

BAUXITE RESOURCES LIMITED



SILICA SAND AND HARDROCK SILICA QUARTZ PROJECT UPDATES

- Silica sand projects at Albany, Esperance and Gingin comprise 2 granted and 7 application tenements totaling 1,310km²
- Silica hard-rock quartz tenement applications lodged in Halls Creek, South West WA and Far North Queensland
- Preliminary reconnaissance fieldwork undertaken across majority of projects
- Roadside silica sand samples return encouraging results, consistent with historically reported grades
- Washed, screened and density separated silica sand samples returning results up to 99.94% SiO₂
- Expanding high grade silica sand and high purity silica (quartz) markets
- High purity and ultra high purity processing research and development activities underway

Bauxite Resources Limited (ASX: BAU) (“BRL” or “the Company”) provides the following update to its silica sands and hard-rock quartz projects. All silica and quartz projects are held **100%** by BRL’s wholly owned subsidiary **Australian Silica Quartz Pty Ltd (ASQ)**.

Parties are directed to the ASQ website for additional information on the new projects:



www.austsilicaquartz.com.au

Australian Silica Quartz Pty Ltd

The Silica Sand and Silica Hardrock Quartz Projects are activities the Company has been working on over the last few quarters. The Company has been steadily assembling the internally developed projects in this rapidly expanding sector of the market.

High Purity Silica (greater than 99.95% silica) is in high demand and can secure a premium price for applications that include PV Solar cells, specialty and high-tech glass, semiconductors, high quality foundry sands and other specialist technology applications.

The launch of the Company’s new website will enable it to identify strategic customers and potential joint venture partners that will assist the Company in its development strategy. The Projects are generally well located with potential infrastructure availability to facilitate development.

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ASX Code: BAU

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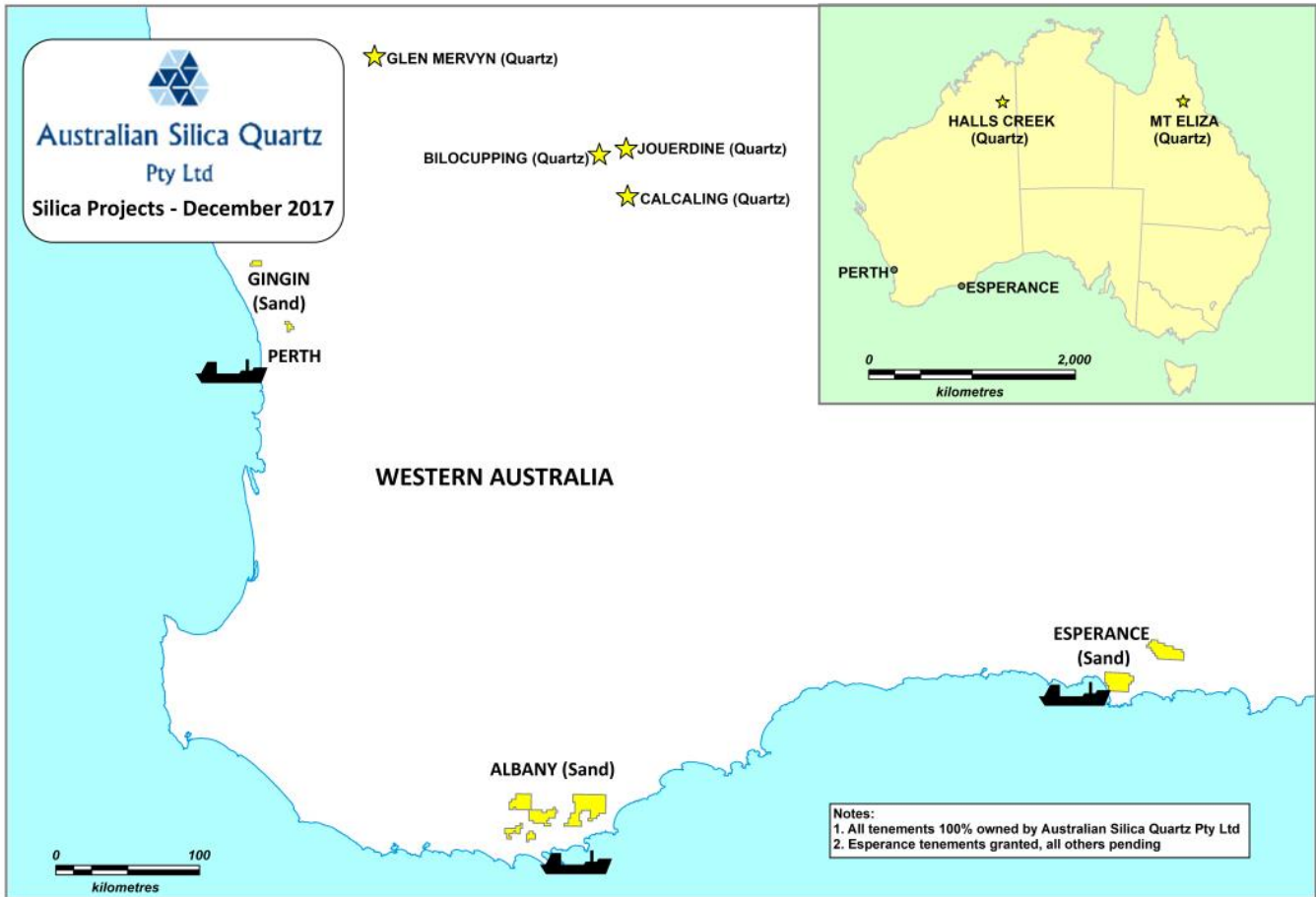


Figure 1: ASQ Silica Project Locations

Project Details

Gingin Silica Sand Project

The Company has two tenement applications in an area north of Perth and west of Gingin totalling 49km² (Figure 2). The areas are about 50 to 80kms from the Kwinana Port. Well serviced by roads and rail these tenements are adjacent to existing known silica sand resources. The Gingin Project is 100% owned by the Company.

The Gingin Project lies within the Bassendean sand unit which has been known for its large deposits of high grade silica sand. Within the project the dune structures are up to 15m high and 2km long. The sand in the area has been mined for several decades for use in the glass industry and other high grade uses. Hanson Australia Pty Ltd has recently recommenced exporting silica sands from their sand operation immediately west of the southern Gingin Silica Sand Project lease through the Kwinana Port.

In addition to the company's application tenements in the area, the Company is exploring the opportunity to secure a potential long term supply of material suitable for beneficiation to an export product from an existing local sand producer.

