



**Orion Gold<sub>NL</sub>**

ASX Code: ORN

## ***Exploration gathering momentum on two fronts***

- **Connors Arc, Qld: currently drilling an epithermal gold-silver system**
- **Fraser Range Nickel-Copper, WA: new phase of ground EM underway**

***March 2015***

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- All information in respect of Exploration Results and other technical information should be read in conjunction with the Competent Person Statements at the end of this presentation.

# Orion: Corporate Summary



## Capital Structure Summary

Shares on Issue	306M
Options on Issue	89M
Market Capitalisation (at 4cps)	\$12M
Cash on Hand (as at 31 Dec '14)	\$1.1M

Significant Holder Name	Number	%
Silja Investment Ltd <sup>(1)</sup>	47,373,245	15.5%
Alexander Haller <sup>(1)</sup>	11,302,248	3.7%
Tarney Holdings	33,212,771	10.9%
Creasy Group	20,765,447	6.8%
<b>Significant Holder Total</b>	<b>112,653,711</b>	<b>37%</b>

<sup>(1)</sup> Mr Alexander Haller is deemed to have a relevant interest in securities held by Silja Investment Ltd.

## Board & Management

Denis Waddell	Chairman
Errol Smart	CEO, Managing Director
Bill Oliver	Technical Director
Alexander Haller	Non Executive Director
Kim Hogg	Company Secretary
Martin Bouwmeester	Business Development Manager

# Targeting Company-Making Discoveries on Two Fronts



## ➤ Fraser Range Nickel-Copper & Gold Project in Western Australia

- Substantial (>5,000 sq.km) landholding in the emerging Fraser Range Belt
- Located between two of the most significant Australian mineral discoveries of the past decade (Nova and Tropicana)
- Drilling continues to intersect mafic-ultramafic intrusions
- Results from recent Pennor drilling received
- Pennor & HA2 confirmed as compelling Ni-Cu targets

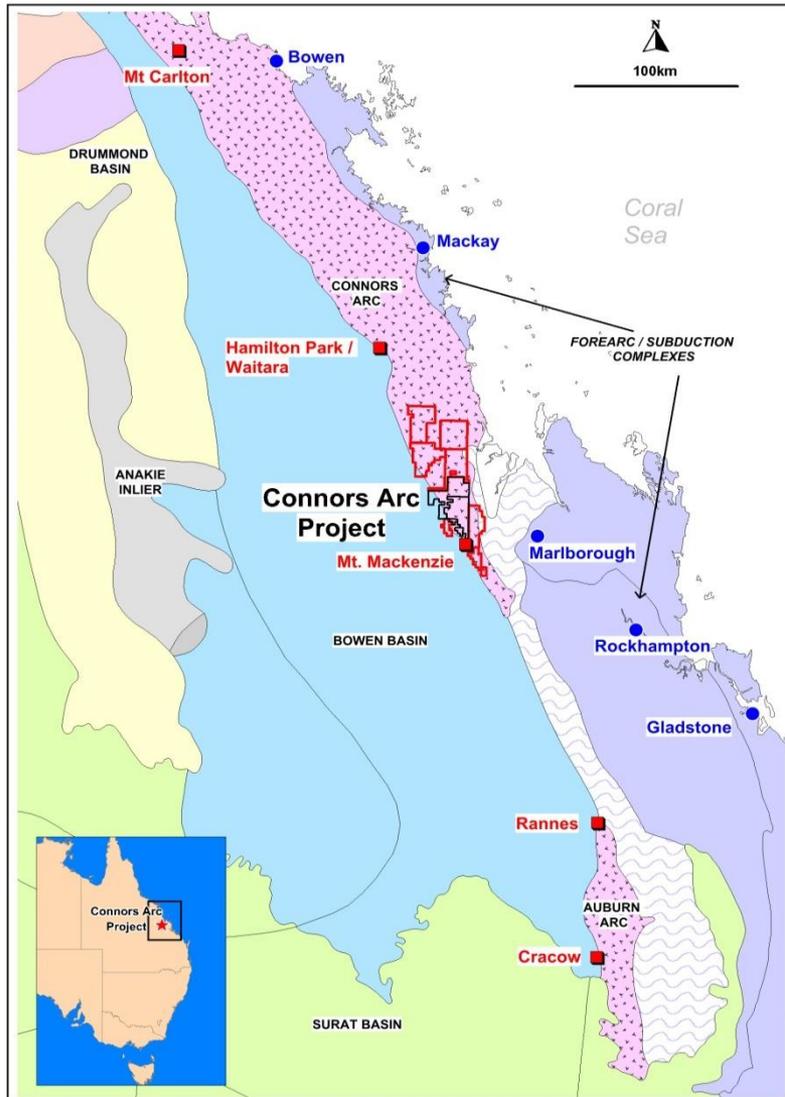
## ➤ Connors Arc Epithermal Gold and Porphyry Project in Queensland

- Underexplored landholding between Cracow and Mt Carlton recently increased to 2,000sq.km
- Encouraging results from initial epithermal drilling
- Indications that this could be a district analogy to Lepanto (Philippines) with high, intermediate and low sulphidation epithermal + porphyry style potential



Orion Gold is focused on acquiring, exploring and developing large tenement holdings or regional scale mineral opportunities in world-class mineral provinces.

# Connors Arc Project



- 2000km<sup>2</sup> contiguous tenement applications granted and under application
- Allows for district scale targeting of Magmatic Arc Mineralisation
- Extends approximately 100km north from Mt Mackenzie, a well known high sulphidation epithermal deposit
- Several historical occurrences of possible epithermal and intrusive porphyry related mineralisation noted

# Connors Arc Project



- Preliminary ORN work recognised that an extensive, shallow in system, Intermediate Sulphidation (“IS”) epithermal vein system was developed approximately 8km north of the known Mt Mackenzie High Sulphidation Deposit (refer ASX Release 8 September 2014)
- Limited historic exploration on Aurora Flats IS
  - *20 shallow percussion holes < 120m max depth*
  - *Low level gold and silver with characteristic IS trace elements anomalism (Pb, Zn, Te)*
  - *Ag >>> Au grades (refer ASX Release 15 July 2013)*
- Drilling and geophysics on epithermal targets has now indicated potential for porphyry style Au-Cu in addition to Au-Ag epithermal targets

