



# Condor Gold plc

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## Structural Review of the La India Deposit and District, Nicaragua

September 2015

Summarised from a report by  
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Telluris Consulting Ltd

# Review of La India District Structural Geology

This presentation is a summary of a review of the structural geology of La India District carried out by consultant structural geologist Dr Tony Starling of Telluris Consulting Ltd. The presentation has been created by Condor Gold plc based on a full technical report written by Telluris Consulting. All diagrams were extracted from the Telluris Consulting report but have been amended and altered by Condor Gold plc except where referenced otherwise. The Presentation has been reviewed by Telluris Consulting, but is the interpretation and opinion of Condor Gold plc.

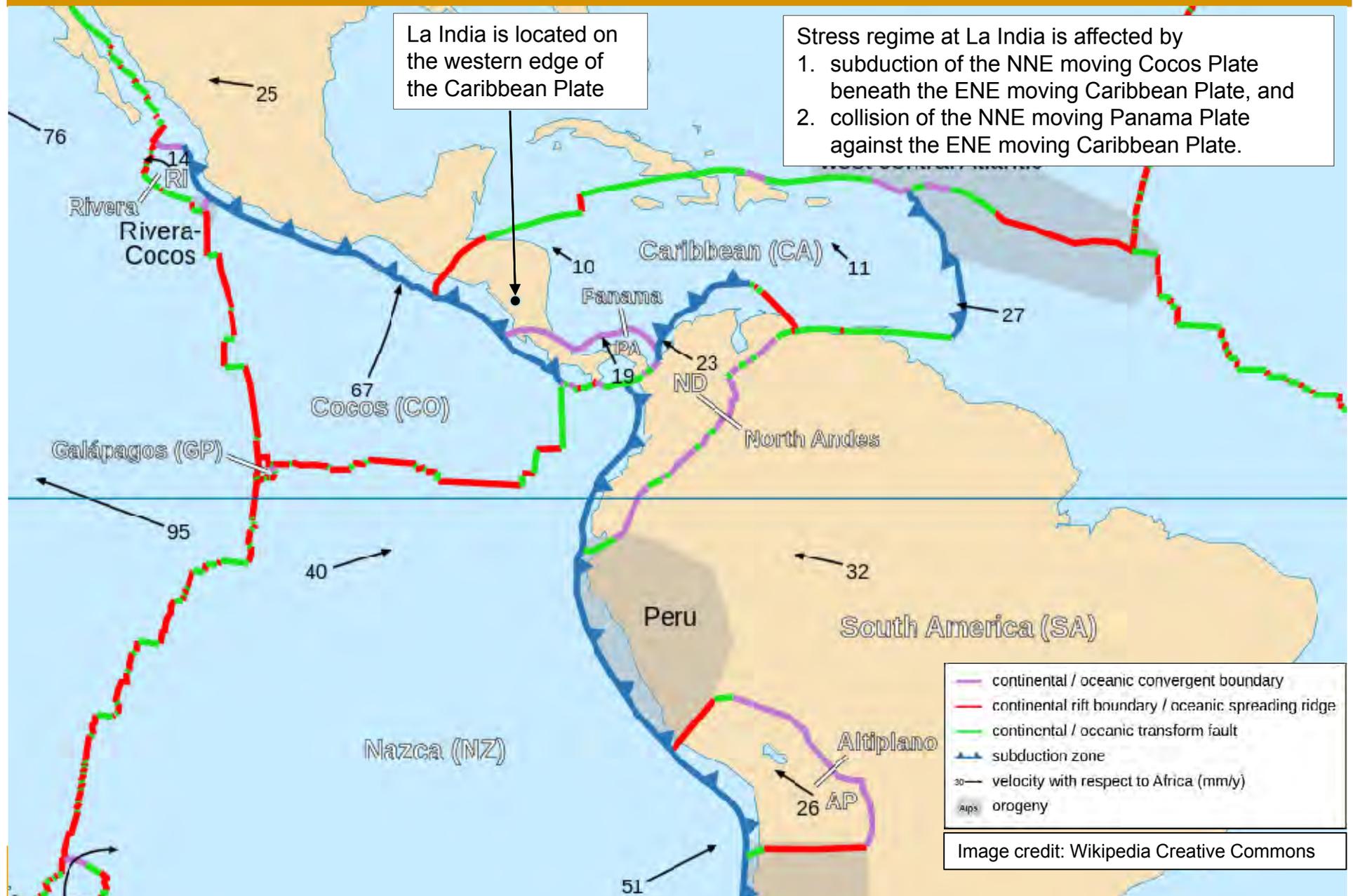
The study draws on the most recent academic and field studies to establish the tectonic setting of La India District from the deposition of the bedrock, through gold deposition and to the present day.

The study focusses on the better documented core resource area of La India, America and La Mestiza vein sets, and as far out as the Dos Hermanos Vein to the southeast and the Cristalito, Real de La Cruz and Cacao prospects to the north and east. This area encompasses the entire independent mineral resource estimate for la India Project which currently stands at 18.1M tonnes at 4.0g/t gold containing 2.32M oz gold.

