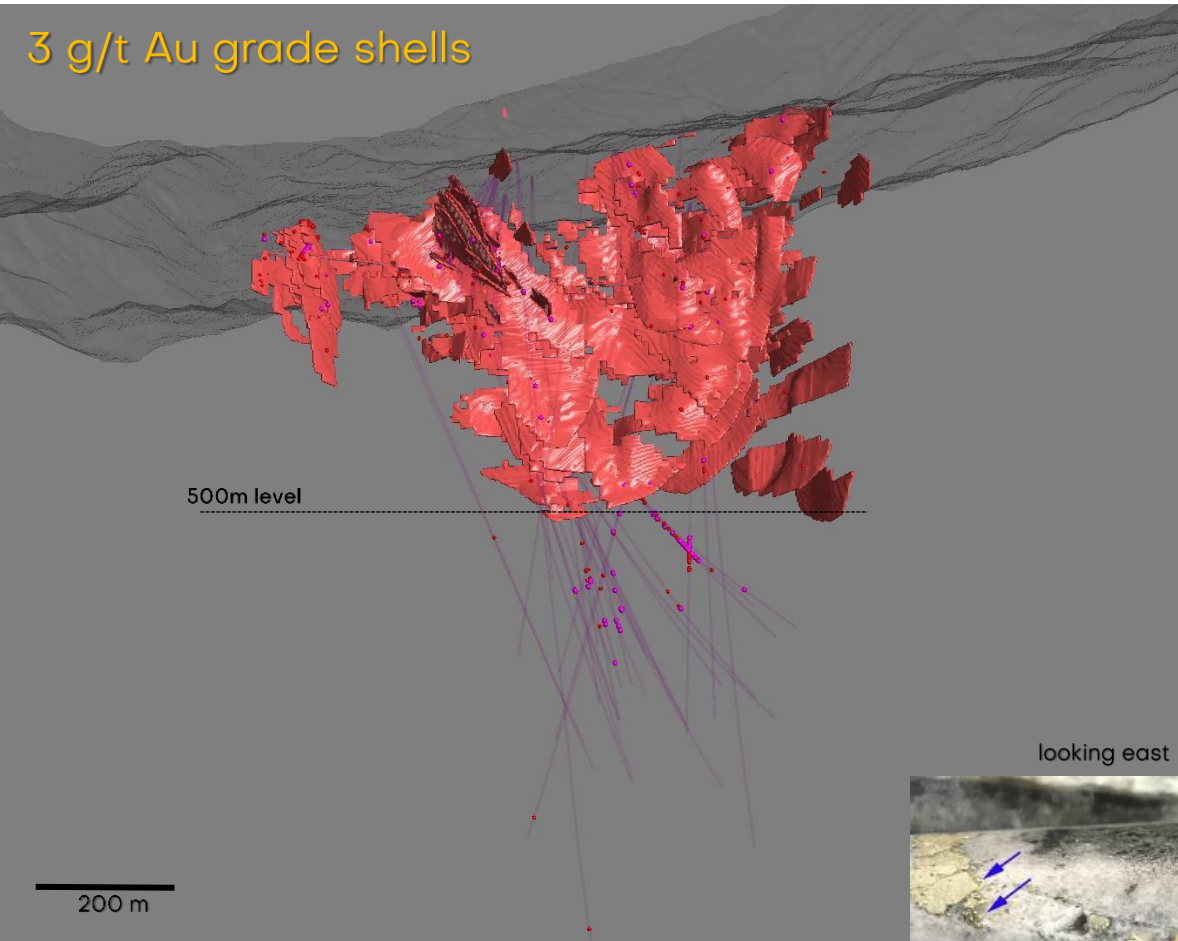


TUDDM 004 55.7m 260.44  
g/t Au



TUDDH 565 71.1m 1616.0  
g/t Au

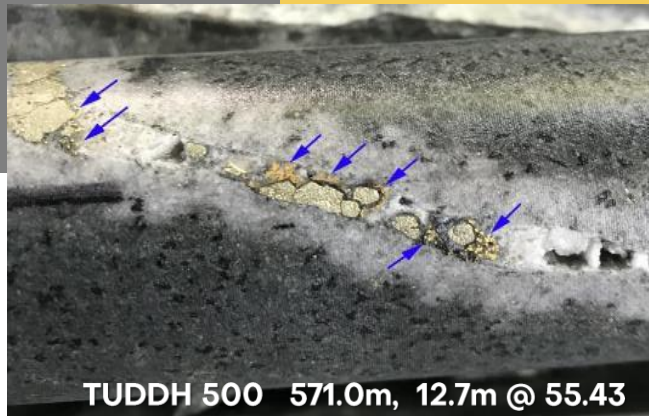
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g/t Au



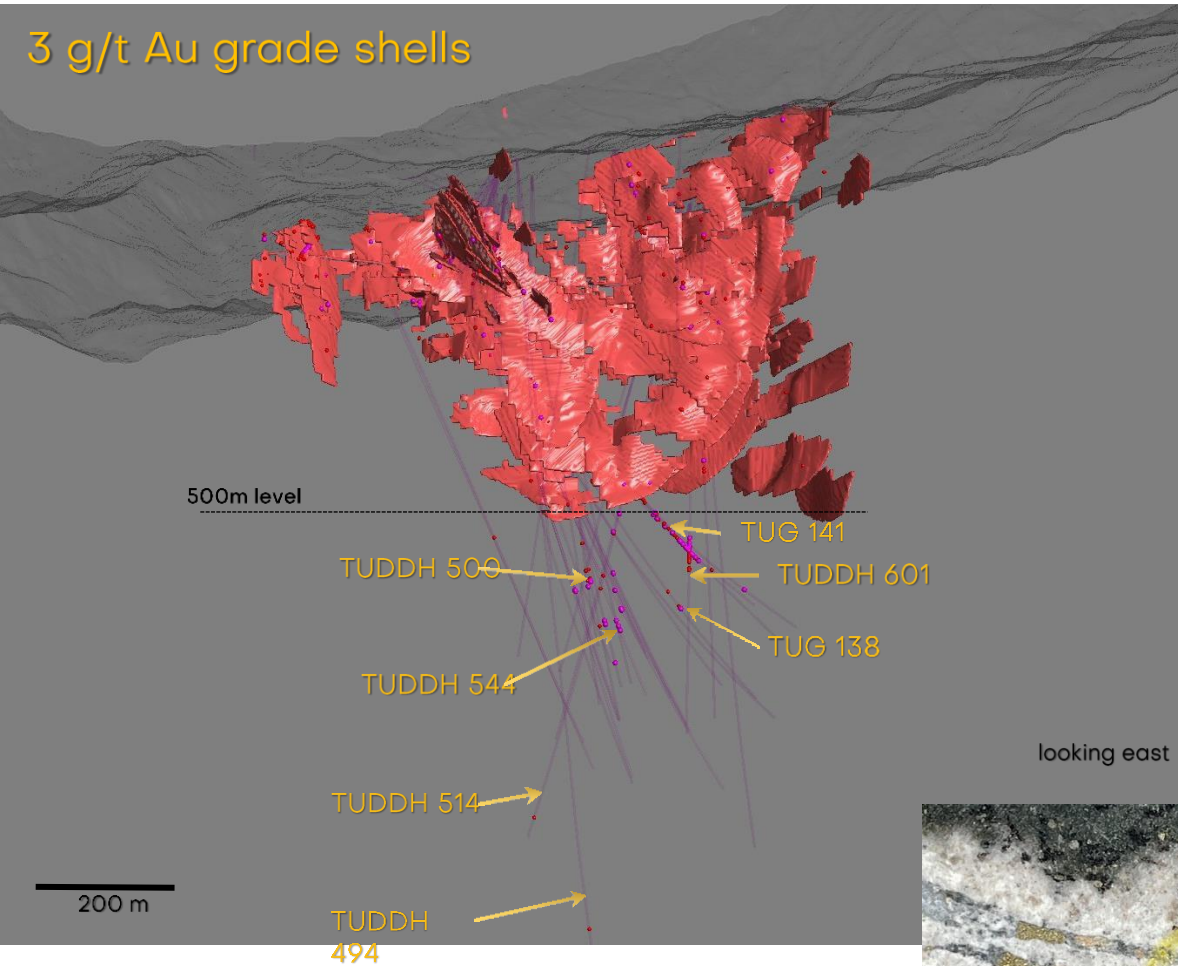
g/t Au



g/t Au



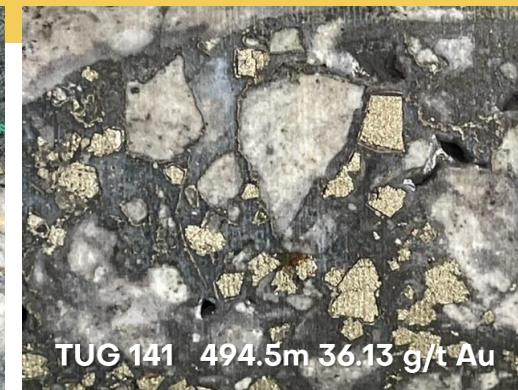
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# TUG 141: High Grade Zone 500 Discovery

