

Evolution
MINING

Cowal Gold Mine; District Geology Overview

**Christopher Leslie¹, Paul Balind², Ned Howard³
and Geoff Heidemann²**

1. ARC Centre of Excellence in Ore Deposits, University of Tasmania, Hobart, TAS
2. Evolution Mining Limited, Cowal Operations, West Wyalong, NSW
3. Evolution Mining Limited, Sydney, NSW

Mines and Wines 2017

September 7th, 2017

Forward looking statement

- These materials prepared by Evolution Mining Limited (or “the Company”) include forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, and “guidance”, or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.
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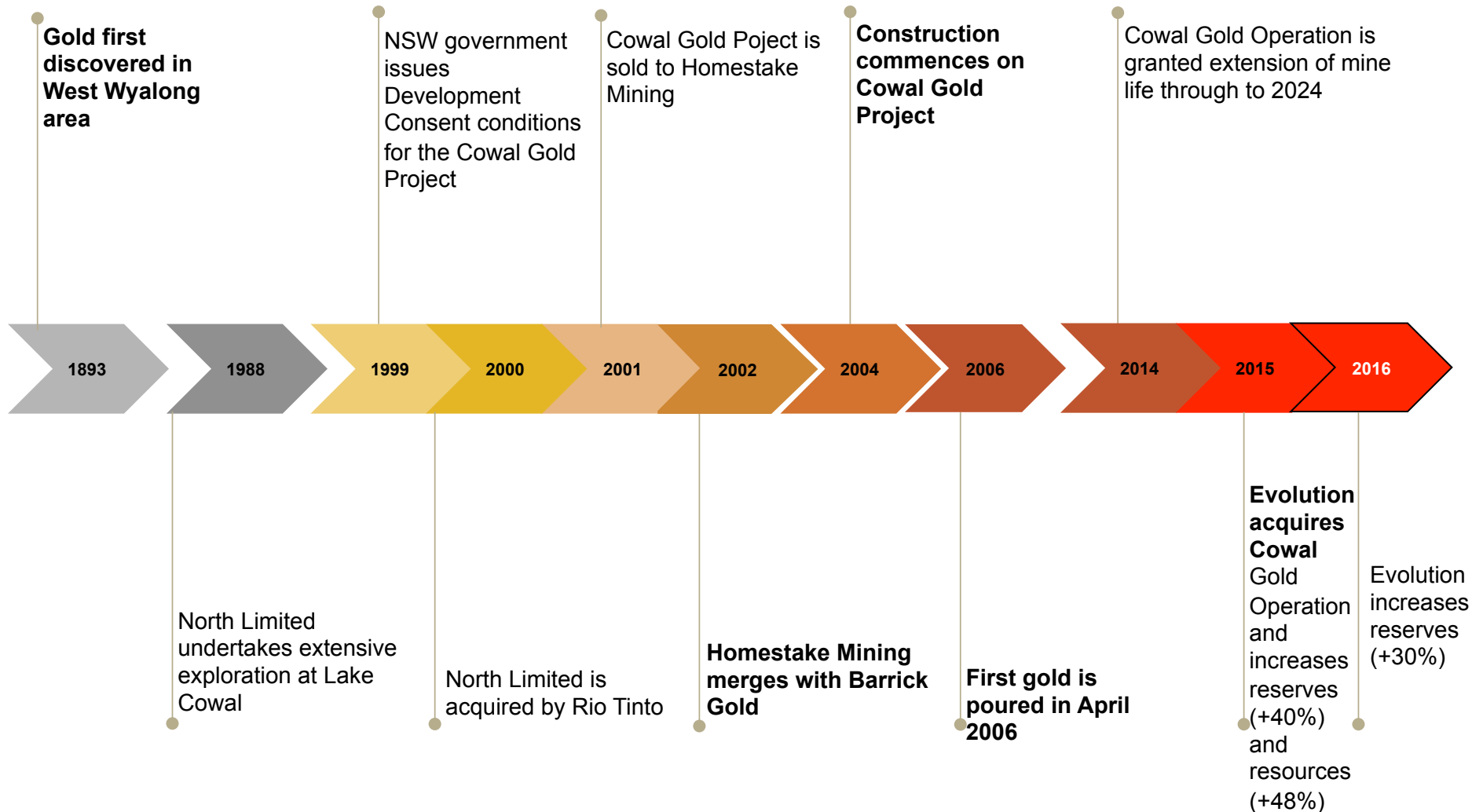
Overview



Location	Approximately 40km north-east of West Wyalong in New South Wales, Australia
Mining method	Conventional open pit
Minerals	Gold
Mineralisation type	Structurally hosted sheeted veins and shear hosted lodes
Process method	Grinding, gravity, flotation and cyanide leaching circuits
Process capacity	7.5Mtpa
Recovery	~83.5%
Ore Reserves¹	116.71Mt @ 0.85g/t Au for 3.2Moz Au
Mineral Resources¹	177.7Mt @ 0.88g/t Au for 5.0Moz Au

1. See Cowlal Mineral Resources and Ore Reserves and footnotes provided on slide 23 of this presentation for details on Ore Reserve and Mineral Resource estimates

Cowal history



Evolution of Cowal 2015 to Present



MINING PERMIT TO	2024	+ 8 years	MINING PERMIT TO	2032
2014 ORE RESERVES	1.56Moz¹	+ 2.28Moz²	2016 ORE RESERVES	3.20Moz³
2014 MINERAL RESOURCES	3.43Moz¹	+ 2.24Moz²	2016 MINERAL RESOURCES	5.04Moz³

July 2015 – December 2016

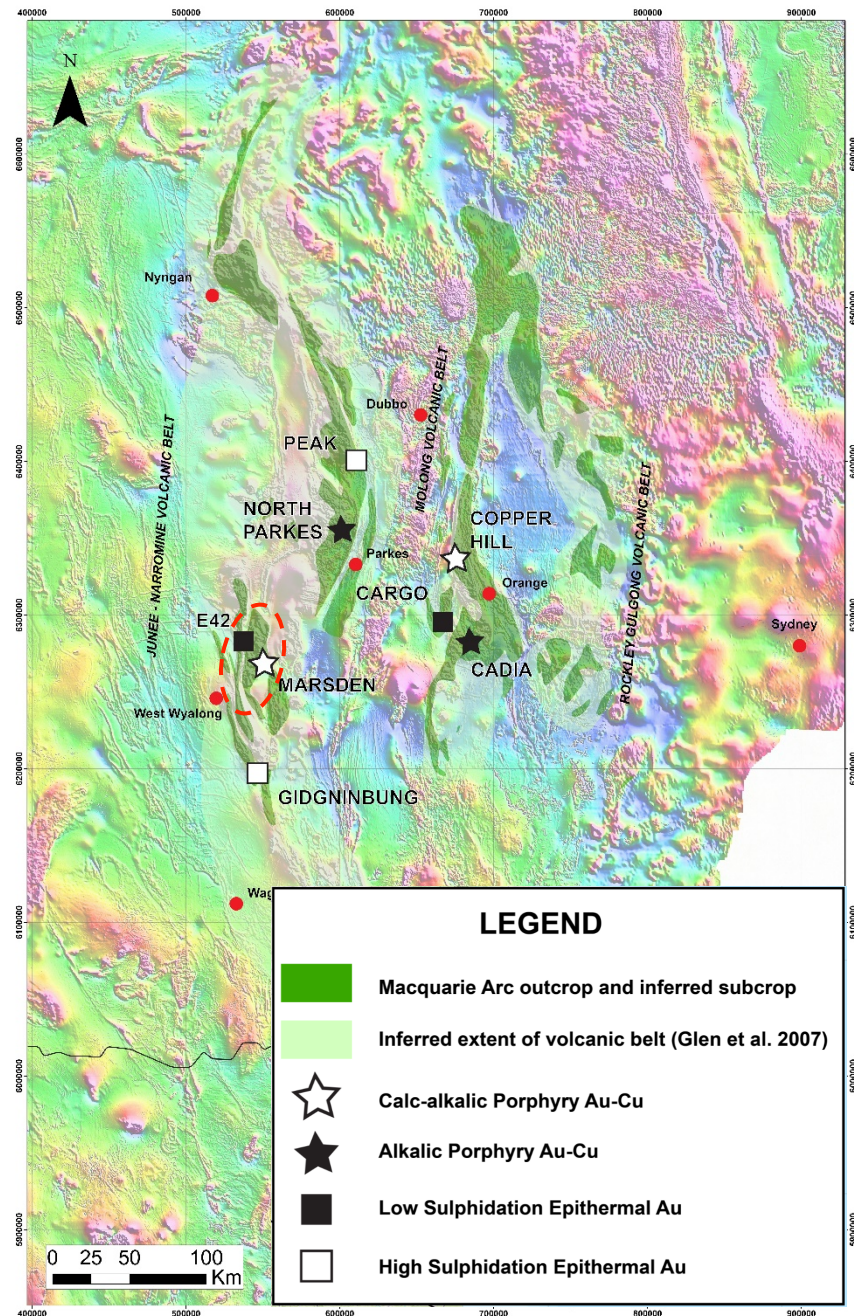
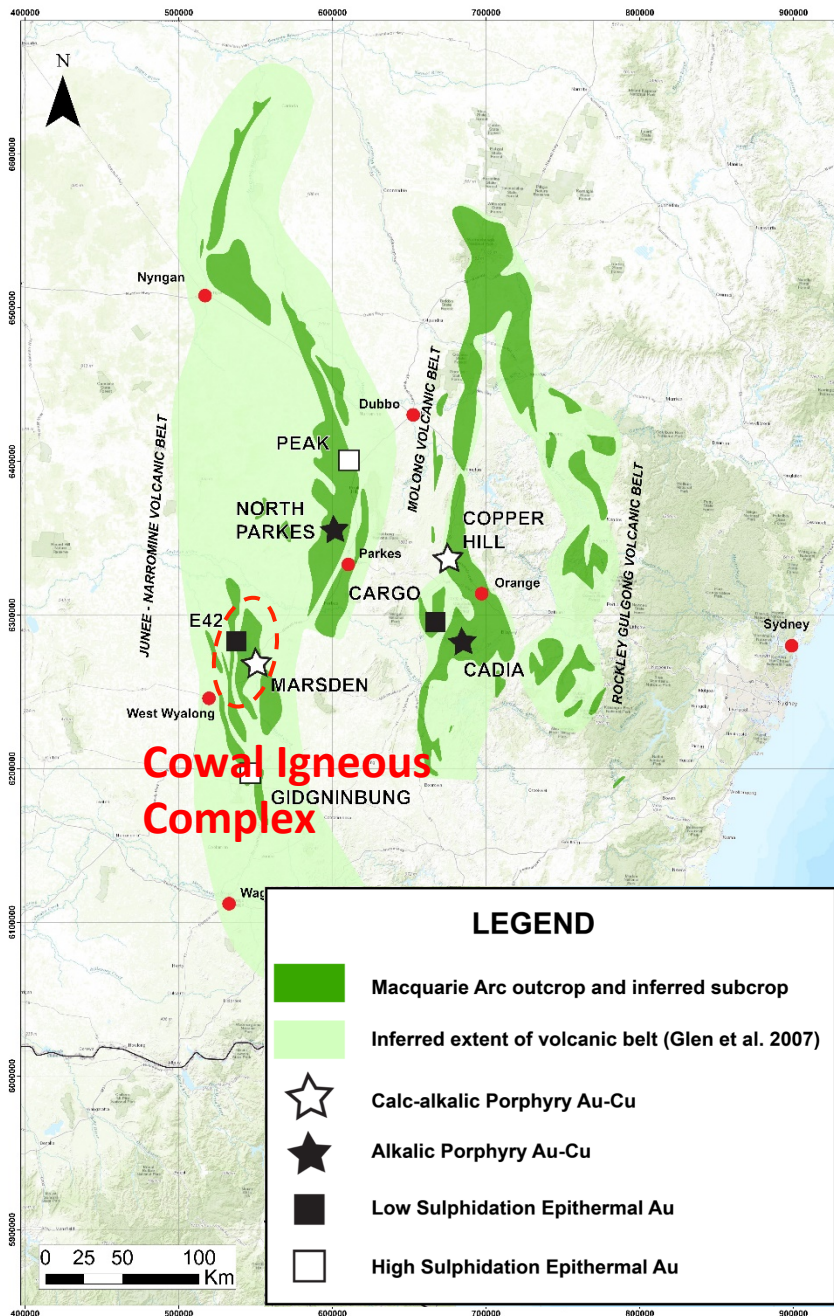
PURCHASE PRICE	A\$703M	GOLD PRODUCTION	374koz	ADDITIONAL UPSIDE OPPORTUNITIES
		NET MINE CASH FLOW	A\$253M	
		DISCOVERY SPEND	A\$22.2M	