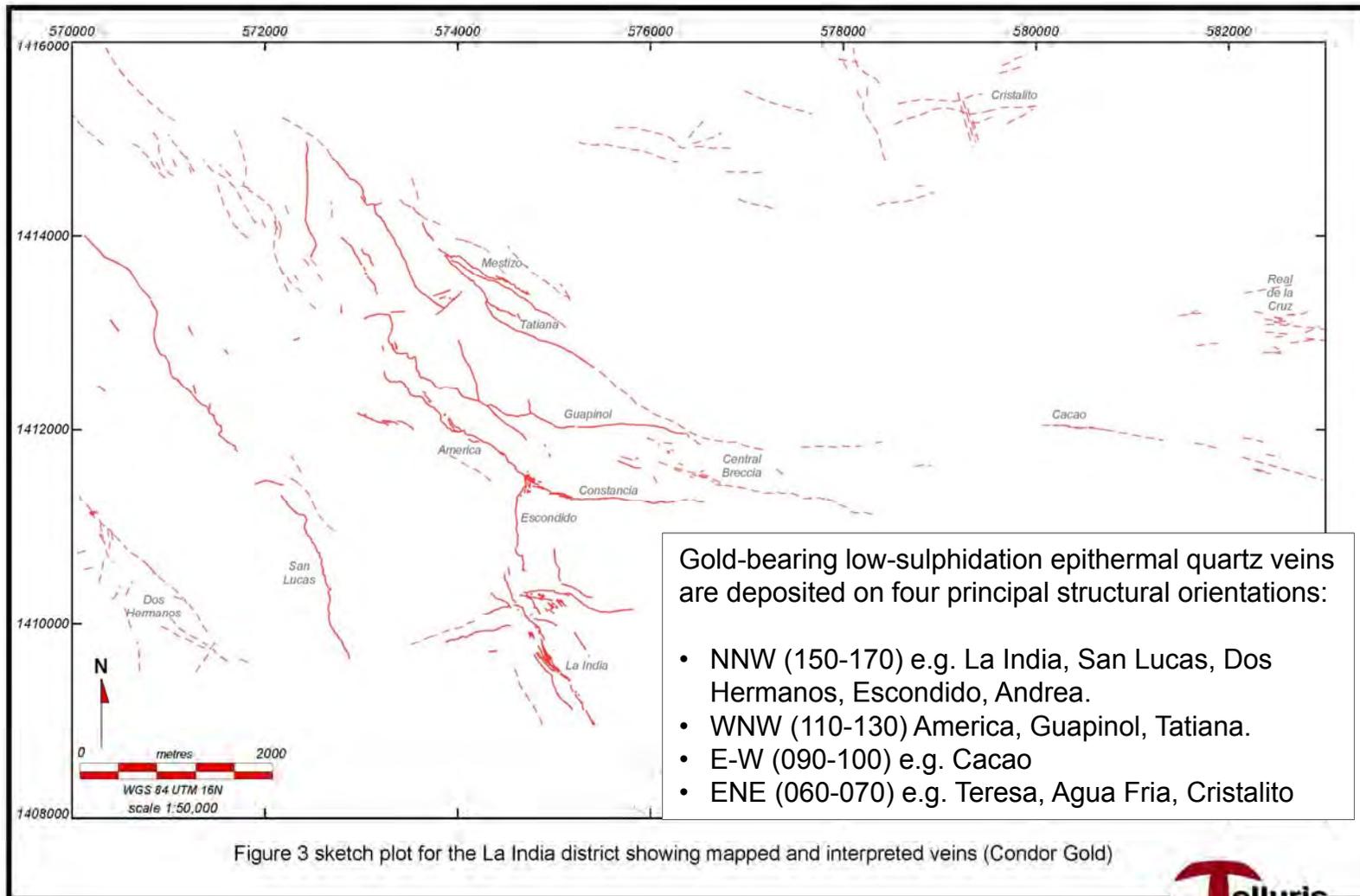
## **Telluris Consulting Ltd**

Dr Tony Starling is founder and Managing Director of Telluris Consulting Ltd. Telluris Consulting is a geological consultancy established in 1993 that specialises in the application of structural and alteration studies with bespoke image processing with extensive experience in the Central America. Dr Starling has reviewed the information and consents to the inclusion in this announcement of the opinions and figures that can be attributed to the Telluris study.

# Tectonic Setting



# Fault Geometry at La India



# Geological Setting & Deformation History

## Geological setting

La India District bedrock is Tertiary strato-shield volcanic complex comprising mafic to felsic volcanic flows and domes and pyroclastic deposits.

