



Spark Energy Concludes 2024 Arapaima Field Program; Identifies 8 Pegmatite Trends Over Combined Strike of 27.2km

--78 individual pegmatite occurrences recorded

VANCOUVER, BC / December 24, 2024 / *Spark Energy Minerals Inc.* ("Spark" or the "Company") (CSE: SPRK) (OTC: SPARF) (FSE: 8PC) an exploration Company focused on the discovery of battery metals in Brazil's prestigious Lithium Valley, is pleased to provide a year end update after successfully completing its first "boots on the ground" field exploration campaign at the Company's 64,359-hectare Arapaima Lithium project located in Lithium Valley, Minas Gerais, Brazil.

Arapaima Lithium Project Exploration Highlights:

- The Spark geological teams successfully completed an initial **"boots on the ground"** exploration work program during Q4 2024. Work will resume on the 6th of January with three geological teams.
- To date, first pass exploration has covered approximately **20%** of Spark's extensive **64,359** tenement land package.
- A total of **144 samples** have been submitted to SGS laboratory for lithium and multi-element analysis including the full suite of rare earth elements. Analysis results are expected to be reported by **the end of January 2025**.
- Definition of **three (3) initial priority target areas** comprising eight (8) pegmatite trends with an overall combined strike extent of **~27.2 km**.
 - **Target Area 1**, initially identified in week 1, has a combined pegmatite trend strike length defined to date of **~13.3km**.
 - **Target Area 5**, in the central west part of the tenement package has a combined pegmatite strike length defined of **~5.6km**
 - **New Target Area 6**, identified ~1.8km south of Target Area 1, contains two pegmatite trends with a combined strike length of **~8.3km**. (Figures 1, 2, 3, 4 and 5)

- **Statistics from Phase 1 Exploration – Q4 2024**
 - **230** geological observation points mapped
 - **78** individual pegmatite occurrences / outcrops recorded.
 - **14** old artisanal workings identified (unknown commodity)
 - **144** samples collected and submitted to SGS Laboratory in Belo Horizonte

- The exploration work to date has rapidly progressed Spark's understanding of the geology across the company's large contiguous 64,359-hectare tenement package. While large areas of the tenement package are covered by varying degrees of regolith and recent sedimentary sequences, the teams have identified and defined erosional windows through this cover with some significant areas and trends, (now prioritized as major targets), of weathered–saproilitised granite intruded by pegmatites have been mapped and sampled.

- **Target Area 1** is largely underlain by the two mica G2 granite which is host to multiple pegmatite bodies, some attaining thickness's of above 5m.

- The recently identified **New Target Area 6** is underlain by the G4 super suite – biotite granite, which so far is seen to be host to multiple, mainly narrow pegmatite bodies, in the areas observed to date. Two structural trends have been identified at this target, one trending northeast–southwest and the other northwest–southeast.

- **Target Area 5** is defined by a 5.3km trend of weathered two mica granite intruded by pegmatite. Of interest is the clear correlation of this trend with a prominent thorium response in the regional radiometrics images.

- ***It should be noted that many of the pegmatite bodies identified to date, as is the case for their host granites, have been deeply weathered. This weathering overprint makes the positive identification of the various targeted lithium minerals, especially spodumene, which are preferentially weathered to smectite clays in tropically weathered environments, extremely difficult in hand specimen.***

- ***To obtain positive and uncontestable confirmation of the presence of the targeted lithium mineral, tentatively identified as spodumene in weathered surface outcrop samples collected to date, and to support the certified laboratory results once reported (end January 2025). The company has submitted several, so far unidentified samples for XRD (Xray Diffraction) and LIBs (Lazer Induced Breakdown Spectroscopy) which are alternative methods used by industry to positively identify various lithium and related pathfinder elements.***

