

## **QUARTERLY ACTIVITIES REPORT**



# HIGHLIGHTS: Advancing the Paris silver project and Nankivel porphyry copper target with state-of-the-art geoscience

Paris Silver Project: Pre-feasibility Study commenced for the Paris Silver Project -

- Following April's upward revised resource estimate (9.3Mt @ 139g/t silver; 42Moz contained silver).
- Advanced metallurgical study commenced with geochemical classification of geometallurgical domains ahead of submission for laboratory trials.
- Water supply and pit hydrology studies commenced with drilling and sampling of test holes.
- Likely three-month delay in PFS completion to late 2017 due to exacting studies and consultant scheduling.

Nankivel copper-gold prospect: Drilling & collaborative research modifies and upgrades porphyry target -

- New RCP drilling provides mineralogy and geochemical vectors that point to a large and undrilled porphyry copper target shallower than previously projected.
- Southwest of porphyry-indicator outcrop of advanced argillic alteration on Nankivel Hill, now dated at around Olympic Dam age.
- Coincident 2km x 500m IP geophysical anomaly starting at a depth of about 150m.
- Drill access requires heritage clearance.

Thurlga Joint Venture: Investigator earns 75% equity in strategic tenement adjacent Paris -

- First-pass aircore drilling of two silver targets intersects anomalous silver up to 6.6g/t silver.
- Broad intervals of graphite including 30m @ 10% Total Graphitic Carbon from 57m.
- Prior shallow drilling and airborne electromagnetics indicate a large new graphite belt.

#### **Managing Director's comments:**

Investigator Resources Managing Director John Anderson said "The June quarter has been particularly rewarding for Investigator as we had our heads down drilling and extracting valuable information from our assay data-rich Paris and Nankivel projects. This is being applied to:-

- 1) Best characterise the geological domains within Paris that may perform differently under processes of metallurgical extraction. The objective is to select the most representative samples for the upcoming advanced metallurgical testing.
- 2) Maximise our targeting efforts by integrating what we know about the Paris-Nankivel mineral system. Our recent drilling and assaying has positively modified and upgraded the Nankivel porphyry copper target with multiple vectors pointing to a large IP geophysical anomaly.
- 3) Applying our breakthrough ideas to regional studies that resulted in new tenement applications during the June quarter.

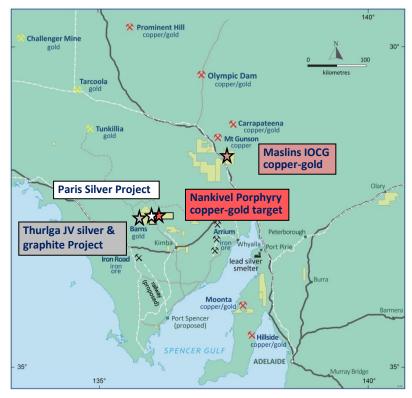
We are collecting more evidence that Investigator has found a new porphyry province. We are applying the best ideas and approach in achieving this goal, but this can be a slow iterative process that requires changes to target models at times. This has just happened at Nankivel, producing a larger and more robust target at shallower drill-reachable depths.

Investigator aims to drill the untested Nankivel target as soon as we achieve access to the IP target.

"Investigator's approach of integrating collaborative research into its exploration strategy also continues to pay off. The State Geological Survey published a geological date for the Nankivel Hill outcrop that Investigator considers is strong support for the underlying Nankivel porphyry target to be potentially of a similar age to the Olympic Dam IOCG deposit. This raises the opportunity for new geological settings and a spectrum of undiscovered and large deposit styles in the Gawler Craton. Investigator has taken a strong tenement position based on these ideas.

The Maslins IOCG target accordingly developed near Carrapateena remains our next drill priority with delays in gaining drill access due to a backlog of heritage surveys in that area.

The under-explored potential of the northern Eyre Peninsula was also demonstrated by our Thurlga graphite discovery. Silver and copper remain our exploration priorities there, so we welcomed confirmation of our majority holding of the Joint Venture tenement adjacent to Paris." He added.



