MARCH 2018 QUARTERLY ACTIVITIES REPORT

Successful maiden diamond drilling program and technical studies provide clear pathway to unlock value of large high-grade underground gold Resource at Aphrodite

- **Maiden diamond drilling program completed at the 100%-owned Aphrodite Gold Project near Kalgoorlie in WA – 13 holes for 6,149.4m.**
- **Results from the first four diamond holes have confirmed the continuity of the lower Alpha lode over the central portion, validating the Company's updated geology model.**
- **Significant assay results include:**
  - **18APD006** **10m @ 3.99g/t Au from 377m including 3m @ 6.69g/t from 383m**
    22m @ 6.28g/t Au from 391m including 10m @ 11.57g/t Au from 393m
  - **18APD003** **16m @ 2.65g/t Au from 322m including 4m @ 5.13g/t Au from 322m**
    5m @ 3.21g/t Au from 330m
    12m @ 11.53g/t Au from 377m
  - **18APD001** **17m @ 2.67g/t Au from 322m including 3m @ 4.21g/t Au from 325m**
    3m @ 6.02g/t Au from 336m
  - **18APD002** **2m @ 4.09g/t Au from 373m**
- **The drilling program was based on an upgraded geological model completed by consultants Model Earth and was designed to test and in-fill the lower Alpha and Phi lodes, with the aim of upgrading the substantial Underground Inferred Resource of 1.4Mt at 7.5g/t for 332,000oz (Refer ASX Release 25 January 2018).**
- **The drilling, together with ongoing development studies, will pave the way for a Feasibility Study on the Aphrodite Project in the second half of 2018.**

Overview

Spitfire Materials Limited (ASX: SPI) Managing Director, John Young, said the Company had made substantial progress towards improving its technical understanding of the Aphrodite deposit during the quarter, with the results providing a clear blueprint for the Company to rapidly advance the project to a Feasibility Study.

"The completion of a new geological model for the deposit was a key breakthrough during the quarter. This was based on an extensive re-logging exercise of historical drill core which, while time-consuming, has proven to be an invaluable tool for us – both in terms of targeting the initial in-fill drilling and identifying opportunities to grow the resource further.

We now have a clear three-dimensional picture of the geometry, orientation and controls on the mineralisation – which has been further verified by the recently completed drilling program.

The recent drilling was specifically designed to test and in-fill the lower Alpha and Phi lodes, which contain a significant Inferred Resource of 1.4 million tonnes grading 7.5g/t Au for 332,000oz. The initial results have confirmed the continuity and quality of the high-grade mineralisation, correlating extremely well with the historical drilling results.

We have planned a further phase of drilling to test potential down-plunge extensions outside the current Resource envelope. This will commence as soon as we receive all the outstanding assays from the Phase 1 drilling."

Aphrodite Gold Project

EXPLORATION ACTIVITIES

Diamond Drilling

The HQ diamond drilling program was completed at Aphrodite during the Quarter, with a total of 13 deep holes drilled for 4,959.6m of core and 1,189.8m of RC/Mud Rotary. The results received to date indicate that the lower footwall zone in the Alpha lode is continuous. As a result, the Company intends to extend the current program with two further holes planned on the deeper extensions to the Alpha Lode.

Assay results have been received for the first four holes (18APD001-003 and 18APD006, as outlined in the ASX Announcement of 16th April 2018), which were designed to intersect the Alpha Lode between the 200mRL and the 100mRL within the Inferred section of the Resource. Drilling here was spaced at 80m along section lines. Drilling along this section of the Alpha zone is now at 40m by 40m spacings (see Figure 1, In-fill Section 6,660,000mN).

The high-grade mineralization in the lower portion the Alpha orebody is generally related to a distinctive set of tension array of quartz veinlets associated with intense silica-sericite-biotite alteration. These higher grade (Au) narrow vein networks are associated with an increase in arsenopyrite and grades are often in excess of 10 g/t Au. This is clearly the case in the lower section of the footwall zone in 18APD006 (10m @ 11.57g/t Au from 393m).

