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Bluejay Mining plc / EPIC: JAY / Market: AIM / Sector: Mining

## **Bluejay Mining plc ('Bluejay' or the 'Company')**

### **2017 Work Programme Well Advanced at World's Highest-Grade Mineral Sand Ilmenite Project Globally**

Bluejay Mining plc, the AIM and FSE listed company with projects in Greenland and Finland, is pleased to announce that drilling, bulk sampling and feasibility and permitting programmes are now underway at the Pituffik Titanium Project in Greenland ('Pituffik' or the 'Project'). These work streams all form part of the Company's 2017 exploration work programme.

#### **Overview of the Work Programmes:**

- **Drilling underway**
  - Focus is to expand and upgrade the current resource of 23.6Mt at 8.8% ilmenite, which is independently proven to be the highest-grade mineral sand ilmenite project globally
    - Emphasis is on validating the significant tonnage potential along the additional 25km of raised beach licence area not currently included in the resource as well as the existing resource (**see Figure 5**).
  - 35 holes completed within one week, in an extensive programme using sonic drilling to improve and extend the current resource.
    - To date ilmenite rich sediment has been observed in all drill samples, confirming the rich regional potential and extent of mineralisation across entire onshore 30km licence, areas of the raised beach remain open at depth due to only having 30m of drilling equipment on hand (**see Figure 1**).
  - Auger drilling completed to the east and west of Moriusaq and will move to Itelak shortly.
    - To date ilmenite rich sediment has been observed in all 35 holes drilled, further confirming the regional extent of mineralisation across entire onshore licence area.
- **Proof-of-concept bulk sampling programme commenced** – material to support ongoing offtake discussions.
  - The first batch, containing 250 tonne ilmenite rich run-of-mine product, has been shipped from Pituffik.
  - Based on visual estimates the ilmenite concentrations in the bulk sample are better than expected. (**See Figure 2**)
  - An additional 250 tonne bulk sample destined for separation to provide ilmenite concentrate for customer analysis purposes is now advanced and expected to be completed within a similar timeframe.

- **Bathymetry survey underway to enable a robust assessment of shipping options**
  - Completion expected in Q3 2017.
  - Designed to identify possible shipping channels both to and from Pituffik as well as optimal fixed-point mooring locations for Handymax sized bulk carriers adjacent to the Moriusaq area.
  - Near shore surveying also completed for ship loading option study underway. (see **Figure 3**)
  
- **Orbicon Arctic A/S on track to complete the final baseline sampling programme for the Environmental Impact Assessment ('EIA') by end of August 2017 (See Figure 4).**
  
- **Pre-consultation period for EIA and Social Impact Assessment ('SIA') studies now complete.**
  - All stakeholder comments (12 stakeholder responses in total) incorporated into final Terms of Reference ('TOR') and resubmitted to Government for final approval.
  - Once TOR approval has been received, the Company will finalise the EIA as part of the exploitation licence application process. Both the EIA & SIA are advancing well.
  
- **Feasibility study due for delivery H2 2017.** Operational unit cost is low and project economics appear robust based on internal modelling.
  
- **Successful analyst trip to site completed.** The Company hosted several analysts and corporate advisors on site.
  
- **Well-funded** to maintain active development programme – current cash position of over £5.2 million with majority of work programmes prepaid.

**Bluejay CEO Roderick McIlree said,** “I am delighted to report that our 2017 work programme is now well advanced. With drilling started, bathymetry survey commenced, and licencing application modules such as the EIA, SIA & stakeholder engagement all progressing as stated earlier this year it was very pleasing to see the onsite team implementing and managing multiple work programmes in an efficient and effective manner.

“We have already proven that Pituffik is the highest-grade mineral sand ilmenite project globally. Now we are focussed on demonstrating the significant size of the asset, securing an off-take partner and defining a viable logistics solution to ship our premium quality ilmenite product, as we remain on track to commence commercial production in 2018.

“Despite having only recently commenced the onsite part of the work programmes, Pituffik continues to exceed our expectations, with early results already confirming the significant commercial potential of our Project. Indicative of this is the first hole drilled on the active beach area immediately east of the current resource limit, where we intersected what appears to be extremely high-grade ilmenite bearing material throughout the entire 5.5m hole depth. This is a remarkable outcome; it’s clear we have a project of unique and special value and I am convinced

that the resource upgrade expected Q4 2017 / Q1 2018 will confirm Pituffik as being globally significant in terms of tonnage as well as maintaining its position as being the highest-grade project globally.

