



## Gabon | Magmatic Ni-Cu Sulphide Exploration

Confidential: March 2021



# Leadership Team

## Board of Directors

### **Dr Ross McGowan (Director & CEO)**

- Founder of the Resource Exploration & Development Group
- 20 years academic, technical and corporate experience in copper/exploration in Africa
- Co-recipient: 2015 PDAC Thayer Lindsley Award for an international Mineral Discovery (Kamoa)

### **Zain Madarun (Director)**

- Founder and Managing Director of Adansonia Holdings Limited
- Fellow Member of the Association of Chartered Certified Accountants / Mauritian Citizen

### **Anton Esterhuizen (Director & Technical Committee)**

- 40 years exploration experience in Africa / Director of PanEx Resources and Handa Mining
- Several multi-commodity discoveries across the African continent
- Awarded the Des Pretorius Memorial Award by the GSSA

### **Brendon Jones (Director)**

- Founder and CEO of Adansonia Holdings / Mauritian Resident
- Director of Alphamin Resources (TSX) and Adansonia PE Opportunities Limited
- MBA (UCT)

## Technical Team

### **Thomas Rogers (Technical Management)**

- Over 20 years in the exploration industry in Africa and co-founder of Armada Exploration
- Experience in a variety of mineral projects from early-stage exploration to feasibility across Africa, including Ghana, Botswana, Sudan, Zambia, the DRC and Republic of Congo
- Co-recipient: 2015 PDAC Thayer Lindsley Award for an international Mineral Discovery (Kamoa) - led exploration teams for Ivanhoe Mines in the DRC from 2004 to 2011

### **Dr Douglas Haynes (Technical Advisor)**

- Over 40 years in the exploration industry including key part of the discovery team for Olympic Dam Cu-Au-U (Western Mining) and former Chief Geologist of BHP Billiton
- Expert in data appraisal for new discovery potential
- Co-recipient: 2015 PDAC Thayer Lindsley Award for an international Mineral Discovery (Kamoa)

## Gabon

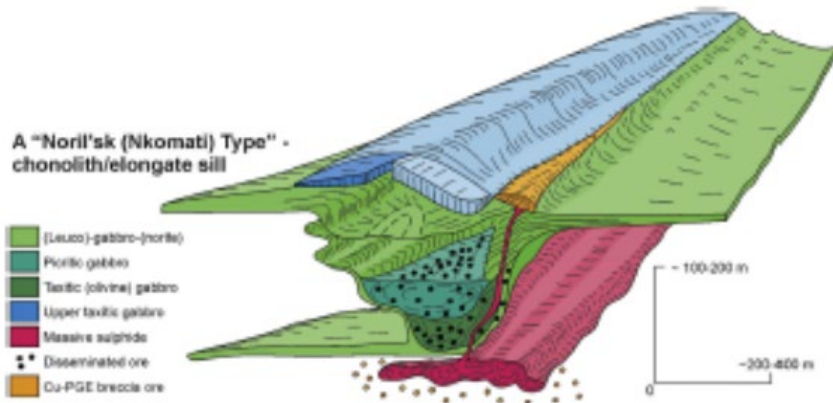
### **Thomas Pucheu (DG, Armada Exploration Gabon)**

- Resident in Gabon / President of the Gabon Chamber of Mines (Umiga)

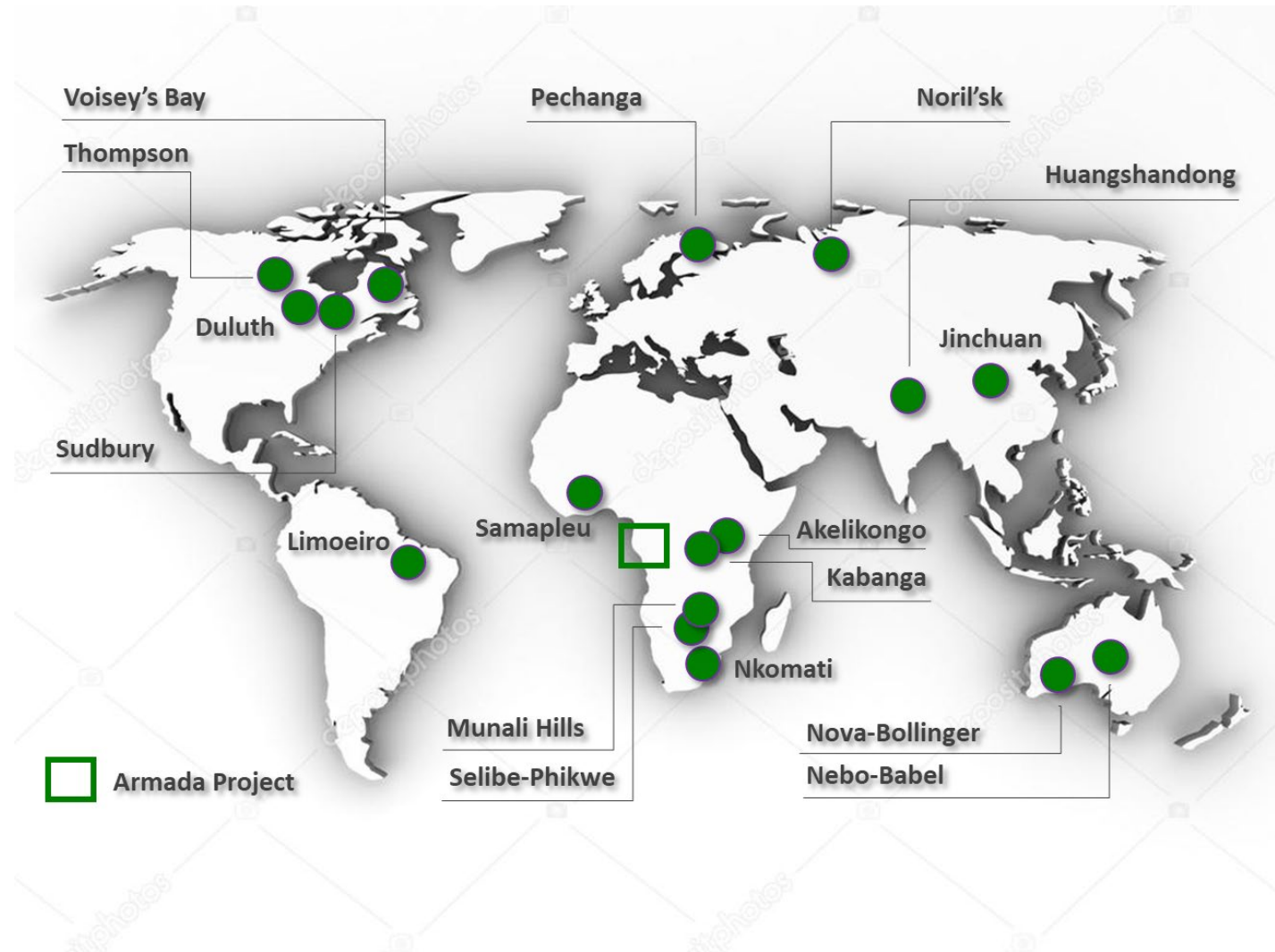


# Global Magmatic Ni-Cu Deposits

- All deposits are on or near craton margins
- The ages and geometries of intrusions varies
- Large deposits form in long-lived fault systems and are strongly controlled by pre-existing structures
- A crustal source of sulphur is important
- Mineralisation is both disseminated and massive



