CARBINE RESOURCES
LIMITED

ASX / MEDIA ANNOUNCEMENT **3 May 2022**

Carbine to acquire the Sandbox Silica Sands Project

HIGHLIGHTS

- **Carbine Resources has signed a binding term sheet to acquire 100% of the highly prospective Sandbox Silica Sands Project located in Far North Queensland from FNQ Sand Pty Ltd (FNQ), encompassing a land package of 8,104 hectares (~81km^2)**

- **The Sandbox Project offers Carbine an excellent opportunity of a near term development project, but also the potential to significantly expand the existing resource whilst the Company continues to advance its exciting Muchea Project.**

- **Key drivers behind the acquisition are:**

  - **Potential to significantly grow the resource - existing resource is situated on less than 1% of the land package and open to depth extension;**
  - **Access to key infrastructure including spare port capacity; and**
  - **Opportunity for first mover status to fast-track a development scenario.**

- **Total acquisition costs for the vend is nominally $8.8 million, made up of an initial upfront payment of $500k cash upon satisfying the conditions precedent in the term sheet, while the remainder includes the issue of shares (value $5m), post-production milestone cash payments ($2.5m) and purchase of freehold land ($800k)**

- **A substantial drilling program has been completed over an area of 59 Ha of freehold land, which is less than 1% of the land package. FNQ has defined a JORC resource of 5.7mt at 95.80% SiO_2, 0.20% Fe_2O_3, 2.38% Al_2O_3. Carbine plans to fast-track a Scoping Study and leverage off the preliminary work carried out by FNQ on the Project.**

- **CDE have completed the sand characterisation studies for the Sandbox initial project area (IPA) that has identified a potential low capital development and a simple process that can deliver product specifications of at 99.50% SiO_2, 0.019% Fe_2O_3, 0.31% Al_2O_3 suitable for both the Float (plate) and Container Glass market.**

- **Metallurgical testwork is underway with a target of reducing Fe_2O_3 to ~150ppm making the product suitable for solar panels**

- **Marty Costello will join the Carbine Board. Marty has more than 20 years' professional experience and is recognised as one of Australia's leading project development and sustainability strategists across the resource sector.**

Peter Batten, Managing Director of Carbine, stated *"It is rare to find a silica deposit that sits within a short distance of an export port with excess capacity in the middle of a resource boom.*

"This acquisition complements the Company's existing strategy and fits well with its existing plans at its Muchea Project. The Sandbox Project offers Carbine potential access to near term development whilst it continues to develop its exciting large-scale Muchea Project. Our goal through undertaking the Sandbox acquisition is to secure the potential for an earlier stage production and subsequent cashflow scenario with the object of self-funding the development of the Muchea Project.

"The vendors have completed a considerable amount of work drilling the initial development area sufficiently to complete a Mineral Resource Estimate, commissioning processing studies that have identified a potentially low capex processing option and entering negotiations with the port and landholder to secure access and greatly reduce the work and time Carbine will require before being in a position to evaluate a start-up feasibility study."

Carbine Resources Limited (ASX: CRB) (the **Company**) is pleased to advise that it has signed a binding term sheet (**Term Sheet**) to acquire 100% of the Sandbox Silica Sands Project, Queensland from FNQ Sand Pty Ltd (**FNQ**) and Suga Dino Pty Ltd (**Suga**), subject to various conditions precedent including shareholder approval (**Acquisition**).

FNQ holds 100% of the Sandbox Silica Sands Project which covers a land area of 1300Ha consisting of an exploration permit, EPM27338, and Suga holds 100% of exploration permit, EPM27696 (6804Ha).

SANDBOX SILICA SAND PROJECT

The Sandbox Project is located approximately 22km south-southeast of Innisfail, Queensland. Direct access to the tenure is via the Bruce Highway thence via sealed local roads. Both the Sandbox Project and the Mourilyan Port are accessed off the Bruce Highway.

The Sandbox Project covers a land area of 59Ha on freehold land contained within the 1300Ha exploration permit, EPM 27338. The Suga Dino tenement, EPM 27696, covers 6804Ha between EPM 27338 and the Port at Mourilyan Harbour (Figure 2).

This Project has been explored by private and public companies and has progressed significantly towards becoming a commercial operation.

A total of 132 holes have been completed by FNQ on the Sandbox Project, an area of 59 Ha of freehold land that sits within the 86.04 Ha freehold land package.

The vendors have undertaken sand characterisation work through a reputable group (CDE Global), initiated negotiations with Ports North to secure access to the Mourilyan Port and prepared the Project for development with the removal of Strategic Land status over the Sandbox area. The previous use of the land was for sugar cane and, as such, it will not be referred to the EPA for assessment. In addition, Native Title is extinguished on freehold land.

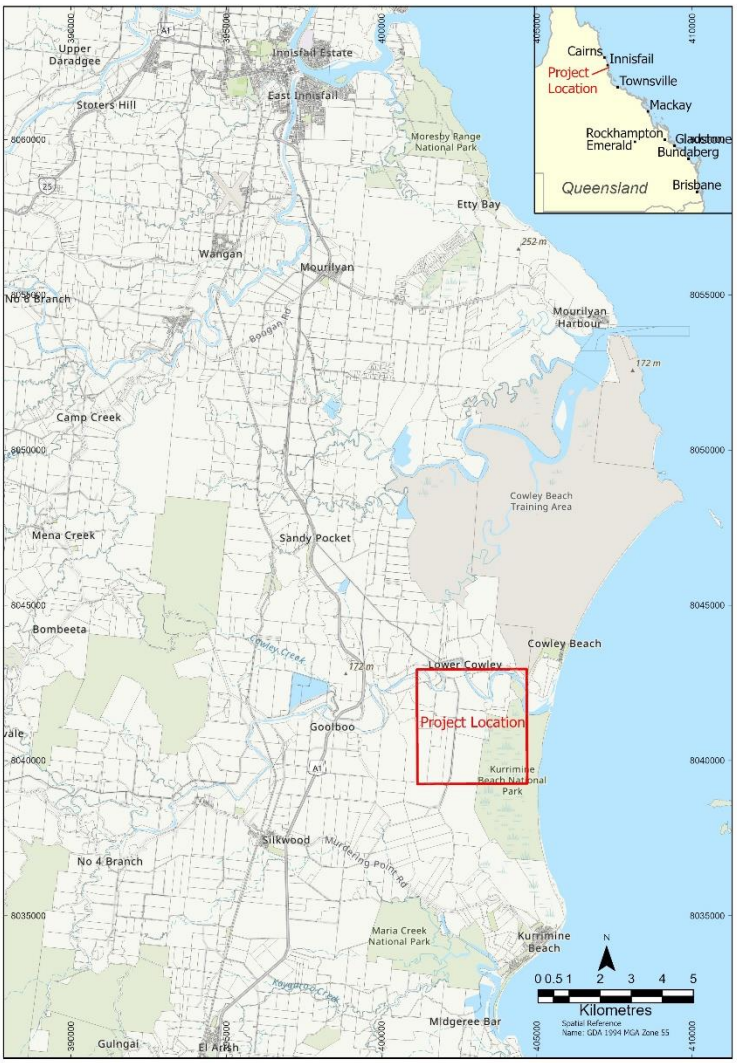


Figure 1: Project Location

The Mourilyan Port is located to the north east of the Sandbox Project and is accessible via 27km of sealed roads. Mourilyan Port is underutilised with space for stockpiles and capacity to export up to 2 million tonnes with current infrastructure and more with improved loading facilities.

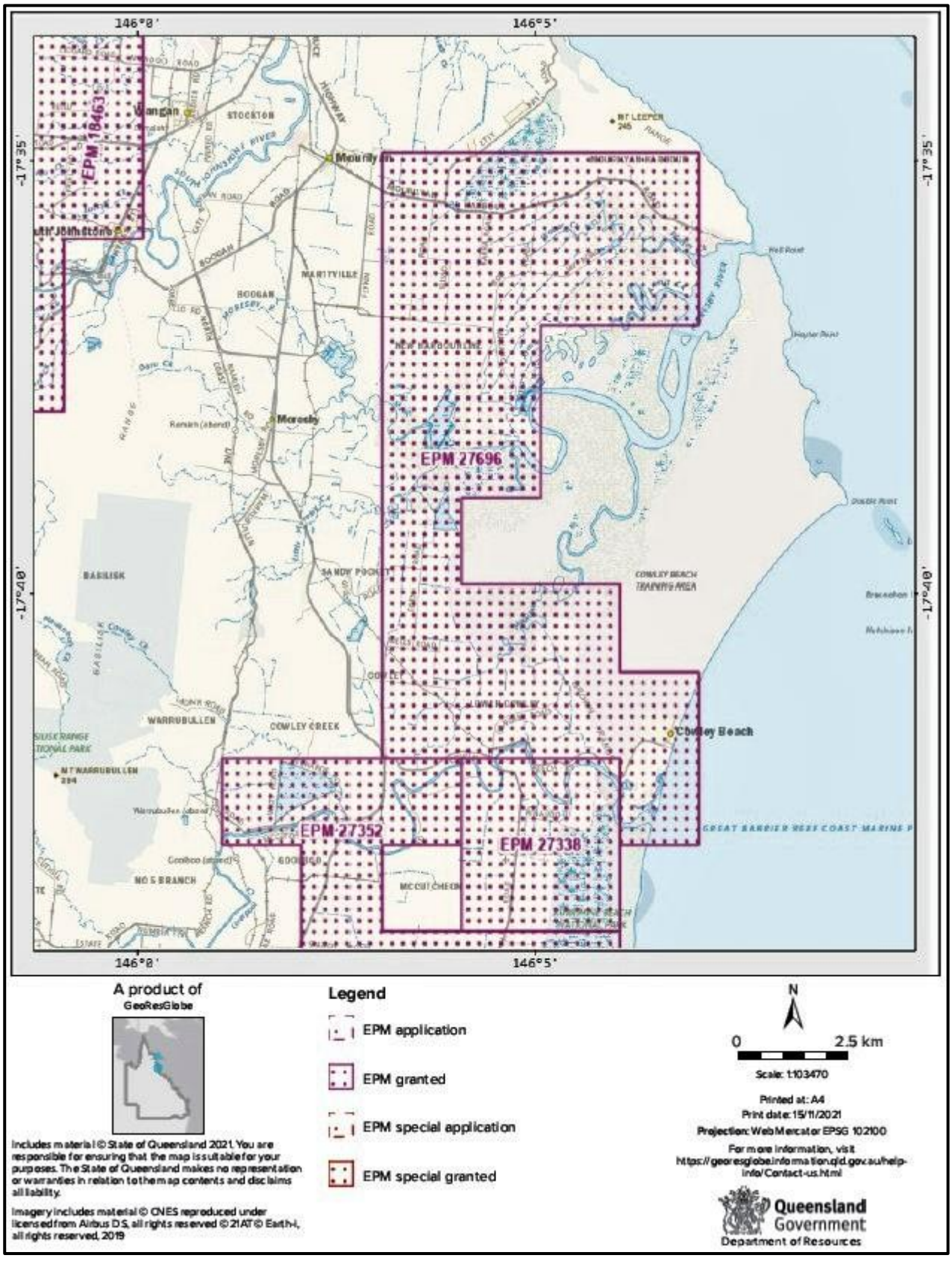


Figure 1: Tenement Plan

Project Geology

The Project is underlain by silica sand, which extends over large areas of the Coastal Plains of Cowley. The sand ridges are considered relict sedimentary landforms developed on prograded beach shorelines.

The depth of the sand on these ridges is variable and at Sandbox does reach depths of 13m in some locations.

Inundation due to surge generated by tropical cyclones is considered primarily responsible for building these beach ridges.

The physical, chemical and mineralogical characteristics of the beach ridges can vary considerably, resulting in variation in the quality of the sand regionally as well as locally.

In general, the beach ridges are covered with very little or no overburden.

At Sandbox, the ridge has been levelled over the 59 Ha area of initial interest for the prior purpose of sugar cane production.

