

# ASX ANNOUNCEMENT

20 February 2020

## Galalar Silica Project Resource Expanded 26% to 38Mt


- Galalar Silica Project's total Resource upgraded by 26% to an estimated 38 million tonnes (Mt) > 99% SiO<sub>2</sub> (silicon dioxide) following recent auger drilling and testing
- Resource remains open for significant expansion to the north and east of the currently defined resource area
- Follows recent lodgement of Mining Lease Application (100235) and the associated application to undertake a voluntary EIS as regulatory approvals advance
- Result further boosts the North Qld project amid continued demand from growing Asian markets for premium quality silica sand.

In another boost for a new silica sand mine, emerging silica sands miner Diatreme Resources Limited (ASX:DRX) announced today the expansion of the resource estimate for its Galalar Silica Project in North Queensland, demonstrating the project's potential to become a source of premium quality silica sand for growing Asian markets.

Based on an assessment (refer Table 1 below) by independent consultants Ausrocks Pty Ltd, the 2019 auger drilling has contributed to the project's Inferred Resource being upgraded to 16.5Mt for a **total Inferred and Indicated Mineral Resource of 38Mt** (cut-off grade of >99% SiO<sub>2</sub>), up 26% on the previous estimate (refer ASX announcement 14 May 2019).

There is scope to further increase the resource confidence to a JORC compliant Measured Resource in the future (see **Further Expansion Potential** below).

Welcoming the results, Diatreme's CEO Neil McIntyre said: "This is a significant boost for our plans to develop a new silica sand mine at Galalar in partnership with the traditional owners, Hopevale Congress.



“The size of the project continues to expand and its ability to produce a premium silica product for fast-growing markets will make it extremely attractive for project partners and investors.”

**Note:** Under the JORC Code, 2012 Edition an Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to support mine planning and evaluation of the deposit’s economic viability. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but a lower level of confidence than a Measured Mineral Resource.

**Table 1: Updated Resource Estimate** (as at 10 February 2020)

Area	Cut-off SiO <sub>2</sub> %	SiO <sub>2</sub> % Grade	Indicated (Mt)	Inferred (Mt)	Inferred & Indicated (Mt)
East Nob Point	99%	99.26%	20.2	14.4	34.6
West Nob Point	99%	99.16%	1.3	2.1	3.4
<b>Total</b>			<b>21.5</b>	<b>16.5</b>	<b>38.0</b>

### Further Expansion Potential

Ausrocks has advised that the resource size could be further expanded through the following activities:

- Deepening the auger drill holes to test the true thickness of sand dunes in new resource area
- Extending drilling northwards and eastwards from the current resource area where it is currently untested.

To increase a portion of the resource to Measured in accordance with the JORC Code, Ausrocks recommends the resource be block modelled. This would allow further in-depth geostatistical analysis, providing more accurate estimates of both grade and quantity of the material within the resource. This would also dovetail in with the requirements to eventually upgrade from a resource to a reserve in accordance with the JORC Code.

To increase the geological confidence interval for the Indicated Resource at East Nob Point, further drilling is recommended for the following areas:

- North-western corner area near boreholes CB050, CB051 and CB065;
- The area bounded by CB081, CB070 (N-S) and CB052, CB071 (W-E);
- Southern lobe of resource to better define the resource boundary.



## Galalar on Track for Development

The resource expansion follows recent progress concerning Galalar's development, including the lodgement of an application with the Queensland Department of Environment and Science (DES) to undertake a voluntary Environmental Impact Statement (EIS) (refer ASX announcement 6 February 2020) and last year's lodgement of a Mining Lease Application (refer ASX announcement 23 December 2019) as Diatreme advances the approval process.

A scoping study released in September 2019 showed the project's potential to become an extremely valuable project for the benefit of Far North Queensland, with an estimated pre-tax nominal NPV of \$231 million, an internal rate of return of 150% and estimated capital payback within eight months, while generating valuable new jobs and investment for the community's benefit.

Previous bulk testing results have demonstrated the project's ability to produce premium-grade silica (< 100 ppm Fe<sub>2</sub>O<sub>3</sub>) using standard processing techniques, meeting the requirements for high-end glass and solar panel manufacturing and capable of attracting premium prices (refer ASX announcement 9 January 2019).

Recent testing (refer ASX announcement 29 November 2019) showed the product's amenability for further upgrading to a high purity, "ultra-low iron" (sub 50ppm Fe<sub>2</sub>O<sub>3</sub>) product suitable for specialist uses including ultra-thin electronics, computer and mobile phone screens, attracting significant price premiums.

The Galalar project is located near the world's largest operating silica sand mine at Cape Flattery, as well as being in close proximity to fast-growing Asian markets. The global silica sand market is seen reaching nearly US\$10 billion in annual revenues by 2022, with a compound annual average growth rate of 7.2% (source: IMARC Group).

Diatreme's Mr McIntyre added: "Our confidence in the Galalar project continues to increase and this latest upgrade has added to the positive momentum generated by the lodgement of our MLA and commencement of the EIS process. We remain committed to the delivery of a sustainable and profitable project for the benefit of shareholders and all project participants."

Authorised for release by:

### Neil McIntyre

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### Greg Starr

Chairman

**AUSTRALIAN SANDS. UNIVERSAL DEMAND.**

**Excerpts - Galalar Silica Project – Updated Resource Estimate**  
**Prepared by Ausrocks Pty Ltd**

## **Introduction**

Ausrocks Pty Ltd (Ausrocks) has been commissioned by Diatreme Resources Limited (Diatreme) to complete an Indicated and updated Inferred Resource Estimate on their Galalar Silica Project located within Exploration Permit for Minerals (EPM) 17795. Diatreme applied for EPM17795 on 22/08/2008 and were granted the EPM on the 22/06/2016 for a duration of 5 years (expiring 21/06/2021) targeting high grade silica sand and the potential heavy minerals. EPM17795 spans across 167 sub-blocks along the coastline.

Five drilling campaigns have been undertaken onsite to date using an air core drill rig with One hand auger drilling campaign due to limited access, with the following completed:

1. September 2017 – 606m drilled over 29 holes – Logged by Ian Reudavey.
2. October 2017 -670m drilled over 26 holes – Logged by Ian Reudavey.
3. April 2018 – 164m drilled over 9 holes – Logged by Ian Reudavey.
4. June 2018 – 659.5m drilled over 32 holes – Logged by Neil Mackenzie-Forbes.
5. November 2018 – 701m drilled over 30 holes – Logged by Neil Mackenzie-Forbes.
6. October 2019 – 64.6m hand augured over 12 holes – Logged by Neil Mackenzie-Forbes.

Material samples obtained as part of these drilling campaigns have been logged, photographed and bagged where there is excess material and stored in chip trays held in Diatreme head offices.

