



Spark Energy Confirms Lithium-Bearing Pegmatites Along a Combined 21.5km strike at its Arapaima Lithium Project in Brazil

VANCOUVER, BC / February 7, 2025 / *Spark Energy Minerals Inc.* ("Spark" or the "Company") (CSE: SPRK) (OTC: SPARF) (Frankfurt: 8PC) an exploration Company focused on the discovery of battery metals in Brazil's prestigious Lithium Valley, is pleased to announce positive results from the sample assays collected from its Arapaima Lithium Project in Minas Gerais, Brazil back in Q4 2024.

Key Highlights

- **107 samples** (63 rock chips, 35 stream sediments and 9 soil samples)
- Anomalous results **up to 582ppm Li** in rock chip
- Confirmed **lithium anomalism from 70% of samples across combined 21.5km** strike of pegmatite trends
- **Strong correlation of Li with Sn (0.91), Nb (0.84), and Cs (0.79)**
- Similar spatial patterns of pathfinder elements to Li suggest a **fertile geological setting and fractionated pegmatites**
- Targets 1 and 5 remain **top priority**
- Soil samples returned **up to 503 Total Rare Earth Oxides (TREO)**
- Further assay results from the on-going field program are expected in the short-term

Sample ID	Be_ppm	Cs_ppm	Ga_ppm	Li_ppm	Nb_ppm	Rb_ppm	Sn_ppm	Ta_ppm	Zr_ppm
ARA-CR-013	14.0	813.0	169.0	582.0	285	1359.0	146	38	36.8
ARA-CR-006	17.0	641.0	128.0	489.0	237	847.0	167	32	191.4
ARA-CR-004	22.0	973.0	197.0	284.0	325	1189.0	143	60	201.9
ARA-CR-103	<5	323.0	34.0	218.0	85	573.0	30	<10	23.1
ARA-SS-110	<5	303.0	53.0	191.0	32	437.0	17	<10	168.7
ARA-CR-101	8.0	286.0	59.0	163.0	80	569.0	58	12	1.1
ARA-CN-006	9.0	642.0	37.0	132.0	64	438.0	42	24	90.4
ARA-CR-007	<5	142.0	28.0	108.0	59	425.0	16	<10	256.6
ARA-CR-009	7.0	531.0	41.0	102.0	92	451.0	55	34	73.1
ARA-SS-101	6.0	148.0	31.0	96.0	28	337.0	14	<10	79.6

Table 1: Top 10 samples highlighting anomalous Li values between 96-582ppm

Jon Hill, Director of Spark Energy Minerals commented: “We could not be more pleased with these initial results from our exploration sampling program at Arapaima. Given the highly weathered and leached material at surface, these results have far exceeded our expectations. The fact that 70% of all samples taken have shown anomalous lithium concentrations is a clear indication of the high lithium potential that we find here. We now have clear geochemical confirmation of the lithium potential. The discovery of the diagnostic pathfinder elements such as rubidium, tin, tantalum-niobium and rare earth elements further indicates the potential of what lies beneath the weathered surface. This allows us to immediately focus on generating drill targets. Our teams continue to encounter evidence of historic mining from pegmatite sources almost daily, with over 50 found to date.”

