



ASX Announcement

8 November 2017

First Stage Lithium Exploration Completed

Dark Horse Resources Limited (ASX:DHR; “DHR”, “Dark Horse” or “Company”) is pleased to update the market on the status of the Company’s exploration programs for its Argentinean lithium projects.

Dark Horse has completed the first stage mapping and sampling of the surface and underground workings of the Las Tapias Mine in Cordoba province (refer **Figure 1** and **Figure 2**) with the following highlights concluded from the work to date:

- The Las Tapias geological complex is centred on a circular structural feature, which is some 1,100m in length and 800m wide.
- The mineralised pegmatite is an ellipsoidal feature with a measured length of 300m to 400m, a width of 150m to 200m and an unknown depth.
- Lithological zoning has been defined with an outer border, wall, intermediate and core zones.
- Additional, large pegmatite veins and dykes, exceeding 15m in thickness, exist along fault structures surrounding the main pegmatite.
- Very large crystals of spodumene in massive formations have been mapped on surface and underground.
- A total of 142 rock chip samples were obtained and sent for assaying.

Dark Horse has access to a large portfolio of mineral exploration ground under lease in Argentina through its progressive acquisition of domestic company Pampa Litio SA, of which it currently owns 25%. Pampa Litio holds four separate exploration licences in the San Luis province (Leon Herido, San Martin, Novillo Negro and El Totoral) totalling 34,000ha, and holds an option to acquire the Las Tapias Mine in Cordoba province (**Figure 2**), as outlined in the Company’s detailed ASX release of 15 August 2016. Las Tapias consists of 6 current mining licences (Las Tapias 17ha, La Protectora 5.9ha, Rosita 5ha, San Telesforo 5.9ha, San Jose 11.9ha and San Jose II 36ha) and a surrounding exploration licence (302ha) (refer **Figure 3**). Another significant lithium bearing pegmatite exists in the El Totoral lease, where a 4.5km long pegmatite with high lithium values has previously been mapped by Pampa Litio. The historic San Luis Mine is located at the northern end of this pegmatite.



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Dark Horse's overriding objective is to discover and define a large lithium rich pegmatite resource, develop mines to produce lithium ore, and ultimately a production facility in Argentina manufacturing battery grade lithium hydroxide for sale into the international battery and electronic markets. Future sales may extend into a new domestic market for lithium products as the economy in Argentina continues to transform under the market-reformed current administration.

To achieve its objectives, and based on the exploration results published to date and observations from this and previous field trips, Dark Horse will carry out further and systematic exploration comprising geological, geophysical and drilling techniques, and has established an Exploration Target of approximately 30 million tonnes to 60 million tonnes of lithium ore grading from approximately 0.9% LiO₂ to approximately 1.5% LiO₂. The Company notes that the potential quantity and grades quoted is conceptual in nature, and that there has been insufficient exploration undertaken to date to estimate a mineral resource, and that it is uncertain if further exploration will result in the estimation of a mineral resource.

