



ASX:SVL Zurich Precious Metals Presentation

November 2018

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#### **Silver Mines Limited Introduction**

# UNLOCKING A MAJOR MINERALISED SYSTEM THROUGH EXPLORATION SUCCESS

- Major Exploration Targets:
  - <u>Confirmed</u> significant extensions to mineralisation close to mine.
  - <u>Discovered</u> new base-metal massive sulphide including gold.
  - <u>Discovered</u> porphyritic felsic intrusion under the current resource.
  - Discovered extensive mineralised skarn with Copper/Gold targets.
  - <u>Discovered</u> high grade gold mineralisation at surface.

# DRILLING COMMENCED AT BARABOLAR MAJOR NEW EXPLORATION PROJECT

- Bowdens Silver Feasibility Study Complete
  - One of the largest undeveloped precious metals deposits in Australia and one of the largest new silver developments globally.
- New South Wales, Australia is a safe quality jurisdiction.



# **Silver Mines Limited Snapshot**

Capital Structure ASX:SVL					
Shares on Issue	633.1m	Options			
Current Share Price	A\$0.04	Sept 2021 @ \$0.06	64.1m		
Undiluted Market Capitalisation	A\$25.0m	Jun 2019 @ \$0.30	9.0m		
Cash end September 2018	A\$2.3m	3 year milestone @ \$0.20	5.0m		
<u>Directors</u>		Institutional Shareholders			
Keith Perrett, Chairman		Paradice	APAC		
Anthony McClure, Managing D	irector	Konwave	Old Mutual		
Peter Langworthy, Non Execut	ive Director	BlackRock			
Jonathan Battershill, Non Exec	cutive Director	Tribeca			
<u>Assets</u>					
Major Exploration Package Ce Australia Barabolar Project the exploration		High order targets include precious metals epithermal, base metal VMS, Orogenic Gold, Intrusion Related Porphyry.			
Bowdens Silver	Mineral Resources	163 Moz Silver	275 Moz Silver Equivalent		
Ore R	Reserve	66 Moz Silver	97 Moz Silver Equivalent		

#### **Board of Directors**

#### **Keith Perrett, Chairman**

Mr Perrett has had a long involvement in agriculture as a producer and industry leader at local, state, national and international levels. He was formerly Chairman of the Grains Research and Development Corporation (GRDC), the National Rural Advisory Council (NRAC), the Wheat Research Foundation, and President of the Grains Council of Australia.

#### **Anthony McClure, Managing Director**

Mr McClure graduated with a Bachelor of Science (Geology) degree from Macquarie University in 1986. He has had 30 years technical, management and financial experience in the resource sector worldwide in project management and executive development roles. He has also worked in the financial services sector within the mineral and energy sectors.

Mr McClure is currently a director of unlisted public company Mekong Minerals Limited (since October 2010) and listed company Planet Gas Limited (since August 2003) and. He is also a past director of Bolnisi Gold NL and European Gas Limited.

#### Peter Langworthy, Non-Executive Director

Mr Langworthy graduated with a Bachelor of Science (Geology) degree (Hons) from Macquarie University in 1986. His career spans 30 years in mineral exploration and project development both in Australia and internationally. His industry experience includes senior management roles with WMC Resources Limited, PacMin Mining Limited, and Jubilee Mines NL. Mr Langworthy led the management team that was responsible for numerous discoveries that led to the outstanding success of Jubilee Mines.

Mr Langworthy is currently Managing Director of Gateway Mining Limited (since 2018), Chairman of Syndicated Metals Limited (since March 2012) and Technical Director at Capricorn Metals Limited (since July 2013.) Mr Langworthy previously held non-executive directorships with Northern Star Resources Limited, Talisman Mining Limited, Falcon Minerals Limited and Pioneer Resources Limited.

