# HIGH GRADE ASSAYS OF UP TO 19\% COPPER AT JEAN ELSON PROJECT, NORTHERN TERRITORY 

Assays confirm extremely high-grade copper occurrences at several new locations. The coincidence of strong copper assays and geophysical anomalism further highlights the project's immense potential

## Highlights

- A November 2022 reconnaissance field trip to the Jean Elson Project identified significant copper (Cu) lodes at the Bonya West prosect and additional Cu enrichment and quartz-haematite-(pyrite) veining at the Camel Creek South and Canyon Bore prospects (Previous ASX announcement 9 November 2022).
- Assay results are now available; Results include:
- Sample JE0176: 19.35\% Cu;
- Sample JE0186: 10.75\% Cu;
- Sample JE0180: 8.85\% Cu;
- Sample JE0183: 8.14\% Cu; and
- Sample JEO188: 6.70\% Cu.
- Of the 46 samples taken during the field trip, $45 \%$ contain $>0.5 \% \mathrm{Cu}$.
- Metal assemblage indicates that ore-grade copper mineralisation is broadly correlated with $\mathrm{Ag}, \mathrm{Co}, \mathrm{Pb}, \mathrm{Zn}, \mathrm{P}, \mathrm{As}, \mathrm{Bi}$, $\mathrm{Cd}, \mathrm{Mo}, \mathrm{Fe}, \mathrm{Mg}, \mathrm{Ti}$, and U in addition to low level REEs.
- Geochemical signature of Cu is indicative of skarn-style mineralisation.

Inca Minerals Limited (ASX: ICG) is pleased to provide a further update on an October-November 2022 geological reconnaissance field trip to its Jean Elson Project, located in the East Arunta region in the Northern Territory.

Assay results are now available and have indicated several occurrences of strong copper and associated silver (Ag) mineralisation. Initial field trip observations were reported to the market via an ASX announcement on 9 November 2022.

The most promising Cu results are from the Bonya West Prospect where mineralised lodes (veins) were identified. Bonya West is located on Inca's newly granted exploration licence EL33214 (Figures 1 and 2).


Figure 1 Samples from Bonya West. Left: Photo of rock chip sample JE0176 with $19.35 \%$ Cu; Right: Photo of rock chip sample JE0171 (that appeared on page 1 of the 9 November 2022 ASX announcement) with $1.55 \%$ Cu. The visual comparison is of interest, with the least superficially mineralised of the two, an order of magnitude more enriched.


Figure 2: Project location map showing named prospects (blue dash), neighbouring tenure, and mineral deposits and occurrences. Mineral occurrences are largely restricted to areas of outcropping Proterozoic geology to the northwest, whereas much of the Project is covered by thin, aeolian sand cover derived from the Simson Desert. Black arrows broadly indicate increasing thickness of sand cover. Note areas north and east of the approximately indicated limit of sand cover are Cambrian-Ordovician aged sedimentary units of the Georgina Basin.

## Bonya West Prospect

The Bonya West prospect is located in Inca's new EL33214 (Figure 2). The numerous historical mineral occurrences that are recorded within the vicinity of EL33214 was the compelling reason for the Oct-Nov 2022 fieldtrip. The fieldtrip was highly successful with the discovery of an array of mineralised lodes (veins) some 170 m wide with five individual veins up to 20 m true width (as reported in the 9 November 2022 ASX announcement) (Figure 3).


Figure 3: Rock chip sample locations and lode trends at Bonya West. Copper assay results are added in textboxes.

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Table 1: Sample Location, Description and Assay Results (sheet 1)


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Table 1: Sample Location, Description and Assay Results (sheet 2)


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At Bonya West, two small historical scrapings have exposed siliceous, skarn-like lodes hosting abundant, supergene enriched malachite and lesser chrysocolla mineralisation (Figure 3). The two lodes lie subparallel to one another, vary between 1-5m wide, and can be traced over 50 m and 70 m respectively (samples JE0171-JE0173 and JE0175-JE0176 in Figure 4). These samples are mineralised in Cu with associated elevated levels of Ag. Sample JEO176 has recorded the peak Cu value of the program at 19.35\% Cu.

