ASX ANNOUNCEMENT

QUARTERLY ACTIVITIES REPORT

FOR THE PERIOD ENDED 31 DECEMBER 2020

29 January 2021

Quarterly Highlights

Galalar Silica Project, Qld

- Following first public comment period, final terms of reference issued by Queensland Government for Galalar Silica Project's EIS; draft EIS underway as Diatreme advances stakeholder engagement, including opening of community office in Hopevale
- Diatreme targeting final environmental approvals and Mining Lease in Q4 CY2021, with potential first production in 2022 amid strong demand from solar PV market for high-quality, low iron silica product
- Post-quarter: Galalar EIS study progresses with installation of groundwater monitoring bores; drilling programs to commence in mid-late Q1 CY2021, targeting further resource expansion at high priority silica sand areas near Cape Flattery

Cyclone Zircon Project, WA

- Talks continuing to formalise potential project participants' interests amid solid demand and constrained supply outlook for zircon and titanium.

Corporate

- Funds raised under a Placement and SPP amounted to circa $7.1m, with new institutional investors added to the register supportive of Diatreme's strategy targeting production in 2022

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COMING MARCH QUARTER ACTIVITIES

Diatreme's operational focus for the March quarter 2021 comprises the following:

- **Galalar Silica Project**

  - Further detailed terrestrial and marine studies in preparation for the lodgement of environmental approvals (EIS);
  - Further bulk product testing and product development targeting high end premium silica products;
  - Further transhipment and logistics studies targeting most economical options for project with minimal environmental impact;
  - Further engagement with project partners, Hopevale Congress, affected native title holders and relevant regulatory/government agencies to advance project approvals and preferred logistics solution;
  - Progression towards formalised offtake or marketing agreements;
  - Further bulk sampling and testing for resource upgrades and mine planning for definitive feasibility study (DFS).

- **Cyclone Zircon Project**

  - Assemble optimum mix of commercial parties to facilitate project's development or divestment, amid rising demand for zircon and titanium products.

GALALAR SILICA PROJECT, QLD

The December quarter 2020 saw further progress at Diatreme's Galalar Silica Project, with the North Queensland project seen capable of making a major contribution to the Hope Vale/Cooktown region's post-pandemic recovery, based on its ability to supply premium silica sand product to Asia's fast-growing solar PV market.

Highlighting investor confidence in the Galalar project's potential, Diatreme launched a capital raising in October 2020, comprising a placement and SPP, to help advance the project through permitting and approvals. Both the placement to sophisticated and institutional investors and the subsequent SPP received strong support amid rising demand for the project's premium quality silica product from Asia's solar PV industry (refer "Corporate" for details of the capital raising).

Work continued during the quarter to advance Galalar's regulatory approvals, with the Company intensifying its engagement with key stakeholders including the traditional owner representatives, Government and other members of the community.

In November, Diatreme received the final terms of reference (ToR) for the project's EIS study from the Queensland Government following a public submission and comment period. A total of 51 submissions were received on the draft ToR by the close of the public submission period in September 2020, with each submission reviewed and considered by both the Queensland Department of Environment and Science (DES) and Diatreme. The submissions received were from government agencies, community members, traditional owner groups and other stakeholders.

The final ToR issued by the Queensland Government incorporated feedback from these submissions together with tailored requirements concerning specific matters for investigation identified by DES and the Australian Government's Department of Agriculture, Water and Environment (DAWE) related to Matters of National Environmental Significance, as the lead agencies for the EIS assessment process.

Stakeholder engagement

Stakeholder consultation and engagement ramped up on the project, with Diatreme establishing a local project office in Hope Vale for community consultation, including with project partners, Hopevale Congress Aboriginal Corporation (RNTBC), and directly affected native title holders. The purpose of the local office is to discuss the project with the local community, receive feedback and disseminate relevant project information.

Engagement also continues with a range of government agencies and authorities relevant to the project, including the Hope Vale Aboriginal Shire Council and Cooktown Shire Council.

Technical studies to support the draft EIS also advanced, with detailed studies and field work including the following:

* Design and layout of the mine site
* Hydrogeology and surface water
* Terrestrial ecology
* Coastal processes and marine ecology
* Visual amenity
* Social Impact Assessment (SIA)
* Cultural heritage
* Air, noise and climate change impacts.

As part of these studies, a rigorous analysis of options for export of the silica product has been undertaken as well as the review of feedback from stakeholders and the community on the different export options.

