TYRANNA RESOURCES LTD

ASX ANNOUNCEMENT

2 March 2023

ASX:TYX

Issued Capital

2,405,425,325 shares
576,935,342 @ 0.01 options
1,000,000 @ 0.075 options
1,000,000 @ 0.10 options
700,000,000 performance shares

Directors

Joe Graziano
Paul Williams
Peter Spitalny
David Wheeler

Company Secretary

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About Tyranna Resources Ltd

TYX is an Australian ASX Listed explorer focused on discovery and development of battery and critical minerals in Australia and Overseas.

It owns 80% of a 207km^2 lithium exploration project in the emerging Giraul pegmatite field located east of Namibe, Angola, Africa. It further holds potential nickel and gold tenements primarily in Western Australia.

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Investigating the untested potential of the Namibe Lithium Project

Highlights

- > **5 large regions of the project to be accessed for immediate inspection and sampling utilising a contracted helicopter**
- > **Numerous high-priority pegmatite targets are present within each region**
- > **The pegmatite targets were defined through interpretation of re-processed spectral data from satellite imagery**
- > **All the targets have similar spectral characteristics to pegmatites known to contain lithium minerals**
- > **Discovering additional drill-targets in tandem with drilling established targets will be the focus of fieldwork in 2023**

Tyranna Resources Ltd (ASX: TYX) is expanding its activities to investigate the far corners of the Namibe Lithium Project area. There are 5 regions as shown in figure 1 that require immediate investigation. These regions are unexplored and contain a significant number of pegmatites where there is a very high potential to discover lithium mineralisation.

Investigating the broader reaches of the project is an important and essential step forward in developing the full potential of the project, through identification of additional drilling targets and ultimately discovery of all the lithium deposits within the project.

Tyranna Technical Director, Peter Spitalny, commented: *"We are very excited to have identified a new targeting method that has allowed us to clearly identify potential targets. Use of a helicopter will allow us to inspect and sample some intriguing pegmatites which have never been explored. I am looking forward to discovering additional lithium mineralisation as we unlock more of the potential of this project!"*

Where we will inspect and sample

The main areas that will be focussed upon are displayed in Figure 1. These five areas (A – E) are not currently accessible by four-wheel-drive vehicles.

