

28 November 2017 ASX/MEDIA RELEASE

# IMPRESSIVE MAIDEN DRILL RESULTS OF UP TO 25g/t CONFIRM OUTSTANDING POTENTIAL OF ALICE RIVER GOLD PROJECT, QLD

Drilling confirms high-grade gold zones at Alice Queen – One Mile Gold Prospects as modelling of aeromagnetic data reveals exceptional intrusive-related gold target

#### **KEY POINTS**

 Outstanding results received from the Company's maiden RC drilling program at the Alice River Gold Joint Venture, Queensland with significant intercepts including:

_	17AARC002	14m @ 1.59 g/t Au from 51m
-	17AARC004	5m @ 2.67 g/t Au from 112m; and
		7m @ 1.57 g/t Au from 139m
-	17AARC005	2m @ 25.03 g/t Au from 89m; and
		13m @ 1.50 g/t Au from 111m, including
		3m @ 2.69g/t Au
-	17AARC007	14m @ 5.47 g/t Au from 71m, including
		5m @ 12.85 g/t Au
-	17AARC008	17m @ 1.59 g/t Au from 106m, including
		8m @ 2.45g/t Au
_	17AARC009	17m @ 3.26 g/t Au from 89m, including
		5m @ 8.45 g/t Au
_	17AARC011	17m @ 1.54 g/t Au from 26m, including
		2m @ 6.45 g/t Au

- The recent drilling program has confirmed the continuity of high-grade gold within the Alice Queen – One Mile system up to 250m depth below surface, with the system remaining open both at depth and along strike.
- The drilling results have confirmed that high-grade gold mineralization occurs over moderate widths, associated with quartz-sulphide veining, within intense broad envelopes of alteration (sericite, chlorite, clay and epidote).
- 3D modelling of the White Lion Aeromagnetic Anomaly, 15km to the SE, has revealed a 1.5km wide circular magnetic donut feature with a magnetic source from around 100m to >500m depth that coincides with anomalous surface rock chips values of >1.0 g/t Au at surface. This represents an exceptional Mt Leyshon-style intrusion-related gold target which will be further evaluated as part of planned follow-up drilling in early 2018.



Spitfire Materials Limited (ASX: SPI) is pleased to advise that it has made a strong start to its exploration campaign at the **Alice River Joint Venture**, located 440km north-west of Cairns in North Queensland, with its maiden Reverse Circulation drilling program returning outstanding results.

The initial drilling, which was focused within the previously announced Exploration Target at the **Alice Queen** and **One Mile** prospect areas, has confirmed the presence of significant high-grade primary gold mineralisation both below and along strike from historical gold mining areas.

The October 2017 drill program at Alice River comprised **14 holes for 2,397m** and was successful in validating the historical RC and diamond drilling results reported the 1980s and 1990s by previous companies. The new drilling results have demonstrated that the gold system **extends further than previously thought and is open along strike and at depth**. The drilling at One Mile targeted the downplunge (northern) extension of shallower mineralisation at Alice Queen.

Spitfire's Managing Director, John Young, said the initial phase of drilling had confirmed the strong potential of the Alice River Project to emerge as a significant longer-term exploration asset for Spitfire alongside its emerging gold portfolio in the Kalgoorlie district of Western Australia.

"We are off to a great start, with our maiden drilling program delivering impressive results, confirming our geological model and improving our understanding of the geometry and controls on the mineralisation at Alice River.

"From our work to date, we have clearly identified the presence of a significant high-grade gold vein system at the Alice Queen and One Mile areas with excellent potential to grow further and to yield resources in the near term.

"At the same time, we have identified multiple targets across the broader project area, including an exceptional intrusion-related gold target located some 15km to the south-east with strong similarities to the 3.5Moz Mt Leyshon deposit. This and other targets will be evaluated as part of an increased exploration effort at Alice River in 2018."

# **ALICE QUEEN - ONE MILE MINING CENTRE**

The historical Alice Queen Mine and One Mile prospect areas, are located on granted Mining Leases ML2901 and ML3010 respectively (see Figure 1 – Alice River Drill Plan).

As part of the planned program, holes 17AARC001 to 17AARC014 were drilled to test the mineralization below the Alice Queen pit and to follow the mineralized zone to the NNW, downplunge of the Alice Queen Pit, towards One Mile.

Significant RC drilling intercepts >0.5g/t are listed below with full results provided in Table 2.



