Hannanmetals

PERU SEDIMENT-HOSTED COPPER-SILVER PROJECT

Corporate Presentation

MARCH 2020

Accuracy of Information: Readers are directed to the public disclosure of Hannan Metals Limited (“Hannan”) available under Hannan’s profile on the System for Electronic Document Analysis and Retrieval (“SEDAR”) at www.sedar.com. Information contained in this presentation was believed to be accurate at the time it was posted, but may be superseded by more recent public disclosure of Hannan. Hannan makes no representations or warranties as to the accuracy, reliability, completeness or timeliness of the information in this presentation.

Forward-Looking Information: Some of the statements contained in this presentation may be forward-looking statements or forward-looking information within the meaning of applicable securities laws (collectively, "forward-looking statements"). All statements herein, other than statements of historical fact, are forward-looking statements. Although Hannan believes that such statements are reasonable, it can give no assurance that such expectations will prove to be correct. Forward-looking statements are typically identified by words such as: believe, expect, anticipate, intend, estimate, postulate, and similar expressions, or are those, which, by their nature, refer to future events. Hannan cautions investors that any forward-looking statements are not guarantees of future results or performance, and that actual results may differ materially from those in forward-looking statements as a result of various factors, including, but not limited to, capital and other costs varying significantly from estimates, changes in world metal markets, changes in equity markets, planned drill programs and results varying from expectations, delays in obtaining results, equipment failure, unexpected geological conditions, local community relations, dealings with non-governmental organizations, delays in operations due to permit grants, environmental and safety risks, and other risks and uncertainties disclosed under the heading "Risk Factors" in Hannan’s most recent Annual Information Form filed on www.sedar.com. 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, Hannan does not assume the obligation to revise or update forward-looking statements or information that may be contained in this presentation or to revise them to reflect the occurrence of future unanticipated events.

Qualified Person: The qualified person for Hannan’s projects, Michael Hudson, CEO for Hannan, and a Fellow of the Australasian Institute of Mining and Metallurgy, has reviewed and verified the contents of this presentation.

Feb. 2020

Key Points:

- A new frontier basin-scale copper (chalcocite) district;
- Similarities with sedimentary copper-silver deposits including the vast Kupferschiefer deposit in Eastern Europe and deposits of the African Copper Belt situated in sub-Saharan Africa, two of the largest copper districts on earth;
- Hannan recognized the exceptional potential for large copper-silver deposits in this part of Peru and has aggressively staked a commanding position over 660 square kilometres ("sq km") of prospective geology;
- Hannan is a first mover;
- Initial prospecting has identified high grade mineralization in outcrop and float and alteration in an area covering 120km x 50km. Similar style of outcrop/ boulders have been discovered over 100km of strike;
- Best results from outcrop – 20km apart:
  - **3m @ 2.5% Cu and 22g/t Ag (LD190517-19)**
  - **2m @ 5.9% Cu and 66g/t Ag (TC190536-38)**
- Mineralization forms at multiple stratigraphic levels and is spatially linked to salt structures.

History and geological overview

Located in North central Peru, in the sub-Andean zone of the Andes.

Historically overlooked by the mineral industry, but it has been the focus of the hydrocarbon industry for decades.

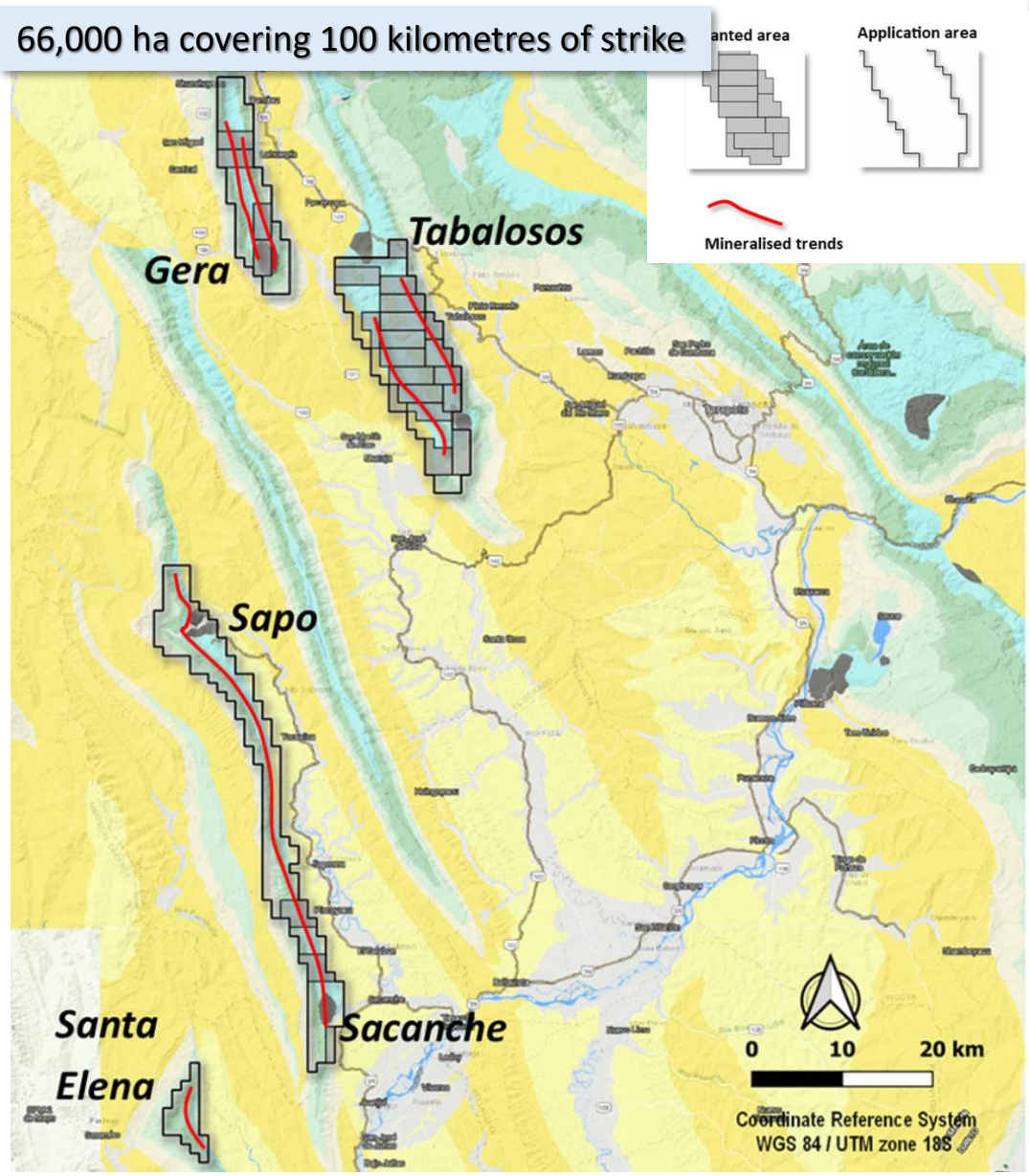
Described as one of the best surveyed thrust and fold belts in the world (for oil and gas). At the San Martin project alone there is 2,000 kilometres of 2D seismic.

However, the style of deformation in the Sub-Andean zone is mainly related to salt tectonics rather than a compressional thrust and fold belt.

➢ **This insight has opened a new search space for sediment-hosted copper deposits in Peru.**

Location and Access

66,000 ha covering 100 kilometres of strike



Peru Copper-Silver Project

Field work at Sacanche

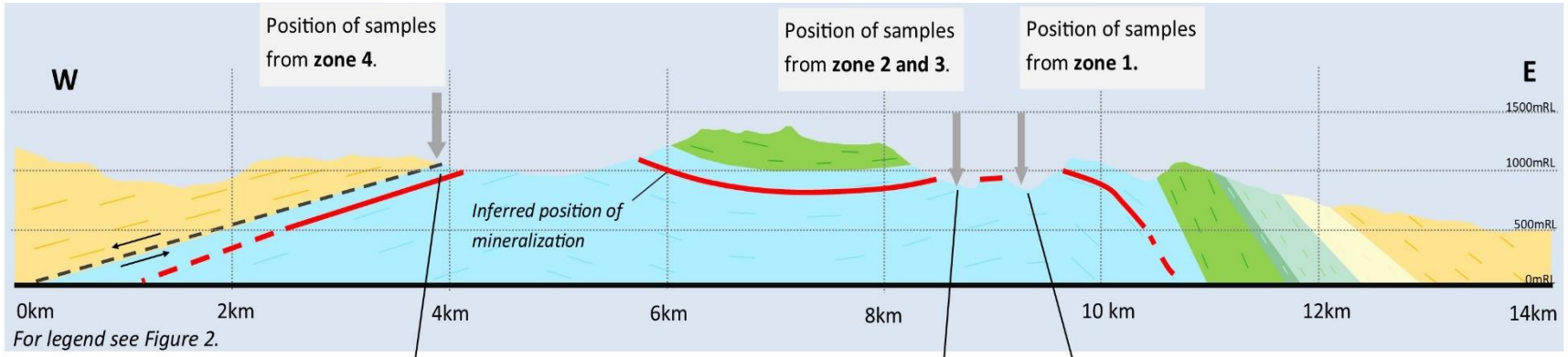
Bleached Sarayaquillo outcrop at Sacanche

Bleached and mineralized Sarayaquillo outcrop at Sacanche

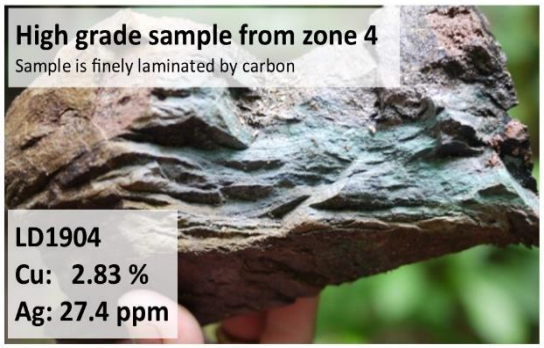
Field team

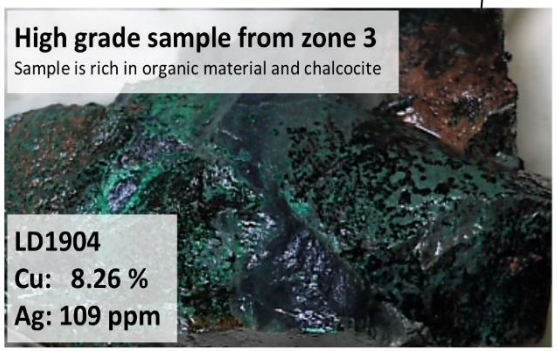
Peru Copper-Silver Project

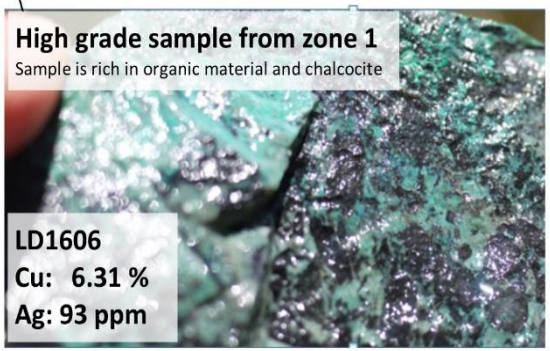
Peru Copper-Silver Project



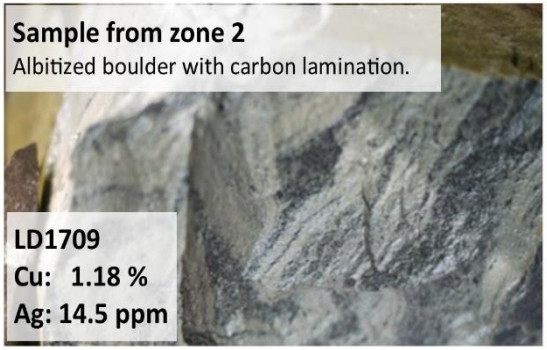
For legend see Figure 2.

