

INVESTIGATOR

RESOURCES

# QUARTERLY ACTIVITIES REPORT

Ending 31 March 2017



# **HIGHLIGHTS** – Another Strong Quarter

- Significant 26% upgrade for the **Paris silver project** in South Australia to **42Moz silver**, with over half classified as Indicated.
- Greater confidence in the epithermal breccia geology and high grades (average 139g/t silver with the better drilled Indicated component averaging 163g/t silver).
- Enables **Paris prefeasibility study to proceed** to build on the open-pit scenarios, good initial metallurgical results and potential groundwater source nearby.
- Drilling of the Nankivel Prospect during the quarter confirmed **Olympic Dam aged mineralised porphyries** with potential for associated shallow high-sulphidation gold-silver deposits.

# Paris Silver Project: Peterlumbo Tenement (EL5368 - IVR 100%):

Investigator's highest priority is advancing the Paris Silver Project to development.

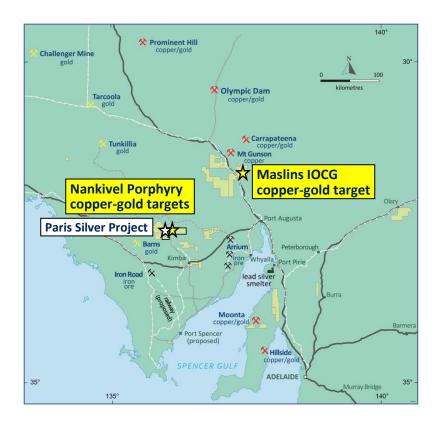


Figure 1: Key Investigator project locations

Spectacular silver intersections, produced by the infill drilling of the central part of the Paris resource late in 2016 and reported for the last quarter, resulted in a significant upgrade to the Paris silver resource.

The revised Mineral Resource was independently prepared by H & S Consulting Pty Ltd ("H&SC") using the Multiple Indicator Kriging ("MIK") method of estimation, which is considered the most suitable estimation method for the complex mineralisation style of the Paris silver deposit. The Mineral Resource has been estimated and reported in accordance with the guidelines of the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Minerals Resources and Ore Reserves ("2012 JORC Code").

In mid April 2017, the Company announced (Investigator ASX Release: 19 April 2017) the upgrade of the Paris Silver Resource to 42Moz contained silver through an increase in grade and tonnage with the majority of ounces elevated to Indicated Classification. Table 1 summarises the Paris Silver Project Mineral Resource Estimates (based on 50g/t silver cut-off grade).

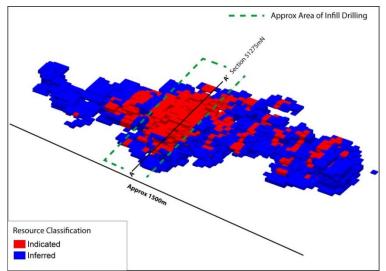
Table 1: Paris Silver Project Mineral Resource Estimates based on Sug/t silver cut-off grade
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Category	Tonnage	Silver Grade	<b>Contained silver</b>	Lead Grade	<b>Contained lead</b>
	(Mt)	(g/t)	(Moz)	(%)	(kt)
Indicated	4.3	163	23	0.6	26
Inferred	5.0	119	19	0.6	29
Total	9.3	139	42	0.6	55
Noto	Any apparent small differences between volves are due to reunding off				

*Note:* Any apparent small differences between values are due to rounding off Density: Indicated - 2.20t/m<sup>3</sup>, Inferred - 2.22t/m<sup>3</sup> and Average - 2.21t/m<sup>3</sup>

Figure 2 illustrates the distributions of the MIK resource blocks that contributed to the plus 50g/t silver Mineral Resource. The striped distribution of Inferred and Indicated zones outside the Infill Area reflects the closer spaced drilling every hundred metres along the deposit compared with the less dense drilling on the intervening sections.

The Indicated Resource largely corresponds with the area of infill drilling (Figure 2) and shows a 41% increase in grade over the 2013 Inferred Resource of 8.8Mt @ 116g/t silver for 33Moz contained silver.