**Figure 1:** Location plan of key Investigator Projects

#### Peterlumbo Tenement (EL5368) (IVR 100%):

#### **Paris Silver Project:**

Investigator's highest priority project is advancing to development the 100% held Paris Silver Project, located on South Australia's Eyre Peninsula, 70km northwest of the town of Kimba.

As reported last quarter, Investigator announced a significant update to the Paris silver Mineral Resource (Table 1) after spectacular silver intersections during infill drilling of the central part of the Paris deposit late in 2016 (Investigator ASX Release: 19 April 2017).

**Table 1:** Paris Silver Project Mineral Resource Estimates

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

**Note:** Based on 50g/t silver cut-off grade.

Any apparent small differences between values are due to rounding off. Density: Indicated - 2.20t/m³, Inferred - 2.22t/m³ and Average - 2.21t/m³.

The Company has now initiated a pre-feasibility study with a:- 1) geometallurgical analysis and metallurgical testwork of bulk samples selected from the infill reverse circulating percussion ("RCP") drilling; and 2) hydrological study.

The initial phase of the metallurgical testwork is a study of the available drill assay data to use the geochemistry to model mineralogical patterns and geometallurgical domains within the Paris resource. This is assisting with the selection of composite samples for the metallurgical laboratory testwork that is about to proceed.

The hydrological study was commenced during the quarter with six test holes being drilled. Four aircore holes are testing potential water sources in palaeochannels at Hector (12km east of Paris) and Alexander (3km west of Paris). Two RCP holes were drilled into the Paris pit outline to assess groundwater conditions.

The objective of the initial hydrological study is to provide preliminary baseline information for modelling. The information being gathered includes:

- Standing water depth.
- Salinity and PH, as well as a number of other chemical elements.
- Thickness of sand units (aquifers) and collection of samples of intervals to allow later studies to determine permeability's.
- Groundwater recharge permeability.
- Approximate indication of water flow rates.

Initial samples and data are provided to consultants with sampling to continue on three-monthly intervals to establish baseline data and variations.

As part of the hydrological study, a review is underway looking at the regional water availability and quality utilising State Government (the DEWNR) data bases and identify registered bores within the vicinity of the Paris project.

#### Nankivel copper-gold porphyry target:

Investigator continues to advance the Nankivel copper-gold porphyry target, 4km south-east of Paris within the same mineral system and 100% held Peterlumbo tenement.

As reported (Investigator ASX Release: 27 July 2017) careful analysis of both the diamond and RCP drilling assisted with petrology and multi-element pathfinder geochemistry under consultant advice has positively modified the target model from the preliminary high-level epithermal setting previously interpreted, to a shallow undrilled porphyry target extending from the advanced argillic breccia outcrop on Nankivel Hill about 2km to the south-west.

The previously interpreted shallow epithermal target was investigated with twenty slimline RCP holes (PPRC421 - 440) drilled during June 2017 with an average depth of 117m. As well as testing shallow flat-lying Induced Polarisation ("IP") anomalies, two holes were positioned to test as close as possible to the northern margin of a strong strike- and depth-extensive chargeability anomaly that extended southwest from under Nankivel Hill that was otherwise inaccessible to drill access under current heritage clearance restrictions.

The revised porphyry copper target interpretation encompassing the drilling results is summarised in plan and cross-section in Figures 2 and 3. The cross-section shown by the trace in Figure 2 was selected as the most appropriate one to demonstrate the alteration and geochemical vectors in support of the interpreted target.