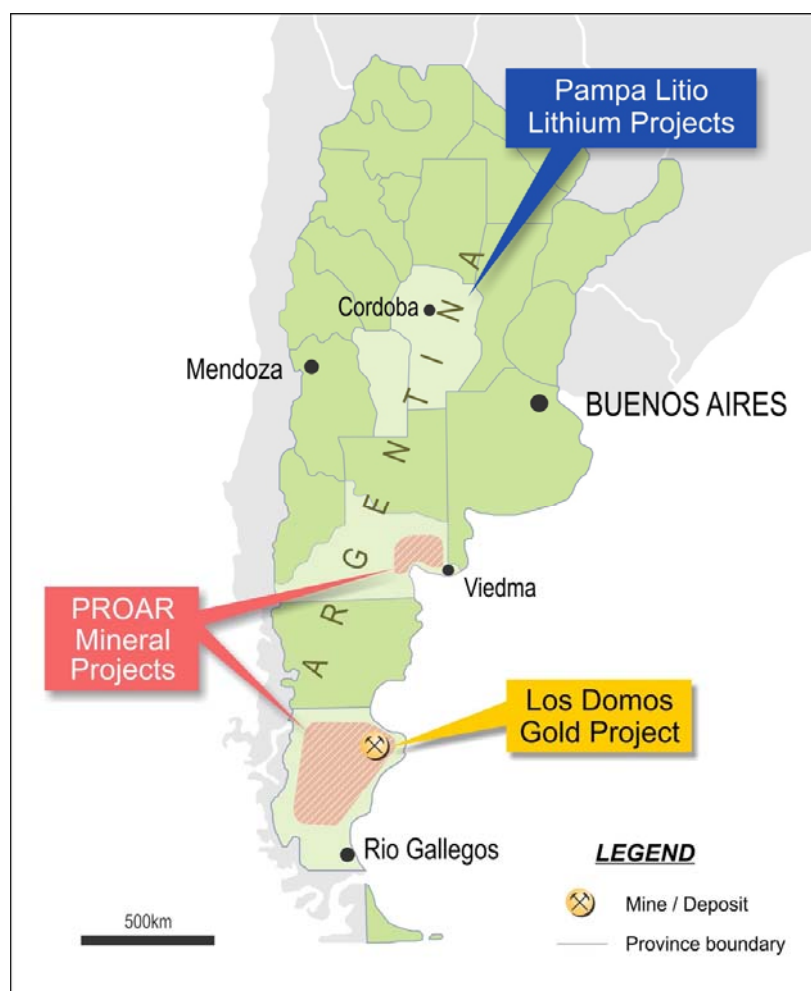


Figure 1 – Location of Dark Horse's mineral projects in Argentina.