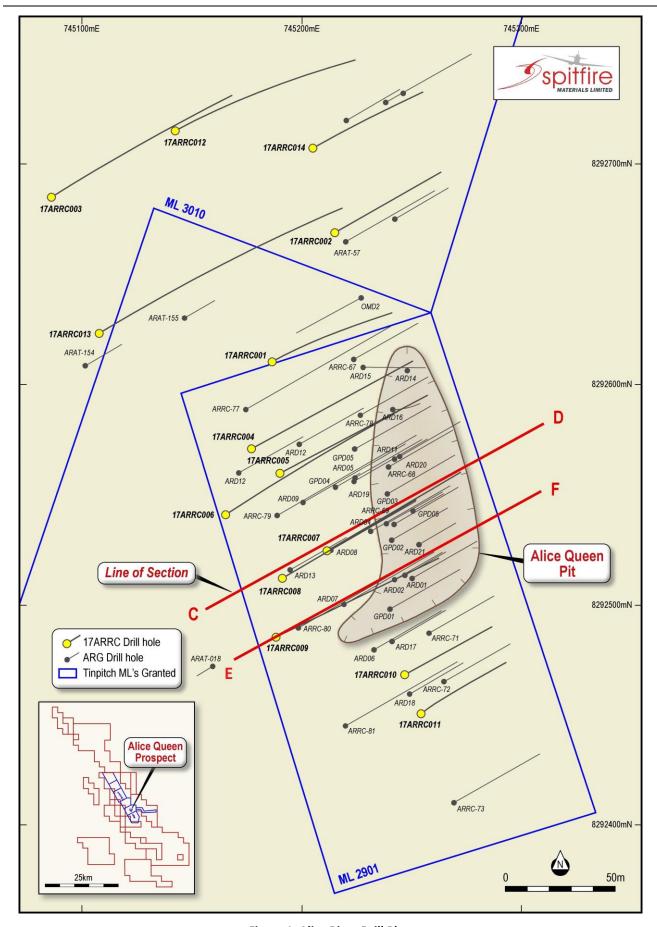


Figure 1: Alice River Drill Plan



<u>Reverse Circulation holes 17ARRC001</u> to 17ARRC003, and holes 17ARRC012 – 17AARC014 were completed over the **One Mile Prospect**, targeting extensions of the higher-level vein system at the Alice Queen pit both along-strike and down-plunge. Drilling was successful in defining broad alteration zones with low to moderate grade gold mineralisation over significant widths below 100m. The results from 17ARRC002 are very encouraging, with this hole identifying the likely extension of the main quartz vein/lode in the Alice Queen pit further south.

## Significant Gold Intercepts\* (>0.5g/t Au and >1m wide)

#### Hole 17ARRC001

- 16 m @ 0.70 g/t Au from 163 m, including 1 m @ 2.48 g/t Au
- 11 m @ 0.91 g/t Au from 182 m, including 4 m @ 1.24 g/t Au
- 5 m @ 0.94 g/t Au from 195 m
- 3 m @ 1.33 g/t Au from 207 m, including 1 m @ 2.21 g/t Au

#### Hole 17ARRC002

- 2 m @ 2.21 g/t Au from 19 m
- 2 m @ 5.57 g/t Au from 27 m
- 2 m @ 0.67 g/t Au from 43 m
- 14 m @ 1.59 g/t Au from 51 m, including 4 m @ 2.30 g/t Au

#### Hole 17ARRC013

- 1 m @ 1.78 g/t Au from 235 m
- 1 m @ 2.54 g/t Au from 264 m

#### Hole 17ARRC014

- 3 m @ 1.56 g/t Au from 36 m
- 3 m @ 2.05 g/t Au from 46 m
- 5 m @ 1.69 g/t Au from 55 m, incl. 1 m @ 3.75 g/t Au
- 1 m @ 13.35 g/t Au from 65 m
- 3 m @ 4.37 g/t Au from 73 m, incl. 1 m @ 8.49 g/t Au
- 1 m @ 16.1 g/t Au from 96 m

Reverse Circulation holes 17ARRC004 – 17AARC 011 were designed to drill critical sections of the of Alice Queen open pit area at depth, below the known mineralisation.

Drill holes 17ARRC004 – 17AARC006 were located at the northern end of the pit and intersected broad widths (>35m) of elevated gold in excess of 0.10g/t Au. Drill holes 17ARRC007 and 17AARC008 were drilled below the middle area of Alice Queen open pit, and the intersection widths correlate well with historical drilling in the 1980s to 1990s, and display good continuity between holes (see Figure 2, drill section C-D).

Hole 17ARR007 returned a significant result of 14 m @ 5.47 g/t Au, including 5 m @ 12.85 g/t Au, and 1 m @ 33.0 g/t Au.

17AARC009 was drilled 50m south of section E-F and returned a significant result of **17m @ 3.26 g/t Au, including 5m @ 8.45 g.t Au.** 

<sup>\*</sup> Intercepts >0.5g/t Au and >1m wide down hole



#### Hole 17ARRC004

- 5 m @ 2.67 g/t Au from 112 m
- 7 m @ 1.57 g/t Au from 139 m

#### Hole 17ARRC005

- 2 m @ 25.03 g/t Au from 89 m, including 1 m @ 48.2 g/t Au
- 3 m @ 0.954 g/t Au from 94 m.
- 13 m @ 1.50 g/t Au from 111 m, including 3 m @ 2.69 g/t Au

## Hole 17ARRC006

- 7 m @ 0.9 g/t Au from 30 m, including 2 m @ 1.68 g/t Au
- 4 m @ 0.99 g/t Au from 202 m, including 1 m @ 1.62 g/t Au

#### Hole 17ARRC007

- 14 m @ 5.47 g/t Au from 71 m, including 5 m @ 12.85 g/t Au, incl. 1 m @ 33.0 g/t Au
- 9 m @ 1.18 g/t Au from 100 m

### Hole 17ARRC008

- 3 m @ 1.97 g/t Au from 57 m.
- 17 m @ 1.59 g/t Au from 106 m, including 8 m @ 2.45 g/t Au.

