#### PETRATHERM LIMITED

ABN 17 106 806 884

Level 1, 169 Fullarton Road Dulwich SA 5065 T: +61 8 8133 5000

W: www.petratherm.com.au E: admin@petratherm.com.au



# ASX ANNOUNCEMENT 31 January 2019

## **Quarterly Activities Statement – December 2018**

#### **Summary**

- The company held \$4,162,000 cash at the end of the quarter;
- Drilling at Corunna extends silver, lead and zinc mineralisation and identifies a new nickel prospective zone
- Large land holding acquired over region in South Australia's Gawler Craton, fertile for Iron-Oxide Copper-Gold style mineralisation.
- Exploration licence application secured in highly prospective Bendigo Gold Zone in Victoria

#### **Review of Operations**

During the quarter, Petratherm Limited ("the Company/ Petratherm") had exploration and evaluation costs of \$104,000 primarily related to drilling activities and administration costs of \$181,000 primarily relating to, reporting & compliance, office costs and directors' fees. The Company held \$4,162,000 cash at the end of the quarter.

The Company secured a large land holding straddling the Bendigo Zone of Victoria. Victorian Government initiative "Gold Undercover" estimates a potential 32 Moz of undiscovered gold endowment in the Bendigo Zone beneath the Murray Basin cover. In addition, the Company secured two exploration licence applications totalling 1489km² over a portion of the Mabel Creek Inlier of the Gawler Craton, containing a number of semi-coincident magnetic and gravity anomalies, prospective for Olympic Dam Style Copper-Gold mineralisation. A summary of ground activities during the period is presented below. No ground work was undertaken on the Walparuta Project (EL5717 & EL5306).

#### Corunna Project (EL4697 & EL6229) - Results of Drilling

In September the Company completed 42 air core holes for a total of 1573 metres at the Area 1 Prospect. The Corunna Project occurs in the emerging silver-lead-zinc province of the Southern Gawler Craton which hosts the Menninnie Dam zinc-lead-silver deposit and the Paris epithermal silver deposit (Figure 1). Petratherm signed a letter agreement to acquire 75% interest in the Corunna Project (EL5497) with Musgrave Minerals Limited in December 2017 (refer to Petratherm's 15/12/2017 ASX release for further details)

Air core drilling tested five structural targets defined from an infill ground magnetic survey and geochemical analyses from the drilling were received in October.

The best results from Area 1 include:

- 12m @ 20.0g/t Ag, 0.8% Pb and 0.2% Zn from 20m (CO18AC10)
- 4m @ 13.0g/t Ag, 0.6% Pb and 0.3% Zn from 32m (CO18AC11)
- 20m @ 12.0g/t Ag, 0.3% Pb and 0.2% Zn from 12m (CO18AC12)
- 12m @ 9.0g/t Ag, 0.5% Pb and 0.3% Zn from 20m (CO18AC17)



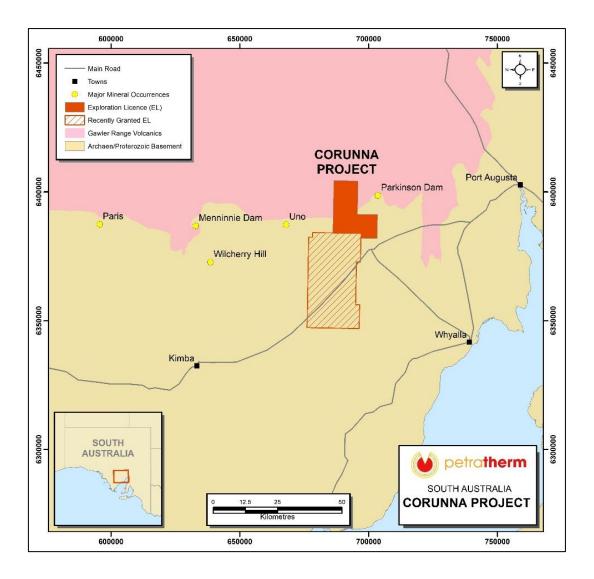
- 12m @ 16.0g/t Ag, 0.03% Pb and 0.05% Zn from 0m (CO18AC29)
- 8m @ 13.0g/t Ag, 0.1% Pb and 0.06% Zn from 16m (CO18AC40)
- 8m @ 16.5g/t Ag, 0.07% Pb and 0.3% Zn from 36m (CO18AC40)

The results extend the zone of silver-lead-zinc anomalism previously defined by Musgrave Minerals (refer to Musgrave Minerals 27/08/2015 ASX release for further details) across a 300m x 500m zone (Figure 2), which remains open in all directions.