1. Barrick (Australia Pacific) Pty Limited estimate depleted to 31 December 2014 - refer to ASX release 26 Aug 2015 entitled "Resources and Reserves Increased at Cowal" available to view at www.asx.com.au
 2. Prior to mining depletion
 3. Depleted to 31 December 2016

Outline

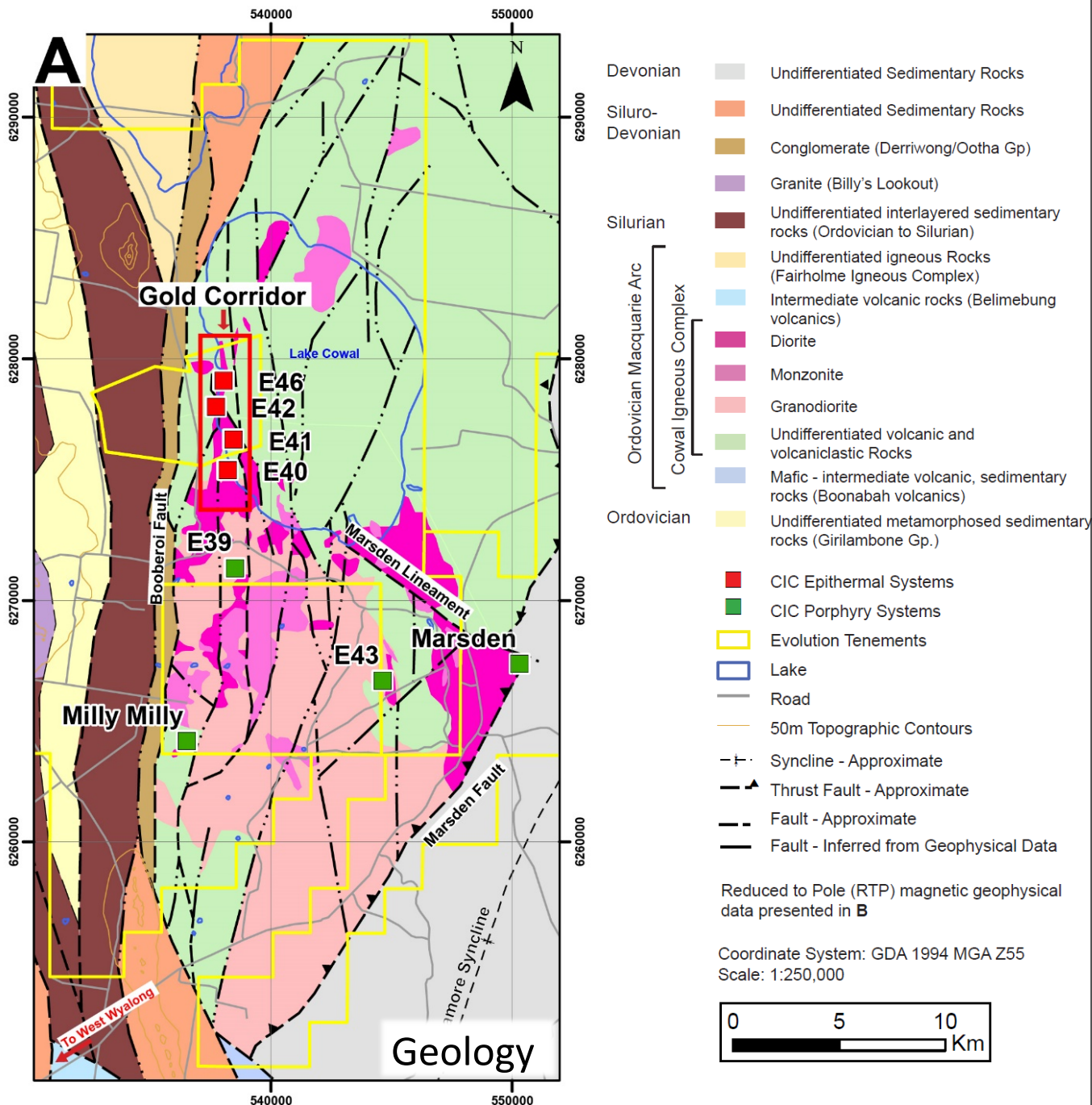
- Preamble
- **Geological Setting**
- Mineral Deposits
- Near-mine Exploration Update





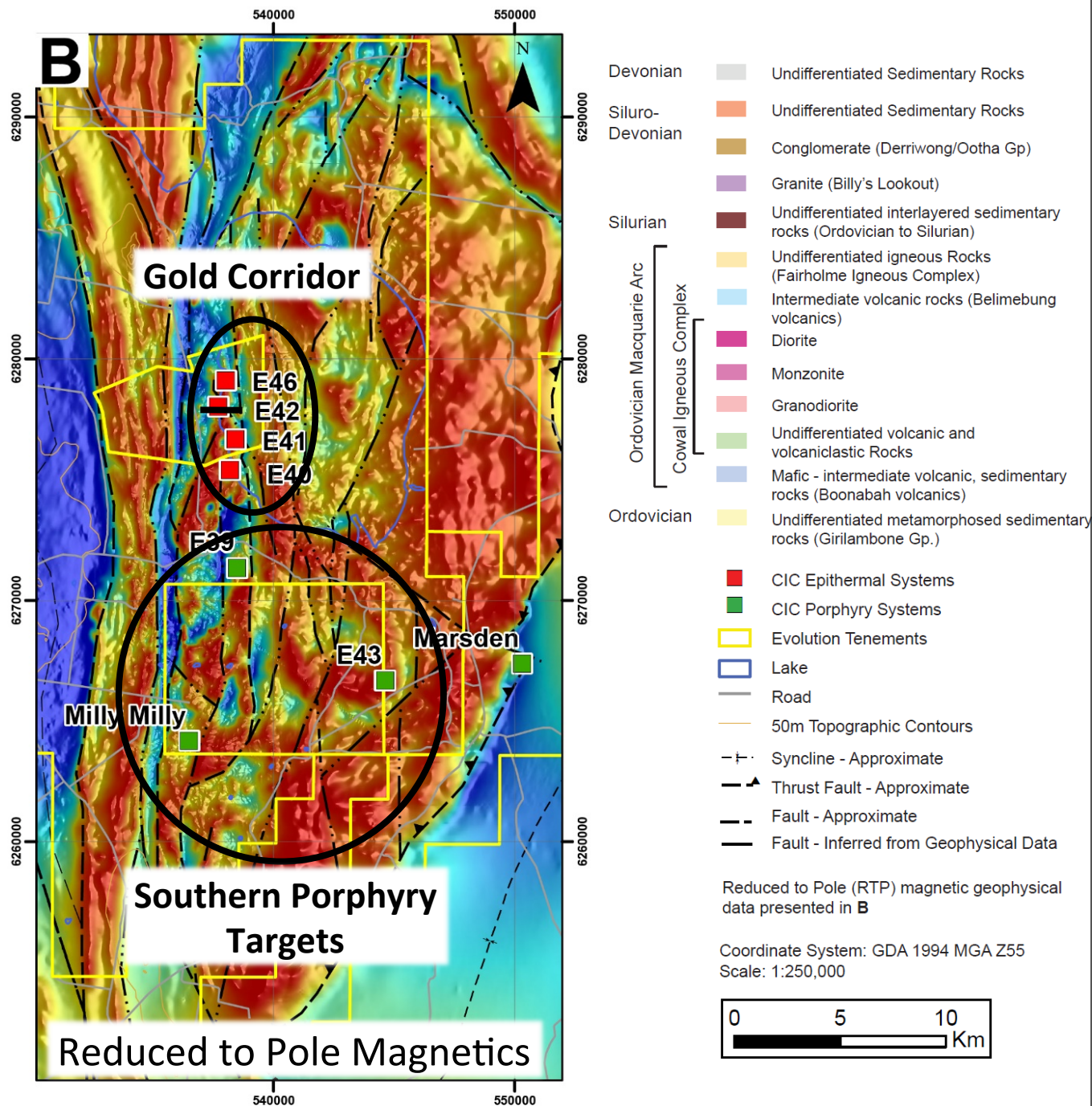
Cowal Igneous Complex (CIC)

- 40 by 15 kilometre fault bounded block (Booberoi and Marsden faults)
- Early Ordovician submarine volcanoclastic rocks, andesite flows, and diorite to granodiorite comprise the dominant host rock lithologies
- CIC cut by Marsden lineament which separates epithermal gold systems to the north with porphyry copper +/- gold systems to the south

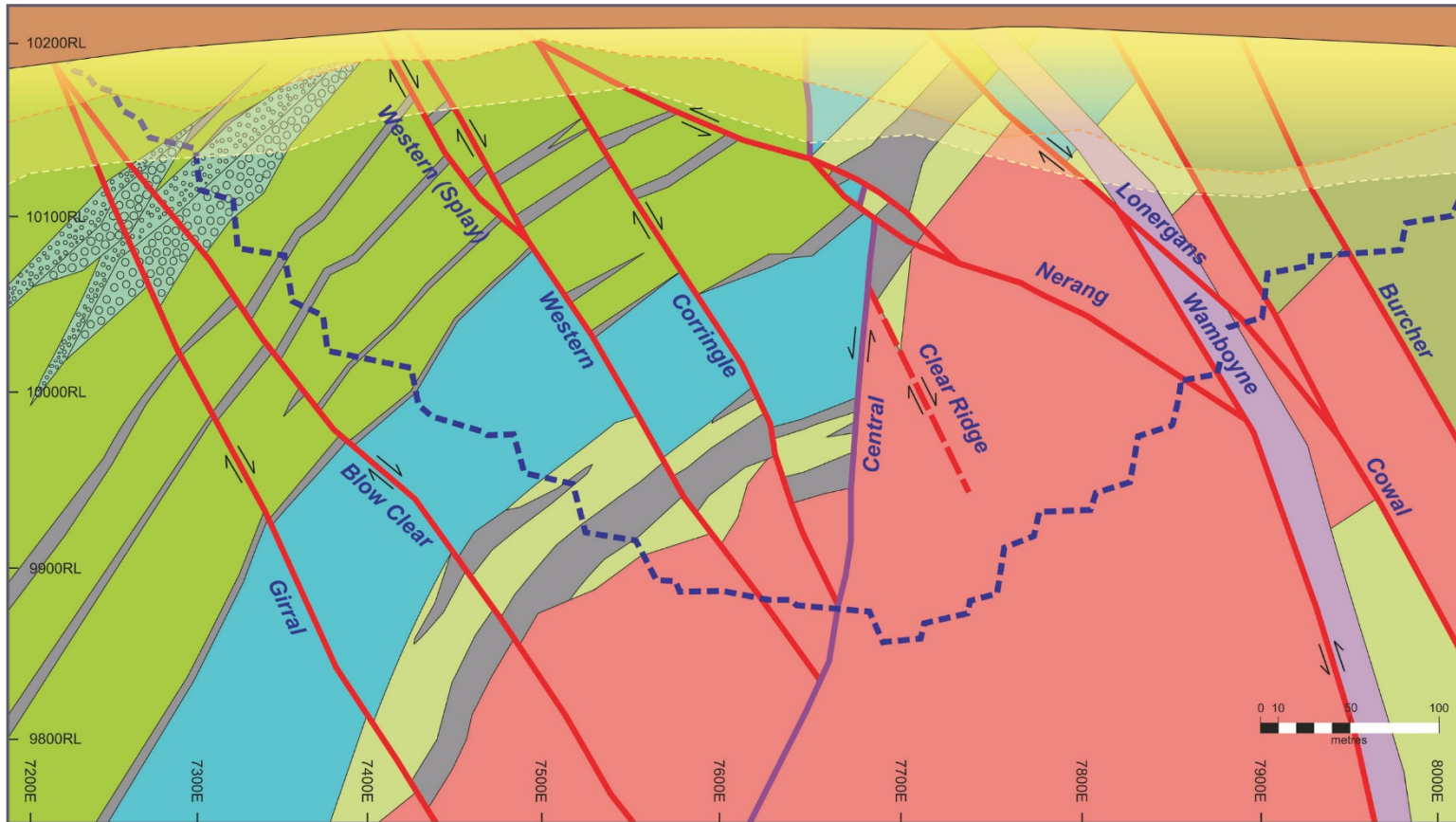


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E42 Section



Transported

Clay and Gravel

Upper Volcaniclastics

- Sandstone / Conglomerate
- Interbedded Mudstone and Sandstone
- Graded Polymictic Deposit

