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## **ASX ANNOUNCEMENT**

**29 Oct 2021**

# Quarterly Activities Statement – September 2021

## Highlights

- Regional shallow RAB drilling program completed at the Comet Gold Project with results pending. A second round of regional drilling to get underway from mid-November.
- Air-core / Percussion drill testing of Target 14 and Comet Gold Prospects scheduled to start from mid-November.
- Regional gravity survey over the Gina Project to search for IOCG style mineralisation to get underway in early November.
- Woomera Project (ELA 2021/00066), close to Coda Mineral's Emmie Bluff IOCG discovery, includes several gravity targets prospective for IOCG style mineralisation.

## Summary of Operations

Petratherm (ASX-PTR) maintains a strong exploration focus for Olympic Dam Style Copper-Gold and high-grade gold systems. During the period the Company completed a phase of regional shallow RAB drilling at the Comet Gold Project approximately 80 kilometres southwest of Coober Pedy in South Australia to explore for new gold anomalous areas. A second phase of regional drilling will be undertaken from mid-November expanding the program further.

In addition to the regional early-stage drilling exploration work, a second drill rig has been secured to conduct air core and percussion hammer drilling of the Target 14 and Comet Gold Prospects starting from mid-November.

The Company's Mabel Creek Project is prospective for Iron-Oxide Copper-Gold (IOCG) mineralisation and drilling to date identified two areas (Areas 5 and 13) showing IOCG style hydrothermal alteration. Petrological analysis of the drill core during the period highlights elevated light rare earth and iron enrichment, supporting the region's fertility for iron-rich hydrothermal activity. Untested gravity targets flanking these anomalous areas will be followed up with additional geophysical surveying to aid future drill targeting.

The Company's newly acquired Woomera Project, close to Coda Mineral's recent Emmie Bluff IOCG discovery, includes several high priority gravity targets prospective for IOCG style mineralisation. In addition, IOCG style mineralisation is being targeted on the Company's recently granted Gina Project Area, southwest of the

Prominent Hill copper-gold deposit; regional gravity surveying is scheduled to get underway from early November.

The Company had exploration and evaluation costs of \$198,000 relating principally to the Comet Project drilling operations during the quarter. Administration and corporate costs totalled \$90,000. The Company held \$2,886,000 cash at the end of the quarter. A summary of exploration activities during the quarter is presented below.

In accordance with ASX Listing Rules Guidance Note 23, the aggregate amount of payments to related parties of the Company and its associates disclosed under section 6.1 of the Appendix 5B totalled \$26,000 and comprised of Director's fees.