Among the Top 10 highest grade gold intercept in the world 2021-2022 (g/m)

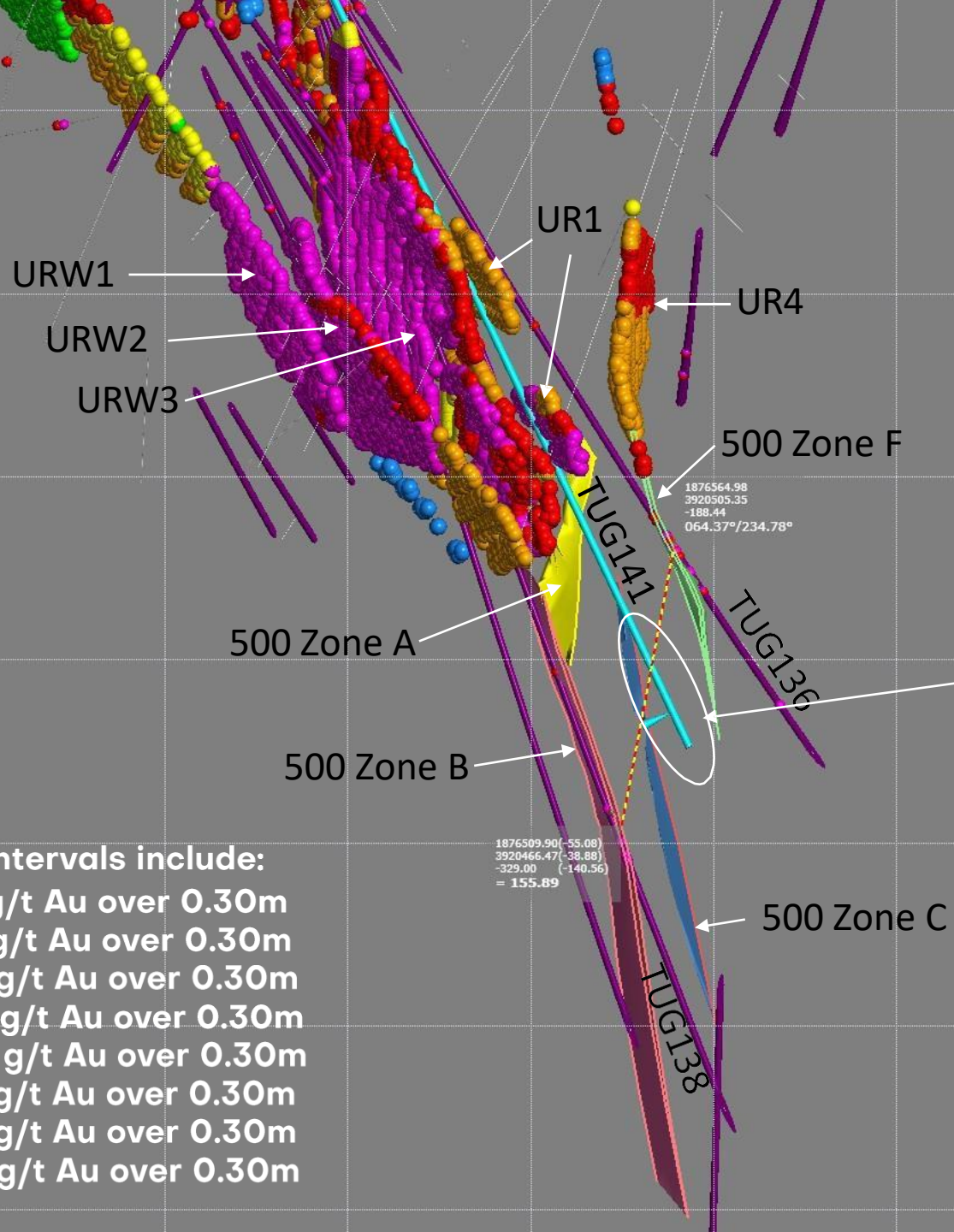
*Interval of best mineralization*

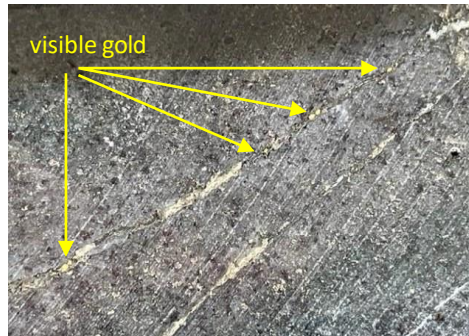
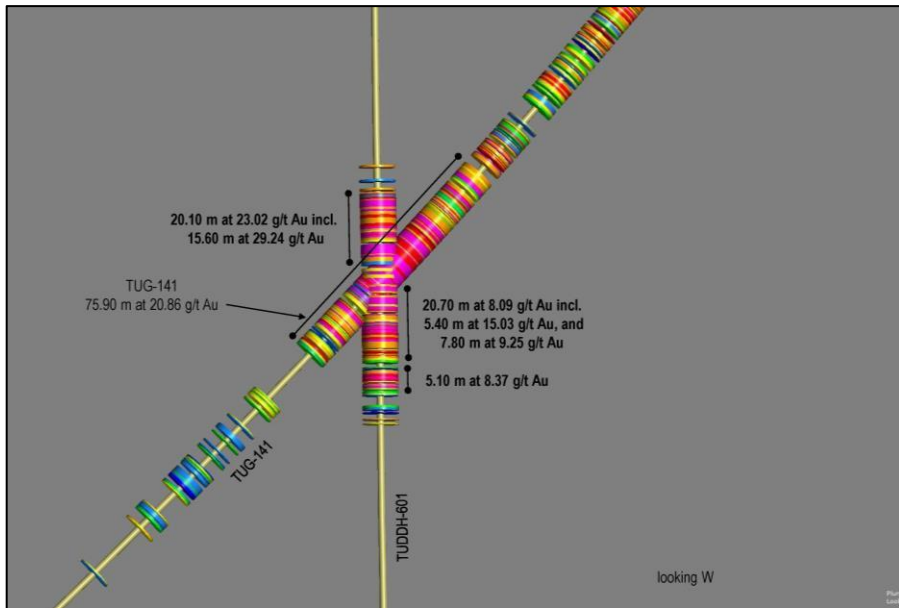
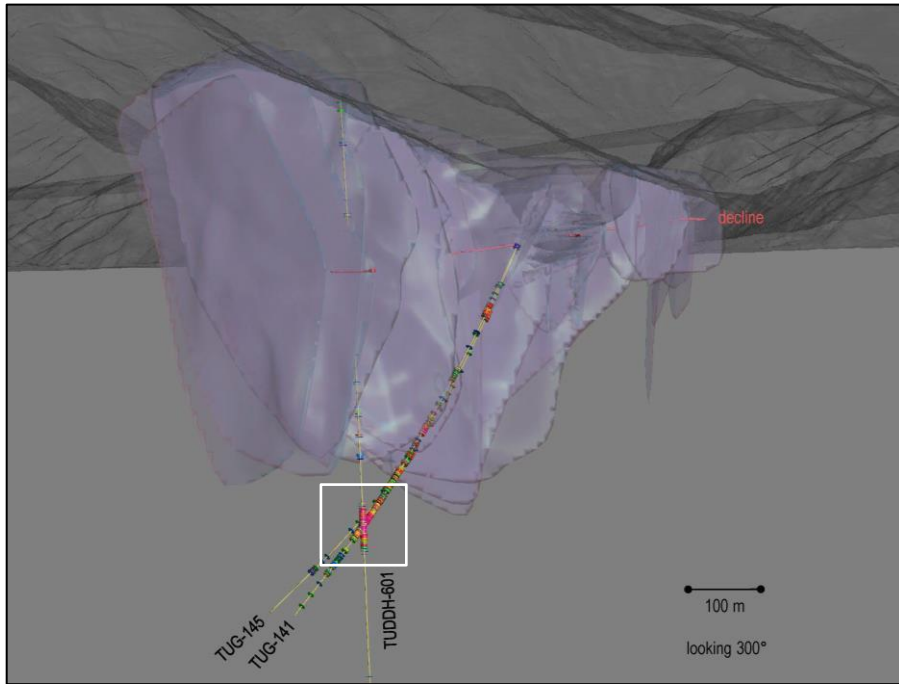
**20.9 g/t Au over 75.9m**  
from 443.4-519.3m, including

- 35.25 g/t Au over 37.5m
- 43.62 g/t Au over 30.0m
- 90.35 g/t Au over 7.2m

## Other notable intervals include:

- 138.15 g/t Au over 0.30m
- 396.16 g/t Au over 0.30m
- 103.54 g/t Au over 0.30m
- 340.07 g/t Au over 0.30m
- 600.42 g/t Au over 0.30m
- 244.37 g/t Au over 0.30m
- 230.18 g/t Au over 0.30m
- 105.58 g/t Au over 0.30m





# TUG 141: High Grade Zone 500 Discovery

TUG-141:  
drilled from underground along the Tuvatu exploration decline

TUDDH-601:  
confirmed mineralization in TUG-141 with **12.22 g/t Au over 54.9m** vertical, including **29.24 g/t Au over 15.6m**

Follow-up drilling from multiple locations currently underway

# TUG 141: 20.86 g/t Au over 75.9m

**HIGH GRADE DISCOVERY – JUNE 2022**



(E) Vuggy hydrothermal breccia with coarse pyrite and silicified-sulfidized ground mass. Breccia clasts are angular to sub-rounded.