Trachyandesite

Coherent / Autobrecciated / Resedimented Facies

Lower Volcaniclastics

- Sandstone / Conglomerate
- Interbedded Mudstone and Sandstone

Eastern Volcaniclastics

Mudstone / Sandstone

Diorite

Diorite / Monzodiorite

Diorite Dyke

Massive Porphyritic Dyke

Weathering

- Saprolite
- Top of Saprock
- Saprock
- Top of Fresh Rock

Structures

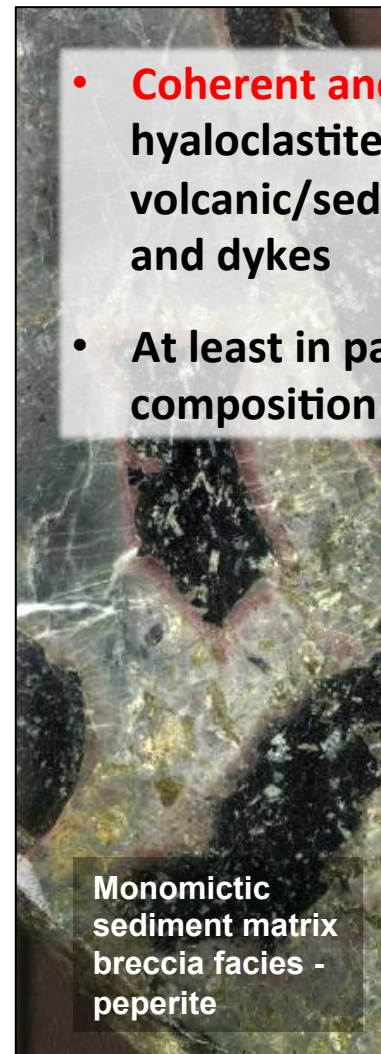
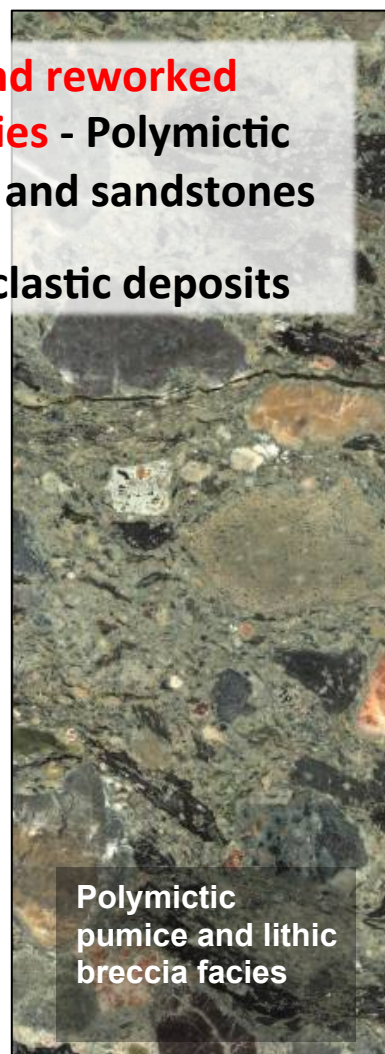
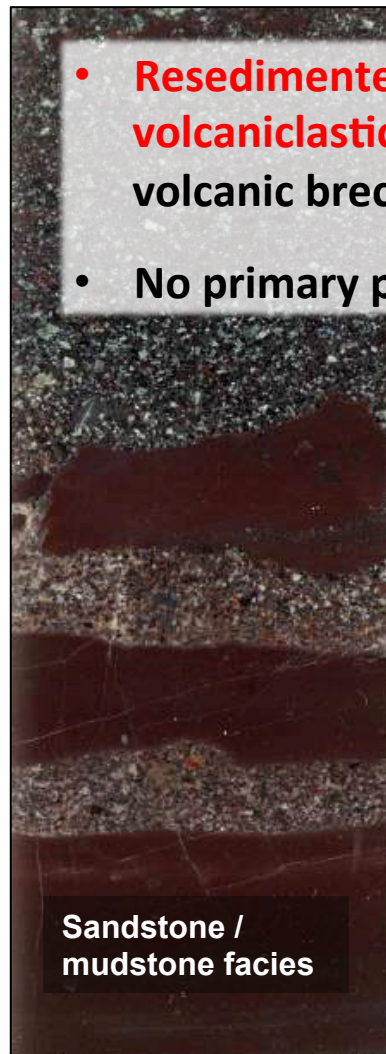
- Fault Zone
- Central Fault Zone
- Apparent Fault Movement

Pit

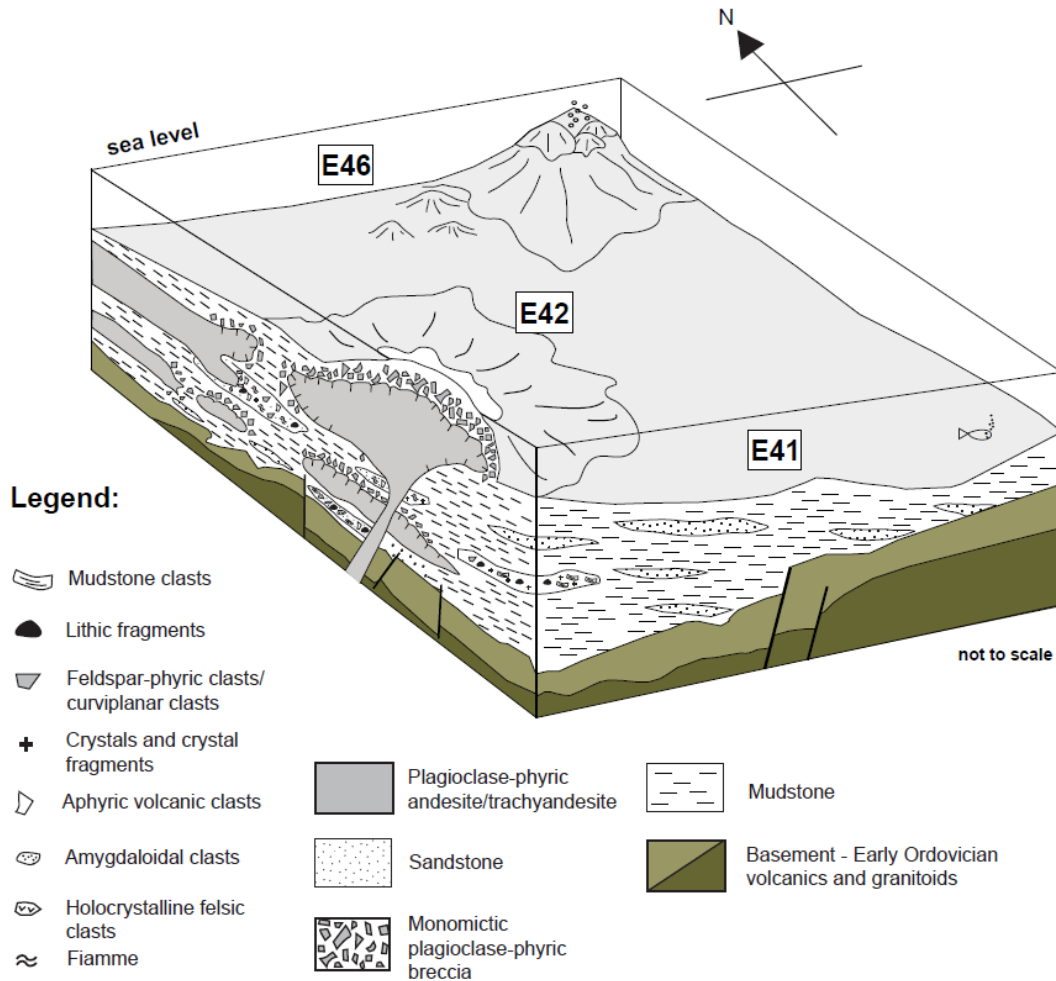
Proposed Pit Outline

Gold Corridor Host Rocks

Volcanic, Volcaniclastic, Sedimentary Rocks



Volcanic Setting for CIC Host Rocks



- Submarine volcanic and volcanoclastic rocks
- Dominated by reworked volcanic deposits and non-volcanic sedimentary deposits, lesser primary volcanic deposits
- Depositional environment medial to distal from volcanic centre, local proximal deposits, below storm-wave base
- Proximal facies at E46 to more distal at E41
- Basin or depocentre was in a back-arc basin setting
- Phase 1 magmatism

CIC Gold Corridor Host Rocks

Intrusive Rocks

Alkalic

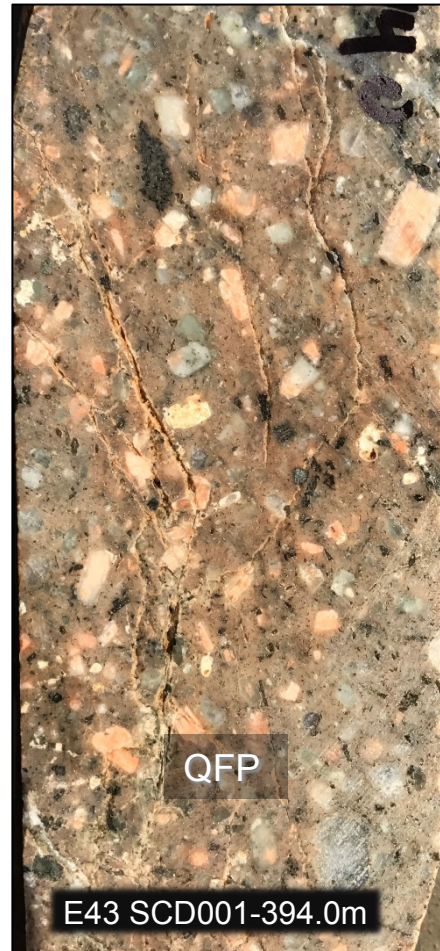


Calc-Alkalic



Southern CIC Porphyry Host Intrusive Rocks

Calc-Alkalic

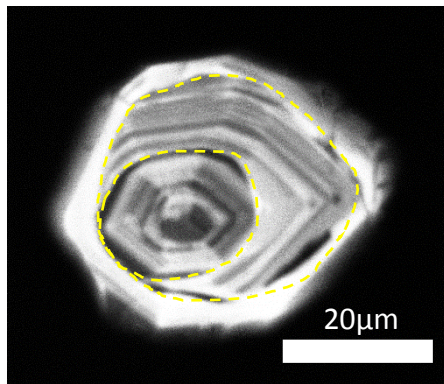


Constraints on Magmatic and Mineralization Ages

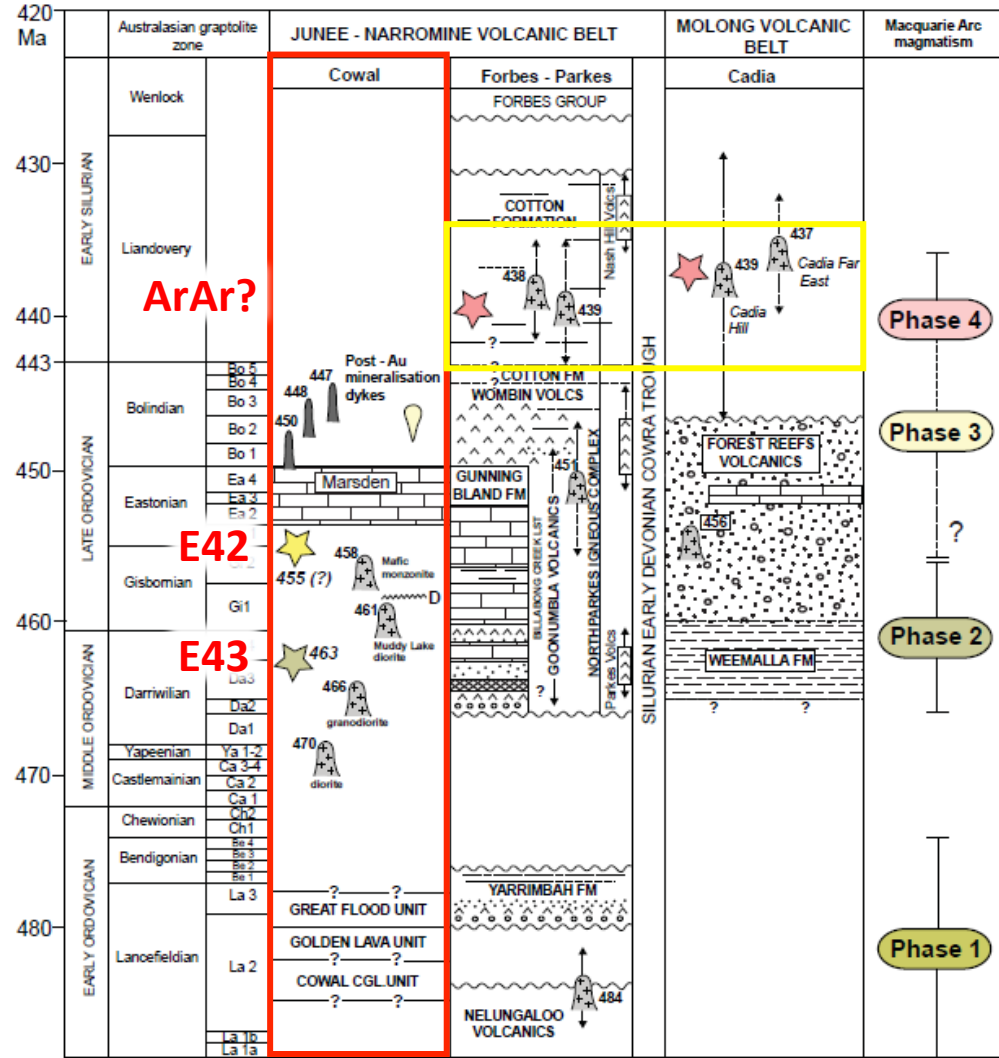
Complex Cowal geochronology, can be summarized as follows:

Volcanic hosts:	Lower to Middle Ordovician
Early intrusions:	~ 463 to 476 Ma
Mineralization E43, Marsden:	458 ± 2 Ma and 467 ± 2 Ma (Re-Os)
Muddy Lake Diorite:	461.6 ± 2.3 to 456 ± 5 Ma (U-Pb, Ar-Ar)
Mineralization E42 (E41,46):	Around 456 Ma
Post mineral intrusions:	456 ± 4.1 (U-Pb, Zr) 450.5 ± 1.3 (U-Pb, Monazite), 447 ± 7 (U-Pb, Zr)

Problematic late Ar-Ar sericite ages around 440 Ma



Evidence for zircon inheritance and post magmatism lead-loss, complicates UPb zircon age interpretations
















ArAr?