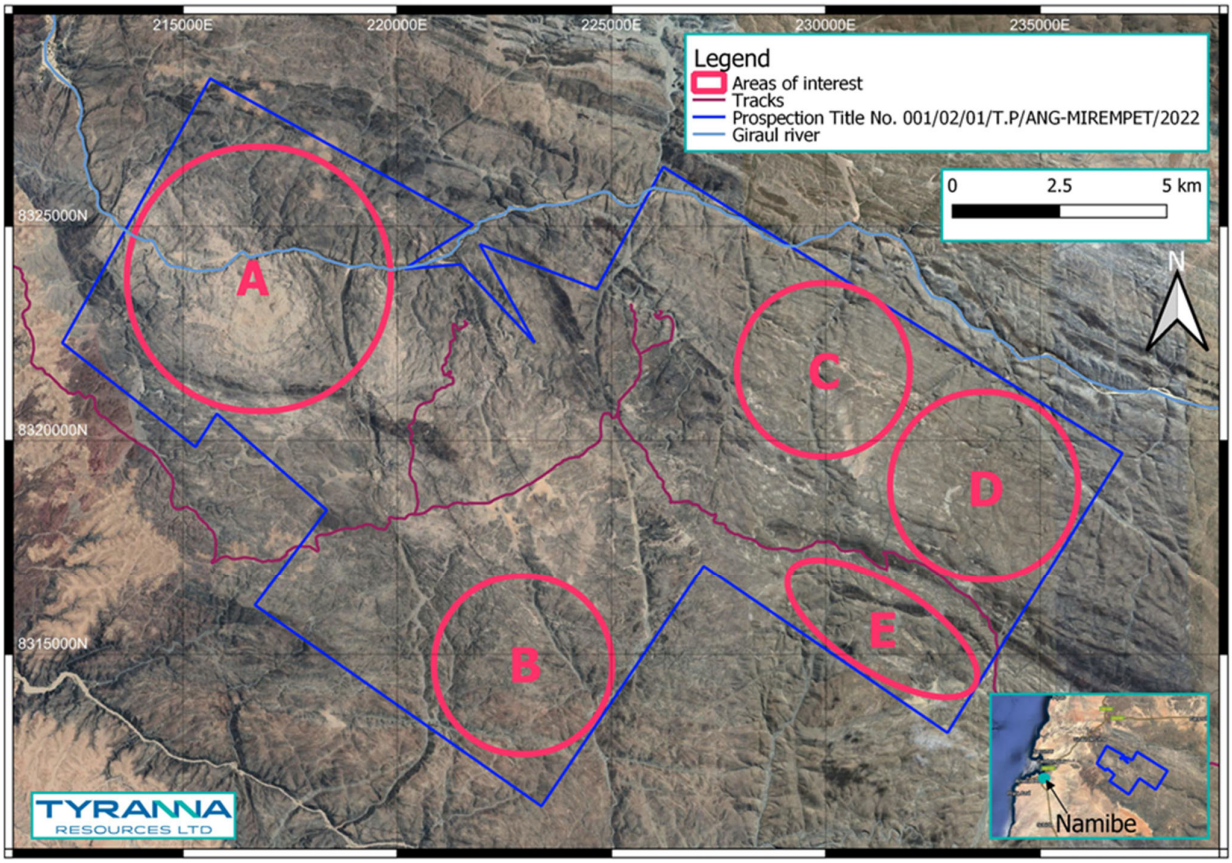

Figure 1: Schematic representation of the five main areas to be inspected

Within each of these 5 main areas, or immediately adjacent to the depicted circles indicating the approximate areas, there are numerous pegmatites that will be inspected, and sampled.

Target selection method

The Namibe Lithium Project covers an area of 207sq km in which there is a very large number of pegmatites, the vast majority of which have never been inspected or sampled by modern exploration techniques. The Company has narrowed down its search focus through spectral analysis to determine the most effective way to identify lithium bearing pegmatites.

In many exploration projects there are exploration methods that can be used to identify the most prospective targets so that drill-targets can be generated in a more-rapid and cost-effective manner, including various geophysical methods or stream-sediment sampling. **Unfortunately, typical geophysical methods and stream-sediment sampling will not be effective for identifying or ranking prospects in the Namibe Lithium Project.** A more detailed discussion of exploration strategies in target generation is attached as Appendix 1.

Fortunately, the Namibe Lithium Project is located in an arid, barren rocky terrain in which the pegmatites are generally very well exposed and are clearly visible on aerial photographs or satellite imagery, so the locations of pegmatites are known. Also, the exposure of the pegmatites at surface, unobstructed by deep soil or lush vegetation, results in satellites being able to record the spectra (including visible light and infra-red radiation) being reflected or emitted from the pegmatites.

Tyranna commissioned respected industry expert Dr. Neil Pendock, a respected expert in the field of remote sensing, to undertake a multi-spectrum remote spectroscopy study utilizing Visible, near-infrared and shortwave-infrared (VNIRSWIR) spectroscopy over the licence area. Satellite imagery sourced from the Sentinel 2 and Aster satellites was analysed and the data were reprocessed, leading to the creation of a range of maps that reveal differences in rock-types within the project.

Among the maps produced, some consistently display anomalies corresponding to known lithium-bearing pegmatites, and while some display more "noise" (non-pegmatite anomalies) than others, the consistent accurate depiction of the lithium-bearing pegmatites inspires confidence in the reliability of the method.

The map that depicts the known lithium pegmatites, and other pegmatites in general with the most accuracy and least "noise" is one displaying concentration of hydrogen emission. In particular, all those pegmatites in which lithium mineralisation is definitely present, proven by sampling, clearly "light-up" (emit an anomalously high amount of hydrogen) in contrast to pegmatites where sampling has confirmed that the pegmatite has little potential as a lithium source (Figure 2). Details about this targeting method are attached as Appendix 2.