# Important Analogues For Guidance



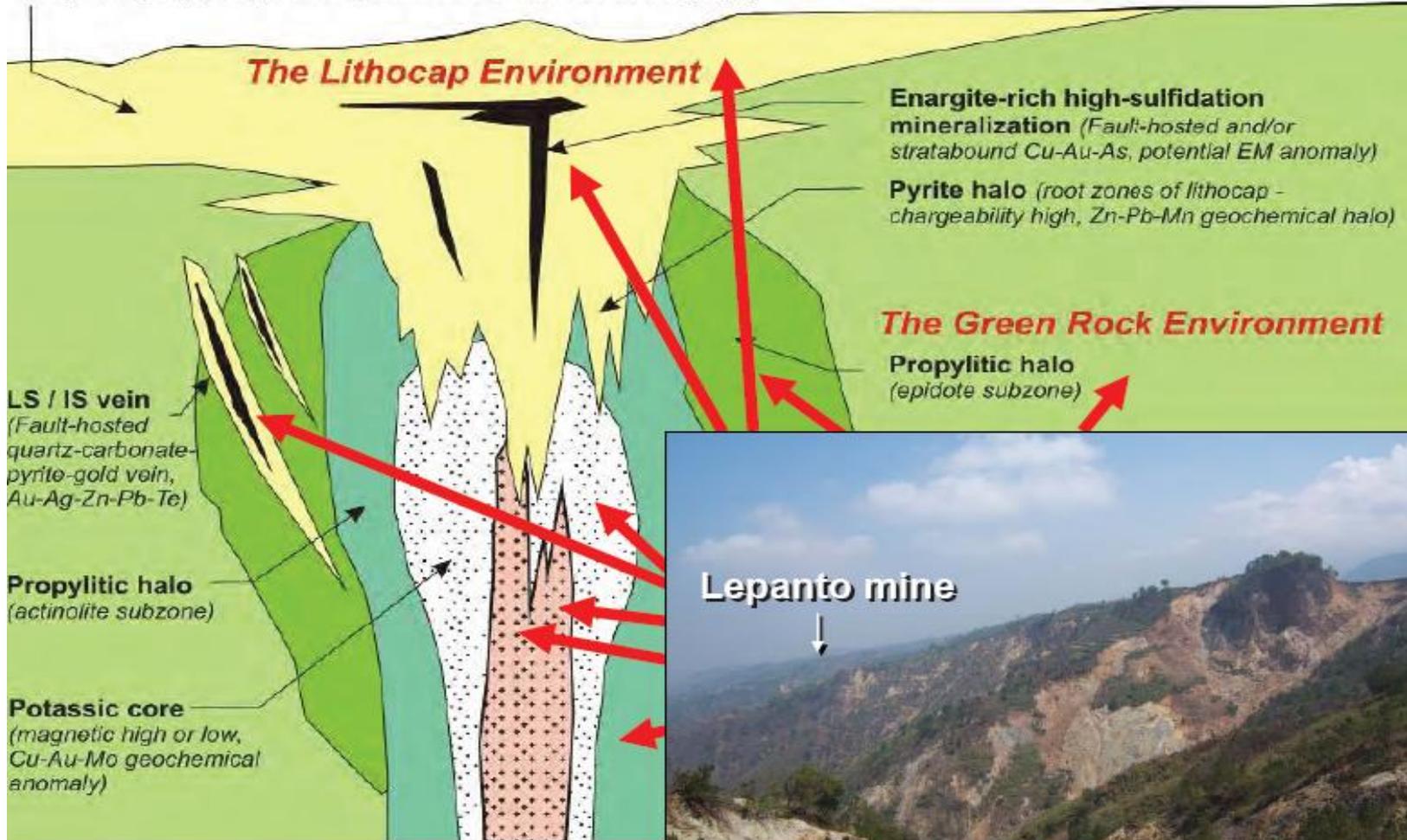
- Lepanto (Philippines)
  - *Porphyry Intrusives + High, Intermediate and Low Sulphidation Epithermal Deposits*
- Pachuca (Mexico)
  - *Intermediate Sulphidation*
- Cracow (Queensland, Australia)
  - *Low Sulphidation*
  - *Similar age and setting*
- Pajingo (Queensland, Australia)
  - *Low Sulphidation*
  - *Similar Age and Setting*

# Lepanto – District Scale Analogy



## 3.8Mtons Cu + >550tons Au

**Lithocap** (pyrite-rich stratabound domains of advanced argillic and residual silicic alteration: chargeability high, magnetic low, silicic zone defines a resistivity high)



VEIPS Cooke & Gemmel 2010



# Important Lessons from Epithermal Analogues



- The surface exposure only provides a clue as to what lies below
- Veining on surface is a useful guide & traces the trend line to follow
- Ore shoots are likely “blind to surface”
- Ore shoots at depth may not be directly below best zones on surface
- Grade transitions are sudden and dramatic – not gradational
- When a “blow” in vein is drilled into, you may be *near* a payshoot BUT you may not be *in* it yet
- You have to drill into a “critical elevation zone” at the correct position along strike to intersect grade

# Initial Focus On IS + LS Epithermal Deposits on Connors Arc

- **They can be GIANT Au ± Ag deposits**
- **Predominantly vein hosted**
  - *Mineralised veins commonly 1- 25m wide*
  - *Can have spectacular Au + Ag values*
  - *Can have high Au together with Ag >>> Au values*
  - *Precious metal deposition sensitive to pressure and temperature, significant precious metals only deposited >250m below depositional land surface*
  - *They form on flanks of active volcanos with rapidly and dramatically rising (and sometimes falling) land surfaces.*
  - *Similar deposit style / morphology to Low Sulphidation “LS” deposits which are more common*
  - *Ore shoots can be quite amorphous and form pods along strike of quartz vein trends*
  - *Some spatial correlation between vein width & metal content, but no direct correlation – **payshoots usually close to, but not confined within wide quartz vein blows***



## Early Successes

- Extensive Intermediate Sulphidation Au-Ag vein system confirmed
- Strong indicators for Porphyry Intrusives identified

- Dec 2013 ~ first tenement granted subject to surface access agreements
- July 2014 ~ Native Title agreement
- Aug 2014 ~ Mapping Commences
- Nov 2014 ~ Landowner Agreement signed
- Nov - Dec 2014 ~ IP Survey
- Dec 2014 ~ NT heritage survey completed
- Dec 2014 – Jan 2015 ~ Phase 1 drilling
- March 2015 ~ Phase 2 drilling commences

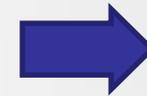
## Mapping

- *Tracing epithermal veins from creeks up into hills*
- *Veins are discovered, mapped and chip sampled*



## Geophysics / Remote sensing

- *IP Survey*
  - *High Resistivity could assist in locating quartz vein/breccia blows*
  - *Chargeability could locate sulphides*
- *Magnetics*
  - *Epithermal veining demagnetises host rocks*
- *Aster Imagery*
  - *Analysis of satellite spectral images to map alteration*



## Scout Drilling

- *Establish baseline data*
  - *Host stratigraphy - certain rock types present more favourable hosts than others*
  - *Alteration profile*
  - *Distribution, orientation and morphology of veining*
- *Geochemistry*
  - *Presence of and distribution of precious metals*
  - *Trace element geochemistry to assist with vectoring*

