

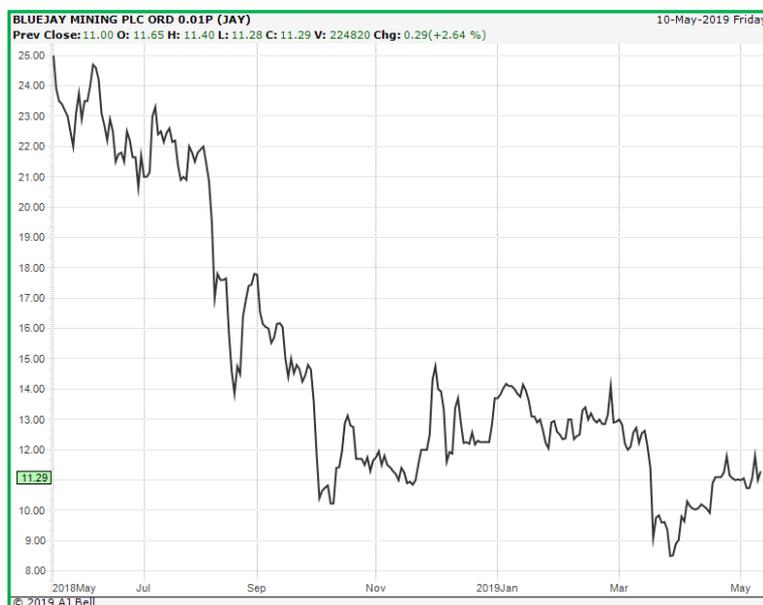
# Strategic Metals & Rare Earths Letter

## INTERNATIONAL

*the independent information and advisory publication on investing in Strategic Metals & Rare Earths*

**INVESTMENT ALERT – May 29, 2019**

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### Bluejay Mining Plc (GBp 9.89)

AIM	: JAY
Frankfurt	: S5WA
H+L prices (12 months)	: GBp 24.90 – 7.70
Net issued shares	: 852.8 million
Market capitalization	: £ 82.1 million (US\$ 104.0 million)

**2019 price target : GBp 35.00**

## INVESTMENT ALERT

- ▶ Submission of SIA for **Dundas Ilmenite Project** in **Greenland**, the world's highest-grade Mineral ilmenite Project
- ▶ Resource upgrade by 15% to 117 million tonnes ilmenite at 6.1%
- ▶ Time delay in exploitation application depresses market valuation

On May 10, 2019, **Bluejay Mining (“Bluejay”)** announced the completion and submission of the **Social Impact Agreement (“SIA”)** for its 100% owned **Dundas Ilmenite Project** to the Ministry of Industry, Energy & Research, Government of Greenland.

The SIA lodgement represents the completion of another core module in the exploitation permitting process for **Dundas**. Key findings of the Study include:

- ▶ **Dundas** judged to have a net positive impact on local communities
- Substantial public support for **Dundas’** development demonstrated across the Qaanaaq region, as well as throughout Greenland with national stakeholders
- The new **Dundas** mine is expected to bring significant employment opportunities and economic development to the region

The **SIA**, prepared by NIKAS, one of the most experienced SIA service providers with respect to mining and permitting related studies for operations in Greenland, constitutes 3 years of surveys and baseline studies and is built on the requirements determined in the Terms of Reference for the SIA. The Terms of Reference were approved following public consultation with various Greenlandic Authorities and stakeholders in 2017.

The **SIA** enables the authorities to evaluate and understand the impact of exploitation and the ilmenite-bearing sand at **Dundas**, as well as the broader regional and national significance for Greenland, including the creation of up to 175 direct employment positions.

**The submitted Study is completed based upon the development scenario as outlined in Bluejay's Pre Feasibility Study ("PFS"), which anticipates yearly production of 440,000 tonnes per annum of ilmenite product to be shipped from the Project.**

On May 29, 2019, **Bluejay** announced an offshore resource update at the **Dundas Project**. The total mineral resource, which includes a maiden exploration target for the offshore region within the licence, **showed a total Mineral Resource increase by 15% from 101 million tonnes to 117 million tonnes at 6.1% ilmenite in-situ** at a 0% cut-off grade in accordance with the JORC Code (2012), as reported by SRK Exploration Services. The resource increases the significant expansion potential of Dundas.

**SRC Global has determined a maiden offshore exploration target of between 300 million tonnes and 530 million tonnes at an average expected grade range of 0.4-4.8% ilmenite in-situ.**

According to **Bluejay** CEO Roderick McIlree, with both the **SIA** and **EIA** now submitted, the last remaining components are the mineral reserve, mine plan and impact benefit agreement, as the final phases of the exploitation application.

The Company intends to continue with additional resource progression over the next 12 to 24 months.