## Structural Deformation

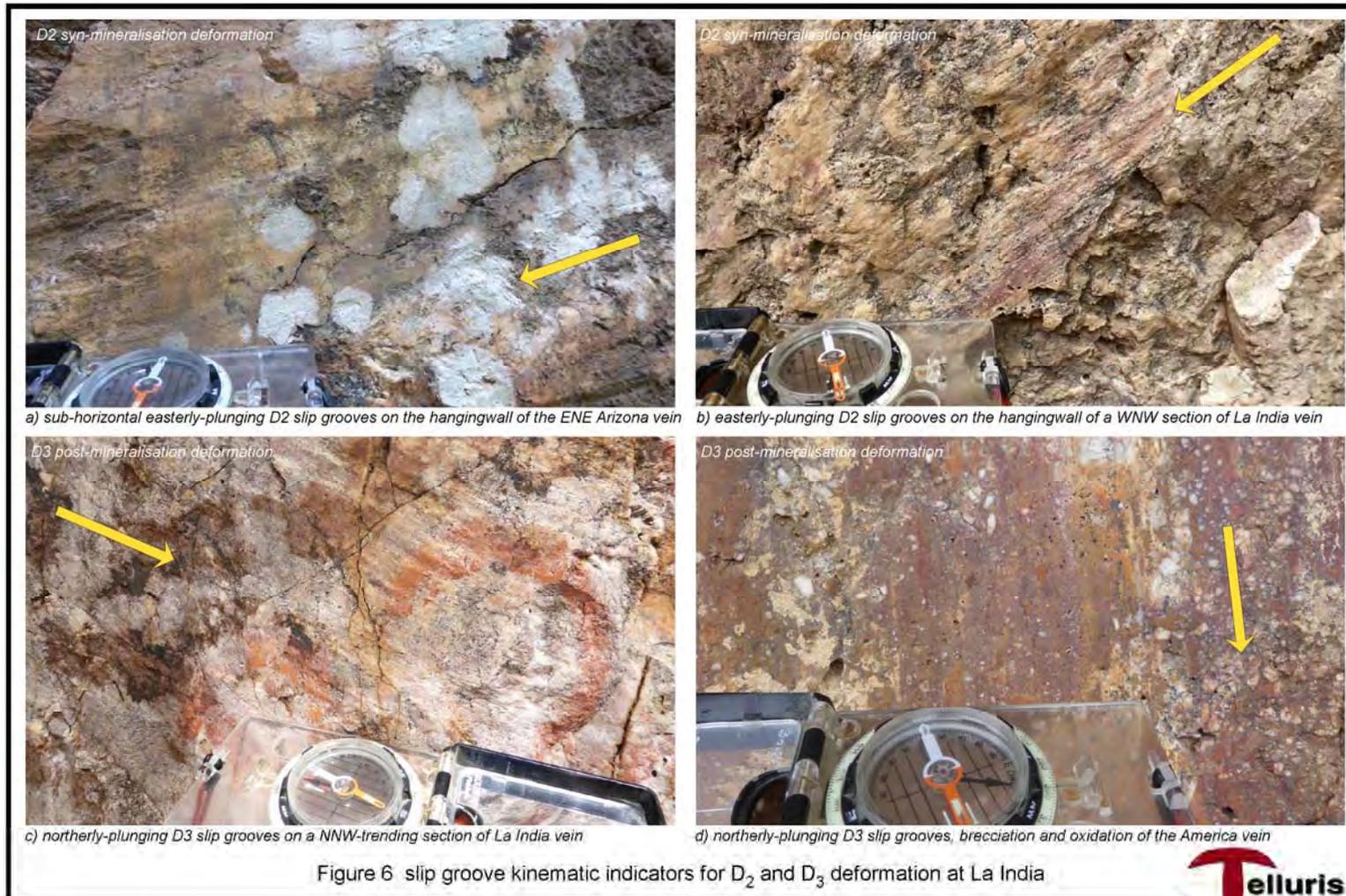
Deformation occurred in a **brittle regime** under three deformation phases:

D1: Pre-mineralisation NNE-SSW extension to generate WNW regional trend and subsidiary NNE faults.

D2: Syn-mineralisation ENE to E-W extension to reactivate the WNW structures as dextral transtensional faults and generate new NNW extensional faults/veins.

D3: Post-mineralisation N-S to NNE-SSW extension to generate uplift and extensional normal faulting associated with renewed N-S to NNE extension.

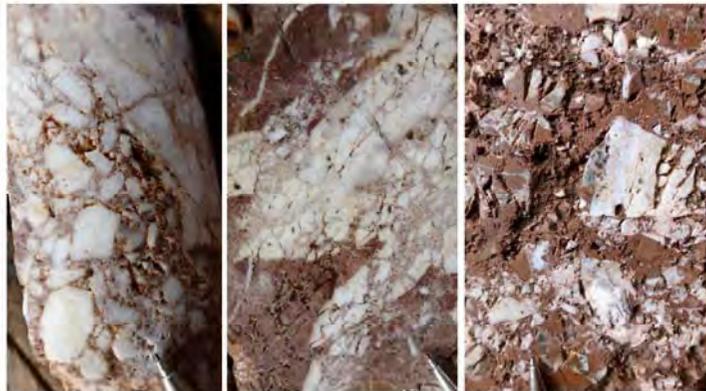
# Field Evidence of Fault Movement Directions



# Field Evidence of D3 Post-Au mineralisation Fault Movement



a) oxidised cohesive cataclastic breccia cutting the Arizona vein (LIDC 059)



b) tectonic breccia in vein (LIDC 163) c) fractured vein (LIDC 163) d) vein fragments in clay gouge (LIDC 217)

Figure 20 post-mineralisation deformation textures in core



a) faulted hangingwall contact of the La India vein comprised of cataclasis of brecciated vein material and milled wallrock

