

NEW LITHIUM - NICKEL PROJECT

Hayes Hill Lithium – Nickel Project

Investment Highlights

Hayes Hill Lithium – Nickel Project Secured via Option to Acquire 100%

- Significant untested lithium potential
- Two existing high-tenor undrilled nickel – copper - platinum – palladium soil/auger anomalies.

Zenith Minerals (ASX:ZNC) (“**Zenith**”, or the “**Company**”) is pleased to advise that it has secured an option to acquire 100% of the Hayes Hill Lithium – Nickel Project, located in the Norseman – Widgiemooltha area of Western Australia (Figure 1).

The project consists of 2 granted exploration licences and 3 exploration licence applications in a highly mineral prospective corridor with **significant untested lithium potential**. The project is situated 10 – 14km to the east and southeast of the Dome North lithium pegmatite deposit and immediately east of the Sinclair caesium pegmatite mine both owned by Essential Metals Limited (ASX:ESS). Lontown’s (ASX:LTR) Buldania lithium deposits are located a further 43km to the southeast of the Hayes Hill project area (refer Figure 2). Modest lithium soil anomalies have been identified from cursory geochemical work by the project owner, however, much of the ground is yet to be adequately screened using systematic soil or auger techniques, providing a greenfields opportunity for lithium in a well-located tenure package. Zenith has secured previous auger sampling, historic gold samples, covering a large portion of centre of the project area, allowing rapid assessment of part of the project area for lithium. These sample pulps have now been submitted for laboratory analysis for lithium with results anticipated in approximately 4 weeks (Figure 3).

In addition, the project has **strong nickel potential** with robust high-tenor nickel -copper-PGE soil anomalies that have not yet been drill tested. Nickel prospective ultramafic rocks extend 18km north along strike from Galileo’s (ASX:GAL) Calisto nickel-PGE discovery and 11km northwest along strike from ASX:S2R’s – Polar Bear nickel prospects (Gwardar, Taipan & Halls Knoll) – Refer to Figure 2.

Two existing high-tenor undrilled nickel-copper-platinum-palladium surface geochemical anomalies are situated within a folded sequence of ultramafic rocks within the Hayes Hill project area (Figure 3):

- The **Green Bananas** auger anomaly with peak values of 2,424 ppm Ni, 1,233ppm Cu, 77 ppm Pt and 21ppb Pd is open ended to the east.
- **PlatX** soil anomaly with peak values of 1,486 ppm Ni, 386ppm Cu, 6 ppm Pt and 49ppb Pd

Additional hand auger sampling is planned to close off the Green Bananas anomaly whilst initial first pass aircore drill testing of both anomalies is in the planning stages.