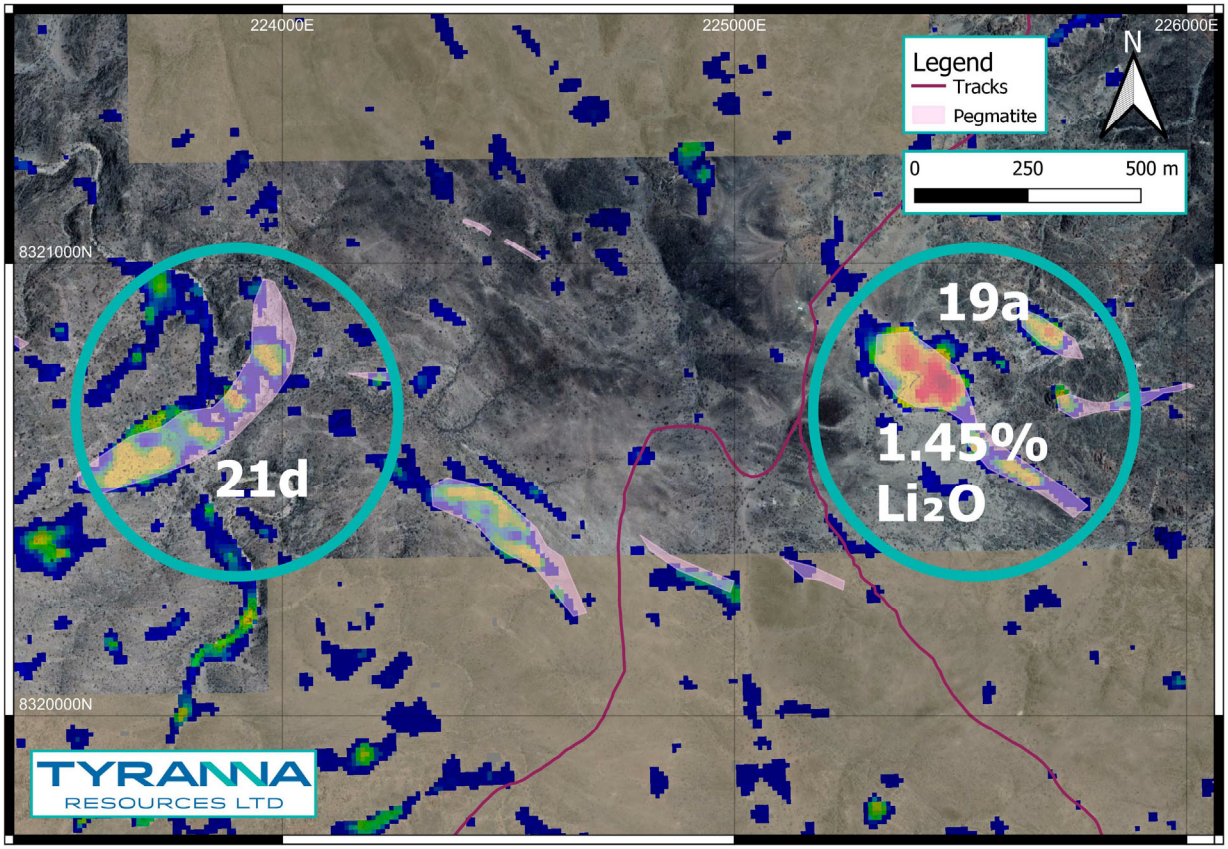

Figure 2: Example of image created from spectral data processing

Note the strong anomalism, indicated by "hot" colours of the 19a pegmatite, where Li minerals are visible and strong Li anomalism is confirmed by assay, in contrast to the "cool" colours of the 21d pegmatite, where no Li minerals are present, and assays reveal only weak Li anomalism.

Although every pegmatite in which lithium minerals have been proven to be present "light-up," it is possible that some targets may "look better than they are" while other more subtle targets may be "better than they look" and physical inspection and sampling, i.e., "ground-truthing" is required for each target.

A complete day will be allocated to each of the 5 areas to be inspected, with 5 to 8 targets to be inspected and sampled in each area.

Target inspection and sampling method

A helicopter will be used to enable rapid inspection of a large number of targets in a 5-day period. The helicopter will allow access directly to the pegmatite to be inspected, and after inspection and sampling, fly directly to the next target, achieving in one day what would take at least a week if the inspection and sampling was completed on-foot.

At each target, the following procedures will be implemented:

- Brief inspection, looking for lithium minerals or looking for minerals that are known to correlate highly with lithium mineralisation in the Giraul Pegmatite Field
- Sampling of lithium mineralisation if present
- Sampling of microcline or muscovite (or both) if lithium minerals are not obvious
- Sampling of gravelly soil cover of pegmatites in which outcrop is obscured.

Additional details about sampling are discussed in Appendix 1.

