

# NW Botswana: a mineral exploration target for Tsodilo Resources Ltd



Mike de Wit  
President

Investing in Mining  
London  
5 December 2011

## Important notice

*National Instrument 43-101 - Standards of Disclosure for Mineral Projects, Form 43-101F1 and Companion Policy 43-101CP requires that the following disclosure be made: All references contained herein with respect to the potential quantity and grade derived by any method is at this stage of development conceptual in nature. At the present time, there has been insufficient exploration to define a mineral resource and it is uncertain if further exploration will result in the target being delineated as a mineral resource.*

*This presentation contains forward-looking statements. All statements, other than statements of historical fact, that address activities, events or developments that the Company believes, expects or anticipates will or may occur in the future (including, without limitation, statements relating to the development of the Company's projects) are forward-looking statements. These forward-looking statements reflect the current expectations or beliefs of the Company based on information currently available to the Company. Forward-looking statements are subject to a number of risks and uncertainties that may cause the actual results of the Company to differ materially from those discussed in the forward-looking statements, and even if such actual results are realized or substantially realized, there can be no assurance that they will have the expected consequences to, or effects on the Company. Factors that could cause actual results or events to differ materially from current expectations include, among other things, changes in equity markets, political developments in Botswana and surrounding countries, changes to regulations affecting the Company's activities, uncertainties relating to the availability and costs of financing needed in the future, the uncertainties involved in interpreting exploration results and the other risks involved in the mineral exploration business. Any forward-looking statement speaks only as of the date on which it is made and, except as may be required by applicable securities laws, the Company disclaims any intent or obligation to update any forward-looking statement, whether as a result of new information, future events or results or otherwise. Although the Company believes that the assumptions inherent in the forward-looking statements are reasonable, forward-looking statements are not guarantees of future performance and accordingly undue reliance should not be put on such statements due to the inherent uncertainty therein.*

## Company Details

1995: **Trans Hex International** founded (subsidiary of Trans Hex Group)

2002: re-named **Tsodilo Resources Limited**

- Canadian Registered
- TSX listed 1995: TSX – V listed 2001
- 23,787,814 shares issued and outstanding
- 31,988,549 fully diluted common shares
- **Principal Shareholders** (beneficially owned or over which control or direction is exercised):
 

◇ Preston Trust	3,995,902	(16.80%)
◇ International Finance Corporation (World Bank)	2,702,702	(11.36%)
◇ David J. Cushing - Director	2,396,329	(10.07%)
◇ James M. Bruchs - Chairman and CEO	2,227,619	( 9.36%)
◇ Directors, Officers, Employees & Insiders	~2,000,000	( 8.48%)
- Market Capitalization \$24M USD

## **Experienced Board and Officers**

**James M. Bruchs, JD**

**Director, Chairman & CEO**

**David J. Cushing, JD**

**Director**

**Dr. Mike de Wit, PhD (Geology)**

**Director, President & COO**

**Dr. Murray W. Hitzman, PhD (Geology)**

**Director**

**Jonathan R. Kelafant, BSc, MSc (Geology)**

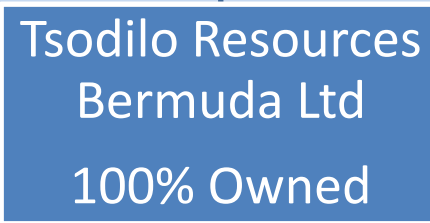
**Director**

**Patrick C. McGinley, JD**

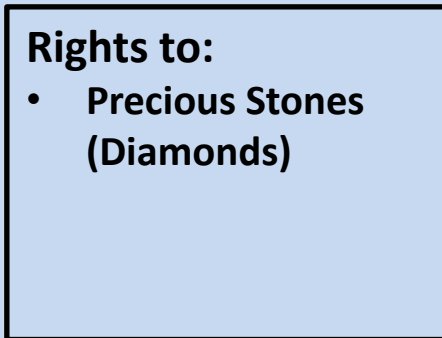
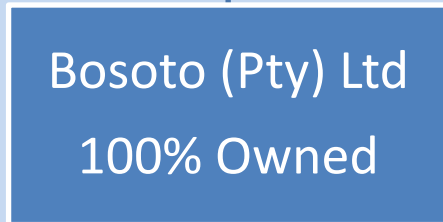
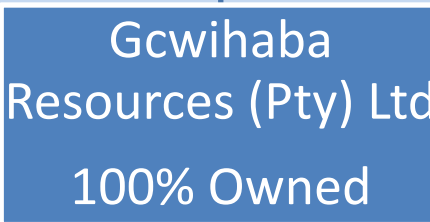
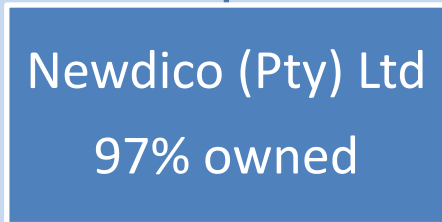
**Director**

# Corporate structure

TSX-V Listed

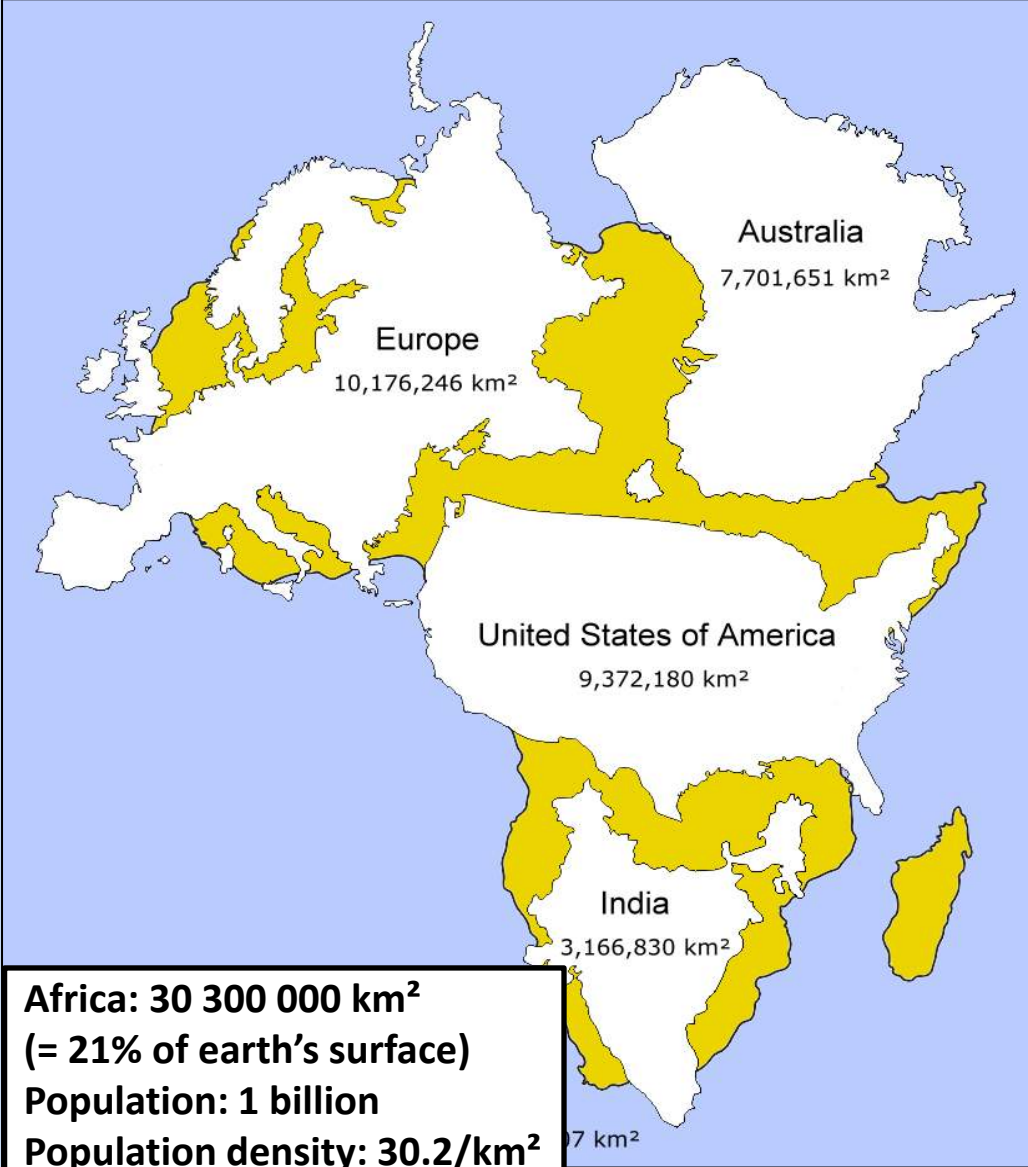


Botswana  
Operating  
Companies





# Botswana



**Africa: 30 300 000 km<sup>2</sup>**  
 (= 21% of earth's surface)  
**Population: 1 billion**  
**Population density: 30.2/km<sup>2</sup>**



**Botswana**

**Botswana: 600 000 km<sup>2</sup>**  
 (France: 550 000 km<sup>2</sup>)  
**Population: 1.9 million**  
**Population density: 3.2km<sup>2</sup>**

# Why Botswana?

Known as the “Switzerland of Africa”

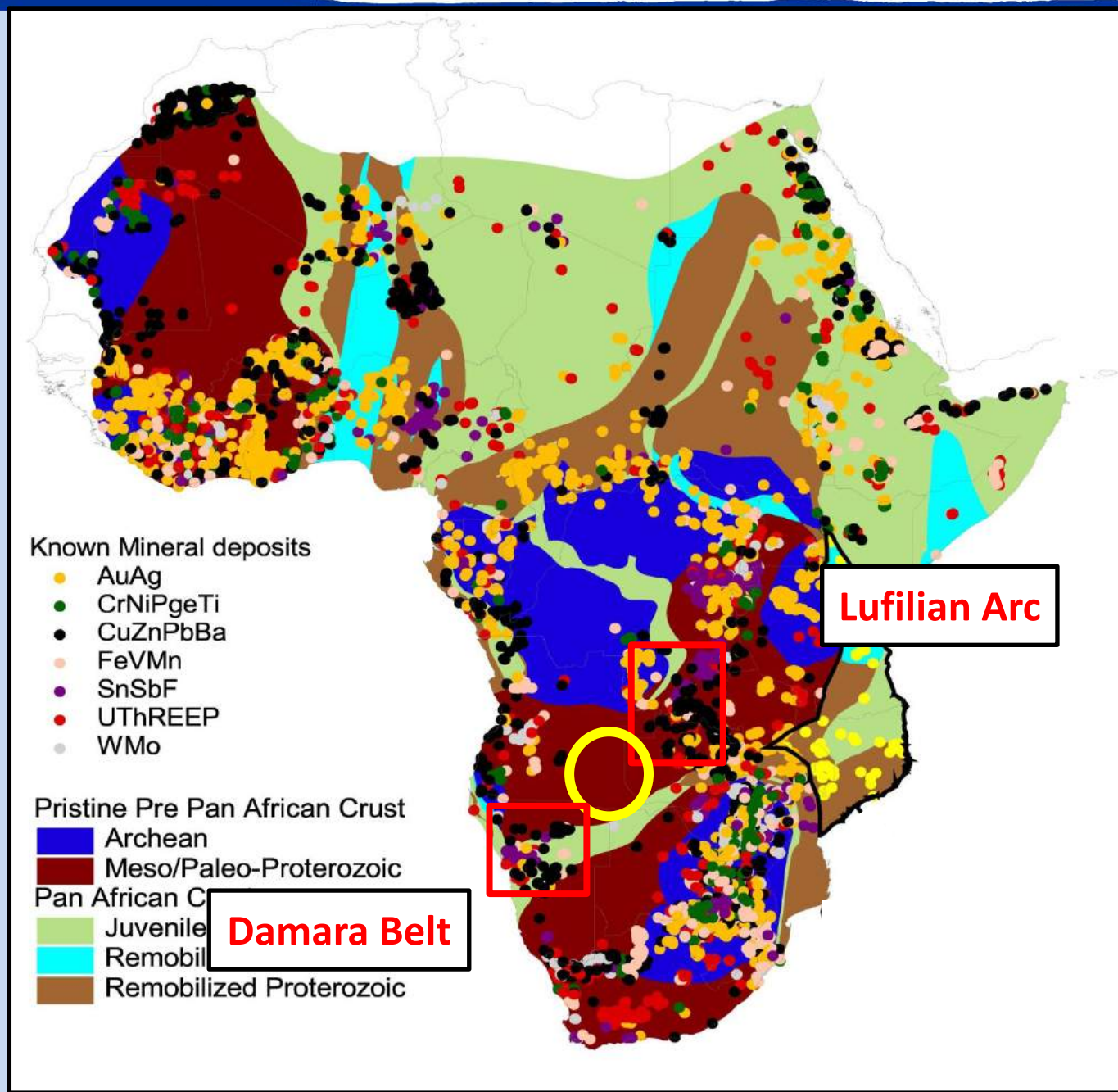
- **3rd best resource country** for exploration in world after Australia and Canada (Resource Stocks 2009).
- **Country credit rating is better than most** (if not on par with) developed nations.
- **Least Corrupt country in Africa:** Ranking greater than most EU countries.
- **Mining Culture:** Botswana is the largest producer of diamonds by value and carats in the world
- **De Beers largest operation** is in Botswana: Debswana 50/50 JV with the government
- Major exploration drive for **Coal, Uranium, Au, Cu/Ag, Diamonds.**
- Good infrastructure and well organised **Department of Mines/Geological Survey**