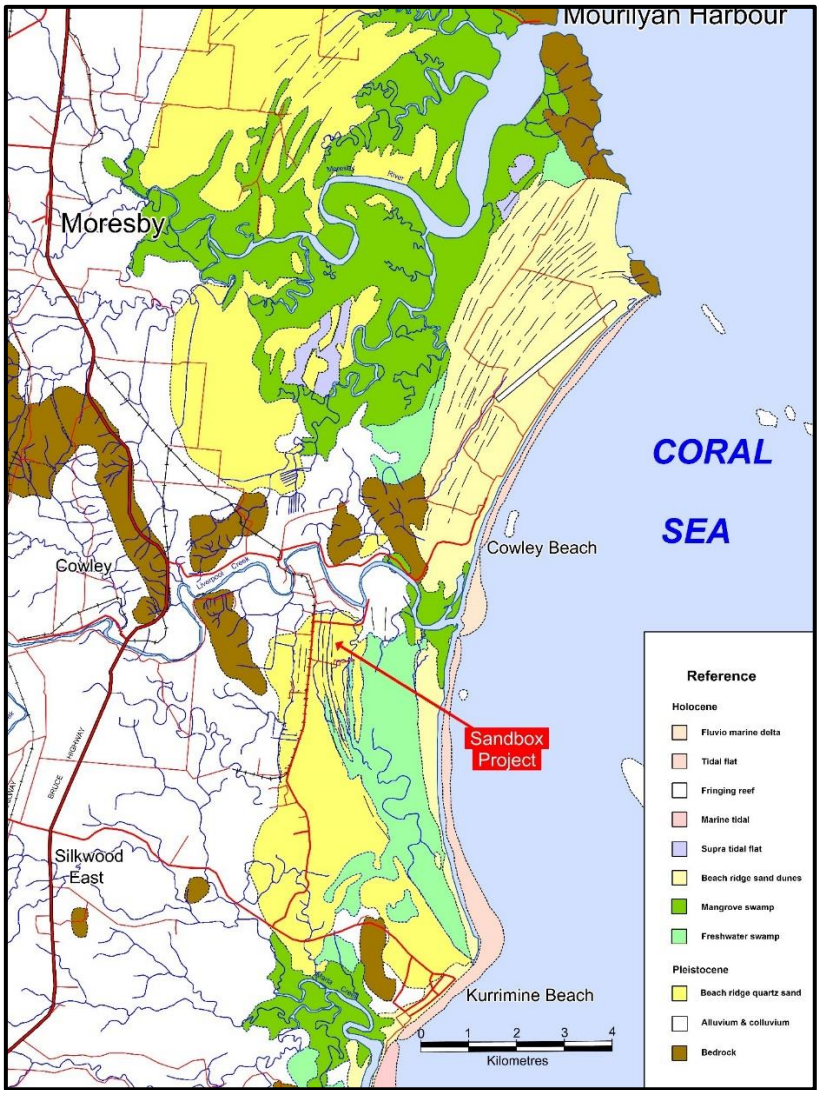


Figure 3: Geomorphology showing Sandbox (IPA) and northern sand ridges

Previous Exploration Undertaken

The region surrounding the Sandbox Project has been explored for both silica sand and mineral sands.

The Sandbox silica sands deposit forms part of the larger Mourilyan silica sand deposit, as first documented in the Queensland Government Mining Journal (Cooper, 1993). Several previous historical EPM's covered the Mourilyan silica sand deposit area, as listed below in Table 1.

Table 1: Tenement Summary

Type	Number	Holder	Grant Date	Expiry Date
ATP	107		03/07/1957	06/01/1960
ATP	127		30/04/1958	27/08/1958
ATP	808	*Discovery (Alpha) Pty Ltd*	28/08/1970	01/03/1972
ATP	4611	*Pioneer Concrete (QLD.) Pty Ltd* *Cable Sands (W.A.) Pty Ltd*	11/03/1987	10/03/1991
EPM	13762	*Calcifer Industrial Minerals Pty Ltd*	05/12/2002	04/12/2007
EPM	17467		24/01/2012	23/01/2017

Recent Exploration Activities

A total of 132 push tube drill holes were drilled on a nominal 100m x 50m spacing on eight drill lines along existing tracks (as shown in Figure 4 below) by FNQ within the freehold land zone, also known as the initial project area (**IPA**). The drilling locations were located using hand held GPS. Only 125 of these holes were completed at the time of the Mineral Resource Estimate.

The drilling encountered unconsolidated sand and was terminated either at designated depth or bit refusal. One metre downhole samples were collected at each drilling location. Push tube drill samples are collected in a plastic tub and homogenised, riffle split into one larger sample bag and 2 smaller subsamples. One of the subsamples is prepared for laboratory and the other is retained for repeat analysis and QA/QC purposes. The bulk sample is retained for later metallurgical test work. The sample splitter and cyclone are cleaned regularly to prevent sample contamination.

Drilled samples for each 0.5 m interval were placed into chip trays which were then photographed to provide a permanent record of the downhole lithology. Detailed visual assessment and logging of sample recovery are provided in the drill logs.

The sample assays were carried out to determine the major and trace elements such as SiO_2 (%), Fe_2O_3 (%), Al_2O_3 (%), CaO (%) MgO (%), K_2O (%), TiO_2 (%) and LOI (%). Major and trace elements in exception to SiO_2 were analysed using a four-acid digest followed by Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry **(ICP-OES**) analysis. Loss on Ignition (**LOI**) at 10,000C was analysed by Thermal Gravimetric Analyser. SiO_2 was back calculated by subtracting all ICP major and trace elements plus LOI from 100%.

The drillhole database comprised 125 holes, a combination of push tube holes and nested waterbores (21). Sampling of the 564m of drilling produced 430 samples. The average hole depth assessed was around 4m and range from 3m to 7m in the database. The grades vary throughout the Project and there are three identified sand horizons in the profiles.

The upper zone is slightly higher grade SiO_2 and the deeper holes show mildly increased levels of Fe_2O_3 and Al_2O_3 (Table 2).

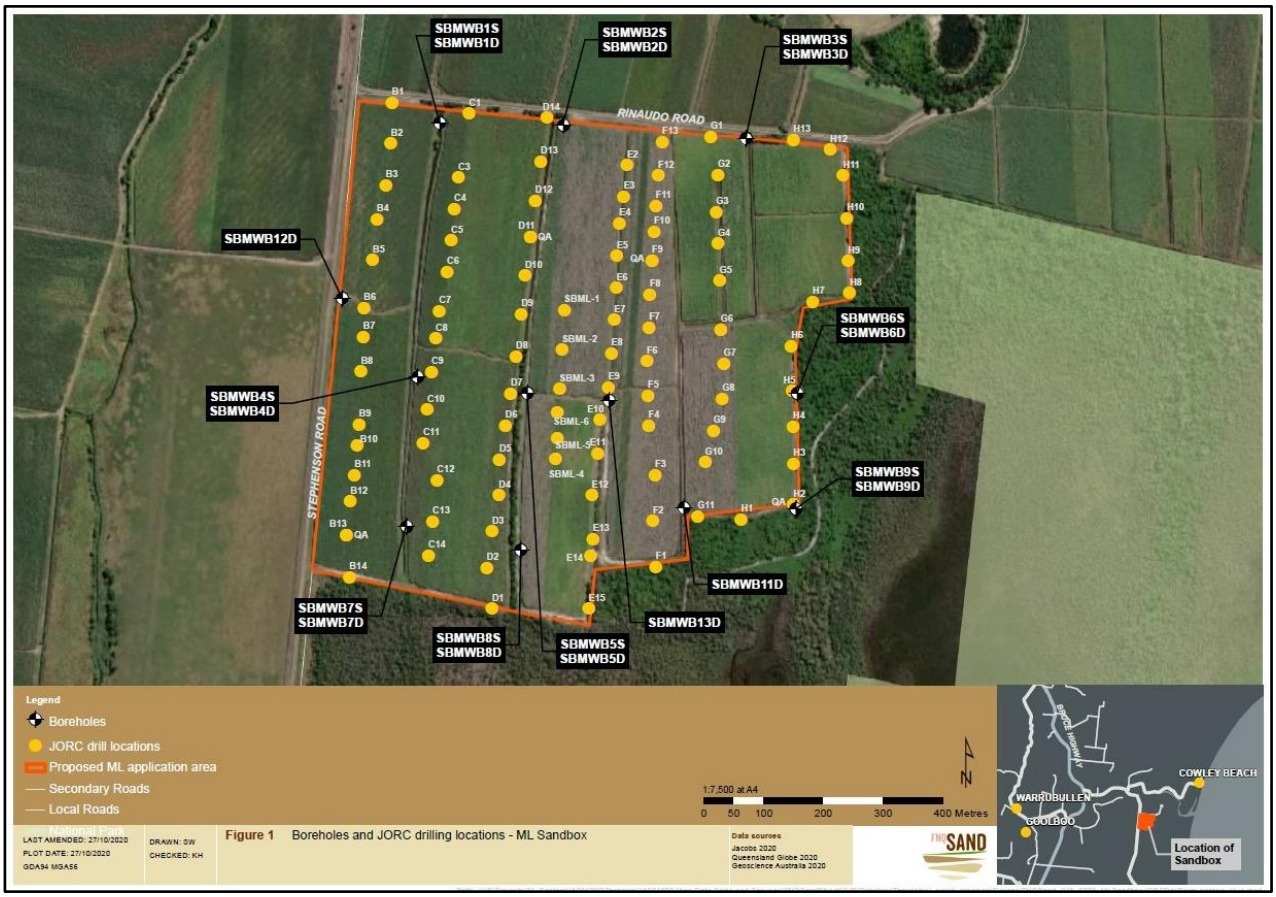


Figure 4: Drill Collar Plan for Sandbox (IPA)

Table 2: Significant drillhole intercepts (see Appendix 1 for full table of drilling results)

Hole ID	From (m)	To (m)	Interval (m)	SiO_2 %	Fe_2O_3 %	Al_2O_3 %
SBB8	0	4	4	97.73	0.15	1.35
SBB9	0	4	4	97.23	0.17	1.48
SBC1	0	7	7	95.09	0.24	2.83
SBC2	0	5	5	95.68	0.20	2.59
SBE12	0	3	3	97.50	0.07	1.36
SBE14	0	3	3	97.53	0.10	1.33
SBML4	0	3	3	97.90	0.05	1.17
SBML5	0	4	4	96.65	0.13	1.88

In response to Carbine's queries about sand depth, FNQ completed an additional 5 holes within the resource area with average white sand profiles of 7m and a maximum depth of 13m (SBMWB12D). Another 2 holes were completed outside the resource on unallocated state land but within the EPM. These holes were again push tube holes and ended at bit refusal. The final white sand depth at Sandbox has not been delineated.

The Direct Push-Tube drillhole data of FNQ and the drillhole database of Senlac Geological Services Pty Ltd was supplied to Encompass Mining Limited, the consultants undertaking the Mineral Resource Estimation, including drillhole collars, lithology and assay data for the following:

- 141 drillholes (FNQ)
- 99 drillholes (Pioneer/Cable Sands)
- 9 Costeans (Pioneer/Cable sands)
- 4 holes (Alpha Discovery)

- 2 Trenches (Alpha Discover)
- 142 drillholes (Calcifer Industrial Minerals)

Mineral Resource Estimation

Encompass Mining Pty Ltd (**Encompass**) was engaged by FNQ to build a geological model for the Sandbox Silica Sand Project and prepare a Mineral Resource Estimate under the JORC (2012) Code.

The Sandbox Project is located in Far North Queensland, about 100km south-southeast of Cairns city and 20km south of Innisfail town, being situated between Mourilyan Harbour and Kurrimine Beach. The Sandbox silica sand deposit is situated 3.6km south-west of Cowley Beach. Cowley Beach is a coastal town and locality in the Cassowary Coast Region, Queensland, Australia.

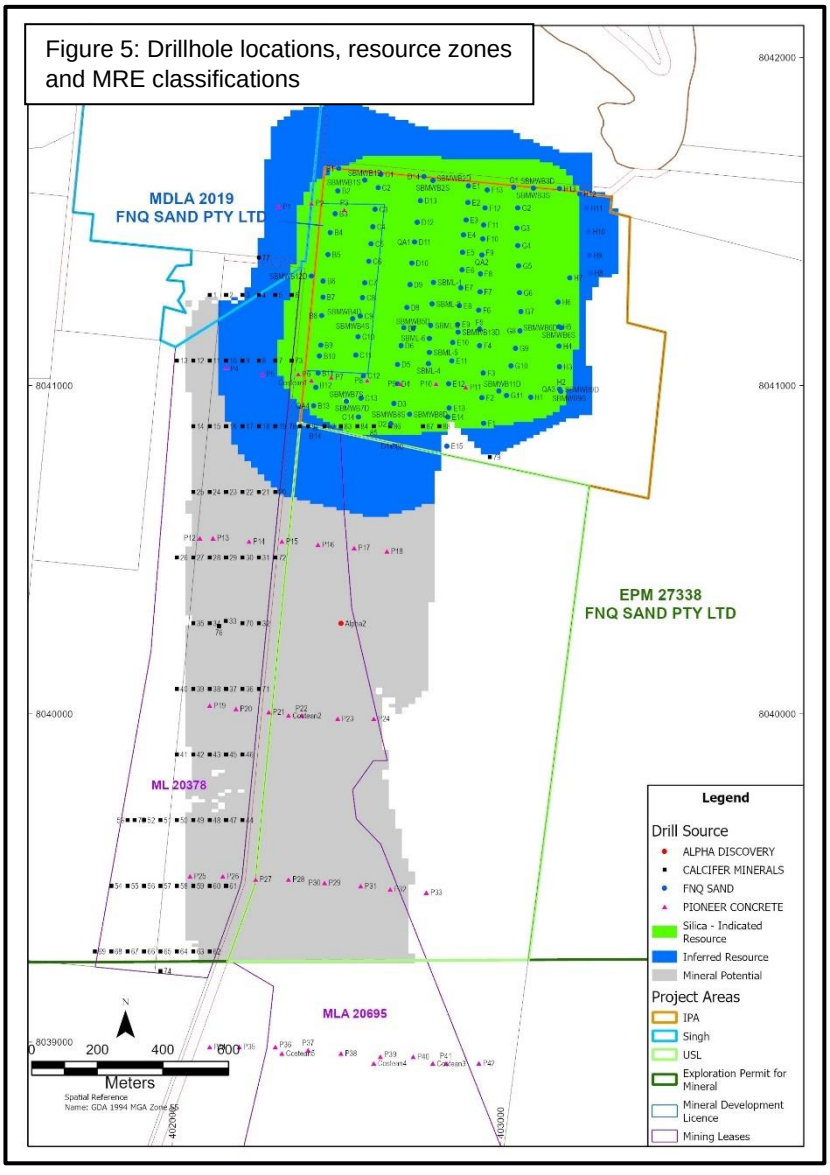
The deposit extends from the surface (less the top 0.5m of material (soil)) to the base of 341 sampled vertical drillholes. Depth is limited to approximately 4.5m but may be deeper in areas where drilling penetrated further. The geological model has been extended half the drillhole distance past the last line of drillholes.