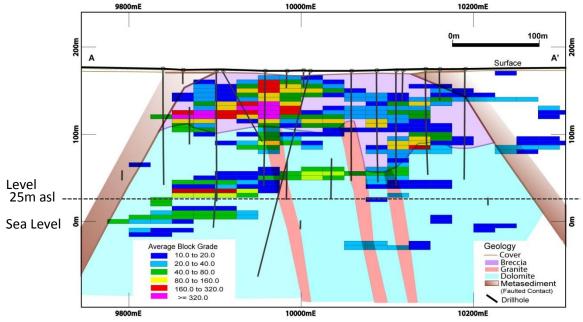


**Figure 2: Paris Silver Mineral Resource** - Oblique view looking north of the MIK resource blocks that contributed to the plus 50g/t silver Indicated classification. Shallowest blocks are within 5m of the surface.

The Inferred component retains a grade similar to the prior resource grade of 116g/t silver. This implies that further infill drilling across the deposit may see further grade improvements.

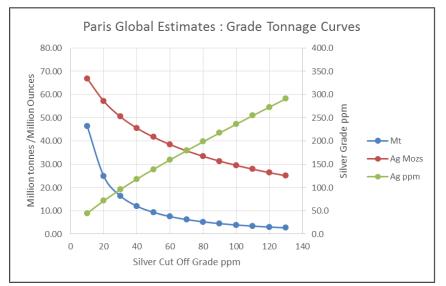
The depth of the mineralisation ranges from 5m to 160m below the flat surface (Figure 3) consistently along the length of the deposit axis.

The dominant soft host rock and shallow depth of the Paris deposit offers potential for an open-pit mining operation; H&SC has modelled and classified the resource in accordance with this assumption. The Mineral Resource Estimates are reported using a silver cut-off grade of 50g/t and were constrained to above the 25mRL (Figure 3).



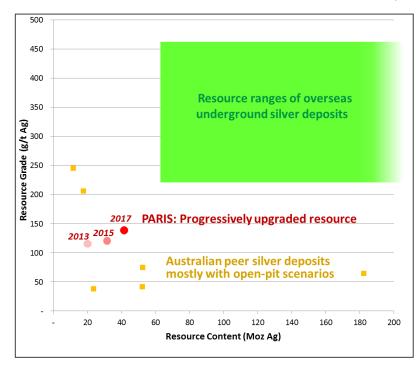
**Figure 3: Paris Mineral Resource** - Section 51275mN looking north showing MIK resource blocks (average grade) overlaying the generalised resource geology. The section is representative of the shallow and flat-lying distribution for the majority of the resource. Blocks are 25m x 25m x 5m. The lower resource depth limit is shown as Level 25m above sea level (asl).

As well as the high silver grades for the open-pit development scenario, the tonnage-grade profiles (Figure 4) also offer flexibilities with adjusting the cut-off grades for more ounces at times of higher silver prices; *e.g.* to 30g/t cut-off for 50Moz silver or to higher grades at times of lower silver prices; *e.g.* to 70g/t cut-off for 6.2Mt @ 179g/t silver for 36Moz. The retention of the bulk of the ounces at this high cut-off is further reflecting the robust grade profile for the Paris project.



**Figure 4:** Tonnage/grade curves for the global resource

In terms of grade, the Paris Silver Project is one of the best undeveloped silver Projects in Australia. Figure 5 compares the Paris Silver Project resource grade and contained silver ounces with other silver deposits as at April 2017. No credits are added for other metals in multi-element deposits.



**Figure 5:** Graphical comparison of the Paris Silver Project resource grade and contained ounces with other silver deposits (as at April 2017)

Following the resource upgrade, the Company will initiate a prefeasibility study, with priority to be given to the metallurgical testwork on bulk samples selected from the infill reverse circulating percussion drilling and a geohydrology study. An open-pit mining study on preliminary mine and operational design will be included.

# Nankivel copper-gold porphyry targets Peterlumbo Tenement (EL5368 - IVR 100%)

Four diamond holes were drilled at Nankivel during the quarter, aimed at IP chargeability anomalies within a large demagentised zone (Figure 6) (Investigator ASX Release: 26 April 2017). All intersected potassic-altered porphyritic monzodiorite over the drilled area variously showing the fracturing, veining and multiple intrusives expected in a mineralised porphyry system. The potassic alteration has the minerals expected in a mineralised porphyry - potash feldspar, biotite, magnetite and tourmaline.

