INDUSTRIAL MINERALS LTD
ABN 87 648 183 297

ASX ANNOUNCEMENT
9th November 2022

MAIDEN MINERAL RESOURCE ESTIMATE Stockyard Project

Highlights

- **Indicated and Inferred Mineral Resource of 9.6 million tonnes at 98.9% SiO_2**
- **The resource is contained within 1500 Ha of the Stockyard Project and represents <5% of the total landholding**
- **20 tonne bulk sample in transit to potential offtake partner[1] to determine potential final product specifications and offtake pricing**
- **Scoping Study well advanced, with respected engineering group ABGM appointed to undertake mine studies**
- **Pre-Feasibility Study (PFS) planned to continue directly on from Scoping Study, with several workstreams already at PFS level**
- **Additional exploration targets, mineral resource extension and upgrade opportunities identified at Stockyard**

Industrial Minerals Ltd (ASX: **IND** or the **Company**) is pleased to announce results from the maiden Mineral Resource Estimate (**MRE**) for its Stockyard High Purity Silica Sand (**HPSS**) Project in Western Australia.

IND's Managing Director, Jeff Sweet commented: *"The completion of a sizeable maiden mineral resource after commencing exploration 12 months ago, is an endorsement of the quality of the Stockyard Project, which we anticipate will be further demonstrated with the release of the Scoping Study.*

"We believe that Stockyard is a compelling asset which has the potential to rapidly advance to a decision to mine, with a clear pathway to production.

"We are further encouraged by the fact that Stockyard has several other exploration targets, and resource extension opportunities. These require minimal work to progress and provide significant scope for expanding the scale of the project".

Table 1. Stockyard Maiden Mineral Resource Estimate, November 2022

Resource Classification	Tonnes (Million)	SiO_2 %	Al_2O_3 ppm	Fe_2O_3 ppm	TiO_2 ppm
Indicated	4.0	98.8	2,488	1,457	2,619
Inferred	5.6	98.9	2,837	1,240	2,241
Total	**9.6**	**98.9**	**2,692**	**1,331**	**2,399**

[1] For further details on the Non-Binding MoU please refer to ASX release dated 12 September 2022

Mineral Resource Estimate Overview

The Stockyard Silica Sand Project (**Stockyard**) Mineral Resource Estimate (**MRE**) was completed in accordance with the JORC Code, 2012 Edition by leading detrital-minerals-focused consultancy, Placer Consulting (**Placer**).

The Total Mineral Resource Estimate for Stockyard is **9.6 million tonnes at 98.9% SiO_2**, which contains Indicated Resources of 4.0 million tonnes at 98.8% SiO_2 and Inferred Resources of 5.6 million tonnes at 98.9% SiO_2. Importantly, the Mineral Resource contained within the Stockyard granted Mining Lease totals **1.9 million tonnes at 98.8% SiO_2** and is classified entirely as Indicated.

The MRE comprises 30 silica sand bodies extending over an area approximately 14km EW by 14km NS (refer to Figures 3 and 4). The resource includes intervals logged as predominantly white sand, with yellow sand and lateritic material excluded from the mineralisation wireframes. Resource wireframes were created based on geological logging and adjusted where required, according to chemical analysis results.

The MRE was based on a total of 2,465 hand auger drill holes for 1,819.75 metres, with hand auger drilling completed by IND to an average depth of 0.74 metres, with drilling conducted between September 2021 and May 2022[2].

Drill data spacing is nominally 50m NS by 50m EW, however the south-eastern region of the MRE is drilled more broadly at a 100m NS by 100m EW spacing. Drill hole samples were generally composited in their entirety and average 0.74m down hole for the resource dataset. Drillholes are orientated vertically to penetrate the sub-horizontal mineralisation orthogonally. The silica sand deposits are randomly arranged as a result of the mode of transport and depositional environment.

No global trends were identified; hence an isotropic search was applied to the interpolation. Inverse Distance (power 4; ID4) was applied for interpolation of assay fields, with each element (SiO_2, Fe_2O_3, Al_2O_3, TiO_2) interpolated using the same search parameters (ID4 method). Three search volumes were utilised to populate the model with a minimum of 2 and a maximum of 20 samples allowable in any search population.

Search distances of 75m*75m*10m and 150m*150m*50m, in X, Y and Z, were used for the ID4 interpolation. A multiplication of the search volume by a factor of 3 and 5 were used for the second and third search.

[2] For full details on auger drilling completed by IND and included in the MRE please refer to ASX releases dated 17 November 2021, 6 April 2022, and 26 May 2022.

The bulk density applied to the Stockyard MRE has been generated by nuclear density readings across the project resources. The resulting average dry density of 1.57g/cm^3 was applied to the mineral resource for weight calculations.

The designation of resource category was by the manual construction of resource boundary wireframes to constrain areas of greater drilling density and geological continuity. More densely drilled areas of the resource are classified at an Indicated level of confidence and are considered suitable for preliminary reserve optimisation and mine planning. Those areas drilled at a 100m north and 100m east spacing achieve an Inferred level of confidence.

The Mineral Resource flagged the top 0.1m of material, which is envisaged to be processed and silica sand extracted, with remnant slimes, clay material and organic matter, to be returned and utilised for rehabilitation purposes.

Initial metallurgical testing was based on a 150kg bulk sample taken from within a proposed pit within the mining lease area. The sample was taken from a depth of 1.0 to 1.5 metres and is considered representative of ROM (run of mine) ore material. A 3kg headfeed sub-sample was split from the bulk sample and used for initial sighter testwork[3].

Testwork has indicated the amenability of the Stockyard silica sand material to upgrading via conventional gravity screening, washing and desliming methods.

The resultant high purity silica sand product is in accordance with the specifications required for flat and container glass manufacture and potentially for the foundry and photovoltaic (PV) markets.

IND has signed a two-stage non-binding Memorandum of Understanding (**MoU**)[4] for the supply and potential refining of HPSS with Shandong Hongbote Solar Technology Co Ltd (**SHST**).

- Stage one seeks to formalise offtake of up to 600,000 metric tonnes per annum of HPSS from Stockyard.
- Stage two leads to a strategic partnership agreement with SHST for the construction of a new joint venture silica processing plant in China.

Negotiations are well underway, with the shipment of a 20 tonne HPSS bulk sample to SHST in China for full metallurgical beneficiation assessment.

[3] For further detail on metallurgical testwork completed at the Stockyard Project please refer to ASX releases dated 19 July 2022 and 25 October 2021

[4] For further details on the Non-Binding MoU and the bulk sample shipment, please refer to ASX releases dated 12 September 2022 and 11 October 2022

Table 2. Stockyard Maiden Mineral Resource Estimate, November 2022

Resource Classification	Volume (Million m^3)	Density (g/cm^3)	Tonnes (Million)	SiO2 %	Al2O3 ppm	Fe2O3 ppm	TiO2 ppm
Indicated	2.6	1.57	4.0	98.8	2,488	1,457	2,619
Inferred	3.6	1.57	5.6	98.9	2,837	1,240	2,241
Total	**6.1**	**1.57**	**9.6**	**98.9**	**2,692**	**1,331**	**2,399**

Notes: Interpreted silica sand unit is defined by auger drilling and satellite imagery. Differences may occur due to rounding to significant figures.

Next Steps

IND's primary objective is the rapid development of the Stockyard Project and the exploration of its other high priority Silica Sand projects.

The below table outlines items completed and the proposed timeline for development activities for the Stockyard Project.

Table 3. Stockyard Project exploration and development timeline

Item	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3
Project Acquired										
Exploration Licenses Granted										
Exploration Activities/ Drilling										
Exploration Target										
Metallurgical Testwork										
Mining Lease Granted										
Non-Binding MoU Executed										
20 tonne bulk sample shipped to potential offtake partner										
Water extraction license										
Environmental Studies										
Heritage Survey										
Maiden Resource Estimate										
Offtake Agreement										
Scoping and Pre-Feasibility										
Decision to Mine										
Commencement of Mining										

The following workstreams are complete for the Stockyard Project:

- ✓ Mining Lease granted- contains Indicated Resource of 1.9 million tonnes grading 98.8% SiO_2
- ✓ 20 tonne bulk sample in transit to China, results to determine final product specifications and potential offtake pricing
- ✓ Water extraction license granted and bore established
- ✓ Environmental Studies & Heritage Survey complete within Mining Lease- no impediments found
- ✓ Two Stage Non-Binding MoU with potential offtake partner executed
- ✓ Maiden Resource Estimate complete - substantial initial resource **of 9.6 million tonnes grading 98.9% SiO_2**

The following workstreams are underway for the Stockyard Project:

- Scoping Study well advanced, with respected engineering group ABGM appointed to undertake mine studies
- Pre-Feasibility Study (PFS) planned to continue directly on from Scoping Study, with several workstreams already at PFS level
- Consultation and engagement with key contractors and service providers for the Pre-Feasibility Study and commencement of mining
- Continued assessment and exploration across IND's 19 High Purity Silica Sand projects
- Further engagement with farmers and stakeholders, presenting IND's Low Impact Mining (LIM) Strategy – extended across priority project areas.

IND's low impact and low-cost rapid exploration and resource definition techniques give the Company a significant advantage in its efforts to explore and develop its highly prospective tenure and pipeline of quality projects. The Stockyard Project development provides a blueprint for future silica sand development opportunities for the Company.