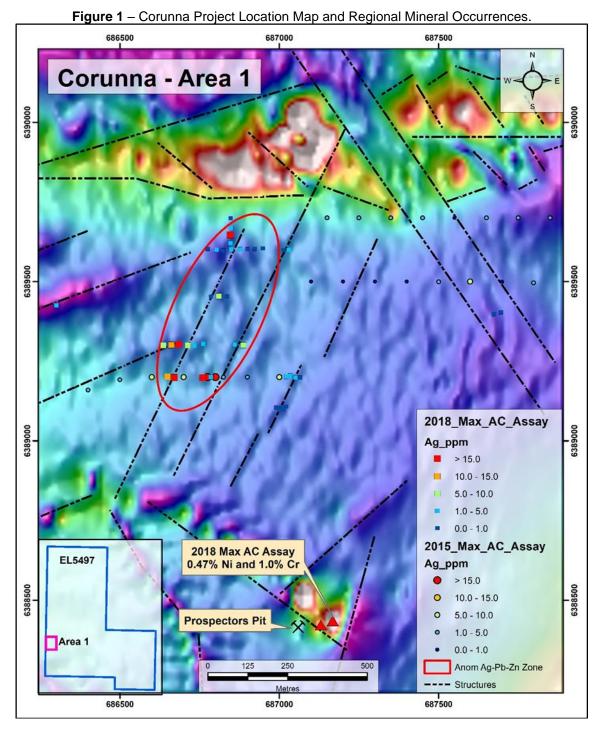
In addition, two air core drill holes tested discrete, high intensity, magnetic targets on the southern side of the project area (Figure 2), adjacent to a historic prospector's pit (refer to Petratherm's 14/09/2018 ASX release for further details). The best results returned included:

- 16m @ 0.3% Ni, 0.2% Cr and 0.01% Co from 8m (CO18RC38)
- 12m @ 0.4% Ni, 0.7% Cr and 0.01% Co from 4m (CO18RC42)

Although the drill rig was unable to penetrate fresh rock, this geochemical anomalism suggests the magnetic bodies could represent ultramafic intrusives, a potential host rock for magmatic Ni-Cu sulphides. The immediate exploration focus at Corunna will be to follow up the nickel mineralisation intersected in the recent drilling, with a ground electromagnetic (EM) geophysical survey, to search for potential nickel sulphides at depth.







**Figure 2** – Air core drill hole collar locations shown on gridded ground magnetic survey (50m line spacing, east-west orientation, VRMI filter) with anomalous Ag-Pb-Zn zone highlighted.

#### Yuengroon Project (ELA006897) - Victoria Gold Position Secured

In November the Company secured a highly prospective ground position over the edge of the Bendigo Zone, covering historic shallow gold workings over portions of the Wedderburn Goldfield and over surrounding Murray Basin shallow covered areas (Figure 3).



There has been a recent resurgence in gold exploration and development across the Victorian Goldfields. This has been due to the success of Kirkland Lake Gold's Fosterville operations, along with steady growth at both the Costerfield and Ballarat mine operations and includes other promising recent exploration successes, such as Catalyst Metals', Four Eagles and Tandarra Gold Prospect discoveries, under shallow Murray Basin cover north of Bendigo.

Recorded historical gold production from the Wedderburn field is 140,000 Oz. These finds came mainly from alluvial workings but also included some shallow reef mining down to the water table which occurs at approximately 20 metres depth. Very little modern drilling has occurred to test for depth extensions of the reef systems below the water table.

Much of the recent turn around in gold exploration in Victoria has come from explorers gaining better understand of the structural controls of the reef systems hosting the gold shoots, and the importance of major faults controlling the development of mineralisation. The utilization of modern gravity surveying techniques to locate prospective faults under cover has been paramount in targeting areas, leading to new discoveries. Gold production in Victoria has been steadily growing in recent years and may exceed 350,000 Oz for the 2018 period, the first time in over 100 years.

Petratherm is reviewing previous exploration results and processing geological and geophysical data in readiness to commence field work once the tenement is granted. In addition the Company is actively looking to increase its Victorian project holdings through purchase or joint venture.