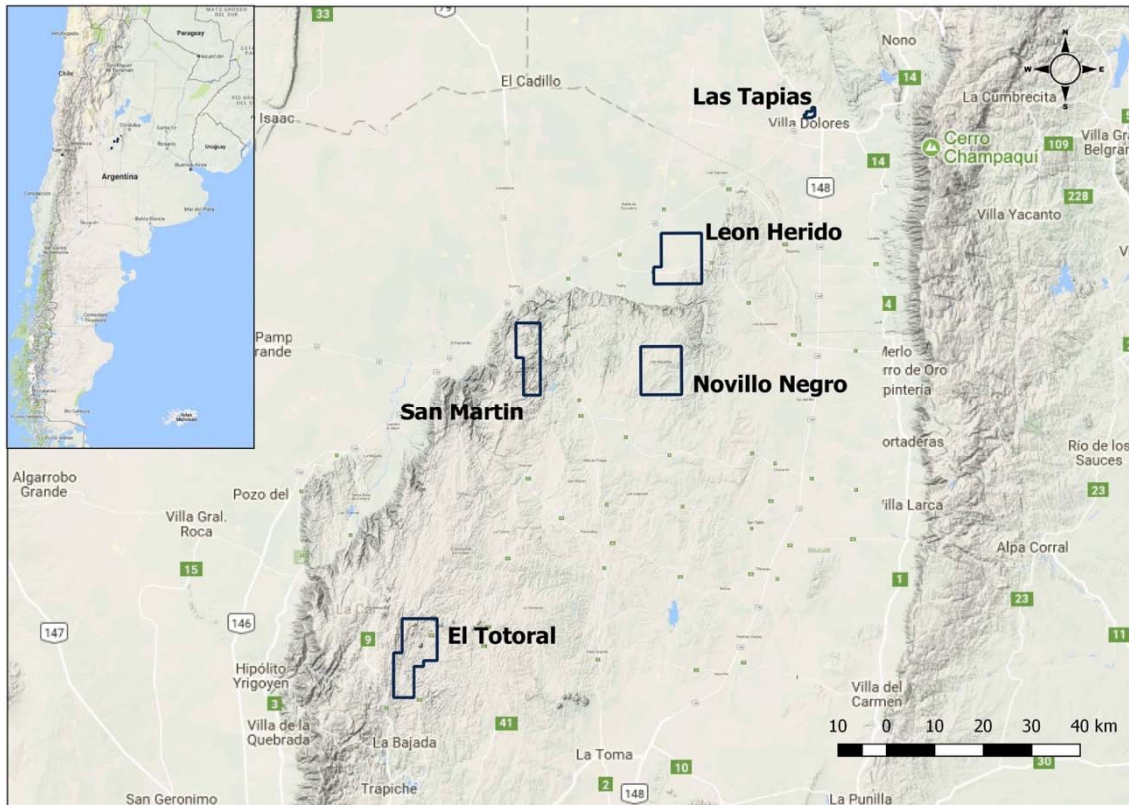


Figure 2 – The Pampa Litio suite of leases in San Luis province and Las Tapias Mine in Córdoba province.

Over the course of the next 18-24 months, the Company intends to undertake sufficient exploration to facilitate the estimation of a mineral resource, and has designed the following program:

- Topographic Surveying;
- Systematic mapping and sampling of the widespread outcrops, quarries and underground workings;
- Representative rock chip sampling and assaying;
- Geophysics;
- Drilling programs will be designed to define the geometry, size and grades of the ore bodies;
- Comprehensive assaying of all drill core;
- Metallurgical testing;
- Mineral resource evaluation and estimation in compliance with the JORC Code;
- Preliminary mining feasibility.

Prior geological work by Pampa Litio has shown that the Las Tapias Mine and the El Totoral pegmatite sequence have significant lithium potential and deserve early detailed exploration to determine their likelihood of meeting Dark Horse's objectives.

Therefore, a two-pronged, simultaneous exploration strategy has been planned as:

1. Detailed Programs at both Las Tapias and El Totoral, and
2. Regional Program over the remaining suite of leases.

The first stage of this plan has been implemented through detailed geological mapping and sampling at Las Tapias Mine as described below.

Las Tapias Mine Geological Mapping

A total of 64ha of the Las Tapias project area was mapped (scale 1:1000), including 11ha of underground workings, during this first exploration stage. Surface mining has left a landscape of steep walls, small pits at varying levels and waste dumps (**Photo 1**). The underground workings that were mapped comprise an access incline 100m long leading to three large caves where impressive large spodumene crystals are exposed (**Photos 2 and 3**).



Photo 1: Las Tapias Mine surface workings.



Photos 2 and 3: Las Tapias underground caves showing massive concentrations of large spodumene crystals.

The mine has been periodically operated in a small artisanal manner, through both underground and open cut mining methods for over 30 years, extracting beryl, quartz, feldspar and micas, and some spodumene as a by-product.



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Photogeology interpretation shows the Las Tapias pegmatite complex is centred on a circular structural feature, which is some 1,100m in length and 800m wide (refer **Figure 3**), that is hosted on a granite of upper Cambrian age that intruded mafic metamorphic rocks of Pre-Cambrian age (gneiss and schists).

A number of fault structures of different orientations have been defined. The major, regional fault structures are oriented north-south and either pre-exist the formation of the pegmatite bodies, or are contemporaneous with the intrusion (**Figure 4 and 5**). Large pegmatite veins/dykes, exceeding 15m in thickness, exist along these structures and massive zones of large crystalline quartz, microcline, muscovite and spodumene developed in the contact zones. Pegmatite mineralisation may be partially structurally controlled.

More recent faults, oriented in a north-westerly to south-easterly direction, have truncated these large north-south directional structures, as evidenced by some post-mineralization displacement and rearrangement of the pegmatite bodies. Some of these structures display a vertical movement component, and have produced elevated, large blocks exposing massive zones of large spodumene crystals. Detailed and regional geological maps have been generated from the work to date and are included as **Figures 5 and 6**.