Barnes et al. (2015)



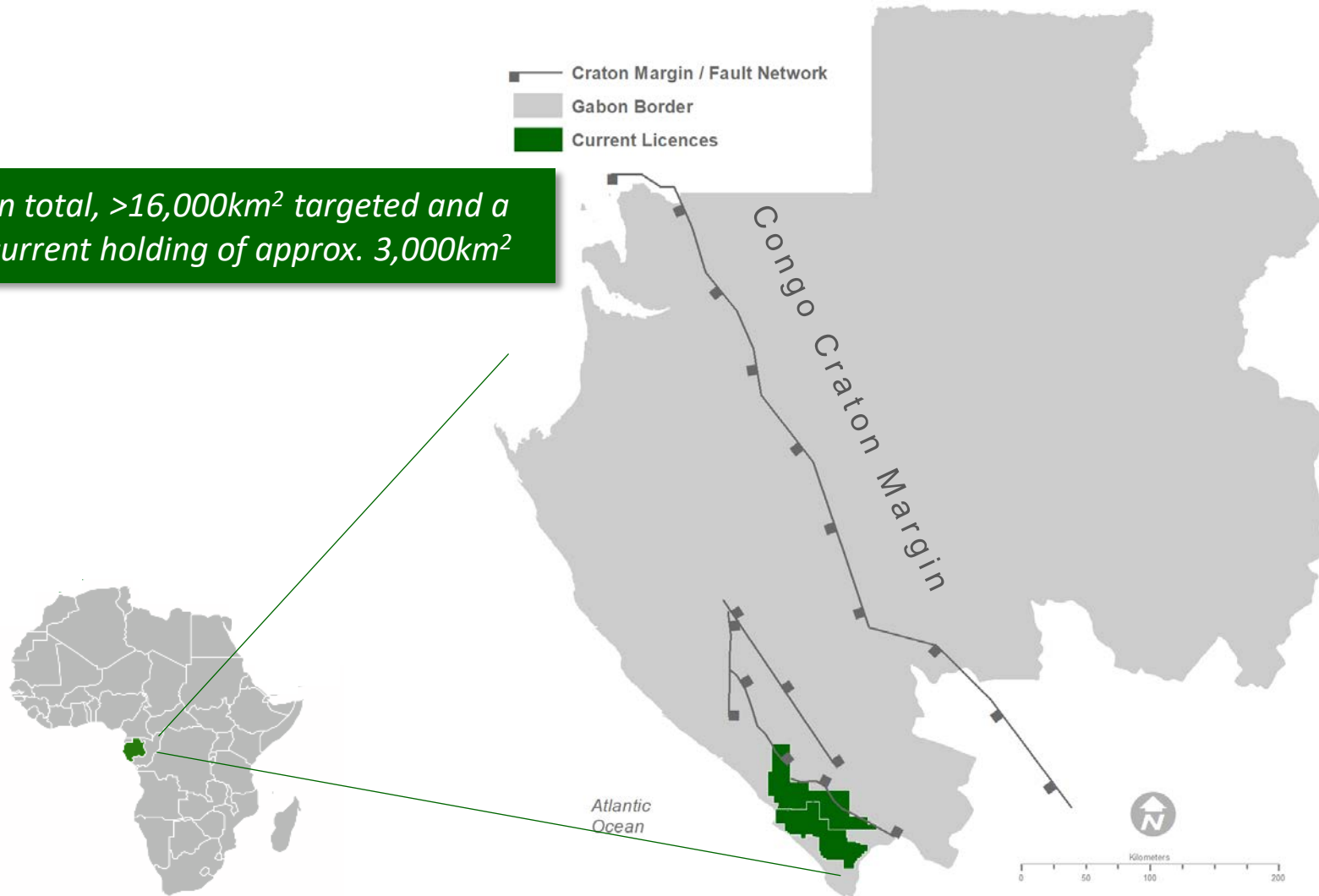
*It is important to understand the key features and processes for Ni-Cu magmatic systems in new exploration for similar deposits*