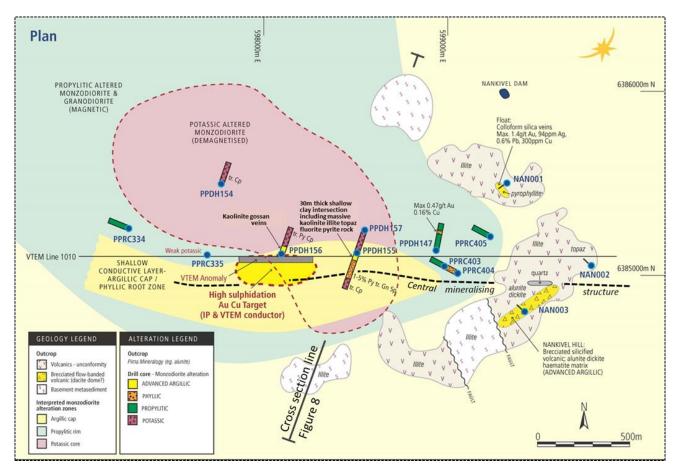


Figure 6: Nankivel epithermal/porphyry copper gold prospect: Interpretive geology and target plan

Significantly, hole PPDH155 intersected an intact zoning pattern typical of a porphyry (Figure 7) ranging from 30m of shallow advanced argillic alteration (kaolinite, illite, topaz, fluorite, pyrite and silver and copper chlorides), above 200m of intense phyllic alteration and brecciation (silica sericite pyrite carbonate fluorite lead and zinc sulphides), subsequently entering the potassic altered monzodiorite. A similar vertical zonation is seen in the sulphide mineralogy from trace to 1% galena (lead sulphide) and sphalerite (zinc sulphide) transitioning to chalcopyrite (copper sulphide) about 200m below the surface.

Hole PPDH157 on the same cross section confirmed the zoning patterns, the central structure and fluorite-rich minerals around the structure (Figure 7).

The prospective central structure is interpreted as projecting in plan from the advanced argillic and quartz vein outcrops on Nankivel Hill westerly past the strongly pyritic intersection in PPRC404, then through the breccias, veins and alteration of PPDH155/7 for a distance of at least 1.5km (Figure 6).

The copper mineralisation is visually estimated to be low to modest in content and is not expected to produce significant grades. The mineral zoning suggests that any higher-grade copper shell to a modelled late intrusive is at least 500m below the surface beneath current drilling. Although deep, there is alteration and intrusive evidence for multiple porphyry events at Nankivel that implies shallower ("telescoped") porphyry deposits.

Samples for PPDH155 have been submitted for assay with results expected mid-May. Cutting of the assay samples for the remaining holes is about to start.

The assays will also be used to assess vertical and lateral vectors to proximal porphyry and epithermal targets by the comparison of the multi-element data between holes.

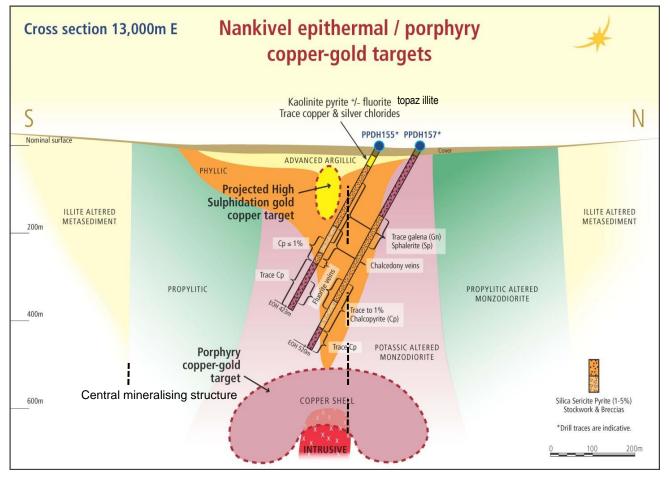


Figure 7: Nankivel epithermal/porphyry copper gold prospect: Interpretive geology and target

Review of the Nankivel drilling revealed the following exploration opportunities:-

#### Nankivel porphyry prospectivity

Potassic-altered porphyry with copper mineralisation, albeit at modest visual levels to date, offers potential for shallower copper-rich shells around late porphyry intrusives between or below the current drill holes at Nankivel.