E42

E43

Legend

-  Sandstone
-  Limestone
-  Dated intrusions (with error bars)
-  Alkalic (shoshonitic) Cu-Au porphyry mineralisation
-  Mainly intermediate mafic lava
-  Shale - siltstone
-  Phase 3 intrusion
-  Calc-alkalic Cu-Au porphyry mineralisation
-  Conglomerates
-  Volcanic conglomerate
-  Epithermal style Au mineralisation
-  Breccia
-  Deformation

Phase 1 Mainly high-K CA and some shoshonites

Phase 3 MED-CA

Phase 2 Mainly high-K CA and MED-CA to shoshonitic

Phase 4 Shoshonitic (Forbes - Parkes and Cadia)

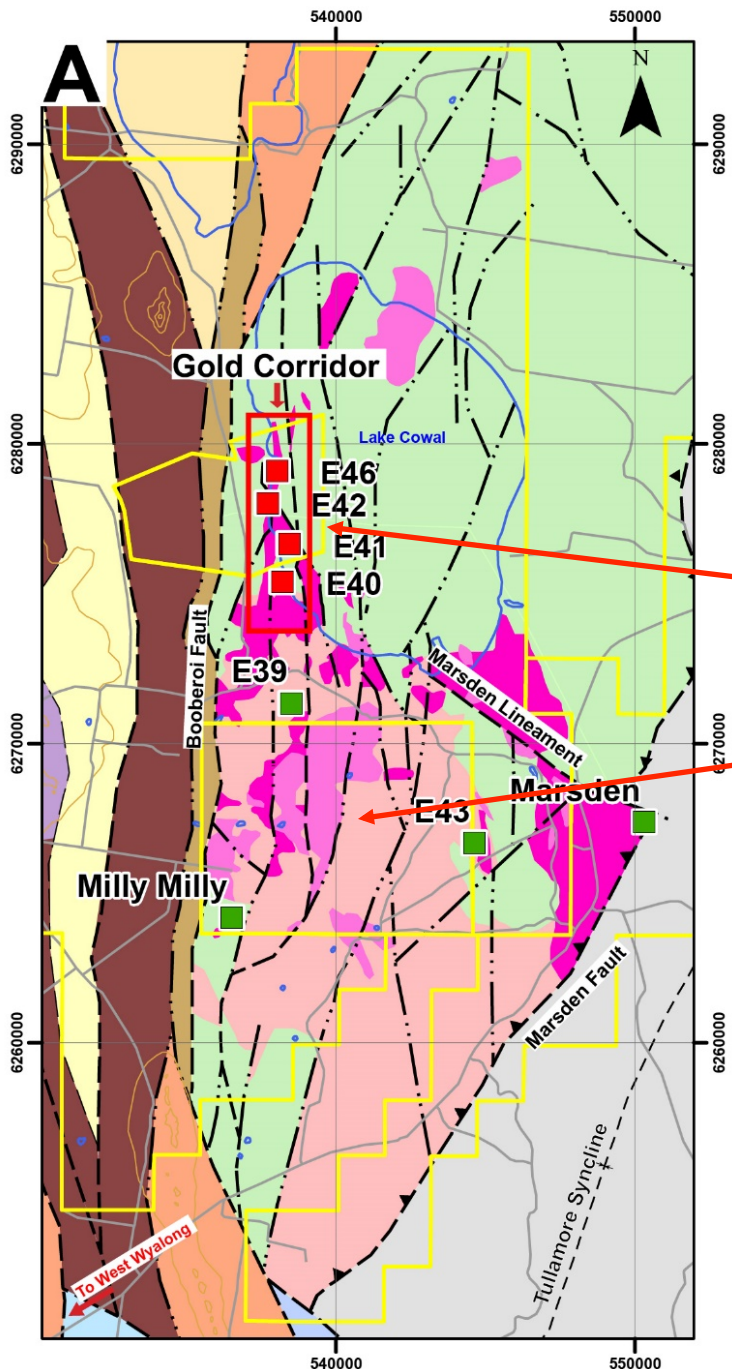
- **Porphyry systems** of southern CIC evidently formed during Phase 2 Macquarie Arc magmatism
- **Epithermal systems** of the Gold Corridor evidently formed during Phase 3 Macquarie Arc Magmatism

Outline

- Preamble
- Geological Setting
- **Mineral Deposits**
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Mineral Deposits and Prospects

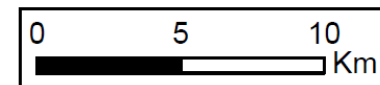


Cowl Igneous Complex hosts a variety of mineralization styles. Two most prevalent types are:

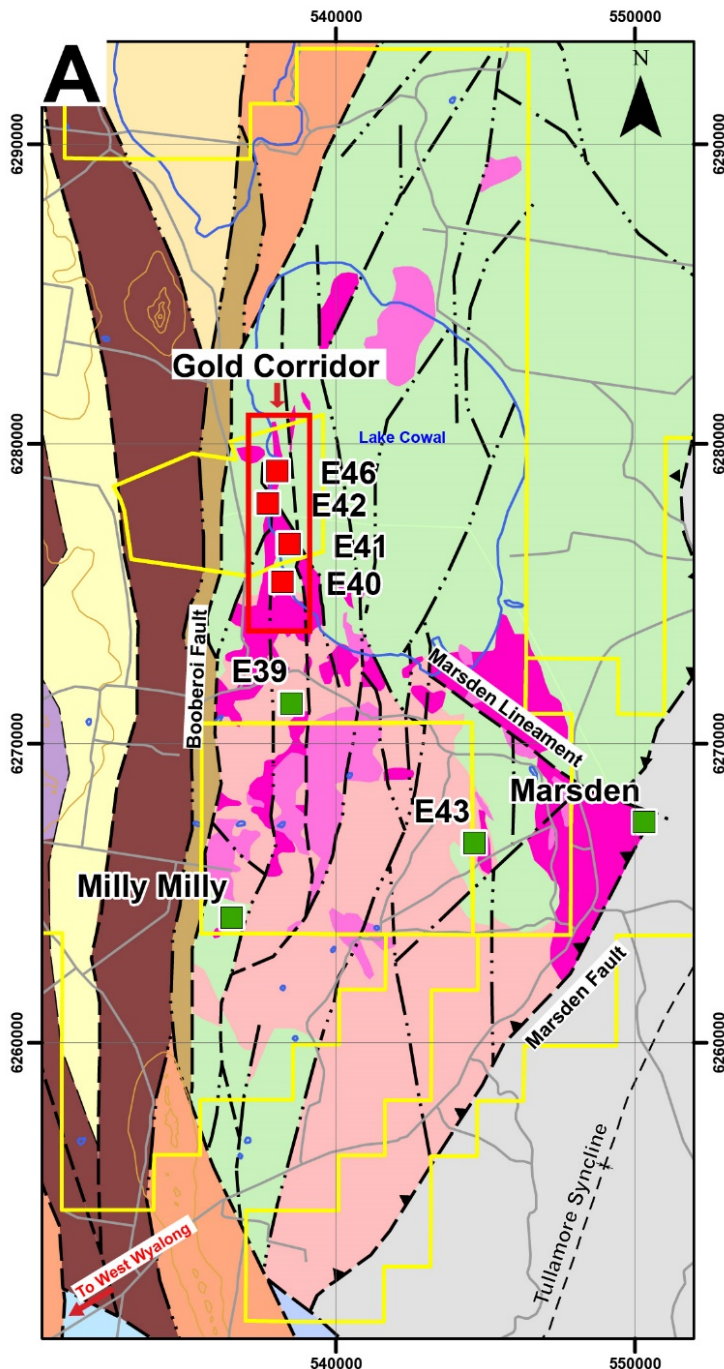
- **Low sulfidation epithermal with alkalic features:** E41, E42, E46
- **Calc-alkalic porphyry :** E43, Marsden, E39, Milly Milly

- CIC Epithermal Systems
- CIC Porphyry Systems
- Evolution Tenements
- Lake
- Road
- 50m Topographic Contours
- - - Syncline - Approximate
- - - Thrust Fault - Approximate
- - - Fault - Approximate
- - - Fault - Inferred from Geophysical Data

Coordinate System: GDA 1994 MGA Z55
Scale: 1:250,000

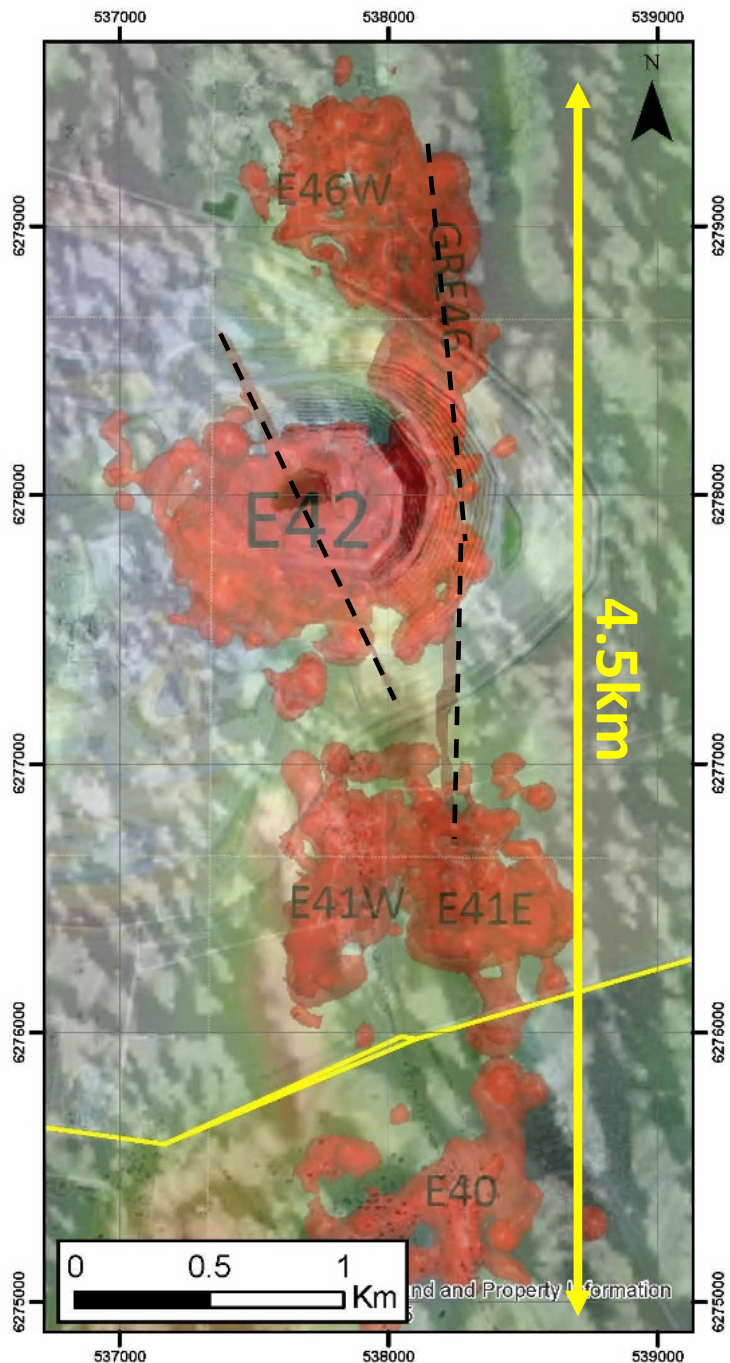


Gold Corridor Systems



- **The Gold Corridor** (E40, E41, E42 and E46 deposits/prospects) is situated on the western margin of the Cowal Igneous Complex
- Structurally controlled gold deposits hosted primarily by volcanic and intrusive rocks
- Low sulphidation epithermal systems with a quartz – carbonate – gold - base metal association – formed between the porphyry and epithermal environment(?)
- Deposit formation enhanced by structural setting and rock competency

