



## ASX Release

21 March, 2018

# LITHIUM EXPLORATION ACTIVITIES UPDATE

## BACKGROUND

In mid-2016 Dart Mining NL (Dart) adopted a strategy to explore the regionally extensive Dorchap Dyke Swarm in eastern Victoria primarily for lithium with tin and tantalum being secondary target commodities (see ASX:DTM 29 July 2016 and 9 August 2016). The Dyke Swarm consists of thousands of dykes of variable composition and size and extends for approximately 60 kilometres from Glen Wills to north of Eskdale. Importantly, some of the dykes are pegmatites that potentially contain spodumene (lithium aluminium silicate). Such pegmatites are the source of most hard rock lithium production worldwide. Dart, which is the first company to explore the Dorchap Dyke Swarm for lithium, commenced regional exploration in December 2016.

Currently Dart holds contiguous Exploration Licences which cover most of the Glen Wills-Eskdale region. The tenement position is fully described in Dart's Report for the Quarter Ended 31 December 2017 (ASX:DTM 31 January 2018). The tenements cover virtually all the area generally considered to be prospective for pegmatite-hosted lithium mineralisation. Most land encompassed in the tenements is State Forest.

By April 2017 Dart was able to announce (ASX:DTM 3 April 2017) that it had identified spodumene within multiple dykes over 12km along the Dorchap Dyke Swarm near Mitta Mitta by X-Ray Powder Diffraction (XRD) and petrological examination. This represented the first time spodumene had been identified in the pegmatites, and in Dart's opinion signified discovery of a completely new lithium pegmatite province of significant size. Although very preliminary, mapping and limited sampling indicated to Dart the highly prospective LCT (Lithium-Caesium-Tantalum) nature of at least some of the pegmatite dykes of the Dorchap Dyke Swarm.

Dart commenced regional roadside geochemical sampling of dykes that intersect the forestry road network. This work resulted in the 600 sq. km northern sector of the Dorchap Dyke Swarm (some 40km by 15km in size) being determined as the most prospective area for further work (see ASX:DTM 24 July 2017).

In early October 2017 (ASX:DTM 6 October 2017) Dart released a 33 page detailed technical review of its lithium-prospective tenements titled "Geology & Prospect Summary: Lithium – Tin – Tantalum Pegmatites".

In December 2017 Dart released a further update on its recent lithium exploration (ASX:DTM 21 December 2017) which had been focused on the northern end of the Dorchap Dyke Swarm near Eskdale. At that time Dart announced that to accelerate the regional exploration programme it planned to undertake a helicopter reconnaissance survey to enable rapid assessment of the historically mapped dykes and to identify additional large, unmapped dykes within the Dorchap Dyke Swarm.

## **EXPLORATION SINCE DECEMBER 2017**

**Regional geochemical sampling** of multiple pegmatites continued through January. Preliminary interpretation of the incomplete results so far available is that those relatively few dykes sampled are unlikely to contain lithium mineralisation of economic interest. These samples were mostly taken before the aerial reconnaissance survey was conducted.

**A reconnaissance helicopter survey** was completed between January 31<sup>st</sup> and February 2<sup>nd</sup>. The targeted area was mainly within State Forest boundaries and the terrain is mountainous and covered by dense eucalypt re-growth forest with trees about 20-30 m high and very thick undergrowth. Despite the challenges to visually locating pegmatites from a helicopter in such terrain, it was felt that pegmatites (at least in part) would be more resistant to erosion than the host schists and would likely crop out strongly enough to be identified from a low flying helicopter. This proved to be the case and the helicopter survey was remarkably successful in locating numerous (~80) probable pegmatite outcrops that were previously unknown. The locations of all probable pegmatite outcrops were recorded by GPS to enable subsequent on-ground follow-up. Aerial observations indicate that many of the outcrops are of substantial size. The aerial survey has essentially coarse-filtered out smaller dykes, which is of great benefit with such a large number of dykes historically identified in the area.

**On-the-ground investigations** of targets from the helicopter survey have begun and are on-going under the direction of a lithium specialist exploration team. Following the successful helicopter survey, Dart's exploration approach has been modified to emphasise boots on-the-ground examination of the pegmatite targets arising from the survey, and to limit regional geochemical investigations. The first pass examination of the aerially identified pegmatites has focussed on visual identification of any possible spodumene or other lithium-bearing minerals within these pegmatites. Dart has adopted this approach as it believes that any pegmatites with lithium grades of economic interest will almost certainly be associated with visible spodumene or other lithium-bearing minerals.