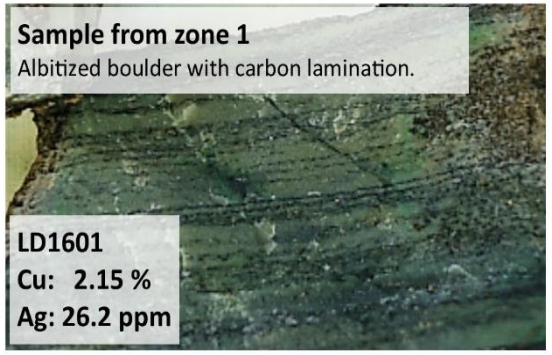






Mineralization:
disseminated chalcocite, covellite, bornite and digenite developed at the contact of oxidized and reduced strata





Peru Copper-Silver Project

Rote Fäule style alteration

Rote Fäule style alteration after albite

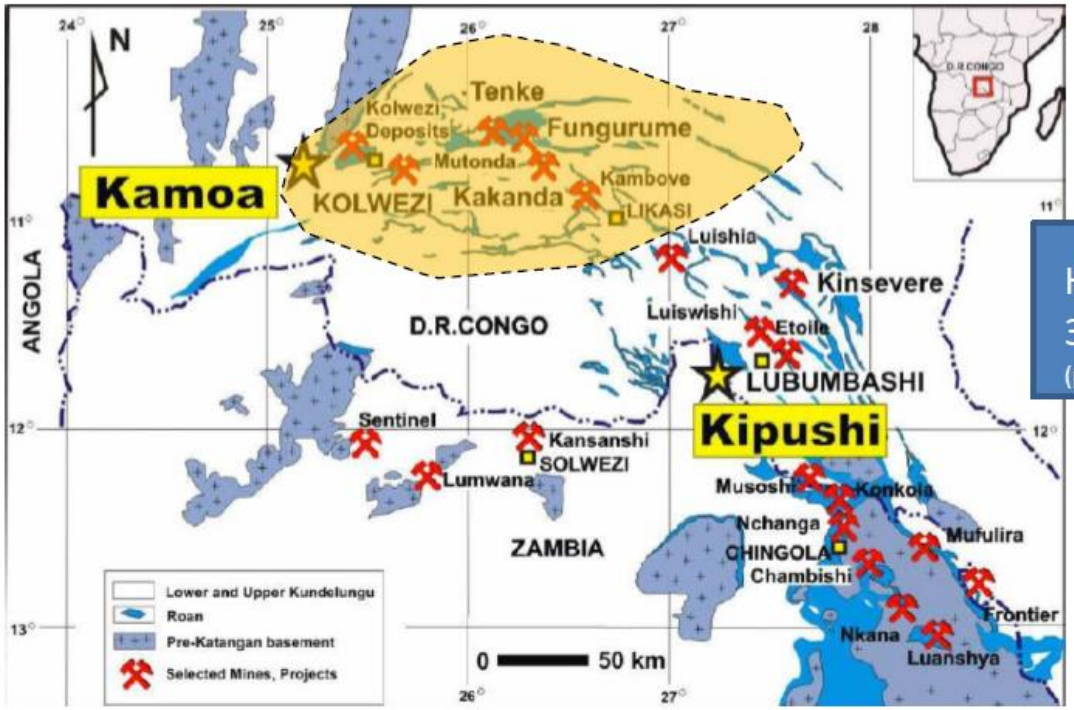
Extrusive salt dome Huallaga River

Stratiform copper mineralization, up to 6m thick. Hosted in bleached red-beds of Sarayaquillo formation over 1km strike.

Peru Copper-Silver Project

The search space is big for big systems:

Huallaga Basin as the same scale as Central African Copper Belt



Huallaga basin
350x120km
(prospective for copper)

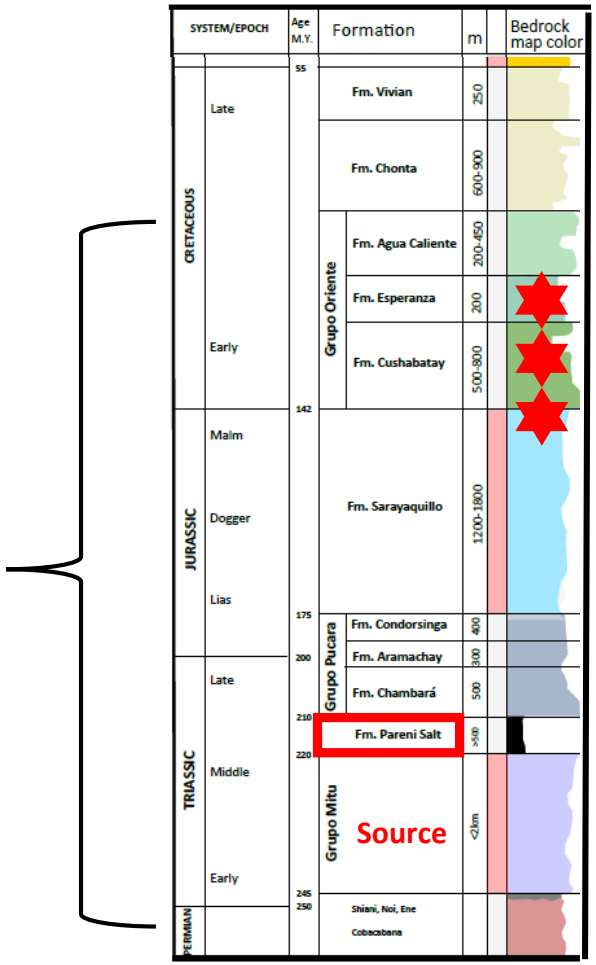
Stratigraphic column from the Peru Cu-Ag Project

Copper- Silver Mineralization Forms At Multiple Levels for Multiple Opportunities

200 Ma time span

Late Jurassic to Early Cretaceous period. Strong extension and salt related deformation (=fluid pathways and traps).

All the right ingredients: Sources rocks, traps and >500m thick evaporites



1. Cushabatay-hosted target
+50 metre thick gossans

Bituminous sandstone host

Analogue: Udokan, Russia: 2.8Gt @ 0.97% Cu 11.9g/t Ag

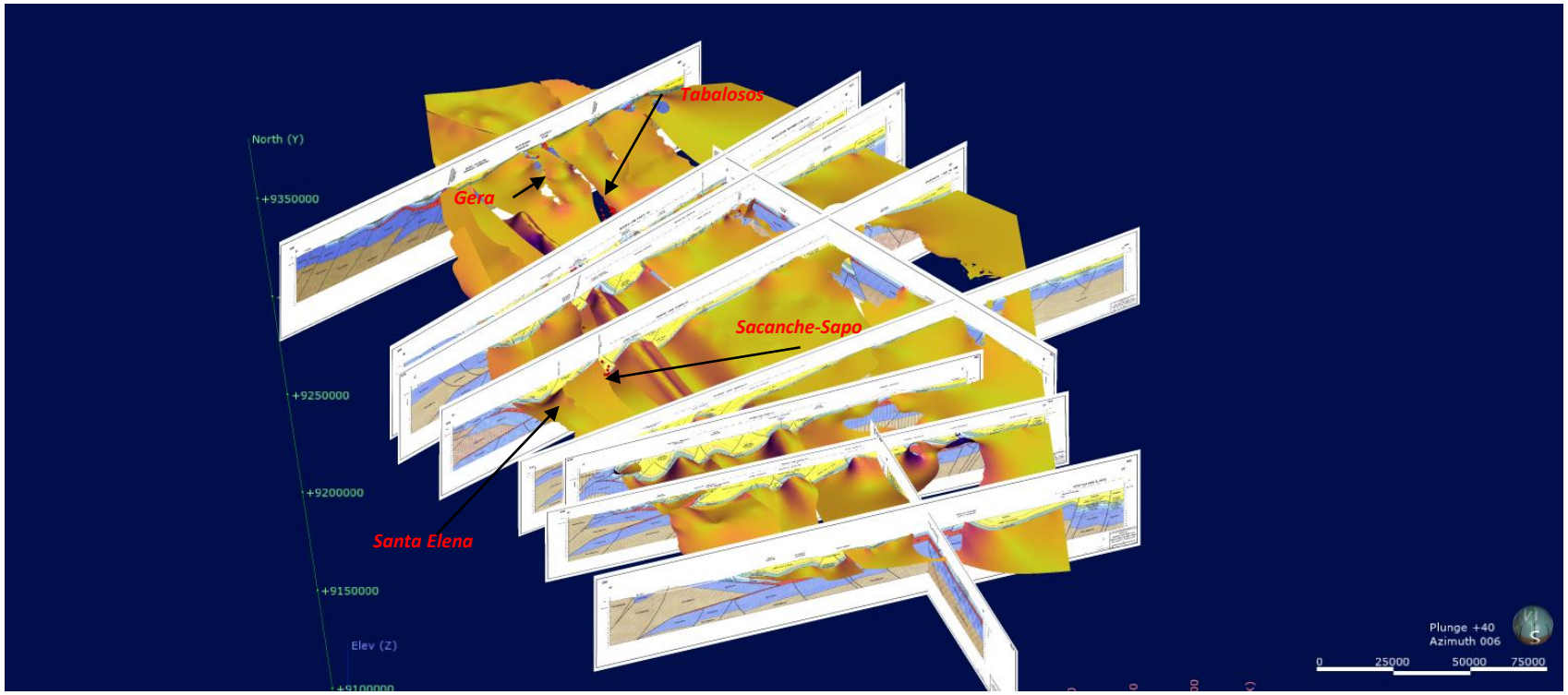
2. Sarayaquillo-hosted target
2-5 metres @ 2-5% Cu, 30-100g/t Ag

