



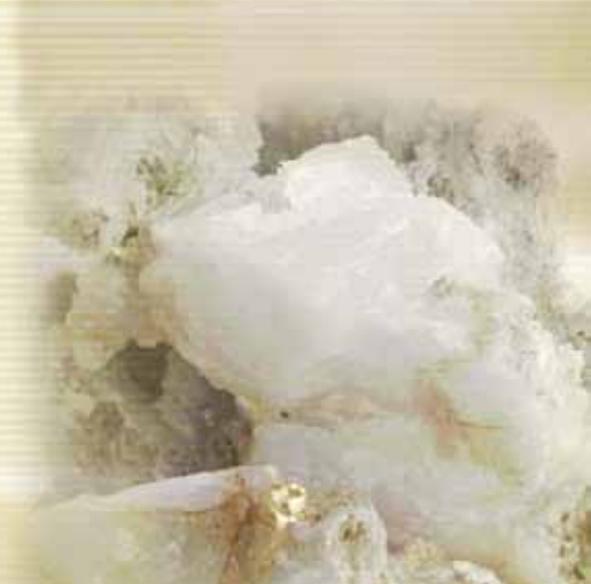
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Ballarat Gold Operations Model to Mill

Charles Carnie – Geology Manager
September, 2007

Special Thanks to Darren Osborne – PhD Student





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Forward-looking Statements



This presentation may contain certain forward-looking statements, including but not limited to (i) estimated reserves, (ii) anticipated production profiles and characteristics, (iii) expected capital requirements, (iv) forecast cost profiles or (v) plans, strategies and objectives of management.

Such forward looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Lihir, which may cause actual results to differ materially from those contained in this announcement. Important factors that could cause actual results to materially differ from the forward looking statements in this presentation include but are not limited to the market price of gold, anticipated ore grades, tonnage, recovery rates, production and equipment operating costs, the impact of foreign currency exchange rates on cost inputs and the activities of governmental authorities in Papua New Guinea and elsewhere, as set forth more fully under the caption "Risk Factors" in Lihir's most recent Annual Report on Form 20-F, which has been filed with the US Securities and Exchange Commission ("SEC") and is available on the website maintained by the SEC at <http://www.sec.gov/cgi-bin/srch-edgar>

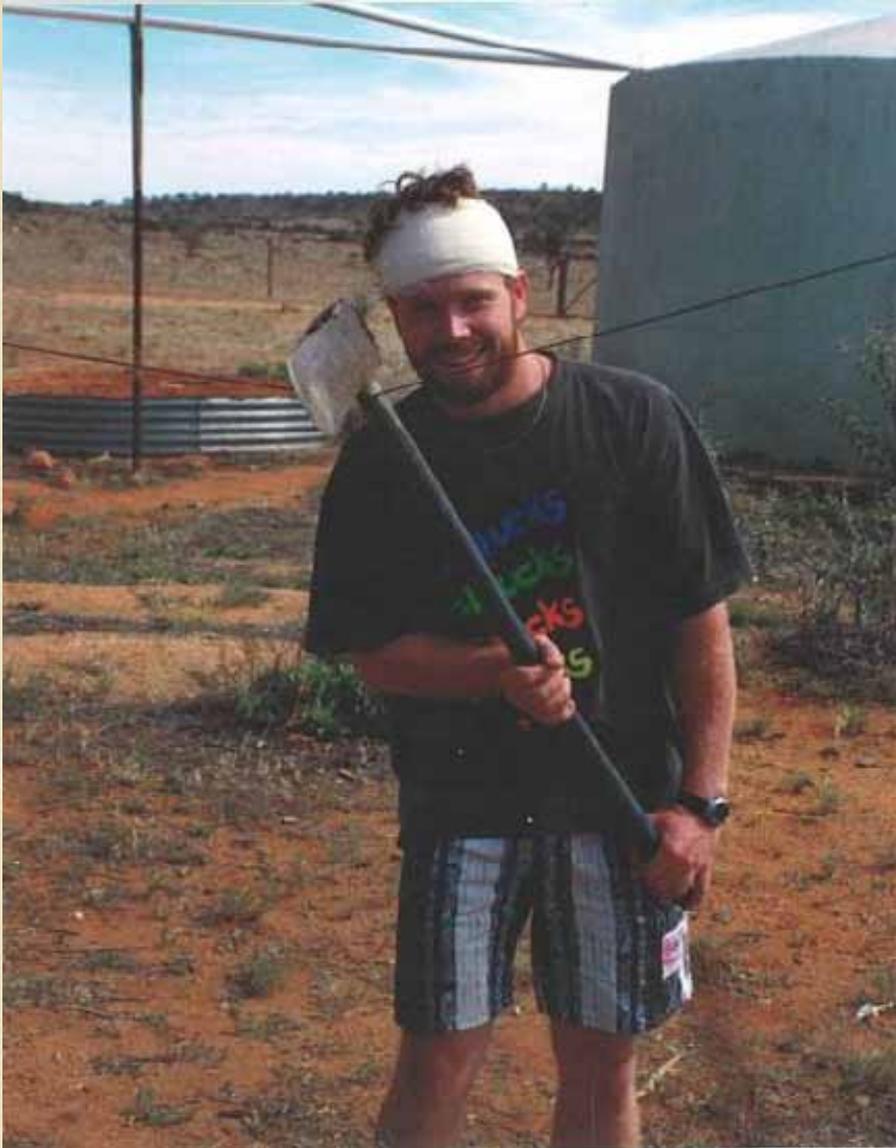
Gold reserve and resource estimates are expressions of judgment based on knowledge, experience and industry practice, and may require revision based on actual production experience. Such estimates are necessarily imprecise and depend to some extent on statistical inferences and other assumptions, such as gold prices, cut-off grades and operating costs, which may prove to be inaccurate. Ballarat Goldfields N.L. does not have any ore reserves and the level of its estimated mineral resources and exploration potential are necessarily imprecise and may prove to be inaccurate. Accordingly, no assurance can be given that the indicated amount of gold will be recovered or at the rates estimated.

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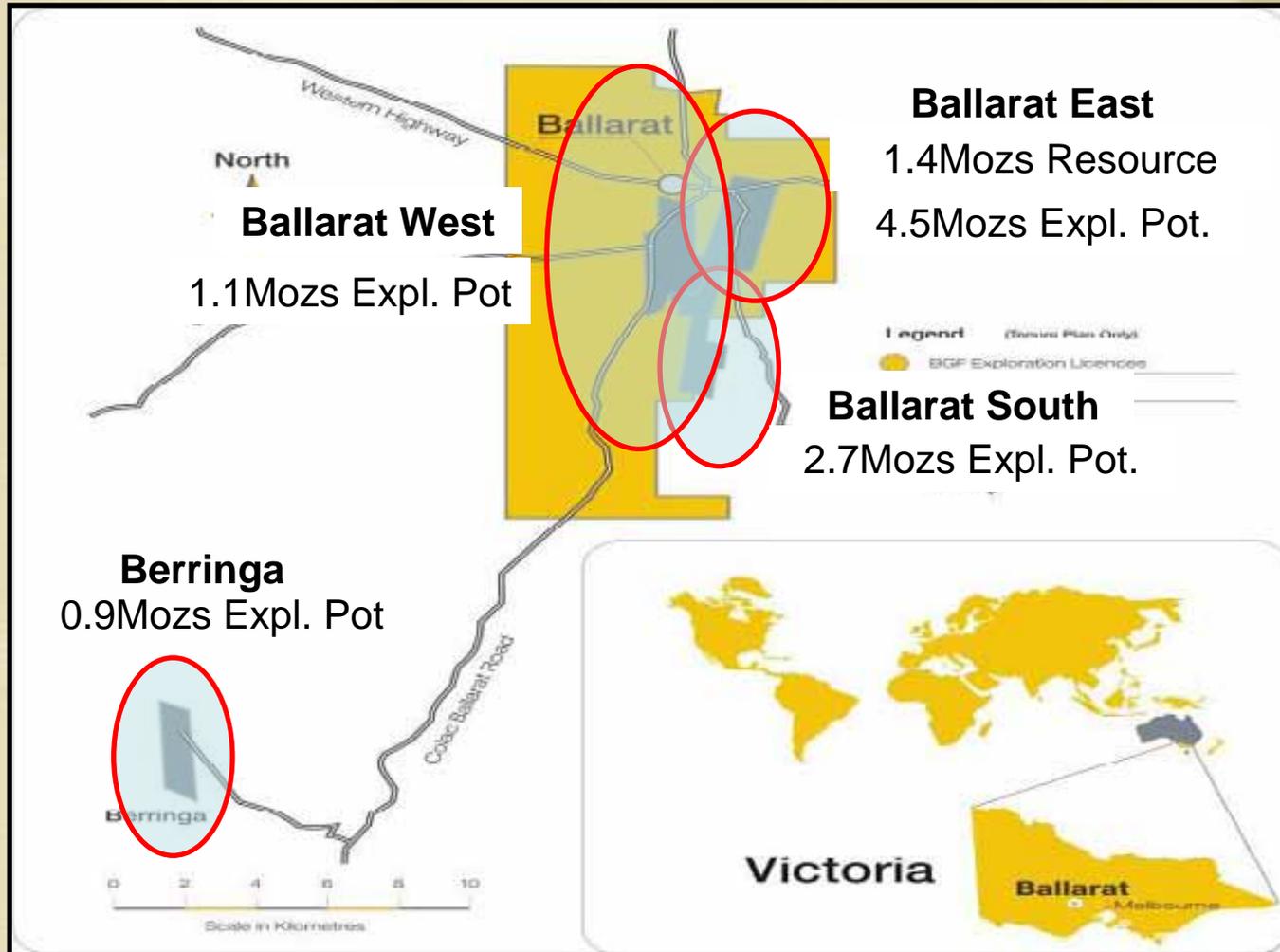
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Free Safety Tip



Location, Victoria, ~ 80Mozs



- Victoria mined ~ 80Moz
- Ballarat mined ~ 12Mozs
- BGF listed in 1985
- Tenements consolidated in 1985 – 2005
- Merged with Lihir 2007

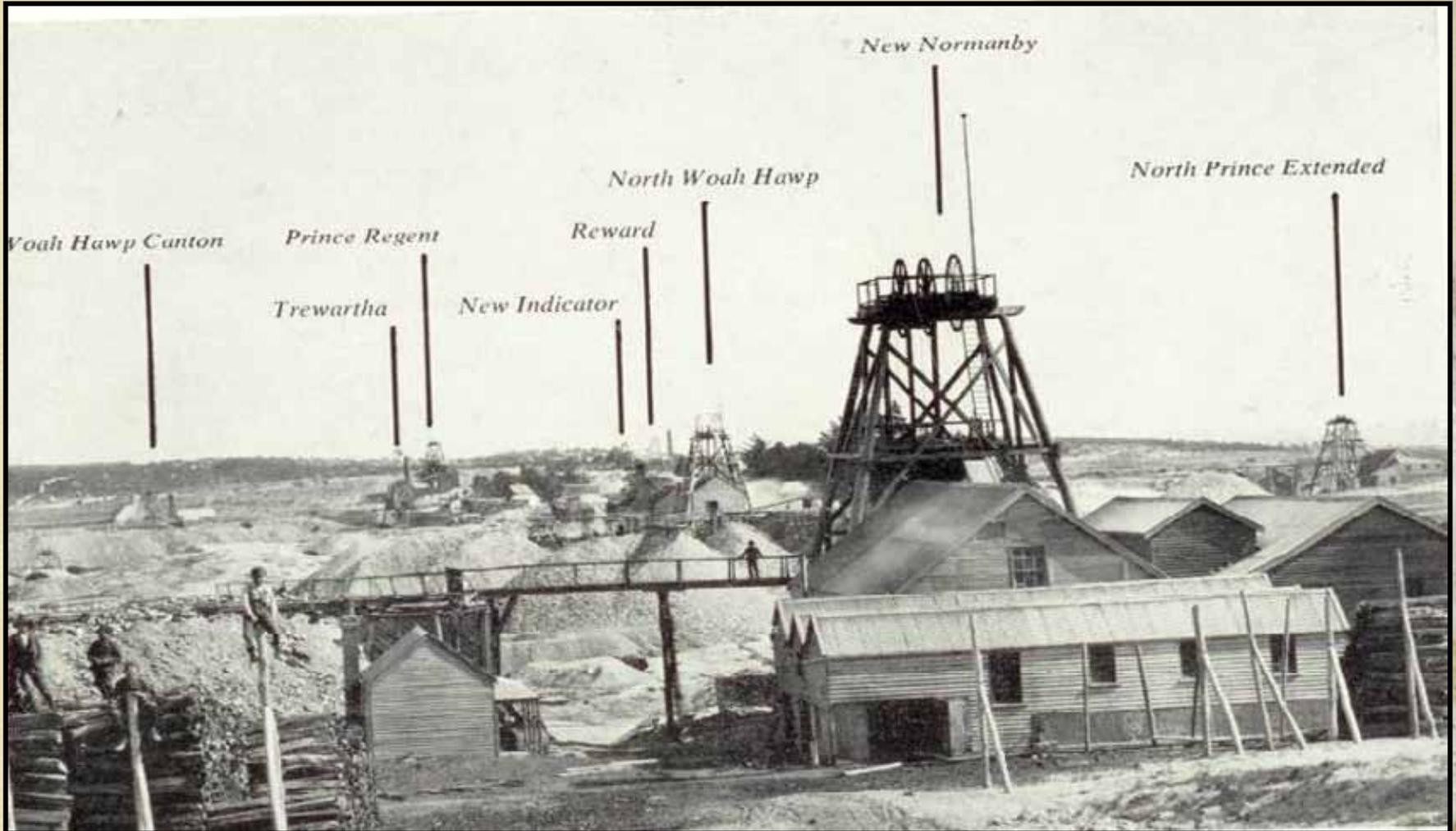
1850's Boom



Mining ~ 1870s



Ballarat - Then

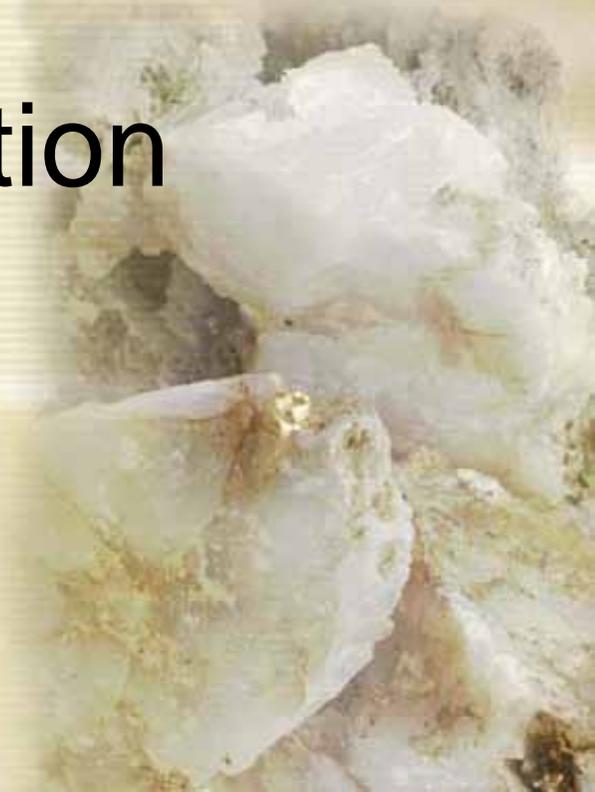




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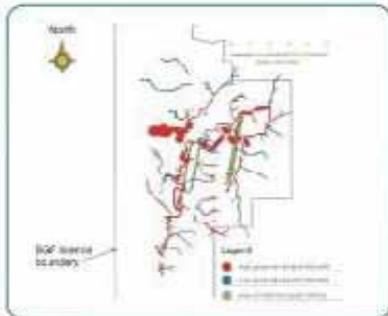
Historical Reconstruction



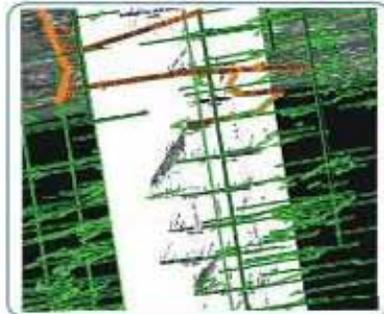
Starting out in 3D

Ballarat Goldfields N.L.