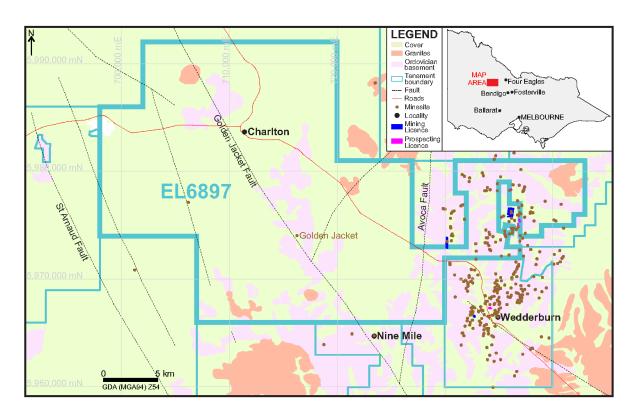
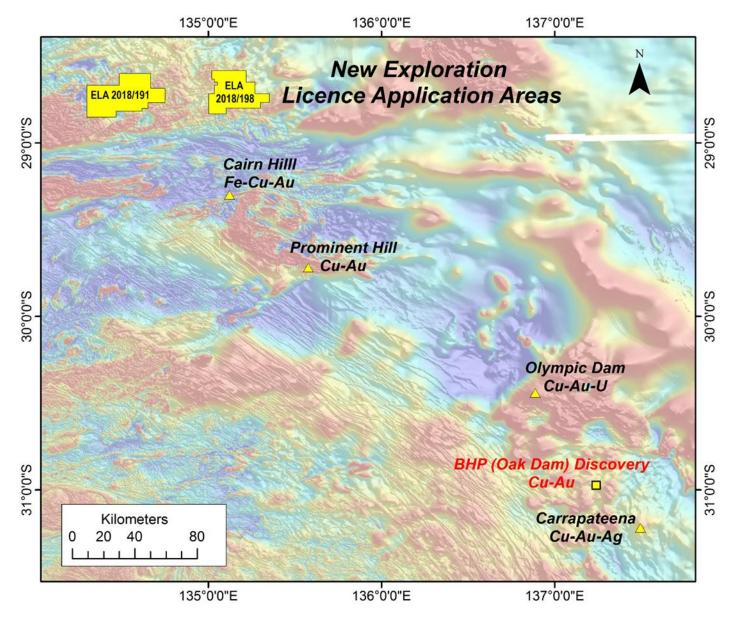


Figure 3 – ELA006897 (Yuengroon) Location Map, showing historical mine sites and known major faults.



## Mabel Creek Project (ELA 2018/191 & ELA2018/198) - Tenement Applications over Prospective Olympic Dam Style, Copper-Gold Areas

In December the Company secured 2 exploration licence applications (ELA 2018/191 & ELA 2018/198) totalling 1489km² over a portion of the Mabel Creek Inlier of the Gawler Craton (Figure 4). A number of semi-coincident magnetic and gravity anomalies, have been identified over both licence areas (Figures 5, 6 & 7). These geophysical features have potential to be due to hydrothermal iron-oxide systems. Mineralised examples of these occur along the eastern margin of the Gawler Craton of South Australia and include Olympic Dam, Carrapateena, Prominent Hill and most recently BHP's latest discovery at Oak Dam (Figure 4).



**Figure 4** - Location map of major mines, the new BHP discovery (Oak Dam) and outline of the new tenement application areas overlying a regional reduced to pole aeromagnetic image (compiled from Sth. Aust. Government data).

The Mabel Creek Inlier has only been lightly explored for IOCG style mineralisation, however a single hole drilled by BHP in 1992 (NC9202) testing a magnetic anomaly, 13 km south of ELA2018/198 intersected mineralised magnetite-amphibole-pyroxene rock containing significant concentrations of pyrite and pyrrhotite and disseminated chalcopyrite in



massive magnetite (ref SA Govt. Records ENV08647) (Figure 7). The hole contained broad zones (not true widths) of anomalous geochemistry including:

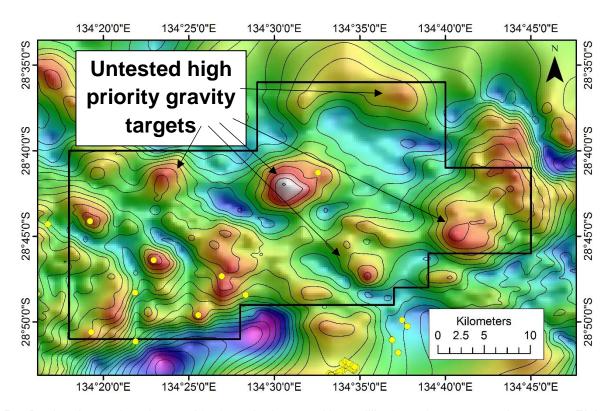
134m @ 626ppm Cu, 256ppm Pb, 593 ppm Zn from 96m.