# Project Location - Nyanga

- Craton Margin / Fault Network
- Gabon Border
- Current Licences

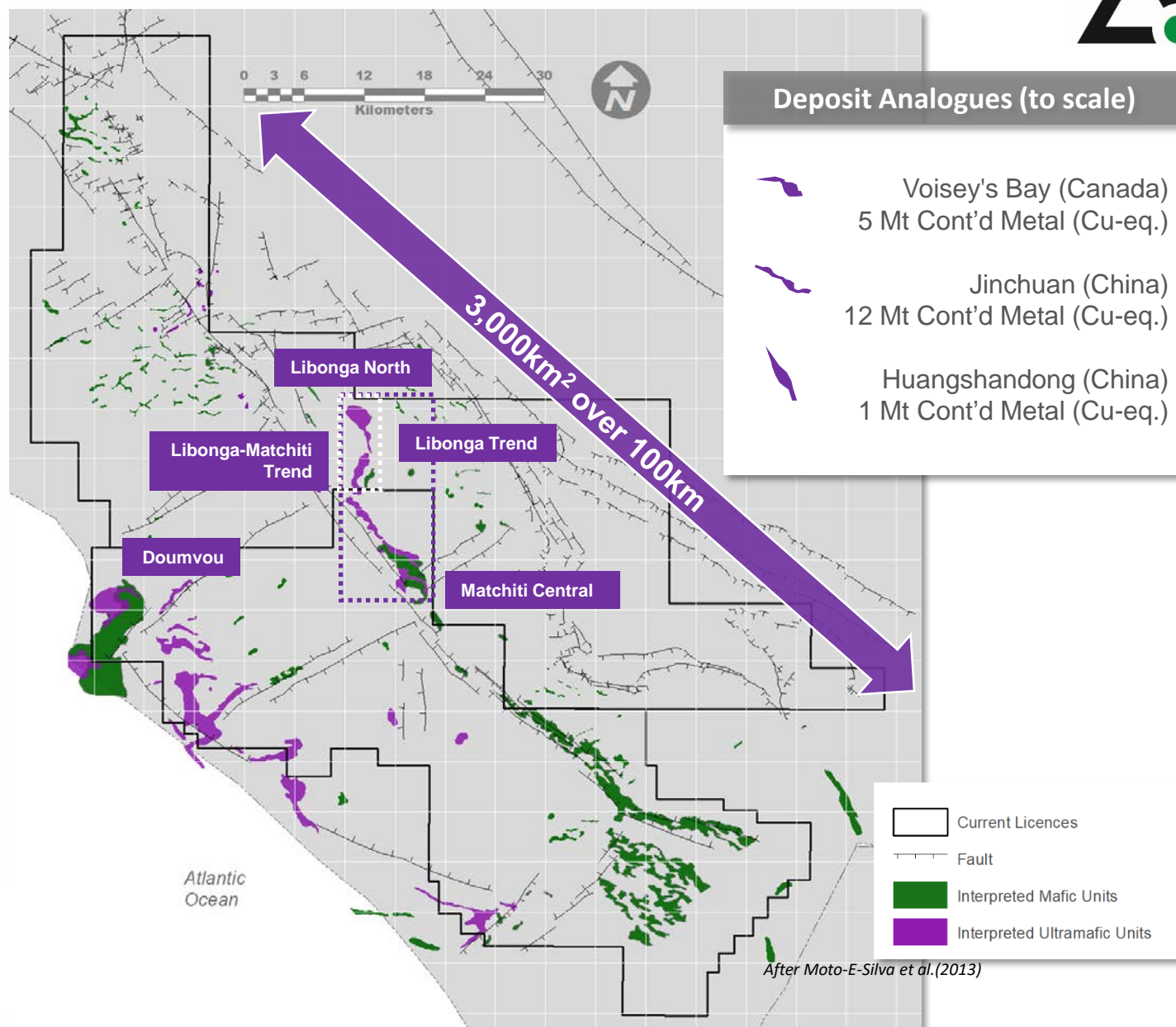
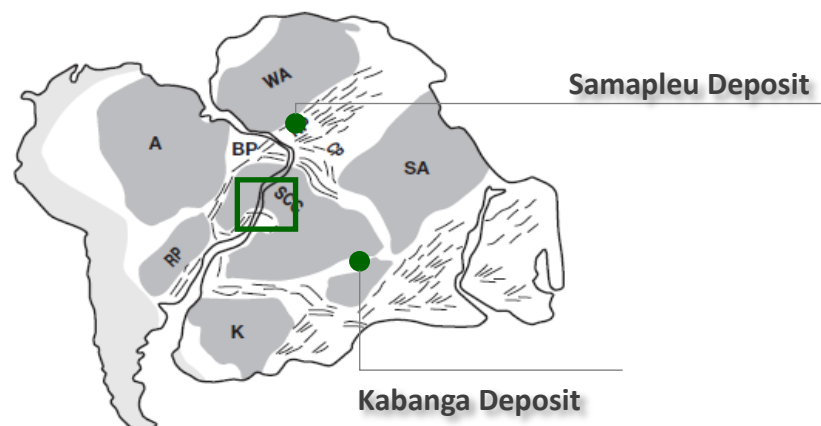
*In total, >16,000km<sup>2</sup> targeted and a current holding of approx. 3,000km<sup>2</sup>*



*Belt-scale project bordering Congo Craton margin*

# Nyanga Geology

- Close (100km) to Congo Craton Margin
- Complex regional-scale fault network
- Extensive volume of mafic intrusives in basement
- Sulphide-bearing country rocks
- Gabbro to peridotite fractionation suites have been proven with surface disseminated sulphides mapped at surface at 3 top ranked targets (Libonga North / Matchiti Central and Doumvou)