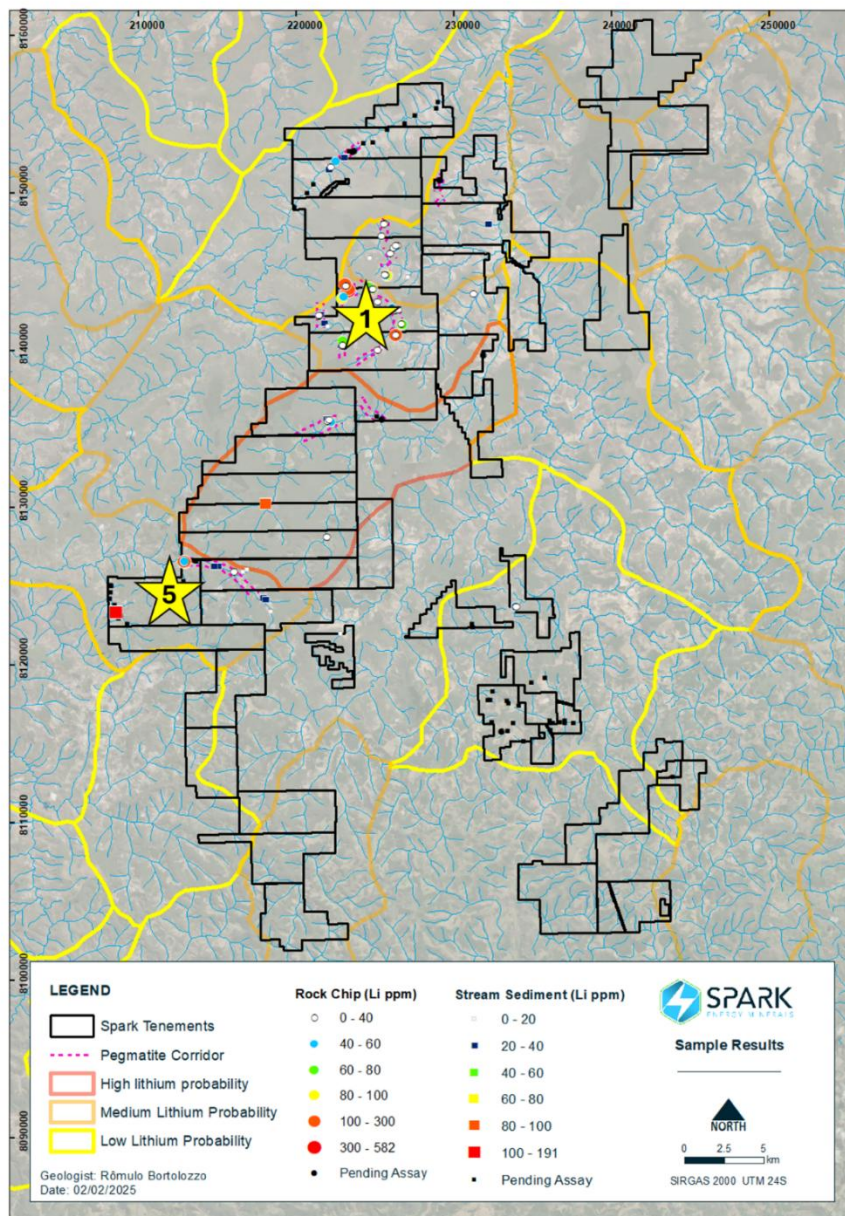


Figure 1: Sample results in rock chip and stream sediment (Li) highlight priority targets 1 and 5

SGS Laboratory in Belo Horizonte, Brazil has released Spark's analytical results for 107 samples (63 rock chips, 35 stream sediments and 9 soil samples) from Spark's initial generative greenfield exploration undertaken across its extensive 64,359-hectare contiguous tenement package in Q4 2024. Rock chip and mineral separate samples were collected from highly weathered and oxidized pegmatitic material at surface, while stream sediment samples were collected from trap sites believed to contain representative material derived from distinct drainage basins prospective for lithium. All samples are sent for low detection multi-element ICP geochemical analysis.

Summary of Spark's analysis of the assay results:

- Anomalous analytical results for lithium and closely associated pathfinder elements in rock chips (up to 582ppm Li) confirm that 21.5km strike of pegmatite trends delineated in Q4 2024 are lithium-bearing and prospective for potentially economic lithium mineralization at depth below the level of surface depletion.
- Targets 1 and 5 continue to remain top priority as the sample results clearly define lithium anomalism along the main pegmatite trends mapped. These two targets will now attract detailed, focused follow-up mapping and sample programs (trenching, pitting, systematic channel sampling of old mining excavations and potentially geophysics) with the aim of generating an initial drilling phase during Q2 2025.
- Positive stream sediment results for lithium (up to 191ppm Li) and associated pathfinder elements Niobium (up to 35ppm Nb), Barium (peak Ba 460ppm), Cesium (up to 31ppm Cs), Magnesium (up to 3,925ppm Mg), Rubidium (up to 437ppm Rb), Tin (up to 17ppm Sn), Titanium (up to 2,492ppm Ti) and Zirconium (up to 169ppm Zr) have highlighted six (6) drainage sub-basins anomalous in lithium for follow-up exploration from results reported to date.
- The stream sediment results also confirm the highest probability drainage basins for lithium as defined by the 2016 and 2024 government reports and fully justify the company's strategy to initially focus exploration in these areas, within the extensive greenfield tenements package supported by Spark's geological interpretation.
- Reconnaissance orientation soil samples from various geological domains across the portfolio reported anomalous lithium (up to 55 ppm Li) and pathfinder elements including Rare Earth Elements (up to 503 total rare earth oxides – TREO), Bismuth (up to 6.3ppm Bi) and Tin (up to 20ppm Sn) and associated enrichment in Gallium (up to 49ppm Ga) and Niobium (up to 46ppm Nb).