Other field activities

Along with the airborne sampling, access and drill-site inspections will be completed by drilling contractor personnel and civil engineering personnel so that all access and drill-site requirements can be verified. It is intended that work on upgrading and extending the access track, along with drill-site preparation, will commence in early April to permit drilling to commence in May or June.

Next steps

As mentioned in the previous announcement, results from the metallurgical testing of a bulk sample are expected in the next 3 or 4 weeks and will be reported as soon as possible.

Planning of the next drilling campaign is well advanced and a commencement of drilling in May is assumed.

Efforts will be maintained to continue to increase Tyranna's presence in Angola. This is essential to ensure that operations run efficiently, and longer term planned expansion of the scale of exploration activities can be supported and sustained. As part of this process, a number of key management, administrative and field operatives have been secured and growth of the Angolan team will be continued.

Authorised by the Board of Tyranna Resources Ltd
Joe Graziano
Chairman

Competent Person's Statement

The information in this report that relates to exploration results for the Namibe Lithium Project is based on, and fairly represents, information and supporting geological information and documentation that has been compiled by Mr Peter Spitalny who is a Fellow of the AusIMM. Mr Spitalny is employed by Han-Ree Holdings Pty Ltd, through which he provides his services to Tyranna as an Executive Director; he is a shareholder of the company. Mr Spitalny has more than five years relevant experience in the exploration of pegmatites and qualifies as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code). Mr Spitalny consents to the inclusion of the information in this report in the form and context in which it appears.

Forward Looking Statement

This announcement may contain some references to forecasts, estimates, assumptions, and other forward-looking statements. Although the company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions, it can give no assurance that they will be achieved. They may be affected by a variety of variables and changes in underlying assumptions that are subject to risk factors associated with the nature of the business, which could cause actual results to differ materially from those expressed herein. All references to dollars ($) and cents in this presentation are to Australian currency, unless otherwise stated. Investors should make and rely upon their own enquires and assessments before deciding to acquire or deal in the Company's securities.

Appendix 1: Exploration methods for Li-pegmatites

a) Finding Pegmatites

In arid, well-exposed terrains such as the Namibe Lithium Project, pegmatites are clearly visible on aerial or satellite imagery, so finding the pegmatites is not difficult and is achieved through careful inspection and interpretation of imagery. Verification can be achieved through inspection of radiometric imagery displaying radiation emitted from potassium (K), as all pegmatites contain some K-bearing minerals, principally microcline (a variety of potassium feldspar) and muscovite (potassium mica).

Except for very unusual specific cases, most geophysical exploration methods will not be effective:

- Magnetic surveys: pegmatites are not magnetic. Sometimes their lack of magnetic response can create a magnetic low anomaly but it is usually indistinct.
- Conductivity surveys: pegmatites are not conductive. Methods such as EM, IP and variants of them used to explore for sulphide-based mineralisation, which is highly conductive, will not work. If instead attention is given to resistivity, it is also ineffective due to lack of contrast with the host-rocks.
- Gravity surveys: usually lack sufficient resolution to reveal pegmatites or distinguish them from the host-rocks containing the pegmatites.
- Radiometric surveys: LCT pegmatites are generally not enriched in thorium (Th) and uranium (U), so they will not be distinct on images of the Th or U channels. As mentioned, pegmatites are enriched in K so will be revealed on images of the K channel, which may be useful.

In well-vegetated regions, pegmatites may occur as elevated topography, due to greater resistance to weathering and erosion than other rocks. In this situation, pegmatites may be found through following boulder trails from stream beds upslope to the source of the boulders. Alternatively, mineral specimens in a stream bed may be traced to their source pegmatite.

In well-vegetation regions of subdued relief, with little outcrop and commonly extensive weathering, the presence of pegmatites may be revealed through soil sampling.

b) Generating targets in a pegmatite field

A large pegmatite field will contain a large number of pegmatites. Systematically inspecting and sampling every pegmatite may be too time-consuming and expensive. Exploration efficiency is greatly improved if a method can be employed that allows the pegmatites having most potential to contain Li mineralisation to be recognised and given priority.

In large areas in which outcrop is poor and the terrain is flat or nearly so, and the soil is in-situ (i.e., derived from underlying rocks) rather than transported (e.g., in a flood-plain), then systematic soil sampling is effective.

In large areas with undulating terrain, experiencing a reasonably wet climate, stream-sediment sampling can be used to identify anomalous elevated concentrations of key elements in drainage sub-basins, which can then lead to identification of anomalous source regions for follow-up investigation.