#### High sulphidation gold-copper deposits

The advanced argillic alteration preserved near the surface implies potential for shallow high-grade gold and copper deposits within the Nankivel system. Such a potential high-sulphidation target is delineated as a 400m long conductive feature by a single airborne VTEM (Versatile Time Domain Electromagnetic) line flown across Nankivel by CSIRO for hydrological studies (Figure 6). This possible conductor lies along the interpreted western projection

of the central structure and is adjacent to limited kaolinite gossan (oxidised sulphides) veins around 50m down hole PPDH156 that was drilled away from the target (Figure 6) into an alternative IP chargeability target.

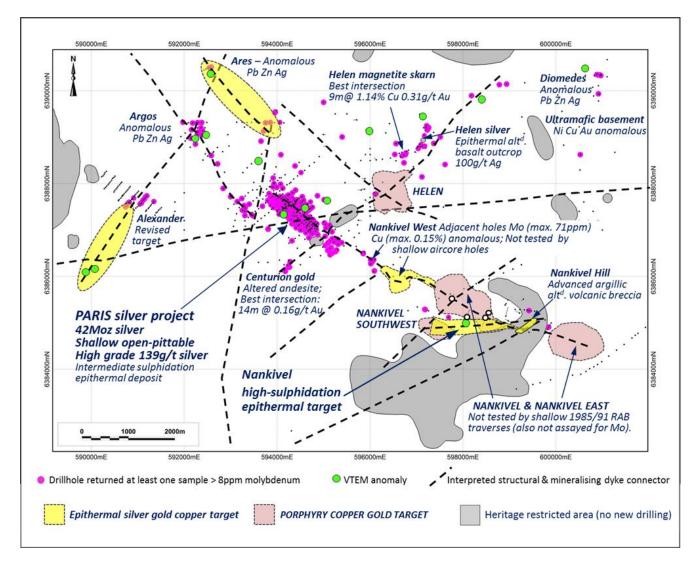
Other silver, copper and gold targets within the Paris-Nankivel epithermal-porphyry complex

Figure 8 shows the targeting model for the Paris-Nankivel complex. The interpreted prospective connecting structures are based on geological, geophysical and geochemical factors, including the distribution of low-level molybdenum geochemistry.

In addition to Nankivel, three other areas have similar magnetic and molybdenum signatures with similar potential, namely Nankivel Southwest, Nankivel East and Helen. The Nankivel high-sulphidation target is shown on Figure 8 connecting Nankivel Hill with Nankivel Southwest. Nankivel West extending from the Nankivel porphyry towards Paris is seen as another priority shallow gold target.

The Alexander and Ares silver targets will also be reviewed.

The entire area of Figure 8 has been heritage surveyed. Hills generally corresponding with silicified volcanics such as Nankivel Hill are now nominated as unavailable for drill access. Clearance under a prior heritage survey permitted drilling at Nankivel Hill in the past. All the nominated targets except Nankivel Hill are cleared for drill access.



**Figure 8: Updated Target Plan for the Paris-Nankivel epithermal/porphyry complex** showing priority targets arising from the new results of the Paris Infill drilling and drill confirmation of the mineralised Nankivel porphyry.

Two levels of wider exploration work will proceed:-

- 1) Assessing the new and revised shallow silver and gold targets for potential synergies with the silver project at Paris. Priority will be given to advancing the Nankivel high-sulphidation target.
- 2) Seeking shallow tops to mineralised copper shells within the four nominated porphyry target areas.

Review of the VTEM data along with the undrilled Nankivel IP anomalies will be undertaken. Expanded IP and electromagnetic (EM) ground surveying will be considered for both target strategies.

#### **Maslins IOCG Project**

With access processes initiated for heritage clearance and drill access, the Maslins project was otherwise inactive while the Company attended to the Paris/Nankivel developments.