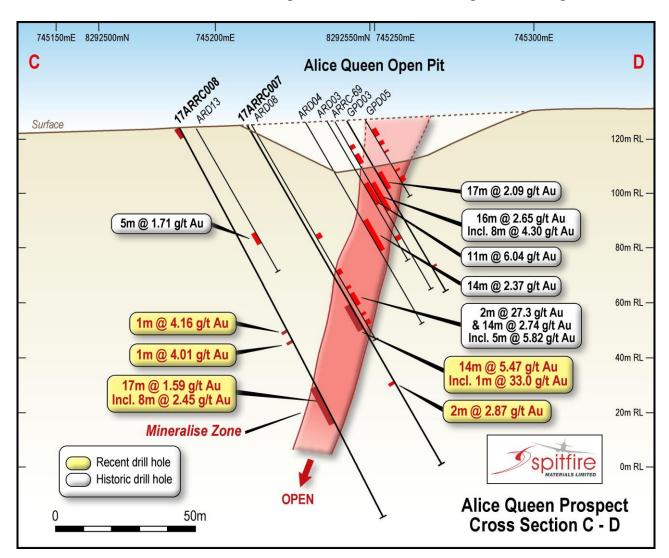


Figure 2 - Drill Section C-D



#### Hole 17ARRC009

- 17 m @ 3.26 g/t Au from 89 m, incl. 5 m @ 8.45 g/t Au, incl. 1 m @ 15.4 g/t Au
- 4 m @ 3.54 g/t Au from 120 m

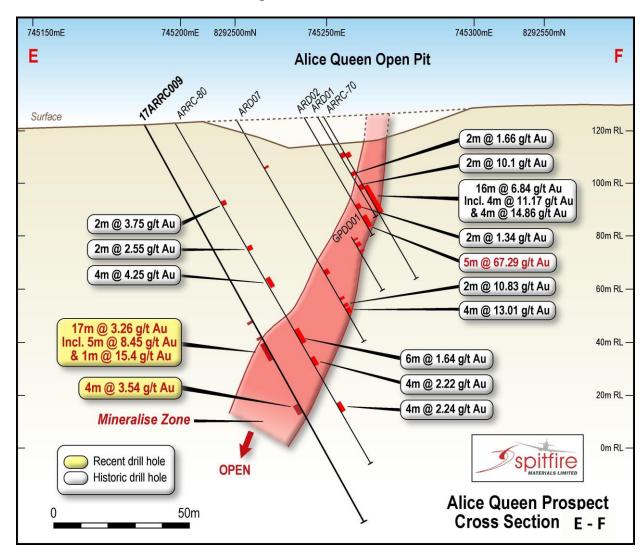


Figure 3 - Drill Section E-F

#### Hole 17ARRC010

- 2 m @ 2.5 g/t Au from 25 m, including 1 m @ 4.49 g/t Au
- 2 m @ 1.588 g/t Au from 44 m

#### Hole 17ARRC011

17 m @ 1.54 g/t Au from 26 m, including 2 m @ 6.455 g/t Au

## **FUTURE DRILLING PLANS**

Given the impressive initial results from Alice Queen and One Mile, which has confirmed the presence of a significant mineralised system, Spitfire intends to commence follow-up drilling in 2018 to evaluate extensions of the system at depth and along strike.

Initial drilling will also be undertaken at numerous other gold prospects along strike, such as Julie Ann, Peninsula King, Big Blow and German Jack. These historical gold prospects are located to the south-east of Alice Queen and One Mile along the Alice River Shear Zone.



Historical drilling at these prospects has yielded high-grade gold intercepts but has only tested the mineralisation to a relatively shallow average depth of just 40m. The Company believes that it has an exceptional opportunity to drill below these known systems in 2018, and build up a portfolio of gold resources along the highly prospective Alice River shear zone.

#### WHITE LION

The White Lion Prospect lies some 15km along strike to the south-east of Alice Queen area, located on EPM 26266. Several rock chip samples were taken by Spitfire at this prospect over a quartz-vein breccia zone located just north of the White Lion magnetic anomaly. The brecciated vein zone outcrops for approximately 300m and trends north-west, sub-parallel to the regional shear zone (see Figure 4 – White Lion Prospect and rock chip results).

Eight rock chip samples were taken by Spitfire from surface outcrops, and results returned assays of up to 1.7g/t Au. These results have verified the anomalous rock chip results reported from historical exploration work carried out in the 1980s, which returned assays of up to 2.56g/t Au.

Shallow Airtrack drilling carried out in the 1980s also returned anomalous gold, with the best interval returning 20m @ 0.4 g/t Au within hole ARAT-244. The historical Airtrack drilling only reached depths of 30m, and the gold zones defined were never followed up with further exploration or deeper drilling. There is very little exposed outcrop in the area, however altered granite was noted as well as a fine-grained porphyry unit (mapped as green aplite dyke), very similar to what has been mapped on the periphery of the Alice Queen pit.

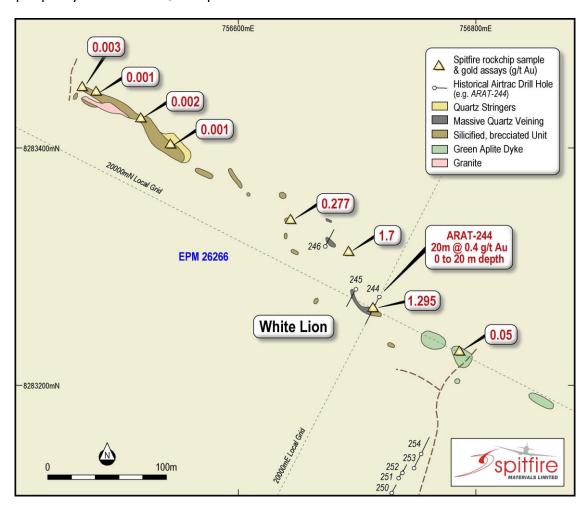


Figure 4: White Lion Prospect and rock chip results



#### **GEOPHYSICS**

A detailed aeromagnetic survey was flown by Spitfire in mid-2017 over the most prospective portions of the Alice River Gold Project tenements. 3D magnetic inversion modelling of the White Lion magnetic feature was completed in late September. The donut-shaped anomaly has a low amplitude signature (50nT) and is around 1.5km in diameter. The inversion model suggests that the magnetic source has the form of a sub-vertical cylinder, with a depth to the top of around 100m. The donut feature becomes more magnetic below 500m depth, (See Figures 5 and 6).

