



16 MAY 2018

ASX/MEDIA RELEASE

COMPANY, EXPLORATION AND KEY PROJECTS UPDATE

SPITFIRE TO EMBARK ON MAJOR NEW EXPANSIONARY DRILLING PROGRAM AT APHRODITE

Further 6,000m diamond drill program to start next week focused on newly-defined Exploration Target between 150m and 500m depth within Alpha and Phi lodes

Key Points:

- An Exploration Target of 3.9Mt to 4.7Mt at 4g/t to 6g/t comprising between 500,000oz and 900,000oz * has been estimated between a vertical depth of 150m and 500m in the Alpha and Phi lodes at the Aphrodite Gold Project, 65km north of Kalgoorlie.
** The potential quantities and grades of the Exploration Target are conceptual in nature and there has been insufficient exploration to date to define a Mineral Resource. It is not certain that further Exploration will result in the estimation of a Mineral Resource.*
- This Exploration Target is in addition to the current JORC Indicated and Inferred Resource for the Aphrodite Gold Project of 13.1Mt at 3g/t Au for 1.261Moz (See ASX Release 25 January 2018).
- Further extensional diamond drilling designed to convert the new Exploration Target is scheduled to commence in late May, targeting newly identified opportunities to expand the Underground Inferred Resource (1.4Mt at 7.5g/t Au for 332,000oz) from the new geological model.
- Assay results from the remaining nine holes from the recently completed 6,149m diamond drilling program expected over the next 2-3 weeks.
- In light of the recent increased investor interest in manganese projects, Spitfire has also commenced a review of its South Woodie Woodie Manganese Project, with drilling planned for the third quarter of 2018 to further evaluate the existing JORC 2004 compliant Mineral Resource.

Spitfire Materials Limited (ASX: SPI) is pleased to advise that, due to the early success of its recently completed in-fill and extensional diamond drilling program at the 100%-owned **1.26Moz Aphrodite Gold Project** near Kalgoorlie, together with other recent geological and technical studies, the Company has generated a new Exploration Target which will be tested immediately through a major new drilling program.

An Exploration Target of **3.9 – 4.7 million tonnes between 4.0g/t Au and 6.0g/t Au**, comprising between **500,000oz and 900,000oz** has been estimated between 150m and 500m depth for both the Alpha and Phi deposits. The potential quantities and grades of the Exploration Target are conceptual in nature and there has been insufficient exploration to date to define a Mineral Resource. It is not certain that further Exploration will result in the estimation of a Mineral Resource.

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The new Exploration Target, which is in addition to the current Indicated and Inferred Mineral Resource for the Aphrodite Gold Project of 13.1Mt grading 3g/t for 1.261Moz, is based on the successful recent diamond drilling program, the new geological model for the Aphrodite Project developed by Spitfire and other technical and geological studies (see below).

The results received so far from the recent 6,149m diamond drilling program have confirmed the quality and consistency of the mineralisation within the Underground Inferred Resource of 1.4Mt at 7.5g/t for 332,000oz (see ASX release dated 25 January 2018), supporting the Company's objective of upgrading this Inferred Resource as the cornerstone of its development studies.

Geological modelling of the deposit based on the information generated from the re-logging program has also assisted in the re-interpretation of both the Alpha and Phi lodes.

Recent assay results from the first four holes (18APD001-003, and 18APD006) have confirmed the continuity of the lower section of the Alpha lode over 300m, with highlights including **17m @ 2.67g/t Au from 322m** (18APD001), **12m @ 11.53g/t Au from 377m** (18APD003) and **22m @ 6.28g/t Au from 391m** (18APD006). Assays from the remaining nine holes are expected over the next few weeks (see ASX Release dated 16th April 2018).

The Company has also announced that it has commenced a review of its South Woodie Woodie Manganese Project in the Pilbara region, in light of the strong pricing, market fundamentals and outlook for manganese.

Spitfire's Managing Director, Mr John Young, said: *"The new Exploration Target announced today is a major step forward for the Aphrodite Project, building on the extensive body of work we have completed at the project over the past six months. While we are still awaiting final assay results, we now have sufficient data to generate clear targets for the next round of drilling, which will commence next week.*

These positive developments show that our strategy to build a substantial gold inventory in the North Kalgoorlie region is firmly on track. With drilling starting again soon, we are confident that we should be in a position to deliver a combination of strong exploration news-flow, Resource growth and development progress in our core area of interest in the second half of the year.

At the same time, we have also decided to commence a review of another long-standing asset within our portfolio, the advanced South Woodie Woodie Manganese Project. Given the strength of the manganese market and emerging interest and potential from the battery metals sector, we believe it is important to maximise the value of this strategic asset for our shareholders – even though our primary corporate focus is on our WA gold assets."