Reduced facies type

Analogues: Central African Copper Belt/ European Kupferschiefer

Basinal Scale 3D Model – Hannan's Data Rich but Unexplored Advantage

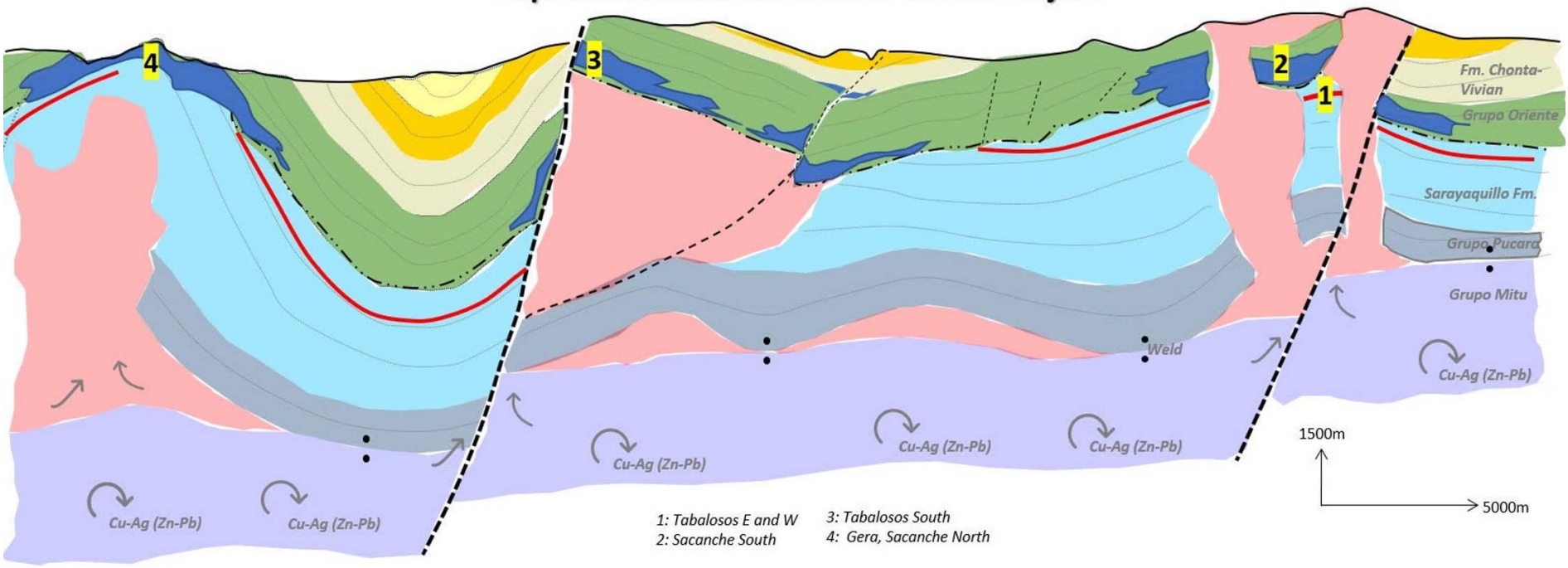
3D model is 300 km long and 180 km wide. Highlights first order structures.
Data rich environment from past petroleum explorers.
Base of Cushabatay Fm/ top of Sarayaquillo Fm.



Dr. David Broughton, from PhD thesis on sediment-hosted copper deposits in Africa

"Exploration for Central African Copperbelt-type bodies shares many similarities to the search for petroleum. Given this fact, seismic and/or the inversion of potential fields and electrical data to constrain subsurface geology may become common exploration techniques in the coming decades."

Exploration Model of the San Martin Project



1) Basin architecture (245-220Ma)

Triassic age rift sequence formed during the break-up of Pangea. Thick evaporite.

2) Source build up (210-175Ma)

Brines scavenged metals from red bed sediments and volcaniclastics in the Mitu Group.

3) Fluid transport :

Mobilization of metal-bearing oxidized brines by hydrological gradients and/or compression. Fluid focus by faults and salt diapirs linking fluid reservoirs with chemical and structural traps.

***175-142 Ma:** reactivation of basement faults during Jurassic extension. Initiation of salt diapirs.*
***142Ma:** Initiation of Andean Foreland. Continued salt deformation.*
***24-12 Ma:** Major Andean orogenic event.*

4) Traps

Redox boundary and erosional unconformity

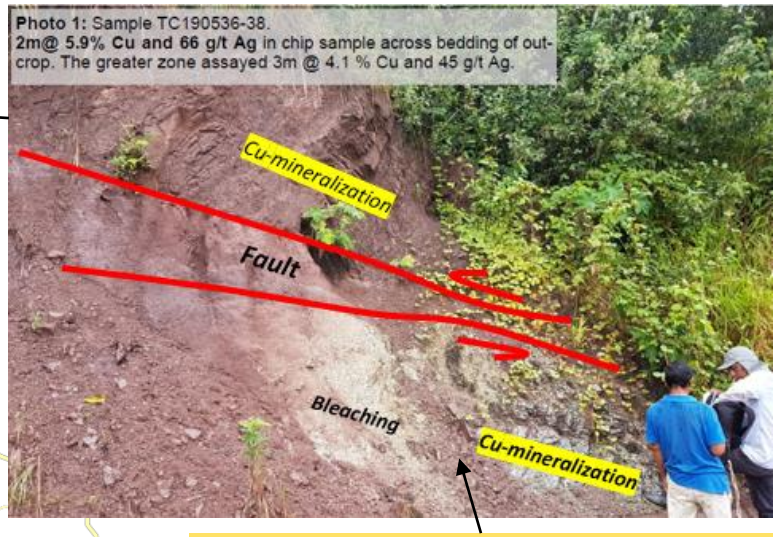
Major redox boundary in basin marked Grupo Oriente. Deposited in the foreland basin that marks Jurassic extension and initiation of Andean compression.

Chemical and physical trap – hydrocarbon reductant

Reduced facies trap of carbon matter and or pyrite

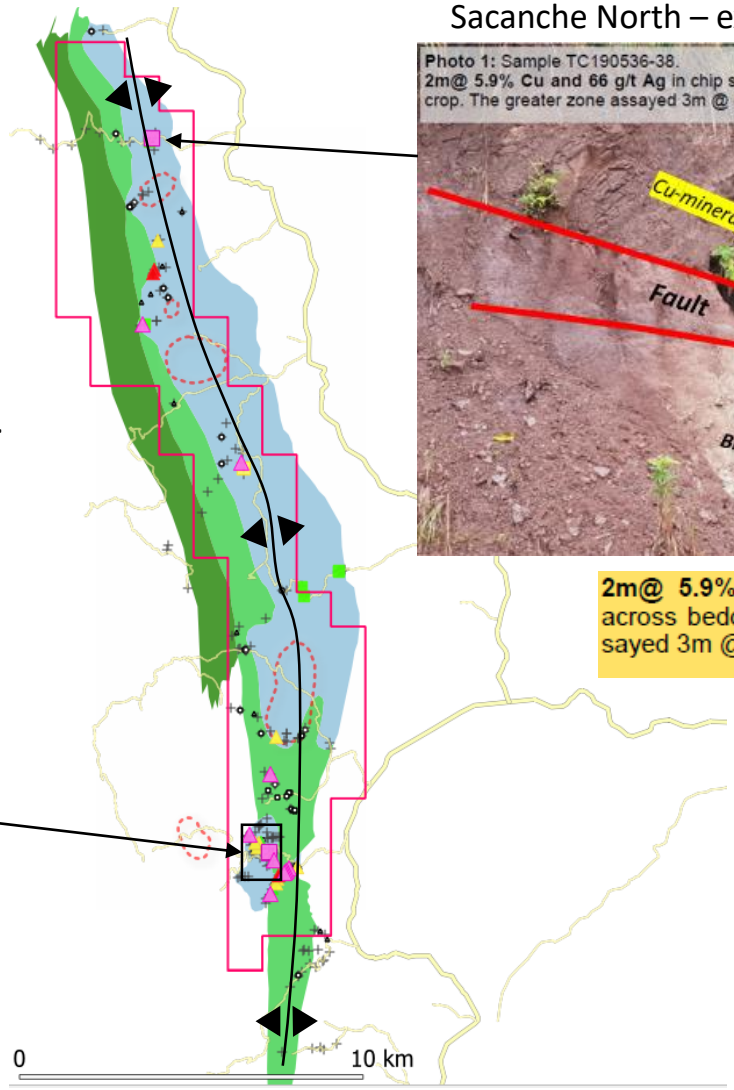
Sacanche reduced facies type copper target:

Sacanche North – exposure at side of road.

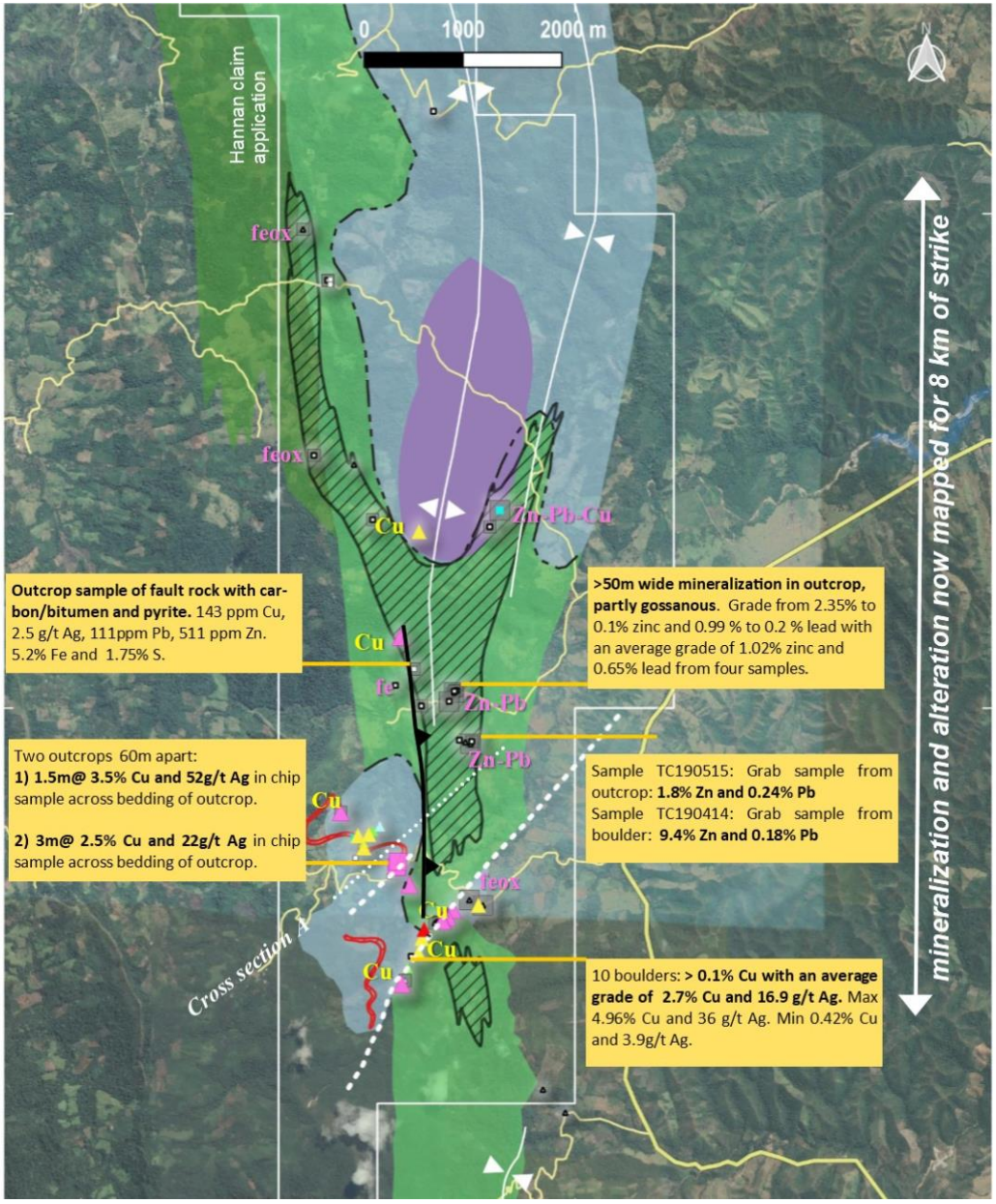


2m@ 5.9% Cu and 66 g/t Ag in chip sample across bedding of outcrop. The greater zone assayed 3m @ 4.1 % Cu and 45 g/t Ag.