# Initial Aurora Flats Epithermal Target Drilling

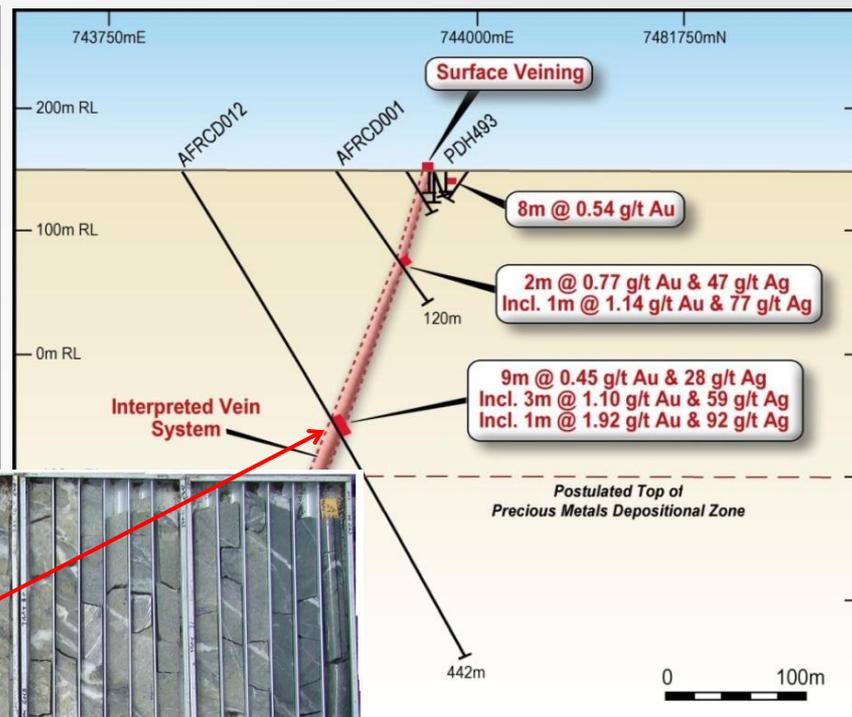
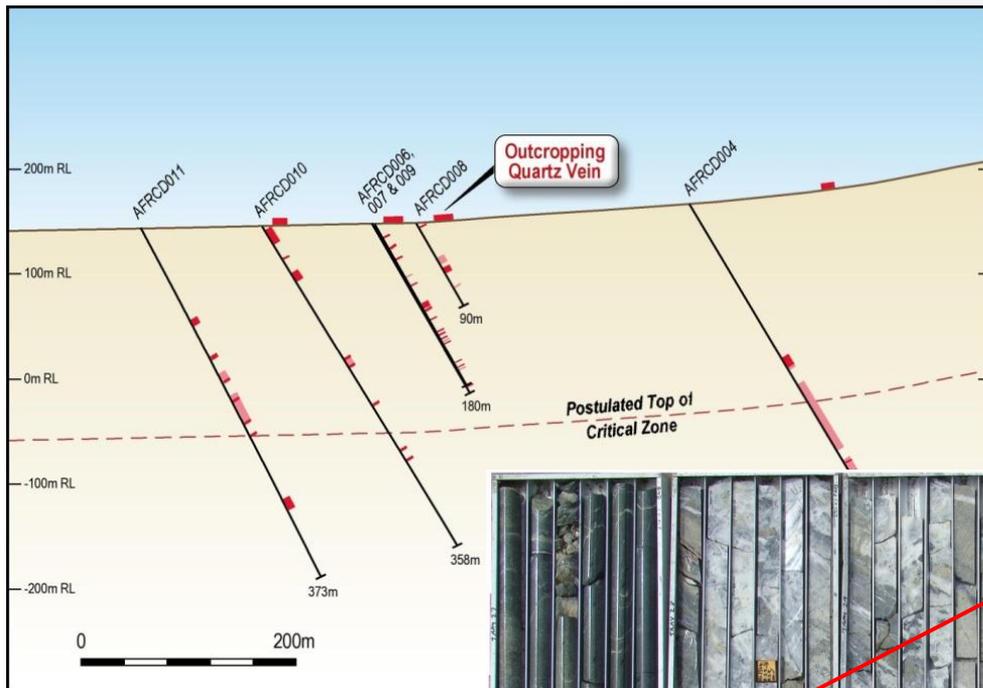


## Roughly midway along Aurora Flats IS Epithermal Vein Trend

- Wide corridor of epithermal veining intersected in drill fence line (refer ASX Release 4 February 2015)

## Down dip below historic drilling

- Elevated precious metal values
- Mineralised interval improving with depth (refer ASX Release 17 February 2015)