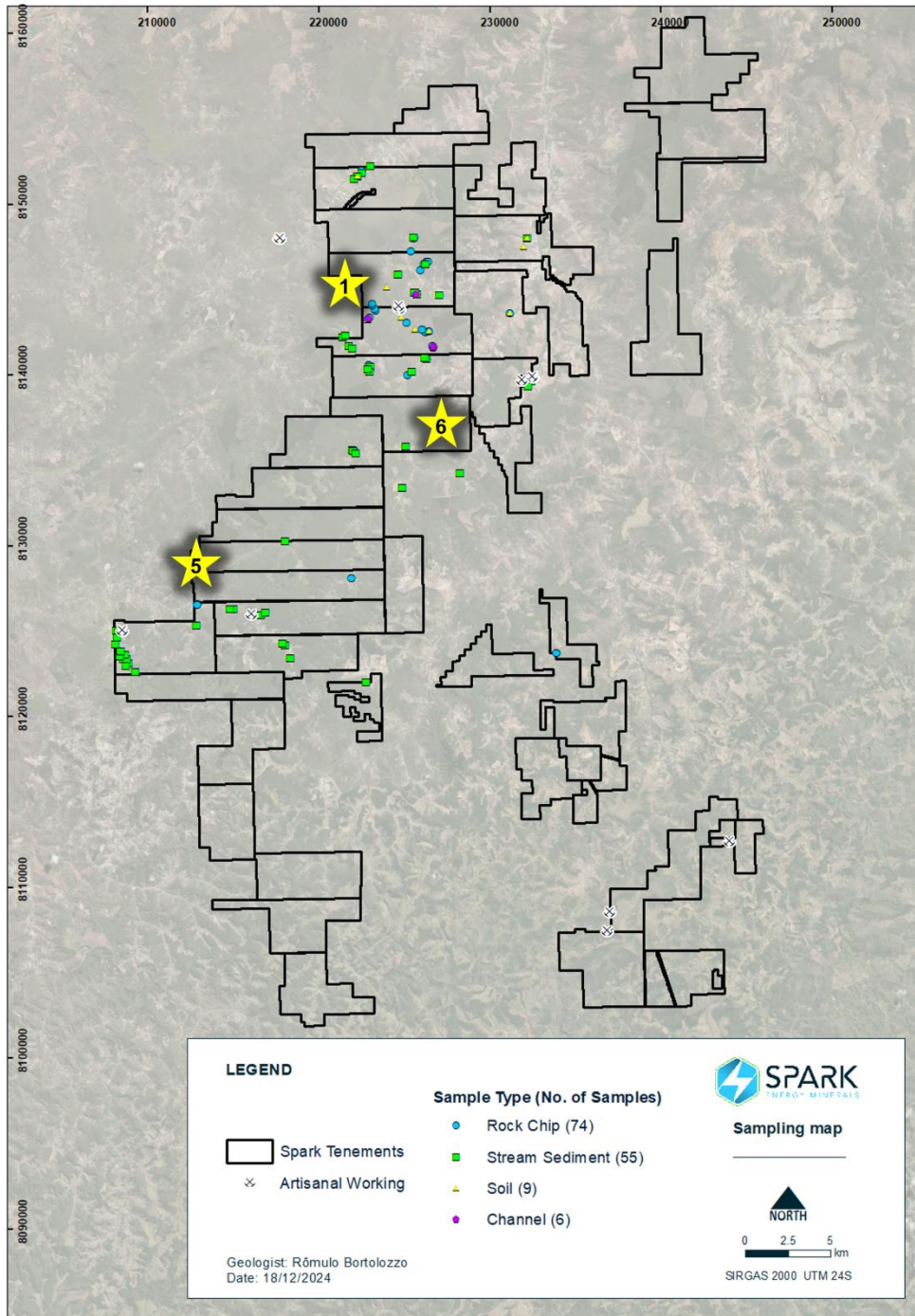


Figure 1: Figure showing location of Priority Target Areas 1, 5 and New Target 6 with sampling points, Arapaima Lithium project tenements