(F) Coarse pyrite breccia with silicified-sulfidized ground mass.

(G) Network fracture stockwork ~1-5mm veins with two generations of pyrite. The clasts are highly altered silicified andesite, with the veins containing quartz-pyrite.

(H) Network fracture stockwork veins at multiple angles, with intense silicification, quartz-carbonate infill and pyrite.

(I) 0.5mm wide veinlet of VG from sample that assayed 282.5 g/t Au

# TUDDH 601: 12.22 g/t Au over 54.9m

**HIGH GRADE DISCOVERY –  
AUGUST 2022**



Hydrothermal breccia



580.2m 140.9 g/t Au



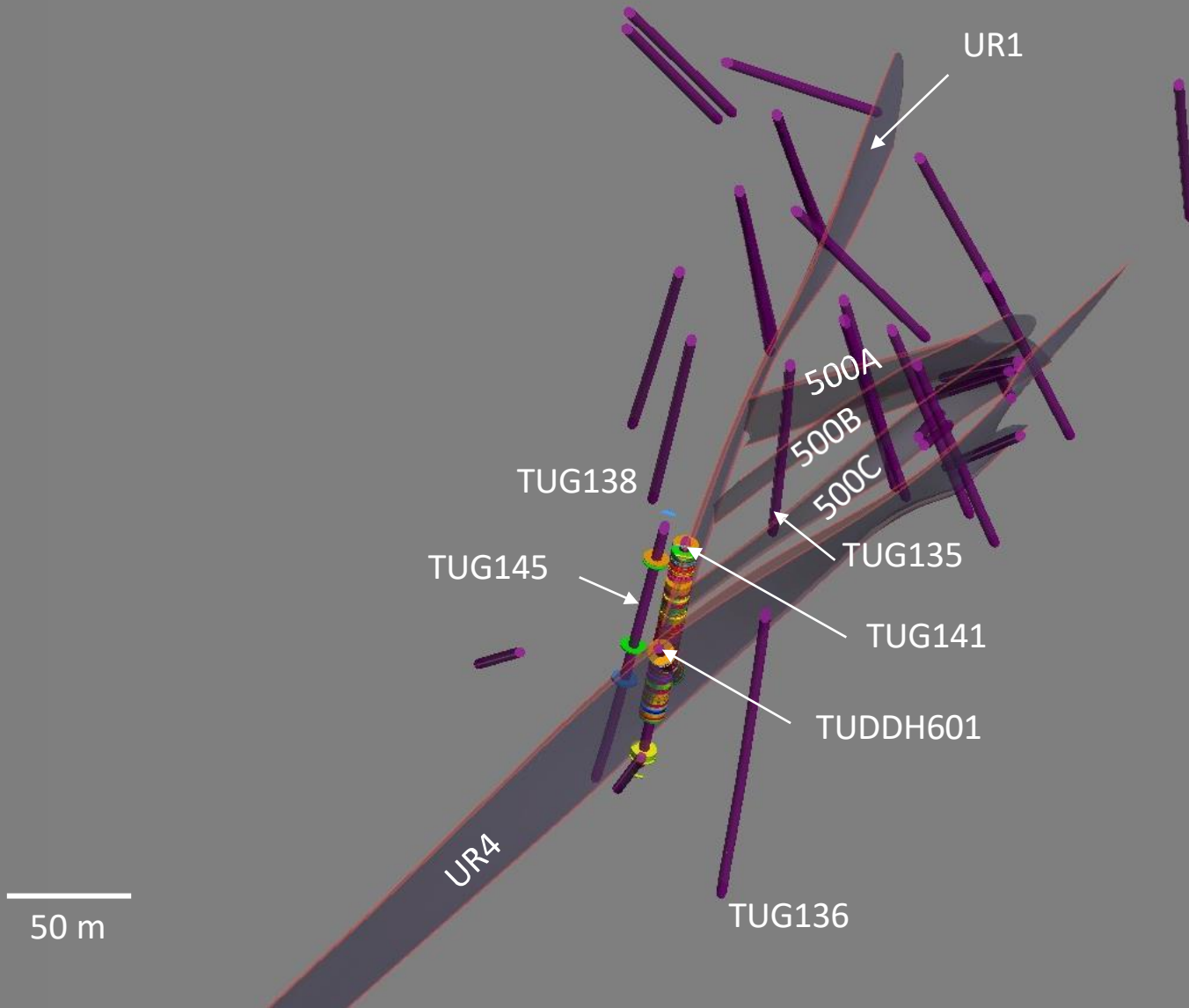
593.9m 230.4 g/t Au

# TUG 141: High Grade Zone 500 Discovery

Among the Top 10 highest grade gold intercept in the world 2021-2022 (g/m)

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from 443.4-519.3m, including

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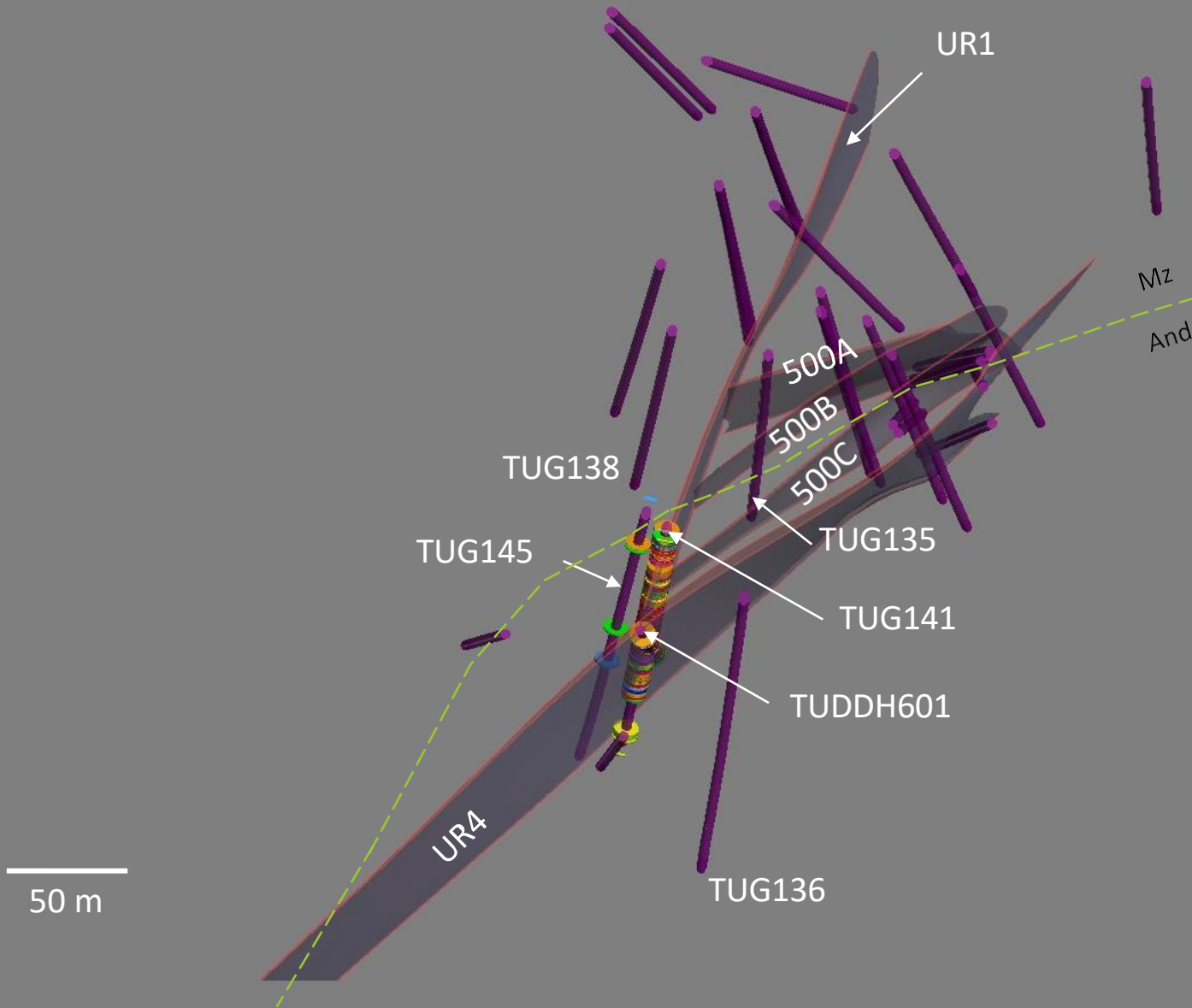


