Santa Maria – The Tip of the Iceberg

Alluvial Tin Deposits – The Basics

1. Most of the world's tin production has historically been produced from alluvial deposits, derived from eroded granites.

2. Cassiterite (SnO_2), the principal mineral of tin, like gold and diamonds, is not destroyed in nature's normal erosion processes.

3. Many of the world's most famous mineral deposits are alluvial:
   a) The gold fields of South Africa's Witwatersrand,
   b) The tin fields of Malaysia and Indonesia,
   c) The marine diamond fields of Namibia and South Africa, and
   d) Almost every iron ore, titanium and manganese deposit.

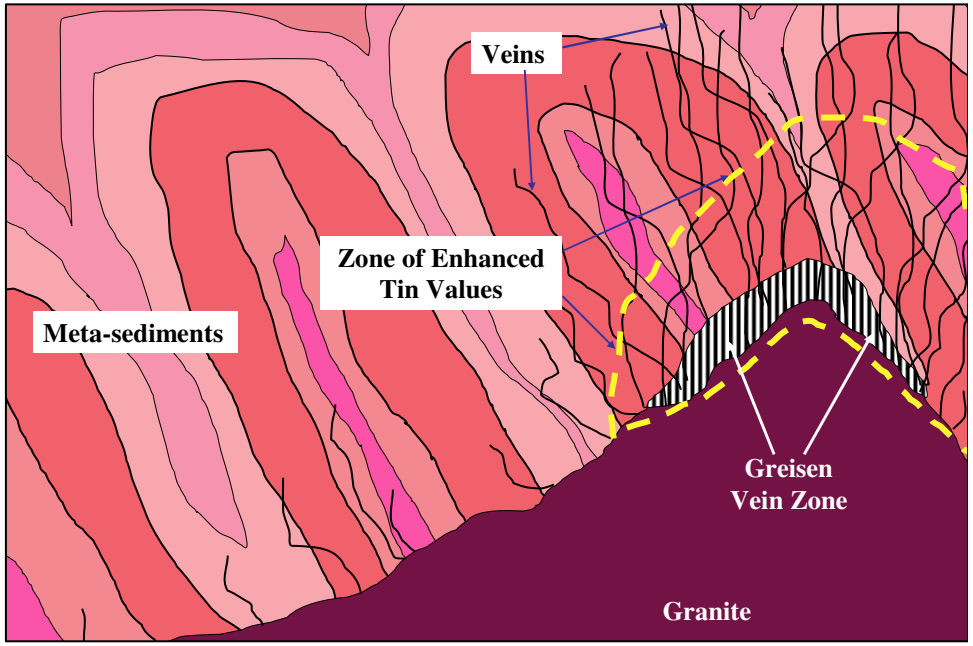
4. Alluvial deposits usually, but not always, represent a concentrating mechanism for heavy minerals.

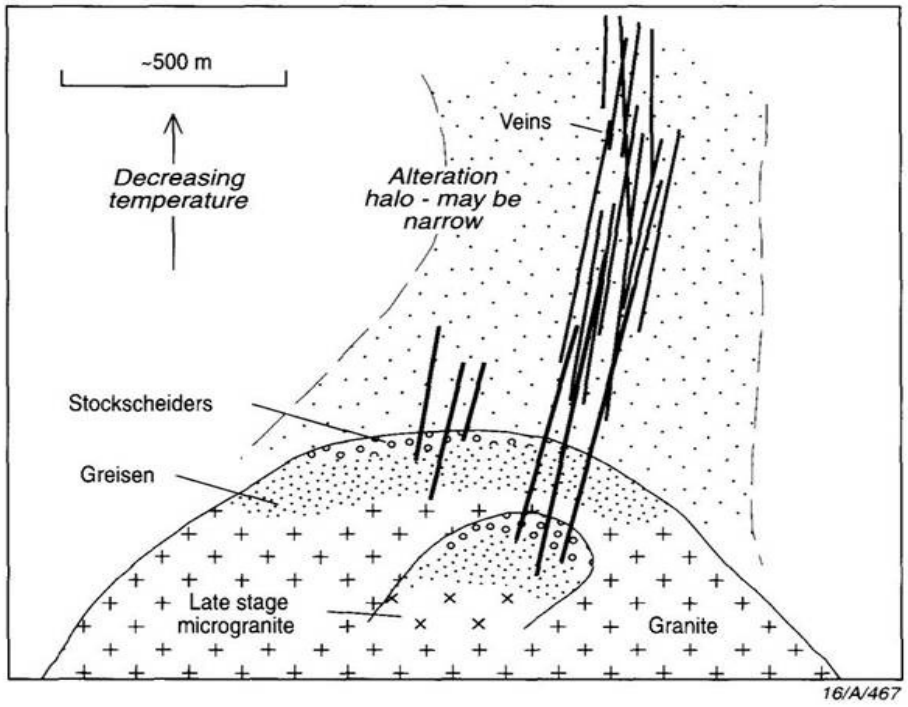
5. Typical average alluvial tin grades:
   Malaysia: ~125-175ppm Sn (onshore),
   Indonesia: ~200-250ppm Sn (marine).

