



# Anchor Resources Limited

(ASX code: AHR)

## Recent Advances at Wild Cattle Creek Antimony Deposit

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## What is Antimony (Sb)

- Antimony is a metal but has metalloid properties
- Common form:
  - stibnite  $\text{Sb}_2\text{S}_3$
  - sulphide mineral
- Dark grey, metallic, non-magnetic, acicular crystals
- Processed ore products include:
  - concentrates
  - metal ingots (>99.65% Sb)
  - antimony trioxide powder

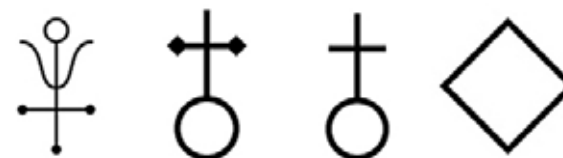
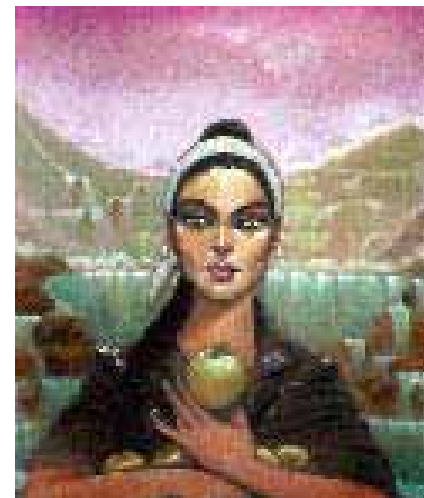


Stibnite needles in quartz

# Antimony: Ancient Uses

- Extends back to 3,000BC
- Cosmetics ("kohl")
- Medicine
- Black pigment for paint
- Alchemy