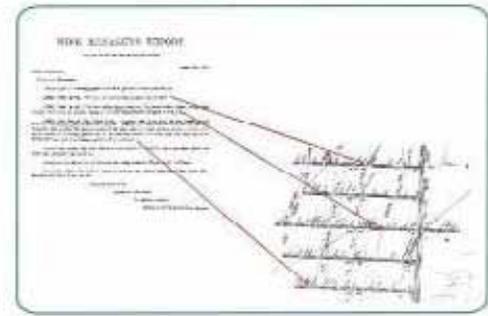
Construction of the regional exploration potential at Ballarat



Geochemical overprint from alluvial workings



1890 to 1910 geological survey of Victoria mapping

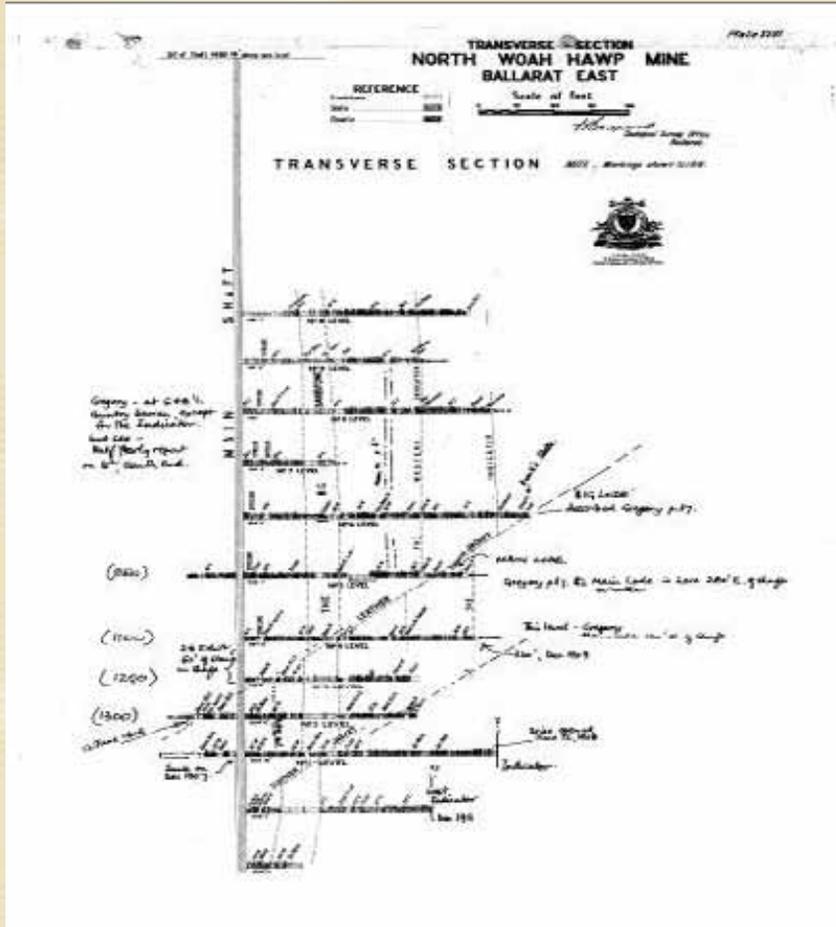


Mine managers reports

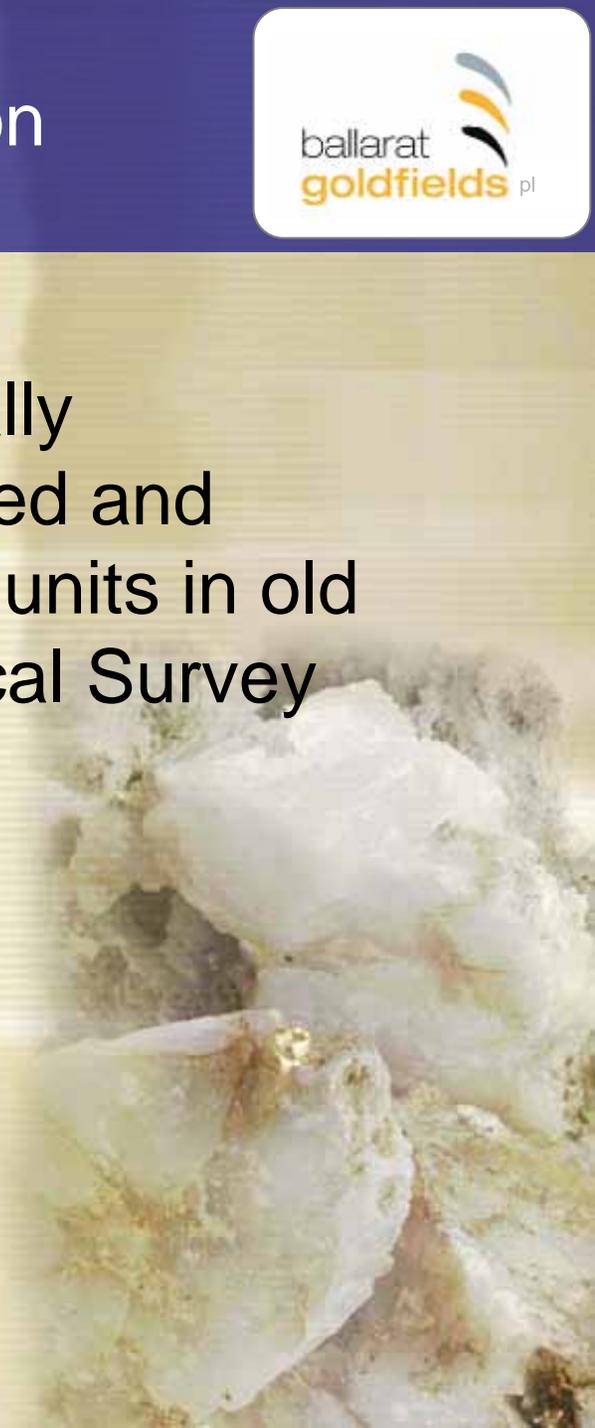


Construction of regional geology and gold deposits

Historical interpretation



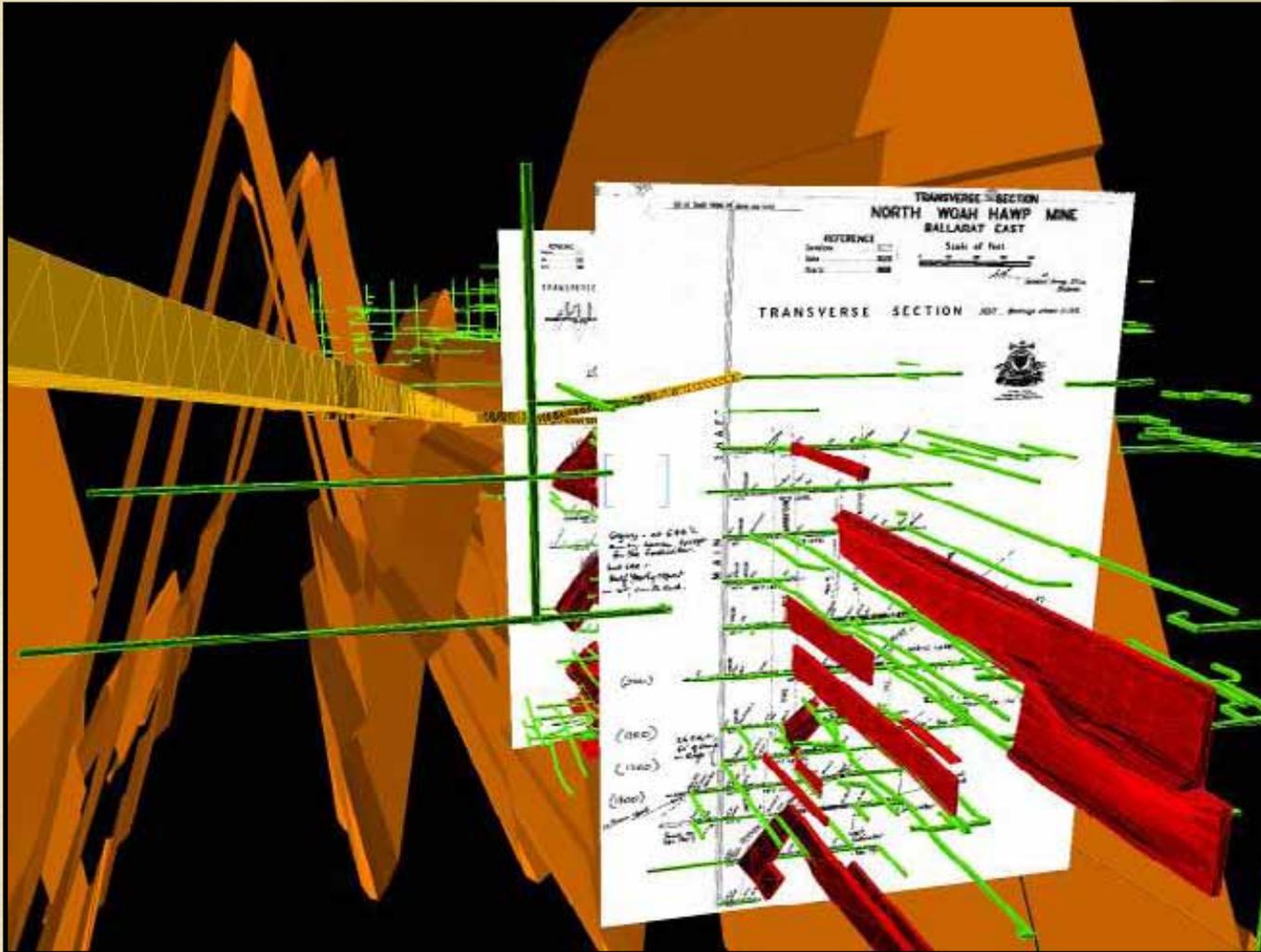
- Historically interpreted and mapped units in old Geological Survey reports





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Geological Model - Construction



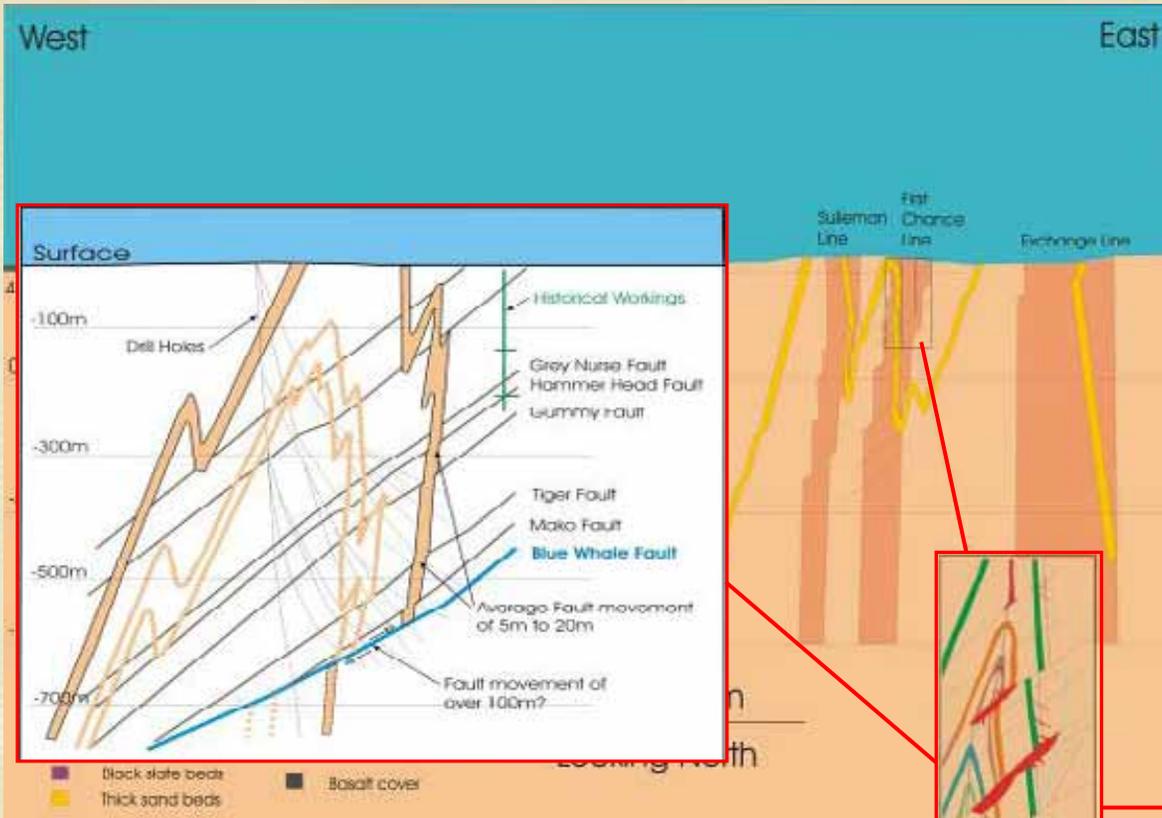


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Ballarat- a city built on mining



Regional Geology



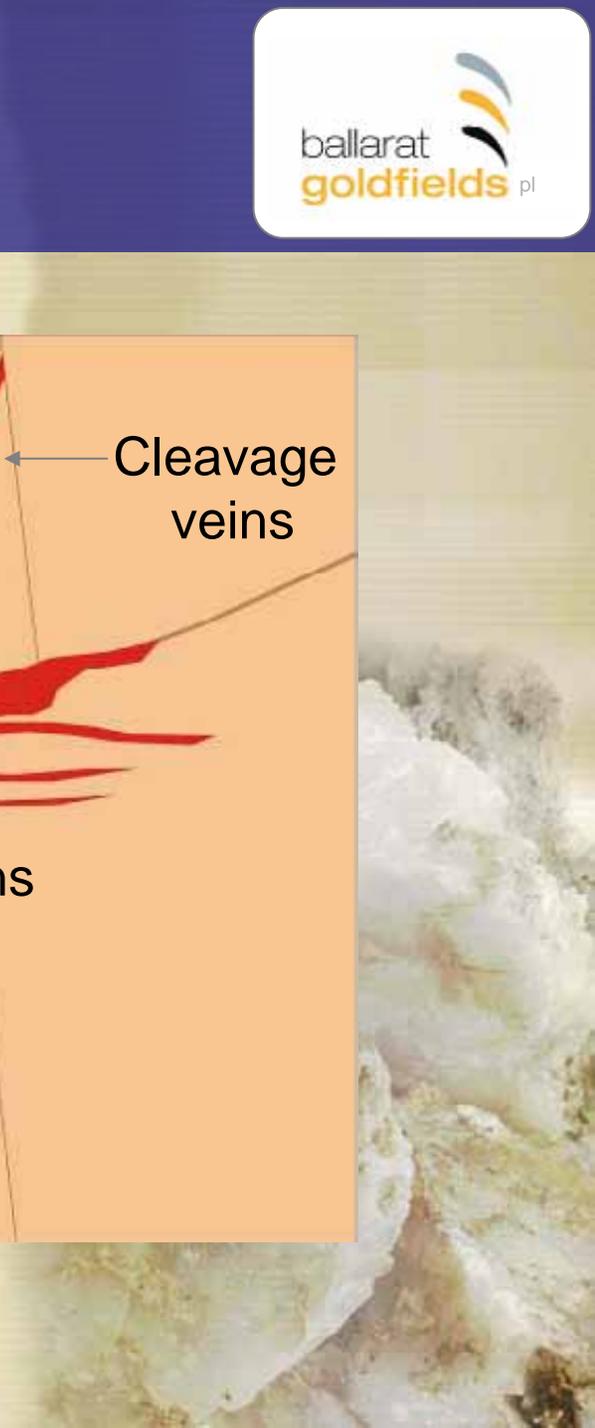
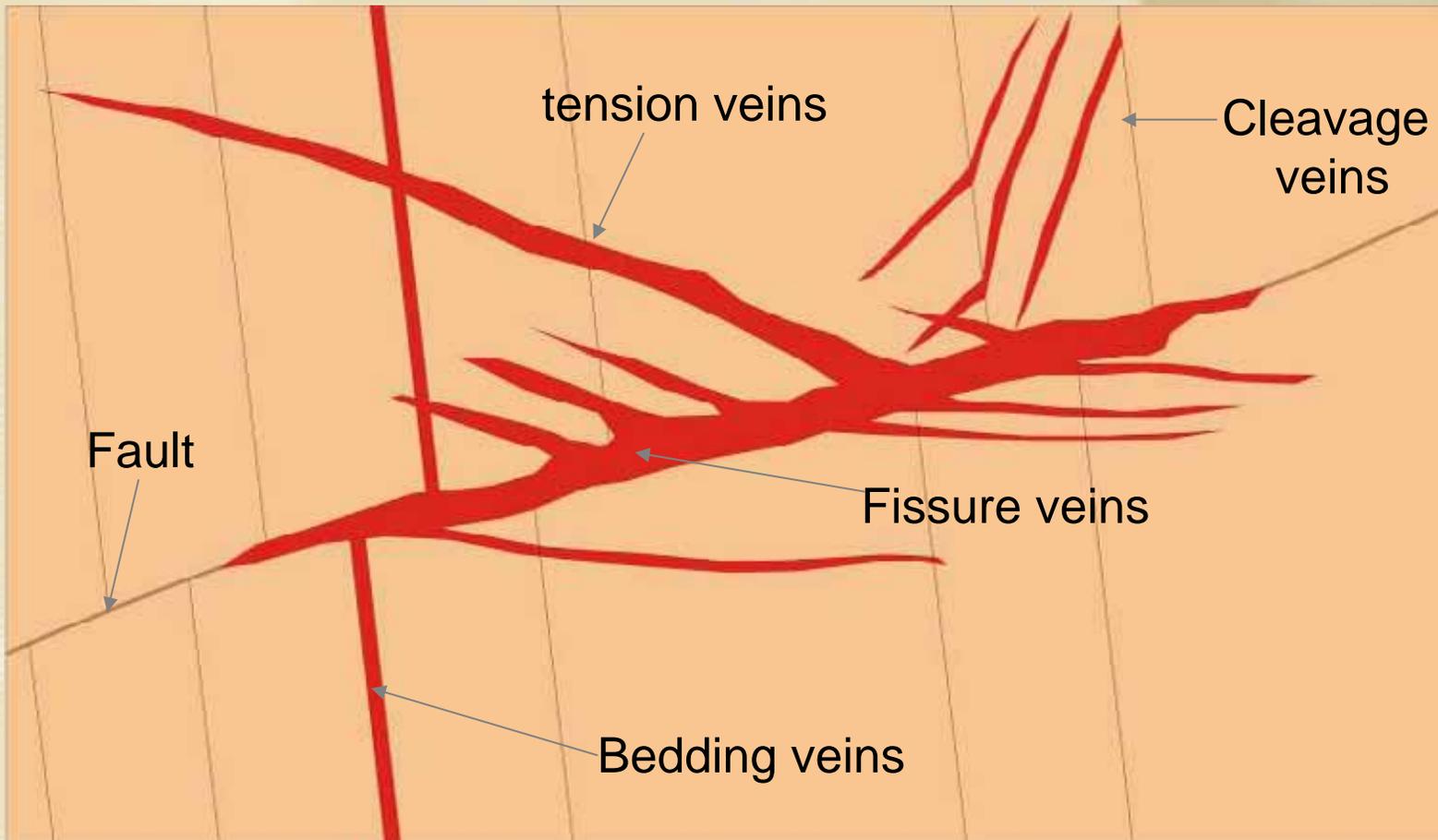
FOLDS