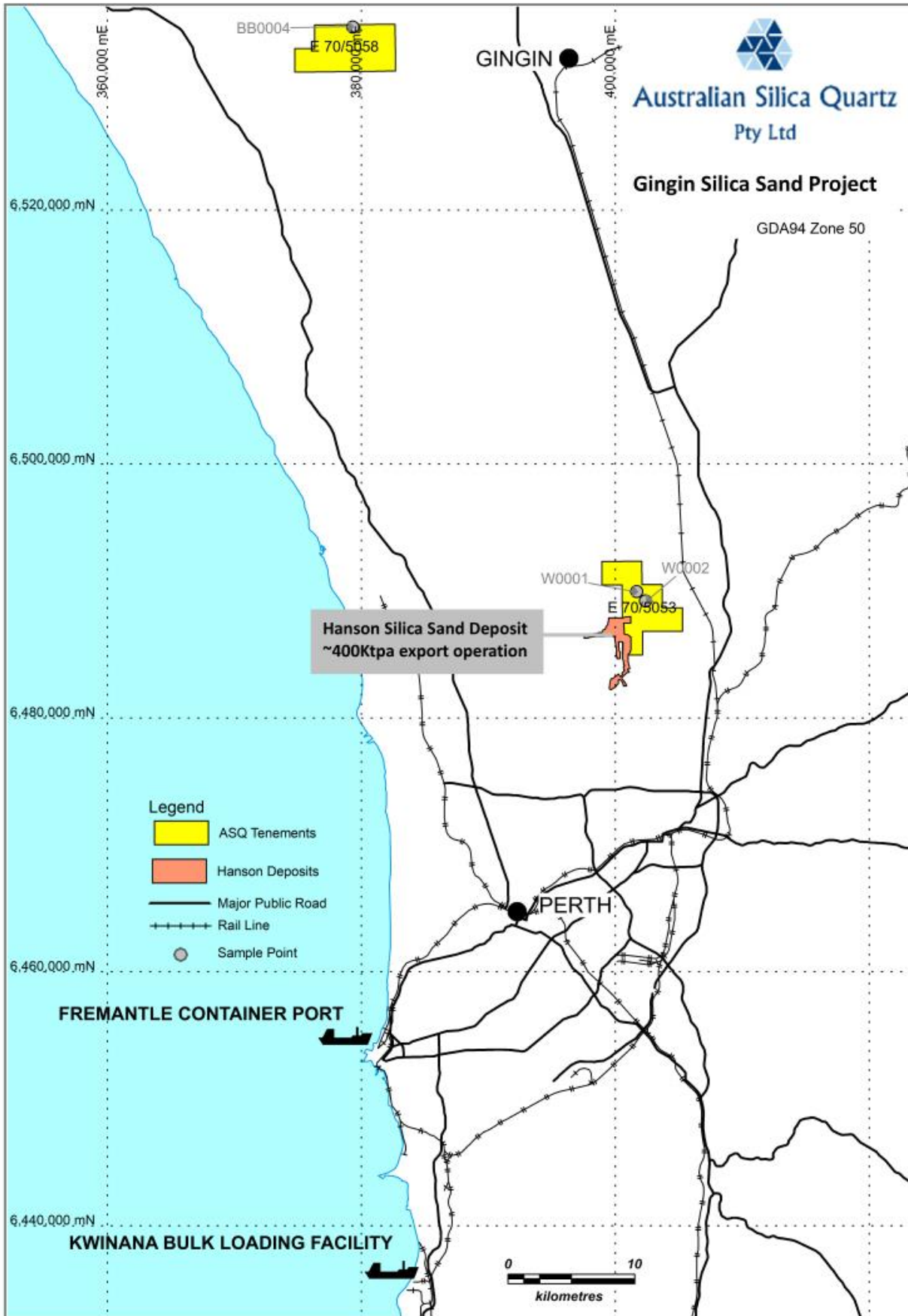


Figure 2: Location of ASQ's Gingin Silica Sand Project Tenements

Albany Silica Sand Project

The Albany project consists of 5 exploration license applications covering a total of 761km² and is 100% owned by the Company (Figure 3). The Albany project covers ground that is adjacent to the existing AustSand Mining Pty Ltd operation which produced and exported around 240,000 tonnes of silica sand using the existing CBH bulk grain ship loading facility at the Albany Port in 2016. Austsand Mining Pty Ltd is owned by the Japanese trading houses Tochu Corporation, Toyota Tsusho Corporation and shipping partner Tsuneishi Holdings.

The Lake Don and Narrikup historic sand deposits as identified in Figure 3 are historically reported deposits that are not reported in accordance with the JORC code. Insufficient work has been done to classify the historic deposits as mineral resources or ore reserves in accordance with the JORC 2012 code. It is uncertain that following evaluation and/or further exploration work that the historic deposits will be able to be reported as mineral resources or ore reserves in accordance with the JORC 2012 code.

The company is assessing various target areas with specific reference to accessibility, distance to port and currently evaluating various ship loading options to load silica via the bulk ship loading facilities from the Albany Port.