GEOLOGY MODEL – TARGET GENERATION

The Aphrodite deposit is a predominantly sediment-hosted orogenic gold deposit driven by hydrothermal fluid flow along steep-dipping NNW trending shear zones. Rheological contrasts and contacts have focused gold-bearing fluids transported by the steep shears. Gold mineralisation occurred late in the evolution of the deposit co-incident with shearing, folding and deformation during the last phase of compression.

The proposed drilling will focus on two styles of mineralisation within the Alpha zone. In the **Alpha North** zone, high-grade tensional vein sets are associated close to the porphyry/sediment contact – a steep north-plunging contact which has an associated distinctive set of tension array quartz veinlets associated with an increase in arsenopyrite and with grades often in excess of 10g/t Au. It is postulated that late-stage development of folding and crenulation is responsible for largescale upright folds. These shallow, north north-west plunging folds control the high-grade ore geometry (shoots) of 20-25° towards 340°. This geometry was confirmed by the results from drill holes 18APD003, 004 and 006 along a north-northwest trending high grade shoot from 665920mN to 666000mN (see Figures 1 and 3). In estimating this exploration target results from ten diamond holes were used. Further drilling should build on and increase confidence in this potential underground resource.

The Alpha deeps style of mineralization is wholly within the felsic volcanoclastic/porphyry and is a steep (5-15m wide) shear. Drillholes 18APD009 and 10 have targeted this trend (results pending), which remains open to the south and at depth, however further extensional drilling in this area is required to define an exploration target.

To the north and south of the Phi mineralization, drilling is on 80m spacings, with very little of this drilling below a vertical depth of 100m, especially to the south. Phi North extends over 650m from 6660000mN to 6660650mN (See figures 2 and 3) and is largely untested at depth with only twelve holes intersecting this zone This is a structurally complex area and presents a good target for drilling. Phi South extends 550m south from 6659600mN and this zone is modelled on results from twenty diamond holes.