- The positive results presented across various sampling mediums (rock chips, stream sediments, and soils) confirm the viability of low detection multi-element geochemistry for exploring the highly weathered – oxidized tropical regolith profiles developed over Spark’s extensive tenement package. The team will continue to evaluate and refine.
- The results presented here have been provided to Sahara Mining Services for independent evaluation as part of their preparation of a NI 43-101 Exploration Report following their site visit in January. The final report is anticipated to be completed by the end of February.
- Exploration continues across the portfolio with over a combined 31km strike of pegmatite trends defined to date associated with ~90 individual pegmatite bodies identified within 11 pegmatite trends. To date over 50 historical artisanal mining areas have been identified within Spark’s tenements.
- Additional samples provisionally identified as weathered spodumene were collected from these old artisanal workings and will be submitted for XRD analysis this week in Belo Horizonte (Previously submitted samples are still awaiting results).

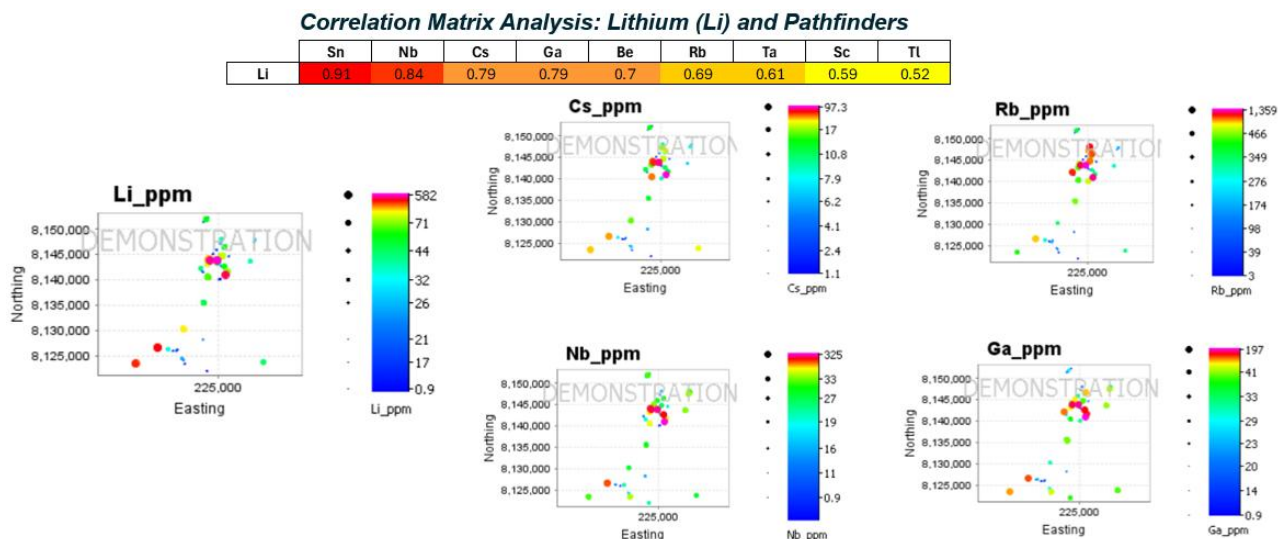


Figure 2: Lithium and pathfinder elements correlation and variable maps

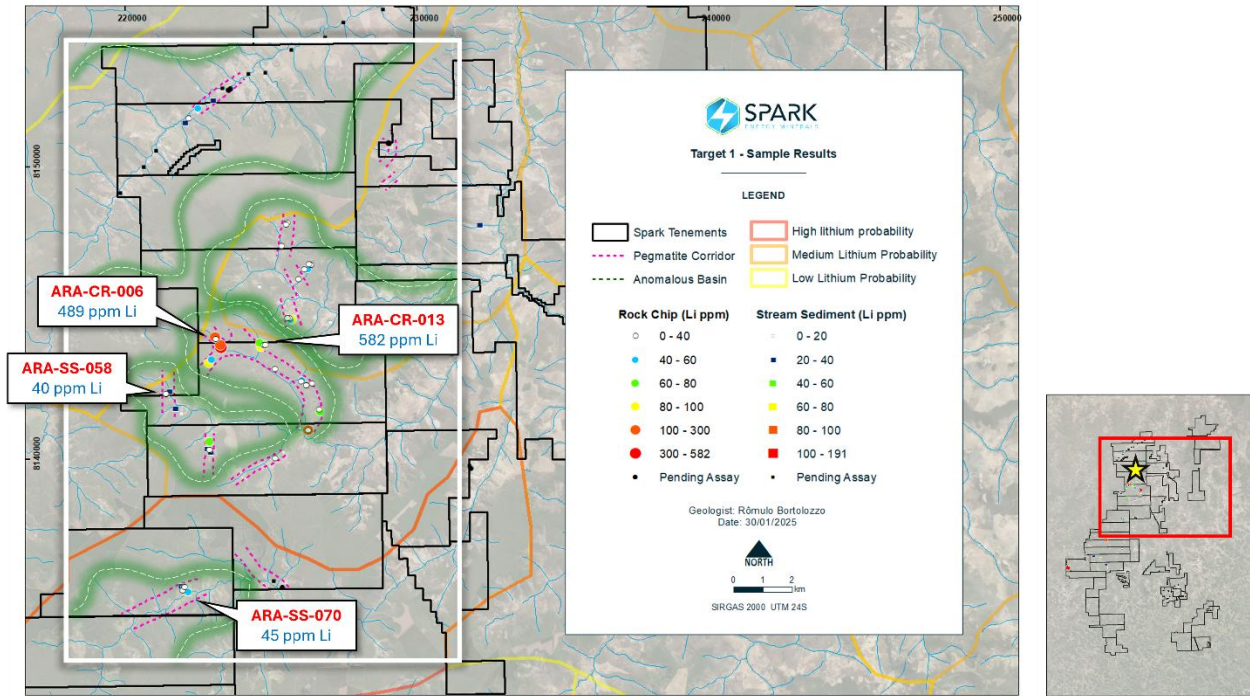


Figure 3: Target 1 showing location of mapped pegmatite trend now confirmed by positive lithium analytical results