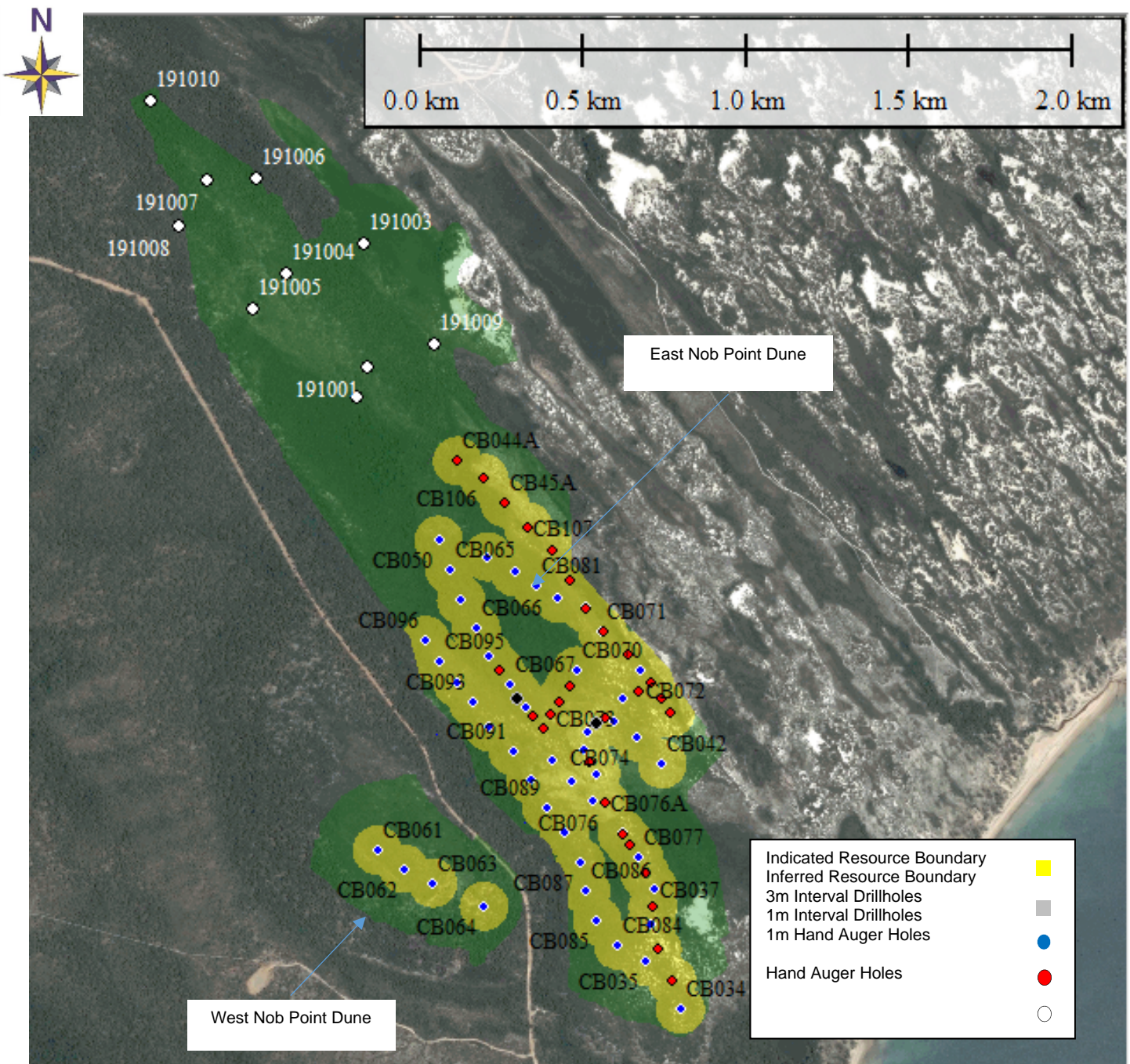
Composite samples at 3m intervals for the initial campaigns and subsequently 1m intervals moving forward for each of the drilling campaigns have been submitted to Australian Laboratory Services Ltd (ALS) for Silica Assays and some of the samples have also undergone Heavy Mineral Assays and Particle Size Distribution (PSD) Analysis. Bulk samples (60-130kgs) underwent preliminary metallurgical testing at the end of 2017 using a series of wet shaking tables to determine the recovery rate, grade and composition of the material. This testing was furthered in July 2018 when IHC Robbins Pty Ltd (IHC Robbins) were engaged to process the material through a small, multiple spiral separator processing plant. (CNBM) Bengbu Design & Research Institute for Glass Industry Co., Ltd December 2018 completed bulk (0.35t) laboratory sample to determine the viability of the product as high value glass product which resulted in 78% recovery of a >99% SiO<sub>2</sub> raw sample to 99.9% SiO<sub>2</sub>.

Aerial survey data was sourced from a compilation of Geo Image photogrammetry and a Unmanned Aerial Vehicle (UAV) survey completed by Ausrocks which used DGPS ground completed by Veris Ltd Surveyors (Veris) to create a Digital Elevation Model (DEM) of the site in GDA94 (Zone 55) coordinate system on UTM Projection/Australian horizontal datum. The site resource estimation boundaries were determined using Surpac software (version 6.6.2) and Global Mapper GIS Software (version 20.1).



Diatreme has completed five separate stages of drilling programs on the site in various areas over the last two and a half years. Ausrocks have reviewed this data and selected valid relevant data to input for the resource assessment. Sufficient resource data has been obtained to enable a JORC compliant Indicated Resource. A total of 81 boreholes (air-core) were used as a main input to model the resource. This is an increase 31 boreholes from the initial inferred resource estimate, with twinned holes that were logged and tested at 1m increments replacing the previously drilled holes (i.e CB045 is replaced by CB045A) as there is more testing available for the twinned holes and hence a greater accuracy.