The pipe-like magnetic anomaly is reminiscent of classic porphyry copper-gold signatures, but is somewhat lower in amplitude. However, the anomaly could be associated with an intrusive-related gold system, as there are anomalous gold geochemical results around the White Lion area (historical rock chips, soils, air track holes, new rock chips). Along the north-eastern side of the donut magnetic feature, a strong regional north-west trending fault structure is also evident in the magnetic data, which is likely be an important structural feature related to gold deposition.

The target at White Lion could be more clearly defined by employing ground electrical geophysical surveys such as Induced Polarisation, which has been recommended by the Company's consultants.

The magnetic feature is similar in size to the Mt Leyshon breccia pipe. The Mt Leyshon pipe has a remnant low magnetic anomaly of around 2000nT related to the intrusion and biotite-magnetite alteration. Pervasive phyllic alteration can also destroy magnetite, resulting in lower amplitude anomalies. The Mount Leyshon gold deposit, which lies to the south-east, is estimated to contain some 3.5 million ounces of gold. Further exploration work at White Lion is planned for 2018.

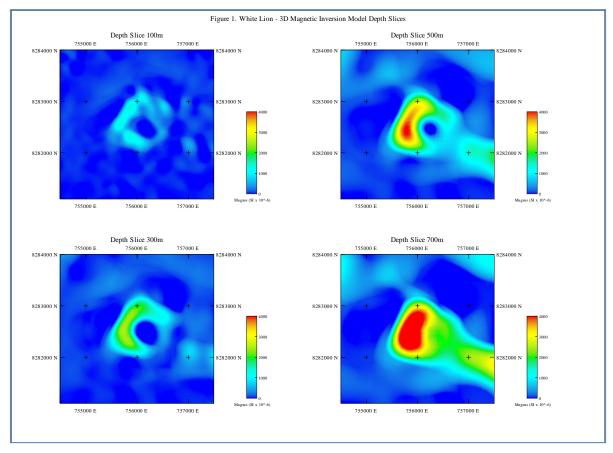


Figure 5: White Lion 3D Magnetic inversion Depth Slices



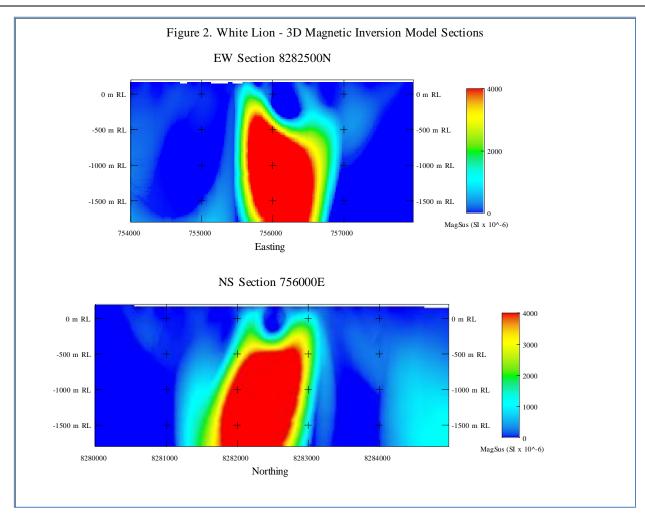


Figure 6: White Lion 3D Magnetic inversion Depth Slices

#### **MORE INFORMATION**

For further information please contact:

John Young

Managing Director Tel: 0419954020

Email: jyoung@spitfirematerials.com.au

#### **COMPETENT PERSON'S STATEMENT**

The information in this announcement relating to Exploration Results and Mineral Resources is based on information compiled by the Company's exploration consultant, Dr Matthew White, a competent person, who is a Member of the Australian Institute of Geoscientists. Dr White 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." Dr White consents to the inclusion in this announcement of the matters based on his information in the form and content in which it appears.



# APPENDIX 1

Table1: Collar Co-ordinates Reverse Circulation Drilling – Alice River Database

Hole-Id	Collar East MGA94	Collar North MGA94	Collar RL (m)	Collar Azim (Grid)	Collar Hole Dip	Total Depth (m)
17ARRC001	745186	8292610	126	60	-70	221
17ARRC002	745215	8292669	128	60	-60	106
17ARRC003	745085	8292685	126	60	-60	202
17ARRC004	745177	8292570	125	60	-60	172
17ARRC005	745190	8292559	125	60	-60	166
17ARRC006	745165	8292540	124	60	-60	232
17ARRC007	745212	8292524	124	60	-60	142
17ARRC008	745191	8292511	123	60	-60	160
17ARRC009	745188	8292484	122	60	-60	172
17ARRC010	745247	8292467	124	60	-60	100
17ARRC011	745254	8292450	123	60	-60	100
17ARRC012	745142	8292716	127	60	-60	220
17ARRC013	745107	8292623	126	60	-60	286
17ARRC014	745205	8292708	125	60	-60	118



