International Seabed Authority ISBA/17/C/11*

Council

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Report and recommendations to the Council of the International Seabed Authority relating to an application for approval of a plan of work for exploration for polymetallic sulphides by the China Ocean Mineral Resources Research and Development Association

Submitted by the Legal and Technical Commission

I. Introduction

1. On 7 May 2010, the Secretary-General of the International Seabed Authority received an application for approval of a plan of work for exploration for polymetallic sulphides in the Area. The application was submitted pursuant to the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area ("the Regulations") by the China Ocean Mineral Resources Research and Development Association (COMRA). The area under application covers approximately 10,000 km^2 and consists of 100 blocks measuring approximately 10 kilometres by 10 kilometres each, which are grouped into 12 clusters, each containing from 5 to 19 blocks. The clusters are not contiguous but are proximate and confined within a rectangular area not exceeding 300,000 km^2 in size where the longest side does not exceed 1,000 kilometres in length.

2. In accordance with regulation 22, paragraph (c) of the Regulations, on 14 May 2010, the Secretary-General notified all members of the Authority of the receipt of the application and circulated information of a general nature concerning the application. The Secretary-General also placed consideration of the application as an item on the agenda of the Legal and Technical Commission at its meeting, held from 4 to 13 July 2011.

* Reissued for technical reasons on 19 July 2011.

II. Methodology and consideration of the application by the Legal and Technical Commission

A. General methodology applied by the Commission in consideration of the application

3. In its consideration of the application, the Commission noted that, in keeping with the scheme established in annex III, article 6, of the United Nations Convention on the Law of the Sea ("the Convention"), it is first required to make an objective determination as to whether the applicant has fulfilled the requirements contained in the Regulations, particularly with respect to the form of applications; whether the applicant has provided the necessary undertakings and assurances specified in regulation 15 of the Regulations; and whether it has the necessary financial and technical capability to carry out the proposed plan of work for exploration and (as appropriate) has satisfactorily discharged its obligations under any previous contract with the Authority. The Commission is then required to determine, in accordance with regulation 23 (4) of the Regulations and its procedures, whether the proposed plan of work will provide for effective protection of human health and safety and effective protection and preservation of the marine environment and will ensure that installations are not established where interference may be caused to the use of recognized sea lanes essential to international navigation or in areas of intense fishing activity. Regulation 23 (5) of the Regulations goes on to provide that:

> If the Commission makes the determinations specified in paragraph 3 and determines that the proposed plan of work for exploration meets the requirements of paragraph 4, the Commission shall recommend approval of the plan of work for exploration to the Council.

4. In considering the proposed plan of work for exploration for polymetallic sulphides, the Commission had regard to the principles, policies and objectives relating to activities in the Area as provided for in part XI and annex III of the Convention and in the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 1994 ("the Agreement"), in accordance with regulation 23, paragraph 9 of the Regulations.

B. Consideration of the application

5. The Commission considered the application in closed meetings on 5, 6 and 8 July 2011.

6. Prior to commencing a detailed examination of the application, the Commission invited the applicant's representative, Mr. Jin Jiancai, Secretary-General of COMRA, accompanied by Mr. Li Jiabiao, Deputy Director of the Second Institute of Oceanography of the State Oceanic Administration and Mr. Tao Chunhui, Senior researcher at the Second Institute of Oceanography of the State Oceanic Administration, to make a presentation of the application. Members of the Commission then asked questions to clarify certain aspects of the application before convening in closed session to examine the application in detail. On 6 July 2011, the Commission decided to request the Chairman of the Commission to transmit a list of

questions to the applicant through the Secretary-General. A formal response to these questions was provided by the applicant on 8 July 2011.

III. Summary of basic information regarding the application

A. Identification of the applicant

7. Name of applicant: China Ocean Mineral Resources Research and Development Association.

8. Address of applicant:

(a) Street address: 1 Fuxingmenwai Avenue, Beijing, China, 100860;

(b) Postal address: as above;

(c) Telephone number: 86-10-68022117;

(d) Facsimile number: 86-10-68033318;

(e) Electronic mail address: comra@comra.org.

9. Applicant's designated representative:

(a) Name: Mr. Jin Jiancai;

(b) Street address of applicant's designated representative: as above;

(c) Postal address: as above;

(d) Telephone number: 86-10-68030504;

(e) Facsimile number: 86-10-68030504;

(f) Electronic mail address: jin@comra.org.

10. Applicant's place of registration and principal place of business/domicile: Beijing, China.

11. The applicant indicated that COMRA is registered as a State entity in the sponsoring State and is under the effective control of the sponsoring State.