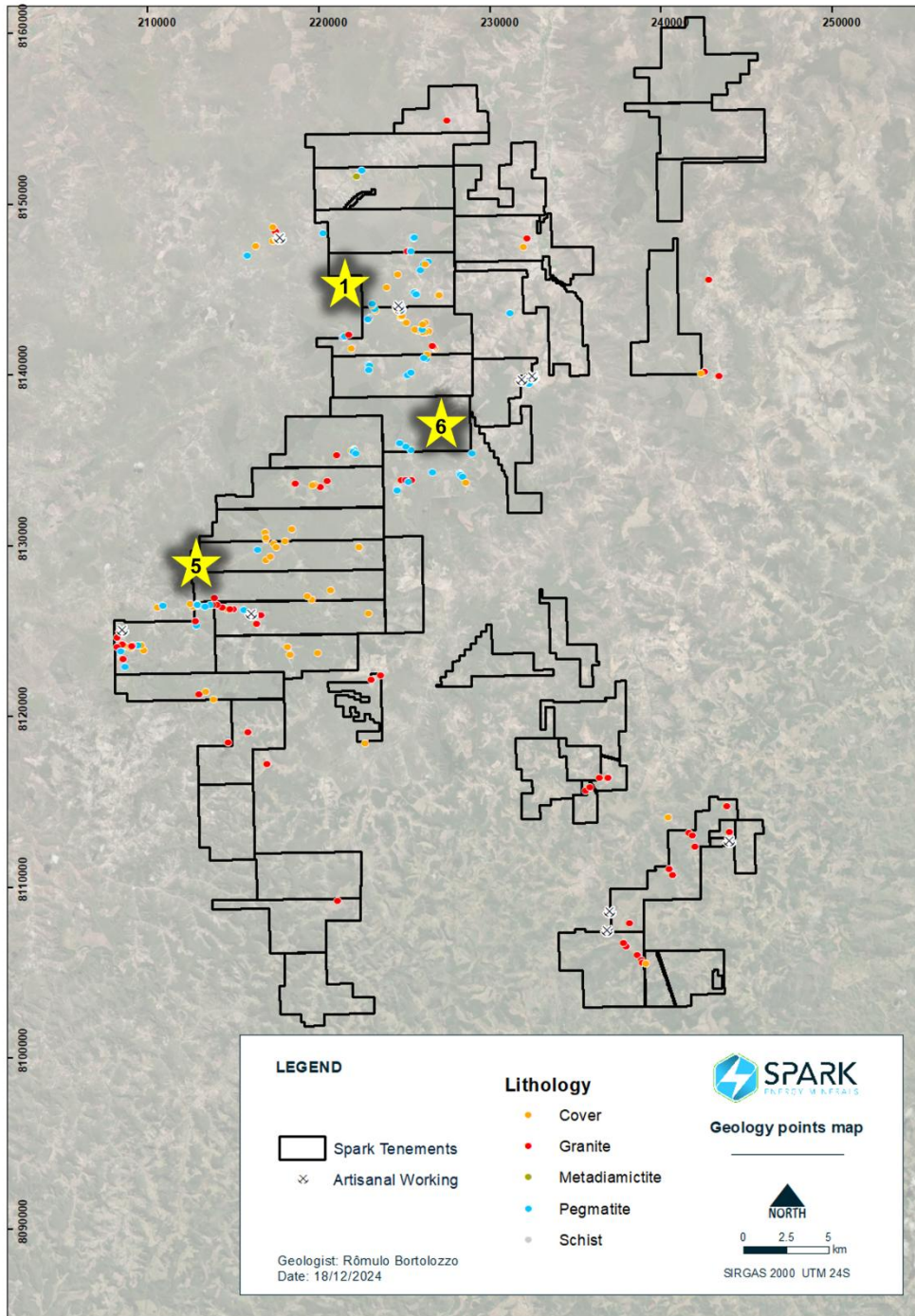


Figure 2: Figure showing location of Priority Target Areas 1, 5 and New Target 6 with geological data points, Arapaíma Lithium project tenements