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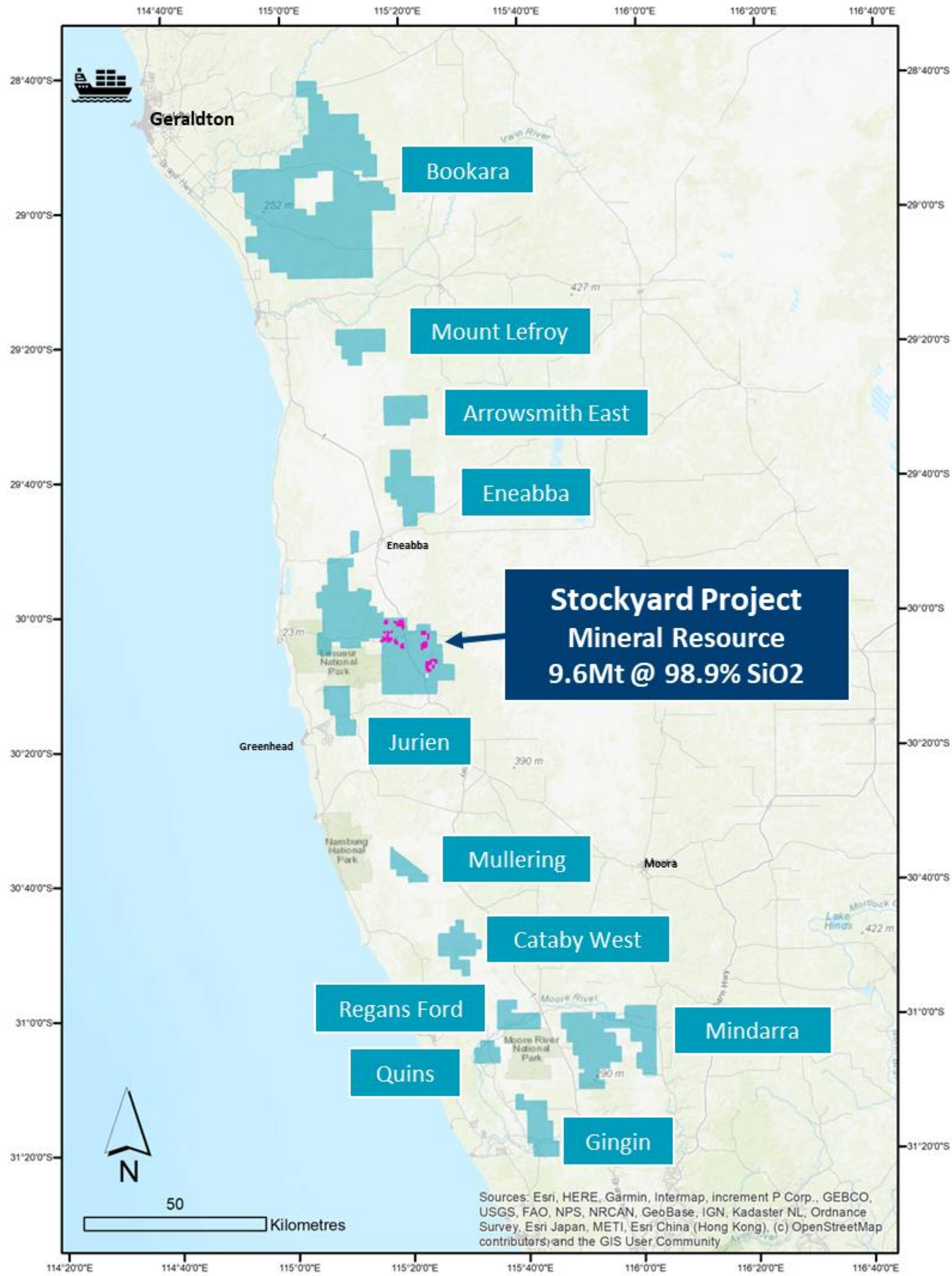

Figure 1. Industrial Minerals Silica Sand Projects (North of Perth) displaying the Stockyard Project Mineral Resource, Geraldton Port and main roads

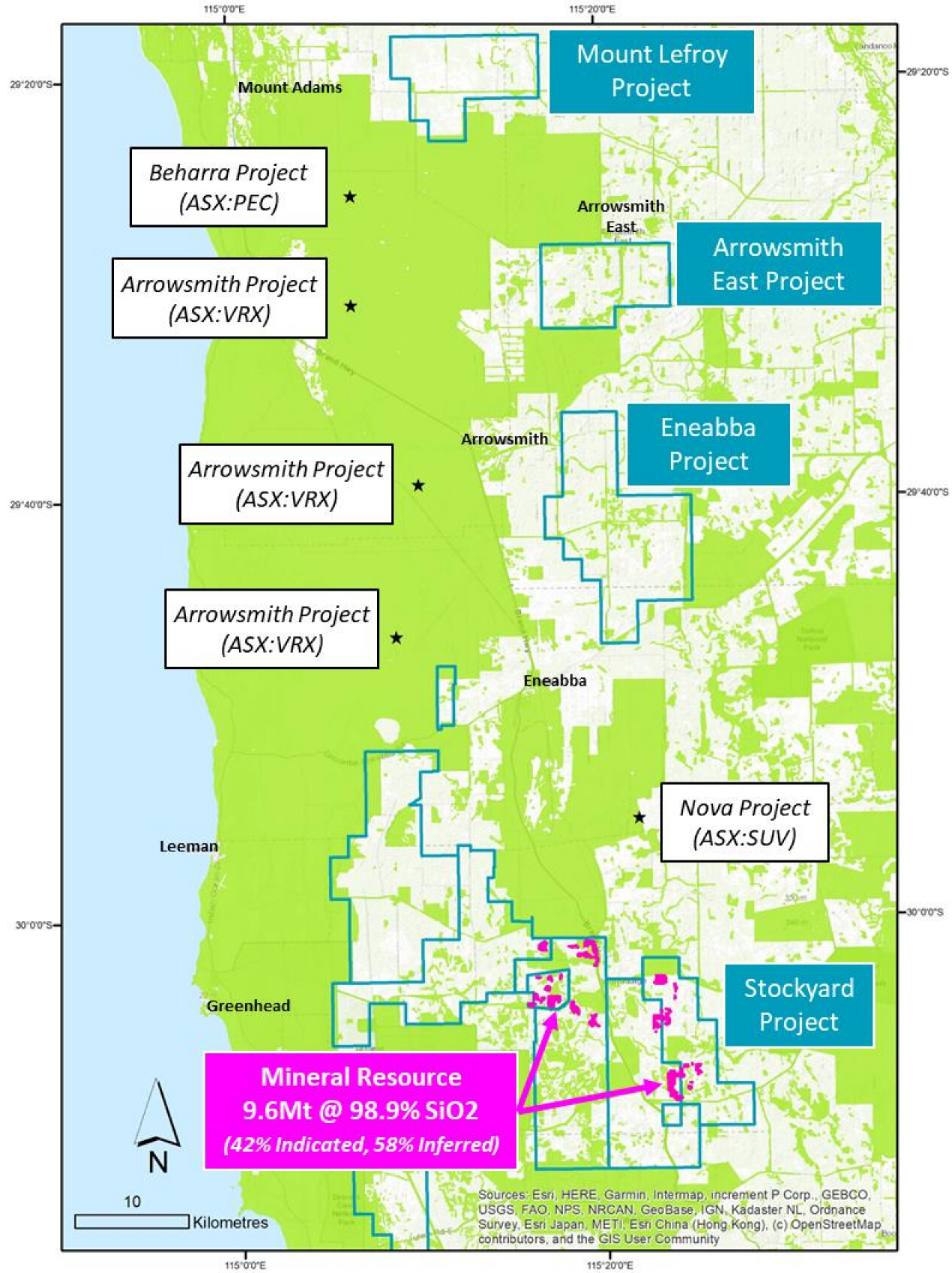

Figure 2. Industrial Minerals Projects, Stockyard Resource, in relation to peer projects and native vegetation (IND Projects primarily on cleared farmland)

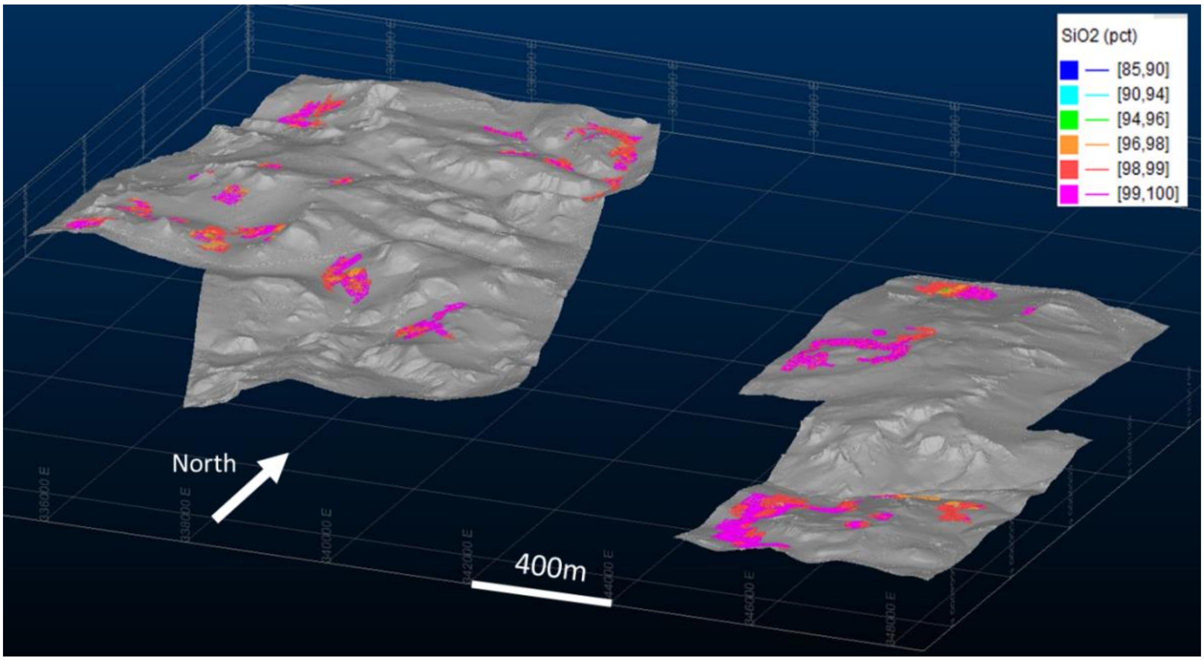

Figure 3. Orthographic View of the Stockyard Mineral Resource Estimate Block Model coloured by SiO_2%