- Upright
- Tight
- Inclined to the east
- Often with faulting or quartz veining around the hinge
- First Chance most important

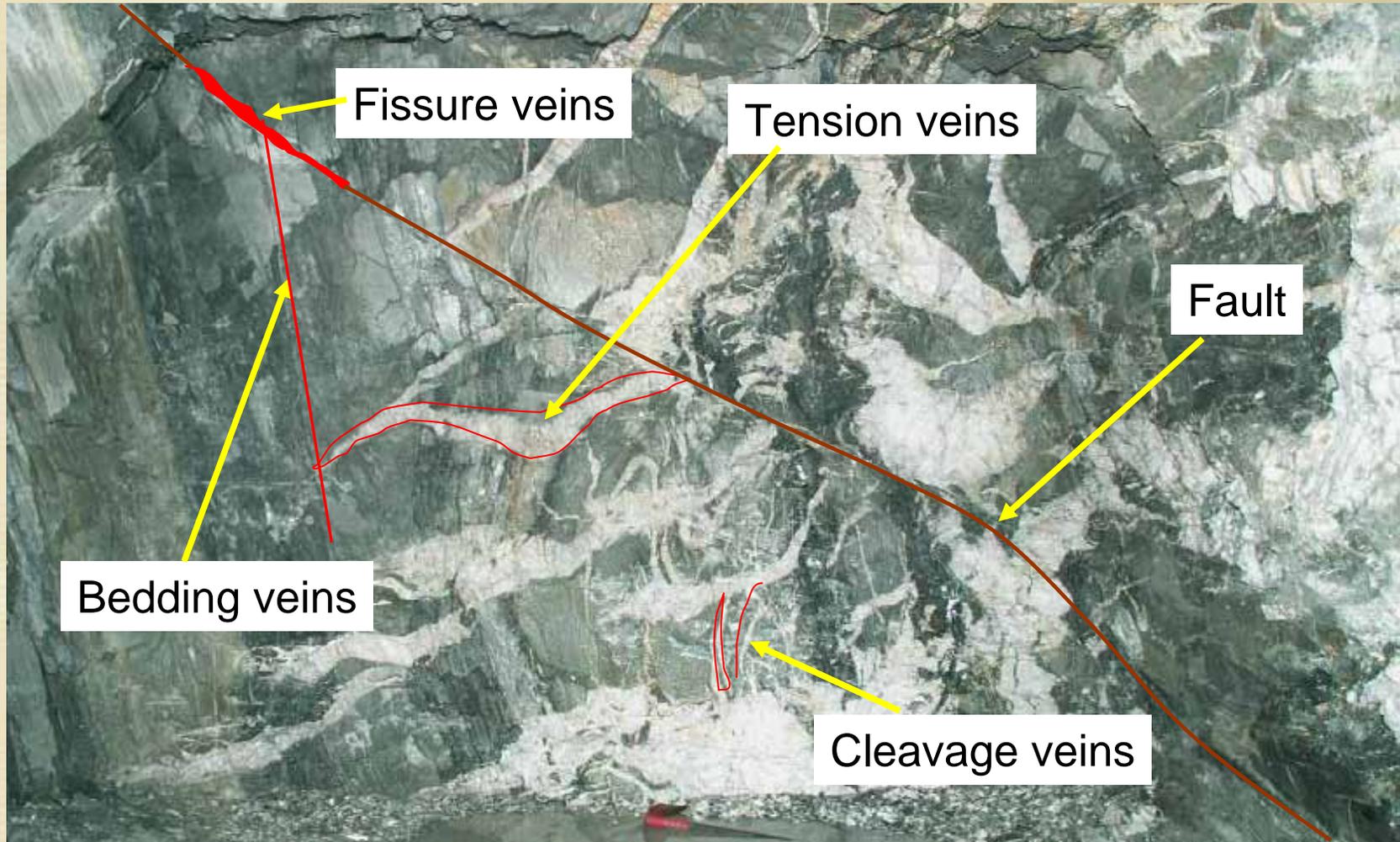
FAULTS

- West-dipping thrusts (east limbs)
- Repeat every 20-60 metres
- Variable throw and thickness
- Blue Whale extremely important

Veining



Typical small shoot



Fault with fissure and tension veins

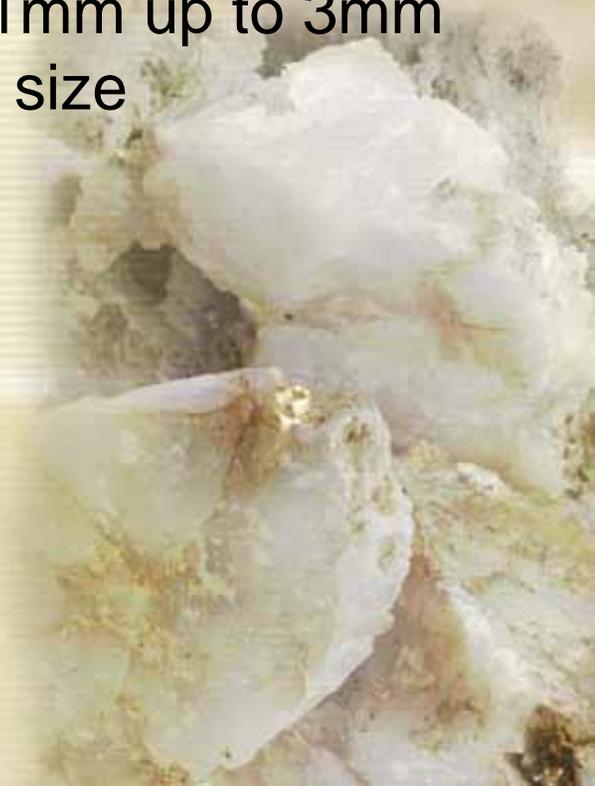


Fault with tension veins





- Visible gold is common in the drill core
- <1mm up to 3mm in size



Core Handling and Logging

Then and Now



Old core shed



- Core racks were converted metal ladders
- A lot of manual handling
- Cramped space
- Slip and trip hazards
- Centre for large amount of vehicle movement

Old method of logging

<p>222.42-223.3, Sst, sil, ls, mag</p> <p>223.2-224.28, Sst, ls, mag</p> <p>223.83-224.4, m, wh.</p> <p>224-224.24, sil, m, dgg</p> <p>224.24-225.35, ls, m, wh</p> <p>225.35-225.77, Sst, m, mag</p> <p>225.77-226.4, m, wh.</p> <p>227.42-229.56, m, mag</p>	<p>223.3, w 62% L.</p> <p>223.7, w 41% Hw.</p> <p>weathered out facing wall</p>	<p>222.44-223.3, w Sst.</p> <p>223.5-229, Sst, spyl.</p> <p>229-237.4, w Sst.</p>	<p>223.89-224, mag, T.</p> <p>Sst, sil, ls, mag, 2. Bz.</p> <p>224.24-225.35, mag, T.</p> <p>Sst, Sst, Bz.</p> <p>225.35-225.77, fgg, thin, Sst Sst</p> <p>225.77-226.4, mag, T.</p> <p>Sst, spyl, spyl, Bz.</p> <p>Glycolite.</p> <p>228.47-229.2, mag, T.</p> <p>Sst, Bz.</p>	<p>220.1 SB.</p> <p>222.6 SB.</p>
<p>230-230.42, Sst, ls, m</p> <p>230.42-235.4, Sst, spyl, m</p> <p>inc. 2. sil, sil, mag</p> <p>235.4-235.5, Sst, m, "</p> <p>235.5-237.2, Sst, sil, m, "</p> <p>237.2-240.4, Sst, ls, m, "</p>	<p>233.45-233.17 fa.</p> <p>236, cv 65%.</p> <p>236.9, bed 63%.</p>	<p>237.68-240.9, mms, Bz.</p>	<p>229.05-229.1, mag, T.</p> <p>231.80-231.94, mag, T.</p> <p>Bz, Sst, spyl.</p> <p>232.47-232.49, mag, T.</p> <p>Ac3 (spec. & spot). Sst.</p> <p>Sst</p> <p>233-233.13, mms, A.</p> <p>235.08-235.14, mag, A. Sst.</p> <p>235.43-235.49, mag, Bz, m</p> <p>237.28-237.4, mag, T. Sst.</p> <p>Sst</p>	<p>232.43 SB.</p> <p>235.5 SB.</p> <p>236.9 SB.</p>

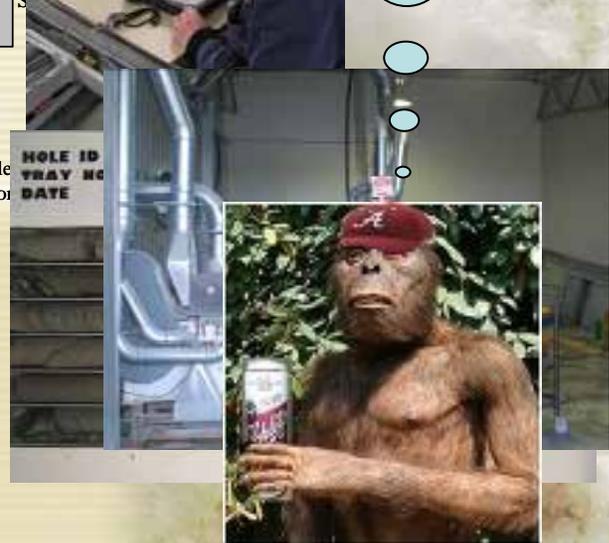
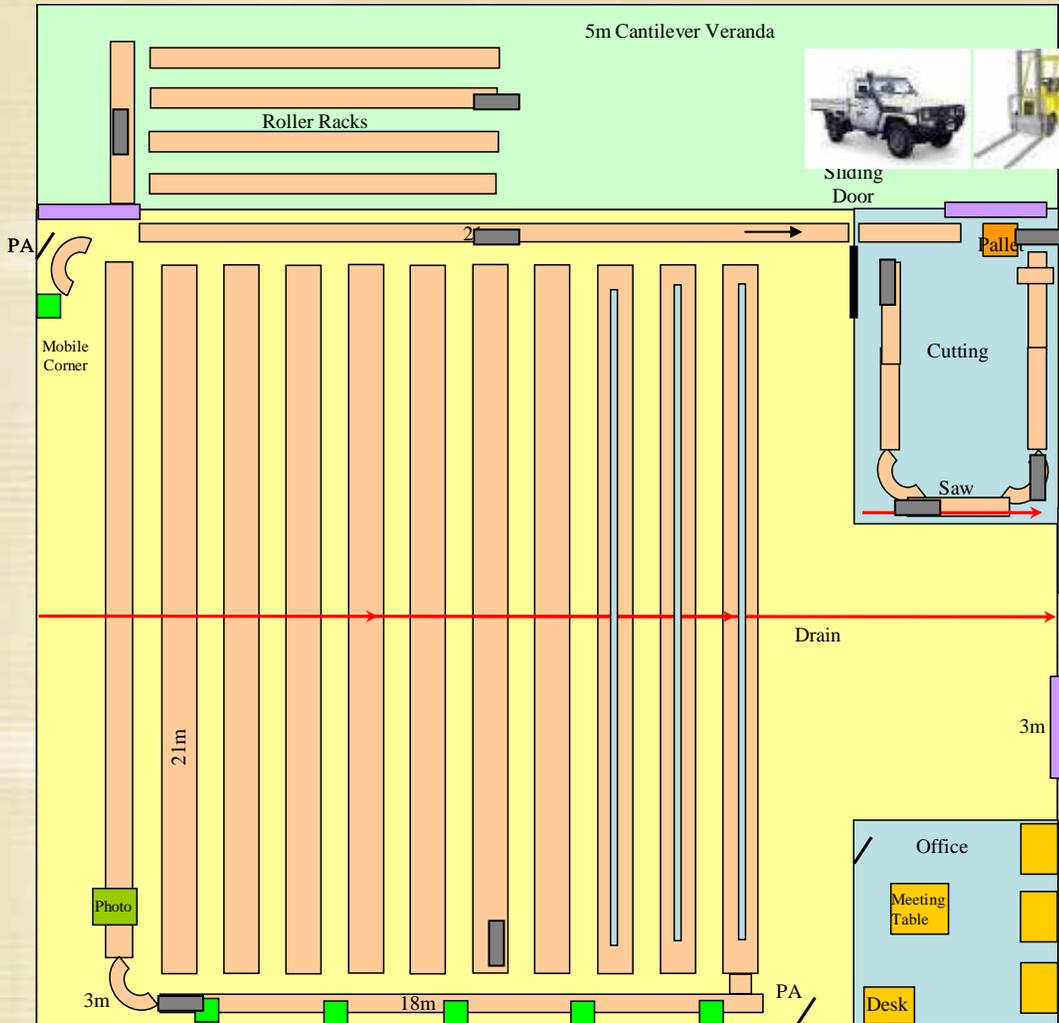
- Every unit logged
- Data entered manually into an Access database
- Time consuming and inefficient
- Variation between descriptions
- Made interpretation difficult

New core processing facility



- Brand new state of the art core processing facility
- Designed for a safe and efficient work environment second to none in the mining industry