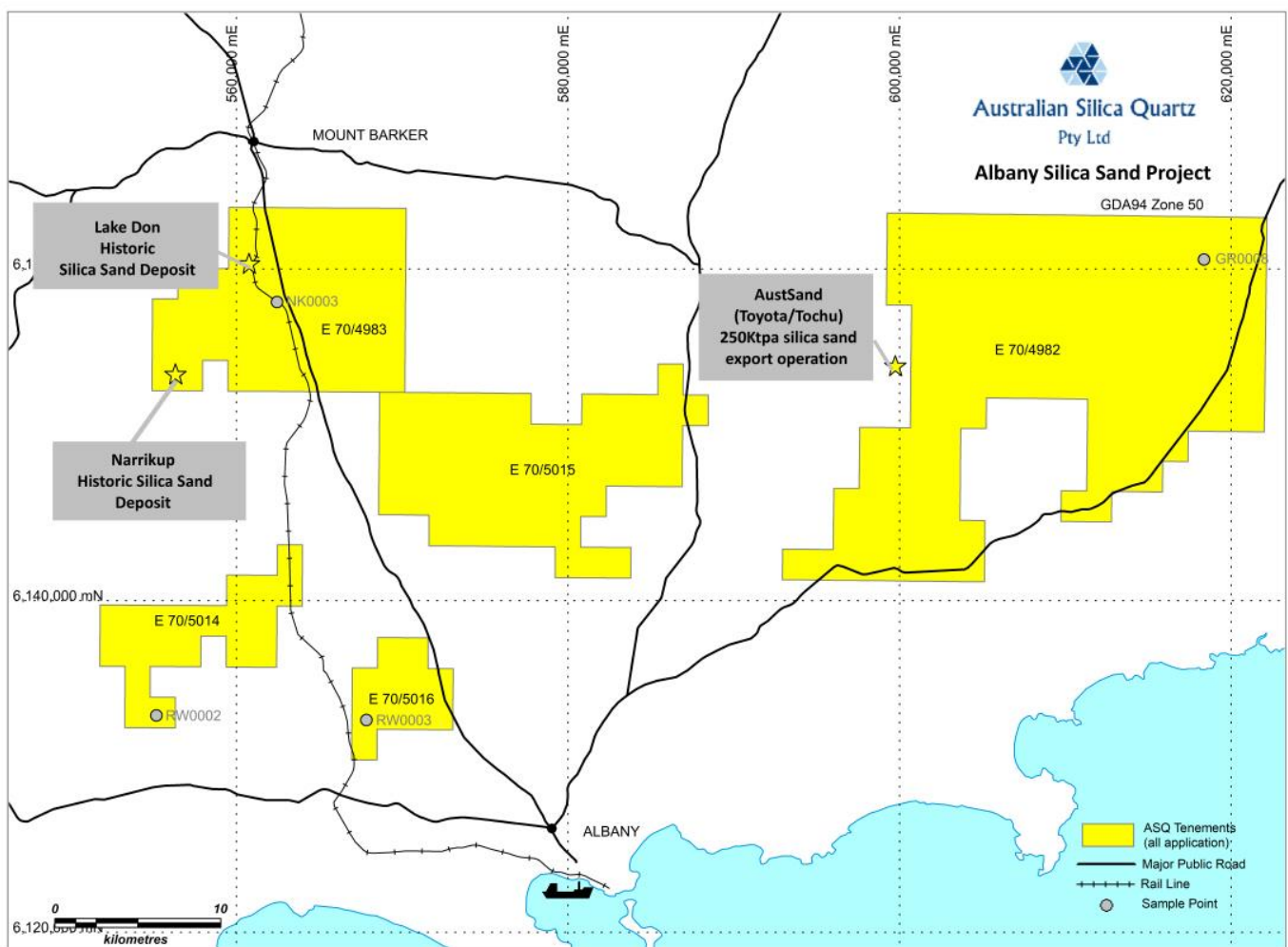


Figure 3: Location of ASQ’s Albany Silica Sand Project Tenements

Esperance Silica Sand Project

The Esperance Silica Sand Project consists of two granted exploration tenements totalling 434km² over historically reported high grade silica sand areas east of Esperance (Figure 4). These are strategically located within 50km by road from the Esperance port. Heritage Agreements have been entered into allowing exploration to commence in the near future. The Esperance Project is 100% owned by the Company.

The company is currently advancing the project by way of obtaining land access and assessing the sand deposits and road, port and shipping logistics for potential export of high grade silica sand from these locations.

The company has targeted this area based on the historical exploration data which identifies the high silica content and naturally occurring fine particle size of the sand.

Port visits and enquiries have confirmed the Esperance Port accommodates cape class vessels and is suited to bulk tonnage export. A consultant has been engaged to provide advice regarding potential port access at the Albany and Esperance ports.

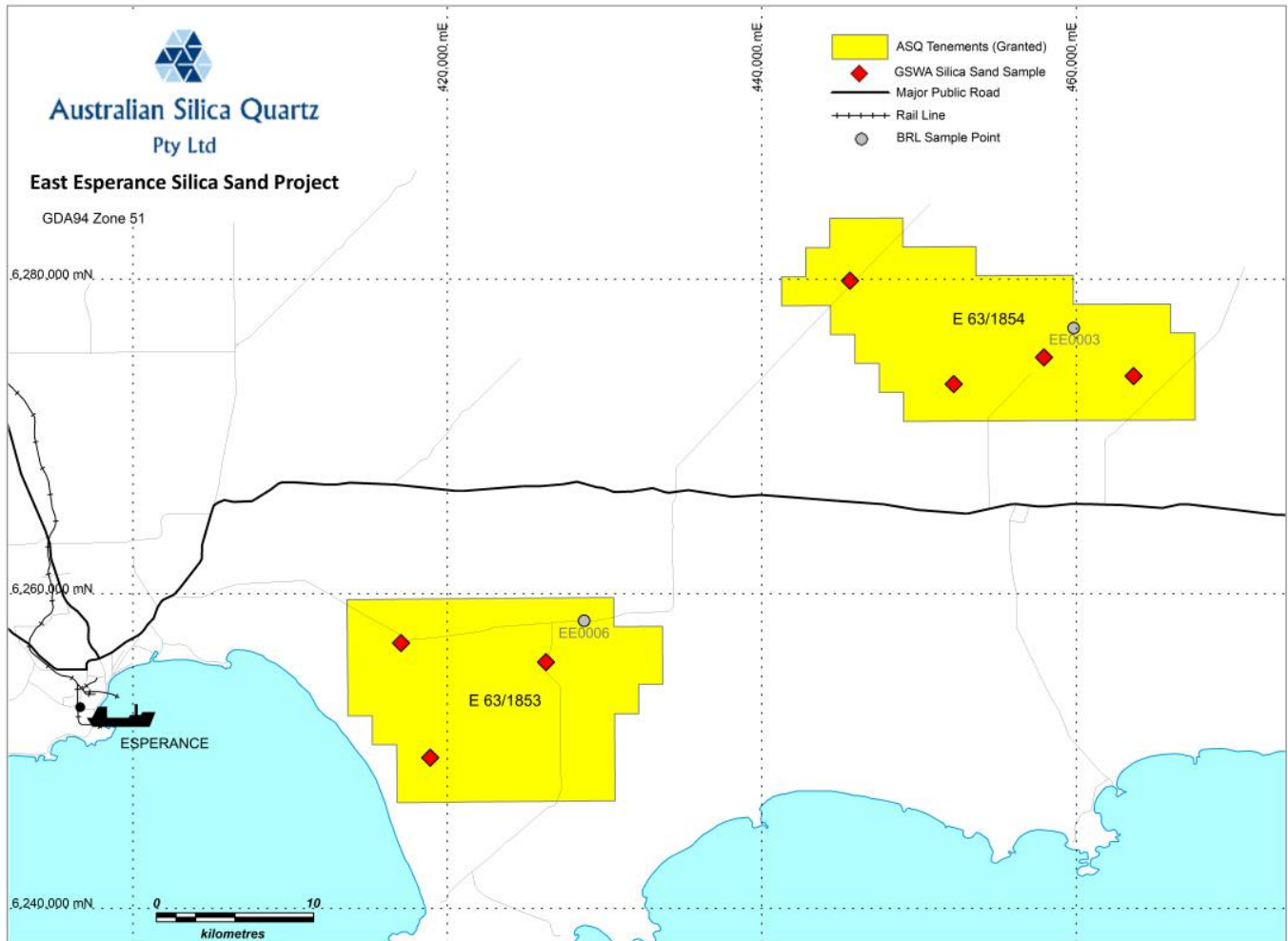


Figure 4: Location of ASQ's Esperance Silica Sand Project Tenements

WA Regional Hard-rock Silica Projects

The company has in application four single graticule exploration licences covering epithermal quartz veins and zoned pegmatites containing quartz cores in the South West of Western Australia (E70/5069 – Glen Mervyn, E70/5070 – Jouerdine, E70/5071 – Bilocupping and E70/5072 – Calaling).