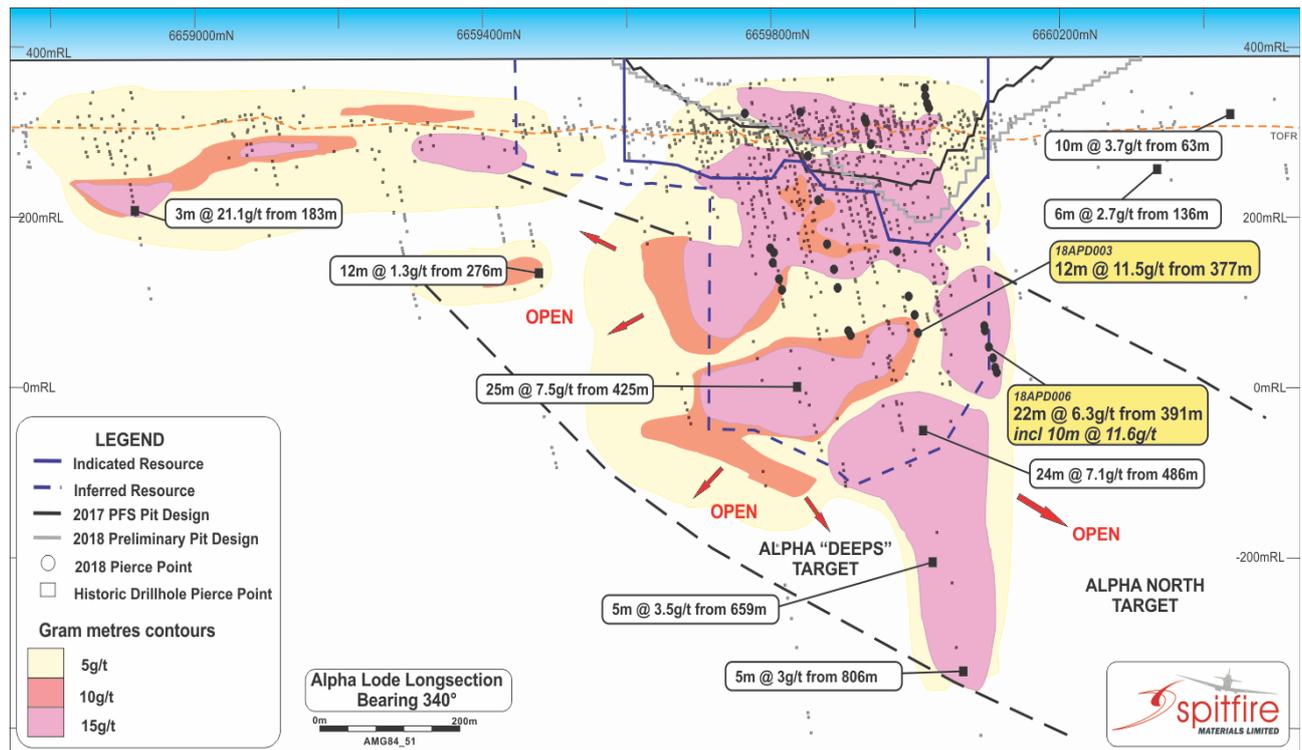


Figure 1: Long Section Alpha Lode

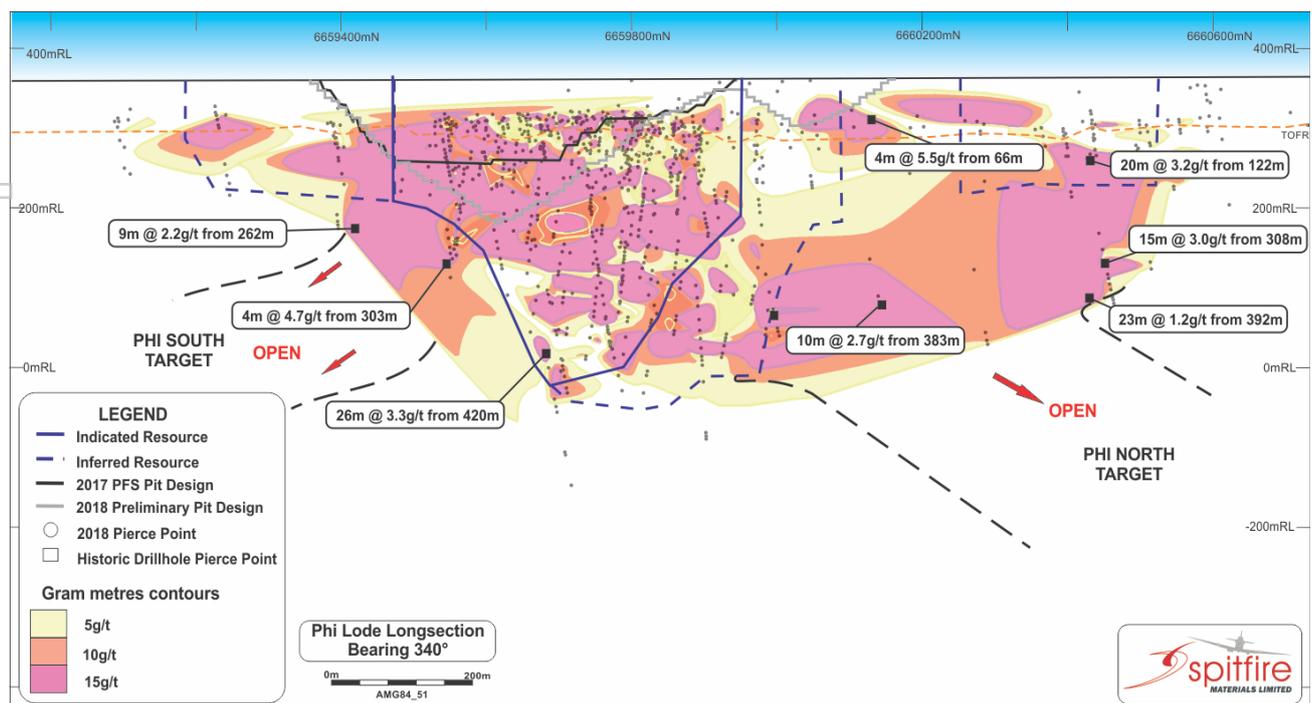


Figure 2: Long Section Phi Lode

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EXPLORATION TARGET

This initial work undertaken at Aphrodite by Spitfire Materials and its consultants has involved detailed geological and structural logging of key sections and a new interpretation of the geology and related mineralisation styles.

This geological model has been taken into consideration when planning the initial 13-hole diamond drill program to confirm the model. The program focused on the lower Alpha and Phi mineralisation categorised as Inferred and its extensions to the north and south. Due to the success of this program further drilling is planned in two phases and Spitfire Materials has defined an Exploration Target **3.9 – 4.7 million tonnes between 4.0g/t Au and 6.0g/t Au**, comprising between **0.50Moz and 0.90Moz** has been estimated between 150m and 500m depth.