Logistical solution

The Company's preferred logistical solution comprises a new barge ramp and barge operations at Nob Point near the proposed mine site, which would minimise environmental and community impacts.

The proposed barges at Nob Point would be either unloaded into an ocean-going vessel that is anchored directly offshore from the barge ramp at Nob Point; or routed to the north to the Port of Cape Flattery and unloaded to an ocean-going vessel situated at a designated anchorage site within the port limits (which are excluded from the State and Federal marine park).

The silica product likely will be fully containerised (or similarly contained in a way that prevents the material from escaping the container or vessel) to further minimise any environmental impacts and also satisfy the Government's new transhipping regulations.

The barge ramp infrastructure could also be designed and co-located with a public boat ramp that can be used by the local community to support a range of recreational, tourism, cultural, and scientific research activities.

These optimisations have been adopted to ensure the project satisfies the intent of the Government's policy regarding the Great Barrier Reef World Heritage Area and to ensure the project has a negligible impact on the "Outstanding Universal Values" of the Reef.

Post-quarter, in January 2021 Diatreme announced the successful completion and installation in late December 2020 of 12 groundwater monitoring bores. The new bores will facilitate the detailed hydrogeological studies and baseline water quality assessments required for the EIS process.

The first stage of the groundwater monitoring program was completed using both Diatreme's air-core drill rig and a specialist water bore rig from FNQ Drilling and a registered water bore driller. Leading independent technical services firm Golder Associates Pty Ltd (Golder) supervised the technical component of the monitoring and will monitor groundwater movements following the start of the regional wet season in January/February 2021.

