



# QUARTERLY ACTIVITIES REPORT

Ending 30 June 2018



## HIGHLIGHTS: Advancing Paris silver metallurgy & developing new copper targets

### ***Preliminary Metallurgical Results for the Paris Silver Project:***

- Cyanide leach trials achieved weighted average silver recoveries of around 74% from a range of 65% to 89% silver recoveries for the three main geometallurgical domains.
- Continuing tests are aimed at recovering more of the non-leaching silver.

### ***Maslins IOCG target upgraded with breakthrough geophysical technology:***

- Prospective gravity target further enhanced by in-house Magneto-Telluric (MT) traverse.
- Maps underlying conductive “MT hotspot” similar to Olympic Dam signature.
- Drilling partner sought to test the large target with 600m depth-to-top.

### ***Cartarpo Copper Cobalt Targets extended by soil geochemistry:***

- Coherent copper-nickel-lithium and cobalt-nickel-rare earth elements (“REEs”) soil targets extend over 800m strike and open both directions.
- Centred on historic workings with grab samples assaying up to 1.78% cobalt, 1.1% REEs, 0.52% copper, 0.42% nickel and 0.31% lithium.
- Further target extensions are to be pursued with expanded mapping and soil geochemistry.

### ***Corporate:***

- The Company received A\$0.86million as a tax concession for the 2016/17 financial year, under the Federal Government’s Research and Development Tax Incentive program.
- The Company was advised that it’s A\$0.69million application for tax credits under the Federal Government’s Junior Minerals Exploration Incentive scheme was assessed and fully allocated for the 2018/19 financial year.
- Non-executive Directors: Appointment of Andrew McIlwain and retirement of Bruce Foy.

## Managing Director's comments:

Investigator Resources Managing Director John Anderson said, **“Investigator continued to research the metallurgical performance of the Paris silver deposit to improve on the initial and reasonable 74% average silver recoveries achieved during the Quarter. This is seminal in the decision to bring the Project into production and is worthy of the critical attention being applied to its’ resolution.**

**The Company also pursued exciting opportunities for a new generation of targets for copper and associated metals in South Australia based on breakthrough government MT research and regional surveys. Our own MT survey upgraded the Maslins IOCG target in the Olympic Dam (“OD”) Belt, while soil geochemistry established large and open copper-cobalt-REE-lithium-nickel targets around the historic Cartarpo mine near Burra. Our Olary holdings around the unexplored Wiawera copper gold prospects were expanded.**

**We welcome Andrew McIlwain to the Board and thank Bruce Foy, who retired as a Non-executive Director during the Quarter, for his guidance over the last 10-years.”** Mr Anderson added.

## CORPORATE

Expenditure for the June 2018 quarter comprised A\$812,000 spent on exploration and A\$298,000 spent on corporate and administration costs. The Company held A\$2.89million in cash at the end of the June 2018 quarter.

### R&D Tax Incentive program

During the Quarter the Company announced that it had received A\$858,006 as a tax concession for the 2016/17 year under the Federal Government’s Research and Development Tax Incentive program.

The refund recognises the Company’s innovative approach to its on-going research projects that are testing alternative hypotheses to the accepted geological norm.

The additional funds will be re-invested to advance the development of the Paris Silver Project and other exciting Company targets within the southern Gawler Craton, South Australia.

## Junior Minerals Exploration Incentive scheme

On the 19 June 2018, the Company announced that it had been advised by the Australian Taxation Office that its application for tax credits under the Federal Government’s Junior Minerals Exploration Incentive (“JMEI”) scheme had been assessed and fully allocated.

In summary, the Company has received an allocation of A\$687,500 in JMEI credits, which some or all of these JMEI credits may be distributed to all eligible Investigator shareholders as a tax offset or franking credit against the Company’s tax losses for allowable greenfields exploration expenditure in the 2018/2019 financial year. To be eligible, a shareholder must participate in any of Investigator’s fundraising activities during the 2018/19 financial year. Only new shares issued by Investigator will be subject to the JMEI scheme.

## Board Changes

Mr Andrew McIlwain was appointed as a Non-executive Director effective 20 June 2018.

On 22 June it was announced that Bruce Foy would retire as a Non-executive Director, after more than 10-years. He has provided considerable support to the development of Investigator into an active, multi-commodity focused exploration and development Company.