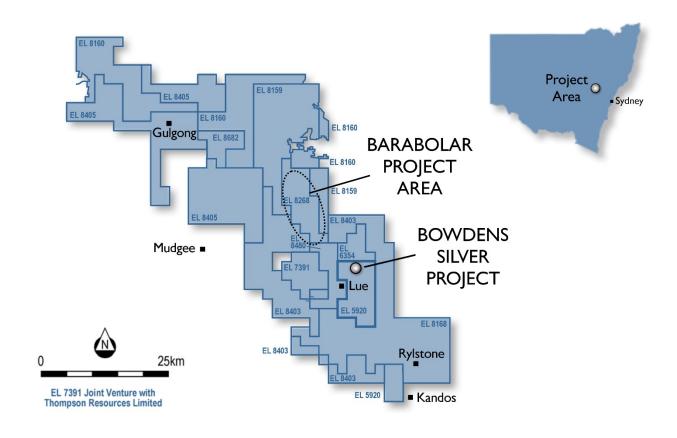
#### Jonathan (Jo) Battershill, Non Executive Director

Mr Battershill graduated with a Bachelor of Engineering (Geology) degree (Hons) from the Camborne School of Mines, United Kingdom in 1995. His career spans over 20 years in mining, business development and finance both in Australia and internationally. His industry experience includes senior operational and business development roles with WMC Resources Limited as well as significant stockbroking experience at Hartleys, Citigroup and UBS both in Sydney and London. Mr Battershill was consistently voted one of the leading mining analysts in Australia between 2009 and 2015 by institutional investors.

Until recently, Mr Battershill was the Global Mining Strategist (Executive Director) with the UBS investment bank in London and is currently the Principal of JJB Advisory Limited, a private advisory and consulting firm based in the UK.



## Quality Jurisdiction - New South Wales, Australia





### **Quality Jurisdiction**

- New South Wales, Australia a quality jurisdiction.
- Major minerals projects in the state include;
  - Cadia/Ridgeway, Newcrest (650,000oz Au, 65,000t Cu pa).
  - Cowal, Evolution (260,000oz Au pa).
  - Northparkes, CMOC (60,000t Cu, 50,000oz Au pa).
  - Plus coal mining exports (170 million tonnes pa).



# **Bowdens Silver Project**





#### Bowdens Silver Resource (as at September 2017)

30 g/t Ag Eq Cut	Tonnes (Mt)	Silver Eq. (g/t)	Silver (g/t)	Zinc (%)	Lead (%)	Million Ounces Silver	Million Ounces Silver Eq.
Measured	76	72	45	0.37	0.25	111	175
Indicated	29	59	31	0.38	0.25	29	55
Measured & Indicated	105	68	41	0.37	0.25	140	230
Inferred	23	60	31	0.40	0.28	23	45
Total	128	67	40	0.38	0.26	163	275

The Bowdens Mineral Resource Estimate has been compiled by H&S Consultants Pty Ltd using Multiple Indicator Kriging and the reporting is compliant with the 2012 JORC Code and Guidelines. For full disclosures refer to the Silver Mines Limited announcement of 19 September 2017.

- 1. Bowdens' silver equivalent: Ag Eq (g/t) = Ag (g/t) + 33.48\*Pb (%) + 49.61\*Zn (%) calculated from prices of US\$20/ oz silver, US\$1.50/lb zinc, US\$1.00/lb lead and metallurgical recoveries of 85% silver, 82% zinc and 83% lead estimated from test work commissioned by Silver Mines Limited.
- 2. Bowdens Silver Mineral Resource Estimate is reported to a 30g/t Ag Eq cut off and extends from surface and is trimmed to 300 metres RL which is approximately 320 metres below surface representing a potential volume for open-pit optimisation models.
- 3. In the Company's opinion, the silver, zinc and lead included in the metal equivalent calculations have a reasonable potential to be recovered and sold.
- 4. Variability of summation may occur due to rounding.