*Queen of Sheba*



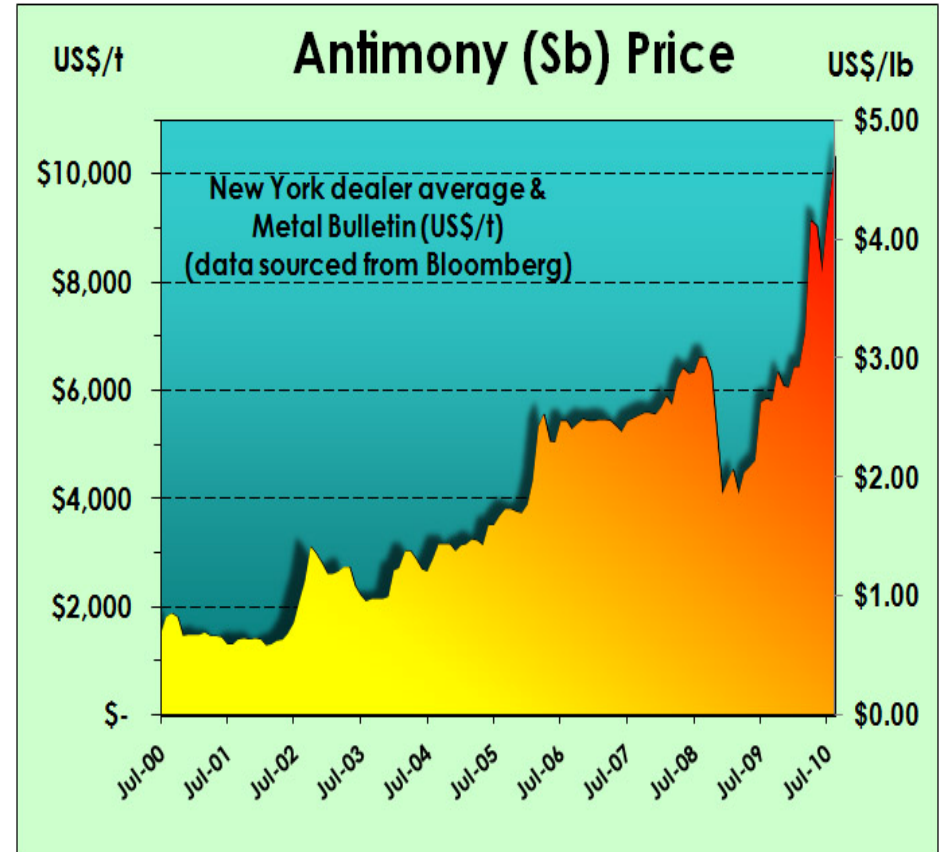
*Sb metal symbols*

## Antimony: Modern Uses

- Flame retardant in plastics, rubber, fibreglass and textiles (40%)
- Lead alloys in batteries (20%), other alloys (pewter, solder)
- Glass manufacture, ceramic and porcelain glazes (10%)
- Catalyst in the polyester resin industry (film)
- Semi-conductors (infrared detectors, diodes), dopant
- Medicine (parasitic worm treatment, anti-protozoal drugs)
- Ammunition (primers, bullets), fireworks, safety matches

# Antimony Pricing

- Price surged to record highs
- Up 70% in 2010 !!
- Sb recently traded at US\$4.68/lb or US\$10,325/t
- Rising price factors:
  - Global supply squeeze
  - China - cap on domestic production
    - freeze on new mines
    - strict environmental and safety crackdown
    - forced closures of illegal producers
  - Global economies recovering



## Location

- 40km west Coffs Harbour
- Dorrigo plateau, 600m ASL
- New England orogen
- Coffs Harbour Block
- 80km NE Hillgrove Sb-Au mine (in an Sb field)



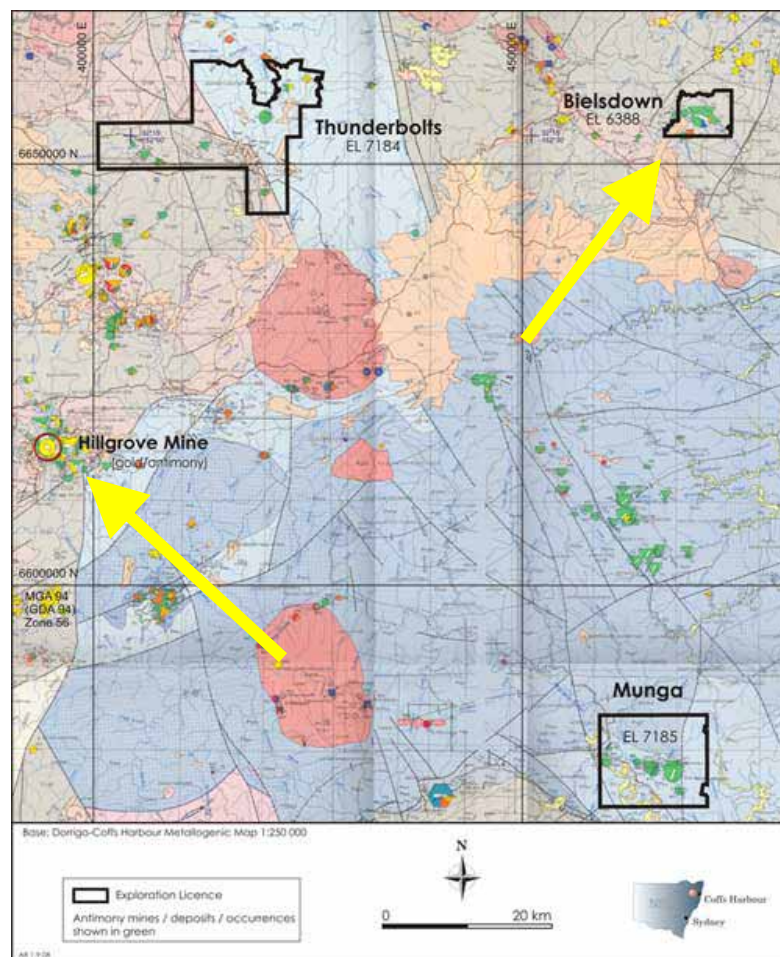
# Antimony in the New England

## Hillgrove Sb-Au mine

- Straits re-commenced mining 2008
- Suspended operations late 2009  
(due to significant processing problems after a decision to produce Sb metal rather than concentrates)
- Considering corporate options
- Located ~80km SW of Wild Cattle Creek