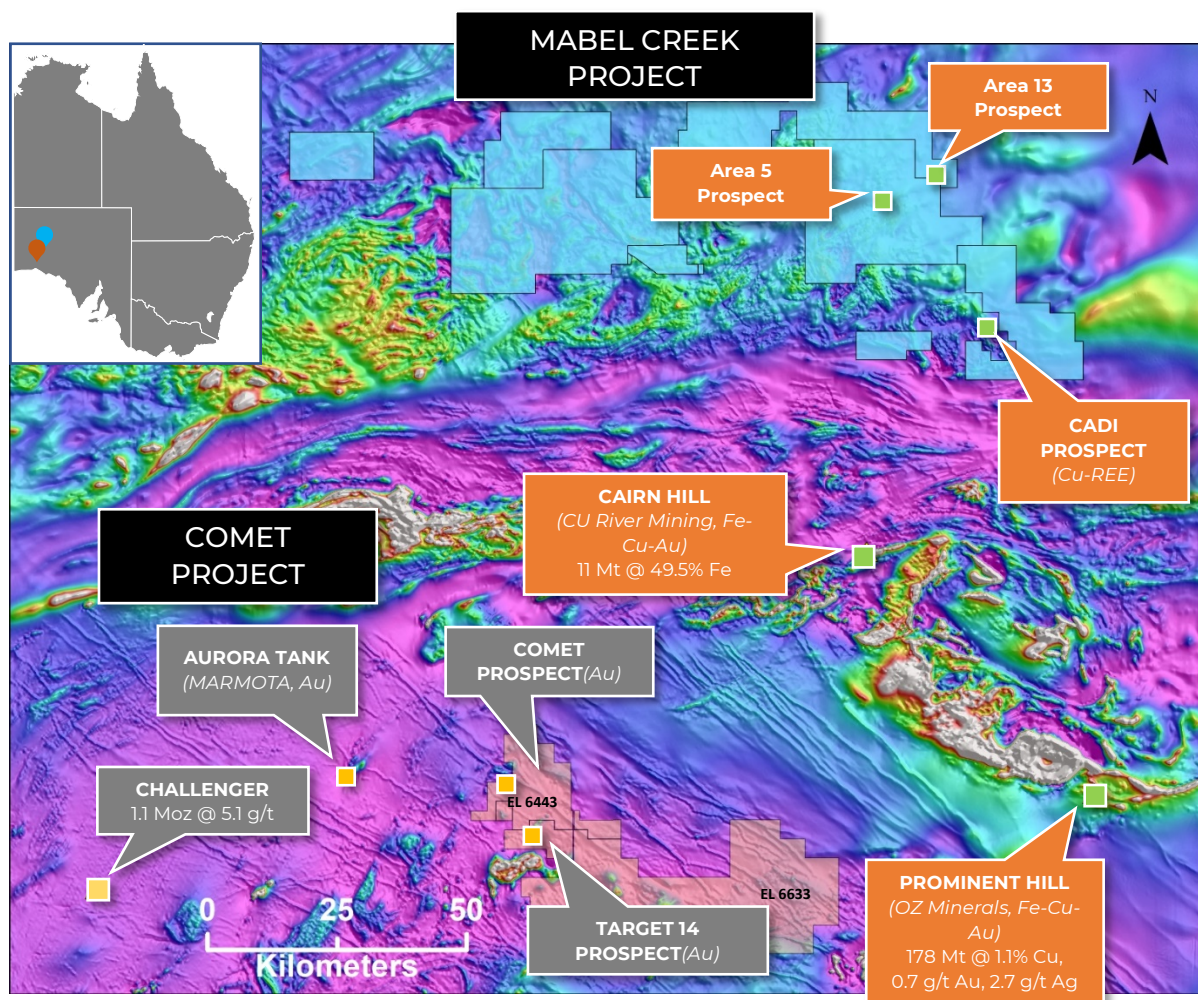
Diamond Drilling Operations at Area 13, Mabel Creek Project

## Mabel Creek Project

The Mabel Creek Project, 50 kilometres northeast of Coober Pedy in South Australia is prospective for Iron-Oxide Copper-Gold (IOCG) and related magnetite skarn copper and high value rare-earths. Petrathern has a large ground position with four tenements (EL's 6332, 6333, 6404 & 6405) totalling 2,852 km<sup>2</sup> (Figure 1). Drilling to date has identified two areas (Areas 5 and 13) showing IOCG style hydrothermal alteration (refer to PTR ASX release 27/07/21). Recent petrological analysis of the drill core from the last round of drilling completed in June 2021 has identified granitoids which are strongly iron and light rare-earth enriched, highlighting the fertility of these target areas for iron-rich hydrothermal activity.

Low levels of copper anomalism have been found to occur in flanking positions on the edges of the main gravity anomaly features at Area 5 and Area 13. The Company is considering undertaking IP geophysical surveying over these broad and complex gravity anomalies and over other earlier stage gravity anomalies to see if this

may be a more effective targeting tool to directly locate any chargeable zones potentially indicating high concentrations of sulphide. Tenders to perform this work have been received with groundwork likely to be performed early in the new year period.



**Figure 1** Regional Location Map showing Petratherm’s Mabel Creek and Comet Project Holdings, with major mines and key prospects in the area overlain on a Regional Aeromagnetic Image

## Comet Gold Project

The Comet Project (EL 6443 and EL 6633) contains prospective Archean strata of the Northern Gawler Craton which hosts numerous gold occurrences such as the Challenger gold deposit (1.1 Moz @ 5.1g/t) and is located 30 km east from the recent high-grade Aurora Tank Gold discovery (Figure 1). In August the Company was granted a large exploration licence covering 934 km<sup>2</sup> (EL 6633 “Gina”) which co-joins with the Company’s existing Comet Project Area (EL 6443), increasing its tenure position in the gold prospective province.