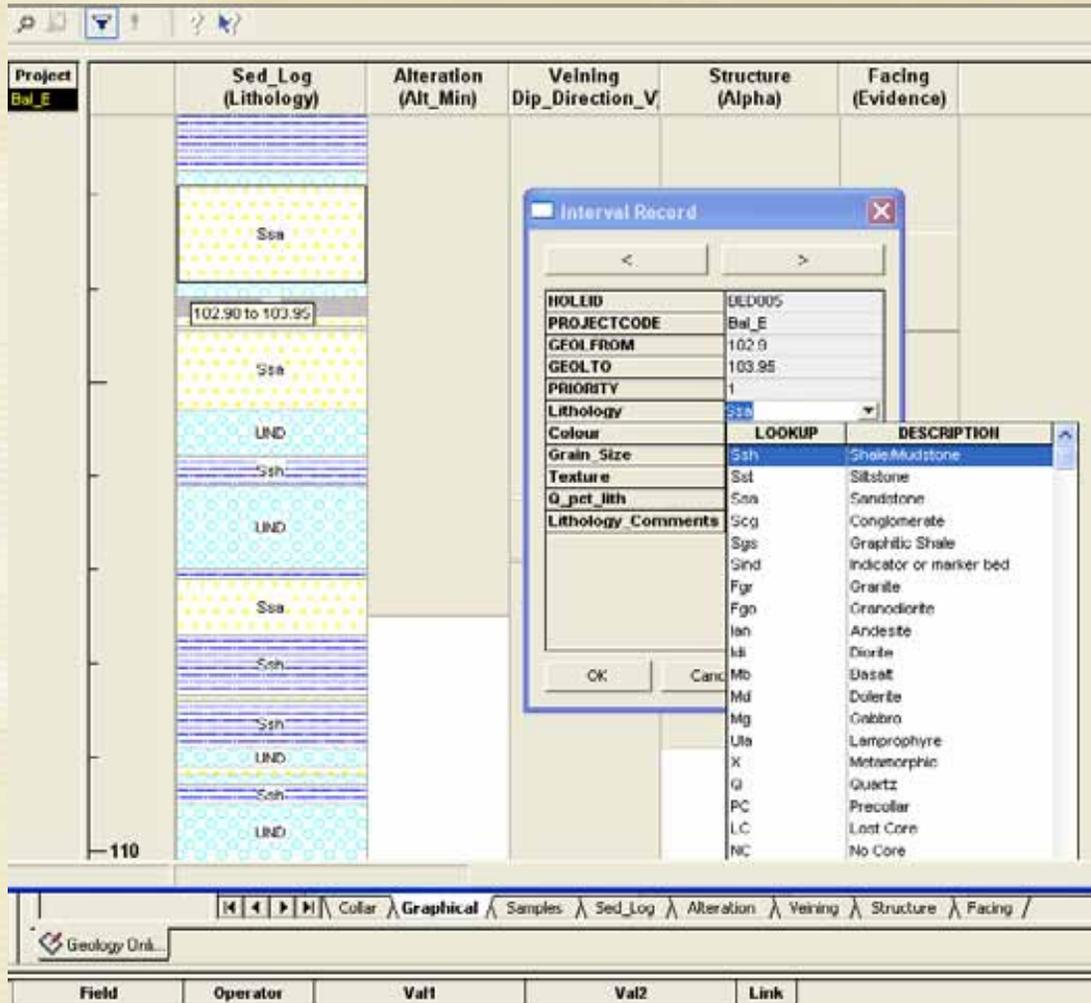
Layout of core processing facility



Initiatives at core facility



New hardware and software



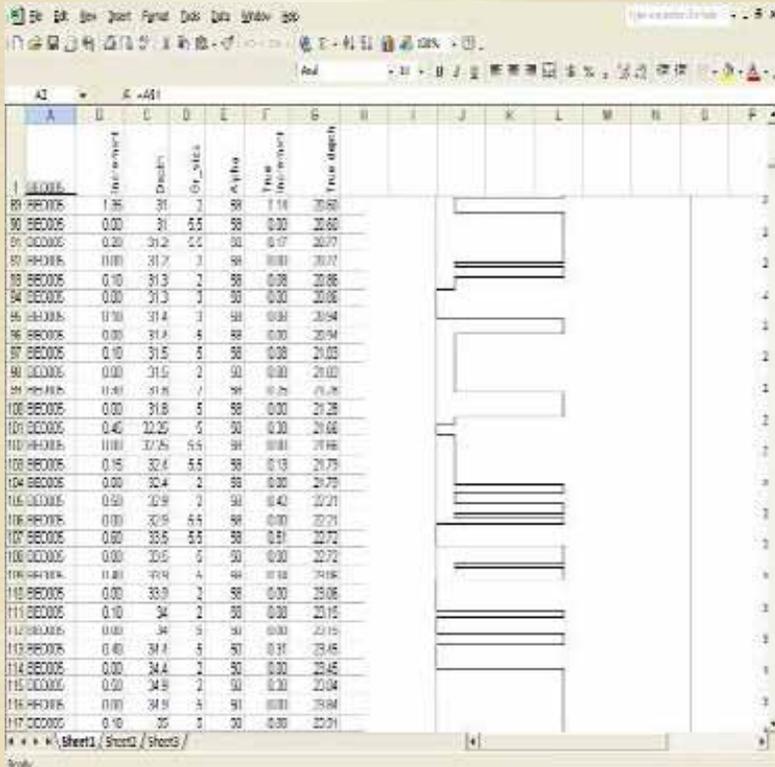
- Streamlined process
- Acquire logging program and database
- Drop down boxes for faster use
- Toughbook PC's
- Wireless network

New logging method

- Linex method
- Only log sand units (macro fills in shale)
- Record grain size
- Quick and efficient
- Data easily processed to a visual form



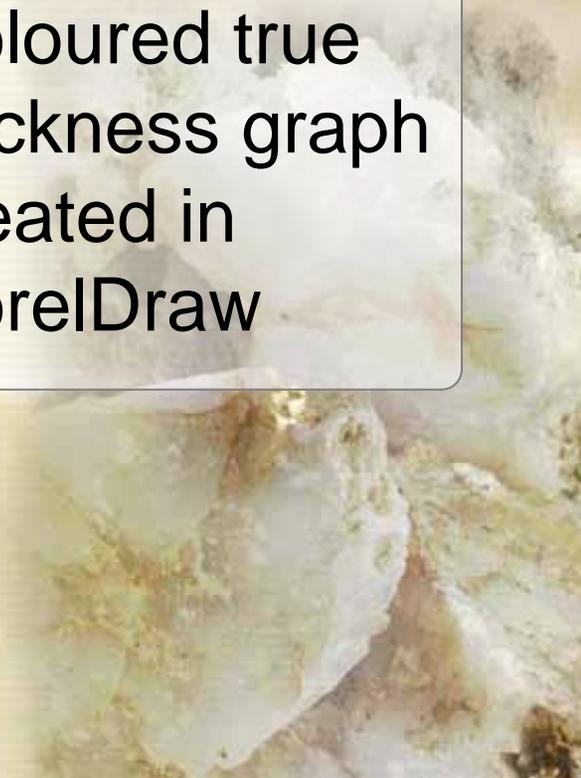
Processing of data



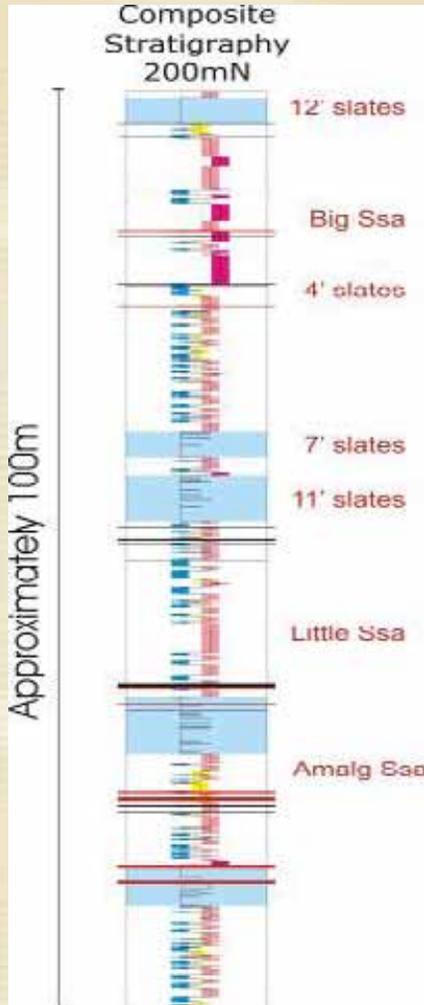
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	ID	True thickness	Depth	Gr. Size	A/B	True thickness	True depth									
88	88E0005	1.35	31	3	88	1.14	20.60									
89	89E0005	0.00	31	5.5	88	0.00	20.60									
91	91E0005	0.20	31.2	5.0	88	0.17	20.77									
93	93E0005	0.00	31.7	3	88	0.00	20.77									
93	93E0005	0.10	31.3	2	88	0.08	20.86									
94	94E0005	0.00	31.3	3	88	0.00	20.86									
95	95E0005	0.70	31.4	3	88	0.64	20.94									
96	96E0005	0.00	31.4	4	88	0.00	20.94									
97	97E0005	0.10	31.5	5	88	0.08	21.03									
99	99E0005	0.00	31.5	2	88	0.00	21.03									
99	99E0005	0.40	31.6	7	88	0.26	21.06									
100	100E0005	0.00	31.8	5	88	0.00	21.28									
101	101E0005	0.45	32.20	5	88	0.30	21.66									
101	101E0005	0.00	32.25	5.5	88	0.00	21.66									
108	108E0005	0.15	32.4	5.5	88	0.13	21.73									
104	104E0005	0.00	32.4	2	88	0.00	21.73									
106	106E0005	0.50	32.9	2	88	0.42	22.21									
106	106E0005	0.00	32.9	5.5	88	0.00	22.21									
107	107E0005	0.60	33.5	5.5	88	0.51	22.72									
108	108E0005	0.00	33.5	5	88	0.00	22.72									
108	108E0005	0.80	33.9	4	88	0.74	23.06									
112	112E0005	0.00	33.9	2	88	0.00	23.06									
111	111E0005	0.10	34	2	88	0.00	23.15									
112	112E0005	0.00	34	3	88	0.00	23.15									
113	113E0005	0.40	34.4	5	88	0.31	23.45									
114	114E0005	0.00	34.4	2	88	0.00	23.45									
115	115E0005	0.20	34.8	2	88	0.20	23.84									
116	116E0005	0.00	34.9	3	88	0.00	23.84									
117	117E0005	0.10	35	3	88	0.00	23.91									



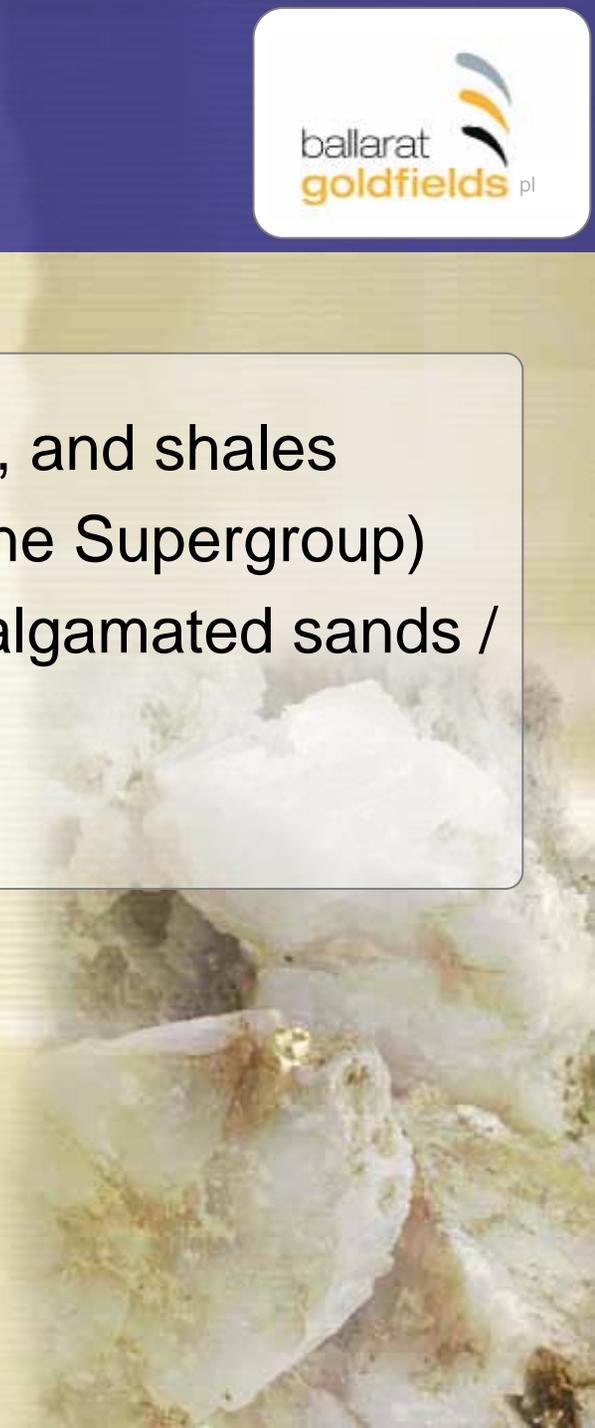
- True thickness graphs created in excel
- Coloured true thickness graph created in CorelDraw