The lithological and structural geological mapping has defined the Las Tapias pegmatite as an ellipsoidal shaped body, oriented northwest to southeast, and dipping towards the southeast at approximately 30 degrees. From work to date, the dimensions of the pegmatite are 300m - 400m in length along the northwest to southeast axis, with a width of 150m - 200m. **Figure 7** is a schematic cross section showing the general shape and dimensions of the pegmatite body.

Lithological zoning has been observed and mapped at Las Tapias: an outer border, wall, intermediate, and core zones. These are indicated in **Figure 7**, and correspond relatively closely with Bradley and McCauley's model for Lithium-Cesium-Tantalum (LCT) Pegmatites (USGS, Open-File Report 2013-1008, Version 1.1, December 2016). The large and massive spodumene crystallisation is evident in the core zone at Las Tapias.

The Company is currently planning a geophysical program for implementation early next year, followed by exploration and resource definition drilling, which will enable the pegmatite dimensions to be defined in more detail, and particularly, allow an appreciation of depth.

There are significant waste dumps in the Las Tapias Mine area, with over 4ha mapped to date (refer **Figure 5**). These dumps are estimated to be between 3m and 10m in thickness. The waste dumps will be mapped and sampled in more detail during the next phase of work, as it appears from initial observation they contain spodumene and may have some economic significance.

A total of 142 rock chip samples were obtained during this phase, 103 samples from the surface (88 samples from outcrops and 15 samples from waste dumps) and 39 samples from the underground workings (marked on **Figures 4 and 6**). A number of blank and standard samples were also introduced for quality control purposes. Rock chip samples were taken as continuous, representative samples over lengths of 1m to 2m (**Photo 4**).



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Photo 4: Representative rock chip sampling at the Las Tapias surface mine.

The samples have been sent to the ALS laboratory in Mendoza, Argentina for preparation and assaying. Dark Horse procured a detailed set of lithium standards from Geostats in Perth and were used for quality assurance and control purposes on the laboratory batch shipments. Pulps will be assayed by ALS Perth for a complete set of mineral analyses. Results are expected within one month and will be reported in JORC compliant format once available.

Geological mapping is continuing to:

- Further define the Las Tapias pegmatite complex within the mining area to refine the geology, structure, size and mineralisation.
- Measure and sample the extensive mine waste dumps.
- Map the extensions of the pegmatite beyond the mining licences and throughout the exploration licence as have been indicated in a photogeology interpretation study.

Following the evaluation of this mapping work and the assay results, a geophysical program will be carried out, followed by exploration and resource definition drilling to increase the level of information on the Las Tapias the project and bring it towards a JORC Resource status.