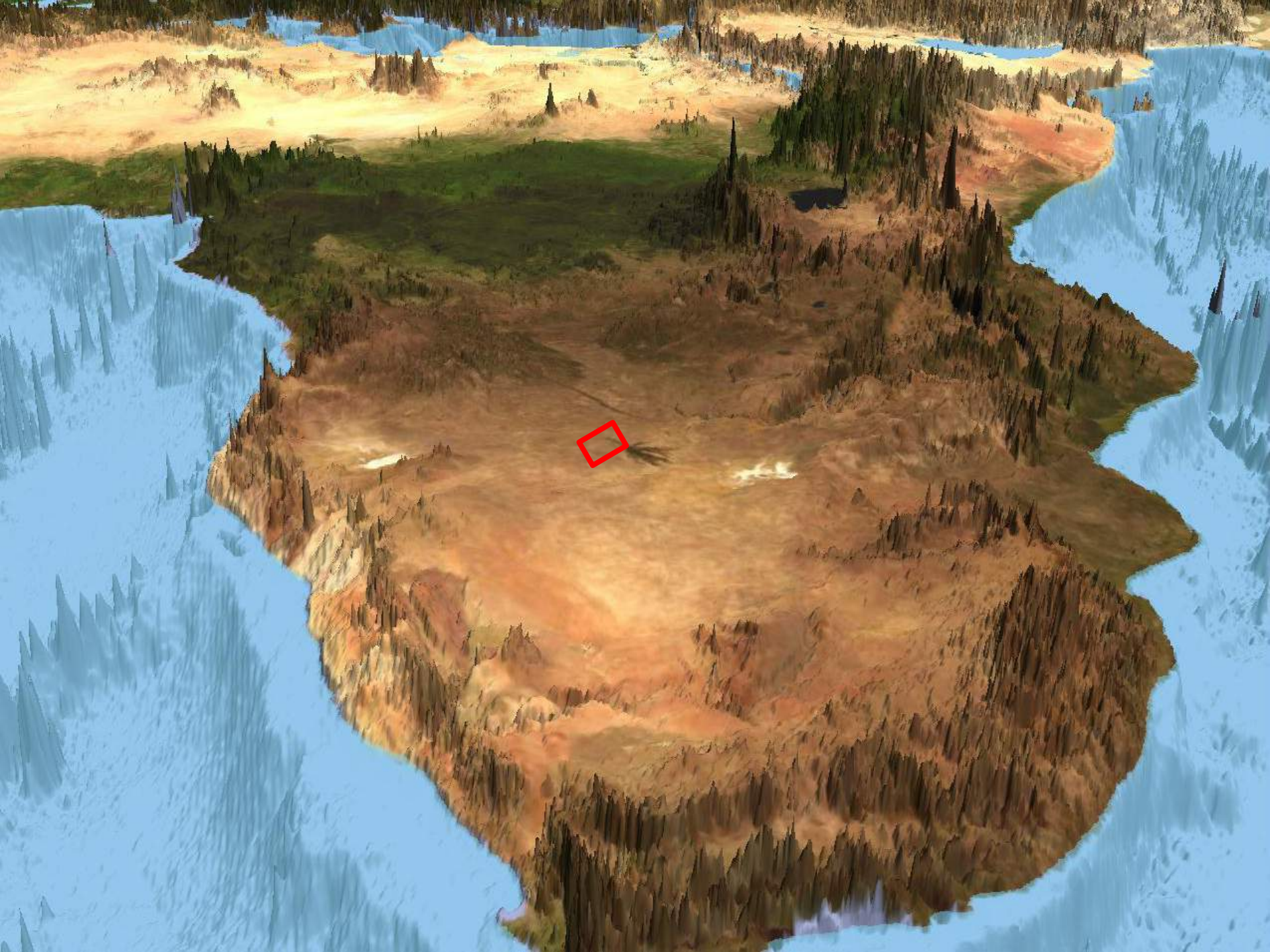
**Tsodilo** focused on specific exploration locality:

<input type="checkbox"/>	Diamond Exploration	7,318 km <sup>2</sup>
<input type="checkbox"/>	Precious & Base Metals, REE	12,118 km <sup>2</sup>
<input type="checkbox"/>	Uranium	7,000 km <sup>2</sup>

# African Mineral Deposits (AEON)







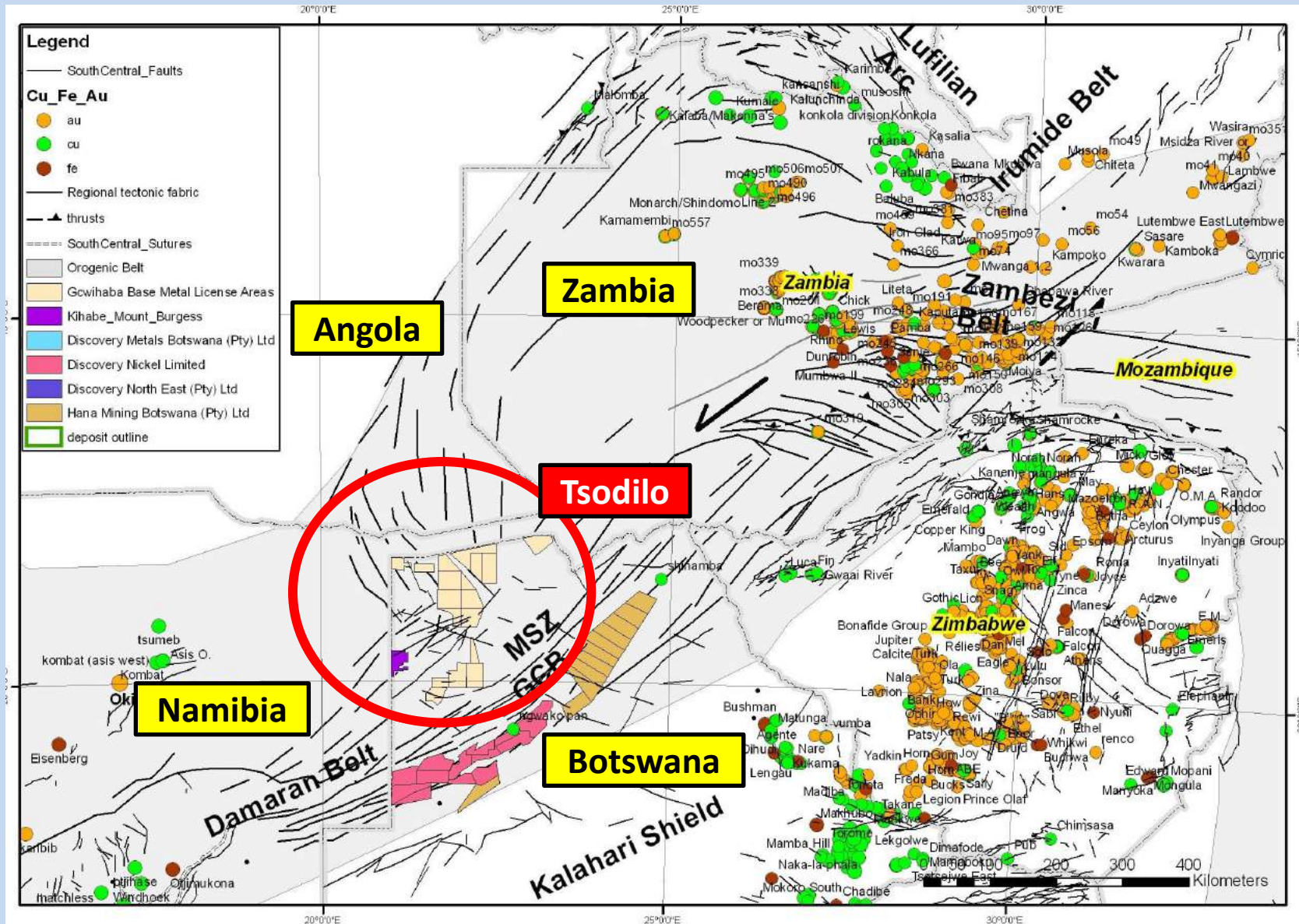




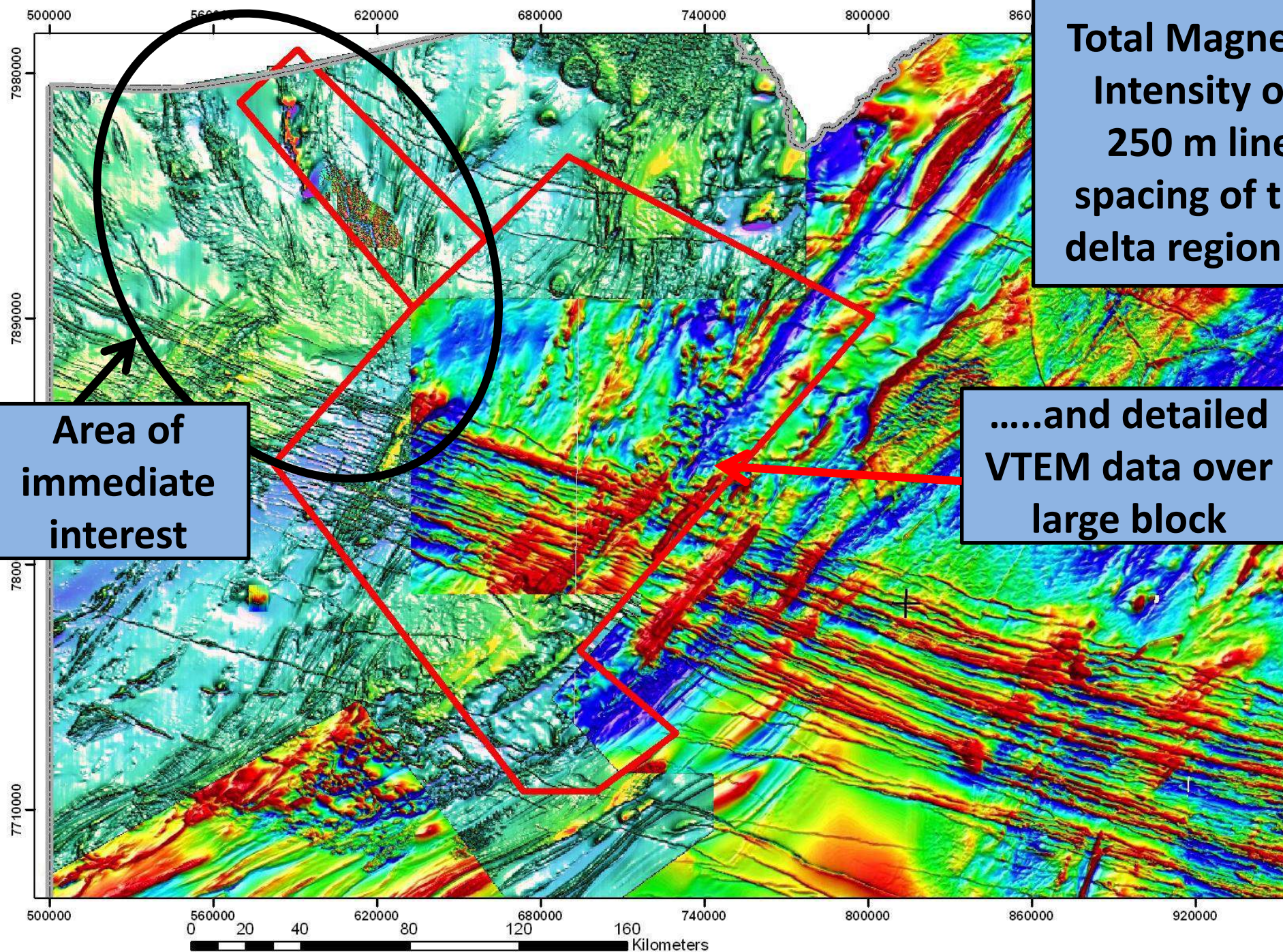
**Kalahari Cover 30 to 60m**



# Base Metal Permits in Regional Context



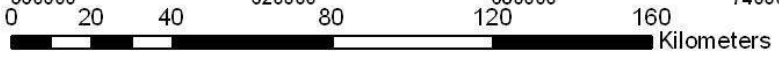




**Total Magnet Intensity on 250 m line spacing of the delta region.**

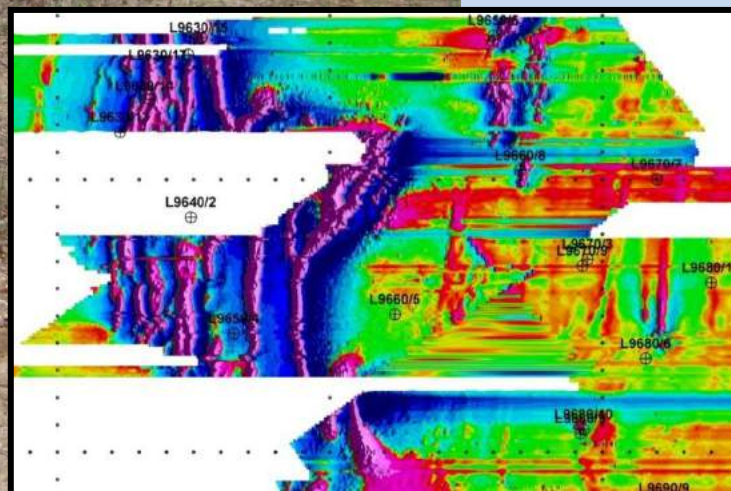
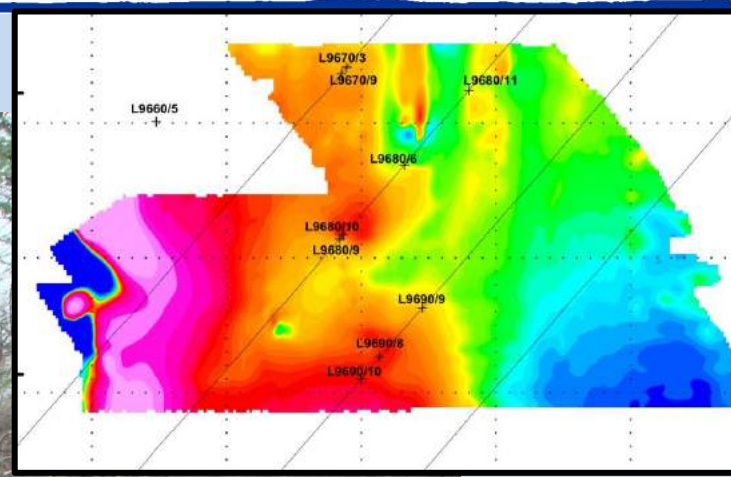
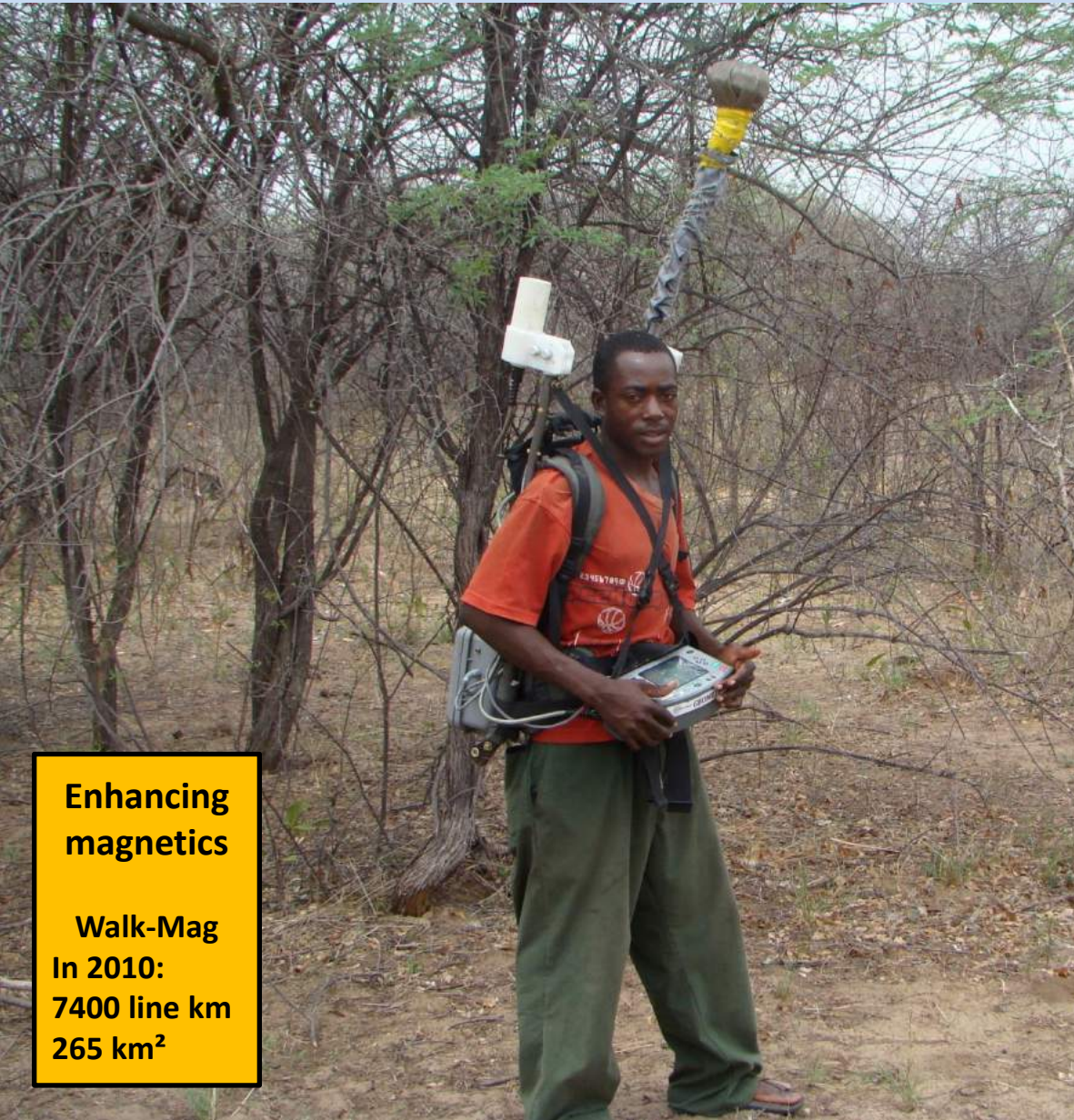
**Area of immediate interest**

**.....and detailed VTEM data over large block**





# People and equipment



Enhancing  
magnetics

Walk-Mag  
In 2010:  
7400 line km  
265 km<sup>2</sup>



## People and equipment

Dedicated staff....  
....means great core  
recoveries!