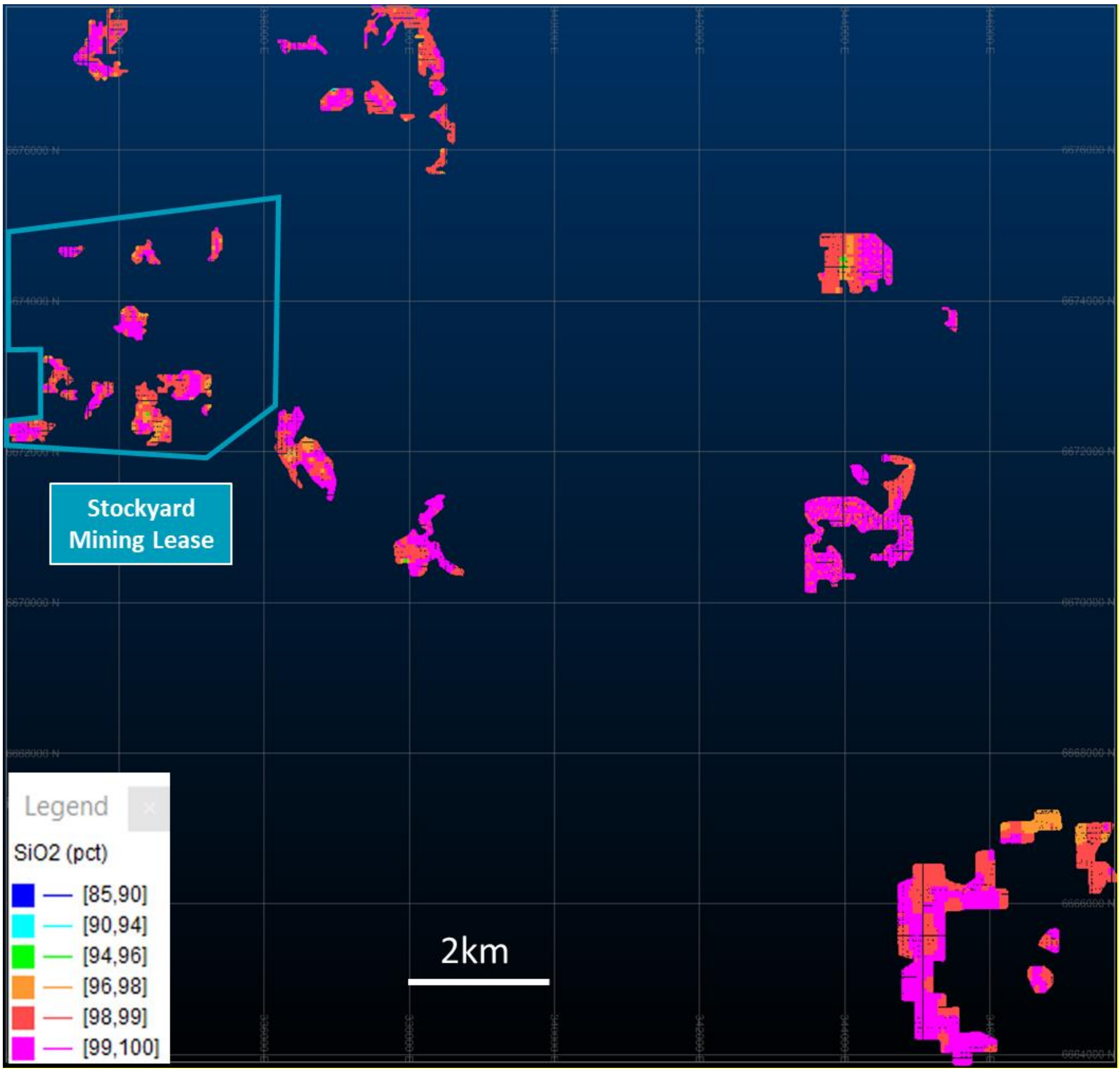

Figure 4. Stockyard Block Model Plan View displaying SiO_2%, both Indicated and Inferred Mineral Resource displayed

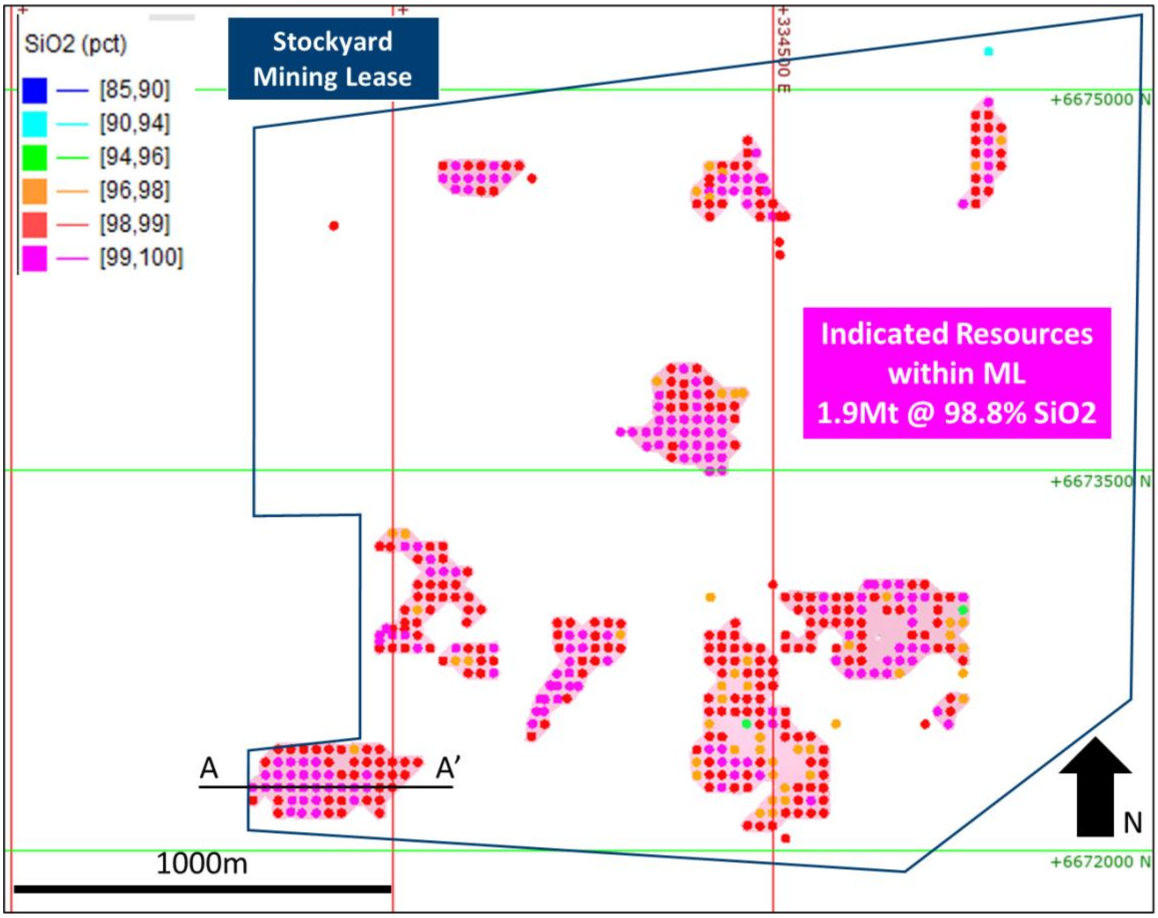

Figure 5. Mineralisation Wireframes and auger drilling coloured by SiO_2% within granted Mining Lease

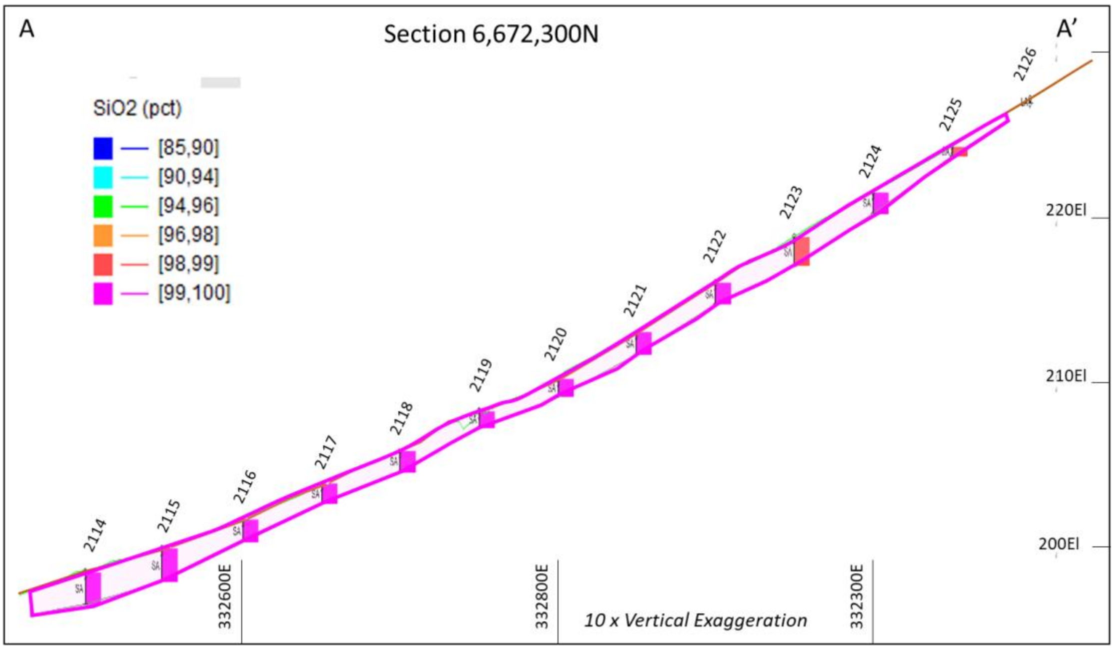

Figure 6. Cross Section displaying Auger Drilling coloured by SiO_2% (10 times vertical exaggeration)

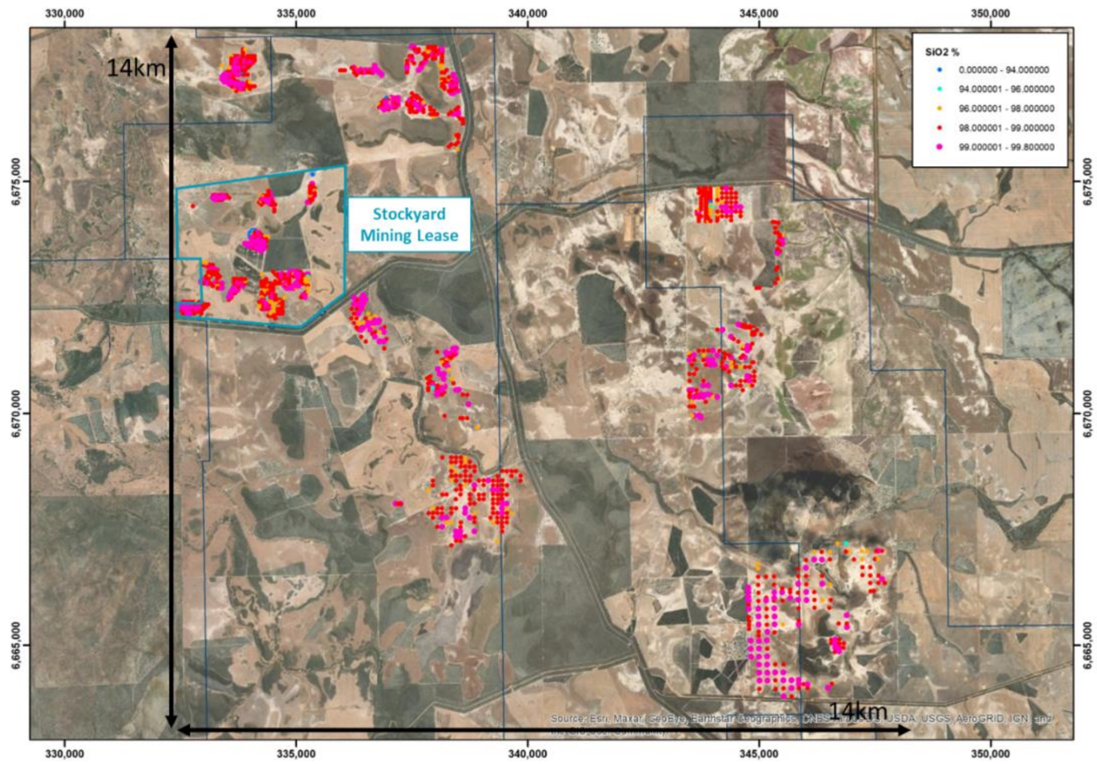

Figure 7. Auger drilling coloured by SiO_2% used to inform Stockyard Mineral Resource Estimate