The Mineral Resource for the Sandbox Project is split into three zones. The Initial Project Area (**IPA**) that covers the 86 Ha freehold parcel and includes the drilling completed by FNQ, Singh to the west and north of IPA and Unallocated State Land (**USL**) which projects from IPA to the south (Figure 5).

No Mineral Resource has been estimated for the sand ridges that occur on EPM27696.

The nature of the deposit, the consistently very-high silica grades throughout the deposit, and deposit modelling place a very high degree of confidence in the geological interpretation. Continuity of geology and grade can be identified and traced between drillholes by visual and geochemical results and characteristics. Encompass digitised the wireframes on lithological boundaries (Soil (excluded from wireframing), Silica, Coffee and Sand).

Figure 5: Drillhole locations, resource zones and MRE classifications



The Mineral Resource for the Sandbox Project has been estimated as at 14th of December 2021. All grade estimation was completed using Ordinary Kriging ('OK') for seven (7) elements (SiO2, Al2O3, Fe2O3, TiO2, MgO, K2O, LOI). Inverse Distance cubed (**ID3**) was used to estimate the density. The resource has been

reported and broken out into White Silica Sand, Coffee Rock Sand and Sand and is summarised in the below tables.

Table 3.1: White Silica Sand Resource at a 90% SiO2 Cutoff

Resource Category	Project Area	Tonnes (Dry)(t)	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	TiO_2 %	MgO %	K_2O %	LOI
Indicated	IPA	2,513,210	96.63	1.93	0.17	0.09	0.03	0.63	0.59
	SINGH	18,830	97.56	1.14	0.13	0.11	0.02	0.34	0.43
Total Indicated		***2,532,040***	***96.63***	***1.93***	***0.17***	***0.09***	***0.03***	***0.63***	***0.59***
Inferred	USL	400,650	96.69	1.85	0.18	0.08	0.03	0.60	0.59
	IPA	245,880	96.99	1.73	0.13	0.08	0.02	0.58	0.57
	SINGH	166,420	97.95	1.01	0.13	0.12	0.02	0.25	0.48
Total Inferred		***812,950***	***97.34***	***1.43***	***0.15***	***0.10***	***0.02***	***0.43***	***0.53***
Total Indicated + Inferred		***3,344,990***	***96.82***	***1.80***	***0.16***	***0.09***	***0.03***	***0.58***	***0.57***

Table 3-1: Summary of Coffee Rock Sand Resource

Resource Category	Project Area	Tonnes (Dry)(t)	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	TiO_2 %	MgO %	K_2O %	LOI
Indicated	IPA	652,300	97.61	1.24	0.13	0.09	0.01	0.28	0.70
	SINGH	6,080	98.28	0.67	0.15	0.14	0.01	0.08	0.64
Total Indicated		***658,380***	***97.61***	***1.24***	***0.13***	***0.09***	***0.01***	***0.28***	***0.70***
Inferred	USL	36,970	97.84	1.02	0.12	0.10	0.01	0.19	0.68
	IPA	56,320	97.41	1.33	0.12	0.09	0.01	0.29	0.83
	SINGH	59,960	98.18	0.73	0.15	0.13	0.01	0.10	0.66
Total Inferred		***153,250***	***97.91***	***0.95***	***0.13***	***0.11***	***0.01***	***0.17***	***0.70***
Total Indicated + Inferred		***811,630***	***97.69***	***1.16***	***0.13***	***0.10***	***0.01***	***0.25***	***0.70***

Table 3-2: Summary of Sand Resource

Resource Category	Project Area	Tonnes (Dry)(t)	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	TiO_2 %	MgO %	K_2O %	LOI
Indicated	IPA	1,128,640	92.86	4.11	0.31	0.15	0.06	1.58	0.89
	SINGH	6,080	92.77	4.39	0.33	0.15	0.06	1.63	0.96
Total Indicated		***1,134,720***	***92.86***	***4.11***	***0.31***	***0.15***	***0.06***	***1.58***	***0.89***
Inferred	USL	133,840	92.76	4.19	0.33	0.14	0.06	1.58	0.93
	IPA	82,560	92.39	4.37	0.34	0.14	0.07	1.73	0.93
	SINGH	190,320	92.59	4.32	0.33	0.16	0.06	1.59	0.95
Total Inferred		***406,720***	***92.60***	***4.28***	***0.33***	***0.15***	***0.06***	***1.62***	***0.94***
Total Indicated + Inferred		***1,541,440***	***92.79***	***4.16***	***0.32***	***0.15***	***0.06***	***1.59***	***0.90***

The combined Indicated and Inferred Mineral Resource Estimate for the Sandbox Project is 5,698,000 tonnes at 95.80% SiO_2 (0.20% Fe_2O_3, 2.38% Al_2O_3, 0.11% TiO_2, 0.03% MgO, 0.82% K_2O, 0.69% LOI). The IPA combined Indicated and Inferred Mineral Resource Estimate is 4,678,000 tonnes at 95.81% SiO_2 (0.20% Fe_2O_3, 2.38% Al_2O_3, 0.10% TiO_2, 0.03% MgO, 0.82% K_2O, 0.69% LOI). IPA is the first Mineral Resource Estimate for the project and sits entirely on freehold land. The MRE is calculated to the base of drilling not to the base of the sand profile and deeper drilling (completed after the MRE was commenced) has shown that the sand profile continues to 13 metres in, at least, some parts of the IPA zone.

The drilling, outside of the IPA, was not extensive and more potential remains within the sand ridges in EPM27338, Sandbox.

No drilling has been included from EPM27696 which encompasses the northern sand ridges.

Sand Characterisation

FNQ engaged CDE Global Ltd (**CDE**) to undertake a sand classification study and produce a flowsheet for processing the Sandbox ore and for the purpose of identifying its suitability and potential to be beneficiated to make a Sellable Glass Grade product.

CDE are very experienced in materials handling and processing and have a high profile in the sand industry.

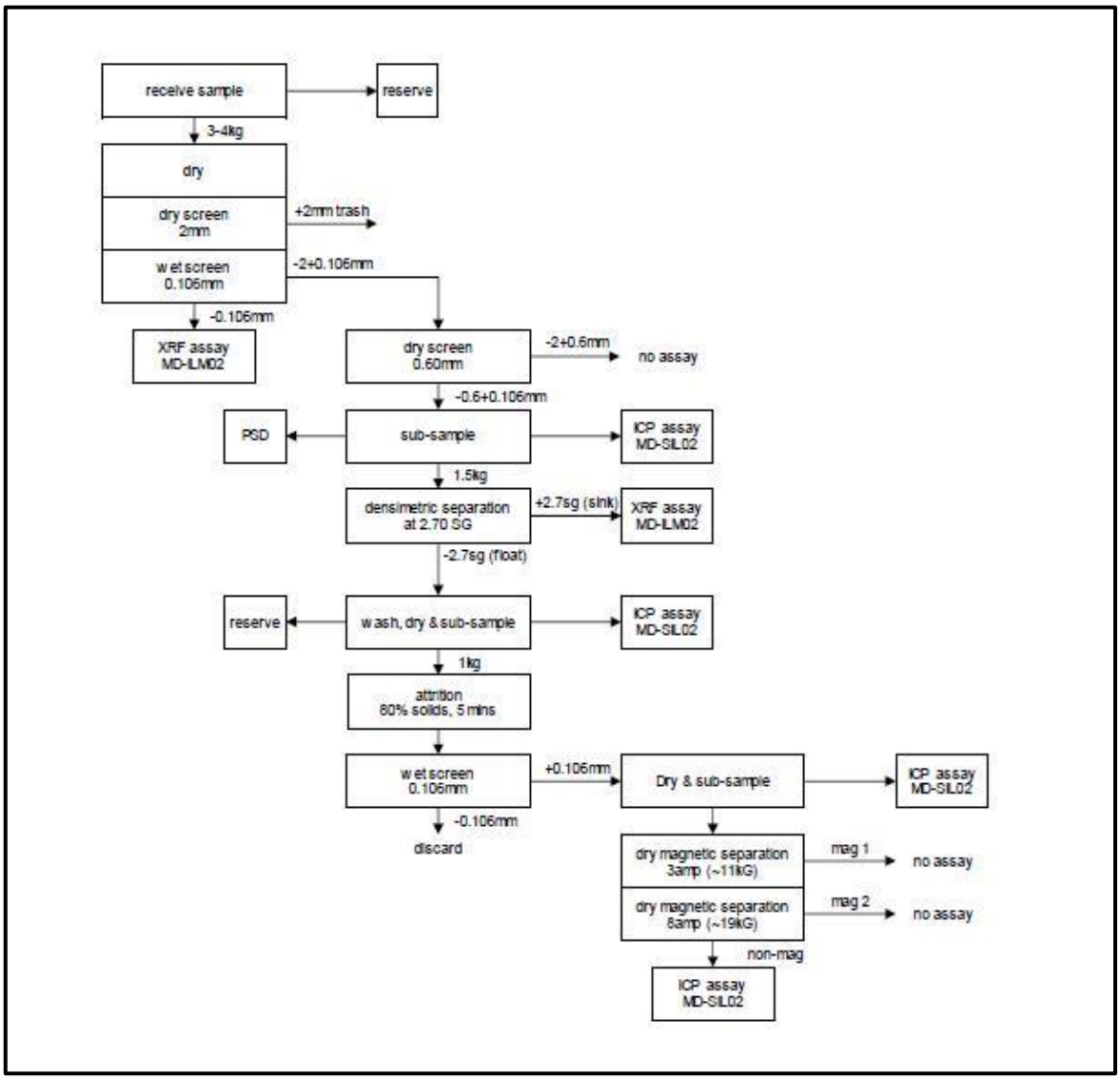


Figure 6: Processing Flowsheet

The attrition process stage showed virtually no change in assay results except for TiO_2 and Al_2O_3 which both experienced modest reductions. The final processing stage tested was high intensity magnetic separation. In this test the sized and attritioned float sand is passed over a dry magnetic separator at increasing intensities, to see if iron bearing or magnetic minerals can be separated to improve silica grade.

Based on the testing results, 99.5% SiO_2, 190ppm Fe_2O_3, 3100ppm Al_2O_3, achieved there is likely merit in pursuing this resource as feed material for the production of glass. The resultant sand product is in accordance with the specifications required for Float and Container Glass.

Table 4: Summary Highlights of CDE test program

Fraction	% wt To feed	SiO_2 %	Fe_2O_3 %	Al_2O_3 %	TiO_2 %	Cr_2O_3 %	MgO %	MnO %	P_2O_5 %	V_2O_5 ppm	SO_3 %	CaO %	K_2O %	LOI %
Prepared - 600+106um	85.0	98.96	0.05	0.58	0.06	x	0.01	0.001	x	4	x	0.01	0.148	0.19
Gravity Float (-2.7 SG)	84.7	99.23	0.03	0.49	0.04	x	0.01	x	x	2	x	0.01	0.126	0.08
Attritioned Float	84.4	99.27	0.03	0.45	0.03	x	0.01	x	x	2	x	0.01	0.120	0.08
Non-Magnetic Float	84.0	99.25	0.03	0.44	0.03	x	0.01	x	x	2	x	0.01	0.114	0.13
Slimes (-106um)	3.1	70.90	1.48	16.20	1.57	0.011	0.25	0.06	0.051	100	0.1	0.07	4.370	4.30

CDE then subjected the processed product to a Hot Acid Leach (HAL) process and was able to reduce the Fe_2O_3 content to below 100ppm. The Al_2O_3 altered by a small amount and the SiO_2 content was improved to 99.6%, sufficient for the Float Glass market.