Company owns 2 fully-supported  
6x6 diamond drill rigs



# Maun Base and core shed



**19 350 m core  
in 2228 core boxes**



## Ngamiland projects

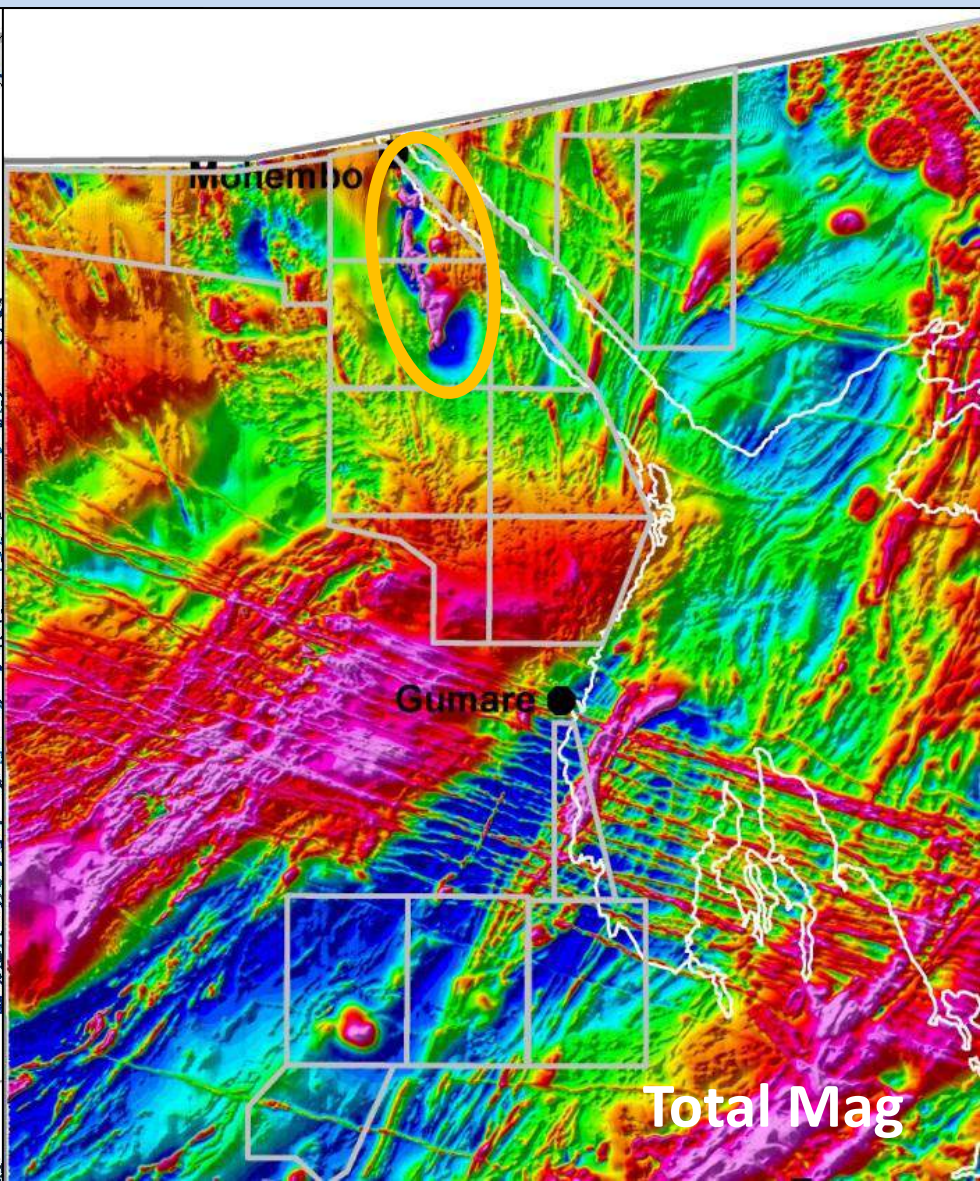
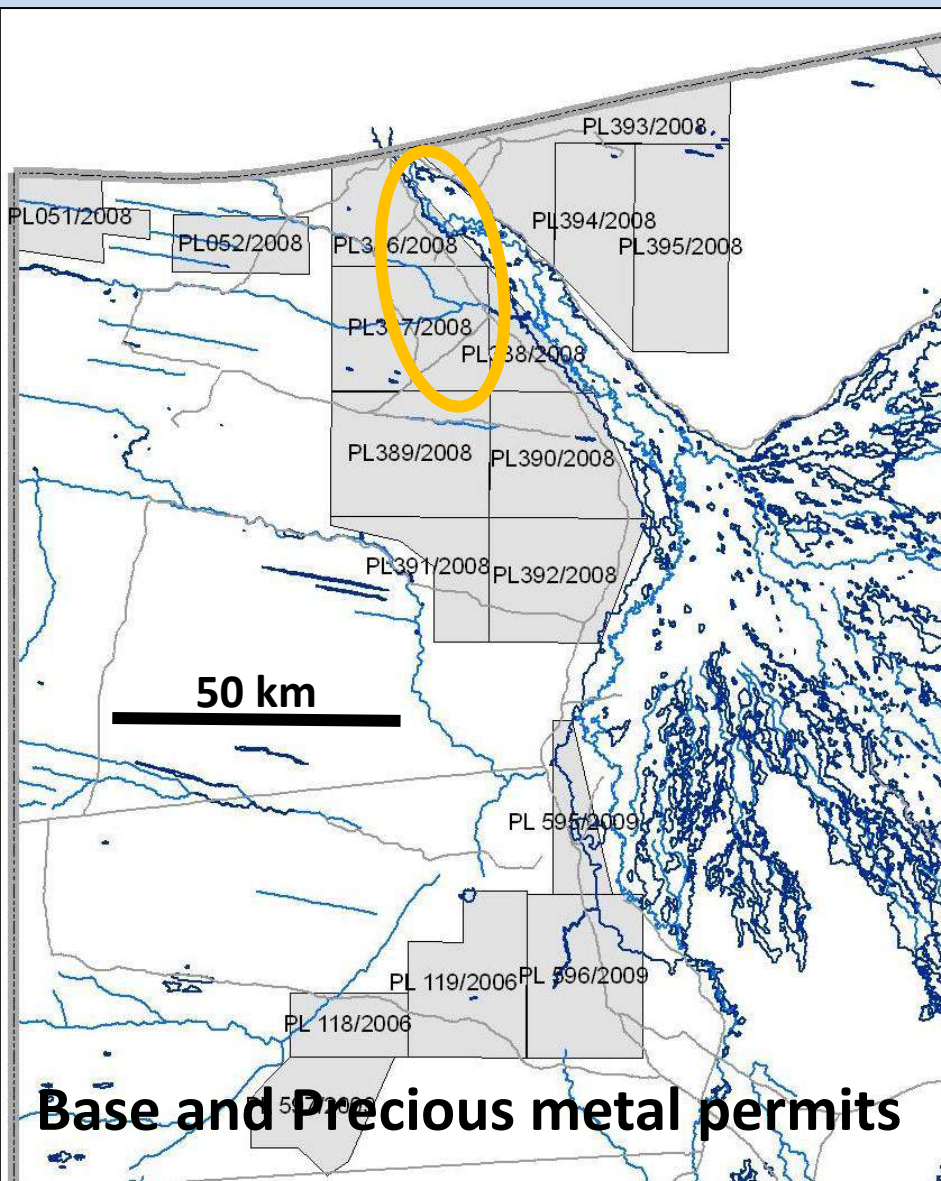
<b>Project Base &amp; Precious metals</b>	<b>Geology</b>	<b>Major</b>	<b>Minor</b>
Xaudum BIF Magnetic Deposit	BIF Magnetite	Fe	Co, Ag, Au
Sepupa project	Skarn complex: IOCG?	Cu	Au, Ni
Central Shale Belt	Sedimentary copper	Cu	Co

<b>Project Diamonds</b>	<b>Geology</b>	<b>Major</b>
Nxau Nxau cluster	Kimberlite	Diamonds
NW Ngamiland anomalies	Kimberlite	Diamonds

<b>Project Uranium</b>	<b>Geology</b>	<b>Major</b>
Primary source	Granites	U
Secondary meta-sediments	Meta-pelites in shale basin	U
Secondary duricrusts	Valley calcretes	U



# Xaudum BIF Magnetic deposit

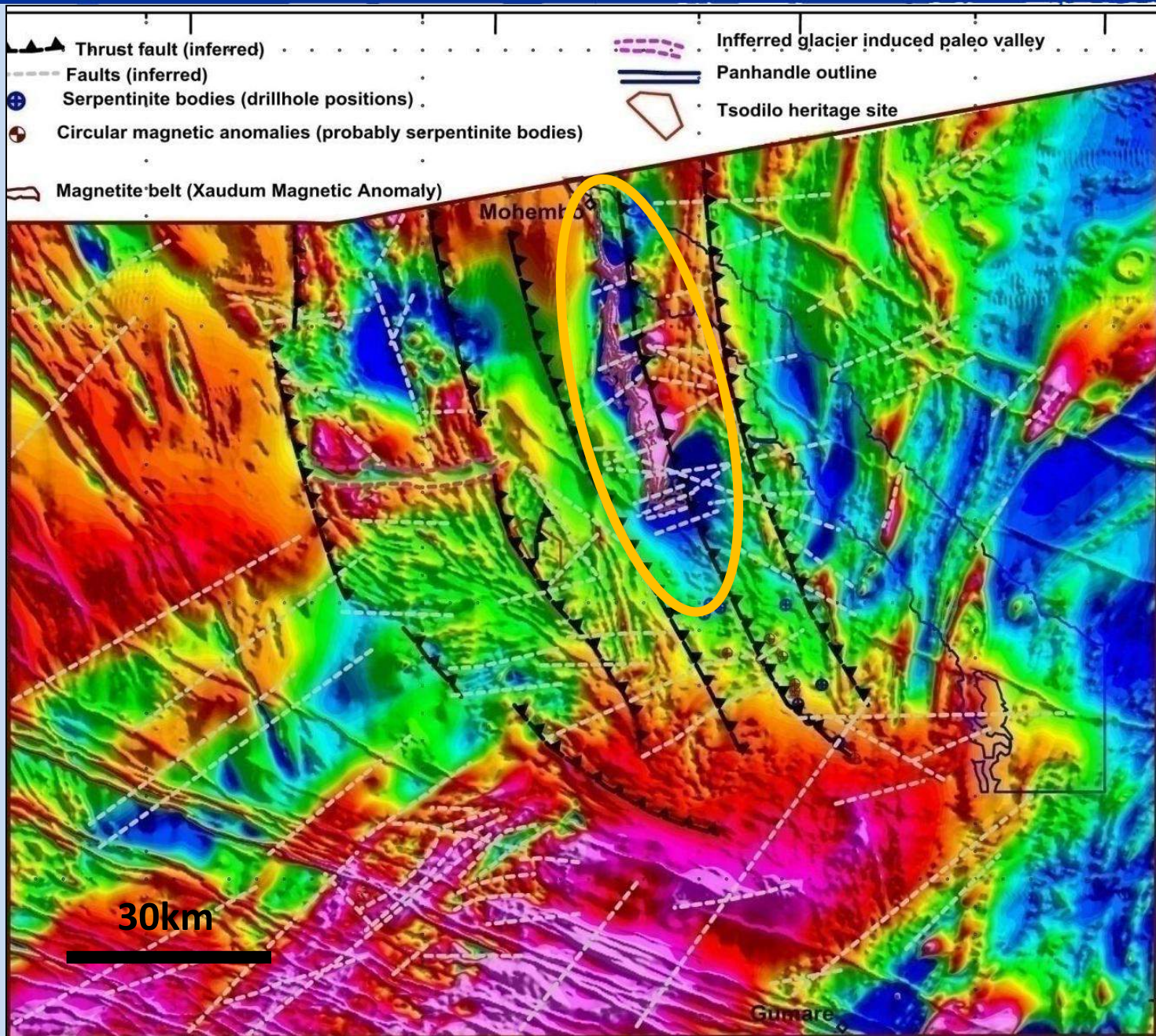




# Xaudum BIF Magnetite deposit

Structural  
interpretation

Major Thrusts





## Banded Magnetite at Shakawe quarry



Analysis from Gossan in quarry with  
handheld XRF-Unit reported:

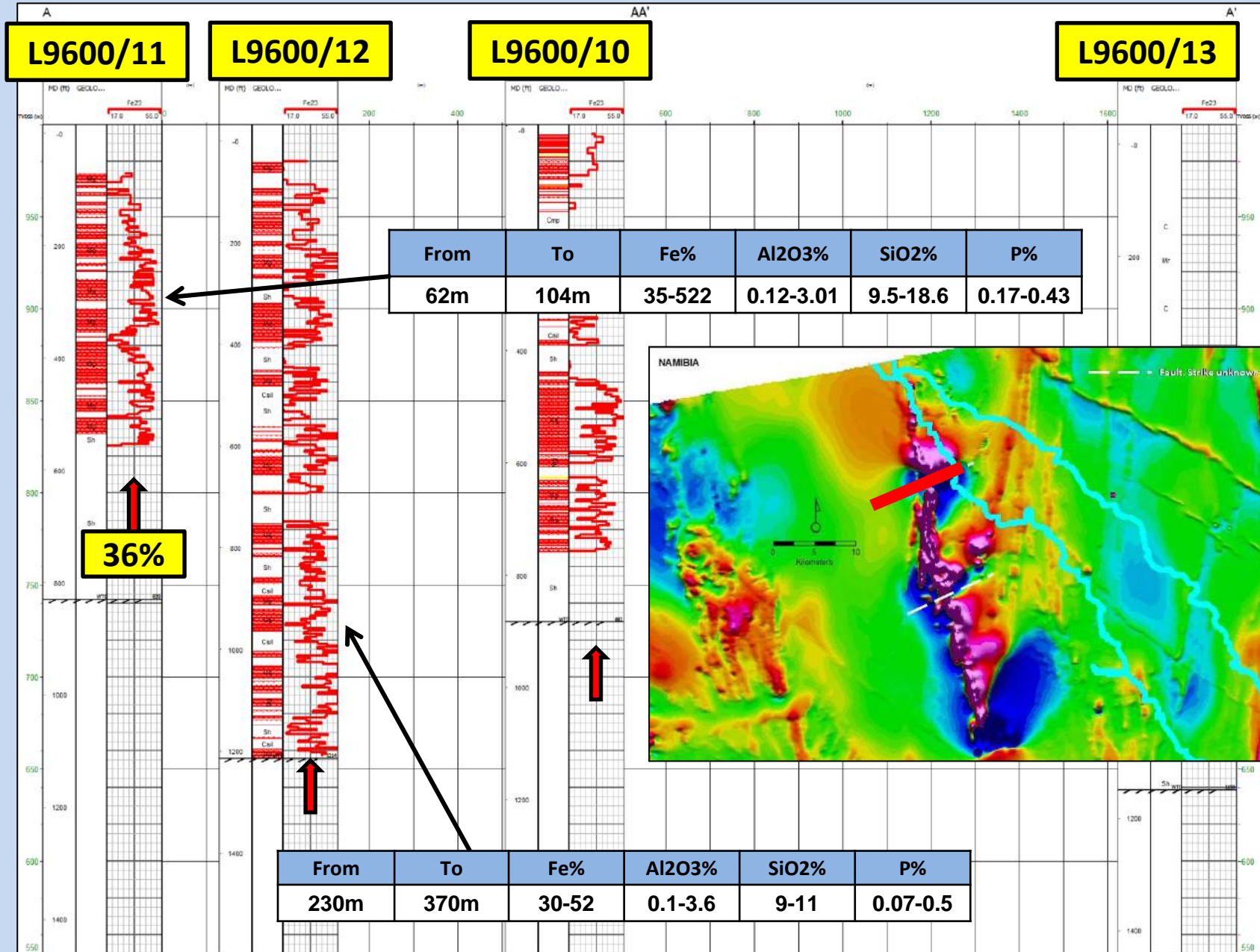
49 % Fe  
0.56 % Co  
0.06 % Mo



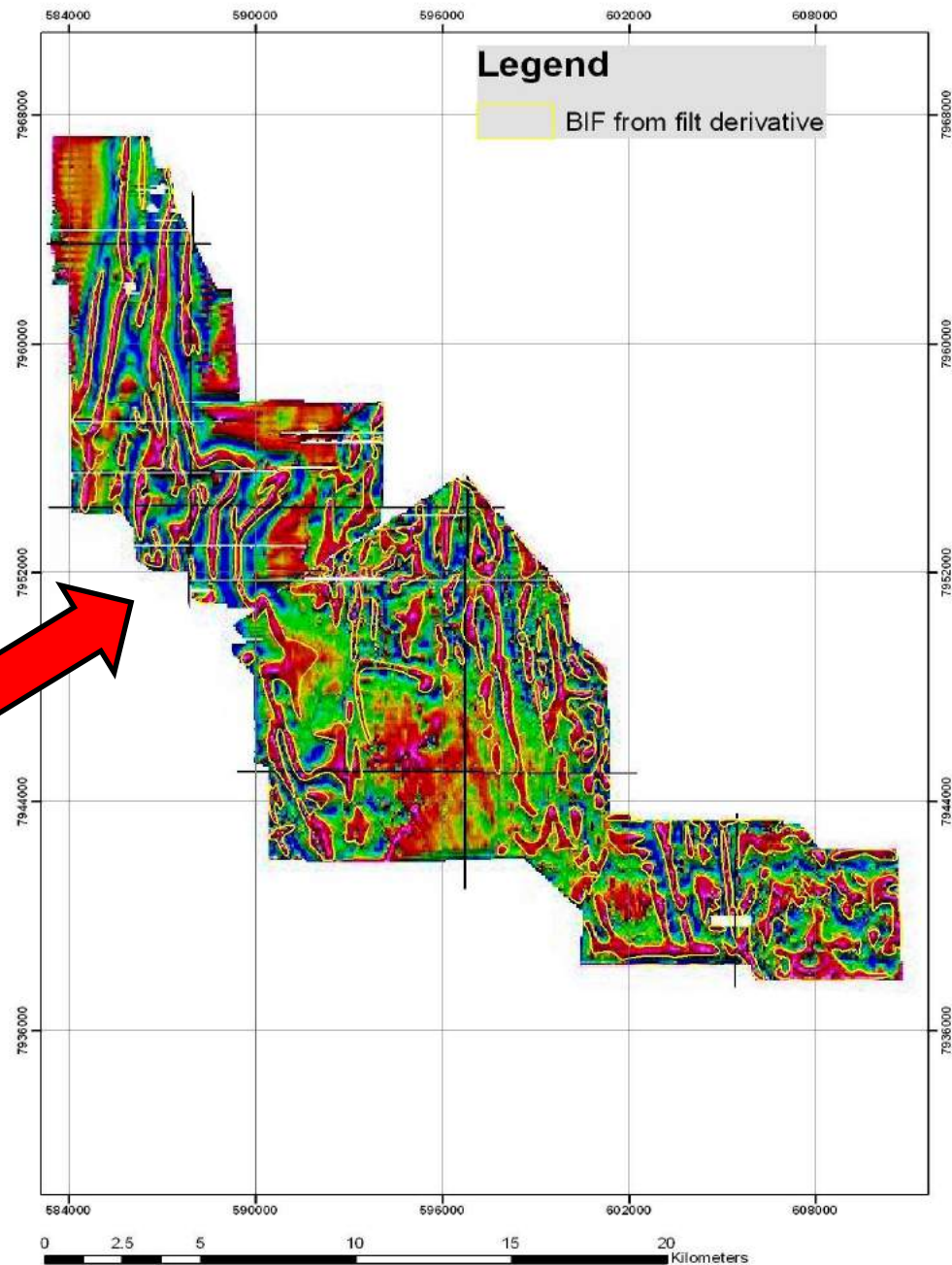
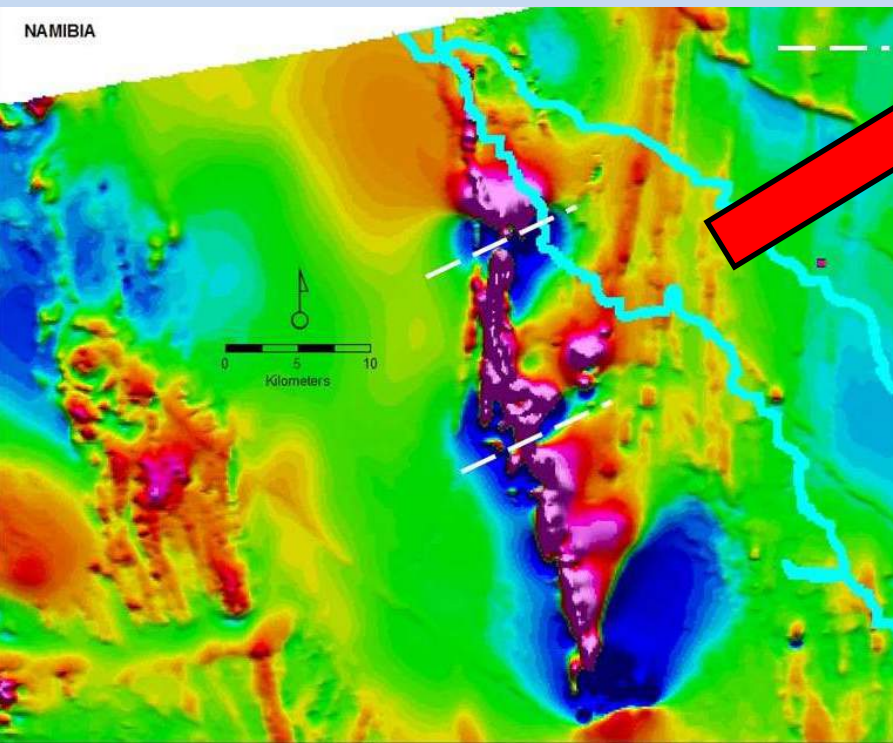
# Interbedded Banded Magnetite & diamictites





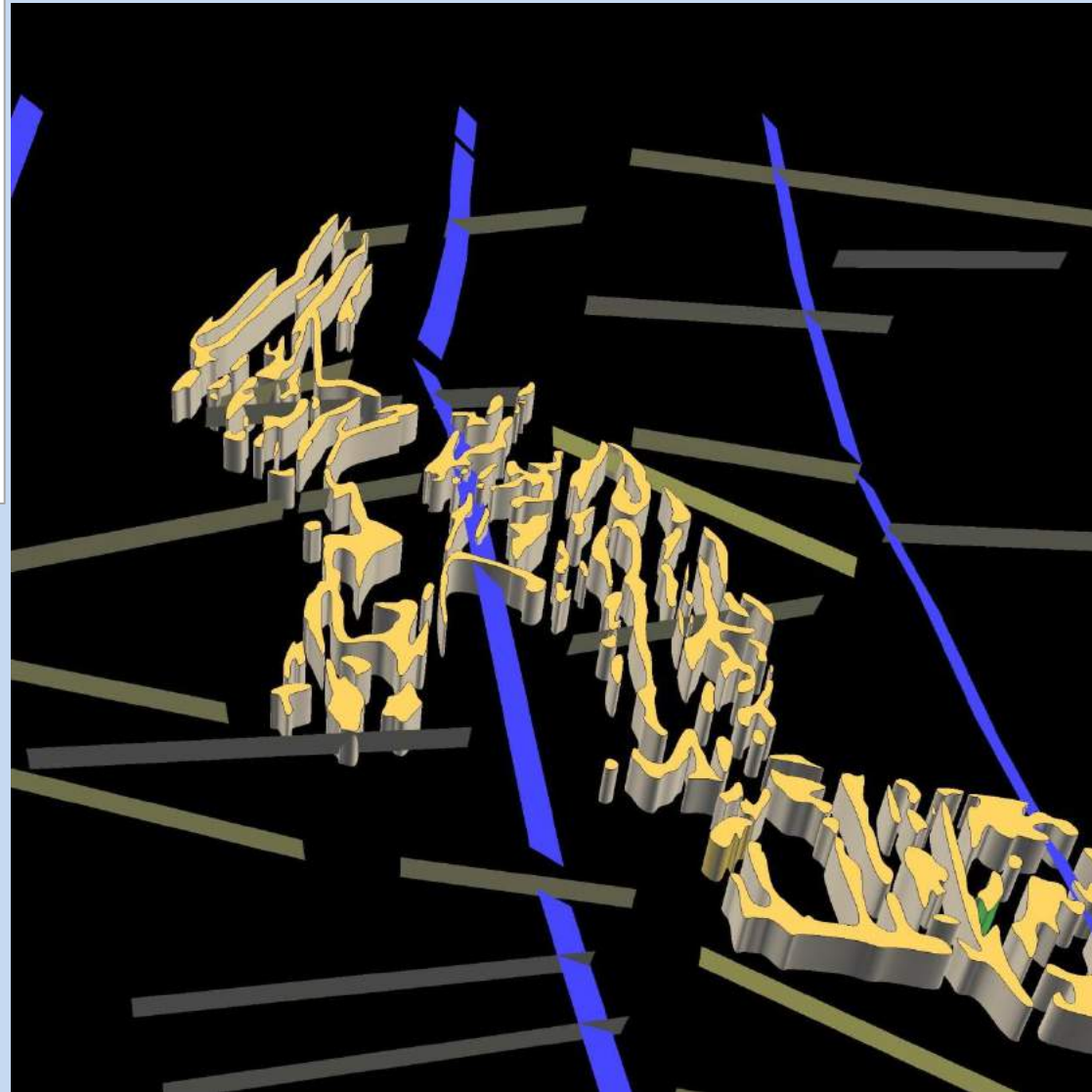
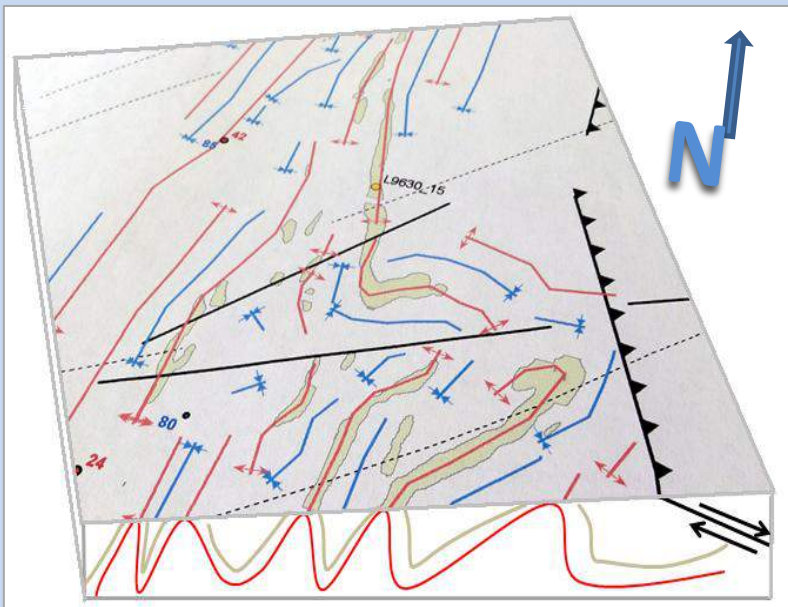


# BIF from re-sampled tilt derivative



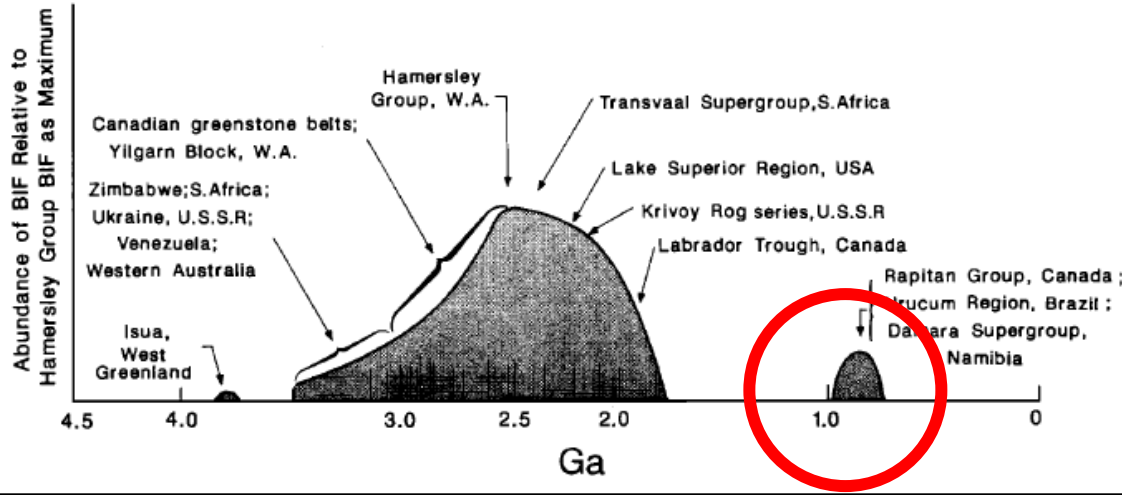


From a Block model.....