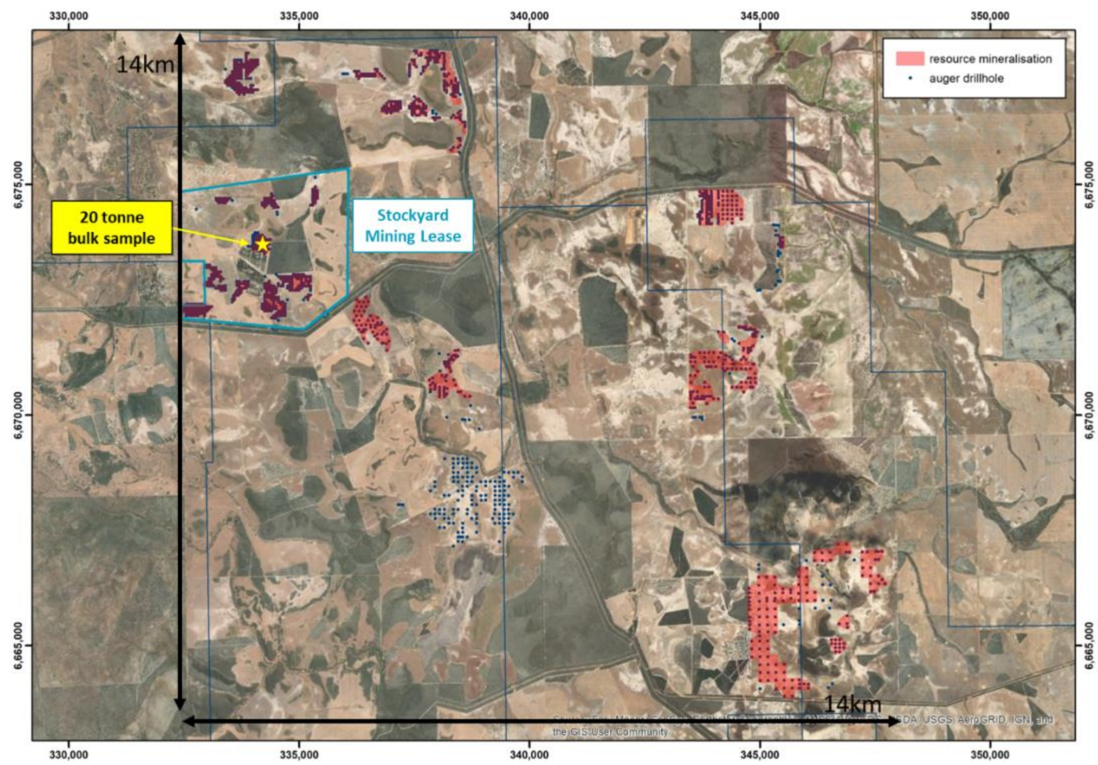

Figure 8. Auger drilling and resource wireframes in relation to bulk metallurgical sample, sent to potential offtake partner for beneficiation test work

ASX Listing Rule 5.8.1 Summary

The following summary presents a fair and balanced representation of the information contained within the Mineral Resource Estimation Technical Report for Stockyard Project:

- Silica sand at Stockyard occurs within the coastal regions of the northern extent of the Perth Basin and the targeted silica sands are located within multiple shallow sand units most likely deposited by aeolian (wind) forces. The mineralised high purity sand deposits are generally topographically higher than surrounding unmineralized regolith material and have been deposited over older lateritic or calcrete/ hardpan regolith units. (ASX LR 5.8.1 Geology & Geological Interpretation)
- Samples were obtained from auger drilling. The quality of the drilling, sampling methodology and analysis for both methods was assessed by the Competent Person and is of an acceptable standard for the use in a Mineral Resource Estimation publicly reported in accordance with the JORC 2012 Edition Guidelines. (ASX LR 5.8.1 Sampling & 5.8.1 Drilling)
- Major and trace elements with the exception of SiO_2 were analysed using a four-acid digestion method followed by Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry (ICP-OES) analysis by Intertek's Perth Laboratory. Loss on Ignition at 1000o C (LOI) was analysed by a Thermal Gravimetric Analyser. SiO2 was back calculated by subtracting all ICP major and trace elements plus LOI from 100%, as this is the most accurate way of determining the SiO2 content of material with very high SiO2 content. Validation of the ICP results were then undertaken by verification with an umpire laboratory using ICP methods. Furthermore, a proportion of the samples were analysed using X-Ray Fluorescence (XRF) at an umpire laboratory (ASX LR 5.8.1 Analysis)
- Mineral Resources were estimated by the use of a 3D wireframe of the base surface for white sands and constrained by a Lidar DTM surface. The upper 0.1m of material was flagged as topsoil, but was not excluded from the resource. (ASX LR 5.8.1 Estimation Methodology)
- Grade estimation was completed using Inverse Distance (Power 4) with hard boundaries applied between identified silica sand deposits. Top cuts were not applied to the data as they were not deemed necessary. (ASX LR 5.8.1 Estimation Methodology)
- The Mineral Resource Estimation is quoted from all classified blocks within the mineralised wireframes for white sands. (ASX LR 5.8.1)
- The Mineral Resource Estimation is classified as Indicated and Inferred on the basis of the drill hole logging, drill hole sample analytical results, drill spacing, statistical analysis, confidence in geological continuity and metallurgical testing results. Approximately 42% of the Mineral Resource Estimation is Indicated and 58% is Inferred. (ASX LR 5.8.1 Classification)
- The JORC 2012 Edition Guidelines, Clause 49 requires that industrial minerals must be reported "in terms of the mineral or minerals on which the project is to be based and must include the specifications of those minerals" and that "it may be necessary, prior to reporting of a Mineral Resource or Ore Reserve, to take into particular account of certain key characteristics or qualities such as likely product specifications, proximity to markets and general product marketability". (ASX LR 5.8.1 Mining, Metallurgy and Economic Modifying Factors)

- The likelihood of eventual economic extraction was considered on the basis of its indicative product specifications based on metallurgical testing performed, infrastructure access with respect to road/rail/port, product marketing capacity and potential open pit mining scenarios and concluded that the Stockyard Silica Sand Project is an Industrial Mineral Resource in accordance with the terms of Clause 49. (ASX LR 5.8.1 mining, Metallurgy and Economic Modifying Factors).

This announcement has been approved by the Industrial Minerals Board.

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Competent Person

The information in this announcement that relates to Exploration Activities is based on information compiled and fairly represented by Ms Melanie Leighton, who is a Member of the Australasian Institute of Geologists (MAIG). Ms Leighton has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which she 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". Ms Leighton consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

The information in this announcement that relates to Mineral Resources is based on information compiled and fairly represented by Mr Richard Stockwell, who is a Fellow of the Australasian Institute of Geologists (FAIG). Richard Stockwell is a Founding Director and Principal Geologist of Placer Consulting PL, who was engaged by Industrial Minerals Ltd. Mr Stockwell 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 Stockwell 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: Detailed Analysis of Stockyard Mineral Resource Estimate

About Industrial Minerals

The Stockyard Project was targeted specifically due to the presence of white silica sands at surface which had been cleared previously of native vegetation for agricultural purposes. Due to the poor carrying capacity of the land underlain by silica sand, the primary target areas for Industrial Minerals (IND) have been underutilised from an agricultural perspective.

Industrial Minerals aims to implement an environmentally responsible exploration and development strategy, through exploring and developing areas which have already been cleared for agricultural purposes, ensuring minimal impact on native flora and fauna in the region.

In addition, through collaboration with agronomists with local experience, IND aims to improve the carrying capacity of areas with sand to be extracted. Land is either to be returned to farmers with a higher cultivation and carrying capacity or alternatively to native vegetation.

Location, Infrastructure & Access

The Stockyard project is located approximately 220 km north-northwest of Perth, 25km south of the town of Eneabba, and 160km from the Geraldton Port. Access to the project is via the Brand Highway, which transects the project, and numerous tracks servicing the pastoral land cross the tenure. The Dongara – Greenhead Road also transects the project providing access from the east and west.

The Project is located on M70/1417, L70/237 AND L70/238, which are owned by IND

Geology

The project is located within the Perth Basin, on the Eneabba Plain whose sandy cover is very flat to gently undulating. It comprises a low-lying portion of the coastal plain and includes Early Pleistocene to Late Tertiary shoreline, lagoonal and dune deposits, which have been modified to present day alluvial, lacustrine and aeolian sequences (Mory, 1995).

Geological Survey of Western Australia regolith mapping describes the Stockyard Project as lying within the Western Plateau Physiographic Division, and the Western Coastlands Physiographic Province. The region consists of Phanerozoic to Cenozoic aged alluvial and fluvial units which vary in composition from clay, silt, sand and gravel in channels and floodplains.

The 1:500k State Geology Regolith describes the following units as dominating the project area:

- Ferruginous duricrust, massive to rubbly, includes iron -cemented reworked products… duricrust.
- Yellow sand with minor pisolitic laterite, ferruginized silcrete, silt, and clay; common on low plateaus associated with weathered granite
- Colluvium derived from different rock types; includes gravel, sand, silt and clay

Most of the silica sand mineralisation at the Stockyard project is hosted within the following regolith group as described by the GSWA 1:500K mapping, "Yellow sand with minor pisolitic laterite, ferruginised silcrete, silt, and clay; common on low plateaus associated with weathered granite".

