MAIDEN MUKINBUDIN QUARTZ PROCESSING TESTWORK ACHIEVES PREMIUM HPQ PRODUCT

Highlights

- **Exceptional Processing Testwork results received from North Carolina State University's Mineral Research Laboratory (NCSU-MRL), an industry leading independent High Purity Quartz lab.**

- **Quartz sample T1-C, a maiden sample from the Mukinbudin Project, achieved >99.991% SiO_2 from a simple processing flow sheet that included attrition, flotation and magnetic separation treatment, opening opportunities for early stage offtake.**

- **All samples sent to NCSU-MRL, from both Pippingarra and Mukinbudin demonstrated outstanding purity levels, confirming the exciting potential of IND's quartz deposits and their suitability for high-end applications.**

- **In parallel with the numerous ongoing offtake discussions and ongoing end customer testing, IND now plans to undertake further comprehensive independent testwork at leading industrial minerals consultancy ANZAPLAN in Germany to further assist in finalising product offtake.**

Industrial Minerals Ltd (ASX: **IND** or the **Company**) is pleased to announce that it has received results from High Purity Quartz Processing Testwork[1] completed by North Carolina State University's Mineral Research Laboratory ("NCSU-MRL").

IND is exploring for High Purity Quartz ("HPQ") at several of its projects in Western Australia, and the testwork was completed on samples from IND's Pippingarra Quarry Project and Mukinbudin Quartz/Feldspar Project.

[1] ASX Announcement 24 April 2024 - IND Establishes HPQ Exploration Target at Pippingarra Project

Jeff Sweet, Managing Director of Industrial Minerals, commented:

"We are extremely encouraged by achieving +99.99% SiO_2 purity through to the acid leaching stage of our process testwork. These results are incredibly promising for our HPQ production. With calcination and hot chlorination stages yet to be tested, we anticipate even greater purity levels can be achieved. This progress underscores our confidence in achieving premium quality in our final product.

"The Mukinbudin quartz was purified to 99.991% SiO_2 through magnetic separation and flotation process work alone. This simple flowsheet will allow IND to pursue early-stage offtake opportunities into a broader range of HPQ applications.

"Given the large price differential at the premium end of the HPQ market as illustrated in Figure 1, IND's ultimate goal is to now test the maximum purity level achievable across the Company's quartz projects with the aim to be a recognised long term supplier of quality HPQ products."

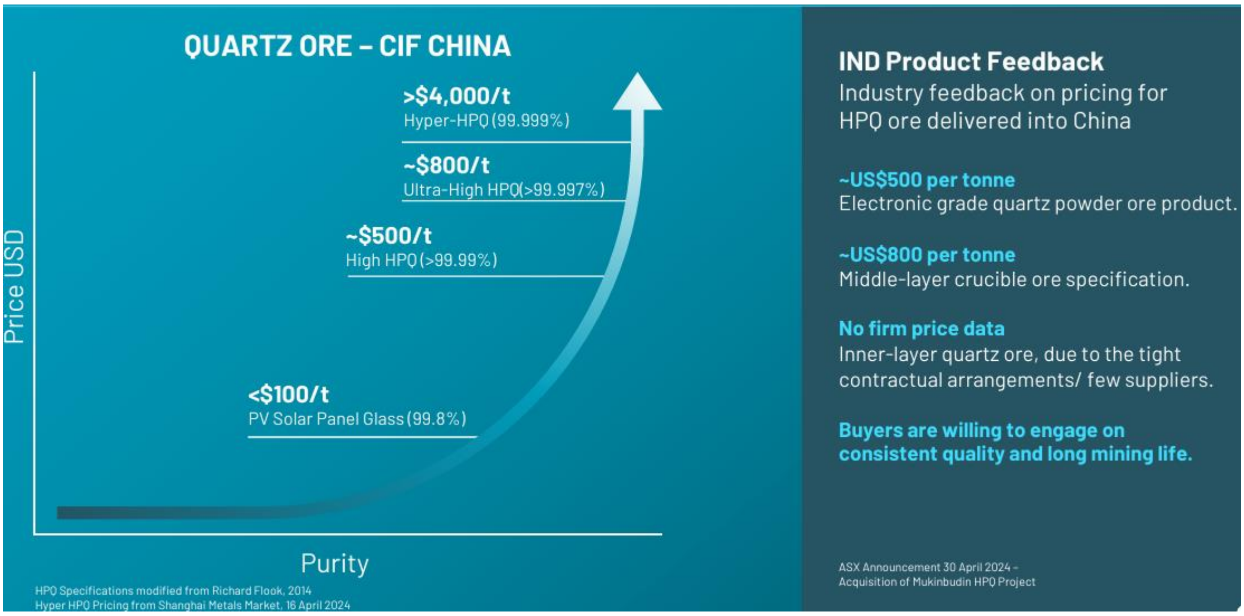

Figure 1: High Purity Quartz raw ore pricing CIF China based on industry feedback[2]