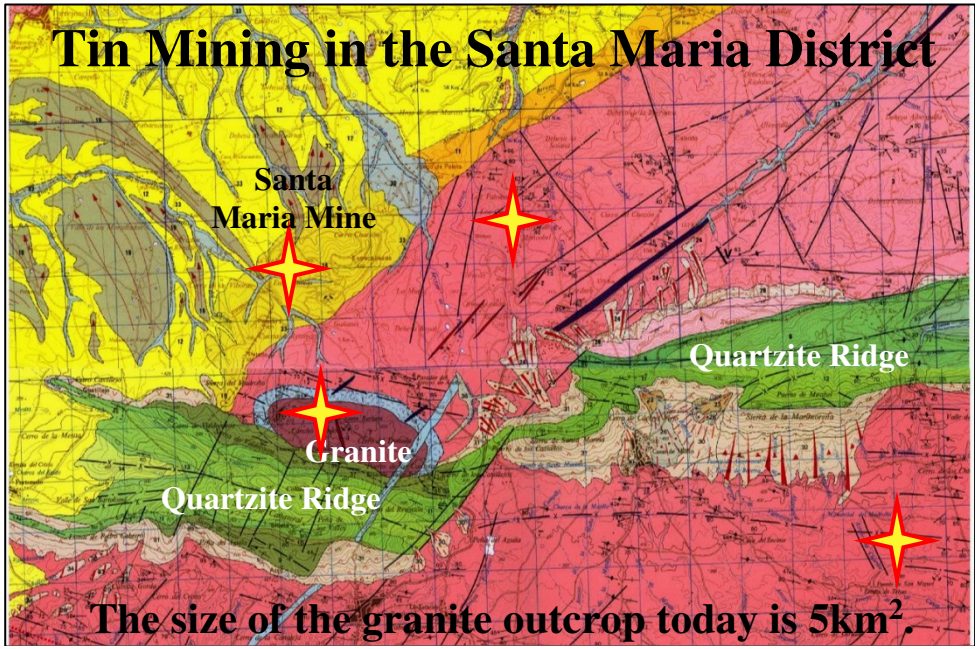
Introduction to the Santa Maria Project 1

Around 290 million years ago, a large tin bearing granite intrusive thrusted upwards into the Santa Maria district.

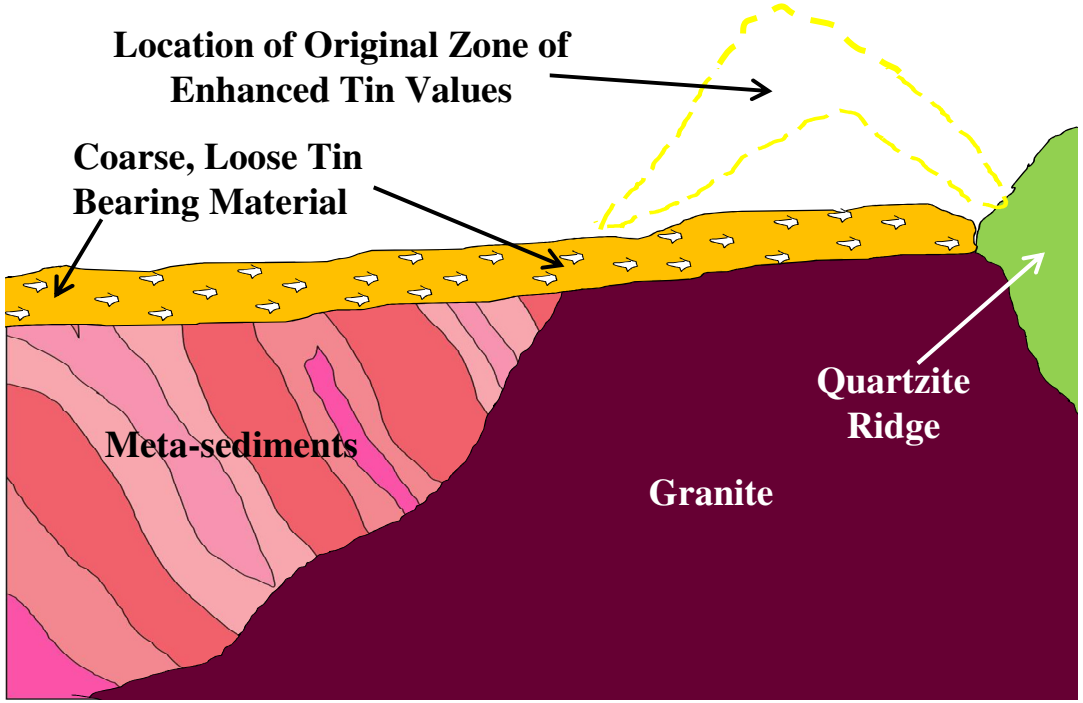
Tin bearing fluids within the granite migrated upwards into, above, and around, a topographic high, or 'pinnacle' structure.





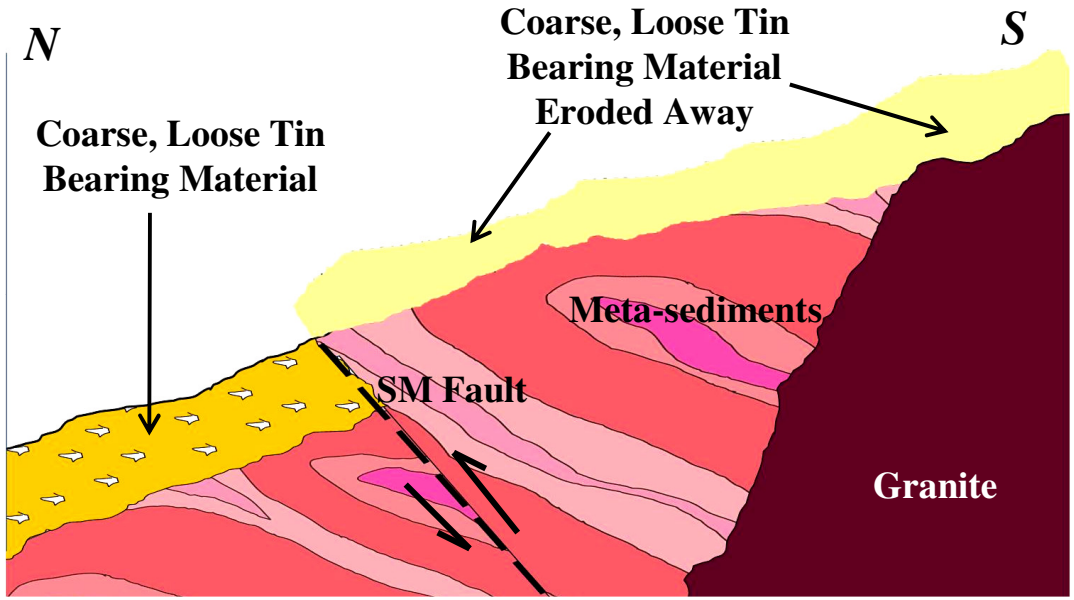


Introduction to the Santa Maria Project 2



Top Left: Approximately 500-700 metres of vertical erosion is believed to have occurred since the tin mineralisation was first exposed on surface.