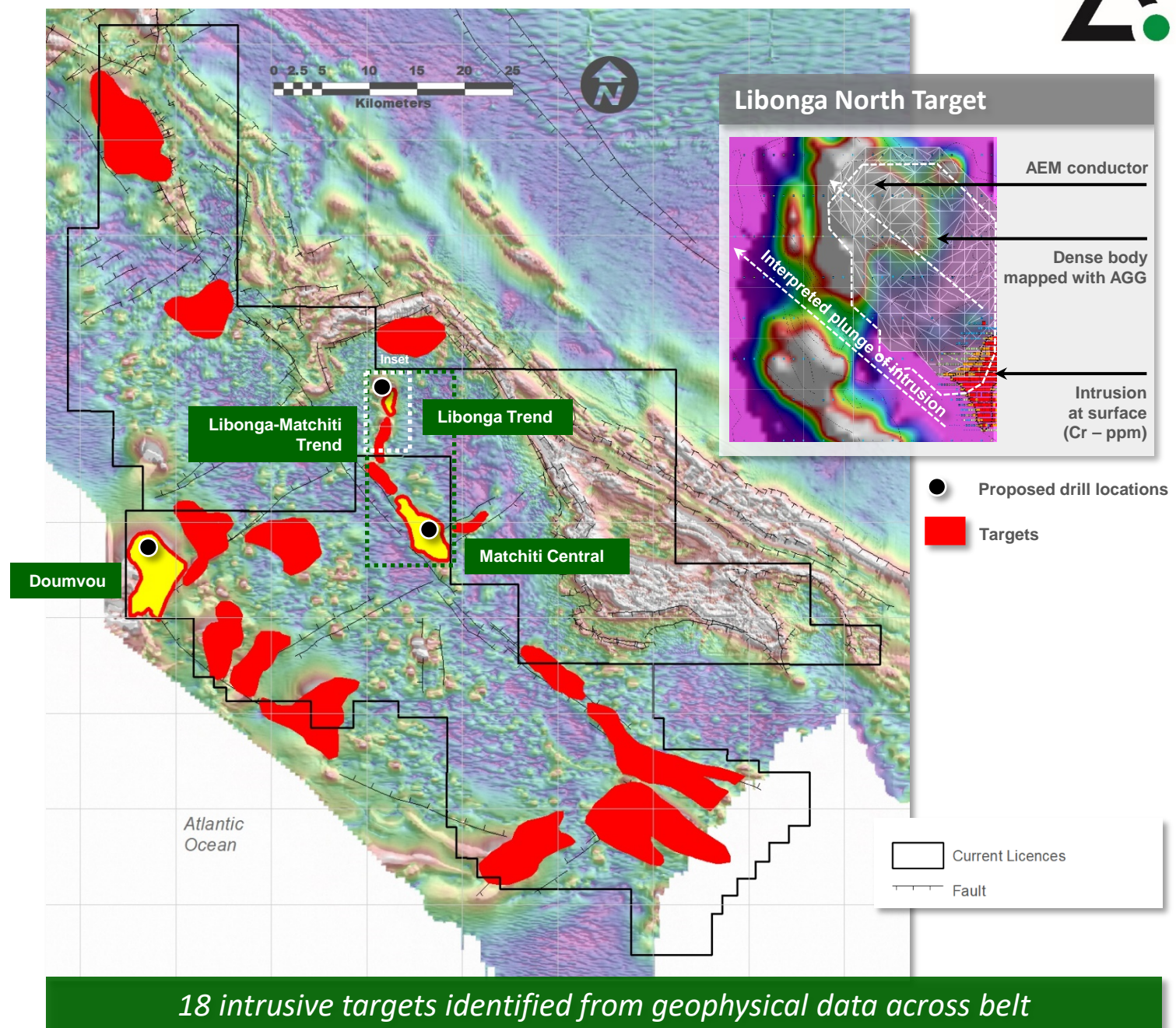


Several key fundamentals of Ni-Cu magmatic systems identified in Nyanga

# Geophysical Targeting

- Magnetic, radiometric, electromagnetic and gravity datasets have been used to define and rank 18 targets associated with principal basement structures
- AEM - AGG and GGG surveys have been used to develop drill targets
- The 20km-long Libonga-Matchiti Trend ('LMT') is drill ready with two advanced targets identified in addition to Doumvou along a parallel structural trend
- A coincident AEM-AGG anomaly defines the Libonga North Target – soil geochemical programs support the geophysical targets identified

AEM – Airborne Electro-Magnetic Survey  
AGG – Airborne Gradient Gravimetric Survey  
GGG – Ground Gradient Gravimetric Survey

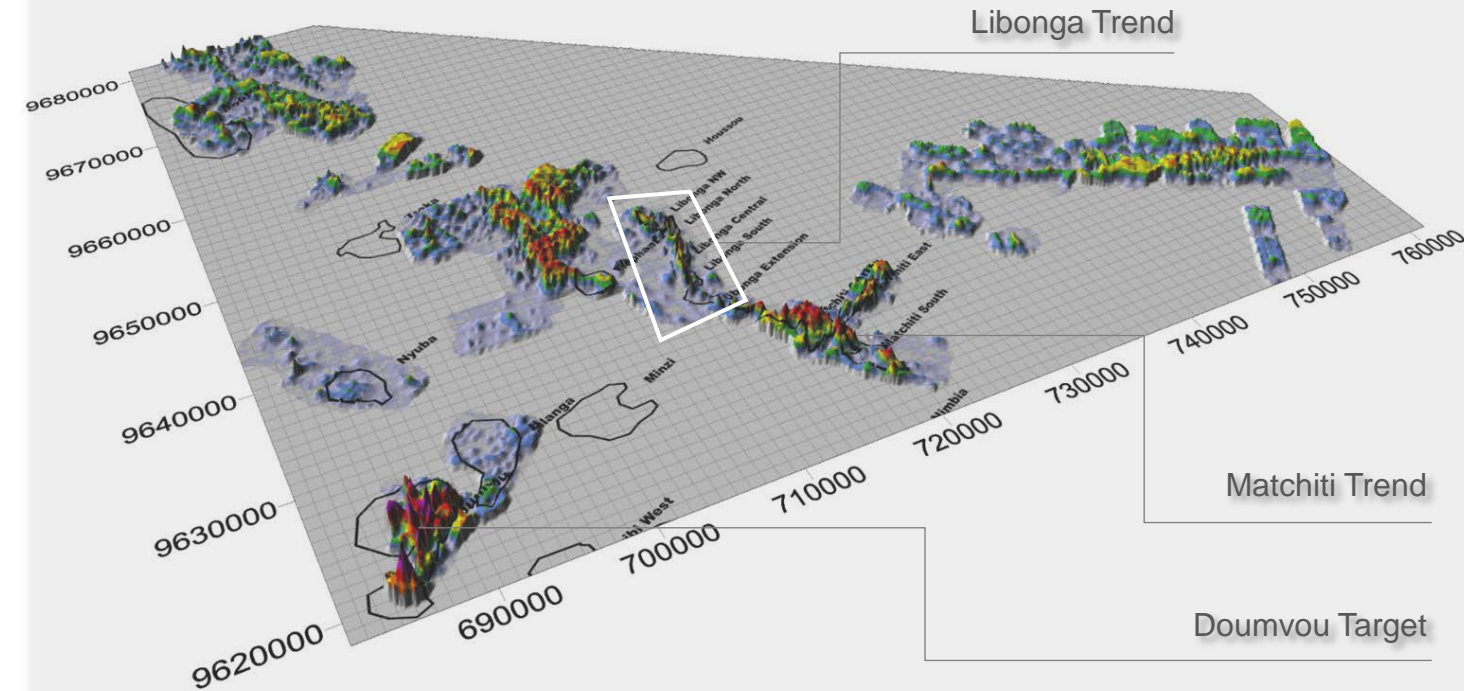




# Regional Soil Geochemistry

Copper (ppm)

Copper Values - Red >100 (ppm)



Background Copper Value - <40 (ppm)

Peak Copper Value - 380 (ppm)

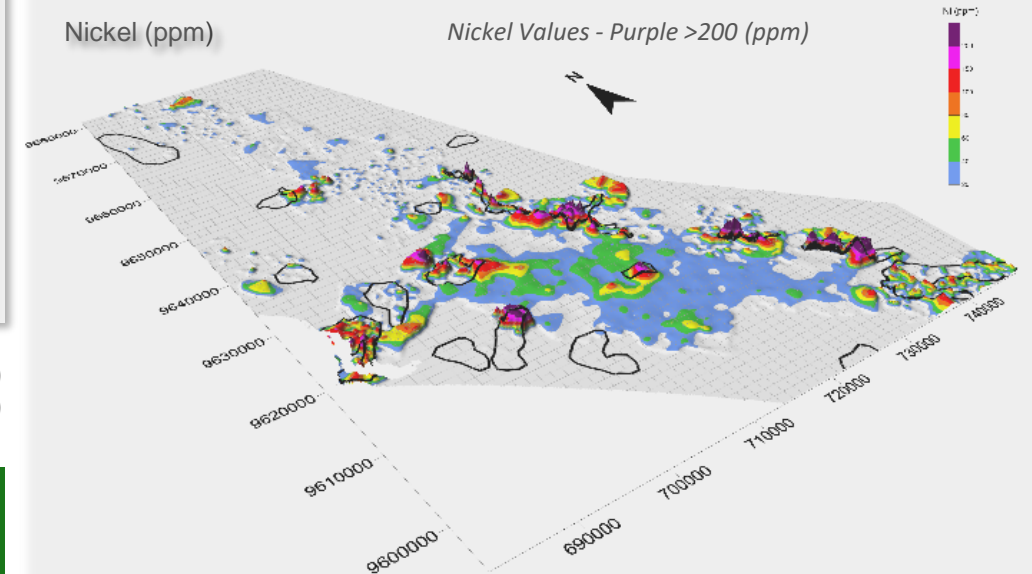
Background Nickel Value - <50 (ppm)