1. Figure 3.1 - Borehole Location Plan



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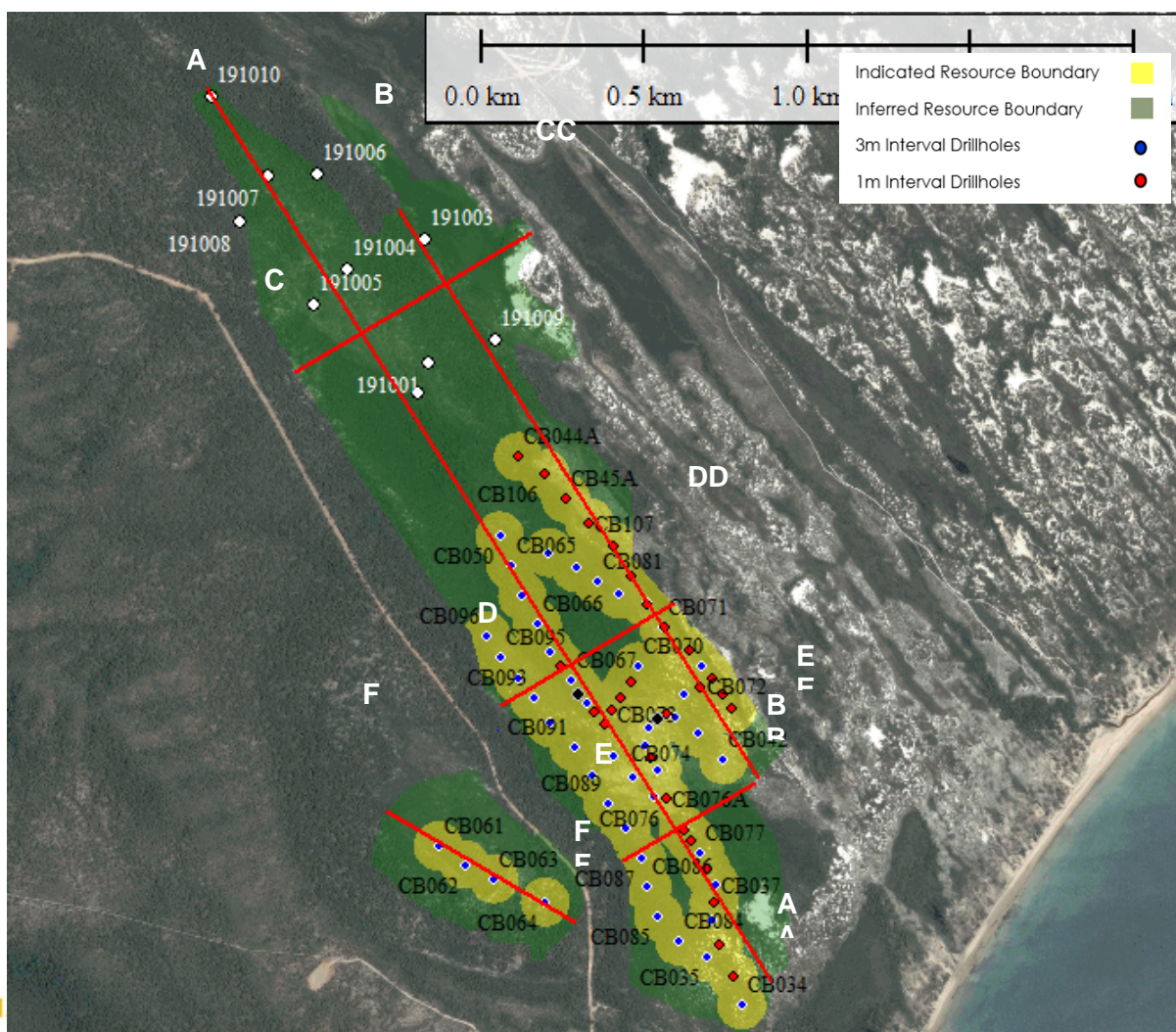
Ausrocks Resource Geologist and Competent Person, Brice Mutton has reviewed drill logs and chip tray photos. Ausrocks has reviewed chip tray samples held at Diatreme's head office. All collars were initially surveyed using a handheld GPS device and some surveyed using a Differential GPS with the eastings and northings used to generate an elevation according to the supplied topography.

### Resource Modelling

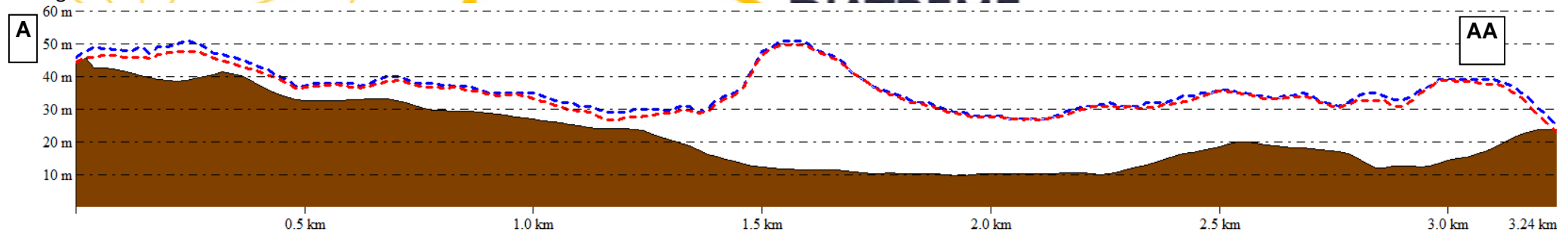
The easting northing, elevation of the resource intercept top and base were input in Surpac Software 6.6.2 and modelled using inverse distance interpolation method. It should be noted that the resource was defined as the material that could be blended to create high value silica sand products (>99%). Each of these surfaces were then turned into a Digital Elevation Model (DEM) which allowed volumes to be created between the two surfaces which were constrained by the resource boundary which was determined by:

2. Distance from drillhole to the north and east, with evidence suggesting the resource is open in both directions.
3. Intersection between base of resource and topography to the south.
4. 50m offset from the creek to the west of the resource.
5. Geological work and interpretation for this assessment ascribes a deposit averaging 11.8m in thickness, 3,300m in length and 700m width at East Nob Point and 650m in length and 400m width at West Nob Point both with slightly undulating floors. **Figure 4.1** shows the indicated and inferred resource boundary, drillholes and cross-section lines, with the cross-sections shown in **Figures 4.3-4.10**.