Historical surface geochemical sampling exploration techniques in the region have been severely impeded by shallow cover strata which masks most of the prospective basement rock geochemical response. To overcome this issue Petratherm is applying a new exploration methodology, where regional scale (400 metre by 400 metre) shallow grid drilling is being undertaken over the tenements to directly sample the top of the in-situ “saprolite” zone clays (deeply weathered basement rock which has been chemically decomposed to clay)

below younger transported cover strata (refer to PTR ASX release 28/05/21 for program background). In most areas the top of saprolite zone occurs between 5 and 15 metres depth and shallow drilling is being undertaken using a light weight and cost-effective land cruiser mounted air core drill rig. In all, 163 drill holes totalling 2,473 metres were drilled during the quarter (Figure 2).

Samples have been lodged for geochemical analysis and results are pending. A second phase of regional drilling, totalling approximately another 400 drill holes will be undertaken from mid-November expanding the regional work into new areas. The regional shallow grid drilling is supported by S.A Government grant funding to a level of \$147,500 on a 1 for 1 basis through the Accelerated Discovery Initiative.

A second drill rig has been secured to conduct air core/hammer drilling of the of Comet and Target 14 and gold prospects from mid-November. The Comet Gold Prospect which features historic gold intercepts of up to 6.97 g/t Au (refer to PTR ASX release 30/10/20) will test for extensions of the mineralisation which remains open in all directions along with some infill drilling to assess gold grades.

The Target 14 Prospect (Figures 1 & 3) was discovered in 2002 by Redport Limited during a regional reconnaissance RAB drilling program targeting a shear/fault structure interpreted from the regional aeromagnetic data. The prospect area is blanketed by sandy transported cover and no gold anomalism was identified from previous calcrete soil geochemical sampling. The drilling comprised vertical holes at 100 metre spacing along two short RAB drill traverses 1200 metres apart (Figure 3). On the southwestern line, the last 2 eastern holes recorded highly anomalous gold (Figure 3) with drill hole RED 16, at the end of the southern drilling traverse, intersecting 9 m @ 105 ppb Au from 32 metres to the end of hole (EOH) at 41 metres (refer to PTR ASX release 03/12/2020).

These drill intercepts are consistent with the magnitude of gold anomalism observed on the immediate fringe or in some weathered/leached portions of other primary gold occurrences found elsewhere in the northern Gawler Craton. The anomalous gold zone is open in all directions and follow up step out and infill drill testing is scheduled to occur in November 2021.