Unfortunately, within the Namibe Lithium Project, neither systematic regional soil sampling nor stream-sediment sampling is an effective strategy.

Implementing a regional soil sampling program covering the entire project would be a formidable task. Although reducing sampling density would make it easier, it is likely that the scale of reduction needed to give a real gain would result in sampling being too wide-spaced to be reliable.

Stream-sediment sampling was considered but inspection of drainage channels led to its rejection. Although the Namibe Lithium Project contains well-developed, deeply incised drainage, this is a palaeodrainage that formed many millions of years ago during a time when the region experienced substantial rainfall. At present, the region is extremely arid, with the average annual rainfall at Namibe being only 50mm. The result of this is that the stream beds, which are usually located in valleys having very steep walls, are choked by scree shed from the adjacent valley walls. Locating suitable sampling points is difficult and retrieving a reliable sample from the stream bed

requires a lot of work. Optimising the sampling would require considerable prior work through completion of orientation surveys and the outcome is likely to be unfavourable as the sampling method is not a good match to the setting and target mineralisation.

Although the present arid climate has greatly impeded the applicability of stream-sediment sampling as means to generate targets and thus prioritise efforts, the arid climate results in a lack of vegetation and a barren rocky terrain in which the pegmatites are clearly visible. Satellites are able to detect and measure the various portions of the Electromagnetic Spectrum (including visible light and infra-red radiation) being reflected or emitted from the pegmatites.

Re-processing the satellite imagery data allows maps to be created that reveal differences in rock-types and it has been possible to process the data sufficiently to produce a map in which differences between pegmatites is visible. Spectral Analysis is an advanced remote-sensing geophysical exploration method.

Tyranna is utilising this Spectral Analysis method to identify pegmatites having potential to contain Li mineralisation within the remote, unexplored parts of the Namibe Lithium Project.

Details about this targeting method are attached as Appendix 2.

c) Determining Li-potential of individual pegmatite targets

Rock-chip sampling

Rock-chip sampling is an important evaluation method for determining the lithium mineralisation nature or potential of a pegmatite because it provides direct evidence of the composition of a pegmatite and if only outcrop is sampled, the provenance of the sample is unambiguous.

The lithium potential may evident directly, or indirectly.

i. **Direct evidence,** is the verified presence of lithium enrichment (including potentially verifying mineral species), achieved through assay results of samples. Direct verification is easily attained for pegmatites that are well exposed and in which lithium mineralisation outcrops.

Some Li mineral species can be difficult to recognise (e.g., eucryptite, amblygonite-montebrasite), and sometimes spodumene can occur in forms that can be difficult to recognise (e.g., the re-crystallised deformed granular spodumene or acicular crystals having a uni-directional growth texture reminiscent of common graphic granite). However, those pegmatites that are well-exposed, having a large outcrops of relatively unweathered rock usually display recognisable evidence of Li enrichment if they are indeed Li enriched, including:

> Obvious presence of Li minerals

> Presence of pink staining caused by Li-enriched clays

> Presence of various “exotic” minerals*

*In the Giraul pegmatite Field, the 3 spodumene-bearing pegmatites known thus far, apart from containing recognisable large spodumene crystals also all contain the cleavelandite variety of albite feldspar, which has a very distinctive appearance, and the elbaite variety of tourmaline, most commonly being green.

> Presence of unusual textures not seen in typical granite

Sampling of well-exposed pegmatites in which Li mineral species are recognised, or strongly suspected, includes collection of samples that contain these minerals of interest to verify that Li is indeed present. In finer-grained rock, these samples are likely to be comprised of a mixture of minerals. However, in very coarse-grained pegmatites containing giant crystals, a sample may be a fragment of a giant crystal, yielding a monomineralic specimen. This can also occur in some instances where residual in-situ giant spodumene crystals occur surrounded by weathered material derived from the matrix that formerly enclosed them.

In all cases, the type of samples collected will be dictated by the nature of the outcrops at each sampling location, along with practical limitations in the actual collection of the sample in a time and cost-effective manner. They represent the Li mineralisation present at the sampling point and collectively provide a guide to the Li mineralisation within the pegmatite but considered in isolation are not representative of the extent or tenor of the Li mineralisation of the entire pegmatite.

ii. **Indirect evidence,** through determination of fractionation indices (e.g. the Potassium:Rubidium ratio, K:Rb) derived from the assay results of microcline or muscovite samples.