A quartzite ridge may have helped keep the tin minerals, freed by weathering, in situ.



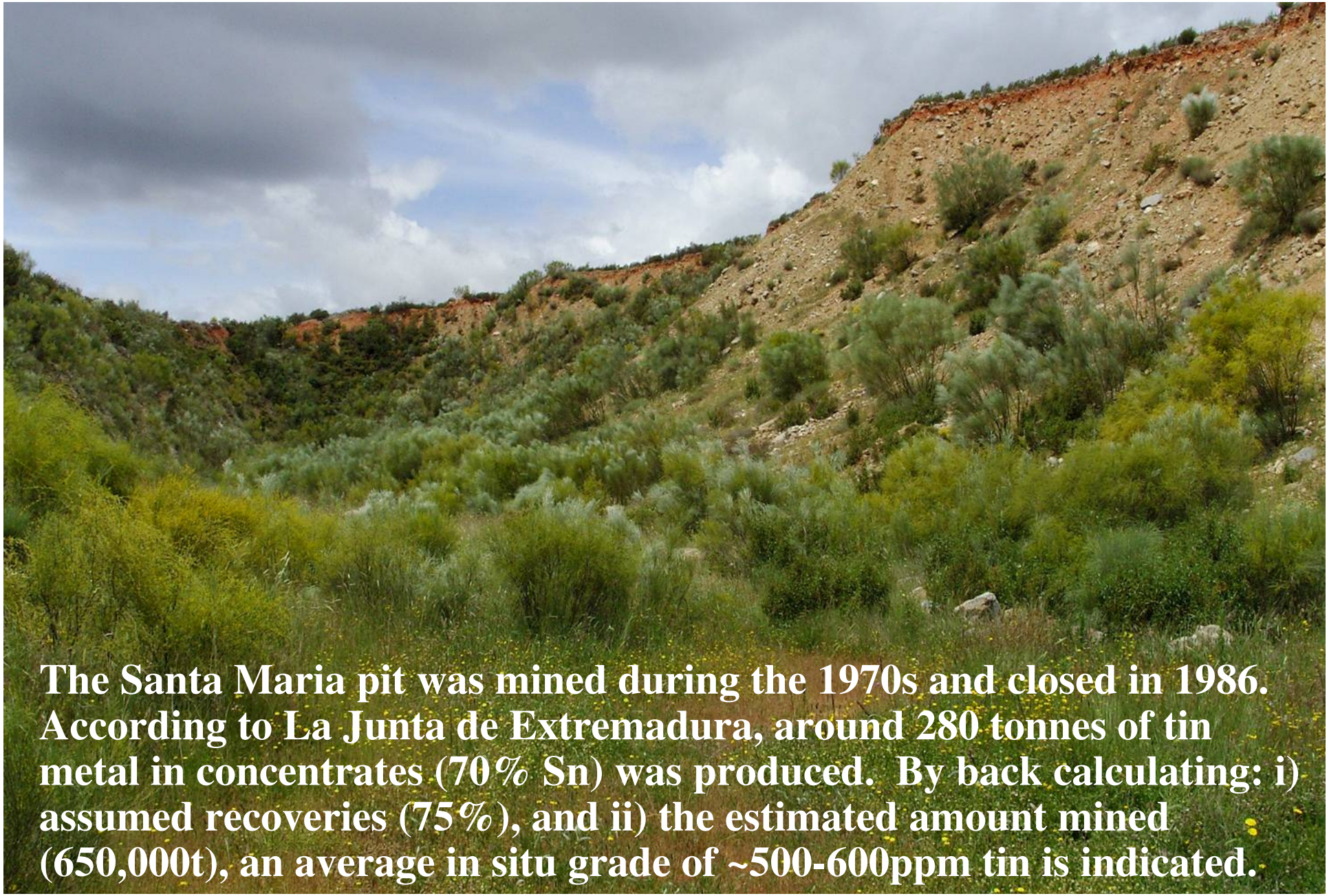
Bottom Left: Around 10-15MY ago, the Earth's crust was tilted northwards.

The Santa Maria Fault then thrust the area around the granite upwards by over 150 metres, resulting in rapid erosion of the upthrown area

The elluvial and alluvial tin deposits found around the Santa Maria Mine are generally over 200 metres thick.

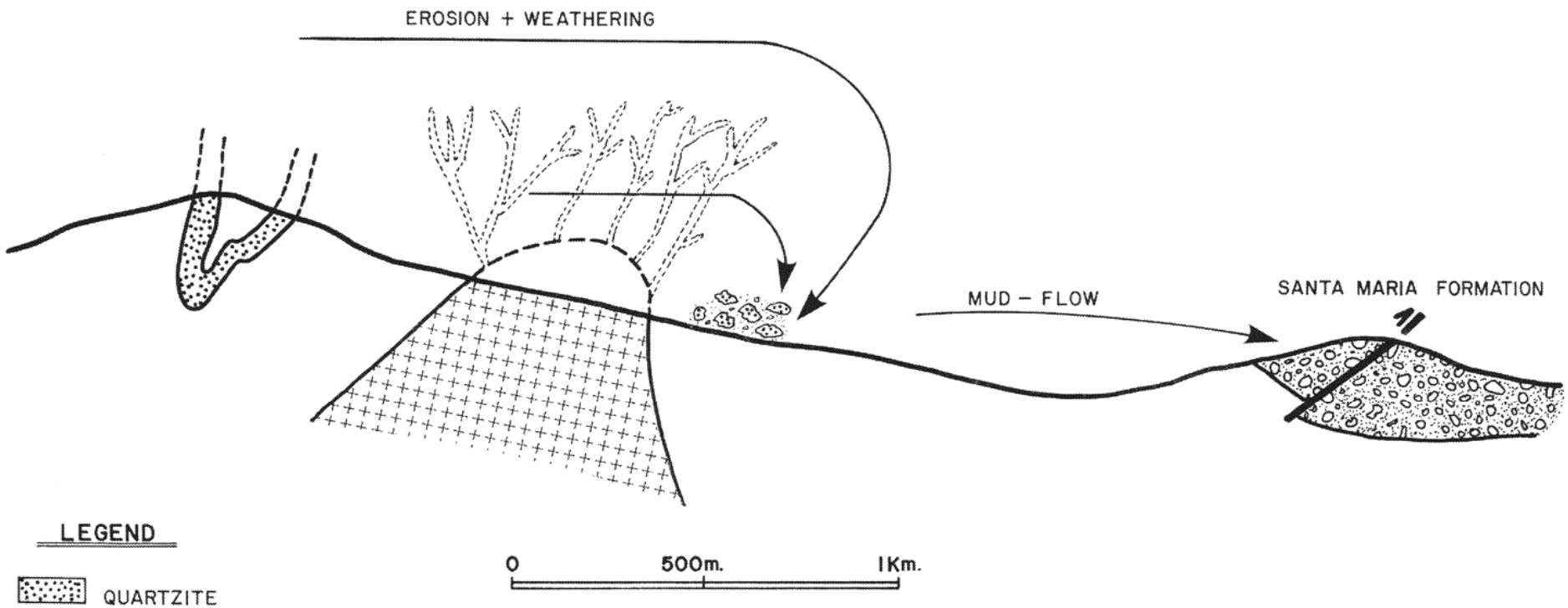
The tin deposits, once present on the right side of the Santa Maria Fault (right), have all been eroded away to be re-concentrated in new alluvial tin deposits downstream.

