

ASX ANNOUNCEMENT

(Cross Release:MM8)

21 September 2022

ADDITIONAL HIGH PRIORITY GREENFIELD NICKEL SULPHIDE TARGETS DEFINED AT CARLINGUP

KEY HIGHLIGHTS

Ongoing systematic nickel sulphide targeting has identified two new high priority greenfield exploration targets (Sprint and Relay) and upgraded the John Ellis West target in the central part of the Carlingup Nickel Project tenement package.

Nickel sulphide targeting has been enhanced by:

- ultra-fine, multielement soil assay results within the survey area, returning highly anomalous Ni/Cr ratio, Kambalda ratio, and Platinum Group Metals (PGM) responses coinciding with anticlinal fold closures, and
- a recently completed gravity survey identified important southeast-trending structures that may have contributed to the formation of the RAV8 nickel sulphide deposit and are also coincident with the newly identified targets.

RC drill rig is being secured to commence drill testing shortly at:

- Sexton - testing a strong Kambalda ratio and PGM geochemical anomaly located east of an historic massive sulphide drill intersection of 2m at 1.2% Ni and 0.2% Cu, and
- RAV8 - testing two separate downhole electromagnetic (DHEM) conductor plates for potential down plunge extensions at Shoot 1 and Shoot 3.

Newly identified targets will be incorporated in the upcoming extensive greenfields drill program scheduled to commence in early Q4.

NickelSearch Limited (ASX: NIS) (NickelSearch or the Company) is pleased to announce that the full suite of multielement, ultra- fine soil assays previously announced as pending (see ASX announcement 21 April 2022 and 16 May 2022) have now been received. This data, together with the results from the recently completed ground gravity survey, has enabled the Company to identify additional high priority greenfield exploration targets at the Company's wholly owned flagship **Carlingup Nickel Sulphide Project (Carlingup or the Project)**, located in Ravensthorpe, Western Australia.

NickelSearch's Managing Director, Nicole Duncan, commented:

"We are pleased to provide an update on greenfields exploration progress at Carlingup with the identification of new high priority targets to add to the already substantial target portfolio. The ongoing systematic exploration targeting work has identified new structural features that have important implications for greenfields exploration.

We are looking forward to commencing our RC drill program shortly at Sexton and RAV8, followed by a significant greenfields exploration in Q4 2022."

New Greenfield Targets

Over the wet winter months, NickelSearch has continued its systematic targeting work aimed at discovery of high-grade, Komatiite-hosted nickel sulphide deposits. The targeting work has been enhanced with the recently received total of 2,715 assays for multielement, ultra-fine soil geochemical results covering most of the 100% owned tenement package and the results of the recently completed ground gravity survey. Integration of this new data and other primary targeting criteria such as high-resolution aeromagnetic data has identified two new greenfield exploration targets (Sprint and Relay) and enhanced an existing target at John Ellis West (Figure 1, 2 and 3).

