



Hammer Metals Limited

ABN. 87 095 092 158

Investor Presentation

January 2019

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Hammer Metals Limited

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ASX: HMX

The Hammer board has extensive technical and corporate experience

Directors and Management

Russell Davis Chairman BSc (Hons) MBA MAusIMM, AICD	Geologist with +30 years' of exploration and development experience. Previously Exploration Director and NED of Gold Road Resources Limited and MD of Syndicated Metals Limited and a founding Director of both.
Ziggy Lubieniecki Director BSc MAIG	Geologist with +30 years experience in exploration, mining, management, property acquisition and ASX compliance. Held senior positions including Exploration Director for Gold Road Resources Limited. Credited with discovery of Gruyere Gold Deposit (+6Moz) for Gold Road.
Nader El-Sayed Director B.Comm, MA, CA	Risk management, corporate governance, strategic and financial background. A member of Australian Institute of Chartered Accountants. Currently Chief Executive Officer of Multiplant Holdings with previously senior management experience with KPMG.
Mark Whittle Chief Operating Officer BSc Geol Hons, MSc Geol MAusIMM	Geologist with 30 years experience, 10 years of which has been in the Mount Isa Region. Previously Exploration Manager of Syndicated Metals Limited and Hammer Metals Limited.

Capital Structure

Share Price (23/01/19)	\$0.02
Shares on Issue	278m
Market Cap	\$5.6m
Options (Listed)	165m
Options (Unlisted)	21m

Significant Shareholders

Deutsche Rohstoff	13%
Resource Capital Fund VI	9%
Directors + Management	8.5%



Russell Davis



Ziggy Lubieniecki



Nader El-Sayed

Who is Hammer Metals?



- Focussed on the world-class Mount Isa Mineral Province
- Large (2,500km²) tenement holding
- **Principal target is a Tier 1 copper-gold deposit**
- Experienced and capable team of explorationists including Ziggy Lubieniecki (AMEC's 2015 Prospector of the Year for the Gruyere discovery)
- Multiple copper-gold deposits and exploration targets
- JV's with Glencore and GEMC provide additional funding on specific areas



Progressing a range of early stage to advanced projects

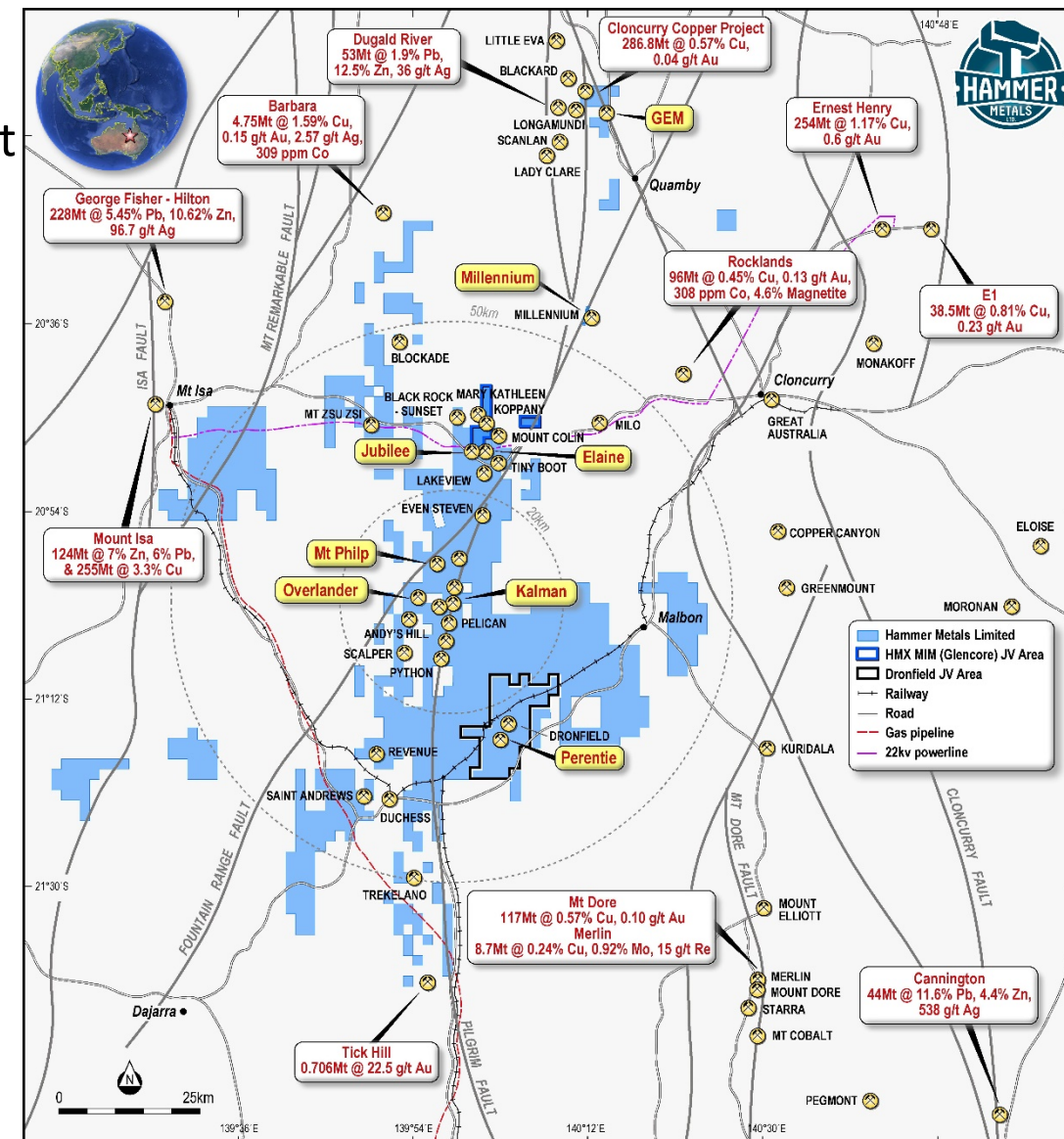
- Four advanced deposits
- Two exploration targets at resource drill-out stage
- Two high quality IOCG grassroots targets in Perentie and the Mt Philp Breccia
- Mining studies planned for Jubilee, Elaine, Kalman & Overlander to examine development options

JORC Resources (1)

Deposit	Tonnes Mt	CuEq %	Cu %	Au g/t	Co %	Mo %	Re g/t	Fe %	Comment
Kalman	20	1.8	0.61	0.34	-	0.14	3.7	-	0.75% CuEq cut-off
Millennium	5.9	-	0.32	0.11	0.11	-	-	-	0.7% CuEq cut-off
Jubilee	1.4	-	1.41	0.62	-	-	-	-	0.5% Cu cut-off
Elaine	9.3	0.95	0.82	0.19	-	-	-	-	0.7% CuEq cut-off
Overlander	1.8	-	1.20	-	0.045	-	-	-	0.7% Cu cut-off
Mount Philp	30.5	-	-	-	-	-	-	39	

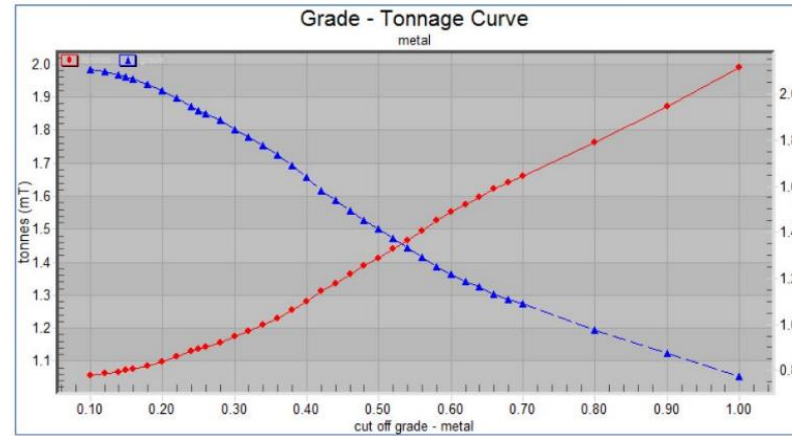
Project Status

Deposit	Metals	Discovery	Scout drilling	Resource	Metallurgy	Mining studies	Scoping	Feasibility	ML Application
Kalman	Au-Cu-Mo-Re								
Millennium	Au-Cu-Co								
Jubilee	Au-Cu								
Elaine	Au-Cu								
Overlander	Cu-Co								
Black Rock	Au-Co-Co								
Perentie	Au-Cu								
Mt Philp IOCG	Au-Cu								



Jubilee Deposit: Copper-Gold

- Joint Venture with MIM. HMX 51% and operator. 1km from bitumen highway and 55km from Mount Isa
- First metallurgical study complete – **99% Cu recovery, 87% Au recovery to concentrate**
- Open at depth and along strike
- Seeking commercial outcomes
- **Pit optimisation studies planned**