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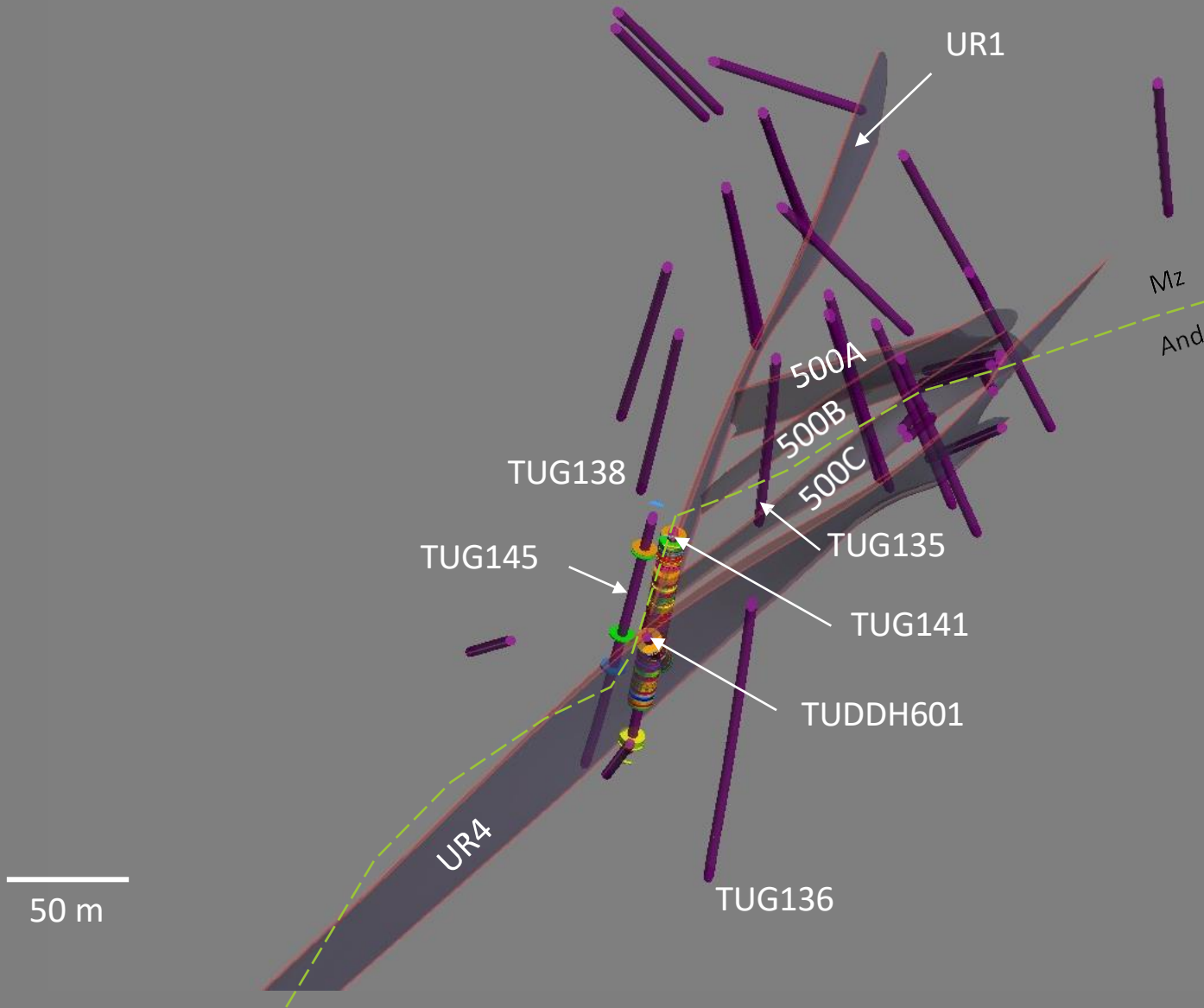


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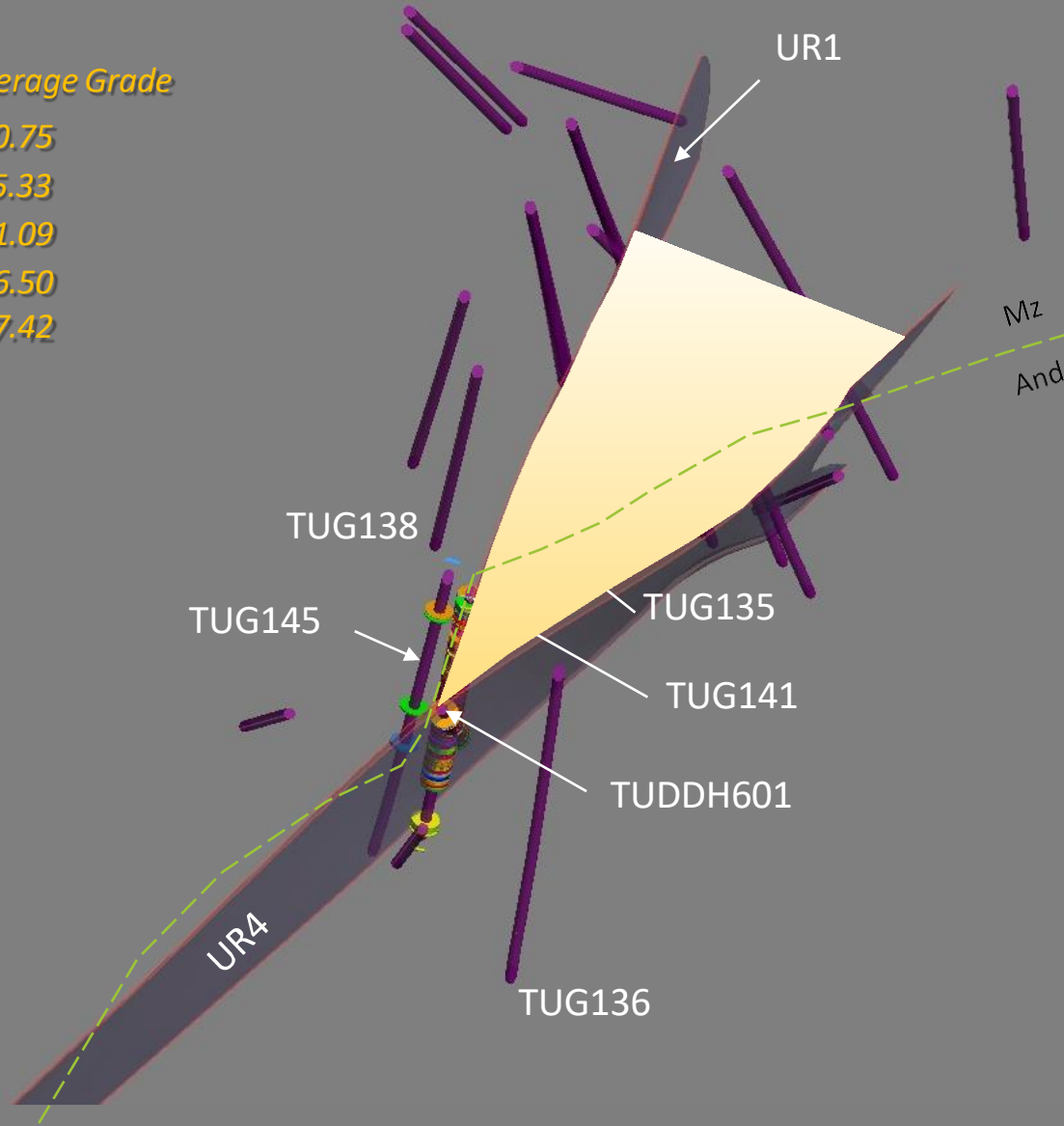
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500 Zone	Average Grade
UR1	20.75
UR4	5.33
500A	21.09
500B	16.50
500C	17.42