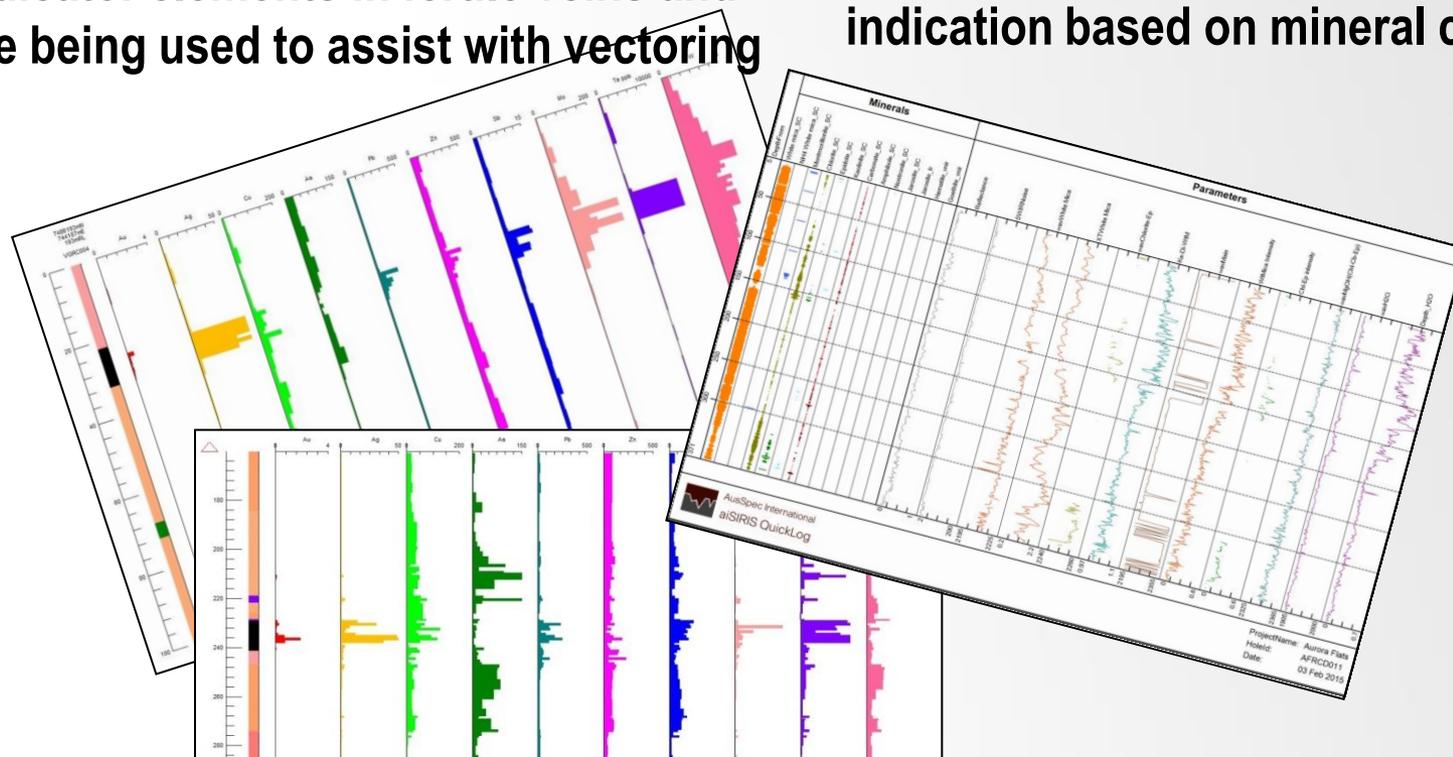


# Geochemistry and SWIR Being Used for Vectoring



**Te, W, Mo, Pb, Zn are important indicator elements in fertile veins and are being used to assist with vectoring**

**Short Wave Infra Red Scans (SWIR) are being used to give accurate depth indication based on mineral composition**



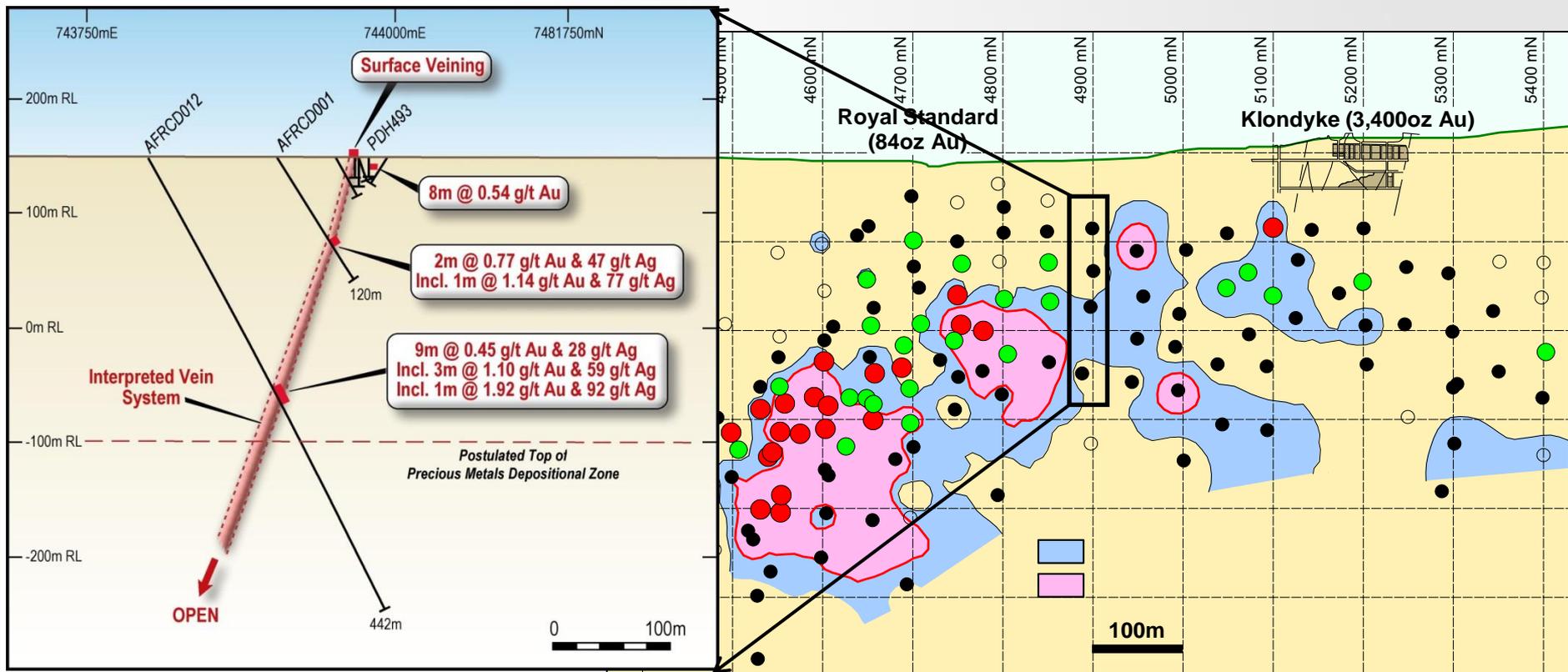
- All drilling data currently being processed and analysed to allow vectoring in to high grade shoots in the vein system
- Overprinting between porphyry and epithermal systems needs to be considered

# Interpreting Initial Aurora Flats Drilling



Postulated similarity to upper plunge extent of Cracow Royal Shoot

- *Widening vein with low metal values*



# Alert For Porphyry Potential



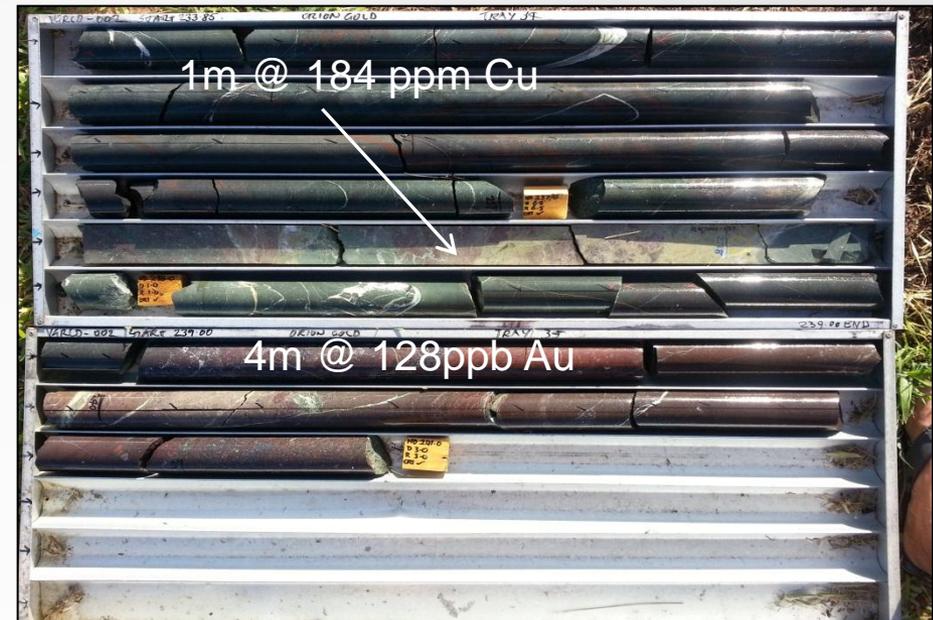
Drilling has intersected widespread alteration consistent with Porphyry Intrusives

- *Wide zones of pyritic, epidote, albite, propylitic alteration*
- *Zones of haematite, epidote alteration indicative of fertile, alkalic Au-Cu system*
- *Anomalous Au + Cu within haematite altered zone with minor veining intersected at depth at VG*

(refer ASX Release 24 February 2015)



Sulphidic porphyry with sulphide veins AFRCD012



Haematitic Alteration Zone VGRCD002

## ***Alteration and quartz, sulphide veining intersected in drilling***

Thursday Gossan Porphyry  
(Stavelly Minerals )



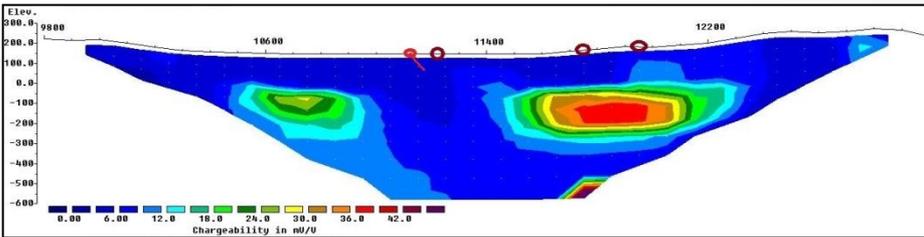
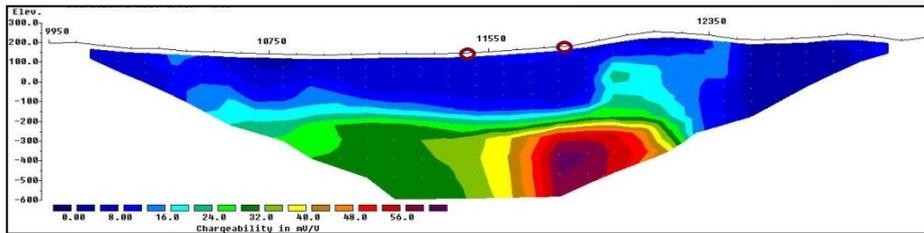
Aurora Flats  
(Orion Gold)