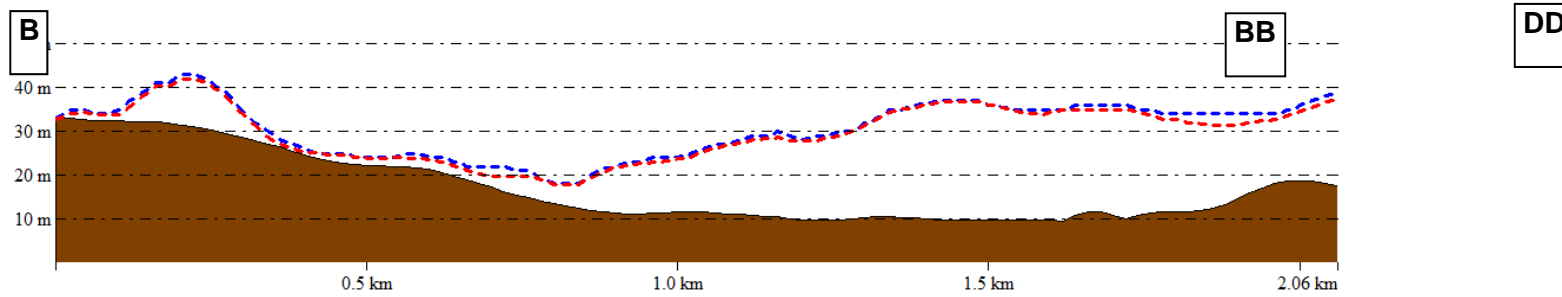
**Figure 4.1 - Cross Section Location**



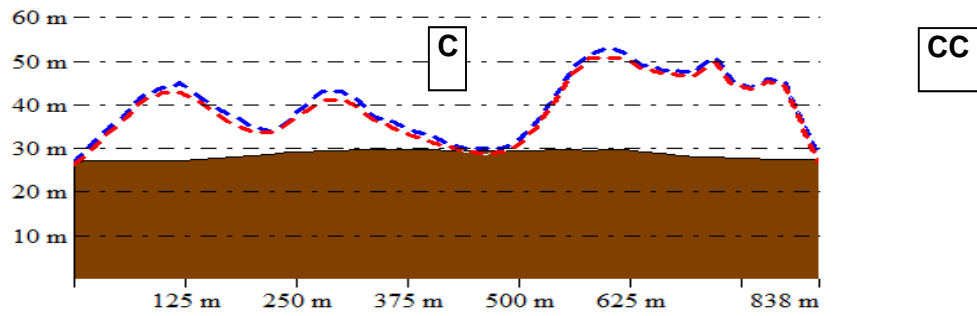
6. Figure 4.3 - Cross Section A-AA



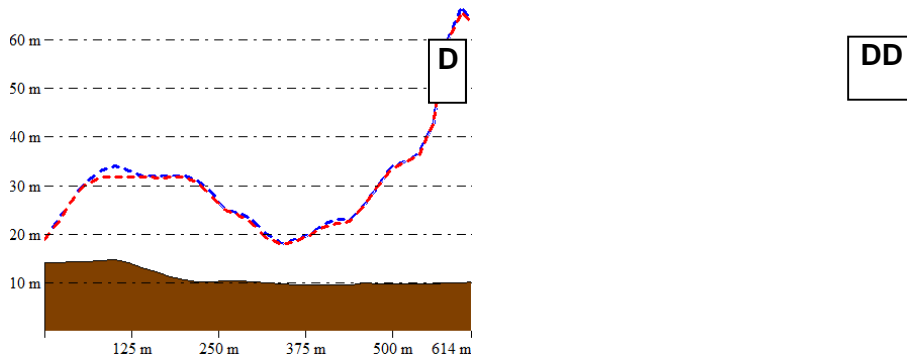
7. Figure 4.4 - Cross Section B-BB



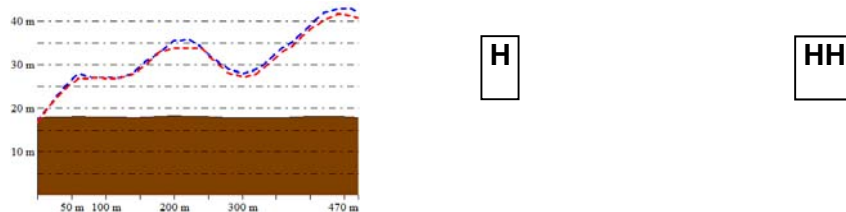
8. Figure 4.6 - Cross Section C-CC



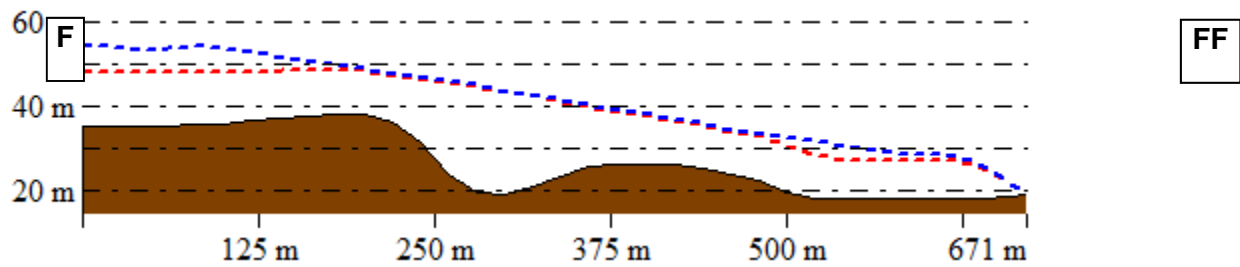
9. Figure 4.8 – Cross Section D-DD



10. Figure 4.9 - Cross Section H-HH



11. Figure 4.10 - Cross Section F-FF



12.

13. **Figures 4.3 – 4.6** show cross-sections through East Nob Point shows that the top of the resource predominantly follows the topography surface with an overburden thickness ranging from 0.3m to 12m with an average overall thickness of 1.0m. The base of the resource has been modelled to the drill depth of the holes, which were either stopped in a definite basement or when ground water pressure made aircore drilling difficult, slow and affected sample integrity. Auger holes were generally limited to 5m depth due to productivity constraints. This forms an undulating surface which varies in elevation approximately 28m over the strike length of 3,300m

14. Nob Point West cross-section is shown in **Figure 4.7** with the top of the resource also following the topography. The top of the resource ranges from a peak elevation of 48m to a low of 19.3m with an average resource thickness of 12.7m. The resource base undulates similarly to that of East Nob Point dune with the lowest point at 17.5mRL and a peak elevation of 38mRL, which is a variance of 20.5m over a 650m strike.





## Resource Cut-Off Grade

16. Due to the large amount of assay tests (1,197 within EPM) that have been completed on in-situ material and the three bulk material samples it was deemed that SiO<sub>2</sub> content by percentage would be used to quantify in-situ material as a resource. From the 81 drillholes that were used in the resource estimate the %SiO<sub>2</sub> (excluding the bottom of the hole which was contaminated with clays/indurated material) ranged from 98.25%-99.99%, with a weighted average by drillhole composite of 99.22% of all the assayed values. This data in conjunction with the bulk samples showing that >99% SiO<sub>2</sub> in-situ material could be processed into a >99.9% SiO<sub>2</sub> product meant that an overall **cut-off grade of >99% SiO<sub>2</sub>** was used for the JORC compliant Indicated and Inferred Resource Estimate.

## Resource Parameters and Assumptions

17. The following parameters and assumptions formed the basis for the Inferred Resource Estimate:
18. In-situ density of target material – 1.62 t/m<sup>3</sup>
19. Cut-Off grade material - >99% SiO<sub>2</sub>
20. Topography – Sourced from Geo Image photogrammetry survey and Ausrocks UAV drone survey with DGPS by Veris used as ground control.
21. Topsoil Thickness – 0.3m sourced from Cape Flattery topsoil thickness, anything that is less than 0.3m below the surface was excluded from the resource estimate.
22. Top and Base of Resource – This was determined by completing weighed averages of each 3m composites by ensuring the top composite tested and all in between down to the bottom of the hole had a weighed average >99% SiO<sub>2</sub> by blending. As previously stated the top could not exceed 0.3m below the surface (top soil) and the base was generally the bottom of the drillhole which either finished in clay or the water table was met.
23. No resource below the water table was considered, as the drilling method could not drill below this level and hence no data is available.
24. Resource Boundary was determined by modelling the top and bottom surface in SURPAC 6.6.1 and considering where the surface meets the topography and ensuring that the boundary was within 200m from the drillhole.
25. Grid Spacing used for interpolation – 20m by 20m grid.
26. Spatial Interpolation Method – Inverse Distance.
27. Further information contained the resource parameters and assumptions can be found in **JORC Table 1**.

## Sampling

All drill holes were photographed, logged and sampled by Ian Reudavey former Diatreme Chief Geologist or Neil Mackenzie-Forbes. These samples have been stored in clearly labelled chip trays which with bagged samples either remained stored onsite at Nob Point or in the Diatreme Head Office. For the Competent Person sign off, Ausrocks Senior Associate Geologist has reviewed and confirmed the logs previously completed by Reudavey and Mackenzie-Forbes which accurately reflect the sampling undertaken on the site. A summary of the drillholes used as part of the JORC compliant Indicated and Inferred Resource estimate is shown in Table 3.1, it should be noted that each hole was drilled with an Azimuth 0° and a Dip of -90°.

