# Three large, high-priority target areas for lithium-bearing minerals identified at Lasalle, James Bay, Canada

Positive initial results returned from the hyperspectral, remote sensing and airborne magnetic data review, prompting an expansion of the Lasalle claims package to 35km<sup>2</sup>

#### **Highlights:**

- Detailed satellite and hyperspectral analysis designed to detect lithium-bearing minerals has highlighted two new high-priority areas at Lasalle, each of which extend over a strike length of 2-6km and 100-500m width and contain several anomalies.
- As a comparison, similar hyperspectral analysis was conducted over the CV5 lithium discovery by Patriot Battery Metals Inc (ASX: PMT), where anomalies were highlighted over the areas of outcropping lithium pegmatites that are similar to those identified at Lasalle.
- A review of high-resolution aerial orthoimage photography has identified several prominent 'white patches', characteristic of pegmatite/granite outcrops on or close to all three priority target areas.
- From this work, a new priority target 1km long and 100m wide was identified from the hyperspectral work to the south-west of the project. As a result, a new claims area has been secured thereby expanding the Lasalle Project to 35sqkm.
- A high-resolution airborne magnetic survey has now been completed which has delineated several
  east- and northeast-trending demagnetised features characteristic of pegmatite dykes and
  highlighted several other target areas for field investigation.
- This work has greatly assisted target ranking for Cosmos' first helicopter-assisted field program, planned to commence once the fire restrictions are lifted in Quebec. This will include the Company's maiden rock sampling program on the Project.

Cosmos Exploration Limited (ASX: C1X) ("Cosmos" or "the Company") is pleased to advise that it has identified three priority target areas for lithium exploration from remote sensing and geophysical surveys undertaken recently on its prospective Lasalle Lithium Project ("the Project" or "Lasalle"), located in the prolific James Bay district in Quebec, Canada.

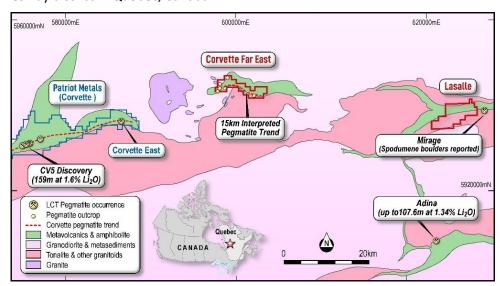


Figure 1: Simplified bedrock geology map of the James Bay district showing the location of the Lasalle Project in relation to the Patriot Metals CV5 discovery.

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**Cosmos Executive Chairman, Jeremy Robinson, said:** "We are very pleased with the outcome of the remote sensing and geophysical techniques we have selected at Lasalle. Multiple targets are now emerging with many similarities to the lithium-bearing pegmatites on Patriot Battery Metals' neighbouring Corvette Project justifying our recent expansion of the project area".

"The results of this work are invaluable in helping to fast-track and refine our exploration targeting, giving us clear vectors for our maiden helicopter-assisted rock chip sampling program."

The Lasalle Project is located 100km along strike from the exciting recent lithium discoveries made by Patriot Battery Metals Inc (ASX: PMT) at its Corvette Project, which hosts the CV5 discovery where recent spectacular drill intercepts of up to **52.2m at 3.3% Li<sub>2</sub>O incl. 15.0m at 5.1% Li<sub>2</sub>O** have been announced (see ASX: PMT announcement dated 29/01/23; Figure 1). Interestingly, the Lasalle Project is also located 30km north of Winsome Resources' Adina discovery, where outstanding recent drill intercepts of up to **107.6m at 1.3% Li<sub>2</sub>O** have been announced (see ASX: WR1 Announcement dated 6/01/23). The Lasalle project contains both the original 39 claims under Option Agreement with Midland Exploration whereby Cosmos can acquire up to 75% (currently 100% owned by Midland) of the claims as disclosed on the ASX on 3 April 2023 and a further 32 claims 100% owned by Cosmos.

Geologically, the greenstone within the Lasalle Project is interpreted to be very similar to the lithological hosts to the CV5 and Adina lithium-pegmatite discoveries. Importantly, the Project is also interpreted to lie in close proximity to the same fertile tonalite intrusives also south of CV5 that are likely to be the source granites for the unusually large lithium-caesium-tantalum (LCT) pegmatites in the area.