Production History of the Santa Maria Mine



The Santa Maria pit was mined during the 1970s and closed in 1986. According to La Junta de Extremadura, around 280 tonnes of tin metal in concentrates (70% Sn) was produced. By back calculating: i) assumed recoveries (75%), and ii) the estimated amount mined (650,000t), an average in situ grade of ~500-600ppm tin is indicated.

Santa Maria – Phelps Dodge Interpretation

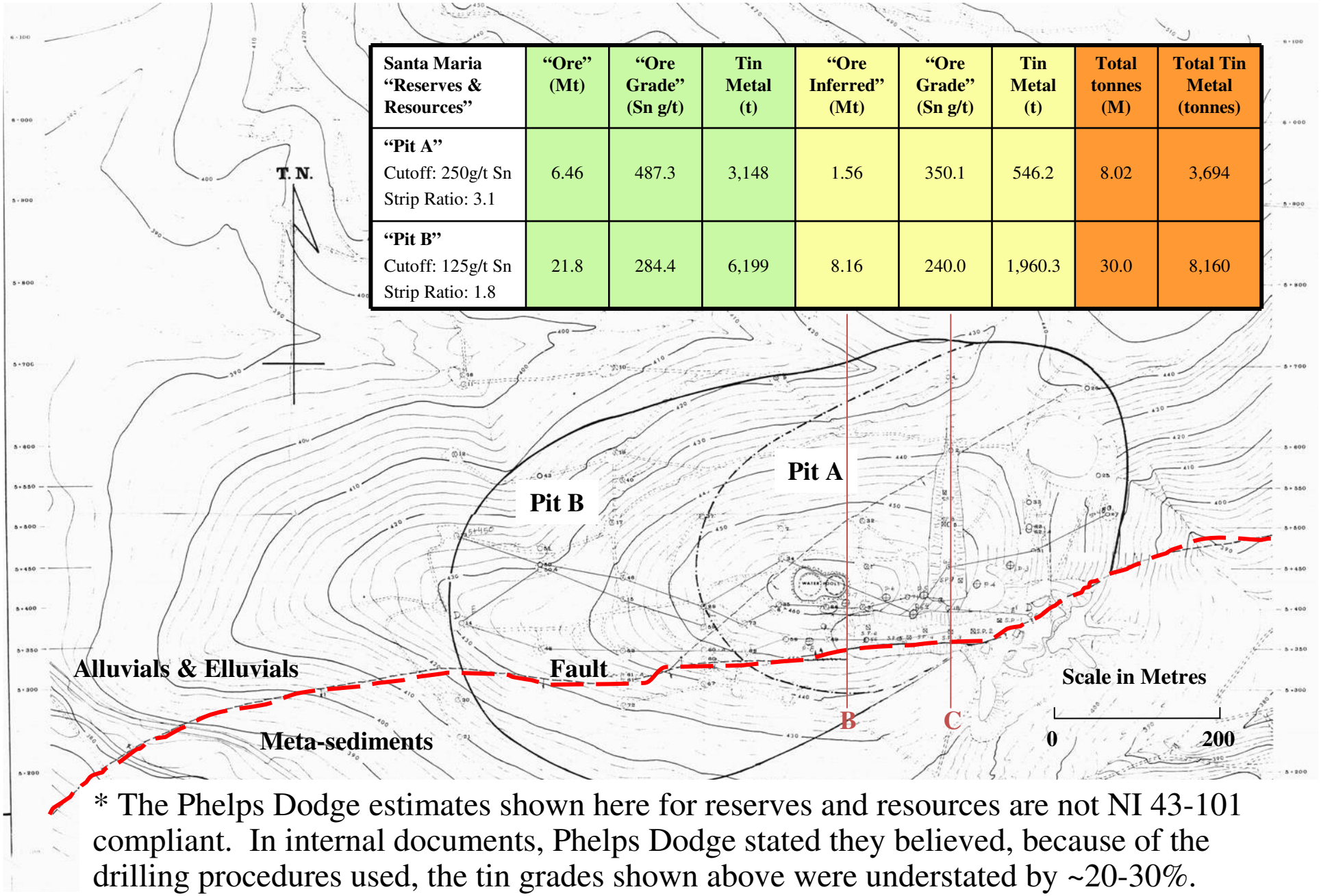


Phelps Dodge envisaged a violent mud flow as the mechanism for creating the Santa Maria tin deposits.