## PARIS SILVER PROJECT - Peterlumbo Tenement

(EL5368 - IVR 100%):

The 100% held Paris Silver Project lies within the Peterlumbo tenement on the northern Eyre Peninsula of South Australia (Figure 6), and has an estimated Indicated and Inferred JORC Mineral Resource of 9.3Mt at 139g/t silver and 0.6% lead (at a 50g/t silver cut-off) (Investigator ASX Release: 19 April 2017). The deposit occupies an area of about 1,600m by 400m with a shallow flat tabular geometry that is conceptually mineable by open-pit methods to 160m below the flat surface.

As previously reported (Investigator ASX Release: 14 November 2017) a geometallurgical study of the geologically complex Paris silver deposit enabled the selection of four domains (Oxide, Breccia transitional - no Mg/Ca, Breccia transitional - Mg/Ca and Dolomite) (Figure 1) for metallurgical testing of larger and more representative samples.

Multiple mineralogical studies including scanning electron microscope work identified the main silver species as acanthite (silver sulphide, the most common globally mined silver mineral), chlorargyrite/bromargyrite (silver chloride and bromide) and primary native silver. All species identified are generally less than 30µm (micron) in grainsize, and mostly less than 10µm. The lead minerals are predominantly galena (lead sulphide), laurionite (lead chloride) and coronadite (lead manganese oxide).

In the on-going 2018 metallurgy testwork, flotation and leaching testwork was undertaken, evaluating options for further improving silver recoveries, as well as identifying methods to recover lead/silver concentrate which was not examined in 2013.

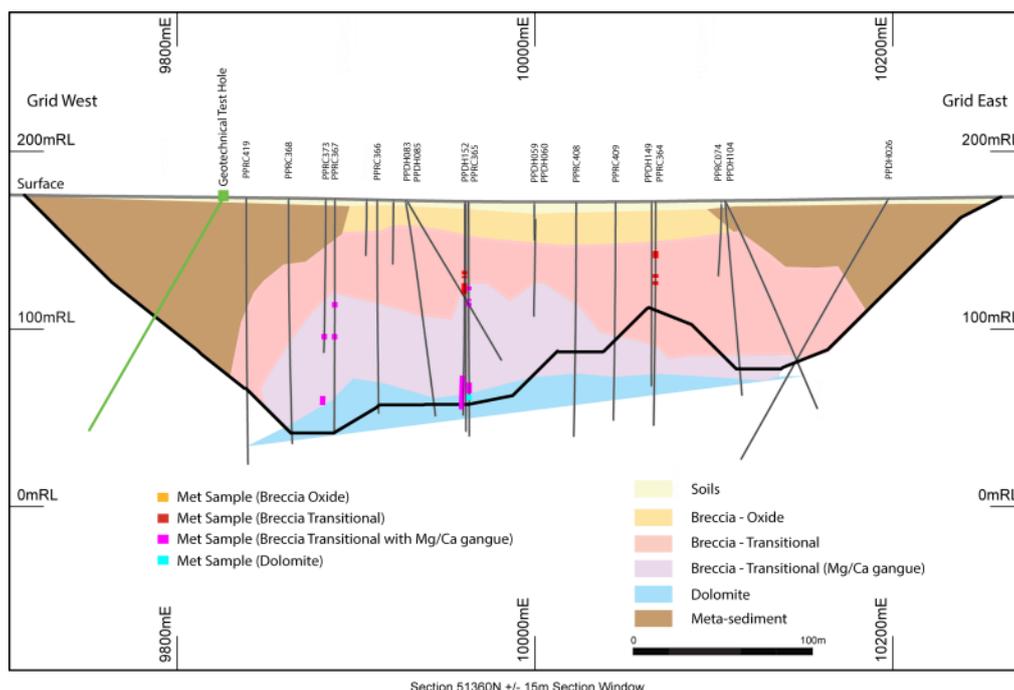
During the Quarter the preliminary metallurgical report was received from the metallurgy consultants for the metallurgical testwork being undertaken to progress the Paris Silver Project. These results indicated that the cyanide leach trials achieved weighted average silver recoveries around 74% with a range of 65% to 89% for the three main geometallurgical domains. Additional scrubbing, flotation and mineralogical tests are continuing with aim of recovering more of the non-leaching silver and potentially the lead. These metallurgical results aim to enable the design and costing of a process flowsheet. Grinding of the breccia ores to P<sub>80</sub> of 53µm (80% passing 53microns) enabled 65% to 85% silver leach recoveries (Table 1) by cyanide leaching with lead nitrate and/or

hydrogen peroxide pre-conditioning. The balance of the silver that remained unleached is referred to as refractory silver. The Dolomite domain returned 89% silver leach recoveries without pre-conditioning. The Oxide domain has performed poorly in leach trials thus far and, as this domain only hosts 5% of the Mineral Resource; it is currently discounted from the pre-feasibility study (“PFS”). Ultra-fine grinding to 10µm achieved improved silver recoveries in similar leach trials, but is unlikely to be an economic option at this stage.