**Bluejay** holds two additional projects in Greenland – the 2,586 sq.km **Disko Nuussuaq ("Disko") Magmatic Massive Sulphide ("MMS") nickel-copper-platinum project ("Ni-Cu" – PGM)**, which has shown its potential to host mineralization similar to the sulphide mine Norilsk-Talnakh, and the 107 sq.km **Kangerluarsuk Sed-Ex lead-zinc-silver project ("Kangerluarsuk")** where historical work has recovered grades of 41% zinc, 9.3% lead and 596 g/t silver and identified four large-scale drill ready targets.

#### **Investment comments:**

With the updated resource upgrade to 101 million tonnes, hosting the world's highest-grade **Dundas Ilmenite Project** in Greenland, with both the SIA and EIA having been submitted, **Bluejay** says it is in the final phases of the exploitation application.

The following step is to prepare an application for an exploitation licence for **Dundas** to extract ilmenite, as primary source of titanium metal. **Bluejay** expects the licence to be lodged in the second half of 2019 now and to would enable a production decision by next year.

Referring to my earlier price target of GBp 35.00, which was based upon the licence originally to be lodged in the first half of 2019, due to the new time delay of development, **Bluejay** has shed more than £ 100 million of its market valuation.

Provided that the Government of Greenland will not hold up the issuance of the Company's licence for the **Dundas Project** beyond 2020, **Bluejay**, in my view, offers a good investment momentum again.

## Titanium's corrosion resistance benefits from strong growth in demand for implementation in new technologies

According to the U.S. Geological Survey Commodity Summaries, January 2017, world mine production of titanium mineral concentrates (ilmenite) amounted to 5,860 in thousand metric tons of contained TiO<sub>2</sub>, of which South Africa accounts for 1,280 thousand metric tons, followed by China (800), Australia (720), Mozambique (490), Canada (475) and Ukraine (350).



Roskil Information Services estimates that global titanium melting capacity reached nearly 450,000 metric tons in 2016 (in increase of nearly 100,000 metric tons since 2013), while output has fallen to less than 200,000 metric tons. China and the United States currently have the largest mill capacities, each at around 138,000 metric tons, followed by Russia at 60,000 metric tons and Japan at 50,000 metric tons.

It is estimated that European titanium mill product demand would exceed 30,000 metric tons by 2020, compared with an estimated 28,000 metric tons last year. The EU's aerospace demand for uranium would climb to a projected 25,000 metric tons by 2020, compared with a projected demand of about 16,000 metric tons in 2016.

**Ilmenite** accounts for about 89% of the world's consumption of titanium minerals. **Titanium** occupies 13% of a US\$ 2 billion aerospace market, which is second to aluminium alloys (44%).

An estimated 73% of titanium is used in aerospace applications. The remaining 27% is used in armour, chemical processing, marine, medical, power generation, sporting goods and other non-aerospace applications.

Titanium is the chemical element used in strong, light, corrosion-resistant alloys. In the beginning, titanium uses were limited within the small confines of its birth place, the aerospace components industrial sector, which still remains accountable for the greatest use of titanium as a mainstream structural metal. However, though this particular demanding industrial niche is strong reliable and capable of sustaining durable demand for suppliers, machining companies and additional funding for titanium resource and development processes, is also has a long cycle of operation.

Airplanes are meant to be reliable and for periods expressed in decades. The entire spans over several years, which led to a thoroughly cycling patterns of titanium consumption. This also influenced prices, especially in the first decades after its entry as a mainstream structural metal.

That is why efforts were concentrated in developing titanium used that would break this cycle patter, through what is known as lateral development.

Because of that, the uses of titanium are growing faster than ever, as more and more new technologies have been discovered and implemented and reduce life cycle costs across a broad range of equipment and processes, though there are competitors in this field such as tungsten carbide.

Titanium has a spectacular titanium corrosion resistance and also has a strong argument for many applications in what it is used for. In many harsh instruments it can outcast competing materials as much as 5:1. Lower failure rates translate to less downtime, reduced maintenance and total lower costs.

One of the titanium uses is in power generating plants, were saline, brackish of polluted waters are used as the cooling medium, in the form of titanium tubing for heat exchanges that will last for the life of the condenser and eliminate the need for a corrosion allowance.

In petroleum exploration and production, titanium tubing light weight and flexibility make it an excellent material for deep sea production risers. In addition, titanium's immunity to attack by seawater makes it the preferred material for the armour of cables and titanium hose clamps used in marine environments. These are usually made using beta alloy titanium wire, which is used on existing platforms in the North Sea and many more projects are in the planning stages.

In the automotive industry, titanium uses were developed especially for components of the vehicle used in motor racing. Engine parts such as titanium connecting rods, wrist pins, valves, valve retainers and springs rocked arms, and titanium bolts are some of the items for what titanium is