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 **0.2ppm Au**

Gold Corridor Systems



Cowal Gold Mine Ore Reserves - December 2016

Ore Reserve	Cut-off (g/t Au)	Proved			Probable			Total		
		Tonnes (Mt)	Grade Au (g/t)	Cont Metal Au (koz)	Tonnes (Mt)	Grade Au (g/t)	Cont Metal Au (koz)	Tonnes (Mt)	Grade Au (g/t)	Cont Metal Au (koz)
E42 Oxide	0.40				0.54	0.54	9	0.54	0.54	9
E42 Primary	0.40				72.48	0.94	2,197	72.48	0.94	2,197
Stockpile	0.40	43.70	0.71	994				43.70	0.71	994
Total		43.70	0.71	994	73.02	0.94	2,207	116.71	0.85	3,200

Cowal Mineral Resources - December 2016

Mineral Resource	Measured			Indicated			Inferred			Total Resource		
	Tonnes (Mt)	Grade Au (g/t)	Cont. Metal Au (koz)	Tonnes (Mt)	Grade Au (g/t)	Cont. Metal Au (koz)	Tonnes (Mt)	Grade Au (g/t)	Cont. Metal Au (koz)	Tonnes (Mt)	Grade Au (g/t)	Cont. Metal Au (koz)
E42 Oxide	-	-	-	0.58	0.54	10	-	-	-	0.58	0.54	10
E42 Primary	-	-	-	108.36	0.88	3,073	1.85	0.70	42	110.22	0.88	3,115
E42 Stockpile	43.70	0.71	994	-	-	-	-	-	-	43.70	0.71	994
E41 Oxide	-	-	-	4.15	1.20	160	0.73	1.85	43	4.87	1.29	203
E41 Primary	-	-	-	7.97	0.91	233	0.40	0.93	12	8.38	0.91	245
E46 Oxide	-	-	-	4.26	1.26	172	0.14	1.39	6	4.40	1.26	179
E46 Primary	-	-	-	1.82	1.42	83	0.09	3.44	10	1.91	1.51	93
GRE46 Oxide	-	-	-	0.66	1.56	33	0.52	1.98	33	1.17	1.74	66
GRE46 Primary	-	-	-	1.92	1.59	98	0.52	2.27	38	2.43	1.73	136
Total	43.70	0.71	994	129.71	0.93	3,861	4.24	1.35	184	177.65	0.88	5,039

Data is reported to significant figures and differences may occur due to rounding

Mineral Resources are reported inclusive of Ore Reserves

Mineral Resources have been reported above a cut-off grade of 0.40g/t gold and constrained within an A\$1,800/oz pit optimisation shell

The Cowal Mineral Resource Competent Person is Joseph Booth and the Ore Reserve Competent Person is Jason Floyd

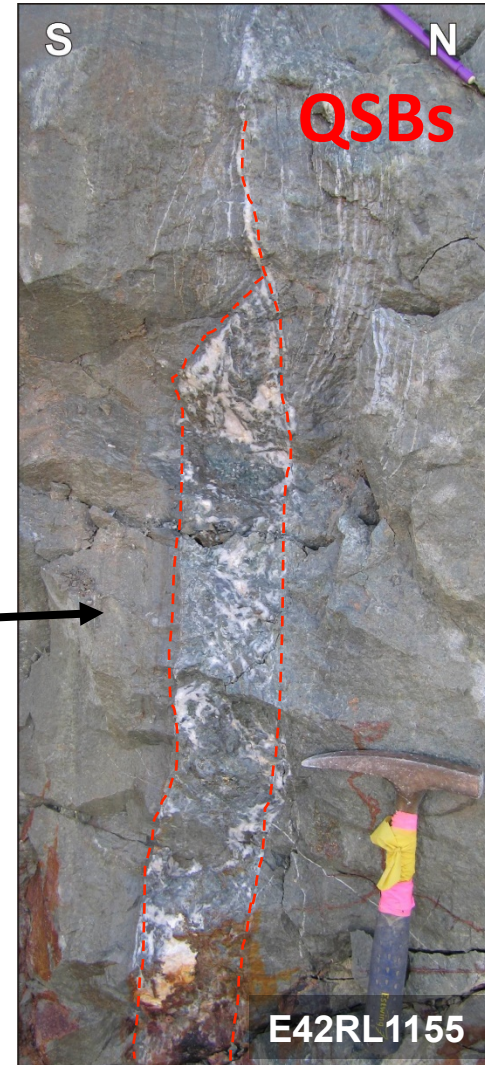
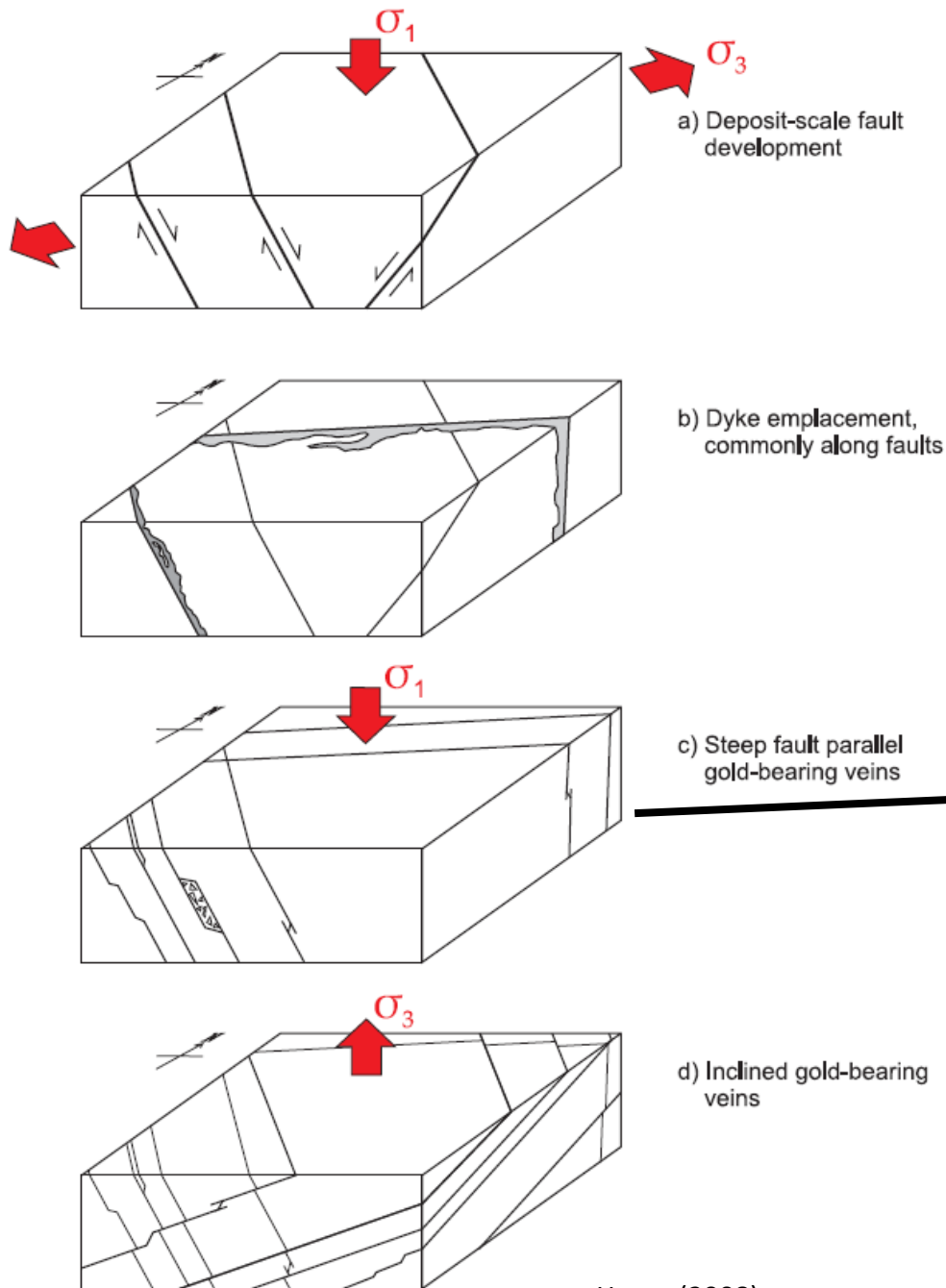
This information is extracted from the ASX release entitled "Evolution Approves Projects to Secure Cowal Production to 2032" released to the ASX on 16 February 2017. Evolution confirms that that it is not aware of any new information or data that materially affects the information included in that release and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed

Gold mineralization

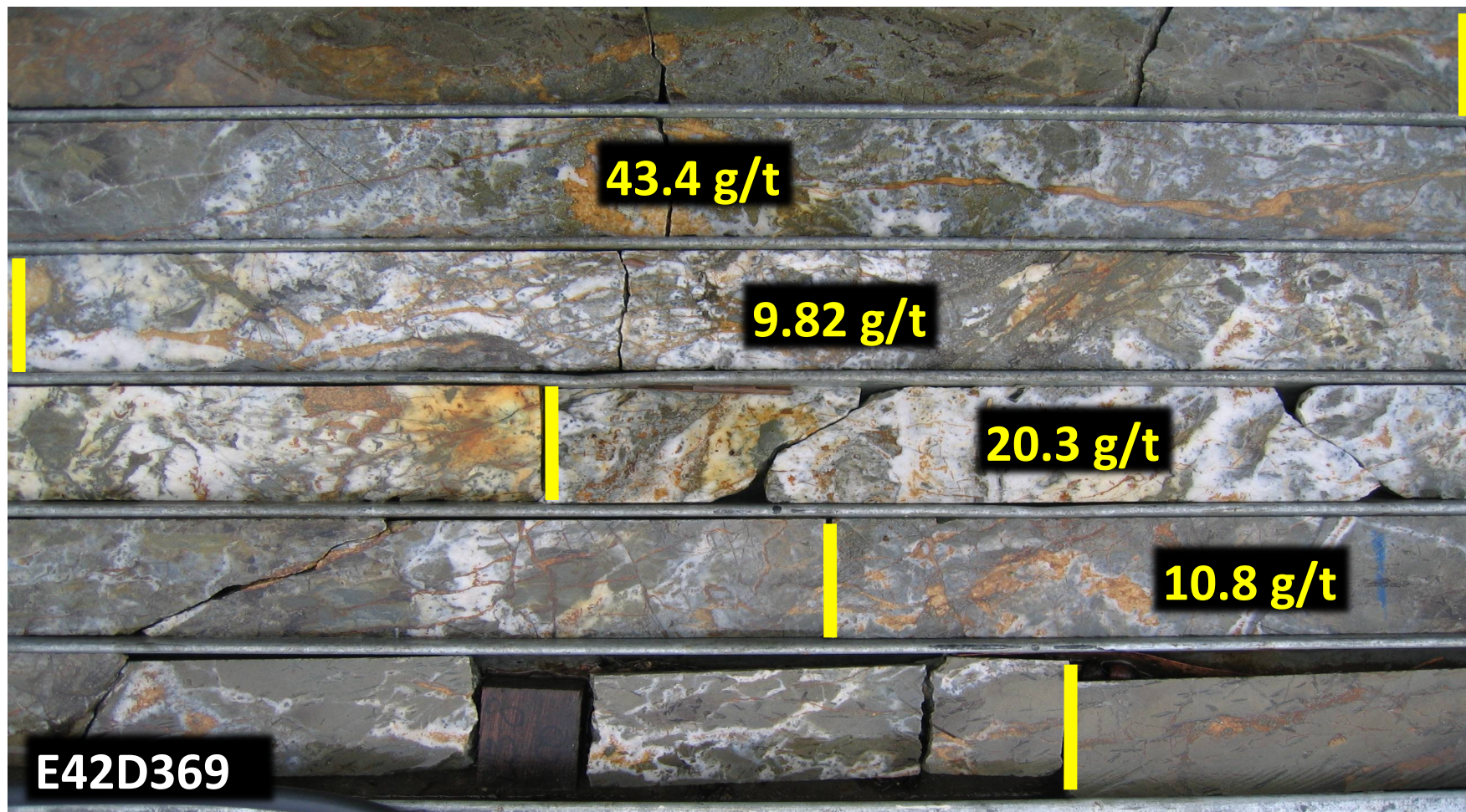


- Mineralization characteristic of Gold Corridor systems comprise quartz +/- carbonate veins mineralized with pyrite +/- galena, sphalerite, chalcopyrite with local tellurides and sulphosalts.
- Veins are:
 - **1) quartz-rich breccia zones (QSBs), up to a few meters in width, limited extent, NW strike, steep dips, locally contain bonanza grade gold mineralization.**
 - 2) narrow (up to 10cm), dilatational, with sharp crustiform quartz vein walls, local sericite + pyrite +/- ankerite halos, frequency of 1 to 5 per meter, NW strike, shallow dips
 - 3) shear hosted, carbonate rich, with irregular vein walls, locally up to 50cm in width.
- All vein sets cut variably chlorite +/- carbonate, epidote, quartz, sericite, hematite, potassium feldspar, magnetite and pyrite altered host rocks of the CIC. The distribution of pre-mineral alteration assemblages and mineralized vein types is fundamentally controlled by host rock lithology