“I look forward to updating shareholders on permitting, offtake and customer acceptance developments alongside the recent technical breakthroughs being achieved in the metallurgical process and design of the operation, as well as several other longer lead items regarding creating value out of the existing portfolio of licences.”

## **Further Information**

### **Pituffik Titanium Project**

Bluejay, through its wholly owned subsidiary Dundas Titanium A/S, has now commenced its 2017 field programme, with drilling and bulk sampling programmes currently underway at its flagship Pituffik Titanium Project. A bathymetric survey, to examine the potential for a shipping channel to allow bulk carrier access at Moriusaq is underway. The field camp is now fully established, with all equipment needed for the 2017 work programme purchased and on site.

### **Bulk Sampling Programme**

A “proof of concept” bulk sampling programme is underway at the Pituffik Project as the main focus of this year’s work programme to facilitate customer acceptance of the Pituffik premium ilmenite product. Approximately 375 tonnes of bulk sample has been collected to date (inclusive of the 250 already shipped) with visual results indicating higher grade material than expected.

BS001 (Bulk Sample 001) was taken approximately 500m to the east of Moriusaq in an environment that includes deltaic, active and raised beach material (see Figure 6). This coarse grained sandy material was screened, to 2mm passing, using an UltraDeck screen (Screen One) to create a sand product that was loaded into two tonne bulk transport bags in preparation for shipping and processing into final premium product ready for customers.

The screen is loaded with a Komatsu front end loader, the screen deck then separates the oversize material, leaving the upgraded ilmenite rich sand product to be conveyed into the bulka bags which are subsequently removed by the JCB 4CX (backhoe loader) and placed in rows. The bags are then uniquely marked, tied and made ready for loading onto the barge and shipped from site.

A total of 110 tonnes of ilmenite rich sand was screened in around seven hours representing a production rate of >15 tonnes per hour, which was a significantly higher production rate than was anticipated, this is due the deposit having limited to no slimes to slow the separation process.

Screen One was then moved to BS002, approximately one kilometre from town, where active beach material was mined above the high tide line near a larger perennial stream. In a single four-hour period, a total of approximately 50 tonnes of ilmenite rich sand was screened and bagged, taken alone this almost represents one tenth of the total bulk sample amount for the entire season.

Screen Two was mobilised to an area of high grade raised beach material, within the defined resource. The face was prepared prior to screening and during the first day of operation 110 tonnes was produced.

Visible ilmenite concentrations in bulk sampling has surpassed expectations. If production rates are maintained, then stockpiling of ilmenite rich sand will commence much earlier than planned.

### **Drilling Programme**

Auger drilling is now completed at Moriusaq West, an area of raised beach to the west of the previously defined resource area. No previous auger drilling had taken place at Moriusaq West prior to the 2017 field season and ilmenite rich sediment was observed in all samples, this will positively impact future resource calculations. The observation of black sands confirms the regional extent of mineralisation across the licence area. Auger drilling will now move eastwards towards Iteklak.

A CRS-T sonic drill rig, purchased from Eijkelkamp SonicSamp Drill, leaders in the development construction and support of leading edge sonic drill technology has also been mobilised east of the area where SRK defined an exploration target of between 90Mt to 130Mt at an in-situ grade of between 6.3% and 8.4% ilmenite. Whilst only starting early last week 35 holes have now been completed in the programme and to date ilmenite rich sediment has been observed in all samples, confirming the regional extent of mineralisation across entire onshore licence area. Sedimentary thickness increases towards Iteklak with holes now ending in mineralisation at several places due to the sediments being thicker than the 30m of drill strings the company brought to site.

Figure 1. Sonic drill rig in operation



Figure 2. First bulk sample shipped from site



Figure 3. Bathymetry survey vessel



Figure 4. Environmental baseline seafloor sampling



Figure 5. Extensive raised beach areas to be drilled and added to new resource model



Figure 6. Bulk sample location



### Market Abuse Regulation (MAR) Disclosure

Certain information contained in this announcement would have been deemed inside information for the purposes of Article 7 of Regulation (EU) No 596/2014 until the release of this announcement.

