South Australia: *Resetting the geology and revitalising minerals exploration*

Presentation
*Sydney Minerals Exploration Discussion Group*
Sydney 27th July 2017
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The information in this presentation relating to exploration results is based on information compiled by Mr. John Anderson who is a full time employee of the company. Mr. Anderson is a member of the Australasian Institute of Mining and Metallurgy. Mr. Anderson has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Anderson consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

The information in this presentation that relates to Mineral Resources Estimates at the Paris Silver Project is extracted from the report entitled “Significant 26% upgrade for Paris Silver Resource to 42Moz contained silver” dated 19 April 2017 and is available to view on the Company website www.investres.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcement.
IVR’s Priority is developing the Paris silver deposit

Also aiming for Tier 1 & 2 company-maker copper-gold deposits:-
1. Porphyries near Paris
2. IOCGs in OD belt

Opportunities to fill the Gawler Craton deposit gap
IVR is innovative in identifying & collaborating on research developments to create **first-mover** opportunities and **competitive advantage** in the data-rich & strong research environment of South Australia.

**IVR participates in multiple university & Geological Survey research projects & national Uncover Initiative.**

**Breakthrough applications in SA**

A. Multi-element pathfinder geochem  
B. Micro-dating mineral systems  
C. Magneto-Telluric (MT) geophysical remapping of Olympic Dam metallogenic corridor

**Key disruptive concept**

That the Olympic Dam IOCG belt & emerging Paris-Nankivel epithermal/porphyry province are connected & the fluorine-rich deposits formed at the same time in an Olympic Dam Mega-event.

IVR has taken a strong ground position to pursue this concept & opportunity
IVR CORPORATE OVERVIEW: Well Positioned with a strong silver asset & copper-gold exploration upside

Capital Structure as at 24th April 2017

- ASX listed since 2007: IVR
- Shares (ordinary): 584.4M
- Options (Unlisted): 11.7M
- Share Price (19 May 2017): 3.6c
- Market Cap (A$m): $21.0M
- Cash (31 March 2017): $3.1M

Share Register as at 24 April 2017

- CITIC Australia: 11.5%
- Old Mutual Global Investors: 5.5%
- Board & Management: 2.5%
- Top 20: 33.9%
- Total shareholders: 3,480

IVR – Market performance last 12 months

- Share price: 6.0c
- Daily share volume: 3.6c
Chairman – Dr. David Ransom.

Upgraded Paris silver resource to significant 42Moz contained silver with robust 139g/t grade (open-pit).

- Paris is considered by IVR to be the best undeveloped silver project in Australia.
- Enables Pre-feasibility study on Paris Silver Project to proceed.

Nankivel porphyry copper-gold-silver
Recent drilling changed the target model for the better.

Transitional spectrum in space and time with Olympic Dam IOCG belt

Refining characterisation of different mineralising intrusives

R&D Tax & PACE drill rebates totalling $1.0million

IVR has a strong foundation silver project and is primed for transformation through innovative first-mover copper-gold discovery opportunities.
Southern Margin of GRV ("Uno Province")

- **Maps and Geology**:
  - **Prospects**:
    - Ag (Pb Zn)
    - Pb Zn (Ag)
    - Sn
    - Au
    - Fe
  - **Mineralization Types**:
    - Silicified felsic dyke
    - Rhyodacite dyke
    - Nankivel granodiorite/monzodiorite
    - Hiltaba Granite outcrop
    - - magnetically-delineated
  - **Geological Units**:
    - Upper Gawler Range Volcanics
    - Bitalli Rhyolite outcrop
    - Basement (metasediment/gneiss)

- **Location**:
  - Gawler Ranges
  - Nonning
  - Siam
  - Wudinna
  - Farmland
  - Conservation Park
  - Ballyeong
  - Hall
  - Silo
  - Telephone Dam
  - Wilcherry Dam
  - Zelous