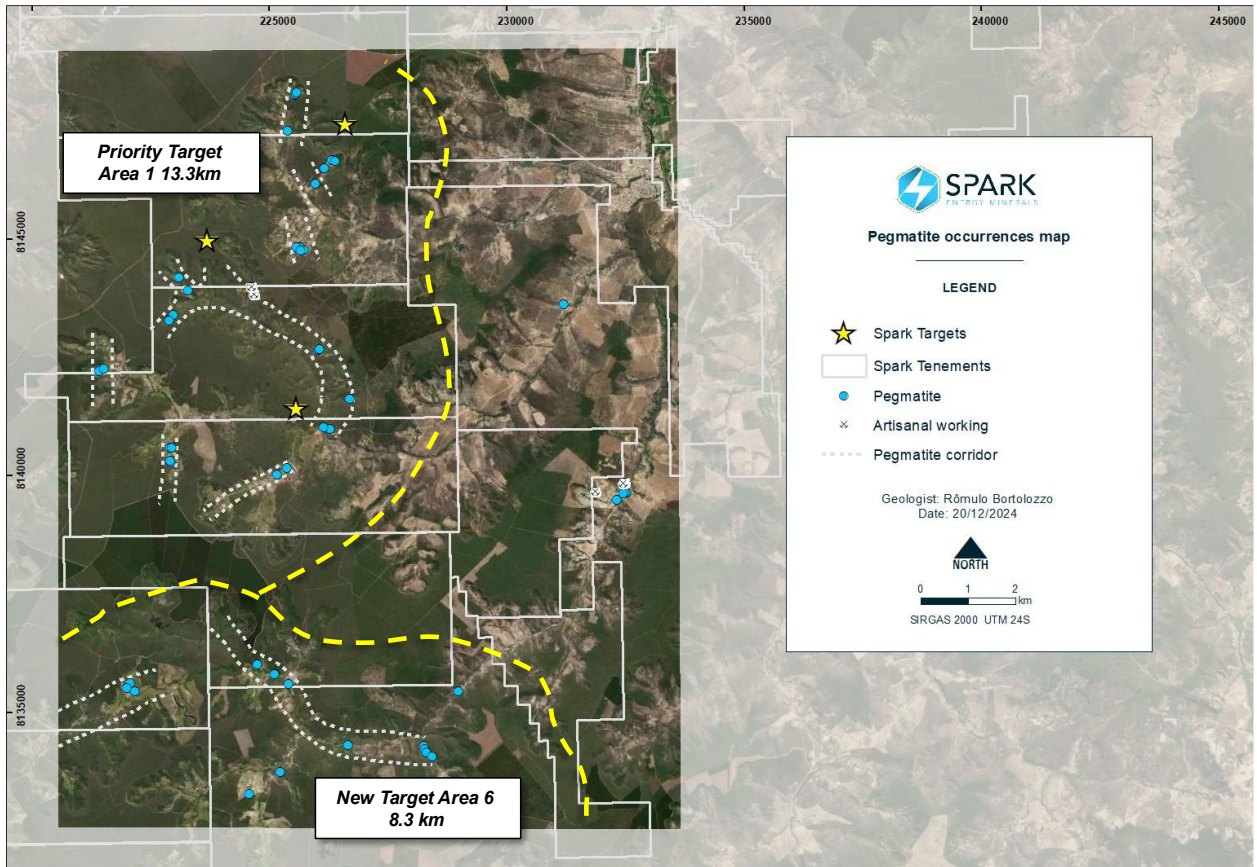
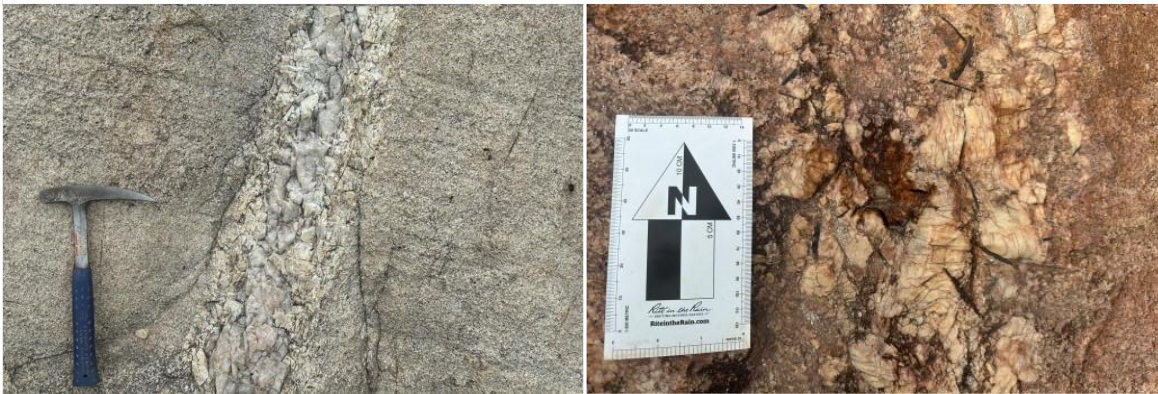