B. Sponsorship

12. Sponsoring State: China.

13. Date of deposit of instrument of ratification by China of the 1982 United Nations Convention on the Law of the Sea: 7 June 1996; date of the consent to be bound by the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982: 7 June 1996.

14. Date of certificate of sponsorship: 6 May 2010.

15. The Commission noted that the application was sponsored by China and that a certificate of sponsorship, in due and proper form, had been submitted. In that certificate, the State Oceanic Administration, acting on behalf of China, and as authorized by the State Council of China, stated that COMRA is under the effective control of China; in that certificate, the sponsoring State declared that it assumed

responsibility in accordance with article 139, article 153, paragraph 4, and annex III, article 4, paragraph 4, of the Convention.

C. Area of application

16. The application area of COMRA is located in the Southwest Indian Ridge. It includes 100 blocks measuring approximately 10 kilometres by 10 kilometres each, but not exceeding 100 km^2. The total area covered by the application is approximately 10,000 km^2 and does not exceed 10,000 km^2. The blocks under application are grouped into 12 clusters, each containing from 5 to 19 blocks. The clusters of blocks of polymetallic sulphides are not contiguous, but are proximate and confined within a rectangular area not exceeding 300,000 km^2 in size where the longest side does not exceed 1,000 kilometres in length. The coordinates and general location of the areas under application are shown in the annex to the present document.

D. Other information

17. Date of receipt of application: 7 May 2010.

18. Previous contracts with the Authority:

(a) Date of the previous contract: COMRA and the Authority signed a contract for exploration for polymetallic nodules in the Area on 22 May 2001 in Beijing, China;

(b) Reports submitted to the Authority in connection with the contract for exploration for polymetallic nodules:

- Annual report for 2001, submitted in March 2002
- Annual report for 2002, submitted in March 2003
- Annual report for 2003, submitted in March 2004
- Annual report for 2004, submitted in March 2005
- Annual report for 2005, submitted in March 2006
- Five-year period report for the period 2001-2005, submitted in March 2006
- Annual report for 2006, submitted in March 2007
- Annual report for 2007, submitted in March 2008
- Annual report for 2008, submitted in March 2009
- Annual report for 2009, submitted in March 2010
- Annual report for 2010, submitted in March 2011
- Five-year report for the period 2006-2010, submitted in March 2011

(c) The date of expiration of the contract: 21 May 2016.

19. Undertakings: the applicant submitted a written undertaking dated 6 May 2010 signed by Mr. Jin Jiancai, the designated representative of COMRA, stating that it will comply with regulation 15 of the Regulations.

20. The applicant has elected to offer an equity interest in a joint venture arrangement in accordance with regulation 19 of the Regulations.

21. The applicant has paid the fixed fee of $50,000 for its application, to be followed by an annual fee, pursuant to regulation 21, paragraph 1 (b) of the Regulations.

IV. Examination of information and technical data submitted by the applicant

22. The following technical documents were submitted in the application:

(a) Copy of the applicant's certificate of registration as a State entity of China;

(b) Certificate of sponsorship issued by the sponsoring State, China;

(c) Information relating to the area under application:

(i) Chart of the location of the blocks;

(ii) A list of the coordinates of the corners of blocks under application;

(d) Information to enable the Council to determine whether the applicant is financially capable of carrying out the proposed plan of work for exploration;

(e) Information to enable the Council to determine whether the applicant is technically capable of carrying out the proposed plan of work for exploration;

(f) Indicative plan of work for exploration;

(g) Written undertakings by the applicant.

V. Consideration of financial and technical qualifications of the applicant

A. Financial capacity

23. In evaluating the financial capacity of the applicant, the Commission noted that COMRA had declared its financial capacity to carry out the proposed plan of work for exploration and fulfil its financial obligations to the Authority. The Commission was provided with a statement dated 6 May 2010 and signed by Mr. Xie Xuren, Minister of Finance of China, certifying that the applicant would have the necessary funds to meet the estimated minimum expenditures under the proposed plan of work and fulfil its financial obligations to the Authority.

B. Technical capacity

24. The Commission was provided with technical information in relation to COMRA's previous experience and skills in the field of exploration for polymetallic nodules and scientific research on polymetallic sulphides deposits. The Commission noted that the applicant recalled its experience as a pioneer investor and current contractor with the Authority for exploration for polymetallic nodules to

demonstrate its capability to carry out the investigation and development of seabed mineral resources, environmental assessment and scientific research. The applicant further stated that it had been accumulating data and experience concerning the distribution of and methods for exploration for polymetallic sulphides and their environment for the past 10 years.