A fifth single graticule exploration licence has been applied for near Halls Creek in the East Kimberley (E80/5160 – Halls Creek). This tenement covers photo features interpreted as a series of epithermal quartz veins. Preliminary fieldwork is planned for 2018.

Mount Eliza Hard-Rock Silica Project

Situated in Queensland, the Mt Eliza project is located about 200km south east of Cairns and consists an application for Exploration Permit (Minerals other than Coal) EPM 26702 (Figure 1). The project contains extensive quartz outcrops and ridges of epithermal quartz veins. It is located adjacent to the hard rock quartz resources held by Solar Quartz



Technologies Pte Ltd who report their Quartz Hill deposit as having demonstrated potential for producing high purity silica. BRL recently completed field reconnaissance of the project area.

Silica Sand Sampling and Test Work Results

A number of roadside grab samples have been collected from the three Silica Sand Projects and these have returned encouraging results.

The grab samples collected to date may not be considered representative of the sand deposits present on the Company's tenements. These samples have been opportunistically collected for the purpose of gaining a preliminary understanding of grade and quality potential. Additional work will have to be undertaken in order for the Company to report that these results can be reproduced within the project areas.

Selected samples have undergone washing, sizing and density separation by ALS Global in Perth with chemistry determination by acid digest and ICP analysis with SiO₂ calculated by difference at TSW Analytical in Perth achieving grades up to 99.94% SiO₂. This process aims to give an indication of the best-case recovery from a simple washing, screening and density separation plant. Summary results are given below.

Table 1: Summary results for washed, screened and density separated sand project grab samples

Sample	Zone	MGA mEast	MGA mNorth	Project	SiO ₂ (%)	Al ₂ O ₃ (ppm)	Fe ₂ O ₃ (ppm)	TiO ₂ (ppm)	CaO (ppm)
BB0004	50	379324	6534420	Gingin	99.90	274	103	445	34
W0001	50	401680	6489957	Gingin	99.94	173	50	229	25
W0002	50	402368	6489220	Gingin	99.93	193	71	287	32
NK0003	50	562450	6158012	Albany	99.89	272	78	561	34
RW0002	50	555172	6133084	Albany	99.92	200	79	350	25
GR0008	50	618362	6160578	Albany	99.92	215	71	345	34
RW0003	50	567840	6132805	Albany	99.89	268	95	569	43
EE0003	51	459832	6276914	East Esperance	99.71	1187	646	766	60
EE0006	51	428699	6258292	East Esperance	99.27	4176	1321	546	204

A single sample was selected from each of the Gingin and Albany project areas for chemical analysis by size fraction. The results show good recoveries from coarser sands in the Gingin area (99.948% SiO₂ in the -710/+250um fraction with 91.2% recovery) and the finer fractions from Albany (99.936% SiO₂ in the -250/+90um fraction with 79% recovery).

Table 2: Chemical analysis by size fraction for sample W0001

Grain Size (Microns)	Mass% Retained	SiO ₂ (%)	Sodium (%)	Aluminium (%)	Titanium (%)	Iron (%)
+710um	5.8	99.937	0.004	0.010	0.012	0.006
-710/+500um	30.5	99.952	0.003	0.008	0.010	0.003
-500/+355um	46.5	99.949	0.003	0.008	0.011	0.003
-355/+250um	14.2	99.936	0.003	0.008	0.012	0.004
-250/+180um	2.2	99.930	0.002	0.009	0.016	0.007
-180/+125um	0.2	99.741	0.005	0.026	0.005	0.075
-125/+90um	0.6	99.777	0.006	0.030	0.025	0.031
-1.0mm/+53um		99.966	0.003	0.009	0.014	0.003
-710/+250um	91.2	99.948	0.003	0.008	0.011	0.003



Table 3: Chemical analysis by size fraction for sample GR0008

Grain Size (Microns)	Wt% Retained	SiO2 (%)	Sodium (%)	Aluminium (%)	Titanium (%)	Iron (%)
+710um	1.0	99.918	0.007	0.011	0.023	0.004
-710/+500um	1.3	99.910	0.006	0.009	0.029	0.003
-500/+355um	1.6	99.910	0.005	0.009	0.030	0.004
-355/+250um	5.9	99.929	0.003	0.008	0.022	0.004
-250/+180um	21.8	99.945	0.003	0.008	0.013	0.003
-180/+125um	23.4	99.939	0.003	0.009	0.014	0.005
-125/+90um	33.7	99.929	0.003	0.011	0.015	0.005
-90/+63um	9.3	99.807	0.005	0.029	0.048	0.015
-63/+53um	1.8	99.692	0.009	0.059	0.053	0.029
-1.0mm/+53um		99.952	0.004	0.011	0.021	0.005
-250/+90um	79.0	99.936	0.003	0.010	0.014	0.004

The company commissioned leading silica specialist Dorfner ANZAPLAN in Germany to complete detailed chemical characterisation by ICP-MS and ICP-AES followed by mineralogical characterisation by thick section, optical microscopy, raman, laser ablation and thermometric analysis on a selected sample from each silica sand project area. The chemical results are consistent with those obtained locally. The mineralogical characterisations showed rutile and zircon present as separate mineral grains and mineral inclusions of rutile, biotite, calcite, muscovite, feldspar, zircon, apatite and iron oxides. This work indicates that using traditional beneficiation methods the Company’s sand projects contain materials suitable for the optical glass, glass sand, engineered stone and quartz filler markets. We continue to assess potential for alternative processing techniques that may yield a higher purity product.

Future Work

The company plans to continue the focus on these established projects targeting high grade silica sand and hard rock quartz that are currently being evaluated and progressed by way of historical data review, deposit targeting and identification, infrastructure assessment, marketing and identifying off take opportunities. Additionally, a research and development project aimed at increasing the purity of the silica from the company's silica sand and quartz hard rock assets is underway.