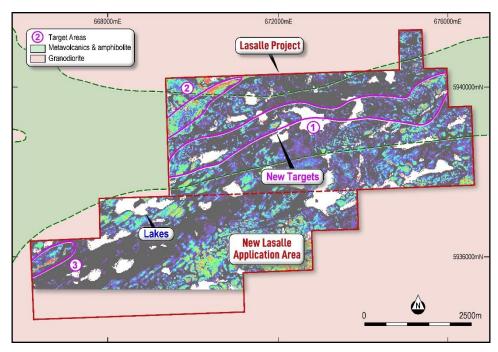
The Company has now completed the following work programs:

#### **Hyperspectral Analysis Program**

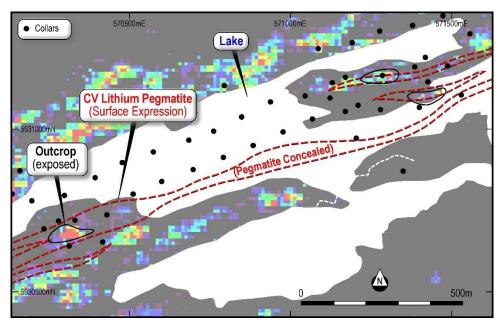
Two companies were contracted to acquire, process and analyse Sentinel & Aster Multispectral data and Synthetic Aperture Radar (SAR) over Cosmos's Lasalle Lithium Project and provide a comparison with Patriot Battery Metals' CV5 discovery. The Lithium Spectra Index is designed to detect lithium-bearing minerals such as spodumene.

Various images at Lasalle have now successfully highlighted two new high-priority areas 1 & 2 that extend over a strike length of 2-6km and 100-500m width, each of which contain several anomalies (Figure 2).

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**Figure 2**: Lithium Spectra Index across the Lasalle Lithium Project showing the three new priority target areas.



**Figure 3**: Lithium Spectra Index across the across Patriot Battery Metals' CV5 discovery showing the surface projection of the intersected lithium-pegmatite and the lake (Information taken from Figure 1 from Patriot Battery Metals Inc's announcement dated 2/05/23).

The Quebec Geological Survey (QGS) bedrock geology map indicates that Anomalies 1 and 2 occur solely within the greenstone, in the same setting as CV5 or in the tonalite intrusive within 500m of the greenstone contact (Figure 4).

A third prominent anomaly was identified to the south-west of the tenement outline and the Company moved quickly to secure these claims and increase the Lasalle ground-holding to 35sqkm (Figure 2). The anomaly occurs in the tonalite intrusive within 500m of the greenstone contact, in a similar geological setting to Allkem's James Bay Lithium Deposit (Figure 4).



Hyperspectral imagery utilised satellite detectors designed to map surface features, so they are highly affected by the availability of surface outcrop exposures.

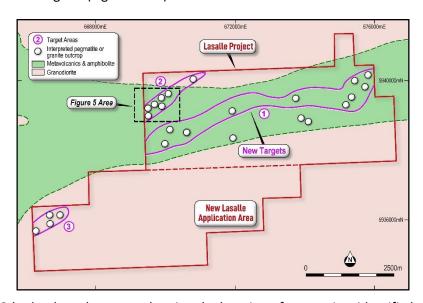
Where outcrops are highly exposed, the technique works very well – for example at CV5 the lithium index image clearly shows warmer colour anomalies where the outcropping CV5 LCT-pegmatites are exposed on the east and west side of the lake (Figure 3). However, where lithium-pegmatites are concealed beneath the lake, the spectral signature is not detected.

Similarly, at Lasalle, any pegmatites concealed by lakes or thick cover will not detect anomalies; therefore, suppressed or variable patchy responses may be very important at Lasalle (Figure 2).

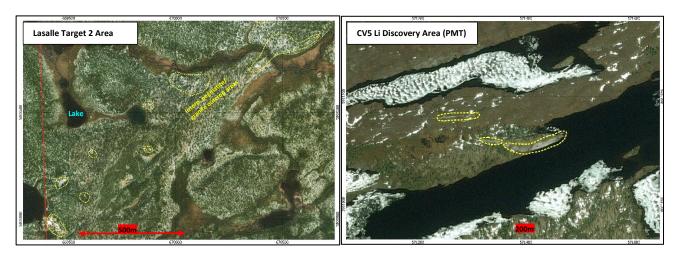
#### **Detailed Aerial Orthoimage Photography**

A 50cm high-resolution Pleiades Neo 4-Band image was acquired and reviewed in detail in close proximity to the newly-identified target areas, with the aim of identifying possible pegmatite and/or granite outcrops that may be targets for upcoming reconnaissance rock sampling at Lasalle.

