

**ASX / MEDIA ANNOUNCEMENT** 

17 May 2023

# Resource Extension Drilling Successful at Muchea West Silica Sand Project

## HIGHLIGHTS

- Results received from latest drill program have potential to upgrade and extend the current resource in the MLA
- Results confirm the grades from previous drilling, and include intercepts such as:

 $MW0258-10.5m\ @\ 99.58\%\ SiO_2,\ 235\ ppm\ Fe_2O_3$  and 594 ppm  $Al_2O_3$  from 1m

MW0294 – 10m @ 99.50% SiO<sub>2</sub>, 184 ppm  $Fe_2O_3$  and 432 ppm  $AI_2O_3$  from 1m

MW0298 – 10m @ 99.58% SiO<sub>2</sub>, 32 ppm Fe<sub>2</sub>O<sub>3</sub> and 434 ppm Al<sub>2</sub>O<sub>3</sub> from 1m

- 58 hand auger holes drilled parallel to existing drill lines for 479m producing 421 samples
- Widenbar and Associates engaged to reassess the Mineral Resource Estimate

**Carbine Resources Limited (ASX: CRB) (the Company)** is pleased to provide results for its resource extension drilling program at its 100% owned Muchea West Silica Sands Project, Western Australia (**Muchea West, the Project**).

Muchea West has the potential to host a substantial, high grade, low impurity silica sand deposit. The potential final processed grade is significant as it meets all the specifications for flat and container glass markets and for foundry glass at the top end of silica sand consumption market and the upper price ranges for these products.

Carbine's resource extension drilling program at Muchea West was designed to:

- provide sufficient drilling density to reclassify current resources;
- increase the extent of assay data within the Mining Licence application;
- provide additional material to feed a Feasibility Study; and
- expand the current Mineral Resource Estimate (MRE) to support a projected mine life.

Managing Director, Peter Batten, said *"We are pleased that the results of this latest round of drilling at* our 100% owned Muchea West Silica Sand Project have confirmed the high grades previously encountered with all 373 holes drilled on the Project to date displaying the exceptional high grade and quality of the Muchea sand deposit We are continuing to progress our study work and surveys as well as resource growth while the Mining License Application process progresses."

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#### **MUCHEA WEST SILICA SAND PROJECT**

#### Location

The Muchea West Project is located approximately 40km north-northeast of Perth and approximately 500m to the west of the town of Muchea. Direct access from the tenure is via the Tonkin Highway thence

via farm tracks and fence lines. Both the Tonkin Highway and the Moora-Kwinana Railway provide a direct connection with the Kwinana Bulk Terminal.

The Project is underlain by the Bassendean Sand Formation, which extends over large areas of the Swan Coastal Plains of the Perth Basin from about 23 km north of Jurien, to about 15km southwest of Busselton. The Bassendean Sand Formation is considered to have a maximum thickness of about 45 m, and the unit is found as a strip parallel to the coast, having a width of about 10-20 km, and its western edge about 5-10km inland

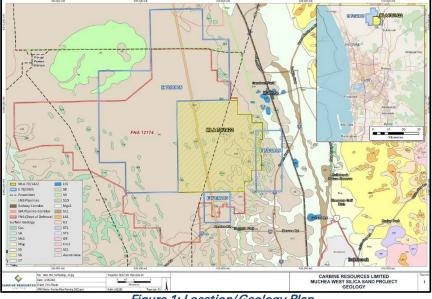


Figure 1: Location/Geology Plan

#### **Current Exploration Activities**

The program consisted of a total of 58 hand auger drill holes which were drilled at nominal 100m spacing on two drill lines parallel to previous drill lines (as shown in Figure 3 below) within the tenement area. This drilling was completed by Hornet Drilling Pty Ltd. No clearing was undertaken.

Each of the 58 holes intersected white sand profiles as expected in a dune system. The drill depths were designed to terminate 3m above the modelled surface of the 2019 watertable. The watertable was significantly higher than the modelled surface. Hand augering cannot achieve great depths and the maximum depth achieved was 11.5m despite the maximum planned depth being 29m in this area.



The process involved an open screw auger. Carbine's procedure is to reject the surface 1m (ie from 0m to 1m) when sampling. This reflects the practice of setting aside the portion of the profile containing all the botanical material to be used for rehabilitation. Elsewhere at Muchea the critical depth of this material has been shown to be from 0m to 0.4m. The hole was cased and cleared. Water was poured down the casing wetting the sand to aid in consistency and cohesion. At the completion of each metre casing was advanced down the hole to prevent contamination of the sample. Each metre was bagged, labelled and removed from site.