Table 2 - Significant Intersections (> 0.5g/t Au) Reverse Circulation Drilling

HOLE_ID	FROM (m)	TO (m)	LENGTH (m)	Intersection >0.50 g/t Au (all uncut)
17AARC001	163	179	16	0.70
	182	193	11	0.91
	195	200	5	0.94
	207	210	3	1.33
17AARC002	19	21	2	2.21
	27	29	2	5.57
	31	32	1	1.54
	43	45	2	0.67
	51	65	14	1.59
17AARC003	89	90	1	0.60
	97	101	4	0.78
17AARC004	43	44	1	0.70
	112	117	5	2.67
	125	126	1	0.80
	139	146	7	1.57
17AARC005	89	91	2	25.03
	94	97	3	0.95
	111	124	15	1.34
	127	128	1	0.53
	132	134	2	0.76
17AARC006	30	37	7	0.90
	152	155	3	0.72
	202	206	4	0.99
	219	223	4	0.69
17AARC007	3	4	1	0.51
	6	7	1	2.66
	46	49	3	0.78
	61	62	1	1.85
	71	85	14	5.47
	88	91	3	1.14
	100	109	9	1.18
17AARC008	57	60	3*	1.97
	80	81	1	1.79
	83	84	1	4.16
	87	88	1	4.01
	89	90	1	0.53
	106	123	17	1.59

\*3m composite sample



HOLE_ID	FROM (m)	TO (m)	LENGTH (m)	Intersection >1 g/t Au (all uncut)
	133	134	1	1.33
17AARC009	21	22	1	1.15
	55	56	1	0.96
	64	65	1	1.22
	70	71	1	0.76
	84	85	1	2.87
	89	106	17	3.26
	113	114	1	0.70
	120	124	4	3.54
	127	130	3	0.58
17AARC010	11	12	1	5.90
	25	27	2	2.50
	44	46	2	1.59
17AARC011	9	12	*3	0.73
	26	43	17	1.54
17AARC012	160	167	7	0.61
17AARC013	235	236	1	1.78
	264	265	1	2.54
17AARC014	36	39	3	1.56
	46	49	3	2.05
	55	60	5	1.69
	65	66	1	13.35
	73	76	3	4.37
_	96	97	1	16.10

NSI = no significant intercepts over 1g/t Au



Table 3 – White Lion Rock Chip Samples

Sample	E_GDA94	N_GDA94	Description	Au_ppm
103078	756469	8283451	Brecciated quartz porphyry, semi-gossanous, outcrop.	0.003
103079	756479	8283448	Iron oxide stained and silicified quartz porphyry outcrop.	0.001
103080	756518	8283425	Silicified quartz porphyry outcrop. Iron oxide staining.	0.002
103081	756543	8283403	Brecciated silicified porphyry, semi-gossanous, outcrop.	0.001
103082	756643	8283341	Massive quartz vein suboutcrop with Iron oxide staining.	0.277
103083	756714	8283266	Massive quartz vein outcrop with iron oxide staining.	1.295
103084	756786	8283228	Pale green, fine grained volcanic dyke outcrop (apalite dyke). Minor FeO2 staining. Brecciated and weathered surfaces with minor quartz veining.	0.05
103085	756694	8283313	Massive quartz vein suboutcrop with FeO2 staining.	1.700



# **JORC Code, 2012 Edition – Table 1**

# JORC Code, 2012 Edition - Table 1 - Alice River Gold Exploration Drilling

**Section 1 Sampling Techniques and Data** 

(Criteria in this s	Criteria in this section apply to all succeeding sections.)			
Criteria	JORC Code explanation	Commentary		
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> </ul>	<ul> <li>The Alice River Gold historical drill sample data was collected by historical exploration companies between 1987 and 1998. Drilling programs included Rotary Air Blast (RAB), Airtrack (open hole rotary percussion with a top hole hammer), Reverse Circulation Percussion (RC) and diamond core drilling techniques. Drill hole data includes 469 holes for a total of 18,294.7 m drilling, and 8,322 assay samples.</li> <li>The historical drilling programs were completed by Cyprus, Beckstar (subsidiary of Goldminco), Golden Plateau and Subloo International between 1987 and 1998.</li> <li>The recent October 2017 RC drill program was completed by Spitfire Materials Limited (SPI) for a total of 14 RC holes, plus 1 RC pre-collar for an abandoned diamond drill hole, for a total of 2483 m RC drilling, and 1741 assay samples (including duplicates, blanks and standards).</li> </ul>		
	<ul> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	• The spacing of drill hole collars is variable. The gold mineralisation was generally defined by drill holes on a cross- section line spacing, roughly perpendicular to the strike of the mineralised zones, with an average on-section spacing of 12.5 to 50 m.		
	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Drill holes were oriented to return the best intersections of the mineralisation. The majority of the drill holes were oriented roughly perpendicular to strike (strike = 330), angled 55 to 70 degrees dip towards 060 degrees, in order to intersect the steeply WSW dipping ore zones at a high angle.</li> <li>Historical diamond drill core was typically NQ size, however some larger diameter core was also collected (HQ).</li> <li>Historical Reverse Circulation (RC) percussion drilling was generally carried out using a 4.5 inch RC bit hammer with samples air lifted to surface for sampling.</li> <li>The 2017 RC drilling program utilized a UDR1200 drilling rig using a face sampling hammer with a 4.875 inch bit.</li> <li>Historical Airtrack drilling was carried out using a track mounted rotary percussion drill rig with a top hole hammer. No information on the bit size or hole diameter was</li> </ul>		