**Table 1: Paris Silver Project: Metallurgical leach test results**

Depth	Host Domain	Estimated % of Indicated Resource Hosted	Leach silver recoveries
Shallow	Oxide	5%	8%
	Breccia Transitional (No Mg/Ca)	54%	65%
	Breccia Transitional (Mg/Ca)	32%	85%
Deep	Dolomite (hosted)	9%	89%

Flotation and gravity tests were undertaken to assess the recovery of lead in concentrates along with some of the refractory silver in the Breccia Transitional (no Mg/Ca) domain. These tests produced concentrates with poor lead recoveries of approximately 8% in a flotation concentrate and 24% in a



**Figure 1: Paris Silver Deposit - Example Section 51360mN showing the typical distribution of the geometallurgical domains, drill traces with current metallurgical samples and the outline for the 2017 conceptual open-pit model**

Section 51360N +/- 15m Section Window

gravity (Knelson) concentrate. The unrecovered lead is attributed to the coronadite (lead manganese oxide) content and fine galena inclusions in quartz.

Further testwork, including scrubbing tests is being undertaken aimed at rejecting gangue minerals ahead of leaching. Additional leach tests are investigating avenues to upgrade the silver recoveries.

Completion of the metallurgical studies will enable the Company to make a decision on the future of the Project.

## On-going Paris Pre-feasibility study activities

In parallel with the metallurgical testwork, the Company continues with the geotechnical, waste characterisation and infrastructure studies.

## COPPER EXPLORATION

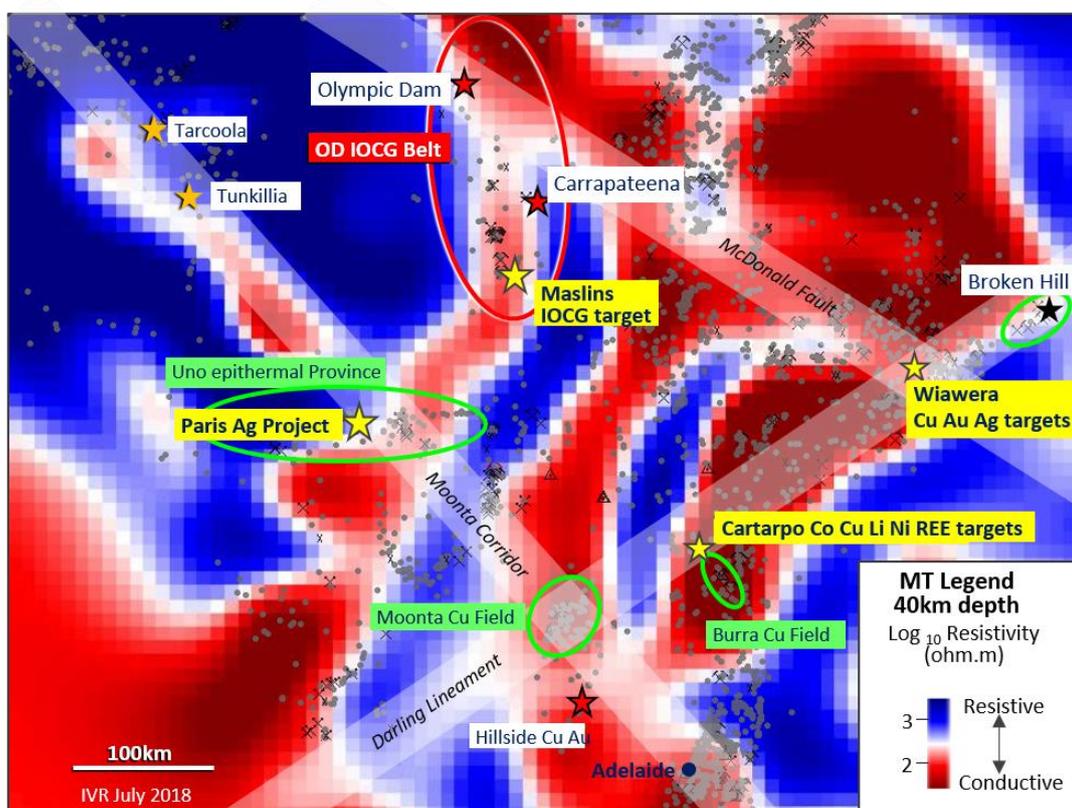
Investigator is at the forefront of the opportunity for revitalised discoveries of copper and associated metals in South Australia using breakthrough applications of Magneto-Telluric (“MT”) geophysical surveying. Research since 2006, headed by the University of Adelaide, identified a template MT signature for the giant Olympic Dam IOCG deposit. The