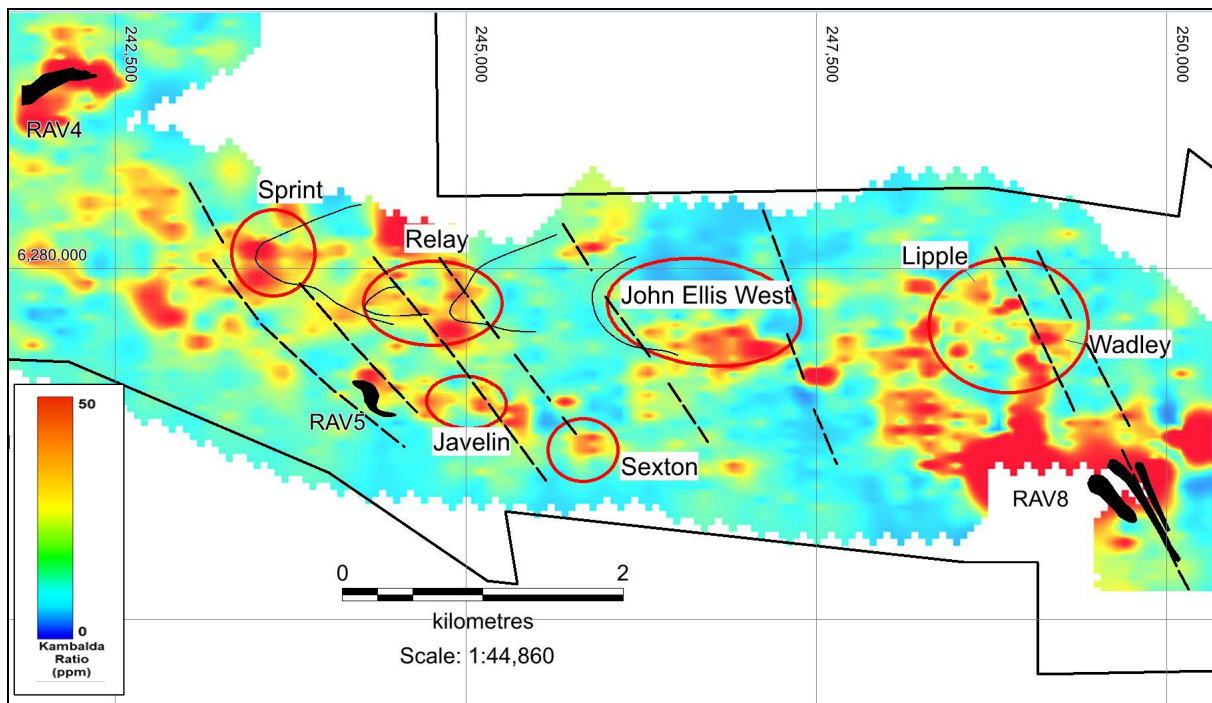


Figure 1. Carlingup Project – new exploration targets on Kambalda Ratio soil geochemistry with gravity lineaments (dashed black lines) and antiform hinges (thin black lines)

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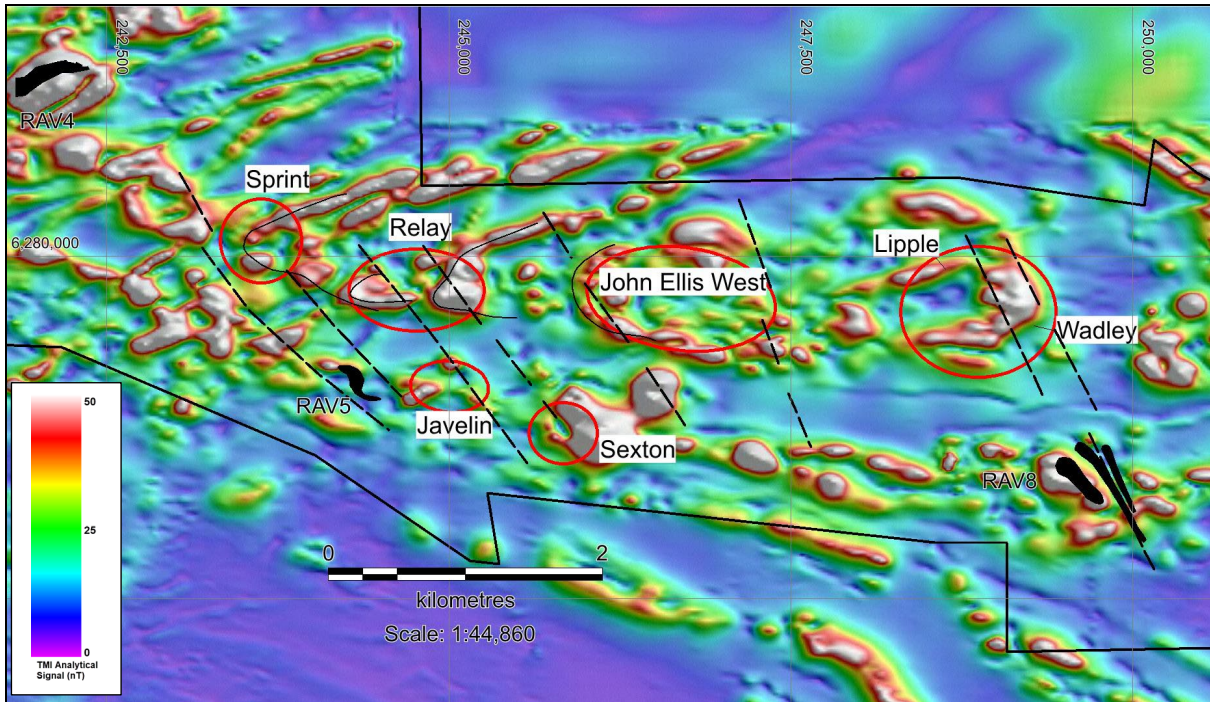


Figure 2. Carlingup Project: new exploration targets on aeromagnetic image with gravity lineaments (dashed black lines) and antiform hinges (thin black lines)