## **Regional Eyre Peninsula Projects**

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

An aircore drilling program was completed in early March 2017, having drilled 20 holes for 1,066m. The drilling is being co-funded as part of the South Australian Government's drilling incentive scheme, for which Investigator was awarded a 2016/17 PACE grant of A\$90,000.

Samples have been submitted for analysis.

#### Other IVR Tenements (IVR 100%):

There has been limited activity on the other tenements as the focus has been on the other higher priority Projects during the December 2016 Quarter.

#### **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 March 2017 quarter, a new application was submitted to the South Australian Government in the name of Gawler Resources Pty Ltd (a wholly owned subsidiary of Investigator Resources Ltd), for Cartarpo (ELA065/17) a potential opportunity for copper and cobalt. 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 March Quarter comprised A\$0.73million cash spent on exploration and A\$0.25million spent on corporate and administration costs. The Company held A\$3.14million in cash at the end of the March 2017 Quarter.

Table 2 summary's the changes to Investigator Resources Limited tenement holding during the March 2017 Quarter. Figure 9 shows the location of the Investigator tenements.

Tenement Number	Tenement Name	Registered Holder	Note	
Project: East E	yre Peninsula (IVR 100%)			
4841	Moonabie	GRL	Not renewed during the Quarter	
5406	Botenella Gate	GRL	Current	
5857	Barna Hill	GRL	Current	
5932	Mt Nott	GRL	Current - Renewed during the Quarter	
5908	Kimba	IVR	Current - Renewed during the Quarter	
5697	Fairfield	IVR	Current - Surrendered during the Quarter	
5826	Tumby Bay	GRL	Current	
5872	Cunyarie	GRL	Current	
Project: Peterl	umbo (IVR 100%)			
5368	Peterlumbo	Sunthe	Current	
Project: Uno/M	Aorgans (IVR 100%)			
5845	Uno Range	GRL	Current	
5933	Morgans	GRL	Current - Renewed during the Quarter	
5913	Harris Bluff	GRL	Current - Granted during the Quarter	
Project: West I	Eyre Peninsula (IVR 100%)			
5512	Googs Lake	IVR	Current - Renewed during the Quarter	
Project: North	ern Yorke Peninsula (IVR 100%)	-		
5444	The Hummocks	GOY	Current	
5713	Bute	GOY	Current	
Project: Thurg	a JV (PRL, GRL earning to 75%)			
5419	Thurlga	PRL, GRL earning to 75%	Current	
Project: Maslin	ns (IVR 100%)		•	
5704	Yalymboo-Oakden Hills	GRL	Current	
5705	Whittata	GRL	Current	
5706	Yudnapinna	GRL	Current	
5738	Birthday	GRL	Current	
Project: Curna	mona (IVR 100%)			
5938	Maldorky	GRL	Current - Granted during the Quarter	
Project: Adelai	de Geosyncline (IVR 100%) ** Ap	plication **		
2017/065	Cartarpo	GRL	New Application	

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

#### 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 Adelaide Resources Ltd.

During the March 2017 Quarter:

- EL5932 (Mt Nott), EL5908 (Kimba), EL5933 (Morgans) and EL5512 (Googs Lake), have been renewed.
- EL5913 (Harris Bluff) and EL5938 (Maldorky) were granted to GRL.
- ELA2017/065 (Cartarpo) is a new application and is awaiting Ministerial approval.
- ELA2016/182 (Glendambo), the application has been withdrawn.
- EL4841 (Moonabie), has not been renewed and has lapsed.
- EL5697 (Fairfield) has been surrendered.

There were no other changes to the beneficial percentage interests in farm-in or farm-out agreements held or relinquished during the Quarter.



Figure 9: 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\$0.73million cash, and associated corporate and administration costs were A\$0.25million. The Company held A\$3.14million in cash at the end of the report quarter.

#### COMPETENT PERSON COMPLIANCE STATEMENT

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 <u>www.investres.com.au</u>. 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.

#### **CAPITAL STRUCTURE**

As at 31 March 2017:

- Shares on issue 585,426,577.
- Unlisted Options 11,770,000.

The top 20 shareholders at 31 March 2017 held 33.87% of the shares on issue.

Total shareholders: 3,501.

#### SUBSTANTIAL SHAREHOLDERS

As at 31 March 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)

#### FOR FURTHER INFORMATION:

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