High purity silica sand mineralisation at Stockyard is hosted within multiple shallow sand units which are most likely to have been deposited by aeolian (wind) forces. The mineralised high purity sand deposits are generally topographically higher than surrounding unmineralized regolith material and have been deposited over older lateritic or calcrete/ hardpan regolith units.

Logging of auger drilling suggests that the high purity silica sands have variable characteristics with observations logged as described in Table 4 where samples returned grades of > 99.0% SiO_2.

Table 4. Logged description of high purity silica material intersected in auger drilling.

Attribute	Code	Description
Colour	Predominantly CY-GY-WH, Occasional TA-BR	Cream yellow to white, Occasional brown/ tan (organic matter contamination)
Grainsize range	VF-VC	Very fine to Very coarse grained
Bimodal	Bimodal	Bimodal population
Sorting	PS-VW	Poorly sorted (Several grain sizes are present, none of them prevails) – Very well sorted (nearly all grains have the same size)
Angularity	SR-SA	Strongly rounded to Strongly angular
Mineral 1	QZ	99-100% Quartz (organic matter)
Mineral 2	FC-HC-OR	Ferricrete, Hardcap/ hardpan, Organic Material

Logging suggests that the highest purity silica (>99.5%SiO_2) is contained within white or grey sands, that are fine to medium grained, moderately to very well sorted, strongly rounded, quartz dominant (+99% composition). These higher-grade SiO2 intervals exhibit an average depth of 1.47 metres from surface before intersecting underlying yellow sands or lateritic/ hardpan material.

Additional mineralisation is anticipated in extensions to known deposits and in additional occurrences in the region.

Domaining the mineralised zones included the construction of sectional strings at 50m north spacing. Sectional strings honour the MIN1 field in the validated drill hole file. This field is the flag field used to designate assay/no assay and thereby mineralisation/no mineralisation. All mineralisation, where substantive near-hole support is apparent, are included in the mineralisation domains.

All sectional interpretation strings are conditioned with additional points inserted at 10m intervals. This smooths the subsequent wireframes and limit the potential for triangulation artefacts upon linking strings. Sectional and tag strings are linked using the proportional length method into closed wireframe solids. These solids are verified and cleaned before being allocated a block number and collated into a single wireframe file for the interpolation. Wireframes are checked in plan and section to ensure a gap-free and realistic volume is created.

Drilling, Sampling and Logging Techniques

All holes used in the resource were drilled by hand auger. Auger drilling consists of a manually hand operated 75 mm diameter sand auger with PVC casing, utilised to reduce contamination potential as the auger is withdrawn from the hole. The auger is driven about 300 mm then retracted and the sample is placed in a UV resistant plastic bag. This process continues until the sample interval is completed.

Auger hole depths vary, depending on the extent of high purity sand encountered, with auger holes terminated by the driller once yellow sand or underling ferricrete/ hardpan rock is intersected. Auger depths range from 0.5 metres to a maximum of 2.0 metres, with an average depth 1.10 metres.

The auger samples are labelled with the drillhole number then placed in a second plastic bag, sealed and removed from site for logging and sample preparation. Each sample bag is weighed to determine the actual sample recovery. The type of sand auger used provided a clean sample with limited opportunity for contamination compared to a flight auger, particularly when used with PVC casing.

All drilling and sampling procedures are monitored on site by a field technician on a hole-by-hole basis. All primary information is initially captured in a written log on site by a geologist, data entered, imported then validated and stored in a geological database.

Auger samples have been logged and sufficient detail captured on silica sand characteristics. Attributes logged for each sample interval include estimates of grain size, sorting and texture, and colour. Particular attention has been taken to ensure a more scientific and less subjective approach to colour was adopted because colour (white to grey shades, and pale-yellow shades) is one of the targeting features for high purity silica sand mineralisation.

Assaying and Metallurgy

Cuttings (sands) from the entire auger hole are collected as a composite sample and submitted for multi-element analysis at Intertek Genalysis, Perth with some samples also sent to North Australian Laboratories, North Territory. The composite bulk drill samples are submitted to the assay laboratory for drying, further splitting, and pulverizing in a zircon bowl. A subsample of 200g with -75 µm particle size was utilised for analysis.

The assay method for multi-element analysis consists of a near-total, four-acid digest including hydrofluoric, nitric, perchloric and hydrochloric acids in Teflon beakers. Analysis is by inductively coupled plasma (ICP)-optical (atomic) emission spectrometry finish. The method is referred to by Intertek as their 4 Acid Silica Sands Element Package. The limit of detection of oxides is 0.05 - 0.01%, losses on ignition (LOI) are experienced in the analysis and are reported.

Silica is reported by difference. Some elevated silica results are expected to include non-digested (and un-detected by ICPOES) elements. This is demonstrated by umpire assay results which returned an average but variable SiO_2 reduction of 2.33% using a total digest and ICPAES finish.

Preliminary metallurgical test work has been undertaken at Stockyard, with favourable results returned. A 150kg bulk sample of high purity silica sand material was taken from within the resource and mining licence application area (Table 5). The bulk sample was submitted to Intertek Genalysis for analysis of product characteristics and for exploring possible processing routes. Exceptional in-situ results and product characteristics were achieved by wet screening alone.

Test work highlights are as follows:

- Ultra-premium in-situ silica dioxide grade (SiO2) reported at 99.9% for the +150 to-600µm size range.
- In-situ impurity profile reported as very low by regional standards with an average of 199ppm Fe_2O_3 and 462ppm Al_2O_3 for the key sizing ranges.

Wet screening test work has been completed with the aim of determining in which size fractions the deleterious elements report, and ideally which size fractions could potentially yield a premium marketable product to end users. Wet screening was conducted based on the nominal size fractions as outlined below, with each of the respective intervals analysed -2.36 + 1.18mm, -1.18mm + 600µm, -600 + 300µm, -300 + 150µm, and -150µm.

Encouragingly, the head grade analysis of the bulk sample determined that the in-situ material contained very low contaminants. By using size fraction analysis, the +150 to -600 µm size range contained what is regarded as a very low impurity product.

Intertek Genalysis were engaged to conduct Particle Size Elemental Analysis of the raw sample and results are presented in. The positive initial results indicate that the key +150 to -600 µm size range consists of very high SiO2 content of 99.9% and low impurities, allowing IND to investigate the direct shipping ore (DSO) potential of the white sand.

Importantly, it is highly likely that the white sands will be amendable to simple/ low-cost off the shelf processing methods to wash and grade the sand, further supporting a DSO model.

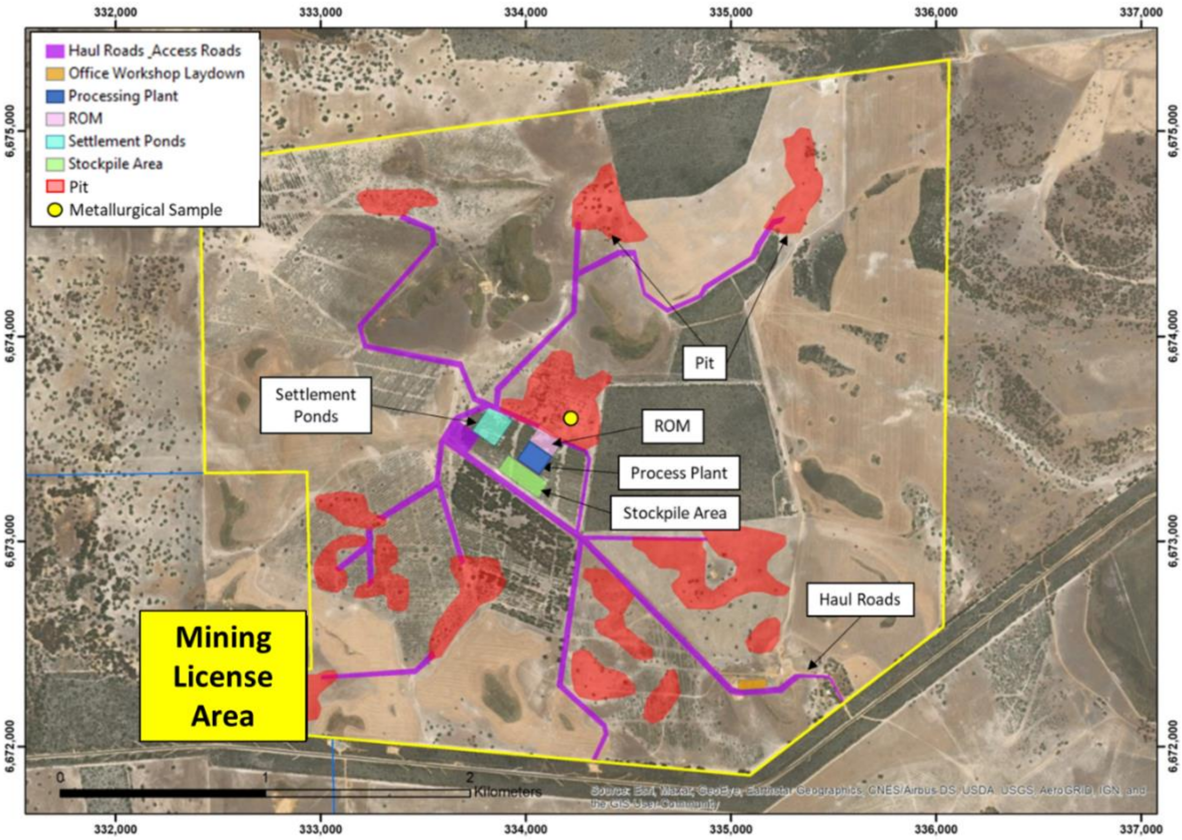

Figure 9. Stockyard Project proposed infrastructure layout displaying pit locations and metallurgical sample taken from pit 2

Table 5. Stockyard Project Sighter Testwork Results – HLS and Attritioning

Screen at 1mm and Deslime at 75µm + Gravity Separation of Sand Fraction + Attritioning							
Stream	**Mass**	**SiO2**	**Al2O3**	**Fe2O3**	**MgO**	**TiO2**	**LOI**
	%	%	ppm	ppm	ppm	ppm	%
>1 mm Oversize	4.47	99.40	452	616	69	1173	0.36
< 75 µm Slimes	10.15	97.90	3033	2222	194	9857	0.37
HLS Sink	0.27	17.54	137367	68268	3814	426366	0.00
Float <75 µm Att Slimes	2.40	99.00	0	0	0	0	
Float Att Sand	82.71	**99.70**	276	**185**	41	1021	0.11
Total	100.00	99.26	933	593	67	3067	0.14