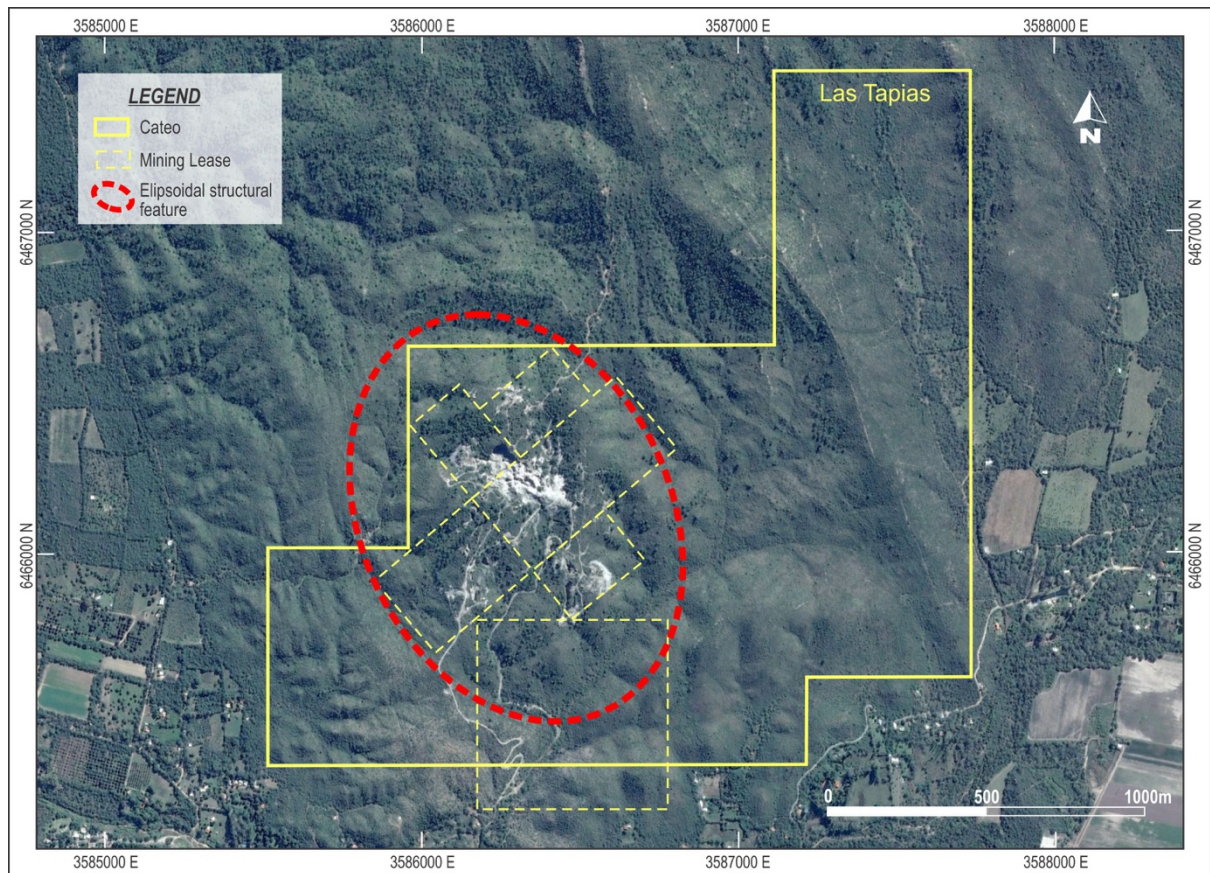


Figure 3 – The Las Tapias mining licences and exploration licence. The pegmatite is centred on a circular structural feature (red). Surface workings are visible as the white zones.

