

# ASX Announcement 27 August 2019



# **Exciting Drill Results at Alligator River Project**

# **Highlights:**

- Large, strongly altered shear zone identified in core
- Exploration model validated
- 20 km long Such Wow corridor key target for further drilling

Vimy Resources Limited (ASX: VMY) ("Vimy" or "the Company") is pleased to announce that the diamond drilling has been completed at its Such Wow prospect, part of the Wellington Range-King River Joint Venture (78% Vimy Resources, 22% Rio Tinto Exploration Pty Limited).

The two diamond drill holes, drilled from surface for a total of 533 metres, successfully confirmed that the large alteration system identified on surface extends to the unconformity and into the basement rock. The holes are partly funded under the Northern Territory Government's *Resourcing the Territory Initiative*.

Vimy is very excited by the results as they indicate a very large, structurally complex system which has seen multiple phases of structural deformation and fluid flow.



While detectable uranium mineralisation was not intersected in the core holes, the results re-affirm Vimy's "needle in the haystack" model whereby very tight zones of uranium mineralisation are surrounded by much larger, significant alteration and structural haloes. Uranium mineralisation diminishes very quickly away from mineralised zones; for example, a hole 75m away from the Angularli deposit, which contains 26Mlbs contained  $U_3O_8$  (0.91Mt @ 1.29%  $U_3O_8$ ), was effectively barren.

Mike Young, CEO of Vimy Resources, said "Alteration and uranium anomalism on surface, and the strong alteration and structural deformation in the sandstone and basements, show that the Such Wow structure has the 'right stuff' to host uranium mineralisation along the three fault corridors towards the north. These zones will be the target of follow-up drilling during this field season."

The Alligator River Project is the largest granted and largely untested tenement package in the Alligator River Uranium Province, one of the top three uranium districts in the world. A maiden mineral resource and a positive scoping study were completed on the Angularli Deposit and released to the ASX in September 2018.

+61 8 9389 2700

vimvresources.com.au

Telephone:

Website:



## Diamond core drilling at Wellington Range, EL5893

The Such Wow prospect (Figure 1) is located at the southern end of a 20km by 8km corridor prospective for unconformity-related uranium mineralisation as described in previous ASX announcements (4 December 2018 and 20 March 2019).

Following the previous RC drilling program, surface mapping of a prominent north-trending ridge of sandstone by Vimy geologists identified a significant zone of intense structural deformation and hydrothermal alteration which is known as the Shiba Zone. This formed the basis for targeting the core holes reported here.

Prominent alteration features along the Shiba Zone include druzy quartz veining, fault and joint-controlled bleaching. The intensity of alteration increases in the eastern part of the zone where very strong bleaching, brecciation, intense clay alteration and veining indicated the presence of a large plumbing system which was fertile for Angularli-style mineralisation. The results of the drilling have in fact confirmed a very large, intensely altered system which will form the basis of follow-up work.

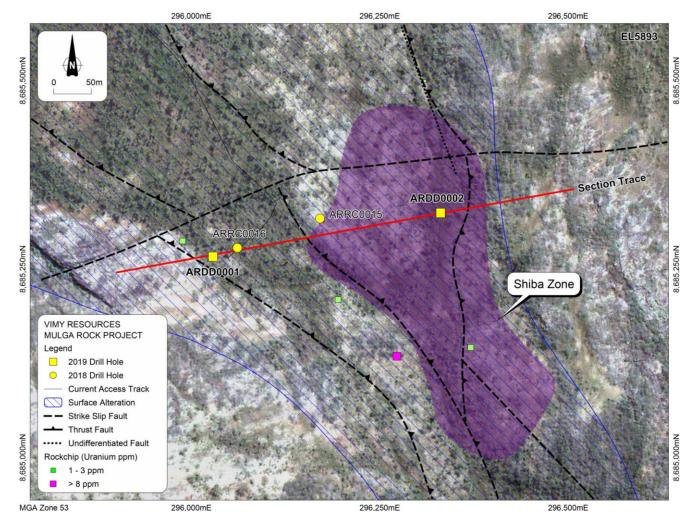


Figure 1: Geology with previous and current drilling at Such Wow prospect



### **Details of core holes**

Table 1: 2019 diamond core holes co-ordinates

Hole ID	Easting	Northing	Depth	Dip	Azimuth
ARDD0001	296,029	8,685,267	258.5	-65	225
ARDD0002	296,331	8,685,325	275.1	-65	250