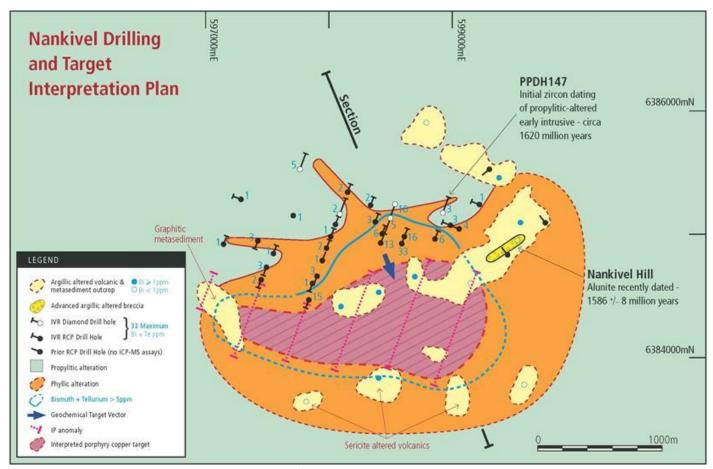
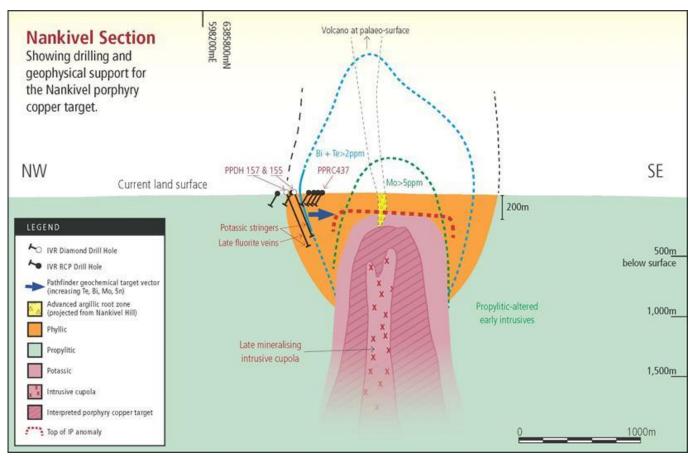


Figure 2: Plan showing the targeting ingredients for the interpreted Nankivel porphyry copper target

The initial target of advanced argillic alteration was only intersected in a few holes indicating a small deep root zone rather than a broad shallow cap. The drilling intersected a persistent flat-lying and copper-anomalous supergene zone with visible covellite, now interpreted to be at the source in part of the initially targeted shallow IP anomaly. Low-order copper was intersected, with the best intersection 4m @ 1,236ppm copper in the supergene zone. This is significant for vectoring towards the adjacent porphyry copper target with the elevated copper dominantly in the area of the initial phyllic intersection of PPDH155.



**Figure 3:** Section showing interpreted Nankivel target based on drilling vectors and IP anomaly. The standard zoned porphyry model including the eroded top is shown

The RCP drill program was extended to twenty holes owing to the widespread intersection of phyllic alteration in the majority of the holes including strong pyrite mineralisation indicative of a large robust hydrothermal system.

Pathfinder element geochemistry techniques have become a valuable tool to define vector directions which remotely point to the targeted potassic core and copper mineralisation of porphyry copper systems. Metals associated with copper such as bismuth and molybdenum, even at low levels, define broader and zoned halos enabling the prediction of proximity to the copper core. The values and gradual increases in these metals at Nankivel indicate a shallow porphyry copper core is possibly present a few hundred metres south of the current drilling pattern.

Going forward Investigator will review the boundary of the heritage clearance for the low-lying topography around Nankivel Hill. The Company has good relationships with the Native Title Holders with an Exploration Agreement in place, and do not foresee an issue with getting heritage clearance.

Activities will continue to investigate the large datasets such as reviewing the untested Nankivel IP anomaly and undertaking spectral scanning of the Nankivel drill samples to further characterise the alteration patterns and selecting more samples for collaborative research activities such as dating.

#### **Alexander West Silver Prospect:**

As reported in the last Quarter, further work was undertaken at the Alexander West prospect, with an infill soil sampling program, within the central area of the Alexander West prospect, located 3km west of the Paris silver deposit. Results are pending

#### Improved targeting within the Paris-Nankivel field

A windfall development has come from the geometallurgical work undertaken at the Paris Silver Project, with the geochemical characterisation of three suites of dykes intersecting and bounding Paris (e.g. Zirconium:Hafnium plot in Figure 4). These data show the fluorite-bearing central dyke, considered to have caused the brecciation and silver mineralisation, is the latest and most fractionated. This dyke is correlated with a number of interpreted northeast dykes

that show close associations with the main prospects and pathfinder metal patterns like molybdenum (Figure 5). The similar settings of Nankivel and Paris at the intersection of northeast dykes (pink on Figure 5) with the same northwest-southeast structure (dashed blue line in Figure 5) is further support for the Nankivel porphyry copper IP target.