Highlights from the initial batch of assays are as follows:

- **18APD001** **17m @ 2.67 g/t Au** from 322m, including
  3m @ 4.21g/t Au from 325m; and
- **18APD002** **3m @ 6.02g/t Au** from 336m
  2m @ 4.09 g/t Au from 373m
- **18APD003** **16m @ 2.65 g/t Au** from 322m, including
  4m @ 5.13 g/t Au from 322m and
  5m @ 3.21g/t Au from 330m; and
  4m @ 4.38 g/t Au from 355m; and
  12m @ 11.53 g/t Au from 377m
- **18APD006** **2m @ 5.83 g/t Au** from 45m; and
  10m @ 3.99 g/t Au from 377m, including
  3m @ 6.69 g/t Au from 383m
  22m @ 6.28 g/t Au from 391m, including
  10m @ 11.57 g/t Au from 393m

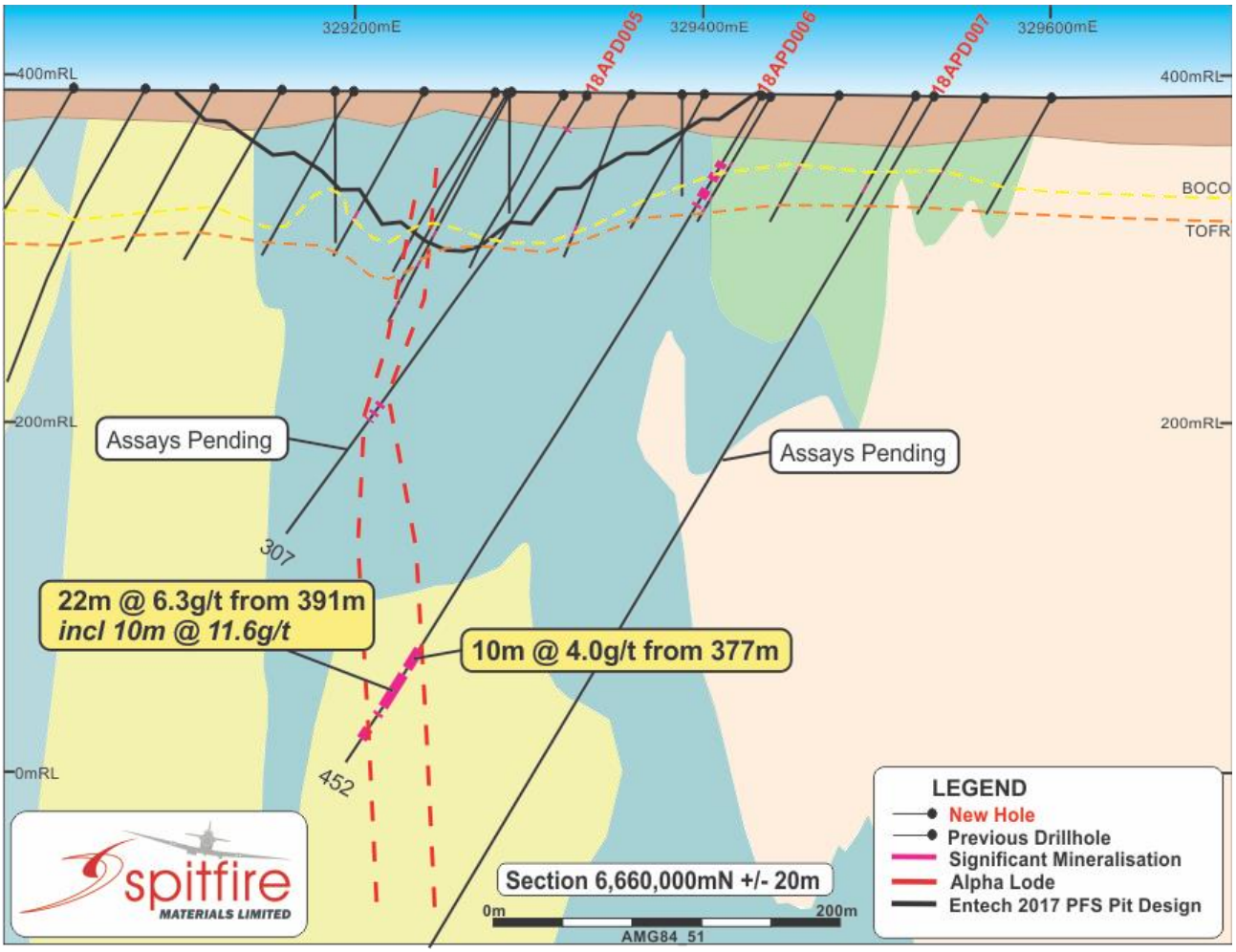

Figure 1: Cross Section 6,660,000mN

Technical Studies – Model Earth Summary

In the previous quarter, Spitfire engaged Model Earth structural geology and 3D consultants to complete a study of the structural and geological controls on the gold mineralisation in the Aphrodite gold deposit. The Work Program was to review existing historical geology and structural information and then re-log three strategic cross-sections. A total of 6,500m of historical drill core was re-logged as part of this program.

The Aphrodite Deposit is a predominantly sediment-hosted orogenic gold deposit driven by hydrothermal fluid flow along steeply dipping NNW trending shear zones. These are refracted through a more resistant sequence of felsic porphyry and volcaniclastic rocks, surrounded by more easily deformed sediments.

Rheological contrasts and contacts have focused gold-bearing fluids transported by the steep shears. Gold mineralization occurred late in the evolution of the deposit co-incident with shearing, folding and deformation during the last phase of compression.

This later stage development of folding and crenulation is responsible for large scale upright folds, these shallow north north-east plunging folds control the high grade ore geometry (shoots) of 20-25° towards 340°.

The Alpha deposit has two mineralization styles and morphology. Firstly, the Alpha main zone is higher volume and sediment dominated, with a distinctive set of tension array of quartz veinlets associated with intense silica-sericite-biotite alteration.

The orientation of these higher grade zones reflect the 20-25° towards 340° fold and intersection plunge control. The Alpha deeps style of mineralization in the volcaniclastic/porphyry host has a steep linear geometry.

The Phi and Omega deposits are relatively continuous steeply west-dipping within two sediment packages. The mineralization is similar to the Alpha main zone where intensely silica-sericite-biotite (+pyrite) altered sediments are overprinted by silica-pyrite tension veinlets associated with economic mineralisation (>3.0 g/t Au).