- Systematic analysis of the drill core, by portable XRF and SWIR-NIR analyses, was carried out using Niton Xlt3 and Terraspec Analytical Spectral devices
- Wireline logging was done using a Mt Sopris 2PGA total gamma probe
- No detectable uranium was identified from the sensing equipment
- As part of the co-funding agreement, the core will be sent to the Northern Territory Geological Survey
  where further analysis and core cutting will take place. The selected half-core samples will be sent to
  Intertek (Darwin) where they will be analysed for a suite of elements.

## **Geology ARRD0002**

Alteration in the sandstone in hole ARDD0002 comprised significant bleaching and clay alteration associated with several broad zones of brecciation. A narrow zone of structurally controlled veining of an aluminous hydrothermal phase (dravite or diaspore) was intersected at the base of a fault zone. The hole also intersected a zone of alumina-phosphate-sulphate (APS) veining within the fault zone at a depth of 42m. As noted in the ASX release (20 March 2019), APS are known to precipitate and capture rare earth elements a short distance from uranium mineralisation. World-class unconformity-related deposits with distinctive APS haloes include the McArthur and Millennium deposits in the Athabasca Basin; and Jabiluka, Ranger and the nearby Angularli deposits in the Alligator River Province.

The basement comprised variably altered coarse to very-coarse grained, weakly foliated gneiss (interpreted as belonging to the Nimbuwah Complex) formed as a result of partial melting of the Cahill Formation metasedimentary rocks. Several broad zones of weak to strong, chlorite and hematite alteration are observed around zones of brittle faulting, brecciation and chlorite-carb-pyrite veining. The style and composition of the veins is consistent with that observed at other mineralised prospects elsewhere within the Alligator River Project.

# **Geology ARRD0001**

The geology intersected in ARDD0001 is broadly similar to that intersected in ARDD0002. Moderate- to intense bleaching and clay alteration is observed along steep fracture systems intersected in the sandstone. Basement lithologies are similar to those observed in ARDD0002. The broad zones of weak-, to strong chlorite and phengitic illite alteration and faulting noted in ARRC0015 and ARRC0016 were intersected in ARDD0001, but did not return significant uranium results. Analysis of the orientated core and structural data will be undertaken to determine the possible structural controls on the mineralisation intersected in the previous RC drill holes.