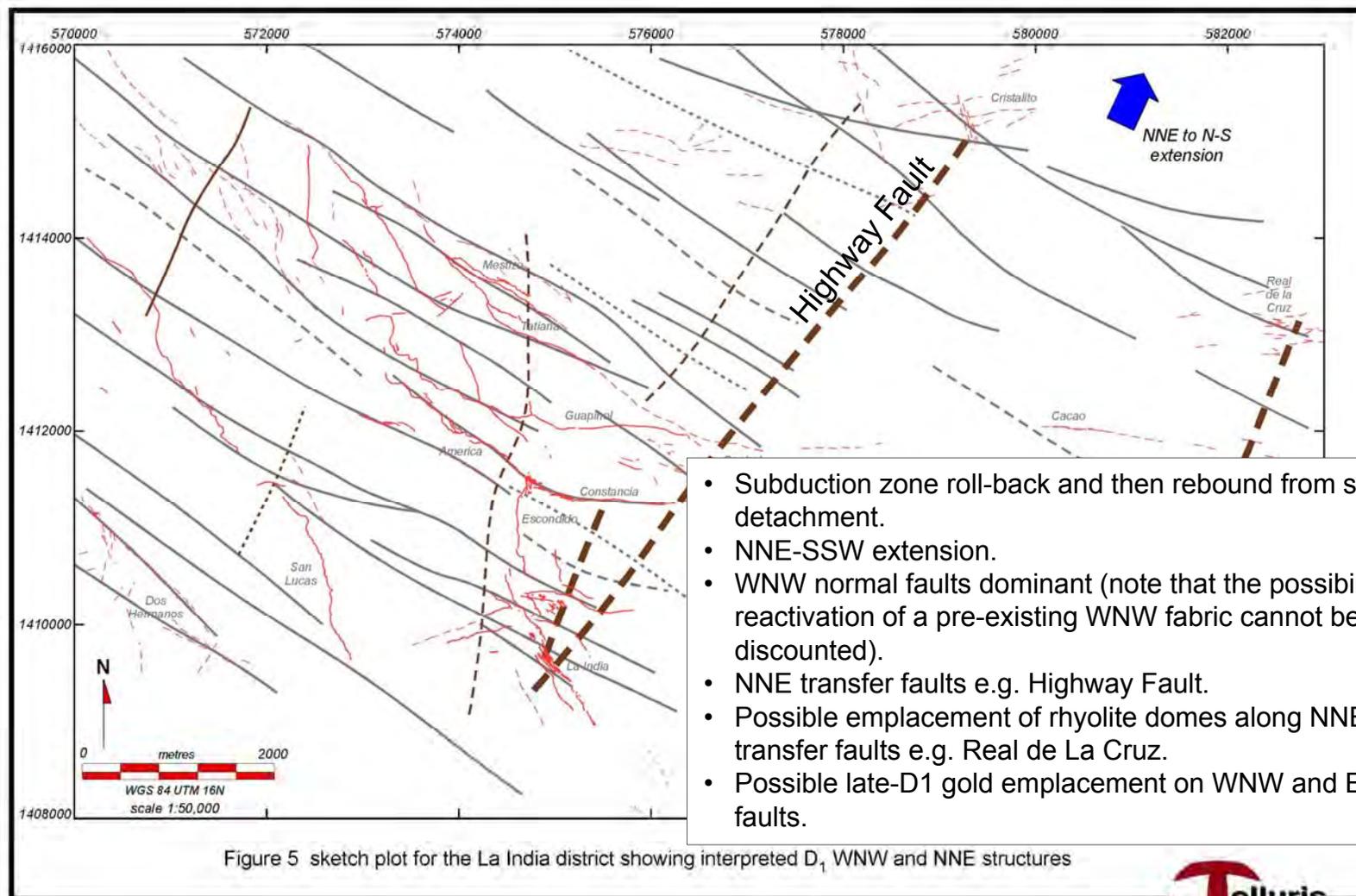


b) bedded pyroclastics in the hangingwall of La India vein rotated 22° SSW during post-mineralisation listric normal faulting

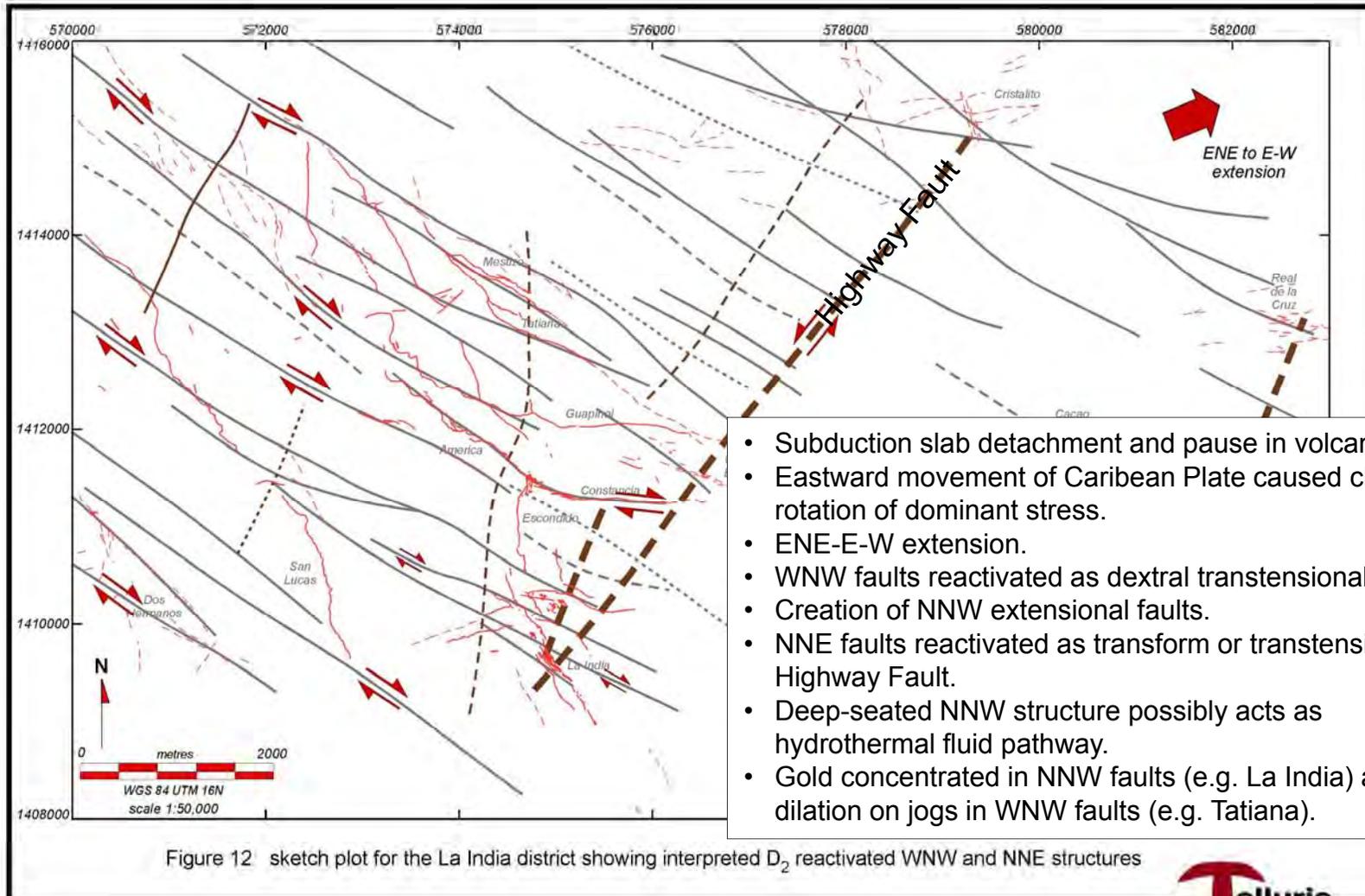
Figure 23 post-mineralisation fault reactivation of the La India vein hangingwall