It is not uncommon for pegmatites to be only partly exposed, for example, a few small rubbly outcrops comprised mainly of quartz, feldspar, and muscovite, surrounded by a broad area of gravelly pegmatite fragments and coarse gritty soil.

In this situation, the presence and extent of the pegmatite is able to be recognised, but clearly the majority of the pegmatite is not visible, so a lack of obvious Li minerals in the very limited outcrop does not necessarily mean that the pegmatite is not Li enriched, as Li-bearing portions may not be exposed.

The Li-mineralisation potential of these poorly exposed pegmatites can be inferred through careful sampling of microcline (a variety of potassium (K) feldspar) or muscovite (potassium mica) or both.

The principle is based upon Li-enriched pegmatites being very highly "evolved" and the processes that create them also lead to great increases in concentration of Rb, along with several other elements. As the concentration of Rb increases, it becomes increasingly incorporated into microcline or muscovite, partly replacing K, leading to decrease in K but increase in Rb. Therefore, the K:Rb ratio indicates how evolved the pegmatite is, with highly evolved pegmatites containing Li minerals.

As an approximation:

> K:Rb between 30 and 40; some Li mineralisation is likely although perhaps not abundant.

> K:Rb ratio 20 or less; the pegmatite is certain to contain a significant proportion of Li minerals.

Additional supporting evidence includes concentrations of Caesium (Cs) along with Tantalum (Ta) and Tin (Sn), which are especially associated with muscovite.

Soil sampling

For those pegmatites that are almost entirely covered by gravel and soil derived from the underlying pegmatite, the best evaluation method is to collect a number of soil samples from different locations along the trend of gravel and soil covered pegmatite.

This type of soil sampling differs from the systematic soil sampling that is done to find targets. In this case, the target location is established but what is required is identification of Li enrichment. If the soil is enriched in Li and other associated elements, then the pegmatite the soils are derived from is also Li-enriched. To achieve this goal, a geometric sampling grid and large number of samples covering the entire pegmatite and its surrounds is not required.

Interpretation of the assay results of the soil samples is more complicated than interpretation of assay results from rocks because of weathering effects upon the soil but high concentrations of Li, Cs, Rb and Ta are indicative of a Li-enriched pegmatite.

d) Summary of Sampling completed to-date

Broad regional mapping, along with prospect-scale mapping has been completed by Tyranna, with the methodology described in a previous announcement (*"Namibe Lithium Project Exploration Update"* 1/08/2022) and leading to recognition of more 800 pegmatites in the Namibe Lithium Project that are 100m long or larger. In fact, the number is likely to exceed 1000 because some pegmatites, e.g., those on steep, shadowed valley walls, appear smaller than they are and were difficult to recognise and plot.

Despite the large number of pegmatites, the region is largely unexplored, and the minor amount of historical work completed within the Namibe Lithium Project has all been at sites reached by access tracks. This represents a very small component of the project.

In 2021 and 2022 rock-chip sampling was completed at 17 sites, reported in previous announcements ("*Confirmation of high-grade assays from Namibe Lithium Project*" 30/05/2022, and "*Further outstanding results from Namibe Lithium Project*" 22/08/2022). These sites were those able to be reached by vehicle or by walking typically 2km or less (Figure A1), and the vast majority of the project area, and 98% of the pegmatites have not yet been sampled.