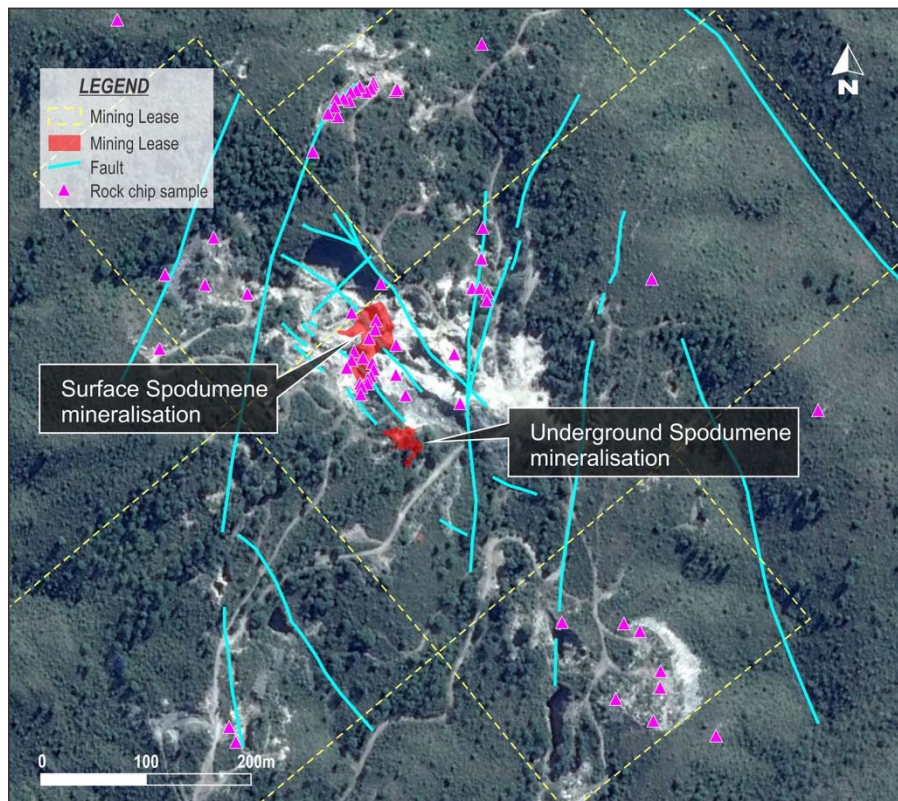


Figure 4: Las Tapias quarry overview showing the north-south regional faults, the north-westerly to south-easterly secondary faults, and the current, observed zones of massive spodumene mineralisation.