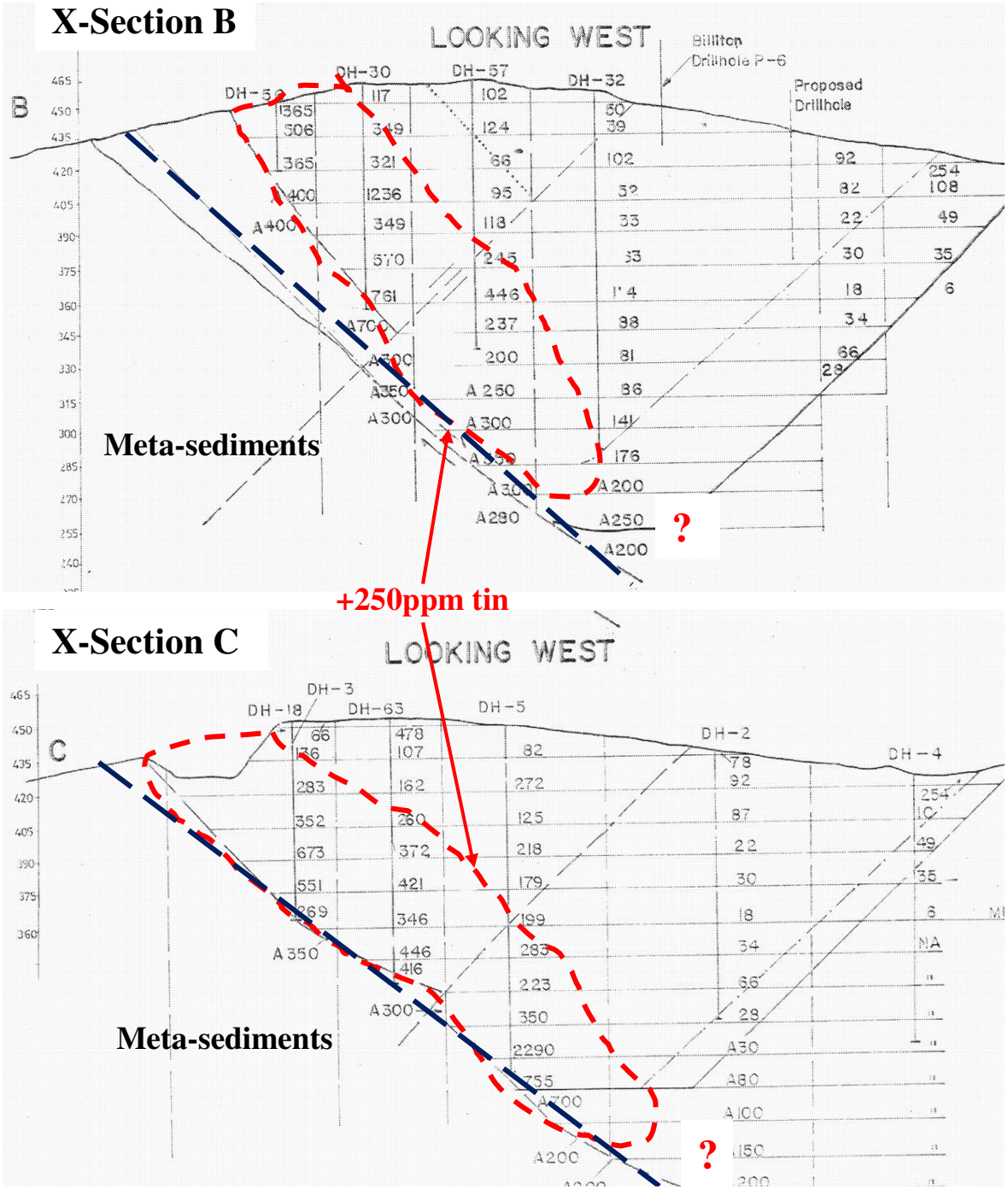
In the early 1980s, Phelps Dodge was favourably considering starting up a modest mining operation producing ~1,000tpy of tin in concentrates.

Santa Maria Pits – Phelps Dodge Estimates*

Santa Maria "Reserves & Resources"	"Ore" (Mt)	"Ore Grade" (Sn g/t)	Tin Metal (t)	"Ore Inferred" (Mt)	"Ore Grade" (Sn g/t)	Tin Metal (t)	Total tonnes (M)	Total Tin Metal (tonnes)
"Pit A" Cutoff: 250g/t Sn Strip Ratio: 3.1	6.46	487.3	3,148	1.56	350.1	546.2	8.02	3,694
"Pit B" Cutoff: 125g/t Sn Strip Ratio: 1.8	21.8	284.4	6,199	8.16	240.0	1,960.3	30.0	8,160



* The Phelps Dodge estimates shown here for reserves and resources are not NI 43-101 compliant. In internal documents, Phelps Dodge stated they believed, because of the drilling procedures used, the tin grades shown above were understated by ~20-30%.



Pit X-Sections

The N/S cross sections (see previous page) across Phelps Dodge's proposed new pits show a higher grade (+250ppm tin) zone, with a true thickness of ~40-60 metres, running approximately parallel to the Santa Maria Fault.

A much thicker zone of low grade alluvial material overlies the zone of higher grade tin mineralisation.