Peak Nickel Value - 6609 (ppm)



Nickel (ppm)

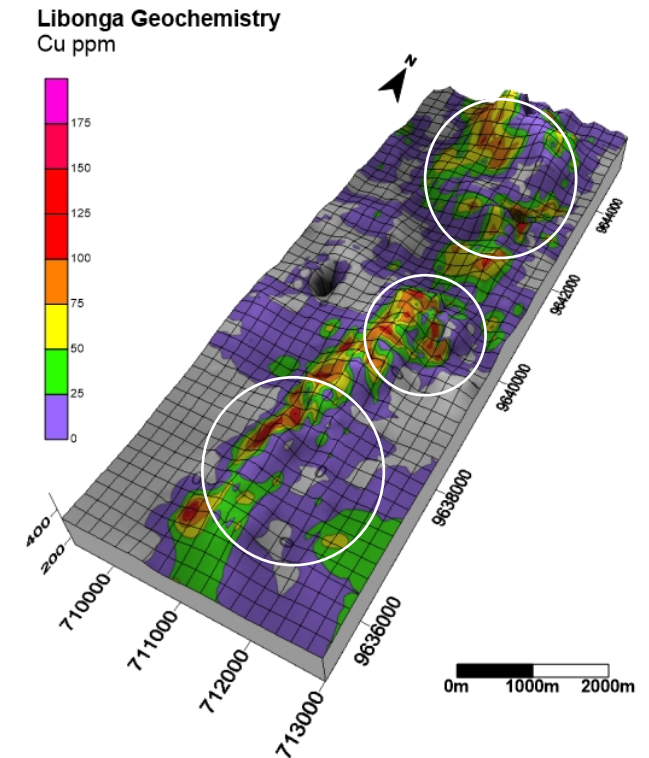
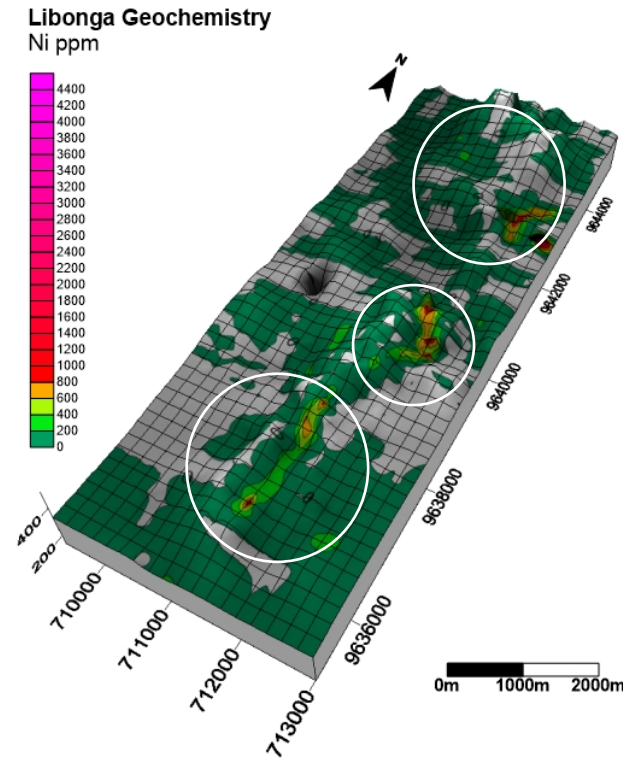
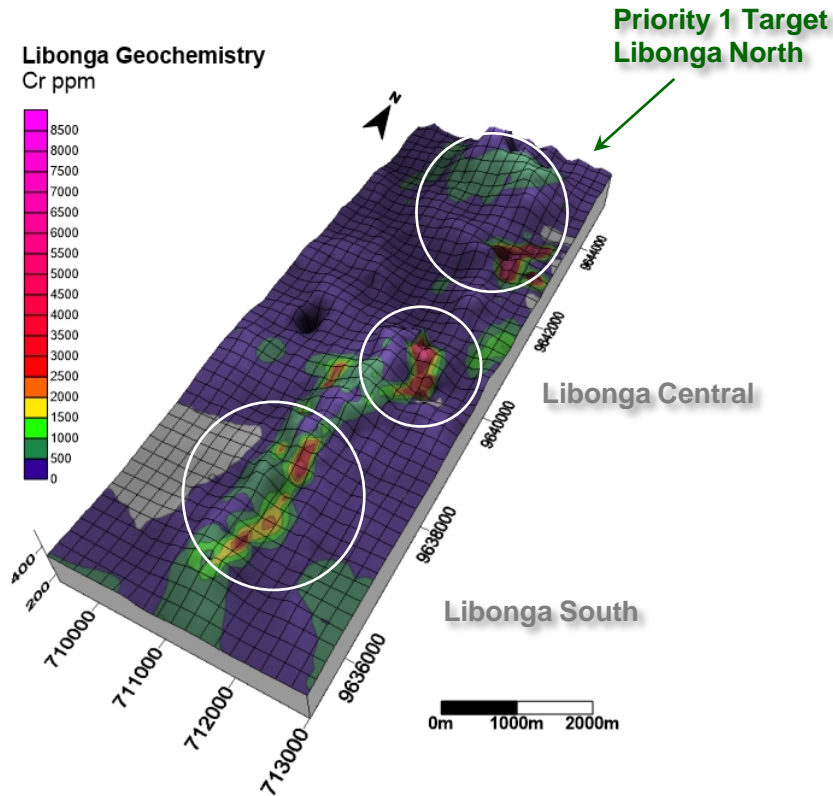
Nickel Values - Purple >200 (ppm)



Regional Ni-Cu (Cr) anomalism strongly supports the extent of intrusions defined by the geophysical targeting phase



# Detailed Soil Geochemistry – Libonga Trend



Regional Cr geochemistry was used as a mapping tool for detailed grids to define ultramafic lithologies

Ni supports observations from the Cr geochemistry and geophysical data.  
50ppm Ni used a proxy for mapping intrusive contacts at the surface