25. The Commission was provided with information related to the prevention, reduction and control of hazards and possible impacts to the marine environment. This included the description of a plan for a programme for oceanographic and environmental baseline studies to ensure that the exploration activities cause minimal impact on the marine environment. It enclosed a plan of action to take necessary measures to prevent, reduce and control pollution and other hazards to the marine environment arising from the exploration activities. A description of a monitoring programme and proposed measures for the prevention, reduction and control of pollution and other hazards, as well as possible impacts, to the marine environment was also provided. In its response to the Commission, COMRA indicated that it will employ the most appropriate equipment available for the survey and research of active hydrothermal vents to improve scientific understanding of the ecosystems and facilitate scientific assessment of the ecological environment, for the purpose of providing the scientific basis for the protection of the active hydrothermal vent ecosystem.

26. In response to oral and written questions from the Commission with respect to whether exploration activities will take place in active vents and with respect to the strategic measures that the applicant will adopt to mitigate the effects of such activities, the applicant stated that COMRA was of the view that exploitation of polymetallic sulphides should not be conducted on active hydrothermal vents on the seabed. Given the limited scientific knowledge available and existing uncertainties, COMRA believes that the precautionary approach should be applied and the equipment testing related to the exploitation should also be located away from the active hydrothermal vents so as to avoid possible harm to the biological community living near the active vents.

VI. Consideration of data and information submitted for approval of the plan of work for exploration

27. In accordance with regulation 20 of the Regulations, the application included the following information for approval of the plan of work for exploration:

(a) A general description and a schedule of the proposed exploration programme of activities for the first five-year period, such as studies to be undertaken in respect of the environmental, technical, economic and other appropriate factors that must be taken into account in exploration;

(b) A description of the programme for oceanographic and environmental baseline studies in accordance with the Regulations and environmental rules, regulations and procedures established by the Authority. Such studies would enable an assessment of the potential environmental impact including, but not restricted to, the impact on biodiversity, of the proposed exploration activities, taking into account any recommendations by the Legal and Technical Commission;

(c) A preliminary assessment of the possible impact of the proposed exploration activities on the marine environment;

(d) A description of proposed measures for the prevention, reduction and control of pollution and other hazards, as well as possible impacts, to the marine environment;

(e) Data necessary for the Council to make the determination it is required to make in accordance with regulation 13, paragraph 1 of the Regulations (financial obligations to the Authority); and

(f) A schedule of anticipated yearly expenditures in respect of the programme of activities for the first five-year period.

28. The Commission was satisfied that the information presented met the requirements of the Regulations and noted that it looked forward to the submission of reports, including relevant data, by the applicant, as required by the Regulations and any recommendations for guidance to be issued by the Commission in due course.

29. The Commission also took note of the fact that some of COMRA's proposed exploration blocks were located in close proximity to an area that is the subject of a voluntary closure to deep-sea bottom fishing. In this regard, the Commission welcomed the communication from COMRA in which it recalled article 147 of the Convention and emphasized its commitment to protecting benthic ecosystems and that it would respect all the relevant resolutions adopted by the United Nations General Assembly, the Food and Agriculture Organization of the United Nations (FAO) and relevant fisheries organizations. The Commission also noted that COMRA had declared its intention to strictly abide by the relevant rules, regulations and decisions of the Authority.

VII. Training programme

30. The applicant indicated that, in accordance with regulation 29 and section 8 of annex 4 to the Regulations, the contractor will draw up training programmes in cooperation with the Authority and the sponsoring State and will submit these programmes to the Authority for approval.

VIII. Conclusion and recommendations

31. Having examined the particulars submitted by the applicant, which are summarized in sections III to VII above, the Commission is satisfied that the application has been duly submitted in accordance with the Regulations and that the applicant is a qualified applicant within the meaning of annex III, article 4, of the Convention. The Commission is further satisfied that the applicant:

(a) Has complied with the provisions of the Regulations;

(b) Has given the undertakings and assurances specified in regulation 15 of the Regulations;

(c) Possesses the financial and technical capability to carry out the proposed plan of work for exploration.

32. The Commission is satisfied that none of the conditions in regulation 23 (6) of the Regulations apply.

33. With respect to the proposed plan of work for exploration, the Commission is satisfied that the proposed plan of work for exploration will:

(a) Provide for effective protection of human health and safety;

(b) Provide for effective protection and preservation of the marine environment;

(c) Ensure that installations are not established where interference may be caused to the use of recognized sea lanes essential to international navigation or in areas of intense fishing activity.

34. Accordingly, pursuant to regulation 23 (5), of the Regulations, the Commission recommends to the Council approval of the plan of work for exploration for polymetallic sulphides submitted by COMRA.