- **Geographic Coordinates**:
  - 135°E - 136°E
  - -32°S - -33°S

- **Scale**: 10km
OUTLINE:

Paris silver project

Breakthrough developments for IVR & South Australian discovery potential

1990  Nankivel advanced argillic outcrop – *mapping is interpretive & dates*

1993  Menninnie Dam conversion – *new styles & tactics incl. spectral/soil geochem*

2003  Initial Hiltaba granite characterisation – “*Moonta*” corridor of special granites

2011  Paris IS epithermal deposit – *in Olympic Dam aged volcanics*

2014  Paris-Nankivel mineral system – *epithermals & porphyries*

2015  Remapping of the OD metallogenic corridor – *magneto-tellurics (AusLamp)*

2015  OD mega-event, mid-GRV marker & transitional tectonics – *micro-dating*

2016  Nankivel alunite date also OD aged - *plus more coming*

2016  Multiple & transitional intrusive phases - *multi-element pathfinder geochem*

Nankivel porphyry copper target

Strategic Ramifications – *throwing out the dogma*
Main silver mineralisation zones

- Acanthite & native silver in pyrite
- Main host is polymict breccia host (orange) interfingered with unmineralised ignimbrite (pink)
- Associated dykes with peperitic textures.
- Dolomite surface is embayed & filleted at base of Gawler Range Volcanics (GRV)
- Very high-grade zones of sulphide clasts (dark red)

Pervasive clay alteration & fine argentiferous pyrite mineralisation including framboids

Intermediate sulphidation epithermal
Drilling largely with RCP holes but also with control core holes raised confidence & sample quality of the shallow clay rich breccias and corroded carbonate in the deposit.
CROSS SECTION: Shallow, open-pittable

Silver mineralisation is flat-lying with coherent high-grade blocks close to surface.

Section 51275mN looking north showing MIK resource blocks (average grade) overlaying the generalised resource geology. Blocks are 25m x 25m x 5m.
## UPGRADED 2017 PARIS MINERAL RESOURCE ESTIMATE

<table>
<thead>
<tr>
<th>Category</th>
<th>Tonnage (Mt)</th>
<th>Silver Grade (g/t)</th>
<th>Contained silver (Moz)</th>
<th>Lead Grade (%)</th>
<th>Contained lead (kt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicated</td>
<td>4.3</td>
<td>163</td>
<td>23</td>
<td>0.6</td>
<td>26</td>
</tr>
<tr>
<td>Inferred</td>
<td>5.0</td>
<td>119</td>
<td>19</td>
<td>0.6</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>9.3</td>
<td>139</td>
<td>42</td>
<td>0.6</td>
<td>55</td>
</tr>
</tbody>
</table>

**Note:** Based on 50g/t silver cut-off grade
Densities: Indicated - 2.20t/m³, Inferred - 2.22t/m³ and Average - 2.21t/m³

**Compared with 2015 resource** *(by the same consultants & method with same cut-off)*

*of 8.8Mt @ 116g/t Ag for 33Moz contained silver:*

- 5% increase in tonnes; 20% increase in grade; 26% increase in ounces
- 55% of ounces converted to Indicated with a 41% increase in grade
SHAPE: 55% of Silver Ounces converted to Indicated

Oblique view (looking north) of the MIK resource blocks that contributed to the plus 50g/t silver Inferred & Indicated classification.

With the 41% grade increase for the better drilled Indicated (red) component, it is reasonable to presume further infill drill may further improve grades and confidence in the current Inferred areas.
Graphical comparison of the Paris Silver Project resource grade and contained ounces with other silver deposits (as at April 2017 - No credits are added for other metals in multi-element deposits).

Paris is arguably the best undeveloped pure silver deposit in Australia.