Processing Testwork Results

North Carolina State University's Minerals Research Laboratory is a world leader in research, development and implementation of mineral processing techniques. The main focus of NCSU-MRL's research is the beneficiation of industrial minerals.

Quartz Ore Samples

IND sent three 20kg quartz ore samples to NCSU-MRL for the purpose of assessing the potential to use as feedstock for the production of High Purity Quartz. Test samples T1_A and T1-B were sourced from IND's Pippingarra Quarry Project (Figure 2) and test sample T1_C was sourced from the Mukinbudin Project (Figure 3).

[2] Industry Feedback on Pricing sourced from ASX Announcement 30 April 2024 – Acquisition of Mukinbudin HPQ Project (Figure included in ASX Announcement 7 May 2024 – RIU Sydney Presentation)

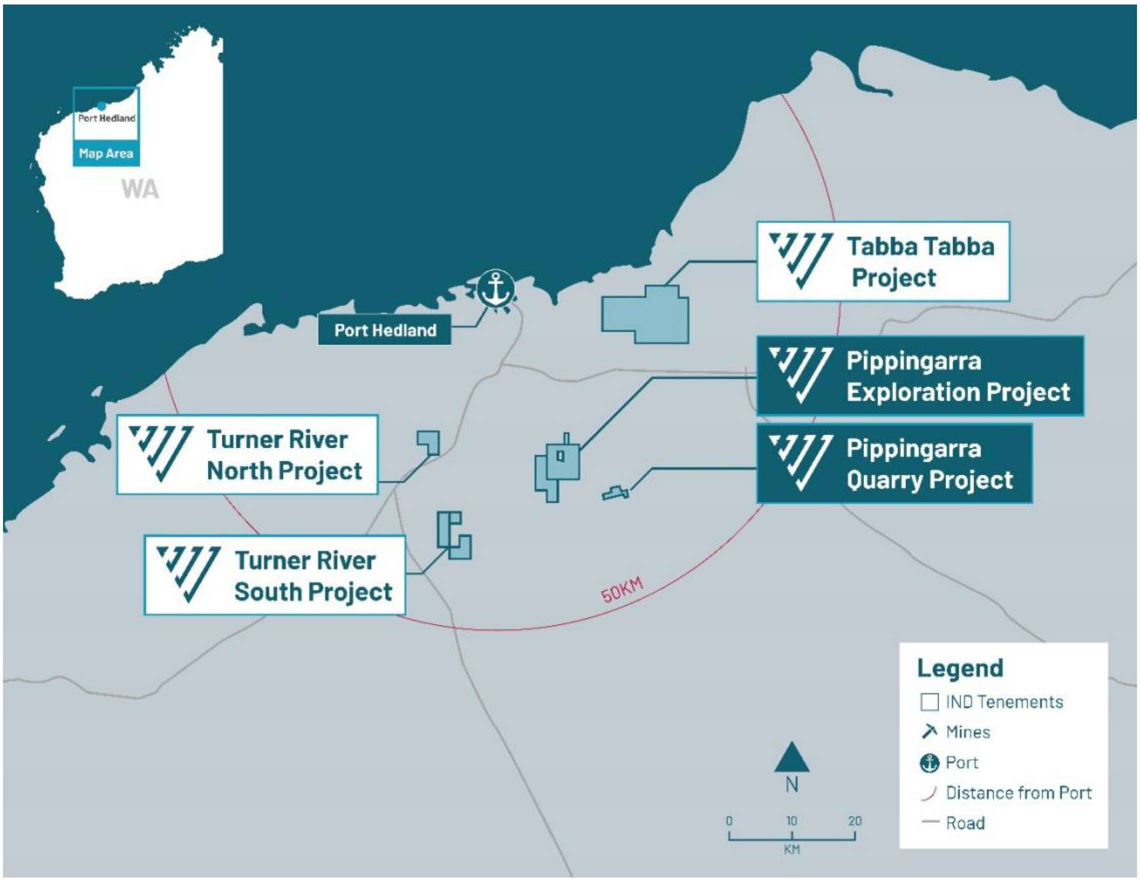

Figure 2: Pippingarra Quarry Project location

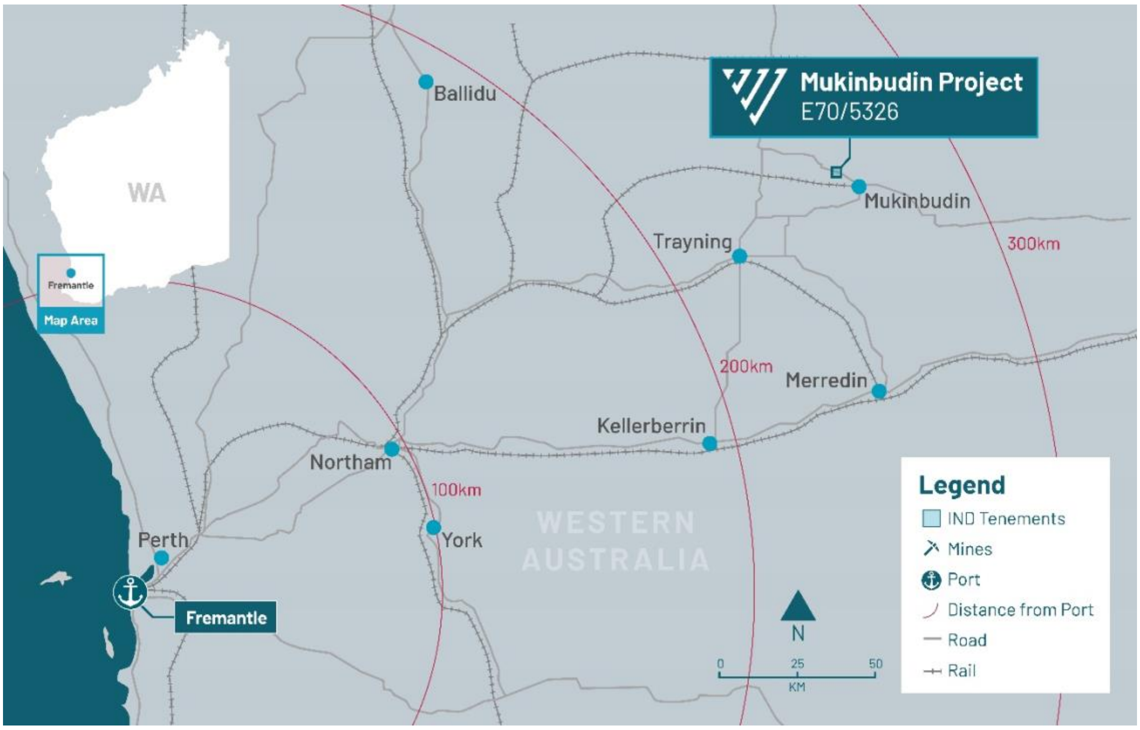

Figure 3: Mukinbudin Quartz/Feldspar Project location

Test Procedure

1. Sample Preparation - Initial preparation of the rock ore sample to ensure it is suitable for testing.
2. Size Reduction - Reduce the size of the sample through crushing and grinding. Intermediate Size Classification: Perform size classification to separate particles into different size ranges.
3. Desliming - Remove fine particles and clays to ensure better processing.
4. Attrition Scrubbing - Use attrition scrubbing to clean the surfaces of the particles. Ensure particles have fresh surfaces for better adsorption of flotation reagents.
5. Conditioning of Pulp - Adjust the pH of the pulp to the desired level. Addition of Flotation Reagents: Add flotation reagents to the conditioned pulp.
6. Flotation - Perform flotation to selectively separate desired minerals from unwanted waste.
7. Dry Floated Quartz Product - Dry the floated quartz product obtained from the flotation process.
8. Particle Size Analysis - Quartz Product Analysis: Conduct a particle size analysis on the dried quartz product.
9. Magnetic Separation - Use magnetic separation to remove any remaining magnetic minerals.
10. Acid Leaching - Perform acid leaching on the floated quartz using MRL's standard HPQ procedure.
11. Preparation for Chemical Analysis - Prepare the leached quartz for chemical analysis using Inductively Coupled Plasma Mass Spectrometry (ICPMS).