Table 5: Silica Specifications

Type of Application	Specification
Float (Plate) Glass	99.50% SiO_2
Container Glass	99.50% SiO_2
Cover Glass (Solar Panels)	99.95% SiO_2 and Low Fe
Smart Glass (Ultra Clear)	99.97% SiO_2 and Low Fe
Specialist Glass (Thin Screen)	99.97% SiO_2

Going Forward

The potential opportunity for fast-tracked development and production at the Sandbox Project was a deciding factor in Carbine's decision to acquire the Project. Early assessments have been undertaken in regards to permitting, mining, processing, transporting and final product offtake. Carbine will undertake to leverage off this available data with the purpose of applying for a Mining Licence. The recently completed Mineral Resource Estimate and the commissioned metallurgical reports will be supporting documents for a Mining Licence Application.

Further metallurgical work has been commissioned to finalise the process pathway and discussions are underway with the port and other stakeholders to progress the project to development. Carbine has engaged Independent Metallurgical Operations to undertake confirmation work of the sand characterisation work using 700 kg of sample rejects that were located at a Perth laboratory.

The Sandbox deposit sits on freehold land and is only a portion of the ground available through the acquiring of the two EPMs. Further exploration will be undertaken to underpin the longevity of the Project.

The vendors, through their sand characterisation work and bulk sample processing have determined a potential processing flowsheet that will require minimal confirmation and extension work to determine the final processing requirements. From the completed work this has the potential to be a low capex operation and a simple process.

Due to the unique location of the ground on freehold land the duration of a Mining Licence application could be as quick as nine months from the date of lodging. An agreement with the landowner is completed.

Negotiations by the vendors with Ports North have resulted in a stockpile area being allocated to FNQ for sand from the Sandbox Project. A traffic study is being commissioned as part of the access requirements at the Mourilyan Port.

Figure 6: Mourilyan Port

Following acquisition, Carbine expects to complete a minimum of work to confirm the results of the work completed to date by the vendors, with the expectation of lodging an application for a Mining Licence shortly after acquisition, and being in a position to make a decision on a low capex processed silica sand export operation within six months.

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 the Sandbox Project:

- Silica sand at Sandbox occurs within the coastal regions of the northern extent of the Coastal Plains of Cowley. The sand ridges are considered relict sedimentary landforms developed on prograded beach shorelines. The targeted silica sands are located within the sand ridges. (ASX LR 5.8.1 Geology & Geological Interpretation)
- Samples were obtained from push tube drilling. The quality of the drilling, sampling methodology and analysis for this method 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 & 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 1000^{o} C (LOI) was analysed by a Thermal Gravimetric Analyser. SiO_2 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 SiO_2 content of material with very high SiO_2 content. Validation of the ICP results were then undertaken by verification with an umpire laboratory using ICP methods.
- Mineral Resources were estimated by the use of a 3D wireframe of the base surface for white sands, above the water table and constrained by a surveyed DTM surface. The soil layer was excluded from the resource on the basis of it being stockpiled in the future for rehabilitation purposes. (ASX LR 5.8.1 Estimation Methodology)
- Grade estimation was completed using ordinary kriging with hard boundaries applied between identified layers. No grade cuts were applied to the data. (ASX LR 5.8.1 Estimation Methodology)
- The Mineral Resource Estimation is quoted from all classified blocks above the basal layer wireframes for Silica, Coffee and Sand and below the soil surface layer (ASX LR 5.8.1 Classification)

- The Mineral Resource Estimation is classified as Indicated and Inferred on the basis of the drill hole logging, drill hole sampling analytical results, drill spacing, statistical analysis, confidence in geological continuity and metallurgical testing results (ASX LR 5.8.1 Classification)
- 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 Sandbox Silica Sands Project is an Industrial Mineral Resource in accordance with the terms of Clause 49 of the JORC Code. (ASX LR 5.8.1 mining, Metallurgy and Economic Modifying Factors)

About the Vendors

FNQ was established in 2019 and set up as a special purpose vehicle to develop the Sand Box asset, including the acquisition of the freehold land through a related entity. Post the acquisition and through to late 2021 FNQ undertook a detailed exploration program on 59Ha to establish the extent of mineralisation with the objective of establishing the economical viability of a potential development scenario. The shareholders of FNQ and Suga Dino, together with their entitlement to acquisition consideration is set out below.

No	Name	FNQ Shares	Suga Dino Shares	Consideration Shares	Completion Payment	Milestone Payments
1	Bronco Dino Pty Ltd as trustee for Bronco Dino Nº2 Trust	90	90	116,666,667	$350,000	$1,750,000
2	Hughes & Elsden Nominees Pty Ltd as trustee for HJD Trust	39	10	50,000,000	$150,000	$750,000
Total		**129**	**100**	**166,666,667**	**$500,000**	**$2,500,000**

Key terms of the Acquisition are:

- Consideration consisting of:
  - 166,666,667 shares with a deemed issue price of $0.03 each (**Consideration shares**) to be issued in two tranches as follows:
    - Tranche 1, comprised of 116,666,667 shares, to be issued at completion of the Term Sheet; and
    - Tranche 2, comprised of 50,000,000 shares to be issued on the grant of a Mining Licence over land within the boundaries of EPM27338;
  - $500,000 upon completion of the Term Sheet (**Completion Payment**); and
  - $2,500,000 upon satisfaction of certain performance milestones in respect of the Sandbox Project (**Milestone Payments**) as follows:
    - completion of the sale of 105,000 tonnes from the Tenements achieving a sale price of at least $30 per tonne at the mine gate - $500,000;
    - completion of the sale of 210,000 tonnes from the Tenements achieving a sale price of at least $30 per tonne at the mine gate - $500,000;
    - completion of the sale of 315,000 tonnes from the Tenements achieving a sale price of at least $30 per tonne at the mine gate - $750,000; and
    - completion of the sale of 420,000 tonnes from the Tenements achieving a sale price of at least $30 per tonne at the mine gate - $750,000;
- The Company will acquire the Freehold Land for $800,000.

- Bronco Dino, as a vendor, has the right to appoint a director to the Board of the Company and has nominated Mr Marty Costello as its board representative.

  Marty Costello has more than 20 years' professional experience and is recognised as one of Australia's leading project development and sustainability strategists across the resource sector. He holds a Bachelor of Applied Science and Diploma of Applied Science and experience covers a range of commodities in a variety of geographic locations and geological settings including coal, gold, copper, zinc, lead, silver, magnetite, mineral sands and quarries. Marty is a member of a number of professional institutions including the Australian Institute of Mining and Metallurgy as well as the Prospectors and Developers Association of Canada.

Completion is scheduled to occur five Business Days after satisfaction of the conditions precedent, the end date for which is 30 June 2022. The outstanding conditions precedent are set out below:

- the parties obtaining all necessary third party and/or Governmental consents; and
- Carbine shareholders approving the issue of Consideration Shares under Listing Rule 7.1.

In addition to the Acquisition, the Company will seek shareholder approval for the issue of:

- 25,000,000 unquoted options exercisable at $0.06 each with a 3 year term to corporate advisors; and
- 30,000,000 unquoted options exercisable at $0.05 each with a 3 year term to each existing director of the Company.

The Company intends to fund the Completion Payment for the Acquisition and initial development activities at the Sandbox Project from its existing cash reserves. Further development activities to progress the Sandbox Project may require additional funding in the form of a capital raising, subject to market conditions as and when required.

Muchea West High Purity Silica Sand Project

The Company continues to advance the Muchea West project and is awaiting results from the Mineral Resource Estimation (Widenbar and Associates) and the Scoping Study (Independent Metallurgical Operations and Oreology). The next proposed drilling program has been delineated and the Program of Work application process has been commenced.

This announcement is approved for release by the Board of the Company.

For further information, please contact:

Peter Batten
Managing Director
+61 (8) 6142 0986

COMPETENT PERSON'S STATEMENT

The information in this report that relates to technical assessment of the mineral resource estimate is based on, and fairly represents, information and supporting documentation prepared by Mr Chris Speedy who holds a MPAF Professional Accounting & Finance, PgDipArts Geospatial Science and BSc Geology degrees. He is a member of the Australasian Institute of Mining and Metallurgy and a member of Australian Institute of Geoscientists and RPGeo (Resource Estimation). Mr Speedy is an employee of Encompass Mining Ltd. Mr Speedy has sufficient experience that is relevant to the technical assessment of the mineral assets under consideration, the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Mr Speedy consents to the inclusion of the matters based on his information in the form and context in which it appears in this Presentation and has not withdrawn his consent before lodgement of this report.

CARBINE RESOURCES
LIMITED

Appendix 1: Drilling Information

Drillhole	Easting MGA94Z55	Northing MGA94Z55	RL (AHD)	Total Depth (m)	Dip (°)	Azi (°)	From (m)	To (m)	Al2O3 %	Fe2O3 %	SiO2 %	TiO2 %
B1	402507	8041662	6.715	5.1	-90	0	0.5	1.5	1.18	0.3	97.6	0.19
							1.5	2.5	0.6	0.12	98.4	0.19
							2.5	3.5	1.84	0.12	96.7	0.09
							3.5	4.5	3.72	0.5	93.6	0.16
B10	402449	8041090	7.875	5.1	-90	0	0.5	1.5	0.09	0.02	99.8	0.05
							1.5	2.5	0.7	0.08	98.3	0.14
							2.5	3.5	2.16	0.17	96.2	0.06
							3.5	4.5	3.19	0.37	94.1	0.11
B11	402444	8041039	7.782	5.1	-90	0	0.5	1.5	0.08	0.03	99.6	0.06
							1.5	2.5	0.9	0.08	98	0.13
							2.5	3.5	2.22	0.21	96	0.07
							3.5	4.5	3.1	0.33	94.7	0.11
B12	402437	8040995	7.841	5.1	-90	0	0.5	1.5	0.08	0.03	99.9	0.07
							1.5	2.5	0.79	0.1	98.3	0.15
							2.5	3.5	1.74	0.13	97	0.06
							3.5	4.5	3.21	0.32	94.2	0.12
B13	402431	8040939	7.869	5.1	-90	0	0.5	1.5	0.11	0.05	99.8	0.09
							1.5	2.5	0.24	0.08	99.3	0.18
							2.5	3.5	1.6	0.1	97.2	0.07
							3.5	4.5	2.55	0.21	95.6	0.09
B14	402436	8040868	7.594	5.1	-90	0	0.5	1.5	0.08	0.05	99.8	0.11
							1.5	2.5	0.41	0.1	98.4	0.2
							2.5	3.5	1.76	0.13	96.5	0.07
							3.5	4.5	4.11	0.47	92.6	0.14
B2	402505	8041594	7.241	6.3	-90	0	0.5	1.5	0.91	0.29	97.5	0.14
							1.5	2.5	0.48	0.14	98.7	0.21
							2.5	3.5	2.2	0.16	96.1	0.08
							3.5	4.5	3.56	0.35	93.7	0.11
							4.5	5.5	3.55	0.42	93.6	0.16
B3	402497	8041524	7.321	5.3	-90	0	0.5	1.5	0.83	0.26	97.6	0.17
							1.5	2.5	0.45	0.19	98.8	0.3
							2.5	3.5	2.27	0.16	96	0.08
							3.5	4.5	3.23	0.28	94.5	0.12
							4.5	5.3	3.29	0.22	94.6	0.15
B4	402482	8041467	7.39	6.3	-90	0	0.5	1.5	1.15	0.3	97.1	0.19
							1.5	2.5	0.42	0.2	98.8	0.27
							2.5	3.5	2.31	0.11	95.9	0.08
							3.5	4.5	3.44	0.39	93.9	0.11
							4.5	5.5	4.32	0.41	92.9	0.18
B5	402475	8041399	7.415	5.1	-90	0	0.5	1.5	0.26	0.1	98.7	0.15
							1.5	2.5	0.58	0.08	98.5	0.16
							2.5	3.5	1.93	0.15	96.4	0.08
							3.5	4.5	3.84	0.45	93.4	0.13
B6	402460	8041319	7.287	3.9	-90	0	0.5	1.5	0.11	0.05	99.4	0.11
							1.5	2.5	0.77	0.09	98.4	0.11
							2.5	3.5	2.34	0.18	96.1	0.06
B7	402459	8041270	7.571	5.1	-90	0	0.5	1.5	0.27	0.07	98.9	0.07
							1.5	2.5	0.4	0.08	99.1	0.11
							2.5	3.5	2.04	0.15	96.7	0.07
							3.5	4.5	3.37	0.41	93.9	0.13
B8	402455	8041213	7.723	5.1	-90	0	0.5	1.5	0.09	0.03	99.7	0.08
							1.5	2.5	0.32	0.06	99.5	0.11
							2.5	3.5	1.65	0.13	97.4	0.05
							3.5	4.5	3.32	0.38	94.3	0.1
B9	402452	8041124	7.749	5.1	-90	0	0.5	1.5	0.09	0.03	99.5	0.07
							1.5	2.5	0.37	0.07	99.2	0.13
							2.5	3.5	2.01	0.15	96.6	0.06
							3.5	4.5	3.43	0.43	93.6	0.11
C1	402636	8041644	6.466	7.5	-90	0	0.5	1.5	1.03	0.13	98	0.08
							1.5	2.5	0.4	0.04	99.1	0.05
							2.5	3.5	2.73	0.2	95.3	0.08
							3.5	4.5	5.95	0.6	89.8	0.21
							4.5	5.5	4.73	0.25	92	0.21
							5.5	6.5	2.79	0.25	95.1	0.19
							6.5	7.5	2.18	0.21	96.3	0.21
C10	402566	8041149	6.56	4	-90	0	0.5	1.5	1.16	0.1	97.6	0.08
							1.5	2.5	1.23	0.06	98.1	0.05
							2.5	3.5	1.63	0.1	97.4	0.05