## Anchor Sb projects

- Bielsdown (Sb-Au-W)
- Thunderbolts (Sb)
- Munga (Sb)





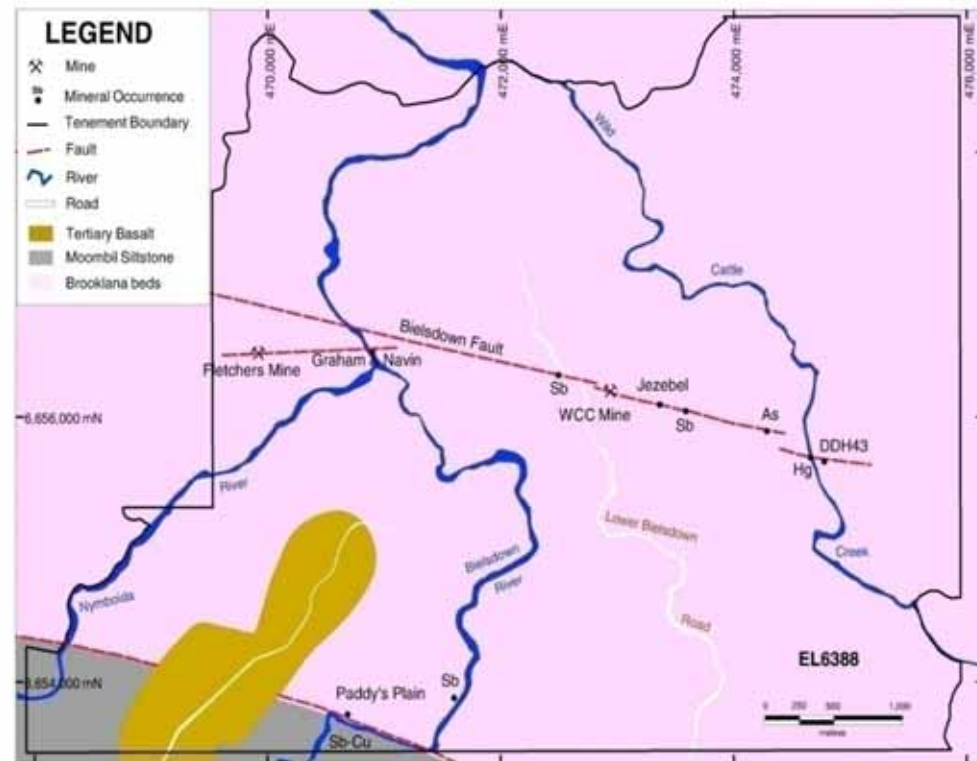
# Wild Cattle Creek Deposit History

- 1890 First ML applications
- 1927 Au & W discovered
- 1963-75 Dundee Mines/AAC
- 1971 Shaft sunk to 165m
- Adit to 366m, open cut 7-10m
- 1992-98 Allegiance Mining
- Metallurgy, mine design, EIS
- 2007 Anchor Resources