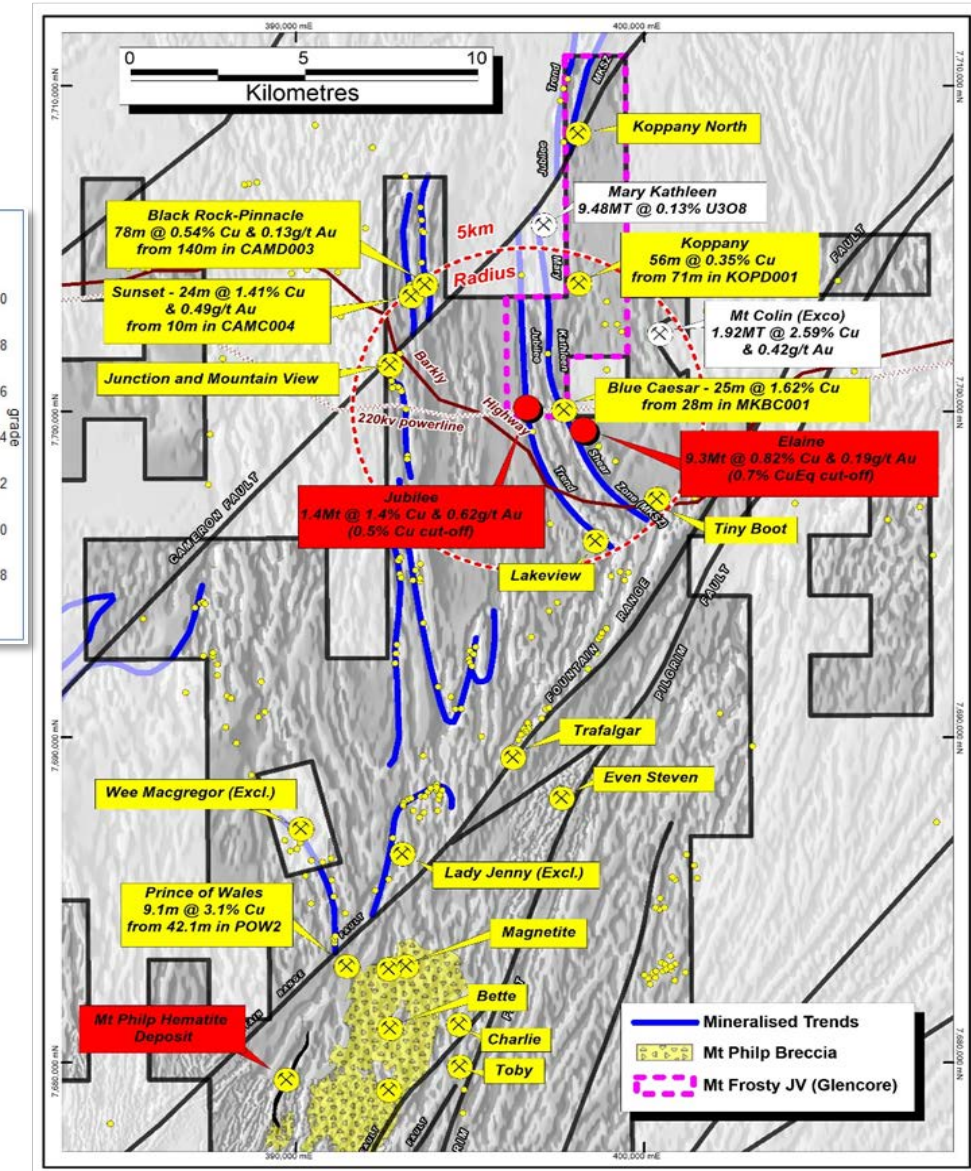
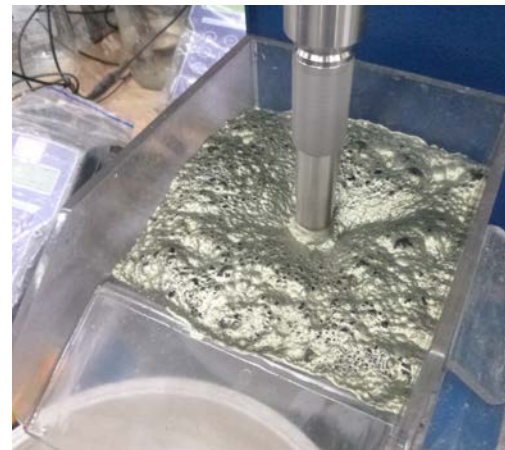


Cu cut-off %	Domain	Tonnes (Mt)	Cu %	Au g/t
0.5	Mod-Slightly Weathered	0.07	1.51	0.55
	Fresh	1.34	1.41	0.63
	Total	1.41	1.41	0.62

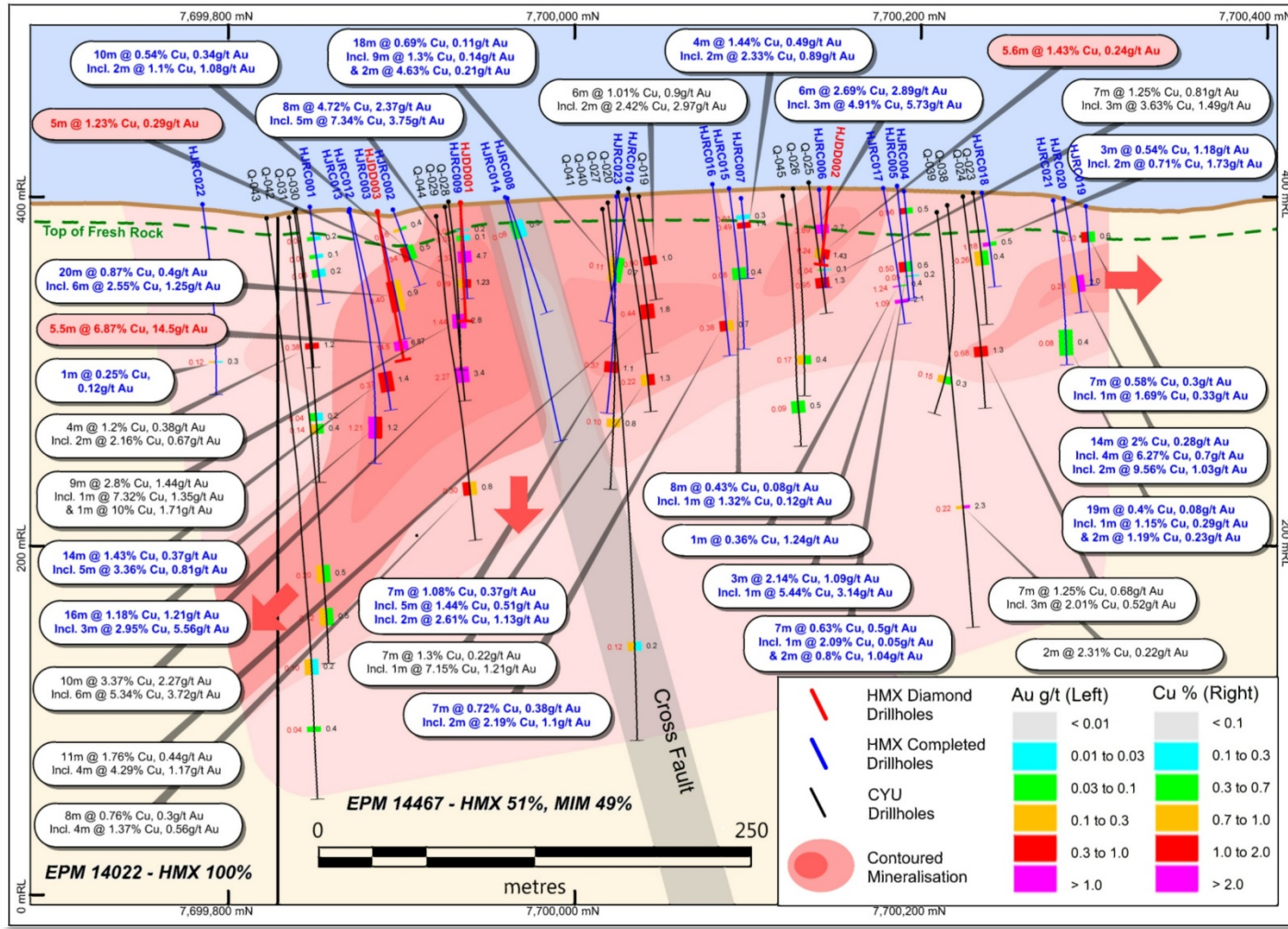
Jubilee 2018 Mineral Resource - Inferred
 •Note: (1) Totals may differ due to rounding

Rougher float test T3

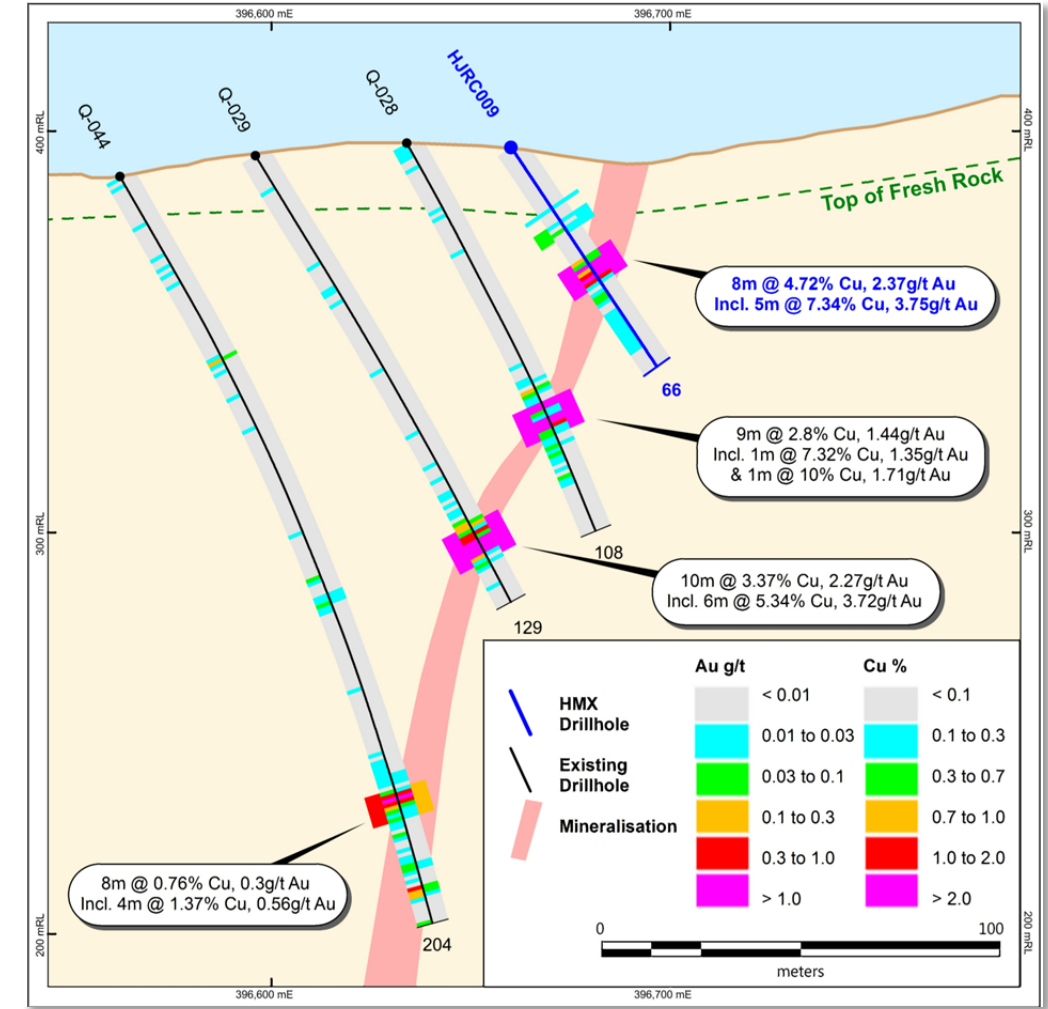
Test	Product	Cu		Au		Co	
		%	% Rec'y	ppm	% Rec'y	%	% Rec'y
T3	Cu Con	19.4	98.5	10.7	80.0	0.10	56.4
	Co Con	0.4	0.9	2.4	7.2	0.12	27.5
	Total Con		99.3		87.2		83.9