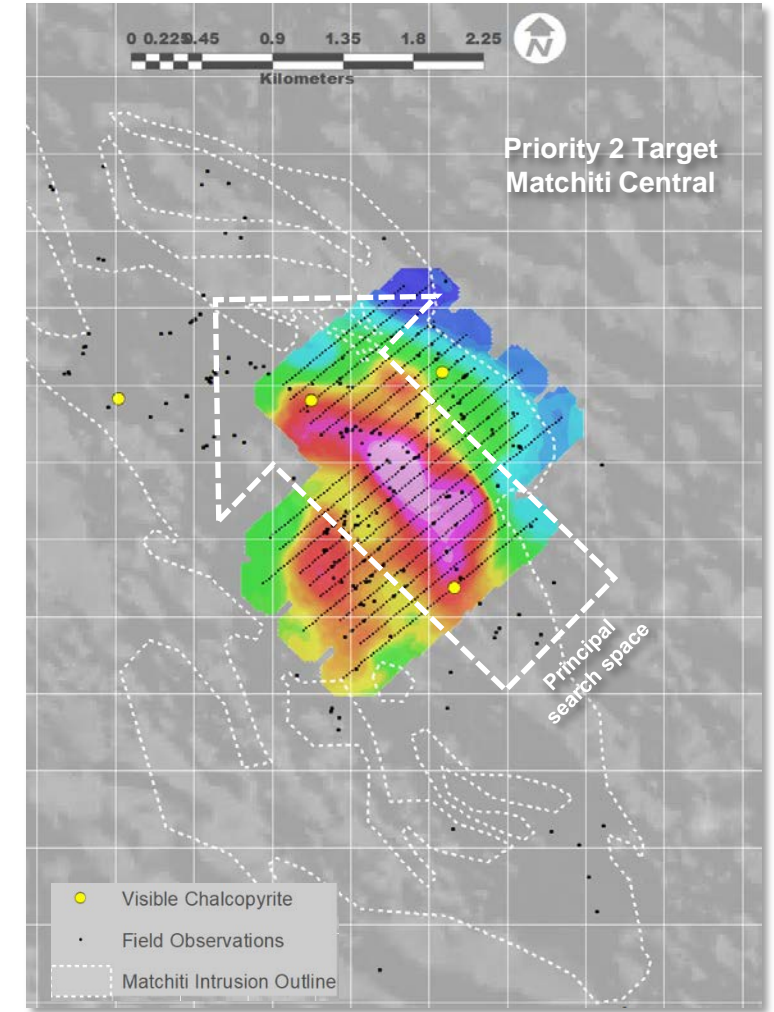
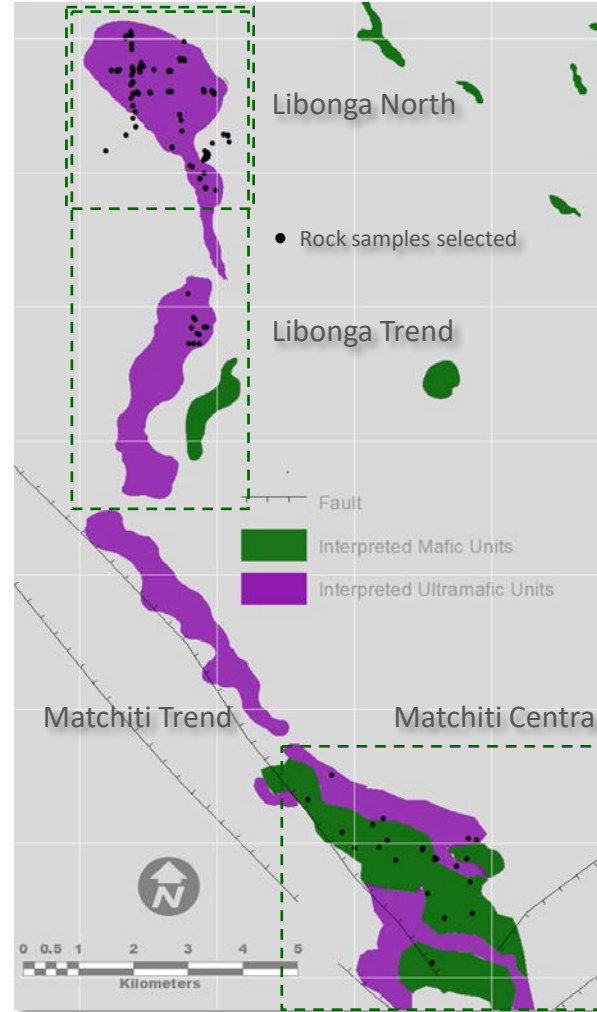
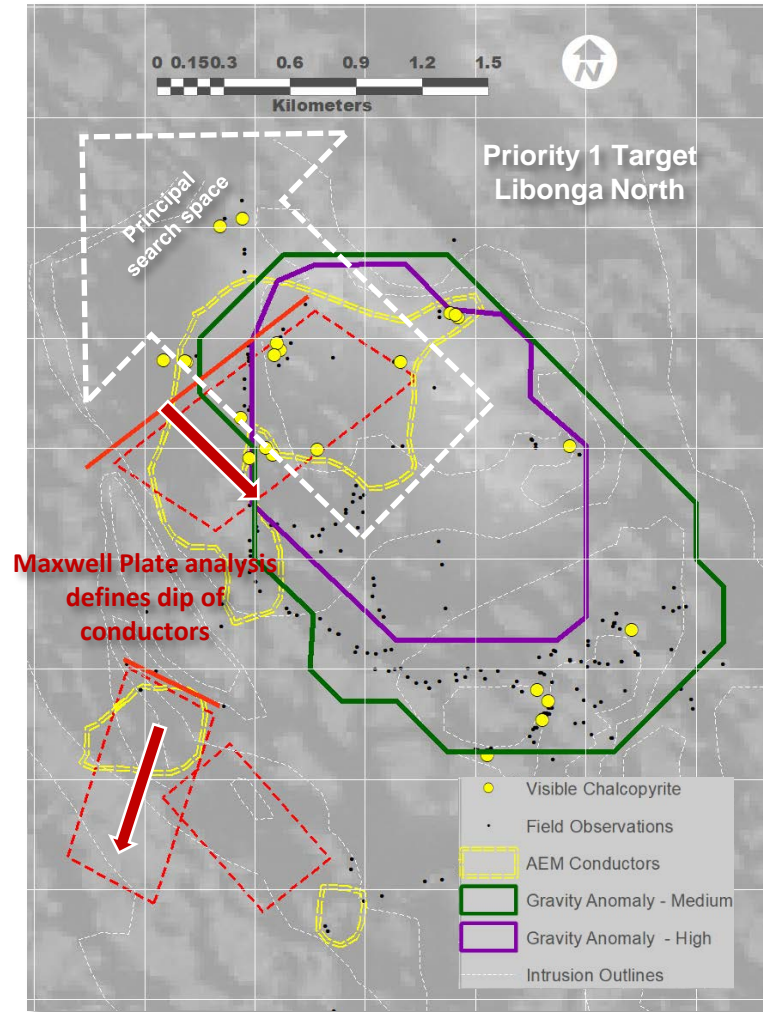
Libonga North along the 10km Libonga Trend was further assessed by detailed field mapping, whole rock geochemical analysis, and airborne and ground geophysical data