Sacanche South – exposure at side of road.



South Sacanche- Key Results



Mineralization discovered in two different parts of the stratigraphy

1. Cushabatay-hosted target

Analogue: Udokan, Russia: 2.8Gt @ 0.97% Cu 11.9g/t Ag

50-300m wide gossanous zone hosted by grey sandstone with elevated Zn-Pb (Cu). It has been mapped over 500m and inferred for 11 km strike. Structurally controlled by an anticlinal ridge caused by salt tectonics. Float up to 2.8% Cu and 50 g/t Ag.

2. Sarayaquillo-hosted target

Analogues: Central African Copper Belt/ European Kupferschiefer

Mineralization discovered in outcrop. Similar style of outcrop/ boulders have been discovered over 100km of strike

- 3m @ 2.5% Cu and 22g/t Ag (LD190517-19)
- 1.5m@ 3.5% Cu and 52g/t Ag in chip sample across bedding of outcrop.

South Sacanche – Cross Section Looking Northwest

LEGEND

- Grupo Oriente — Undifferentiated Grupo Oriente
- Grupo Oriente — Grey quartzitic sandstone with +/- bituminous carbon
- Sarayaquillo — Red sandstone / siltstone /mudstone +/- organic carbon
- Pareni Salt — Inferred salt intrusion
- Inferred grey sandstone hosted copper target.
- Inferred red-bed hosted copper target
- Erosional unconformity

Two outcrops 60m apart, projected on to section 280m from the South.

1) **1.5m@ 3.5% Cu and 52g/t Ag** in chip sample across bedding of outcrop.

2) 2) **3m@ 2.5% Cu and 22g/t Ag** in chip sample across bedding of outcrop.

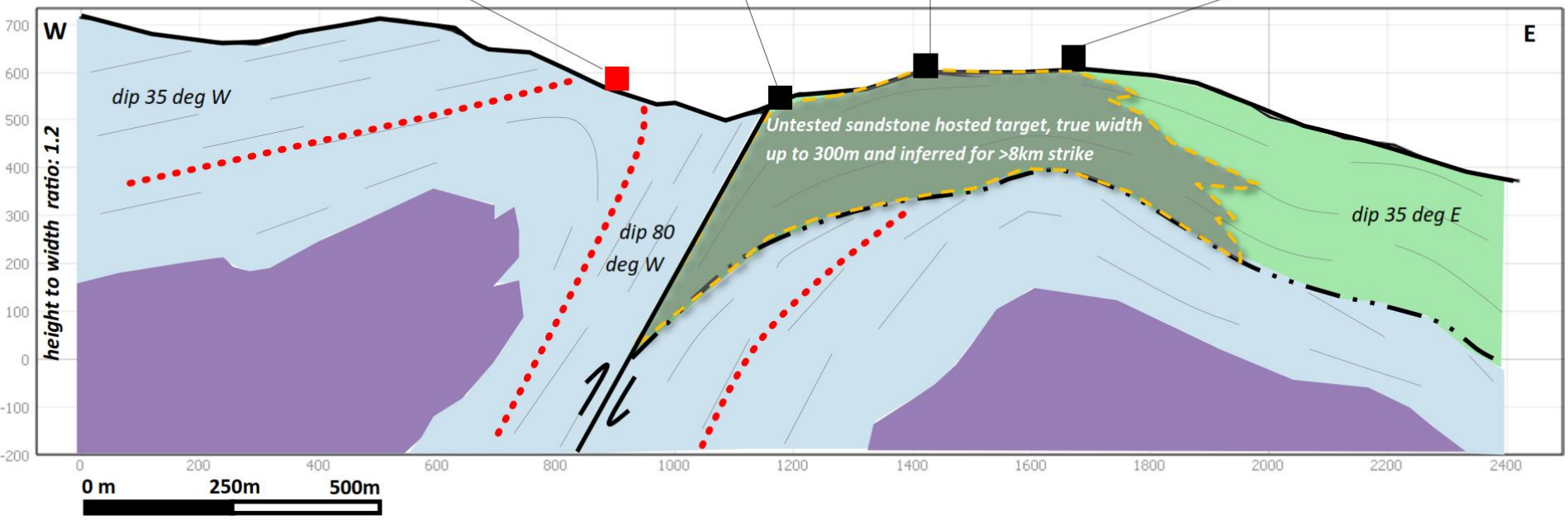
Sample LD190575: projected on to section 1300m from the North.

Outcrop sample of fault rock with carbon/bitumen and pyrite. 143 ppm Cu, 2.5 g/t Ag, 111ppm Pb, 511 ppm Zn. 5.2% Fe and 1.75% S.

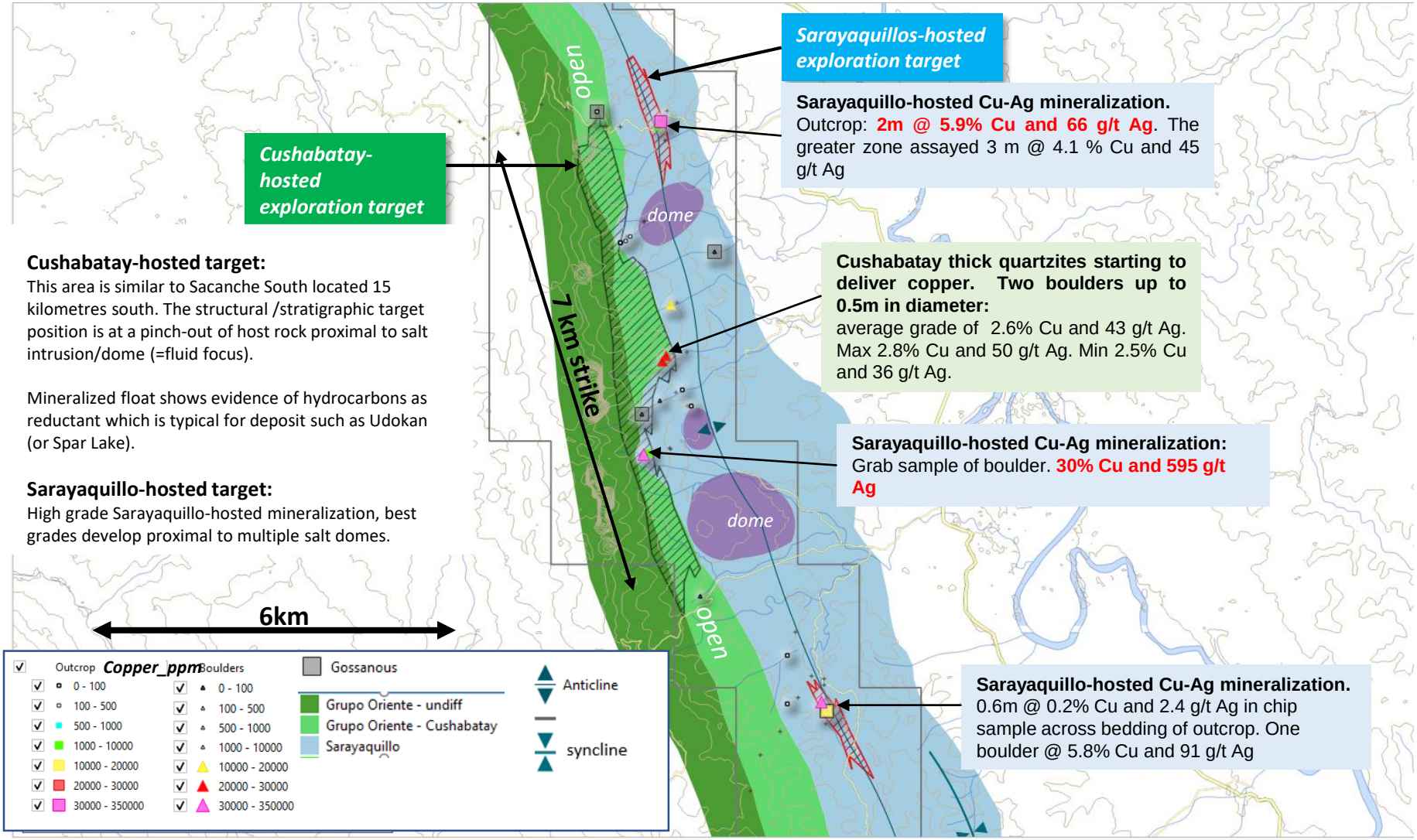
Projected on to section 830m from the North**. >50m wide mineralization in outcrop, partly gossanous**. Grade from 2.35% to 0.1% zinc and 0.99 % to 0.2 % lead with an average grade of 1.02% zinc and 0.65% lead from four samples.

Sample TC190514: projected on to section 250m from the North.