The samples were split, utilising a manual riffle splitter at the project base, to produce a 1kg to 2kg sample that was placed in a calico bag and set aside to dry.

A total of 421 samples were transported to Austest Laboratories and the results were received within 4 weeks of delivery.



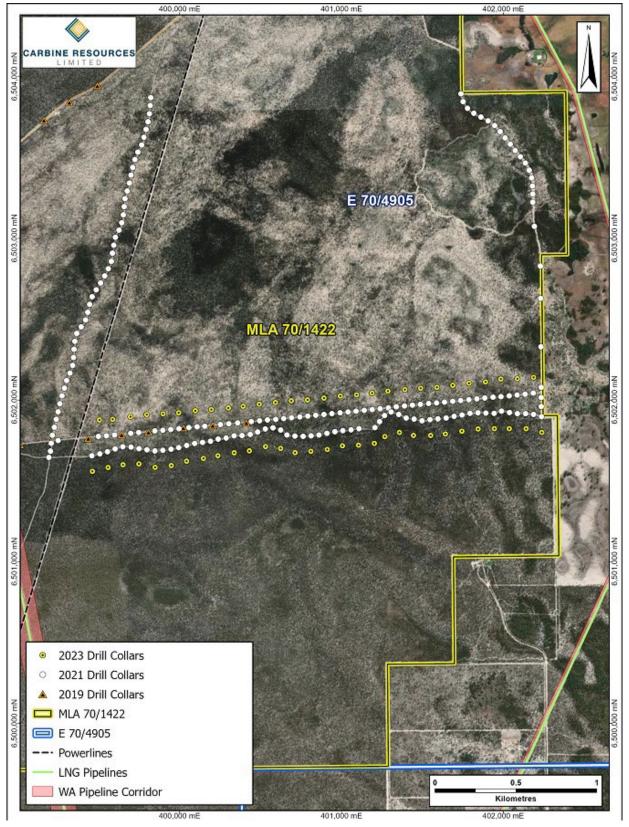


Figure 3: Drill Collar Plan



## Results

Results from Carbine's extensional drill program have confirmed the grades from previous drilling, and include intercepts such as:

- ♦ MW0258 10.5m @ 99.58% SiO<sub>2</sub>, 235 ppm Fe<sub>2</sub>O<sub>3</sub> and 594 ppm Al<sub>2</sub>O<sub>3</sub> from 1m
- MW0279 7m @ 99.59% SiO<sub>2</sub>, 96 ppm Fe<sub>2</sub>O<sub>3</sub> and 1095 ppm Al<sub>2</sub>O<sub>3</sub> from 1m
- MW0294 10m @ 99.50% SiO<sub>2</sub>, 184 ppm Fe<sub>2</sub>O<sub>3</sub> and 432 ppm Al<sub>2</sub>O<sub>3</sub> from 1m
- MW0297 9m @ 99.45% SiO<sub>2</sub>, 31 ppm Fe<sub>2</sub>O<sub>3</sub> and 661 ppm Al<sub>2</sub>O<sub>3</sub> from 1m
- MW0298 10m @ 99.56% SiO<sub>2</sub>, 32 ppm Fe<sub>2</sub>O<sub>3</sub> and 434 ppm Al<sub>2</sub>O<sub>3</sub> from 1m

Of the 58 holes completed, only 2 holes returned a profile with less than 99.0% SiO<sub>2</sub>. All 373 holes drilled on the Project to date display the exceptional high grade and quality of the Muchea sand deposit.

The overall silica grades returned were consistent with previous drilling in this area. The grades of  $Fe_2O_3$  and  $Al_2O_3$  were variable. Several low topography areas were included in this drilling with increased clay contents. The  $Fe_2O_3$  levels were higher than for the 2023 drilling with a maximum of 0.34% (MW0288) but on the southern line a run of holes 700m long (MW0291 – MW0298, Figure 5) averaged less than 100 ppm (0.01%)  $Fe_2O_3$ .

Carbine has already displayed that, at these levels of  $Fe_2O_3$  and  $Al_2O_3$ , the Muchea West silica sand can, by a simple attrition process, produce a final product that exceeds the requirements set for the high purity silica sand market (ASX Announcement 29 July 2021).

