

# ASX RELEASE | 21 AUGUST 2017 | ASX:AON

## PRIORITY TARGETS IDENTIFIED FROM REVIEW OF EXTENSIVE SALAU MINE EXPLORATION AND PRODUCTION DATABASE

## Highlights:

- Initial review of exploration and production database for the Salau mine completed
- Database includes assays and logs from over 650 holes and mine level plans and geological mapping for 24 kilometres of underground development
- Priority tungsten-copper-gold exploration targets identified within, and immediately adjacent, to the Salau mine
- Substantial news flow expected over the coming months as implementation of the planned work program continues

Apollo Minerals Limited is pleased to report on progress following an initial review of the extensive database for the Couflens Tungsten-Copper-Gold Project.

The Company recently completed the acquisition of an 80% interest in the Couflens Project and immediately commenced a review of the available data, focusing initially on data from the historical Salau mine which was one of the world's highest-grade tungsten mines when it operated until the mid-1980's.

The database is extensive and comprises a combination of high quality geological and drilling data, as well as underground mining and processing data, covering all exploration and production during the mine's 15 years in operation.

The database, which has now largely been converted to digital format and integrated into a 3D model, includes:

- Assay data and geological logs for more than 650 holes covering more than 45,000 metres of underground and surface drilling
- Mine level plans and cross sections incorporating geological mapping of the existing 24 kilometres of underground mine development, geological logging of drill holes, and related assay data
- Production records and information on the principal mining and processing methods, including the flowsheet used to produce tungsten concentrate from the historical processing facilities housed underground.

The database has rapidly advanced the Company's understanding of the geology, mining and processing of the Salau deposit which represents a significant saving in cost and time and derisks the upcoming exploration and study programs.

The database is enabling the Company to readily define high priority exploration targets and has the potential to accelerate the definition of a maiden mineral resource estimate.



The Company will now finalise the data review process including digitisation and 3D modelling of all available data.

Once initial access and assessment of the existing mine development has been completed, the Company will commence mapping and sampling of mineralisation to verify the historical data and will conduct underground drilling to confirm known zones of mineralisation and test for extensions of these zones.

The initial phase of work is focused on the definition of sufficient high grade tungsten resources to commence mine feasibility studies.

The work program will also test the gold potential within and adjacent to the Salau mine area.

In parallel with the review of historical data for the Salau mine area, the Company is also assessing the regional exploration datasets for the wider 42km<sup>2</sup> Couflens Project area where additional tungsten-copper-gold prospects have been identified. The available database for the wider project area includes exploration and limited drilling data that will be the subject of future review and announcements by the Company.

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#### **COUFLENS PROJECT OVERVIEW**

The Couflens Project area is located 130km south of Toulouse, within the Pyrenees region near the border with Spain (Figures 1 and 2). The Couflens Project comprises the Couflens exploration licence (permis exclusif de recherches – "**PER**") which covers an area of 42km<sup>2</sup> centred on the Salau mine, formerly one of the world's highest grade tungsten mines.



Figure 1 - Couflens Project / Salau Mine Location



Figure 2 - Couflens Project Licence

#### **Salau Mine Production History**

The Salau tungsten deposit was discovered in the early 1960's by the Bureau de Recherches Géologiques et Minières ("**BRGM**"). Les Mines d'Anglade ("**LMA**") operated the mine from 1971 to 1986, with reported production ~930,000 tonnes of ore at an average grade of 1.5% WO<sub>3</sub> to yield ~11,500 tonnes of WO<sub>3</sub> in concentrate (Figure 3).



Figure 3 – Tonnage and grade from historic tungsten (WO<sub>3</sub>) production at the Salau Mine

Notwithstanding the existence of remaining resources, the discovery of promising mineralised zones elsewhere (Fonteilles et al., 1989) and the higher grade production from the latter years of production (up to 2.48% WO<sub>3</sub>), the precipitous fall in the tungsten price caused by Chinese dumping in 1986 led to mine closure.



#### **Underground Mine Development and Infrastructure**

The existing UG development and infrastructure includes approximately 24km of adit and decline development providing access to six main mining levels, ore passes, ventilation raises and an UG chamber housing the historical processing facilities (Figures 4 and 5).



Figure 4 - Salau Mine Long Section



Figure 5 - Salau Mine 3D Model of UG Development

An initial review of production records for the Salau mine has revealed the principal mining and processing methods utilised during its 15-year operating history from the early 1970's to the mid 1980's.



The principal mining method was sub-level stoping using 6-8m sub-level intervals and rock backfill. Adit and decline development was typically 5m by 4.5m in dimension in the lower levels of the mine (e.g. 1230m level, Figure 7) facilitating the use of mobile mining equipment for ore and waste movement. In the upper parts of the mine, rail mounted materials movements systems were used in development drives with typically a 3m by 3m profile.