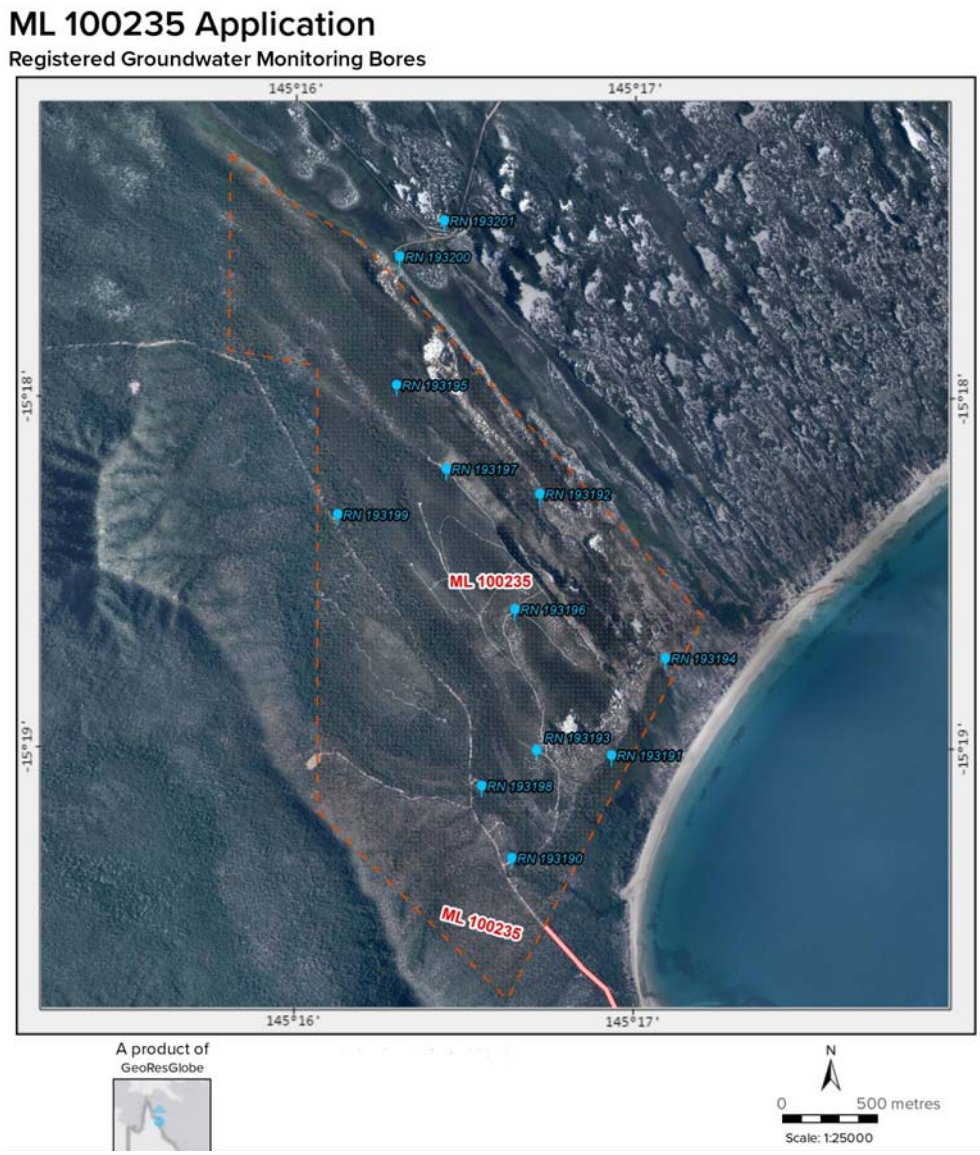

Figure 1: Groundwater monitoring bore locations

Expected timelines and next steps EIS and permitting process

The reports from the EIS studies will form chapters of the draft EIS document, which will be prepared over the first half of calendar 2021 prior to lodgement of the draft EIS document with DES and DAWE for its adequacy and consistency with the final ToR requirements.

Once the draft EIS has been deemed to be satisfactory by DES and DAWE, another round of public input will commence and if necessary, the draft EIS will be revised or supplementary studies undertaken. At that time, assessment of state and Commonwealth matters will be undertaken under the Queensland/Commonwealth bilateral agreement.

Following approval of the EIS, Diatreme will then proceed to finalise the Environmental Authority (EA) which, together with the mining lease (ML) that was applied for in December 2019 and various operational works approvals, will permit the project to commence. Diatreme is currently targeting receiving the final environmental approvals and Mining Lease in the fourth quarter of 2021, with potential first production in 2022.

A shortage of glass for solar panels has seen a 71% price increase in such product since July, according to *Bloomberg*, while the industry is also turning towards the use of bifacial panels, which increase both power output and glass requirements. Such panels are expected to comprise around half the market in 2022, up from around 14% in 2019, according to the November 2020 report.

Further resource expansion

In January 2021, Diatreme announced plans to explore two high priority silica sand areas near Cape Flattery, with the potential for further resource expansion at the Galalar project (refer ASX release dated 25 January 2021) .

The new targets are located near the Mitsubishi-owned Cape Flattery mine, the world's largest operating silica mine, and its associated infrastructure such as port access. Significantly, these dunes could add significant silica sand to the current resource at Galalar.

Figure 2: Cape Flattery target locations (Note: All targets are within the DRX granted EPM 17795)

Table 1: Priority Targets

Target Name	Volume (m3)	Density	Tonnage (t)	Priority
Casuarina Hill	10,000,000 to 75,000,000	1.62	16 to 120 Mt	1
Si Target 2	276,124,064	1.62	100 to 500 Mt (447,320,984)	1
Si Target 1	531,704,720	1.62	100 to 1,000 MT (861,361,646)	2
Casuarina West	13,128,010	1.62	10 to 20 Mt (21,267,376)	2
Wraight West	27,466,886	1.62	20 to 45 Mt (44,496,355)	3
Total			**250 to 1,685 MT (1,391,000,000)**	

Note: The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration completed to date to estimate a Mineral Resource in accordance with the JORC 2012 Edition Guidelines. It is uncertain if further exploration will result in the estimation of a Mineral Resource.
Cautionary Statement: An Exploration Target is a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade (or quality), relates to mineralisation for which there has been insufficient exploration to estimate a Mineral Resource.

Diatreme is currently finalising detailed planning and site access programs to mobilise this program at the end of the first quarter 2021 (following the end of the wet season).

Priority 1 Target - Casuarina Hill

The Casuarina Hill target is located at the southern end of the large parabolic dune system currently being mined by Mitsubishi. The target sand dune is expected to have comparable in-situ quality and is favourably located concerning access to existing port infrastructure.

Figure 3: Casuarina Hill target area

Priority 1 Target - Silica Target 2

The large parabolic sand dune has a length of 6.5km and width between 1.5 and 2 km. It is one of the largest and highest in the Cape Flattery dune field.

Two samples were collected by Diatreme in 2019 following a regional preliminary exploration program from the exposed dune in the SE corner and returned >99% SiO_2. These results suggested the aerially large dune system contains the targeted high purity silica sand and could potentially host a large and significant occurrence of high purity silica sand.