technology maps conductive flares from deep in the earth that are considered to represent the pathways that metals followed and were concentrated into the deposits. Whereas Olympic Dam was discovered by other means over forty years ago, it provides a template for similar MT flares to be mapped as vectors to new deposits.

The interpreted metal-rich flares originate from deeper “metallogenic” corridors that are also mapped by MT as shown in Figure 2, in this case at 40km depth. The distribution of metal deposits shows good spatial associations with these corridors that further assist ideas about where to look for future discoveries. The Maslins IOCG target was the first one pegged by IVR with this approach. There is a strong coincidence between the deposit-rich OD IOCG Belt and an MT corridor.

Shallower deposit-focussing structures above the MT hotspots such as the white strips and deposit fields on Figure 2 are considered important ingredients for targeting. Paris is situated near the intersection of interpreted fault zones with the extension of the OD MT corridor with evidence of being the same geological age as Olympic Dam.

The Cartarpo and Wiawera prospects were selected on historic mining data and subsequently supported by their favourable



**Figure 2: Government Magneto-Telluric (“MT”) image of modelled rock resistivity at 40km depth with metal occurrences shown as grey dots & cross-picks. Major mines and selected projects are labelled in white with black stars. Key Investigator prospects and targets are added as yellow stars and labels. (MT & occurrence image source: Department of Energy & Mining SARIG Database).**

interpreted MT and structural positions. The prospects are considered likely to have the same ages as adjacent intrusives of 800 million years and 440 million years respectively. These potentially represent younger, prospective and under-explored phases of South Australia’s copper pedigree.

## Maslins IOCG Target (EL5705 - IVR 100%)

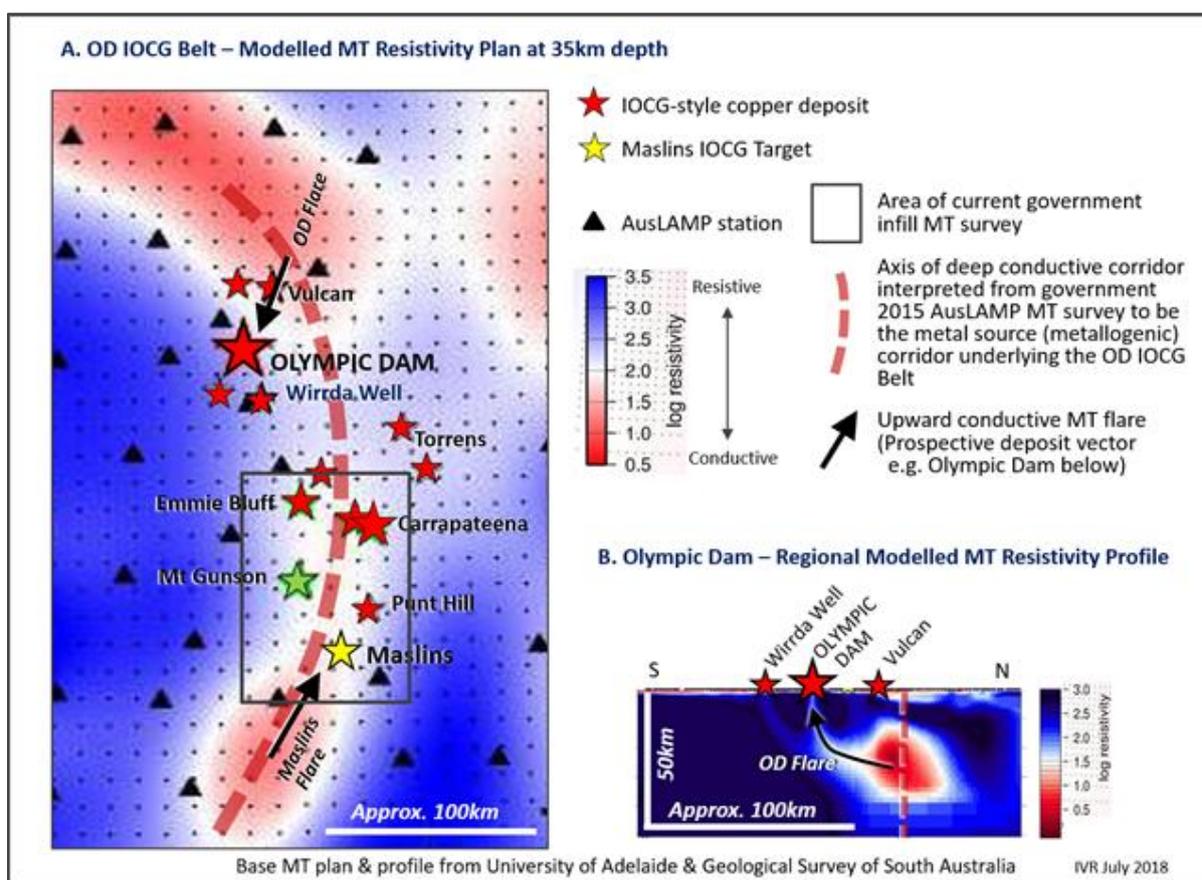
The 100% held Maslins IOCG target lies within the Whittata tenement (EL5705) approximately 100km north of Port Augusta, with both the with the Trans-Australian Railway and Stuart Highway passing through the tenement (Figure 6).