Drillhole	Easting MGA94Z55	Northing MGA94Z55	RL (AHD)	Total Depth (m)	Dip (°)	Azi (°)	From (m)	To (m)	Al2O3 %	Fe2O3 %	SiO2 %	TiO2 %
C11	402559	8041093	6.425	6	-90	0	0.5	1.5	1.15	0.13	98	0.07
							1.5	2.5	1.15	0.05	98	0.05
							2.5	3.5	1.82	0.11	97	0.06
							3.5	4.5	1.89	0.2	96.6	0.06
C12	402583	8041031	6.987	5.1	-90	0	0.5	1.5	1.21	0.13	97.2	0.1
							1.5	2.5	0.92	0.06	98.1	0.06
							2.5	3.5	2.24	0.19	96.1	0.06
							3.5	4.5	2.42	0.27	95.8	0.08
C13	402575	8040962	6.87	7	-90	0	0.5	1.5	0.13	0.04	99.5	0.03
							1.5	2.5	1.22	0.05	98	0.07
							2.5	3.5	1.68	0.12	97	0.06
							3.5	4.5	2.96	0.37	94.7	0.1
							4.5	5.5	4.93	0.47	91.1	0.4
C14	402568	8040905	6.738	4	-90	0	0.5	1.5	0.67	0.09	98.4	0.06
							1.5	2.5	0.65	0.04	99	0.05
							2.5	3.5	1.79	0.1	96.9	0.05
C2	402627	8041603	6.629	7	-90	0	0.5	1.5	1.01	0.12	98.4	0.07
							1.5	2.5	0.55	0.04	99.2	0.04
							2.5	3.5	2.07	0.13	96.8	0.07
							3.5	4.5	5.08	0.5	91.3	0.19
							4.5	5.5	4.24	0.22	92.7	0.22
C3	402618	8041537	6.238	7	-90	0	0.5	1.5	0.96	0.13	98.3	0.08
							1.5	2.5	0.55	0.04	99.1	0.06
							2.5	3.5	2.31	0.13	96.1	0.07
							3.5	4.5	5.42	0.55	90.8	0.23
							4.5	5.5	4.67	0.21	92.2	0.2
C4	402611	8041484	6.23	7	-90	0	0.5	1.5	0.96	0.13	98.3	0.09
							1.5	2.5	1.46	0.06	97.8	0.07
							2.5	3.5	1.79	0.1	97	0.06
							3.5	4.5	5.49	0.62	90.5	0.24
							4.5	5.5	6.03	0.3	90.1	0.21
C5	402606	8041432	6.339	7	-90	0	0.5	1.5	1.07	0.16	98.2	0.09
							1.5	2.5	1.14	0.06	97.9	0.06
							2.5	3.5	2.56	0.21	95.8	0.07
							3.5	4.5	3.14	0.37	94.8	0.12
							4.5	5.5	4.17	0.31	93	0.15
C6	402599	8041379	6.459	4	-90	0	0.5	1.5	1.05	0.15	98	0.1
							1.5	2.5	0.79	0.05	98.7	0.07
							2.5	3.5	1.94	0.13	97	0.06
C7	402586	8041314	6.357	6	-90	0	0.5	1.5	1.17	0.1	97.8	0.08
							1.5	2.5	1.21	0.06	97.6	0.07
							2.5	3.5	2.11	0.13	96.2	0.07
							3.5	4.5	3.96	0.51	93.1	0.19
							4.5	5.5	5.46	0.34	91	0.21
C8	402580	8041268	6.27	4	-90	0	0.5	1.5	0.95	0.1	98.3	0.08
							2.5	3.5	0.72	0.04	99	0.06
							3.5	4	2.21	0.15	96.6	0.06
C9	402573	8041212	6.349	4	-90	0	0.5	1.5	1.08	0.08	98.1	0.08
							1.5	2.5	0.99	0.04	98.3	0.06
							2.5	3.5	1.53	0.1	97.5	0.05
D1	402675	8040816	6.545	2.7	-90	0	0.5	1.5	1.36	0.15	97.6	0.09
							2.5	2.7	1.28	0.07	97.8	0.07
D10	402730	8041373	6.819	3.9	-90	0	0.5	1.5	3.48	0.21	93.8	0.07
							1.5	2.5	1.01	0.07	98.5	0.07
							2.5	3.5	1.73	0.25	96.7	0.11
D11	402739	8041438	6.376	3.9	-90	0	0.5	1.5	1.46	0.17	97.5	0.09
							1.5	2.5	0.92	0.06	98.3	0.07
							2.5	3.5	4.26	0.26	92.7	0.09
D12	402747	8041498	6.196	3.9	-90	0	0.5	1.5	1.29	0.17	98	0.08
							1.5	2.5	1.33	0.07	97.5	0.08
							2.5	3.5	4.72	0.4	91.9	0.11
D13	402756	8041564	6.071	3.9	-90	0	0.5	1.5	0.96	0.09	98.6	0.06
							1.5	2.5	1.29	0.05	97.8	0.06
							2.5	3.5	4.66	0.31	91.9	0.09
D14	402767	8041637	6.204	3.9	-90	0	0.5	1.5	1.57	0.18	97.4	0.1
							1.5	2.5	1.02	0.06	98.2	0.07
							2.5	3.5	5.2	0.5	90.6	0.1
							3.5	3.9	7.43	1.02	87	0.19
D2	402666	8040884	7.307	5.1	-90	0	0.5	1.5	1.8	0.18	96.6	0.1
							1.5	2.5	1.48	0.08	97.4	0.06
							2.5	3.5	6.26	0.81	89	0.15
							4.5	5.1	5.68	0.73	89.8	0.19

Drillhole	Easting MGA94Z55	Northing MGA94Z55	RL (AHD)	Total Depth (m)	Dip (°)	Azi (°)	From (m)	To (m)	Al2O3 %	Fe2O3 %	SiO2 %	TiO2 %
D3	402675	8040945	7.238	6.3	-90	0	0.5	1.5	1.35	0.16	97.6	0.08
							1.5	2.5	0.83	0.06	98.6	0.06
							2.5	3.5	4.71	0.38	91.8	0.1
							3.5	4.5	7.73	1.1	86.3	0.21
							4.5	5.5	5.64	0.52	90	0.09
D4	402686	8041006	6.923	5	-90	0	0.5	1.5	1.56	0.17	96.9	0.09
							1.5	2.5	1.13	0.06	97.8	0.05
							2.5	3.5	3.45	0.29	93.9	0.08
							3.5	4.5	4.92	0.59	91.3	0.11
D5	402687	8041065	7.098	5.1	-90	0	0.5	1.5	1.18	0.15	97.4	0.08
							1.5	2.5	1.45	0.09	97.5	0.08
							2.5	3.5	4.9	0.46	91.4	0.2
							3.5	4.5	3.11	0.32	94.5	0.08
D6	402697	8041122	6.472	3.9	-90	0	0.5	1.5	1.18	0.16	97.9	0.08
							1.5	2.5	0.65	0.05	98.9	0.06
							2.5	3.5	5.01	0.35	91.2	0.08
D7	402706	8041176	6.322	3.9	-90	0	0.5	1.5	1.3	0.15	97.8	0.08
							1.5	2.5	0.42	0.03	99.1	0.04
							2.5	3.5	5.6	0.41	90.1	0.11
D8	402715	8041238	6.602	5.1	-90	0	0.5	1.5	1.12	0.14	97.9	0.08
							1.5	2.5	0.86	0.05	98.6	0.06
							2.5	3.5	6.21	0.39	89.1	0.11
							3.5	4.5	6.61	0.7	88.4	0.18
D9	402724	8041308	6.602	3.9	-90	0	0.5	1.5	0.97	0.14	97.8	0.07
							1.5	2.5	0.89	0.06	98.5	0.06
							2.5	3.5	5.76	0.6	89.6	0.12
E1	402902	8041609	6.129	3.9	-90	0	0.5	1.5	0.54	0.06	98	0.08
							1.5	2.5	1.1	0.09	98.2	0.1
							2.5	3.5	2.76	0.19	95.2	0.06
E10	402855	8041132	6.942	6.3	-90	0	0.5	1.5	0.53	0.06	98.6	0.09
							0.5	1.5	1.38	0.19	97.3	0.1
							1.5	2.5	0.56	0.06	98.8	0.1
							1.5	2.5	1.8	0.11	97	0.1
							2.5	3.5	3.46	0.15	93.8	0.07
							3.5	4.5	4.71	0.51	91.4	0.14
							4.5	5.5	4.43	0.39	92.5	0.22
							5.5	6.3	4.22	0.35	92.7	0.21
E11	402852	8041076	7.085	5.1	-90	0	0.5	1.5	0.17	0.04	99.5	0.08
							1.5	2.5	0.41	0.06	99.1	0.11
							2.5	3.5	4.77	0.18	91.5	0.06
							3.5	4.5	4.42	0.52	92.1	0.13
E12	402842	8041006	6.907	3.9	-90	0	0.5	1.5	0.23	0.07	99.2	0.08
							1.5	2.5	0.49	0.07	99.3	0.09
							2.5	3.5	3.35	0.13	94	0.05
E13	402844	8040932	6.767	3.9	-90	0	0.5	1.5	0.34	0.09	98.3	0.07
							1.5	2.5	0.78	0.13	98.5	0.22
							2.5	3.5	2.31	0.08	95.7	0.07
E14	402840	8040905	7.023	3.9	-90	0	0.5	1.5	0.12	0.04	99.7	0.09
							1.5	2.5	0.54	0.06	99	0.14
							2.5	3.5	3.33	0.12	93.9	0.06
E15	402837	8040816	7.084	3.9	-90	0	0.5	1.5	0.14	0.05	99.8	0.09
							1.5	2.5	0.53	0.06	98.9	0.08
							2.5	3.5	2.54	0.1	95.8	0.06
E2	402901	8041558	6.215	5.1	-90	0	0.5	1.5	1.28	0.16	97.5	0.1
							1.5	2.5	0.83	0.07	98.4	0.08
							2.5	3.5	3.19	0.25	94.6	0.08
							3.5	4.5	5.1	0.59	91.2	0.18
E3	402895	8041505	6.33	5.1	-90	0	0.5	1.5	1.2	0.13	97.5	0.11
							1.5	2.5	0.68	0.07	98.9	0.07
							2.5	3.5	3.03	0.24	94.7	0.07
							3.5	4.5	3.69	0.48	93.6	0.14
E4	402888	8041460	6.359	5.1	-90	0	0.5	1.5	1.34	0.21	97.5	0.11
							1.5	2.5	0.71	0.06	98.8	0.08
							2.5	3.5	3.1	0.24	95	0.08
							3.5	4.5	4.94	0.71	91.3	0.19
E5	402884	8041406	6.434	5.1	-90	0	0.5	1.5	1.28	0.16	97.6	0.1
							1.5	2.5	0.63	0.07	99	0.1
							2.5	3.5	2.2	0.11	96.1	0.06
							3.5	4.5	4.94	0.59	91.2	0.18
E6	402883	8041353	6.531	3.9	-90	0	0.5	1.5	1.26	0.11	97.6	0.1
							1.5	2.5	0.86	0.06	98.5	0.08
							2.5	3.5	2.1	0.1	96.5	0.06