#### Bowdens Silver Reserve (as at May 2018)

	Tonnes (Mt)	Silver Eq. (g/t)	Silver (g/t)	Zinc (%)	Lead (%)	Silver Eq. Million Ounces	Silver Million Ounces	Zinc Kilo- tonnes	Lead Kilo- tonnes
Proved	28.6	102.2	69.75	0.44	0.32	93.85	64.05	125.11	91.43
Probable	1.3	84.4	53.15	0.43	0.29	3.60	2.27	5.74	3.91
Total	29.9	101.4	69.01	0.44	0.32	97.45	66.32	130.84	95.33

The Bowdens Reserve has been compiled by AMC Consultants Pty Ltd and is based on the September 2017 Mineral Resource Estimate generated for Silver Mines by H & S Consultants Pty Ltd (see ASX announcement 19 September 2017). For full disclosures refer to the Silver Mines Limited announcement of 30 May 2018.

- 1. Calculations have been rounded to the nearest 100,000 t, 0.1 g/t silver and 0.01% zinc and lead grades respectively. The Ore Reserve is reported by economic cut-off grade with appropriate consideration of modifying factors including costs, geotechnical considerations, mining and process recoveries and metal pricing.
- 2. Bowdens' silver equivalent: Ag Eq (g/t) = Ag (g/t) + 33.48\*Pb (%) + 49.61\*Zn (%) calculated from prices of US\$20/ oz silver, US\$1.50/lb zinc, US\$1.00/lb lead and metallurgical recoveries of 85% silver, 82% zinc and 83% lead estimated from test work commissioned by Silver Mines Limited.



## **Feasibility Study**

#### September 2017

Mineral Resource Complete (275 Moz Ag Eq)



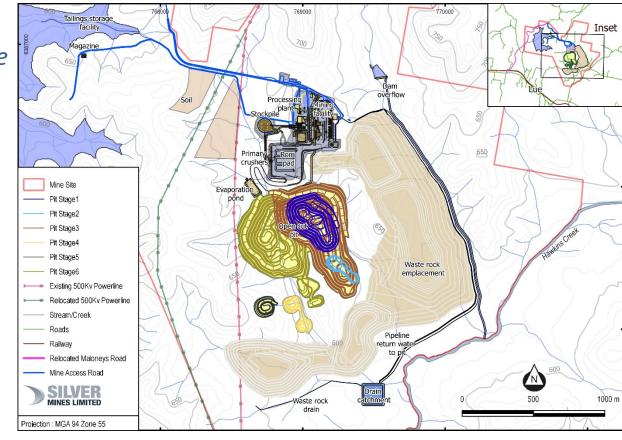
#### **May 2018**

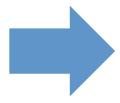
Ore Reserve Complete (97 Moz Ag Eq)



**June 2018** 

Feasibility Study Complete





2018/2019

**EIS** and Approvals



## **Feasibility Study Complete**

Physical Metrics	Unit	Value	
Production Life	Years	16	
Ore Mined	Mt	29.9	
Waste Mined	Mt	48.2	
W:O Strip Ratio	Х	1.6	
Ag Recovered in Concentrate	Moz	52.91	
Zn Recovered in Concentrate	kt	108.0	
Pb Recovered in Concentrate	kt	79.3	
Financial Metrics	AUD M	USD M	
Revenue	1,899.5	1,424.7	
Operating Expenses	1,340.8	1,005.6	
Operating Margin	558.7	419.0	
Undiscounted Cashflow before Tax	257.7	193.3	
Undiscounted Cashflow after Tax	155.7	116.7	
Project NPV (Pre-Tax)	143.9	107.9	
Project NPV (Post Tax)	70.6	52.9	
Project IRR (Pre-Tax): Nominal	20.8%		
Project IRR (Post Tax): Nominal	14.6%		
Capital Costs	AUD M	USD M	
Initial	246.0	184.5	
LOM Sustaining	53.9	40.4	
Unit Costs (Ag Basis)	AUD/oz	USD/oz	
C1 Costs	15.47	11.60	
All in Sustaining Cost (AISC)	17.25	12.94	

