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Application for approval of a plan of work for exploration for polymetallic nodules by Ocean Mineral Singapore Pte. Ltd.

Executive Summary*

Introduction of Ocean Mineral Singapore Pte. Ltd.

1. Ocean Mineral Singapore Pte. Ltd. (OMS), a Singapore incorporated company, under the sponsorship of the Government of Singapore, is pleased to submit the present application to the International Seabed Authority for the approval of a plan of work for exploration for polymetallic nodules.
2. OMS is a subsidiary of Keppel Corporation Limited (Keppel). Keppel is a Singapore company listed on the Singapore Exchange since 1980, with a market capitalization of US\$ 16 billion as at end December 2012. Keppel and its group of companies (Keppel Group) is a Singapore multinational conglomerate with businesses in offshore and marine, infrastructure and property development. The Keppel Group employs in excess of 40,000 employees in over 30 countries around the world, with about half based in Singapore.
3. OMS will leverage the extensive offshore capabilities of the Keppel Group; in particular, that of Keppel Offshore & Marine (Keppel O&M), which is a global leader in offshore rig design, construction and repair, ship repair and conversion, and specialized shipbuilding. It comprises a worldwide network of 20 shipyards and design and engineering offices.
4. By harnessing the best of Keppel's technology and extensive operational experience, Keppel O&M has developed world-class offshore solutions for some of the world's harshest marine environments. Specifically, Keppel O&M KFELS B Class jackup rig and its enhanced version are able to drill up to 10,000 metres in high temperature and pressure environments. Keppel O&M's deepwater technologies are also best in class, with the DSS series of semisubmersibles that can operate at a water depth of 3,000 metres and are suited to drill deep and complicated wells of up to 10,000 metres.

* Submitted by Ocean Mineral Singapore Pte. Ltd.



5. Keppel has also retained Tommy Koh as an expert adviser to OMS on the regulatory aspects of the International Seabed Authority. Mr. Koh was the President of the Third United Nations Conference on the Law of the Sea from 1980-1982 and Chairman of the Main Committee of the United Nations Conference on Environment and Development from 1990-1992, where he presided over the negotiations on Agenda 21.

Location under application

6. The area under application is an International Seabed Authority-designated reserved area within the Clarion-Clipperton Fracture Zone (CCZ) in the Pacific Ocean. The Republic of Singapore is classified as a small island developing State by the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States.

Financial information

7. OMS will leverage the financial strength of Keppel to follow through with its proposed plan of work. Keppel is listed on the Singapore Exchange and has total assets exceeding US\$ 23 billion as at end December 2012. Keppel's audited financial statements for financial years 2010-2012 have been included in the application to the International Seabed Authority.

Plan of work and commitment

8. In order to execute the proposed exploration plan of work in an efficient and cost-effective manner, OMS intends to collaborate with UK Seabed Resources Ltd., which holds the exploration licence for an area adjacent to the area under application. There are significant advantages to such a collaboration as both entities will be able to share data, equipment and resources, bring about more efficient use of vessels and equipment through multipurpose cruises and leverage a common, world-class team of scientific experts.

9. Major activities to be conducted in accordance with the exploration plan of work include: (1) environmental baseline cruises, collection of data and analysis of data to obtain an environmental baseline for the area; (2) survey activities to identify commercial recovery areas, followed by development of operational procedures and equipment requirements; (3) advanced studies to select and develop improved survey equipment and techniques for analysis of data; and (4) upgrade of survey equipment.

10. The proposed exploration programme is designed based on the following principles: (1) to sample at various levels of resolution throughout all but the last stage of the workplan (at which point the focus shifts to specific target areas of commercial recovery); (2) to survey outward from areas known to be attractive; (3) to make use of more efficient survey equipment as it becomes proven; and (4) to continue to increase the efficiency of sampling techniques. Periods of at-sea activity will be followed by laboratory and data analyses, with continual evaluation and improvement of survey methodology.

Technical expertise

11. The OMS technical alliance team includes leading experts in the areas of offshore technology. These experts are drawn from Keppel's research and

development arm — KOMTECH — as well as other industry experts in the field of deep-sea exploitation (including those retained by UK Seabed Resources Ltd.). While the specific means of eventual exploitation, including system design and operational parameters, are yet to be determined, their development will be iterative and shaped by the results of the ongoing exploration programme.

Environmental compliance

12. OMS is committed to the execution of the proposed exploration plan of work and will take into account the guidelines issued by the Legal and Technical Commission, contained in section IV.A of the recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area (ISBA/16/LTC/7) in this regard.

13. In its application to the International Seabed Authority, OMS has detailed its plan of work in the initial five-year period from 2014 to 2018. Such activities are environmentally benign, with no potential for causing serious harm to the marine environment, and do not require environmental impact assessment at this stage based on section IV.A of the above-mentioned recommendations. After the initial five-year period, further activities will be guided by obligations to the sponsoring State of Singapore and subject to prevailing business and economic conditions and other factors. Further OMS activities shall also be guided by the recommendations of the Authority and will not proceed without the relevant and necessary environmental studies and consultations.