Table 1: Aphrodite Gold Exploration Target¹ 2018

Exploration Target	Tonnes(M)		Gold (g/t)	
	From	To	From	to
Alpha North	550,000	700,000	5	7
Phi North	1,600,000	1,900,000	3.5	5.5
Phi South	1,750,000	2,100,000	3.5	5.5
Combined Total	3,900,000	4,700,000	4	6

Exploration Target¹; The potential quantities and grades are conceptual in nature and there has been insufficient exploration to date to define a Mineral Resource. It is not certain that further Exploration will result in the determination of a Mineral Resource under the “Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves, the JORC Code” (JORC2012). The Exploration Target is not being reported as part of any Mineral Resource or Ore Reserve.

Spitfire has set a longer-term objective of defining a significant primary gold Resource. Diamond drilling is proposed in two phases in Q2 and Q3 2018 and will focus on the higher grade gold zones to test the exploration targets generated.

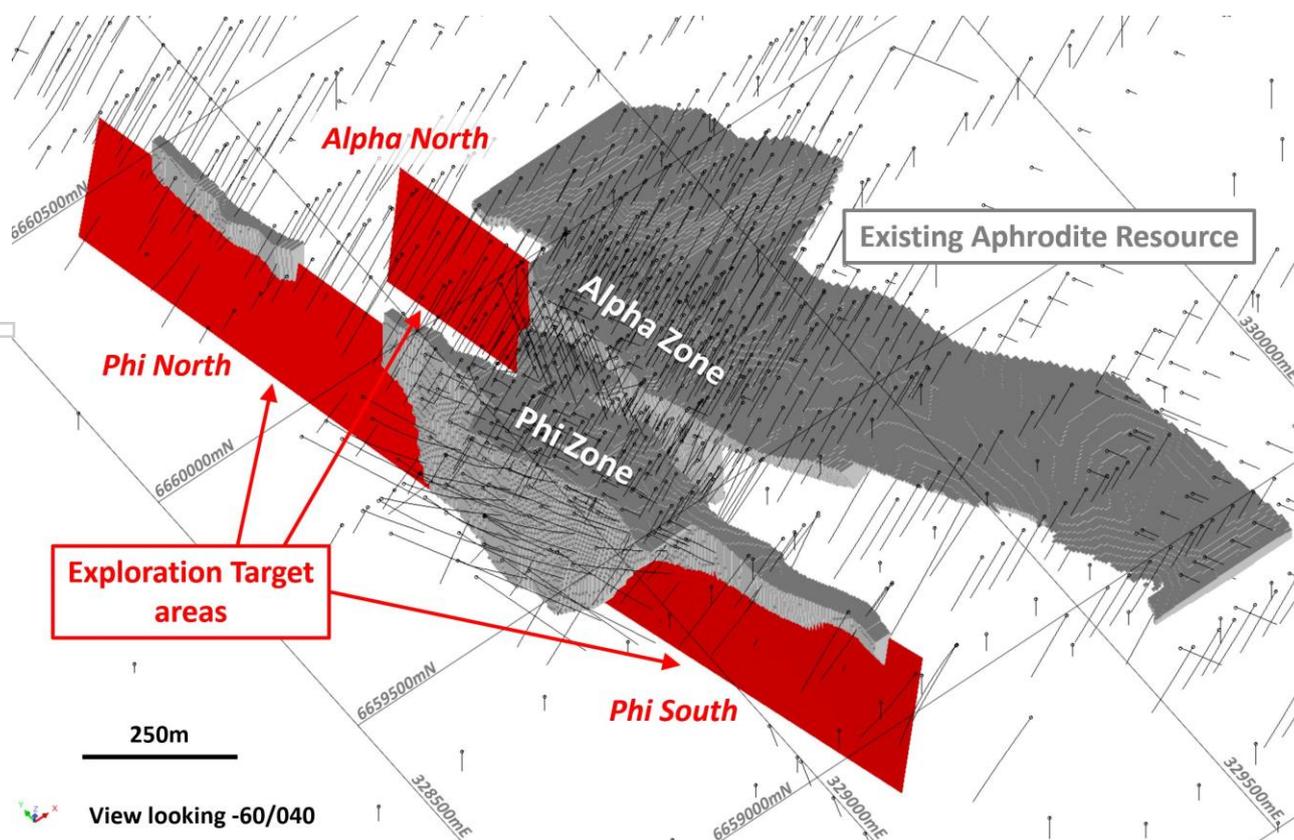


Figure 3: Aphrodite drilling and Targets outside existing resource model

PROPOSED PROGRAM

Planned Hole ID	Grid ID	North (AMG84_51)	East (AMG84_51)	Collar RL	Planned EOH depth	Dip	Azi
18Plan02	AMG84_51	6659720	329555	390	550	-60	270
18Plan04	AMG84_51	6659680	329490	390	380	-60	270
18Plan05	AMG84_51	6659680	329535	390	450	-60	270
18Plan06	AMG84_51	6659640	329490	390	350	-60	270
18Plan07	AMG84_51	6659640	329535	390	450	-60	270
18Plan10	AMG84_51	6659760	329555	390	560	-60	270
18Plan12	AMG84_51	6659800	329620	390	650	-60	270
18Plan14	AMG84_51	6659840	329252	390	550	-60	270
18Plan15	AMG84_51	6659880	329555	390	600	-60	270
18Plan16	AMG84_51	6659880	329605	390	680	-60	270
18Plan17	AMG84_51	6659920	329420	390	380	-60	270