Structural Development of E42 Deposit



Quartz Sulphide Breccias

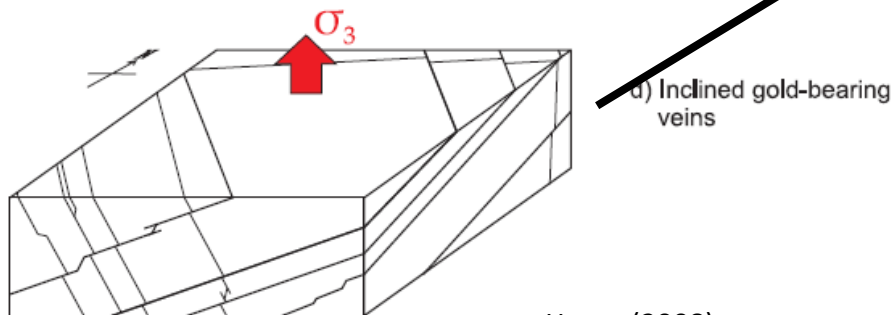
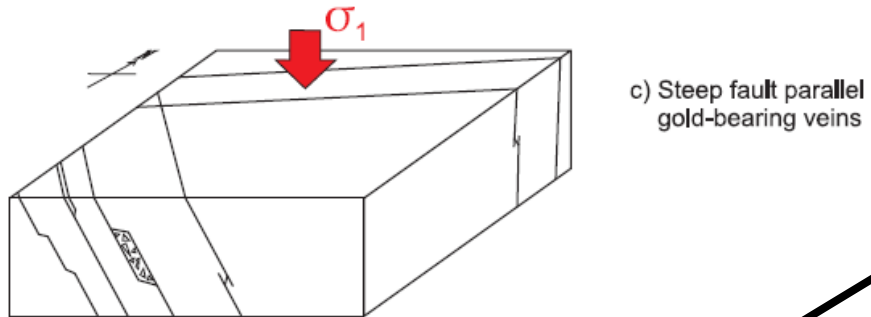
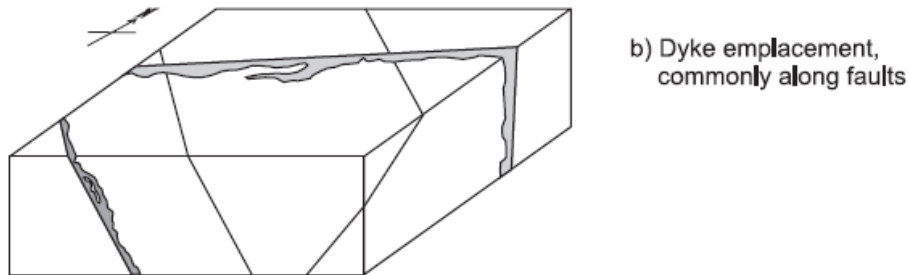
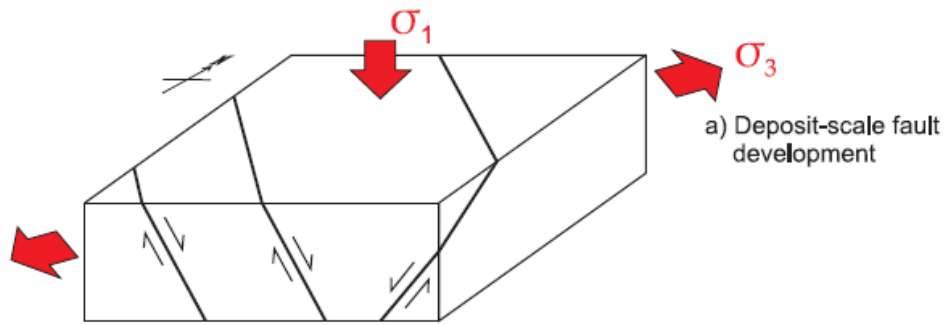


Gold mineralization

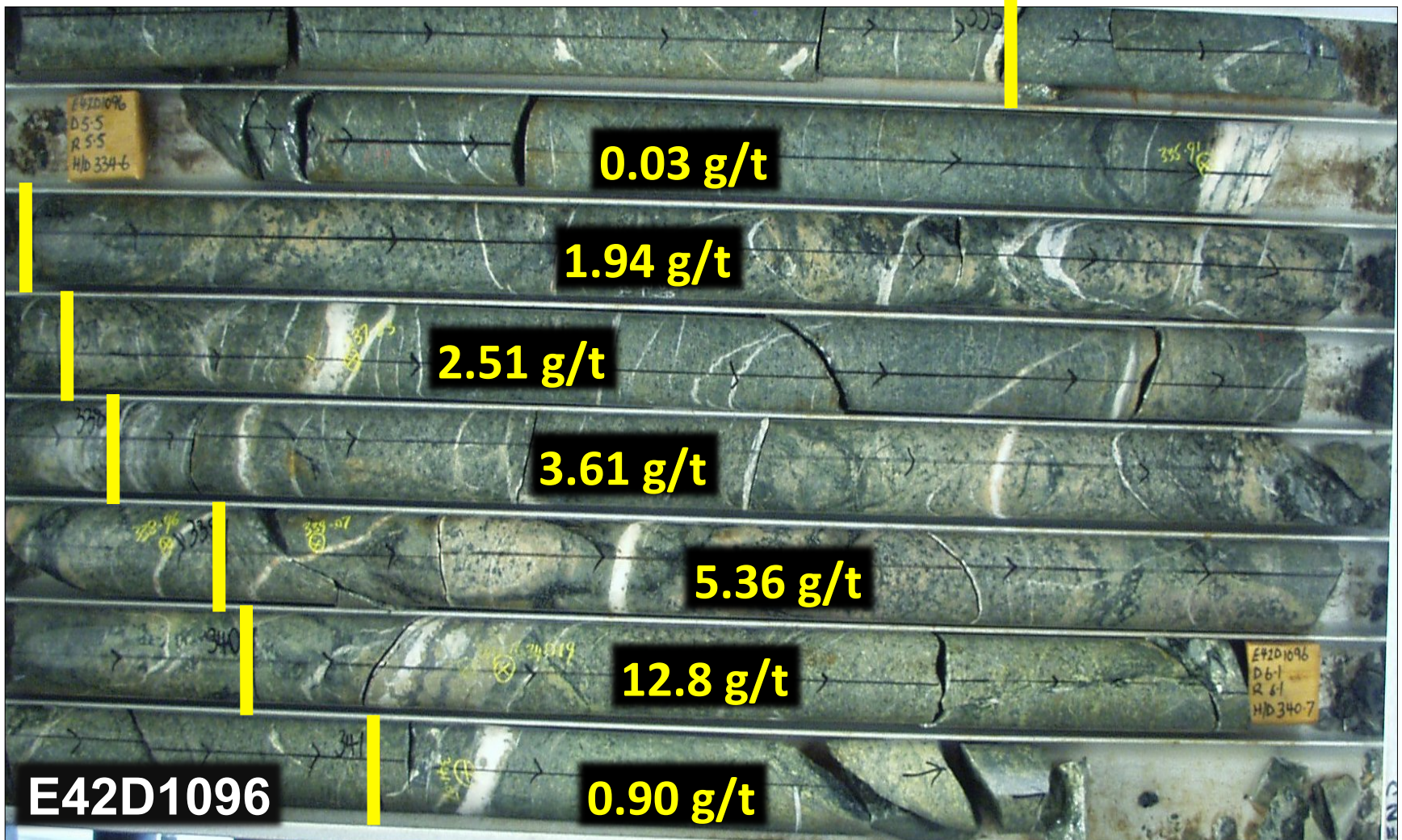


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Structural Development of E42 Deposit