The Maslins target was secured after the 2015 national AusLAMP Magneto-Telluric (“MT”) survey remapped and highlighted the southern extensions of the Olympic Dam belt (Figure 3A). Geoscience Australia nominated Maslins and an associated fault as IOCG prospective in 2010.

Utilising the data available at the time, Investigator modelled the Maslins gravity anomaly as having the right depth, structural setting and density to be a prospective IOCG target (Investigator ASX Release - 15 February 2016) with a potential size between Carrapateena and Olympic Dam and a shape likely to be amenable to modern bulk underground mining.

The coarse AusLAMP data also indicated that an MT conductivity flare projected upwards towards the Maslins target, similar to the MT flare under Olympic Dam (Figure 3B).

A six-station MT traverse was recently completed by independent MT specialists for Investigator, and the data was processed and interpreted by an independent geophysicist for Investigator. This survey complements the current on-going government MT infill survey, over the Carrapateena district, with final results expected towards the end of 2018.



**Figure 3A: Olympic Dam IOCG Belt – MT resistivity plan at 35km depth slice modelled from coarse first-pass AusLAMP data** showing locations of IOCG deposits & prospects; axis of the OD MT Conductive Corridor and traces of interpreted MT flares.

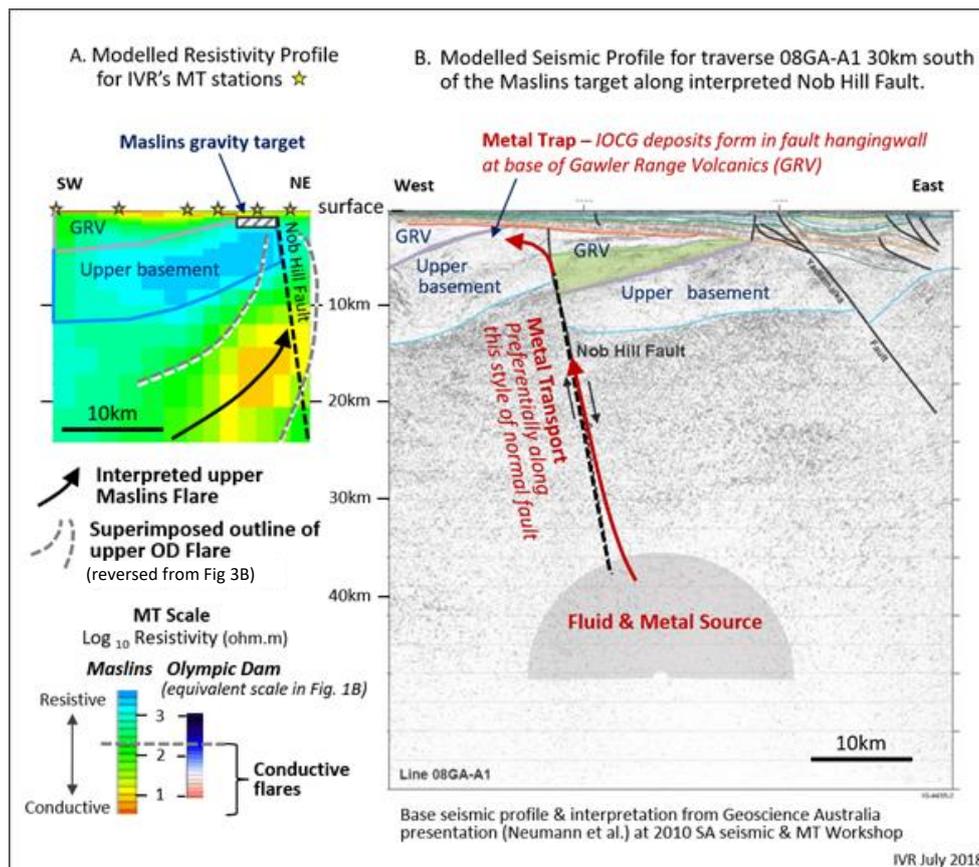
**Figure 3B: Olympic Dam - Regional profile of modelled MT resistivity.** Deep metal source regions and prospective metal feeders are interpreted as red & white conductive zones (*i.e.* inverse of blue resistive zones.)