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For further information please visit <http://www.titanium.gl> or contact:

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### **Notes**

Bluejay has a number of highly prospective licences at various stages of development in Greenland and Finland. The Company is dual listed on the London AIM market and Frankfurt Stock Exchange.

The Company is currently focussed on advancing the Pituffik Project in Greenland, an area that has only recently revealed its mineral potential following changes in the climate. Pituffik, which with an initial Inferred JORC resource of 23.6Mt at 8.8% ilmenite (in situ), including a high-grade zone equal to 7.9Mt at 14.2% ilmenite, and significant further upside, has been proven to be the highest-grade mineral sand ilmenite project globally.

Pituffik comprises three main target areas along an >40km coastline historically proven to contain large and high-grade accumulations of primary ilmenite occurring as placer deposits in the following environments:

- Raised beaches; containing ilmenite accumulations over widths of more than 1km, of unknown depths, along more than 30km of coastline;
- Active beaches; which refer to the area seaward of the frontal dunes, including the beach, tidal zones and surf zone; and
- Drowned beaches; refers to the areas seaward of active beaches.

The Company's strategy is focused on delivering a bulk sample for marketing and sales engagement "proof of concept" from the Pituffik Project in 2017 with the aim of ultimately generating cash flow to create a company capable of self-funding exploration on current projects and future acquisitions.

Bluejay also holds a 100% interest in a portfolio of copper, zinc and nickel projects in Finland. This multi-commodity portfolio remains a strategic asset of importance and has been restructured to be cost-sustainable whilst determining the best plan for future development.

### **Pituffik Mineral Resource Estimate**

The Pituffik mineral resource estimate has been prepared by SRK Exploration Services ('SRK') and is broken down into three components:

- An Inferred resource of **23.6Mt at 8.8% ilmenite** (in situ) for the total area tested
- This includes a high-grade zone equal to **7.9Mt at 14.2% ilmenite** (in situ) at Moriusaq which is the focus of the feasibility and production studies that are currently underway
- A larger exploration target for the area, primarily encompassing potential mineralisation below and inland from the current drilling, of between **90Mt to 130Mt at an in-situ grade of between 6.3% and 8.4% ilmenite**

SRK has produced a Mineral Resource Estimate for the Moriusaq onshore raised beaches target that forms part of Bluejay's exploration licence in Northwest Greenland (licence number 2015/08). This is the maiden Mineral Resource Estimate produced for the licence. The Mineral Resource Estimate report prepared by SRK will be made available during Q2 2017.

The Mineral Resource Estimate is based on all valid data available as at 1 March 2017. A volume of the raised beaches has been modelled which encompasses the drilled portion of these areas with a maximum depth limit set at 3 metres below ground level. The model covers a surface area of approximately 5km by up to 0.9km. The model was incorporated into a three-dimensional block



model and the in-situ titanium dioxide ('TiO<sub>2</sub>') grade and percent recoverable heavy mineral content were interpolated using an inverse distance weighted ('IDW') algorithm.

SRK considers that all the delineated mineralisation has reasonable prospects for eventual economic extraction and the Mineral Resource Statement has been reported at a 0% cut-off grade using the terminology and guidelines set out in the JORC 2012 Code.

**Table 1: JORC Mineral Resource Statement for Moriusaq Onshore Target, April 2017**

Classification	Volume (M.m <sup>3</sup> )	Tonnage (M.t)	Density (t/m <sup>3</sup> )	% THM	% >2mm	% >5mm	% <63µm	% TiO <sub>2</sub> In HM	% TiO <sub>2</sub> In-situ	% Ilmenite In-situ
Inferred	11.2	23.6	2.12	34.5	29.0	21.8	2.5	12.0	4.2	8.8