**TABLE 3.1 – GALALAR SILICA PROJECT DRILLHOLE DATA**

Drill ID	Easting (m)	Northing (m)	Collar RL (m) AHD	Intercept Top RL (m)	Intercept Bottom RL (m)	Thickness (m)	Hole Depth (m)
CB034	315,295	8,305,744	38.2	32.2	23.2	9	27
CB035	315,190	8,305,889	46.1	43.1	22.1	21	33
CB036	315,204	8,306,004	35.9	35.6	14.9	20.7	24
CB037	315,213	8,306,114	33.7	30.7	12.7	18	24
CB038A	315,115	8,306,281	35.5	35.2	17.5	17.7	18
CB039	315,036	8,306,465	41.7	41.4	20.7	20.7	30
CB040	315,011	8,306,592	43.4	43.1	10.4	32.7	36
CB041	315,089	8,306,624	45.7	45.4	9.7	35.7	36
CB042	315,239	8,306,495	46.1	45.8	25.1	20.7	27
CB044A	314,610	8,307,424	30.0	29.7	14.0	15.7	17
CB045A	314,759	8,307,295	29.4	29.1	12.4	16.69	18
CB046A	314,898	8,307,150	30.4	30.1	9.4	20.7	21
CB047A	315,001	8,306,972	36.7	36.4	9.7	26.7	27
CB048A	315,131	8,306,827	35.1	34.1	8.1	26	27
CB049A	315,237	8,306,696	34.0	33.7	10.0	23.7	24
CB050	314,554	8,307,180	44.8	44.5	11.8	32.7	36
CB051	314,623	8,306,997	34.4	34.1	10.4	23.7	27
CB052	314,707	8,306,824	31.1	30.8	10.1	20.7	24
CB053	314,820	8,306,666	33.1	32.8	9.1	23.7	24
CB054	314,904	8,306,507	29.3	29.0	17.3	11.7	18
CB055	315,024	8,306,383	34.3	34.0	22.3	11.7	24
CB061	314,365	8,306,231	49.0	48.7	28.0	20.7	24
CB062	314,446	8,306,174	44.3	44.0	26.3	17.7	21
CB063	314,536	8,306,130	38.6	38.3	26.6	11.7	15
CB064	314,693	8,306,059	29.5	2	17.5	11.7	15
CB065	314,587	8,307,091	37.2	36.9	10.2	26.7	27
CB066	314,668	8,306,909	32.2	31.9	9.2	22.7	23
CB067	314,774	8,306,736	31.3	31.0	10.3	20.7	21
CB068A	314,873	8,306,602	31.7	30.7	12.7	18	21



Drill ID	Easting (m)	Northing (m)	Collar RL (m) AHD	Intercept Top RL (m)	Intercept Bottom RL (m)	Thickness (m)	Hole Depth (m)
CB069A	314,920	8,306,684	26.4	25.4	7.4	18	19
CB070	314,979	8,306,780	20.7	20.4	8.7	11.7	12
CB071A	315,055	8,306,899	35.5	35.2	9.5	25.7	26
CB072	315,174	8,306,784	34.3	34.0	13.3	20.7	21
CB073	315,117	8,306,694	37.6	34.6	25.6	9	27
CB074	315,162	8,306,587	46.0	34.0	13.0	21	35
CB075	315,000	8,306,540	45.1	36.1	15.1	21	33
CB076A	315,062	8,306,375	36.0	35.7	17.0	18.7	26
CB077	315,168	8,306,208	35.1	34.8	17.1	17.7	21
CB078	314,961	8,306,442	33.4	33.1	18.4	14.7	17
CB079	314,703	8,307,129	32.2	31.9	11.2	20.7	21
CB080	314,788	8,307,083	31.6	31.3	10.6	20.7	21
CB081	314,853	8,307,040	30.8	30.5	6.8	23.7	24
CB082	314,920	8,307,001	34.4	34.1	10.4	23.7	24
CB083A	314,953	8,307,055	32.9	32.6	10.9	21.7	22
CB084	315,104	8,305,940	43.7	43.4	16.7	26.7	30
CB085	315,039	8,306,015	35.5	35.2	11.5	23.7	25
CB086	315,004	8,306,109	30.2	27.2	15.2	12	18
CB087	314,988	8,306,193	26.8	26.5	17.8	8.7	10
CB088	314,940	8,306,285	29.3	29.0	19.3	9.7	11
CB089	314,885	8,306,361	34.1	33.8	25.1	8.7	12
CB090	314,836	8,306,447	33.5	33.2	24.5	8.7	10
CB091	314,782	8,306,533	28.2	27.9	22.2	5.7	8
CB092	314,709	8,306,609	32.0	31.7	20.0	11.7	12
CB093	314,660	8,306,683	34.4	34.1	16.4	17.7	18
CB094	314,612	8,306,743	34.3	34.0	13.3	20.7	24
CB095	314,557	8,306,811	34.1	33.8	16.1	17.7	20
CB096	314,514	8,306,873	28.2	25.2	13.2	12	19
CB097	315,268	8,305,832	41.9	40.9	35.9	5	24
CB098	315,223	8,305,930	40.3	40.0	11.3	28.7	30
CB099	315,209	8,306,060	35.4	35.1	11.4	23.7	21
CB100	315,183	8,306,161	34.6	34.3	10.6	23.7	25
CB101	315,142	8,306,249	33.4	33.1	17.4	15.7	17
CB102	315,066	8,306,635	45.6	45.3	9.6	35.7	36
CB103	315,162	8,306,717	36.1	35.1	9.1	26	27
CB104	315,202	8,306,745	33.8	32.8	10.8	22	23
CB105	315,262	8,306,652	33.5	33.2	9.5	23.7	24
CB106	314,691	8,307,372	32.3	32.0	10.3	21.7	22
CB107	314,826	8,307,222	32.0	31.7	11.0	20.7	21
CB108	315,035	8,306,619	43.2	42.9	9.2	33.7	34





Drill ID	Easting (m)	Northing (m)	Collar RL (m) AHD	Intercept Top RL (m)	Intercept Bottom RL (m)	Thickness (m)	Hole Depth (m)
CB109	315,012	8,306,501	43.9	43.6	14.9	28.7	30
CB110	314,954	8,306,734	23.0	22.7	11.0	11.7	12
CB111	314,896	8,306,646	29.5	29.2	8.5	20.7	21
CB112	314,839	8,306,641	33.0	32.7	10.0	22.7	23
CB113	314,794	8,306,702	32.2	31.9	11.2	20.7	21
CB114	314,740	8,306,780	30.9	30.6	9.9	20.7	21
191001	314,334	8,307,712	32.6	31.6	28.6	3	5.7
191002	314,300	8,307,616	30.9	28.9	23.9	5	7.0
191003	314,323	8,308,091	37.3	36.3	32.3	4	5.0
191004	314,088	8,307,997	43.8	42.8	38.8	4	5.0
191005	313,985	8,307,887	29.1	28.1	24.1	4	5.0
191006	313,996	8,308,289	32.8	32.8	32.8	0	5.0
191007	313,844	8,308,281	47.0	45.0	42.0	3	5.0
191008	313,755	8,308,140	28.7	28.4	23.7	4.7	5.0
191009	314,542	8,307,781	26.8	26.5	21.8	4.7	5.0
191010	313,671	8,308,529	48.0	46.0	43.0	3	5.0
191011	315,036	8,306,618	43.2	42.9	41.2	1.7	6.0
191012	314,795	8,306,698	31.9	31.6	26.2	5.4	5.7



## Conclusions and Recommendations

With the additional drilling, logging, assay data and density checks the Inferred and Indicated Resource statements have been updated and is reflected in Table 6.1.

TABLE 6.1 – GALALAR SILICA PROJECT RESOURCE UPDATE JORC 2012

Area	Cut-off SiO <sub>2</sub> %	SiO <sub>2</sub> % Grade	Indicated (Mt)	Inferred (Mt)	Inferred & Indicated (Mt)
East Nob Point	99%	99.22%	20.2	14.4	34.6
West Nob Point	99%	99.16%	1.3	2.1	3.4
Total			21.5	16.5	38.0

*\*The above Table Notes Resource Estimate is current as of 11<sup>th</sup> of February 2020.*

Based on the resource continuity it has been determined that the current spacing at East Nob Point has been completed to a confirmatory status and with minimum work could be increased to a JORC Compliant Measured Resource.