SOUTH WOODIE WOODIE MANGANESE PROJECT

The South Woodie Woodie Manganese Project comprises four granted Exploration Licences, one application and a retention licence that covers the contact and contact North deposits. The project covers a total area of 150 square kilometres in Western Australia's East Pilbara Manganese Province.

The tenements lie along strike and to the south of the Woodie Woodie Manganese Mining Centre (operated by Consolidated Minerals Limited) and in close proximity to several emerging manganese projects which are being actively explored. Manganese mineralisation from the Woodie Woodie district is highly sought after due to its high manganese content, high lump yield, and low impurity content.

During 2014, Spitfire Resources drilled 38 RC holes at the Project (refer ASX Release, 23 December 2014). The drilling was concentrated on the western side of tenement E46/835 (now referenced by the exploration team as "The Western Front"). Until now this area has had no previous exploration. Assays from the Western Front returned a number of near-surface intersections including:

- **Hole no. 021:** 6m @ 22.2% Mn from 43m, including 4m @ 26.9% Mn;
- **Hole no. 019:** 10m @ 21.3% Mn from 43m, including 5m @ 25.0% Mn; and
- **Hole no. 010:** 14m @ 15.9% Mn from 51m, including 3m @ 22.0% Mn.

(Full details showing all drilling collar locations are shown in ASX Release 23rd December 2014)

The Western Front exhibits no surface manganese signature but was identified as prospective following radiometric, geophysical and geological structure analysis of certain areas based on similarities in composition to the anomalies found at Spitfire's Contact/Contact North deposit.

The exploration model here is derived from earlier work at Woodie Woodie by T Blake (see figure 4). This new understanding promotes the importance of geological knowledge as a first step to exploration. Geological mapping essentially sterilises areas of either no manganese mineralisation or areas that are covered by excessive overburden. Specific geological indicators can lead to the identification of nearby Carawine Dolomite dissolution zones, and hence locate highly prospective areas.

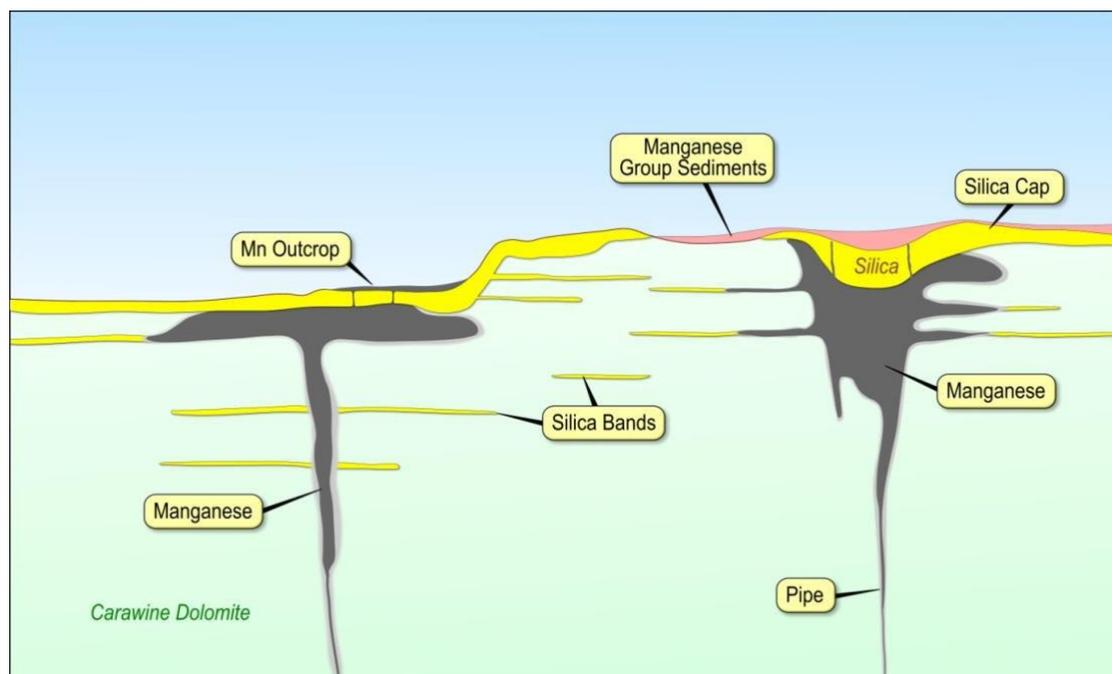


Figure 4: Simplified Manganese mineralisation model

Geophysical techniques such as VTEM, DDIP, Gradient Array IP, Gravity, and airborne electromagnetic surveys can then be used to further pinpoint targets.