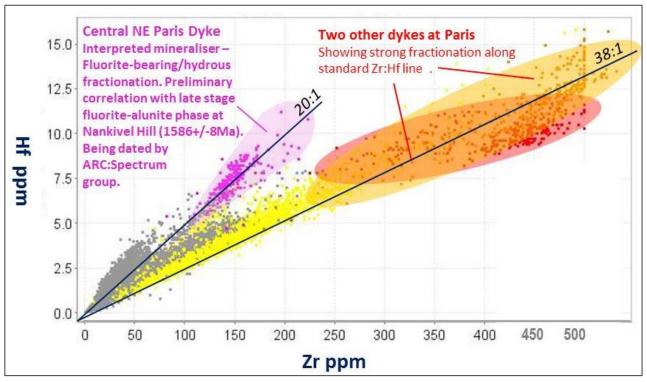
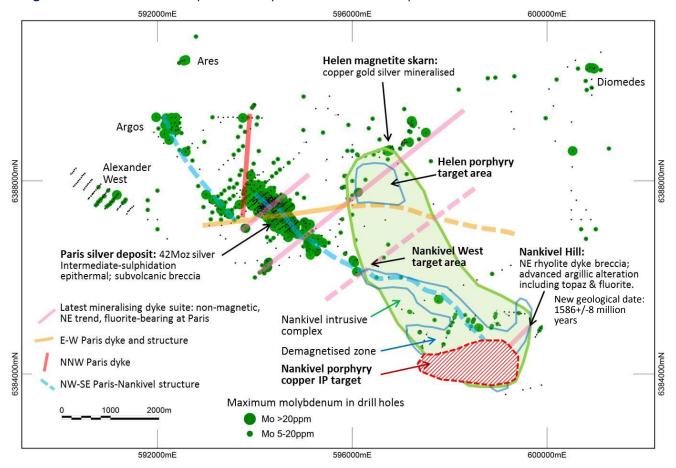


Figure 4: Zirconium: Hafnium plot for assays of the Paris drill samples



**Figure 5: Plan of the Paris-Nankivel mineral system** showing the structural and intrusive framework model based on outcrops, drilling and magnetics compared with anomalous molybdenum in all drill holes

#### **Regional Eyre Peninsula Projects**

**Thurlga Joint Venture** (Gawler Resources Limited 75% and Manager, Peninsula Resources/Andromeda Metals Limited 25%) Thurlga (EL5419):

During the quarter, Investigator acting for Gawler Resources Limited ("GRL") a wholly owned subsidiary of Investigator met its obligation to spend A\$750,000 by 30 June 2017 and has now earned a 75% legal and beneficial interest in the Thurlga JV and the Thurlga tenement. Transfer documents reflecting the shared ownership of the Thurlga tenement have been lodged with the Minerals Branch of the Department of Premier and Cabinet. The Thurlga JV will be formalised, a program and budget will be developed for consideration of the Thurlga JV Management Committee. GRL will remain as the manager for the Thurlga JV.

The Thurlga tenement is about 10km west of the Paris Silver Project, and the drilling was targeting soil anomalies similar to those at the Paris Silver Project. The drilling was partly funded through the South Australian Government's PACE drilling incentive scheme. The aim of the drilling program was to test soil anomalies defined from the soil samples collected across the tenement, and to investigate the Uno Fault as a potential host for further silver mineralisation.