# TUG 141: High Grade Zone 500 Discovery

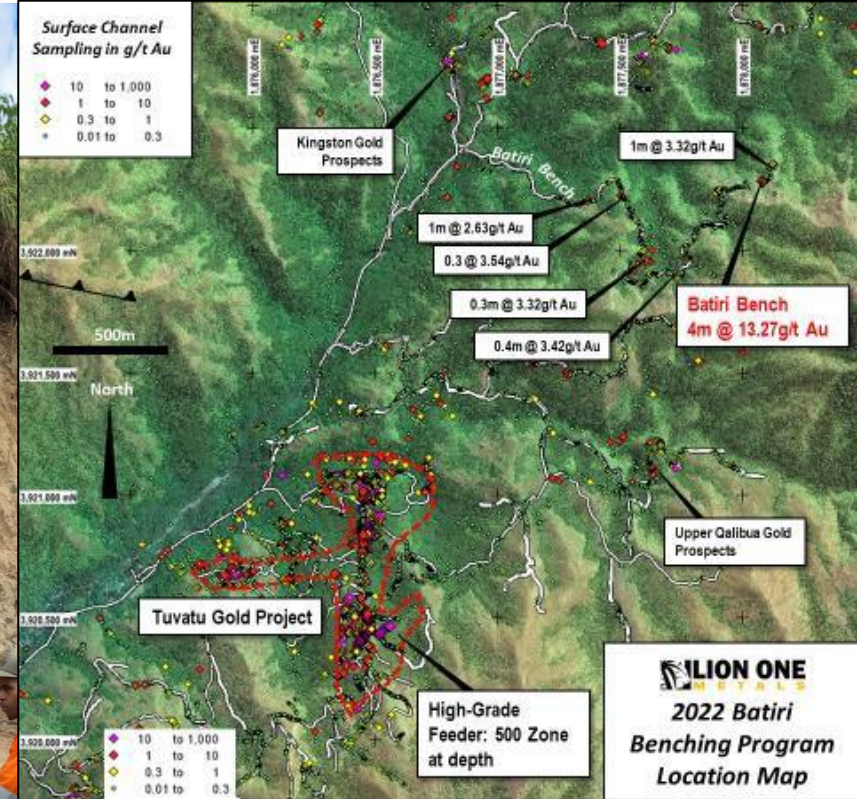
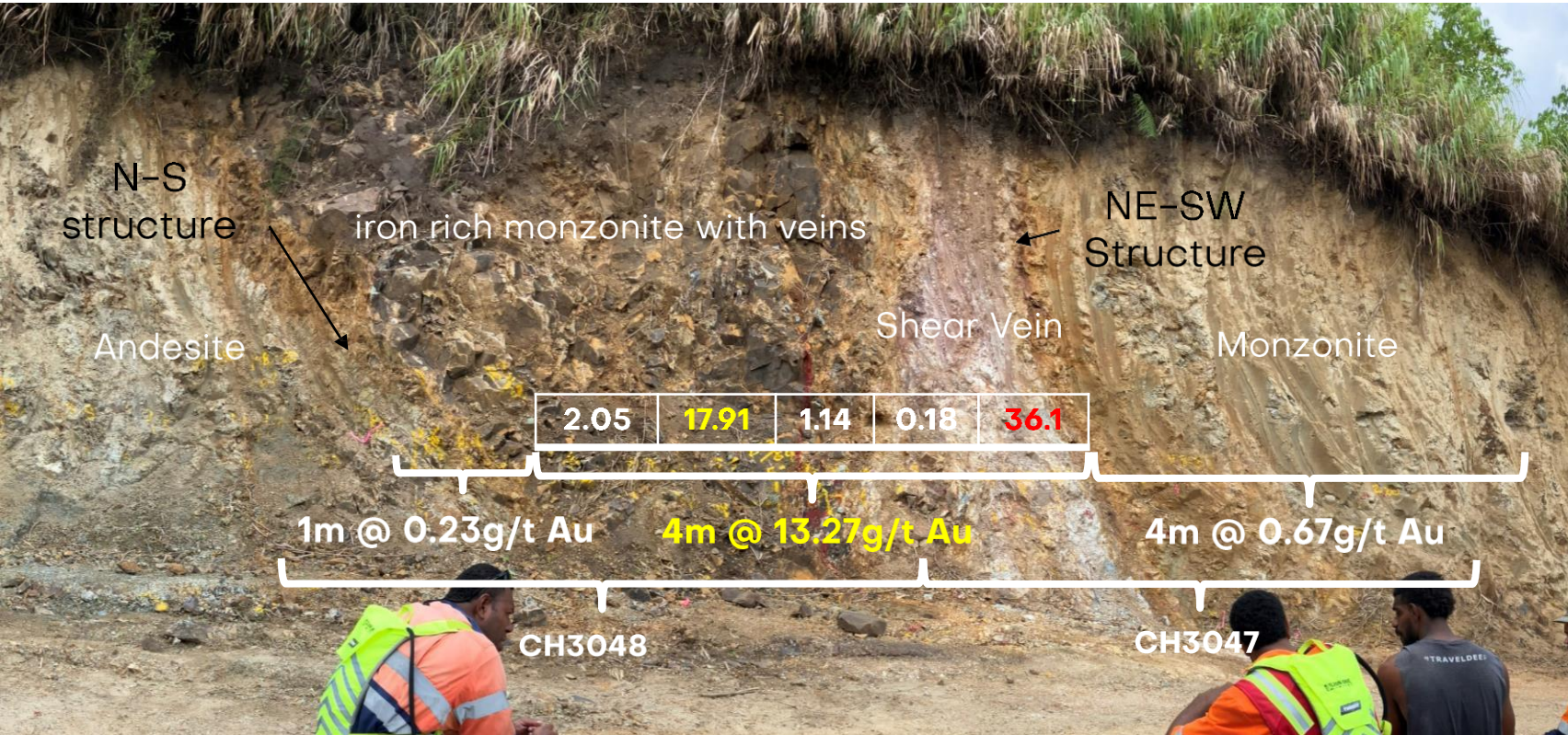
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# Regional Discoveries: Batiri Creek Vein