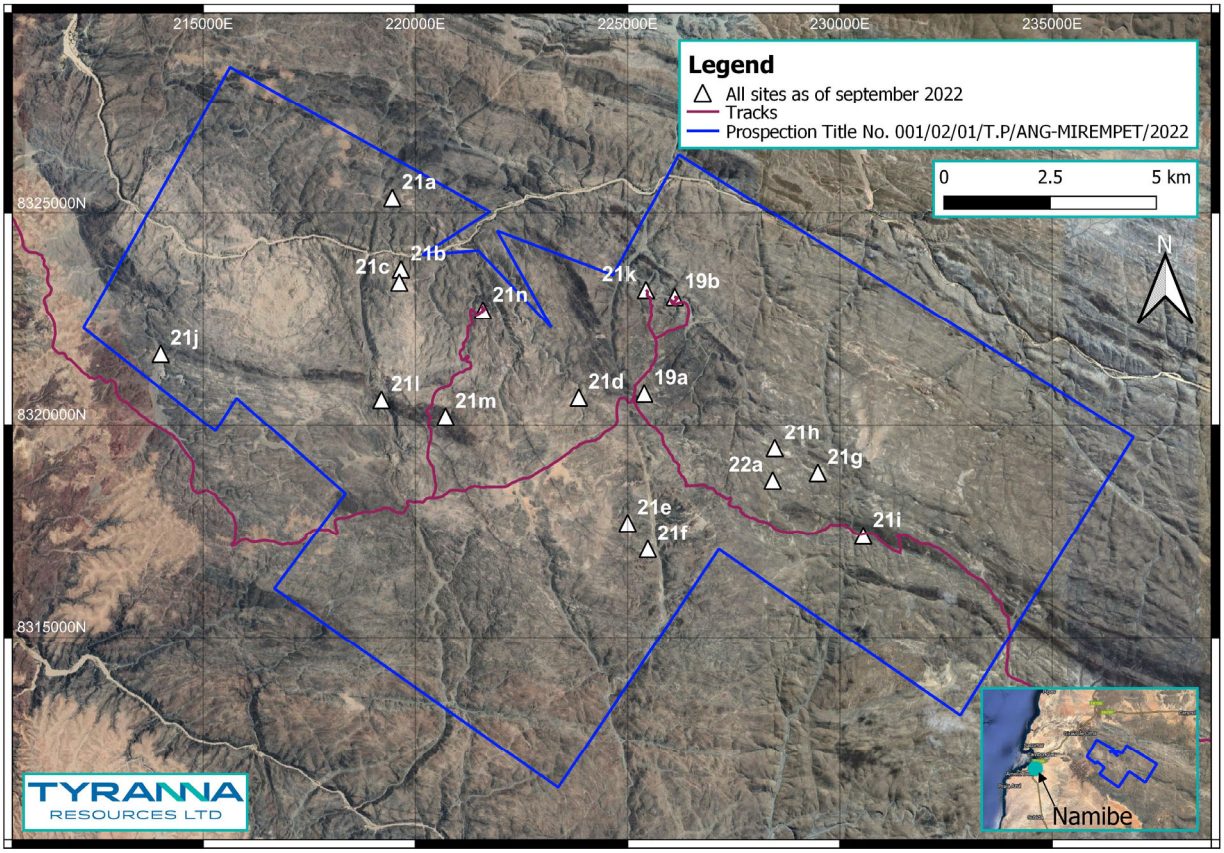

Figure A1: Rock-chip sampling sites sampled to-date

Tyranna has established proven effective sampling protocols that can be used to reliable identify Li mineralisation or Li mineralisation potential. This experience will support the planned sampling of distal targets in the largely unexplored majority of the Namibe Lithium Project and therefore discover additional Li pegmatites.

Appendix 2: Spectral data analysis and processing to generate targets

Natural radiation consists of both pure energy and highly energetic atomic or subatomic particles. “Pure energy” radiation is comprised of electromagnetic energy which can be categorised according to the wavelength and frequency of the energy in its wave form. The categories occur as a continuum, ranging from high energy (high frequency but short wavelength) to low energy (low frequency and long wavelength) which is referred to as the Electromagnetic Spectrum. “Particulate” radiation is comprised of the nuclei of atoms, e.g., H (main component of Cosmic Rays) or He (Alpha rays) or solitary electrons (beta rays), travelling at extremely high velocity.

The surface of the earth receives radiation of all forms from the sun and radiation emitters outside our solar system. Some of this radiation is reflected, while some is absorbed, followed by emission of some radiation from the material that absorbed the incoming radiation. In addition, radiation is emitted from natural radioactive decay of certain isotopes found in some materials.

The way that radiation is reflected, absorbed, and emitted by materials on the earth’s surface is influenced by the composition of the materials, principally their molecular composition and their macroscopic scale and shape.

Careful analysis of the spectrum reflected or emitted, or both, allows different materials to be identified, and is the principal behind target-generation through spectral analysis.

This is a specialised and evolving field of research and application. It requires considerable experience and for this reason Tyranna commissioned Dr Neil Pendock, a well-respected industry expert in this field, to undertake the analysis, processing and interpretation needed to produce the targeting maps.

There are satellites that in addition to cameras (i.e., sensors that record the Visible Light portion of the electromagnetic spectrum), have sensors capable of recording other parts of the electromagnetic spectrum, such as Infra-Red radiation, which includes Visible Near Infra-Red (VNIR), Short Wave Infra-red (SWIR) and Long Wave Infra-Red (LWIR).