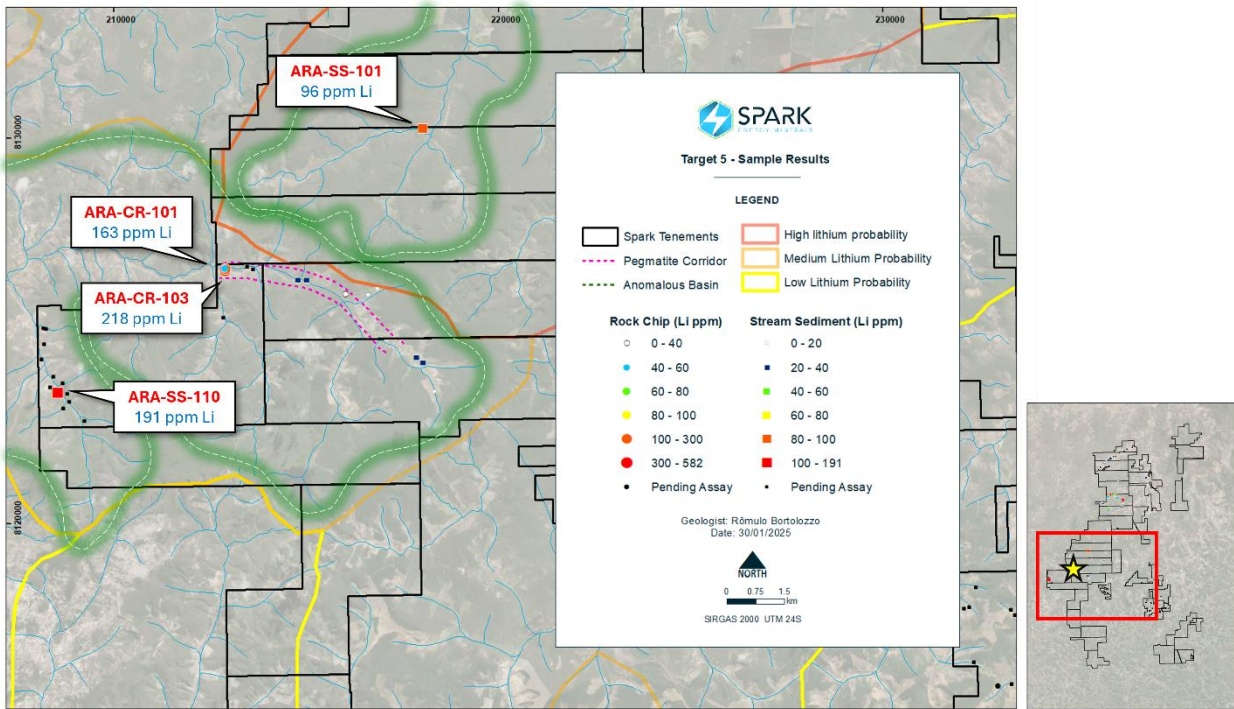


Figure 4: Target 5 showing location of mapped pegmatite trend now confirmed by positive lithium analytical results

Lithium concentrations in tropical weathered systems:

There are many examples from the nearby Lithium Valley and elsewhere globally whereby relatively low tenure lithium sampling results from samples collected from oxidized and leached surface pegmatite samples (lower tenure but still above detection, and highly anomalous relative to background crustal abundances) have been found to reflect significantly higher grade, potentially economic, lithium mineralization hosted by these pegmatites at depth.

In addition to low tenure but anomalous lithium values there are several other geochemical characteristics in the initial data to highlight. These include Potassium / Rubidium (K/Rb) ratios reflecting melt fractionation at levels consistent with the evolved melts required for lithium pegmatite formation, very high correlation between lithium and niobium, highly anomalous Tin, Tantalum, Gallium, and Niobium, a low Tantalum / Niobium ratio which is important in identifying spodumene rich pegmatites, soil samples are enriched in Gallium, Niobium, Bismuth and Tin.



Figure 5: The Spark Geological Team sampling a weathered pegmatite and related regolith profile at one of the 54 old pegmatite focused mining excavations encountered within Sparks extensive exploration package in the Lithium Valley

Arapaima Lithium Project Highlights:

- Spark Energy's **64,359-hectare** land package runs parallel to **Sigma Lithium**, Brazil's largest lithium company with a market cap of **~C\$2 billion** and sits only **15km away** at the closest point.
- **65%** of the extensive tenement package **remains to be explored**, underscoring the potential as new pegmatite corridors continue to be uncovered.
- Total combined pegmatite trend inventory contains **11 pegmatite trends with 90 individual pegmatites** mapped over a combined strike length of **31km**.