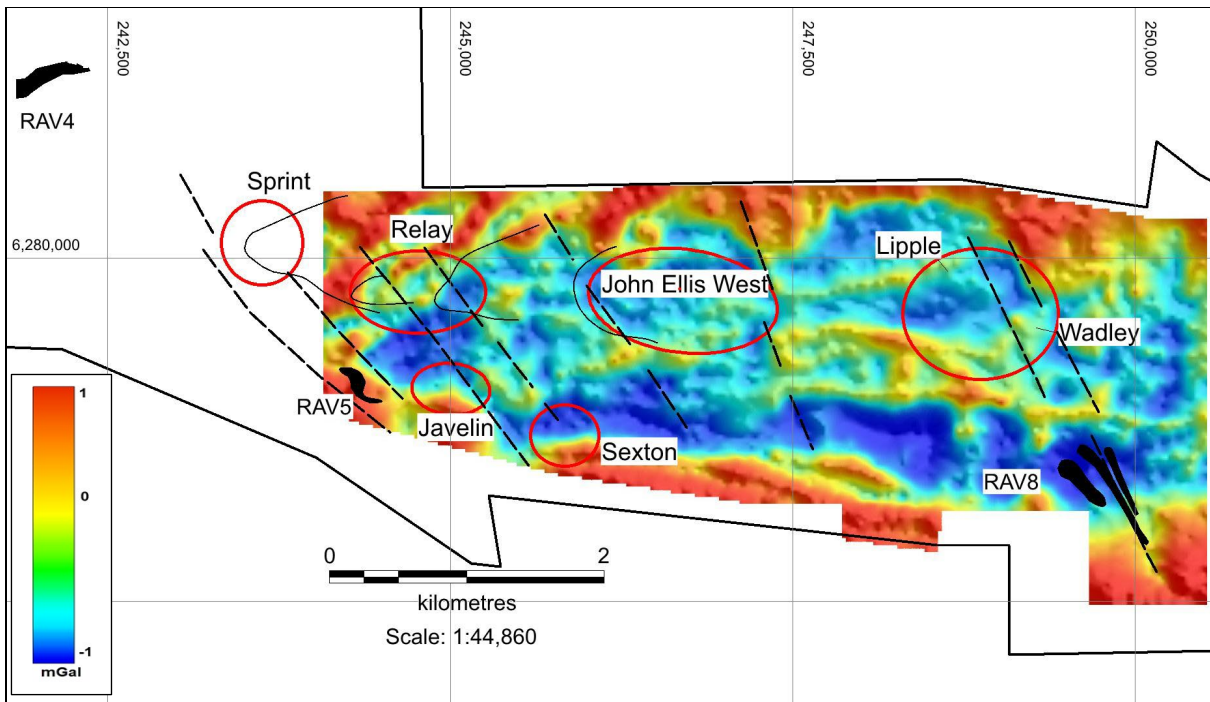


Figure 3. Carlingup Project: new exploration targets on Bouguer gravity image with gravity and magnetic lineaments (dashed black lines) and antiform hinges (thin black lines)

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New Carlingup North Trend Targets

All three highlighted greenfields targets occur in the Carling North Trend which also hosts the Lipple and Wadley targets (previously called John Ellis North and John Ellis South, respectively). This highly prospective corridor has a strike extent of 6km and is characterised by high-Mg komatiites with anomalous Kambalda (Ni/Cr*Cu/Zn) and Ni/Cr fertility ratio responses and PGMs indicative of nickel sulphides at depth (Figure 1) (see NIS Announcement 28 February 2022 and 16 May 2022). Surprisingly, previous exploration has been restricted to search for nickel laterite only and the few fences of drill holes that cross parts of the target areas were shallow, generally less than 30m in depth.

The high priority standout greenfields targets and important targeting elements are:

1. **John Ellis West:** A strong coincident Kambalda ratio, Ni/Cr and PGM geochemical soil anomaly is associated with a magnetic high feature suggesting a thickening of the ultramafic stratigraphy in the area, like RAV8, and may indicate an ultramafic channel facies (Figures 2). Interestingly the target is flanked by two north-west trending gravity linear features.
2. **Sprint:** A very strong discrete Kambalda ratio, Ni/Cr and PGM geochemical soil anomaly is associated with an antiformal fold closure seen in airborne magnetics and forms within a north-west structural corridor like RAV8 (Figures 1-3). It is completely untested by previous exploration.
3. **Relay:** A strong Ni/Cr and modest Kambalda ratio and PGM geochemical soil anomaly coincide with a pair of tight antiformal fold hinges. Like the Sprint target, they appear to form within a north-west trending gravity structural corridor which also passes through the Sexton and Javelin target areas to the south.