**Photo:** RAB Drilling Operations at Comet

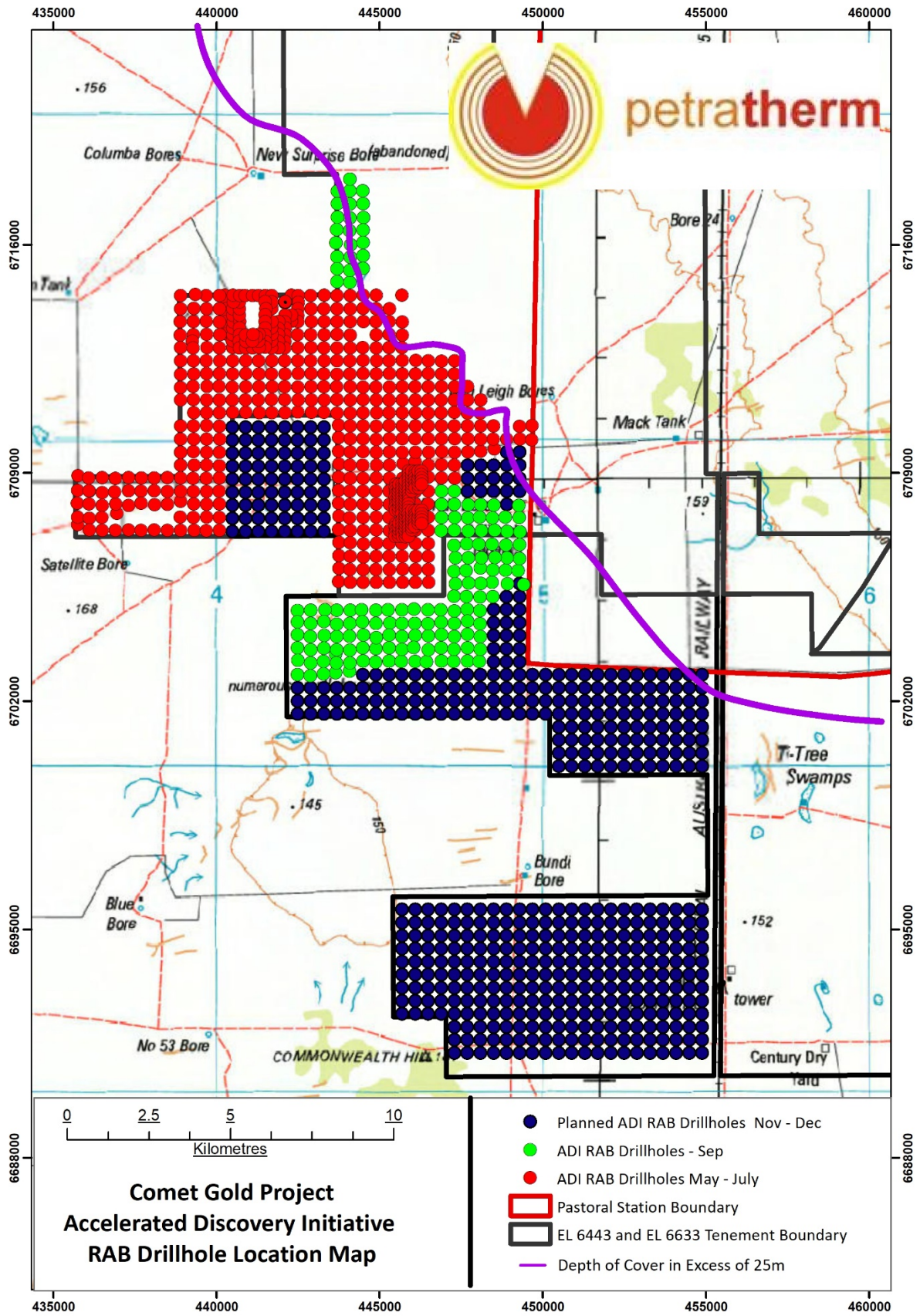
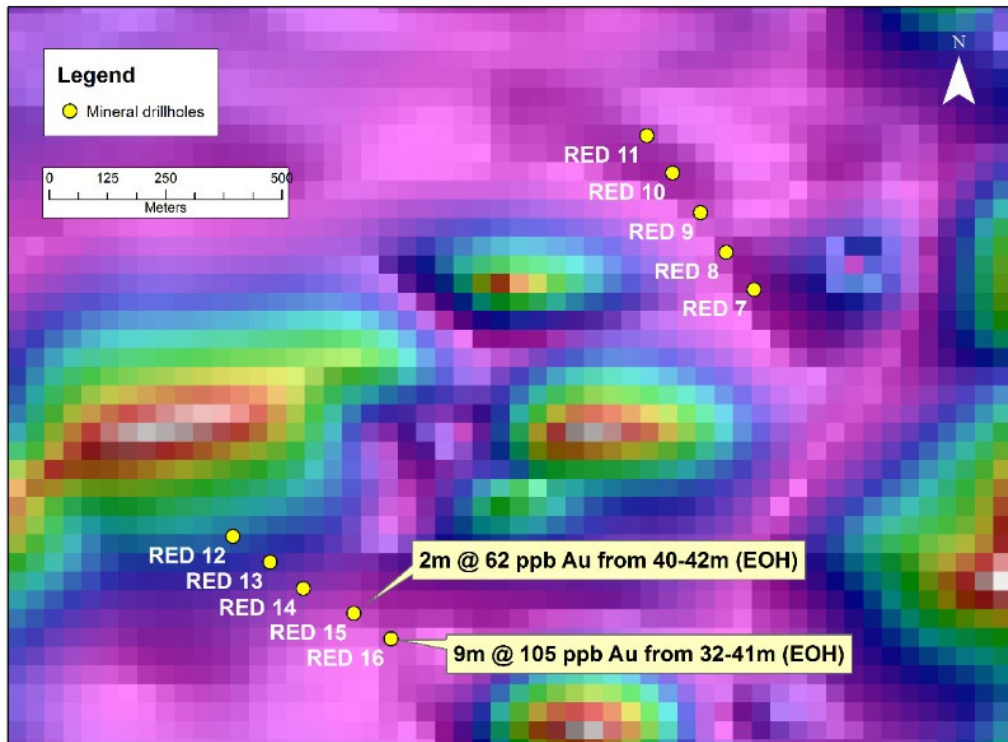