The full profile at Muchea West is from surface to a level 3m above the water table, as defined in 2019. Drilling stops the moment the water table is intersected irrespective of planned hole depth which is a condition of the licence.

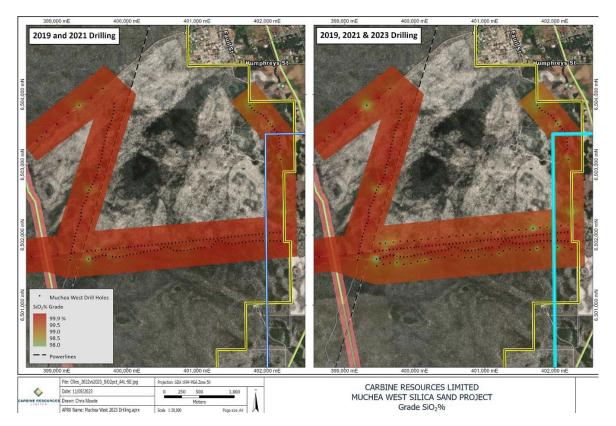


Figure 4: SiO<sub>2</sub> average hole grade distribution



### Studies

A number of studies have been completed by Carbine to further progress the Muchea West Project and to advance towards a production scenario.

This additional drilling was designed to expand the existing resource within the Mining Licence Application to support a 20-year minelife within the Feasibility Study. The additional drilling is also expected to create a re-rating of the maiden resource categories where drill spacings were sufficient for Measured and Indicated categories but were downgraded due to the lack of surrounding data.

To this end, Widenbar and Associates have been engaged to undertake the MRE. The Principal Geologist, Lynn Widenbar, is a Member of the AusIMM and a competent person for this style of deposit.

A Feasibility Study is planned to follow on from the initial Scoping Study that provided the confidence for Carbine to apply for a Mining Licence in this area.

PGV Environmental have completed the Spring botanical survey and Terrestrial Ecosystems have completed the detailed fauna surveys. Other studies to complete include the subsurface fauna survey and a comprehensive water study. These will be awarded on response from the Department of Mining Industry Regulations and Safety in regards to the MLA.

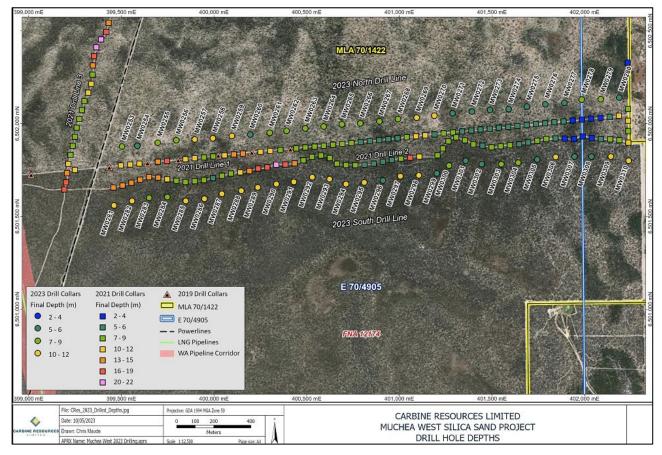


Figure 5: Drill spacings and depths





Figure 6: Completed hole

## **Proposed Exploration**

The main focus for Muchea West is the commencement of the Feasibility Study and the advancement of the Mining Licence Application process.

The completed environmental studies and the proposed studies are essential for Carbine to progress towards development.

Outside the MLA Carbine will progress drilling in an effort to better understand the grade differences across the Exploration Licence.

## Summary

Carbine is progressing with its proposed exploration budget and schedule, having submitted the Company's first MLA in December 2022 and about to commence the Feasibility Study working towards Mining Approvals.

Options within the project are to assess the opportunities outside the Department of Defence File Note Area in surrounding freehold and vacant Crown land portions of E70/4905.

Following the response from DMIRS the MLA process will enter into a period of meetings and negotiations with the various stakeholders involved.

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 the exploration results is based on, and fairly represents, information and supporting documentation compiled by Mr Peter Batten, who is a director of the Company. Mr Peter Batten is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience relevant to the style of mineralisation and types of deposits under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Batten consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.