Modelling of the closer-spaced MT data confirmed the upper extension of the conductive flare into the fault abutting the Maslins target (Figure 4) with similar size, shape and conductivity to the OD flare (Investigator ASX Release: 24 July 2018).

Now we have the data showing a prospective MT vector that points to Maslins being similar to the one at Olympic Dam, Investigator is seeking a suitable partner to drill the high-priority Maslins target as soon as possible.

**Figure 4A: Modelled MT Resistivity Profile** showing a strong conductivity flare entering the Nob Hill Fault below the Maslins IOCG target.

**Figure 4B: Seismic Profile projected 30km from the south** showing prospective structural conditions for metal flow & deposition comparable to the Maslins profile.



## Cartarpo Prospect (EL5999 - IVR 100%)

The 100% held Cartarpo Tenement, 175km north of Adelaide, was selected over the mid-1800s Cartarpo copper-cobalt Mine, comprising a shaft, two adits and shallow open-pits over 400m strike (Figure 6).

Following the initial site visit in November 2017, and the subsequent announcement (Investigator ASX Release: 22 January 2018), verifying the cobalt mineralisation and exploration potential on a prospective corridor 20km from Burra copper mine. Results of the sampling of gossan exposures, 200m apart, returned strong values of up to 1.78% cobalt and 1.1% combined rare earth elements ("REEs") including heavy REEs, along with copper to 0.5%, nickel to 0.4% and lithium to 0.3%.

Further exploration activities were undertaken during the June 2018 Quarter, with the results recently announced (Investigator ASX Release: 17 July 2018) for the first program of systematic geochemical sampling which supported the historic mining records of ore grades up to 5% cobalt and 6% copper, and revealed strong REE, nickel and lithium values also in manganese gossan remnants at the workings. Sampling was restricted by the infilled pits and in-accessibility of the adits.

With a thin veneer of soil covering the extensions, trial soil geochemical sampling was undertaken on four 250m spaced traverses (Figure 5). These established coherent zones variously containing elevated copper, cobalt, lithium, REEs and nickel extending away from and parallel to the workings.

The anomalous geochemical zones are interpreted to extend 400m north of the workings and are open to further extension. The mineralisation also remains open to the south of the workings.

Investigator proposes to undertake additional mapping and soil sampling to refine the geometries, orientations and extents of the targets.