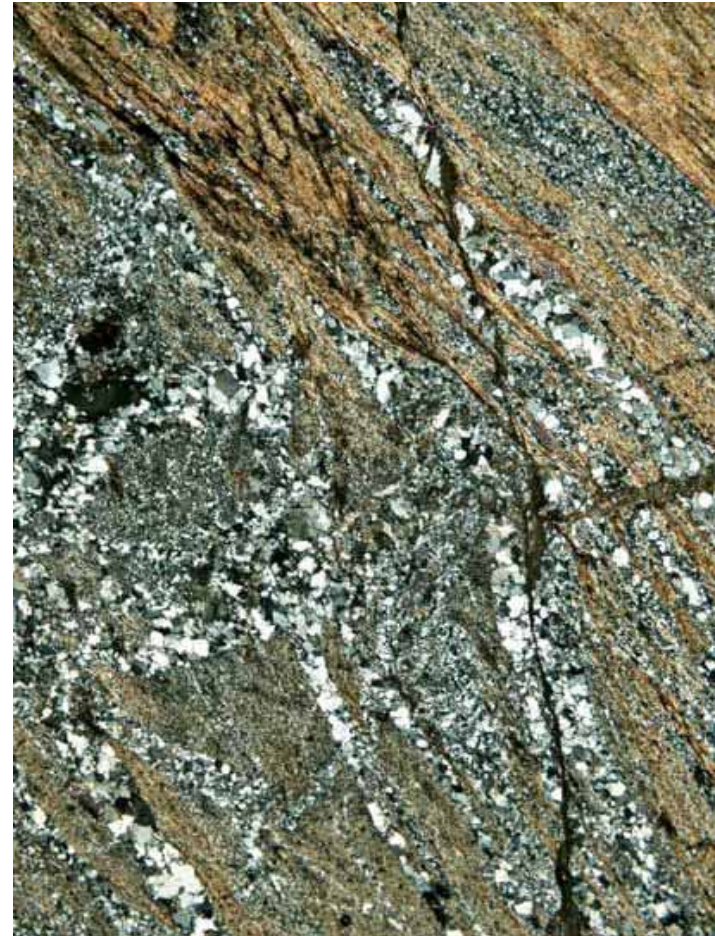
# Regional Geology

- Turbiditic sediments of inferred Late Carboniferous age
- Regional metamorphism to greenschist facies
- >6km long strike-slip fault
- Brittle-ductile deformation
- Stibnite at 6 locations:
  - Sb to 8.22%
  - Au to 1.63 g/t
  - W to 0.37%



## Deposit Geology

- Fine-grained meta-argillite
- Sub-vertical structure
- Multiple deformation events
- Quartz-sericite alteration
- Breccia-hosted mineralisation
- Multiple mineralisation events
- Minimal quartz veining



# Mineralisation

- Sb-Au-W-As-Hg zoned system
- High Sb in cemented breccia
- Dominantly stibnite
- Arsenopyrite, minor pyrite
- Wolframite, minor scheelite
- Cinnabar, native mercury
- Multiple events