Four geochemical (silver, gold, copper and nickel) anomalies were previously identified from soil sampling at Wide, Yorker, Starburst North and Ironstone South (Figures 6 and 7). In March 2017, Investigator completed a 20 aircore hole scout drill program (1,076m; TH17AC005 to TH17AC044 (not inclusive)) with depths of between 30m and 90m (average depth 54m); either vertically or at a 60° dip (Investigator ASX Release: 10 July 2017).

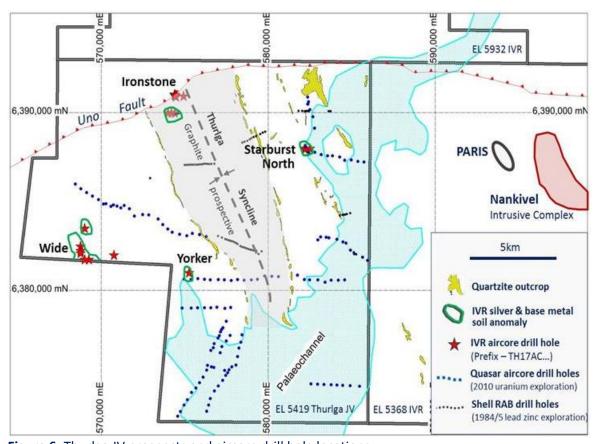


Figure 6: Thurlga JV prospects and aircore drill hole locations

Assay results were received for the aircore holes drilled; Total Graphitic Carbon (TGC) was also analysed for holes with visible graphite content in the Ironstone area. Seven of the holes achieved anomalous silver and base metal results at two prospects, Wide and Ironstone South.

At *Wide*, anomalous silver, lead, zinc and copper was achieved in four contiguous holes with the best being 28m @ 0.14% lead from 24m (TH17AC006), 1m @ 2.8g/t silver from 63m (end of hole, TH17AC007), 3m @ 456ppm copper from 36m (TH17AC011) and 21m @ 0.16% zinc and 1.05g/t silver from 36m (TH17AC012).

At *Ironstone South*, two adjacent holes (TH17AC036 and TH17AC039) intersected narrow 3m intervals of stronger silver anomalism.

These anomalies are open in most directions and are being assessed for follow-up as possible halos to covered deposits.

New targeting concepts developed at Paris and Nankivel have raised the prospectivity of the east-west dyke that is interpreted from the magnetics as extending from Paris into the Thurlga tenement (Figure 7).

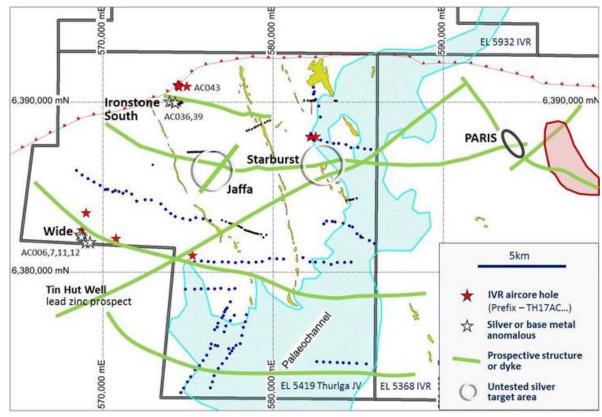


Figure 7: Drill and silver prospectivity plan for the Thurlga JV tenement

At *Ironstone*, five aircore holes testing silver targets intersected substantial graphite with significant intersections up to 16.5% TGC in 3m composite samples. One broad interval achieved 30m @ 10% TGC (Figure 8).

The graphite potential of these good intersections is expanded by re-interpreting prior exploration work by other companies seeking different commodities; *i.e.* rotary air blast ("RAB") drilling of magnetic units for lead-zinc in 1984 and the conductive formations mapped by a 2010 airborne electromagnetic survey for palaeochannel uranium. Drilling by Shell Minerals in 1984/5 targeted magnetic units for lead-zinc. The vertical RAB drilling ranged in depth from 6m to 18m with visible graphite described as shallow as one metre.