*Association of Cu with Ni and Cr provide further support for the potential for magmatic Ni-Cu sulphides in this belt*



# Target Mapping

Fertility testwork samples were selected from field observation points in areas of anomalous geophysical response – samples with visible sulphides were tested

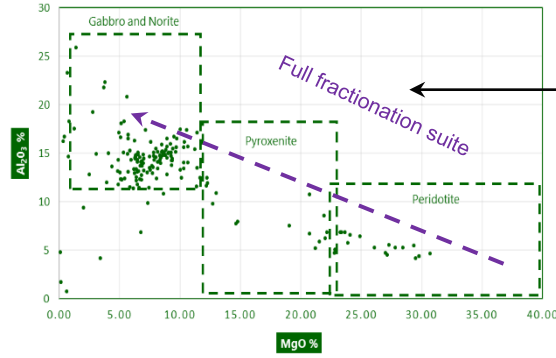


Data-sets for the priority targets were used to plan a whole rock geochemical assessment to test the potential for intrusion fertility at surface

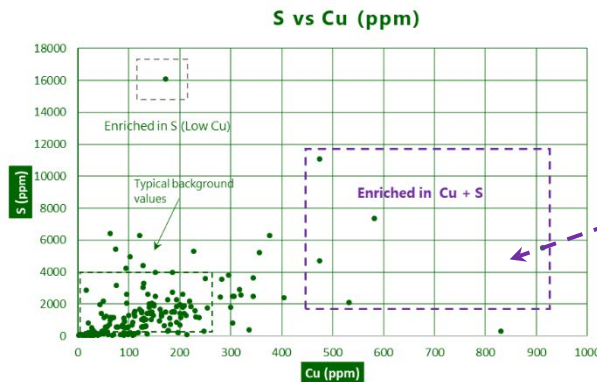


# Rock Geochemistry – Fertility Testwork

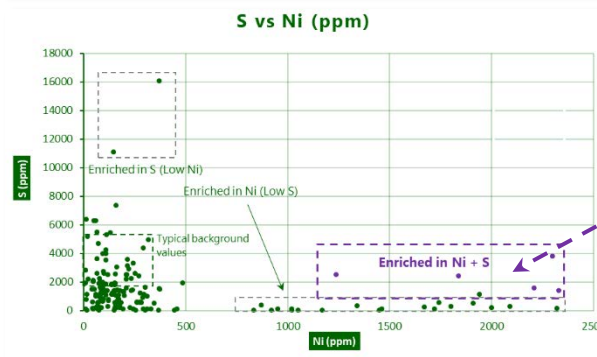
184 samples were collected from Libonga-Matchiti and Doumvou



Full fractionation suites mapped across the Libonga-Matchiti Trend suggests multiple pulses of magma



High S with high Cu - chalcopyrite



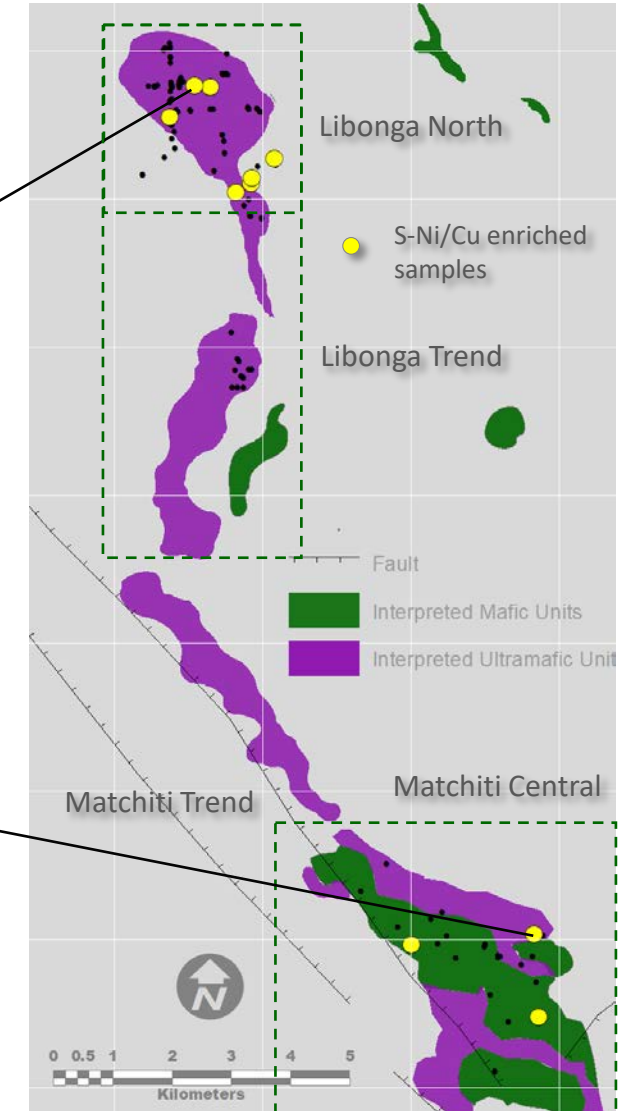
High S with high Ni – pentlandite



Sample No.: A0004894  
Visible Cu sulphide



Sample No.: F1278  
Visible Ni sulphide



Whole rock geochemical assessment demonstrates a potential mineralising ore system in place



# 2021 Work Program

## AEM Survey

200m line spacing along Libonga-Matchiti Trend

Heli-supported Xcite HTDEM platform

Maxwell plate modelling for targeting of drill holes

## Target Drilling

3,000m planned on 3 priority targets

Heli-supported drilling operation to facilitate program

Planned holes depths of 350m - to base of intrusion



## Regional Exploration

Detailed mapping and rock grab sampling

Priority targets to be selected for programs

Belt-scale HTDEM (dependent on drilling phase)