Table 4: Silica Projects Tenement Details

Lease	Project	Holders	Status	Area (km ²)
E63/1853	Esperance Silica Sand	Australian Silica Quartz Pty Ltd	Granted	220
E63/1854	Esperance Silica Sand	Australian Silica Quartz Pty Ltd	Granted	214
E70/4982	Albany Silica Sand	Australian Silica Quartz Pty Ltd	Application	375
E70/4983	Albany Silica Sand	Australian Silica Quartz Pty Ltd	Application	147
E70/5014	Albany Silica Sand	Australian Silica Quartz Pty Ltd	Application	56
E70/5015	Albany Silica Sand	Australian Silica Quartz Pty Ltd	Application	152
E70/5016	Albany Silica Sand	Australian Silica Quartz Pty Ltd	Application	31
E70/5053	Gingin Silica Sand	Australian Silica Quartz Pty Ltd	Application	23
E70/5058	Gingin Silica Sand	Australian Silica Quartz Pty Ltd	Application	26
EPMA 26702	Regional Hard Rock Silica	Australian Silica Quartz Pty Ltd	Application	91
E70/5069	Regional Hard Rock Silica	Australian Silica Quartz Pty Ltd	Application	3
E70/5070	Regional Hard Rock Silica	Australian Silica Quartz Pty Ltd	Application	3
E70/5071	Regional Hard Rock Silica	Australian Silica Quartz Pty Ltd	Application	3
E70/5072	Regional Hard Rock Silica	Australian Silica Quartz Pty Ltd	Application	3
E80/5160	Regional Hard Rock Silica	Australian Silica Quartz Pty Ltd	Application	3

Further Information:

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Competent Person's Statement

The information in this announcement that relates to **Exploration results** is based on information compiled by Nick Algie, who is a member of the Australian Institute of Geoscientists. Mr Algie is a qualified geologist and a full time employee, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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 Algie has consented to the inclusion in this announcement of the Exploration Results in the form and context in which it appears.

Forward Looking Statements

This report may include forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", or other similar words and may include, without limitation, statements regarding plans, strategies, and objectives of management. Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company's actual results, performance and achievements to differ materially from anticipated results, performance or achievements. Forward looking statements are based on the Company and its management's good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company's business and operations in the future. The Company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the Company's business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the Company or management or beyond the Company's control. Accordingly, readers are cautioned not to place undue reliance on forward looking statements.

APPENDIX 1 - JORC 2012 Table 1

Section 1 Sampling Techniques and Data

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

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> • Samples were collected by hand auger or hand dug excavation from road cuttings with between 2 and 10kg of sample collected for each location
<i>Drilling techniques</i>	<ul style="list-style-type: none"> • For selected samples, a hand auger was used to drill, 80mm diameter holes up to 2m deep
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> • Hand auger holes were completed by BRL geological staff with care taken to reduce down hole contamination where possible • Where free flowing dry sand was found on the surface this material was dug back to prevent downhole contamination prior to commencing hand auguring • No sample recovery measurement was employed other than visual assessment
<i>Logging</i>	<ul style="list-style-type: none"> • Logging consisted of simply noting the colour and general grainsize
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> • Entire samples were submitted to ALS Laboratory where they were dried and riffle split to 1kg • The subsamples were bottle rolled for 2 hours with a 50% solids to water ratio then wet screened at 0.053mm and 1.0mm with the -1/+0.053mm fraction dried and riffle split down to 200grams for heavy liquid separation at 2.6 and 2.7 kg/dm³ • ALS used Tetrabromoethane in centrifuge to split out the +2.6-2.7 kg/dm³ which was collected by BRL geological staff and taken to TSW Analytical Laboratory for analysis • No duplicate or repeat samples were employed
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> • The samples were submitted to TSW Analytical Laboratory for analysis where the sample was accurately weighed and digested in a mixture of nitric/perchloric/hydrofluoric acids • The digestate was taken to dryness and the residue was dissolved in high purity nitric (0.7mL) and hydrochloric (0.2mL) acids and high purity water (35mL). This solution was then suitably diluted for ICP-AES and ICP-MS analysis with elements converted to the most common oxides • Where SiO₂ % is given it is calculated by difference using the oxide values • A non-certified minimum 99.99% SiO₂ standard was supplied by ALS for blind analysis by TSW with the exploration samples. Results were within acceptable limits
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> • As these exploration results are preliminary in nature they have not been independently verified • No twin holes were completed • Paper logs and records have been transferred to electronic computer files for storage and cloud based backup • Hole positions have been plotted and checked for validity within mapping systems
<i>Location of data points</i>	<ul style="list-style-type: none"> • Sample locations have been recorded using GPS applications on a smartphone that has been checked for accuracy against a known base station. • The coordinate system employed was GDA94 Zone 50 (Gingin and Albany) and Zone 51 (Esperance). • The location accuracy using this method is thought to be +/-5m for X & Y coordinates
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> • Samples were collected opportunistically without reference to any particular sample spacing • Typically only one sample was collected per dune system • This spacing is not sufficient, nor was it intended to be sufficient, to establish any conclusions about geological continuity • No sample intervals have been used, generally when sampling by hand auger around 20cm of topsoil was excluded from the sample and the remainder of the hole collected as one sample



Criteria	Commentary
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> All hand auger holes were drilled vertically in broad dune structures which is not expected to introduce any bias into the sampling The sampling is preliminary in nature and not designed to define the extent or scale of the deposits therefore the orientation is considered appropriate
<i>Sample security</i>	<ul style="list-style-type: none"> The samples were collected by and remained in the possession of BRL geological staff who delivered the samples to ALS and TSW laboratories in person. Sample receipt lists were manually checked against collection lists and results
<i>Audits or reviews</i>	<ul style="list-style-type: none"> No internal or external audits have been completed as these results are considered preliminary in nature and further, more systematic work will be required to accurately define the scale and geological continuity of the deposits

Section 2 Reporting of Exploration Results

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

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> All samples were collected from road reserves within the Exploration Licenses E63/1853 (Granted), E63/1854 (Granted), E70/4982 (Pending), E70/4983 (Pending), E70/5014 (Pending), E70/5015 (Pending), E70/5016 (Pending), E70/5053 (Pending), & E70/5058 (Pending). Tenements E70/4982 and E70/5053 are application tenements that partially overlap with priority mining tenure held by other parties. All samples have been collected from areas where BRL holds the priority exploration license and there is no known impediment to the grant of that portion of the license
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> In the Gingin project area previous exploration has been completed for silica sand by Silica Sales Pty Ltd, Rocla Quarry Products, and Sorenson Short and Associates, (for West Australian Silica Sand). In the area of the Albany project area silica exploration has previously been completed by Gwalia Minerals NL. Mineral sands exploration has been completed by Westralian Sands and Lignite exploration by Phanerozoic Energy, CRA Exploration, BHP Minerals and Mobil Energy All project areas contain GSWA surface silica sand sample records
<i>Geology</i>	<ul style="list-style-type: none"> The sand targets are aeolian sand dunes formed in quaternary sand deposits.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> The locations of each sample is given in the results tables within the report The elevation has not been recorded and is not considered material to these results All hand auger holes were drilled vertically in broad dune structures which is not expected to introduce any bias into the sampling The hole depth and interception depths are not given as they are not considered material to these results which are to be viewed as preliminary grab samples only aimed to provide information on the type of sand contained in the sampled dune systems
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> Weighted averages were used to calculate the grades for the combined size fractions presented in tables 2 & 3 of the report
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> The extent of mineralization is unknown at this stage
<i>Diagrams</i>	<ul style="list-style-type: none"> See figures in body of text
<i>Balanced reporting</i>	<ul style="list-style-type: none"> This announcement is considered to be a balanced report
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> No other exploration data is considered material to this report
<i>Further work</i>	<ul style="list-style-type: none"> Drill programs at selected targets to define the extent and characteristics of the deposits are planned to be completed once the tenements are granted, heritage agreements are in place and land access has been secured.