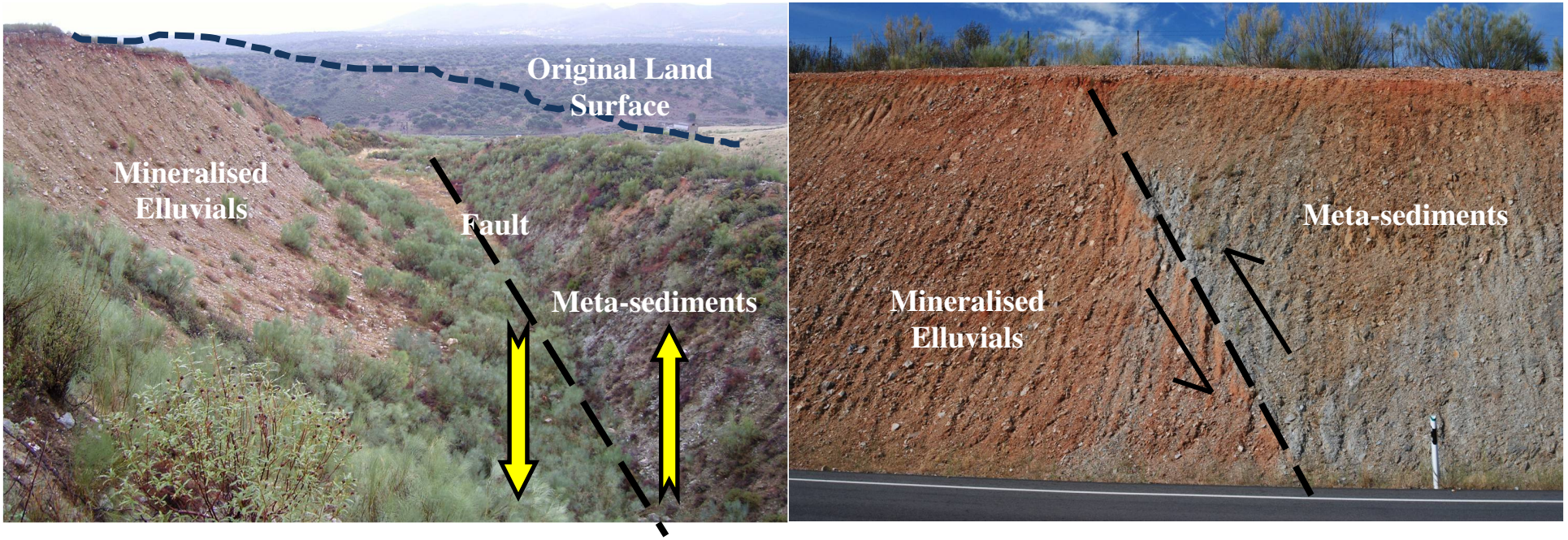
X-Section B (+250ppm Sn)

Average Grade: 524ppm tin

X-Section C (+250ppm Sn)

Average Grade: 521ppm tin

Extending Santa Maria 1



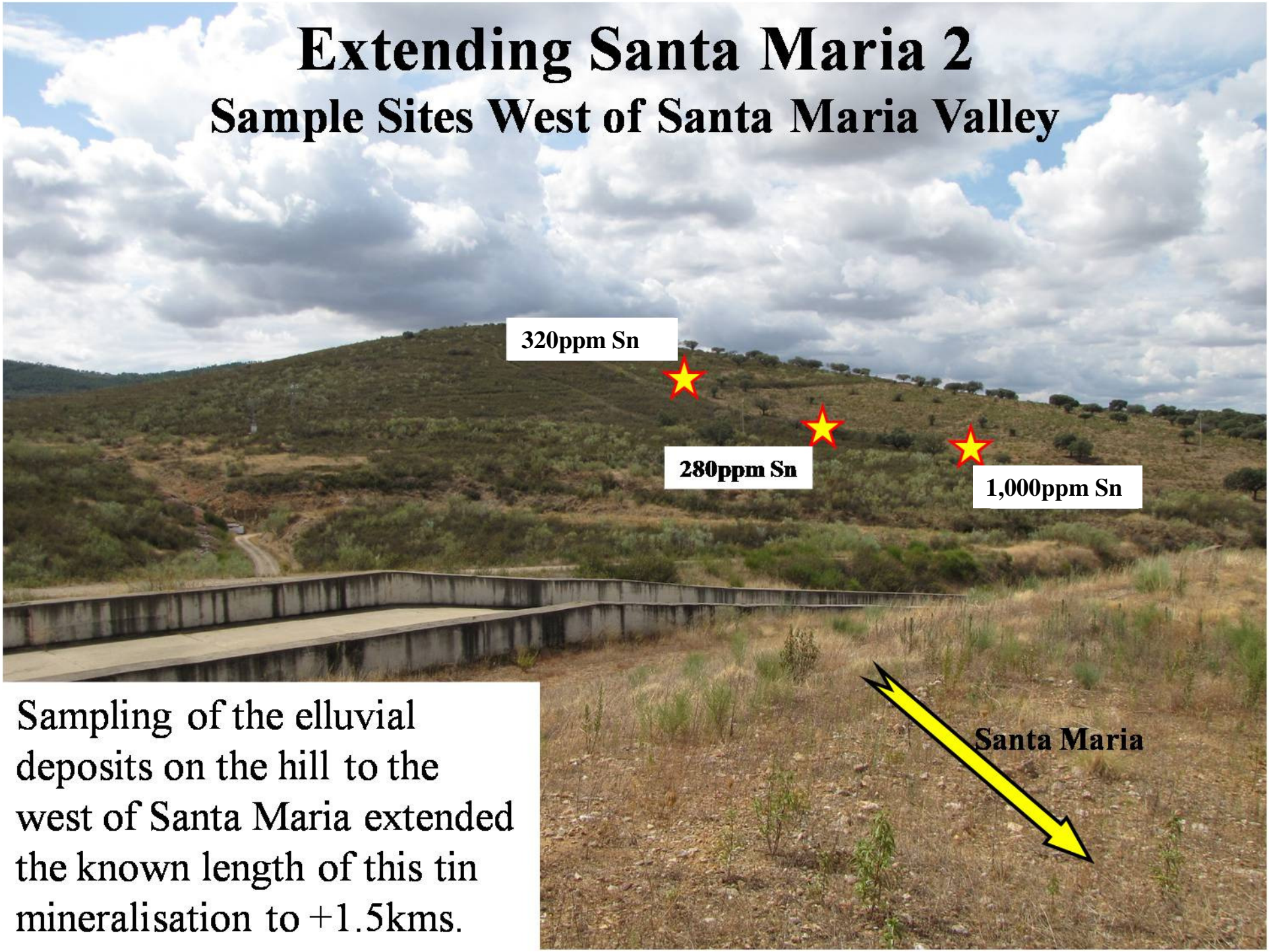
A new road cut, shown top right, has exposed the Santa Maria Fault, extending the known length of the mineralised tin deposit to +1.0km.

The material in the road cut and the Santa Maria pit (top left) appear to be almost identical and limited sampling suggests similar tin grades.

As can be seen (top right) the meta-sediments have been thrust upwards against the mineralised elluvials. This has protected the +200 metre thick sequence (left of fault) of tin bearing elluvials and alluvials from the effects of erosion.