Reconnaissance by Inca extended one of the known mineralised lodes a further 60 m to the northeast (JE0177-JE0180 in Figure 4) and identified five additional lodes nearby varying between 20 cm and 5 m in width. Notably, one of the new lodes (JE0170 and JE0183-JEO186 in Figure 4) consistently subcrops over 3-5m wide over its c. 140 m strike length.


Figure 4: Examples of Bonya West supergene enriched mineralisation including a) JE0172, b) JE0176, c) JE0183, and d) JE0186. Sample JE0172 has $4.68 \%$ Cu. Sample JE0176 has 19.35\% Cu and 19.85g/t Ag. Sample JE0183 has 8.14\% Cu and 6.53g/t Ag. Sample JE0186 has $10.75 \% \mathrm{Cu}$.

## Camel Creek and Whistling Kite

At the Camel Creek prospect, a zone of anomalous geochemistry defined by elevated copper was identified. Several samples returned over 100 ppm , with the best values coming from sample JE0145, which returned ore grade mineralisation up to $1.96 \%$ Cu. Other samples of significance, which require follow-up work, include JE0147 with $0.65 \%$ Cu and JE0150 with $0.12 \%$ Cu. These anomalous copper values broadly correlate with high iron levels, reflective of haematite alteration, which is widely mapped in the Camel Creek Prospect area.

Whistling Kite results are broadly low for copper and other pathfinder elements and correlate well with the mapped local geology; mainly defined by highly silicified and crystalline cherty units. Chert generally forms an impermeable cap, which
prevents the free movement of geochemical fluxes from the subsurface. This area could be better tested by other exploration methods including IP surveys, which could read signals hundreds of metres below the surface.

## Importance of Results and Next Steps

The Jean Elson October-November field trip has resulted in a number of important results:

- The identification of strong copper mineralisation coinciding with known geophysical and mineralised prospects, Camel Creek and Whistling Kite.
- The identification of strong copper mineralisation in new areas on the new Jean Elson exploration licence EL33214.
- The geochemical association of $\mathrm{Cu}, \mathrm{Ag}, \mathrm{Co}, \mathrm{Pb}, \mathrm{Zn}, \mathrm{P}, \mathrm{As}, \mathrm{Bi}, \mathrm{Cd}, \mathrm{Mo}, \mathrm{Fe}, \mathrm{Mg}, \mathrm{Ti}$, and U with low levels of REEs.

The geochemical association is indicative of skarn and/or skarnoid mineralisation. The absence of gold in the three prospects sampled (and subject of this announcement) precluded an IOCG system. IoGAS plots based on Ti+V vs. Ca+Al+Mn (Depuis and Beaudoin, 2011), suggest a skarn system (Figure 5a). Skarns are formed by the metasomatic transformation of carbonate-rich rocks such as calc-silicates, which are widespread in the Bonya West Prospect area. All samples plot within the Basalt, Andesite and Trachy-andesite fields on the Nb/Y vs. Zr/Ti plot of Pearce, 1996 (Figure 5b), indicating that magmatic fluids provided the fluid and brine sources that metasomatized the existing country-rock calc-silicates, leading to the formation of a skarn system. REEs association point to a common source for the mineralisation observed in the area.



Figure 5. Assays indicate that mineralisation within the Jean Elson Project area is Skarn related (Figure 5a). All the samples clearly demonstrate an evolutionary trend originating from primitive mantle melts, basalts and evolving through intermediate andesites and trachy-andesites to highly evolved silica-rich rhyolitic dacites (Figure 5b). These rocks have been variably metamorphosed.

Mineralisation within the Jean Elson Bonya West and Camel Creek Prospects is hosted within variably metamorphosed units, like the Jervois Copper Mines. Inca's Bonya West Prospect is geologically set on the same structural corridor and geology as the Jervois group of mines, which are located barely 24 km to the northeast. Geology is mainly defined by low-middle grade metamorphics, including calc-silicates, quartzite, andalusite-cordierite, and sericite-magnetite schists.

The field trip mapping and assay results are very positive. Target generation will continue in the lead up to a drill program during the 2023 field season. Inca also completed a Gradient Array IP survey in 2022 over selected areas within the broader Camel Creek Prospect area. Interpretation of these results in conjunction with the rock chips geochemistry data will define clear targets for drill testing in the course of 2023.