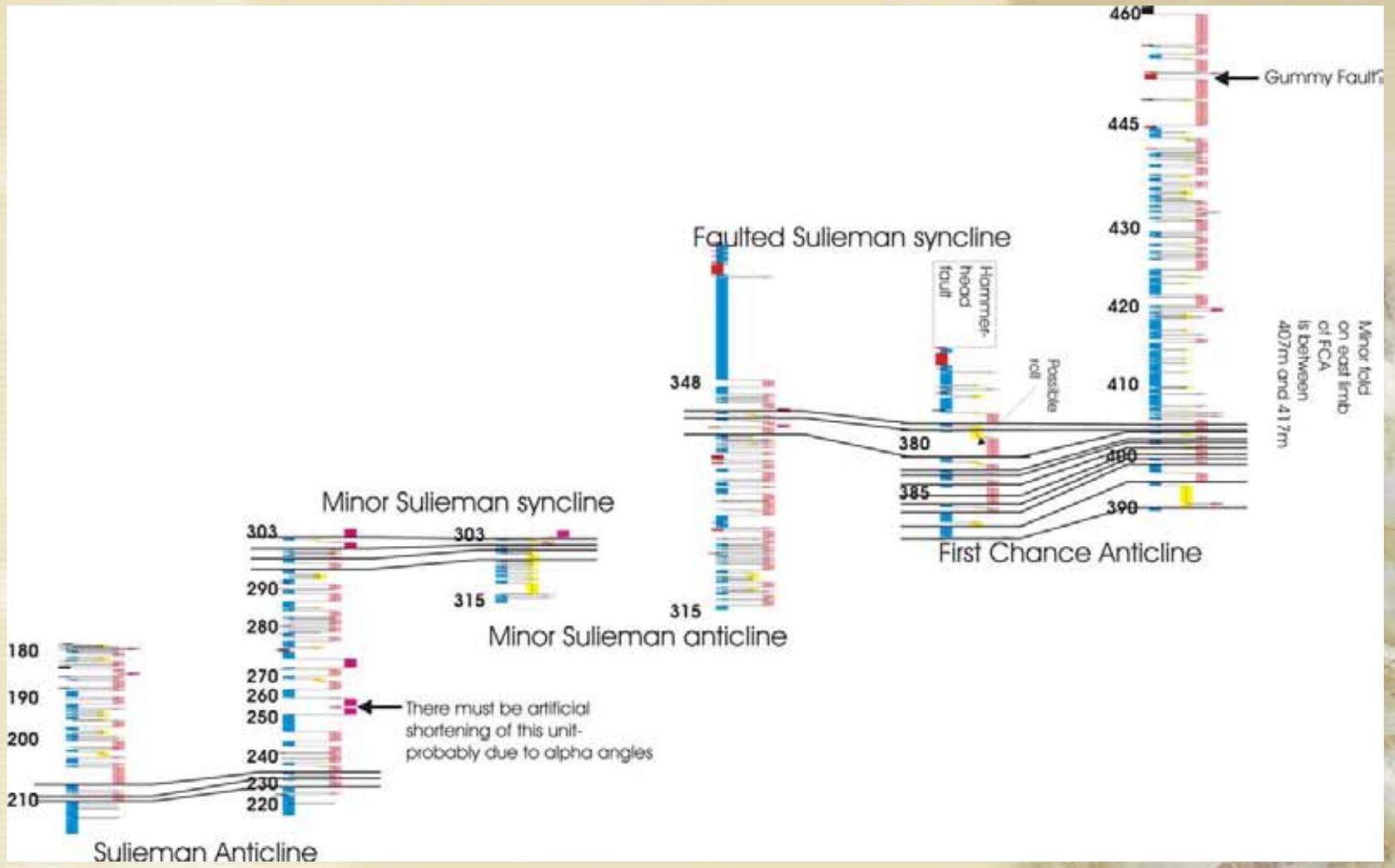
Generic stratigraphy



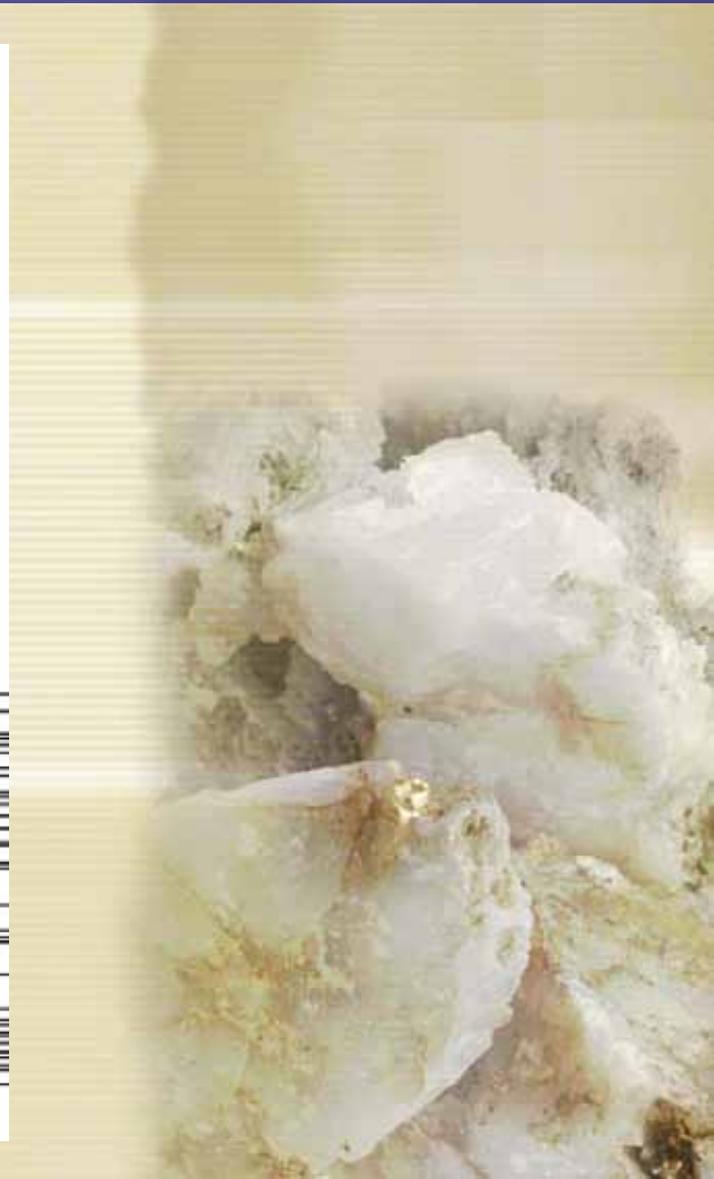
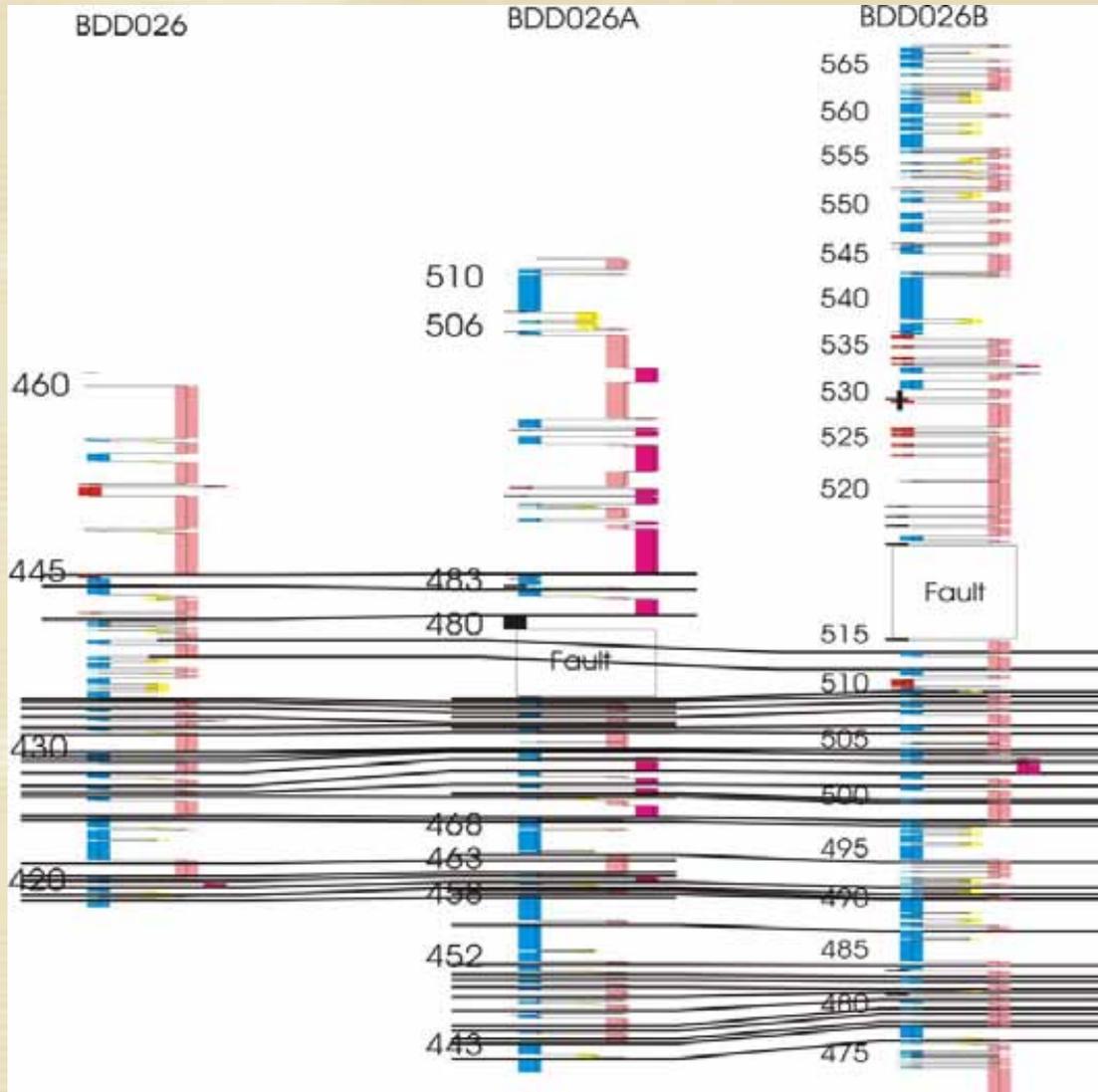
- Sandstones, siltstones, and shales
- Ordovician (Castlemaine Supergroup)
- Marine Turbidites- amalgamated sands / channel facies
- Lack of coarse sands



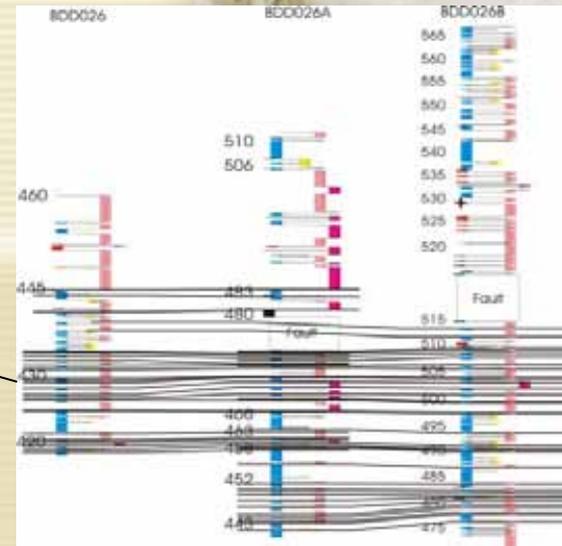
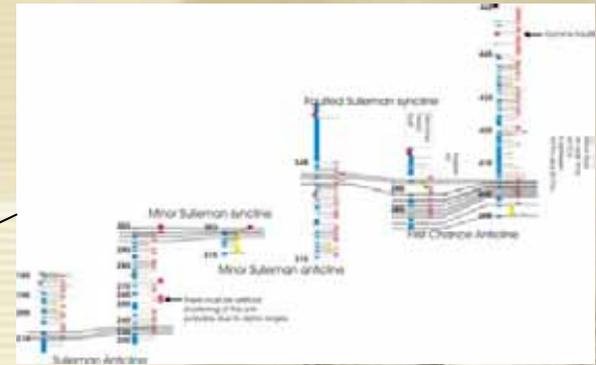
Interpretation – single hole