Grab sample from outcrop:
1.8% Zn and 0.24% Pb
Grab sample from boulder:
9.4% Zn and 0.18% Pb



North Sacanche- Key Results

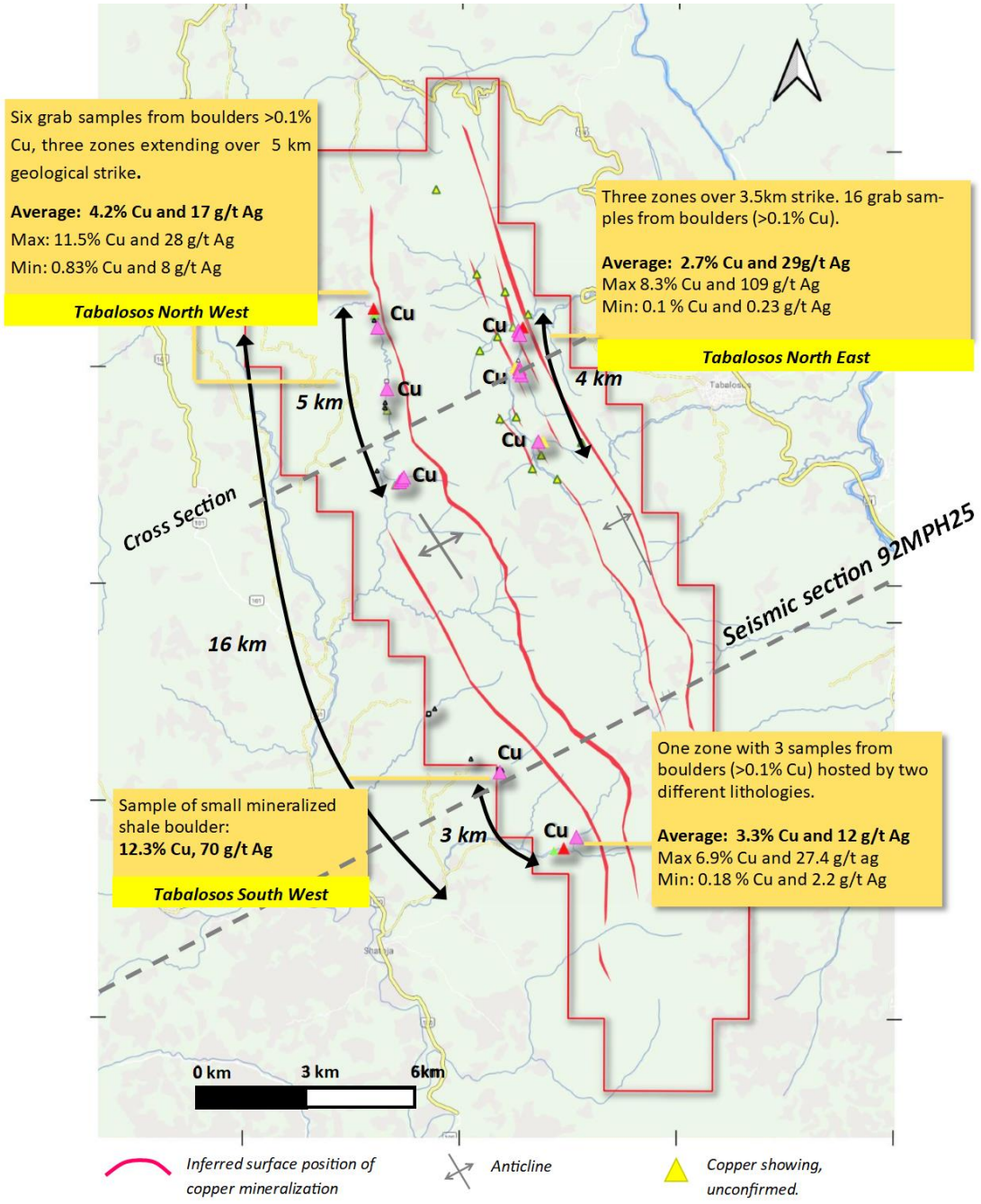


Cushabatay-hosted target:
This area is similar to Sacanche South located 15 kilometres south. The structural /stratigraphic target position is at a pinch-out of host rock proximal to salt intrusion/dome (=fluid focus).

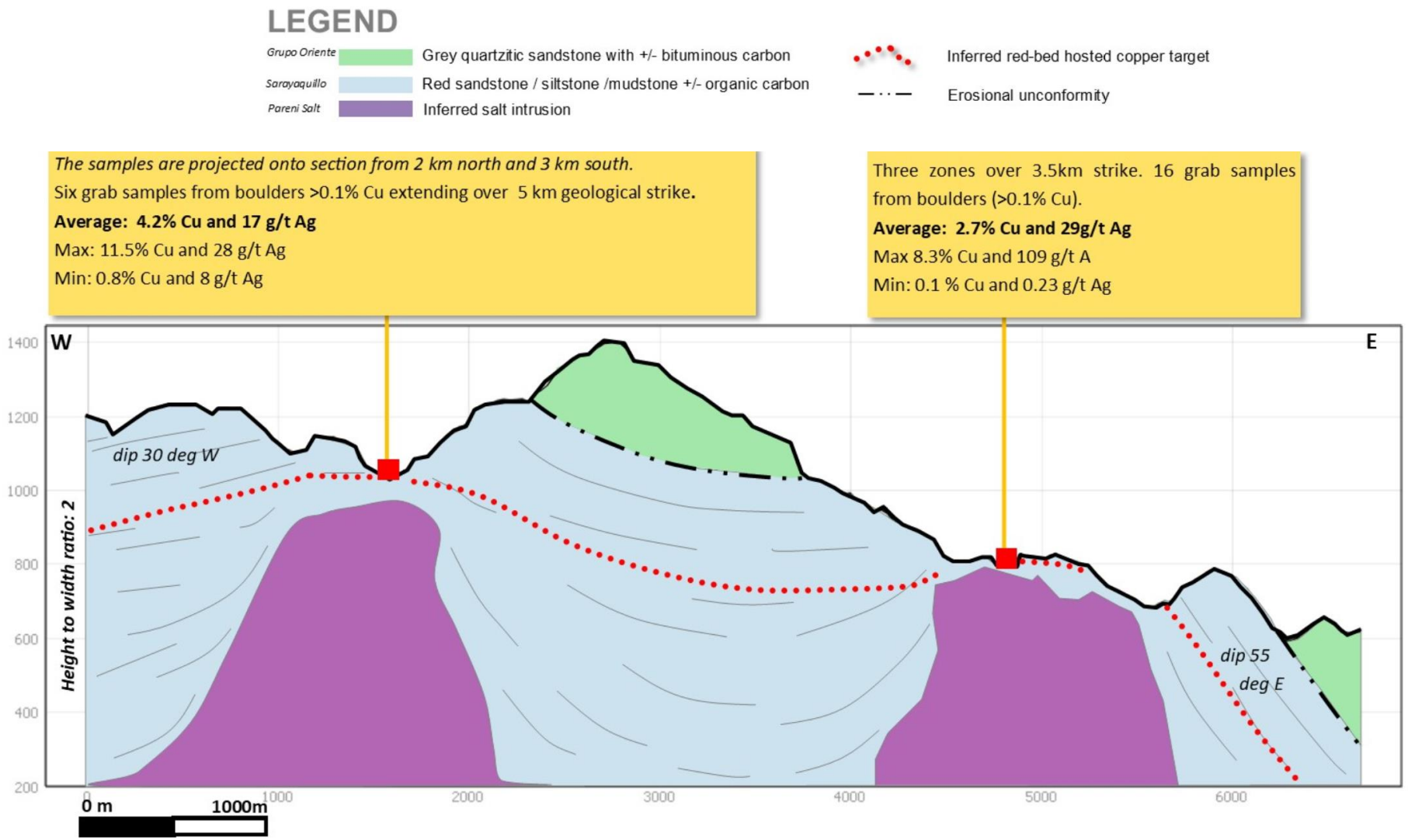
Mineralized float shows evidence of hydrocarbons as reductant which is typical for deposit such as Udokan (or Spar Lake).

Sarayaquillo-hosted target:
High grade Sarayaquillo-hosted mineralization, best grades develop proximal to multiple salt domes.

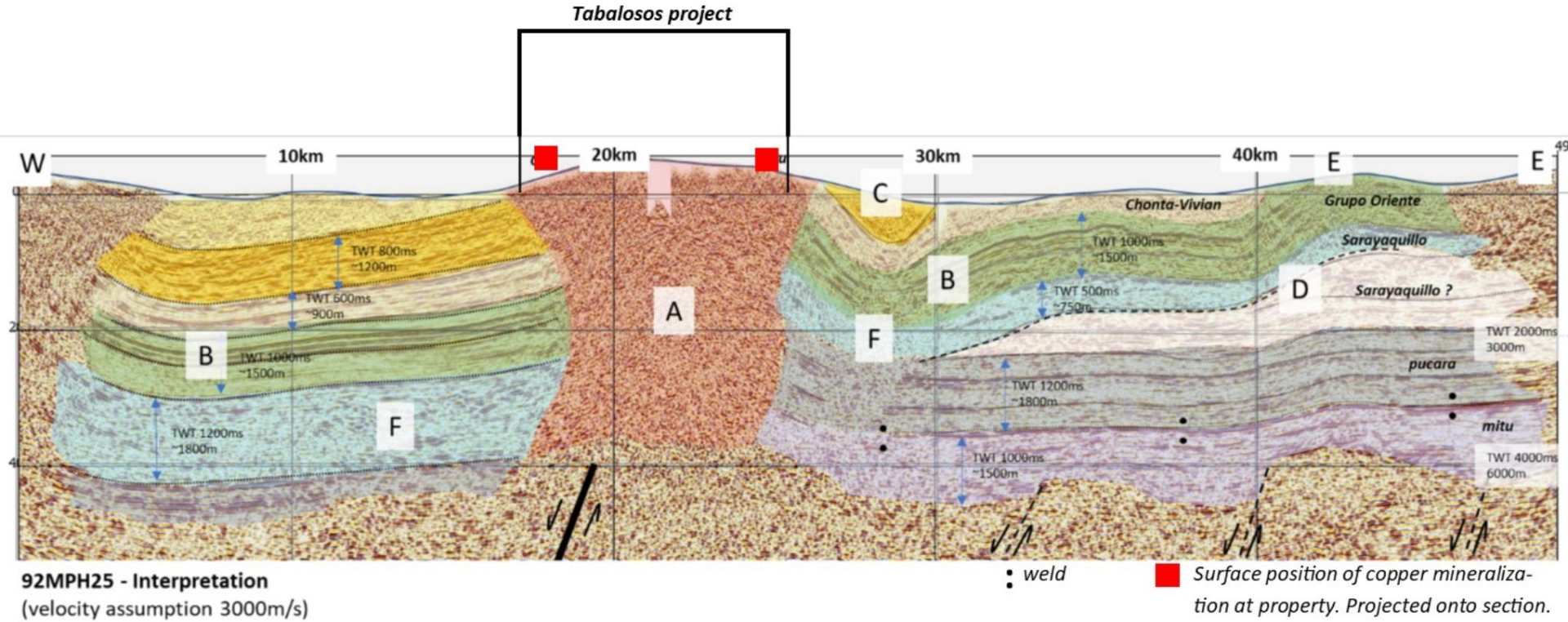
Tabalosos – Key Results (80km north of Sacanche)