Investigator offers one of the few advanced silver projects in the country.
GOOD GRADE / TONNAGE PROFILE: Offers operational flexibility

Flexibility to raise or lower grades according to silver prices

Higher grade cut-off retains much of the ounces

30g/t cut-off
16.4Mt @ 96g/t silver for 50Moz silver

50g/t cut-off
9.3Mt @ 139g/t silver for 42Moz silver

70g/t cut-off
6.2Mt @ 179g/t silver for 36Moz silver
Standard silver minerals (silver sulphide & native silver in pyrite). Good silver recoveries in laboratory leach trials*:

<table>
<thead>
<tr>
<th>Ore Type</th>
<th>Estimated % of resource</th>
<th>Sample weight kg</th>
<th>Silver grade g/t Ag</th>
<th>% Leach recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymict breccia</td>
<td>85</td>
<td>610</td>
<td>109</td>
<td>65 (75(^1))</td>
</tr>
<tr>
<td>Massive sulphide</td>
<td>Subset of above</td>
<td>135</td>
<td>1,440</td>
<td>69</td>
</tr>
<tr>
<td>Shallow oxidised</td>
<td>Subset of above</td>
<td>135</td>
<td>974</td>
<td>97</td>
</tr>
<tr>
<td>Shallow clay-host</td>
<td>Subset of above- Minor</td>
<td>160</td>
<td>119</td>
<td>45</td>
</tr>
<tr>
<td>Dolomite rind</td>
<td>15</td>
<td>115</td>
<td>379</td>
<td>83</td>
</tr>
<tr>
<td>Dolomite-host</td>
<td>Minor</td>
<td>110</td>
<td>408</td>
<td>69</td>
</tr>
</tbody>
</table>

Opportunities to improve silver recoveries with finer grind & longer leach times. Flotation trials were also positive for producing a silver-lead concentrate.

Advanced metallurgical laboratory tests about to start looking at the processing options of leach versus flotation.

* Standard cyanide leach bottle roll tests; All P\(_{80}\) 106micron grind size except \(^1\) was P\(_{80}\) 53micron; IVR ASX Release 21/10/13
Where it all began in 1990:
Nankivel Hill - Advanced argillic alteration

Silica alunite dickite haematite altered rhyolite breccia
with surrounding pyrophyllite (MIM – 1995) & topaz (GSSA- 2015) as well
Menninnie Dam: BHT to sub-GRV volcanic breccia (1993)
FIRST EPITHERMAL EXPLORATION: MIM 1995/6

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2003 granite data – IVR interpretation & exploration based on alternative Moonta Corridor prospectivity model

Hiltaba Granites

- Blue circles represent sites with \( \varepsilon_{\text{Nd}} > -2.5 \)
- Red triangles represent sites with \( \varepsilon_{\text{Nd}} < -2.5 \); Olympic Dam region
- Red square represents sites with \( \varepsilon_{\text{Nd}} < -2.5 \); Moonta Corridor

SOUThERN Ocean

3 May 2011 Slide 7
Initially targeted by empirical soil geochemistry (e.g. silver): Limited by variable transported cover e.g. talus & alluvium subdue soil response.

Not explained by prior drilling; Possible vertical Imite-style target.
PARIS MODEL: I-S epithermal breccia (2013)
*Ticks all the boxes*
Paris is an intermediate-sulphidation epithermal deposit often near porphyry systems. Paris is part of a wider field: further & larger target potential.

**Other Porphyry indicators:**
- Helen Cu Au skarn (9m @ 1.14% copper, 0.31g/t gold)
- Intrusive complex
- Connecting structure
- Magnetic low interpreted demagnetised propylitic rim
- Nanivel Hill outcrop
- Advanced Argillic root zone
- Late 2016 IP geophysics survey
- Recent drilling

**Paris silver deposit**

Drill collars on magnetic image.
BREAKTHROUGH FOR SA METAL POTENTIAL: IVR is First-Mover

Paris-Nankivel Field

Upgraded target plan

Numerous targets along connecting structures integrating inputs including airborne EM anomalies (green dots) & multi-element drill data

Five shallow epithermal silver-gold-copper targets (yellow) to build on Paris

At least four interpreted porphyry centres (pink) with potential for large copper-gold deposits

Warrants aggressive geophysical program
The Next Big Ones: Where to explore?