The prospective host is the same regional stratigraphy on Eyre Peninsula that hosts Renascor Resources' Siviour Project, with a reported Mineral Resource of 80.6Mt @ 7.9% TGC for 6.4Mt of contained graphite, and Lincoln Minerals' Kookaburra Gully with a reported Mineral Resource of 2.2Mt at 15.1% TGC for 0.33Mt of contained graphite.

The Thurlga Syncline is now considered to have potential to be a significant graphite belt. Diverse structural settings may offer prospects for commercial graphite attributes. Samples from the recent drilling will provide preliminary evaluations of the graphite characteristics at the northern end of the extensive belt.

A 10m composite drill sample from hole TH17AC037B has been submitted for metallurgical testwork.

#### **Other Regional Projects**

Initial contact with the landowners has been made on the recently granted tenements; Tumby Bay, Cartarpo and Maldorky, as well as a reconnaissance trip to Maldorky.

Drill access to the Maslins IOCG target is still awaiting a budget and schedule from the Native Title representatives.

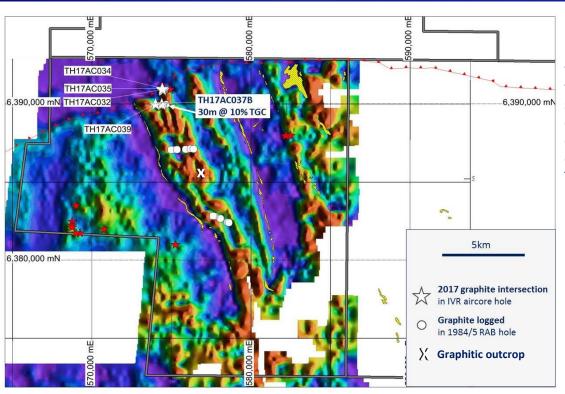


Figure 8: Conductivity plan for the -80m depth-slice from the airborne RepTEM survey showing graphite occurrences in drilling and outcrop coincident with conductive trends within the Thurlga Syncline.

#### **Regional Granite Geochemical Study**

The recognition of the prospective geochemical signatures as seen at Paris in regional datasets could speed up targeting without having to do the expensive and time-consuming zircon dates.

Investigator has applied the zirconium:hafnium analysis to public government data to identify intrusives with prospective fractionation signatures. Some of these are shown on the Hf:Zr diagram of Figure 9. Preference is given to small intrusives with fresh magnetic signatures and low Zr/Hf ratios implying late emplacement, plus proximity to the southern side of the Uno Fault and its projected western extensions. An example is the Wallala target within the Yantanabie tenement (currently under application), shown in Figures 9 and 10 where the limited outcrop sampled and assayed as having low Zr:Hf ratios by researchers corresponds with a small magnetically smooth anomaly within larger buried intrusives with older structural textures.

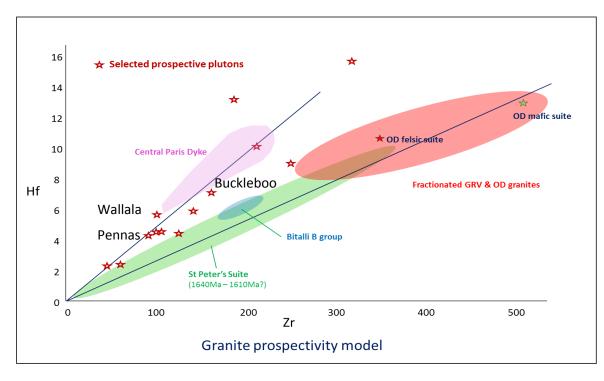


Figure 9: Granite prospectivity model based on Zr:Hf plots

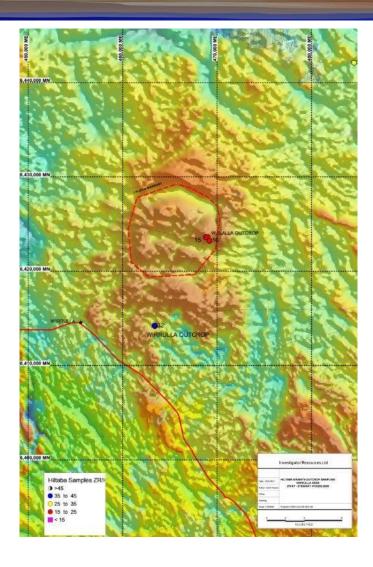


Figure 10: TMI image of public magnetic data at Wallala showing Zr:Hf values for sampling of limited outcrop within a complex pattern of multiple buried intrusives

#### **New Applications and Opportunities**

Investigator maintains an active project generation program for current and future commodity opportunities, and continues looking for new tenement opportunities.