Jubilee Deposit: Copper-Gold



Long section (looking west) through Jubilee with significant intercepts



Cross section (looking north) through Jubilee with significant intercepts

Elaine Deposit: Copper-Gold

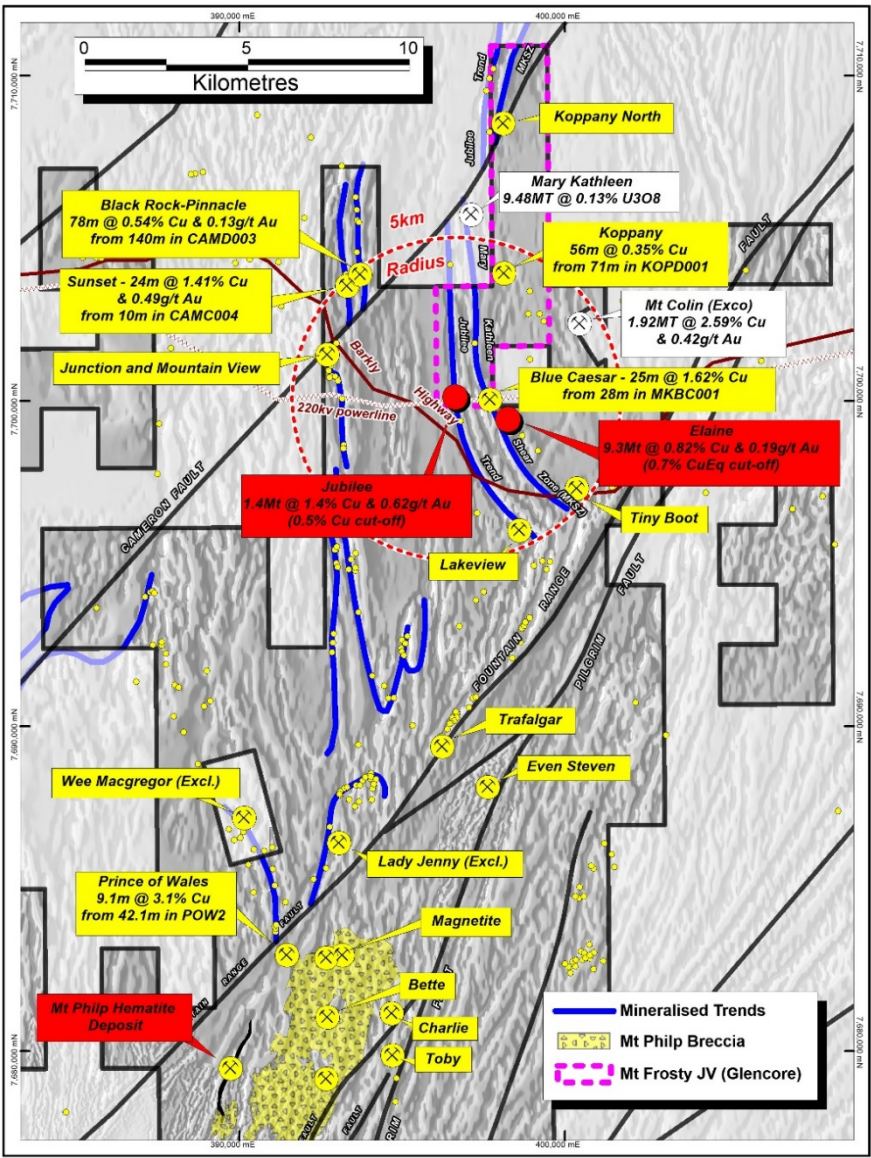
- 2km from bitumen highway - 55km to Mount Isa
- Broad copper intersections – **206m at 0.53% Cu & 159 metres at 0.5% Cu**
- High grade gold – **30m at 6.7g/t Au** and **26m at 1.7g/t Au** and **0.24% Bi**
- Preliminary metallurgic study - **Cu recovery >90% to concentrate**
- Multiple targets along strike – Elaine 2 and Elaine 3
- **Pit optimisation studies planned for 2019**

CuEq cut-off %	Tonnes	CuEq %	Cu %	Au g/t
0.10	64,340,000	0.34	0.31	0.05
0.20	32,770,000	0.54	0.49	0.08
0.25	26,100,000	0.62	0.56	0.09
0.30	22,810,000	0.67	0.60	0.10
0.40	17,810,000	0.76	0.68	0.12
0.50	15,050,000	0.82	0.73	0.13
0.60	12,470,000	0.88	0.77	0.15
0.70	9,310,000	0.95	0.82	0.19
0.80	6,460,000	1.04	0.87	0.25

Elaine 2012 Mineral Resource - Inferred
 •Note: (1) Totals may differ due to rounding
 •Note: (2) CuEq % = Cu % + (Au ppm * 0.70216)

Rougher and cleaner flotation results (below) with the rougher float cell test T-13 (right)

Test No.	April 2013 Elaine Metallurgical Testwork				
	Product	Cu		Au	
		%	% Rec'y	ppm	% Rec'y
Test 11	Final cleaner concentrate	29.9	92.2	2.73	31.7
	Rougher concentrate	8.1	96.0	1.22	54.4
Test 13	Final cleaner concentrate	22.9	77.1	0.88	23.9
	Rougher concentrate	11.6	91.6	0.67	42.3



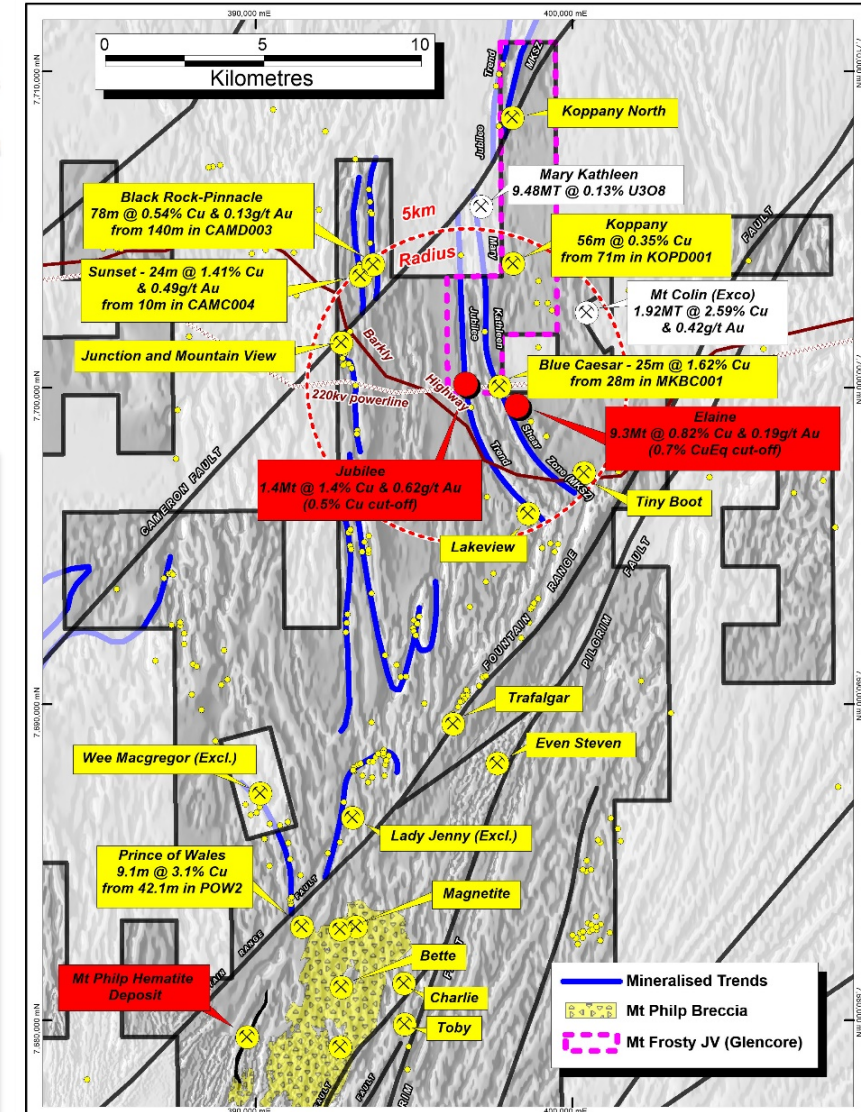
Black Rock and Sunset Prospects - Copper-Gold