## This announcement was authorised for release by the Board of Directors.

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## Competent Person's Statements

The information in this ASX announcement that relates to exploration activities for the Jean Elson Project in the Northern Territory, is based on information compiled by Dr Emmanuel Wembenyui BSc (Hons), MSc Applied Geology and PhD Geochemistry who is a Member of The Australasian Institute of Mining and Metallurgy and The Australian Institute of Geoscientists, MAIG. He has sufficient experience, which is relevant to the exploration activities, style of mineralisation and types of deposits under consideration, and to the activity which has been undertaken, 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". Dr Wembenyui is a fulltime employee of Inca Minerals Limited and consents to the announcement being issued in the form and context in which it appears.

## Appendix 1: ASIC Compliancy Table

## JORC 2012 Compliancy Table

The following information is provided to comply with the JORC Code (2012) exploration reporting requirements.

## Section 1 Sampling Techniques and Data

## Criteria: Sampling techniques

JORC CODE Explanation
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 hand-held XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.

## Company Commentary

No drilling or geophysical results are reported in this announcement. This announcement refers to assay results of 44 rock chip samples collected during reconnaissance fieldwork across different prospects within Inca's Jean Elson Project area. Rock chip sample locations were determined by the occurrence of visible mineralisation and/or alteration. Results are evaluated in the context of suitable exploration models based on elemental associations and mapped lithologies.

## JORC CODE Explanation

Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.
Company Commentary
This announcement refers to assay results for 44 rock chip samples. Although samples were selected based on visible mineralisation and/or alteration assemblages, each sample was selected to be fully representative of the areas they were collected from. Only in-situ material was broken from outcropping lithologies to ensure complete representativity of local geology.
JORC CODE Explanation
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 a coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.
Company Commentary
Best practice and sampling protocols were followed to collect the 44 rock chip samples being reported. The purpose of the sampling was to determine the grade of visible mineralisation in outcropping rocks and to establish geochemical associations, which are useful in planning drill programs.
Criteria: 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).
Company Commentary
No drilling or drilling results are referred to in this announcement.
Criteria: Drill sample recovery
JORC CODE Explanation
Method of recording and assessing core and chip sample recoveries and results assessed.
Company Commentary
No drilling or drilling results are referred to in this announcement.
JORC CODE Explanation
Measures taken to maximise sample recovery and ensure representative nature of the samples.
Company Commentary
No drilling or drilling results are referred to in this announcement.


## Criteria: Quality of assay data and laboratory tests

## JORC CODE Explanation

The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.

## Company Commentary

This announcement refers to assay results for 44 rock chip samples. The samples were submitted to ALS Mount Isa Laboratory for multielement geochemical analysis. The analytical assay technique is a combination of inductively coupled plasma atomic emission spectrometry (ICP-AES) and inductively coupled plasma mass spectrometry (ICP-MS) for acquiring multi-element data and fire assay atomic absorption spectroscopy, Au-AA23 for gold. The analytical assay techniques used in the elemental testing is considered industry best practice. These techniques which employ a four-acid digest, quantitatively dissolve nearly all elements for most geological samples except the most resistive minerals such as zircons.
JORC CODE Explanation
For geophysical tools, spectrometers, hand-held XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.

## Company Commentary

This announcement refers to assay results for 44 rock chip samples. No tools of this nature were used in the generation of the assay results. All data were acquired through ALS laboratories.

## JORC CODE Explanation

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.

## Company Commentary

In addition to Inca's in-house certified reference material sourced from OREAS which are inserted regularly with each batch of sample submission, ALS laboratory runs and maintains a comprehensive QAQC program, which includes the insertion of duplicates, standards and blanks to assess data accuracy, laboratory contamination and data repeatability. All data received from ALS meets acceptable levels of accuracy and precision.
Criteria: Verification of sampling and assaying
JORC CODE Explanation
The verification of significant intersections by either independent or alternative company personnel.
Company Commentary
This announcement does not refer to drilling or drill results.
JORC CODE Explanation
The use of twinned holes.
Company Commentary
No drilling or drilling results are referred to in this announcement.