The Big Picture breakthroughs

1976-90 Olympic Dam discovery & IOCGU concept

1993 Olympic Dam-aged epithermal deposits on southern margin of Gawler Range Volcanics

2000’s Hiltaba Granite & IOCG deposit trends

2010-15 long period MT geophysical corridor

Metal trap: breccia deposits at base of volcanics

Metal focus: Small granites in structures

Metal transport: Large granites

Metal source: Mantle-crust boundary

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S M E D G  P r e s e n t a t i o n  -  2 7 t h  J u l y  2 0 1 7
Olympic Dam template: *Magneto-telluric (MT) setting*

Magnetotelluric Section through Olympic Dam

Modified after Hayward, 2004; Magnetotelluric section provided R. Gill, Uni. Adel; “hotter” colours are more conductive

Source: McCuaig 2013 WA Centre for Exploration Targeting
Olympic Dam template: Seismic setting

Source: Neumann et al. 2010  SA Seismic & MT Workshop Geoscience Australia Record 2010/10
National roll-out of AusLamp MT survey: Breakthrough mapping of interpreted metal source & transport corridors e.g. Olympic Dam belt

MT Inversion conductivity maps (Base MT inversion plans with IOCG deposits are from Thiel & Heinson, GSSA/U of Adelaide presentation: The electrical lithospheric structure of southern Australia; 26th IUGG Assembly, Prague 27/6/2015)

35km below surface

100km below surface

Re-invigorating discovery of the next generation & spectrum of IOCG deposits by increasing confidence in the selection of target areas; e.g. Maslins
Maslins IOCG target: .....now with MT support

MT 35km below surface
Metal source at top of mantle?

MT 100km below surface
Heat source?
MT encouraged IVR’s pegging of the Maslins tenement package & delineation of the Maslins IOCG gravity target

• Gravity anomaly (9mgal) - good density (3.2g/cc) contrast
• Modeled as 6km long x 1km diameter horizontal body
• 600m - 700m depth to top at prospective IOCG geological position
• Underlain by magnetic zone (modeled top in blue). Possibly a deeper skarn zone as expected under the standard IOCG target model.

Maslins IOCG Target

Gravity plan - Filtered Bouguer gravity

3-D model of Maslins gravity target
Viewed from the southern end.

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Adding geology support to a large gravity target

At the preferred geological level and vector direction for IOCG deposits (review of past regional drilling). Size potential between Olympic Dam and Carrapateena & at depths suitable for modern bulk underground mining.

Regional Long Section

SAR-8: nearest deep drillhole
Reported haematite alteration of mid-volcanic conglomerate
lower volcanics & upper basement;
Also sets level of transition from magnetite to haematite

PN07-09: thickened conglomerate
indicates strong mid-volcanic fault movements; possible marker of the Olympic Dam mega-event

Modelled magnetic surface at Maslins is consistent with drill data

HORIZONTAL VECTOR
Increasing haematite & anomalous copper

VERTICAL VECTOR
Preferred haematitic IOCG level

Haematite
Magnetite
Unconformity
Boundary

Cover rocks
Upper volcanics
Conglomerate
Lower volcanics

Surface
South

Preferred haematitic IOCG level

2,000m

Maslins target

Carrapateena

Olympic Dam system
with 6km width

2km

5km

Proposed drill test

Only reached upper volcanics

26th July 2017

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The Next Big Ones: Where to explore?

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2010-15 long period MT geophysical corridor

2016 Mid-GRV marker of OD mega-event?

Metal trap: breccia deposits at base of volcanics

Metal focus: Small granites in structures

Metal transport: Large granites

Metal source: Mantle-crust boundary
**The next Big Question:**
What is the link between the Uno Province & Olympic Dam Belt?