Figure 2 Plan of Regional shallow RAB Gold Drilling Program

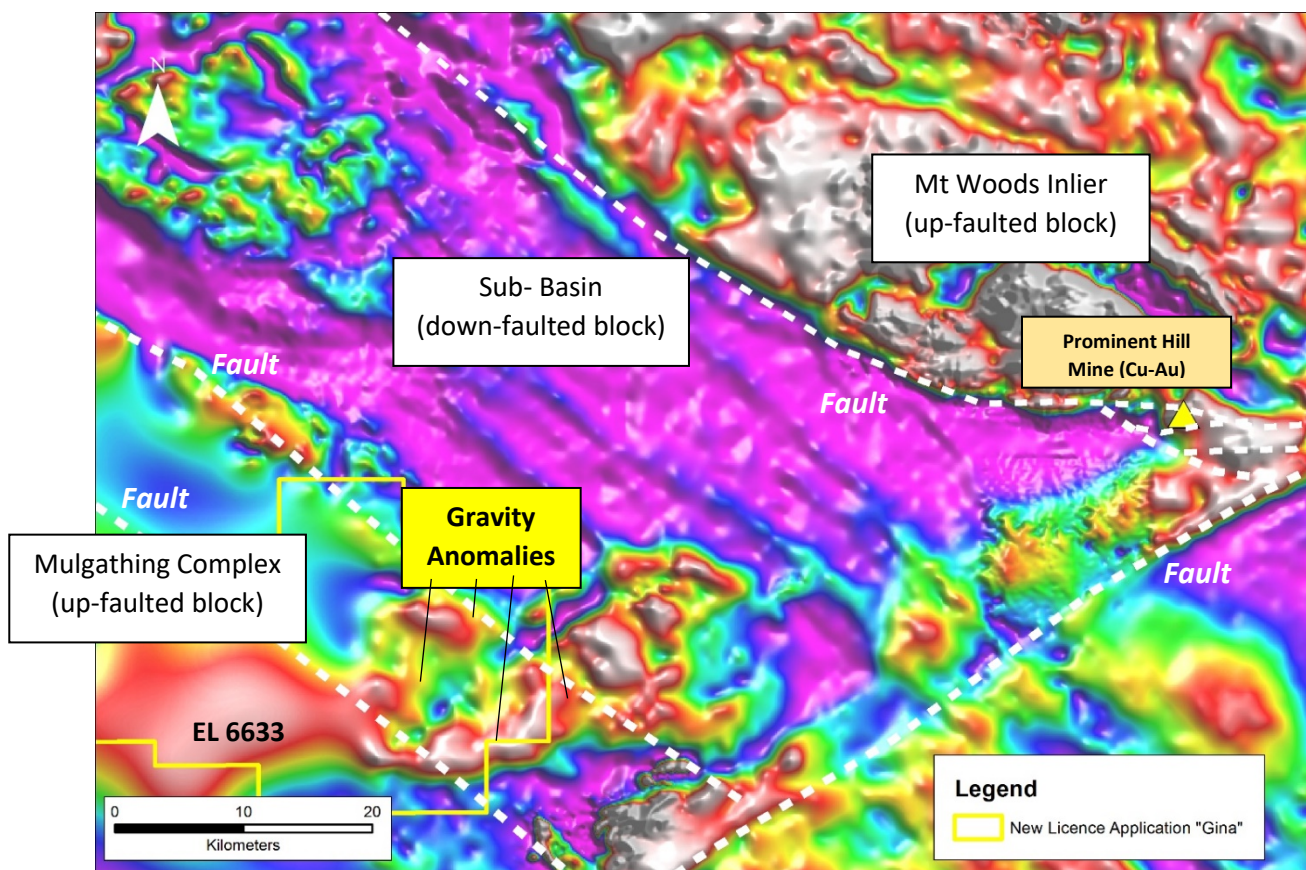


**Figure 3** Target 14 Prospect – Historical vertical RAB drill collars and anomalous gold drill intercepts overlain on an aeromagnetic image. Note drill holes RED 15 & 16 ended in anomalous gold and is open at depth and to the southeast.