Drillhole	Easting MGA94Z55	Northing MGA94Z55	RL (AHD)	Total Depth (m)	Dip (°)	Azi (°)	From (m)	To (m)	Al2O3 %	Fe2O3 %	SiO2 %	TiO2 %
E7	402879	8041299	6.596	3.9	-90	0	0.5	1.5	0.84	0.1	98.3	0.1
							1.5	2.5	1.08	0.09	98	0.07
							2.5	3.5	1.97	0.09	96.3	0.05
E8	402875	8041243	6.66	3.9	-90	0	0.5	1.5	0.74	0.08	98.8	0.07
							1.5	2.5	0.88	0.06	98.2	0.08
							2.5	3.5	1.21	0.07	97.8	0.06
E9	402870	8041186	6.702	3.9	-90	0	0.5	1.5	0.71	0.1	98.4	0.06
							1.5	2.5	0.87	0.06	98.3	0.1
							2.5	3.5	1.39	0.07	97.7	0.07
F1	402949	8040885	5.528	3.9	-90	0	0.5	1.5	1.44	0.1	97.6	0.09
							1.5	2.5	1.4	0.07	97.6	0.08
							2.5	3.5	3.72	0.2	93.3	0.06
F11	402949	8041490	6.138	3.9	-90	0	0.5	1.5	1.05	0.11	98.1	0.1
							1.5	2.5	1.84	0.12	96.8	0.07
							2.5	3.5	3.52	0.28	93.8	0.09
F12	402953	8041541	6.309	3.9	-90	0	0.5	1.5	0.92	0.14	97.4	0.08
							1.5	2.5	0.9	0.07	98.5	0.11
							2.5	3.5	3.78	0.26	93.5	0.08
F13	402960	8041597	5.609	5	-90	0	0.5	1.5	1.66	0.16	97.1	0.1
							1.5	2.5	1.3	0.05	97.8	0.07
							2.5	3.5	3.18	0.19	94.7	0.09
F2	402944	8040963	5.986	3.9	-90	0	0.5	1.5	1.88	0.13	96.7	0.13
							1.5	2.5	1.77	0.09	97.1	0.09
							2.5	3.5	3.6	0.16	93.8	0.07
F3	402948	8041039	6.01	3.9	-90	0	0.5	1.5	1.62	0.14	97	0.1
							1.5	2.5	1.89	0.1	96.7	0.07
							2.5	3.5	4.38	0.29	92.4	0.08
F4	402937	8041122	6.195	3.9	-90	0	0.5	1.5	1.49	0.11	97.3	0.11
							1.5	2.5	1.7	0.07	97.1	0.08
							2.5	3.5	4.64	0.37	91.9	0.1
F5	402936	8041172	6.235	2.7	-90	0	0.5	1.5	1.29	0.1	97.5	0.11
							1.5	2.5	2.35	0.13	95.9	0.1
F6	402934	8041230	6.261	2.7	-90	0	0.5	1.5	1.5	0.14	97	0.13
							1.5	2.5	1.65	0.12	96.8	0.07
F7	402938	8041286	6.268	3.9	-90	0	0.5	1.5	1.45	0.11	97.3	0.11
							1.5	2.5	1.93	0.12	96.2	0.07
							2.5	3.5	3.77	0.24	93.7	0.07
F8	402939	8041341	6.249	3.9	-90	0	0.5	1.5	1.09	0.11	97.9	0.12
							1.5	2.5	1.97	0.09	96.8	0.09
							2.5	3.5	4.52	0.38	92.1	0.11
F9	402943	8041398	6.222	3.9	-90	0	0.5	1.5	0.84	0.08	98.5	0.09
							1.5	2.5	1.38	0.1	97.4	0.09
							2.5	3.5	3.98	0.35	93.1	0.1
G1	403041	8041605	5.188	2.7	-90	0	0.5	1.5	1.45	0.1	97.5	0.11
							1.5	2.5	5.11	0.24	91.2	0.08
G10	403032	8041061	5.368	2.7	-90	0	0.5	1.5	2	0.17	96.1	0.11
							1.5	2.5	1.28	0.06	97.8	0.09
G11	403019	8040970	5.282	2.7	-90	0	0.5	1.5	1.23	0.09	97.9	0.11
							1.5	2.5	0.98	0.05	98.4	0.08
G2	403053	8041542	4.906	2.7	-90	0	0.5	1.5	1.85	0.13	96.8	0.14
							1.5	2.5	3.16	0.13	94.5	0.09
G3	403050	8041480	5.042	2.7	-90	0	0.5	1.5	1.13	0.07	98.2	0.08
							1.5	2.5	4.97	0.23	91.5	0.1
G4	403053	8041427	4.975	2.7	-90	0	0.5	1.5	1	0.07	98.3	0.09
							1.5	2.5	5.61	0.23	90.1	0.09
G5	403056	8041365	4.912	2.7	-90	0	0.5	1.5	0.94	0.07	98.6	0.09
							1.5	2.5	3.87	0.19	89.7	0.08
G6	403058	8041283	4.665	2.7	-90	0	0.5	1.5	2.21	0.15	96.4	0.13
							1.5	2.5	1.53	0.07	97.2	0.09
G7	403063	8041226	5.002	2.7	-90	0	0.5	1.5	1.25	0.11	98.1	0.09
							1.5	2.5	1.52	0.07	97.6	0.07
G8	403060	8041167	5.077	2.7	-90	0	0.5	1.5	1.15	0.09	98.2	0.08
							1.5	2.5	1.99	0.08	96.6	0.07
G9	403046	8041114	5.212	2.7	-90	0	0.5	1.5	1.83	0.14	96.7	0.1
							1.5	2.5	1.88	0.09	97	0.08
H1	403092	8040965	5.053	3.9	-90	0	0.5	1.5	1.58	0.16	97.4	0.13
							1.5	2.5	1.54	0.12	97.3	0.11
							2.5	3.5	4.18	0.31	92.8	0.1
H10	403269	8041469	4.103	2.7	-90	0	0.5	1.5	1.39	0.08	97.8	0.07
							1.5	2.5	1.84	0.08	96.6	0.07
H11	403263	8041541	4.682	2.7	-90	0	0.5	1.5	1.18	0.13	98.1	0.08
							1.5	2.5	2.07	0.08	96.6	0.06

Drillhole	Easting MGA94Z55	Northing MGA94Z55	RL (AHD)	Total Depth (m)	Dip (°)	Azi (°)	From (m)	To (m)	Al2O3 %	Fe2O3 %	SiO2 %	TiO2 %
H12	403241	8041584	4.67	2.7	-90	0	0.5	1.5	1.04	0.19	98.2	0.1
							1.5	2.5	1.72	0.12	96.8	0.08
H13	403180	8041600	4.972	5.1	-90	0	0.5	1.5	1.76	0.16	97	0.1
							1.5	2.5	1.66	0.07	97.3	0.07
							2.5	3.5	5.69	0.49	90.4	0.16
							3.5	4.5	6.81	0.51	88.3	0.23
H2	403180	8040990	5.143	2.7	-90	0	0.5	1.5	1.71	0.12	96.5	0.09
							1.5	2.5	1.77	0.08	96.7	0.06
H3	403180	8041058	5.202	2.7	-90	0	0.5	1.5	1.7	0.21	97.1	0.1
							1.5	2.5	1.37	0.11	97.5	0.09
H4	403179	8041121	5.118	2.7	-90	0	0.5	1.5	1.18	0.13	98	0.08
							1.5	2.5	0.63	0.06	99	0.06
H5	403178	8041180	4.967	2.7	-90	0	0.5	1.5	1.32	0.13	97.4	0.08
							1.5	2.5	1.6	0.08	97.2	0.07
H6	403176	8041255	4.502	3.9	-90	0	0.5	1.5	1.16	0.09	97.6	0.1
							1.5	2.5	2.51	0.11	95.7	0.09
							2.5	3.5	4.93	0.46	91.2	0.17
H7	403212	8041329	4.233	3.9	-90	0	0.5	1.5	1.29	0.08	97.9	0.1
							1.5	2.5	2.39	0.1	96.1	0.1
							2.5	3.5	4.96	0.41	91.4	0.17
H8	403274	8041344	4.115	2.7	-90	0	0.5	1.5	1.35	0.1	97.8	0.09
							1.5	2.5	1.09	0.08	98	0.07
H9	403271	8041397	4.53	3.9	-90	0	0.5	1.5	1.29	0.18	97.4	0.1
							1.5	2.5	2.69	0.16	95.4	0.09
							2.5	3.5	5	0.51	91.5	0.14
SBML-1	402796	8041315	6.933	3.9	-90	0	0.5	1.5	0.36	0.13	98.9	0.06
							1.5	2.5	1.66	0.11	97	0.09
SBML-2	402792	8041249	6.828	5.1	-90	0	0.5	1.5	0.78	0.04	98.9	0.06
							1.5	2.5	2.89	0.16	95.4	0.06
							2.5	3.5	0.67	0.08	98.9	0.06
							3.5	4.5	4.7	0.51	91.6	0.17
SBML-3	402788	8041183	6.922	5.1	-90	0	0.5	1.5	0.13	0.03	99.8	0.04
							1.5	2.5	0.95	0.04	98.3	0.07
							2.5	3.5	3.01	0.17	94.7	0.06
SBML-4	402781	8041067	7.498	3.9	-90	0	0.5	1.5	0.06	0.02	99.9	0.04
							1.5	2.5	0.39	0.03	99.2	0.05
							2.5	3.5	3.06	0.1	94.5	0.04
SBML-5	402784	8041101	7.476	5.1	-90	0	0.5	1.5	0.06	0.02	99.9	0.03
							1.5	2.5	0.18	0.02	99.7	0.04
							2.5	3.5	3.88	0.14	92.8	0.07
							3.5	4.5	3.39	0.32	94.1	0.08
SBML-6	402784	8041144	7.338	3.9	-90	0	0.5	1.5	0.08	0.02	99.7	0.03
							1.5	2.5	0.27	0.02	99.4	0.05
							2.5	3.5	2.6	0.09	95.6	0.05
SBMWB11D	402996	8040984	5.344	7	-90	0	0.5	1.5	1.17	0.08	98	0.08
							1.5	2.5	0.98	0.05	98.5	0.07
							2.5	3.5	1.84	0.08	96.9	0.06
							3.5	4.5	3.96	0.26	93.3	0.15
							4.5	5.5	3.56	0.18	93.8	0.07
SBMWB12D	402424	8041334	7.603	13	-90	0	0.5	1.5	0.33	0.08	98.7	0.11
							1.5	2.5	0.58	0.13	98.7	0.12
							2.5	3.5	0.78	0.09	98.7	0.08
							3.5	4.5	1.33	0.1	97.7	0.06
							4.5	5.5	1.91	0.16	96.7	0.07
							5.5	6.5	1.99	0.21	96.6	0.11
							6.5	7.5	2.2	0.22	96.4	0.11
							7.5	8.5	2.16	0.22	96.3	0.12
							8.5	10	3.29	5.99	87.9	0.29
							10	13	4.34	1.61	91.3	0.2
SBMWB13D	402871	8041163	6.745	13	-90	0	0.5	1.5	0.39	0.04	99.3	0.05
							1.5	2.5	0.52	0.06	99.2	0.07
							2.5	3.5	2.79	0.11	95.2	0.06
							3.5	4.5	5.13	0.3	91.2	0.12
							4.5	5.5	1.87	0.13	96.7	0.07
							5.5	6.5	2.88	0.24	95	0.11
							6.5	7.5	2.78	0.22	95	0.11
							7.5	8.5	5.11	0.85	90.8	0.2
							8.5	9.5	4.64	0.89	91.3	0.25
SBMWB1D	402587	8041627	5.48	7	-90	0	0.5	1.5	2.65	0.39	94	0.11
							1.5	2.5	0.56	0.05	99.2	0.05
SBMWB1S	402587	8041627	5.48	3	-90	0	0.5	1.5	0.61	0.04	99.1	0.05
							1.5	2.5	0.43	0.03	99.5	0.04