The processing flowsheet utilised by LMA comprised crushing, grinding, gravity separation methods (cyclones and gravity tables) followed by two stage flotation (sulphide and scheelite) to produce a tungsten concentrate.

More details with regard to the historical mining and processing will be provided as the review of the production records continues.



Figure 6 - Salau Mine Portal



Figure 7 - Salau Mine Access Drive 1230m Level (Historical photograph)

## Historical Geological and Drilling Data

The historical drilling database within the Salau mine area comprises 56 holes for 5,565m of surface drilling and 603 UG diamond drill holes for 45,396m. Detailed geological logs and assay data are available for all drill holes.

In addition, detailed mine level plans and cross sections incorporating geological mapping of UG development and mine stoping areas, geological logging of drill holes, and related assay data are available.

The majority of this historical drilling and UG development and stoping data has now been converted to digitial format and input into ArcGIS, Micromine and Surpac software packages to facilitate data integration, interpretation and 3D modelling. The development of a 3D model of the Salau mine incorporating all available historical data is now well-advanced (Figure 5).

The benefits of having this large volume of historical exploration and production data available, particularly with the majority already converted into readily usable digital formats, are significant as it allows the Company to gain an enhanced understanding of the geology and the controls on mineralisation within the Salau mine area, leading to the identification of priority exploration targets. It also provides the Company with significant time and cost savings relative to the compiling of an equivalent exploration database through new drilling and geological work programs.





Figure 9 - Historical Drill Log

#### **Mine Geology**

Salau is a tungsten-bearing (primarily scheelite) skarn deposit developed at the contact between Devonian pelites and calcareous sediments of the Barregiennes Formation and a Hercynian-aged granodiorite stock ("**Fourque**") (Figure 10). The skarn formed within both the carbonate-bearing sediments and, to a much lesser degree, the host granodiorite. Mineralisation is directly related to the Fourque granodiorite which provided hot, tungsten-copper-gold bearing solutions that reacted with the host rocks to form the skarns and deposit metal-bearing minerals.

Salau consists of two known mineralised systems, the Bois d'Anglade embayment (Formation Nord, Golfe, Formation Sud, and S.C. ore zones) and Veronique (Figures 4 and 10). Bois d'Anglade was discovered first and provided the bulk of the early production. Veronique, 300m to the west, was discovered in 1975 and provided higher grade tungsten production (average 1.9% WO<sub>3</sub>), including gold-rich material (not recovered in milling) towards the end of the mine life. Limited sampling of material from the lower section of the Veronique Southeast zone indicated the presence of high grade gold (Fonteilles et al, 1989).

#### **Exploration Potential - Salau Mine Area**

Figure 8 - Historical Drill Log and Salau Mine Level Plan

Previous underground drilling by the former mine owners recorded a number of high grade tungsten-bearing skarn intersections below the 1,230m level access adit (Figure 4), which represents the down-plunge continuation of the Veronique ore system. The tungsten grade of this zone of mineralisation was reported as being similar to that derived from mining in the upper levels of Veronique. The system remains open at depth and is believed to contain substantial gold credits as stated in Fonteilles et al, 1989.

Potential also remains around the other previously mined areas (Veronique and Bois d'Anglade systems) where remnant zones of tungsten-bearing material appear present.

In addition, discoveries documented by LMA at "Quer de l'Aigle" and "Christine", plus a number of other scheelite skarn occurrences at the surface on the flanks of the Fourque granodiorite remain largely untested (Figure 10).





Figure 10 – Salau Mine Geology with Exploration Targets

#### Work Plan - Salau Mine Area

The initial work plan for the Salau mine area includes:

- Continued review and digitisation of available mine production and exploration data
- Mine area and old tailings area risk assessments
- Initial access and assessment of existing mine development and stoping areas
- Mapping and sampling of mineralisation exposed in previously developed mine areas
- Generation of a 3D model of the geology, zones of mineralisation and principal controls on mineralisation
- Underground drilling to confirm known zones of mineralisation and test for extensions of these zones
- Estimation and reporting of a Mineral Resource in accordance with the JORC Code

Initial work will focus on defining sufficient high grade tungsten mineralisation to justify commencement of mine feasibility studies, as well as testing the gold potential within and adjacent to the Salau mine area.

The Company will undertake the work program with a strong commitment to all aspects of sustainable development with an integrated approach to economic, social, environmental, health and safety management.



#### **Competent Persons Statement**

The information in this report that relates to Exploration Results is based on information compiled by Robert Behets, a Competent Person who is a Fellow of The Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr Behets is a holder of shares and options in, and is a director of, Apollo Minerals Limited. Mr Behets has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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 Behets consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### REFERENCES

Fonteilles M., Soler P., Demange M., & Derré C., 1989; "The Scheelite Skarn Deposit of Salau (Ariège, French Pyrenees)", Economic Geology, Vol 84, pp 1172 – 1209