# **Appendix 1: Significant Intercepts**

Hole ID	Line No	From	То	Thickness		Grade %	
		(m)	(m)	(m)	SiO <sub>2</sub>	Fe <sub>2</sub> O3	Al <sub>2</sub> O <sub>3</sub>
MW0258	Ν	1	11.5	10.5	99.58	0.023	0.059
MW0259	Ν	1	11.5	10.5	99.45	0.034	0.059
MW0269	Ν	1	11.0	10.0	99.45	0.041	0.118
MW0279	Ν	1	8.0	7.0	99.59	0.010	0.109
MW0282	S	1	11.5	10.5	99.46	0.009	0.110
MW0286	S	1	11.0	10.0	99.35	0.040	0.112
MW0287	S	1	11.0	10.0	99.32	0.107	0.119
MW0288	S	1	11.0	10.0	99.22	0.338	0.073
MW0289	S	1	11.0	10.0	99.50	0.016	0.099
MW0290	S	1	11.0	10.0	99.43	0.050	0.122
MW0291	S	1	11.0	10.0	99.49	0.005	0.111
MW0292	S	1	11.0	10.0	99.59	0.008	0.066
MW0293	S	1	11.0	10.0	99.57	0.006	0.045
MW0294	S	1	11.0	10.0	99.50	0.018	0.043
MW0295	S	1	11.0	10.0	99.48	0.010	0.111
MW0297	S	1	10.0	9.0	99.45	0.003	0.066
MW0298	S	1	11.0	10.0	99.56	0.003	0.043
MW0310	S	1	11.0	10.0	99.62	0.024	0.062



# Appendix 2: Drillhole Collars

All holes are vacuum holes drilled vertically Coordinates are MGA94\_50

Hole_ID	LineID	EMGAz50	NMGAz50	RL	Final Depth
 MW0253	North	399504	6501877	79.01	7
MW0254	North	399586	6501881	76.85	6
MW0255	North	399696	6501897	79.68	8
MW0256	North	399797	6501910	79.77	8
MW0257	North	399897	6501915	80.78	10
MW0258	North	399994	6501921	80.99	11.5
MW0259	North	400097	6501934	81.92	11.5
MW0260	North	400196	6501941	74.36	6
MW0261	North	400301	6501951	73.35	7
MW0262	North	400392	6501961	72.98	7
MW0263	North	400492	6501974	72.55	7
MW0264	North	400592	6501985	72.24	7
MW0265	North	400690	6501996	72.06	7
MW0266	North	400790	6502001	72.84	8
MW0267	North	400892	6502012	71.46	7
MW0268	North	400993	6502025	71.39	7
MW0269	North	401093	6502032	79.68	11
MW0270	North	401189	6502043	74.13	10
MW0271	North	401287	6502055	69.57	6
MW0272	North	401392	6502065	69.49	6
MW0273	North	401489	6502073	69.26	6
MW0274	North	401590	6502078	69.56	6
MW0275	North	401688	6502091	68.89	6
MW0276	North	401788	6502104	68.73	6
MW0277	North	401890	6502112	68.87	6
MW0278	North	401985	6502130	69.80	7
MW0279	North	402087	6502132	71.07	8
MW0280	North	402187	6502140	67.53	5
MW0281	South	399461	6501559	81.52	10
MW0282	South	399558	6501583	80.83	11.5
MW0283	South	399650	6501600	77.86	8
MW0284	South	399748	6501605	75.41	9
MW0285	South	399848	6501584	76.03	10
MW0286	South	399948	6501595	76.62	11
MW0287	South	400043	6501622	77.47	11
MW0288	South	400147	6501639	79.59	11
MW0289	South	400236	6501656	79.05	11
MW0290	South	400337	6501674	83.06	11
MW0291	South	400431	6501686	89.14	11



Hole_ID	LinelD	EMGAz50	NMGAz50	RL	Final Depth
MW0292	South	400531	6501712	83.65	11
MW0293	South	400624	6501701	79.82	11
MW0294	South	400713	6501675	77.64	11
MW0295	South	400811	6501683	76.86	11
MW0296	South	400912	6501694	73.32	5
MW0297	South	401006	6501717	74.46	10
MW0298	South	401105	6501721	76.92	11
MW0299	South	401203	6501732	71.10	6
MW0300	South	401268	6501774	70.68	7
MW0301	South	401358	6501800	70.12	6
MW0302	South	401445	6501781	68.78	6
MW0303	South	401551	6501781	70.68	7
MW0304	South	401642	6501790	71.54	7
MW0305	South	401744	6501807	68.25	5
MW0306	South	401844	6501821	72.52	10
MW0307	South	401945	6501823	68.18	6
MW0308	South	402037	6501823	67.41	5
MW0309	South	402141	6501823	71.98	10
MW0310	South	402238	6501800	73.24	11