Drillhole	Easting MGA94Z55	Northing MGA94Z55	RL (AHD)	Total Depth (m)	Dip (°)	Azi (°)	From (m)	To (m)	Al2O3 %	Fe2O3 %	SiO2 %	TiO2 %
SBMWB2D	402794	8041625	5.845	7	-90	0	0.5	1.5	0.6	0.07	99	0.05
							1.5	2.5	0.51	0.05	99.2	0.05
							2.5	3.5	0.41	0.05	99.3	0.06
							3.5	4.5	3.86	0.21	93.3	0.09
							4.5	5.5	4.64	0.24	92.2	0.12
SBMWB2S	402794	8041625	5.845	2	-90	0	0	1	0.63	0.05	98.8	0.05
							1	2	1.56	0.06	97.3	0.06
SBMWB3D	403100	8041602	5.135	7	-90	0	0	1	0.42	0.06	99.2	0.04
							1	2	1.06	0.07	98.2	0.06
							2	3	0.53	0.04	99	0.05
							3	4	0.72	0.06	98.8	0.05
							4	5	5.39	0.33	90.6	0.16
SBMWB3S	403100	8041602	5.135	3	-90	0	0	1	0.59	0.08	99.1	0.05
							1	2	0.9	0.06	98.4	0.06
SBMWB4D	402550	8041204	5.921	7	-90	0	0.5	1.5	0.44	0.03	99.4	0.03
							1.5	2.5	0.47	0.02	99.3	0.03
							2.5	3.5	0.73	0.04	98.8	0.04
							3.5	4.5	2.37	0.15	96	0.09
							4.5	5.5	3.54	0.22	94	0.17
SBMWB4S	402550	8041204	5.921	2.7	-90	0	0.5	1.5	0.5	0.03	99.3	0.04
							1.5	2.5	0.5	0.03	99.2	0.03
SBMWB5D	402734	8041175	6.605	7	-90	0	0.5	1.5	0.62	0.04	98.8	0.03
							1.5	2.5	0.51	0.03	99.2	0.03
							2.5	3.5	0.61	0.04	99	0.04
							3.5	4.5	0.76	0.04	98.7	0.05
							4.5	5.5	1.23	0.08	97.9	0.06
SBMWB5S	402734	8041175	6.605	3	-90	0	0.5	1.5	0.6	0.03	98.7	0.03
							1.5	2.5	0.64	0.04	99	0.04
SBMWB6D	403186	8041176	5.105	7	-90	0	0.5	1.5	0.89	0.09	98.5	0.06
							1.5	2.5	0.69	0.07	98.8	0.05
							2.5	3.5	1.31	0.08	97.6	0.06
							3.5	4.5	2.18	0.11	96.3	0.06
							4.5	5.5	3.03	0.19	94.5	0.15
SBMWB6S	403186	8041176	5.105	3	-90	0	0.5	1.5	1.01	0.09	98.2	0.06
							1.5	2.5	0.72	0.06	98.9	0.05
SBMWB7D	402531	8040953	6.39	7	-90	0	0.5	1.5	0.53	0.04	99.2	0.05
							1.5	2.5	0.63	0.04	99.3	0.05
							3.5	4.5	1.85	0.1	96.8	0.07
							4.5	5.5	3.19	0.31	94.5	0.18
SBMWB8D	402723	8040913	6.205	7	-90	0	0.5	1.5	0.57	0.03	98.9	0.02
							1.5	2.5	0.63	0.03	99	0.04
							2.5	3.5	1.77	0.08	97.3	0.04
							3.5	4.5	0.96	0.06	98.3	0.05
							4.5	5.5	3.35	0.2	94.3	0.08
SBMWB8S	402723	8040913	6.205	3	-90	0	0.5	1.5	0.66	0.04	98.9	0.04
							1.5	2.5	0.62	0.03	98.8	0.03
SBMWB9D	403184	8040983	5.14	7	-90	0	0.5	1.5	1.42	0.2	97	0.07
							1.5	2.5	0.84	0.09	98.7	0.05
							2.5	3.5	0.65	0.07	99	0.04
							3.5	4.5	1.43	0.08	97.7	0.04
							4.5	5.5	2.68	0.19	95.1	0.1
SBMWB9S	403184	8040983	5.14	3	-90	0	0.5	1.5	0.2	0.02	94.8	0.02
							1.5	2.5	0.78	0.08	97.3	0.06

CARBINE RESOURCES
LIMITED

Appendix 2: JORC Code, 2012 Table 1. Sandbox Silica Sand Project
Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	1. *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* 2. *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* 3. *Aspects of the determination of mineralisation that are Material to the Public Report.* 4. *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	5. Direct Push technology was used to take samples are 0.5 – 1.0m down hole intervals with sand collected from a plastic tube which retained the sand profile which from the hole. 6. The top 0 – 0.5m was generally discarded, due to residual soil / contamination. 7. The sand was sampled the by the following, two samples made A) with one metre downhole composites made and B) a bulk sample per hole retained for metallurgical Testwork. 8. The "A" sample was submitted to the SGS Laboratory in Townsville, Queensland. The sample was dried, split and pulverised in a zircon bowl (50-80g). The pulps were then placed in paper bags and then a cardboard carton and air-freighted to SGS Laboratory in Perth, Western Australia for XRF fusion whole rock analysis (XRF78S). 9. All Calcifer hand-auger samples were weighed to determine uncompressed bulk density. Hole collapse occurred at the water table and the hole was terminated as the hand auger could not recover sample. 10. The targeted mineralisation is unconsolidated silica sand dunes, the sampling techniques are considered industry standard. 11. Due to the visual nature of the material, geological logging of the drill material is the primary method of identifying mineralisation.
Drilling techniques	12. *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	13. The DT325 and DT35 direct tube soil push sampling systems from Geoprobe® enabled rapid collection of continuous, intact sand profile samples. Direct push sampling with dual tube ensures that the bore is cased during sampling preventing cross contamination and ensuring the bore does not collapse. All drillholes were vertically drilled.
Drill sample recovery	14. *Method of recording and assessing core and chip sample recoveries and results assessed.* 15. *Measures taken to maximise sample recovery and ensure representative nature of the samples.* 16. *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.*	17. All material recovered from hole is collected in a plastic bucket and weighed, the weights are used to determine bulk density. 18. No relationship is evident between sample recovery and grade.
Logging	19. *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.* 20. *Whether logging is qualitative or quantitative in nature. Core (or*	22. Geological logging of drill samples was done by Martin Costello (Field Technician) for FNQ Sands Pty Ltd and by Christopher Sennitt geologist for Calcifer Industrial Minerals Pty Ltd. FNQ samples were retained in chip trays for later interpretation. Calcifer samples were retained in plastic bags. Logging was completed on a 0.5m (FNQ) or 0.4m (Calcifer) interval basis. 23. Logging is captured in an excel spreadsheet, validated,

Criteria	JORC Code explanation		Commentary
	costean, channel, etc) photography. *21. The total length and percentage of the relevant intersections logged.*		and uploaded into an Access database.
Sub-sampling techniques and sample preparation	*24. If core, whether cut or sawn and whether quarter, half or all core taken.* *25. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* *26. For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *27. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* *28. 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.* *29. Whether sample sizes are appropriate to the grain size of the material being sampled.*	30. 31. 32. 33. 34. 35. 36. 37. 38. 39.	Direct Push technology was used to take samples are 0.5 – 1.0m down hole intervals with sand collected from a plastic tube which retained the sand profile which from the hole. The top 0 – 0.5m was generally discarded, due to residual soil / contamination. The sand was sampled the by the following, two samples made A) with one metre downhole composites made and B) a bulk sample per hole retained for metallurgical test work. Sample sizes are considered to be a sufficient size to accurately represent the mineralisation. The “A” sample was submitted to the SGS Laboratory in Townsville, Queensland. The sample was dried, split and pulverised in a zircon bowl (50-80g). The pulps were then placed in paper bags and then a cardboard carton and air-freighted to SGS Laboratory in Perth, Western Australia for XRF fusion whole rock analysis (XRF78S). SGS uses a zircon bowl pulveriser to reduce the particle size to -75um Duplicate field samples were taken approximately every 40th sample. These samples are analysed with the original sample and provide assessment of the representivity of the sample. Field duplicates have routinely been collected to ensure monitoring of the sub-sampling quality. Acceptable precision and accuracy is noted in the field duplicates with the precision high. Laboratory duplicates (sample preparation split) were also completed roughly every 60th sample to assess the analytical precision of the laboratory. Acceptable level of repeatability and precision was noted for the testing. Calcifer collected samples in 40cm intervals. The entire sample (1-2kg) was collected and is representative of the in-situ material collected based on hole diameter. the 1-2kg sample size is considered appropriate for the fine grain sand size.
Quality of assay data and laboratory tests	*40. The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *41. 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.* *42. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	43. 44. 45. 46. 47. 48.	Sample pulps were submitted for analysis to the SGS Laboratory in Perth, Western Australia for XRF fusion whole rock analysis (XRF78S). The assay results have also undergone internal laboratory QAQC, which includes the analysis of standards, blanks and repeat measurements. No field standard or field blanks were inserted and is a recommendation for ongoing drilling and testing. Field duplicates were inserted approximately every 40th sample to assess the repeatability from the field and variability of the mineralisation. Laboratory duplicates were also completed approximately every 60th sample to assess the precision of assaying. Laboratory standards were also completed approximately every 15th sample. Evaluation of the internal laboratory quality control data indicates assaying to be accurate and without significant drift. Duplicate assaying shows high levels of correlation and no apparent bias between the duplicate pairs. Field duplicate samples show high acceptable levels of correlation and no relative bias. No laboratory audits were undertaken

Criteria	JORC Code explanation		Commentary
Verification of sampling and assaying	*49. The verification of significant intersections by either independent or alternative company personnel.* *50. The use of twinned holes.* *51. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *52. Discuss any adjustment to assay data.*	53. 54. 55. 56.	Significant intersections have been validated against geological logging. Four twinned holes exist in the Sandbox Deposit, 1) Twin hole at site B13, 2) Twin hole at site D11, 3) Twin hole at site H2 4) Twin hole at site F9. Twinned holes showed the same logged mineralisation and analysed results. Data was provided in spreadsheet format before being loaded into MS Access where a number of data validation checks were made to ensure accurate data Any samples assayed below the detection the value was set to 0. Where the value exceeded 100 this was set to 99.9 (one sample) in the MS Access database
Location of data points	*57. Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *58. Specification of the grid system used.* *59. Quality and adequacy of topographic control.*	60. 61. 62. 63. 64.	Drill holes completed were surveyed by hand-held GPS. Drill holes from the SBM series were surveyed using Differential GPS (DGPS) by TerraModus Surveying. Differential GPS positions have reported accuracy of +5cm for easting, northing and elevation coordinates. All holes are considered vertical (the deepest hole is 13m, average depth of 4.5m) The grid system is MGA Zone 55 (GDA 94). The topographic surface at Sandbox was derived from the surveyed surfaced provided by TerraModus Surveying. The topographic surface was validated against the drillholes, no discrepancies were found.
Data spacing and distribution	*65. Data spacing for reporting of Exploration Results.* *66. 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.* *67. Whether sample compositing has been applied.*	68. 69.	Nominal hole spacing of the Sandbox deposit is approximately 50 metres North – South and 100m West - East. The data spacing and distribution is sufficient to demonstrate spatial and grade continuity of the mineralised domains to support the definition of Inferred, Indicated Mineral Resources under the 2012 JORC code.
Orientation of data in relation to geological structure	*70. Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *71. 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.*	72. 73.	The drilling is vertical to intersect sub-horizontal strata. Orientation of the drillholes will not result in sampling bias
Sample security	*74. The measures taken to ensure sample security.*	75.	For drilling completed by FNQ Sand, the sample chain of custody is managed by FNQ Sand. Samples are stored on the site and delivered to Perth by recognised freight service and then to the assay laboratory by a Perth-based courier service. Whilst in storage the samples are kept in a locked yard. Tracking sheets tracks the progress of batches of samples.
Audits or reviews	*76. The results of any audits or reviews of sampling techniques and data.*	77.	No review or audits have been conducted

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation		Commentary
Mineral tenement and land tenure status	*78. 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.* *79. 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.*	80. 81. 82.	The Sandbox deposit is located in Far North Queensland, approximately 3.6km south-west of Cowley Beach. Cowley Beach is a coastal town and locality in the Cassowary Coast Region, Queensland, Australia Exploration Permit Minerals other than coal - EPM 27338 was granted on the 12/03/2020 and is wholly owned by FNQ Sand Pty Ltd, a Mineral Development Licence (MDL) MDL 2019 has been submitted on the 18th of September 2020. EPM27338 includes areas that were excised from the EPM because of environmental sensitivity, including the Kurrimine Beach National Park, the Inarlinga Defence Reserve, the Maria Beach National park and the Wet Tropics Great Barrier Reef Marine Park World Heritage area,
Exploration done by other parties	*83. Acknowledgment and appraisal of exploration by other parties.*	84. 85. 86. 87.	The first recorded exploration over the Mourilyan silica sand deposit area was conducted by Discovery (Alpha) Pty Ltd in 1970 over ATP 808M (Hughes, 1970). Alpha conducted a reconnaissance prospecting survey for heavy mineral sands in the Cowley-Kurrimine Beach area and drilled 8 random pattern hand auger drill holes to 5m depth. Heavy minerals comprising rutile, zircon and ilmenite were reported, but the contents too low. However, Alpha did note that the silica sand was white and suitable for glass manufacturing. Pioneer Concrete (QLD.) Pty Ltd explored the extensive dune system between Etty Bay and Kurrimine Beach during 1987-1989 (Watkins, 1987) under ATP 4611M. Exploration was focussed on evaluating the potential reserves of white silica sand. Pioneer initially collected 13 random samples using a Dormer hand auger (Watkins, 1987). Samples were forwarded to Toyomenka and Nippon Sheet Glass in Japan for marketing purposes and geochemical analysis, which indicated the silica sand to be suitable for glass manufacture. In 1989, Pioneer Concrete (QLD.) Pty Ltd transferred ATP 4611M to its wholly-owned subsidiary Cable Sands (W.A.) Pty Ltd. Cable Sands then conducted test work on the Mourilyan Silica Sand Deposit to determine if a commercial product could be achieved (De Ross, 1989). Ten costeans were excavated and bulk samples forwarded to Cable's Bunbury laboratory. During 2002-2007, Calcifer Industrial Minerals Pty Ltd undertook a major exploration and evaluation program over the Mourilyan silica sand deposit, including three (3) mining leases (MLs 20377, 20378 & 20379), hydrological studies (Australasian Groundwater & Environmental Consultants, 2003 & 2004), environmental studies (Environmental & Licensing Professionals, 2003) and detailed resource evaluation (Sennitt, 2004, 2005a). Calcifer completed a feasibility study (Sennitt, 2005b) for a 200,000tpa silica sand mining operation, using a 100 tph wash plant facility comprising a screw classifier, up-current classifier and a 3-stage spiral plant to produce glass sand of 99.83% SiO2 for export through the Port of Mourilyan.
Geology	*88. Deposit type, geological setting and style of mineralisation.*	89.	The Sandbox Silica Sand Project is situated in the low coastal sand plain, that extends 25 km from Mourilyan Harbour, in the north to Kurrimine Beach to the south.