# Alert For Intrusive Porphyry Related Mineralisation

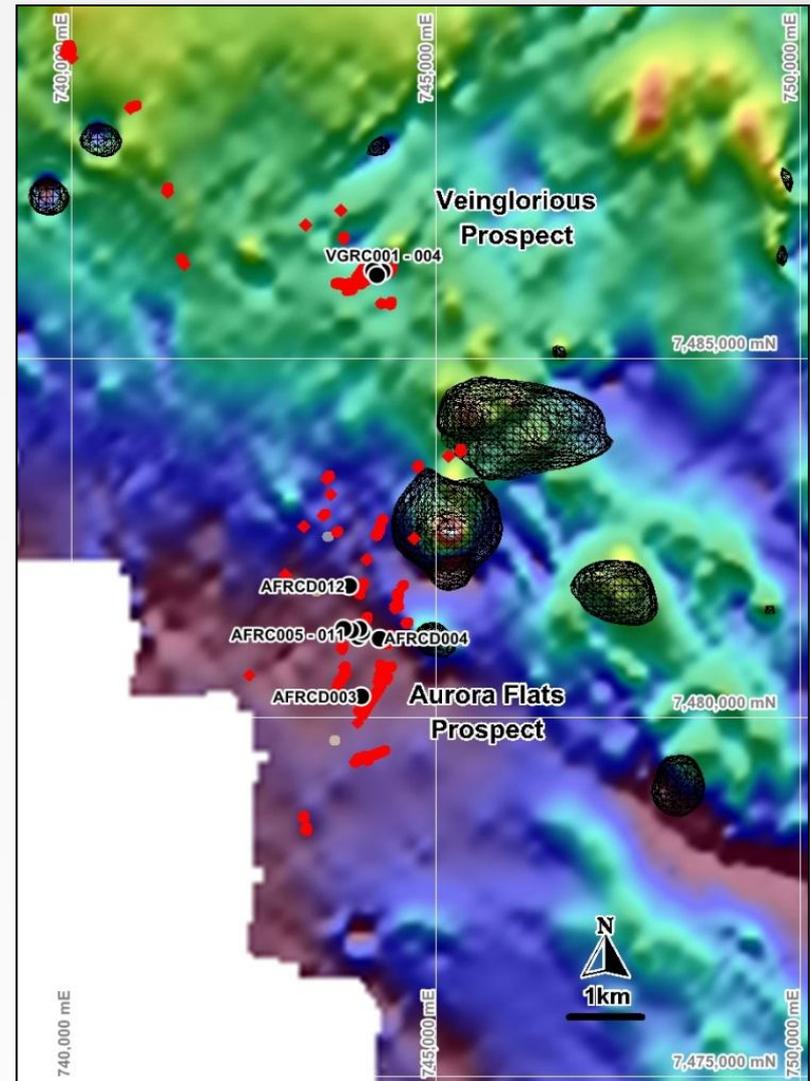


Aurora Flats IP shows large, blind chargeability anomalies



Chargeability sections shown are from line 2 (top) and 3A (below) (refer ASX Release 21 November 2014)

Magnetic inversion features modelled





## Epithermal Targets

- Systematic vectoring in using geochemistry and alteration mineralogy
- Drilling stepping in to high grade zones
- Additional geophysics to be trialled (ZTEM, high resolution IP)
- Expand regional reconnaissance mapping and target generation

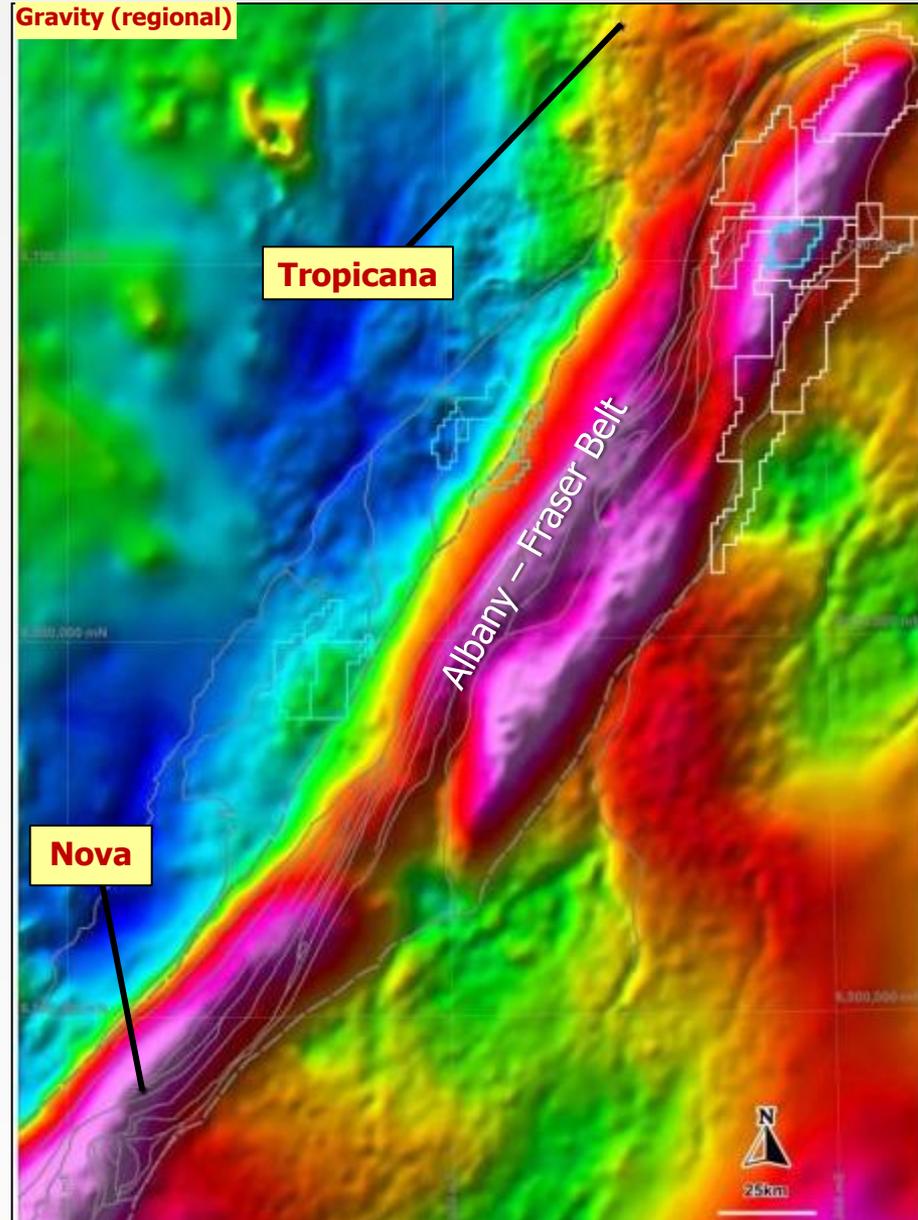
## Porphyry Targets

- Map out alteration zonation
- S isotope geochemistry to confirm magmatic sulphides
- Geo-stratigraphic drill testing of some magnetic anomalies to gather baseline data
- Apply additional geophysics such as ZTEM, ground EM and gravity surveys