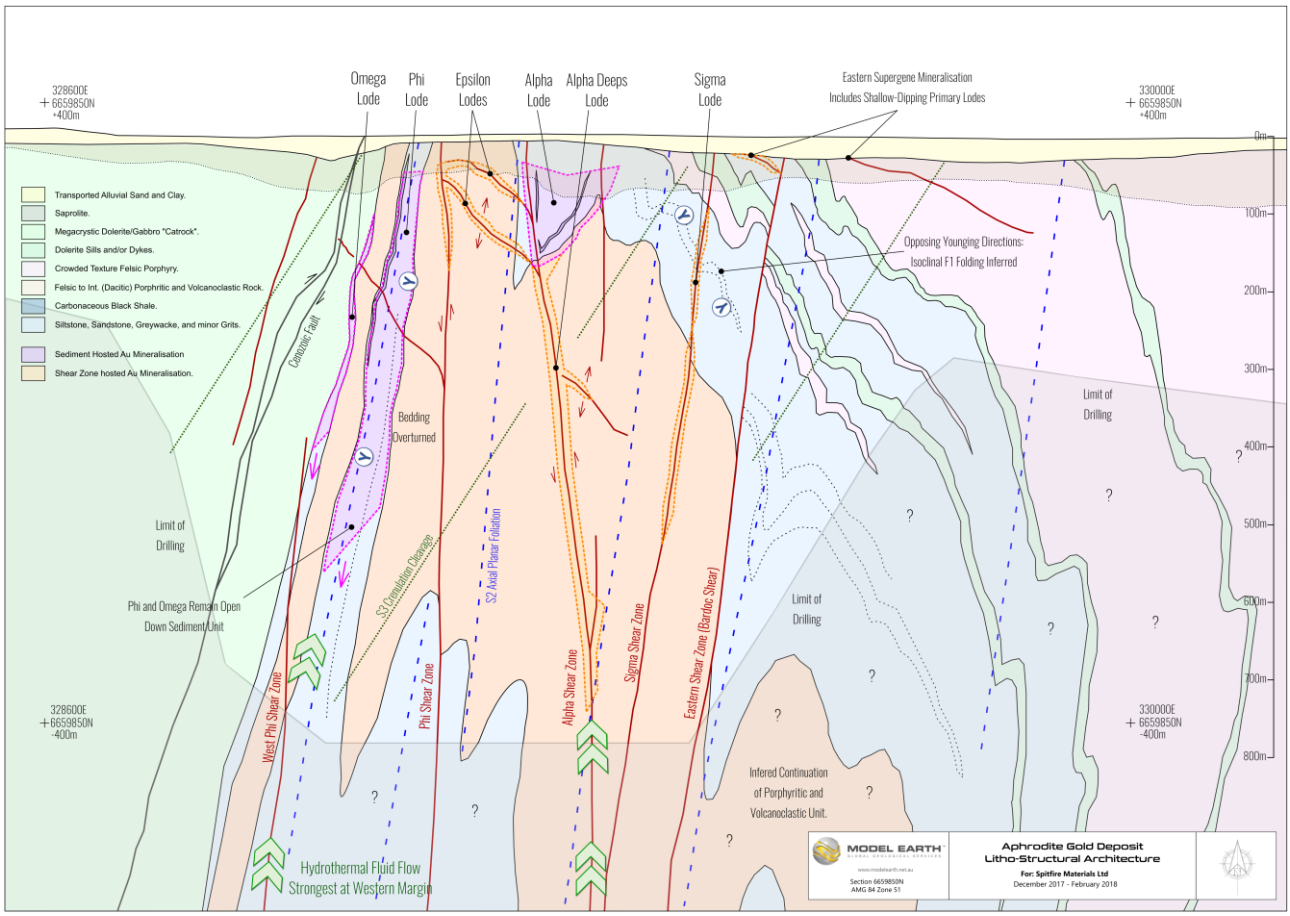

Figure 2: Interpretative representative section through the Aphrodite Deposit at 6659850mN.

The new geological interpretation has resulted in the identification of a number of new targets.

To the north and south of the Omega – Phi ore bodies drilling is on 80m spacings, but not much of it has been completed below 100m, especially to the south. A 500m zone from 6660250mN to 6660750mN is largely untested at depth. This is a structurally complex area which presents a good target for drilling.

The southern end of the Alpha Deeps orebody remains open to the south and at depth, and in-fill drilling in this area should build on and increase confidence in this potential underground Resource.

Approximately 100m south-east of the proposed Alpha pit, shallow RC drilling identified an area of anomalous gold up to 7ppm Au. This altered zone may represent a zone similar to the weathered margin of the Alpha main Zone.

It is possible that a similar structural and lithological position to the Alpha main zone may exist at depth. This represents a conceptual target (see Figure 2).

CoreScan – Hyperspectral Scanning

In March 2018, Corescan Pty Ltd completed hyperspectral scanning of approximately 670m of metallurgical diamond drill core collected during the 2016 Aphrodite Gold Project Pre-Feasibility drill program (refer ASX announcement: AQQ Resource, Metallurgical and Exploration Drilling Update 22 November 2016).

Hyperspectral scanning by Corescan uses high-resolution reflectance spectroscopy (0.5mm), visual imagery (0.05mm) and 3D laser profiling to map mineralogy and geochemistry. The work concentrated on matching the spectra white micas and chlorites to gold mineralisation.

Results indicate that the higher grade ore zones correlate well with intense silica-sericite-biotite (±pyrite, arsenopyrite) alteration. Outside of this alteration, the lower grades are typically associated with pervasive chlorite alteration (±minor silica). To confirm this work on a scale more applicable to potential ore sorting, a sub-section of the core has been sampled on ~5cm intervals with assays pending.

Figure 3 below is shown for illustrative purposes. The top section of core shows the hyperspectral image (Aspectral band), annotated with the 1m Au assays. The section of core with the high grades (pink represents grades >1 g/t and yellow < 0.5g/t Au) correlate well with intense positive aspectural reflectance.

This additional testwork will assist to further refine the grade/spectral relationship and assist in identifying ore sorting technologies that may optimise any future ore processing route.

