



## Spark Energy Further Validates the Combined 21.5km Pegmatite Trend at Arapaima Lithium Project in Brazil

VANCOUVER, BC / February 14, 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 results returned from SGS Laboratory from an additional 16 samples collected from the Company's flagship Arapaima Lithium Project in Minas Gerais, Brazil.

**Jon Hill, Director of Spark Energy Minerals commented:** *"These additional 16 samples for which results are published today were taken as part of our ongoing, focused stream sediment follow up work in key target drainage basins in areas that are particularly important for increasing our evolving geological understanding of the property to date. Sample results continue to provide lithium and pathfinder element values which, when considering the effects of weathering, oxidation and leaching close to surface continue to provide evidence of potentially economic lithium mineralization associated with fresh bedrock below, a feature common throughout the Lithium Valley. The 56 samples that have not yet been published, but which we expect results shortly, have the potential to extend the already confirmed 21.5 strike km of lithium anomalism defined so far. The company is systematically moving towards identifying targets for drill testing as soon as the second quarter of 2025 whilst positioning for the rapid expansion of exploration activities aimed at advancing its growing, but already impressive portfolio of targets."*

### **Arapaima Lithium Project Exploration Highlights to Date Include:**

- To date, 109 individual pegmatite occurrences have been mapped within 11 pegmatite **trends over >31km strike**
- Lithium **Targets 1 and 5 remain top priority**
- Spark continues to progress exploration across Arapaima's tenements, now armed with **positive analytical results** for lithium and pathfinder elements.
- ~329 geological observations have been recorded and over 250 samples (rock-chip, stream sediment and soils) have been collected to date for multi-element geochemical analysis.

- 59, old artisanal – Garimpo mine workings with **associated pegmatite occurrences** (open pits and underground) have been identified and recorded for follow up mapping and sampling.
- Multi-element geochemical results have been reported for a total of 123 samples to date with results for a further **56 samples** (6 rock chips, 26 stream sediment samples and 24 soil samples) are due to be reported imminently
- Additional samples collected in February are currently on route to the laboratory.
- Analysis of the current results are ongoing, including the calculation and evaluation of the K/Rb ratio (potassium and rubidium) from rock chip samples which is a strong indicator of magmatic differentiation and is an important proxy for lithium in spodumene rich pegmatites.
- The team continued systematic soil sampling in the southeastern tenements, near the high-grade gallium and TREO intercepts from Axel REE.

### Recently Reported Rock Chip and Steam Sediment Analytical Results

Analytical results for a further 16 samples (2 rock chips and 14 stream sediment) were reported recently by the SGS laboratory. The stream sediment results from the Target 1 and Target 5 areas are **again positive with anomalous lithium and associated pathfinder elements**. The latest results for lithium and related pathfinder elements are presented below in table 1.

Sample ID	Be (ppm)	Cs (ppm)	Ga (ppm)	Li (ppm)	Nb (ppm)	Rb (ppm)	Sc (ppm)	Sn (ppm)	Sr (ppm)	Ta (ppm)	Tl (ppm)
ARA-CR-088	<5	10,8	36	21	17	388	<5	9	100	<10	2
ARA-CR-084	<5	11,5	62	20	14	247	8	12	53	<10	1,3
ARA-SS-121	6	22,9	31	142	24	271	<5	15	117	<10	2,3
ARA-SS-116	<5	27,2	36	111	26	252	6	15	59	<10	2,1
ARA-SS-120	<5	23,8	30	94	23	241	6	16	75	<10	1,7
ARA-SS-118	<5	16	24	89	23	232	<5	11	69	<10	1,7
ARA-SS-122	5	18,4	47	89	41	370	5	16	56	<10	2,4
ARA-SS-111	6	17,9	46	83	27	182	6	13	51	<10	2
ARA-SS-117	6	10,9	17	83	19	199	<5	7	96	<10	1,6
ARA-SS-113	<5	14,4	28	80	19	244	<5	10	100	<10	1,8
ARA-SS-115	<5	11,6	18	80	14	186	<5	7	92	<10	1,3
ARA-SS-119	<5	15,1	23	68	18	157	<5	11	59	<10	1,1
ARA-SS-114	<5	7,7	13	62	<10	147	<5	5	50	<10	1
ARA-SS-077	<5	13,2	42	46	32	357	6	7	82	<10	2,8
ARA-SS-112	<5	7,4	13	46	<10	153	<5	6	75	<10	1
ARA-SS-123	<5	14,9	48	34	41	184	8	10	50	<10	1,7

*Table 1: Analytical results for lithium and associated pathfinder elements for 2 rock chip samples (CR-088 and 084) and 14 stream sediment samples. The stream sediment samples show anomalous levels of lithium and pathfinder elements, specifically cesium, gallium, niobium, tin and rubidium which confirms the prior results disclosure.*

### Target 1

Within Target 1, stream sediment sample ARA-SS-077 reports **46 ppm Li** and **357 ppm Rb**, which, in exploratory terms, is a geochemical signature potentially associated with a highly

evolved pegmatite. Here the Li content of the pegmatite has been mostly leached by supergene processes, but retaining trace amounts, most likely associated with more weathering resistant minerals like muscovite. This sample result does confirm the positive results previously reported from this sub-basin in this Target Area.