Tabalosos – Cross Section Looking Northwest

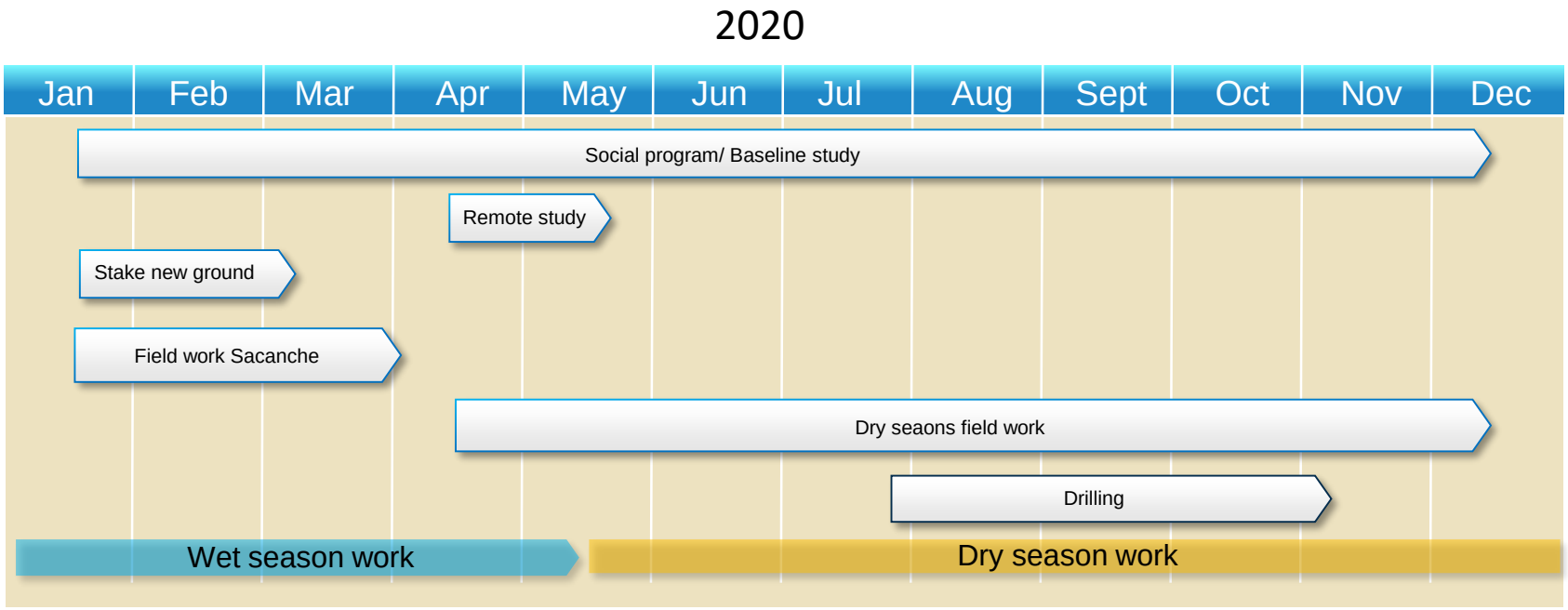


Tabalosos – Seismic Cross Section Looking North
Hannan holds US$10's millions worth data – 2-year program by Mobil
One of world's most studied foreland basins (for oil and gas)



Timeline

- Continue to build basin scale project with further field work
- Social program, drilling permitting
- Stream sediment surveys
- Soil surveys
- Remote sensing study
- Initial drill testing (subject to permitting)
- Budget 2020 $1.5M



Corporate Structure

TMX TSX Venture Exchange	HAN
OTCPink	HANNF
INSIDERS:	33%
SHARES ON ISSUE:	74.1 M
FULLY DILUTED:	104.5 M
RECENT PRICE:	C$0.235 (14 Feb)
MARKET CAP:	C$13.9 M
CASH:	C$2.2 M
ENTERPRISE VALUE:	C$11.7 M

Stock Options:

Expiring May 12, 2020	$0.45	65,000	
Expiring July 4, 2020	$0.40	75,000	
Expiring July 21, 2020	$0.30	100,000	
Expiring August 28, 2020	$0.26	250,000	
Expiring November 9, 2020	$0.28	50,000	
Expiring November 14, 2021	$0.10	921,000	
Expiring November 15, 2021	$0.10	120,000	
Expiring February 1, 2022	$0.26	50,000	
Expiring January 23, 2023	$0.25	3,545,000	
Expiring September 4, 2023	$0.13	500,000	**5,676,000**

Warrants:

Expiring March 5, 2020	$0.10	528,750	
Expiring April 24, 2021	$0.15	1,852,500	
Expiring April 30, 2021	$0.15	322,500	
Expiring July 6, 2021	$0.25	7,390,900	
Expiring Feb 18, 2022	$0.30	14,683,262	**24,777,912**

Directors & Officers

Michael Hudson (Chairman & CEO): *B.Sc. (Hons), GDipAppFin, FAusIMM, MAIG*

Lars Dahlenborg (President): *MSc.*

David Henstridge (Director): *B.Sc. (Hons), FAusIMM, MAIG, MGSAust*

Georgina Carnegie (Director): *B.Com, AM Harvard*

Ciara Talbot (Director): *B.Sc. (Honours)*

Nick DeMare (Director): *CPA, CA*

Mariana Bermudez (Corporate Secretary)

Hannan is managed by a group with careers built in the exploration industry.

In recent years, the group has raised more than US$100M for European and Peruvian exploration and development.

With a track record of success, and significant experience in gaining social licence to operate, Hannan is well place for continued growth.

Opening Up New Search Spaces

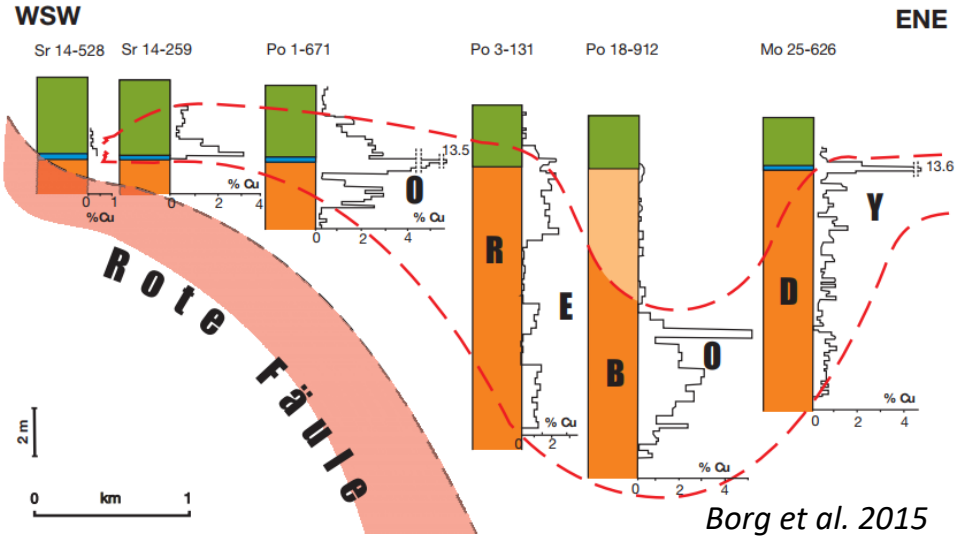
- Opening up new search spaces via grassroots discovery (Peru copper-silver) and technology (Irish zinc seismics)
- Previously unexplored sediment-hosted high-grade copper-silver district identified in north-central Peru
- Similarities with sedimentary copper-silver deposits including the vast Kupferschiefer deposit in Eastern Europe and deposits of the African Copper Belt situated in sub-Saharan Africa, two of the largest copper districts on earth;
- Hannan recognized the exceptional potential for large copper-silver deposits in this part of Peru and has aggressively staked a commanding position over 660 sq km of prospective geology;
- Collecting data, making discoveries, creating value

Appendices

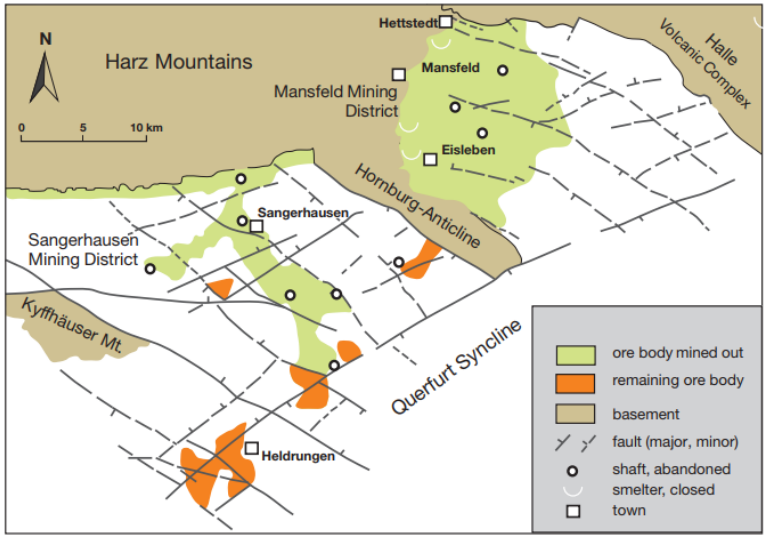
Analogue: The Kupferschiefer of northern central Europe :

- an Fe^{3}+ zone (hematite),
- through a locally developed precious metal (Au, Pt, Pd) zone,
- an always redox-proximal Cu zone (chalcocite, bornite, chalcopyrite),
- a locally overlapping Pb and Zn zone,
- into a distal Fe^{2}+ zone of preore, commonly framboidal or early diagenetic pyrite.

Orebodies can range in thickness from 0.3 metres up to more than 50 metres and occur at various stratigraphic levels



Borg et al. 2015

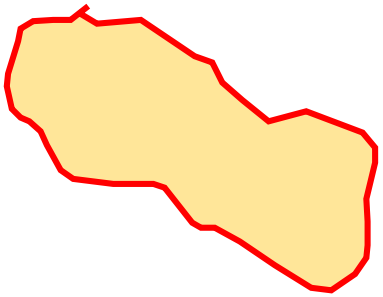


Cushabatay-hosted target style: Sandstone-type Copper Deposits

***Troy mine**: 2,500 by 540 m in area and 15 to 30 m in thickness. However, over about 90 percent of the area of the orebody, the thickness was consistent at 21 to 23 m*

Spar Lake deposit

***Udokan**: occupies a zone 10 km by 2.5 km that contains multiple ore lenses as large as 3 km long, 700 m wide, and several tens of meters thick*



Spar Lake, Rock creek and Rock Lake, US
Pre-erosion these deposits are estimated to represent >500Mt Cu-Ag deposit.