In September 2020, Diatreme announced results of a drilling program comprising 44 air-core drill holes for 835m (refer ASX release 22 September 2020). New holes in the southern section encountered deeper sections of silica sand than expected, indicating the potential for an increased resource in this area.

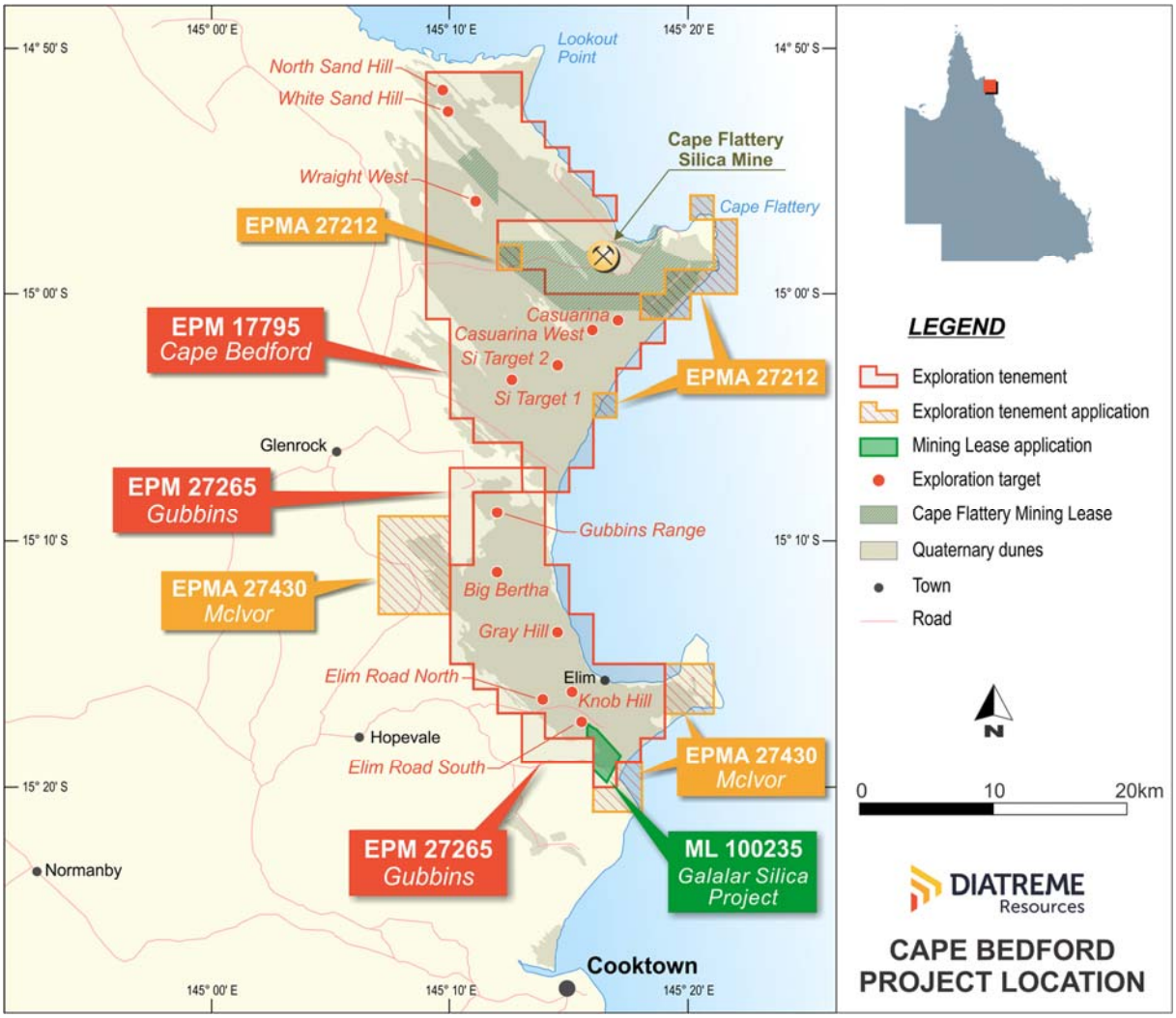

Figure 4: Galalar Silica Project location including exploration tenements and applications

CYCLONE ZIRCON PROJECT, WA

Diatreme continued discussions during the quarter with potential project participants with the aim of maximising shareholder value from the Cyclone project.

The Company continues to strive actively to ensure an appropriate project value and shareholder return is achieved from any potential third-party project interest.