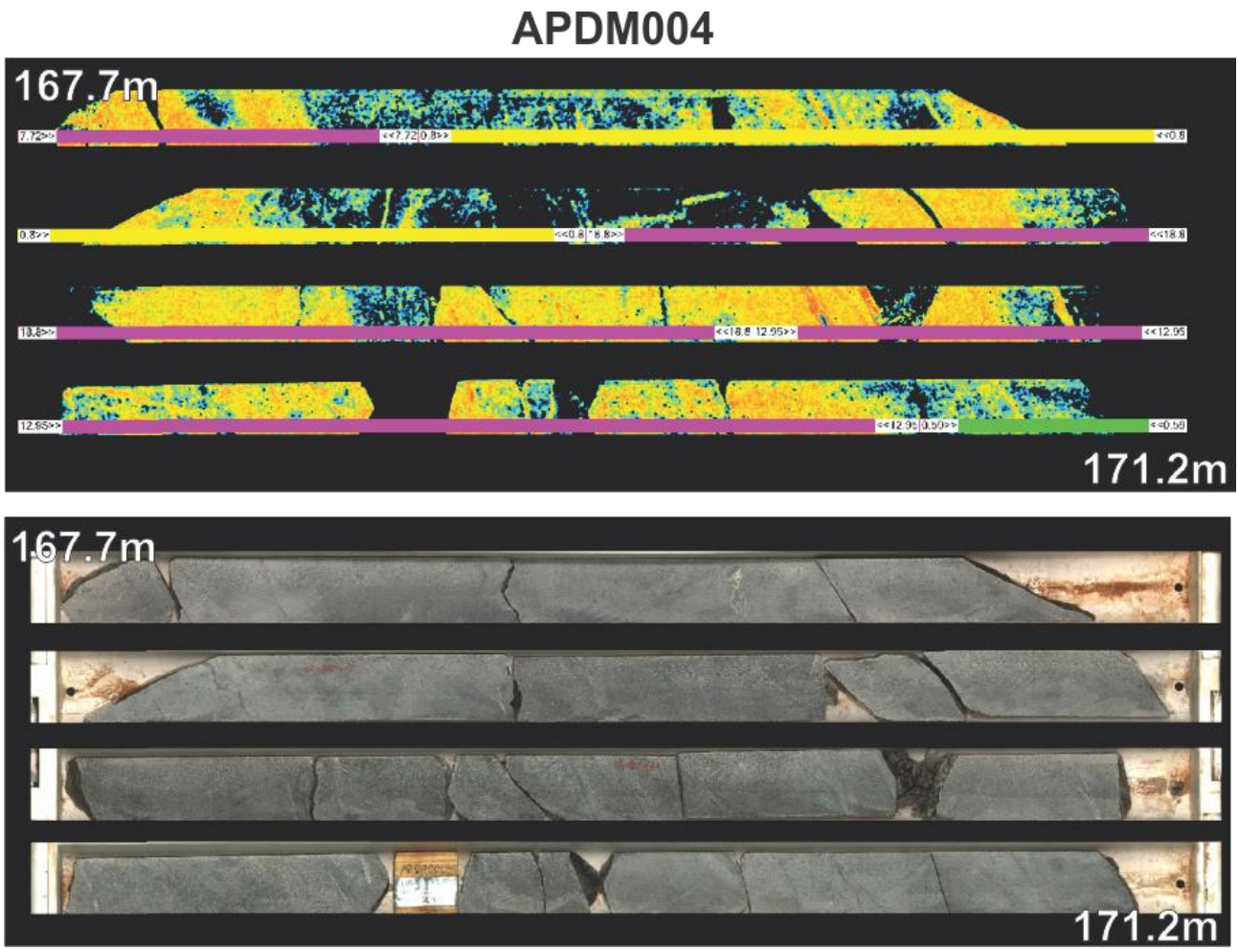

Figure 3: Image of Aspectral reflectance with reference to the 1m Au assays.

Technical Studies Update

During the quarter, Spitfire commenced a number of technical studies for the Aphrodite Gold Project. The purpose of these studies is to assess the commercial and technical viability of a potential underground mining operation that could extend the economic life of the mine proposed during the 2017 Pre-Feasibility Study.

Metallurgical Testwork

Metallurgical consultancy Strategic Metallurgy Pty Ltd was engaged to undertake an initial assessment of the response of the Aphrodite mineralisation to atmospheric moderate pressure oxidation processes.