Spar Lake: pre-mining geological reserve:
58Mt@ 54g/t Ag
Rock creek:
123.4Mt/ 57.2 gtAg

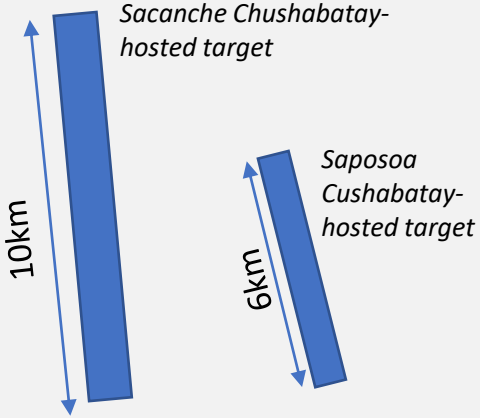
Udokan JORC compliant resources:

Measured resource - 344 Mt @ 1.03% Cu, 8.9 g/t Ag;
Indicated resource - 1507 Mt @ 1.01% Cu, 11.1 g/t Ag;
Inferred resource - 947 Mt @ 0.89% Cu, 14.3 g/t Ag;
TOTAL resource - 2.798 Gt @ 0.97% Cu, 11.9 g/t Ag;

10km

all three deposits/targets are shown at the same scale

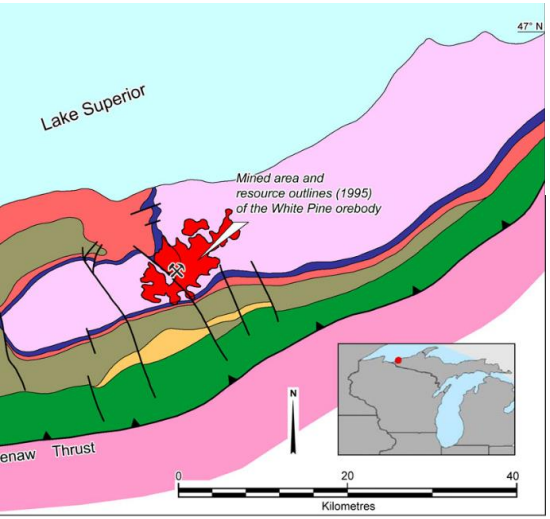
Hannan's Sacanche claim:



A strong start from initial field work

Sarayaquillo-hosted target style: Reduced-facies type copper

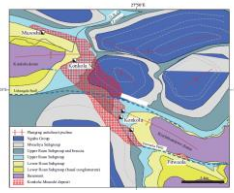
White pine deposit



Contained
1.8M metric tons @ ~1.1% Cu

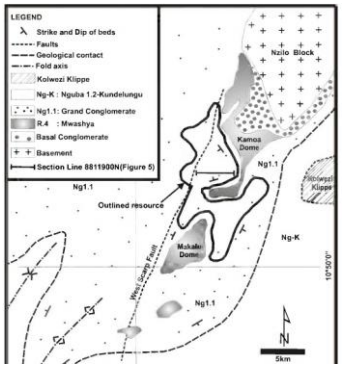
Central African Copper Belt

Konkola deposit



Contained
26.8Mt @ 3% Cu

Kamoa deposit

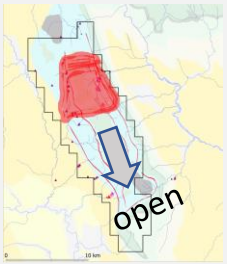


Contained
21.8Mt @ 2.69% Cu

20km

all three deposits/targets are shown at the same scale

Tabalosos North Target



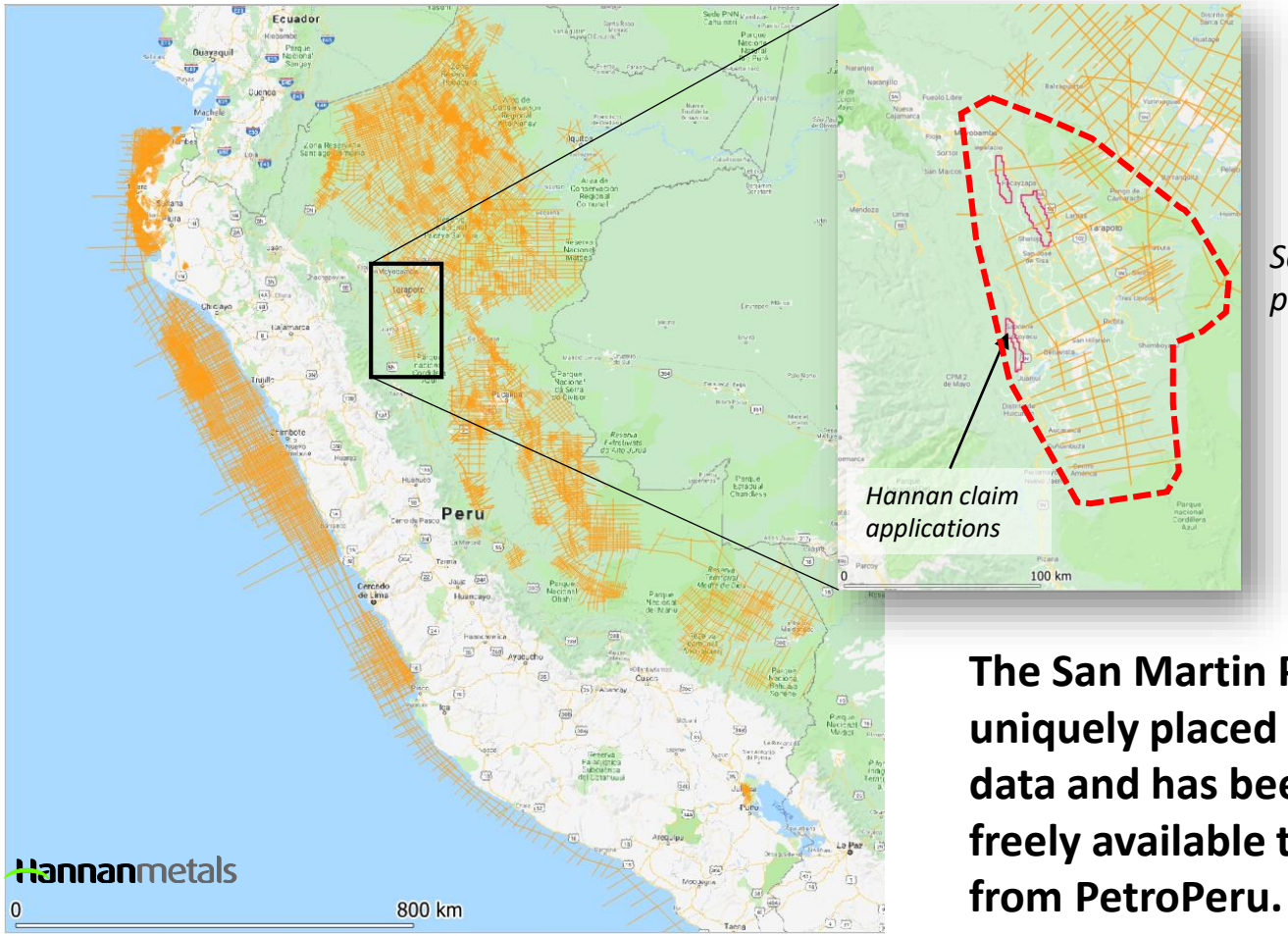
High grade boulders have been found in an area of 6x5km. 20 boulder assays pending. Average grade 2.8% Cu and 27.2 g/t Ag.

Mineralized boulders and outcrops show system extends to the south (as far as 80 kilometres to Sacanche).

The San Martin Project/Huallaga Basin has all the hallmarks of a major copper producing basin

To form significant deposits (after Hitzman):		*San Martin, Peru*
Stratigraphic Sequence	***highly oxidized metal source beds (red beds)***	***yes Mitu rift sequence***
	incl: mafic or bimodal volcanic source rocks?	
	highly reduced facies to serve as metal traps	
	large amounts of contained reductant; in situ organic matter or hydrocarbons that have migrated within the basin	*yes, several, from Triassic to Cretaceous age.*
	Evaporites with significant thickness	***yes Pareni salt***
	saline brines capable of leaching and carrying metals	
	regional aquiclude, or seal, within the basin stratigraphy and allowing for the possibility of establishing a longlasting intrabasinal fluid reservoir	
Basin Architecture	***Rift basin/intracratonic basins***	***yes,***
	basin architecture was relatively hydrologically closed	***yes***
	Basins of giants were relatively tectonically quiescent for long periods (100my)	***yes***
Host rock age	**Post archean**	***yes***
Mineralization ages	**early diagenesis to times of basin inversion and metamorphism**	***not known***
	Larger deposits early to late diagenesis?	***not known***
Smoke	**postpeak-metamorphic Cu-Mo-U mineralization**	***not known***
	Uraninite, a phase intimately associated with, but commonly postdating, stratiform copper mineralization	***not known***
Unique Attributes of the Permian and Neoproterozoic	**the lengthy time span of mineralization 100myr**	***not known***
	Evaporites are a key feature of the basins hosting supergiant deposits	***yes, Pareni Salt Formation***
	major glacial events occurred affecting Seawater chemistry	***yes, the basin probably similar age as Zechstein in Poland.***
	quiescent for long periods	***yes probably***

Seismic data has been a key driver to develop an updated geological framework at San Martin project



The San Martin Project is uniquely placed with this data and has been made freely available to Hannan from PetroPeru.

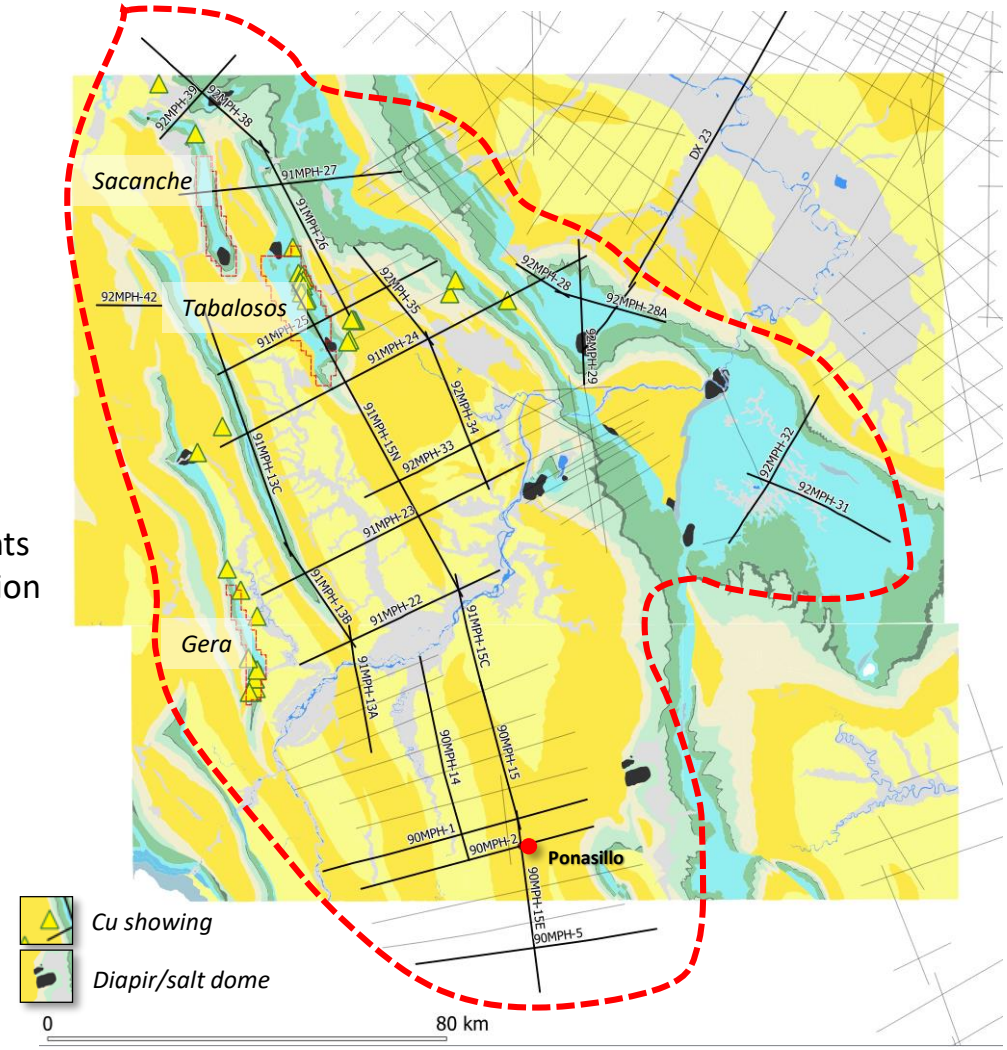
Seismic coverage:

- 2,235 km of 2D seismic at Huallaga basin
- Shot between 1990-92
- One well (Ponasillo, depth 2700m, dry)

- Dark lines reviewed

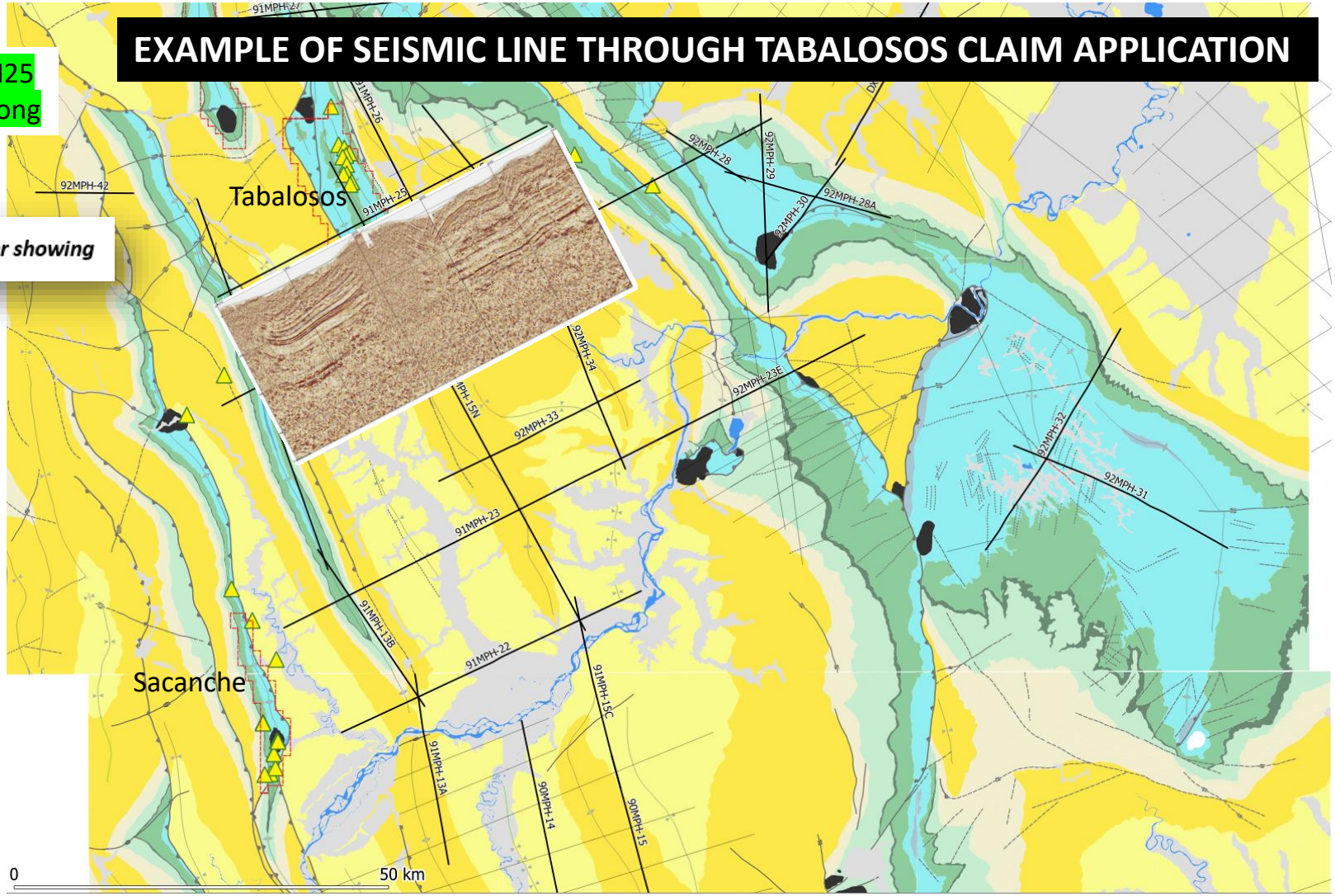
Data quality
- Overall data quality is variable, longer lines >40km crosscutting the geological trends usually image events well and to significant depth 9000m (need confirmation if data is in time or depth domain)

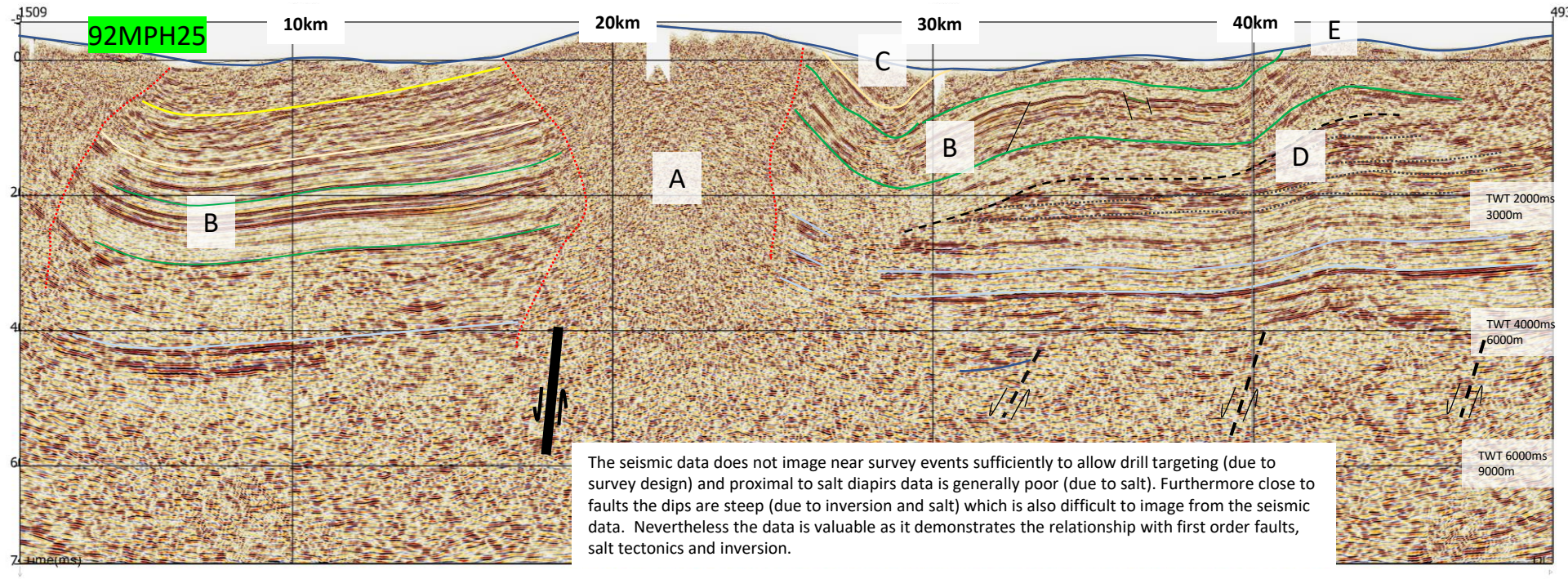
Processing
- Unknown at this stage



EXAMPLE OF SEISMIC LINE THROUGH TABALOSOS CLAIM APPLICATION

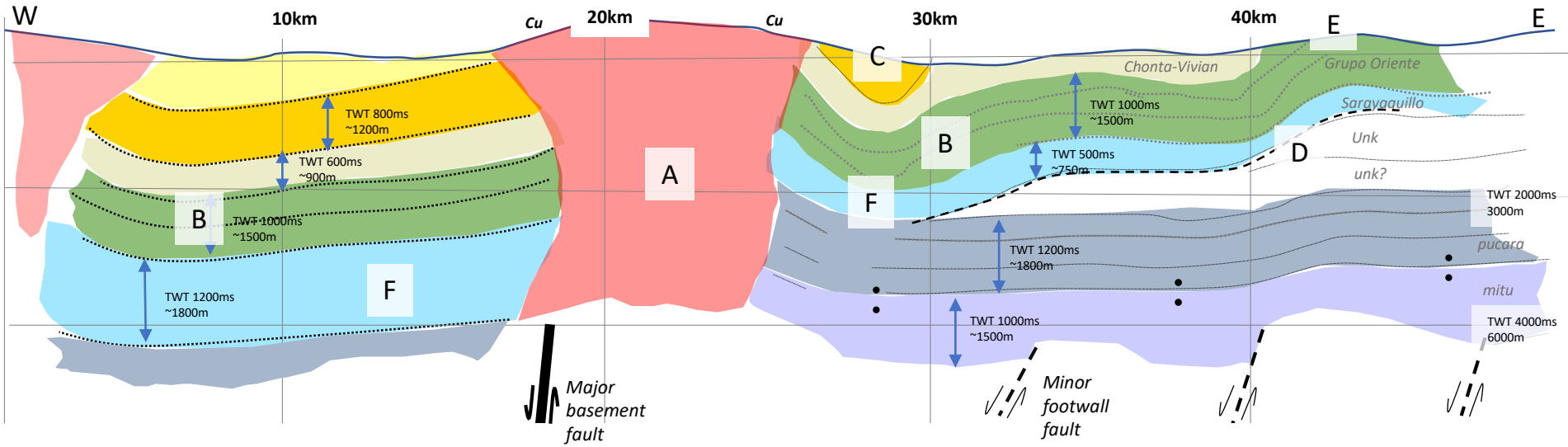
92MPH25
50km long





Velocity assumption 3000m/s

A. A salt diapir in central part of line, correlates with the Alto Mayo cordillera and mapped salt domes by Ingemmet.
B. Stratigraphy is inferred from the surface geology and the Grupo Oriente which is a good marker unit.
C. Compression and folding related to salt inflation
D. Unconformity marked by package of stronger reflectors at the base of Sarayaquillo Formation.
E. Inversion related bulge (Andean inversion)
F. Inferred thickness of Sarayaquillo; compare HW and FW of basin fault. FW is much narrower. This is analogus to the Waulsortian thickness variations in Ireland.



92MPH25 - Interpretation
(velocity assumption 3000m/s)

Basement fault controls emplacement of salt diapir. Thickness variation of Sarayaquillo between HW and FW of basin fault. No constrains on timing of salt inflation. Minor evidence of young compressional inversion marked by “E” at 43km.

Velocity assumption 3000m/s

A. Clear salt diapir in central part of line, correlates with the Alto Mayo cordillera and mapped salt domes.
B. Stratigraphy is inferred from the surface geology and the Grupo Oriente which is a good marker unit.
C. Compression and folding related to salt inflation
D. Unconformaty marked by package of stronger relfectors at the base of Sarayaquillo Formation.
E. Inversion related bulge (Andean inversion)
F. Inferred thickness of Sarayaquillo; compare HW and FW of basin fault. FW is much narrower.