13.27 g/t Au over 4m CHANNEL SAMPLE 2KM N-E OF TUVATU

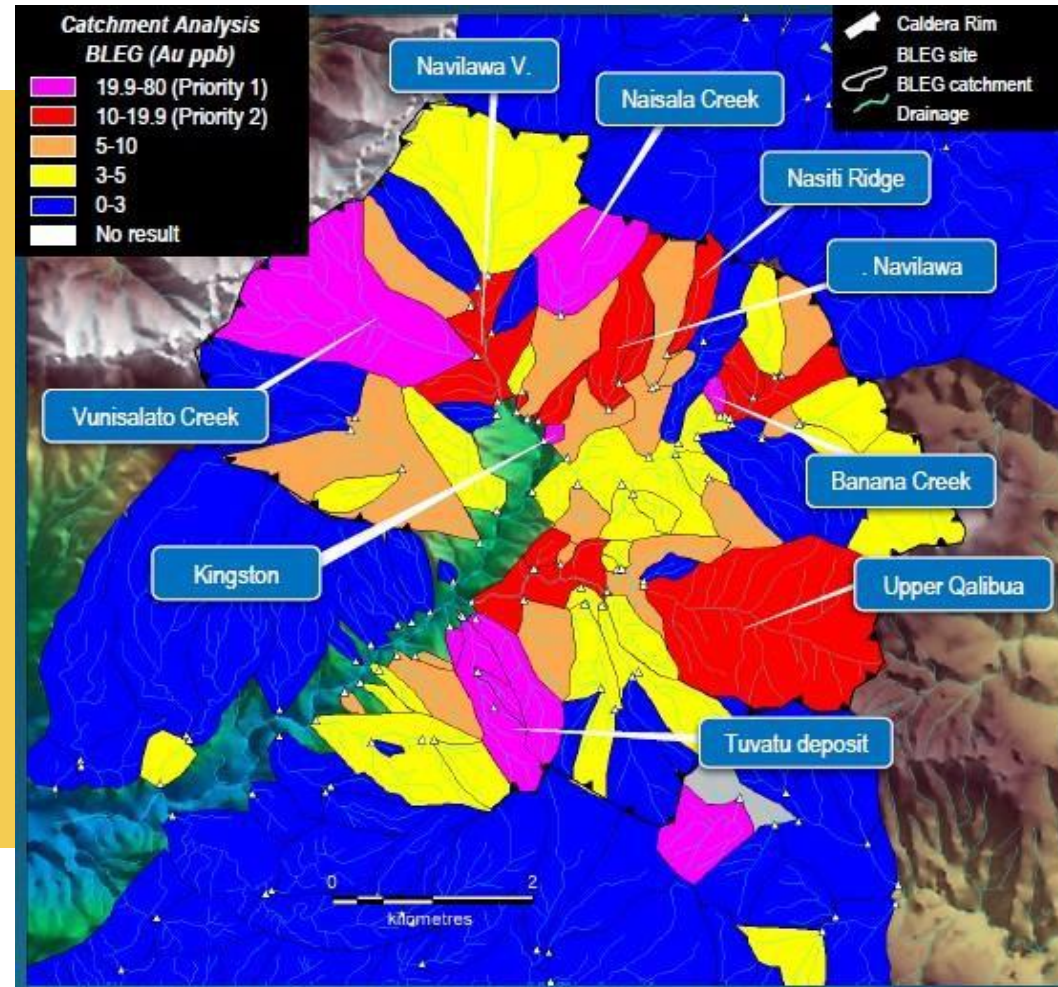


# Regional - BLEG Geochemical Survey

**HIGH GRADE** GOLD ACROSS 7KM WIDE NAVILAWA CALDERA

DRILLED RESOURCE AREA COVERS LESS THAN 5% OF LICENSE AREA

TARGET-RICH ENVIRONMENT

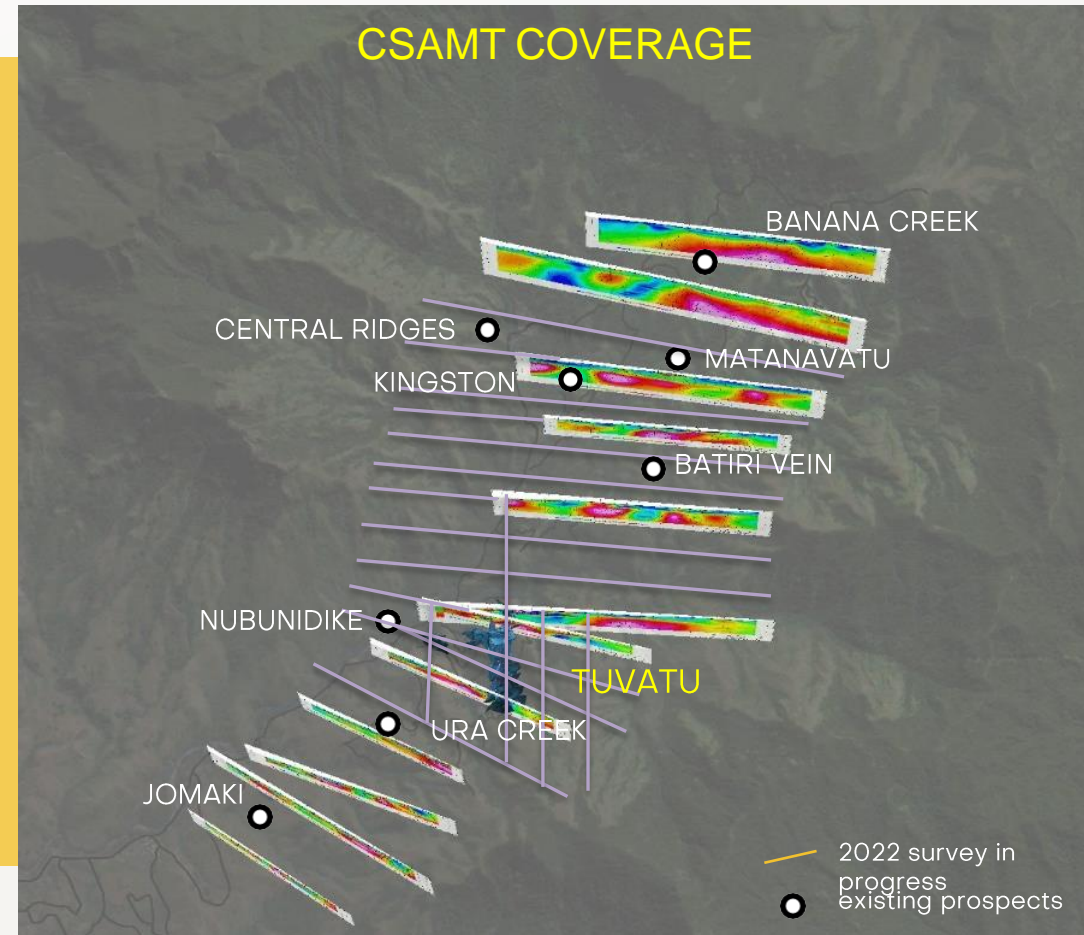


# Regional - CSAMT Geophysical Survey

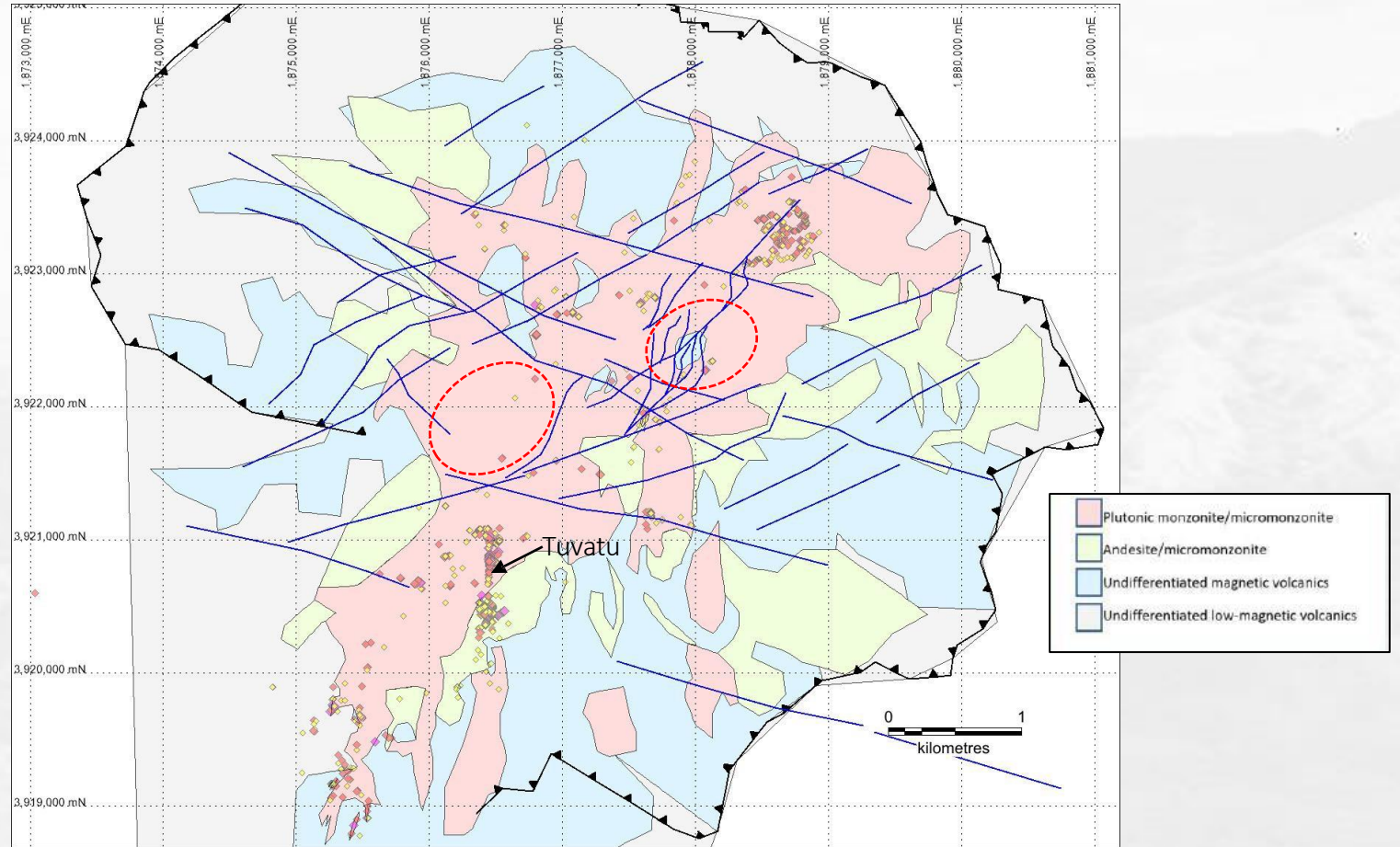
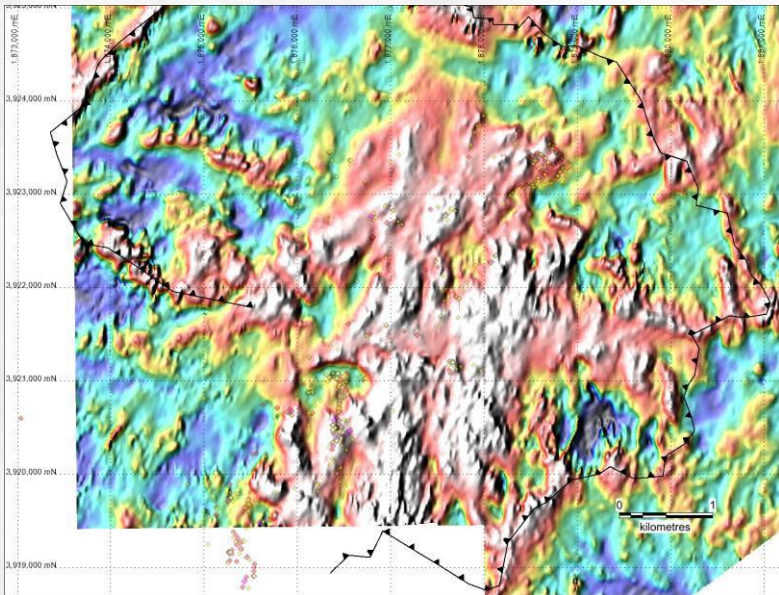
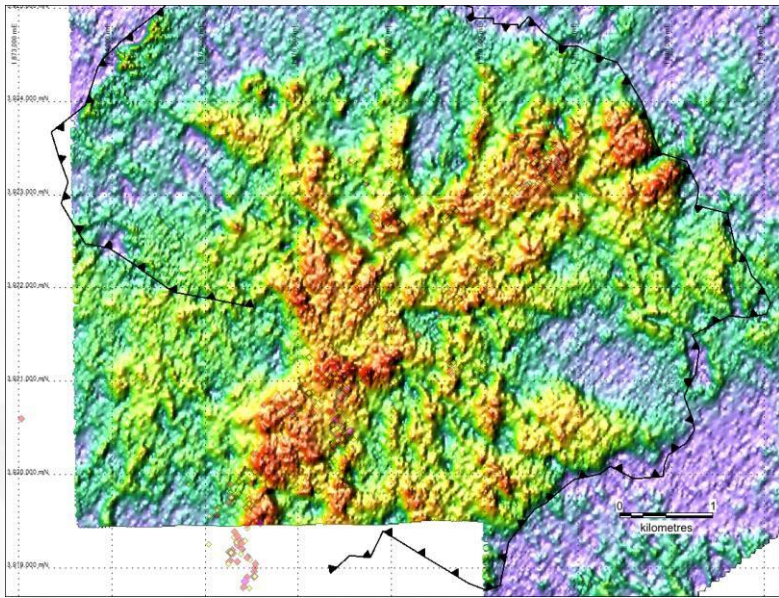
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TARGET-RICH ENVIRONMENT