During the June 2017 quarter, new applications were submitted to the South Australian Government in the name of GRL for nickel potential at Cooper Hill (ELA114/17) and copper-gold-silver potential arising from the granite study at Yantanabie (ELA136/17) and West Pennas (ELA161/17). Investigator is still going through the application process towards Ministerial approval.

The Company is and will continue to engage in discussions with potential joint venture and farm-in partners to supplement and expedite the development of the Company's existing projects and objectives.

#### **Corporate**

Expenditure for the June Quarter comprised A\$0.86million spent on exploration and A\$0.26million spent on corporate and administration costs. The Company held A\$2.83million in cash at the end of the June 2017 Quarter.

#### **R&D Tax Refund**

During the quarter, Investigator received A\$796,032 as a tax concession for the 2015/16 year under the Federal Government's Research and Development ("R&D") Tax Incentive program. The R&D Tax Incentive program helps businesses offset a portion of costs relating to certain R&D activities. The incentive is jointly administered by AusIndustry (on behalf of Innovation Australia) and the Australian Taxation Office.

## **TENEMENT QUARTERLY STATUS**

Table 2 summary's the changes to Investigator Resources Limited tenement holding during the June 2017 Quarter. Figure 11 shows the location of the Investigator tenements.

**Table 2:** Summary of Investigator Resources Limited tenement changes during the June 2017 Quarter.

Tenement Number	Tenement Name	Registered Holder	Note			
Project: Eas	Project: East Eyre Peninsula (IVR 100%)					
4841	Moonabie	GRL	Not renewed, awaiting Ministerial approval			
5406	Botenella Gate	GRL	Current			
5857	Barna Hill	GRL	Current			
5932	Mt Nott	GRL	Current			
5908	Kimba	IVR	Current			
5697	Fairfield	IVR	Ministerial approval given for the surrendered during the Quarter			
5826	Tumby Bay	GRL	Current			
5872	Cunyarie	GRL	Current			
Project: Peterlumbo (IVR 100%)						
5368	Peterlumbo	Sunthe	Current			
Project: Uno/Morgans (IVR 100%)						
5845	Uno Range	GRL	Current			
5933	Morgans	GRL	Current			
5913	Harris Bluff	GRL	Current			
Project: West Eyre Peninsula (IVR 100%)						
5512	Googs Lake	IVR	Current			
Project: Northern Yorke Peninsula (IVR 100%)						
5444	The Hummocks	GOY	Current. Surrender documentation submitted, pending Ministerial approval			
5713	Bute	GOY	Current. Surrender documentation submitted, pending Ministerial approval			
Project: Thurgla JV (GRL 75% / PRL 25%)						
5419	Thurlga	GRL 75% / PRL 25%	Current			
Project: Maslins (IVR 100%)						
5704	Yalymboo-Oakden Hills	GRL	Current			
5705	Whittata	GRL	Current			
5706	Yudnapinna	GRL	Current			
5738	Birthday	GRL	Current			
Project: Curnamona (IVR 100%)						
5938	Maldorky	GRL	Current			
Project: Adelaide Geosyncline (IVR 100%) ** Application **						
2017/065	Cartarpo	GRL	New Application			
Project: Western Eyre (IVR 100%) ** Applications **						
2017/114	Cooper Hill	GRL	New Application			
2017/136	Yantanabie	GRL	New Application			
2017/161	West Pennas	GRL	New Application after June 30			

#### 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.

GOY - Goyder Resources Pty Ltd, a wholly owned subsidiary of Investigator Resources Ltd.