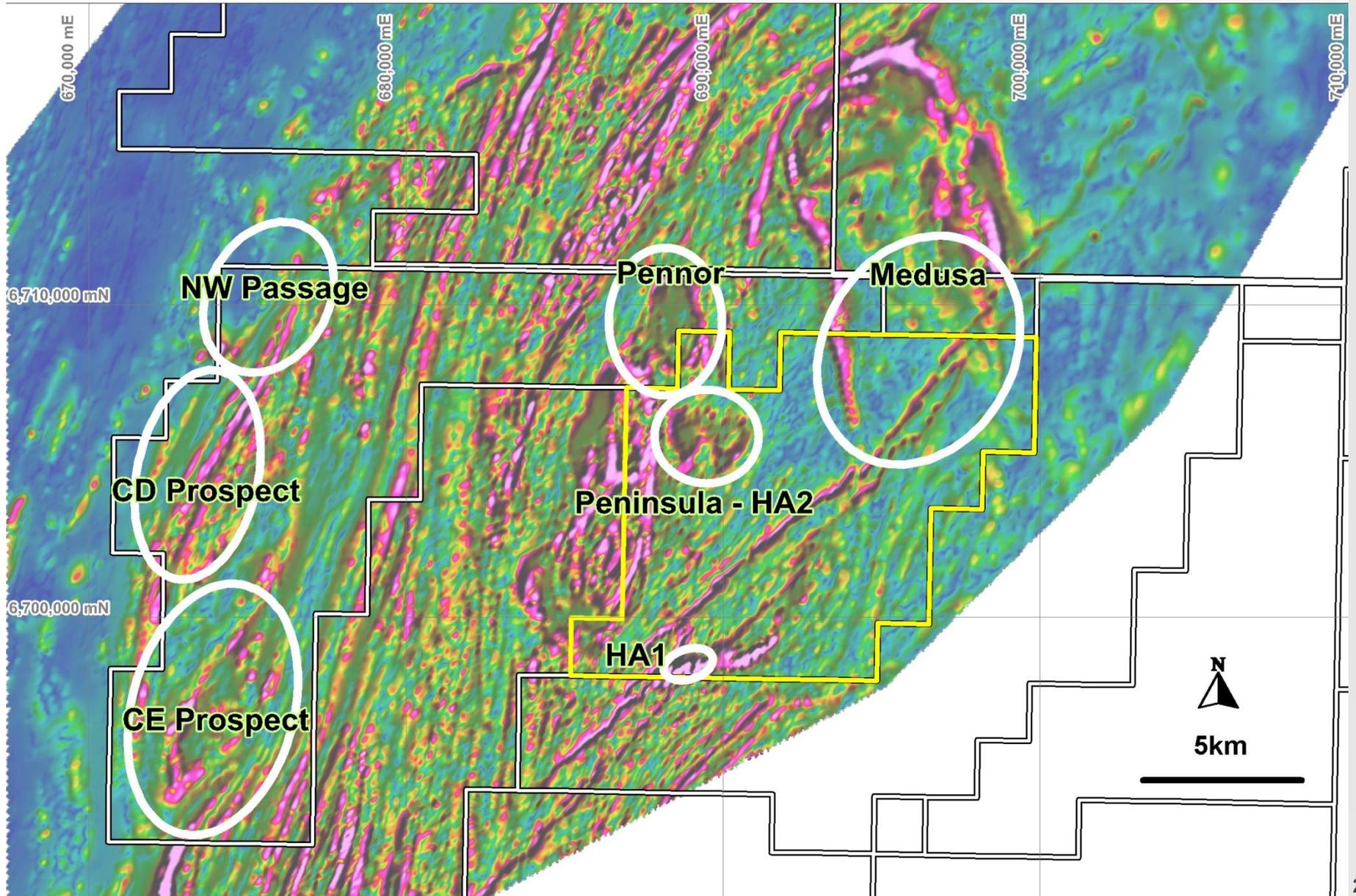
# Fraser Range Ni-Cu Project



- Substantial land holding in the Albany-Fraser Belt between two of the most significant Australian exploration discoveries of the past decade:
  - *Nova-Bollinger (Ni-Cu-Co)*  
– *Sirius Resources*
  - *Tropicana (Au)*  
– *AngloGold Ashanti / Independence Group*
- Approx. 4,500km<sup>2</sup> of granted tenements and applications (including competing applications)
- Tenements cover the northern gravity anomaly in the belt, key position for Ni-Cu mineralisation



# Key Targets Based on a Combination of Indicators



# Putting the Ingredients Together - Key Indicators



- Integrated datasets used to define and rank targets

	Geophysics				Geology			Geochemistry		
	Mag	EM	IP	Gravity	Mafic	Sulphides	Mineralogy	Anomalous Ni	Associated Cu, Co, S, PGE	Fertile whole rock
HA2	✓✓		✓✓	✓✓	✓	✓	✓	✓✓	✓✓	✓✓
Pennor	✓✓	✓	*	✓	✓✓	✓	✓✓	✓✓	✓✓	✓✓
Medusa	✓✓	*	*	✓✓	✓	*	*	*	*	*
HA1	✓	✓	*	✓	✓	✓	*	✓	✓	*
CE	✓		*	✓	✓	✓		✓	✓	
CD		✓	*		*	*	*	*	*	*