Results

Inductively Coupled Plasma - Mass Spectrometry ("ICP-MS") analysis was used to determine the elemental impurities, with detection limits suitable to the stringent requirements for high purity quartz.

Testing was completed on the non-magnetic samples post flotation (removal of feldspar and mica minerals) (Table 1) and post acid leaching which was the final stage of processing (Table 2).

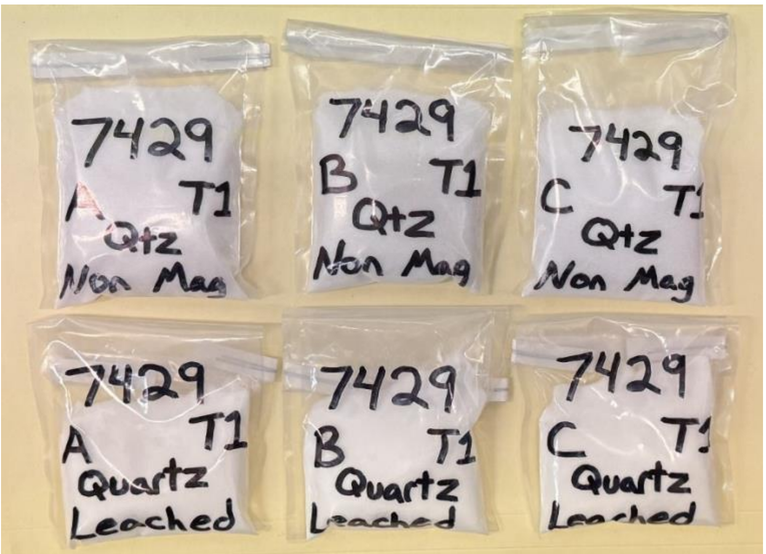

Figure 4: High Purity Quartz samples from testwork conducted at NCSU – Minerals Research Laboratory

Table 1: ICP-MS Analysis of Non-Magnetic Quartz Pre Leach

Element (ppm)	Sample ID[3] T1_A	T1_B	T1_C
Aluminium (Al)	141.069	125.219	38.719
Barium (Ba)	0.067	0.156	0.274
Boron (B)	0.566	0.397	0.048
Calcium (Ca)	8.255	9.292	12.667
Chromium (Cr)	0.215	0.264	0.183
Copper (Cu)	0.195	0.101	0.034
Iron (Fe)	4.335	5.690	1.998
Potassium (K)	30.090	46.535	3.911
Lithium (Li)	4.401	3.452	3.233
Magnesium (Mg)	0.209	0.312	0.062
Manganese (Mn)	0.403	0.417	0.287
Sodium (Na)	55.594	37.317	17.322
Nickel (Ni)	0.108	0.134	0.095
Phosphorus (P)	0.207	0.196	0.065
Titanium (Ti)	2.364	2.232	11.266
Zinc (Zn)	0.258	0.194	0.176
Zirconium (Zr)	0.040	0.063	0.061
Rare Earth Elements	1.597	1.665	2.334
Total Impurities (ppm)	**249.973**	**233.636**	**92.755**

Table 2: ICP-MS Analysis of Non-Magnetic Quartz Post Leach

Element (ppm)	Sample ID[3] T1_A	T1_B	T1_C
Aluminium (Al)	121.567	108.508	37.288
Barium (Ba)	0.014	0.022	0.090
Boron (B)	0.474	0.330	0.045
Calcium (Ca)	4.796	5.723	10.847
Chromium (Cr)	0.000	0.000	0.000
Copper (Cu)	0.176	0.082	0.012
Iron (Fe)	1.587	1.942	0.724
Potassium (K)	26.270	40.681	1.947
Lithium (Li)	4.239	3.805	3.362
Magnesium (Mg)	0.026	0.040	0.007
Manganese (Mn)	0.178	0.179	0.198
Sodium (Na)	41.710	26.134	13.294
Nickel (Ni)	0.000	0.001	0.001
Phosphorus (P)	0.100	0.087	0.000
Titanium (Ti)	2.246	1.943	10.674
Zinc (Zn)	0.106	0.084	0.075
Zirconium (Zr)	0.088	0.008	0.038
Rare Earth Elements	1.575	1.470	2.083
Total Impurities (ppm)	**205.152**	**191.039**	**80.685**

[3] Test samples T1_A and T1-B sourced from the Pippingarra Project. Test sample T1_C sourced from the Mukinbudin Project.