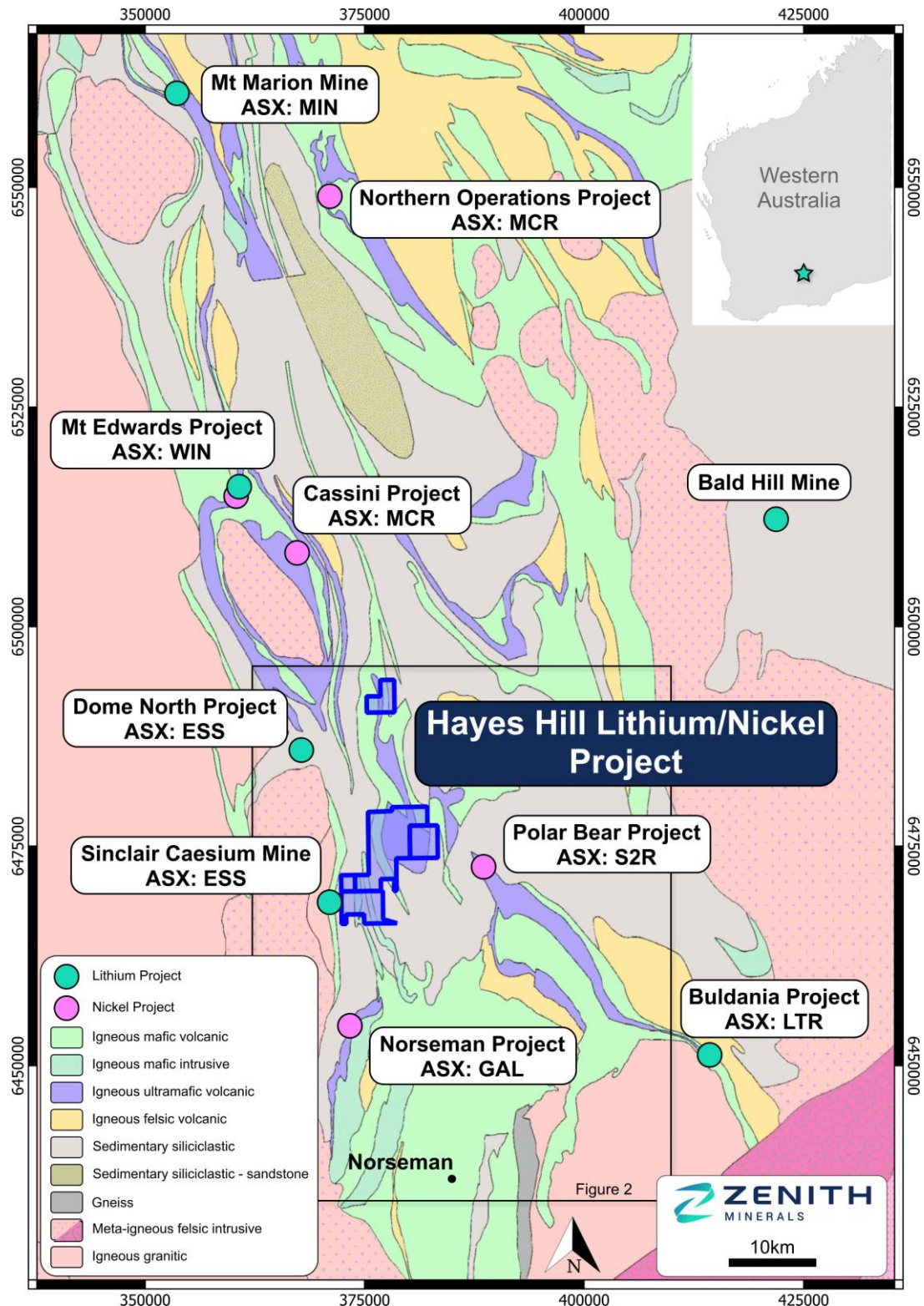


Figure 1: Hayes Hill Project Location

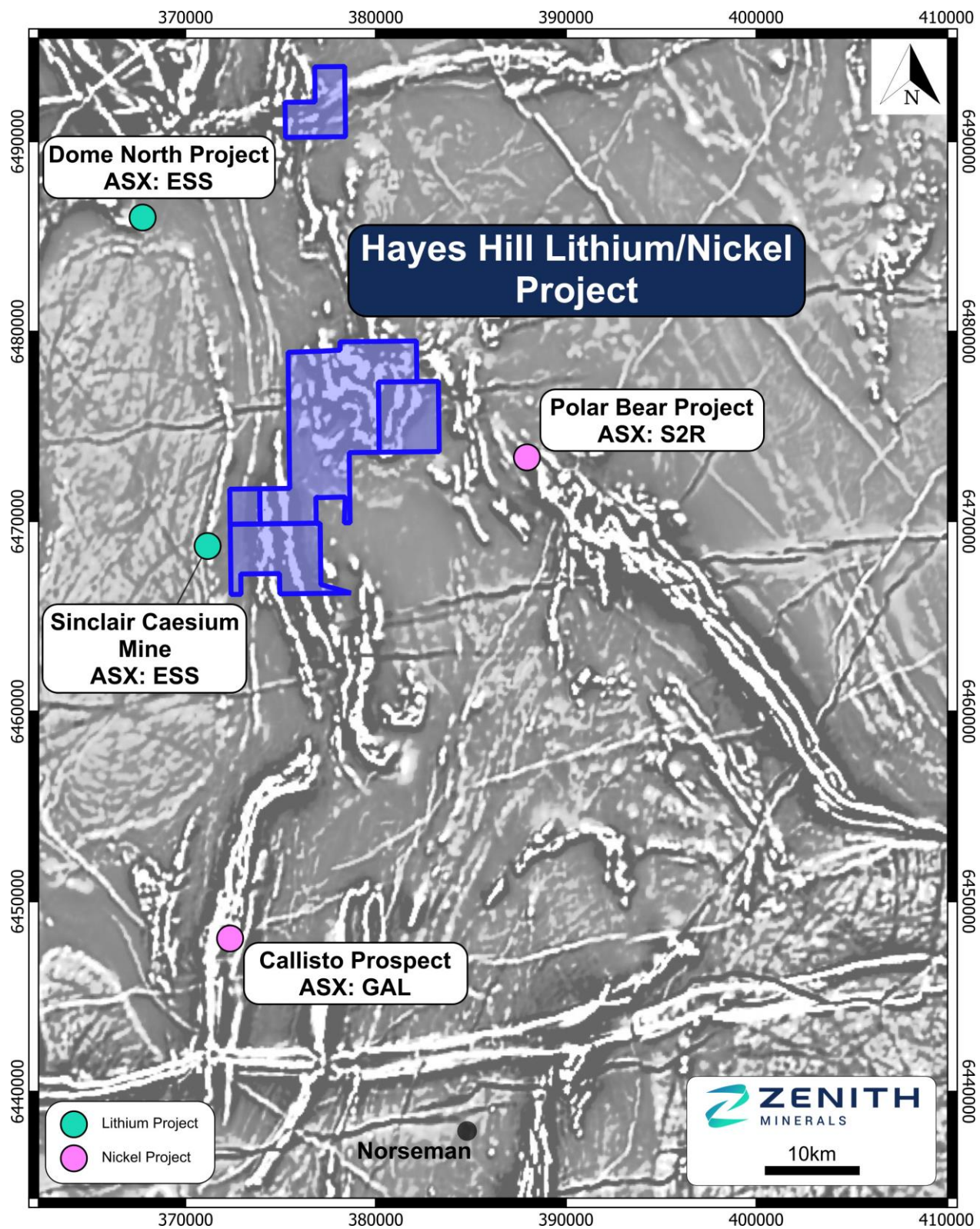


Figure 2: Hayes Hill Project Relative to Nearby Nickel and Lithium Projects

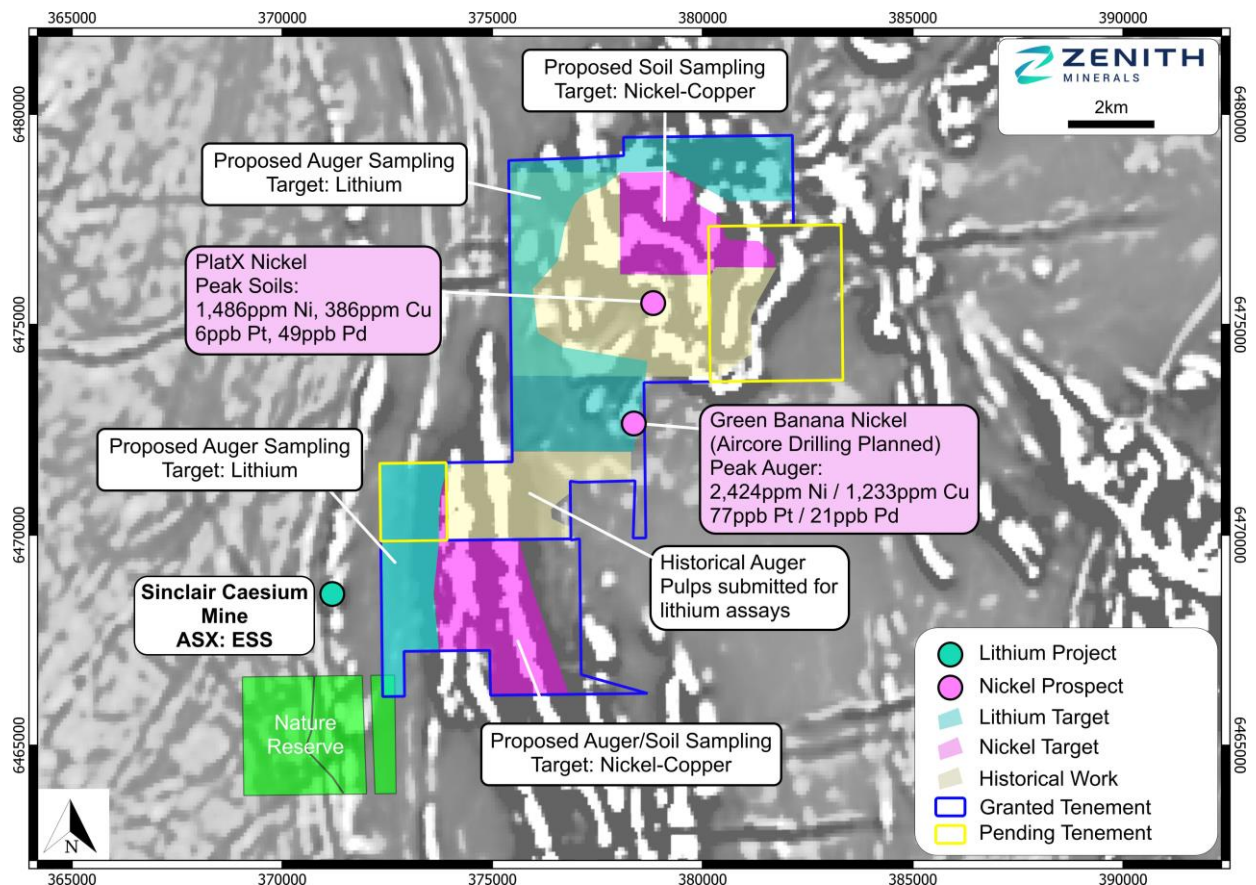


Figure 3: Hayes Hill Lithium and Nickel Target Areas

Hayes Hill Option to Purchase

Key Terms of the Hayes Hill Option include:

- Initial option fee of \$150,000 cash and \$100,000 ZNC fully paid ordinary shares issued to the project owner, Loded Dog Pty Ltd (Loded Dog), an unrelated party.
- Option Term of 13 months with \$375,000 minimum exploration expenditure commitment to be met by ZNC during the option period.
- Option exercise price of \$700,000 cash for 80% equity with Loded Dog retaining a 20% free carried interest, in an unincorporated joint venture, until the joint