The infill and twinned hole drilling program that was completed in November 2018, which was logged in 1m increments has used to validate the data that had been collected in previous drilling campaigns that were logged and assayed in 3m increments. With the resource at East Nob Point open towards the north and eastern sides and West Nob Point open to the North, there is an opportunity to significantly increase the resource across all geological confidence intervals (Inferred, Indicated, Measured). The additional assay data also revealed that there was very little correlation between the colour of the material and the SiO<sub>2</sub> percentage.

Density testing was completed on 55 samples with 1.62 t/m<sup>3</sup> used for the Indicated Resource Estimate. Based on the continuity of the samples it is deemed that the current density work that has been completed would suffice for any further JORC Compliant Resources or Reserves.

Moving forward in order to increase the size of the resource and to satisfy the requirements of the JORC code the following drilling/spacing should be used as a guideline:

- Inferred Resource Spacing: 300m x 300m drill spacing.
- Indicated: 150m x 150m drill spacing.

To increase a portion of the resource to Measured in accordance with the JORC Code the resource should be block modelled. This would allow further in-depth geostatistical analysis providing more accurate estimates of both grade and quantity of the material within the resource. This would also dovetail in with the requirements to eventually upgrade from a resource to a reserve in accordance with the JORC Code.

To increase the geological confidence interval for the Indicated Resource at East Nob Point drilling should be conducted in the following areas:

- North-Western Corner area near boreholes CB050, CB051 and CB065
- The area bounded by CB081, CB070 (N-S) and CB052, CB071 (W-E)
- Southern Lobe of Resource to better define the resource boundary.

**End – Ausrocks P/L – Resource Report Excerpt**



## Competent Person Statement

The information in this report that relates to Exploration Results and Resource Targets from the Cape Bedford Project is based on information reviewed and compiled by Mr. Neil Mackenzie-Forbes, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr. Mackenzie-Forbes is a director of Sebrof Projects Pty Ltd (a consultant geologist to Diatreme Resources Limited). Mr. Mackenzie-Forbes has sufficient experience which is relevant to 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Mackenzie-Forbes consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources is based on information compiled by Brice Mutton from Ausrocks Pty Ltd with modelling completed by Ausrocks Pty Ltd Mining Engineer Dale Brown who both have significant experience in Industrial Minerals and Quarry Resource assessments.

Brice Mutton has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity for 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 (The JORC Code)**.

Brice Mutton consents to the inclusion in the report on the matters based on their information in the form and context in which it appears. The corresponding JORC 2012 Table 1. is attached.

**Forward looking statements:** This document may contain forward looking statements. Forward looking statements are often, but not always, identified by the use of words such as "seek", "indicate", "target", "anticipate", "forecast", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Indications of, and interpretations on, future expected exploration results or technical outcomes, production, earnings, financial position and performance are also forward-looking statements. The forward-looking statements in this presentation are based on current interpretations, expectations, estimates, assumptions, forecasts and projections about Diatreme, Diatreme's projects and assets and the industry in which it operates as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made. The forward-looking statements are subject to technical, business, economic, competitive, political and social uncertainties and contingencies and may involve known and unknown risks and uncertainties. The forward-looking statements may prove to be incorrect. Many known and unknown factors could cause actual events or results to differ materially from the estimated or anticipated events or results expressed or implied by any forward-looking statements. All forward-looking statements made in this presentation are qualified by the foregoing cautionary statements.

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# JORC CODE, 2012 EDITION – TABLE 1 REPORT – GALALAR SILICA PROJECT

## INDICATED AND UPDATED INFERRED RESOURCE ESTIMATE.

### SECTION 1 SAMPLING TECHNIQUES AND DATA

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

Criteria	JORC Code explanation	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drilling samples range from 1m-3m down hole intervals of air-core drill cuttings collected from cyclone mounted rotary splitter, approximately 3-4kg (representing approximately 20% of drill material returned via the cyclone is sampled).</li> <li>• Hand Auger holes were sampled in 1m intervals with 3-4kg (representing 10% of drill material returned via the auger is sampled).</li> <li>• Sample was submitted to commercial laboratory for drying, splitting (if required), pulverization in tungsten carbide bowl, and XRF analysis.</li> <li>• Sampling techniques are mineral sands “industry standard” for dry beach sands with low levels of induration and slime.</li> <li>• As the targeted mineralization is silica sand, geological logging of the drill material is a primary method for identifying mineralization</li> <li>• Metallurgical samples are composited intervals of white and cream sands logged in drilling with collection of the entire volume of air-core drill cuttings from the cyclone/hand auger samples into large plastic samples bags.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>• <i>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).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Vertical NQ air-core drilling utilising blade bit, initially 3m runs were used for drilling campaigns in (September 2017, October 2017, April 2018 and June 2018) which was decreased to 1m increments the most recent drilling campaign (November/December 2018). Within the resource estimate there is 71 drillholes of which (1m increment 29 holes, 3m increment 42 holes).</li> <li>• Hand Auger holes were used in areas where access did not permit air core drilling. 12 Hand Auger Holes were used in the estimate.</li> <li>• Holes were terminated in a clay layer or when the water table was intersected.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>Whether a relationship exists between sample recovery and grade</i></li> </ul>	<ul style="list-style-type: none"> <li>• Visual assessment and logging of sample recovery and sample quality.</li> <li>• Reaming of hole and clearance of drill string after every 3m rod.</li> <li>• Sample chute cleaned between samples and regular cleaning of cyclone to prevent sample contamination.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i>	<ul style="list-style-type: none"> <li>No sample bias occurred between sample recovery and grade.</li> <li>The perimeter of the hand auger was excluded from the sub-samples to prevent cross-contamination.</li> </ul>
Logging	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>Geological logging of the total hole by field geologist, with retention of sample in chip trays to allow subsequent re-interpretation of data if required.</li> <li>The total hole is logged initially at 3m intervals which was decreased to 1m; logging includes qualitative descriptions of colour, grain size, sorting, induration and estimates of HM, slimes and oversize utilising panning.</li> <li>Logging has been captured through field drill log sheets and transferred through to an excel spreadsheet with daily update of field database and regular update of master database.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>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.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>Drilling samples rotary split on site (Approximately 20% subsample drilling, 10% hand auger), resulting in approximately 3 – 4kg of dry sample.</li> <li>Sample was coned and quartered to generate a 1-2kg sample for submission to the laboratory, with surplus retained as a reference sample.</li> <li>Sample size (3kg - 4kg) is considered appropriate for the grain size of material, average grain size (87% material by weight between 0.125mm and 0.5mm).</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>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.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>Drilling samples were submitted to ALS Townsville, where they were dried, weighed and split.</li> <li>Analysis was undertaken by ALS Brisbane utilising a Tungsten Carbide pulverization, ME-XRF26 (whole rock by Fusion/XRF) and ME-GRA05 (H<sub>2</sub>O/LOI by TGA furnace).</li> <li>Samples were assayed for SiO<sub>2</sub> and a range of heavy and other elements.</li> <li>Analysis undertaken determined by a sample code which correlates to drill logs to ensure no sample bias.</li> <li>Metallurgical samples were submitted to IHC Robbins for characterization testwork (screening, de-sliming, sizing, HLS and</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>XRF analysis) and wet-tabling (two stage).</p> <ul style="list-style-type: none"> <li>• Testing undertaken by Qinfeng Mining Co Ltd (QMCL) in China, on selected samples, followed their established commercial practice, and were reported to a format provided by Diatreme for review and interpretation.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>• The verification of significant intersections by either independent or alternative company Personnel.</li> <li>• The use of twinned holes.</li> <li>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>• Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>• Significant intersections validated against geological logging and local geology/ geological model.</li> <li>• 12 drill holes were twinned with sampling and logging undertaken in 1m increments which were used to validate the 3m sample and drill increments that have been previously completed.</li> <li>• 2 auger holes were twinned with drillholes to show correlation.</li> <li>• All data captured and stored in both hard copy and electronic format.</li> <li>• No assay data had to be adjusted.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• All holes initially located using handheld GPS with an accuracy of 5m for X, Y.</li> <li>• UTM coordinates, Zone 55L, GDA94 datum.</li> <li>• Contract registered surveyor from Veris Ltd used a differential GPS to pick up drillhole Easting, Northing and Elevation values for holes within the resource area.</li> <li>• Topographic surface generated from processing Geoimage imagery and DGPS control points, collar RL's leveled against this surface to ensure consistency in the database.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Drill lines were completed at approximately 100m spacing along the prepared access tracks, with holes drilled at approximately 75m along the lines.</li> <li>• Drill spacing, and distribution is sufficient to allow valid interpretation of geological and grade continuity for an Inferred Mineral Resource and an Indicated Mineral Resource where specified.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• The dune field has ridges dominantly trending 320° - 330°.</li> <li>• The drill access tracks typically run along or sub-parallel to dune ridges which suggest unbiased sampling, some cross-dune tracks linking the ridges were also drilled.</li> <li>• Silica deposition occurs as windblown with angle of rest approximately 35° (Nob Point East). Drilling orientation is appropriate for the nature of deposition.</li> </ul>
Sample	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Sample collection and transport from the field was undertaken by</li> </ul>