Total yields achieved in the testwork were also compelling. The standard flotation produced a quartz yield, by weight, of 98.2% for T1-A, 98.4% for T1-B, and 98.7% for T1-C. After magnetic separation, these yields were 82.5% for T1-A, for 83.6% T1-B, and 84.4% for T1-C. The leaching process resulted in a 14.5% loss by weight, due to impurity removal, for T1-A. The losses for T1-B and T1-C were 14.8% and 15.0%.

Table 3: Quartz yield by process stage

	Sample ID[3]		
Process Stage (% Yield)	**T1_A**	**T1_B**	**T1_C**
Flotation	98.2	98.4	98.7
Magnetic Separation	82.5	83.6	84.8
Acid Leach	85.5	85.2	85.0
Total Yield (%)	**69.3**	**70.1**	**71.1**

Next Steps for IND's HPQ Evaluation

The highly encouraging results from NCSU-MRL have:

1. Confirmed the potential for further assessment of beneficiation testwork. Consequently, IND has prepared samples to be sent to leading industrial minerals specialist consultancy Dorfner-ANZAPLAN ("ANZAPLAN") in Germany. As leaders in HPQ assessment and evaluation, ANZAPLAN can enhance the work completed at NCSU-MRL by performing advanced techniques such as calcination and hot chlorination to determine the ultimate quartz quality. Their unique expertise in designing flowsheets tailored to remove impurities at trace levels ensures that even the most stringent customer requirements are met.

2. Enabled IND's marketing team to prioritize offtake discussions with premium end users. IND's marketing team continues to pursue potential long term offtake partners for the Company's HPQ products and will be undertaking a further marketing trip throughout the month of August with these compelling results now in hand.

3. Justified a drill program for both Mukinbudin and Pippingarra, which will focus on resource and reserve definition. Planning of this program is advanced, with Mukinbudin being the initial focus.

This announcement has been approved by the Board of Industrial Minerals.

For enquiries regarding this release please contact:

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About IND

Industrial Minerals Ltd is a critical minerals explorer and a developer of high purity silica sand and quartz. The Company holds high purity silica sand (HPSS) and high purity quartz (HPQ) advanced projects in Western Australia, positioned to supply the high end HPQ markets.

The Company has a strategy of defining high quality resources near key infrastructure and located on granted mining leases to fast-track the pathway to production. IND's advanced testwork and large portfolio of projects gives the company a competitive advantage in presenting a range of product specifications to its broad network of potential customers.

Competent Person

The information in this release that relates to metallurgical test work has been reviewed by Mr Eugene Dardengo. Mr Dardengo is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM) and a consultant to Industrial Minerals Ltd. Mr Dardengo has sufficient experience with the style of processing response and type of deposit under consideration, and to the activities undertaken, to qualify as a competent person as defined in the 2012 edition of the "Australian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves" (The JORC Code 2012). Mr Dardengo consents to the inclusion in this report of the contained technical information in the form and context as it appears.

Forward-looking Statements

Certain statements contained in this document may be 'forward-looking' and may include, amongst other things, statements regarding production targets, economic analysis, resource trends, pricing, recovery costs, and capital expenditure. These 'forward–looking' statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by IND, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies and involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as 'believe', 'expect', 'anticipate', 'indicate', 'target', 'plan', 'intends', 'budget', 'estimate', 'may', 'will', 'schedule' and others of similar nature. IND does not undertake any obligation to update forward-looking statements even if circumstances or management's estimates or opinions should change. Investors should not place undue reliance on forward-looking statements as they are not a guarantee of future performance.

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Appendix 1 – HPQ Process Testwork Results

Table 4: Sample Location Coordinates

IND Sample ID	NCSU-MRL Sample ID	GDA94-Z50 E (m)	GDA94-Z50 N (m)
MET0021_A	T1_A	683359	7724197
MET0021_B	T1_B	683359	7724197
MET0022_A	T1_C	609452	6581709

Appendix 2 - JORC Code, 2012 Edition

Table 5: JORC Code, 2012 Edition. Section 1.