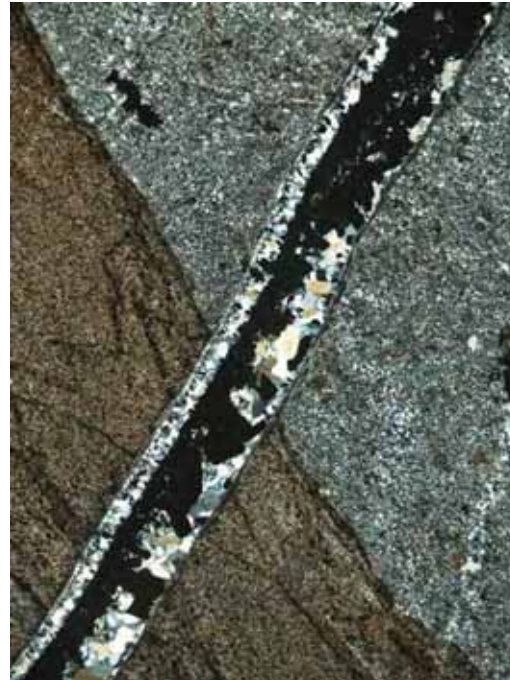




## Styles of Mineralisation



**Cemented breccia**

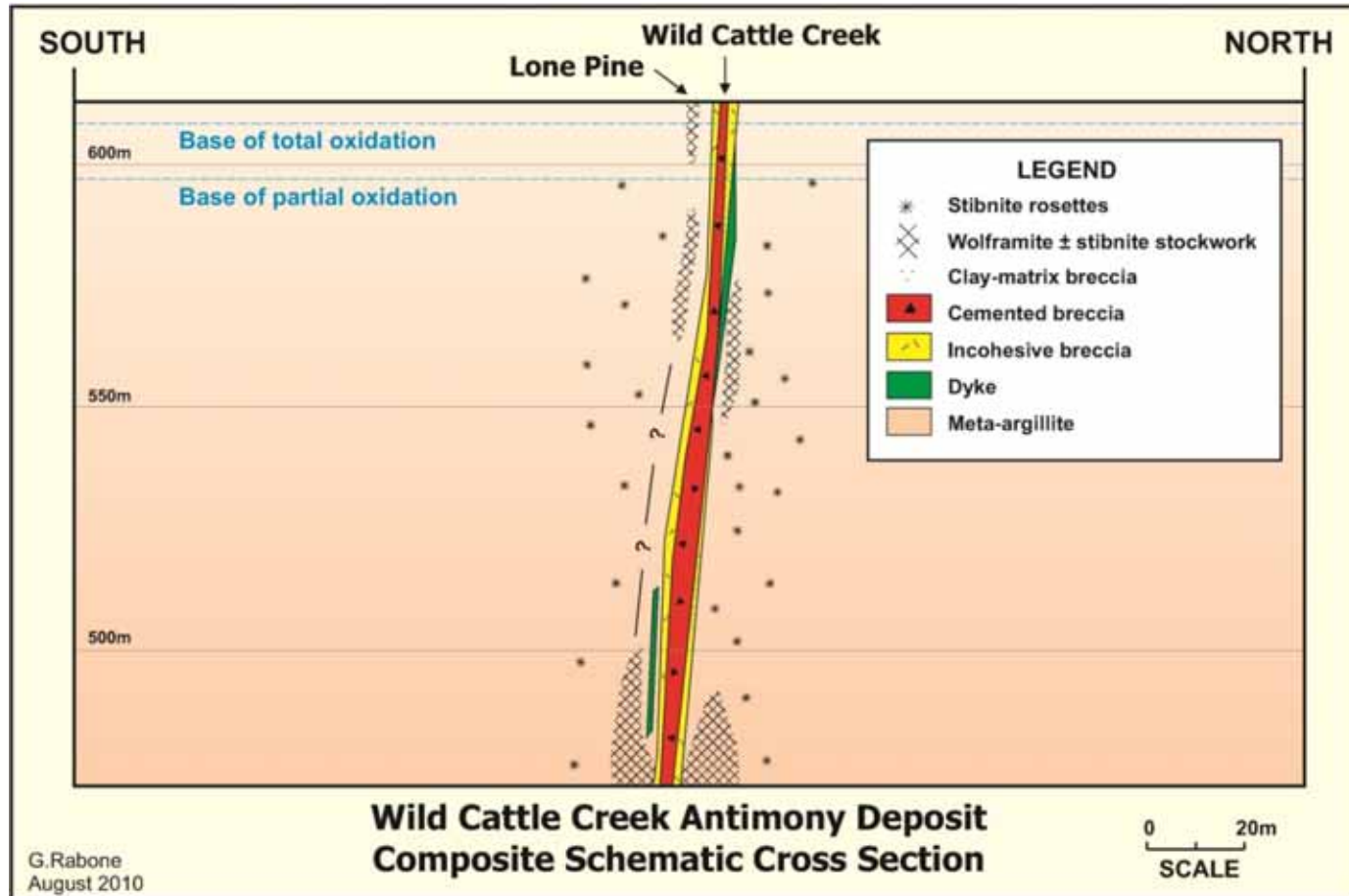


**Wolframite stringer**



**Stibnite rosette**

# Composite Cross Section



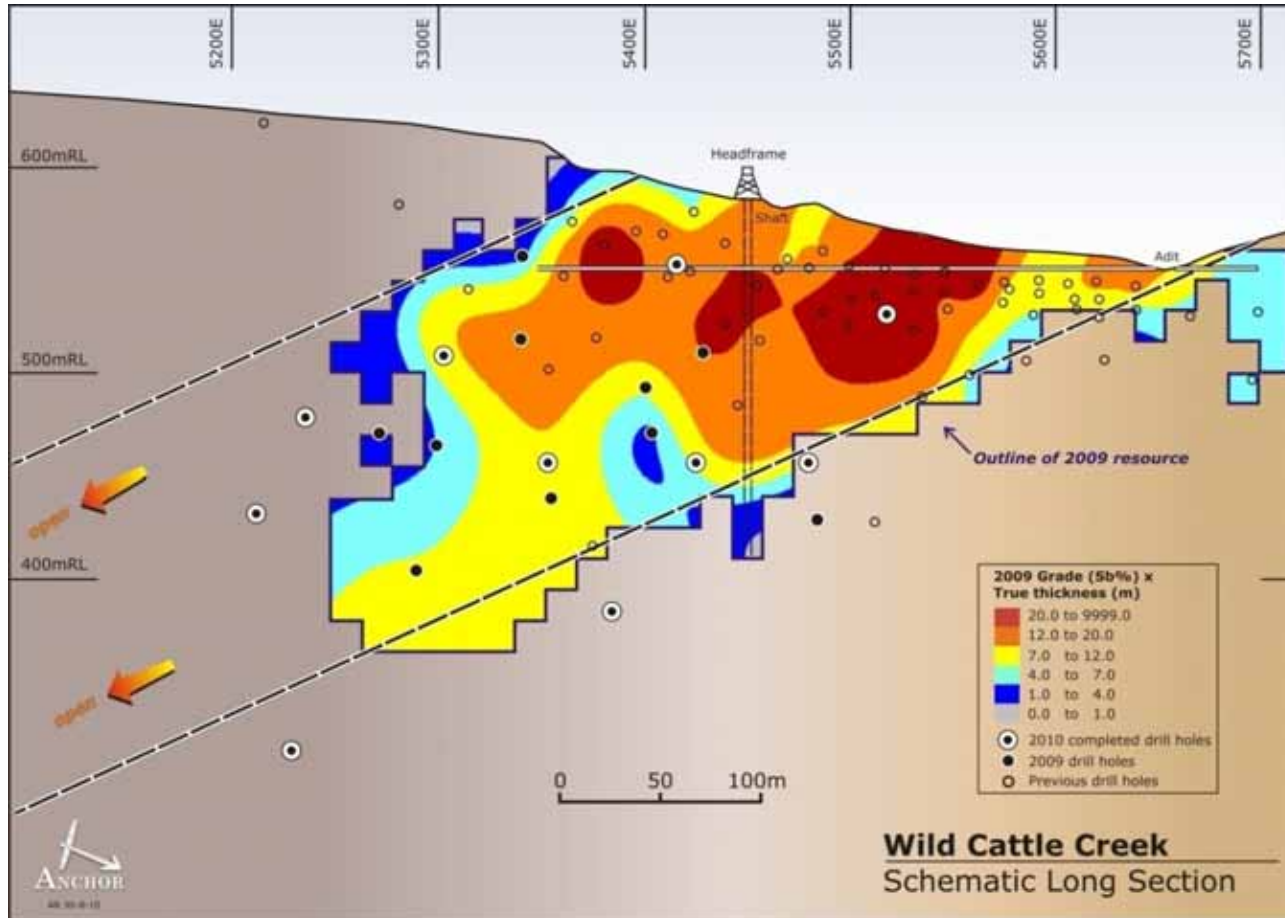
- Vertical metal zonation – Hg at top, Au at depth?
- Lateral metal zonation – Sb core, W peripheral

## 2009 Mineral Resource (Inferred)

Cutoff Grade % Sb	Tonnes t	Grade % Sb	Contained Metal Sb tonnes
0.5	880,000	1.99	17,500
1.0	718,000	2.27	16,300
1.5	546,000	2.59	14,100

- Mineral resource estimate by SRK Consulting November 2009
- 3D model and resource only incorporated breccia core zone
- Insufficient data to model peripheral Sb-Au-W stringer zone
- Resource update in progress with 2010 drilling results
- Current antimony price ~US\$10,325/t