## Libonga North

Priority 1 Target

HTDEM + 1,000m of core drilling

Test for potential sulphide trap

## Matchiti Central

Priority 2 Target

HTDEM + 1,000m of core drilling

Test gravity inversion models for proof of concept

## Doumvou

Priority 3 Target

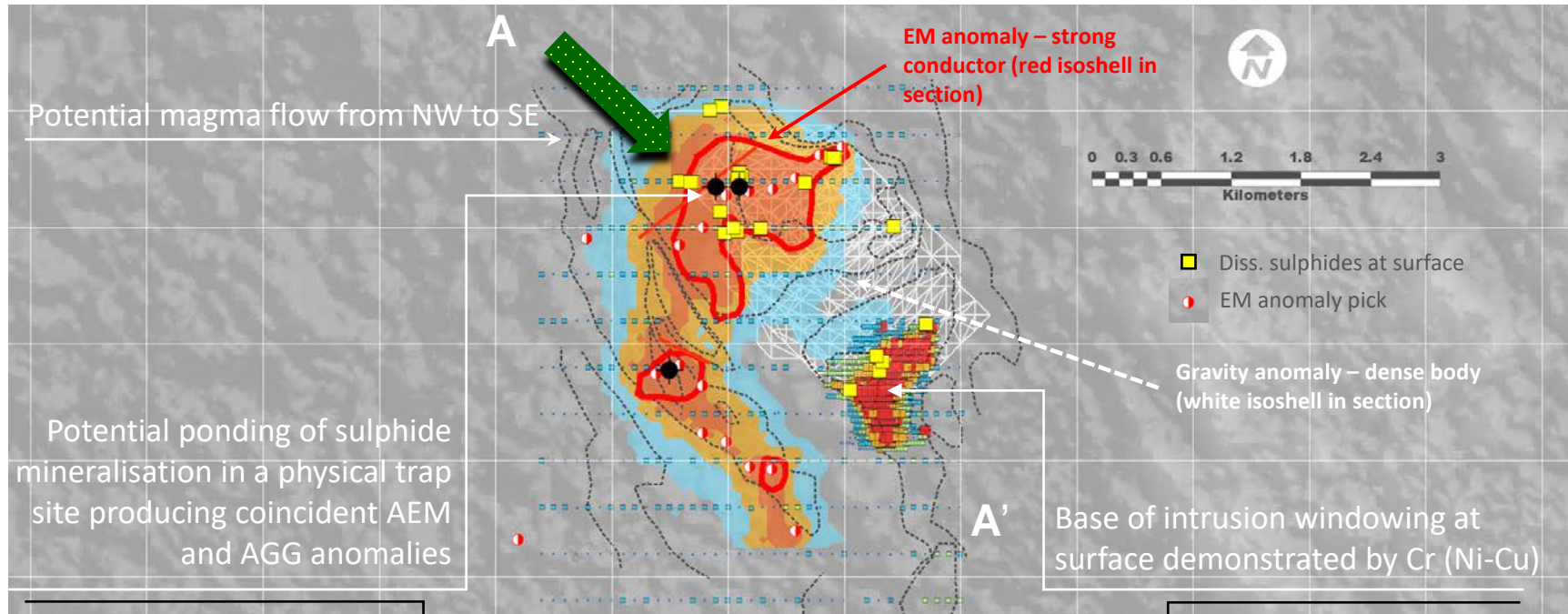
HTDEM + 1,000m of core drilling

Test regional scale NE-SE suture

*Programs will consist of detailed AEM surveys followed by focused drill programs on targets to define any mineralisation within the intrusions*

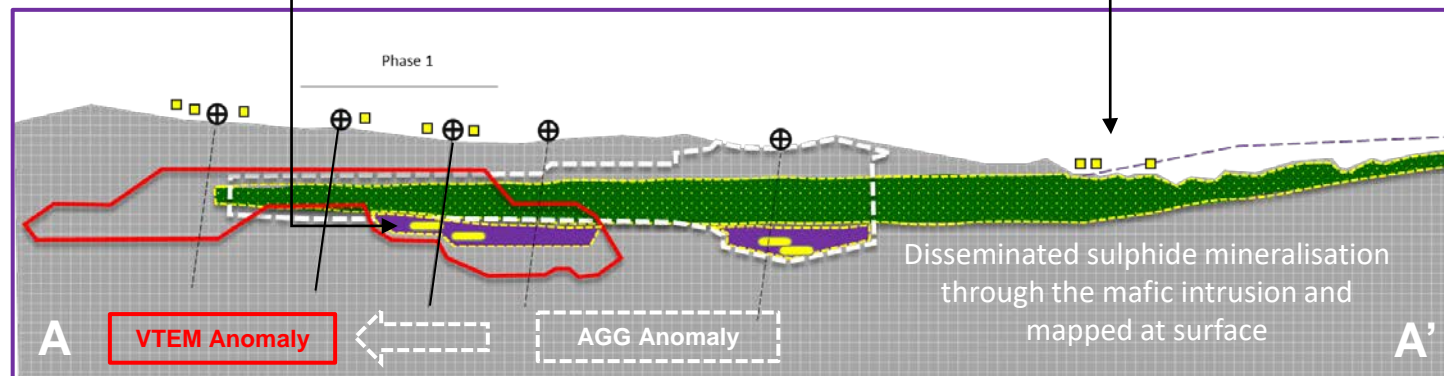
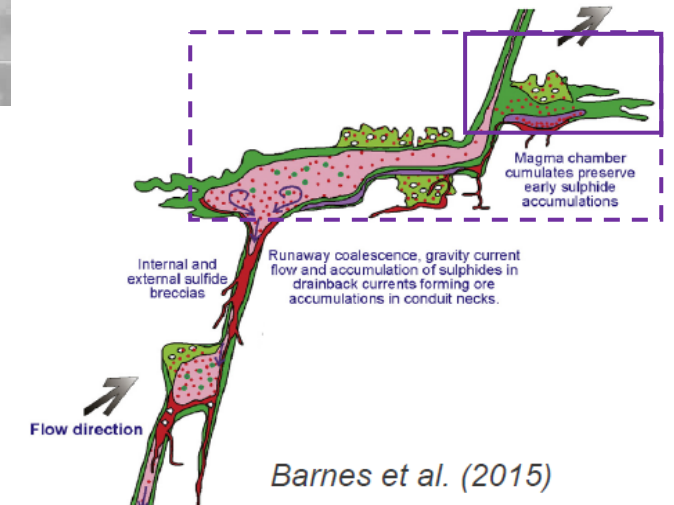


# Libonga North - Advanced Drill Target



- 3D modelling of the Libonga intrusion demonstrates a gently northwest plunging sill-like body
- Drill holes have been planned to intersect the highest conductive unit where there is spatial overlap with dense bodies mapped from AGG

## Potential Libonga North Target Position and Network



Development of robust geological model ahead of drilling phase – two planned priority holes on main conductive unit



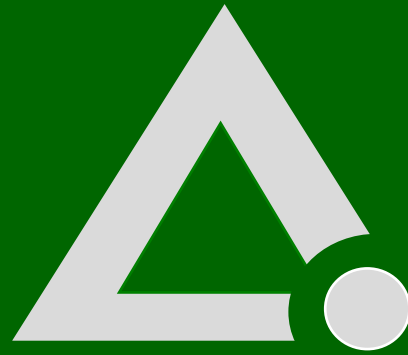
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For more details, please contact Ross McGowan: [ross@armada-exploration.com](mailto:ross@armada-exploration.com)