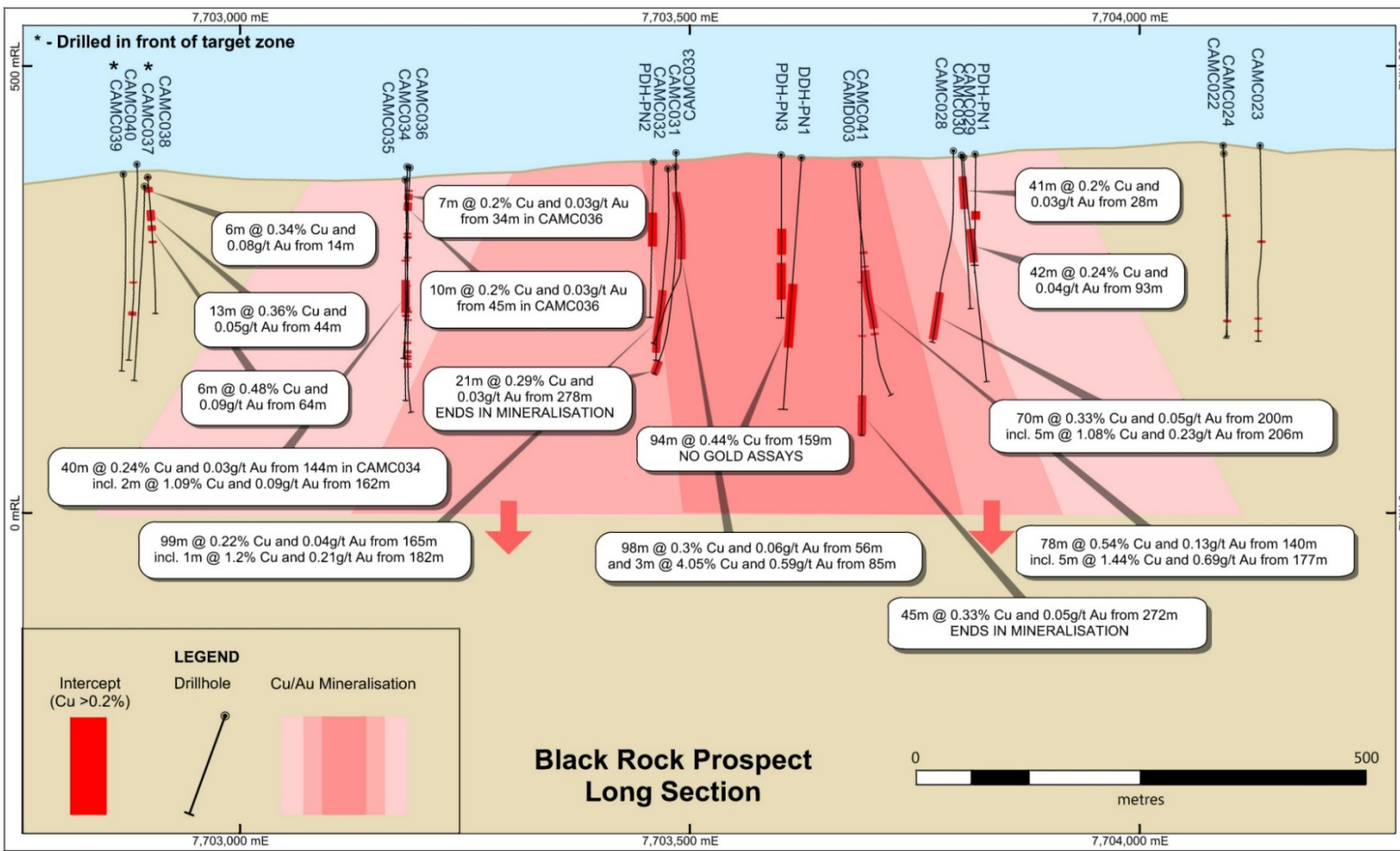
- 5km west of Jubilee, 2km from bitumen highway, 50km to Mount Isa.
- Potential for large tonnage Elaine style copper-gold deposit
- 2019 drill planning underway



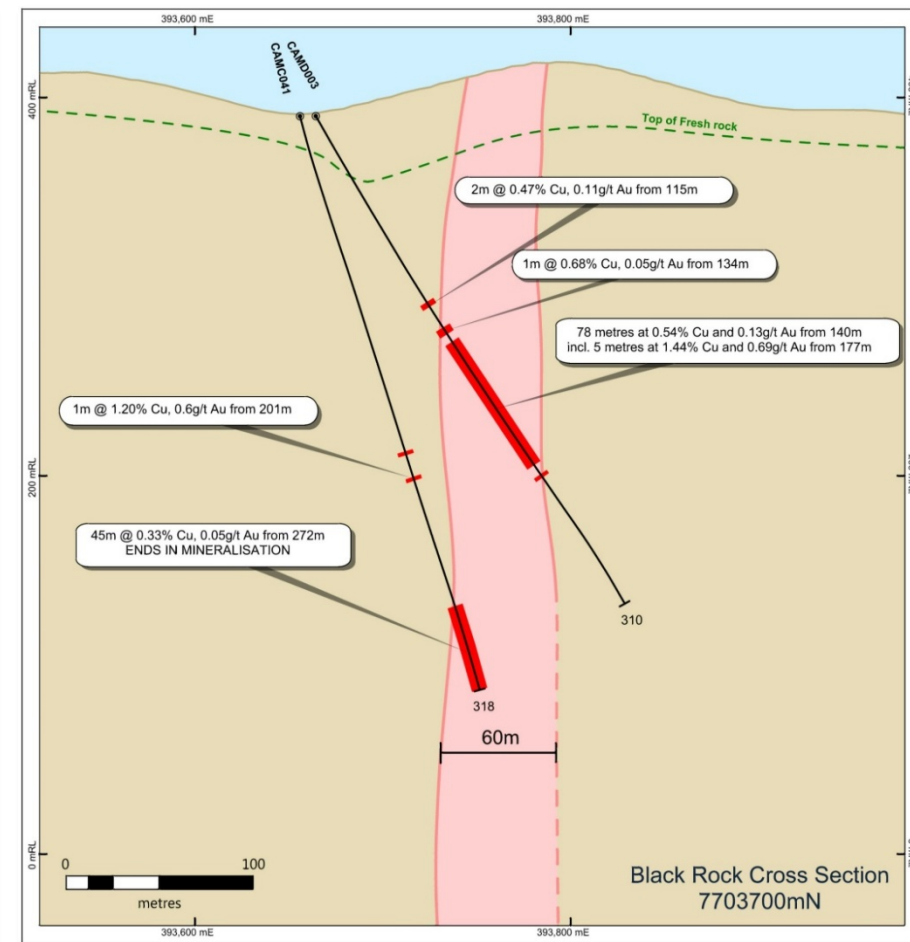
Oblique photo looking south showing the location of Black Rock and Sunset



Black Rock and Sunset Prospects - Copper-Gold



Long section through Black Rock looking West



Cross section looking north

Kalman Deposit: Copper-Gold-Molybdenum-Rhenium

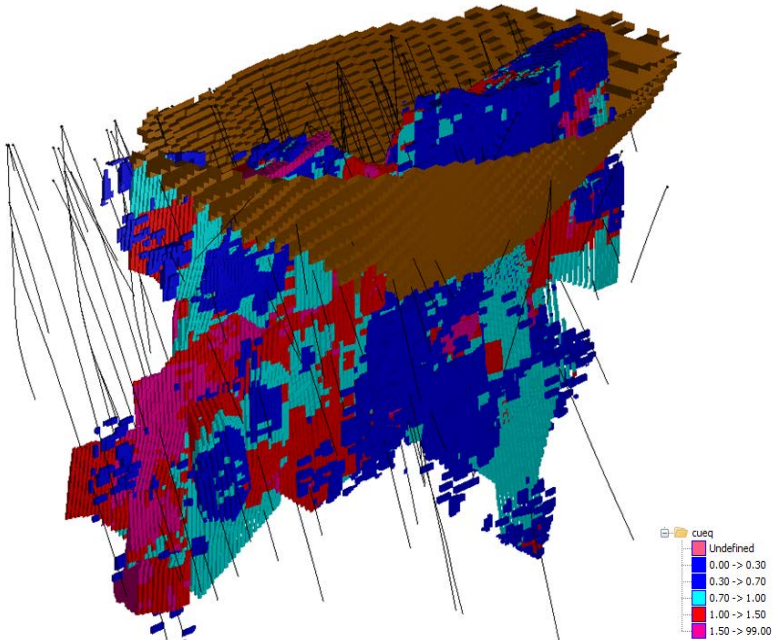


- Open pit and underground potential, open at depth
- Strategy to use Kalman for base load plant feed
- **Further pit optimisation studies planned for 2019**

Classification	Mining Method	CuEq Cut-Off	Tonnes	Cu Eq %	Cu %	Mo %	Au g/t	Ag g/t	Re g/t
Indicated	Open Pit	0.75%	7,100	1.5	0.48	0.12	0.27	1.4	2.9
Inferred	Open Pit	0.75%	6,200	1.6	0.44	0.15	0.24	1.5	3.9
Inferred	Underground	1.40%	7,000	2.4	0.89	0.16	0.5	2.9	4.5
Total			20,000	1.8	0.61	0.14	0.34	1.9	3.7

Kalman Millennium November 2016 Mineral Resource - Inferred

- Note: (1) Numbers rounded to two significant figures
- Note: (2) Totals may differ due to rounding
- Note: (3) The CuEq equation is $CuEq = Cu + 0.594464Au + 0.010051Ag + 4.953866Mo + 0.074375Re$



Kalman conceptual optimised pit shell showing drill traces – Looking northwest

Kalman flotation results

Process Stage	Copper % Rec'y	Molybdenum % Rec'y	Gold % Rec'y	Rhenium % Rec'y	Silver ⁽¹⁾ % Rec'y
Bulk Rougher	95	95	82	86	82
Overall	86	86	74	77	74



Massive chalcopyrite (33% Cu) intersected in Kalman Deeps

(1) No data available for Silver recoveries so they have been assumed similar to Gold Recoveries

Millennium Deposit: Copper-Cobalt-Gold



- JV with GEMC – Sale of HMX 75% interest in progress
- Maiden Mineral Resource in November 2016. Open at depth. Untested target zone along strike to north
- First metallurgical study complete. Cu recovery 95.1%, Co recovery 95.4%, Au recovery 81.4% to concentrate
- Resource and extensional drilling planned for 2019

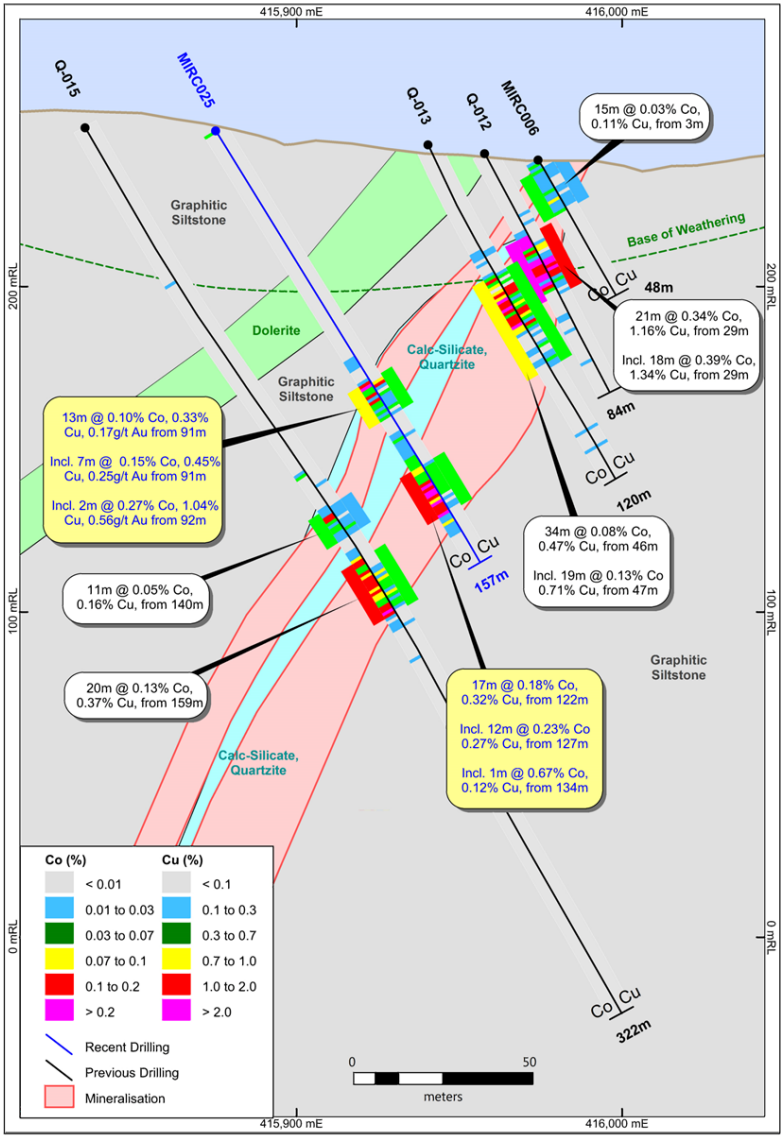
CuEq cut-off %	Tonnes	CuEq %	Cu %	Co %	Au g/t
0.10	3,070,000	1.29	0.35	0.14	0.12
0.70	5,890,000	1.08	0.32	0.11	0.11