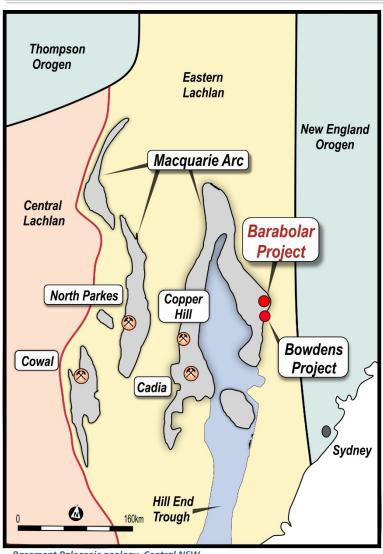
For full Feasibility Study disclosures refer to the Silver Mines Limited announcement of 14 June 2018. Silver prices assumed for financial modelling were: CY20 = US\$21.50 /oz, CY21 = US \$22.00 /oz, CY22 = US\$22.50 /oz. A zinc price of US\$1.25 /lb was used and a lead price of US\$1.00 /lb







### **Regional Geology**



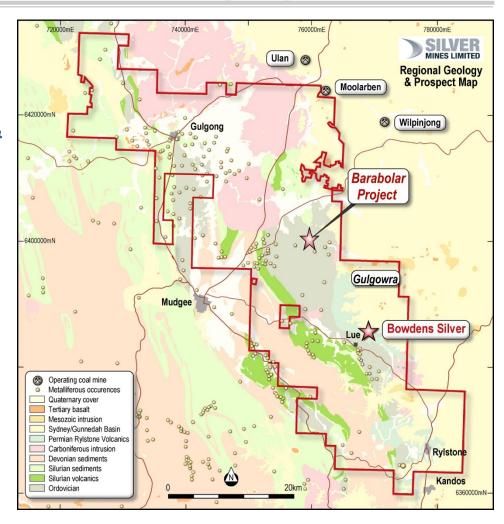
- The Ordovician Macquarie Arc/Lachlan Fold Belt of Eastern Australia contains preserved porphyry volcanic arc environments.
- Macquarie Arc of NSW contains world-class;
  - Cadia/Ridgeway,
  - Cowal,
  - Northparkes and others.
- The Barabolar discovery demonstrates that the eastern limb of the Macquarie Arc has the potential for significant mineral systems.