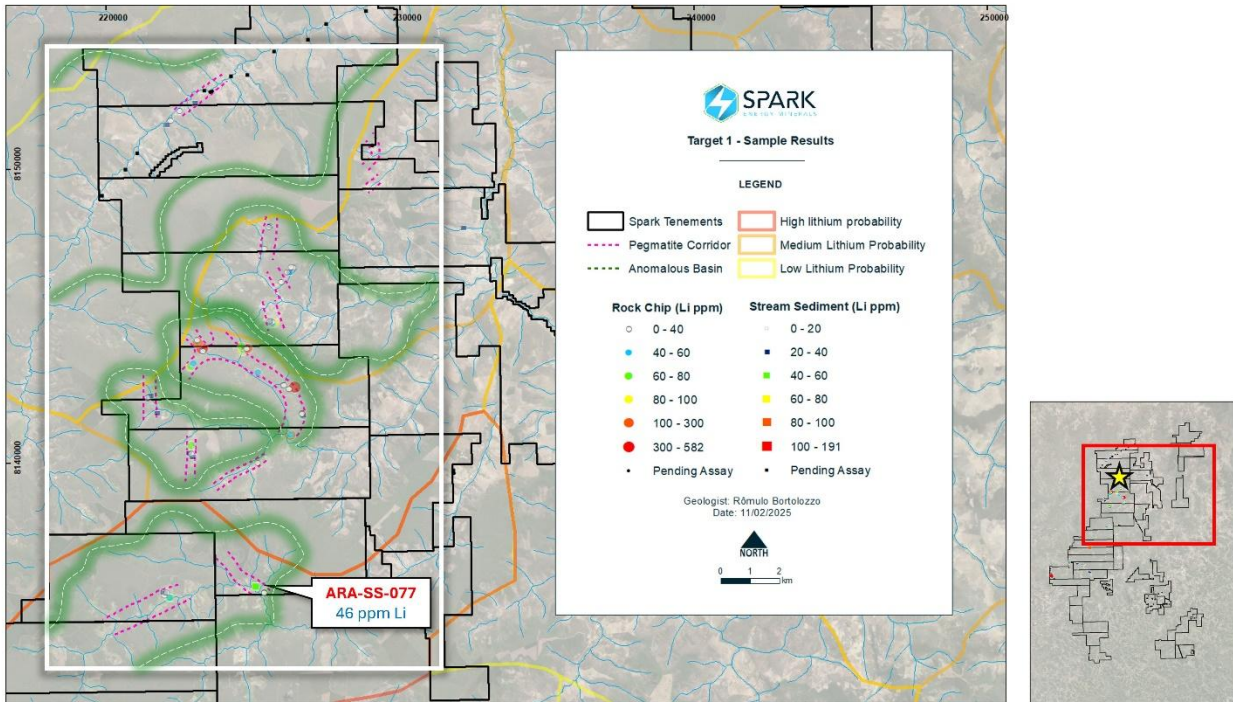


Figure 1: Target 1 showing location of mapped pegmatite trend now confirmed by positive lithium analytical results in rock chips and stream sediment samples.

## Target 5

Samples ARA-SS-121 and ARA-SS-116 report stream sediment values of **142 ppm Li** and **271 ppm Rb**, and **111 ppm Li** and **252 ppm Rb** respectively, which reinforces the lithium potential in the previously identified sub-basins in this area. Additionally, these samples cluster with consistent values **above 80 ppm Li** suggesting that a proximal lithium bearing pegmatite source is considered probable.