Some of the detected Infra-Red radiation, e.g., VNIR, is mostly comprised of solar reflection rather than emission, but nature of the reflected VNIR is affected by the material reflecting it and can be used to infer minerals.

In contrast, some of the detected Infra-Red radiation is emitted from the earth’s surface after it has absorbed incoming radiation. The emitted Infra-Red radiation varies according to the material that absorbed incoming radiation and careful analysis and “de-construction” of the combined recorded forms of Infra-Red radiation can allow the emitting material to be inferred.

Direct detection of sought after minerals, e.g., spodumene, is theoretically possible, because the reflectance and emission spectra of most minerals have been studied and recorded, but the usability of the direct detection method is limited by the sensitivity of sensors, and other technical factors, along with interference effects from similar spectra of other minerals. Because of this, maps created through this method may be much less precise than anticipated and display a lot of “noise” (i.e., a positive response that does not represent the target sought).

Alternatively, the entire spectrum emitted from a known mineralised occurrence can be studied intensively and if there are sufficient examples, can be used to “train” an Artificial Intelligence algorithm.

Interrogation of the entire field of interest by the AI program will then highlight other locations where the spectral “signature” is similar to those sites used to “train” the AI.

Another method is to analyse the emission spectra with a focus upon the spectrum characteristic of gasses, e.g., H_2, or He, that may be emitted from the breakdown of mineral deposits. The release of these gasses is subtle, and concentrations are low, but H_2 (and He) have strong emission lines in the VNIR, which may be used to infer gas abundances.

There are many minerals that contain molecular hydrogen (H), commonly combined to oxygen (O), for example in clay minerals and mica minerals. Radiation can split the O-H bond, releasing H atoms which quickly bond to adjacent H atoms to form gaseous H_2 molecules, which are emitted and potentially detectable. This breaking of the O-H bond is a radiolytic reaction, in contrast to more well-known chemical reactions, and can be caused by any source of radiation, including the radioactive decay of naturally occurring isotopes found in some minerals.

Radiolytic reactions in clays and water will release H_2, and H2 from water or random clay occurrences is a source of "noise" (i.e., a positive response that does not represent the sought target) but highly fractionated lithium pegmatites are a potentially strong source of H_2. The reason for this is twofold:

- Firstly, the highly fractionated LCT-Complex pegmatites contain very high concentrations of Rubidium (Rb) and Caesium (Cs), that have isotopes which are subject to radioactive decay that will release radiation. Note that this does not have to be, and usually is not, at an intensity that causes health concerns.
- Secondly, the final stage of crystallisation of the most highly evolved pegmatites results in some alteration of previously crystallised minerals into clay-rich alteration products, all of which contain the O-H group.

In summary, it appears that LCT-Complex pegmatites contain more O-H bearing material and generate greater amounts of radiolytic reactions, leading to a higher than usual emission of H2, which can be detected through spectral analysis.

The maps generated by Dr Neil Pendock for Tyranna included:

- Mineral species abundance maps
- AI-generated targeting maps
- A H_2 abundance map

Greatest reliance has been given to the H_2 abundance map in Tyranna's targeting, as it has the least "noise" but corroborating evidence from the other maps have been used to support final target delineation.

Like all geophysical exploration methods, "ground-truthing" of the targets by in-field inspection and sampling will be the ultimate test of the efficacy of the targeting method. This is to be expected because no geophysical exploration method is perfectly accurate, due to naturally occurring factors that interfere with use of the method, resulting in some "false positives" and some "false negatives." An example is the use of airborne EM surveys, e.g., VTEM, to detect sulphide mineralisation when looking for nickel deposits. The VTEM survey will also detect some non-sulphide conductors (e.g., graphite) or barren massive pyrite, which are both false positives. In contrast, there are cases when some nickel sulphide mineralisation is "invisible" to VTEM surveys, constituting a false negative. Despite some unreliability at times, use of VTEM is widespread and has proven to be a useful exploration method.

Similarly, the fact that **every** pegmatite in the Namibe Lithium Project proven to contain lithium minerals "lights-up" for greater H_2 emission, provides confidence although some false positives or false negatives are to be expected but it seems likely that at least some of the generated targets will prove to be lithium-bearing.