

# SEG 2023 Conference: Resourcing the Green Transition

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## Ewoyaa Lithium Project - Rediscovery to Resource

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The Ewoyaa Project is situated in the Central Region of Ghana, some 100 km west of Accra, and is being explored and developed by Atlantic Lithium Ltd. (AIM: ALL, ASX: A11, OTCQX: ALLIF).

The Ewoyaa deposit comprises several coarse-grained, spodumene-rich pegmatite intrusive bodies, which currently contain a JORC mineral resource estimate of 35.3 Mt at 1.25% Li<sub>2</sub>O (28 Mt in measured and indicated categories). The pre-feasibility study delivered a 12.5-year open-pit mining operation with an 8:1 strip ratio, producing clean spodumene concentrate via dense medium separation. The project has an enviable location proximal to existing infrastructure, being 1 km from the coastal highway, electricity crossing the tenement, and only 110 km by metalled road to the deep-water port of Takoradi.

The spodumene pegmatites were rediscovered during research targeting the Birimian S-type granites, following up references to spodumene in the Saltpond area by the Ghana Geological Survey during the 1960s. Early exploration proved challenging due to the dearth of outcrop and deep tropical weathering, combined with spodumene's instability and lithium's high mobility in this environment. A combination of outcrop, airborne radiometrics, and soil geochemical anomalies provided targets for pitting, trenching, and auger drilling to map subsurface pegmatite bodies. Drilling of the pegmatites below the deep weathering confirmed spodumene mineralisation.

The typical mineralogy of the pegmatites comprises quartz, feldspar, spodumene, muscovite, and phosphate minerals. Spodumene is the only significant Li-bearing mineral. The pegmatites are notable in being predominantly free of albitisation, and although potassic alteration does exist, it is structurally controlled and localised. Initial geochronology suggests an Eburnean age of intrusion ( $2040.7 \pm 17.1$  Ma).

The origins of the Ewoyaa pegmatites remain enigmatic and require further research, with both anatexis during orogenesis and a fractionated magma source being evaluated.