# Longitudinal Section

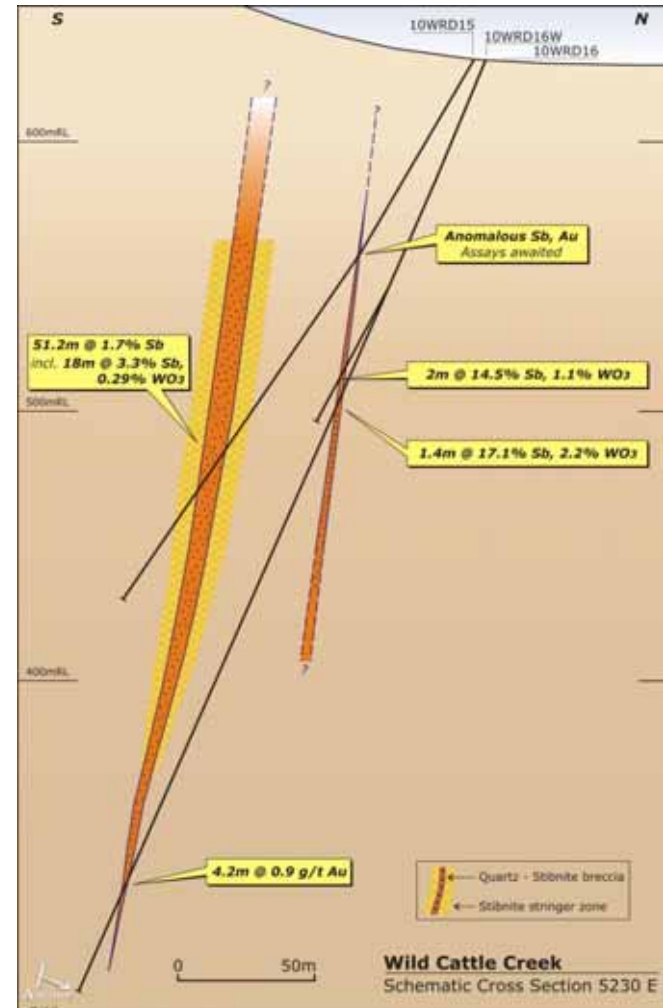


- Expected to increase resource in 2010 estimate
- Deposit remains open down plunge



## New sub-parallel high grade zone?

- Newly discovered high-grade antimony-tungsten zone
- Sub-parallel to main breccia zone
- 35m north of main breccia zone
- 2.0m at 14.5% Sb & 1.1%  $WO_3$
- 1.4m at 17.1% Sb & 2.2%  $WO_3$
- Open down dip and along strike
- Potential for additional resources



## Selected World Antimony Resources

Deposit * operating	Location	Mt	Sb %	Au g/t	W %
Wild Cattle Creek	Australia	0.88	2.0	?	?
Hillgrove (6 dep.)	Australia	5.84	1.5	4.6	0.02
Costerfield*	Australia	0.65	6.2	12.0	-
Blue Spec	Australia	0.47	1.7	24.3	0.02?
Xikuangshan*	China	12.0	2.5	2.6	?
Wuxi*	China	1.76	6.5	13.0	0.37
Gravelotte*	South Africa	9.78	2.2	2.5	?
Beaver Brook*	Canada	2.12	4.4	-	-
Los Lirios	Guatemala	2.0	2.3	5.4	0.5?
Kadamzhay*	Kyrgyzstan	4.4	3.3	-	-
Los Juarez*	Mexico	1.0	1.8	-	-

# Wild Cattle Creek Antimony Deposit - Summary

- Turbiditic sediments (meta-argillite)
- Regional metamorphism to middle greenschist facies
- Regional 6km fault, strike-slip movement
- Multiple brittle and brittle-ductile deformation events
- Sericite-quartz-sulphide wallrock alteration
- Multiple mineralisation events
- Sb-Au-W-As-Hg geochemical association
- Vertical and lateral metal zonation
- Nearest felsic intrusive 4km