## JORC CODE Explanation

Documentation of primary data, data entry procedures, date verification, data storage (physical and electronic) protocols.

## Company Commentary

Assay files were received electronically from ALS laboratory in PDF and Excel formats, including analytical certificates, which serve as certificates of authenticity. Received data were subsequently verified by company geologists and QAQC analysis performed on certified reference material to evaluate data accuracy, repeatability and completeness. All data received were captured on company laptops/desktops/iPads and backed up from time to time. Photographic data was acquired by Inca personnel. All original datasets received from ALS and other laboratories are saved on Inca's online storage platform for future references.

## JORC CODE Explanation

Discuss any adjustment to assay data.

## Company Commentary

This announcement refers to assay results for 44 rock chip samples. No assay data adjustments were made to the data.
Criteria: Location of data points
JORC CODE Explanation
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.

## Company Commentary

This announcement refers to assay results for 44 rock chip samples. The sample locations were determined using hand-held Garmin 66s GPS units.
JORC CODE Explanation


## JORC CODE Explanation

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.

## Company Commentary

Tenement Type: Three Northern Territory Exploration Licences (EL): EL32485, EL32486 and EL33214. Ownership: The Company has the right to earn $90 \%$ of EL 32485 \& EL32486 with a residual $1.5 \%$ NSR payable to MRG Resources Pty Ltd (MRG), through an executed Joint Venture and Royalty Agreement (JVRA) with MRG.

## JORC CODE Explanation

The security of the land tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.
Company Commentary
The tenements are in good standing at the time of writing.
Criteria: Exploration done by other parties
JORC CODE Explanation
Acknowledgement and appraisal of exploration by other parties.
Company Commentary
Other than referring to past mining locations only, this announcement does not refer to exploration conducted by previous parties.

## Criteria: Geology

JORC CODE Explanation
Deposit type, geological setting and style of mineralisation.

## Company Commentary

The geological setting falls within the Palaeoproterozoic to Nesoproterozoic Arunta Block that is dominated by metamorphic and igneous lithologies. The project area is extensively covered by younger sedimentary cover that is estimated from airborne electromagnetic surveying to be approximately $0-50 \mathrm{~m}$ thick. The project area is prospective for Skarn-style and intrusion -related mineralisation. Other mineralisation styles may be identified when drilling and resource evaluation commences.

## Criteria: Drill hole information

## JORC CODE Explanation

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:

- 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.


## Company Commentary

No drilling or drilling results are referred to in this announcement.

## JORC CODE Explanation

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.

## Company Commentary

No drilling or drilling results are referred to in this announcement.

## Criteria: Data aggregation methods

## JORC CODE Explanation

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. Where aggregate intercepts incorporate short lengths of highgrade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations shown in detail.

## Company Commentary

No weighted averages, maximum/minimum truncations and cut-off grades were applied to reporting contained in this announcement.
JORC CODE Explanation
The assumptions used for any reporting of metal equivalent values should be clearly stated.
Company Commentary

No metal equivalents are referred to in this announcement.

## Criteria: Relationship between mineralisation widths and intercept lengths

## JORC CODE Explanation

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 (e.g. 'down hole length, true width not known.')

## Company Commentary

No drilling or drilling results are referred to in this announcement.

## Criteria: Diagrams

## JORC CODE Explanation

Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not limited to a plan view of drill hole collar locations and appropriate sectional views

## Company Commentary

Maps are provided, which show locations of the 44 rock chip samples included in this announcement. Photographic data is cross referenced to the sample number and hence geo-located.

## Criteria: Balanced reporting

## JORC CODE Explanation

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.

## Company Commentary

The Company believes the ASX announcement provides a balanced report of its exploration results referred to in this announcement.

## Criteria: Other substantive exploration data

## JORC CODE Explanation

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.

## Company Commentary

This announcement refers to a previous ASX announcement, dated 31 March 2022
Criteria: Further work

## JORC CODE Explanation

The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).

## Company Commentary

By nature of early phase exploration, further work is necessary to better understand the prospectivity of this emerging project.

## JORC CODE Explanation

Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.

## Company Commentary

Maps show the location, size and configuration of the targets generated independently.