However, there is no question in 2020 the restrictions imposed on international travel has hampered the ability for interested offshore parties to complete site due diligence visits to the proposed mine site and allow finalisation of potential offers into more binding arrangements.

Constrained supply of high-grade zircon and solid demand still underpin the project's fundamentals, with the global economy projected to pick up speed in 2021 as COVID-19 vaccines are distributed worldwide and recovering economies drive ambitious growth targets that focus on infrastructure driven programs.

Cyclone's principal products of zircon and titanium remain linked to economic and construction activity generally and have significant uses in renewables (wind, solar, nuclear, batteries) which remain an important priority in increasingly decarbonised world economies.

Diatreme continues to actively examine the potential for Cyclone's holding vehicle, Lost Sands Pty Ltd to be annexed into a separated process (potentially not dilutionary to Diatreme shareholders) to unlock value. The Company is advanced in discussions to assemble this and other potential project development options concurrently with its other existing initiatives and will keep the market fully informed when these potentially transition to a more formally documented process.

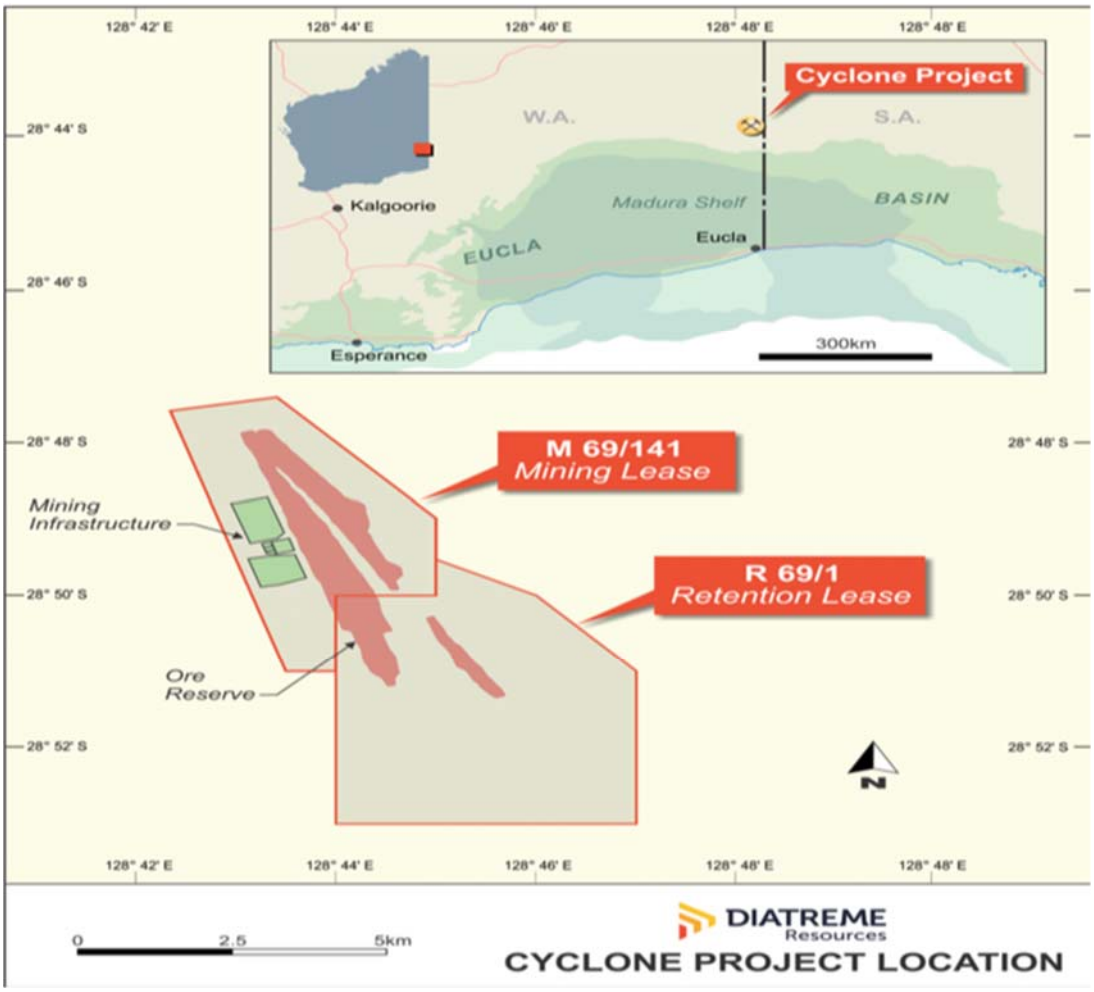

Figure 5: Cyclone Project location

CLERMONT COPPER PROJECT, QLD

Diatreme management and external consultants continue to review the Clermont Copper Project, particularly the Rosevale Porphyry Corridor, to determine its potential for further exploration, disposal or joint venture.