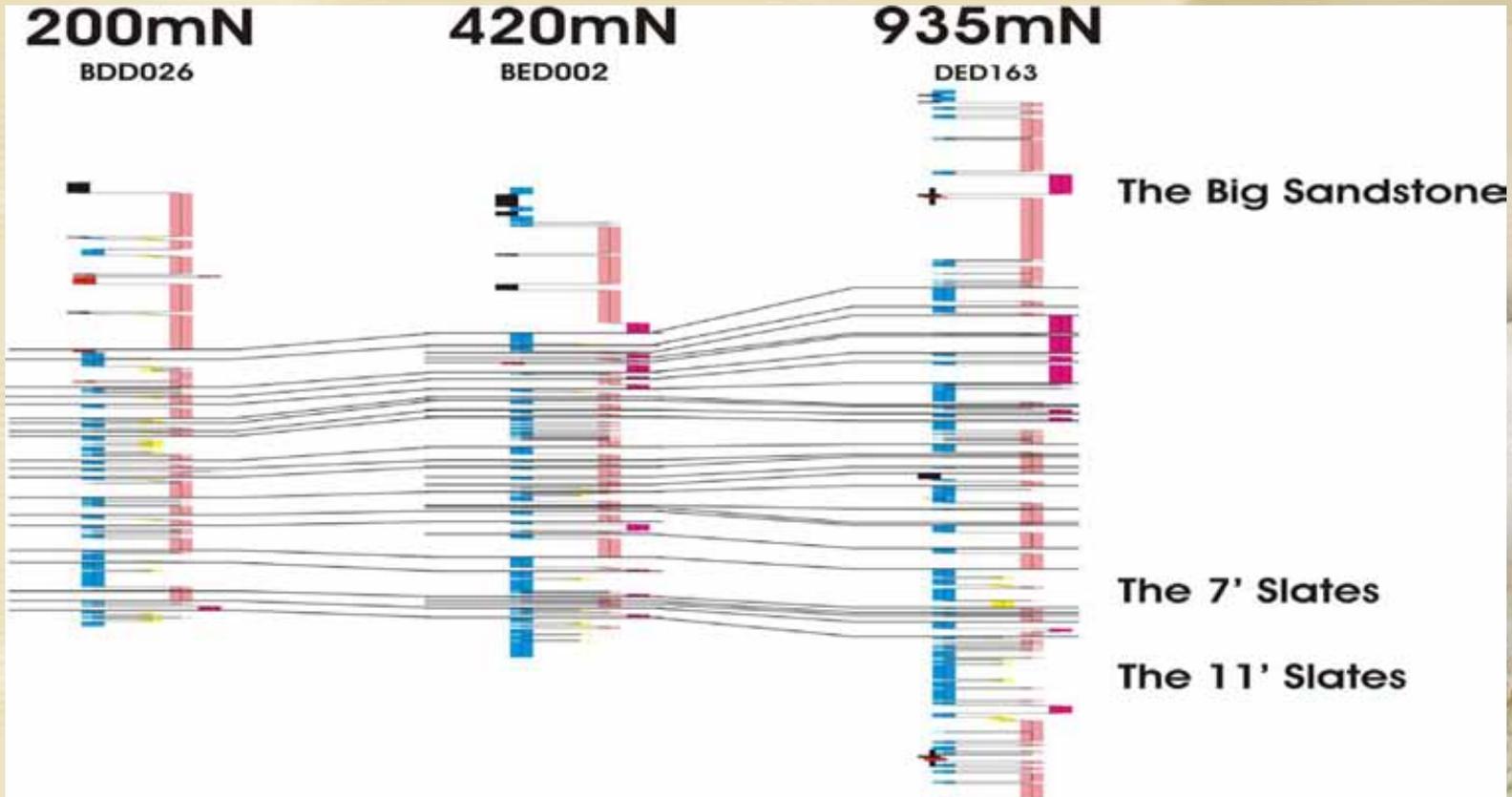
Interpretation – between holes



Completion of paper "L2" section



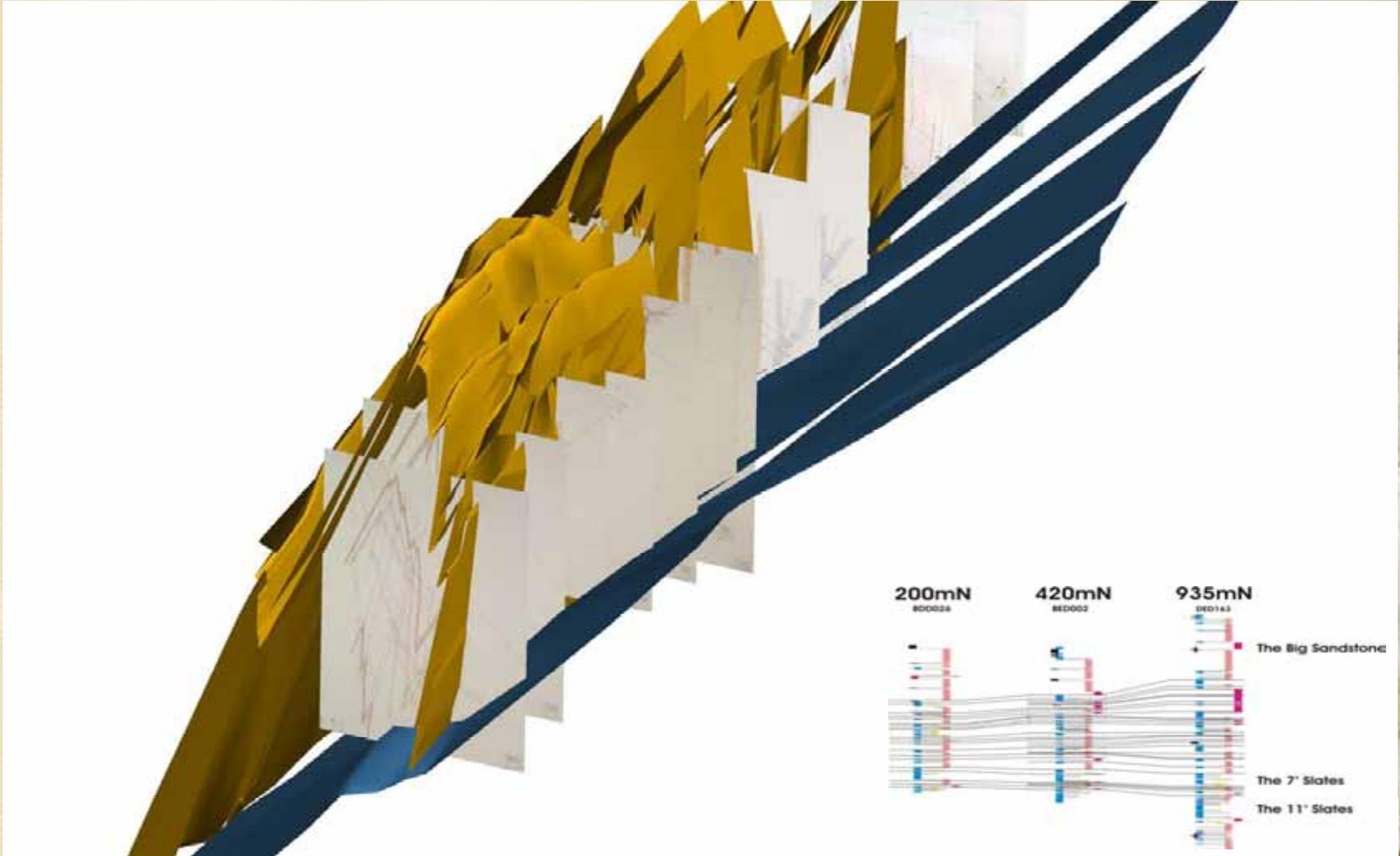
Interpretation – between drill sections





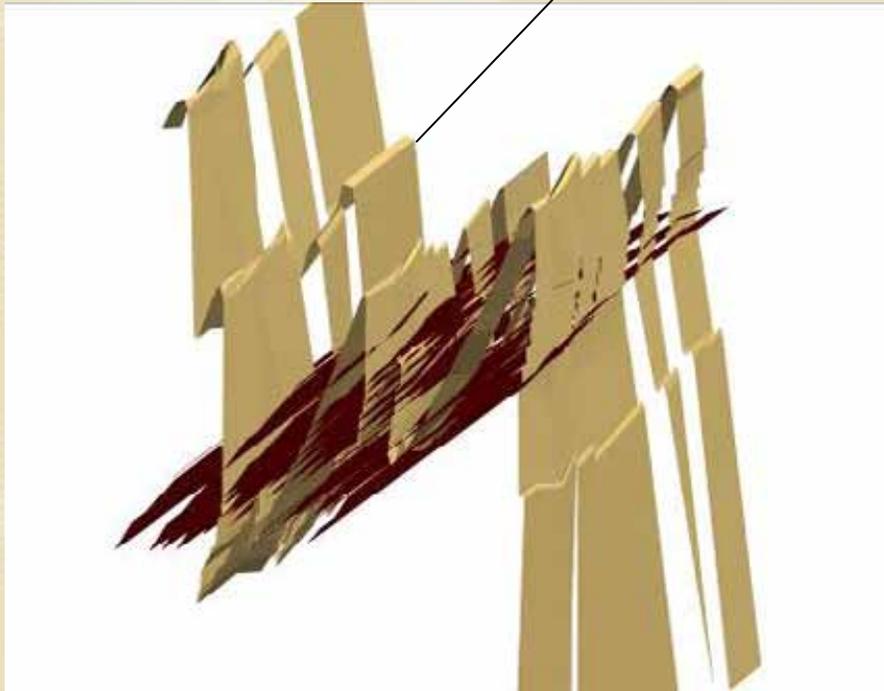
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Paper sections extrapolated to refine model

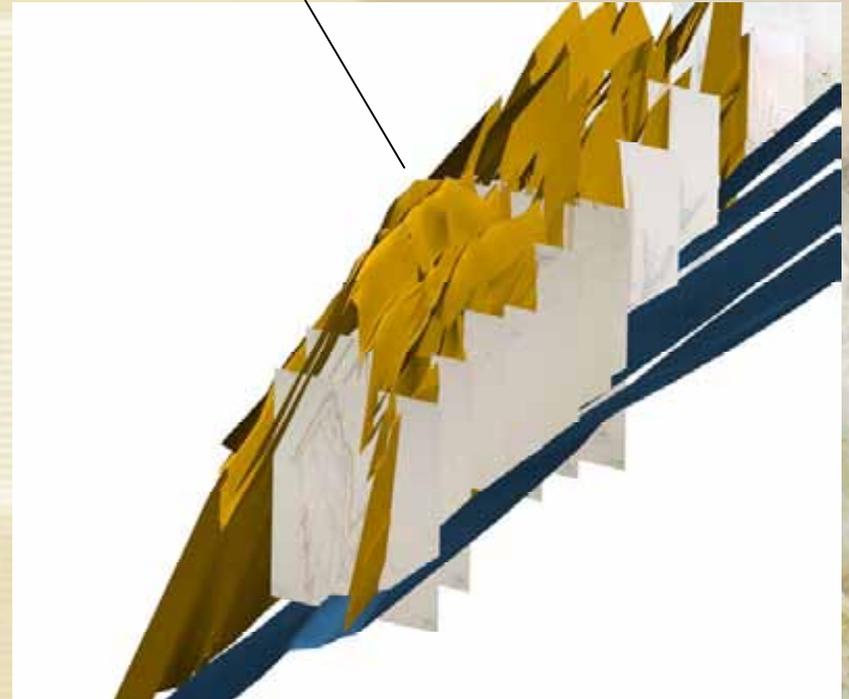


Improvement to model

Big Sandstone form surface



2003



2007



People.Results.Growth.

Infrastructure and resources



Resource Definition

A staged approach

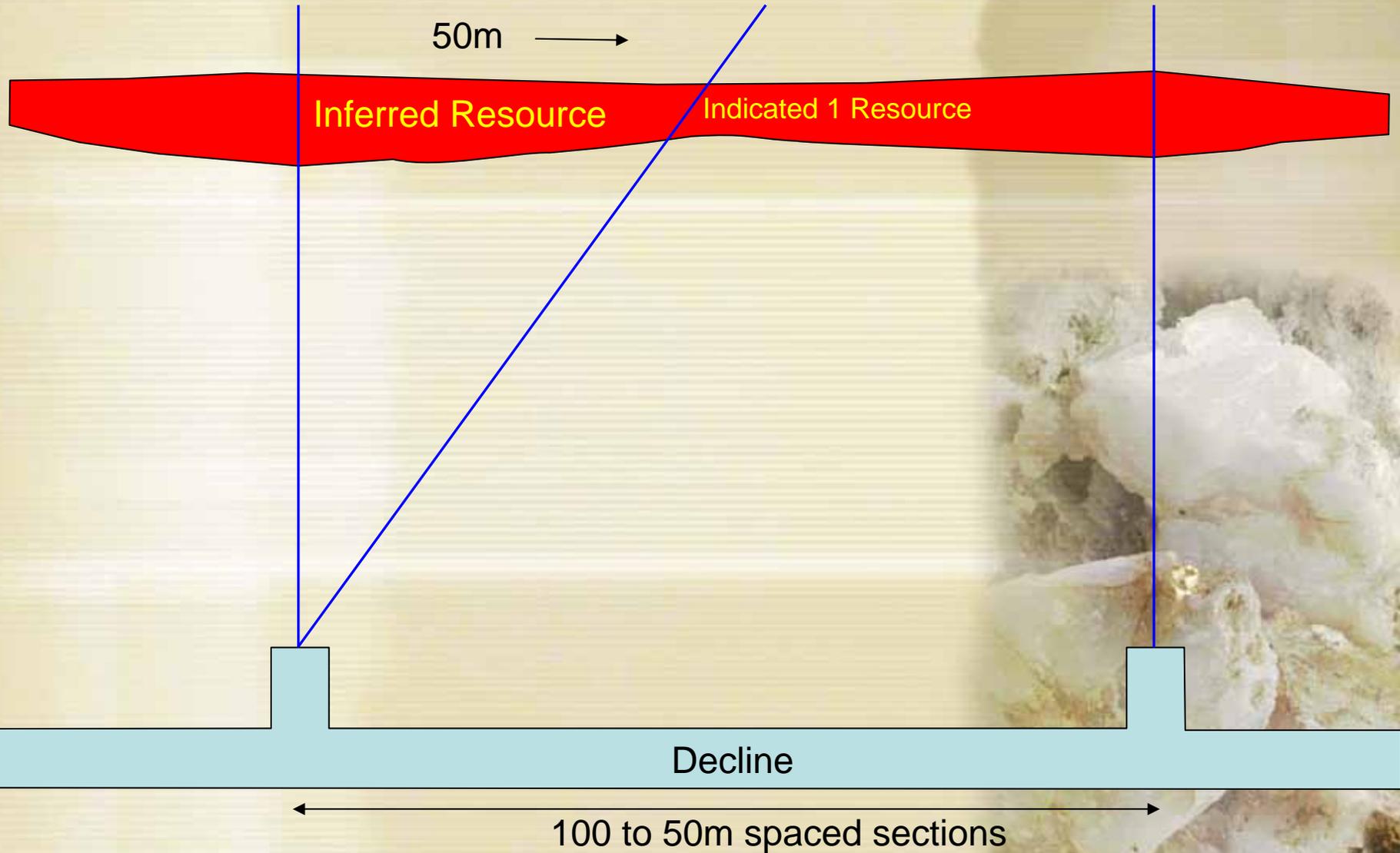




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L2 drilling - plan view

Inferred & Indicated 1 Resources

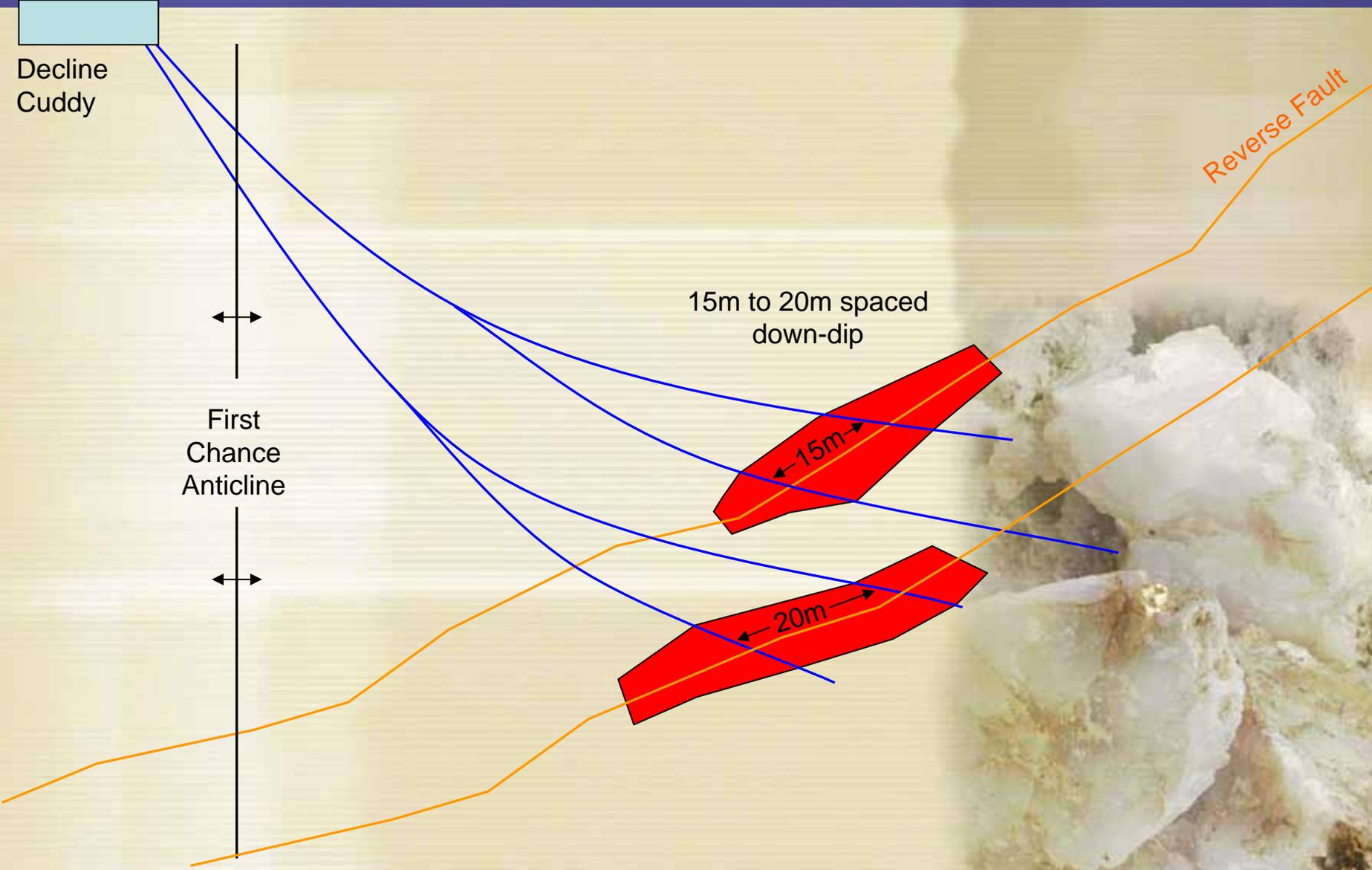




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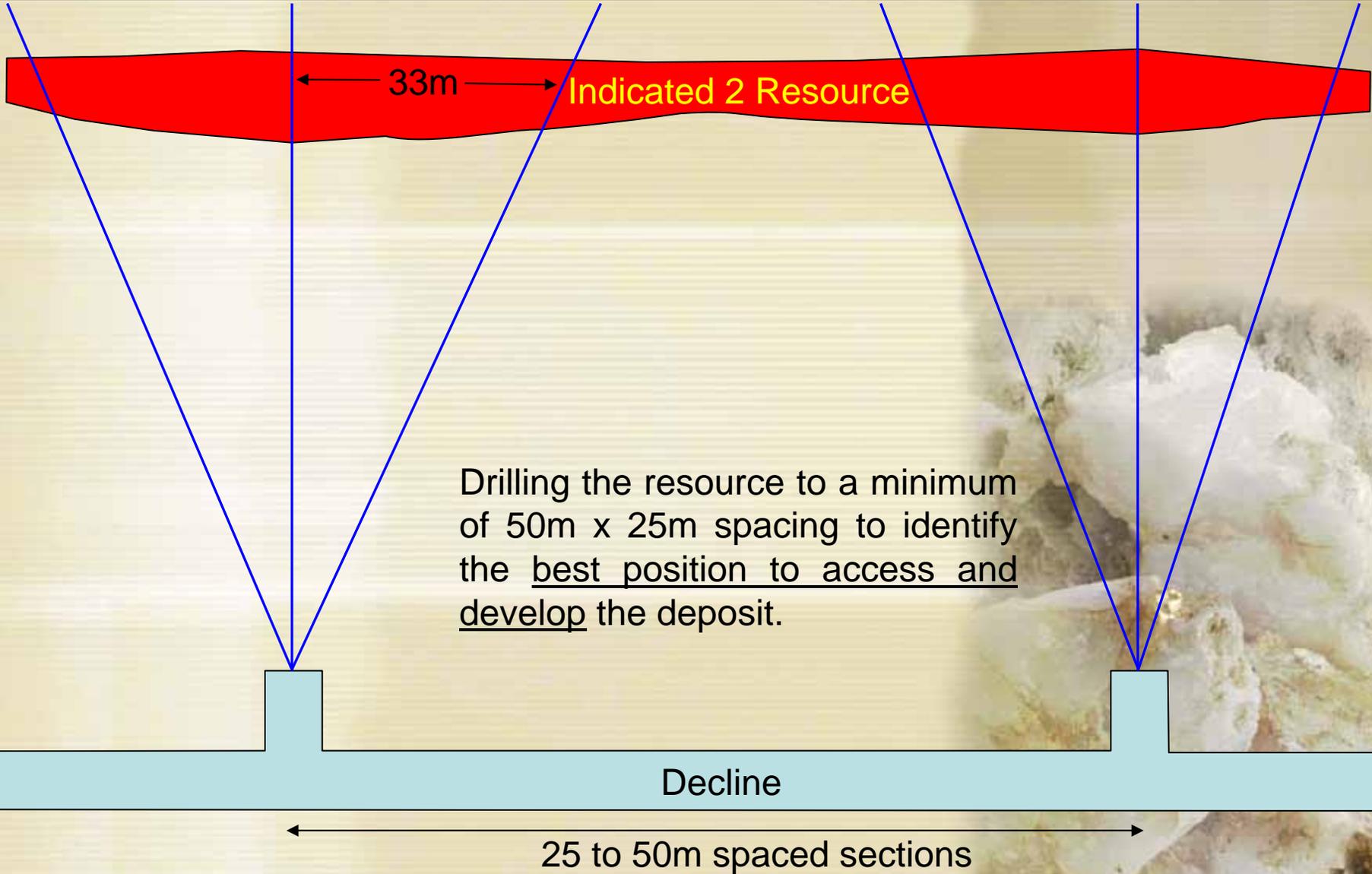
L2 drilling – section view