NB. HLS: Heavy Liquid Separation

Table 6. Stockyard Project Sighter Testwork Results – DSO Product

Screened <1mm and Deslime at 75µm – DSO Product							
Stream	**% Mass**	**SiO2**	**Al2O3**	**Fe2O3**	**MgO**	**TiO2**	**LOI**
		%	ppm	ppm	ppm	ppm	%
>1 mm Oversize	4.47	99.40	452	616	69	1173	0.36
< 75 µm Slimes	10.15	97.90	3033	2222	194	9857	0.37
> 75 µm Sand (DSO Product)	85.38	99.50	501	417	185	1896	0.16
Total (Headgrade)	100.00	99.33	756	609	181	2672	0.19

Input Data Validation

An extensive data validation process was undertaken by Placer with the assistance of IND geologists. Generally, data relating to the discovery and recording of intersected mineralisation was good, however un-mineralised intervals were unsubstantiated, beyond a comment inserted in the collar file. The following database preparations were completed:

- All holes prefixed EXC (excavation/ bulk samples) were removed
- All AC (Aircore) drill holes were removed
- Drill hole ID was abbreviated from 'locn # 3575' for example, simply to '3575'
- Collar details were added for non-mineralised holes and hole depth, where absent, was designated at 0.3m (being the average depth of un-mineralised holes designated with a hole depth)
- Geology records were created from collar comments for un-mineralised holes,
- Geology, collar and assay depths were verified between files and discrepancies were corrected
- A lithology field was added to the geology file and populated with:
    - 'SA' (sand) for all records
    - Where 'dead rock' is observed in collar comments, the corresponding lithology was recorded as 'LA' (Laterite)
    - Where 'dead yellow' is observed in collar comments, the corresponding lithology was recorded as yellow sand (YE SA),
- Absent assay, collar and geology records were identified and, where possible, located by IND.
- The MIN1 field was validated to ensure all assayed intervals were identified.

Upon completion of the database validation process, fully populated and matching collar, geology and assay files were available for the MRE.

A total of 2,465 collar and lithology records and 1,352 assay records were combined and de-surveyed using Datamine RM software for the MRE. Absent assay records include non-mineralised drill hole records and a selection of samples lost to a laboratory fire at Intertek.

The average drill depth across the project is 0.74m and sample weights are consistent at an average of 2.04kg across the dataset. This is considered representative for the detrital material being sampled. No significant sample loss is recorded from the drilling programme with the use of hand auger and casing.

Various quality control samples were submitted, some retrospectively upon engagement of Placer. Laboratory replicates are completed routinely and field duplicates, twin drill holes and audit assay records were all generated subsequent to the population of the resource drilling database. The primary host laboratory for these samples is Intertek Genalysis, the secondary host laboratory is North Australian Labs, based in Darwin and the audit assay laboratory is ALS using their ME-ICP85 method.

Scatter, quantile-quantile and pair difference plots were generated for field duplicate and laboratory replicate SiO2, Al2O3, Fe2O3 and TiO2 percentages. The plots of the various routine-control sample pairs show a high degree of precision for SiO2 and TiO2 and lesser precision in oxides of iron and aluminium. Precision is notably poorer in these elements due to their low concentrations, especially as concentrations wane towards the detection limits of the technique. Additional variability is introduced by the near-complete digest of these oxides in contrast to the total digest of silica and titanium. Geological variability is also expected. Variability is adequately explained and results achieve an adequate level of precision for this estimate.

Scatter, quantile-quantile and pair difference plots and a targeted bias analysis were completed to verify the accuracy of the routine analysis. A representative selection of 55 samples were submitted to ALS using a method that most-closely matched the routine analysis. Findings reflect those of the replicate analysis with the exception of a variable bias apparent in SiO_2, as introduced in the Assaying and Metallurgy section. An average SiO_2 content of 96.69% from the audit assay, ICP-AES results suggest that a slight overcall exists in the routine analysis, which averages 99.01% SiO2 using ICP-OES.

A total of 64 twin holes were drilled across a geographically dispersed area within the Stockyard Deposits to quantify short-range variability in grade intersections and lithological character.

Variability and bias observed in twin drilling analysis reflects findings of precision analysis of paired laboratory data and is not considered material to the integrity/quality of the Stockyard resource database. Results adequately support assumptions on grade and lithological character for the resource estimate at the quoted confidence levels.

Survey and Data Spacing

IND completed drill hole set out using hand-held GPS with a +/- 5m accuracy in X and Y axes. A detailed aerial laser scanning (LiDAR) topographical survey of the Stockyard Project area was completed by MNG Survey. Equipment used for the aerial survey has 0.1m absolute vertical accuracy. All drill holes were projected to this topography for the MRE.

The drill data spacing is nominally 50m north by 50m east. The south-eastern region of the MRE is drilled more broadly at a 100m north by 100m east spacing. Drill holes are generally composited in their entirety and average 0.74m down hole for the resource dataset.

All holes are orientated vertically to penetrate the sub-horizontal mineralisation orthogonally. Deposits are randomly arranged as a result of the mode of transport and depositional environment.

Further Work

Survey set out of drill holes must migrate to a more accurate method (DGPS) to achieve greater certainty in sample locations required for higher-confidence resources.

Ideally all samples should be analysed by the same laboratory to avoid the potential for creating geo-statistically discrete datasets. The planned insertion of a standard reference sample will reduce the requirement to engage an audit laboratory to assess the accuracy of the assay method although some verification of significant intercepts will still be required. Further investigation of audit analysis laboratory should be undertaken to ensure the same method is applied for subsequent MRE's.

The implications of a potential over-call in SiO_2 from the routine analysis method should be investigated in relation to market requirements and product pricing.

In-fill drilling of Inferred resource areas is required to increase resource confidence.

Re-drilling and analysis of samples destroyed by laboratory fire is likely to deliver additional resources.

Further exploration and extensional drilling at the Stockyard Project is also anticipated to deliver additional resources.

Resource Model Construction and Interpolation

Drill hole data tables were imported into Datamine Studio RM mining software, de-surveyed and projected vertically to the trimmed DTM topographic surface. Closed vein surfaces were constructed on all drill intervals where logged MIN1 = QZ. A 25m buffer and 50m reach was applied to regions drilled at a 50m-spacing and a 50m buffer and 100m reach was applied elsewhere. Vein surface wireframes were then cut at 50m north intervals, and the resultant strings extended laterally and above the topography to ensure a gap-free block model was created.

Mineralised block strings were conditioned (max 10m interval, min 0.2m) to minimize the potential for triangulation errors in resultant, thin wireframes.

Strings were linked using the proportional length method and sufficient tag strings were constructed to direct the linking. The resultant, oversized mineralised block wireframes were then trimmed to the topography and cookie-cut using an intersecting wireframe constructed from the vein surface perimeter. A block number was applied to each of the 30 mineralised block wireframes prior to them being collated into a single wireframe file for the interpolation.

A model prototype was created using the model origin, parent cell dimensions, and a sufficient number of parent cells in each direction to extend to the model boundary. The parent cell dimensions are designed to replicate the 50m drill spacing in the X and Y axes and ensure the bulk of drill holes are located centrally within the parent cell. Parent cell size is 50m (Y)*50m (X)*1m (Z) with 10 splits available in the X and Y axes and a resolution of 20 in the Z axis. Resultant sub-cells may be as small as 5 (Y)*5m (X) *0.05m (Z) to ensure realistic adherence to the undulating topographical surface and accurate representation of the topsoil horizon.

The model is constrained in the X, Y and Z planes by the lateral extent of the closed, mineralised wireframes. At the request of IND, a thin (0.1m) topsoil is designated in the model by a downward translation of the topographical surface. All mineralised blocks maintain a block number (ZONE) to assist in comparative block assessment.

Topsoil is flagged in the model for mine planning (TSOIL = 1). Topsoil is included in the declarable resource for the Stockyard Project.

The drill hole file was trimmed to contain just those holes falling within the mineralised blocks. The MIN1 field was used to designate an additional numeric flag field (QTZ) whereby 1 = QTZ, 0 = no QTZ. This was critical in directing the interpolation and filtering the intra-block null cells (corresponding with 'dead' holes).

No global trends were identified during the data analysis stage. As a result, an isotropic search was applied to the parent cell interpolation. Inverse Distance (power 4; ID4) and Nearest Neighbour (NN) methods were applied. Assay fields interpolated using the ID4 method, and Geology fields were interpolated using NN. A discretisation array of 3 x 3 x 3 is employed for interpolation averages into each cell. All parent cells are interpolated individually.

Three search volumes were utilised to populate model cells with a minimum of 2 and a maximum of 20 samples allowable in any search population. Search distances of 75m*75m*10m and 150m*150m*50m, in X, Y and Z, were used for the ID4 and NN interpolations, respectively.

A multiplication of the search volume by a factor of 3 and 5 were used for the second and third search. Model cells are populated by the estimation search volume applied (EST) and the number of samples averaged to inform each cell (NUMSAM).

All blocks were estimated after the third interpolation pass.

Resource Model Validation

The block model was viewed spatially against the resource drill hole file in the XZ, YZ, XY orientations stepping through the model at the parent cell dimension distances. Each data field was individually highlighted to observe the performance of the interpolation.

The Inverse Distance weighting interpolation model values were seen to be adequately similar to the incident drill hole data and intermediate model cells displayed acceptable levels of smoothing. Nearest Neighbour fields in the model also displayed adequate similarity to the incident drill hole data and acceptable levels of smoothing in intermediate cells.

The performance of the resource block model interpolation is also measured by producing a statistical comparison of informing and modelled data.

The comparison is made between unweighted samples and model grade cells (QTZ = 1), with no bottom cut applied. This produced an almost identical mean SiO2 grade for each, with a variance of only 0.09% in favour of the model. The high degree of accuracy in the interpolation supports the resource classification applied.

Further validation includes the construction of a series of swath plots, generated by Datamine Studio RM software, that compare the model to the drilling at set panel widths. The block model and the drill hole file are both flagged with XPANEL, YPANEL and ZPANEL where X, Y and Z dimensions are integrated into multiples (panels) of 100m, 100m and 1m, respectively. Accumulated average SiO_2 is calculated for both model and drilling data and are reported by Resource Class.

Despite minor variations in the swath plots due to data density, the model has reasonably interpolated interval data with adequate levels of smoothing. The interpolation of SiO2 is appropriate for the resource classifications as stated.