The new **John Ellis West**, **Sprint** and **Relay** targets and association with southeast-trending structures and fold hinges is an exciting development for the Company. These anomalies are now high priority targets that warrant immediate follow-up work.

An important observation of the structural setting of some world-class, komatiite-hosted nickel sulphide deposit such as Kambalda and Perseverance in Western Australia is the association with large domes or anticlines. Post-volcanic deformation events resulted in the progressive folding and shearing of the footwall contact, as well as the passive fold thickening of massive and disseminated sulphide orebodies. Massive sulphides were physically remobilised into multiple generations of fold hinges and shear zones.

The role of the southeast-trending structures in nickel sulphide formation at Carlingup is currently poorly understood. It is possible these represent pre-existing structures that were exploited by the ultramafic komatiite magma and may be areas that preferentially form thicker channel facies environments favourable for nickel sulphide formation. If this is the case, then these structures combined with fold hinges constitute an important targeting element to assist target ranking and prioritisation across the Project.

Carlingup Gravity Survey

A detailed ground gravity survey was completed across the Project, to complement the detailed airborne magnetic data, to better understand the regional geology and fundamental structures controlling nickel sulphide mineralisation. A total of 2,268 gravity stations were acquired in the recent survey by Atlas Geophysics Pty Ltd, plus 719 stations from a survey by Traka Resources in 2005 for a

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total of 2,987 stations covering an area of 14km². The stations were spaced 50m apart along 100m spaced N-S survey lines.

The most striking feature observed in the data is that several southeast-trending structures are interpreted across the area and are supported by similar features on the airborne magnetic imagery (Figure 2). Interestingly, the southeast-plunging nickel sulphide deposit at RAV8 and RAV5 prospect occur closely associated with these structures. This relationship suggests the southeast structures are fundamentally important for the formation of nickel sulphide orebodies.

Exploration – Next Steps

1. Program of Work application is well advanced, which will allow for the commencement of drill testing shortly at:
 - Sexton to test a strong Kambalda ratio and PGM geochemical anomaly located east of the historical massive sulphide drill intersection of 2m at 1.2% Ni and 0.2% Cu (for all drill hole and assay details refer to NIS ASX Announcement 16 May 2022), and
 - RAV8 to test two separate DHEM conductor plates at the potential down plunge extensions at Shoot 1 and Shoot 3 (Figure 4).
2. A regional geological mapping program is currently being planned across the Project to improve the Company’s understanding of the lithostratigraphic and structural framework of the entire Project area to improve geological targeting. This will assist in the Company’s understanding of the role of the southeast-trending structures highlighted above.
3. Program of Work applications are proceeding for priority target areas at Sexton, Javelin, B1 and Serendipity where the Company intends to drill in the coming months.