## Gina Project - Iron Oxide - Copper Gold (IOCG) Potential

On the eastern side of the newly granted Gina Tenement the basement terrain is down faulted by a series of major northwest trending faults forming a sub-basin (trough) with the opposite eastern up faulted edge defined by the Mt Woods Inlier (Figure 4). Perched on the eastern faulted edge of the sub-basin, the world-class Prominent Hill Cu-Au deposit occurs (178 Mt @ 1.1% Cu, 0.7 g/t Au, 2.7 g/t Ag).

Petratherm postulate that these major extensional fault systems and associated major transfer faults and splays, are critical to the localisation of IOCG style mineralisation and that the western edge of this faulted sub-basin may also be prospective for IOCG's. Several regional gravity anomalies are evident from the open file South Australian Geological Survey data (Figure 4) potentially indicating IOCG style alteration/mineralisation. The Company will undertake a regional and infill gravity survey over these prospective regional gravity targets to see if they may represent potential IOCG style mineral accumulations. This work is scheduled to start in early November and will take 2 weeks to complete.



**Figure 4** Residual Gravity Image of the eastern “Gina EL6633” Tenement and Prominent Hill Mine Area. Note schematic fault overlay (dashed lines) highlighting prominent NW trending down faulted zone defining a sub-basin. On the eastern faulted basin edge the Prominent Hill mine occurs and the Company aims to explore the opposing western faulted side where several regional gravity anomalies are evident.

## Woomera (ELA 2021/00066) IOCG Project

In June, the Company secured a prospective ground position, close to Coda Minerals recent Emmie Bluff Deeps Prospect Iron-Oxide Copper-Gold (IOCG) discovery (Refer to Coda Minerals (ASX: COD) 09/06/21 ASX release) near Woomera in South Australia (Figure 5). The new Licence Application (ELA 2021/00066), Woomera Project, covers a 209 km<sup>2</sup> area. Open file historical company reporting additionally record significant historical copper drill intersections from three drill holes just north of the new tenement area (Figure 6). The Company has initiated Native Title proceedings concurrently with the licence application process to ensure ground exploration works can begin quickly after the grant of the licence, expected early in the new year.

The Company has completed initial processing and gridding of historical open-file gravity data. The gravity data coverage over the Woomera Project Area is good, with several modern close spaced surveys (200 metre to 400 metre station spacing) completed by previous explorers. A prominent northwest trending zone of high gravity anomalism is evident and shown to extend over 10 kilometres in length across the tenement area (Figure 5 & 6). IOCG mineralisation, being iron rich, is associated with areas of high gravity anomalism and is one of the main direct targeting tools used by explorers. Whilst earlier exploration work by other explorers identified the prominent high gravity zone, no historical drilling has been undertaken over the tenement area.

Winjabbie IOCG Prospect occurs just north of the new tenement area and is situated along an extension of the high gravity zone (Figure 5). Three historical vertical drill holes have been drilled at Winjabbie and all

intersected broad zones of significant Iron-Oxide Copper-Gold (IOCG) style alteration with intervals of copper mineralisation. A summary of significant drill results from Winjabbie Prospect are presented below.

