8 June 2023

ASX Announcement

IND ACHIEVES PREMIUM LOW IMPURITY SILICA SAND SPECIFICATION

Exceptional Beneficiation Results Support Offtake Negotiations

Highlights

- **Stockyard and Esperance East samples sent to processing plant manufacturer in China to assess beneficiation and impurity removal potential.**
- **Results show Fe_2O_3 of 100ppm and below for Stockyard and <70ppm for Esperance East, which meets PV Solar Panel glass specifications in this premium sector.**
- **IND to step up negotiations for potential offtake agreements, progressing Stockyard DSO strategy and capitalise on the potential market demand for HPSS.**

Industrial Minerals Ltd (ASX: **IND** or the **Company**) is pleased to provide an update on the latest processing test results from its flagship Stockyard High Purity Silica Sand (**HPSS**) Project near Eneabba and Esperance East Exploration Project, both in Western Australia.

Chemical analysis results from laboratory testing conducted in China shows that both projects can be successfully beneficiated to meet Photovoltaic (**PV**) Solar Panel glass specifications, with Esperance East potentially achieving a premium specification.

IND's Managing Director Jeff Sweet commented:

"As part of the efforts to progress discussions with potential offtake partners, the IND team has recently engaged with existing High Purity Silica Sand producers as well as non-ferrous mineral processing plant manufacturers in China. Since May 2023, several trips to China have been conducted, where multiple operating beneficiation facilities producing product for sale into PV panel manufacturers were visited.

"IND subsequently sent washed silica sand samples from Stockyard and Esperance East to a leading silica sand plant supplier for testing and analysis.

"These results have shown that Stockyard's DSO silica sand can be beneficiated to achieve a Fe_2O_3 level of 100ppm. At this specification the silica sand meets the requirements of PV solar panel glass producers. This HPSS market which feeds directly into the PV solar panel end users is projected to grow at the rate of 30.72% annually to 2029[1]. This is fantastic news, supporting IND's determined efforts to progress the Stockyard Project into production.

"Of note, a sample from the Esperance East Project achieved Fe_2O_3 of <70ppm, which is extremely encouraging for further development opportunities exporting out of southern Western Australia."

[1] Source: Maximize Market Research Report on Solar Photovoltaic Glass Market

High Purity Silica Sand Beneficiation

As a response to substantial interest from potential offtake partners, IND has been marketing directly to potential customers[2] in China, South Korea and Vietnam across the PV glass and specialty flat glass sectors, as well as the high-end refractory sand market. This included attendance at the Photovoltaic Glass Expo in Anhui Province China in April, and the China Glass conference in Shanghai in May.

Through these activities, IND Marketing Manager Mr Wei Li established contact with several processing plant manufacturers who specialise in equipment designed for beneficiating non-ferrous industrial minerals such as High Purity Silica and Quartz. One such party, Weifang Guote Mining Equipment Co., Ltd ("**Guote**") invited IND to tour its factory later in May, which was followed by a visit to see a plant recently commissioned by Guote to produce 2M tonne per annum of silica sand for the PV Solar Panel glass market.

Two IND samples were prepared and sent to Guote for processing testwork. One sample was sub-sampled from the 20t bulk sample[3] previously washed and bagged in October 2022. The second sample was selected from a composite of auger drilling split-samples, recently taken at the Esperance East Project.

Processing testwork conducted by Guote consisted of attritioning, iron removal via permanent magnet and wet high intensity magnetic separation (WHIMS). The resulting processed samples were sent to Foshan Ceramics Research Institute Testing Co., Ltd. (FCIRT) for chemical analysis in accordance with Chinese National Standard GB/T 21114-2019 – Refractories chemical analysis by X-ray fluorescence (XRF) fused cast-bead method (Adopted Standard ISO 12677-2011).

Table 1 shows that the testwork achieved the primary objective of reducing Fe_2O_3 to 100ppm for the Stockyard sample, and 68ppm for the Esperance East sample. This is a very positive step for the Stockyard Project, allowing IND to potentially pursue a physical and magnetic separation processing route without the need for Acid Leaching.

In April 2023, a hand auger sample from Esperance East was wash and sieved prior to being submitted to Intertek to determine the size by assay potential of processed sand from the project. Considering the sample did not undergo beneficiation, the Intertek results (Figure 2) are supportive of those from the Guote beneficiation testwork.

Table 1. XRF Chemical analysis results received from FCIRT

Attrition + Permanent Magnet + WHIMS	SiO_2 (%)	Fe_2O_3 ppm	Al_2O_3 ppm	TiO_2 ppm	LOI %
Stockyard (MET0016)	99.7	**100**	100	1,000	0.11
Esperance East (MET0017)	99.8	**68**	500	600	<0.05

[2] For further details on marketing activities, refer to ASX release dated 1st May 2023.