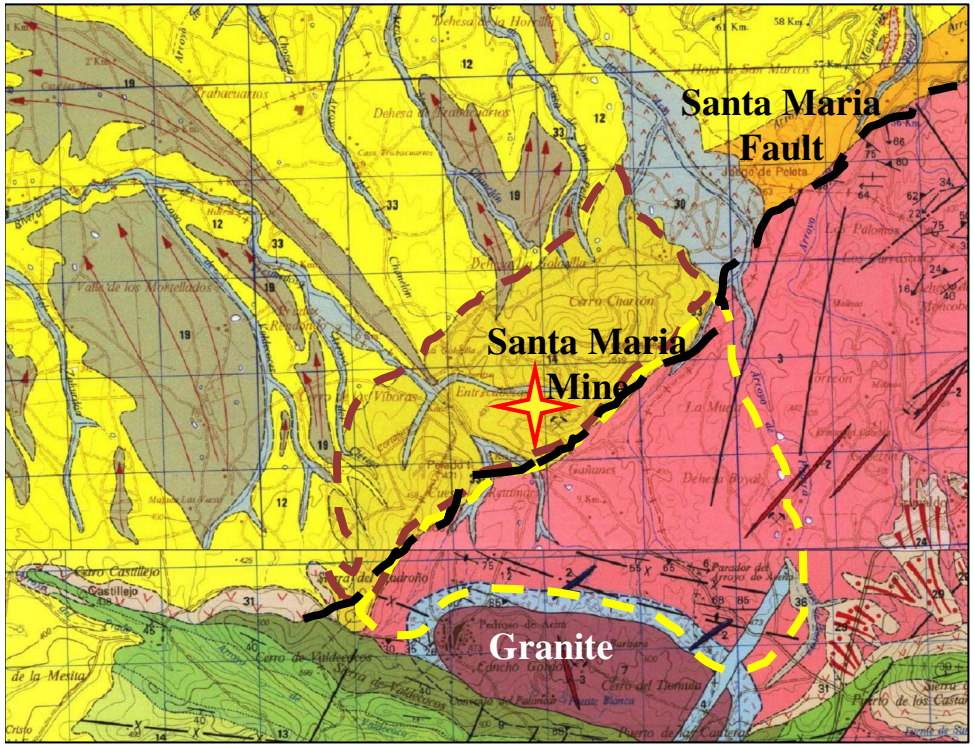
Extending Santa Maria 2

Sample Sites West of Santa Maria Valley



Sampling of the elluvial deposits on the hill to the west of Santa Maria extended the known length of this tin mineralisation to +1.5kms.

Extending Santa Maria 3



Left: The sandy yellow area (outlined in purple) of ~7km^2 in which the Santa Maria Mine is located, is a 3km long, +200 metre thick, sequence of tin bearing elluvials and alluvials.

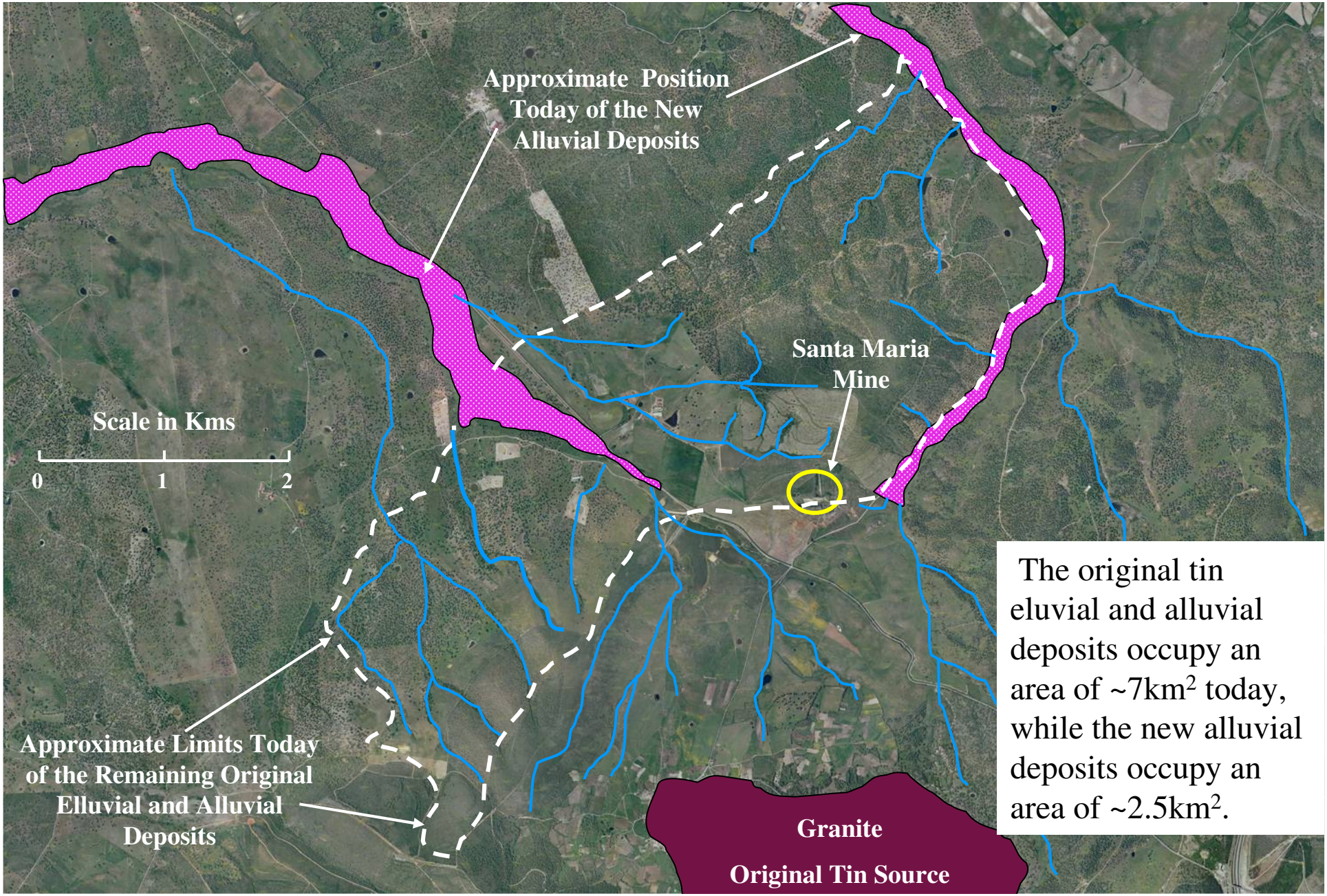
The Santa Maria fault protected this area from most erosion. The ~10km^2 area, outlined in yellow, was not protected from erosion.