# D1 Deformation Phase – pre- to early Au mineralisation

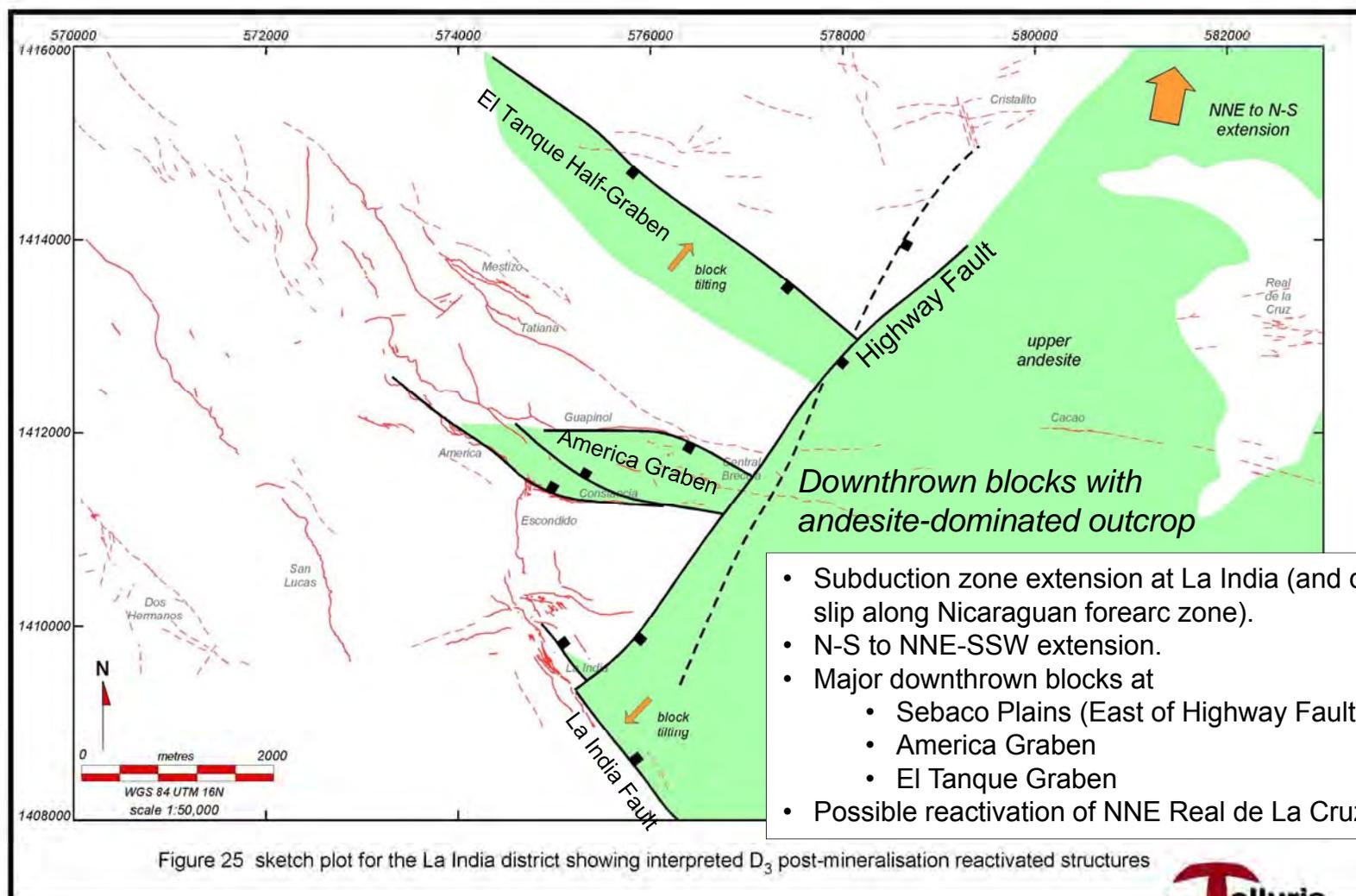


# D2 Deformation Phase – main Au mineralisation



- Subduction slab detachment and pause in volcanism.
- Eastward movement of Caribbean Plate caused clockwise rotation of dominant stress.
- ENE-E-W extension.
- WNW faults reactivated as dextral transtensional.
- Creation of NNW extensional faults.
- NNE faults reactivated as transform or transtensional e.g. Highway Fault.
- Deep-seated NNW structure possibly acts as hydrothermal fluid pathway.
- Gold concentrated in NNW faults (e.g. La India) and dilation on jogs in WNW faults (e.g. Tatiana).