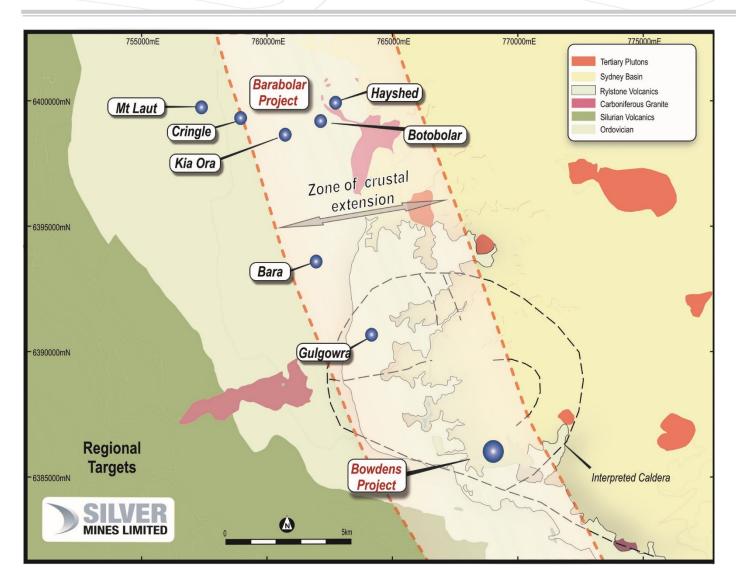
Basement Paleozoic geology, Central NSW

### **Regional Geology**

- Extensive tenement holding (2007 km<sup>2</sup> = 496,000 acres) controlled by Silver Mines.
- North east corner of Lachlan Fold Belt & Macquarie Arc.
- Wide range of prospective deposit types over different time periods (Ordovician, Siluro-Devonian, Carboniferous and Permian).
- Mineral deposit styles/potential include:
  - Cadia/Ridgeway style Porphyry (Cu-Au-Mo).
  - Woodlawn style Volcanogenic Massive Sulphide (VMS).
  - McPhillamy's style Shear hosted gold with base-metal association.
  - Bowdens Style epithermal (Ag-Zn-Pb).







