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12 October 2022

East Star Resources Plc

("**East Star**" or the "**Company**")

Drilling to Commence on Rare Earths Project, Kazakhstan

East Star Resources Plc (LSE:EST), the Kazakhstan-focused gold, rare earths and copper explorer, is pleased to announce that all necessary approvals to commence fieldwork at the Talairyk heavy rare earths (HREE) project in the Kostanay region of Kazakhstan have been received and drilling will commence imminently - several months ahead of schedule.

Highlights:

- 1,000m of Reverse Circulation (RC) drilling to confirm historical grades of the Ionic Adsorption Clay (IAC) hosted deposit
- Samples to be sent for ICP analysis and leach test work to confirm historical grades and the potential for economic recovery of rare earth elements
- Approvals from government authorities to commence fieldwork received much faster than expected, demonstrating regional support for new projects
- Drilling programme designed and managed by independent consultants MSA-Minerals Consulting Ltd (''MSA''), to ensure speed of execution and correct QA/QC procedures in case of future resource conversion

Alex Walker, East Star CEO, commented:

"We are extremely happy to be able to drill the Talairyk licence this month so that assay and leach test work can commence over the winter period. This means that with positive results we can hit the ground running next year, in the spring, to implement a more significant drill programme designed to convert the historical resource to JORC and test the huge strike potential of this deposit. The timing could not be better with all eyes focused on future supply of these metals which are so critical to the energy transition.

We're also delighted with the level of support received from local government and service providers. Stakeholders have pulled out all the stops to get this project drill-ready so quickly and have confirmed they will provide further such support as the project progresses.''

Talairyk Project Highlights

- Project comprises Talairyk and Talairyk 1 licences covering 144.7 sq km
- East Star farming in for up to 90% ownership linked to exploration expenditure
- 19,962 tonnes of contained Total Rare Earth Oxides (TREO) including 4,300 tonnes of yttrium oxide at average of 7.5m from surface (1994 resource model)
- Average 786g/t TREO in IAC profile up to 58.6m thick - same geochemical signature as the IACs of South China from where most of the world's HREEs are currently supplied
- Database includes 128 core holes and 61 auger holes for 3,755 samples

- Exploration upside within the licences across similar weathering profiles over prospective basement lithologies and with potential for additional regional expansion
- IAC peers generally have lower CAPEX and lower OPEX than hard rock rare earth projects and a higher average basket price

MSA-Minerals Consulting Ltd

MSA has been commissioned by East Star to assess the local geology and historical data of the Talairyk Rare-Earth Element (REE) deposit and to design a drill plan with the appropriate drilling methodology and sampling procedure suited to the exploration of a shallow, IAC-hosted REE deposit. The objective is to drill in accordance with the Australasian Code for Reporting of Exploration Results reporting code (JORC, 2012) for the purpose replicating historical results to an international standard, as well as to gain representative samples for both assay and leach test work. MSA was guided by an REE expert and Mineral Resource geologists have been consulted to review the planned collar locations and selected drilling and sampling methodology.

Ionic Adsorption Clays (IACs)

Potentially economically extractible IACs are rarely found outside of South China with only a few in South East Asia in production today and exploration/development projects in Australia, Brazil, Chile and Uganda. IAC deposits are comparatively rich in HREEs and are a primary source of China's and therefore the world's HREE production. IAC deposits offer several advantages to the more commonly occurring hard rock REE deposits where the rare earths are mostly hosted in complex mineral associations. These advantages include:

- **Lower CAPEX:** Deposits are shallow and free dig clays keeping the footprint small, the pre-strip ratio low and with simple, conventional machinery and material handling methods. Processing generally requires no grinding or milling, removing these costly and energy-intensive mills from the processing circuit
- **Lower OPEX:** Generally, the deposits are amenable to standard leaching techniques with weak electrolyte solutions, such as ammonium sulphate (widely used as a fertilizer for alkaline soils) and sodium or magnesium chloride
- **Negligible radioactivity:** Radioactive elements such as uranium and thorium occur commonly in hard rock REE projects. In IACs, the radioactive elements have been mostly removed by the weathering process along with the lower value light rare earth elements
- **High-value basket of product:** The HREE element market is small and commercial production is restricted to very few companies while the demand in the high-tech industry has expanded

HREE Supply and Demand

Rare Earth Elements are required for numerous high-tech devices, such as high-performance magnets for wind turbines or lighting products such as energy saving bulbs. The more valuable HREEs like Dysprosium and Terbium are a particularly critical resource. These HREEs are currently almost exclusively supplied by IACs and almost completely from South China where the REEs are adsorbed on clay minerals and can be recovered with high extraction yields by monovalent salt solutions using the concept of ion exchange.