## D3 Deformation Phase – late & post- Au mineralisation



- Subduction zone extension at La India (and dextral strike slip along Nicaraguan forearc zone).
- N-S to NNE-SSW extension.
- Major downthrown blocks at
  - Sebaco Plains (East of Highway Fault)
  - America Graben
  - El Tanque Graben
- Possible reactivation of NNE Real de La Cruz Fault

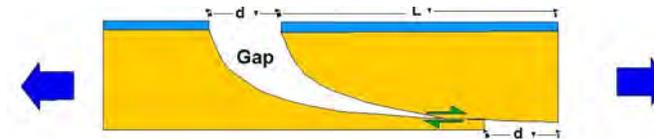
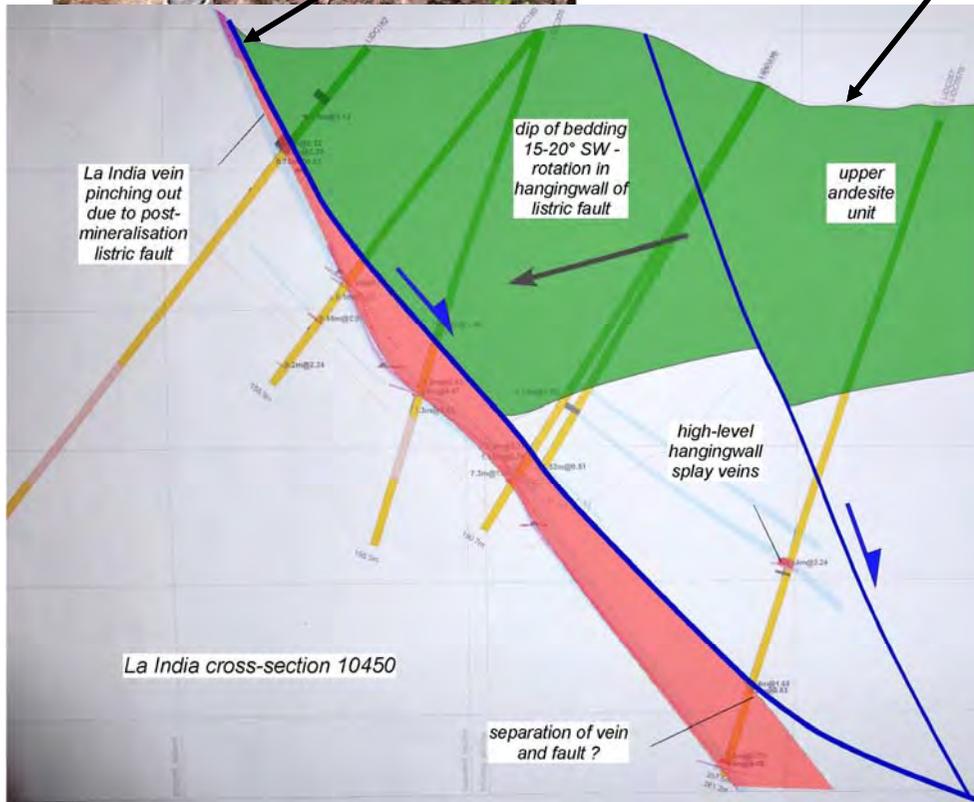
# D3 Deformation Phase - Post-Au gold Mineralisation Listric Faulting on La India Structure



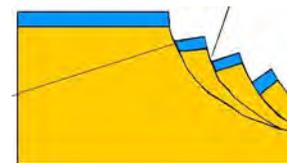
Fault brecciation of vein material in hangingwall contact (D3)



Tilted bedding evidence of tilted hangingwall fault blocks.



- Listric faulting of La India structure, most dilation and widest gold deposition expected in steep upper part of fault..



- Tilted hangingwall fault blocks.

# Gold Deposition in Structural Traps

## District-scale.

Gold bearing hydrothermal fluids require a permeable interconnected network of fractures to provide flow conduits from the heat source laterally and vertically upwards to the shallow epithermal deposition traps.