venture seeks to lodge a mining proposal with the Department of Mines, Industry Regulation and Safety over a defined area of the project and apply for a mining lease over that area.
- Option at sole election of ZNC to purchase 100% project equity via the buy-out of the residual 20% project equity for an additional \$8,000,000 cash within a further period of 3 years.
- No royalty on lithium minerals (lithium minerals meaning lithium and pegmatite-related minerals limited to, caesium, niobium and tantalum or tin minerals) in any and all forms. For the avoidance of doubt, lithium minerals do not include any precious metals, nickel or any other metals) but a \$2M lithium production payment to be paid within 6 months of the earlier of the following, or if they do not have sufficient free cash flow to make that payment within 6 months then in two equal instalments on the first and second anniversary of the earlier of the following:
 - (i) the date of the first commercial shipment of lithium minerals; or
 - (ii) the date of the first toll treatment of lithium minerals

- 1.5% net smelter royalty payable on the production of any non-lithium minerals,
- As well as other industry standard clauses such as pre-emptive rights, assignment of existing heritage and access agreements, GST and stamp duty obligations.

Next Steps

Zenith has secured previous auger sampling, historic gold samples, covering a large portion of centre of the project area, allowing rapid assessment of part of the project area for lithium. These sample pulps have now been submitted for laboratory analysis for lithium with results anticipated in approximately 4 weeks (Figure 3).