The Talairyk Project

The Deposit

The thickness of the ore deposit varies along the historically tested sections from 5.88m to 58.6m, averaging 19.46m. The average overburden thickness is 7.38m and the average content of yttrium oxide in the deposit is 169 g/t with other rare earth oxide elements at 617 g/t for 786 g/t or 0.078% TREO. Using a cutoff grade of 100 g/t, resources of yttrium oxide were calculated as 4,300 tons and TREO amounted to 15,662 tons.

Historical Exploration

Geological surveys of the site have been done since 1916, however, the first prospecting work was not carried out until 1972. In 1988-89, a magnetic survey on a scale of 1:5000 and a gravity survey at a scale of 1:10000 was conducted over a 50x10m and 200x50m network. From 1987-1991 prospecting work was carried out resulting in

discoveries of yttrium and REEs. From 1991-1994 prospecting and appraisal work was carried out to establish the size of the ore zone in plan and in depth, the morphology and conditions of occurrence of ore bodies, the qualitative characteristics of ores, and the hydrogeological conditions. This latest work was conducted by the State Holding Company, "Marzhan", and Joint Stock Company, "Turgai Geological Exploration Expedition".

The expedition drilled vertical core wells across the strike of the ore zone on a 200mx50m grid to an average depth up to 75m including three hydro-geological wells. 128 holes were drilled by core drilling for 6,022m and 61 holes by auger drilling for 903m. 3,755 samples were taken. On average, the core recovery in the wells ranges from 68% to 76%.

Samples were subjected to the following types of analyses:

- Semi-quantitative spectral analysis for 19 elements
- XRF analysis for yttrium, zirconium, tin and niobium
- Approximate quantitative analysis by a special method for the sum of rare earth oxides
- Grain-size analysis of weathering crust
- Lithological analysis of weathering rocks

Geology

The studied area is in the northern part of the Ulutau meganticlinorium and is confined to the southern tip of the Sauktal massif of the Arganty uplift. The uplift is composed of Proterozoic metamorphic complex, gneissogranites and Paleozoic granitoids.

The rocks of the Talairyk suite compose the dome of the Ulutau anticlinorium, and in the area of work it is divided by the Sabasaldy-Turgai granitoid massif into two bands: western and eastern. The Talairyk Formation includes three subformations: lower, middle, and upper. The lower subformation is represented by mica gneisses, two-mica-plagioclase gneissic schists, thick (100- 300m) units of amphibolites, garnet amphibolites, and plagioclase-amphibolite schists. The thickness of the subformation is 600-800m.

In the geological structure of the region, bodies of igneous rocks of different composition and age make up about 75% of the work area. According to geological data, three complexes are distinguished:

1. Middle Proterozoic complex of granites (granite-gneisses)
2. Ulutau Complex of basic and ultrabasic rocks of Late Upper Proterozoic to Early Cambrian age
3. Late Ordovician - Early Silurian complex of granodiorites - granites

The Middle Proterozoic complex of granites is represented by the Souktal granite-gneiss massif, a Precambrian complex located in the Ulutau structural-facies zone and is also host to the Talairyk deposit in the weathering crust.

In the weathering crust the main carriers of yttrium and rare earths are kaolinite, hydromuscovite and to a lesser degree, plagioclase. The average content of minerals in the weathering crust are quartz (40%), kaolinite (42%) and sericite (18%).

The average thickness of the weathering crusts is 25m. In some zones, the depth to basement is up to 100m.

For further information visit the Company's website at www.eaststarplc.com, or contact:

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About East Star Resources Plc

East Star Resources is focused on the discovery and development of gold, rare earth, and copper deposits in Kazakhstan. With an initial nine licences covering 1,687 sq km in three mineral rich districts, East Star is undertaking an intensive exploration programme, applying modern geophysics to discover minerals in levels that were not previously explored. The Company also intends to further expand its licence portfolio in Kazakhstan. East Star's management are based permanently on the ground, supported by local expertise, and joint ventures with the state mining company.

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The person who arranged for the release of this announcement was Alex Walker, CEO of the Company.

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