Figure 3: Map showing the relative position of Target Area 1 (13.3km trend) with New Target Area 6 (8.3 km trend), ~1.8km to the south.



Pegmatite vein intruded in saprolitized biotite-granite.

Series of pegmatite dykes intruded in biotite-granite.



Pegmatite dyke intruded in fresh biotite-granite.

Prismatic tourmaline crystals in pegmatite vein.

Figure 4: Photos of pegmatites recently identified and mapped within the New Target 6 pegmatite corridors with a combined strike extent of 8.3km to date.

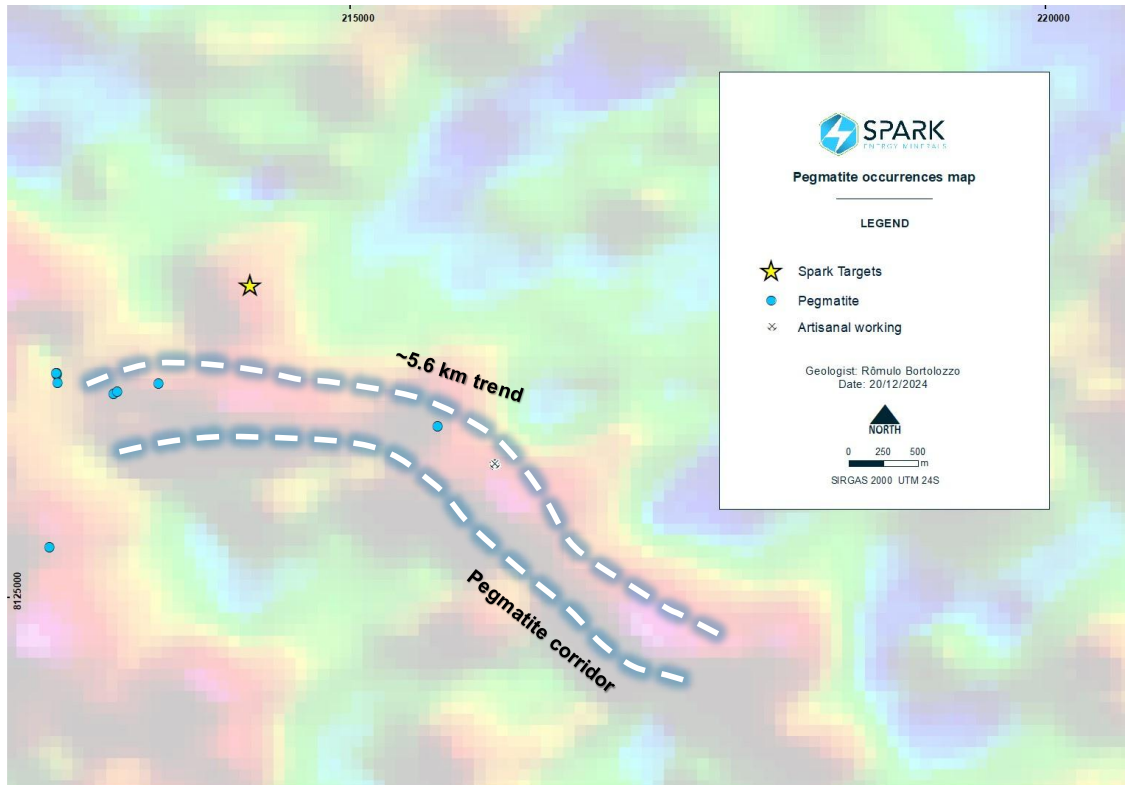


Figure 5: View of Target Area 5 showing strong correlation between the 5.6 km pegmatite corridor and the thorium radiometrics response.

Jon Hill, Director of Spark Energy Minerals commented: “We are very pleased with the excellent progress our teams have made at Arapaima since commencement of “boots on the ground exploration”, having already, after only 4 weeks in the field, identified and field verified almost 30km of cumulative, prospective strike represented by 8 pegmatite trends supported by 78 individual pegmatite occurrences mapped. This is even more remarkable given the high percentage of regolith cover across this region. We are looking forward to continuing to progress first pass and priority follow-up exploration across the portfolio in January especially with the support that initial analytical results (expected from mid-January) will provide to our field activities.”

Target Generation Program: Planning Q1 2025

- Receive and interpret the analytical results from samples submitted to SGS laboratory to date (144 samples).
- Review and refine the exploration strategy based on initial analytical results, whilst continuing the first pass mapping and stream sediment sampling program across the entire 64,359-hectare tenement package by the end of Q1 2025.
- Support an independent field geological assessment commencing 7th January for preparation of an NI 43-101 Exploration Report.