Drill hole WJD1 (WMC, 1980) – testing a magnetic anomaly returned:

**62m @ 0.33% Cu from 864m.**

Drill hole SAE11 (MIM,1990) - testing a second magnetic feature returned:

**94 metres @ 0.21% Cu (interval 1005-1099 m.)**

**Including 7m @ 0.48% Cu from 1006 m.**

**Including 9m @ 0.52% Cu from 1086 m.**

and,

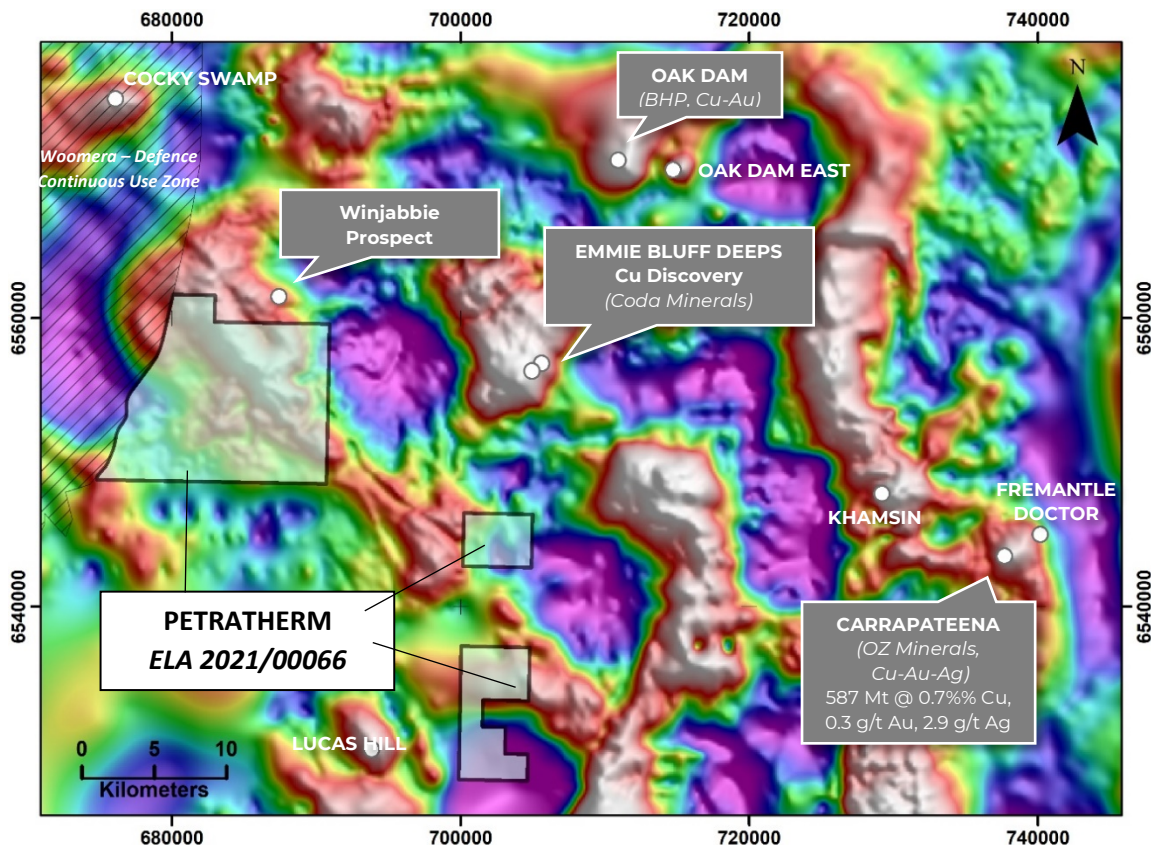
**42 metres @ 0.28% Cu (Interval 1123 – 1165 m.)**