[3] For further details on bulk sample, refer to ASX release dated 11th October 2022.

Table 2. ICP-OES Chemical analysis results received from Intertek

Esperance East washed and sieved for testing (Sample No. EEX032)	SiO_2 (%)	Fe_2O_3 ppm	Al_2O_3 ppm	TiO_2 ppm	LOI %
MET0011 (-2.0mm, +0.5mm)	99.8	**60**	159	501	0.13
MET0012 (-0.5mm, +0.25mm)	99.7	**90**	199	1142	0.11
MET0013 (-0.25mm)	99.3	**230**	358	2282	0.13

The benchmark for high purity PV solar panel glass is widely recognised to constitute a range between 60-100ppm Fe_2O_3. IND's testwork results demonstrate the potential for HPSS from both Stockyard and Esperance East to be successfully beneficiated to meet these high specifications, with a simple processing flowsheet. At larger scale, this would have potential to reduce initial project capital costs and attract higher pricing associated with premium HPSS products, resulting in a significant impact on the economics of IND's projects.

The increasing use of PV solar cells to meet global renewable energy goals continues to drive demand for HPSS feedstock for PV solar glass. Globally, the market is estimated to grow from US$14bn in 2021 to US$124 billion in 2029, growing at a CAGR of 30.72% during the forecast period. China has invested over US$50 billion in new PV supply capacity, and currently accounts for more than 80% of all solar panel manufacturing processes. In addition, the country is home to 10 of the world's top providers of machinery for making solar PV[4].

Plate 1. A recent visit by IND team to a non-ferrous mineral processing plant manufacturer in China

[4] Source: Maximize Market Research Report on Solar Photovoltaic Glass Market

Strategic Offtake Partner

IND has been in discussions with several potential offtake partners following a substantial increase in enquiries for IND's High Purity Silica Sand (HPSS) products following recent announcements that the Company's flagship Stockyard Project is "Mine Ready"[5].

These discussions have included HPSS pricing, investment options, and processing plant design and location. Key considerations include proximity to market, transportation infrastructure, labour and energy costs as well as environmental and regulatory factors. IND will consider these factors as it progresses through to securing a strategic offtake partner.

The beneficiation results received for Stockyard have allowed IND to take offtake discussions to the next level. As a result, IND will host a Potential Strategic Offtake Partner on a tour of the Guote factory in the coming week. By visiting the factory, IND aims to provide the potential strategic offtake partner with a firsthand look at the capabilities and facilities of the factory. The visit also presents an opportunity for both parties to engage in face-to-face discussions, exchange information, address any questions or concerns and build confidence in the Stockyard project.

Next Steps for IND's Stockyard HPSS Project

- Prepare and send a bulk sample from the Stockyard Project to conduct further testwork and create an optimised process flowsheet. Splits of the process samples will be sent to Intertek for verification.
- Continue to progress Stockyard offtake discussions with potential Strategic Offtake Partners.
- Several sections of the PFS are well advanced and will be finalised in conjunction with off-take or product sales contract negotiations. This will allow the Final Investment Decision (FID) to be made by the IND board.

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

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[5] For further details on the status of the Stockyard Project please refer to ASX release dated 5th April 2023.

Competent Person

The information in this announcement that relates to exploration activities on the Projects is based on information compiled and fairly represented by Mr Robert Andrew Jewson, who is a Member of the Australian Institute of Geoscientists and consultant to Industrial Minerals Ltd. Mr Jewson is also a shareholder of Industrial Minerals Ltd. Mr Jewson has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Jewson consents to the inclusion in this announcement of the matters based on this information in the form and context in which 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: Details of Assay Results

Project	sample ID	easting	northing
Stockyard	DX0016	334215	6673593
Esperance East	DX0017	980880	6246680
Esperance East	EEX032	978458	6247357

Appendix 2: JORC TABLE 1

JORC Table 1 – Section 1: Sampling Techniques and Data

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 downhole 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 (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.*	• Hand auger drill/surface samples were taken from private properties within IND exploration licences • Sampling techniques and quality are considered appropriate for this style of mineralisation.
Drilling techniques	*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).*	• MET0016 was taken in bulk by front end loader • MET0017 was taken by cased hand auger drilling using a 50mm spiral auger inside PVC casing. The casing is pushed into the substrate as the auger advances to prevent oversampling of the drilled sediment.
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.*	• All targeted sediment recovered is retained in a container. Depth of recovery measured when sediment changes. • The auger is extracted from the casing and all the recovered sediment collected in a container which is then transferred to a calico bag, labelled and sealed.