## Appendix 3: JORC Code, 2012 Table 1 - Muchea West Silica Sand Project Section 1 Sampling Techniques and Data

Criteria	JORC Code exploration	Commentary
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Hand auger drilling and sampling was completed in March 2023.</li> <li>All sand samples were collected from an open auger into a bucket. Sampling was carried out at 1 m intervals.</li> <li>One subsample is prepared for the laboratory from a riffle splitter The bulk sample is retained for later metallurgical test work and QAQC purposes. Drilled samples for each 1 m interval were also placed into chip trays.</li> <li>The first metre of all the drill holes is mainly the humus layer and not considered for lab analysis.</li> <li>The samples were analysed by Austest Laboratories.</li> <li>Major and trace elements in exception to SiO<sub>2</sub> were analysed using a fouracid digest followed by Inductively Coupled Plasma Optical (Atomic) Emission Spectrometry (ICP-OES) analysis.</li> </ul>
Drilling techniques	<ul> <li>Drill type (e.g. core, reverse circulation, openhole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>A total of 58 hand auger drill holes were drilled to varying depths, with the deepest hole ending at 11.5m.</li> <li>All drilling was undertaken manually. All holes were drilled vertically.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>All the samples were visually checked for recovery, moisture and contamination.</li> <li>The sample splitter was cleaned regularly to prevent sample contamination.</li> </ul>
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.	<ul> <li>All the holes were logged by a geologist. Sand colour and composition was recorded.</li> <li>Logging was qualitative in nature.</li> </ul>



Subsampling techniques and sample preparation	<ul> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged</li> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all</li> </ul>	<ul> <li>All logged results were plotted in a spreadsheet. All the Chip tray samples for each hole were photographed.</li> <li>One sub-sample weighing ~1 kg was collected using a manual riffle splitter. The remainder was retained for metallurgical test work and QAQC purposes.</li> <li>Subsample collected from every 1m were submitted to Austest Laboratories in Perth for drying and ring mill pulverisation in a zirconia</li> </ul>
	<ul> <li>subsampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>bowl.</li> <li>QC procedures involved the use of certified reference materials and field duplicates. The field duplicates have accurately reflected the original assay.</li> <li>Sample sizes are considered appropriate to correctly represent the bulk tonnage mineralisation based on the style of mineralisation, the thickness and consistency of the intersections, the sampling methodology and assay value ranges for silica sand.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>1m samples were submitted to the Austest Laboratory in Perth. The assay method for multi-element analysis consisted of a four-acid digest including hydrofluoric, nitric, perchloric and hydrochloric acids in Teflon beakers, with inductively coupled plasma (ICP)-optical (atomic) emission spectrometry finish. LOI is determined gravimetrically. Silica is reported by difference.</li> <li>Laboratory QAQC includes the use of internal standards using certified reference material, laboratory duplicates and pulp repeats. The field duplicates have accurately reflected the original assay. Certified standards have generally reported within acceptable limits. A full analysis of all the quality control data has been undertaken.</li> <li>No geophysical tools were utilised for the exploration.</li> </ul>
Location of data Points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> </ul>	• The position of the drill holes were located using a GPS in MGA coordinates with the expected relative accuracy. Down hole surveys have not been carried out as drill holes are less than 25 m in depth and drilled



	Quality and adequacy of topographic control	<ul> <li>vertically through the predominantly flat lying sand deposits.</li> <li>The collars have been located in UTM, MGA94, Zone 50K co-ordinates.</li> <li>The topographic surface was based on LiDAR digital elevation model obtained from the DWER, Western Australia.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied</li> </ul>	<ul> <li>The drilling was spread evenly across the project area. A total of 58 drill holes were drilled at nominal 100m spacing on two drill lines parallel to existing tracks.</li> <li>The adopted spacing for the drilling investigation was sufficient based on the geological continuity of the sand formation being tested, and sufficient to be applied for resource estimation</li> <li>All samples were taken at even 1 m intervals.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>The vertical hand auger drilling program has systematically covered the areas of interest within the tenement, It only covers some sections of an extensive dune system.</li> <li>The orientation of the drilling (vertical) is approximately perpendicular to the sub-horizontal mineralisation and is unlikely to have introduced any significant sampling bias.</li> <li>No sampling bias has been identified in the data.</li> </ul>
Sample security	<ul> <li>The measures taken to ensure sample security</li> </ul>	<ul> <li>All samples have been bagged and removed from site and are under the care of the senior field assistant and stored at a secure Subiaco storage unit.</li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>There has been no audit or review of the drilling, sampling or analysis at this time.</li> </ul>