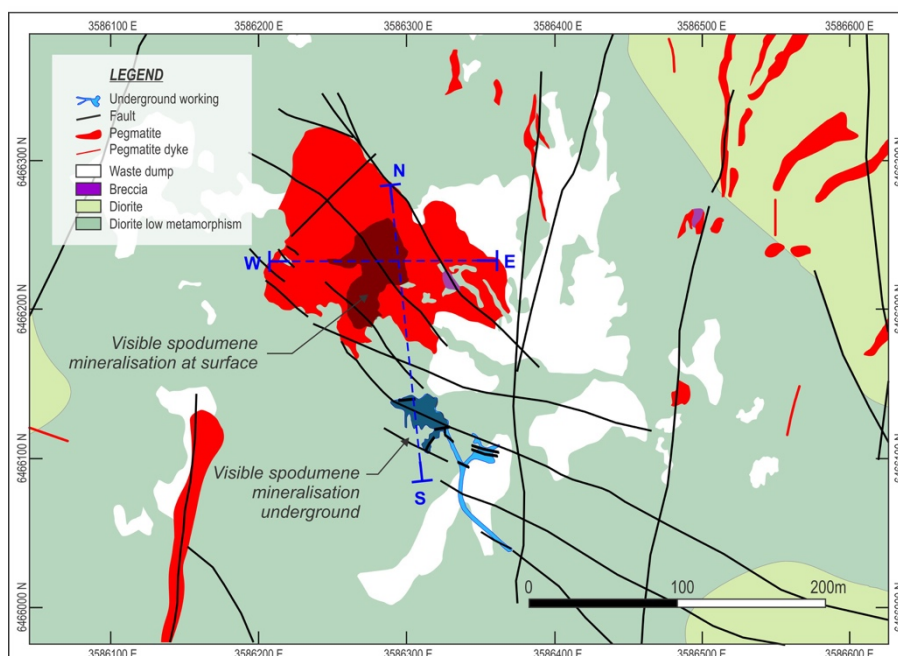


Figure 5: Detailed geological map

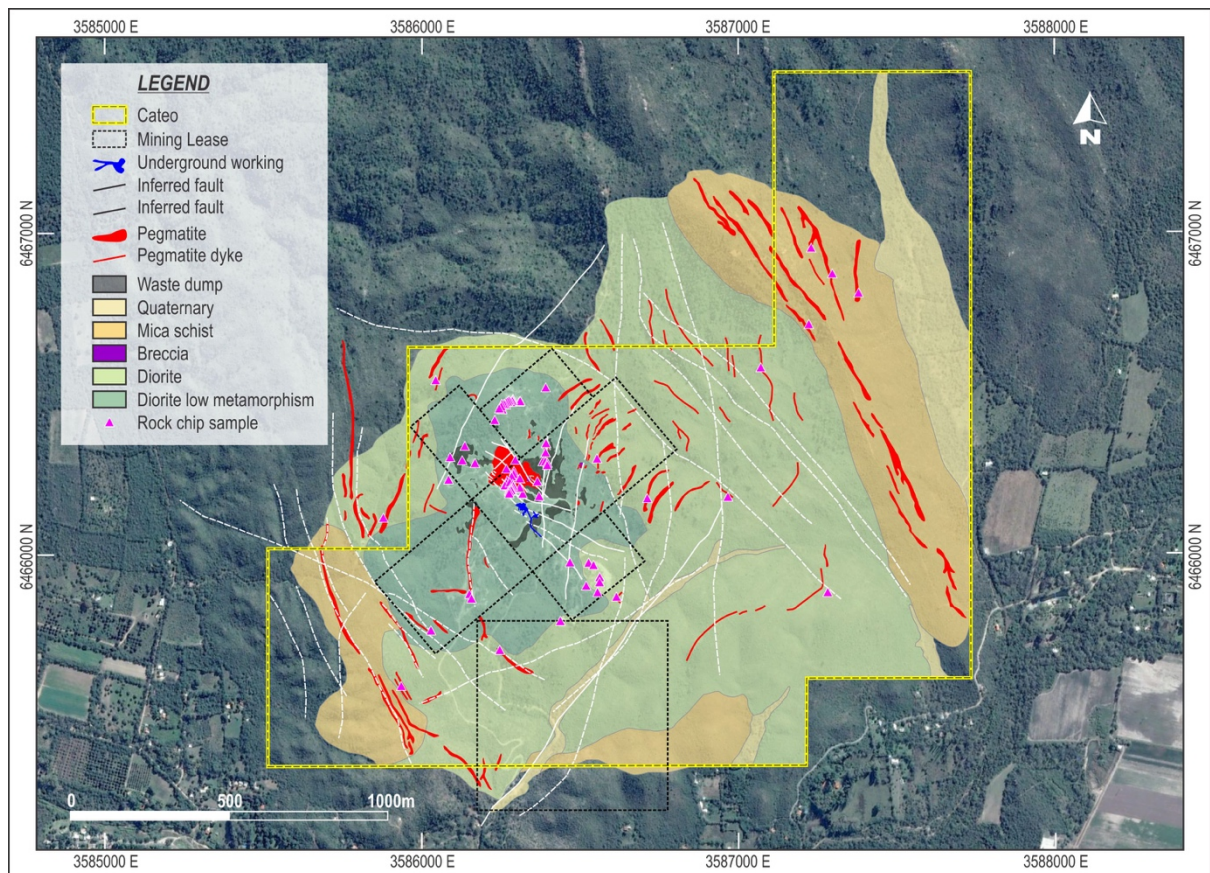


Figure 6: Regional geological map

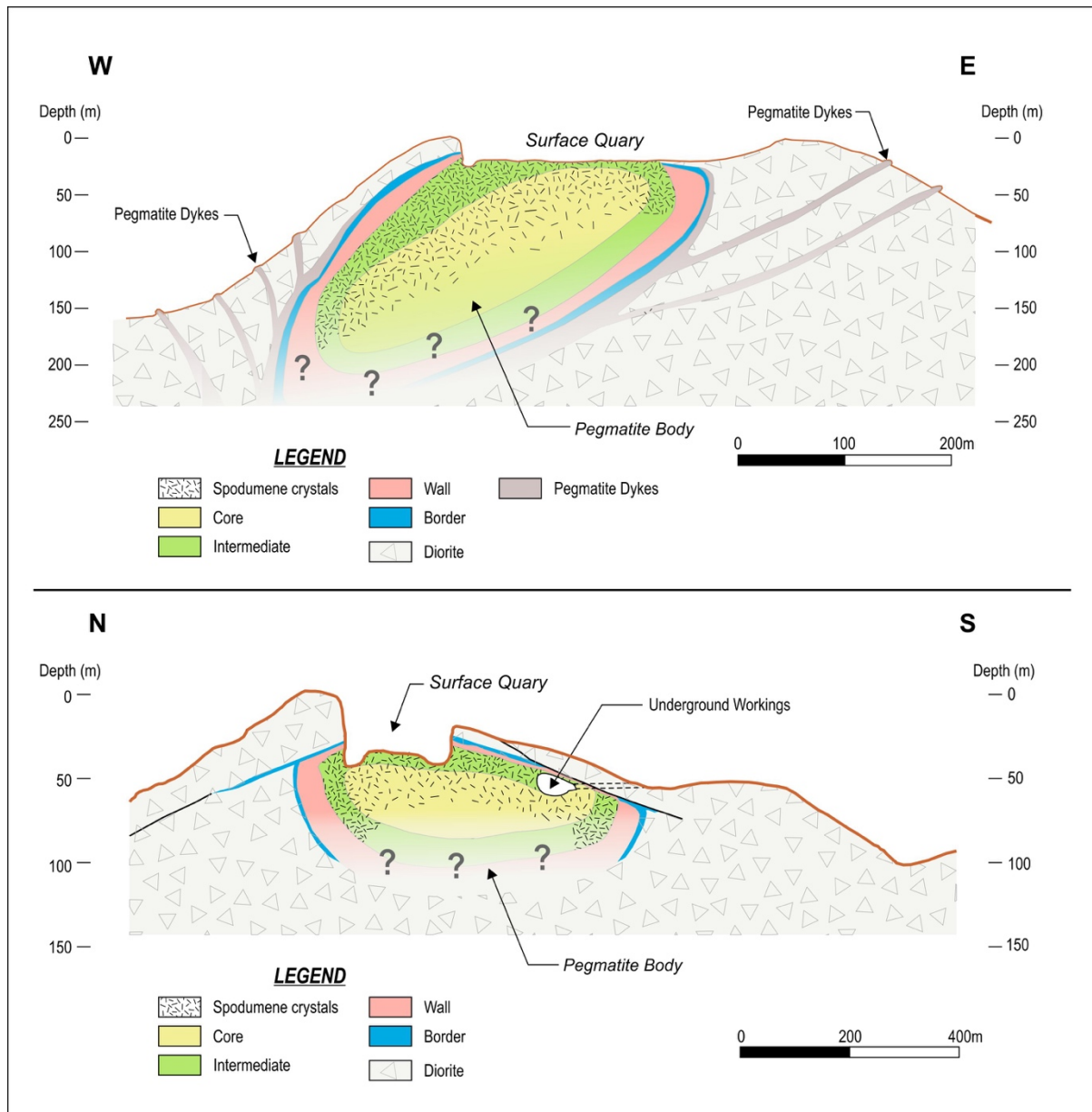


Figure 7 – Schematic cross sections showing the general shape and dimensions of the Las Tapias pegmatite body. (Referenced from “A Preliminary Deposit Model for Lithium-Cesium-Tantalum (LCT) Pegmatites”, D Bradley and A McCauley, USGS, Open-File Report 2013-1008, Version 1.1, December 2016).

The Board of Dark Horse looks forward to providing project activity updates as new information comes to hand.

On behalf of the Board
Mr Karl Schlobohm
Company Secretary



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Competent Persons Statement

The information herein that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Neil Stuart, who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Neil Stuart is a Director of Dark Horse Resources Ltd.

Mr Stuart has more than five years experience which is relevant to the style of mineralisation and type of deposit being reported and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves' (the JORC Code). This public report is issued with the prior written consent of the Competent Person(s) as to the form and context in which it appears.

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About Dark Horse Resources:

Since listing on the Australian Stock Exchange in 2011, Dark Horse Resources has evolved into a diversified exploration company primarily focussed on Argentina. The Company currently has lithium, gold, coal and energy projects in Argentina.

Argentina is undergoing significant political and social reforms, which has created a very attractive destination for mining and diverse project interests.

Dark Horse Resources also owns approximately 9.2 billion shares in ASX-listed Lakes Oil NL.



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