These processing options had been identified by Spitfire during its due diligence review of the Aphrodite Gold Project as alternatives to the previously assessed pressure oxidation process (POX). The outcomes of this testwork will assess the viability of alternatives to the POX process and, if confirmed, offer potential capital and operating cost savings.

The testwork undertaken by Strategic Metallurgy involves bulk flotation of concentrates from Composite A-LP. Composite A-LP consists of 55.8kg of primary mineralised Alpha lode material complied from three metallurgical diamond core holes drilled by Aphrodite Gold in 2017.

Refer to Table 1 below for the chemical attributes of Composite A-LP:

Sample	Sample Description	Au	Ag	Fe	As	Cu	S	C(Total)	C(Org)	Sb	Zn
		(g/t)	(g/t)	(%)	(ppm)	(ppm)	(%)	(%)	(%)	(ppm)	(ppm)
Composite A-LP	Composite A Lower Primary	4.17	<2	3.44	1800	72	1.82	0.66	0.03	21.1	48

Table 1: Composite A-LP Chemical Attributes

The initial concentrate (corresponding to 5% mass pull) achieved a grade of 64g/t Au corresponding to 79% recovery. Further concentrates were pulled (10.5% mass pull total) which resulted in an overall recovery of 96% to a 40g/t Au concentrate.

Results summarised in Table 2 and Figures 4 and 5 below. This concentrate is in line with the results achieved during the 2017 Pre-Feasibility. Testing of alternative oxidation methods has commenced on the combined concentrates.

Product	Weight		Gold		Silver		Arsenic		Iron		Sulphur		SiO2	
	gram	%	g/t	%dist	g/t	%dist	%	%dist	%	%dist	%	%dist	%	%dist
Ro Conc 1 to 4		10.5	**39.6**	**96.3**	6.8	61.4	1.54	93.4	19.8	59.7	17.4	97.8	36.2	5.83