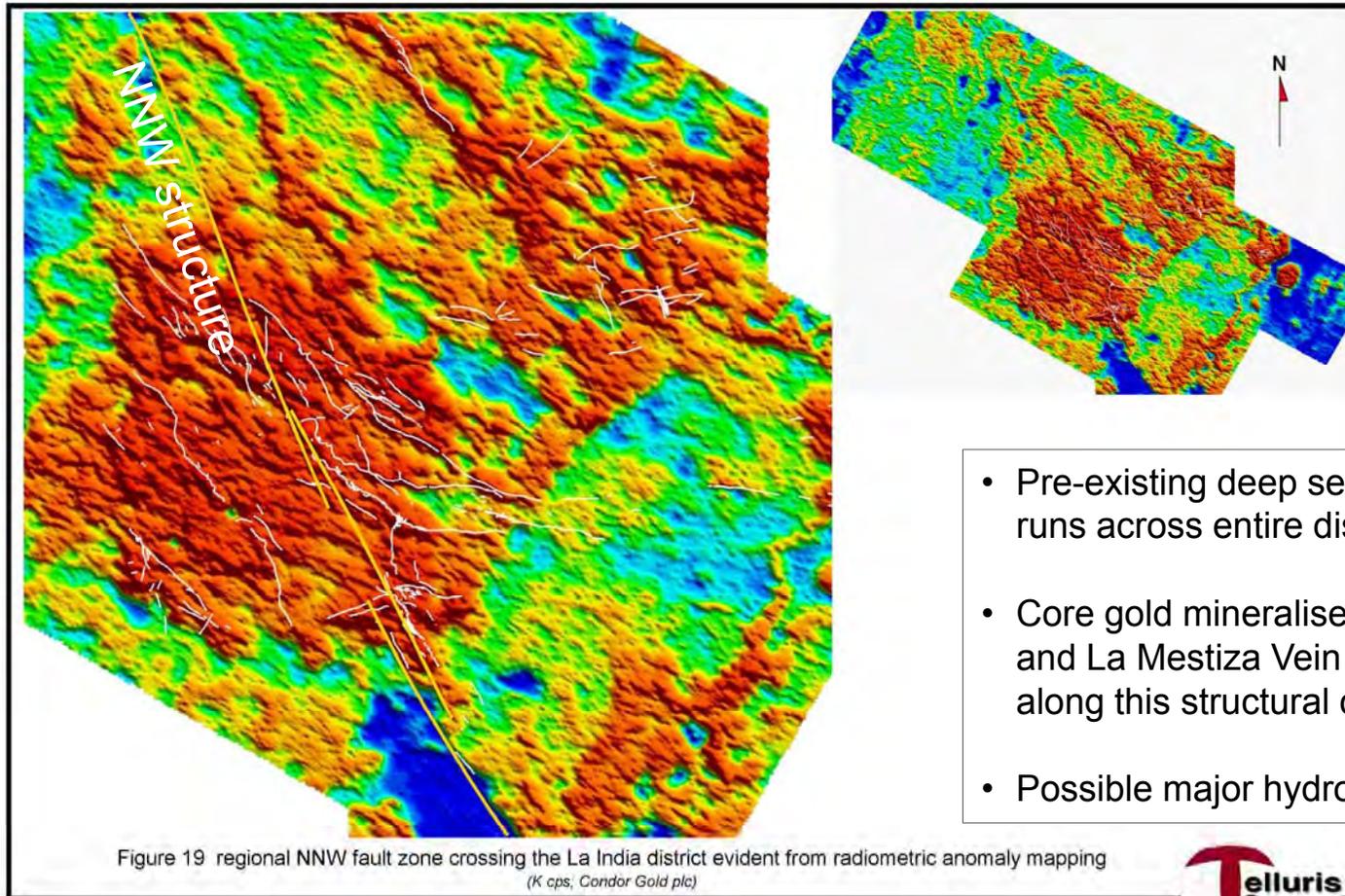


Figure 19 regional NNW fault zone crossing the La India district evident from radiometric anomaly mapping  
(K cps, Condor Gold plc)

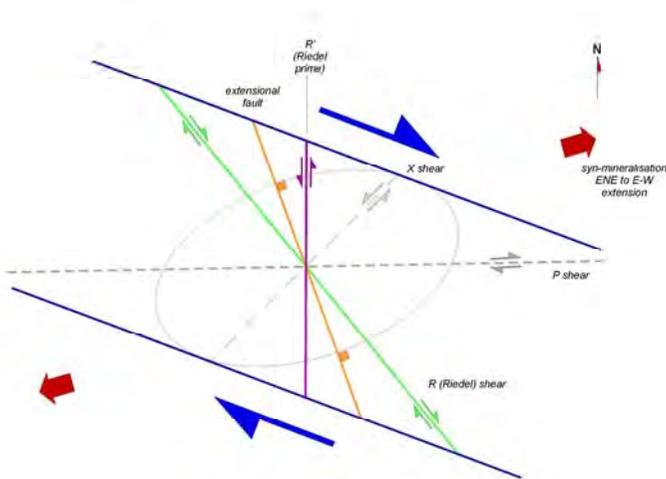
A District scale deep-seated **NNW structure** identified in geophysics appears to provide the “**backbone**” **conduit**.

- Pre-existing deep seated NNW structure runs across entire district.
- Core gold mineralised La India, America and La Mestiza Vein sets concentrated along this structural corridor.
- Possible major hydrothermal fluid conduit.

# Gold Deposition in Structural Traps

## Prospect-scale.

Main gold mineralisation occurred during D2 deformation under a ENE to E-W extensional regime with a dextral shear component. The best gold mineralisation would be expected where dilation occurs on NNW-striking faults and jogs in faults and at intersections of structures.



Sketch model for the structures developed within a WNW-trending dextral shear zone at La India.