Criteria	JORC Code explanation	Commentary
<i>security</i>		<p>company Personnel following company procedures.</p> <ul style="list-style-type: none"> <li>• Samples were put into plastic bags, which were labelled and put into canvas sample bags and sealed prior to being sent off to ALS Townsville.</li> <li>• Samples were delivered direct to ALS in Townsville.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The updated Inferred Resource Estimate is based on updated geological and geochemical data which were used to validate and audit the original Inferred Resource Estimate.</li> <li>• Reviews were conducted internally by Diatreme Ltd and third-party consultants Ausrocks Pty Ltd. And they were found to be consistent.</li> </ul>

## SECTION 2 REPORTING OF EXPLORATION RESULTS

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Galalar Silica Project occurs within EPM17795 in Queensland and is held by Diatreme Resources Ltd. It should be noted that previously this project has been referred to as Cape Bedford Silica Project. The name of the project was changed to reflect the land owner agreement with the Hopevale Congress Aboriginal Corporation in 2018.</li> <li>• The tenement is in good standing.</li> <li>• A compensation and conduct agreement along with a cultural heritage agreement is in place with the landholder and native title party (Hopevale Congress).</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Previous exploration has been carried out in the area during the 1970's by Ocean Mining and 1980's by Breen Organisation.</li> <li>• The historical exploration data is of limited use since it comprises shallow hand auger drilling and is typically not accurately located.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The geology comprises variably re-worked aeolian sand dune deposits associated with Quaternary age sand-dune complex.</li> <li>• Mineralisation occurs within aeolian dune sands.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>• <i>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:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• A tabulation of the material drill holes is attached to this JORC Table 1, as required by the Table 3.1.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>metres) of the drill hole collar</i></p> <ul style="list-style-type: none"> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> <ul style="list-style-type: none"> <li>● <i>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.</i></li> </ul>	
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>● <i>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.</i></li> <li>● <i>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.</i></li> <li>● <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>● Downhole compositing of samples using weighed averages of Silica content and interval length to determine floor and ceiling of material that exceeded 99% SiO<sub>2</sub> content.</li> <li>● No minimum or maximum grade truncations have been used.</li> <li>● The grade is highly consistent, and the aggregate intercepts use a simple arithmetic average.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>● <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>● <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>● <i>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').</i></li> </ul>	<ul style="list-style-type: none"> <li>● As the mineralisation is associated with aeolian dune sands the majority sub-horizontal, some variability will be apparent on dune edges and faces.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>● <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>● A map of the drill collar locations is incorporated with the main body of the report. Representative cross-sections have been attached within the main body of this report.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>● <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>● All relevant exploration assay results have been reported.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>● <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>● Geological observations are consistent with aeolian dune mineralisation.</li> <li>● Groundwater was intersected during drilling at the base of holes, as expected given the dune complex is an aquifer and drilling was undertaken to considerable depth.</li> <li>● The mineralisation is unconsolidated sand.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>IHC Robins completed a bulk (1.8t) laboratory sample to determine viability of product through a one stage of Mineral Technologies MG12 spiral, which yielded 99.9% SiO<sub>2</sub> at 88% recovery.</li> <li>(CNBM) Bengbu Design &amp; Research Institute for Glass Industry Co., Ltd December 2018 completed bulk (0.35t) laboratory sample to determine the viability of the product as high value glass product which resulted in 78% recovery of a &gt;99% SiO<sub>2</sub> raw sample to 99.9% SiO<sub>2</sub>.</li> <li>There are no known deleterious substances.</li> <li>1197 %SiO<sub>2</sub> assays were completed on downhole composites over various drilling programs.</li> <li>Qinfeng Mining Co Ltd (QMCL) have conducted initial small-scale evaluations that demonstrated the suitability of some of the raw sand to be processed by additional chemical treatment to produce an upgrade, low iron high value product.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>The areas of possible extensions are to the north and east of the existing resource boundary which is constrained based on drilling data. Area's to the west (west of Alligator Creek) have shown potential.</li> <li>Additional drillholes that have been detailed in the conclusion of the report should be completed as part of the next campaign of drilling.</li> </ul>

### 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
<i>Database integrity</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Data validation procedures used.</i></li> </ul>	<ul style="list-style-type: none"> <li>The database was originally constructed by Diatreme Resources and provided to Ausrocks in various file formats. Ausrocks reformatted these databases into appropriate file formats checking that assay results matched the documents provided from the respective laboratories and the logs aligned with the chip tray samples.</li> <li>Scoping of areas of resource that may be suitable for production of higher value products.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> <li><i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>No site visits have been undertaken by the Competent Person, but Ausrocks Pty Ltd representative (Mining Engineer/SURPAC Modeler) has visited the site as a quality assurance/quality control exercise.</li> <li>Each drillhole was logged, sampled, photographed and kept in chip trays. The photographs and chip trays were investigated by the</li> </ul>