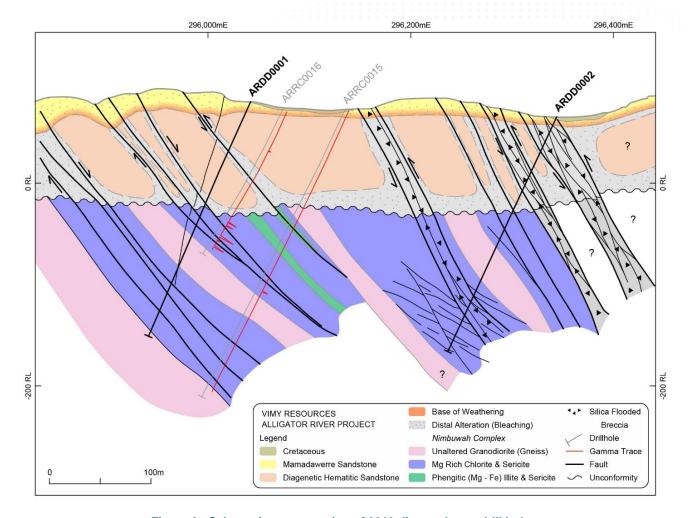


Figure 2: Schematic cross-section of 2019 diamond core drill holes

# **Next Steps**

While uranium mineralisation was not detected in the core holes, alteration and uranium anomalism on surface, and the strong alteration and structural deformation in the sandstone and basements, show that the Such Wow structure is an excellent target host for uranium mineralisation along the three fault corridors towards the north. Subject to funding and market conditions, Vimy may conduct additional reverse circulation drilling, which has been permitted by the Traditional Owners.

Surface work programs including geochemistry, radiometrics, mapping, and geophysics have been underway for the entire field season and will continue until the wet season starts and the camp closes in October. This work has identified new drill targets, particularly at Southern Flank which is a Jabiluka-style target.

Other activities include environmental and ore sorting options at the Angularli deposit.

Mike Young

**Managing Director and CEO** 

Tel: +61 8 9389 2700



## **COMPLIANCE STATEMENT**

The information in relation to the Angularli Deposit Mineral Resource contained in this announcement is extracted from ASX announcement entitled 'Maiden Mineral Resource at Angularli Deposit Alligator River Project' released on 20 March 2018 and available to download from asx.com.au ASX:VMY. The Company is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

### **COMPETENT PERSON STATEMENTS**

The information relating to the co-funded drilling results was compiled by Xavier Moreau, who is a Member of the Australian Institute of Geoscientists. Mr Moreau is a full-time employee and shareholder of Vimy Resources. Mr Moreau has sufficient experience, relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking, to qualify as a Competent Person as defined in the JORC code. Mr Moreau consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.



# **About Vimy Resources**

Vimy Resources Limited (ASX: VMY) is a Perth-based resource development company. Vimy's flagship project is the Mulga Rock Project, one of Australia's largest undeveloped uranium resources, which is located 240km ENE of Kalgoorlie in the Great Victoria Desert of Western Australia.

Vimy also owns (78%) and operates the largest granted uranium exploration package in the world-class Alligator River uranium district, located in the Northern Territory. Vimy is exploring for large high-grade uranium unconformity deposits identical to those found in the Athabasca Basin in Canada.

**Directors and Management** 

The Hon. Cheryl Edwardes AM Non-Executive Chairman

Mike Young CEO and Managing Director

David Cornell
Non-Executive Director

Dr Tony Chamberlain Non-Executive Director

Marcel Hilmer Chief Financial Officer and Company Secretary

Julian Tapp Chief Nuclear Officer

Scott Hyman Vice President Sales and Marketing

Xavier Moreau
General Manager, Geology and Exploration

For a comprehensive view of information that has been lodged on the ASX online lodgement system and the Company website please visit **asx.com.au** and **vimyresources.com.au** respectively.

### **Principal Place of Business**

First Floor 1209 Hay Street West Perth WA 6005

Postal Address: PO Box 23 West Perth WA 6872 T: +61 8 9389 2700 F: +61 8 9389 2722

E: info@vimyresources.com.au

ABN: 56 120 178 949

### **Share Registry**

Computershare Investor Services

T: 1300 850 505 (within Australia) +61 3 9415 4000 (outside Australia)

F: +61 3 9473 2500

W: www.computershare.com

E: www.investorcentre.com/contact





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# **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. 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> <li>Include reference to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used.</li> <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 (e.g. 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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 (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Diamond drilling (NQ2) with core collected in core trays</li> <li>Sampling did not take place ahead of shipment to the Northern Territory Geological Survey where additional analytical work will take place.</li> <li>Analytical readings were collected using hand held XRF and radioactive equipment on drill core on a 1m basis, along with selective readings of vein and breccia fill material.</li> <li>Following further analysis and core cutting at the NTGS, select half-core samples will be sent to Intertek (Darwin) where they will be crushed, dried and pulverised to produce sub-samples for analysis by a combination of ICP-OES and -MS.</li> </ul>
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	<ul> <li>NQ2 diamond drilling.</li> <li>Drill holes were diamond cored from surface.</li> <li>An EZ- tool was used for orientation purposes, with readings taken every 30m.</li> <li>Drill hole collars were sighted and co-ordinates picked up by Vimy personnel using a Trimble Differential Global Positioning System (GPS) in RTK mode, with calibration at an existing base station on site.</li> </ul>