Eugene Hodgson, CEO of Spark Energy Minerals, stated: *"The successful conclusion of our 2024 Arapaima field program marks a significant milestone for Spark Energy. The identification of 8 pegmatite trends spanning a combined strike of 27.2km, along with 78 individual pegmatite occurrences, underscores the immense potential of our project in Brazil's Lithium Valley. These results, achieved by exploring only 20% of our extensive land package, validate our strategic approach and position us for an exciting 2025. We're particularly encouraged by the rapid progress our geological teams have made, providing us with valuable insights that will guide our future exploration efforts. As we await the analytical results, we're already planning an accelerated exploration program for Q1 2025, aiming to unlock further value across our 64,359-hectare tenement. This successful campaign sets a strong foundation for Spark Energy's continued growth in the critical battery metals sector."*

Qualified Person:

The scientific and technical information disclosed in this document has been reviewed and approved by Jonathan Victor Hill BSc Hons, FAUSIMM, a Qualified Person consistent with NI 43-101.

About Spark Energy Minerals Inc.

Spark Energy Minerals, Inc. is a Canadian company focused on the acquisition, exploration, and development of battery metals and mineral assets, with a particular emphasis on its substantial interests in Brazil. The Company's flagship project is the Arapaima Lithium project spanning 64,359 hectares in Brazil's renowned Lithium Valley, one of the most prolific mining regions in the world. This region is rapidly gaining global recognition for its vast deposits of lithium and rare earth minerals, positioning Brazil as a critical player in the global energy transition.

Neither the Canadian Securities Exchange nor its Regulation Services Provider (as that term is defined in the policies of the Canadian Securities Exchange) accepts responsibility for the adequacy or accuracy of this release.

FOR ADDITIONAL INFORMATION, SEE THE COMPANY'S WEBSITE AT

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