Appendix 2
Full Assay and Particle Size Distribution Tables
Full Assay Tables:

Concentrations are reported as micrograms per gram (ug/g) in the solid unless otherwise stated, measured against AccuTrace High Purity multi-element standards (Choice Analytical).

Element	Li	Be	B	Na	Mg	Al	Si	P	S	K	Ca	Sc	Ti
EE0003	3.51	0.019	< 0.017	29.7	17.4	628	n.d.	3.22	< 6.9	68.0	43.0	0.119	459
EE0006	3.72	0.400	< 0.017	271	25.7	2210	n.d.	3.16	< 6.9	463	146	0.143	327
NK0003	3.36	0.023	< 0.017	40.0	10.2	144	n.d.	0.873	9.72	24.4	24.6	0.055	336
RW0002	2.70	0.018	< 0.017	36.4	7.59	106	n.d.	2.64	< 6.9	30.2	17.8	0.054	210
GR0008	2.03	0.015	< 0.017	35.7	10.6	114	n.d.	4.10	< 6.9	14.3	24.5	0.046	207
W0001 -1mm	4.34	0.018	< 0.017	30.7	4.35	91.8	n.d.	4.91	< 6.9	< 13	18.1	0.020	137
W0002 -1mm	4.66	0.019	< 0.017	30.5	6.87	102	n.d.	3.47	< 6.9	< 13	23.0	0.042	172
BB0004 -1mm	3.28	0.016	0.748	32.3	6.65	145	n.d.	5.78	< 6.9	20.9	24.5	0.048	267
SiO2 99.99% STD after HLS	6.17	0.074	< 0.017	28.0	2.71	107	n.d.	1.94	< 6.9	< 13	< 7.3	< 0.005	12.6
SiO2 99.99% STD HEAD	6.28	0.071	< 0.017	2.52	< 0.7	87.1	n.d.	< 0.83	< 6.9	< 13	< 7.3	0.014	11.8

Element	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Rb
EE0003	3.01	2.56	0.761	452	< 0.02	0.247	1.15	0.782	0.195	0.479	0.146	0.035	0.344
EE0006	3.22	2.27	1.20	924	< 0.02	0.659	1.18	0.685	0.550	0.483	0.233	0.051	1.72
NK0003	1.06	1.27	0.752	54.5	< 0.02	0.028	5.60	3.41	0.046	0.455	0.084	< 0.012	0.134
RW0002	1.05	1.22	0.856	55.0	< 0.02	< 0.019	0.545	0.24	0.033	0.382	0.105	0.021	0.108
GR0008	0.676	2.26	0.573	49.5	< 0.02	< 0.019	0.838	0.244	0.040	0.317	0.075	< 0.012	0.088
W0001 -1mm	0.242	0.964	0.686	34.7	< 0.02	0.044	0.410	0.338	0.027	0.383	0.035	< 0.012	0.097
W0002 -1mm	0.440	2.39	0.836	49.9	< 0.02	0.151	0.547	1.10	0.041	0.483	0.064	< 0.012	0.105
BB0004 -1mm	0.707	2.21	1.13	71.8	< 0.02	0.091	0.742	0.631	0.060	0.247	0.087	0.023	0.152
SiO2 99.99% STD after HLS	0.03	1.41	0.054	7.19	< 0.02	0.036	0.198	0.025	0.015	0.347	< 0.003	< 0.012	0.040
SiO2 99.99% STD HEAD	0.008	0.552	0.015	2.16	< 0.02	0.025	0.090	< 0.02	0.015	0.716	0.019	0.014	0.059

Element	Sr	Y	Zr	Nb	Mo	Cd	In	Sn	Sb	Cs	Ba	La	Ce
EE0003	1.39	0.288	5.37	1.10	0.522	0.011	0.002	0.372	0.026	0.024	9.90	0.320	0.577
EE0006	5.06	0.328	6.62	0.83	0.283	0.009	0.003	0.291	0.021	0.046	24.8	0.513	1.19
NK0003	0.731	0.194	5.59	0.907	0.32	0.009	0.001	0.280	0.025	0.024	5.37	0.180	0.341
RW0002	0.262	0.258	6.82	0.586	0.097	0.005	< 0.001	0.228	0.027	0.012	1.39	0.234	0.426
GR0008	0.258	0.238	8.24	0.628	0.106	0.007	0.001	0.281	0.029	0.011	1.29	0.197	0.373
W0001 -1mm	0.243	0.285	7.54	0.438	0.099	0.002	< 0.001	0.156	0.001	0.014	1.59	0.279	0.527
W0002 -1mm	0.248	0.286	8.67	0.492	0.153	0.005	< 0.001	0.218	0.013	0.014	1.40	0.279	0.527
BB0004 -1mm	0.518	0.338	6.61	0.866	0.134	0.007	0.001	0.247	0.017	0.017	5.53	0.325	0.592
SiO2 99.99% STD after HLS	0.017	0.149	0.797	0.004	0.006	0.006	< 0.001	0.226	< 0.001	0.009	0.140	0.004	0.006
SiO2 99.99% STD HEAD	< 0.001	0.001	0.115	0.002	0.003	< 0.001	< 0.001	0.006	< 0.001	0.012	0.009	0.003	0.004

Element	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf
EE0003	0.064	0.231	0.046	0.011	0.050	0.008	0.050	0.011	0.036	0.005	0.040	0.006	0.149
EE0006	0.102	0.350	0.068	0.029	0.077	0.012	0.062	0.013	0.042	0.007	0.044	0.007	0.200
NK0003	0.041	0.149	0.030	0.006	0.034	0.005	0.033	0.008	0.025	0.004	0.079	0.004	0.166
RW0002	0.048	0.180	0.037	0.005	0.041	0.007	0.044	0.010	0.032	0.005	0.037	0.006	0.228
GR0008	0.041	0.155	0.038	0.005	0.037	0.007	0.041	0.009	0.030	0.005	0.036	0.005	0.237
W0001 -1mm	0.059	0.223	0.046	0.005	0.051	0.008	0.049	0.011	0.036	0.006	0.036	0.006	0.266
W0002 -1mm	0.060	0.205	0.045	0.005	0.049	0.008	0.047	0.010	0.034	0.006	0.043	0.007	0.287
BB0004 -1mm	0.066	0.253	0.051	0.008	0.056	0.009	0.061	0.012	0.042	0.007	0.045	0.007	0.220
SiO2 99.99% STD after HLS	< 0.001	0.004	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.018
SiO2 99.99% STD HEAD	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002