Dilatational Veins

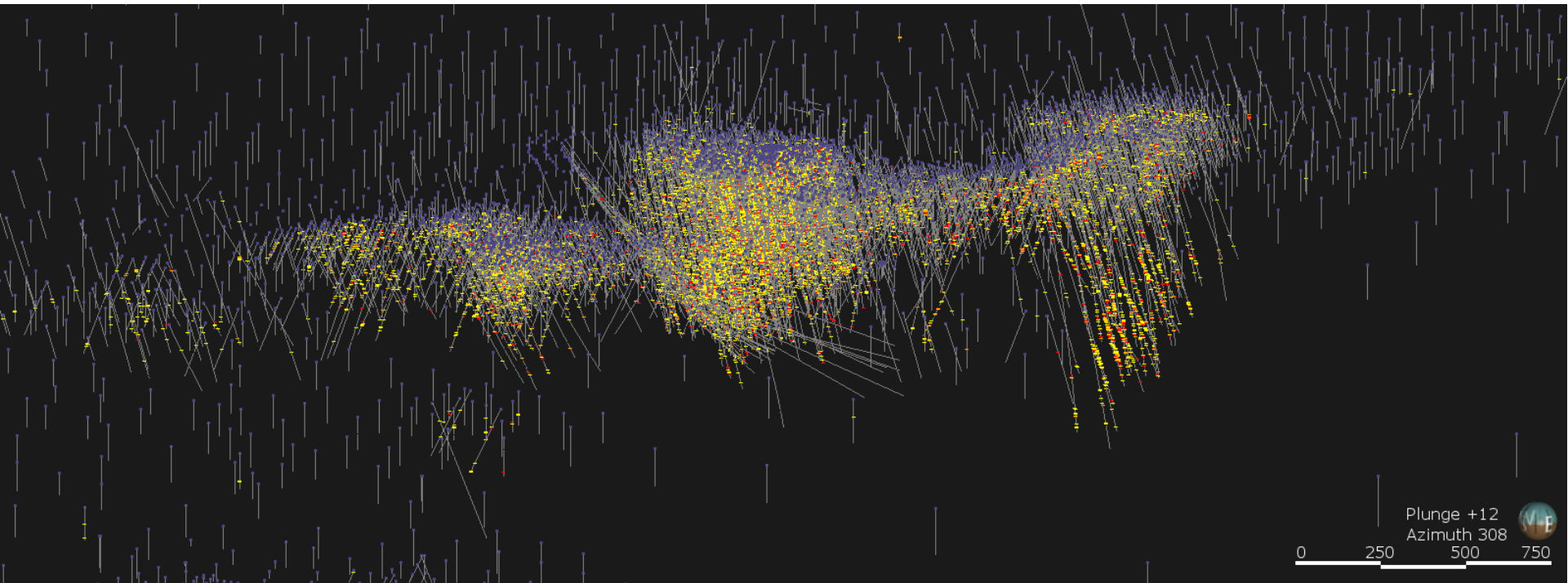


Gold mineralization

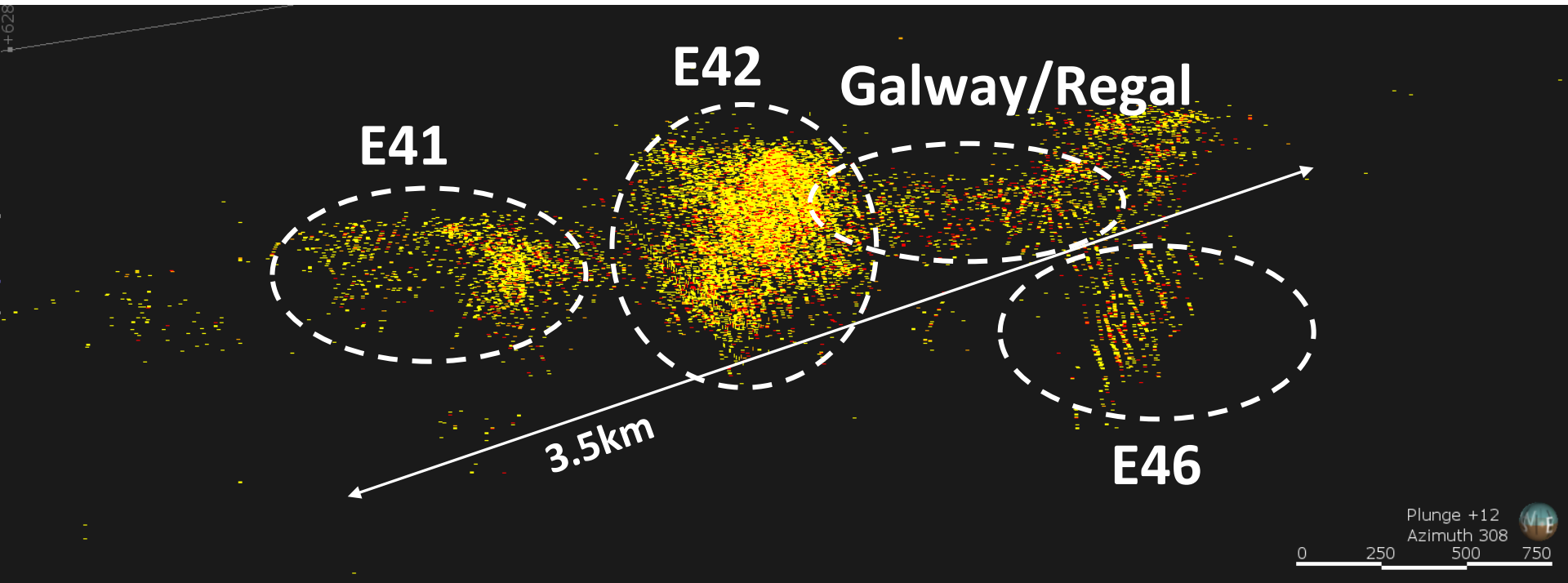


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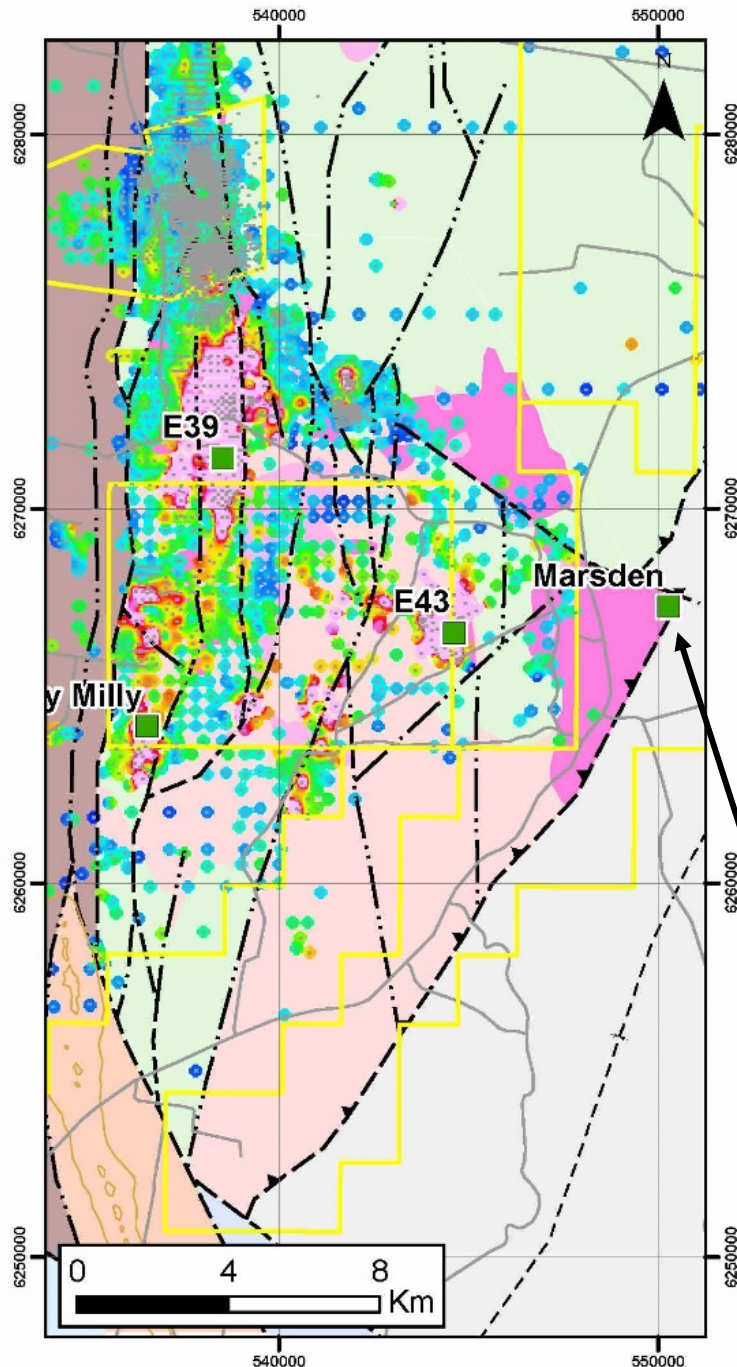
Gold Corridor



Gold Corridor

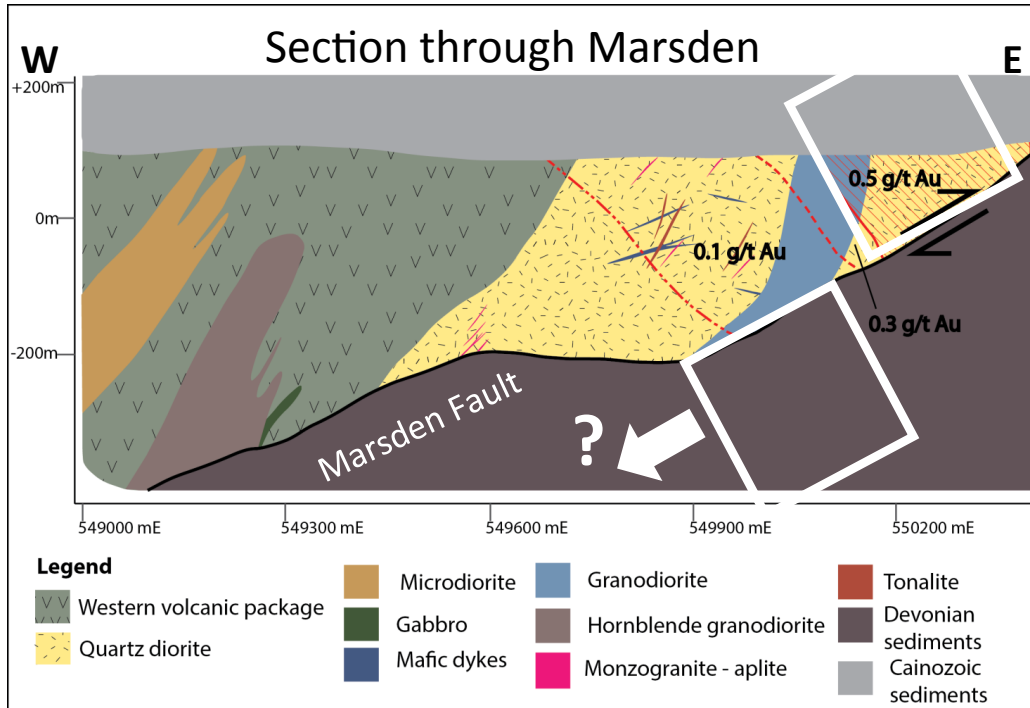


Southern Porphyry Systems

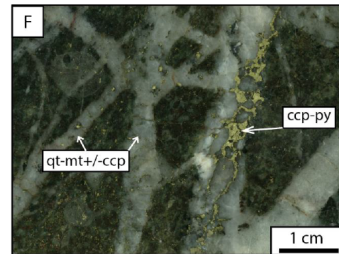
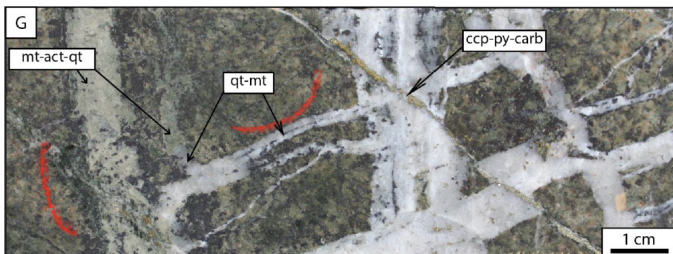


- **The Southern Porphyry Systems** (E39, E43, Marsden, Milly Milly and a few prospects) are situated south of the Marsden Lineament in primarily granodiorite to diorite rocks over an area of ~12 by 8 km
- Bulk-tonnage, calc-alkalic porphyry related copper and gold +/- molybdenum mineralization hosted primarily in quartz stockwork zones associated with potassium feldspar, biotite and magnetite alteration
- Deposits evidently formed ~467 – 458 Ma based on ReOs molybdenite dates
- The best known system is the recently acquired Marsden Cu + Au system

Marsden Calc-Alkalic Porphyry



- **180Mt grading 0.20g/t Au and 0.38% Cu (Indicated and Inferred)**
- Copper and gold mineralization is hosted in quartz + magnetite stockwork zones cutting quartz diorite and granodiorite in the hanging wall of Marsden fault
- ReOs molybdenite age of 467 +/- 2 Ma constrains age of mineralization
- Oldest known porphyry occurrence in the Macquarie Arc
- Bottom half(?) of ore body is and has been an exploration interest



From Rush (2013)

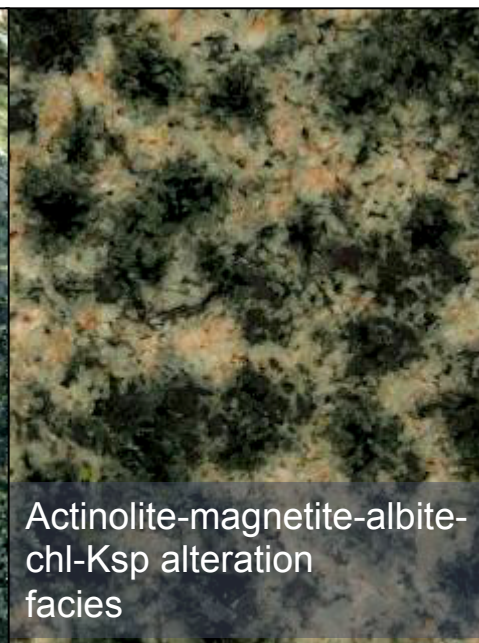
E41 – Porphyry and Epithermal Characteristics

PORPHYRY

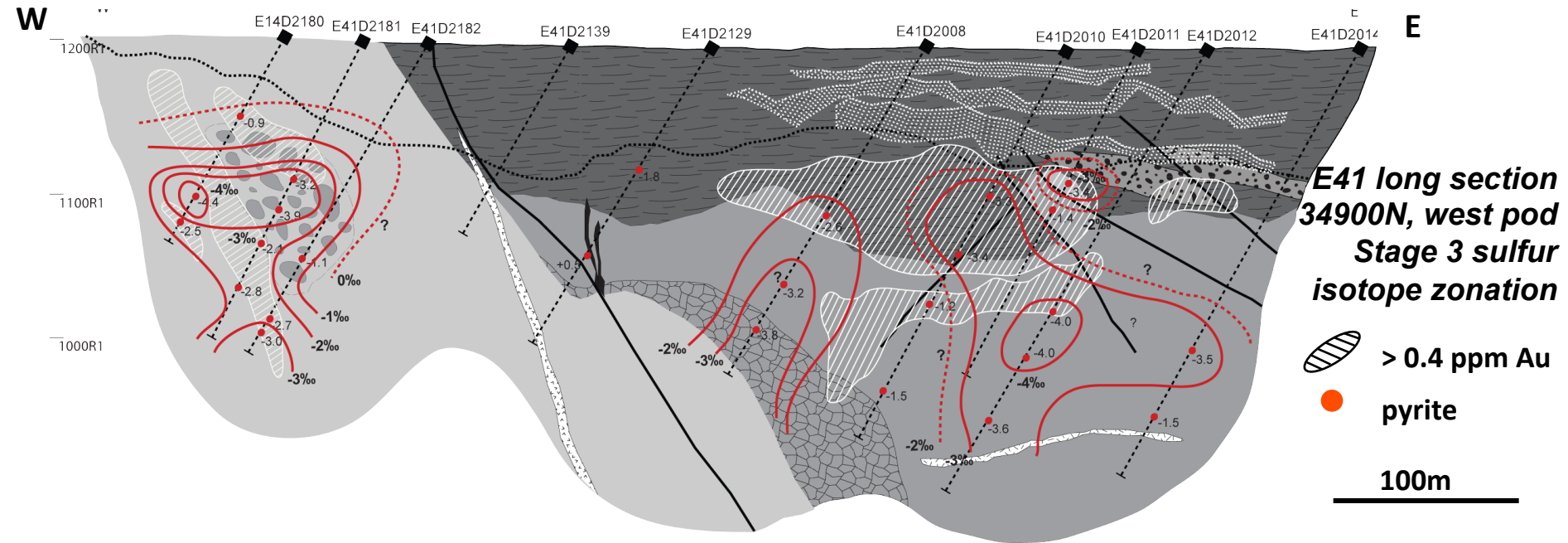
- Early garnet +/- magnetite +/- chalcopyrite +/- quartz veins
- Pervasive actinolite, magnetite, albite, K-spar alteration

EPITHERMAL

- Adularia +/- prehnite +/- epidote +/- carbonate veins
- Sericite and adularia alteration haloes
- Bladed calcite(?)