Criteria	JORC Code explanation	Commentary
		recorded in the historic logs or reports.
		<ul> <li>Historical Diamond drill core was generally cut in half using a diamond saw. Core was sampled on geological intervals (generally 0.5 m to 2 m). Sample weights of approximately 1.0 to 3.0 kg were crushed, dried and pulverised by the Lab, to produce a 50 g pulp sample for analysis by Fire Assay (Au) with AAS finish.</li> <li>Historical RC and Airtrack sample chips were processed on site to obtain 2 m composite samples from which approximately 2 – 3 kg was taken, then pulverised (at the laboratory) to produce either a 30g or a 50g charge for analysis by Fire Assay (Au) with AAS finish. Selective high-grade samples were also assayed by screen fire assay methods.</li> <li>The 2017 RC drilling program sample chips were processed on site to obtain 1 m samples in logged zones containing mineralization and alteration, and 3 m composite samples elsewhere throughout the hole, from which approximately 2 – 3 kg was taken, then pulverised (at the laboratory) to produce a 50g charge for analysis by Fire Assay (Au) with AAS finish.</li> <li>Historical assay laboratories used for the assaying include Tetchem Labs, Analabs and ALS.</li> <li>The 2017 RC drilling program utilized the ALS Townsville Laboratory.</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>A total of 469 historical Airtrack, RC and Diamond holes were captured into a database for a total advance of 18,294.7 m drilling. Airtrack drilling makes up 41.4%, RC drilling makes up 43% and diamond drilling makes up 15.6% of the total m drilled.</li> <li>Historical hole depths range from 10 m to 196 m.</li> <li>For the 2017 RC drilling program, hole depths ranged from 86 m to 286 m.</li> <li>Company drilling rigs and professional drilling contractors were used by the historical exploration companies, between 1987 and 1998.</li> <li>For the 2017 RC drilling program, Depco Drilling Contractors were utilized using professional drillers with extensive RC drilling experience.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>A majority of the historical diamond drilling recoveries were recorded and most recoveries were reported to be greater than 90%.</li> <li>For the Historical Airtrack and RC drilling, the overall recoveries are assumed to be adequate.</li> <li>The competent Palaeozoic host rocks (quartz veins in granite) typically recover well with all the drilling techniques used (Airtrack, RC and Diamond drilling). However, there were some minor sample recovery problems noted in the historical reports</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul> <li>when historical drill holes encountered faulted/fractured ground.</li> <li>No sample recovery problems were encountered with the recent RC drilling in 2017.</li> <li>The results discussed herein are exploration results only, and no allowance is made for recovery losses that may impact future mining.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature.</li> <li>Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>The geological logging was appropriate for the style of drilling and the lithologies encountered.</li> <li>Geological logs for historical holes are available for most holes. However, logging was often rudimentary and some logs were not recorded or not included in the reports.</li> <li>Logging is qualitative, with the exception of some quantitative logging of sulphide, quartz veining and alteration content.</li> <li>Historical drill hole logging data was entered into the Alice River Gold database directly from historical drilling reports and assay reports.</li> <li>Historical Diamond core was logged for lithological, structural, alteration, mineralization and veining.</li> <li>No geotechnical logs are available.</li> <li>No routine photography of drill core is available.</li> <li>Drill hole logging data for the 2017 RC drilling program was also entered into the Alice River database.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Historical Diamond drill core was generally cut in half using a diamond saw or splitter. Core was largely sampled on geological intervals, between 0.5 m and 2 m. However, some rare sample lengths up to 5.5 m were recorded. Sample weights of approximately 1 to 3 kg were crushed, dried and pulverised (by the Lab) to produce a 50 g pulp sample for analysis by Fire Assay (Au) with AAS finish.</li> <li>Historical RC drill chips were split on site to obtain 2 m samples from which approximately 2 to 3 kg was collected, then pulverised (at the laboratory) to produce a 30 or 50g charge for analysis by Fire Assay (Au) with AAS finish. For some RC holes, Cyprus composited the 2 m intervals at the top of the hole into a 10 m composite sample, and on one occasion, one 40 m composite was made.</li> <li>RC samples were collected on the rig using a cyclone (from the drill rig) and then split by the field team to obtain a 2-3 kg sample.</li> <li>Historical Airtrack samples were generally 2 m, and collected at the hole collar and split by the field team to obtain a sample. The splitting method is not known (riffle splitter, spear, etc.). Some sample contamination and/or dilution is likely to have occurred with this style of drilling.</li> <li>In many historical drill holes, only part of the hole was sampled and assayed.</li> </ul>



Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	<ul> <li>Several intervals not considered to be mineralized by field staff, were not sampled and assayed. Details of the laboratory preparation of samples were not always recorded. For the samples sent to Analabs, samples were dried and finely pulverised as per the standard method used at the time.</li> <li>For the 2017 RC drilling program a cyclone was used to collect the RC chip samples and an 8:1 splitter was mounted below the cyclone, from which approximately 2 – 3 kg of RC drill chips were taken every 1 metre. These RC chip samples were sent to the Laboratory to be pulverized, to produce a 50g charge for analysis by Fire Assay (Au) with AAS finish.</li> <li>For historical drilling, some duplicates were submitted in some sample batches to the laboratories. No standards or certified reference materials were reported. QAQC measures are assumed to be as per standard industry practice for the time. Internal laboratory QAQC checks and repeats were reported by the laboratory in many cases. A review of the internal laboratory QAQC suggests the laboratory was performing within acceptable limits.</li> </ul>
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	<ul> <li>For historical data, QAQC data was difficult to locate and was not compiled into a separate digital database. A number of high grade gold assays were repeated using screen fire assay methods and returned similar/acceptable results.</li> <li>For the 2017 RC drilling program, comprehensive QAQC procedures were implemented. Nine QAQC samples were included for every 100 samples submitted to the laboratory, including 5 duplicates, 2 blanks and 2 standards per 100 samples. The gold standards are 60 gram packets of Certified Reference Materials purchased from OREAS. The blank samples consist of 1-2 kg of quartz sand. The assay results for the QAQC samples were all returned within acceptable tolerance limits.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic)</li> </ul>	<ul> <li>The Project Manager for Spitfire Materials has visited the project in the field and confirmed the location of some historical drill collars and areas of historical gold mining with a standard GPS.</li> <li>Some diamond drill cores in core trays were also located on site. However, Airtrack, RC and RAB samples could not be found.</li> </ul>