So where is that tin today?

The volume of potentially tin bearing elluvials eroded away over the past 15-25 million years may therefore have been: ~10km^2 x 50 metres*, or 0.5 billion cubic metres (~1 billion tonnes).

** Denotes average thickness in Santa Maria pit area.*

Santa Maria's Main Drainage Systems



The original tin eluvial and alluvial deposits occupy an area of ~7km^2 today, while the new alluvial deposits occupy an area of ~2.5km^2.

Santa Maria – The New Alluvial Deposits

Decreasing tin grades and increasing sediment thickness

Santa Maria, source of tin and increasing tin grades

N

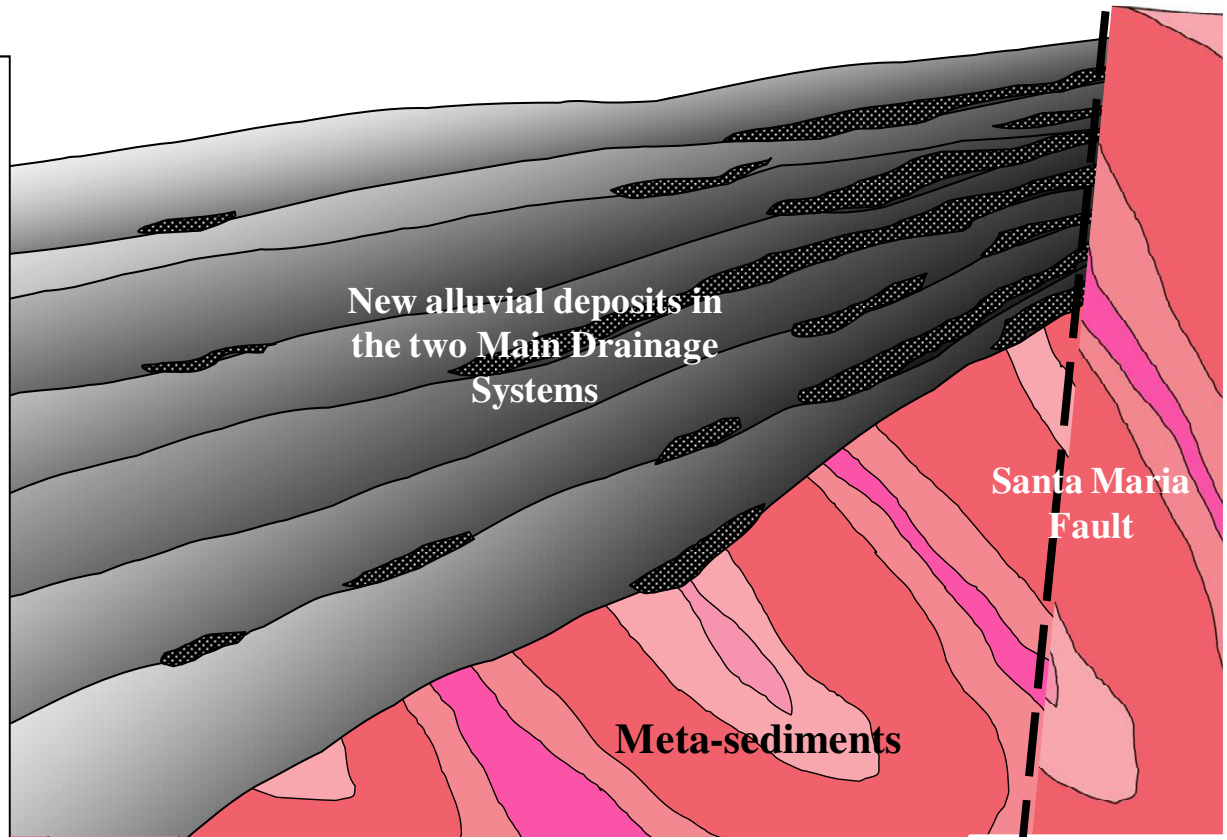
S

Increasing amounts of fine particles, such as silt and clay. Decreasing amounts of heavy minerals, such as cassiterite.

Increasing amounts of heavy minerals (e.g. cassiterite) and larger particles, such as gravel and pebbles

The tilting of the Earth's crust northwards around Santa Maria created ideal conditions for: i) rapid erosion, and ii) the creation of new, stacked, alluvial tin deposits.

Normally, a significant concentrating process for heavy minerals occurs in alluvial deposition.



Santa Maria Source Mineralisation

These coarsely mineralised samples were recovered from the Santa Maria pit and the road cut.

The black mineral is cassiterite SnO_2.

Santa Maria - Other

1. The new alluvial deposits are located in a geological basin containing abundant water – dredging, an extremely low cost form of mining, is therefore a possible potential future scenario.

2. The tin mineral particles are relatively coarse and mostly found within a relatively small size fraction:

   85.6% of the tin is found in 18.6% of the deposit (0.2-3.4mm).

3. The deposits contain no sulphides or other deleterious minerals, potentially harmful to the environment.

4. Nearly all the streams feeding the top 2-3kms of the main drainage areas are eroding tin bearing elluvial and alluvial deposits.

5. Previous problems with complex ownership no longer exist.

Santa Maria Conclusion

1. A worst case scenario for the Santa Maria project appears to be a modest size, alluvial tin mining operation.

2. On the not unreasonable assumption the Santa Maria elluvials are similarly mineralised along their entire +3km outcrop length, then there should be considerable scope for expanding the operation originally envisaged by Phelps Dodge.

3. However, today's principal tin targets at Santa Maria are not the known elluvial deposits.

4. The principal tin targets are the new alluvial deposits created in the Santa Maria main drainage systems by the erosion of large amounts of tin bearing elluvial and lower grade alluvial material.