Additional hand auger to close of the Green Bananas nickel anomaly as well as lithium soil sampling is scheduled for February 2023. Planning for initial first pass aircore drilling of the Green Bananas and PlatX nickel targets has commenced.

Executive Chair David Ledger said: *"we have been working on this transaction for some time believing it to be one of the more attractive land packages in the area. Recent exploration has uncovered some very good regional plays and this is no different. It is highly prospective for lithium and nickel and we are pleased to have worked out an arrangement with the vendors.*

There has been encouraging, untested and robust nickel anomalies. This represents an opportunity to access a cheap initial option to assess the project potential by leveraging off the exploration skills of the Zenith Minerals team."

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About Zenith Minerals

Zenith Minerals Limited (ASX:ZNC) is an Australian-based minerals exploration company leveraged to the increasing global demand for metals critical to the production processes of new energy industrial sectors.

The Company currently has three lithium projects all located in Western Australia. Split Rocks, located within the Southern Cross region mid-way between Perth and Kalgoorlie, is now being systematically explored under the terms of the joint venture between Zenith and EV Metals Group (EVM). It covers landholdings of approximately 660km² in the Forrestania greenstone belt immediately north of the established Mt Holland lithium deposit. Waratah Well, located approximately 20km northwest of the regional town of Yalgoo in the Murchison Region holds a lithium-caesium-tantalum pegmatite target with ongoing exploration. More recently, Zenith acquired

a third lithium prospect, the Mt Ida North Project, located approximately 95km west of the regional town of Leonora in WA's Goldfields Region.

In January 2022, Zenith entered into a joint venture with EV Metals Group, a Saudi-Anglo organisation with plans to develop a Battery Minerals Complex at Yanbu on the western coast of Saudi Arabia. EV Metals can earn a 60% interest in the lithium rights in these projects, with Zenith retaining a 40% project share, under terms that sees Zenith funded through to bankable feasibility on any of the project developments. Any lithium concentrate produced from these projects will provide critical raw material supply for the Yanbu complex as part of an integrated global supply chain currently being developed by EVM. This will contribute to meeting the growing demand for stable, long-term supplies of critical raw materials, high purity chemicals and cathode active materials. The number of Australian-based lithium/EV metal projects currently in the JV could be further expanded over time if appropriate acquisition opportunities present themselves.

In addition to its battery metal assets Zenith owns a portfolio of gold and base metal projects that was intended for a demerger into a separate company, Mackerel Metals Limited, to be listed on ASX. Following a review of market conditions, the Company decided to defer the strategy of a spin-out and instead advance these projects under Zenith's stewardship (ASX release 2-Dec-22). To this end it has engaged the services of experienced geologist and resources professional Kevin Seymour to advance that portion of the Company's portfolio. Mr Seymour is a highly experienced and credentialled exploration geologist with broad experience in different commodities and geological terrains. He was the Managing Director of Woomera Mining Ltd and was formerly the General Manager of Exploration at Ramelius Resources Ltd. He held senior exploration roles with Glengarry Resources, Sons of Gwalia and Delta Gold.

To learn more, please visit www.zenithminerals.com.au

This ASX announcement has been authorised by the Board of Zenith Minerals Limited.

Competent Persons Statement

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and an employee of Zenith Minerals Limited. Mr Clifford has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Clifford consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Material ASX Releases Previously Released

The Company has released all material information that relates to Exploration Results, Mineral Resources and Reserves, Economic Studies and Production for the Company's Projects on a continuous basis to the ASX and in compliance with JORC 2012. The Company confirms that it is not aware of any new information that materially affects the content of this ASX release and that the material assumptions and technical parameters remain unchanged.