Criteria	JORC Code explanation	Commentary
		90. The deposit lies within a Pleistocene outer sand ridge barrier. Elevations in the vicinity of the deposit vary between 4.0 -7.5m AHD, with localised drains slightly lower. 91. The Sandbox Silica Sand Project is hosted in the Pleistocene beach ridge sand of aeolian origin, with some swash zones preserved in the basal portions. The silica sand is lenticular and may represent backfilled areas, which were probably originally swamps that became filled by wind blown sands. The degree of sorting and sub-rounded shape of quartz and heavy mineral grains indicate deposits were derived from distant exposures of Permian, Mesozoic and Tertiary sedimentary formations rich in sandstone. These in turn were derived from areas of granitic and granulitic rocks of the Precambrian shield and granitoids of the eastern highlands. Leaching under suitable hydrological conditions has produced clean white sand. The iron coatings have been stripped from the overlying sand layer and, along with topsoil humus, have been precipitated at the water table. This leaching has been demonstrated to be caused by downward percolating acid swamp waters mixing with near neutral ground waters, which have resulted in the deposition of iron oxide colloidal cements (Sennitt, 2006).
Drill hole Information	*92. A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* *1. easting and northing of the drill hole collar* *2. elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* *3. dip and azimuth of the hole* *4. down hole length and interception depth* *5. hole length.* *93. 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.*	94. All drillhole information is presented in Appendix 1
Data aggregation methods	*95. In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* *96. 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.* *97. The assumptions used for any reporting of metal equivalent values should be clearly stated.*	98. Exploration results are reported as length weighted averages of the individual sample intervals. 99. No high-grade cuts have been applied to the reporting of exploration results 100. Metal equivalent values have not been used.

Criteria	JORC Code explanation		Commentary
Relationship between mineralisation widths and intercept lengths	*101. These relationships are particularly important in the reporting of Exploration Results.* *102. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* *103. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	104.	Mineralisation is essentially flat laying, and as such vertical drillholes represent true width
Diagrams	*105. Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	106.	Relevant diagrams have been included within this report.
Balanced reporting	*107. 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.*	108.	All exploration results have been reported
Other substantive exploration data	*109. 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.*	110. 111.	All interpretations are consistent with observations made and information gained during exploration Calcifer Industrial Minerals Pty Ltd completed a Feasibility Study on the Mourilyan silica sand project which immediately surrounds the Sandbox deposit.
Further work	*112. The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *113. Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	114. 115.	A first pass Metallurgical test work program has been completed which demonstrates conventional sand processing techniques can upgrade the sand to a high value product. Further test work is required to determine the best quality final product. Infill drilling will be undertaken to further assess the depth and variability of the high-grade silica sand.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

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.* • *Data validation procedures used.*	• Following importation, the data goes through a series of digital and visual checks for duplication and non-conformity, followed by manual validation by the competent person • The database has been systematically audited by the CP. Original drilling records were compared to the equivalent records in the database. No major discrepancies were found.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person for silica sand is Christopher Sennitt. Mr Sennitt was the Managing Director of Calcifer Industrial Minerals Pty Ltd during 2000-2008, was responsible for exploration and made numerous field visits to the Mourilyan silica sand project, including the Sandbox area. The exploration work enabled a Feasibility Study to be completed on the deposit.
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 deposit extends from the surface (less the top 0.5m of material) to the base of 125 sampled vertical drillholes. Depth is limited to approximately 4.5m but may be deeper in areas where drilling penetrated further. The geological model has been cut 30m past the last drillhole with the mineralisation open. It is expected that the resource extends further in each direction. • The nature of the deposit, the consistently very-high silica grades throughout the deposit, and deposit modelling place a very high degree of confidence in the geological interpretation. Continuity of geology and grade can be identified and traced between drillholes by visual and geochemical results and characteristics.
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.*	• The approximate dimensions of the deposit are 930m along strike (N-S), 960m across (E-W).
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*	• Grade estimation using Ordinary Kriging (OK) was undertaken using Surpac software. Detailed statistical and geostatistical investigations have been completed on the captured estimation data set (1m composites). This includes exploration data analysis, boundary analysis and grade estimation trials. The variography applied to grade estimation has been generated using Snowden Supervisor. These investigations have been completed on the ore domain and above-ore domain separately. KNA analysis has also been conducted in Snowden Supervisor in various locations on the ore domain to determine the optimum block size, minimum and maximum samples per search and search distance. • Seven elements (Al_2O_3, Fe_2O_3, K_2O, LOI, MgO, SiO_2, TiO_2) were estimated using parent cell estimation, with density being assigned by lithology and oxidation state. Drill hole data was coded using three dimensional domains reflecting the geological interpretation based on the lithological characteristics of the Mineral Resource. One metre composited data was used to estimate the domains. The domains were treated as hard boundaries and only informed by data from the domain. One top cut was applied to LOI with upper limited selected as 1.60. • A Parent block size was selected at 80mE x 40mN x 10mRL, with sub-blocking down to 20 x 10 x 0.25.

Criteria	JORC Code explanation	Commentary
	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.*	• Search Pass 1 used a minimum of 12 samples and a maximum of 18 samples in the first pass with an ellipsoid search. Search pass 2 was a minimum of 8 samples and a maximum of 18 samples with an ellipsoid search. In the third pass an ellipsoid search was used with a minimum of 6 and a maximum of 18 samples. In the fourth pass an ellipsoid search was used with a minimum of 2 and maximum of 18 samples. • A dynamic search strategy was used with the search ellipse oriented to the semi-variogram model. The first pass was at the variogram range, with subsequent passes expanding the ellipse by factors of 1.5 and 2, then a final factor of 3 was used to inform any remaining unfilled blocks. The majority of the Mineral Resource was informed by the first two passes, domains that were informed by the third and fourth pass were flagged with a lower resource classification or remain mineral potential • No assumption of mining selectivity has been incorporated into the estimate. • Validation checks included statistical comparison between drill sample grades, the OK and ID2 estimate results for each domain. Visual validation of grade trends for each element along the drill sections was completed and trend plots comparing drill sample grades and model grades for northings, eastings and elevation were completed. These checks show reasonable correlation between estimated block grades and drill sample grades. • No reconciliation data is available as no mining has taken place.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnages have been estimated on a dry in situ basis. No moisture values were reviewed.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Cut off quality parameters were applied using geological logging. The lithology logged as “coffee rock” contains deleterious Fe and Al elements and is excluded from resource estimates requiring a higher quality silica sand product. This unit may potentially have a local commercial value as a fertiliser additive/blend. • The lithology logged as “sand”, although compositionally and geochemically unsuitable for use as glass sand, these unconsolidated sands could potentially be exploited as construction sand for local domestic markets.
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.*	• It has been assumed that the deposit will be amenable to open cut mining methods and are economic to exploit to the depths currently modelled. • No assumptions regarding minimum mining widths and dilution have been made • No mining has yet taken place
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*	• May 2005 - Approximately 3 kg of test material was received into Roche Mining MT’s (RMMT) Gold Coast Laboratory on 12 May 2005 in individual sample bags. • Densimetric separation of the +100µm -600 µm fraction of the test material achieved a silica sand

Criteria	JORC Code explanation	Commentary
	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.	product containing 99.6% SiO2, 0.02% Fe2O3 and 0.06% Al2O3. Process gravity separation would be likely to produce a silica sand product lower in quality than the densimetrical separation result (Roche, 2005). • November 2005 - Approximately 3 tonnes of silica sand sample was received into Roche Mining MT's Gold Coast laboratory for the purpose of developing a process flow sheet and to produce market samples • The bulk sample was classified using a 2mm wet screen and a screw classifier to deslime the underflow. The screw classifier underflow was then further classified using two stages of up-current classifiers. The first stage gave a cut size of 100µm with the underflow going to the second stage which gave a cut size of 400µm • A three stage spiral circuit was used to reduce the heavy mineral grade and upgrade the product quality. The +100-400µm material was fed to the rougher stage, the middlings produced went to the mids scavenger stage and the product from the rougher and the product plus middlings from the mids scavenger stage then went to the cleaner stage of spirals. • A final silica sand product was produced containing 99.83% SiO2, 0.014% Fe2O3 and 310ppm TiO2 at a yield of 46% from screening at 2mm, desliming using a screw classifier, followed by a further two stage of classification using an up-current classifier and a three stage spiral circuit. • The heavy mineral in the spiral feed was reduced from 0.67% to 0.01% in the cleaner spiral product. • FNQ Sand Jan 2021 - CDE conducted a Silica Sand Characterisation on a sand sample provided by FNQ Sand for the purpose of identifying its suitability and potential to be beneficiated to make a Sellable Glass Grade product. • The material supplied was pre-screened into coarse sand fractions (+2mm and +600 µm) and then deslimed at 75 µm. There was little +2mm present and 11.9% -2+0.6mm material. • The common 600-106µm glass fraction was produced from the feed supplied, this material represents 85% of total feed by weight. The glass sand fraction produced was then further graded, showing 96% of the mass between 600-150µm. • The Glass Sand Fraction that was made via screening was then subjected to Heavy Liquid Separation at 2.7SG where 99.6% of the mass reported to the lights fraction (i.e. heavies content was at 0.35%). • Based on the testing results achieved there is likely merit in pursuing this resource as feed material for the production of flint grade glass. It is apparent that a controlled size classification will be required to reject -100µm material where a lot of contamination resides. It is also likely that a gravity separation process is required which would be achieved by using spiral separators. Further tests could also be conducted on other parts of the resource to see if there are areas of lower Fe feed material which could be used for higher end glass product production. With 85% of sand in the glass and range and 99% of sand reporting as light (-2.7SG) yield from a production facility would be high.
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*	• It is assumed that no environmental factors exist that could prohibit any potential mining development at the deposit.

Criteria	JORC Code explanation	Commentary
	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.	
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.*	• Density was estimated into the block model for the three main lithology types (Silica, Coffee and Sand) from density work completed by Calcifer Minerals. The average densities used in the block model for the Silica (top) - 2.53 t/m3, Silica (main) - 2.73 t/m3, Coffee Rock – 3.02 t/m3 and Sand – 3.68 t/m3.
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 Sandbox Project Mineral Resource has been classified and reported in accordance with the JORC Code, 2012 edition. Resource classification is based on confidence in the geological domaining, drill spacing and geostatistical measures. The initial classification process was based on an interpolation distance and minimum samples within the search ellipse within the search ellipse as defined by the Surpac macro. The main components of the macro are summarised as follows: • A range of criteria has been considered in determining the classification, including: Geological continuity • Geology sections plan and structural data Previous resource estimates and assumptions used in the modelling and estimation process Interpolation criteria and estimate reliability based on sample density, search and interpolation parameters, not limited to kriging efficiency, kriging variance and conditional bias and Drill hole spacing • Once the criteria were applied above, shapes were then generated around contiguous lodes of classified material which was used to flag the block model to ensure continuous zones of classification. The resource estimate for the Sandbox deposit has been classified as Indicated and Inferred Resources based on the confidence levels • Indicated Resource Blocks are predominately estimation pass 1 or 2 Average distance to nearest data of 225m or less Minimum of 8 samples • Inferred Resource Blocks are predominately estimation pass 3 Average distance to nearest data of 340m or less Minimum of 6 samples • Mineral Potential Blocks not defined by Indicated or Inferred Resource • The input data is comprehensive in its coverage of the mineralisation and does not favour or misrepresent in-situ mineralisation. The definition of mineralised zones is based on high level geological understanding producing a robust model of mineralised domains. This model has been confirmed by infill drilling which supported the interpretation. Validation of the block model shows good correlation of the input data to the

Criteria	JORC Code explanation	Commentary
		estimated grades • The Mineral Resource estimate appropriately reflects the view of the Competent Person.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• No audits or review of the Mineral Resource estimate has been conducted.
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 lode geometry and continuity has been adequately interpreted to reflect the level of Measured, Indicated and Inferred Mineral Resource. The data quality is good, and the drill holes have detailed logs produced by qualified geologists. • A recognized laboratory has been used for all analyses. • The Mineral Resource statement relates to global estimates of tonnes and grade. • The deposit has not and is not currently being mined.