Millennium November 2016 Mineral Resource - Inferred
 •Note: (1) Totals may differ due to rounding
 •Note: (2) $CuEq = Cu_{pct} + (Co_{pct} * 5.9) + (Au_{ppm} * 0.9) + (Ag_{ppm} * 0.01)$

Rougher flotation results (below) with the rougher float cell test HG-7 (right)

Test No.	High Grade Composite - Optimum Test – Combined Rougher Concentrate								
	Product	Cu		Co		Au		As	
		%	% Rec’y	%	% Rec’y	ppm	% Rec’y	%	% Rec’y
HG-7	Cu Con	20.6	90.8	0.48	5.4	5.1	45.6	0.23	2.5
	Co Con	0.4	4.3	3.12	89.9	1.5	35.8	3.39	93.1
	Total Con		95.1		95.4		81.4		95.6

Test No.	Low Grade Composite - Optimum Test – Combined Rougher Concentrate								
	Product	Cu		Co		Au		As	
		%	% Rec’y	%	% Rec’y	ppm	% Rec’y	%	% Rec’y
LG-5	Cu Con	16.9	85.2	0.26	7.8	4.3	51.0	0.14	4.9
	Co Con	0.5	6.1	1.16	83.9	0.9	27.0	1.00	88.4
	Total Con		91.3		91.7		77.9		93.2



Millennium cross section (looking north)

Overlander Deposit: Copper-Cobalt



- Large mineralised system - 6km of strike and 6km west of Kalman
- Consists of a shear zone hosted mineralisation (Overlander North and South deposits), a central zone of rhyolite breccia hosted mineralisation and a northern IOCG target.
- Current resource 1.8 Mt at 1.2% Cu (reported at 0.7% Cu cut-off)

Overlander Combined Mineral Resource					
Classification	Tonnes	Cu %	Co %	Cu t	Co t
Indicated	253,000	1.4	254	3,414	64
Inferred	1,518,000	1.2	476	17,700	723
Total	1,772,000	1.2	445	21,112	788

- Strong IOCG alteration intersected in diamond drill holes OVD001 – OVD003 with coincident geochemistry, magnetic, gravity and IP anomalies breccias to east
- Some excellent copper grades and thickness:
 - **75m @ 1.33% Cu incl. 28m @ 1.91% Cu & 16m @ 1.92% Cu in OVRC29**
 - **87m @ 0.74% Cu incl. 27m @ 1.4% Cu in OVRC30**
 - **89m @ 1.1% Cu incl. 56m @ 1.4% Cu & 11m @ 2.4% Cu & 10m @ 1.6% Cu in OVRC31**
- Significant untested potential

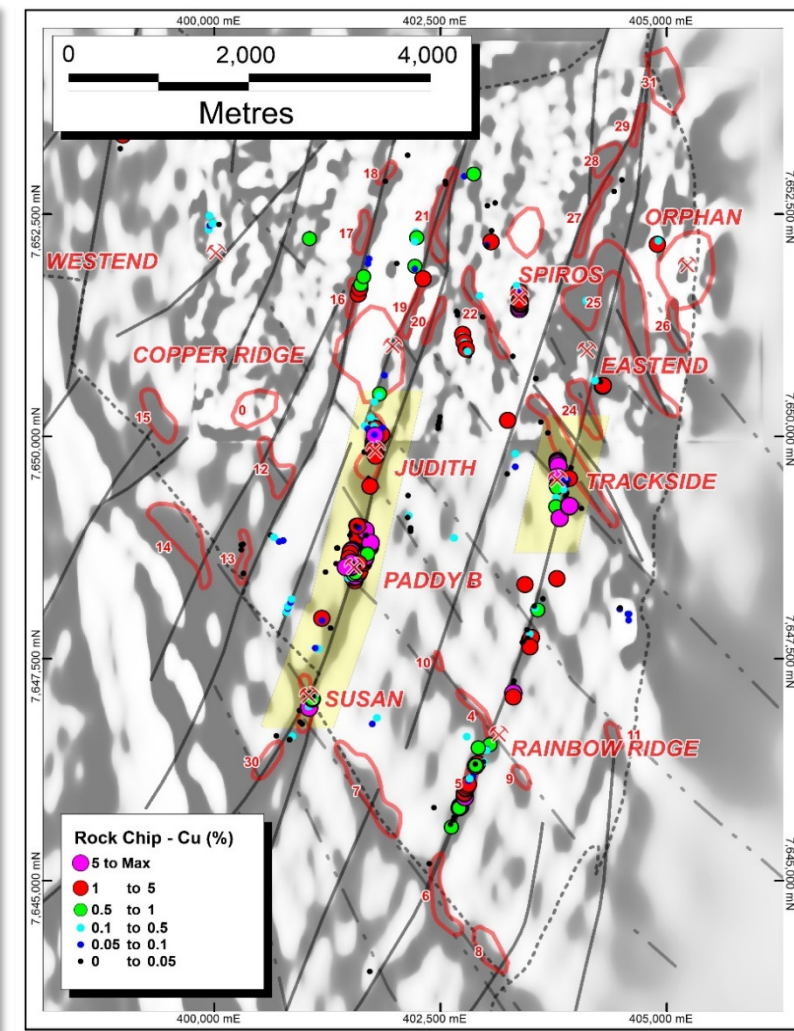
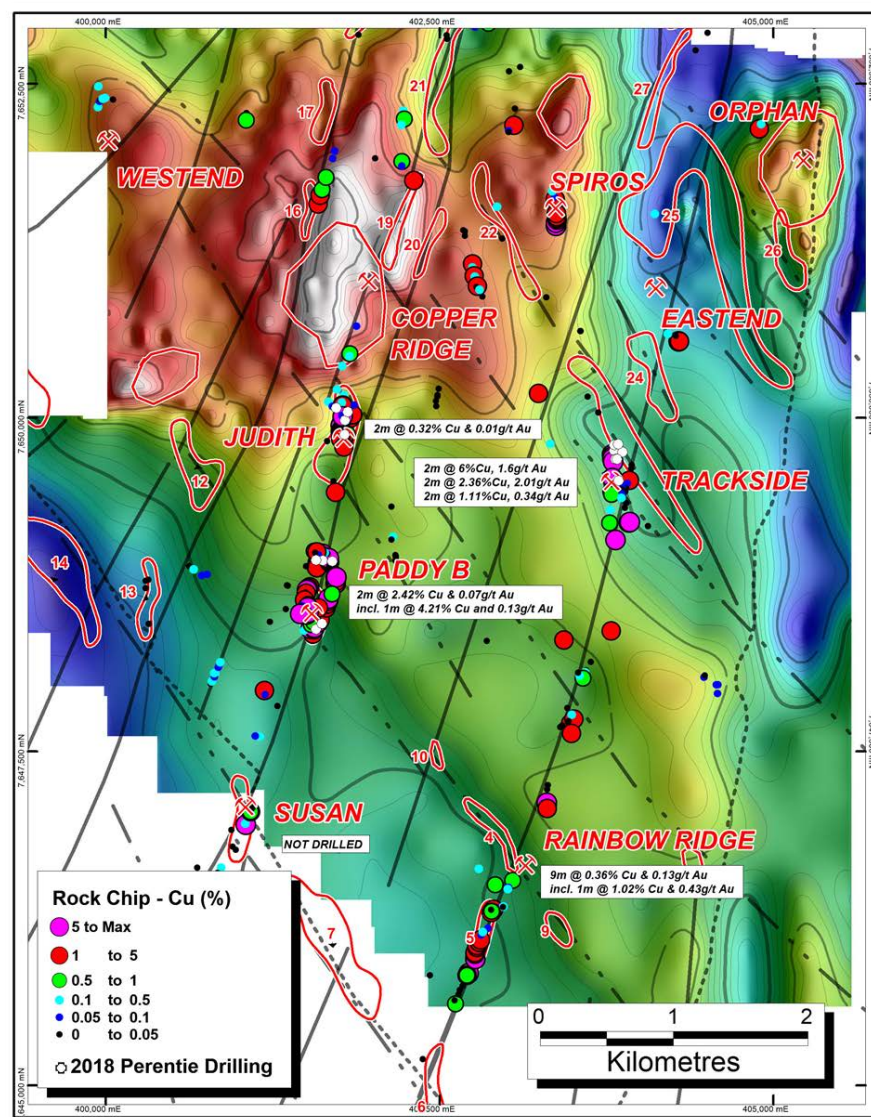


Oblique photo (looking north) showing the location of Overlander south, central and north with the IOCG target