Table 2: Concentrate Results

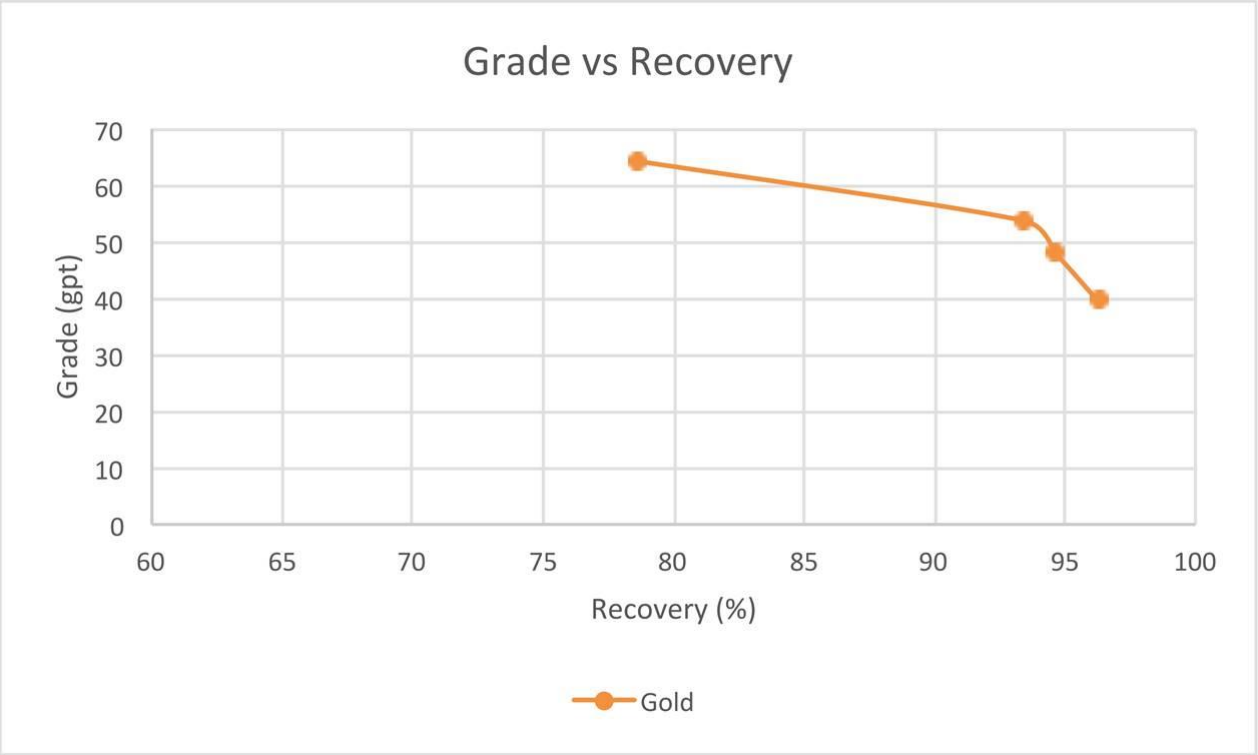

Figure 4: Concentrate Grade vs Recovery Curve

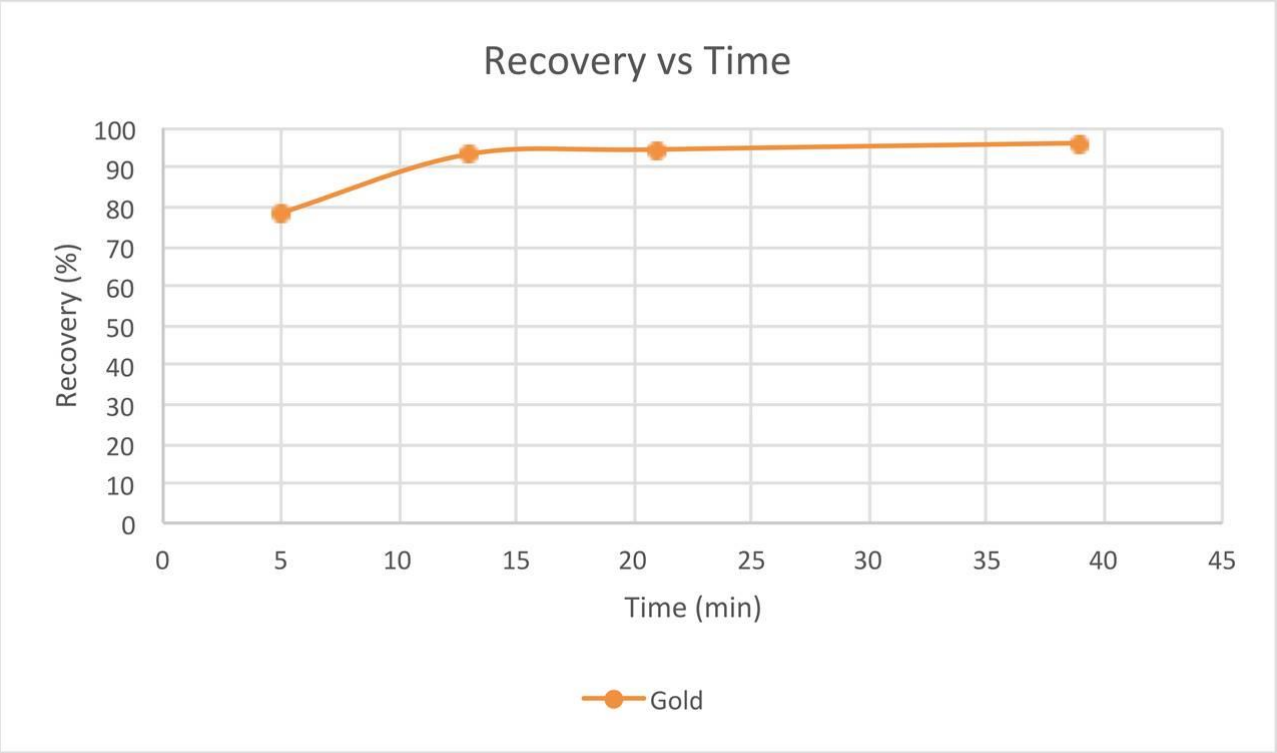

Figure 5: Concentrate Recovery vs Time Curve

Geotechnical Studies

Geotechnical consultancy Red Rock Geotechnical Pty Ltd was engaged by Spitfire to assess the geotechnical conditions for a potential underground mining operation at Aphrodite and review open pit slope design parameters. During the quarter, Red Rock commenced geotechnical logging of diamond core drilled during the current drill program. Logging of drill core and collection of geotechnical samples is ongoing.