Element	Ta	Hg	Tl	Pb	Bi	Th	U
EE0003	0.168	0.031	1.05	0.654	0.018	0.276	0.085
EE0006	0.125	0.038	1.53	1.65	0.015	0.513	0.113
NK0003	0.136	0.038	0.427	0.644	0.004	0.154	0.067
RW0002	0.002	0.029	0.453	0.256	0.005	0.259	0.089
GR0008	0.110	< 0.024	0.551	0.296	0.005	0.209	0.070
W0001 -1mm	0.082	< 0.024	0.453	0.264	0.003	0.256	0.103
W0002 -1mm	0.039	0.031	0.315	0.231	0.003	0.268	0.120
BB0004 -1mm	0.136	0.026	0.738	0.393	0.007	0.265	0.091
SiO2 99.99% STD after HLS	< 0.001	< 0.024	0.692	0.042	0.001	0.002	0.002
SiO2 99.99% STD HEAD	< 0.001	< 0.024	0.026	0.009	0.001	< 0.001	0.004

Sample Prep:

A representative sample (~1.0 g) was accurately weighed and digested in a mixture of nitric/perchloric/hydrofluoric acids. The digestate was taken to dryness and the residue was dissolved in high purity nitric (0.7mL) and hydrochloric (0.2mL) acids and high purity water (35mL). This solution was then suitably diluted for ICP-AES and ICP-MS analysis.



Particle Size Distribution:

Particle Size	GR0008 -1/+0.053mm +2.6/-2.7kg/dm3		W0001 -1mm - 1/+0.053mm +2.6/- 2.7kg/dm3	
	Mass	%	Mass	%
-1000/+710um	0.8	1.0	6.1	5.8
-710/+500um	1.1	1.3	32.2	30.5
-500/+355um	1.3	1.6	49.2	46.5
-355/+250um	4.8	5.9	15	14.2
-250/+180um	17.8	21.8	2.3	2.2
-180/+125um	19.1	23.4	0.2	0.2
-125/+90um	27.5	33.7	0.6	0.6
-90/+63um	7.6	9.3	0.1	0.1
-63/+53um	1.5	1.8	0	0.0
	81.5	100	105.7	100



Analysis by Size Fraction – Gingin and Albany Silica Sand Projects:

Concentrations are reported as micrograms per gram (ug/g) in the solid unless otherwise stated, measured against AccuTrace High Purity multi-element standards (Choice Analytical).

Element	Li	Be	B	Na	Mg	Al	Si	P	S	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn
W0001 -125/+90um	5.57	0.308	0	61.1	64.5	299	0	3.93	38.1	42	241	0.143	251	0.666	3.54	4.59	313	5.37	0.824	10	2.44
W0001 -180/+125um	2.41	0.06	0	52.8	89.8	259	0	12.2	161	31.3	96	< 0.029	51	< 0.022	5.28	9.17	748	0	2.36	11	0.176
W0001 -250/+180um	3.23	0.017	0	24.2	14.3	88.2	0	0	6.18	15.9	29.4	0.056	160	0.37	0.292	1.84	66.2	0	0.816	3.02	1.34
W0001 -355/+250um	3.66	0.015	0	25.7	7.91	84	0	4.42	0	84.5	19.8	0.088	120	0.183	< 0.012	1	44.5	0	0.37	2.17	1.05
W0001 -500/+355um	4.23	0.017	0	27.8	6.64	79	0	0	12.4	15.9	0.037	112	0.146	< 0.012	0.851	32.7	0	0.307	3.05	1.05	
W0001 -710/+500um	4.69	0.02	0	30.2	6.37	81	0	0	14.1	14.3	0.04	95.3	0.075	< 0.012	0.829	30.3	0	0.436	4.67	1.3	
W0001 +710um	5.53	0.023	0	36.1	5.97	96.2	0	0	8.62	15.6	14.6	0.057	120	0.228	1.89	1.32	55.2	0.045	3.77	1.22	1.35
GR0008 -63/+53um	2.73	0.076	7.97	86	114	589	0	0	16.4	42.6	84.9	0.672	527	0.468	1.99	2.62	287	3.48	1.58	19.4	5.99
GR0008 -90/+63um	2.4	0.134	0	51.5	49.4	287	0	4.99	12.4	27.2	46.4	0.165	480	1.06	0.542	1.9	152	0.928	0.525	6.62	2.48
GR0008 -125/+90um	2.09	0.095	0	32	17	114	0	0	6.18	16.4	24.8	0.067	153	0.447	0.039	0.852	52.1	0.238	0.14	2.02	0.923
GR0008 -180/+125um	2.13	0.017	0	30.9	12.4	88.1	0	0	13.4	21.8	0.067	143	0.337	< 0.012	0.803	45.9	0.016	0.124	3.07	1.01	
GR0008 -250/+180um	2.31	0.015	0	31.6	8.5	78.6	0	0	13.1	18.9	0.077	132	0.256	< 0.012	0.601	31.9	0.075	0.194	8	1.66	
GR0008 -355/+250um	3.02	0.015	0	34.4	7.31	79.3	0	0	11.3	17.3	0.1	216	0.531	< 0.012	0.656	42.2	0.012	0.21	3.49	1.17	
GR0008 -500/+355um	2.78	0.015	0	46.8	9.81	87.6	0	0	13.4	19.6	0.237	304	0.678	< 0.012	0.62	36.1	0	0.356	4.88	2	
GR0008 -710/+500um	3.04	0.019	0	56.1	9.33	87	0	0	14.1	21.9	0.278	285	0.493	0.201	0.546	30	0	0.483	6.49	2.38	
GR0008 +710um	3.7	0.023	0	65.7	6.78	105	0	0	14.1	21.7	0.247	227	0.266	1.3	0.571	36	0	3.12	1.55	1.28	