- To date, **54 historical artisanal mining excavations** have been identified and mapped by Spark's geological team. These areas are all focused on pegmatite occurrences with evidence for prior exploitation of gemstones (topaz, aquamarine – beryl), feldspar, quartz and tourmaline.
- Moving into February, the exploration program and strategy will include detailed follow up of anomalous analytical results in the priority areas as well as continued investigation of the remainder of the Arapaima Lithium Project.

Eugene Hodgson, CEO of Spark Energy Minerals, stated: *"The confirmation of lithium-bearing pegmatites across a combined 21.5-kilometer strike at our Arapaima Lithium Project is a transformative milestone for Spark Energy Minerals. These results not only validate our geological model but also underscore the immense potential across our suite of tenements. The strong correlation of lithium with key pathfinder elements, coupled with the widespread evidence of historical artisanal mining activity in the area, provides us with a clear roadmap for advancing exploration and defining high-priority drill targets. As we move forward, we remain committed to unlocking the full potential of Arapaima, leveraging our team's expertise and the project's strategic location in Brazil's Lithium Valley. This is a pivotal moment for Spark, and we are excited to continue delivering value to our shareholders as we progress toward our goal of becoming a key player in the battery metals sector."*

QA/QC Protocols

Spark maintained full chain-of-custody control from sampling through to laboratory delivery ensuring the reliability of the assay results. SGS Laboratory used QAQC protocols for blanks, standards and duplicates, the results of which are reported alongside the completed analysis.

For the full list of results for the 107 sample assays please click [here](#).

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.

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FOR ADDITIONAL INFORMATION, SEE THE COMPANY'S WEBSITE AT

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