Resource Estimate and Classification

The bulk density applied to the Stockyard MRE has been generated by nuclear density readings across the project resources. The resulting average dry density of 1.57g/cm^3 was applied to the mineral resource for weight calculations.

The designation of resource category was by the manual construction of resource boundary wireframes to constrain areas of greater drilling density and geological continuity. More densely drilled areas of the resource are classified at an Indicated level of confidence and are considered suitable for preliminary reserve optimisation and mine planning. Those areas drilled at a 100m north and 100m east spacing achieve an Inferred level of confidence.

No bottom cut off is applied to the reported Mineral Resource. It is considered from marketing studies and metallurgical testwork completed by IND that the overall reported grade of the Stockyard Resource of 98.9% SiO_2 has reasonable prospects for economic extraction. The resource has also been reported at a range of bottom cuts at 0.5% intervals to allow considerations of the grade-tonnage relationship.

Table 7. Grade Tonnage Reported by SiO2% Cut-off Grade at 0.5% increments

CUTOFF (SiO2%)	TONNES	SiO2_pct	Al2O3	Fe2O3	TiO2	LOI_pct
90	9,591,680	98.9	2692	1331	2399	0.25
90.5	9,591,680	98.9	2692	1331	2399	0.25
91	9,591,680	98.9	2692	1331	2399	0.25
91.5	9,591,680	98.9	2692	1331	2399	0.25
92	9,591,680	98.9	2692	1331	2399	0.25
92.5	9,591,680	98.9	2692	1331	2399	0.25
93	9,591,680	98.9	2692	1331	2399	0.25
93.5	9,591,680	98.9	2692	1331	2399	0.25
94	9,589,043	98.9	2691	1318	2399	0.25
94.5	9,585,437	98.9	2690	1318	2398	0.25
95	9,585,437	98.9	2690	1318	2398	0.25
95.5	9,578,979	98.9	2689	1317	2396	0.25
96	9,568,987	98.9	2672	1309	2395	0.25
96.5	9,539,376	98.9	2632	1286	2392	0.25
97	9,487,632	98.9	2588	1249	2390	0.24
97.5	9,388,988	98.9	2520	1216	2384	0.24
98	9,067,851	99.0	2371	1151	2360	0.23
98.5	8,307,053	99.0	2188	1051	2307	0.21
99	4,872,515	99.2	1946	917	2144	0.15
99.5	156,353	99.6	1024	573	1312	0.00

As this is the maiden MRE there can be no comparison to previous estimates.

Resource Review and Confidence

The Competent Person, Richard Stockwell performed a review of drilling, sampling and assay techniques used to produce the Stockyard dataset and has deemed them to be suitable for the purposes of mineral resource estimation. Richard completed the data validation, with input from IND, and produced the prototype and volume models.

An independent consultant was engaged to peer review the geological interpretation wireframes, drill hole file and volume model and found them to be suitable for the interpolation. The data analysis and interpolation were subsequently created, and peer reviewed by Richard. The model validation was performed by Richard.

The accuracy and confidence of the Stockyard MRE is conducive to reporting to an Indicated level of confidence. Factors that influence the confidence levels applied to the resource include:

- The drilling and sampling density and the subsequent geological interpretation, which offers sufficient control and confidence for the mineralisation,
- The application of industry standard practice data capture and analysis techniques,
- The representative sample size and demonstrable sample quality assurance,
- The reconcilably high accuracy of the topographic surface,
- The demonstrable quality in mineralogical data,
- The application of Competent Person to QA/QC, resource estimation and peer review,
- The use of industry-leading modelling and estimation software and techniques.

Mining & Metallurgical Methods/Parameters, and Material Modifying Factors Considered

IND is the sole owner of the Stockyard Project. The project resides on cleared agricultural land and typically in areas of poor soil development and low agricultural yield. Land access agreements are established with all coincident landowners.

The silica sand ore occurs from surface and is readily identified by its colour and absence of induration. As such, visual grade control is anticipated with excavation of shallow ore to be completed by scraper. Excavator and dump trucks are being considered for deeper regions of the resource. Mined sand will be stockpiled on the ROM adjacent to the screening plant.

No overburden dumps are anticipated, and minimal topsoil removal will be required as the sand deposits typically occur from surface. Where present, topsoil will be stockpiled off-path and adjacent to the pit for processing and then rehabilitation.

A simple screening and washing plant design is anticipated for processing of ore. A front-end-loader will feed the plant from stockpiled ore on the ROM pad. The sand processing will then comprise:

- Oversize material will be screened, stockpiled and used for site construction requirements or returned to the pit.
- Sand and undersize is washed and pumped through a cyclone classifier to remove the -0.075mm fines. The +75 micron washed sand then passes over a dewatering screen to extract and recycle contained process water and prepare the ore for transport.
- Minimal undersize material is present in the ore. From the wash plant it will enter a series of ponds designed to settle fines and progressively clean process water for re-use. Once ponds are full, water will be diverted to allow fines to dry and be blended back into the mining void.
- Washed sand product will be stockpiled prior to being loaded onto road trucks and hauled to the Geraldton port for export.

Recovery parameters have not been factored into the estimate. No adverse recovery issues have been identified during process studies. Additional ore is likely to be identified visually during mining.

Post mining, topsoil will be spread over the mining voids. The landform will be contoured to meet landowner and closure plan commitments.

Bulk sample test work has been completed and has confirmed the process flowsheet and final product quality. Potential offtake partners have viewed the product and responded favourably, with results pending from a bulk shipment to potential offtake partner.

Water balance studies predict a total of just under 48ML of water will be used to process the anticipated annual production of 0.5Mt of ore. A ground water extraction licence is approved and allows IND to pump 49ML of water from a bore already established at the proposed operational site. As discussed previously, waste water recycling is integral in the processing and tails disposal plan.

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.*	• Auger drilling at the Stockyard project was completed to a nominal depth of 2m to obtain each composite sample. • The average depth for samples used in estimating the Mineral Resource was 0.74 metres. • 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).*	• Auger drilling consisted of a manually hand operated 75 mm diameter sand auger with PVC casing utilised to reduce contamination potential as the auger is withdrawn from the hole. The auger was driven about 300 mm then retracted and the sample was placed in a UV resistant plastic bag, and this continued until the sample interval was completed. The sample was labelled with the drillhole number and sample depth interval then placed in a second plastic bag and sealed and removed from site for logging and sample preparation.
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.*	• Each sample bag was weighed to determine the actual sample recovery. The type of sand auger used provided a clean sample with reduced possibility of contamination compared to a flight auger.
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.*	• The samples have been sufficiently logged including estimates of grain size, sorting and texture, and colour. Particular attention has been taken to ensure a more scientific and less subjective approach to colour has been adopted because colour (white to grey shades, and pale-yellow shades) is one of the targeting features.
Subsampling 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.*	• The entire auger hole was sampled and submitted for analysis. The composite bulk drill samples were submitted to either: ○ Intertek Genalysis Perth for drying, further splitting, and pulverisation in a zircon bowl.

Criteria	JORC Code explanation	Commentary
	• *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.*	A subsample of 200 g with -75 µm particle size was utilised for analysis; or ○ North Australian Laboratories (NAL) in the Northern Territory for drying, further splitting, and pulverisation. Samples were roll crushed to a nominal 1.6 mm, then 250 gram split through a Jones Riffle Splitter. The 250 gram sub split was then pulverised in an LM2 grinder to a nominal 75 um particle size. • Limited field splitting is undertaken and a small dataset of field duplicates are included in precision analysis. • 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.*	• Auger samples were submitted to either: ○ Intertek Laboratory in Maddington, Perth, Western Australia. The assay method for multi-element analysis consisted of four-acid digest including hydrofluoric, nitric, perchloric and hydrochloric acids in Teflon beakers with inductively coupled plasma (ICP)-optical (atomic) emission spectrometry finish. Silica is reported by difference. ○ North Australian Laboratories (NAL), Northern Territory. The assay method consisted of: 300 mg aliquot of sample was pre-digested with HF acid to near dryness in a Teflon vessel and then a total digest with NAL's standard four acids [HNO3/HCl/HClO4/HF] to fumes of HClO4. The residue was then leached with conc. HCl acid then diluted to volume with demineralised water. All acids used were AR [Analytical Reagent] grade. Elements were determined by ICP-OES instrumentation. OREAS 60d, OREAS 61f & ORES 62f and GEOSTATS GBM 302-5 & GBM 311-6 were used as QA/QC CRM's. • No geophysical tools were utilised for the process. • Quality control of routine laboratory accuracy was performed by submitting a selection of 55 samples for audit analysis to ALS laboratory in Wangara, Perth, Western Australia. The ME-ICP85 technique was chosen to best replicate the routine analysis. It includes a lithium tetraborate fusion, nitric acid dissolvation and ICP-AES finish. • Analysis of sample duplicates, laboratory replicates and audit analysis paired data is undertaken by standard geostatistical methodologies (Scatter, Pair Difference and QQ Plots) to test for bias and to verify techniques. Variability is adequately explained and results achieve an adequate level of precision for this estimate.

Criteria	JORC Code explanation	Commentary
		• An additional bias analysis was completed on the audit assay data which showed an average but variable reduction in SiO2 of 2.32% from the routine analysis method. This is attributed to a complete digest in the audit technique when compared to the routine method stating a near-total digest.
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.*	• Significant intersections were compiled and verified by an independent geologist. • Twinned holes are drilled across a geographically-dispersed area to determine short-range geological and assay field variability for the resource estimation. A total of 64 twin drill holes were completed (5% of the drill database). Acceptable levels of precision are displayed in the geostatistical analysis of twin drilling data to support the resource classifications as applied to the estimate. • All drilling and sampling procedures were documented and monitored on site by a trained 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 auger hole locations was determined by a GPS model Garmin GPS Map 64s with an accuracy of 5 m. • The Grid system used was GDA2020 Zone 50. • Drill holes informing the MRE are projected to the Lidar dtm. Topographic control is from Lidar survey is considered adequate.
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.*	• Auger drill holes were completed on a nominal 50 x 50m grid pattern and in some areas on a broader spaced 150 x 150m spaced grid pattern. • This drill spacing is considered appropriate for exploration, geological interpretation, and resource estimation for this type of bulk deposit. All samples were taken as whole composite samples downhole for auger drilling completed. Auger holes range in depth from 0.3m to 3.0m, with geological observations used to identify intervals for composite 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. • Vertical auger drilling is drilled perpendicular to mineralised horizons, and as such is considered unbiased and to provide a true width sample. 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.