Criteria	JORC Code explanation	Commentary
	protocols.  • Discuss any adjustment to assay data.	<ul> <li>Spitfire's geologists have verified the digital database from the historical drilling reports and/or original laboratory reports. Digital data has been compiled from quality scanned tables and plans included in the historical statutory reports.</li> <li>The drill sample assay data has been captured and entered into the Alice River Gold Access database. This database was imported into Geosoft Target software, after compilation and validation in ArcGIS software.</li> <li>For the 2017 RC drilling program, several holes were drilled in proximity to historical holes to verify the mineralization, sampling and assaying for historical drilling.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>The historical drill holes were drilled on a local grid, sub-parallel to strike (orientated at 330 degrees). Most drill hole collars were surveyed using a standard GPS, differential GPS or by a surveyor. Drill hole maps were created by the historical companies and later geo-referenced to MGA Grid, zone 54, GDA94 datum. Drill collars are believed to be accurate to +/-5 m on the local grid.</li> <li>Some historical drill collar locations were checked in the field using a standard GPS, and found to be within 15 m for easting and northing MGA coordinates. Collar survey accuracy is considered to be +/- 15 m for easting, northing and elevation coordinates.</li> <li>The Co-ordinate system used in the new database is MGA zone 54, GDA94 Datum.</li> <li>Downhole survey measurements were collected for some historical diamond drill holes using a standard downhole camera. For many of the shallow holes, only one top of hole survey was completed at the collar position, noting the azimuth and dip at the start of the hole.</li> <li>For the 2017 RC drilling program, the Project Manager was present during the drilling program and collar locations were recorded using a standard GPS. These collars will be surveyed using a Decimetre (sub 15 cm) Differential GPS in late 2017.</li> <li>For the 2017 RC drilling program, downhole surveys measuring dip and azimuth were taken every 30 m down hole by the lead driller, using a digital single shot survey tool, that was calibrated prior to the start of the drilling program.</li> </ul>
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The spacing of drill hole collars is variable. The gold mineralisation at Alice River has generally been defined by drill holes on a cross- section line spacing, roughly perpendicular to the strike of the mineralised zones, of
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity	<ul> <li>12.5 m to 50 m, with an average on-section spacing of 12.5 to 50 m.</li> <li>Historical RC and Airtrack sampling is generally on 2 m intervals down hole.</li> <li>Historical Diamond drill sampling was generally 0.5 to 2 m down hole, but up to 5.5</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Some sample compositing was carried out on site within some of the RC holes. For example in some RC holes, Cyprus composited the 2 m intervals at the top of the hole into a 10 m composite, and on one occasion, one 40 m composite was made.</li> <li>For the 2017 RC drilling program, sample chips were processed on site to obtain 1 m samples in logged zones containing mineralization and alteration, and 3 m composite samples elsewhere throughout the hole using a sample spear in areas where weak or no mineralization was logged by the geologists on site.</li> <li>No judgement has been made on whether the drill density is sufficient to calculate a Mineral Resource.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Exploration drilling is generally perpendicular to mineralized bodies or shear zone.</li> <li>No orientation based sampling bias has been identified in the data at this point.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>No chain of custody was documented by the historical companies.</li> <li>The chain of custody is assumed to be as per industry best practice for the time.</li> <li>For the 2017 RC drilling program, samples were packaged into polyweave bags around 25 kg each, then hand-delivered by 4WD ute by Spitfire staff to a professional freight company in Mareeba, who then delivered the samples to ALS Townsville within 1-3 days.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>A review of the historical sampling techniques is not possible.</li> <li>There has been no external audit or review of the database.</li> </ul>



# **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The Alice River Gold Project is secured by 14 tenements, including 8 granted Mining Leases (MLs), 1 ML application, and 8 Exploration Permits for Minerals (EPMs), for total of approximately 814 square kilometres.</li> <li>All tenements are in good standing.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>A summary of previous exploration is included below.</li> <li>1903 - Gold mining commenced at Alice River Gold Project.</li> <li>1903 to 1917 - Production of 3244 oz Au at grade of around 38 g/t.</li> <li>1987 to 1998 - Cyprus, Beckstar, Golden Plateau, Goldminco and Subloo International completed regional geochemical sampling programs, rock chip sampling, RAB/auger drilling, airtrack drilling, ground magnetic surveys, IP &amp; VLF-EM geophysical surveys, costeaning programs and numerous drilling programs (RC and diamond drilling). A number of historical non-JORC resource estimations were reported. The drilling data from the period is considered to be of high-quality.</li> <li>1999 to 2000 - A total of 2745 oz gold was produced from 36,000 t of ore by Beckstar.</li> <li>2001 - Beckstar entered into Administration in 2001 and Tinpitch acquired the project.</li> <li>2012 - Tinpitch entered into administration.</li> <li>2013 - Alice River Gold (ARG) acquired Tinpitch from the administrator.</li> </ul>
ology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Alice River Gold Project lies within the Alice-Palmer Structural Zone. The gold mineralisation in the Alice River area is focused along regional NW shear zones.         The shear zones are largely hosted within the Imooya Granite, a pale grey to white mica-biotite leucogranite (commonly referred in the old reports as an adamellite), of the Siluro-Devonian Kintore Supersuite. At the north end of the project the shears intersect gneisses and schists of the Sugarbag Creek Quartzite, which forms the lower part of the Mesoproterozoic Holroyd Metamorphics.     </li> </ul>