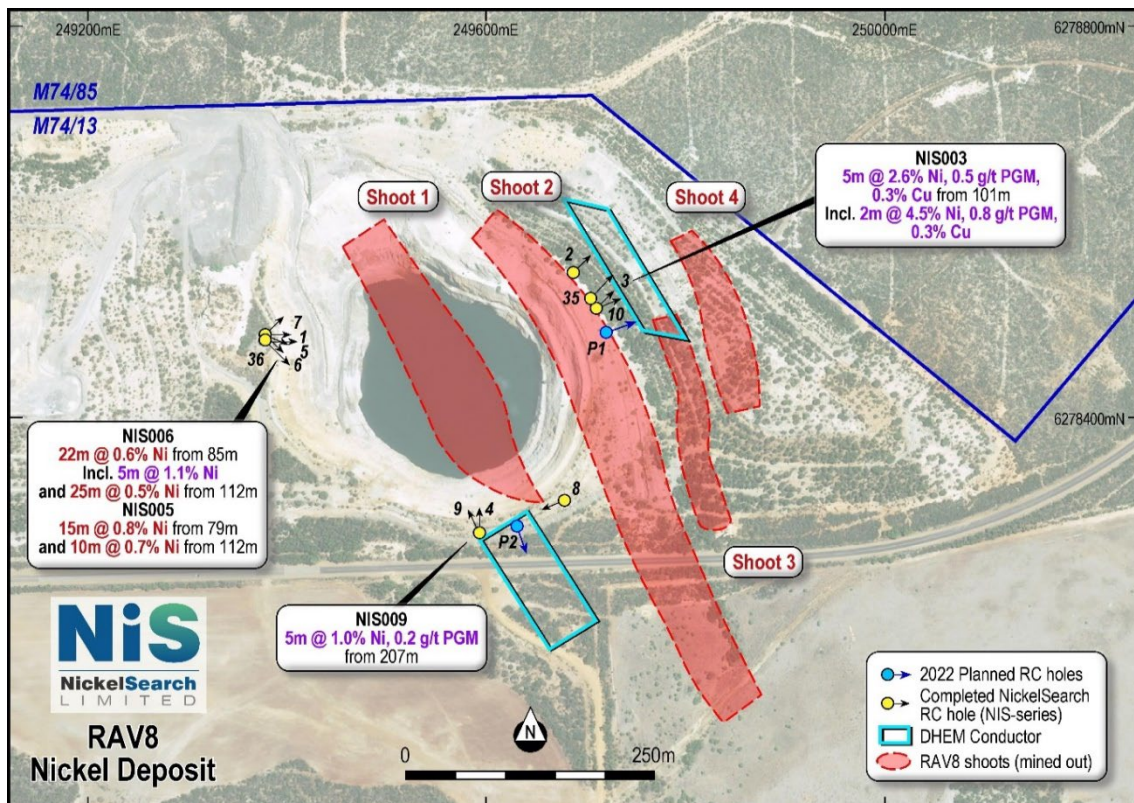


Figure 4. RAV8 Planned drill holes to test DHEM conductor plates (for details of drill results refer to NIS ASX Announcements of 28 April and 16 May 2022)

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Metal	Ni ppm	Cr ppm	Cu ppm	Zn ppm	Kambalda Ratio
Number Samples	2715	2715	2715	2715	2715
Minimum	1.65	3.07	0.26	0.7	0.002
Maximum	7820	2180	1860	1125	59.47
Mean	287.3	218.5	24.6	18.6	0.403

Table 1. Statistical information for the reported soil sampling data

This announcement has been approved for release by the Board of NickelSearch Limited.

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Competent Person's Statement

The information in this announcement that relates to Exploration Results is based on and fairly represents information and supporting documentation prepared by Mr David Royle. Mr Royle is Non-Executive Chairman of NickelSearch Limited and is a Fellow and Competent Person of the Australian Institute of Mining and Metallurgy. Mr Royle has sufficient experience relevant to the styles of mineralisation and types of deposits that are covered in this announcement and to the activity that they are 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' ("JORC Code"). Mr Royle consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. Mr Royle holds an interest in the Company's securities.

COMPANY OVERVIEW

About NickelSearch

NickelSearch Limited (ASX code: NIS) is a dedicated WA nickel sulphide explorer focused on advancing its flagship Carlingup Nickel Project. The asset has an existing resource base of 171kt contained nickel.

Directors & Management

Nicole Duncan
Managing Director

David Royle
Non-Executive Chairman

Norman Taylor
Non-Executive Director

Paul Bennett
Non-Executive Director

Donald James
Non-Executive Director

NickelSearch

ACN 110 599 650

Projects

Carlingup Nickel
Project (100%)

Shares on Issue






104,064,018

Options

8,600,000

ASX Code

NIS

-  Highly prospective tenure covering +10km strike
-  Multiple high priority, drill-ready resource extension targets
-  Proven high grade nickel production of 16.1kt Ni at 3.45%
-  Significant, shallow resource base open in most directions
-  Strategically positioned next to major nickel mining & processing hubs

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2012 JORC Table 1

SECTION 1: SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code Explanation	Commentary
Sampling techniques	<p><i>Nature and quality of sampling (e.g. 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. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</i></p>	<ul style="list-style-type: none"> • Ultrafine soil sampling by NickelSearch was conducted from a 30-40cm cleared area to a depth of approximately 25cm. The sample was dry sieved to collect 200-300 grams of -2mm. Two field duplicates were taken every 100 samples.
Drilling techniques	<p><i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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>	<ul style="list-style-type: none"> • No new drilling results are reported in this announcement
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><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></p>	<ul style="list-style-type: none"> • No new drilling results are reported in this announcement
Logging	<p><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate</i></p>	<ul style="list-style-type: none"> • No new drilling results are reported in this announcement