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

## **TENEMENT QUARTERLY STATUS**

During the June 2017 Quarter:

- EL5419 (Thurlga), transfer application submitted (28 June 2017) for the transfer of 75% beneficial interests to GRL, and is awaiting Ministerial approval.
- ELA2017/065 (Cartarpo), ELA2017/114 (Cooper Hill), ELA2017/136 (Yantanabie) and ELA161/17 (West Pennas), new applications and are awaiting Ministerial approval.
- EL4841 (Moonabie), has not been renewed and has lapsed, awaiting Ministerial approval.
- EL5697 (Fairfield), Ministerial approval given for the surrender.
- EL5444 (The Hummocks) and EL5713 (Bute), surrender documentation submitted, awaiting Ministerial approval.

During the Quarter, the Transfer application for the 75% beneficial percentage interests in EL5419 (Thurlga) was submitted 28 June 2017 and is awaiting Ministerial approval.

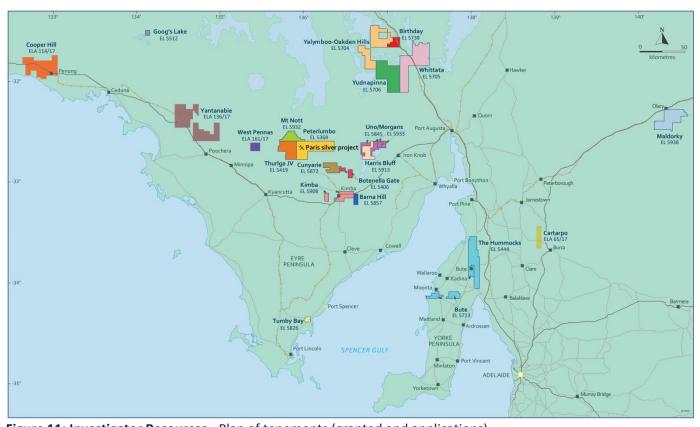


Figure 11: Investigator Resources - Plan of tenements (granted and applications)

#### **CORPORATE OBJECTIVES**

- Advance the Paris Silver Project with the completion of a pre-feasibility study during the third quarter 2017.
- Accelerate copper-gold exploration at Nankivel at the centre of the Paris silver field following the breakthrough discovery of a large porphyry system with copper-gold potential in September 2016.
- Seek additional larger silver resources and new nickel resources within the Paris field and broader Uno Province, based on knowledge gained from the Paris and Nankivel discoveries.
- To drill the Maslins IOCG-style copper-gold prospect, a first-mover opportunity in a newly identified geophysical extension to the Olympic Dam and Carrapateena belt.

#### **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 nickel discoveries offered by the emerging minerals frontier of the southern Gawler Craton on South Australia's northern Eyre Peninsula.

The Company announced a revised estimation for the Paris Silver Project Mineral Resource for its 2011 Paris silver discovery to 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 is accelerating the development pathway for the Paris silver project with the preparation of a prefeasibility study.

#### **CORPORATE**

The quarterly direct exploration expenditure was A\$0.86million cash, and associated corporate and administration costs were A\$0.26million. The Company held A\$2.83million in cash at the end of the report quarter.

#### **CAPITAL STRUCTURE**

As at 30 June 2017:

- Shares on issue 585,426,577.
- Unlisted Options 11,015,000.

The top 20 shareholders at 30 June 2017 held 36.53% of the shares on issue.

Total shareholders: 3,385.

#### SUBSTANTIAL SHAREHOLDERS

As at 30 June 2017:

- CITIC Australia Pty Ltd 11.46%.
- Old Mutual 5.5%.

**ASX listing code: IVR** 

#### **DIRECTORS AND MANAGEMENT**

Dr David Ransom (Non Exec. Chairman)
Mr David Jones (Non Exec. Director)
Mr Bruce Foy (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 <a href="https://www.investres.com.au">www.investres.com.au</a>. 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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