Criteria	JORC Code explanation	Commentary
Sampling techniques	*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.* *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *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 (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.*	Samples MET0021_A and MET0021_B were taken from stockpiles at the Pippingarra Project. For each, a 40kg representative sample was take from multiple locations across the stockpile. The saple was split using a riffle splitter and 20kg sent to NCSU-MRL for metallurgical testwork. The stockpile samples were taken in accordance with AS1441.2.1. Samples MET0022_A was taken from an exposed mineralised zone within Pit 2 at the Mukinbudin Project. A 20kg representative sample was sent to NCSU-MRL for metallurgical testwork.
Drilling techniques	*Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast,*	No drilling was carried out.

Criteria	JORC Code explanation	Commentary
	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).	
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.* *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *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.*	No drilling was carried out.
Logging	*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.*	No drilling was carried out. Geological logging of the samples by the IND geologist was carried out as a qualitative description of colour, lithological type, grain size, structures, minerals, alteration, and various other features.
Sub-sampling techniques and sample preparation	*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.*	Samples MET0021_A and MET0021_B were taken from stockpiles at the Pippingarra Project. For each, a 40kg representative sample was take from multiple locations across the stockpile. The saple was split using a riffle splitter and 20kg sent to NCSU-MRL for testwork. The stockpile samples were taken in accordance with AS1441.2.1. Samples MET0022_A was taken from an exposed mineralised zone within Pit 2 at the Mukinbudin Project. A 20kg representative sample was sent to NCSU-MRL for testwork.

Criteria	JORC Code explanation	Commentary
	Whether sample sizes are appropriate to the grain size of the material being sampled.	
Quality of assay data and laboratory tests	*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 have been established.*	The metallurgical testwork was carried out by North Carolina State University's Minerals Research Laboratory (NCSU-MRL). Elemental analysis was determined by Inductively Coupled Plasma - Mass Spectrometry (ICP-MS), with detection limits for elements suitable for the investigation of high purity quartz. No laboratory audits were undertaken.
Verification of sampling and assaying	*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.*	No drilling was carried out.
Location of data points	*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.*	Sample locations were surveyed using a handheld Garmin Rhino GPS. Co-ordinates are provided in GDA94 Zone 50.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.* *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*	Sampling was for metallurgical testwork. No drilling was carried out for exploration or mineral resource estimation purposes.

Criteria	JORC Code explanation	Commentary
	procedure(s) and classifications applied. *Whether sample compositing has been applied.*	
Orientation of data in relation to geological structure	*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.*	No drilling was carried out.
Sample security	*The measures taken to ensure sample security.*	The samples were placed in 20l plastic buckets and sealed at the sample collection location. The buckets were then sent to NCSU-MRL for metallurgical testwork.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No reviews or audits have been undertaken.

Table 6: JORC Code, 2012 Edition. Section 2.

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, 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.*	IND has an 80% interest in the non-construction mineral rights within M45/258 (Pippingarra Project). IND is the holder of exploration licence E70/5326 (Mukinbuddin Project). IND is not aware of any existing impediments nor of any potential impediments which may impact ongoing exploration and development activities at the project sites.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Exploration within and around the Pippingarra M45/258 has been carried out since the 1950's - initially for tantalum and beryl, then muscovite and in the

Criteria	JORC Code explanation	Commentary
		1980's for microcline feldspar. The mining operations for feldspar ended in the late 1990's and from this time onwards activities within M45/258 have primarily been quarrying. The quarrying operations are presently carried out by North West Quarries who supply a wide range of civil and construction materials. All prior exploration studies including drilling were focused on the exploration for and development of the microcline feldspar resources. There has been extensive exploration and mining on the area the subject of E70/5236, with quartz and feldstar being mind from the 1970's through to the 2000's. IND has utilise publicly available WAMEX reports in its exploration and project evaluation activities.
Geology	*Deposit type, geological setting and style of mineralisation.*	IND believes the style and geochemical signature of the Pippingarra Project and Mukinbudin Project are consistent with the nature of pegmatite mineralisation.
Drill hole Information	*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.* *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*	No drilling was carried out.

Criteria	JORC Code explanation	Commentary
	understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	*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.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No data aggregation methods have been used.
Relationship between mineralisation widths and intercept lengths	*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').*	No drilling was carried out.
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.*	No drilling was carried out.
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*	Results are commented upon in the text of this report.

Criteria	JORC Code explanation	Commentary
	misleading reporting of Exploration Results.	
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.*	All relevant data are reported in this release.
Further work	*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, provided this information is not commercially sensitive.*	Field work, including mapping and sampling, to better evaluate pegmatite and high purity quartz areas is being assessed. Infill and extensional drilling is currently being designed.