An interpretation offering further research & discovery opportunities
By applying recent precise dating of GRV by the GSSA

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Nankivel Hill silica alunite pyrophyllite dickite altered volcanics on preserved mid-Proterozoic surface & shoulder to caldera

Bitalli Rhyolite Mid-GRV?
(1591 – 1588Ma 100km to east)

Paris silver deposit - maar? & dykes

Projected position of Olympic Dam IOCGU deposit (<1593Ma).
In similar setting on northern caldera shoulder with incorporated GRV breccias & maar sediments.

"Gawler Caldera" with significant collapse on faulted margins from Mid GRV then rapid infill with Upper GRV lavas

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Support for mid-GRV marker from Geological Survey dating

IVR interpretation of GSSA Ca-TIMS regional dating of GRV with required accuracy of < 1ma

Liz Jagodzinski GSSA 2016

1586My

UPPER GRV
1588My

1590-96My

LOWER GRV

Bitalli Rhyolite (likely Paris host) & interpreted Mid-GRV MARKER of OD Mega-event - 1589-90My?

Range of coarser dates for Nankivel alunite & Buckleboo pluton near Paris
MULTI-ELEMENT PATHFINDER GEOCHEMISTRY: Another IVR breakthrough - *Distinguishing the Paris dykes*

Central Paris Dyke  
Interpreted mineraliser - Fluorite-bearing/hydrous fractionation. Preliminary correlation with late stage fluorite-alunite phase at Nankivel Hill (1586 +/- 8Ma). Being dated by ARC Spectrum group.

Two other dykes at Paris  
Showing strong fractionation along standard Zr:Hf line of 38:1. Note flatter trend of Felsic 1.

All Paris samples (IVR/CSA Global)
PARIS-NANKIVEL MINERAL SYSTEM: Therefore updated

Central Paris dyke being dated

Paris silver deposit: 42Moz silver
Intermediate-sulphidation epithermal; subvolcanic breccia

Helen magnetite skarn: copper gold silver mineralised

Helen porphyry target area

Nankivel West target area

Nankivel porphyry copper IP target

Nankivel Hill: NE rhyolite dyke breccia; advanced argillic alteration including topaz & fluorite.

Latest mineralising dyke suite: non-magnetic, NE trend, fluorite-bearing at Paris

E-W Paris dyke and structure
NNW Paris dyke
NW-SE Paris-Nankivel structure

Diomedes

Ares

Argos

Alexander West

Central Paris dyke being dated

1586+/-8Ma

Maximum molybdenum in drill holes
• Mo >20ppm
• Mo 5-20ppm

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NANKIVEL IP ANOMALY:

Large 2km by 500m chargeability anomaly (red zones on IP sections spaced at 400m intervals).

Adjacent to the outcrop on Nankivel Hill (Dyke on same orientation as the Paris mineralising dyke).

About 150m depth to top of IP target.

The combination of an IP anomaly with an advanced argillic cap is a desirable combination for porphyry targeting.

*Oblique overhead view of the Induced Polarisation (IP) chargeability profiles over the TMI:RPT magnetic image.*
**NANKIVEL PLAN**

**Nankivel Drilling and Target Interpretation Plan**

**PPDH147**
Initial zircon dating of propylitic-altered early intrusive - circa 1620 million years

**Kaolinite fluorite topaz pyrite**

**Phyllic breccia**

**Propylitic**

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**LEGEND**
- Argillic altered volcanic & metasediment outcrop
- Advanced argillic altered breccia
- IVR Diamond Drill hole
- IVR RCP Dr Ill Hole
- Prior RCP Drill Hole (no ICP-MS assays)
- Propylitic alteration
- Phyllic alteration
- Bismuth + Tellurium > 5ppm
- Geochemical Target Vector
- IP anomaly
- Interpreted porphyry copper target
Secondary copper blanket (covellite) - open to south