Criteria	2 Edition – Table 1 Such Wow Explora  JORC Code explanation	Commentary
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>Sample recovery was measured based on the length of drill core recovered relative to the drill core run length, and recorded systemically.</li> <li>No sample bias has been established.</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. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Qualitative geology logging of drill samples was carried out systematically, using company and industry standard practice. Logging of samples included additional fields such as lithology, mineralogy, alteration and weathering.</li> <li>Magnetic susceptibility measurements were taken on a 1m basis.</li> <li>Dry and wet drill core photographs were collected on a tray by tray basis, with additional up-close, detailed photographs collected where required.</li> <li>Systematic analysis of the drill core by portable XRF (pXRF) and SWIR-NIR analyses, was carried out in-house using the Company's Niton Xlt3 and Terraspec Analytical Spectral Device (ASD).</li> <li>Detailed geological and structural logging of the drill core was carried out on site by Vimy's on-site geologist on a 1m basis and digitally captured after validation.</li> <li>Wireline logging was carried out in-rods in bottom-up mode by Vimy personnel using a Mt Sopris 2PGA total gamma probe (last calibrated in early 2019) at a speed of ~4m/s.</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 representativity 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> </ul>	Field Based Work  Company procedures were followed to ensure sampling adequacy and consistency.  The core was orientated and metre-marked but not sub-sampled or cut.

Criteria	2 Edition – Table 1 Such Wow Explora  JORC Code explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	Samples to be submitted to the laboratory for analysis will be subjected to a comprehensive QA/QC program, including the submission of inhouse and external certified reference materials (CRMs), blanks and laboratory duplicates.
Discussion of relative accuracy/ confidence		<ul> <li>Reasonable confidence in the accuracy of the drilling data can be inferred from the use of orientated drill core and multi-shot downhole deviation surveys.</li> </ul>
Portable XRF Logging		Analysis by portable XRF was carried out by competent operators, using blanks and CRMS and appropriate warm-up routines.
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) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Various checks were carried out on the downhole data, including via depth-matching against the drill core and handheld radiometric readings.
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>Initial drill hole collar co-ordinates were measured using a handheld GPS.</li> <li>The MGA94, zone 53 grid system is used for reporting.</li> <li>Azimuth and inclination data from the EZ-tool were used to calculate the deviation of each drill hole.</li> </ul>

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	Drill holes were approximately 300m apart along a single traverse.
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>	Drill holes were ideally oriented to test the easterly to east/north-easterly dipping target fault zones.
Sample security	The measures taken to ensure sample security.	A full chain of custody is maintained during sample dispatch, with the drill core packed and strapped onto palettes ahead of dispatch to the laboratory.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audit of sampling techniques and data was carried out due to the very short duration of the drill program.

# **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 Such Wow prospect area is located on EL5893 in Arnhem Land, about 250km to the east of Darwin. Viva Resources Pty Ltd, a wholly owned subsidiary of Vimy Resources Limited (Vimy), enjoys conditional beneficial ownership of 78% of the Angularli deposit project area, following the execution of a binding purchase agreement with Cameco Australia (ASX announcement dated 1 March 2018).</li> <li>EL5893 is located on Aboriginal Land, with existing covenants administered by the Northern Land Council (NLC) on behalf of Traditional Owners.</li> </ul>