Criteria	JORC Code explanation	Commentary
Criteria	JONE Code explanation	<ul> <li>The gold-bearing shear zones extend episodically for approximately 50 km strike length. The gold mineralisation is generally hosted in quartz veins, and minor quartz breccias, up to 10-15 m wide in places. Gold mineralisation is focused in linear pods up to 150 m strike length.</li> <li>Gold often occurs as both fine free-gold in quartz or interstitial within arsenopyrite and stibnite. Green-white quartz-sericite-epidote alteration zones extend 50-70 m around the mineralised veins some deposits but generally the quartz veins display narrow alteration selvages. The weathered (oxide) zones at surface are around 10 to 20 m deep.</li> <li>Minor pyrite and other fine-grained sulphides (e.g. arsenopyrite, stibnite) are present as narrow bands in laminated quartz veins and disseminated with the quartz breccias. The NW-trending quartz veins are sub-vertical to steeply dipping (approximately 80 degrees to the southwest in places). There are other sub-parallel quartz veins, some of which are mineralized, while some are barren.</li> <li>The gold mineralising fluids probably focused into dilatational structural zones (e.g. fault jogs, cross faults and shears) within the adamellite, forming zones of stockwork veins and also mineralised breccias.</li> <li>Three gold genetic models are considered – intrusive related gold systems (IRGS), Low Sulphidation Epithermal Gold and Orogenic Gold. More research</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>An Exploration Target was estimated by Spitfire from historical drill sample data collected by historical exploration companies between 1987 and 1998 and was outlined in a separate report. Drilling programs included Rotary Air Blast (RAB), Airtrack, Reverse Circulation (RC) and diamond drilling techniques. Only Airtrack, RC and Diamond Drill Hole data were used for the Alice River Gold Exploration Target estimations, which includes 469 holes for a total of 18,294.7 m drilling, and 8,322 assay samples. RAB and Auger drill samples were not used in the Exploration Target estimation.</li> <li>A table of historical drill hole collars and historical drill intercepts was provided previously within the Exploration Target Report.</li> <li>The recent RC drilling included a total of 2,483 m drilling and 1741 assay samples, (including duplicates, blanks and standards). A table of the 2017 collar details and mineralized drill intercepts is reported within this report.</li> <li>Additional twinning of historical holes is warranted.</li> </ul>



Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade</li> </ul>	<ul> <li>The mineralized drill intersections are reported as down hole intervals and were not converted to true widths. Where gold repeats were recorded, the average of all the samples was used. True widths may be up to 50% less than drill intersections pending confirmation of mineralisation geometry. The drill intercepts reported were calculated using a 0.5 g/t Au cut-off grade. Gold grade for the intercept was calculated as a weighted average grade. Up to 4 m (down hole) of internal "waste" (&lt; 0.5 g/t Au) was included in some cases.</li> <li>Metal equivalent values are not reported in this report.</li> </ul>
	results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.  The assumptions used for any reporting of metal equivalent values should be clearly stated.	Where available, sample recoveries were used to weight assay values, elsewhere 100% sample recovery was assumed.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>The drilling was planned on local grid lines oriented perpendicular to the strike of the main shear zone.</li> <li>Drill holes were oriented to return the best intersections of the mineralization, and drilled in a perpendicular manner. The majority of the drill holes were oriented roughly perpendicular to strike (strike = 330), angled 55 to 70 degrees dip towards 060 degrees, in order to intersect the steeply WSW dipping ore zones at a high angle.</li> <li>The mineralised intercepts quoted in the report are close to being perpendicular, but are not true widths.</li> </ul>
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	See diagrams in body of report.
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>Due to the age of the historical drilling, drill sampling and assaying (1987 to 1998), the Project Manager does not believe any of the previously reported resource estimates can be reported as Mineral Resources under the current 2012 JORC Code.</li> <li>Modelling of the 2017 drilling data in conjunction with the historical drilling data may lead to the reporting of a Mineral Resource in the future, in accordance with the requirements of the JORC 2012 Code.</li> </ul>



Criteria	JORC Code explanation	Commentary
substantive exploration data	should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	exploration data including regional stream sediment geochemical data, soil sample and rock chip data, geological mapping data, RAB/auger drilling data, ground magnetics, IP and VLF-EM geophysical survey data and costean data. Much of this data has been captured by White Geoscience into a new Alice River GIS database. The interpretation of this data is on-going.  • No density measurements were reported by the historical exploration companies. Beckstar used an SG of 2.5 for resource estimations in 1990, then modified this to 2.65 for a second resource estimation in 1991.
		<ul> <li>Metallurgical tests of selected mineralised samples including bottle roll cyanide leach tests were conducted by Golden Plateau in 1994, Goldminco in 1999, and by Tinpitch in 2005 and 2006. Gravity concentration tests were also carried out by Goldminco in 1999. Bottle roll cyanide leach testing work produced variable results. Some ore samples returned low recoveries, whilst other samples produced high recoveries up to 90%. Further metallurgical work is warranted.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Spitfire Materials Limited plan to conduct further exploration work including additional drilling programs to: 1) explore for lateral and down dip continuance of the known Alice River mineralization zones; 2) define Minerals Resources in accordance with the requirements of the JORC 2012 Code; 3) explore regional exploration targets and anomalies present within the wider tenement area.</li> <li>Further metallurgical work is also planned.</li> </ul>