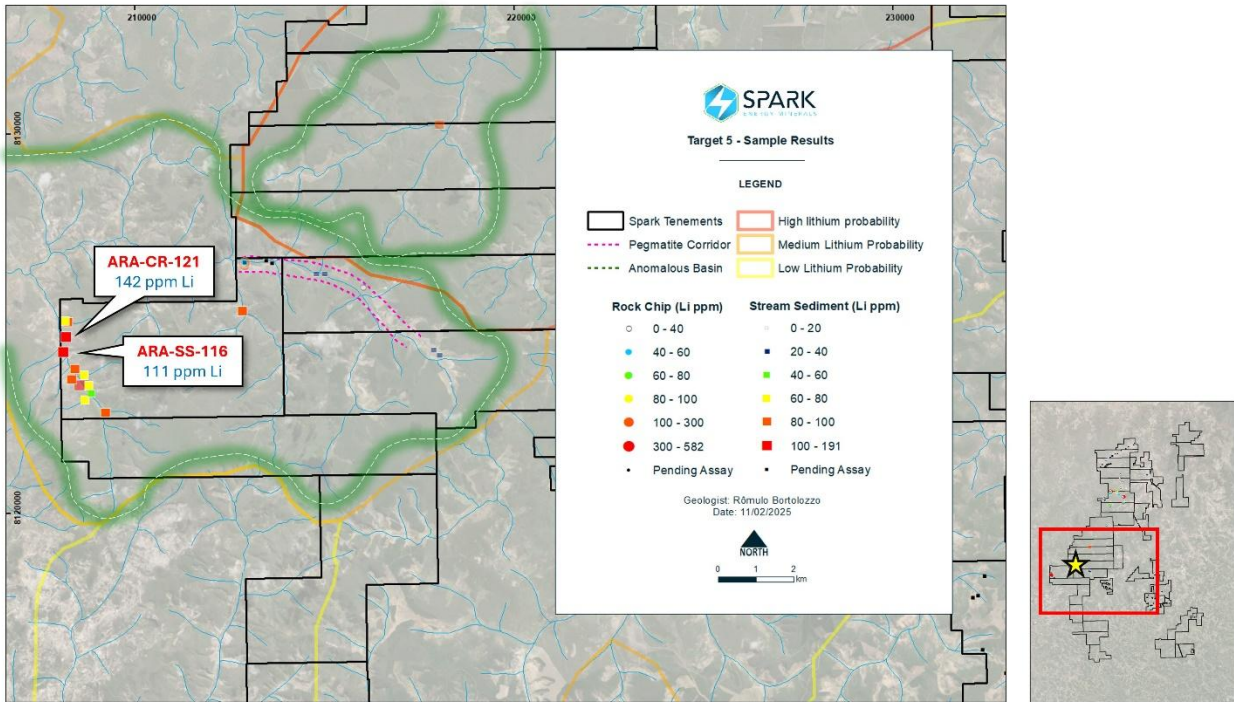


Figure 2: Target 5 showing location of mapped pegmatite trend now confirmed by positive lithium analytical results in rock chips and stream sediment samples.

### Old Artisanal – Garimpo Mine Workings

The 59 old artisanal – garimpo workings associated with pegmatite occurrences and newly defined pegmatite trends have been identified and recorded to date within Spark’s tenements. These areas have been exploited previously for several commodities, especially precious stones like tourmaline, aquamarine and beryl along with quartz and feldspar. Focused sampling and geological mapping of these workings is ongoing with the aim of characterizing the pegmatites and their potential for lithium.

The Spark team, under the tutelage of consulting geologist and mountaineer Dan Hamer, conducted a reconnaissance sampling program on a weathered pegmatite previously mined manually for beryl near the community of Cruzeta within Spark’s tenements. Inset is a less weathered mineral, tentatively **identified as spodumene** that was collected for analysis from within the highly weathered pegmatites associated with quartz, tourmaline and muscovite (see Figure 3 below).





*Figure 3: Consulting geologist and mountaineer Dan Hamer conducted a reconnaissance sampling program at a historical artisanal mine near the community of Cruzeta within Sparks tenements.*

### **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.

**Eugene Hodgson, CEO & Director of Spark Energy Minerals commented:** *“We are pleased to announce the continued progress at the Arapaima Lithium Project, which further validates the potential of the combined 21.5km pegmatite trend. The recent positive analytical results confirm anomalous Li mineralization across our tenements, and we are excited by the growing evidence of an extended lithium-bearing system. As we move towards drill testing in 2025, we remain committed to advancing this high-potential project and expanding our exploration activities, with the ultimate goal of positioning Spark Energy Minerals at the forefront of the global energy transition.”*

### **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.

### **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 and a director of Spark Energy Minerals Inc.

### **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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Certain statements contained in this release may constitute "forward-looking statements" or "forward-looking information" (collectively "forward-looking information") as those terms are used in the Private Securities Litigation Reform Act of 1995 and similar Canadian laws. These statements relate to future events or future performance. The use of any of the words "could," "intend," "expect," "believe," "will," "projected," "estimated", "anticipates" and similar expressions and statements relating to matters that are not historical facts are intended to identify forward-looking information and are based on the Company's current belief or assumptions as to the outcome and timing of such future events. Actual future results may differ materially. In particular, this release contains forward-looking information relating to the business of the Company, the Property, financing and certain corporate changes. In addition, it should be noted that rock, soil and stream sediment samples are inherently selective samples and may not represent the true underlying mineralization. The forward-looking information contained in this release is made as of the date hereof, and the Company is not obligated to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, except as required by applicable securities laws.