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Criteria	JORC Code Explanation	Commentary
	<p><i>Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <p><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></p> <p><i>The total length and percentage of the relevant intersections logged.</i></p>	
Sub-sampling techniques and sample preparation	<p><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></p> <p><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p> <p><i>Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.</i></p> <p><i>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.</i></p> <p><i>Whether sample sizes are appropriate to the grain size of the material being sampled</i></p>	<ul style="list-style-type: none"> • No new drilling results are reported in this announcement
Quality of assay data and laboratory tests	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>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.</i></p> <p><i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></p>	<ul style="list-style-type: none"> • Ultrafine soil samples were sieved to -53 micron at ALS Laboratories and run for gold plus a 43 multi-element package by aqua regia digestion for acid extractable gold (25-gram charge).

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Criteria	JORC Code Explanation	Commentary
Verification of sampling and assaying	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>	<ul style="list-style-type: none"> • No new drilling results are reported in this announcement
Location of data points	<p><i>Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<ul style="list-style-type: none"> • Location of soil samples by NickelSearch were recorded using a handheld GPS which is considered appropriate for reconnaissance sampling.
Data spacing and distribution	<p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>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.</i></p> <p><i>Whether sample compositing has been applied.</i></p>	<ul style="list-style-type: none"> • Soil sampling was conducted at 50 m spacing with north-south oriented lines spaced either 100m or 200m apart.
Orientation of data in relation to geological structure	<p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>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></p>	<ul style="list-style-type: none"> • Soil sampling was planned and conducted on tighter north-south grid spacing at 50m since the komatiite ultramafic host rocks are oriented primarily east-west.
Sample security	<p><i>The measures taken to ensure sample security.</i></p>	<ul style="list-style-type: none"> • NickelSearch ensured that sample security was maintained to ensure the integrity of sample quality.
Audits or reviews	<p><i>The results of any audits or reviews of sampling techniques and data.</i></p>	<ul style="list-style-type: none"> • Audits and reviews have not been undertaken at NickelSearch.

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SECTION 2: REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<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. 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 Carlingup Project, located 20km east of Ravensthorpe, comprises 8 MLs, 7 ELs covering 108 sq km (all rights -ML74/013, M74/085, M74/107, M74/104, M74/082, M74/084, M74/106, E74/685, E74/657, E74/675; nickel only rights M74/083, E74/656, E74/602/ E74/683, E74/638). • The project tenements are in good standing and no known impediments exist. • The tenements are 100% owned.
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties</i>	<ul style="list-style-type: none"> • Historic diamond drilling by Greenstone Resources NL JV with QNI Exploration and Development in 2002.
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	<ul style="list-style-type: none"> • Nickel sulphide occurrences identified to date are associated with the Bandalup Ultramafic on the northern limb of the Maydon Syncline. They occur typically as disseminated sulphides, however narrow lenses of massive to semi-massive sulphide have been located near the basal contact of the ultramafic have been identified but are poorly explored
Drill hole Information	<p><i>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:</i></p> <ul style="list-style-type: none"> • <i>Easting and northing of the drill hole collar</i> • <i>Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> • <i>Dip and azimuth of the hole</i> • <i>Down hole length and interception depth</i> • <i>Hole length.</i> 	<ul style="list-style-type: none"> • No new drilling results reported in this announcement.

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Criteria	JORC Code explanation	Commentary
	<i>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.</i>	
Data aggregation methods	<p><i>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.</i></p> <p><i>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.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<ul style="list-style-type: none"> • No new drilling results are reported in this announcement
Relationship between mineralisation widths and intercept lengths	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i></p>	<ul style="list-style-type: none"> • No new drilling results are reported in this announcement
Diagrams	<i>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.</i>	<ul style="list-style-type: none"> • See relevant maps in the body of this announcement.
Balanced reporting	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.</i>	<ul style="list-style-type: none"> • All available data has been presented in figures.

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Criteria	JORC Code explanation	Commentary
Other substantive exploration data	<i>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.</i>	<ul style="list-style-type: none"> • A total of 2,268 new gravity stations were acquired recently by Atlas Geophysics Pty Ltd that were contracted by NickelSearch in July and August 2022. The survey stations were conducted at 50m spacing north-south lines that were spaced 100 m apart east-west. The data was combined with 719 previous gravity stations completed in 2005 by Traka Resources. Resource Potentials Pty Ltd (geophysical consultants) were contracted to complete the processing of gravity images that are illustrated and reported in this announcement.
Further work	<p><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	<ul style="list-style-type: none"> • Further work is detailed in the body of the announcement.