Inc. 28m @ 0.14% Cu, 614ppm Pb, 0.23% Zn, 2 ppm Ag from 168m.

Anomalous rare earth elements were also present with values up to 1% Ce and La reported.

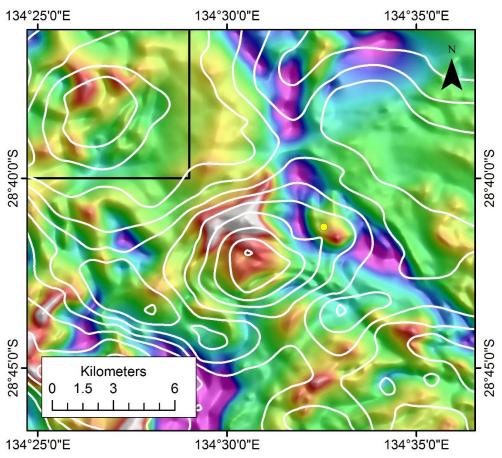
These results are characteristic of magnetite skarn alteration/mineralisation often found in areas around Prominent Hill and other IOCG systems further to the south and provides evidence that IOCG style alteration/mineralisation is likely to continue through the region of Petrathem's new tenement application areas. Importantly, depth of the overlying cover sediments in this region is minimal with historical drilling recording the top of the prospective basement, generally between 80 metres and 260 metres.

Petratherm is reviewing previous exploration results and processing geological and geophysical data in preparation to commence field work once the tenement is granted. Regional gravity station spacing over most of the tenement application areas range between 500 metres to 2000 metres and additional infill gravity surveying of the existing gravity data is warranted to locate, define and rank targets ahead of potential drill testing.



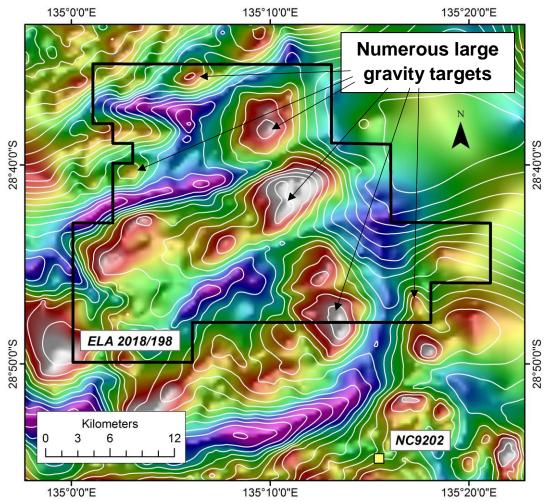
**Figure 5** – Regional pseudo-colour residual gravity image with 1 milligal gravity contours shown over ELA2018/191 (compiled from Sth.Aust. Government data). Historical drill hole collar positions shown as yellow dots. Several large gravity features are apparent, requiring follow up infill gravity surveying.





**Figure 6** – Reduced to pole pseudo-colour aeromagnetic image (compiled from Sth. Aust. Government data) and 1 milligal spaced gravity contours (white) over the large central gravity anomaly on ELA2018/191. Note offset between peak of the magnetic and gravity anomalies. The gravity anomaly is at least 6 milligals in magnitude. As way of example the original Prominent Hill gravity target was approximately 4.5 milligals in magnitude. Historic drill hole (yellow) drilled to east intersected basement at 188 metres depth and open file government records report intersecting hydrothermally overprinted, metamorphosed and metasomatised, fine to medium grained mafic to intermediate igneous rock.





**Figure 7** – Regional pseudo-colour residual gravity image with 1 milligal gravity contours shown over ELA2018/198 (compiled from Sth.Aust. Government data). Historical BHP drill hole collar (NC9202) shown, which intercepted anomalous geochemistry and alteration indicative of IOCG systems. Several large gravity features are apparent, requiring follow up infill gravity surveying ahead of potential drill testing.

**END** 

Denala Agglens
Donald Stephens

Director

### For further information please contact:

Peter Reid

Exploration Manager Tel: (08) 8133 5000

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.