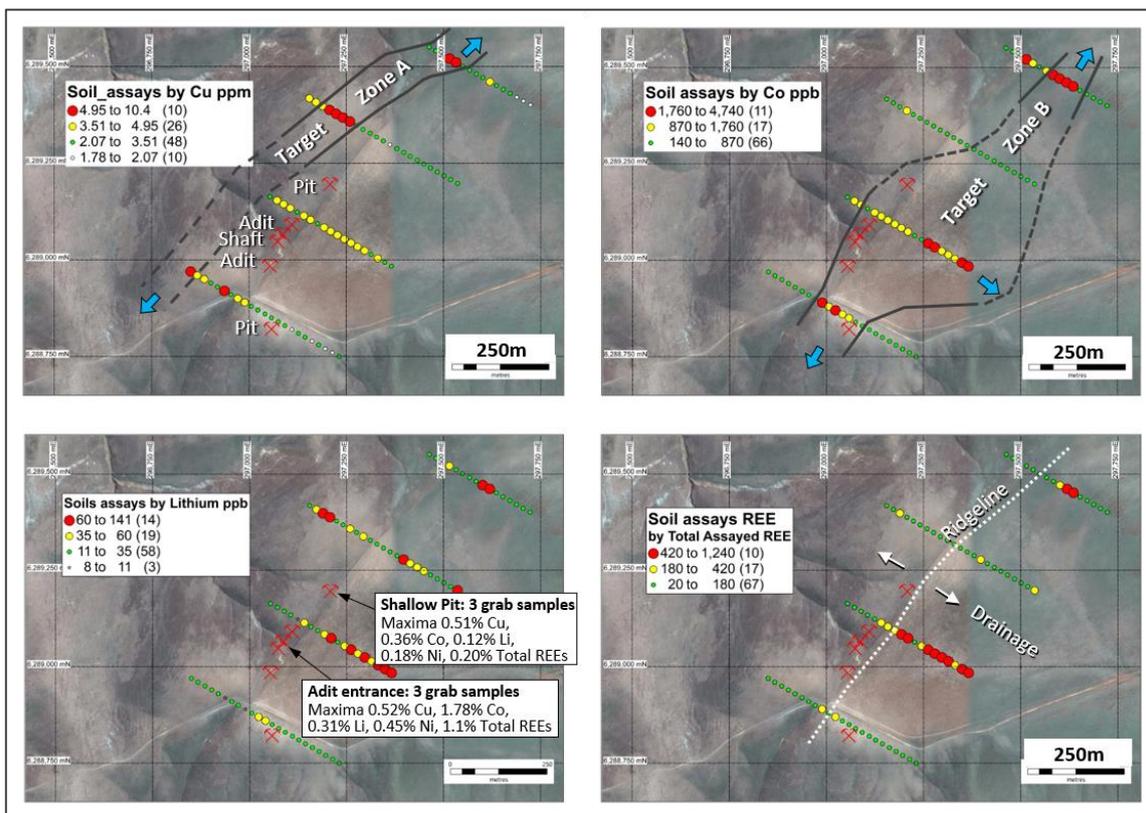
**Figure 5: Plans showing soil geochemistry values for the partial leach TL8 method on four traverses along the trend of the Cartarpo workings.**

The traverses were sampled at 20m intervals.

Interpreted target zones are shown in grey lines:-

- Target Zone A (Cu Li Ni anomalous); &
- Target Zone B (Co Li Ni REE anomalous).

Blue arrows indicate extensions open to further evaluation.



## Wiwera Prospects (EL5938 - IVR 100%)

The undrilled historic workings and structurally associated large magnetic anomaly provide new target concepts and opportunities in the Olary District (Figure 6). Grab sampling by a prior explorer in 1990 of narrow mine exposures returned maximum assays of 47% copper, 32g/t gold, 760g/t silver and 1.5% lead (Aztec Mining - SAMREF ENV8235).

The prospectivity warranted increasing the Wiwera tenement package with the grant of Plumbago EL6192 and application for Bulloo Creek (ELA2018/112).

Protocols are being followed to negotiate an access agreement with the local Native Title Claimants. The objective is to be on the ground within a few months to undertake check sampling and geochemical or geophysical surveys to evaluate the prospects.

## Algebuckina Concept (EL6187; Figure 6)

The Algebuckina tenement was granted at the north end of an MT corridor, interpreted as the northern extension of the OD ICG Belt in the Peake and Denison Ranges.

## OTHER TENEMENTS (Figure 6)

Access is being sought to Googs Lake EL5512 to enable a soil geochemical survey of a calcrete gold anomaly delineated by a previous explorer.

The Screechowl tenement application EIA2018/086 was made to assess magnesite potential northwest of Leigh Creek.

As part of the Company's on-going tenement rationalisation, Botenella Gate (EL5406) and Barna Hill (EL5857) tenements were not renewed at the end of their terms during the June Quarter.

# TENEMENT QUARTERLY STATUS

Table 2 and Figure 6 provide the location and status of the current Investigator tenements.