A detailed review of satellite imagery has identified several prominent 'white patches' characteristic of pegmatite/granite outcrops within or very close to all three3 priority target areas. The most prominent outcrops are evident at Target 1 (Figure 4 & 5).



**Figure 4**: (Left) GSQ bedrock geology map showing the location of pegmatites identifie by GSQ (yellow dots) and possible pegmatite and/or granite outcrops interpreted from aerial photoprahy (white dots).

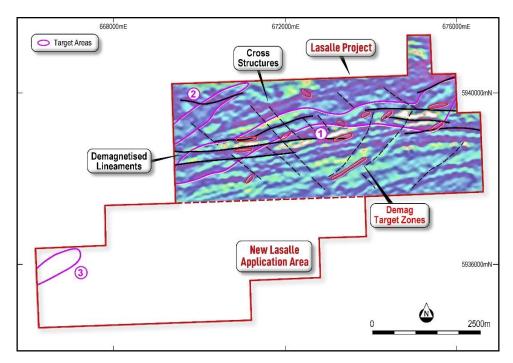


**Figure 5**: (left) Examples of 'white patches' identified in the orthophotography at Lasalle (Target 2) that may indicate pegmatite or ganite intrusives within greenstone (yellow dash polygons). (Right) Comparison orthophotography image to one of PMT's CV5 lithium pegmatite discovery outcrops.

#### **High-Resolution Airborne Magnetic Survey**

Axiom Geophysics & Remote Sensing Group was contracted to complete a helicopter-supported magnetic survey at 100m spacing. This survey is now complete and, during the program, C1X decided to fly in-fill surveying at 50m spacing in order to achieve a higher resolution dataset and image suites specifically designed to detect subtle demagenetised linear features that could represent cross-cutting non-magnetic pegmatite dykes and sills.

Preliminary images have now been produced by Resource Potentials Geophysics Consultants and the results are encouraging. The new data and imagery have been interpreted by Resource Potentials and C1X within the three priority areas where several northeast-trending features have been delineated (Figure 5). Many of these lineaments will be ground-truthed during the upcoming field programs.



**Figure 6**: Airborne Magnetic image (TMIRTP HP500agc) at Lasalle showing the three priority areas (pink polygons) and interpreted demagnetised lineaments (black line) and cross structures (black dash).

#### **Helicopter-Assisted Rock Sampling Program**

The Cosmos team is currently synthesising all the final data at Lasalle to systematically rank each of the new specific target areas which will be prioritised for landing sites for the upcoming rock sampling program.

The experienced team at Waldo Geoscience based in Quebec have been secured to manage the helicopterassisted rock sampling program. This includes the installation of a temporary exploration camp and also management of experienced helicopter company Wiskair.

The Company has also purchased a SciAps Z-903 Geochem Li Analyser which utilises a laser-induced breakdown spectroscopy (LIBS) technology to analyse elements specifically calibrated for light elements such as lithium and associated pathfinder metals in lithium-caesium-tantalum LCT pegmatites.

This hand-held technology will be effectively utilised as an important vectoring tool with immediate results and greatly assist C1X's exploration efforts on this upcoming program. The program will commence in parallel with the maiden exploration program at Corvette Far East as soon as the current fire situation in Quebec abates.

This announcement has been authorised by the Board of Cosmos Exploration Limited.

#### For further information please contact:

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#### **About Cosmos Exploration**

**Cosmos Exploration (ASX: C1X)** is an ASX-listed lithium, nickel-copper-PGE and gold-copper explorer focussed on making world-class discoveries. The Company's portfolio includes the Corvette Far East and Lasalle Lithium Projects in the prolific James Bay region of Quebec, Canada, the highly prospective Byro East Nickel-Copper-PGE Project located in Western Australia and the Orange East Gold Project located in New South Wales.

#### **Competent Person Statement**

This report's information related to Exploration Results is based on information and data compiled or reviewed by Mr Raymond Wladichuk. Mr Wladichuk is contracted by Cosmos to execute and oversee exploration work carried out in Québec. Mr Wladichuk is a Member of the Ordre des géologues du Québec (numéro de permis: 02287).

Mr Wladichuk has sufficient experience relevant to the style of mineralisation under consideration and to the activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Accordingly, Mr Wladichuk consents to the inclusion of the matters based on the information compiled by him, in the form and context it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information in the relevant ASX releases. The form and context of the announcement have not materially changed. This announcement has been authorised for release by the Board of Cosmos Exploration Ltd.