Perentie Project – Copper-Gold



- Large regional-scale alteration zone with 30+ targets. 2 target styles
 - Related to demagnetised zones (e.g. Judith)
 - Related to coincident gravity and geochemistry (Orphan)
- Scout drilling (15 holes, 1329m) and a SAM survey completed in early December on Paddy B, Judith and Trackside prospects.
- First pass RC drilling confirms zones of high-grade copper mineralization co-incident with the Perentie targets. Intersections include:
 - 2m at 2.42% Cu from 74m including 1m at 4.21% Cu and 0.13g/t Au from 75m in HDRC012 at Paddy B and,
 - 2m at 2.36% Cu and 2g/t Au from 37m in HDRC016 at Trackside.
 - 2m @ 1.11% Cu and 0.34g/t Au from 73m in HDRC018 at Trackside
 - 1m @ 1.05% Cu and 0.22g/t Au from 48m in HDRC019 at Trackside



Perentie Project gravity and rock chips (left) and magnetics and SAM extent (right)

Mount Philp Breccia IOCG Target: Copper-Gold

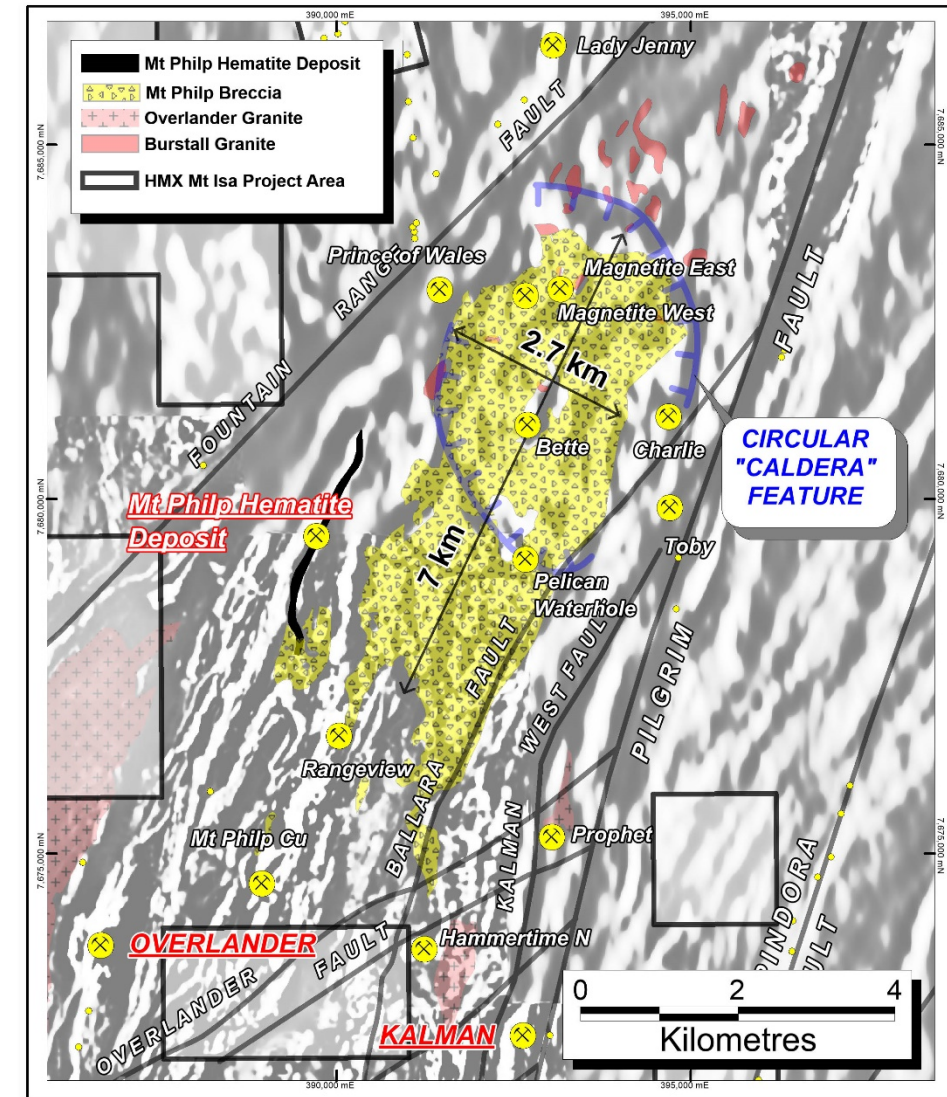
- Very large breccia complex (+20km²) with extensive alteration, brecciation and intrusive activity
- Never previously assessed for IOCG mineralisation – Tier 1 grassroots target. Received government grant to partly fund future work



Mt Philp Breccia



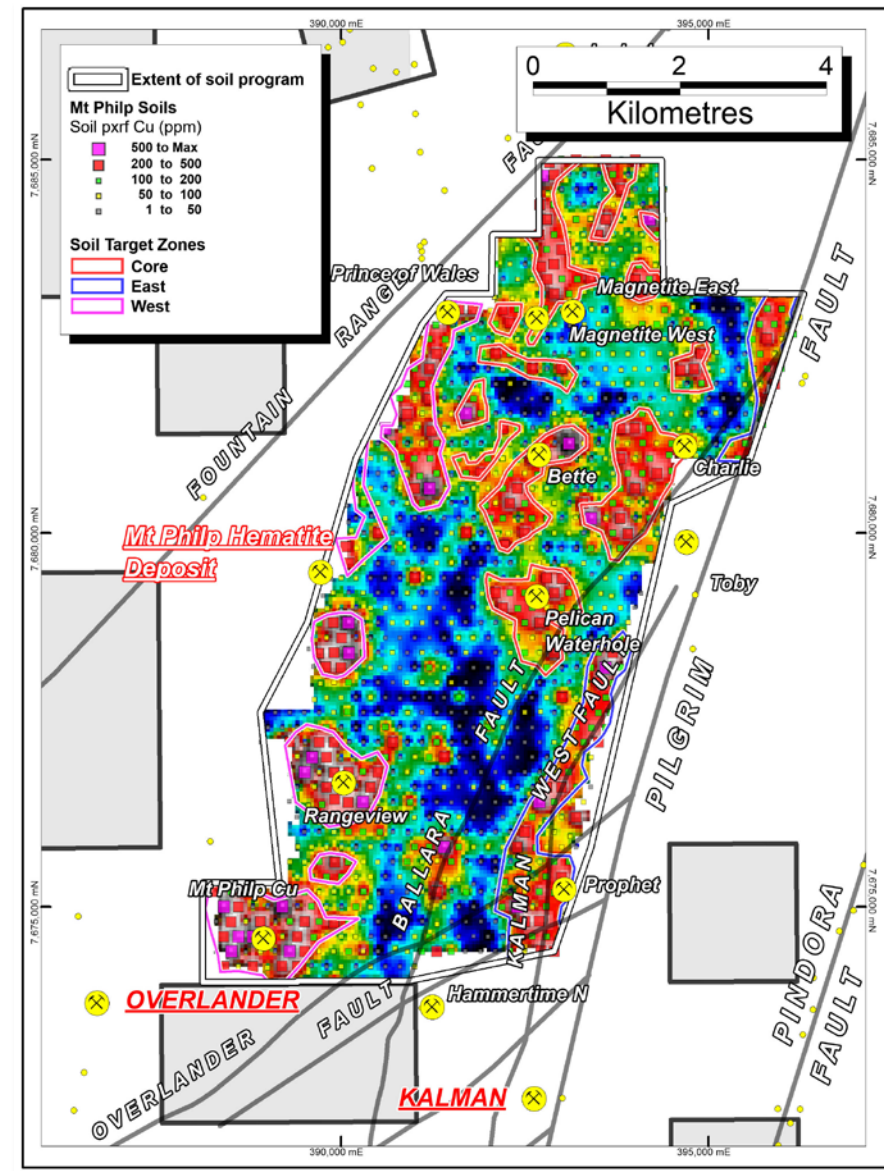
Mt Philp Breccia showing magnetite and Hematite alteration



Mount Philp Breccia IOCG Target: Copper-Gold



- Portable XRF Cu response defines multiple targets. Lab Au analyses in progress
- Gravity, aeromagnetic interpretation and mapping to generate drill targets



Hammer is leveraged to a rising copper and gold price



- **Extensive ground position** in the Mt Isa Mineral Province prospective for a range of metals
- **Substantial Cu-Au-Mo-Co-Fe resource inventory** – HMX is progressing advanced targets through to production
- **Multiple large-scale targets** – HMX is focussed on a major discovery
- **Experienced exploration team**
- Great joint venture partners
- Active exploration programs