# Regional – Geology & Target Generation



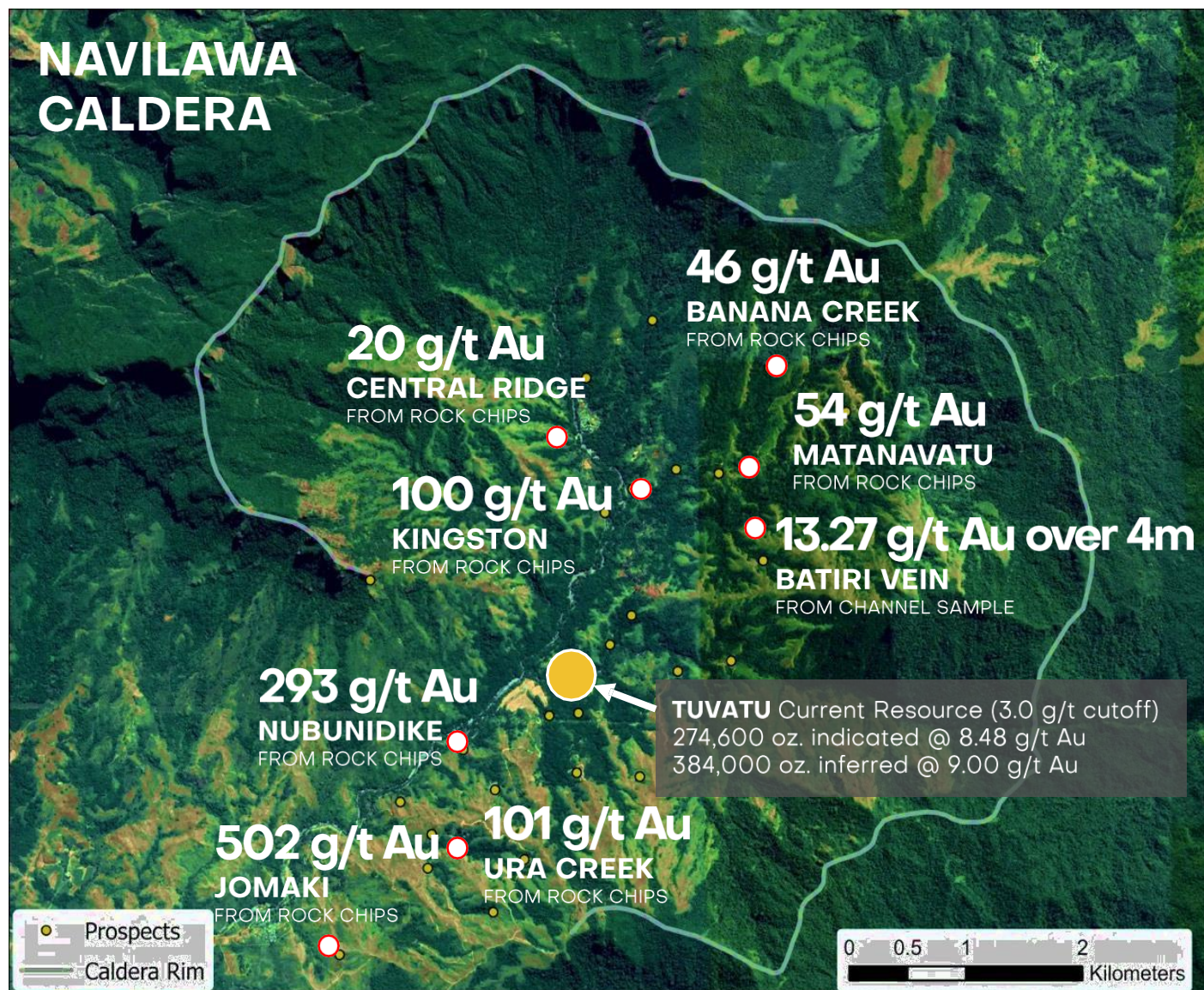
# Regional Upside

HIGH GRADE GOLD ANOMALIES ACROSS 7KM STRIKE IN NAVILAWA ALKALINE GOLD SYSTEM

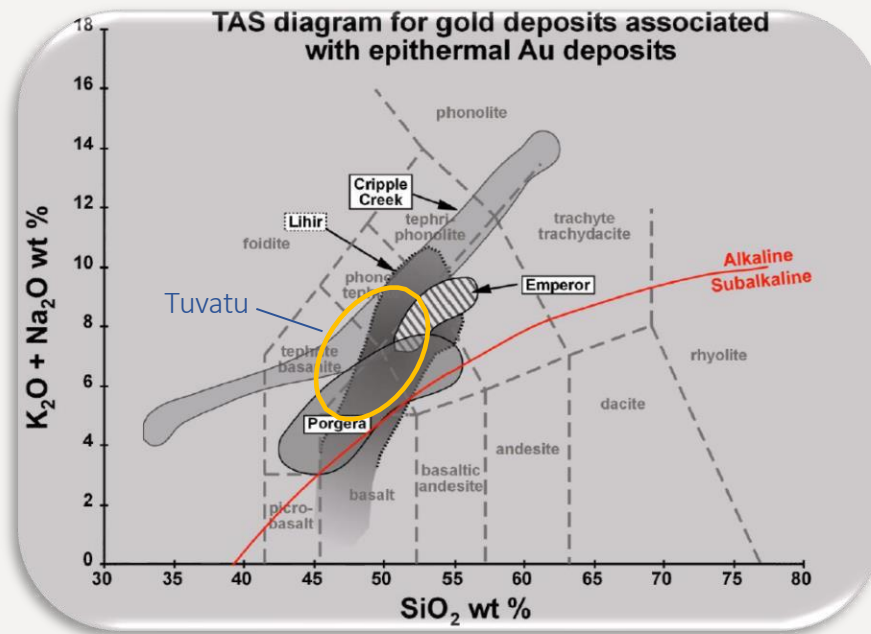
TUVATU DRILLING CONFIRMS VERTICAL PROFILE OF AT LEAST 1,200 METERS, OPEN TO DEPTH