#### Appendix One – JORC Code, 2012 Edition – Table 1

Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of</li> </ul>	Not Applicable – no sample results reported.  Not Applicable – no sample results reported.

	detailed information.	
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Not Applicable – no drilling results reported.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	Not Applicable – no drilling results reported.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	Not Applicable – no drilling results reported.

	If core whether cut or sawn	Not Applicable – no geochemical results
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	Not Applicable – no geochemical results reported.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and</li> </ul>	Not Applicable – no geochemical results reported

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	whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Not Applicable – no drilling results reported.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	Not applicable - No rocks or drill holes reported in the announcement.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The data is not appropriate for use in estimating a Mineral Resource and is not intended for such use. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.</li> <li>No sample compositing was undertaken.</li> </ul>
Orientation of data in relation to	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to	No sampling reported in this announcement

geological structure	which this is known, considering the deposit type.  If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	
Sample security	The measures taken to ensure sample security.	Not applicable
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have been completed.

Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures,	The following claims are located in Quebec, Canada and are currently held 100% by Cosmos Li Development Canada Ltd which is a wholly owned subsidiary of Cosmos Exploration
	partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	33H09 X 0007 0005 0 to 33H09 X 0007 0015 0 33H09 X 0006 0002 0 to 33H09 X 0006 0013 0 33H09 X 0005 0002 0 to 33H09 X 0005 0010 0 (*CDC numbers still pending)
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The following claims are located in Quebec, Canada and are subject to the Option Agreement with Midland Exploration whereby Cosmos may acquire up to a 75% interest in the claims as disclosed to the ASX on the 3rd April 2023
		2124245, 2084026, 2084027, 2084028 2084029, 2084030, 2084031, 2084032 2084033, 2084034, 2084035, 2084036 2084045, 2084046, 2084048, 2084050 2084052, 2084054, 2084056, 2084058 2084060, 2084062, 2084064, 2084066

Exploration done by other parties Geology	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> <li>Deposit type, geological setting and style of</li> </ul>	2084084, 2084086, 2084088, 2084090 2084092, 2084094, 2084096, 2084098 2084100, 2084102, 2084104, 2084133 2120298, 2485046, 2485047.  • All regulatory and heritage approvals have been met. There are no known impediments to operate in the area.  • Limited exploration completed by previous explorers across the Lasalle area. No material results to discuss  • Archean aged La Grande sub-Provence fractionated pegmatites LCT type, late
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> </ul>	in orogenic history  Not Applicable – no sample results reported
Sub-sampling techniques and sample preparation	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents are reported.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are</li> </ul>	Not Applicable – no sample results reported

	reported, there should be a	
	clear statement to this effect (e.g. 'down hole length, true width not known').	
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Appropriate maps, sections and tables are included in this ASX announcement.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Not Applicable – no sample results reported
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>Axiom Exploration Group Limited conducted acquisition, processing and analysis of multispectral Sentinel &amp; Aster &amp; synthetic aperture radar data at Lasalle. By combining modern remote sensing techniques using multispectral imaging and synthetic aperture radar to analyze vegetation, structure, alteration, and ground movement, complex anomalies covering large areas can be quickly and effectively identified. This is a multivariate exploration approach, combining existing geological, geochemical, and geophysical data with multiple satellite analyses, to identify new potential mineral targets. By applying mineral spectral analysis to multispectral Sentinel and ASTER data, numerous minerals associated with exploration targets are identified and highlighted in georeferenced rasters. Band mathematics and statistics, utilizing the different spectral bands from multispectral satellite data, is used</li> </ul>

Further work	• The nature and scale of planned further work (e.g.	high values are mapped for target delineation. Machine and deep learning are also employed on this type of data to aid in target delineation.  Axiom Exploration Group Ltd. was contracted to conduct collection and processing of airborne magnetic data over the Lasalle project. The survey was conducted using a manned helicopter equipped with specially designed GEM Systems GSMP 35A Airborne Potassium Vapour high resolution magnetometers mounted on a non-magnetic stinger in a triaxial array. The survey was conducted over the majority of of the Lasalle claims ensuring complete coverage of the area at a detailed 50m spacing with lines oriented north-south. The final data was transferred to Resource Potentials geophysics consultants that created the imagery.  Satellite imagery utilised at Lasalle was 0.5m archive World View 8-band bundle orthophotography imagery taken n August 2018 purchased from Geospatial Intelligence Pty Ltd. Publicly available high quality Bing detailed imagery was also utilised through QGIS software in some areas where there is no cloud cover.  Summarised in text and figures in the body of this announcement.
Further work	planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).  • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	this announcement.