- (1) The effective date of the Mineral Resource is April 6th, 2017
- (2) The numbers are presented at a 0% cut-off grade
- (3) "THM" and "HM" mean Total Heavy Minerals and Heavy Minerals respectively
- (4) HM have been separated from a -2 mm +63 µm size fraction using heavy liquid separation at a density of 2.95 g/cm<sup>3</sup>
- (5) Preliminary mineralogical assessments suggest that the HM typically comprises 26.76% ilmenite and that there are no other valuable HM present. Additional mineralogical data is expected during April 2017
- (6) % TiO<sub>2</sub> in-situ assumes that all recoverable TiO<sub>2</sub> is in the HM component of the -2 mm +63 µm size fraction
- (7) % Ilmenite In-situ assumes that all TiO<sub>2</sub> is within ilmenite and that the ilmenite contains 47.65% TiO<sub>2</sub>, based on historical exploration data

SRK has also produced a Mineral Resource Statement has been reported at a 5% in-situ TiO<sub>2</sub> cut-off grade using the terminology and guidelines set out in the JORC 2012 Code.

**Table 2: JORC Mineral Resource Statement for Moriusaq Onshore Target, April 2017. 5% in-situ TiO<sub>2</sub> cut-off grade applied.**

Classification	Volume (M.m <sup>3</sup> )	Tonnage (M.t)	Density (t/m <sup>3</sup> )	% THM	% >2mm	% >5mm	% <63µm	% TiO <sub>2</sub> In HM	% TiO <sub>2</sub> In-situ	% Ilmenite In-situ
Inferred	3.7	7.9	2.12	44.3	22.2	16.7	2.1	15.3	6.8	14.2

- (1) The effective date of the Mineral Resource is April 6th, 2017
- (2) The numbers are presented at a 5.0% in-situ TiO<sub>2</sub> cut-off grade
- (3) "THM" and "HM" mean Total Heavy Minerals and Heavy Minerals respectively
- (4) HM have been separated from a -2 mm +63 µm size fraction using heavy liquid separation at a density of 2.95 g/cm<sup>3</sup>
- (5) Preliminary mineralogical assessments suggest that the HM typically comprises 26.76% ilmenite and that there are no other valuable HM present. Additional mineralogical data is expected during April 2017
- (6) % TiO<sub>2</sub> in-situ assumes that all recoverable TiO<sub>2</sub> is in the HM component of the -2 mm +63 µm size fraction
- (7) % Ilmenite In-situ assumes that all TiO<sub>2</sub> is within ilmenite and that the ilmenite contains 47.65% TiO<sub>2</sub>, based on historical exploration data

SRK is of the opinion that there is a high probability that a proportion of this currently reported Inferred Mineral Resource can be upgraded to the Indicated category following additional exploration. Further, SRK considers that there is a high probability that the raised beaches hosting this Mineral Resource extend both at depth and laterally along the shoreline within Bluejay's licence area. The licence area includes a 30km length of raised beaches and deltas and Bluejay has

demonstrated mineralisation in several places in addition to the area covered by the Mineral Resource presented here.

In addition to the Mineral Resource Statement, SRK has derived an Exploration Target which is planned to be tested by the Company in the next field season. The Exploration Target tonnage range reflects SRK's opinion that the mineralisation has potential to be continuous between 9m and 12m below surface (SRK's Mineral Resource estimate has been restricted to 3m) which is based on a limited amount of outcrop exposure. In summary, it comprises potential mineralisation below the depth currently drilled. The exploration grade range is based on the grade of the overlying Mineral Resource.

SRK's Exploration Target is between 90Mt and 130Mt with an in-situ TiO<sub>2</sub> grade of between 3% and 4% (assumed to be between 6.3% and 8.4% ilmenite) and a heavy mineral content of between 30% and 34% of which between 10% and 12% will comprise TiO<sub>2</sub> (assumed to be between 21% and 25% ilmenite). It should be noted that this is an estimated range of tonnes and grade and is conceptual in nature, that there has been insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

### **Qualified Persons**

The information in this press release that relates to Mineral Resources is based on information compiled under the direction of Dr Mike Armitage C Geol., C Eng., who is a Member of the Institute of Materials, Minerals and Mining which is a Recognised Overseas Professional Organisation ('ROPO') included in a list promulgated by JORC from time to time.

Dr Armitage is a full-time employee of SRK Consulting (UK) Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken 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' (the JORC Code) and for the purposes of the AIM Rules. Dr Armitage has reviewed this press release and consents to the inclusion in the press release of the matters based on his information in the form and context in which this appears.