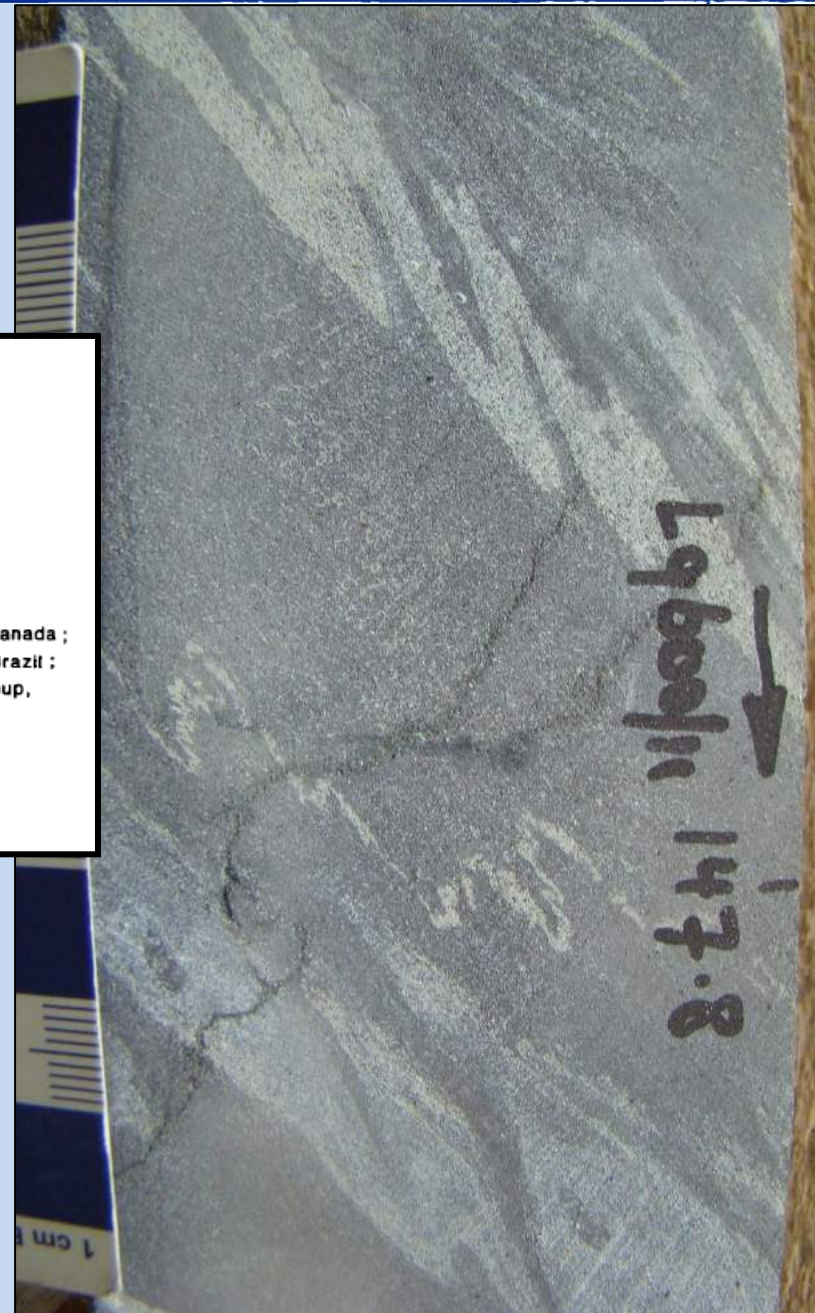


.....to a 3-D model  
of the Xaudum  
Magnetite deposit

# Xaudum *Rapitan* Iron Deposit

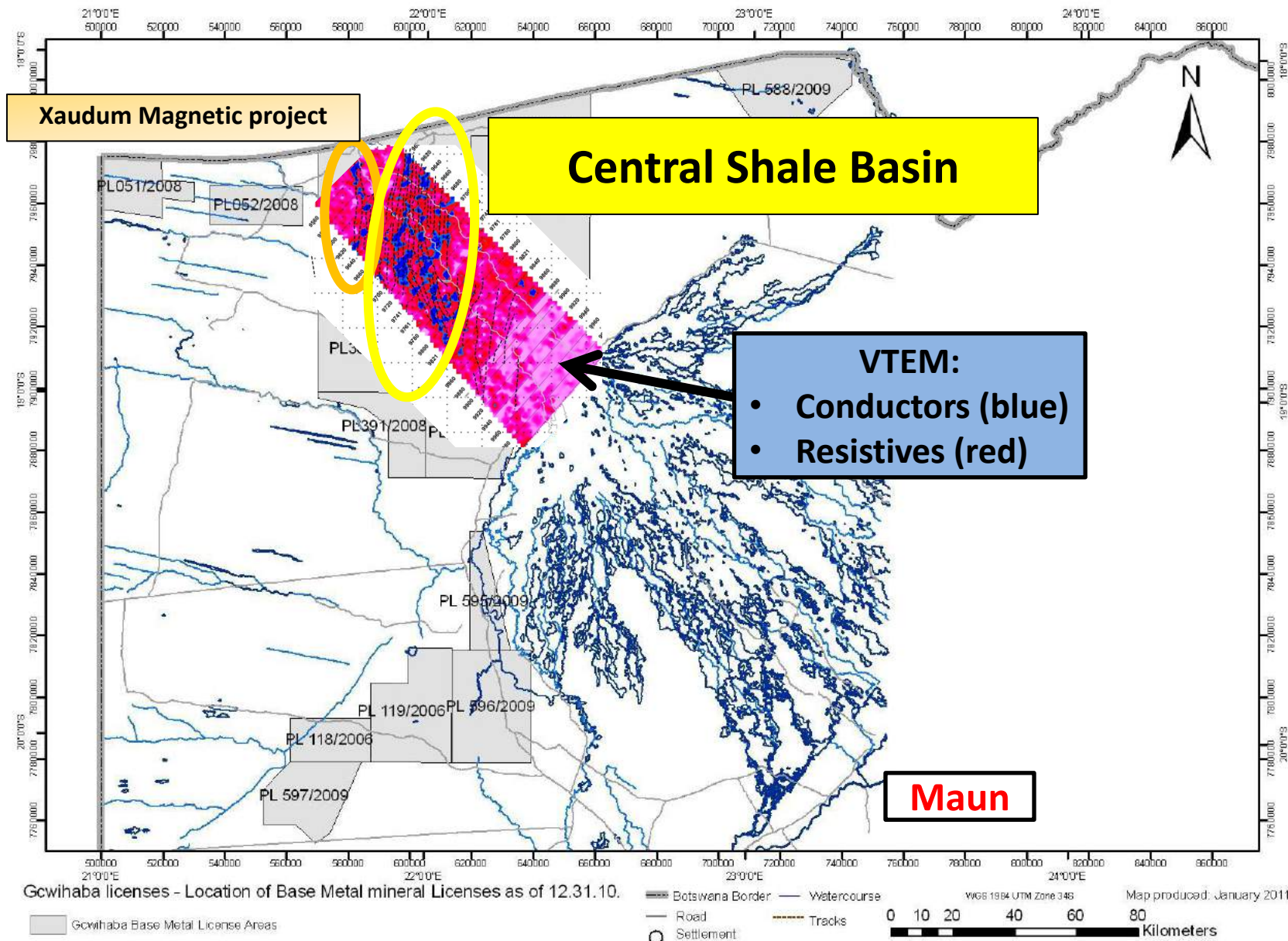


After Klein & Beukes 1993

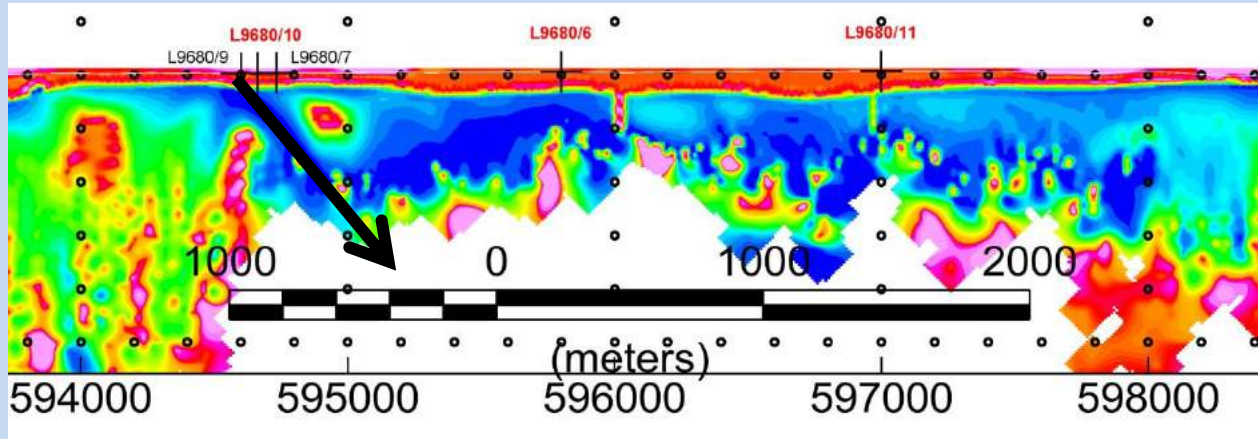




# Base and Precious metal permits



# Examples of drilling in Central Shale Belt



## Mineralised graphitic black shales & metapelites.

Hole L9680/10



carbonates

Pyrrhotite



Quartz vein

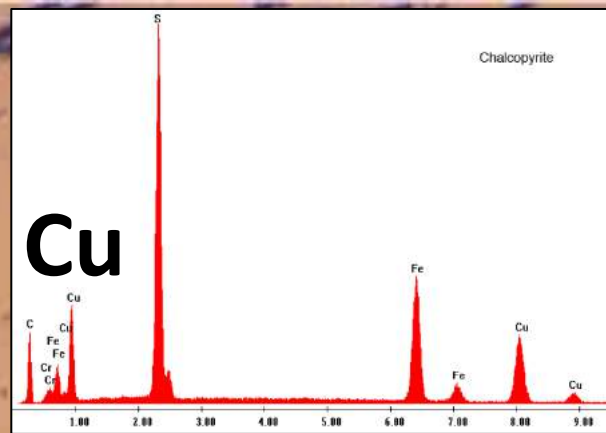


Massive Pyrrhotite

Fine pyrrhotite laminations



0.2 mm



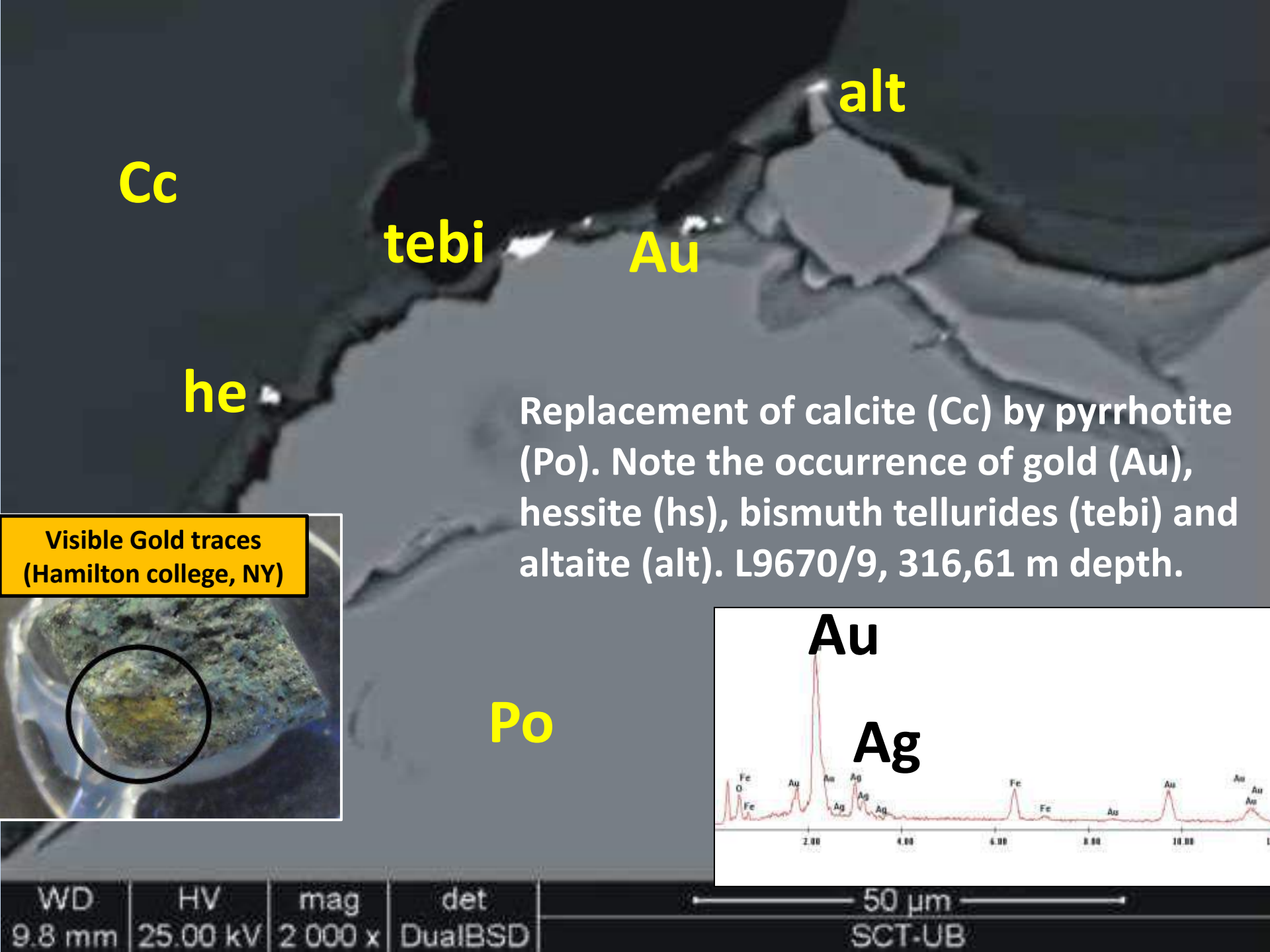
po

cpy

py

Pyrite (py) replacing pyrrhotite (po).  
Chalcopyrite (cpy) is also in the  
association. Plane-polarized reflected light.  
Sample A (9670/9, 229 m).