Criteria	JORC Code explanation	Commentary
		Auger samples were delivered to either Intertek Genalysis Perth or North Australian Laboratories, NT. The laboratories provided a sample reconciliation report which was audited against the sample submission sheet.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	Recommendations have been made by Placer Consulting resource geologists on all aspects. Further recommendations are made in Section 2.

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. The underlying land is held as pastoral freehold land and IND has entered into an agreement with the landowner to access and explore the property. • An access deed is in place to allow mining and a 1% FOB royalty is payable to the landowner. 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.*	Past exploration by others targeting heavy mineral sands, IND is the first company to explore for silica sands at the project.
Geology	*Deposit type, geological setting and style of mineralisation.*	Unconsolidated Quaternary coastal sediments, part of the Perth Basin. Aeolian quartz sand dunes overlying Pleistocene limestones and paleo-coastline.
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.*	• Exploration results are reported in previous releases. There are no further drill hole results that are considered material to the understanding of the exploration 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.* • *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.*	• Significant intercepts were calculated using length weighted averaging. • The MRE is reported at a series of bottom cuts to assist in determining a lower cut-off grade and the influence of grades on material tonnes. • No upper cut-off grades are applied. Data distributions are normal with a positive skew and contain no observable spike or nugget effects. • Composite sample lengths range from 0.3m to 3.0m. The average sample interval is 0.74m in the resource drill hole file. No metal equivalents are required.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the gemetry 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').*	• All auger holes are drilled vertically and are considered to be drilled perpendicular to mineralised horizons, hence considered representative of true width. 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 drilling completed and 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.*	Reporting of results is restricted to Mineral Resources estimates generated from geological and grade block modelling. The grade and dimensions of the Resource and the extents of the exploration drilling results is outlined in the resource report. Intercepts are disclosed in an unambiguous way.
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.*	• The silica sand ore occurs from surface and is readily identified by its colour and absence of induration. Additional ore is likely to be scavenged during mining. • Audit assay by ICPAES method has returned a variable reduction in SiO_2 that averages 2.32% when compared to the routine analysis by ICPOES. • A 0.1m topsoil horizon is flagged in the resource model. Minimal topsoil removal will be required as the sand deposits typically occur from surface. • Bulk density is derived by applying an average of 25 Nuclear Densometer readings taken from mineralised blocks across the project. • A 200kg bulk sample from the project was subjected to raw sample particle size screening, washing and elemental analysis. The 150-600µm fraction is characterised by 99.9% SiO_2 and very low contaminants. Metallurgical analysis has been extended to characterise potential ore from all mineralised zones. Results are pending. • The recovery factor attributed to saleable and non-saleable quartz sand size fractions are not understood by Placer at this time. • IND has commenced a Scoping Study on the Stockyard Project deposits on the basis of the resource and metallurgical test work completed. A groundwater extraction licence and bore are established to support anticipated annual production of 0.5mt of ore.
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 underway to define and test lateral extensions of known mineralisation and to test other target areas which have not yet been subjected to drilling. • Application of more accurate drill hole survey methods is required to increase resource confidence. • Field logging should migrate to digital data capture using industry software with on-board validation. • All holes should be geologically logged.

Criteria	JORC Code explanation	Commentary
		• The database required quarantine and validation stages for import of all data. • The implications of a potential overcall in SiO_2 from the routine analysis method requires further investigation and consideration of market requirements and product pricing.

JORC Table 1 – Section 3: Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Data validation procedures used.*	• Logging of drill data is on paper log sheets with data entered into the MS Access Database daily. Tabulated assay data are received and imported into the MS Access Database. • No quarantine function is enabled in the MS Access Database. Data are secure with limited access privileges established. • Statistical, out-of-range, distribution, error and missing data validation is completed on data sets by Placer resource geologists before being compiled into a de-surveyed drill hole file for resource estimation. Cross section interrogation of assay fields was conducted in Datamine Studio RM software.
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• No site visits were undertaken by the Competent Person. IND supervision of field and laboratory operations was performed. There are no issues anticipated that might be considered material to the Mineral Resource under consideration.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation* • *The use of geology in guiding and controlling Mineral Resource estimation.* *The factors affecting continuity both of grade and geology.*	• The Stockyard Deposit comprises a single, visually distinct mineralised dune sand overlying yellow sand and laterite lithologies. It is a simple deposit and does not require complex logging fields to generate a robust geological interpretation. • The geological interpretation is compiled from field geological observations during drill sample logging, and interpretation of sample assay data. A strong correlation between these sources of information is observed and a high degree of confidence results. • Primary IND data is used exclusively for the resource estimation. No material assumptions were made. • No alternative interpretations for the mineral resource estimation are offered. • The mineral resource is constrained by the topographical surface and the base of mineralisation being the yellow sand or laterite formations. The resource estimate is controlled by closed solids that incorporate these two layers and lateral constraints at 0.5*drill interval in X and Y. Silica sand grades are primarily controlled by the depositional factors of prevailing wind and pre-existing surface depressions into which the white sand is deposited and preserved. Further discoveries are anticipated in areas of similar setting throughout the region.

Criteria	JORC Code explanation	Commentary
Dimensions	*The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	Stockyard currently comprises 30 discrete mineralized blocks over a 16km-by-16km area. Many of these blocks reside in close proximity and may coalesce upon application of additional drilling.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates* • *Discussion of basis for using or not using grade cutting or capping.* *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Datamine Studio RM software is used for the resource estimation with key fields being interpolated into the volume model using the Inverse Distance weighting (power 4) method. Qualitative geology variables are interpolated using the Nearest Neighbour method. • Appropriate and industry standard search ellipses are used to search for data for the interpolation and suitable limitations on the number of samples and the impact of those samples is maintained. • Extreme grade values are not identified by statistical analysis, nor are they anticipated in this style of deposit. No top cut is applied to the resource estimation. • Interpolation is constrained by hard boundaries (domains) that result from the geological interpretation. • No mining or pilot plant-scale test work has occurred on the deposit. Bulk sample test work has confirmed a simple wash and screen process will deliver a high-quality product. • No assumptions are made regarding the recovery of by-products. • Deleterious elements and oxides are in very low concentrations. Test work suggests only 0.01% of the final product is deleterious. • The parent cell size used matches the 50m drill spacing with drill holes deliberately plotting centrally within each parent cell. Cell size in the Z-axis is established to cater for the thin deposits. Parent cell size is 50*50*1m with 10 splits available in X and Y and a resolution of 20 in Z. This ensures accurate adherence to the undulating surfaces and allows a 0.1m topsoil layer to be flagged in the model. • No assumptions are made regarding the modelling of selective mining units. The cell size and the sub cell splitting regime will allow for an appropriate ore reserve to be prepared. • No assumptions are made regarding the correlation between variables. • Interpolation is constrained by hard boundaries (domains) that result from the geological interpretation. • Extreme grade values are not identified by statistical analysis, nor are they anticipated in this style of deposit. No top cut is applied to the resource estimation. Validation of grade interpolations is done visually In Datamine by loading model and drill hole files and annotating and colouring and using filtering to check for the appropriateness of interpolations. Statistical distributions are prepared from both drill holes and the model to compare the effectiveness of the interpolation. Along strike distributions of section line averages (swath plots) for drill holes and models are also prepared for comparison purposes.

Criteria	JORC Code explanation	Commentary
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	Tonnages are estimated on a dry basis. No moisture content is factored.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	The MRE is reported at a series of bottom cuts to assist in determining a lower cut-off grade and the influence of grades on material tonnes. Consultation with mining professionals working on the Stockyard Project Scoping Study will assist in refining the bottom cut applied.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Conventional dry mining methods are to be employed and will include a combination of scraper and excavator extraction. Trucks will stockpile ore at the ROM for screening and processing. • Dilution is considered to be minimal as mineralisation occurs from surface and the basement is visually distinct. Recovery parameters (e.g. quartz sand saleable size fractions) have not been factored into the estimate. With visual mining methods it is likely that additional ore can be scavenged outside the existing MRE. No recovery issues are anticipated in the conventional screening/washing plant.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• The metallurgical recovery and separability factors are considered to be similar to other silica sands operations. Conventional processing techniques will be employed. • Screening and wet processing has been demonstrated in test work, to provide a saleable product at a high SiO_2 grade in the 150 – 600µm size fraction. Undersize material will be washed through settling ponds to separate fines for drying.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Wet processing uses no environmentally harmful chemicals. Silt and clay tailings are considered non-toxic. These undersize tailings will be pumped through settling ponds to separate fines for drying blending upon return to pit voids. Oversize material will be used for site construction purposes or trucked back to the pit void for disposal. • Topsoil stockpiles are included in the mine plan and will reside off-path, proximal to the area of disturbance. Post mining, topsoil will be spread over the mining voids and the landform contoured to meet landowner and closure plan commitments • The coincident landscape comprises low-yield agricultural land with minor stands of remnant scrubland. Rehabilitation plans include enhancement of soils for improved agricultural productivity or re-establishment of native vegetation. Water balance studies predict a total of just under 48Ml of water will be used to process the anticipated annual production of 0.5Mt of ore. A ground water extraction licence is approved and allows IND to pump 49Ml of water from an existing bore. Waste water recycling is integral in the processing and tails disposal plan.

Criteria	JORC Code explanation	Commentary
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Bulk density is derived by applying an average of 25 Nuclear Densometer readings taken from mineralised blocks across the project. An average, dry bulk density of 1.57g/cm^3 is applied to the MRE.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The resource classification for the Stockyard Project is based on the drill hole spacing, geological domain and mineralisation continuity and the quality of QA/QC processes. Input data are generally of a high quality, assay information is well represented and sufficiently consistent throughout the deposit. • Post-depositional modification is insignificant or domained out of the MRE. The resultant MRE appropriately reflects the Competent Person's view of the deposits.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	• Independent consultant Gavin Helgeland completed review of the prototype and volume model prior to completing the interpolation. Competent Person, Richard Stockwell performed a review and validation of the MRE and concluded that the interpolation parameters and resultant resource estimate suitably reflect informing data at the quoted confidence levels.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The accuracy and confidence of the Stockyard MRE can be reported to an Indicated Status. This is largely due to: • The drilling and sampling density and the subsequent geological interpretation, which offers good control and confidence for the mineralisation. • The reconcilably high accuracy of the digital terrane model. • The demonstrable quality in the input assay data and adequate performance of QA/QC data. • Qualitative assessment of the Mineral Resource estimate indicates the robustness of this particular resource estimation exercise. • The estimates are global. No production data is currently available.