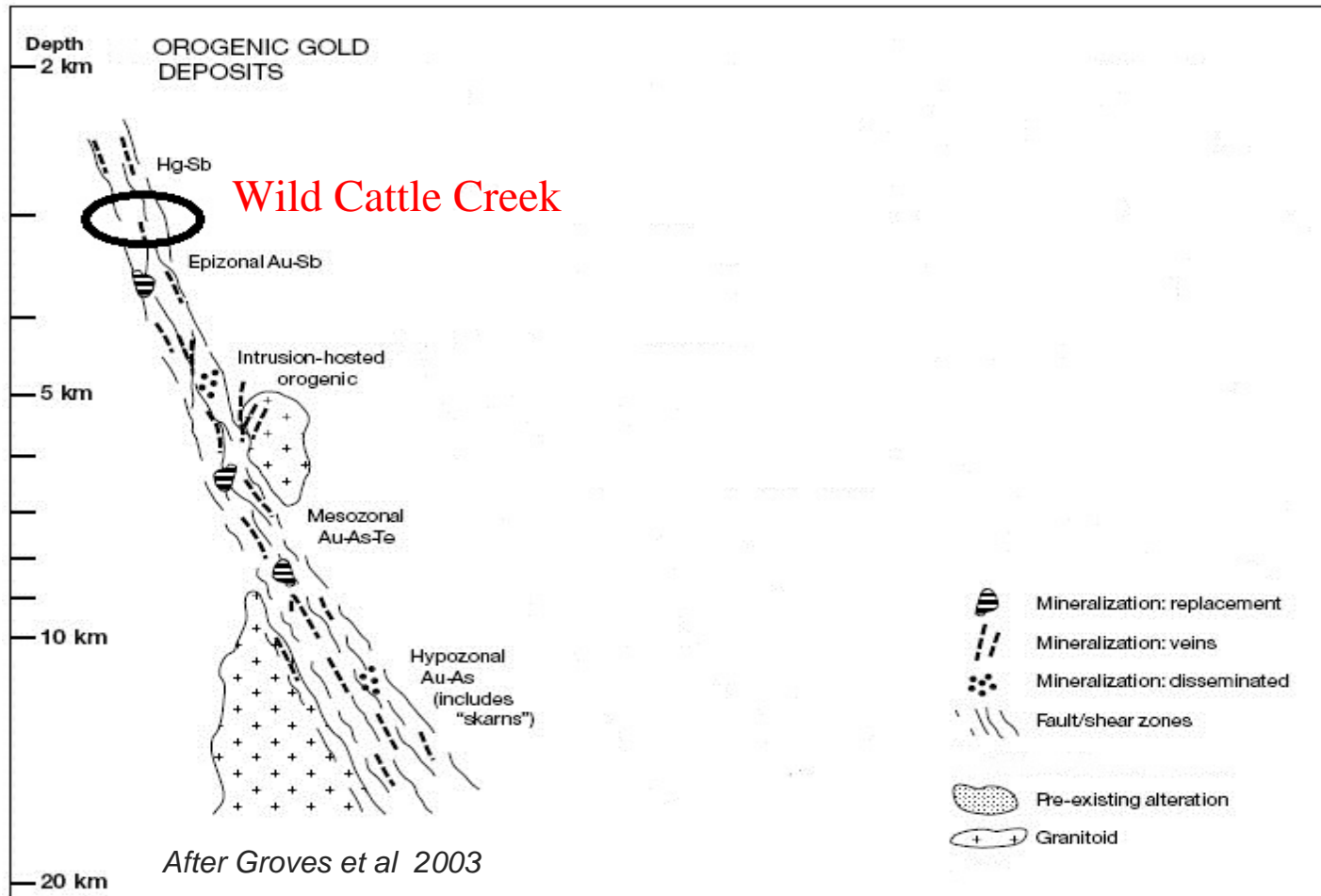


# Orogenic Gold Model

(Groves et al 2003)

- Turbidite accretionary terrane
- Greenschist facies metamorphism of host rocks
- Strike-slip fault movement
- Multiply reactivated regional deformation zone
- Muscovite wallrock alteration assemblage
- Multiple mineralisation events
- Distal relationship with felsic intrusives
- Problematic identification of fluid pathways and metal sources

# Orogenic Sb-Au-W Model



## Company Profile

ASX code:	AHR
Listed on ASX:	July 2007
Issued Share Capital	
ordinary shares	39.3 million
unlisted options	2.3 million
Top 20 shareholders	55%
Directors/Vendors	33%
Market Cap (23 Sep 2010)	\$6 million
Cash at bank (30 June 2010)	\$0.6 million

*Comment: Tightly held share structure*



# Thank You

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