Inferred & Indicated 1 Resources



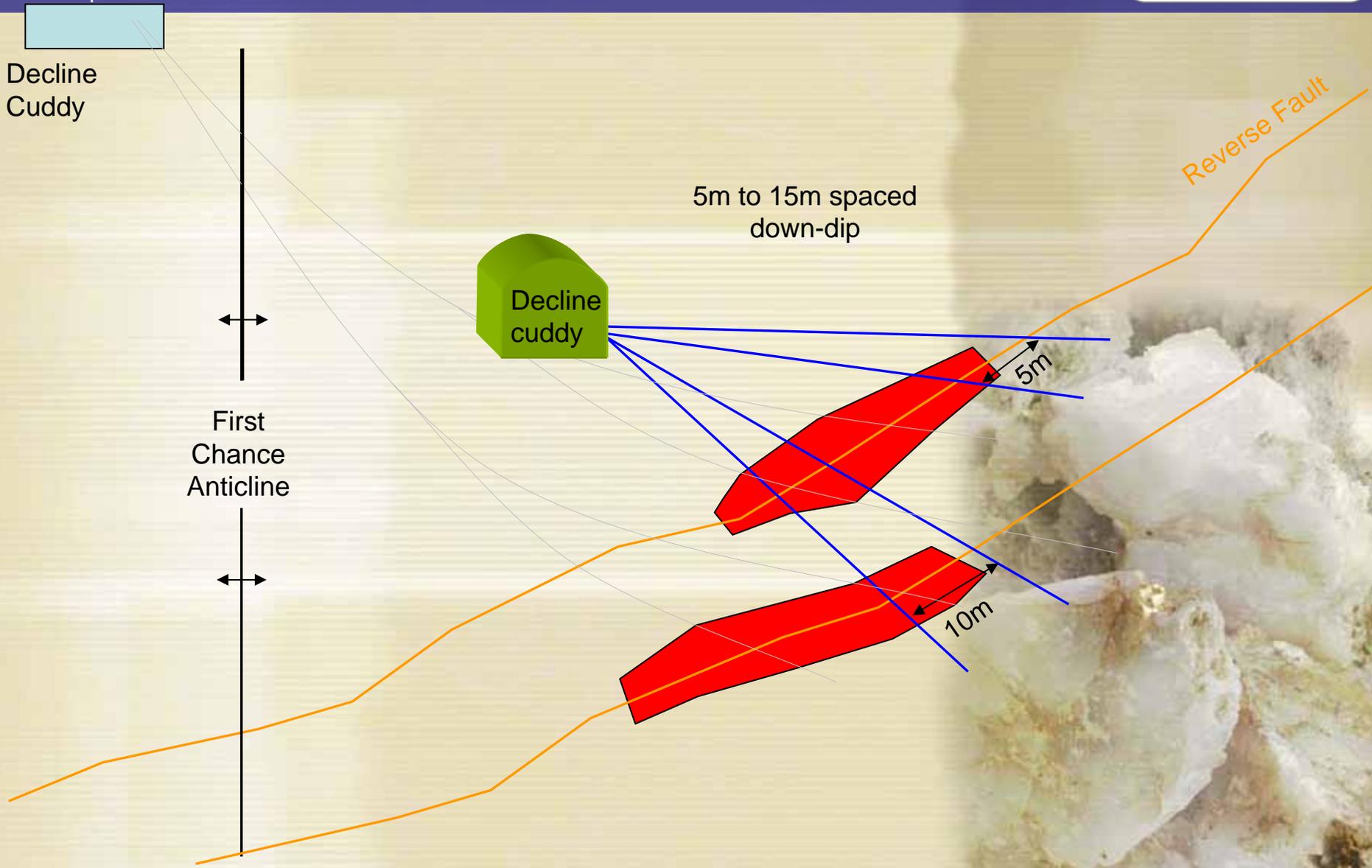
L3 drilling – plan view

Indicated 2 Resources

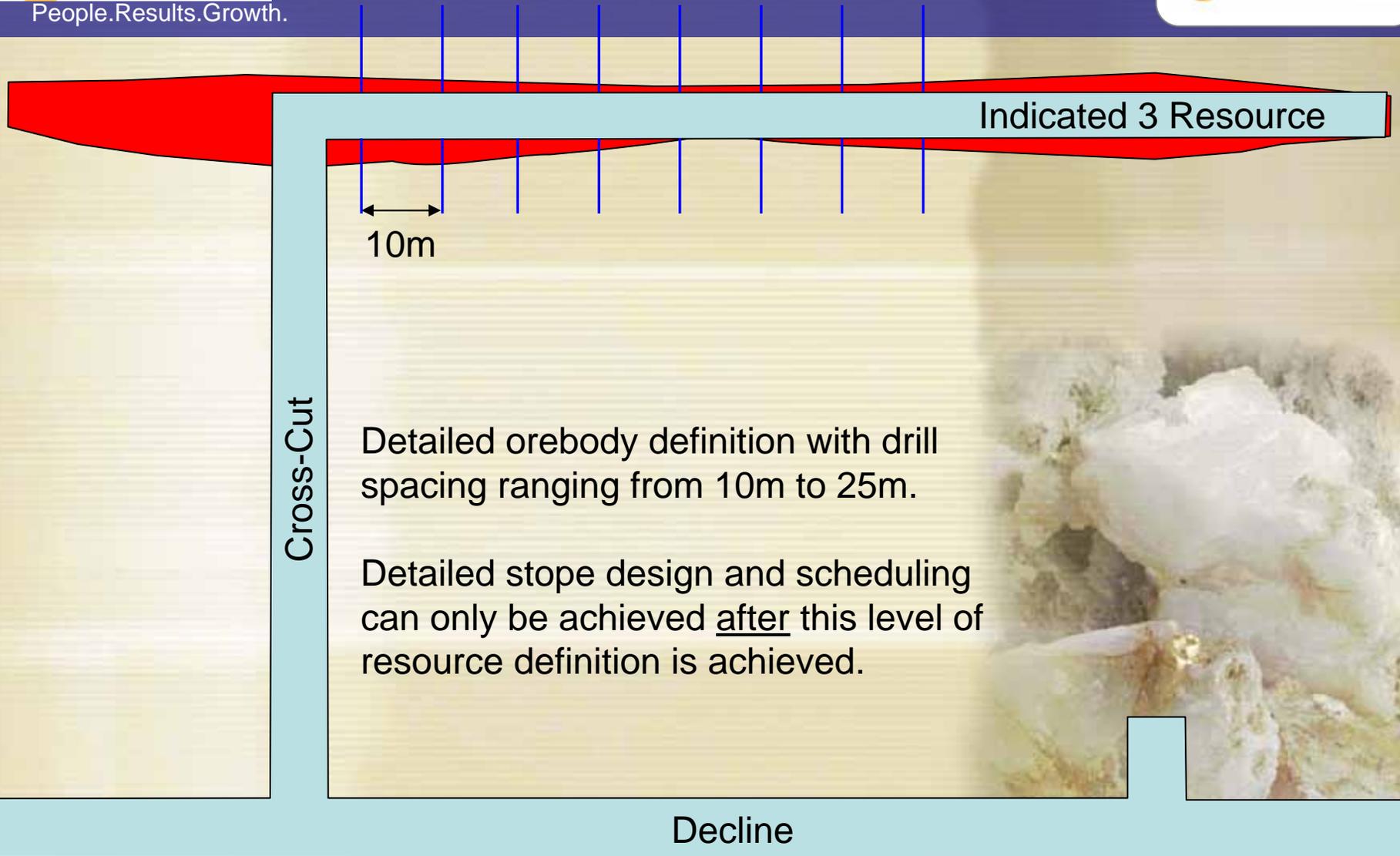


L3 drilling – section view

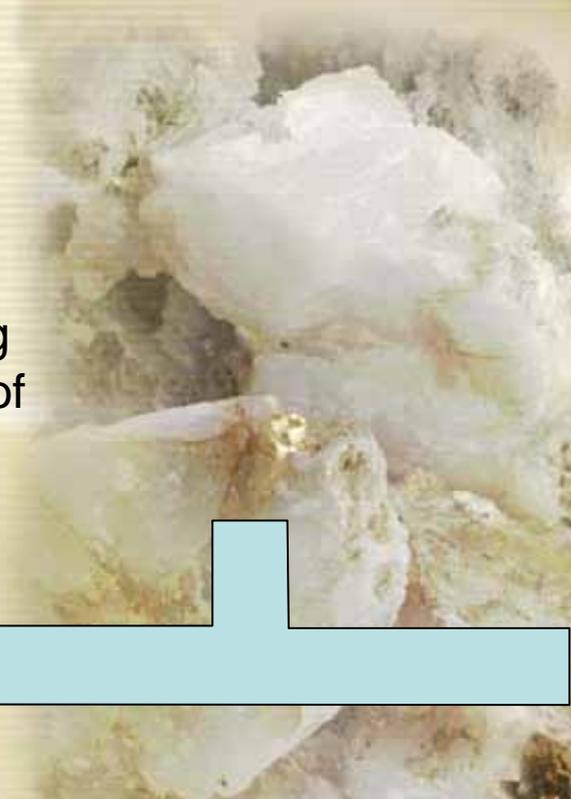
Indicated 2 Resources



L4 drilling – plan view

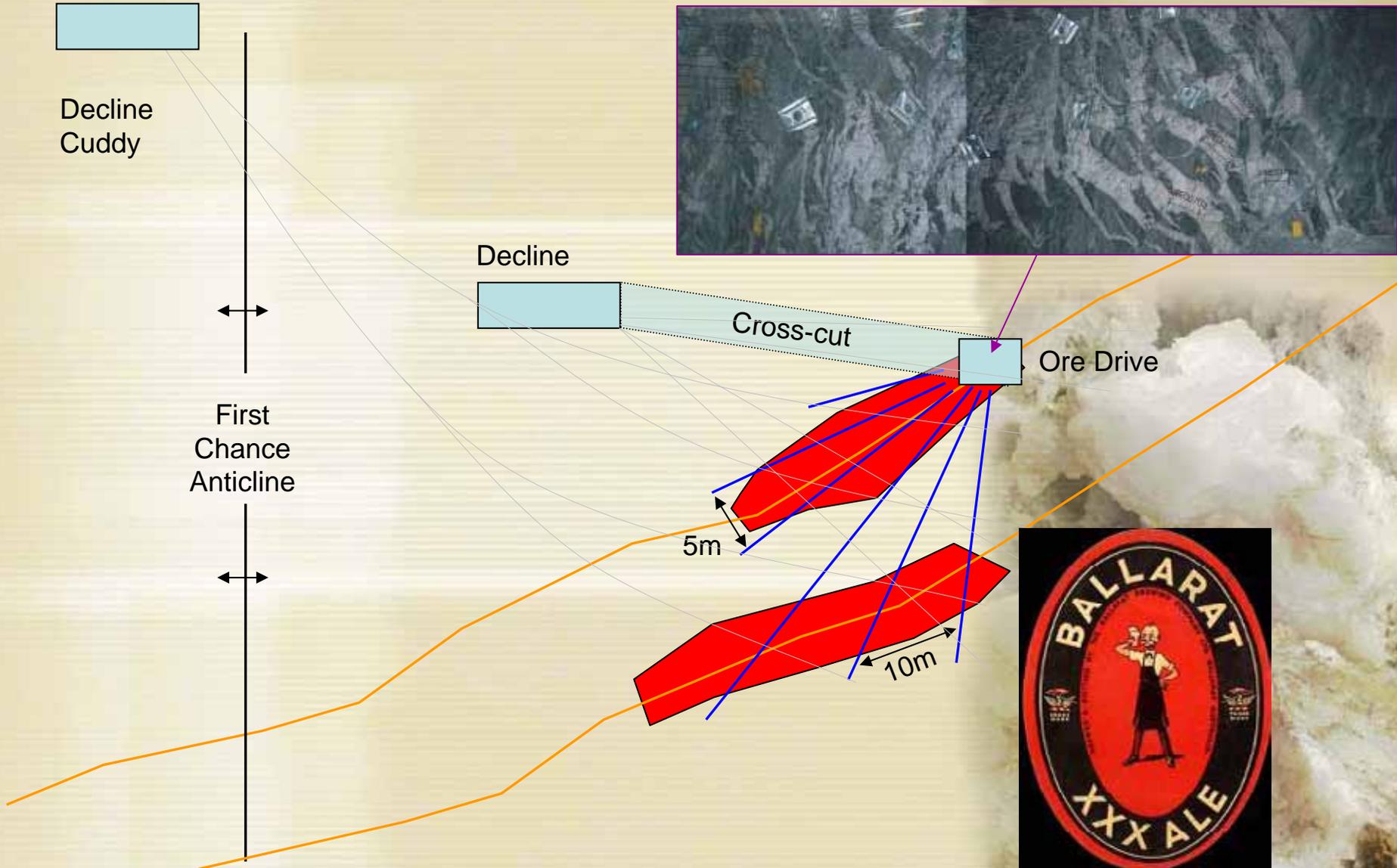


10 to 25m spaced sections



L4 drilling – section view

Indicated 3 Resources

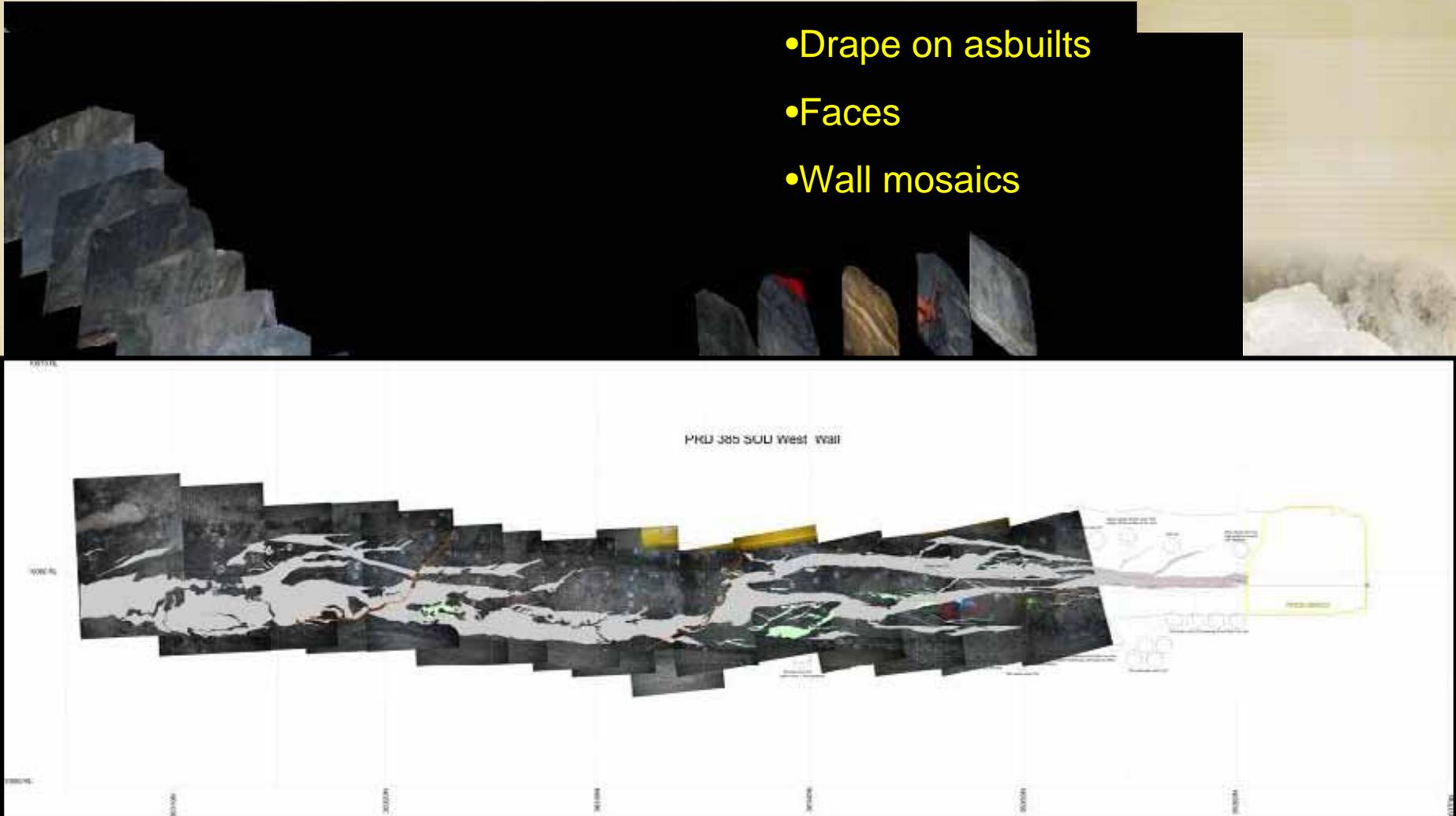


Trial mining



Photographic Registration

- Drape on asbuilts
- Faces
- Wall mosaics



Model updates from face mapping

BALLARAT GOLDFIELDS
UNDERGROUND FACE MAPPING SHEET

ballarat goldfields P.L.