CORPORATE

In October 2020, Diatreme announced a placement of $4.64 million (before costs) to new and existing sophisticated and institutional investors, including cornerstone shareholder Ilwella Pty Ltd, which subscribed for $1.65m. The placement comprised approximately 464 million fully paid ordinary shares at an issue price of $0.01 per share (Placement), with the funds raised to be used towards the Company's Galalar Silica Project in North Queensland, costs of the capital raising and working capital.

On 10 November, Diatreme announced the successful completion of the SPP, which closed on 5 November. The SPP closed strongly oversubscribed, with applications received for around $4 million worth of DRX shares from eligible shareholders, requiring a scale back of applications. A total of 253 million shares were issued pursuant to the SPP to raise $2.53m, a significant increase on the original target of $0.5m.

Total funds raised under the Placement and SPP amounted to around $7.1m (before costs), an extremely positive outcome for the Company.

Diatreme also advanced its engagement with investors during the quarter, including participating in the Noosa Mining and Exploration Investor Conference in November 2020. A copy of the presentation is available via Diatreme's website, while a recording of the presentation can be obtained via this link: https://bit.ly/3666DcY

During the quarter the Company made payments totaling $117k to related parties and their associates representing Directors' remuneration and specialist market and consultancy services.

The Company's cash position as at 31 December 2020 totaled $5.8m.

This announcement was authorised for release by:

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MINERAL SANDS AND SILICA - COMPETENT PERSON STATEMENTS

The information in this report that relates to Mineral Resources at the Cape Bedford Project (including the Galalar Silica Project) is based on information compiled by Bryce Mutton from Ausrocks Pty Ltd who has significant experience in Industrial Minerals and Quarry Resource assessments.

Bryce 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). Bryce 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 information in this report that relates to Exploration Results and Exploration 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, insofar as it relates to Mineral Resources at the Cyclone Project is based on information compiled by Mr Ian Reudavey, who was a full time employee of Diatreme Resources Limited and a Member of the Australian Institute of Geoscientists. Mr Reudavey has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 Edition of 'The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Reudavey consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this report, insofar as it relates to Ore Reserves at the Cyclone Project is based on information compiled by Mr Phil McMurtrie, who is a director of Tisana Pty Ltd (a consultant to Diatreme Resources Limited), and a Member of the Australasian Institute of Mining and Metallurgy. Mr McMurtrie has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 Edition of 'The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr McMurtrie consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

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APPENDIX 1

Appendix 1 provides information required under ASX listing rule 5.3.3 for mineral exploration entities.

Interest in mining tenements at end of quarter

State	Tenement Name	Tenement ID	Status	Location	Interest	Holder
WA	Cyclone	M69/141	Granted	Eucla Basin	100%	LSPL
WA	Cyclone Extended	R69/1	Granted	Eucla Basin	100%	DRX
QLD	Clermont	EPM17968	Granted	Clermont	100%	CHAL
QLD	Cape Bedford	EPM17795	Granted	Hopevale	100%	DRX
QLD	Cape Bedford	EPM27265	Granted	Hopevale	100%	DRX
QLD	Cape Bedford	EPM27212 EPM27430	Applications	Hopevale	(Pending)	DRX
QLD	Cape Bedford	ML100235	Application	Hopevale	(Pending)	DRX

Beneficial percentage interests held in farm-in or farm-out agreements at end of quarter

State	Project Name	Agreement Type	Parties	Interest held at end of quarter	Comments
WA	Cyclone Zircon Project	Farm-out Heads of Agreement	LSPL and Perpetual Mining Holding Limited	94%	HoA announced Jan 2014, initial 6% farm-out completed 18 Sept 2014 – Subject to dilutionary non-contribution clauses.

Abbreviations:

M	Western Australia	Mining Lease	DRX - Diatreme Resources Limited
R	Western Australia	Retention Licence	CHAL – Chalcophile Resources Pty Ltd
EPM	Queensland	Exploration Permit for Minerals	LSPL – Lost Sands Pty Ltd
ML	Queensland	Mining Lease	