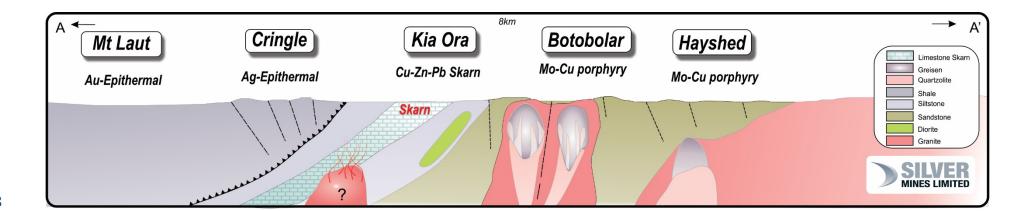


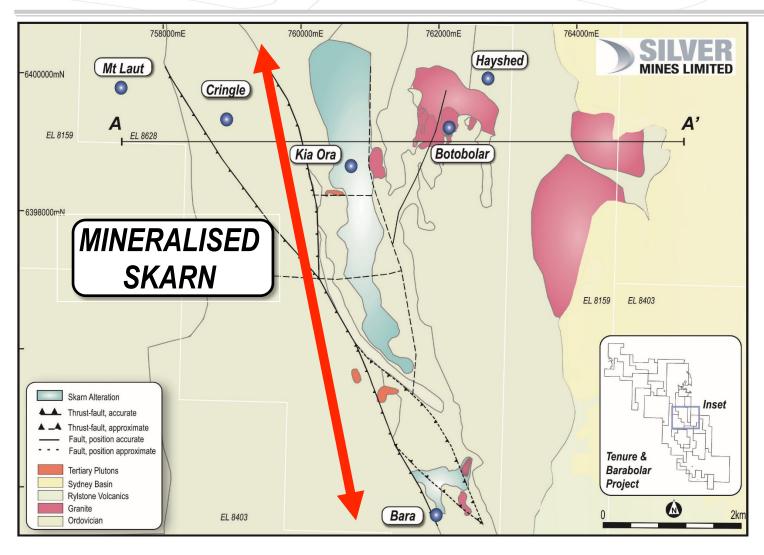
# Barabolar Project



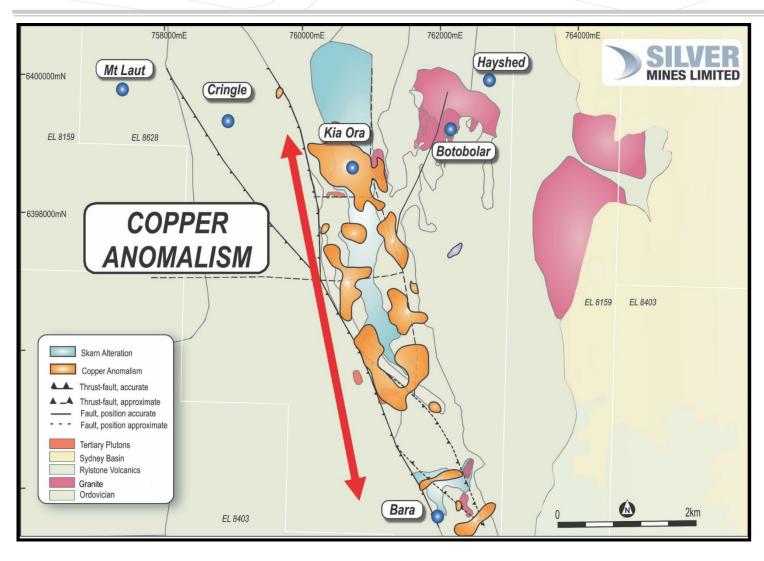


- Barabolar Project area located 10 kilometres northwest of Bowdens.
- 9000 x 2000 metre corridor of base-metal and precious metal soil anomalies.
- Mineralised skarn mapped over 5000 by 800 metres.
- Porphyry system type alteration assemblages.
- Several high order prospects:
  - Kia Ora Skarn (and proximal porphyry): Cu-Ag-Zn-Au.
  - Botobolar / Hayshed: Large molybdenum anomalies, abundant coarse molybdenite in associated felsic porphyry.