Appendix 1: Hayes Hill Project - JORC Table 1

Criteria	JORC Code explanation	Commentary
Sampling techniques	<p><i>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.</i></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></p> <p><i>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 detailed information.</i></p>	<p>At Hayes Hill historic soil sampling was undertaken by Plat X Limited (WAMEX Report A85513) and Auger drilling was undertaken by Gascoyne Resources Limited (WAMEX Report A99274). Hand auger sampling at Green Banana prospect was undertaken by a consultant who is currently working for Zenith Minerals.</p> <p>Plat X soil samples were collected on a 200 x 400m spaced grid. The soil samples were sieved to >2mm. Multi element analyses of samples were undertaken by Quantum Laboratories by Aqua Regia ICP Ms and OES method.</p> <p>Gascoyne auger drilling samples were drilled on 200m spaced lines with holes at 100m spacings along the lines. Samples were collected around 0.5m – 1m below the surface. Multi element analyses of the samples were undertaken by MinAnalytical Laboratory by Aqua Regia ICP MS and OES method.</p> <p>Hand Auger samples at Green Bananas infilling Gascoyne Ni Anomaly; samples were collected from a depth between 0.2-0.75m below surface. Samples were analysed for Au, Pt, Pd, As, Co, Cr, Cu, Mg, Ni, Ti, Zn by MinAnalytical Laboratories by Aqua Regia ICP Ms and MS method.</p>
Drilling techniques	<p><i>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).</i></p>	<p>No drilling results reported in this announcement.</p>
Drill sample recovery	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p>	<p>No drilling reported in this announcement.</p>

Criteria	JORC Code explanation	Commentary
	<i>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.</i>	
Logging	<i>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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged.</i>	Soil samples and Hand Auger samples were geologically described.
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. 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. Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	No drilling results reported in this announcement. Plat X samples were analysed by Quantum Laboratories Perth by Aqua Regia ICP MS and OES method. Gascoyne Auger and Green Banana hand Auger samples were analysed by MinAnalytical Laboratory Perth by Aqua Regia and ICP MS and OES method.
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. 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. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision</i>	The assay techniques are industry standard and considered near total digestions for the elements reported. No geophysical tools used.

Criteria	JORC Code explanation	Commentary
	<i>have been established.</i>	
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.</i>	No drilling results reported in this announcement
Location of data points	<i>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. Specification of the grid system used. Quality and adequacy of topographic control.</i>	No drilling results reported in this announcement Grid system used to compile data was MGA94 Zone 51 Soil and Auger samples were taken on a 200m x 100m grid.
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to 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.</i>	No drilling undertaken
Sample security	<i>The measures taken to ensure sample security.</i>	Not known, historic sampling
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	Sampling techniques consistent with industry standards.

Part 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i> <i>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.</i> 	<ul style="list-style-type: none"> The Hayes Hill Project tenements (E15/1588, E63/1773, ELA15/1668, ELA15/1957, ELA15/1919 and ELA63/2103) are 100% owned by Loded Dog Pty Ltd. The tenements are located on Crown Land. Zenith has an option to acquire 100% equity in the project via terms set out in the body text of ASX Release dated 19-Jan-23 Currently all the tenements are in good standing. There are no known

Criteria	JORC Code explanation	Commentary
		impediments to obtaining licences to operate in the area.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Exploration and mining by other parties has been reviewed and is used as a guide to Zenith's exploration activities. Previous parties may have completed shallow RAB, Aircore drilling and RC drilling over parts of the project.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The targeted mineralisation is LCT type lithium pegmatite, with the target being spodumene and "Kambalda Style" Nickel Sulphide mineralisation.
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> No drilling reported in this announcement
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. 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. 	<ul style="list-style-type: none"> No drilling reported in this announcement results.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known'). 	<ul style="list-style-type: none"> No drilling reported in this announcement
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Refer to Figures in the announcement.
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No drilling reported in this announcement
Other substantive exploration data	<ul style="list-style-type: none"> 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 style="list-style-type: none"> All known exploration data has been reported in this release and/or referenced from previous announcements and/or historical exploration company reports where appropriate.
Further work	<ul style="list-style-type: none"> The nature and scale of 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. 	<ul style="list-style-type: none"> Details of proposed future work programs with appropriate plans referred to in this announcement.