Date: 27/1/20 Drawn by: [Signature] Location: T87 Face Orientation: []
 Drawn by: [Signature] Scale: 1:200 Assessor: [Signature] Face Exposure: []

CONTRACTOR: [] SHEET NO: []

	<p>See also the U-1000 map for details of this area</p>	<p>25°-02'N</p>	<p>25°-02'N</p>	<p>25°-02'N</p>
	<p>See also the U-1000 map for details of this area</p>	<p>25°-02'N</p>	<p>25°-02'N</p>	<p>25°-02'N</p>
	<p>See also the U-1000 map for details of this area</p>	<p>25°-02'N</p>	<p>25°-02'N</p>	<p>25°-02'N</p>
	<p>See also the U-1000 map for details of this area</p>	<p>25°-02'N</p>	<p>25°-02'N</p>	<p>25°-02'N</p>

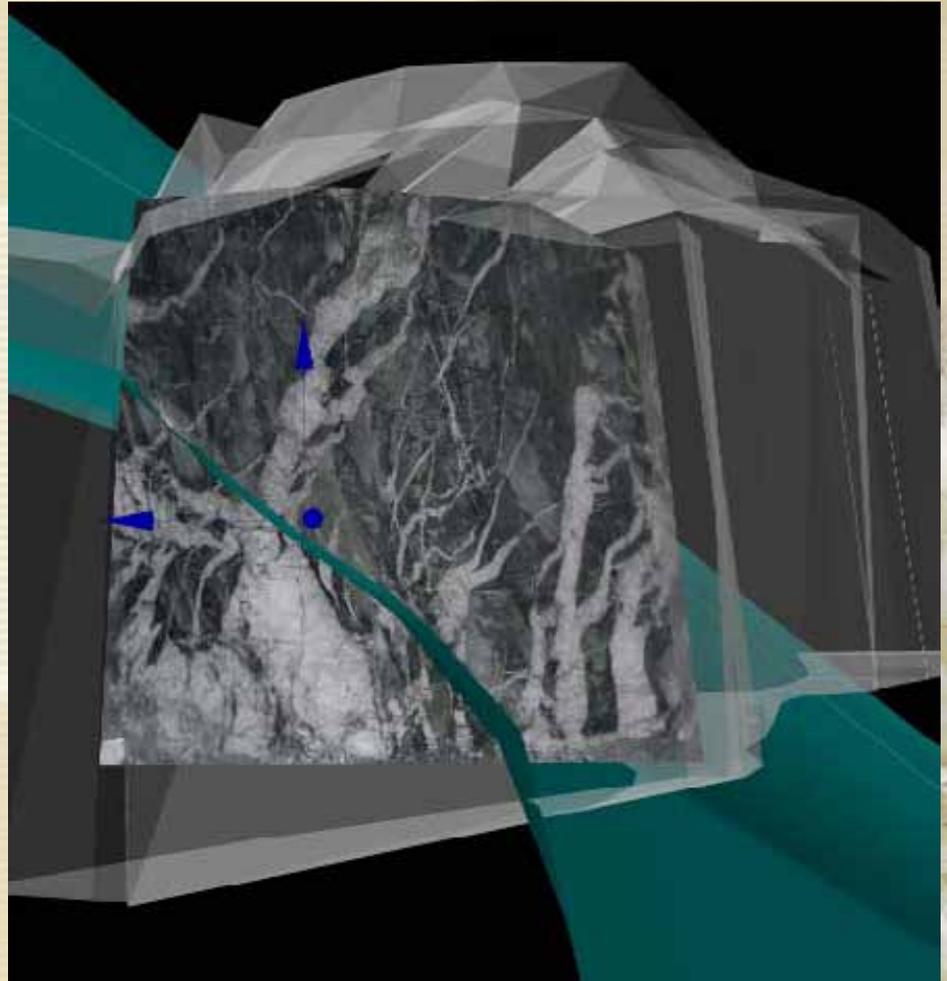
Drawn with: []
 Drawn by: []
 Checked by: []
 Date of map: 19/1/20

Sample Number	Depth	Notes	Remarks
U-1000-01	0-10	Handwritten notes	Handwritten notes
U-1000-02	10-20	Handwritten notes	Handwritten notes
U-1000-03	20-30	Handwritten notes	Handwritten notes
U-1000-04	30-40	Handwritten notes	Handwritten notes
U-1000-05	40-50	Handwritten notes	Handwritten notes
U-1000-06	50-60	Handwritten notes	Handwritten notes
U-1000-07	60-70	Handwritten notes	Handwritten notes
U-1000-08	70-80	Handwritten notes	Handwritten notes
U-1000-09	80-90	Handwritten notes	Handwritten notes
U-1000-10	90-100	Handwritten notes	Handwritten notes

CONTRACTOR INSTRUCTIONS

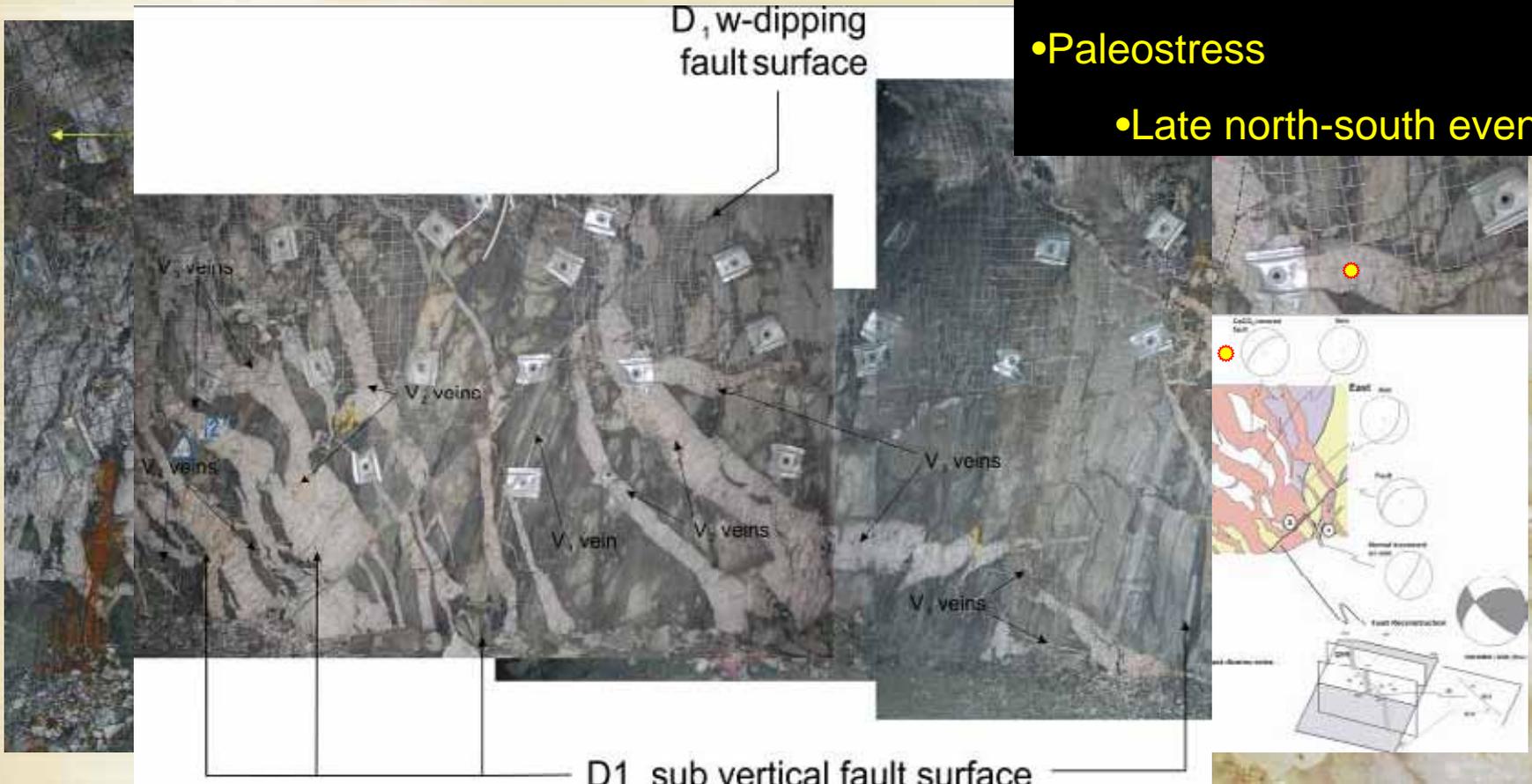
Phase 1 Phase 2 Phase 3 Phase 4

FACE MAP.xls



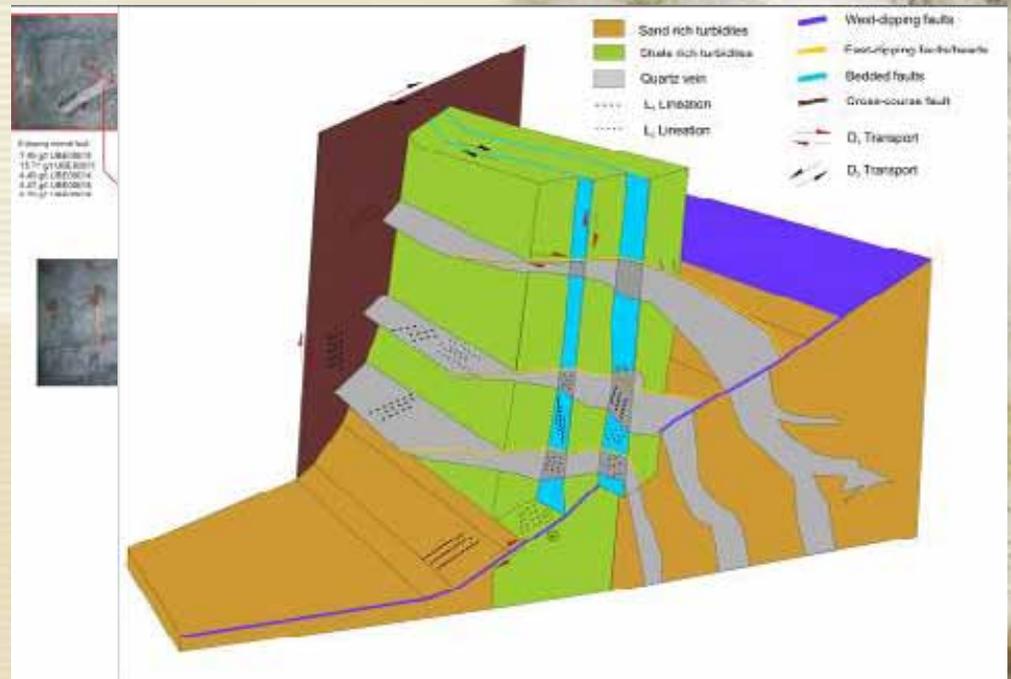
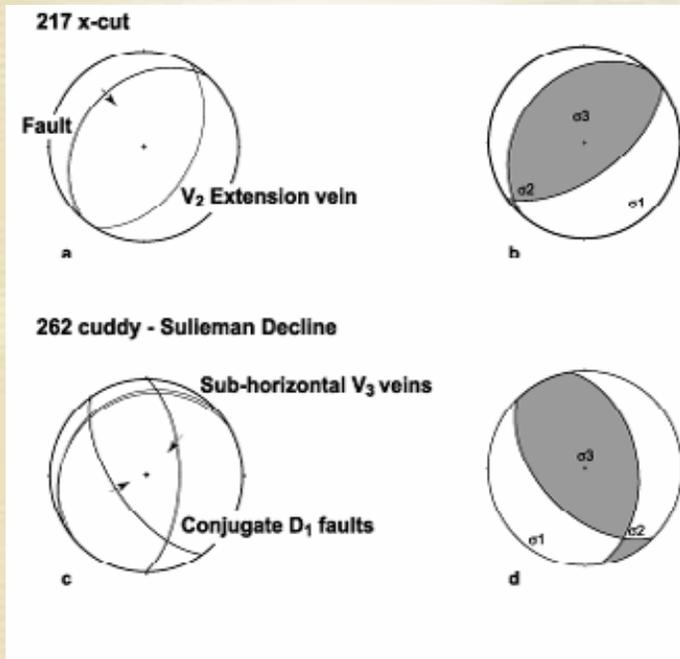
Detailed mapping

- Lithology / structure
- Vein Chronology
 - 4 Distinct generations
- Paleostress
 - Late north-south event





- Compare stress variations between different areas of the mine
- Correlate vein styles with grab assays
- Identify characteristics of mineralisation



In Summary

Baking a pudding analogy

*Ingredients needed for a tasty **Orebody**.....*

- Eastern anticlinal limb
- West-dipping fault - >throw the better
- Stratigraphic contrast – generally also faulted
- Closer to the Blue Whale Fault
- Sub-horizontal - east dipping tension veins

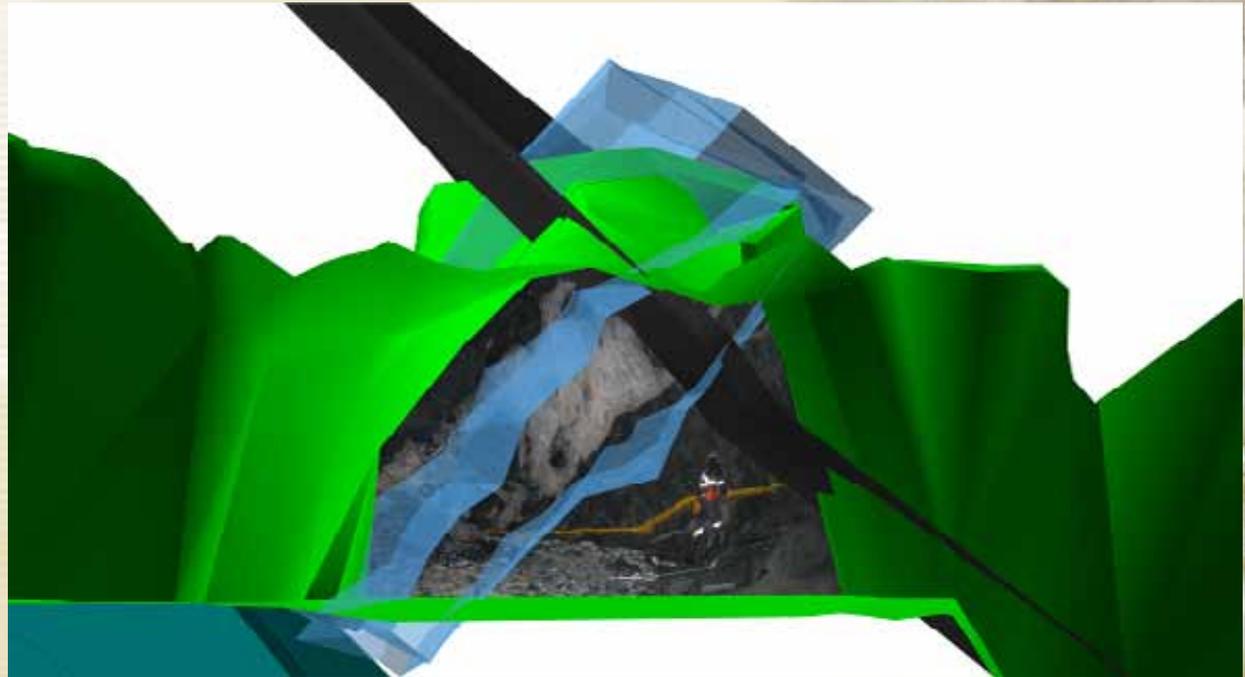


Method (Old Woman's Secret Recipe)

- Mix well (multiple phases of vein formation and faulting)
 - Which generation has the high grade?
 - At this stage all indicators are pointing to late vein generation & fault reactivation
- Bake at 250 - 300°

Looking forward

- Research and data collection ongoing
- 3D modelling of mineralised veins
- Strain reconstruction and fluid modelling
- Refine the predictive model



Well on the road to the Holy Grail



Thank You