\* = no data available, subject of current / future work program

✓ = anomaly / indicator present

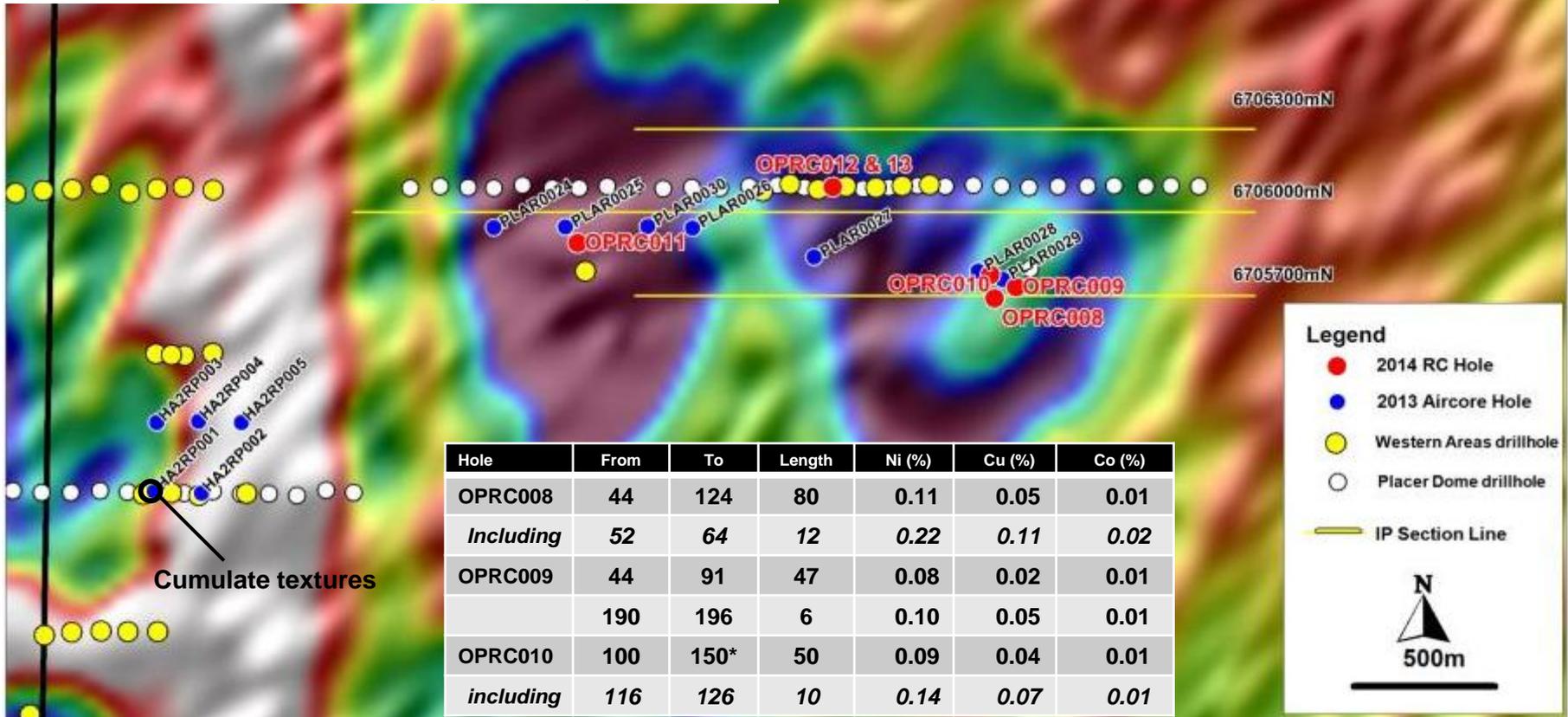
✓✓ = strong anomaly / indicator present

# HA2 Prospect



- Historical & ORN shallow drilling detected anomalous Ni in mafic-ultramafic intrusion
- 2014 RC drilling defined substantial lengths of Ni-Cu mineralisation in eastern part of intrusion
- Technical review including geochemical and petrology studies indicated presence of magmatic sulphides and prospective geochemistry, with implications for entire intrusive complex and a more efficient exploration process

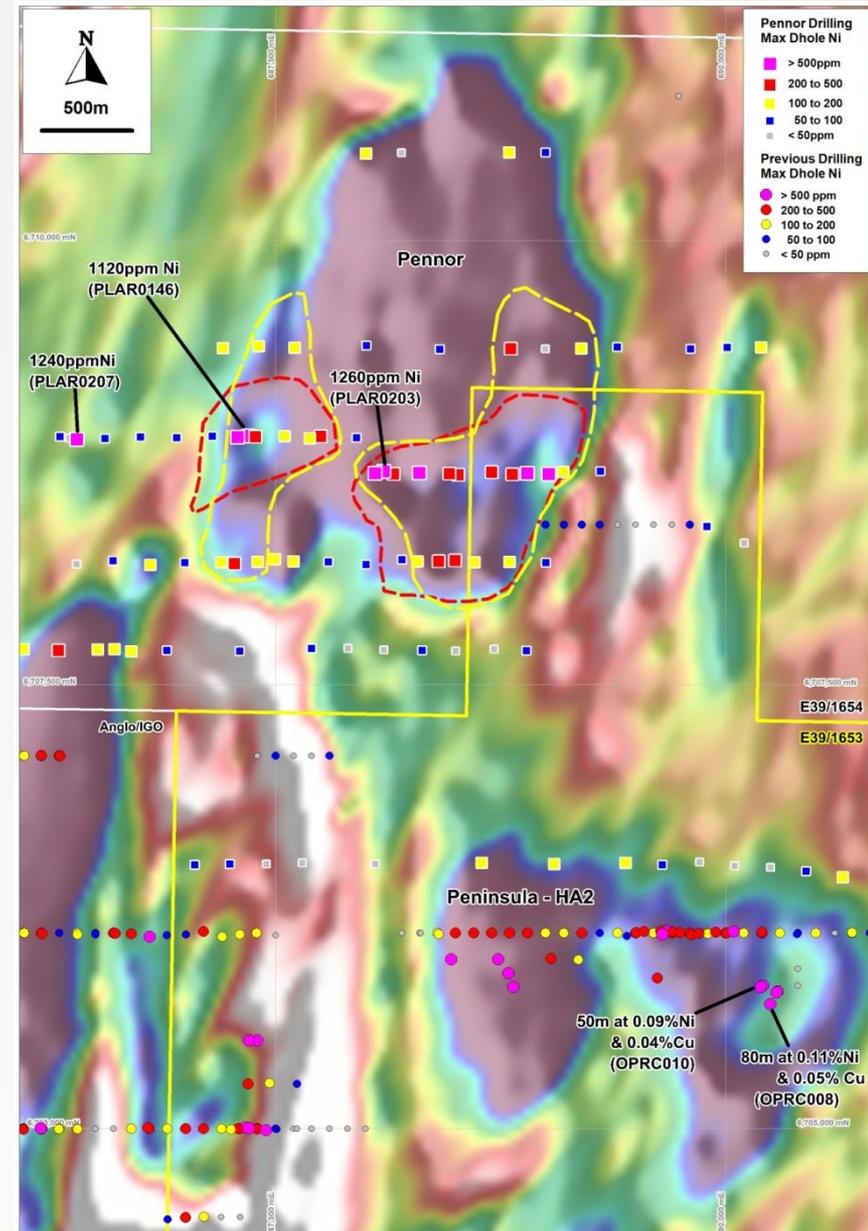
For further detail, including information required under the 2012 JORC Code, please refer to ASX Releases of 17 March 2014, 13 May 2014 and 15 July 2014.



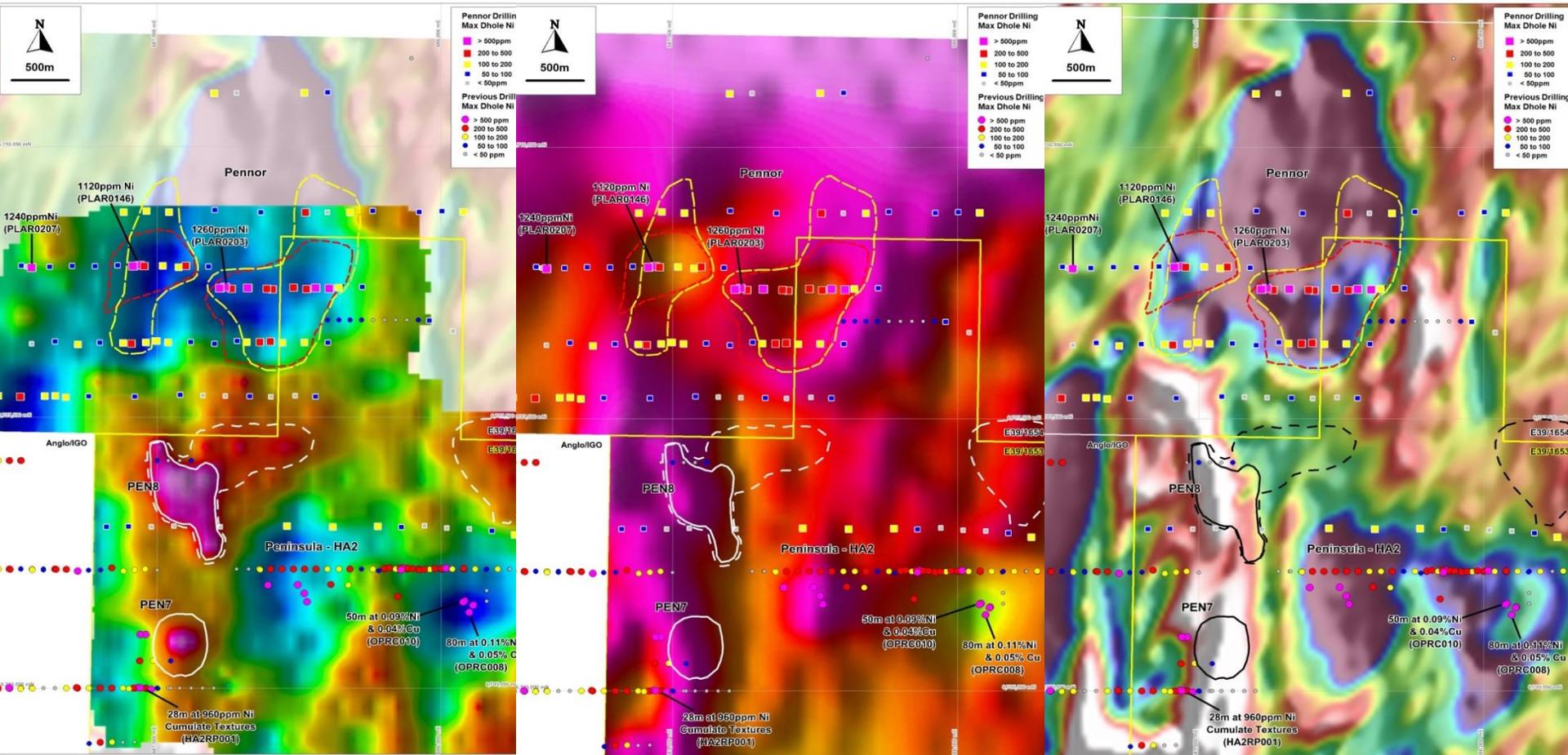
# Pennor Shallow Drilling Identifies Geochemical Anomalies