**Including 5m @ 1.1% Cu from 1160 m.**

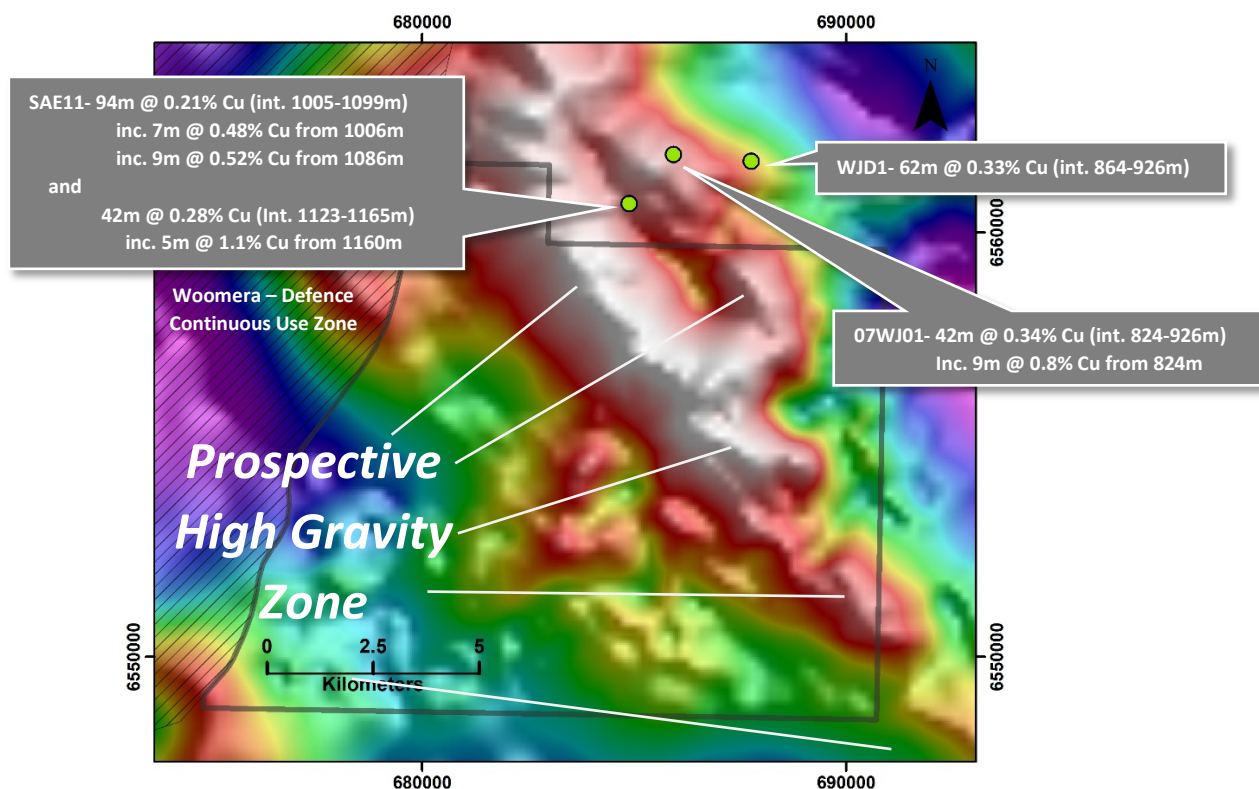
Drill hole 07WJ01 (Uranium Exploration Australia, 2008) – testing a residual gravity anomaly just north of the WJD1 and SAE11 returned:

**42 metres @ 0.34% Cu (Interval 824 – 866 m.)**

**Including 9m @ 0.8% Cu from 824 m.**



**Figure 5:** Regional Location Map of Petrathern Exploration Licence Application Area (ELA 2020/00066), IOCG Mines and IOCG Prospects, overlain on a Bouguer (High Pass Filtered-15km) Gravity Image.



**Figure 6:** Significant historical IOCG copper intersections adjacent to Petratherm’s Woomera Exploration Licence Application Area (ELA 2021/00066) overlain on a Bouguer (High Pass Filtered-15km) Gravity Image.

These holes are widely spaced (ranging between 1.8 to 3 km apart, Figure 6) indicating IOCG style mineralisation occurs over a large area. The Company is very pleased to be able to secure a significant holding in the Woomera sub-region, which is proving fertile for significant IOCG style mineralisation, with not only the new Emmie Bluff Deeps Discovery, but also includes BHP’s recent Oak Dam West Discovery and OZ Minerals’ newly operating world-class Carrapateena Cu-Au deposit (Figure 5). The Company formally initiated Native Title Proceedings during the period. At this stage the exploration licence is expected to be granted early in the 2022 calendar period with ground activities to get underway upon the grant.

***For further information, please contact:***

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**This ASX announcement has been approved by Petratherm’s Board of Directors and authorised for release by Petratherm’s Chairman Derek Carter**

Competent Persons Statement: The information in this report that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Peter Reid, who is a Competent Person, and a Member of the Australian Institute of Geoscientists. Mr Reid is not aware of any new information or data that materially affects the historical exploration results included in this report. Mr Reid is an employee of Petratherm Ltd. Mr Reid has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Reid consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.