Cc

tebi

Au

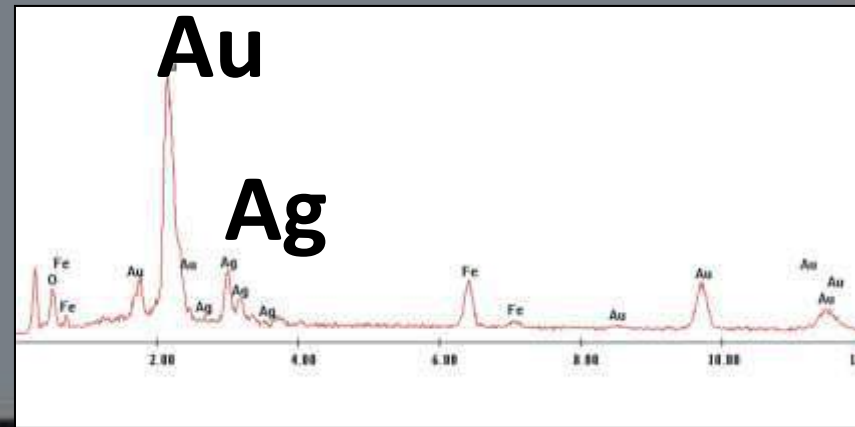
alt

he

Po

Replacement of calcite (Cc) by pyrrhotite (Po). Note the occurrence of gold (Au), hessite (hs), bismuth tellurides (tebi) and altaite (alt). L9670/9, 316,61 m depth.

Visible Gold traces  
(Hamilton college, NY)

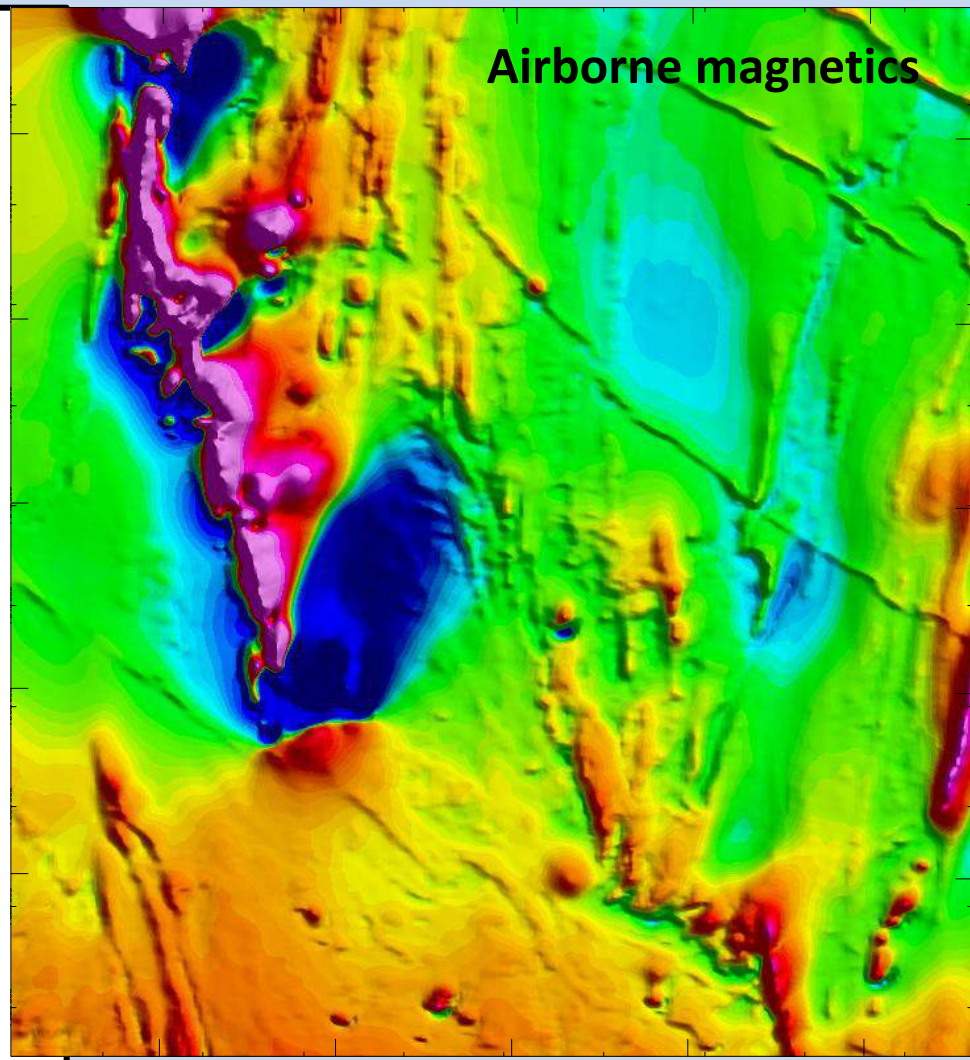
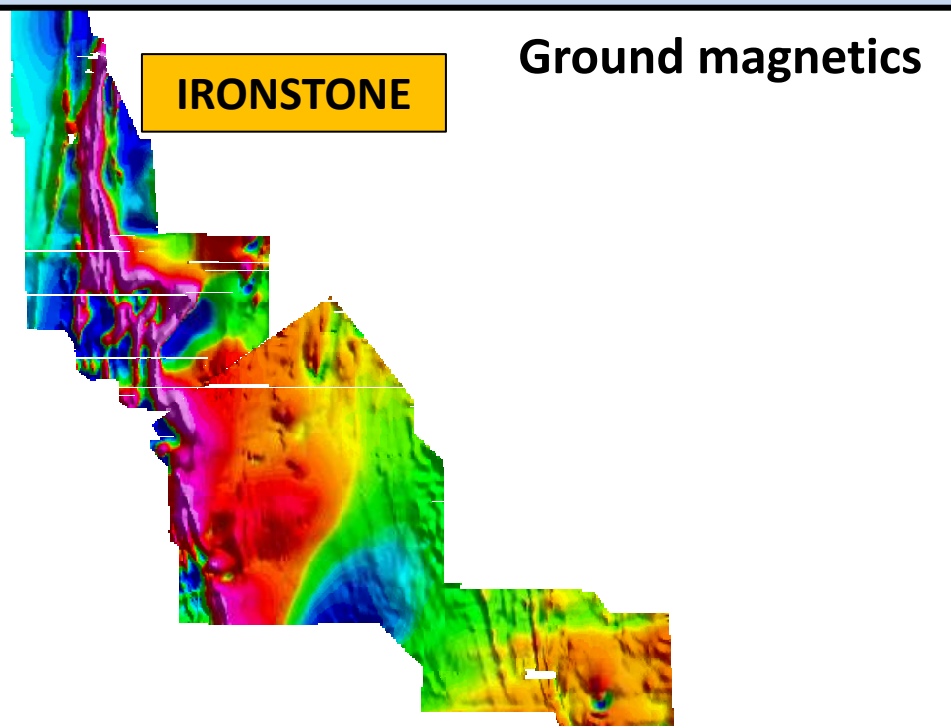


50 µm

SCT-UB

WD	HV	mag	det
9.8 mm	25.00 kV	2 000 x	DualBSD

# Airborne vs Ground Magnetics



10 km

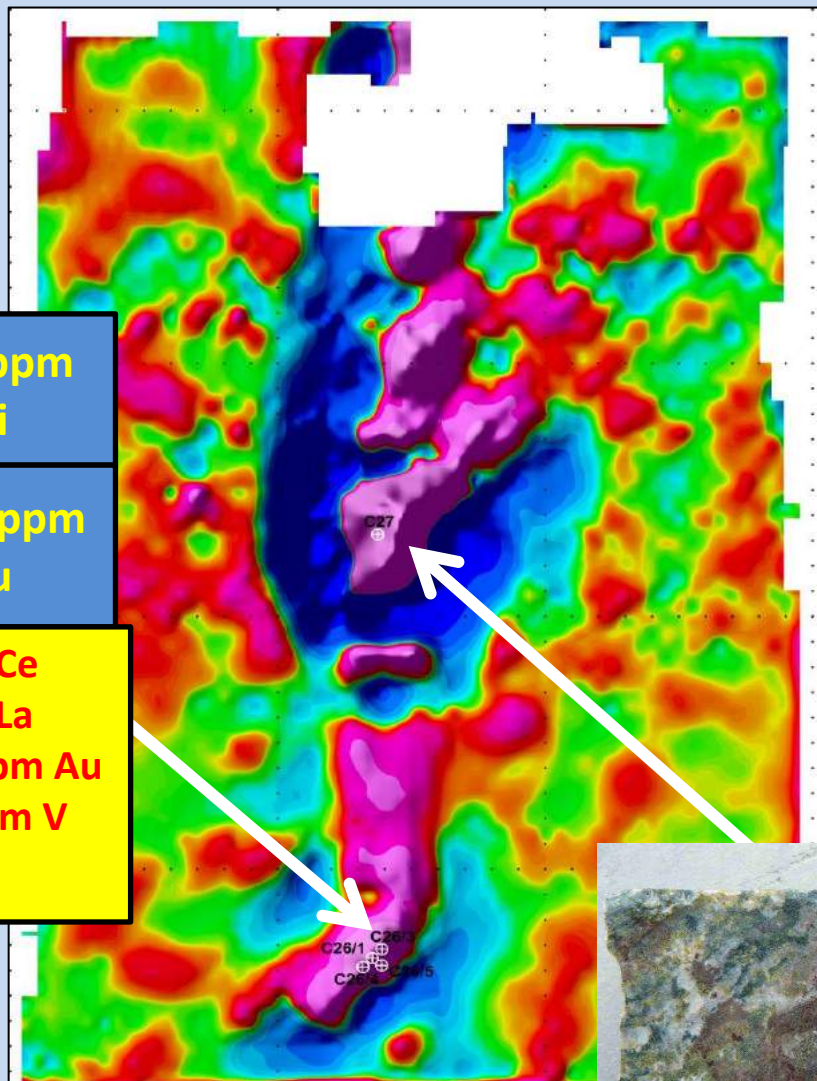
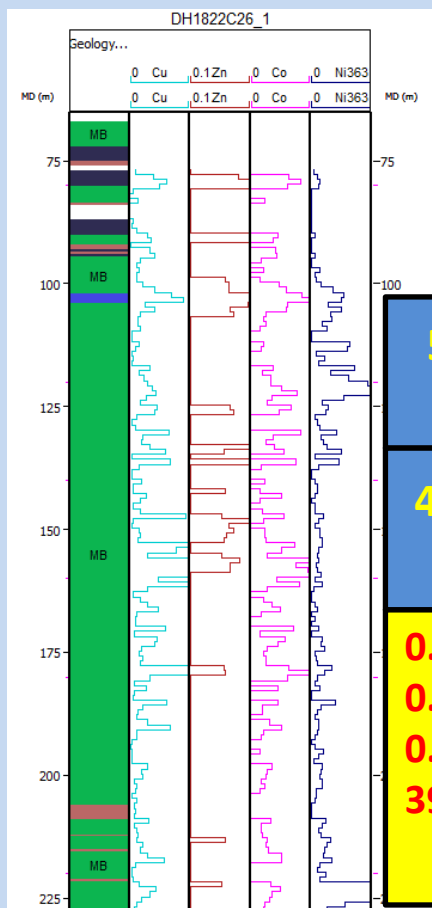
**1822C26 &  
1822C27**



# Skarn deposits

1822C26

1822C27



**564 ppm Ni**

**4073 ppm Cu**

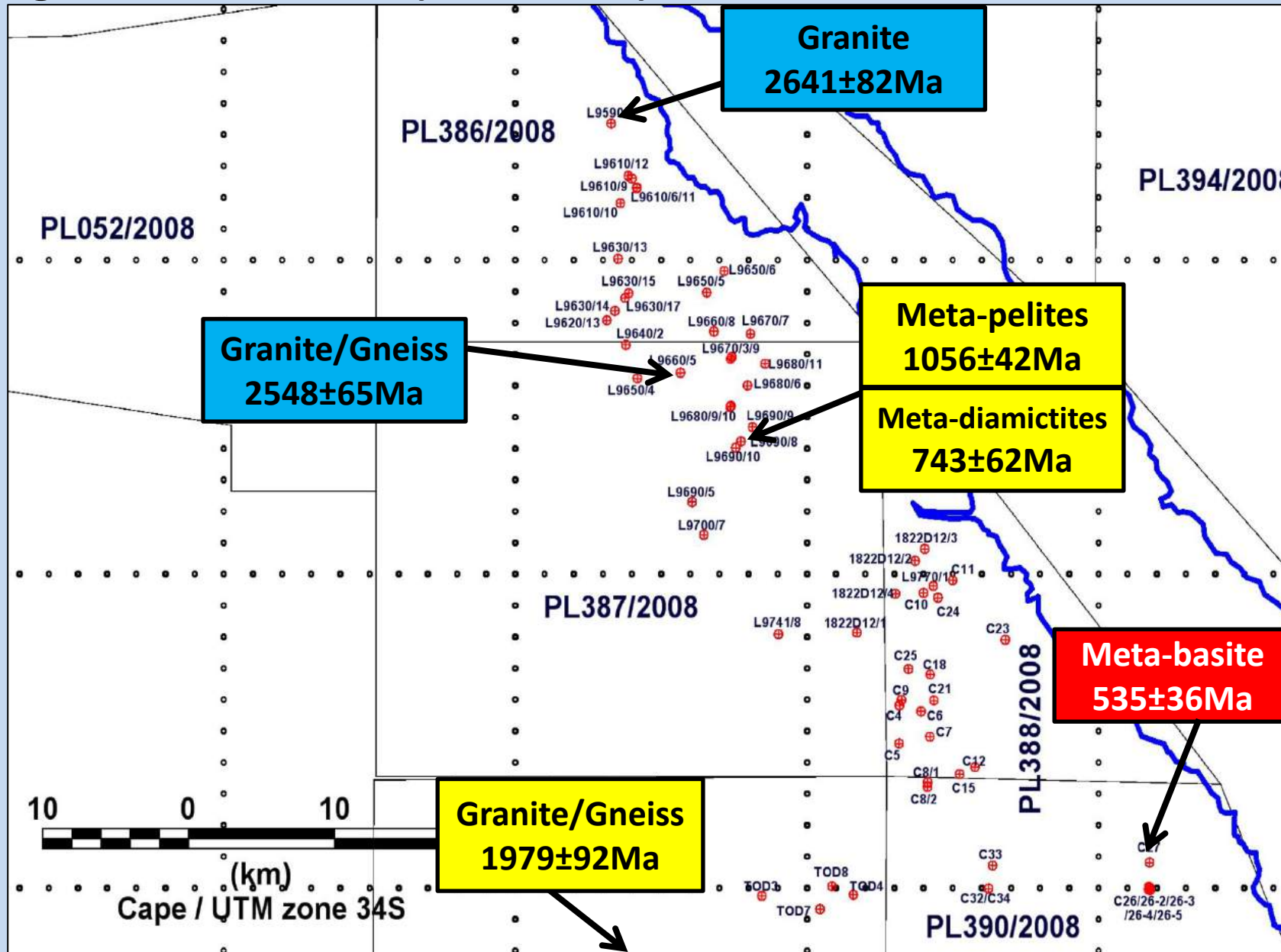
**0.17% Ce**  
**0.12% La**  
**0.09 ppm Au**  
**392 ppm V**