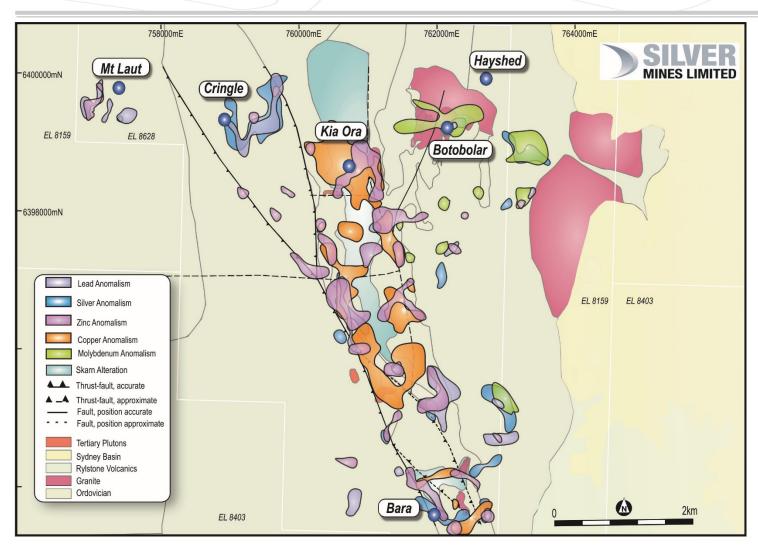
















Bara area rock chip sample

10.3% zinc

6.39% lead

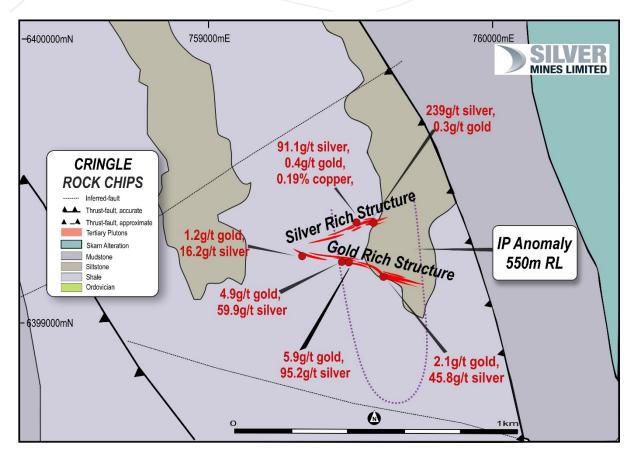
**0.19%** copper

252g/t silver

0.16g/t gold

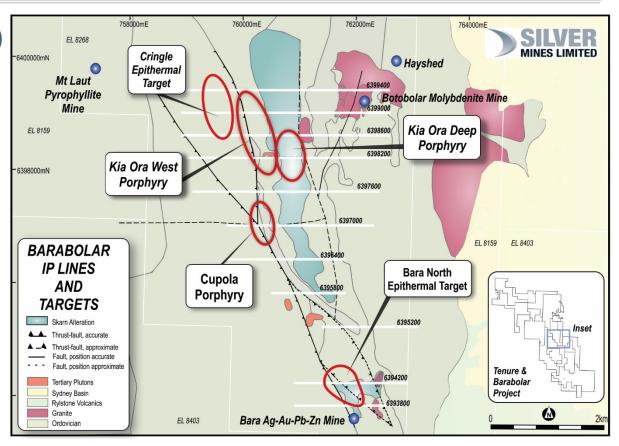
## **Recently Discovered Cringle Prospect**

- Recent mapping and sampling discovers high-grade gold bearing structures at the Cringle Prospect within the Barabolar Project area.
- >400 metres of strike length inferred from mapped gossanous outcrop.
- Both gold and silver-rich structures identified.
- Gold-rich surface rock assays include:
  - 5.9g/t gold and 95.2g/t silver;
  - 4.9g/t gold and 59.9g/t silver;
  - 2.1g/t gold and 45.8g/t silver;
  - 1.2g/t gold and 16.2g/t silver.
- Epithermal gold-silver exploration model.
- 900m x 400m chargeability (IP) anomaly from near surface.
- Cringle will be drilled as part of current Barabolar drilling program commencing in September 2018.



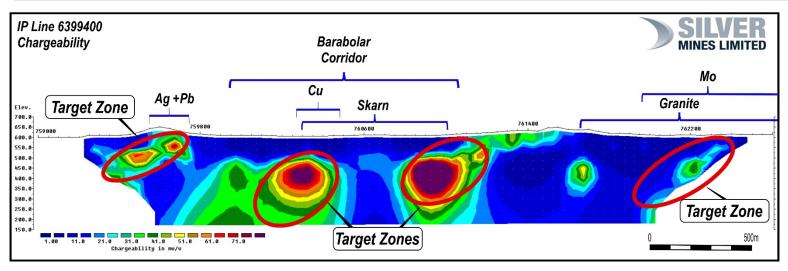
### **Geophysics Program**

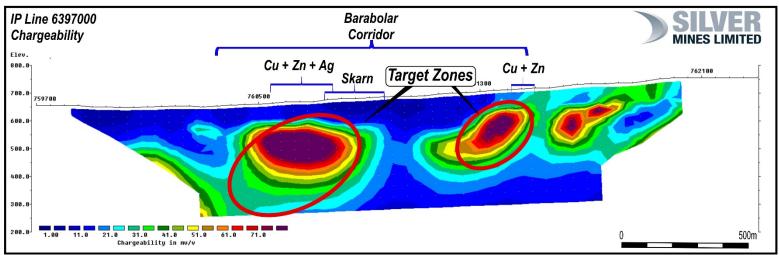
- Induced Polarisation (IP) program (~30 line kms) completed July.
- Full interpretation to be complete early August.
- 3D magnetic modelling.
- Potential gravity survey.





# Chargeability - Initial view







### Chargeability - Initial view

- Chargeability anomalies inferred to represent sulphide accumulations.
- Very high chargeability responses beneath zones of significant copper zinc silver in soils.
- Coincident with surface mineralisation and mapped skarn and quartzolite units.
- From surface to below 300 metres depth.
- Significant target generation through the convergence of datasets geophysics, geochemistry, geology and structure.
- Multiple drill targets generated.



#### **Work Program**

#### **Work Program**

- Geological and structural to expand to the west.
- Soil program highlighting extensive Cu-Mo-Zn-Ag-Au anomalism to be expanded to the west.
- Induced Polarisation (IP) program (~30 line kms) complete.
- Full interpretation completed.
- 3D magnetic modelling.
- Up to 7,500 metres drilling commenced October 2018.
  - 5,000 metres specific shallow target drilling to 200 metres depth.
  - 2,500 metres + deeper drilling in selected areas.