Supergene covellite CuS over-print on phyllic alteration
(* Microscope images – field of view approx. 2mm)

Primary biotite replaced by secondary biotite (potassic alteration)*
NANKIVEL SECTION: Pyrite = 2 x Sulphur

Best gold: 3m @ 0.15g/t Au

Target Vector

Pyrite > 5%

Sulphur > 1%

Nankivel Summary Alteration
- Argillic
- Haematitic / Limonitic
- Intermediate Propylitic
- Propylitic
- Intermediate Phyllic
- Phyllic
- Potassic
- Insignificant Alteration
Nankivel Section
Showing drilling and geophysical support for the Nankivel porphyry copper target.

LEGEND
- IVR Diamond Drill Hole
- IVR RCP Drill Hole
- Pathfinder geochemical target vector (Increasing Te, Bi, Mo, Sn)
- Advanced argillic root zone (projected from Nankivel Hill)
- Phyllic
- Propylitic
- Potassic
- Intrusive cupola
- Interpreted porphyry copper target
- Top of IP anomaly

Volcano at palaeo-surface
PPDH 157 & 155
PPRC437
Bi + Te > 2ppm
Mo > 5ppm
Potassic stringers
Late fluorite veins
Late mineralising intrusive cupola
Propylitic-altered early intrusives

Current land surface

NW SE

638800mN
598200mE

0 1000m

500m below surface
1,000m
1,500m
MULTI-ELEMENT PATHFINDER GEOCHEMISTRY:
Multiple intrusives at Nankivel

Fractionated late porphyry phase?
Fractionated Hiltaba?
Bitalli equivalent?
GSSA date: 1619+/-8Ma
St Peter’s Suite?

Nankivel diamond holes (IVR)
MULTI-ELEMENT PATHFINDER GEOCHEMISTRY: Regional characterisation of granites

Granite prospectivity model

- **Selected prospective plutons**
- **Buckleboo** 1586+/−8Ma
- **Central Parls Dyke**
- **St Peter's Suite** (1640Ma – 1610Ma?)
- **Bitalli B group**
- **OD mafic suite**
- **OD felsic suite**
- **Fractionated GRV & OD granites**
Trends of prospective granites similar to 2003 NW corridors

New ground pegged with potential for further Paris-Nankivel style epithermal /porphyry centres; i.e. granites with Zr/Hf ratios around 20, showing multiple & late small intrusives in the magnetics and preferably south of the projected Uno Fault.
A DISCOVERY STRATEGY:

Greenfields extensions to pedigree belts (e.g. Olympic Dam mega-event) for best returns if you are any good

Focus on emerging or revitalising belts and on your strengths

Take on the next level of exploration difficulty & therefore opportunity (the hurdles are low e.g. Shallow covered extensions to pedigree belts)

Integrate and customise your exploration techniques (mono-tactic campaigns will find a lot of false anomalies)

Mapping is interpretive and becomes dated (Look at the rocks)

Scientific approach (of sorts) Mineral systems approach means no dogmatic models of deposit types (Look for the spectrum)
Some thoughts on maximising exposure to ideas & data

Have separate but do not separate data producers & administrators from users/abusers/arm-wavers/risk takers

Look for opportunities to convert research ideas into exploration applications

Pick winners in the research community, back their work, collaborate, be the first to hear their developments

Ask questions (you will think about them in your sleep) so you will be ready when you see the answers from unexpected quarters e.g. *Is there a mid-GRV marker?*

Integrate, Iterate, Innovate especially using others’ ideas & data (learn more than they do)

Peg your ideas with urgency & drill early

Share ideas and data (as long as you have squeezed it first)

There is no shame with persistence (as long as you believe, keep refreshing the opportunity & recognise when you are wrong)

THANK YOU