Criteria	JORC Code exploration	Commentary
Mineral	Type, reference name/number, location	The drilling was completed on
tenement and	<ul> <li>Type, reference name/number, location and ownership including agreements or</li> </ul>	E70/4905, a granted Exploration
land tenure		Licence. 100% owned by Australian
status	material issues with third parties such as	
Status	joint ventures, partnerships, overriding	United Silica Corporation Pty Ltd.
	royalties, native title interests, historical	The tenement area falls within the
	sites, wilderness or national park and	Whadjuk People claim (managed by
	environmental settings. • The security of	SWALSC).
	the tenure held at the time of reporting	No impediments on a licence to
	along with any known impediments to	operate at time of reporting.
	obtaining a licence to operate in the area.	
Exploration	<ul> <li>Acknowledgment and appraisal of</li> </ul>	The region surrounding the Project
done by other	exploration by other parties.	has been explored for both silica
parties		sand and mineral sands. Between
		1986 and 2005 ACI Operations Pty
		Ltd (ACI) owned and operated a
		silica sands mine within the tenure
		producing 7,000 to 10,000t of silica
		for container glass applications.
Geology	Deposit type, geological setting and style	The tenement is underlain by the
	of mineralisation.	Bassendean Sand, which extends
		over large areas of the Swan
		Coastal Plains of the Perth Basin
		from about 23 km north of Jurien, to
		about 15km southwest of Busselton.
		The Bassendean Sand is
		considered to have a maximum
		thickness of about 45 m, and the
		unit is found as a strip parallel to the
		coast, having a width of about 10-20
		km, and its western edge about 5-
		10km inland.
		The Bassendean Sands is typically
		clean, well-rounded and well sorted.
		At depth, it is commonly brown to
		dark brown with high iron contents,
		however closer to the surface the
		sand is cream/white. The physical,
		chemical and mineralogical
		characteristics of the Bassendean
		Sands can vary considerably,
		resulting in variation in the quality of
		the sand regionally as well as
		locally. In general, the Bassendean
		Sands is covered with very little or
		no overburden.
Drill hole	<ul> <li>A summary of all information material to</li> </ul>	All exploration results for drilling
information	the understanding of the exploration	completed during March 2023 are
	results including a tabulation of the	available on the company website.
	following information for all Material	Significant intercepts have been
	drillholes:	included in this release. The drillhole
	-easting and northing of the drillhole collar	locations are presented in Figures 3
		and 5 and the Drillhole Collar Table.

# **Section 2: Reporting of Exploration Results**



	- elevation or RL (Reduced Level – elevation	
	<ul> <li>elevation of RL (Reduced Level – elevation above sea level in metres) of the drillhole collar</li> <li>dip and azimuth of the hole</li> <li>downhole length and interception depth - hole length.</li> </ul>	
	<ul> <li>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</li> </ul>	
Data aggregation methods	<ul> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high-grade results and</li> </ul>	Weighted average grades were calculated at a minimum of 98% SiO <sub>2</sub> cut-off grade Not applicable as a mineral resource is being reported.
	longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents have been reported.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	All drill holes are vertical and intersect the tabular, flat lying mineralisation orthogonally, and represent close to true thickness.
Diagrams	<ul> <li>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.</li> </ul>	Relevant diagrams have been included in this report.
Balance Reporting	<ul> <li>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</li> </ul>	The sand deposit is consistent and the silica grades of all samples vary by less than 2%. Mean average results have been reported for SiO <sub>2</sub> , Fe <sub>2</sub> O <sub>3</sub> and Al <sub>2</sub> O <sub>3</sub> .
Other substantive exploration data	<ul> <li>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,</li> </ul>	Groundwater was intersected in some holes. Holes were terminated on encountering the water table.



	geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive</li> </ul>	Planned to conduct further drilling in potential target areas.