The distance between the intercepts at drill hole 19 and 21 to drill hole number 10 is approximately 3.3km. This represents a large area that could potentially host more manganese discoveries.

A full desktop review of the results and pathway planning is now underway. Spitfire is planning a scout drilling program for Q3.

WOODIE WOODIE MANGANESE PROJECT – BACKGROUND

The project is located approximately 400km south-east of Port Hedland in the highly prospective Pilbara manganese province. The South Woodie Woodie Project consists of tenements E46/616, E46/787, E46/835, E46/1159 and retention licence R46/0002. These are located across the Balfour Downs and Wandanya pastoral leases and are accessed via station cleared tracks. The tenements are approximately 65km NNE of the Nicholas Downs mine site and cover 150 square kilometres.

The tenements lie within the Balfour Downs sub-basin and cover a portion of the Hamersley Group based by the Fortescue sediments and Archaean granite-greenstone basement. The target areas are the manganese seams hosted by the Carawine Dolomite, upper member of the Hamersley group.

Spitfire explored the project area between 2008 and 2014, drilling approximately 393 holes for 41,000m and completing over 167 square kilometres of ground-based geophysics, spending over A\$11 million. Spitfire discovered and defined three deposits, namely Tally Ho, Contact and Contact North. A JORC 2004 compliant Inferred Resource was delineated during the 2010 and 2011 field seasons announced in March 2012 and no resource drilling has been completed since 2011.

Table 2: Combined Inferred JORC Resource* at the South Woodie Woodie Project.

JORC Inferred Resource	Mt	Mn%	Al ₂ O ₃ %	Fe %	SiO ₂ %	P %	LOI (1000)
Contact	2.8	13.6	5.1	15.7	42.9	0.054	8.4
Contact North	8.5	15.4	3.0	15.0	42.4	0.057	8.6
Contact & Contact North Combined	11.3	15.0	3.5	15.2	42.5	0.057	8.5
Tally-Ho	2.9	7.1	6.7	9.1	62.9	0.043	7.95
Total	14.2	13.3	4.2	13.9	46.7	0.053	

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*The Inferred JORC resources for the Tally-Ho and the Contact/Contact North deposits has not changed since their initial release in 2010 and 2012 respectively. They were reported under the 2004 JORC code and due to no additional work being performed since there has been no reason to update these deposits to the 2012 JORC requirements. (See ASX Release 13 May 2010 & 14 March 2012).

The initial campaign in 2010 included the drilling of 54 RC holes for 4,895 metres which encountered the Contact area. The 2011 campaign had 234 RC holes for 25,436m covering the in-fill and definition of the Contact, and Contact North Deposits.

11 PQ diamond holes (eight holes at Contact and three holes at Contact North) were used for bulk core sampling for the metallurgical beneficiation test work. Metallurgical testwork was completed by METS Pty Ltd and concluded that Contact and Contact North deposits have the ability to upgraded to **40% Mn grade through a basic beneficiation process** with Contact North lump upgrading to a best grade of 46.1% Mn (see ASX release 17 February 2012).