Hydrogeological Review

During the quarter, Spitfire engaged Hydrogeological Consultant Groundwater Resource Management Pty Ltd to undertake a review of the Aphrodite Project's hydrogeological conditions. The review includes assessment of the Project's potential water supply targets and an assessment of dewatering requirements for a potential surface and underground mining operations.

Field visits and visual assessment of diamond core drilled during the current drill program have been undertaken. Assessment of data and report compilation are ongoing.

Mulwarrie Gold Project, WA

No Exploration activities were carried out this quarter

Alice River Gold Project, NE Queensland

Planning is underway to complete a IP Geophysical survey at Alice River. Exploration in 2017 highlighted the prospectivity of the White Lion Area. The aim is to define drill targets to test the White Lion prospect for an intrusive-related/epithermal gold system at depth.

During 2017, Spitfire had worked to progress a draft exploration agreement with the Olkola Corporation over granted exploration tenure but was unable to reach agreement with Olkola. Spitfire and its joint venture partner Tinpitch Pty Ltd have filed an application in the Queensland Land court against the Cape York United #1 Claim for the Olkola People. A directions hearing has been set for the 24th of May 2018 with the aim to enhance the prospects of an early resolution.

Cash Position

The Company held cash reserves of A$4.66 million at the end of the quarter.

More Information

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Competent Person's Statement

The Company confirms it is not aware of any new information or data that materially affects the information included in the 25 January 2018 Aphrodite Mineral Resource Estimate and that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its resource announcement made on January 25, 2018.

The information in this presentation relating to Exploration Results and Mineral Resources is based on information compiled by the Company's proposed Managing Director, Mr John Young, a competent person, who is a Member of the Australian Institute of Mining and Metallurgy. Mr Young has sufficient experience relevant to the style of mineralisation and to the type of activity described 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 Young has disclosed to the Company that he is a substantial shareholder in the Company. Mr Young consents to the inclusion in this announcement of the matters based on his information in the form and content in which it appears. The Company is not aware of any new information or data that materially affects the information included in the previous ASX announcements.

SCHEDULE OF TENEMENTS

Country/state	Tenement Code	Beneficial Interest (%)
England Gold Project		
Western Australia	E38/2869	100%
Yoda Prospect Project		
Northern Territory	EL 30834	100%
South Woodie Woodie Manganese Project		
Western Australia	E46/616	80%
Western Australia	E46/787	100%
Western Australia	E46/835	100%
Western Australia	R46/0002	80%
Western Australia	E46/1159	100%
Western Australia	E46/1160	100%
Mulwarrie Gold Project		
Western Australia	M30/0119	51%*
Western Australia	M30/0145	51%*
Alice River Gold Project		
Queensland	ML2901	0%*
Queensland	ML2902	0%*
Queensland	ML2907	0%*
Queensland	ML2908	0%*
Queensland	ML2957	0%*
Queensland	ML2958	0%*
Queensland	ML3010	0%*
Queensland	ML3011	0%*
Queensland	EPM14312	0%*
Queensland	EPM14313	0%*
Queensland	EPM15359	0%*
Queensland	EPM15360	0%*
Queensland	EPM15409	0%*
Queensland	EPM15410	0%*
Queensland	EPM16301	0%*
Queensland	EPM26266	0%*

** Subject to Farm-in and joint venture agreements. A 51% beneficial interest in the Mulwarrie project was earned during the quarter.*

Aphrodite Gold Project		
Western Australia	M24/720	100%
Western Australia	M24/779	100%
Western Australia	M24/649	100%
Western Australia	M24/681	100%
Western Australia	M24/662	100%
Western Australia	E24/186	100%
Western Australia	P24/5014	100%
Western Australia	P24/5015	100%
Western Australia	L24/204	100%
Western Australia	L29/114	100%
Western Australia	L29/115	100%
Western Australia	L24/225 – Pending Application	100%
Western Australia	L24/226 – Pending Application	100%
Western Australia	L24/227 – Pending Application	100%