**Table 2:** Summary of Investigator Resources Limited tenement changes during the June 2018 Quarter

Tenement Number	Tenement Name	Registered Holder	Note
<b>Project: East Eyre Peninsula (IVR 100%)</b>			
5406	Botenella Gate	GRL	Not renewed during the June 2018 Quarter
5857	Barna Hill	GRL	Not renewed during the June 2018 Quarter
5932	Mt Nott	GRL	Current
5908	Kimba	IVR	Current
5872	Cunyarie	GRL	Current
<b>Project: Peterlumbo (IVR 100%)</b>			
5368	Peterlumbo	Sunthe	Current
<b>Project: Uno/Morgans (IVR 100%)</b>			
5845	Uno Range	GRL	Current
5933	Morgans	GRL	Current
5913	Harris Bluff	GRL	Current
<b>Project: West Eyre Peninsula (IVR 100%)</b>			
5512	Googs Lake	IVR	Current
<b>Project: Thurgla JV (GRL 75% / PRL 25%)</b>			
5419	Thurgla	GRL 75% / PRL 25%	Current
<b>Project: Maslins (IVR 100%)</b>			
5704	Yalymboo-Oakden Hills	GRL	Current
5705	Whittata	GRL	Current
5706	Yudnapinna	GRL	Current
5738	Birthday	GRL	Current
<b>Project: Curnamona (IVR 100%)</b>			
5938	Wiawera	GRL	Current
6192	Plumbago	GRL	Granted during the June 2018 Quarter
<b>Project: Adelaide Geosyncline (IVR 100%)</b>			
5999	Cartarpo	GRL	Current
<b>Project: Western Eyre (IVR 100%)</b>			
6034	Cooper Hill	GRL	Current
6047	Yantanabie	GRL	Current
6048	West Pennas	GRL	Current
<b>Project: Northern Gawler Craton (IVR 100%)</b>			
6187	Algebuckina	GRL	Granted during the June 2018 Quarter
<b>Application (IVR 100%)</b>			
2018/008	Boondina	GRL	Application made previous Quarter, pending Ministerial approval
2018/009	Cooper East Penong	GRL	Application made previous Quarter, pending Ministerial approval
2018/086	Screechowl Creek	GRL	Application made previous Quarter, pending Ministerial approval
2018/112	Bulloo Creek	GRL	Application made during the Jun'18 Quarter, pending approval

**Notes:** IVR - Investigator Resources Ltd.

Sunthe - Sunthe Uranium Pty Ltd, a wholly owned subsidiary of Investigator Resources Ltd.

GRL - Gawler Resources Pty Ltd, a wholly owned subsidiary of Investigator Resources Ltd.

PRL - Peninsula Resources Ltd, a wholly owned subsidiary of Andromeda Metals Ltd.

Figure 6: Investigator Resources - Plan of tenements; granted and applications



Expenditure for the June 2018 quarter comprised A\$812,000 spent on exploration and A\$298,000 spent on corporate and administration costs. The Company held A\$2.89million in cash at the end of the June 2018 quarter.

## ABOUT INVESTIGATOR RESOURCES

Investigator Resources Limited (ASX code: IVR) is a metals explorer with a focus on the opportunities for greenfields silver-lead, copper-gold and other metal discoveries in South Australia.

The Company's priority is progressing the development pathway for the Paris silver project with the preparation of a pre-feasibility study. The Paris Mineral Resource Estimate is 9.3Mt @ 139g/t silver and 0.6% lead, comprising 42Moz of contained silver and 55kt of contained lead, at a 50g/t silver cut-off. The resource has been categorised with an Indicated Resource estimate of 4.3Mt @ 163g/t silver and 0.6% lead for 23Moz contained silver and 26kt contained lead, and an Inferred Resource: 5.0Mt @ 119g/t silver and 0.6% lead for 19Moz contained silver and 29kt contained lead.

The Company has applied an innovative strategy that has developed multiple ideas and targets giving Investigator first-mover status. These include: the Paris silver discovery; recognition of other epithermal fields and the associated potential for porphyry copper-gold of Olympic Dam age; and extending the ideas developed at Paris-Nankivel and using breakthrough government Magneto-Telluric surveying to rejuvenate targeting with the Maslins IOCG target as the next priority drill target.

## CAPITAL STRUCTURE

As at 30 June 2018:

- Shares on issue 739,972,032.
- Listed Options 160,660,226.
- Unlisted Options 5,915,000.

The top 20 shareholders at 30 June 2018 held 32.40% of the shares on issue.

Total shareholders: 3,278.

## SUBSTANTIAL SHAREHOLDERS

As at 30 June 2018:

- CITIC Australia Pty Ltd - 9.07%.
- Old Mutual - 6.32%.
- Laurium Investments - 5.02%

ASX listing code: IVR

## DIRECTORS AND MANAGEMENT

Dr David Ransom (Non Exec. Chairman)  
Mr Andrew McIlwain (Non Exec. Director)  
Mr Kevin Wilson (Non Exec. Director)

Mr John Anderson (Managing Director)  
Mr Angelo Gaudio (CFO and Company Secretary)

## COMPETENT PERSON COMPLIANCE STATEMENT

The information in this announcement 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 announcement 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](http://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.

## FOR FURTHER INFORMATION:

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