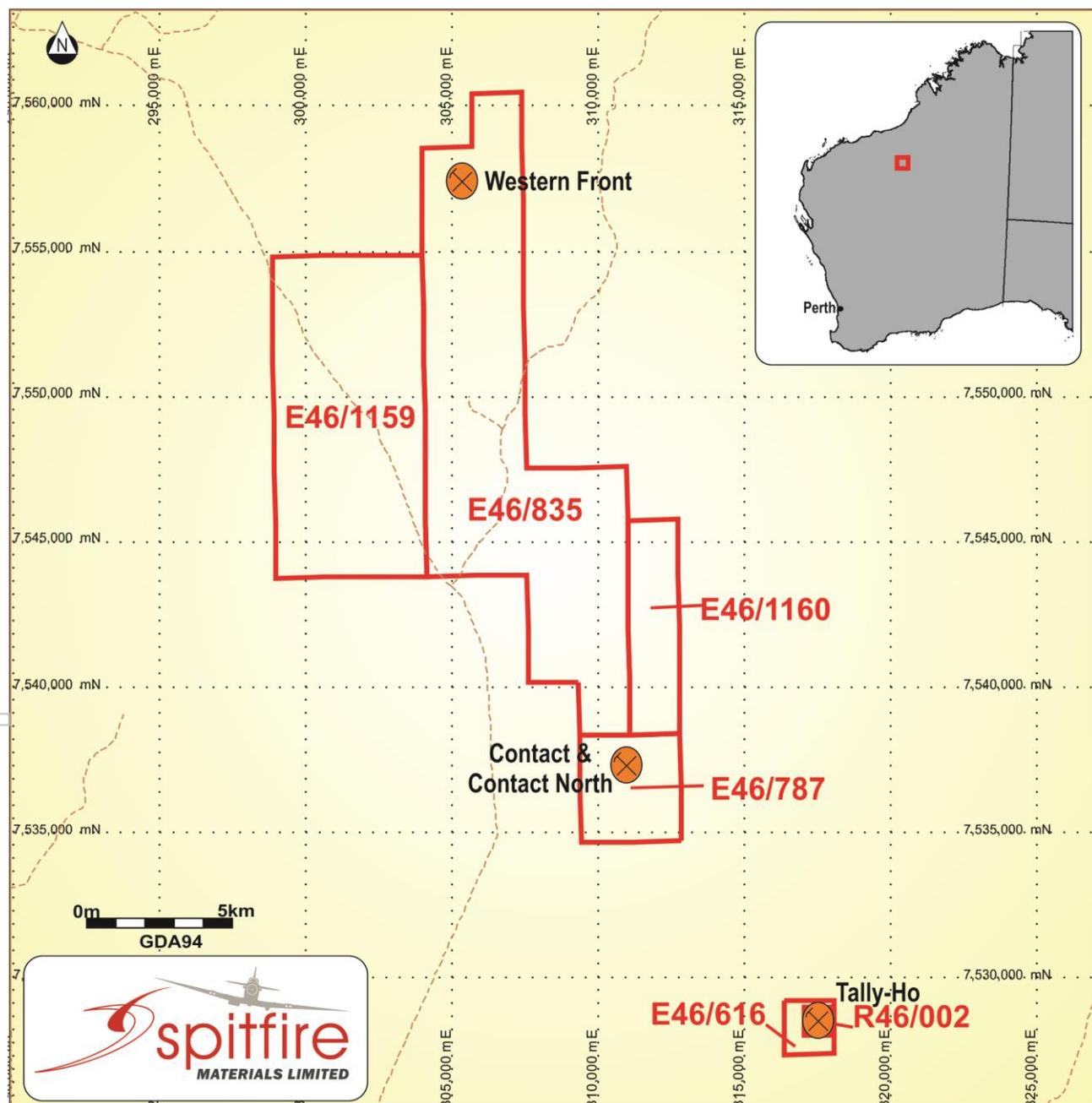


Figure 5: South Woodie Woodie Tenements and Prospect Locations

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APHRODITE GOLD PROJECT – BACKGROUND

The Aphrodite Gold Project is located 65km north of Kalgoorlie in the Eastern Goldfields of Western Australia and has a long history of exploration and resource estimation by several parties dating from its discovery in the mid-1990s.

The Aphrodite deposit is covered by five contiguous Mining Leases which are 100%-owned by Aphrodite. All five tenements have been granted for a 21-year life, with the earliest expiry date in 2028.

The Aphrodite mineralisation and current Mineral Resource estimate is situated in the Kalgoorlie Terrane of the Yilgarn Craton, and within the Bardon Tectonic Zone – a high-strain zone in supracrustal rocks extending about 120km north of Kalgoorlie. The Aphrodite prospect comprises a suite of intermediate to felsic porphyries that have intruded a sequence of basalts and dominantly volcanic-derived epiclastic rocks. The main zones of mineralisation defined so far (the near vertically-dipping Alpha and Phi lodes) lie within a regional N-S sericite-pyrite-arsenopyrite alteration system that extends for about 3km along strike.