Criteria	JORC Code explanation	Commentary
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.*	• All sample primary information was initially captured in a written log on site by a geologist including depths when sediment changed.
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 subsampling 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.*	• MET0016 was a 10kg sub-sample selected from the bulk sample. • MET0017 was split with a riffle splitter to produce 10kg sub-sample. • Laboratory replicates are completed routinely at the splitting stage and results are included in precision analysis. • The laboratory sample size taken is appropriate for the sand being targeted.
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• All of the sample MET0016 and MET0017 were sent to Weifang Guote Mining Equipment Co., Ltd (Guote) for beneficiation testwork. • Guote submitted the beneficiated samples to Foshan Ceramics Research Institute Testing Co., Ltd. To be prepared and tested Chinese Standard - GB/T21114-2019 - Refractories -- Chemical analysis by X-ray fluorescence (XRF) -- Fused cast-bead method • All of the samples MET0011-0013 were submitted for analysis. The samples were submitted to: ○ Intertek Genalysis Perth for drying, further splitting, and pulverisation in a zircon bowl. A subsample of 200 g with -75 µm particle size was utilised for analysis • No geophysical tools were utilised for the process. • No quality control procedures have been used for samples, although standard assay laboratory quality control protocols have been adhered to.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.*	• No significant intersections have been compiled; only individual (unaggregated) results are reported.

Criteria	JORC Code explanation	Commentary
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	• All sampling procedures were documented and monitored on site by a geologist and/ or field technician. • All primary information was initially captured in a written log on site by a field technician, data entered, imported then visually validated and stored in a geological database. No data quarantine function is enabled at this time. • A set of conversion factors, to 5 decimal places are developed from molecular weights and applied to elements to achieve oxide values.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* *Quality and adequacy of topographic control.*	• The position of the sample locations was determined by a GPS model Garmin GPS Map 79sc with an accuracy within 5-10 m. • The Grid system used was GDA2020 Zone 50 and 51 for Stockyard and Esperance respectively. • No topographic control has been used for reconnaissance auger sand samples
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 procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Reconnaissance auger sand samples were collected over targeted landforms and where white sand was exposed on the surface. • Samples of the target sand were composited over the depth collected and submitted as whole auger samples.
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.*	• It is expected that the sand stratum sampled is relatively flat dipping and as such is representative of that layer of sediment. • There is not considered to be any mineralised structures that would cause any sampling bias from the orientation of drilling utilised.
Sample security	• *The measures taken to ensure sample security.*	• All samples have been bagged and removed from site and are under the care of the contract senior geologist and field sampling supervisor. • Samples MET0016 and MET0017 were sent to Guote China via DHL. .
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	No Audits or reviews have been undertaken.

JORC Table 1 – Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, 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.*	• The Stockyard Project is 100% held by Industrial Minerals Ltd. The underlying land is held as freehold land and IND has been granted permission by the landowners to access and explore part of their properties. • The Esperance East Project is 100% held by Industrial Minerals Ltd. The underlying land is held as freehold land and IND has been granted permission by the landowners to access and explore part of their properties. • There are no impediments on a licence to operate at the time of reporting.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	• Exploration for silica sand by others has occurred in Esperance East in the past. Australian Silica Quartz collected a surface sample in the Esperance East project which proved positive for HPSS. IND is the first company to explore for silica sand at Stockyard.
Geology	*Deposit type, geological setting and style of mineralisation.*	• Aeolian quartz sand dunes overlying basement highs and Pleistocene sandplain deposits Unconsolidated Quaternary coastal sediments.
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 drillholes:* ○ easting and northing of the drillhole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar ○ dip and azimuth of the hole ○ downhole 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.*	• Metallurgical test results are reported in the body of this announcement. • There are no further drill hole results that are considered material to the understanding of the metallurgical results.
Data aggregation methods	• *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.*	• No averaging or aggregation of grades has been applied to reporting of exploration results. • No upper cut-off grades are applied. • No metal equivalents are required.

Criteria	JORC Code explanation	Commentary
	• *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.*	
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 drillhole angle is known, its nature should be reported.* *If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').*	• Target deposits typically approximate a sub-horizontal accumulation over a variable basement topography.
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 drillhole collar locations and appropriate sectional views.*	• Plan views illustrating auger sample locations of significant intercepts are included in body of the report.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• A full listing of all sample locations and their results are included in the body of the report- Appendix 1.
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.*	• Silica sand deposits occur from surface and are readily identified by colour and absence of induration. • No other substantive exploration data is available.
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.*	• Further auger drilling programs are planned at Stockyard and Esperance East to test silica sand mineralisation targets identified from reconnaissance auger drilling subject to execution of land access agreements.