E41 Sulphur Isotopes



- Sulfur isotopic compositions of sulphides at E41 (and E42) are typically negative
- Data comparable to alkalic porphyry systems (e.g., Cadia)
 - **imply involvement of oxidized magmatic-hydrothermal fluids**
- They discriminate alkalic epithermal deposits from calc-alkalic low sulfidation systems, which are typically characterized by positive $\delta^{34}\text{S}_{\text{sulfide}}$ values

E41 Implications

- If E41 is linked to an alkalic porphyry system then the system is nowhere observed and therefore, perhaps concealed at depth
- Mineralization at E41 is younger (e.g., ~455 Ma) than calc-alkalic porphyry mineralization to the south (~458 – 463 Ma)
- Represents an exploration interest,
 - Vector using high-temperature alteration minerals and hematite dusting of feldspars

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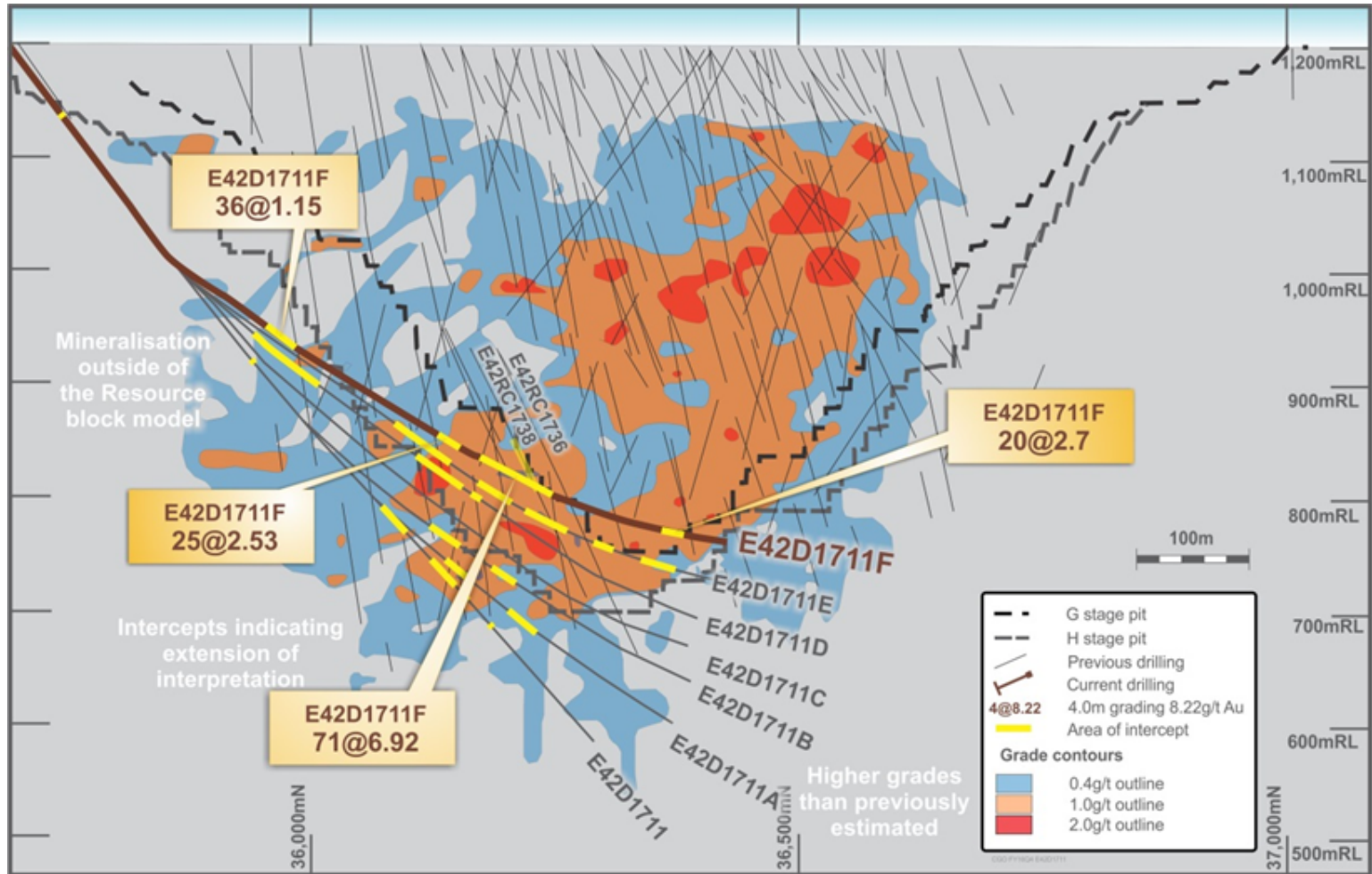
Stage H Cutback



E42 Stage H Cutback drill results

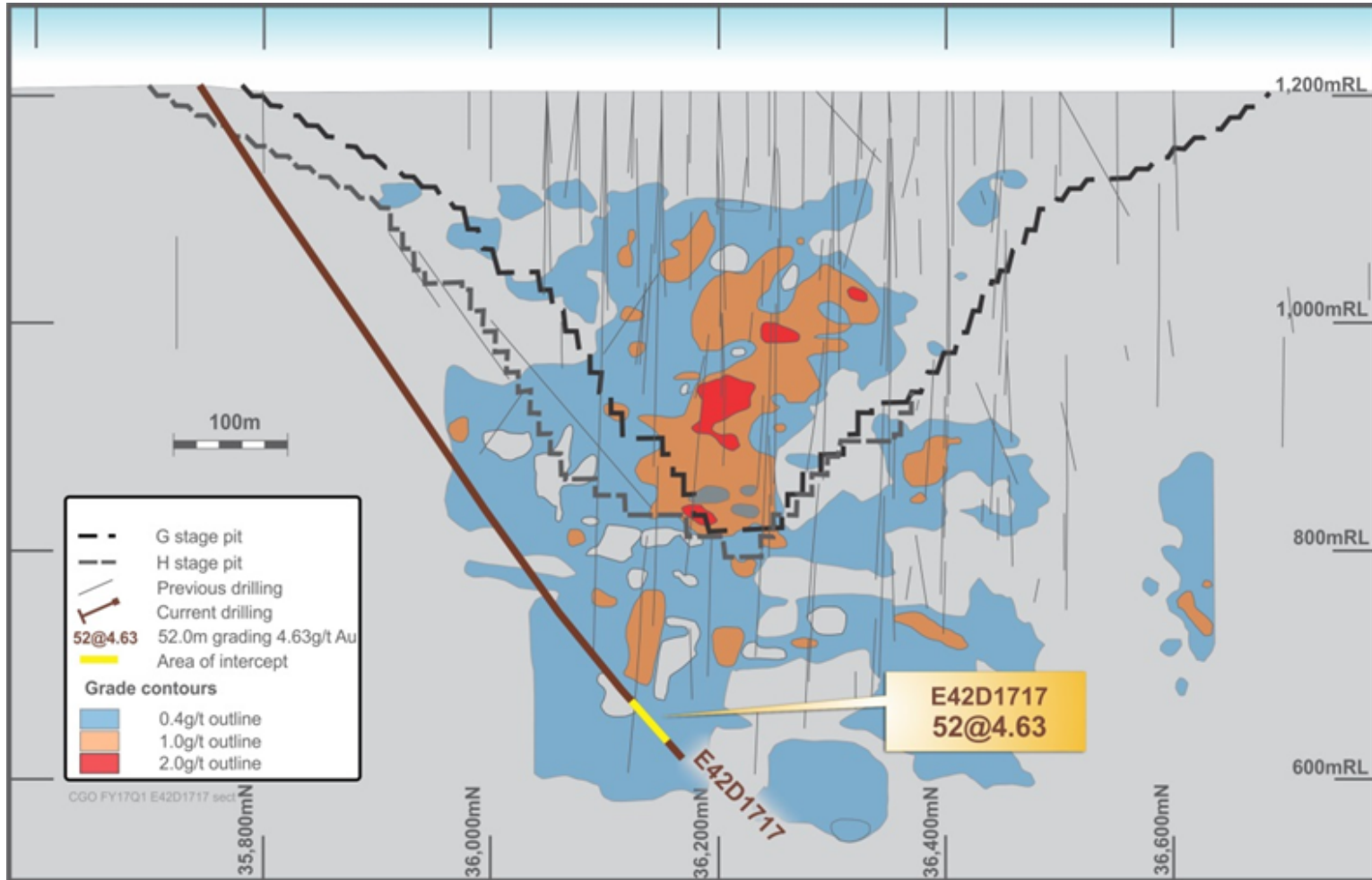
- **Total of 100 RC and diamond drill holes for 64,000 meters drilled in FY17**
 - Confirmed continuity of mineralisation within Stage H cutback design
- **Significant intercepts included:**
 - 62m grading 2.16g/t Au from 530m incl. 4m @ 17.20g/t (E42D1711D)
 - **71m grading 6.92g/t Au** from 572m incl. 1m @ 370g/t & 7m @ 7.21g/t (E42D1711F)
 - 41m grading 6.46g/t Au from 583m incl. 1m @152g/t & 1m @ 52.8g/t (E42D1712)
 - **110m grading 1.43g/t Au** from 704m (E42D1712A)
 - 14m grading 8.09g/t Au from 610m incl. 1m @ 98.1g/t (E42D1713A)
 - 52m grading 4.63g/t Au from 708m incl. 1m @156g/t (E42D1717)
- Additional Life of Mine (LOM) gold production of 1.2Moz

E42 Stage H cutback drilling



Reported intervals are down hole widths as true widths are not currently known. The information above is provided in the report entitled "September 2016 Quarterly Report" released to the ASX on 17 October 2016 and available to view at www.asx.com.au

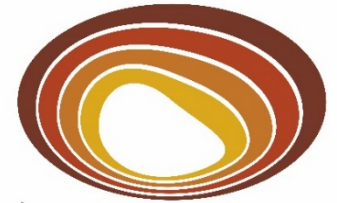
E42 Stage H cutback drilling



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Summary

- The open pit mine commenced production in 2005 by Barrick Gold Corporation and was subsequently **purchased by Evolution in 2015.**
- **Since purchase, Evolution added 2.28Moz Au Reserves with 2.24 Moz Au Resource**
- The mine is currently exploiting **the Endeavour 42 (E42) gold deposit, which comprises a series of shallow to steep dipping auriferous veins and vein-breccias** cutting volcanic, volcanoclastic and intrusive rocks of the Cowal Igneous Complex (CIC)
- The approximately 40 by 15 kilometre fault-bounded CIC, largely defined on the basis of geophysical and widely spaced drill data, hosts numerous polymetallic deposits in two dominant mineralization types;
 - 1) structurally controlled, epithermal related gold +/- silver mineralization and,
 - 2) bulk-tonnage porphyry related copper +/- gold, molybdenum mineralization.
- **For a comprehensive overview of the CIC, the reader is referred to the forthcoming Balind et al. (2017, in press).**



Evolution
MINING

Acknowledgements:

**Cowal Exploration Team: Glen Masterman, John Robinson, Tilen Milojkovic,
Sam Parker, Steve Casey**

Contact:

Christopher.Leslie@utas.edu.au

Paul.Balind@evolutionmining.com.au

Ned.Howard@evolutionmining.com.au

Geoff.Heideman@evolutionmining.com.au

www.evolutionmining.com.au