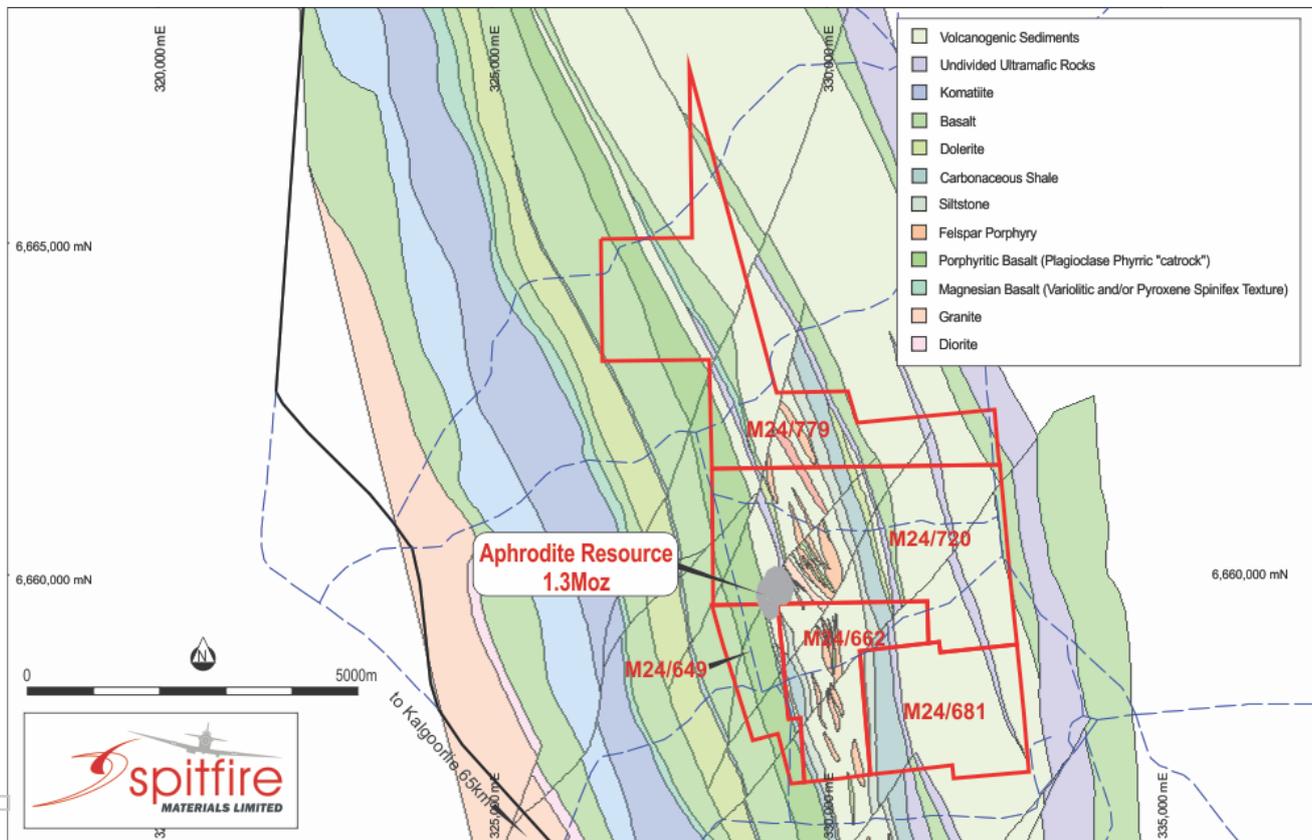


Figure 6: Aphrodite Gold Project, Geology and Location Plan

Domain	Indicated			Inferred			Indicated + Inferred		
	Tonnes	Gold		Tonnes	Gold		Tonnes	Gold	
	(Mt)	(g/t)	(koz)	(Mt)	(g/t)	(koz)	(Mt)	(g/t)	(koz)
OP (0.5g/t cut-off)	6.2	2.1	411	4.0	1.5	187	10.2	1.8	598
UG (3.0g/t cut-off)	1.6	6.6	330	1.4	7.5	332	2.9	7.0	663
Total Resource	7.8	3.0	741	5.3	3.0	520	13.1	3.0	1,261

McDonald Speijers Aphrodite Project Resource Estimation

The resource estimate was classified in accordance with the Australasian Code for Reporting of Identified Mineral Resources and Ore Reserves (JORC Code 2012) – Refer ASX Release 25 January 2018.

DISCLAIMERS AND FORWARD-LOOKING STATEMENTS

This announcement contains forward looking statements. Forward looking statements are often, but not always, identified by the use of words such as "seek", "target", "anticipate", "forecast", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions.

The forward-looking statements in this announcement are based on current expectations, estimates, forecasts and projections about Spitfire and the industry in which they operate. They do, however, relate to future matters and are subject to various inherent risks and uncertainties. Actual events or results may differ materially from the events or results expressed or implied by any forward-looking statements. The past performance of Spitfire is no guarantee of future performance.

None of Spitfire’s directors, officers, employees, agents or contractors makes any representation or warranty (either express or implied) as to the accuracy or likelihood of fulfilment of any forward-looking statement, or any events or results expressed or implied in any forward-looking statement, except to the extent required by law. You are cautioned not to place undue reliance on any forward-looking statement. The forward-looking statements in this announcement reflect views held only as at the date of this announcement.

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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 announcement relating to Exploration Targets, Exploration Results and Mineral Resources is based on information compiled by the Company’s 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 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.

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