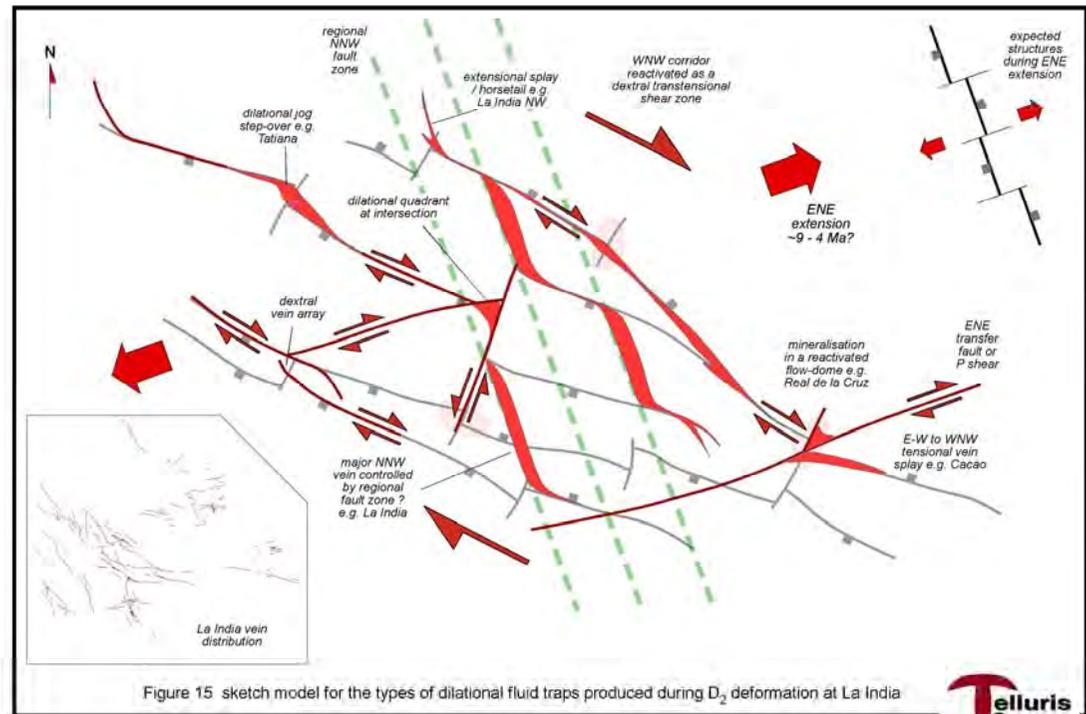
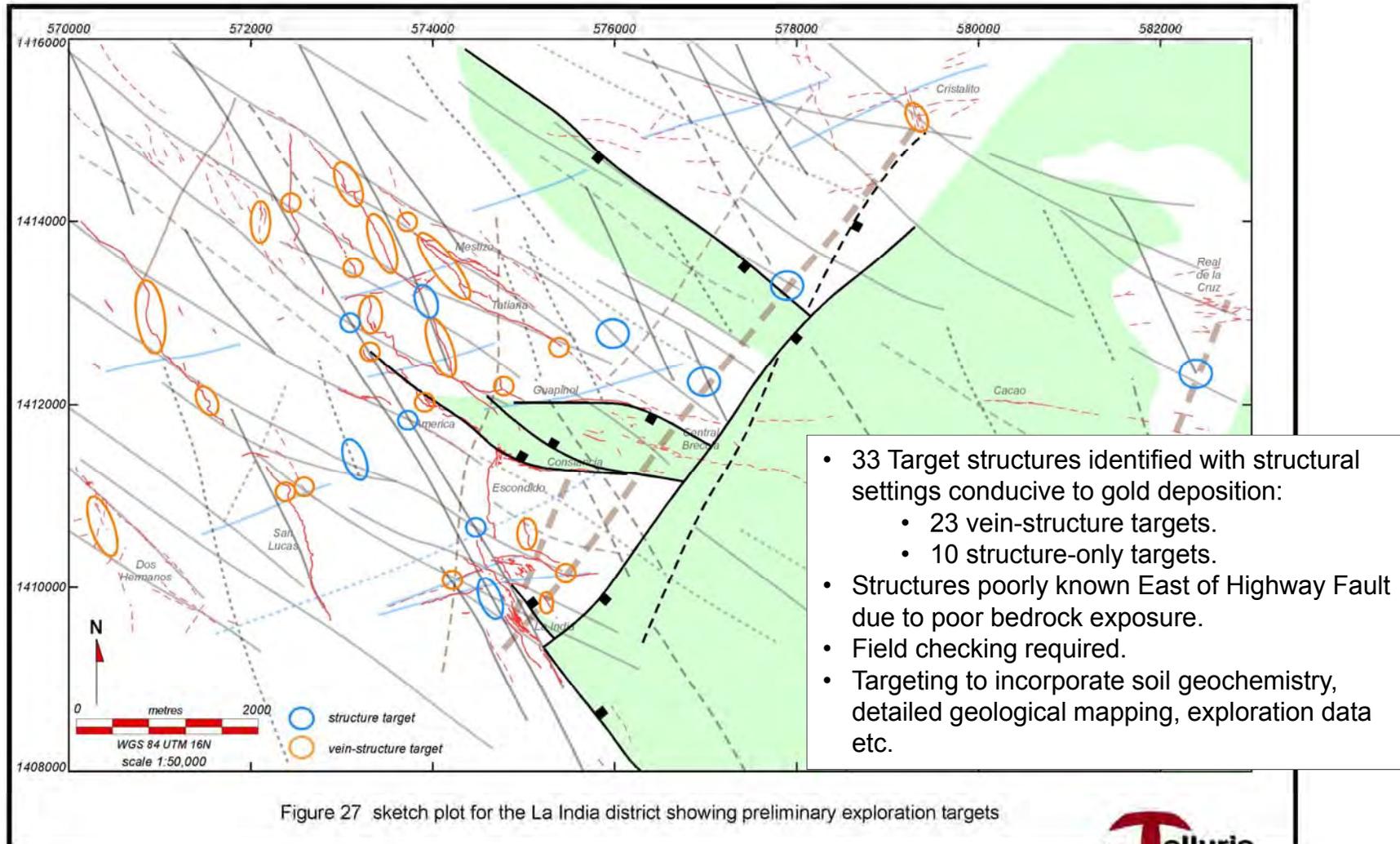


Figure 15 sketch model for the types of dilational fluid traps produced during D<sub>2</sub> deformation at La India



Sketch model for the types of dilational traps for gold-bearing hydrothermal fluids produced during D2 deformation at La India.

# Gold Deposition Structural Exploration Targets



# Geological Setting & Deformation History

## Conclusions

- Brittle structural regime.
- Three phases of deformation.
- Gold mineralisation associated with ENE to E-W directed extension in the second phase.
- NNW orientated faults and fault jogs form best dilational structures for gold mineralisation.
- Major deep-seated NNW structure running through La India District might be a major fluid flow conduit – gold mineralisation concentrated on or near this corridor.
- Post-mineralisation downthrown blocks, particularly the Sebaco Plains block East of the Highway Fault most prospective for hidden deep-seated epithermal gold discovery.