Ele	ppm	±2σ
Sb	152	100
Sr	637	52
Se	91	27
Hg	477	90
Au	154	60
Cu	300.0K	2.9K
Fe	1M	0M

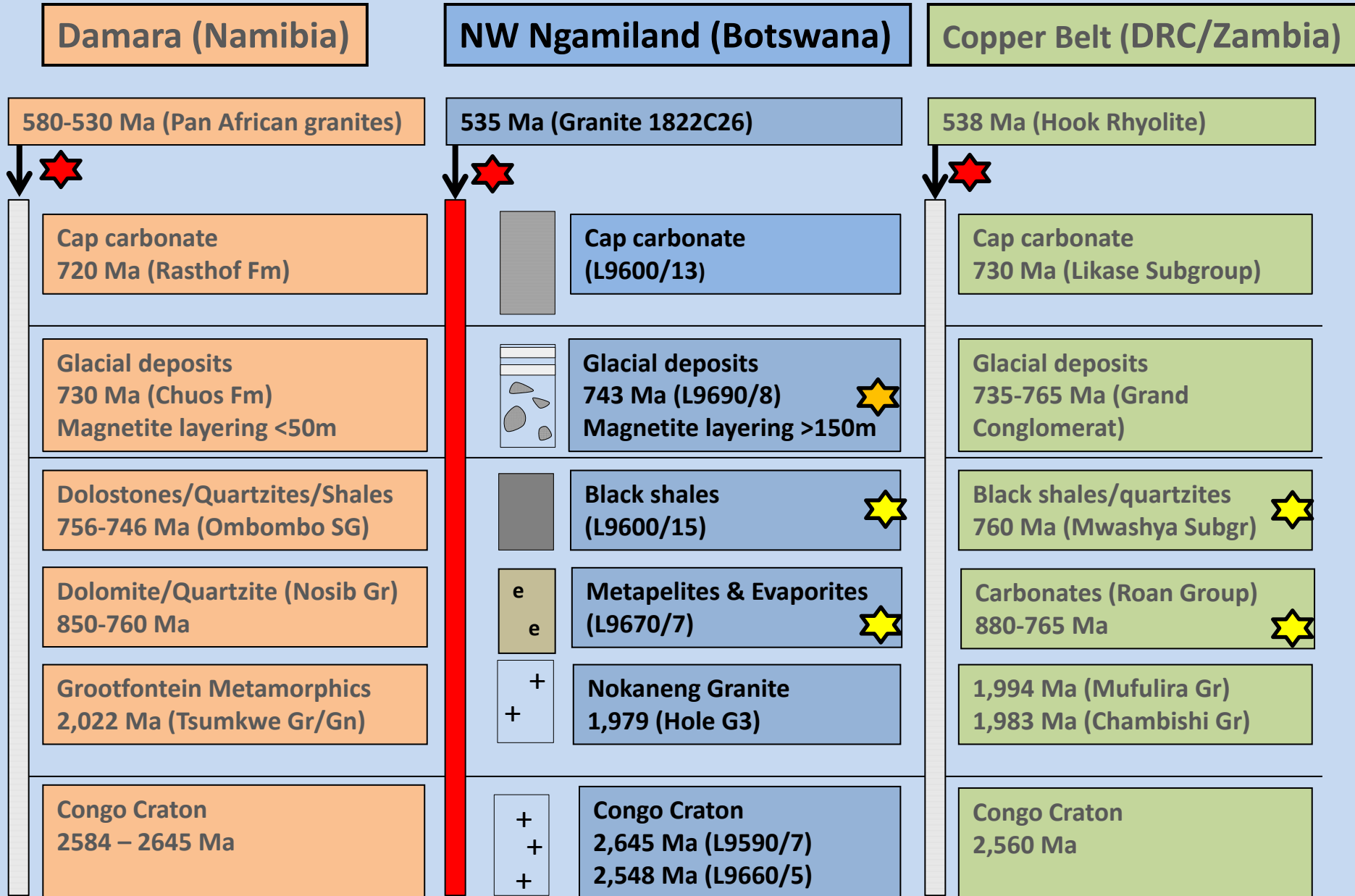




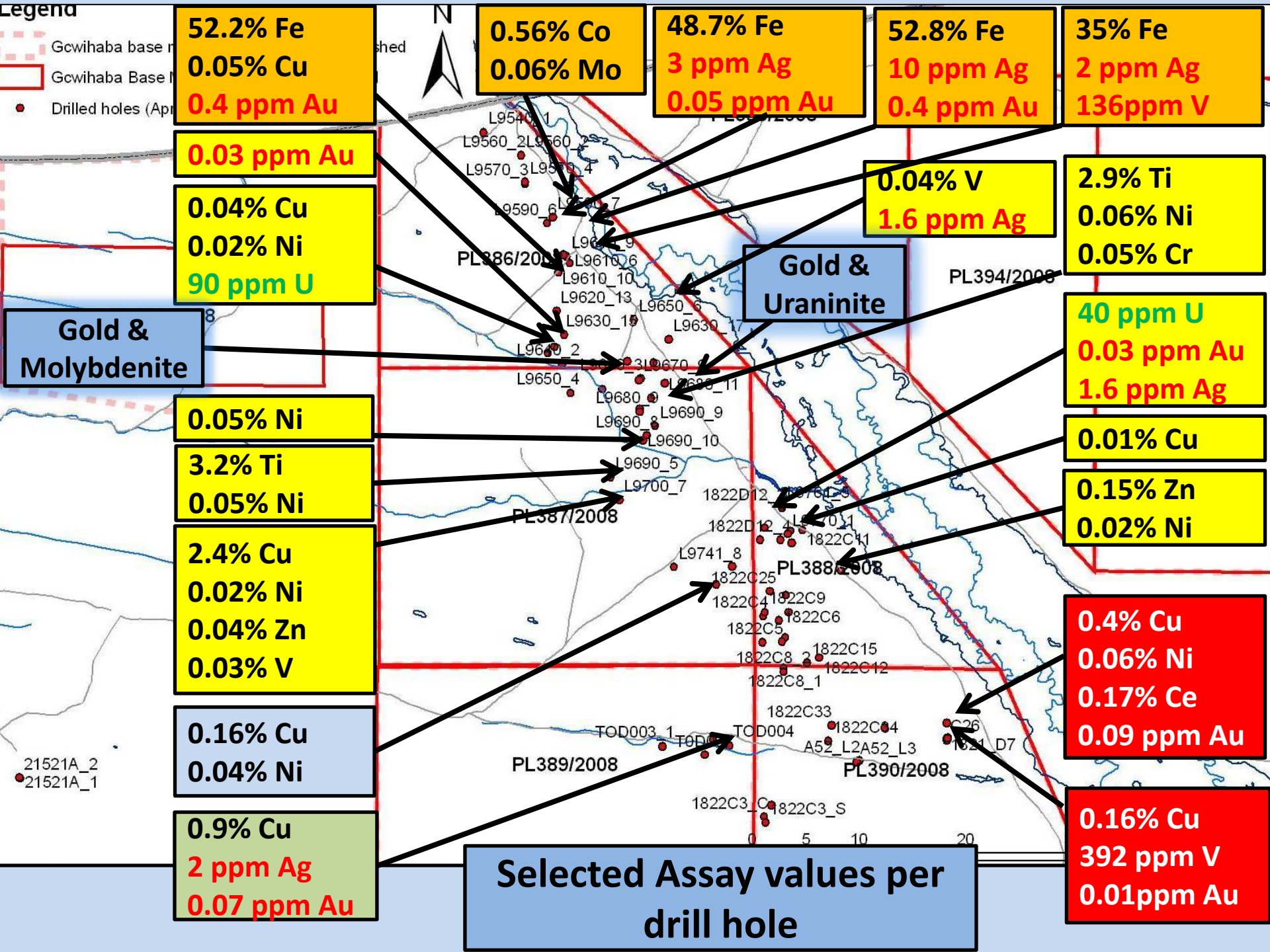
# Recent age determinations (Aeon/UCT)