Element	Ga	Ge	As	Se	Rb	Sr	Y	Zr	Nb	Mo	Cd	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm
W0001 -125/+90um	0.11	0.478	6.29	0	0.91	1.72	0	7.74	0.78	0.27	0	0.068	21	0.128	0.288	3.29	0.32	0.612	0.071	0.28	0.05
W0001 -180/+125um	0.08	0.442	0.37	0	0.27	0.24	0	6.83	1.04	0.64	0	0.123	37.8	0.189	0.064	2.11	0.2	0.456	0.055	0.27	0.048
W0001 -250/+180um	0.03	0.438	0.11	0	0.11	0.31	0	6.9	0.45	0.22	0	0.004	1.21	0.018	0.014	1.55	0.25	0.464	0.052	0.21	0.04
W0001 -355/+250um	0.03	0.418	0.08	0	0.1	0.27	0	7.43	0.38	0.1	0	0.002	0.69	0	0.015	1.4	0.26	0.522	0.059	0.22	0.043
W0001 -500/+355um	0.03	0.422	0	0	0.11	0.24	0	7.62	0.35	0.08	0	0.002	0.73	0	0.02	1.53	0.48	0.917	0.103	0.35	0.064
W0001 -710/+500um	0.03	0.407	0.05	0	0.21	0.23	0	6.68	0.3	0.07	0	0	0.5	0.015	0.042	1.74	0.28	0.54	0.06	0.22	0.045
W0001 +710um	0.05	0.443	0.05	0	0.13	0.21	0	9.77	0.3	0.35	0.02	0	0.2	0	0.017	1.52	0.51	0.951	0.107	0.4	0.069
GR0008 -63/+53um	0.31	0.166	1.84	0.08	0.29	1.12	1	22.5	1.71	0.08	0.04	0.019	4.15	0.069	0.039	4.89	0.39	0.806	0.092	0.37	0.111
GR0008 -90/+63um	0.13	0.621	2.47	0	0.25	0.62	0	14.9	1.63	0.16	0.03	0.017	5.14	0.072	0.043	3.11	0.39	0.928	0.14	0.6	0.091
GR0008 -125/+90um	0.04	0.501	0.29	0	0.12	0.28	0	7.54	0.53	0.06	0	0.011	3.46	0.037	0.014	1.36	0.21	0.4	0.047	0.18	0.033
GR0008 -180/+125um	0.03	0.403	0.12	0	0.08	0.22	0	6.43	0.46	0.04	0	0.003	0.99	0.02	0.01	1.13	0.19	0.382	0.044	0.17	0.036
GR0008 -250/+180um	0.03	0.472	0.05	0	0.09	0.19	0	7.19	0.44	0.05	0.01	0.003	0.93	0.012	0.011	0.976	0.17	0.323	0.036	0.13	0.034
GR0008 -355/+250um	0.04	0.436	0.17	0	0.07	0.21	0	11.7	0.73	0.07	0	0.002	0.68	0.093	0.009	0.921	0.21	0.41	0.047	0.18	0.042
GR0008 -500/+355um	0.06	0.377	0.06	0	0.09	0.24	1	15.8	0.97	0.15	0.02	0.002	0.54	0.02	0.016	0.793	0.19	0.356	0.044	0.17	0.044
GR0008 -710/+500um	0.08	0.21	0.09	0.04	0.21	0.26	1	13.9	0.98	0.08	0.02	0.021	3.81	0.22	0.072	0.786	0.21	0.404	0.048	0.18	0.054
GR0008 +710um	0.1	0.126	0.03	0	0.09	0.27	1	12.5	0.59	0.05	0	0	0	0	0.016	0.759	0.2	0.396	0.047	0.2	0.059

Element	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	Hg	Tl	Pb	Bi	Th	U
W0001 -125/+90um	0.01	0.081	0.01	0.05	0.01	0.04	0	0.05	0.01	0.25	1.53	0	1.31	8.16	0.028	0.185	0.08
W0001 -180/+125um	0.01	0.047	0.01	0.05	0.01	0.04	0	0.04	0.01	0.22	0	0	0.89	9.5	0.033	0.238	0.07
W0001 -250/+180um	0.01	0.045	0.01	0.04	0.01	0.03	0	0.04	0.01	0.23	0.42	0	0.54	2.9	0.004	0.219	0.11
W0001 -355/+250um	0.01	0.049	0.01	0.05	0.01	0.04	0	0.04	0.01	0.25	0.81	0	0.43	1.36	0.003	0.263	0.14
W0001 -500/+355um	0.01	0.071	0.01	0.05	0.01	0.04	0	0.04	0.01	0.25	0.74	0	0.46	1.44	0.004	0.367	0.11
W0001 -710/+500um	0	0.05	0.01	0.04	0.01	0.03	0	0.04	0.01	0.23	0.69	0	0.42	1.91	0.005	0.305	0.13
W0001 +710um	0	0.078	0.01	0.05	0.01	0.04	0	0.04	0.01	0.33	0.59	0	0.38	0.36	0.004	0.501	0.12
GR0008 -63/+53um	0.03	0.129	0.03	0.22	0.05	0.18	0	0.23	0.04	0.84	7.21	0	3.88	8.53	0.032	0.896	0.33
GR0008 -90/+63um	0.02	0.095	0.01	0.07	0.02	0.06	0	0.07	0.01	0.42	3.28	0	1.32	4.58	0.012	0.297	0.11
GR0008 -125/+90um	0.01	0.041	0.01	0.04	0.01	0.03	0	0.03	0.01	0.21	1.09	0	0.49	2.38	0.006	0.172	0.06
GR0008 -180/+125um	0.01	0.04	0.01	0.04	0.01	0.03	0	0.03	0.01	0.2	0.96	0	0.72	0.963	0.003	0.196	0.07
GR0008 -250/+180um	0.01	0.036	0.01	0.04	0.01	0.03	0	0.04	0.01	0.23	0.92	0	0.39	1.64	0.003	0.195	0.08
GR0008 -355/+250um	0.01	0.051	0.01	0.06	0.01	0.04	0	0.06	0.01	0.36	1.45	0	0.4	1.77	0.005	0.283	0.1
GR0008 -500/+355um	0.01	0.054	0.01	0.09	0.02	0.07	0	0.08	0.01	0.48	1.84	0	1.49	3.78	0.006	0.418	0.15
GR0008 -710/+500um	0.01	0.067	0.02	0.12	0.03	0.09	0	0.12	0.02	0.46	2.01	0	8.48	8.86	0.014	0.519	0.18
GR0008 +710um	0.01	0.081	0.02	0.14	0.04	0.12	0	0.14	0.02	0.43	1.43	0	0.37	0.487	0.011	0.617	0.19

Sample Prep:

A representative sample (~1.0 g) was accurately weighed and digested in a mixture of nitric/perchloric/hydrofluoric acids. The digestate was taken to dryness and the residue was dissolved in high purity nitric (0.7mL) and hydrochloric (0.2mL) acids and high purity water (35mL). This solution was then suitably diluted for ICP-AES and ICP-MS analysis.