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgement and appraisal of exploration by other parties.	<ul> <li>EL5893, which hosts the Angularli deposit, was granted in 2004.</li> <li>Exploration during the period 2005-2007 focused on the tenement-wide acquisition of aeromagnetic, radiometric, hyperspectral and tempest data.</li> <li>Focus shifted to the Angularli area along NNW-trending fault zones in 2008, leading to the discovery of uranium mineralisation at Angularli South in 2009 and the main Angularli deposit in 2010, followed by a drill-out program in 2011.</li> <li>Following that discovery, Cameco Australia (the previous operator) carried out downhole and ground IP surveys over the broader Angularli area.</li> <li>In 2014, Cameco Australia carried out an unpublished estimate of the mineral potential of the Angularli deposit.</li> <li>From 2015 onwards, the focus of exploration shifted to regional targets, including mapping on</li> </ul>
		<ul> <li>the escarpment at the Such Wow prospect.</li> <li>Vimy announced a maiden mineral resource for the Angularli deposit in March 2018, based on results generated by the previous operator.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The nearby Angularli deposit consists of small mineralised pods associated with veins and semi-massive replacements spatially related to the basal unconformity between Proterozoic red-bed sandstone basin and metamorphic basement rocks.</li> <li>Overlying the deposit and Proterozoic host rocks is a thin veneer of unconsolidated Cretaceous sediments, typically 20 to 80m thick.</li> </ul>
Drill hole Information	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:  easting and northing of the drill hole collar  elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  dip and azimuth of the hole  down hole length and interception depth  hole length.  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.	All relevant drill hole information used in these Exploration Results is listed in Table 1 of the corresponding announcement.

Criteria	2 Edition – Table 1 Such Wow Explora  JORC Code explanation	Commentary
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and minimum grade truncations (e.g. 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 results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>A minimum thickness of 0.5m above 0.01% eU<sub>3</sub>O<sub>8</sub> used resulted in no results. Work is underway to determine if zones of radiometric anomalism in the sandstone cover are associated with heavy mineral bands (based on their differential spectrometric signature and portable XRF composition) or uranium concentrations along fault zones.</li> <li>Equivalent uranium grades were derived using probe-specific dead time and K factors, and accounting for the hole diameter and RC casing steel thickness.</li> </ul>
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 (e.g. 'down hole length, true width not known').</li> </ul>	<ul> <li>Alteration is interpreted as being controlled by moderately to steeply east to northeast-dipping fault zones and fault breccia.</li> <li>Due to the lack of uranium mineralisation in those two holes, no structural information can be extrapolated to the orientation of mineralisation reported to the ASX dated 4 December 2018.</li> </ul>
Diagrams	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.	A plan and close-up views of the drill collars relevant to the Such Wow prospect area and interpreted schematic cross-sections are provided in the main text.
Balanced reporting	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.	Balanced reporting has been achieved through a consistent and comprehensive reporting of sampling and analytical processes followed by disclosure of all intercepts.
Other substantive exploration data	Other exploration data, if meaningful and material, 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.	<ul> <li>The previous operator acquired a very high-resolution ground gravity dataset in 2017, used for targeting purposes. This survey followed an earlier regional airborne EM survey, used to predict the depth of the unconformity between the Mamadawerre sandstone and the underlying metamorphic basement.</li> <li>The Such Wow prospect and Shiba Zone are named after the Doge Meme based on the Shiba Inu dog. For history on the Doge Meme, see the following link: https://www.youtube.com/watch?v=Yj7ja6BANLM&amp;vl=en</li> </ul>

Criteria	JORC Code explanation	Commentary
Further work	<ul> <li>The nature and scale of planned further work (e.g. 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>The plan view of interpreted anomalous fault zones and associated targets is presented in the main text and will be targeted as a priority in 2019.</li> <li>Figures 1, 2, 5 to 7 and 9 present the current geological interpretation of the geological setting of the Such Wow fault corridor.</li> </ul>