CSAMT REVEALS STEEP STRUCTURAL GRADIENTS OVER 1.KM DEEP ACROSS ENTIRE 7KM STRIKE

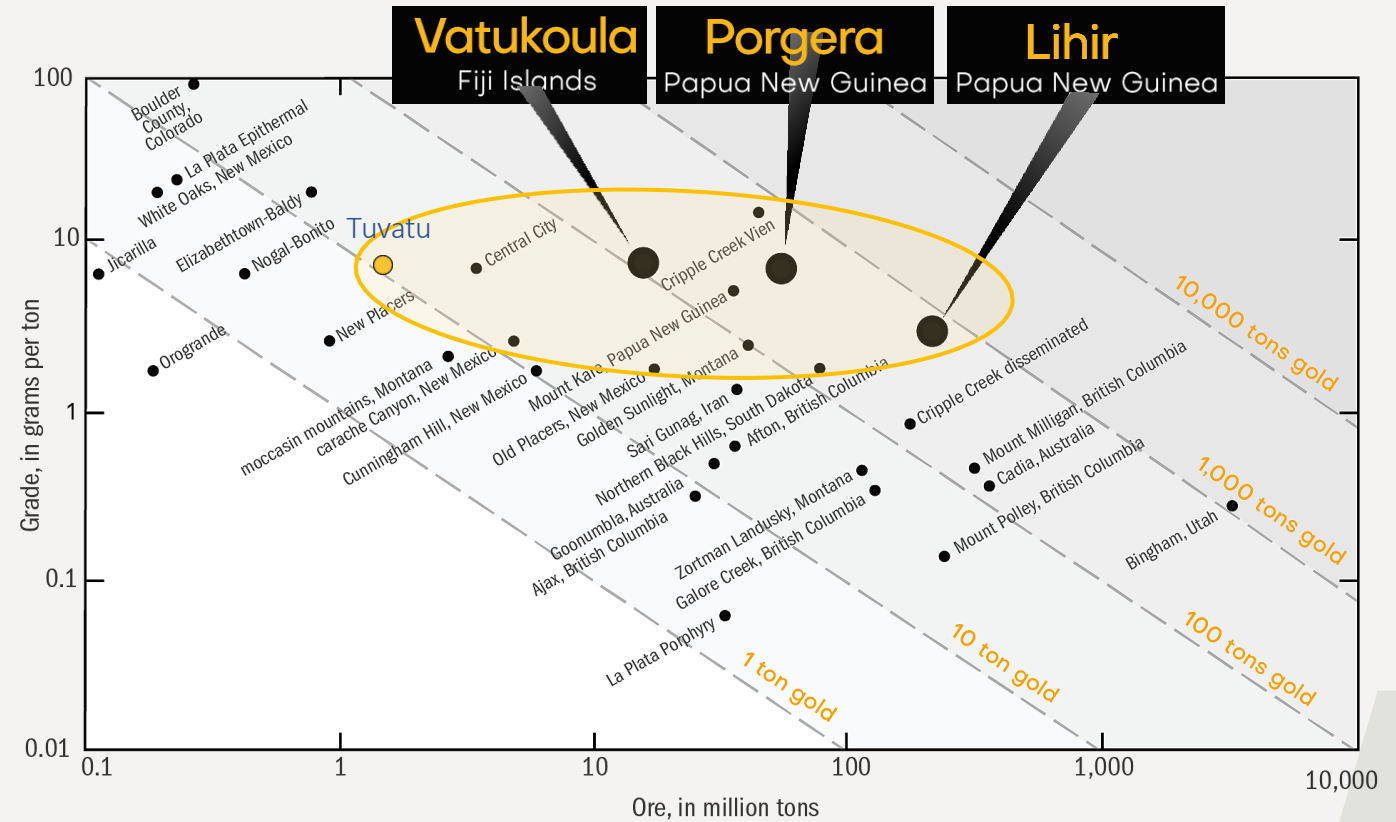
NEW OCCURRENCES BEING DISCOVERED



# Alkaline Gold Systems



modified from Jensen, E.P. and Barton, M.D. 2000 Gold Deposits Related to Alkaline Magmatism, SEG Reviews, v. 13, Chapter 8, pp. 279-314



**TUVATU Current Resource** (3.0 g/t cutoff)  
 1,007,000t at 8.48 g/t Au for 274,600 oz indicated  
 1,325,000t at 9.00 g/t Au for 384,000 oz inferred

- Small in Number
- Economically Significant
- Unusually Large
- Unusually High Grade

# Exploration Model

## Alkaline Gold Systems

### UNIQUE ATTRIBUTES

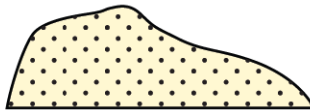
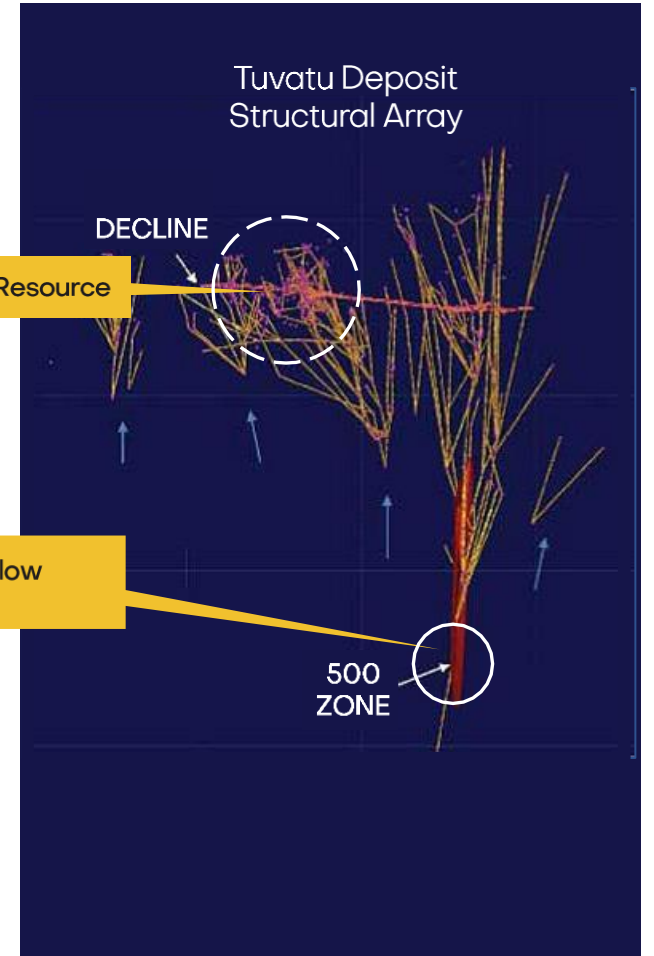
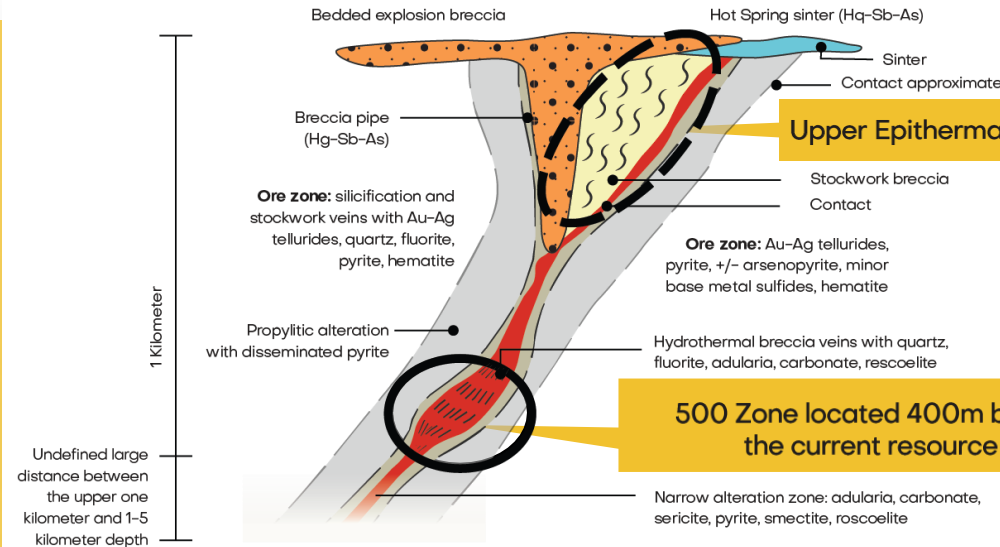
Deep, high grade gold endowments

Rare but economically significant

Favored by major mining companies

## Generalized Model

(after Bonham, 1986)



1-5 kilometer depth: alkalic porphyry stock (syenite to phonolite) with possible Cu-Au-Pt mineralization

### Alkalic-type Epithermal Gold Deposit

Generalized early model of an alkalic-type epithermal gold deposit (from Bonham, 1986). Note the depiction of possible alkalic-type porphyry deposits. (Ag, silver; As, Arsenic; Au, gold; Cu, copper; Hg, mercury; Pt, platinum; Sb, antimony)



# Similarities to Porgera



**TUG-141 at 492.5m 25.23 g/t Au**



**Porgera D Veins**

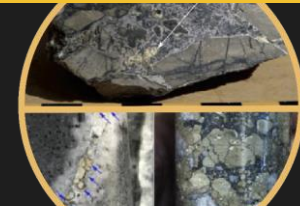
**RON STEWART, former CHIEF GEOLOGIST @ PORGERA GOLD MINE for PLACER DOME**

**CONCLUSION:** “ All of the geologic lines of evidence suggests Tuvatu and Porgera are related gold systems with remarkable geologic similarities ”

	<b>PORGERA</b>	<b>TUVATU / VATUKOULA</b>
<b>AGE</b>	5 Ma	5.4 – 4.6 Ma
<b>ALKALIC IGNEOUS ROCKS</b>	Silica-poor, K-rich, shoshonitic rootless Intrusive Complex	Shoshonites intruded by monzonite stocks
<b>TECTONIC/ GEOLOGICAL SETTING</b>	Island-arc continental crust, fold- thrust collision belt with deep seated crustal transform faulting	Central to a shoshonitic volcanic caldera controlled by NE trending structures
<b>GOLD HOST</b>	Electrum, Native, Pyrite, Tellurides	Electrum, Native, Pyrite, Tellurides
<b>MINERALIZATION STYLE/STRUCTURE</b>	Disseminated Au-Py-Pb-Zn with Au-Te epithermal overprint controlled by early conjugate array and later normal faults	Networks of Au-Te veins, stockworks and breccias funneling into a feeder structure(s) at depth
<b>METALLIC MINERALS</b>	Aspy, Cpy, electrum Gn, Hm, Native Au, Po, Py, Sp, Tt, tellurides	Bi, Gn, Hm, Mt, Native Au, Py, Sp, tellurides, Tt-Tn
<b>TRACE ELEMENT ASSOCIATION</b>	Au, Ag, Te, V	Au, Te, V

“LIO’s recent announcement of the discovery hole TUG-141: 20.86 g/t over 75.90m from 443.4m downhole into the 500 Zone is a major breakthrough and suggests a high likelihood that there is more to come based on the conclusive evidence in the geologic data”.

**PORGERA HIGH GRADE AU-TE-PY**



**TUVATU DRILL CORE AU-TE-PY**



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