# Regional Stratigraphy









**Xaudum Magnetite Deposit  
Fe - rich**

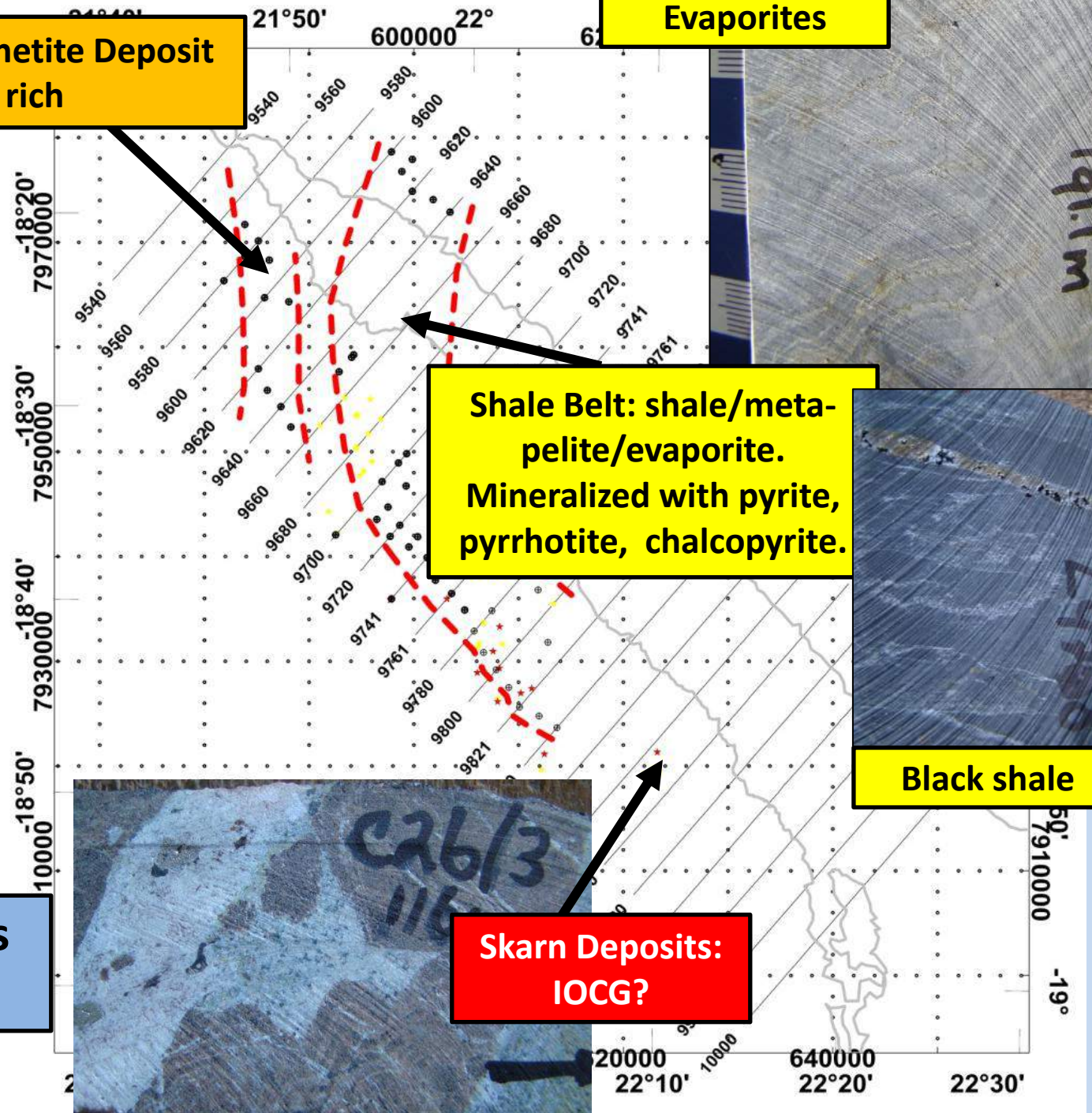
**Evaporites**

**Shale Belt: shale/meta-  
pelite/evaporite.  
Mineralized with pyrite,  
pyrrhotite, chalcopyrite.**

**Black shale**

**Skarn Deposits:  
IOCG?**

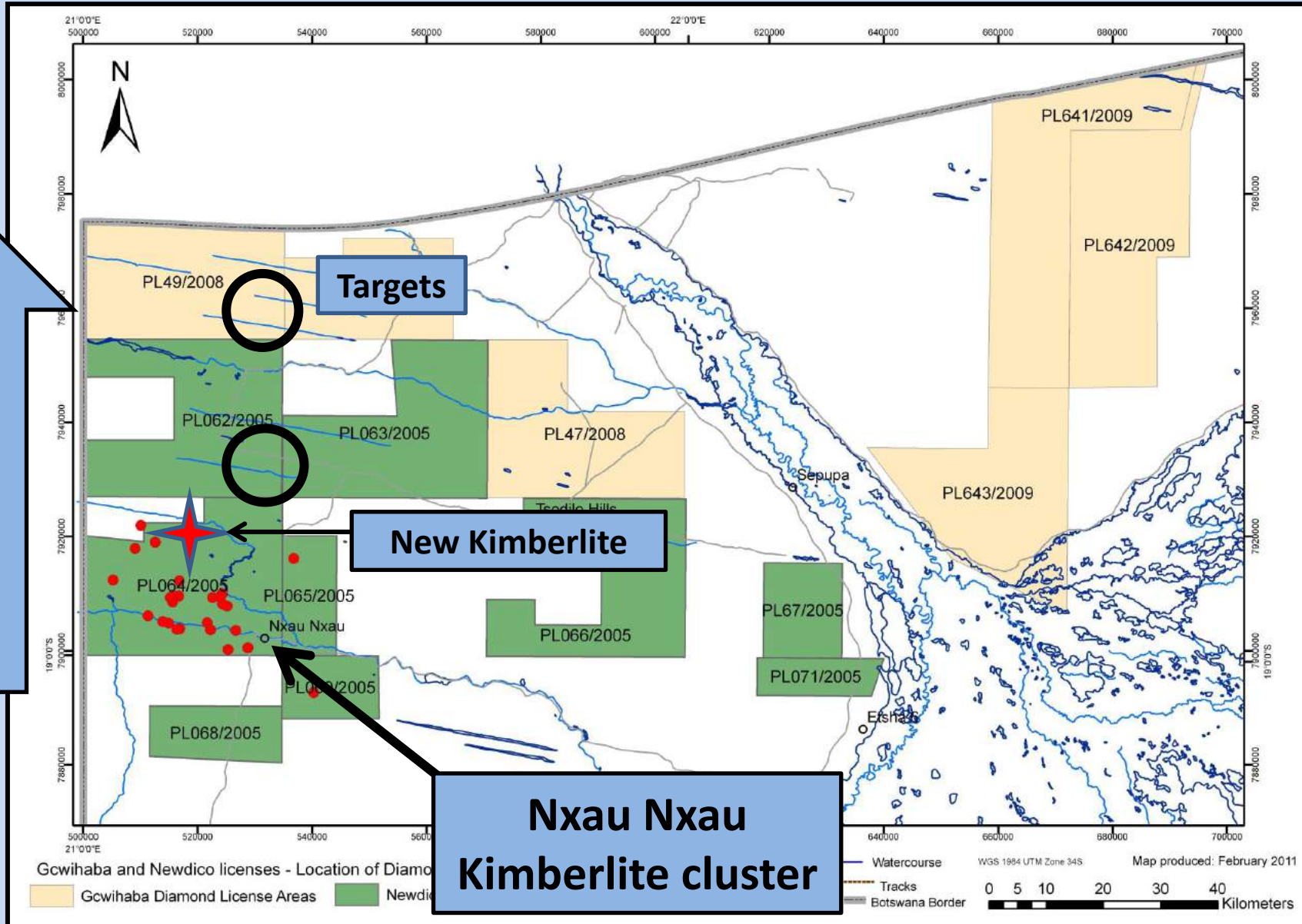
**Base & Precious  
metal projects**





# Kimberlites

IMPROVED POTENTIAL

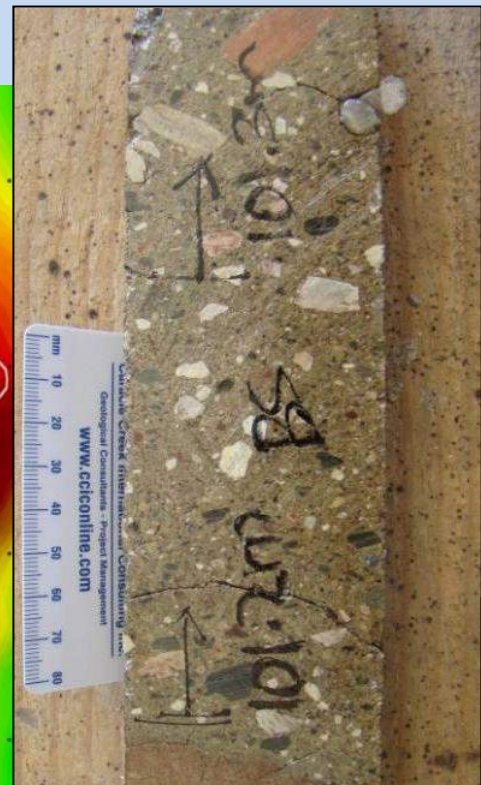
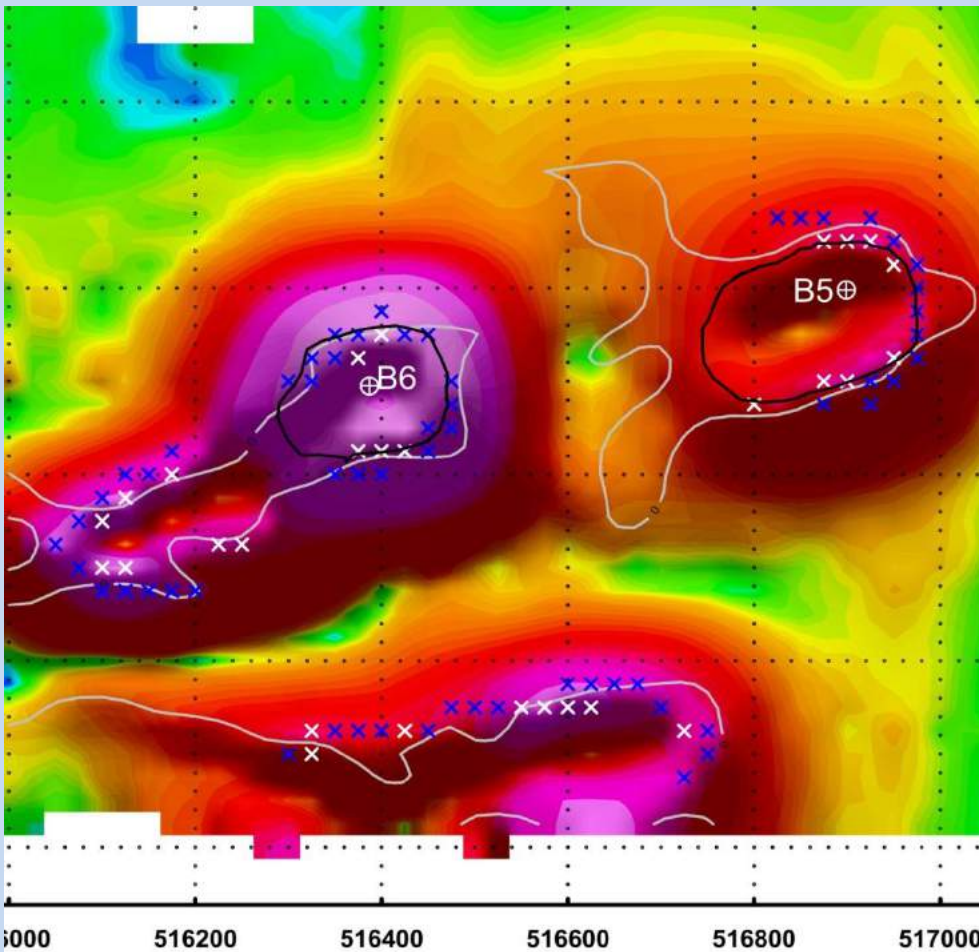


Targets

New Kimberlite

Nxau Nxau  
Kimberlite cluster

# Kimberlite K10 & K11



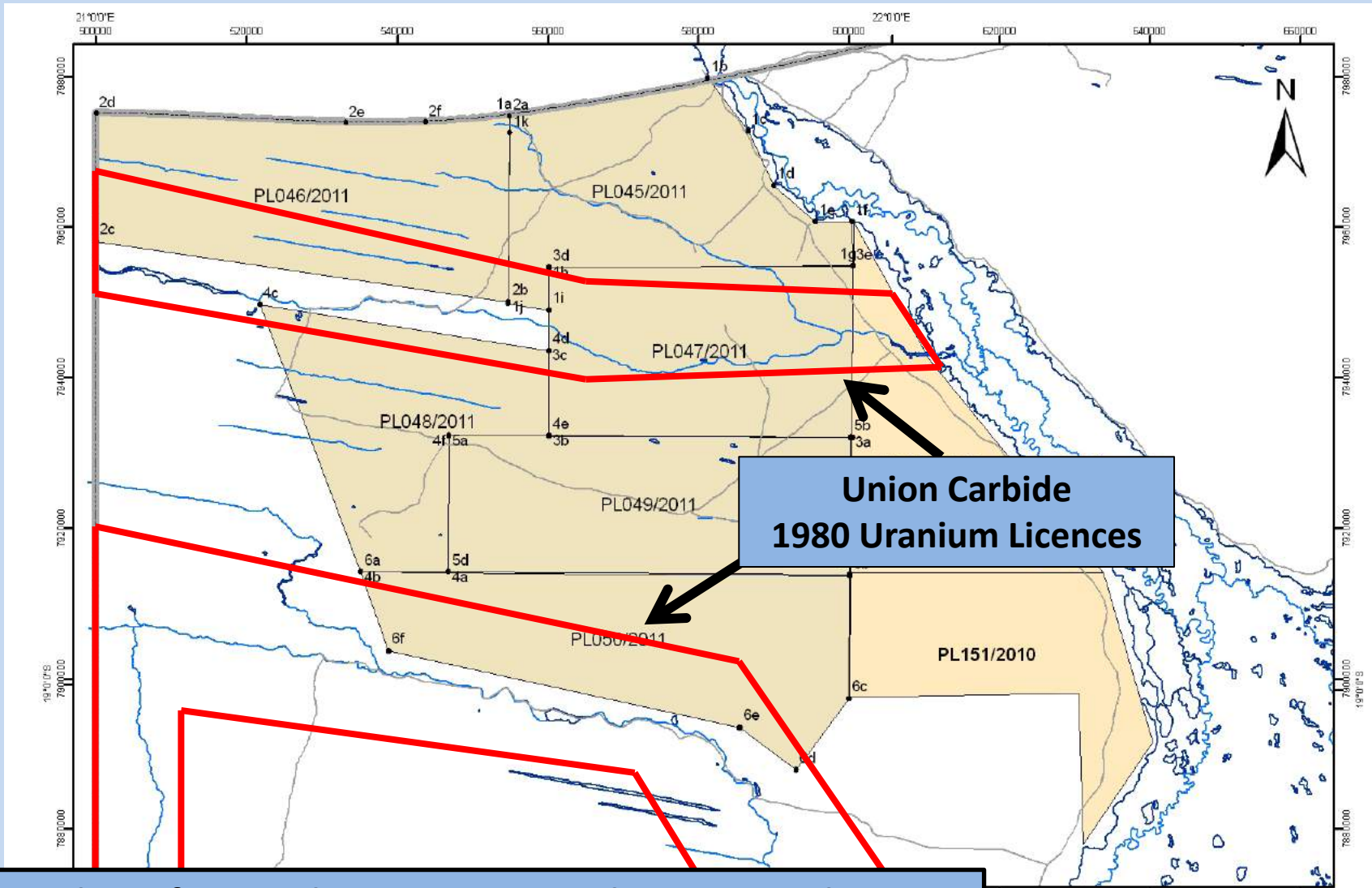
**14 microdiamonds  
from 221kg**

D.10.147  
K10-B5



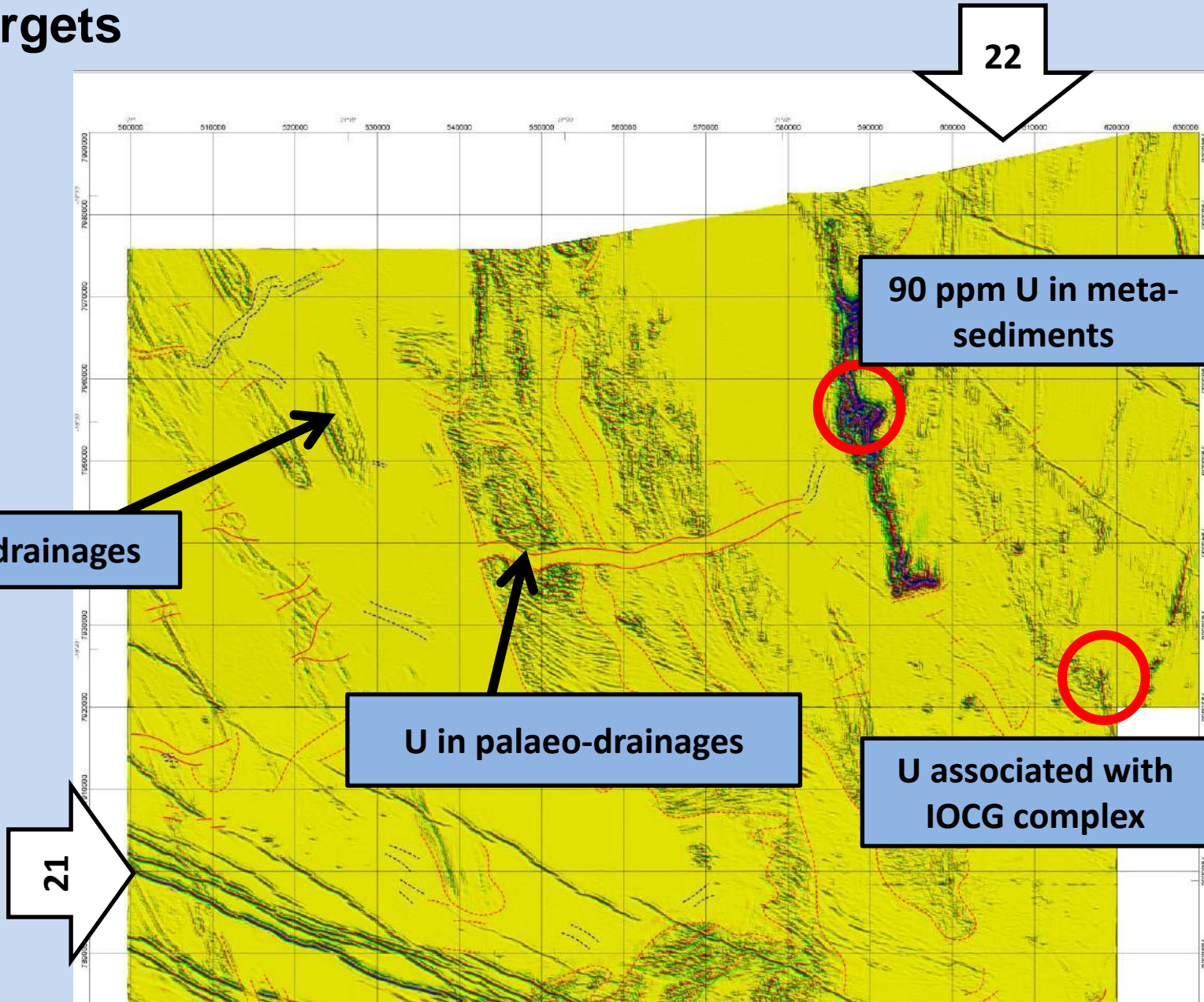


# Uranium



- Discovered significant radiometric U anomalies on main drainages
- Water and drill samples of calcrete produced upto 100 ppm U

# Uranium targets





# Summary 1

- 1. Three metal provinces were discovered on Tsodilo's PL's (12 000km<sup>2</sup>):**
  - A. The Xaudium Magnetite BIF Belt (50 x 20km). Holes on the belt have intersected Fe over 50% up to 400m depth. Also contains anomalous values in Ag, Co, Mo, U, V.**
  - B. Sulphides associated with black shales/meta-pelites in the Central Shale Belt, have returned promising Cu- Co- (Ni) prospect. This belt stretches over a length of + 90km with a width between 30 - 40km. This mineralised meta-sedimentary formation is similar to the Zambian Copper belt-like /Kalumbila type deposit.**
  - C. Mineralisation model of the Skarn type deposits, appear to be IOCG-type, and is high in Cu, Ni and contains REE and Au. The full potential of this metallurgical province is yet to be established.**
- 2. The kimberlite program will continue and focus on the most northern licences (7 300km<sup>2</sup>)**
- 3. The Uranium prospecting to started with a regional geomorphological study (7 000km<sup>2</sup>)**

## Summary 2

- **Reconnaissance drilling of the area completed 3<sup>rd</sup> Q 2011.**
- **Detailed drilling to outline the metal provinces started 4<sup>rd</sup> Q 2011.**

### **So far:**

- **Drilled 125 core holes: to a cumulative depth of 34 km and recovered 19.4 km core (all stored in Maun)**
- **Processed and modelled 9 777 line km VTEM data and AM data (250m line spacing) for the whole area**
- **Collected and processed 16 500 line km of Ground Magnetic data**
- **Assayed 9 154 one-meter core samples**