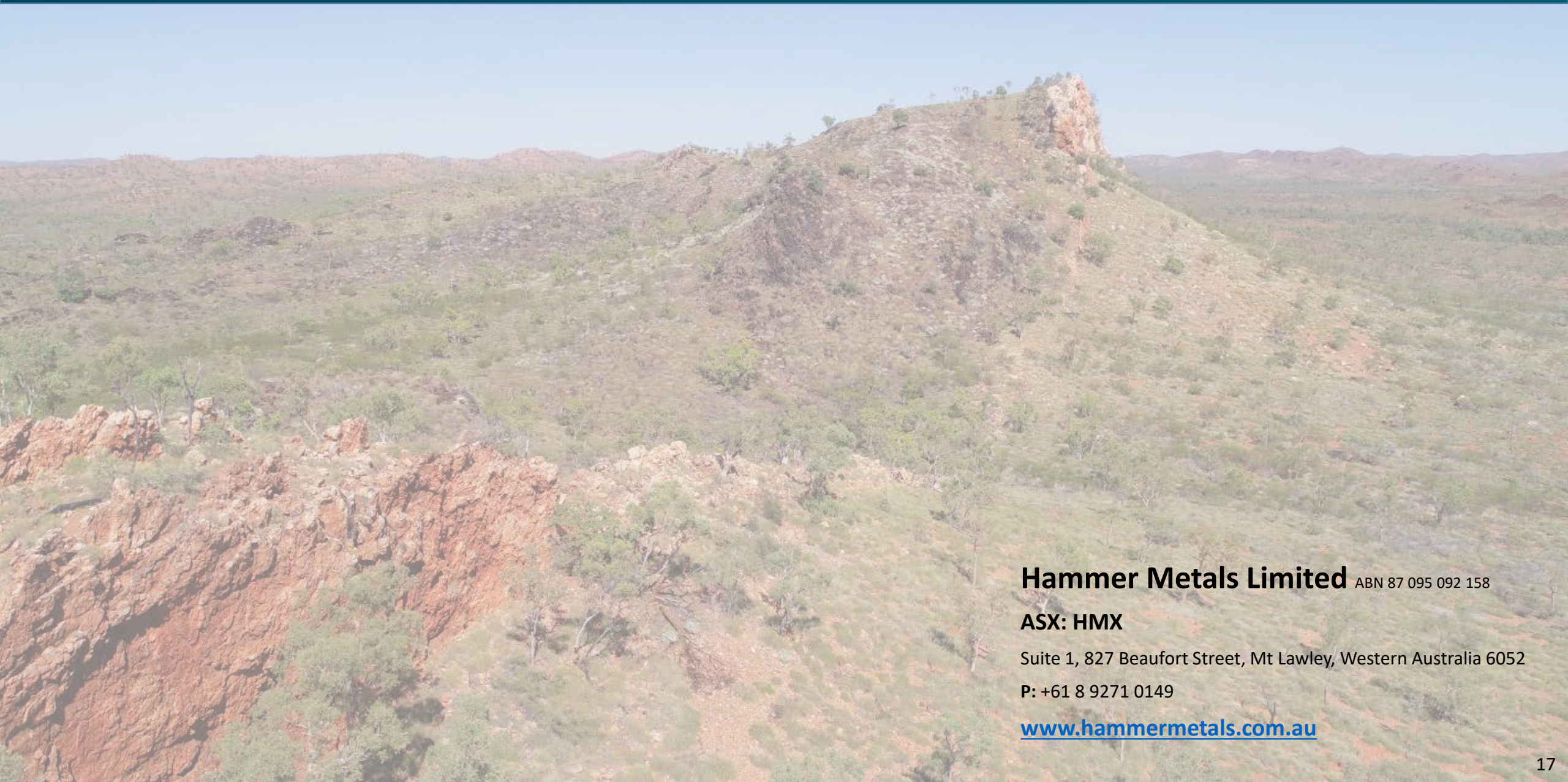
Ziggy Lubieniecki at Perentie



Drill rig on site at Paddy B



Drill rig at Millennium



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Disclaimer

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Competent Persons Statements

Historic Exploration Results

The information in this presentation as it relates to exploration results and geology first reported prior to 1 December 2013 was reviewed by Mr John Downing, who is a Member of the Australian Institute of Geoscientists and a Consultant to the Company. Mr Downing has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr Downing consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

Certain exploration drilling results relating to the Mount Isa Project first disclosed under JORC code 2004 and have not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed.

Exploration Results

The information in this presentation as it relates to exploration results and geology was compiled by Mr John Downing, who is a Member of the Australian Institute of Geoscientists and a Consultant to the Company. Mr Downing has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Downing consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

Resource Estimates

Where the Company refers to Mineral Resource Estimates for the following projects:

- the Elaine Deposit
- the Kalman Deposit (refer ASX 27 Sept 2016);
- the Overlander North and South Deposit (refer ASX 26 Aug 2015);
- the Millennium Deposit (refer ASX 6 Dec 2016); and
- The Jubilee Deposit (refer ASX 21 December 2018)

It confirms that it is not aware of any new information or data that materially affects the information included in those announcements and all material assumptions and technical parameters underpinning the resource estimates with those announcements continue to apply and have not materially changed.

The information in this presentation that relates to Exploration Results or Mineral Resources is based on information compiled by Russell Davis who is a member of the Australasian Institute of Mining and Metallurgy. Mr Davis is a Director, shareholder and option holder of Hammer Metals Limited. Mr Davis has sufficient experience which is relevant to the style of mineralisation under consideration to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (The JORC Code). Mr Davis consents to the inclusion in the presentation of the matters based on their information in the form and context in which it appears.

The information in this presentation that relates to Exploration Results, Exploration Targets and Mineral Resources was reviewed by Mark Whittle who is a member of the Australian Institute of Mining and Metallurgy and a Consultant to Hammer Metals Limited. Mr Whittle has sufficient experience which is relevant to the style of mineralisation under consideration to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (The JORC Code). Mr Whittle consents to the inclusion in the presentation of the matters based on their information in the form and context in which it appears.

Mr Davis, Mr Downing and Mr Whittle all have an interest in Hammer Metals Limited shares and options.

Kalman Resource Estimate & Notes on Copper Equivalence Calculation and Metallurgical Recoveries



The Kalman Mineral Resource Estimate was updated in August 2016 in accordance with the JORC Code (2012 Edition). (Refer to the ASX Release dated 27th September 2016 for full details of the Resource Estimate.)

Kalman Deposit Inferred Mineral Resource Estimate

(Reported at 0.75% CuEq cut-off above 100m RL and 1.4% CuEq cut-off below 100m RL)

Classification	Mining Method	CuEq Cut-Off	Tonnes	Cu Eq %	Cu %	Mo %	Au g/t	Ag g/t	Re g/t
Indicated	Open Pit	0.75%	7,100	1.5	0.48	0.12	0.27	1.4	2.9
Inferred	Open Pit	0.75%	6,200	1.6	0.44	0.15	0.24	1.5	3.9
Inferred	Underground	1.40%	7,000	2.4	0.89	0.16	0.5	2.9	4.5
Total			20,000	1.8	0.61	0.14	0.34	1.9	3.7

•Note: (1) Numbers rounded to two significant figures

•Note: (2) Totals may differ due to rounding

•Note: (3) $CuEq = Cu + (0.864268 * Au) + (0.011063 * Ag) + (4.741128 * Mo) + (0.064516 * Re)$

Copper equivalent (CuEq) grades were calculated using estimated block grades for Cu, Au, Ag, Mo and Re.

The CuEq calculation is based on commodity prices and metallurgical recovery assumptions as detailed in this release. Prices agreed to by Hammer were a reflection of the market as at 14/02/2014 and forward looking forecasts provided by consensus analysis. Metal prices provided are:

The CuEq calculation is based solely on commodity prices without assumptions about recovery or payability of the different metals. Prices agreed to by Hammer were a reflection of the market as at 14/02/2014 and forward looking forecasts provided by consensus analysis. Metal prices provided are: Cu: US\$7,165/t, Au: US\$1,324.80/oz, Ag: US\$22.40/oz, Mo: US\$16.10/lb

The forward looking price for Rhenium was estimated using available historical and current prices - Re: US\$5,329/kg

The CuEq equation is $CuEq = Cu + 0.594464Au + 0.010051Ag + 4.953866Mo + 0.074375Re$ and was applied to the respective elements estimated within the resource block model.

Assumed Metallurgical Recoveries

Based on the testing completed and the current understanding of the material characteristics it has been assumed that the Kalman material can be processed using a “typical” concentrator process flowsheet. The mass balance and stage metallurgical recovery of the four major elements were based on the metallurgical test results from the molybdenum zone sample and benchmarks. The final overall recovery (Table 3) was established from the mass balance and benchmarked against other operations and projects.

Process Stage	Copper	Molybdenum	Gold	Rhenium	Silver ⁽¹⁾
	% Rec'y	% Rec'y	% Rec'y	% Rec'y	% Rec'y
Bulk Rougher	95	95	82	86	82
Overall	86	86	74	77	74

(1) No data available for Silver recoveries so they have been assumed similar to Gold Recoveries

It is the company’s opinion that the metals used in the metal equivalent equation have reasonable potential for recovery and sale based on metallurgical recoveries in flotation test work undertaken to date. There are a number of well-established processing routes for copper molybdenum deposits and the sale of resulting copper and molybdenum concentrates.

Millennium Resource Estimate & Notes on Copper Equivalence Calculation



Overlander Mineral Resource Estimate

The Millennium Mineral Resource Estimate was conducted in December 2016 in accordance with the JORC Code (2012 Edition). (Refer to the ASX Release dated 6th December 2016 for full details of the Resource Estimate.)

Millennium Deposit Inferred Mineral Resource Estimate

(Reported at 0.7% CuEq and 1% CuEq cut-offs across four domains)

CuEq cut-off %	Tonnes	CuEq %	Cu %	Co %	Au g/t
0.10	3,070,000	1.29	0.35	0.14	0.12
0.70	5,890,000	1.08	0.32	0.11	0.11

•Note: (1) Totals may differ due to rounding

•Note: (2) $CuEq = Cu_{pct} + (Co_{pct} * 5.9) + (Au_{ppm} * 0.9) + (Ag_{ppm} * 0.01)$

Millennium Mineral Resource Estimate Metal Equivalent Information -

The Copper Equivalent (CuEq) equation has been calculated to reflect current and forecast pricing.

CuEq grades were calculated using estimated block grades for Co, Cu, Au and Ag. Metal prices used were:

- Cu: US\$4,600/t;
- Co: US\$27,000/t;
- Au: US\$1,330/oz; and
- Ag: US\$20/oz.

The copper equivalent equation is: $CuEq = Cu \% + (Co \% * 5.9) + (Au \text{ ppm} * 0.9) + (Ag \text{ ppm} * 0.01)$

Cut-offs of 0.7% and 1.0% CuEq has been applied for reporting Mineral Resources.

Metallurgical test-work indicated that acceptable copper-cobalt sulphide concentrates could be produced via conventional processing methods. Based on the test-work conducted, it is the company's opinion that all metals used in the metal equivalent calculation have a reasonable potential to be recovered.

Test No.	High Grade Composite - Optimum Test – Combined Rougher Concentrate								
	Product	Cu		Co		Au		As	
		%	% Rec’y	%	% Rec’y	ppm	% Rec’y	%	% Rec’y
HG-7	Cu Con	20.6	90.8	0.48	5.4	5.1	45.6	0.23	2.5
	Co Con	0.4	4.3	3.12	89.9	1.5	35.8	3.39	93.1
	Total Con		95.1		95.4		81.4		95.6

Test No.	Low Grade Composite - Optimum Test – Combined Rougher Concentrate								
	Product	Cu		Co		Au		As	
		%	% Rec’y	%	% Rec’y	ppm	% Rec’y	%	% Rec’y
LG-5	Cu Con	16.9	85.2	0.26	7.8	4.3	51.0	0.14	4.9
	Co Con	0.5	6.1	1.16	83.9	0.9	27.0	1.00	88.4
	Total Con		91.3		91.7		77.9		93.2

The 100%-owned Millennium polymetallic deposit is situated on granted mining leases (ML's 2512, 2761, 2762, 7506 and 7507) approximately 32km northwest of Cloncurry in North West Queensland.

The 100%-owned Overlander Project is situated 60 kilometres to the southeast of the mining centre of Mount Isa in North West Queensland and 6 kilometres to the west of Hammer's Kalman copper-gold-molybdenum-rhenium deposit. It is a high-priority target area for both shear-hosted copper and IOCG copper mineralisation. The Overlander North and South copper Deposits are situated approximately one kilometre apart within a common shear zone.