Criteria	JORC Code explanation	Commentary
		Competent Person to verify the previous logs.
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <li>• <i>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</i></li> <li>• <i>Nature of the data used and of any assumptions made.</i></li> <li>• <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></li> <li>• <i>The use of geology in guiding and controlling Mineral Resource estimation.</i></li> <li>• <i>The factors affecting continuity both of grade and geology.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Indicated and Inferred Resource Estimate was calculated for a bulk mining operation where all material between two surfaces will be extracted and processed. The current drill hole spacing with the currently available analytical testing is sufficient to identify a large volume of sand which could be processed to produce a high-grade silica sand product.</li> </ul>
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The resource boundary that has been formed is approximately 3.3km in length and 700m at its widest point at East Nob Point and 650m in length and 400m at it's widest point at West Nob Point.</li> <li>• Nob Point East the top of the resource predominantly following the topography, the top of the resource at its highest point is 65.8 mRL to the lowest at 13.8mRL. Depths to the resource (overburden thickness) depth range from 0.3m to 12m with an average</li> <li>• depth of 1.0m. Nob Point West also had the top of the resource follow the topography the resource at its highest point is 48m with a low of 19.3m.</li> <li>• The base of the resource at East Nob Point ranges from 35.4mRL to 7.2mRL. The surface is relatively flat with a variation of 28.2m over 3,300m of strike. West Nob Point the base ranges from 38mRL to 17.5mRL, which has a 20.5m change in elevation over the 650m strike.</li> <li>• Average thickness of the resource within the boundary is 11.8m at East Nob Point (Hand Auger holes limited to 5m in depth, potential for resource to be thicker in these areas when air core drill is used) and 12.7m at West Nob Point.</li> </ul>
<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li>• <i>The assumptions made regarding recovery of by-products.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The resource layers were determined using an inverse distance analysis to the power of 2. With a 50m by 20m grid spacing with the major axis aligning with the dune orientation at 330°. Minimum amount of holes that influenced interpolation were 2 with a distance of interpolation set to 400m. To determine the resource boundary, the top and bottom layers were intersected with the topography surface.</li> <li>• Check estimate completed through changing of grid orientation and spacing when modelling the deposit.</li> <li>• No deleterious elements were detected during the testing which was compiled.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• <i>Estimation of deleterious elements or other non-grade variables of economic significance (eg Sulphur for acid mine drainage characterisation).</i></li> <li>• <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li>• <i>Any assumptions behind modelling of selective mining units.</i></li> <li>• <i>Any assumptions about correlation between variables.</i></li> <li>• <i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li>• <i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li>• <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No block modelling was completed as part of this resource estimate.</li> <li>• Grade cutting or capping was not applicable as no SiO<sub>2</sub> values exceeded 100%.</li> <li>• There was an assumption that an increase in AlO<sub>2</sub> levels and moisture content indicated that the base material was clay, which indicated that this is the bottom of the hole and this was excluded from the resource estimate.</li> <li>• The base and the top of the resource we determined by the silica assays completed on the 3m intervals originally and from the most recent drilling program this is in 1m intervals. The maximum amount of material was classified as product that could be blended to ensure the grade was in excess of 99% silica. These heights were loaded into SURPAC 6.6.1 and modelled using an inverse distance interpolation technique.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>• <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Moisture content testing has been conducted on 8 holes which were logged in 1m intervals with samples sealed within plastic bags and then placed in canvas sample bags and were sent to ALS Townsville.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>• <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A cut-off grade of 99% silica was used to classify the Indicated and Inferred Resource Estimate.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• It is expected that a truck/shovel or dozer push to conveyor mining method would be selected subject to additional reviews which the deposit size does not constrain either of these methods. The resource was also limited to above the water table to make both of these mining methods plausible.</li> <li>• Dilution was not considered in the resource estimate. In some holes there was additional resource below the &gt;99% silica floor which is slightly lower grade material and would only marginally dilute the product.</li> <li>• Based on the sample assays and geological logs, the top 0.3m of the deposit has been excluded from the resource estimate as it is assumed that this would be a soil and vegetation layer and would be scalped when mining the deposit.</li> </ul>
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>• <i>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions</i></li> </ul>	<ul style="list-style-type: none"> <li>• Down hole sample compositing was undertaken to generate a single bulk sample for holes CB037, CB038, CBO047, CB048, CB053 and CB054 was completed as part of the exploration target with infill drilling and samples on downhole composites completed for the</li> </ul>

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	<p><i>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.</i></p>	<p>Inferred Resource.</p> <ul style="list-style-type: none"> <li>• It is assumed that the feed material for the proposed processing plant be in excess to 99% SiO<sub>2</sub>. IHC Robins completed a bulk (1.8t) laboratory sample to determine viability of product through a one stage of Mineral Technologies MG12 spiral, which yielded 99.9% SiO<sub>2</sub> at 88% recovery.</li> <li>• (CNBM) Bengbu Design &amp; Research Institute for Glass Industry Co., Ltd December 2018 completed another bulk (0.35t) laboratory sample to determine the viability of the product as high value glass product which resulted in 78% recovery of a &gt;99% SiO<sub>2</sub> raw sample to 99.9% SiO<sub>2</sub>.</li> <li>• Qinfeng Mining Co Ltd (QMCL) demonstrated in small-scale the potential to increase the value of final product through additional chemical processing.</li> <li>• As this is an Inferred Resource estimate no metallurgical factors were considered in the resource calculation, with the bulk testing showing that &gt;99% SiO<sub>2</sub> raw feed material is a suitable cut-off grade to produce a 99.9% SiO<sub>2</sub> processed material.</li> </ul>
<p><i>Environmental factors or assumptions</i></p>	<ul style="list-style-type: none"> <li>• <i>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Due to the high-grade nature of the deposit it is expected that there will be minimal tailings produced through processing and thus minimal disposal.</li> <li>• Environmentally sensitive areas have been excluded from the resource area.</li> <li>• There is a 50m offset either side of Alligator Creek which bisects East Nob Point and West Nob Point.</li> </ul>
<p><i>Bulk density</i></p>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> <li>• <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<ul style="list-style-type: none"> <li>• 55 density samples have been undertaken on site using a Dormer Push Tube. The in-situ density of 1.62 t/m<sup>3</sup> was an average of the samples across the deposit and was used to calculate the Indicated and Inferred Resource estimate. Both are reported as in-situ densities with the natural moisture profile not yet determined, with further testing required to determine the dry density if/when the resource is taken to a JORC compliant reserve. DRX maintain a Bulk Density sampling procedure.</li> </ul>

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<i>Classification</i>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li><i>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).</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>The deposit has an Inferred Resource Estimate of 16.5Mt and an Indicated Estimate of 21.5Mt. Total Inferred and Indicated Resource of 38.0Mt</li> <li>The most recent drilling campaign using 1m increments for logging and sampling through the continuity of the twinned holes to those previously drilled in 3m increments shows an appropriate correlation. Over 1,100 geochemistry samples have been taken to accurately show correlation between drillholes.</li> <li>The result accurately reflects the Competent Person's view of the deposit.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>This updated Inferred Resource Estimate and a Indicated Resource Estimate. The Inferred Resource Estimate, which has been completed by separate Competent Persons and reviewed internally by Ausrocks Pty Ltd.</li> </ul>
<i>Discussion of relative accuracy/confidence</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>It is the opinion of the Competent Person that the relative accuracy and confidence level in both the Inferred and Indicated Resource Estimate is adequate, given the drill density and continuity of geochemical samples.</li> <li>The Inferred and Indicated Resource boundary is tightly constrained based on the drill density.</li> <li>No production data is available at present as this is a Greenfields project. However Cape Flattery Silica Mine lies in the same adjoining coastal dunes immediately to the North, suggesting potential viability.</li> </ul>