- Shallow drilling used to cover a wide area of intrusive complex
  - *able to test areas outside magma chambers where feeder zones or thin intrusions may occur*
- Assay results define coherent nickel anomalies over an extensive area within the Pennor mafic intrusion (1.8km<sup>2</sup> area with results >500ppm Ni)
  - *Ni tenor is higher than the equivalent program at Peninsula-HA2*
- Geochemical anomalies overlap areas where prospective lithologies were logged in drill chips
  - *Refines targets and confirms prospectivity*
- Geochemical data implies that magmatic processes have been active to concentrate metals, along with crustal contamination
- Target area for follow up geophysics substantially reduced by data from drilling.

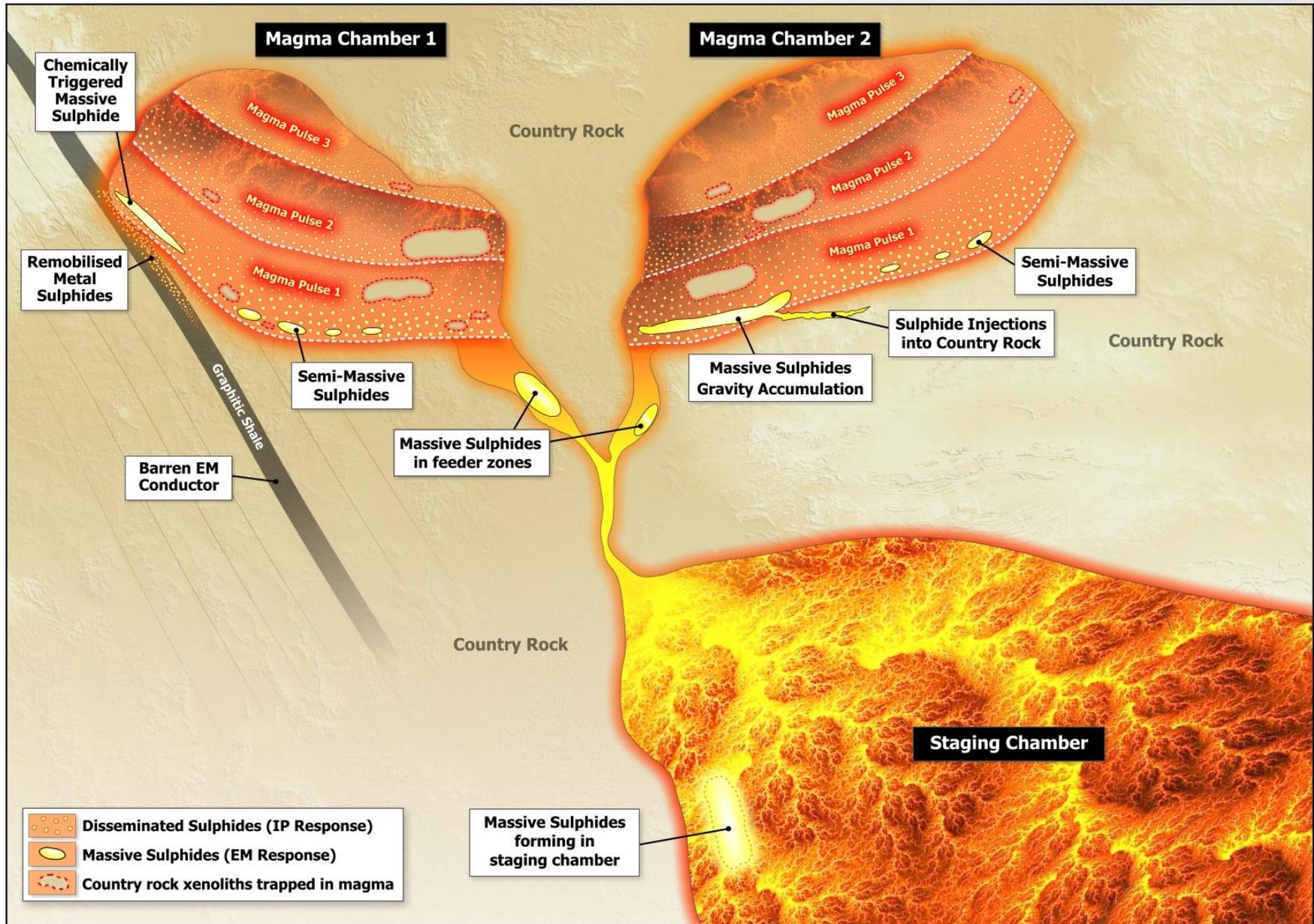


# Anomalies Detected in Recent Ground EM Survey



- Late channel anomalies in areas with geological and geochemical indicators (cumulate textures in petrology, anomalous Ni geochemistry)
- Follow up high powered fixed loop ground EM survey underway to refine anomalies and model bedrock conductors present
- Sulphide accumulations in feeder zones and basal contacts of magma chambers will give EM response<sup>6</sup>

# Conceptual Deposit Model – Cross Section



# Summary: Reasons to Invest in Orion



- Quality projects in key locations chasing “giants”:
  - *Lepanto (Philippines), Pachuca (Mexico) and Cracow, Mt Carlton, Pajingo (Australia)*
  - *Nova-Bollinger (Ni), Tropicana (Au)*
- An “A-list” of significant shareholders
  - *Extensive technical expertise*
  - *Proven track record*
  - *Continued active support*
- Highly experienced operations team
- Exploration programs aimed at closing in on discovery
  - *Strong news flow from drilling and other activities*
  - *Progressing two projects rapidly*



Orion Gold is focused on acquiring, exploring and developing large tenement holdings or regional scale mineral opportunities in world-class mineral provinces.

# Competent Persons Statement



*Information in this report that relates to Exploration Results and other technical information about the Connors Arc Project complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (“JORC Code”) and is based on information compiled and assessed under the supervision of Mr Bruce Wilson, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Wilson is the principal of Mineral Man Pty Ltd, a consultant to Orion Gold NL, and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code. Mr Wilson consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.*

*Information in this report that relates to Exploration Results and other technical information about the Fraser Range Project complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (“JORC Code”) and is based on information compiled and assessed under the supervision of Mr Bill Oliver, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Oliver is the Technical Director of Orion Gold NL, and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the JORC Code. Mr Oliver consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.*