Drilling in the Overlander North deposit extends to a vertical depth of approximately 430m and the mineralisation was modelled from surface to a depth of approximately 420m below surface. Drilling in the Overlander South deposit extends to a vertical depth of approximately 215m and the mineralisation was modelled from surface to a depth of approximately 180m below surface. The resource estimates are based on good quality RC and diamond drilling data. Drill hole spacing is predominantly on a 40m by 20m spacing with additional drill holes between sections targeted at the higher grade cores of the deposits.

Following additional drilling in 2014 and 2015, The Mineral Resource Estimates for the Overlander North and South shear-hosted copper Deposits were revised by Haren Consulting and reported in accordance with the guidelines of the JORC Code (2012 Edition). They contain combined resources of 1,772,000 tonnes at 1.2% copper in the indicated and inferred categories (Refer to the ASX release dated August 26th 2015).

Overlander North and South Mineral Resource Estimate

(Reported at 0.7% Cu cut-off)

Overlander North Resource					
Classification	Tonnes	Cu %	Co %	Cu t	Co t
Indicated	253,000	1.4	254	3,414	64
Inferred	870,000	1.3	456	11,350	396
Total	1,123,000	1.3	410	14,764	461

Overlander South Resource					
Classification	Tonnes	Cu %	Co %	Cu t	Co t
Indicated	-	-	-	-	-
Inferred	649,000	1	500	6,352	327
Total	649,000	1	500	6,352	327

Overlander Combined Mineral Resource					
Classification	Tonnes	Cu %	Co %	Cu t	Co t
Indicated	253,000	1.4	254	3,414	64
Inferred	1,518,000	1.2	476	17,700	723
Total	1,772,000	1.2	445	21,112	788

•Note: (1) Numbers rounded to two significant figures to reflect appropriate levels of confidence

•Note: (1) Totals may differ due to rounding

Jubilee Mineral Resource Estimate

Elaine Project Mineral Resource Estimate & Notes on Copper Equivalence Calculation and Metallurgical Recoveries



The 51%-owned Jubilee Deposit is situated 50 kilometres west of Mount Isa in North West Queensland. It is a high-priority target area for shear-hosted copper mineralisation.

Mineralisation was modelled from surface to a depth of approximately 325m below surface.

The resource estimates are based on good quality RC and diamond drilling data. Drill hole spacing is predominantly on a 50m by 40m spacing with additional drill holes between sections targeted at the higher grade cores of the deposits.

The Mineral Resource Estimate was conducted by H&S consultants Pty Ltd and reported in accordance with the guidelines of the JORC Code (2012 Edition). They contain combined resources of 1.41Mt at 1.41% copper and 0.62g/t Au in the inferred category (Refer to the ASX release dated December 20th, 2018).

Jubilee Inferred Mineral Resource Estimate

Cu cut-off %	Domain	Tonnes (Mt)	Cu %	Au g/t
0.5	Mod-Slightly Weathered	0.07	1.51	0.55
	Fresh	1.34	1.41	0.63
	Total	1.41	1.41	0.62

•Note: (1) Totals may differ due to rounding

The 100%-owned Elaine Cu-Au deposit is situated on granted exploration licence 14022, approximately 50km east of Mount Isa in North West Queensland.

A resource estimate was first completed and reported to ASX by previous owners (Chinalco Yunnan Copper Resources Limited, now AUKing Limited) on 18th October 2012. The resource was conducted by Mine Development Associates. **There has been no material change to the resource base since that time.**

A review of the Resource Estimate was completed for the purpose of compiling this statement and the principles and methodology of the resource estimation procedure and the resource classification procedure are considered to comply.

The Elaine Project Mineral Resource Estimate is based on approximately 30 holes to a depth of 450 metres below surface.

The current resource totals 9.3 million tonnes (Mt) grading 0.82% Cu and 0.19g/t Au and is classified as being all in the Inferred category.

The resource is tabulated below at a variety of CuEq % cut-offs.

CuEq cut-off %	Tonnes	CuEq %	Cu %	Au g/t
0.10	64,340,000	0.34	0.31	0.05
0.20	32,770,000	0.54	0.49	0.08
0.25	26,100,000	0.62	0.56	0.09
0.30	22,810,000	0.67	0.60	0.10
0.40	17,810,000	0.76	0.68	0.12
0.50	15,050,000	0.82	0.73	0.13
0.60	12,470,000	0.88	0.77	0.15
0.70	9,310,000	0.95	0.82	0.19
0.80	6,460,000	1.04	0.87	0.25

Elaine Mineral Resource Estimate Metal Equivalent Information -

The Copper Equivalent (CuEq) equation has been calculated to reflect current and forecast pricing.

CuEq grades were calculated using estimated block grades for Cu and Au.

Metal prices used were:

• Cu: US\$5,400/t;

• Au: US\$1,300/oz;

The copper equivalent equation is: $\text{CuEq \%} = \text{Cu \%} + (\text{Au ppm} * 0.70216)$

Cut-offs of 0.7% have been applied for reporting Mineral Resources.

Metallurgical test-work indicated that acceptable copper-cobalt sulphide concentrates could be produced via conventional processing methods. Based on the test-work conducted, it is the company's opinion that all metals used in the metal equivalent calculation have a reasonable potential to be recovered.

Test No.	April 2013 Elaine Metallurgical Testwork				
	Product	Cu		Au	
		%	% Rec'y	ppm	% Rec'y
Test 11	Final cleaner concentrate	29.9	92.2	2.73	31.7
	Rougher concentrate	8.1	96.0	1.22	54.4
Test 13	Final cleaner concentrate	22.9	77.1	0.88	23.9
	Rougher concentrate	11.6	91.6	0.67	42.3

•Note: (1) Numbers rounded to two significant figures to reflect appropriate levels of confidence

Mt. Philp Mineral Resource Estimate

Overlander and Black Rock Exploration Targets

The Mineral Resource Estimate is based on 48 diamond and reverse circulation (RC) drillholes completed in 2011 for a total of 3,801 metres (m). Drilling comprises fans located on a nominal 100 m pattern along the strike length of the ironstone. The Mineral Resource was estimated and reported in-house by Cerro Resource NL.

The current resource totals 19.1 million tonnes (Mt) grading 41.4% iron and 37.9% silica (Table 1-1) in the Indicated category and 11.4 million tonnes (Mt) grading 33.8% iron and 47.4% silica in the Inferred category. This resource is open at depth.

A resource estimate was first completed and reported to ASX by previous owners on 28th September 2012 and there has been no material change to the resource base during the financial year. A review of the resource estimate was completed for the purpose of compiling this statement and the principles and methodology of the resource estimation procedure and the resource classification procedure have been reconciled with the CIM Resource Reserve definitions and found to comply.

Mt Philp Deposit Mineral Resource Estimate

Mt Philp Mineral Resource						
Classification	Tonnes	Fe %	P %	SiO ₂ %	Al ₂ O ₃ %	LOI %
Indicated	19,110,000	41	0.02	38	1.2	0.29
Inferred	11,400,000	34	0.02	48	2	0.31
Total	30,510,000	39	0.02	42	1.6	0.3

- Note: (1) Numbers rounded to two significant figures to reflect appropriate levels of confidence
- Note: (1) Totals may differ due to rounding

Exploration Targets

Prospects	Tonnage Range MT	Cu Range %	Co Range %
Overlander	5 - 30	0.5 - 1.0	0.05-0.1
Black Rock	5 - 15	0.5 - 1.0	-

Black Rock Exploration Target

Hammer believes that an exploration target of approximately 5 – 15Mt (tonnes) at between 0.5 to 1% Cu may be present at Black Rock. The company acknowledges that the potential quantity and grade of the exploration target is conceptual in nature and that there has been insufficient additional exploration to estimate a mineral resource at the date of this release and whilst additional exploration is planned it is uncertain if this will result in the estimation of a mineral resource. Targeted tonnage/grades are based on results from previous exploration conducted on the prospect.

Level of exploration activity already completed at Black Rock:

- 18 holes totaling approximately 5.6 kilometres (refer to ASX release dated October 30th, 2018). Apart from a single 309.5m diamond hole, the remaining drilling was by the reverse circulation method. This drilling tested an approximate 1.2km mineralised strike length.
- These holes were drilled on fences with a spacing of between 100 and 300 metres. Intercept spacing within a fence ranged between 40 and 150 metres.

The process used to determine the tonnage and grade ranges utilised are as follows:

- Review of drilling data followed by data validation and estimation of volume, tonnage and grade. This resulted in a tonnage and grade estimate, which is of insufficient quality to be considered a mineral resource.
- Based on Hammers experience with this style of mineralisation in the Mount Isa region and the quality of data received leads us to reasonably expect a total grade ranging between 0.5% and 1% Cu.

Testing of this exploration target is planned over the next 12 to 24 months by an exploration program comprising predominantly reverse circulation and diamond drilling.

Overlander Exploration Target

Hammer believes that an exploration target of approximately 5 – 30Mt (tonnes) at between 0.5 to 1% Cu may be present at Overlander. The company acknowledges that the potential quantity and grade of the exploration target is conceptual in nature and that there has been insufficient additional exploration to estimate a mineral resource at the date of this release and whilst additional exploration is planned it is uncertain if this will result in the estimation of a mineral resource. Targeted tonnage/grades are based on results from previous exploration conducted on the prospect.

Level of exploration activity already completed at Overlander:

- Overlander was drilled by Hammer Metals Limited culminating in the Overlander JORC resource (Refer to the ASX release dated August 26th 2015). The Overlander Exploration target refers to the zone encompassing both Overlander north and south in addition to the area between the two JORC resources
- 73 holes totaling approximately 7.9 kilometres. This includes three diamond drillholes. This drilling tested an approximate 1.2km mineralised strike length.
- These holes were drilled on fences with a spacing of between 40 and 200 metres.

The process used to determine the tonnage and grade ranges utilised are as follows:

- Review of drilling data followed by data validation and estimation of volume, tonnage and grade. This resulted in a tonnage and grade estimate, which is of insufficient quality to be considered a mineral resource outside of existing zone of mineral resources.
- Based on Hammers experience with this style of mineralisation in the Mount Isa region and the quality of data received leads us to reasonably expect a total grade ranging between 0.5% and 1% Cu.

Testing of this exploration target is planned over the next 12 to 24 months by an exploration program comprising predominantly reverse circulation and diamond drilling.