Annex

A. List of coordinates

Block number	*Longitude E*			*Latitude S*			*Longitude*	*Latitude*	*Area size sq km*[a]
	Degrees	*Minutes*	*Seconds*	*Degrees*	*Minutes*	*Seconds*	*Decimal*	*Decimal*	
1	46	21	28.07	39	6	31.64	46.3577972222	-39.1087888889	99.95
	46	21	28.07	39	0	56.47	46.3577972222	-39.0156861111	
	46	28	10.47	39	0	56.47	46.4695750000	-39.0156861111	
	46	28	10.47	39	6	31.64	46.4695750000	-39.1087888889	
2	46	21	28.07	39	0	56.47	46.3577972222	-39.0156861111	99.95
	46	21	28.07	38	55	21.73	46.3577972222	-38.9227027778	
	46	28	10.47	38	55	21.73	46.4695750000	-38.9227027778	
	46	28	10.47	39	0	56.47	46.4695750000	-39.0156861111	
3	46	28	10.47	39	3	5.29	46.4695750000	-39.0514694444	99.96
	46	28	10.47	38	57	24.28	46.4695750000	-38.9567444444	
	46	34	45.66	38	57	24.28	46.5793500000	-38.9567444444	
	46	34	45.66	39	3	5.29	46.5793500000	-39.0514694444	
4	46	34	45.66	38	57	50.87	46.5793500000	-38.9641305556	99.97
	46	34	45.66	38	52	10.27	46.5793500000	-38.8695194444	
	46	41	20.86	38	52	10.27	46.6891277778	-38.8695194444	
	46	41	20.86	38	57	50.87	46.6891277778	-38.9641305556	
5	46	41	20.86	38	57	37.44	46.6891277778	-38.9604000000	99.97
	46	41	20.86	38	51	56.87	46.6891277778	-38.8657972222	
	46	47	56.06	38	51	56.87	46.7989055556	-38.8657972222	
	46	47	56.06	38	57	37.44	46.7989055556	-38.9604000000	
6	46	47	56.06	38	56	27.13	46.7989055556	-38.9408694444	99.98
	46	47	56.06	38	50	51.23	46.7989055556	-38.8475638889	
	46	54	36.66	38	50	51.23	46.9101833333	-38.8475638889	
	46	54	36.66	38	56	27.13	46.9101833333	-38.9408694444	
7	47	1	1.01	38	54	29.65	47.0169472222	-38.9082361111	100.00
	47	1	1.01	38	48	54.25	47.0169472222	-38.8150694444	
	47	7	42.02	38	48	54.25	47.1283388889	-38.8150694444	
	47	7	42.02	38	54	29.65	47.1283388889	-38.9082361111	
8	47	7	42.02	38	53	4.55	47.1283388889	-38.8845972222	100.00
	47	7	42.02	38	47	29.26	47.1283388889	-38.7914611111	
	47	14	23.03	38	47	29.26	47.2397305556	-38.7914611111	
	47	14	23.03	38	53	4.55	47.2397305556	-38.8845972222	
9	47	14	23.03	38	51	41.41	47.2397305556	-38.8615027778	100.01
	47	14	23.03	38	46	6.23	47.2397305556	-38.7683972222	
	47	21	4.04	38	46	6.23	47.3511222222	-38.7683972222	
	47	21	4.04	38	51	41.41	47.3511222222	-38.8615027778	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
10	47	21	4.04	38	52	9.72	47.3511222222	-38.8693666667	100.02
	47	21	4.04	38	46	34.5	47.3511222222	-38.7762500000	
	47	27	45.05	38	46	34.5	47.4625138889	-38.7762500000	
	47	27	45.05	38	52	9.72	47.4625138889	-38.8693666667	
11	47	21	41.8	38	46	34.5	47.3616111111	-38.7762500000	100.02
	47	21	41.8	38	40	59.71	47.3616111111	-38.6832527778	
	47	28	22.81	38	40	59.71	47.4730027778	-38.6832527778	
	47	28	22.81	38	46	34.5	47.4730027778	-38.7762500000	
12	47	27	45.05	38	52	9.72	47.4625138889	-38.8693666667	100.03
	47	27	45.05	38	46	34.5	47.4625138889	-38.7762500000	
	47	34	26.06	38	46	34.5	47.5739055556	-38.7762500000	
	47	34	26.06	38	52	9.72	47.5739055556	-38.8693666667	
13	47	34	26.06	38	53	49.61	47.5739055556	-38.8971138889	100.04
	47	34	26.06	38	48	14.26	47.5739055556	-38.8039611111	
	47	41	7.07	38	48	14.26	47.6852972222	-38.8039611111	
	47	41	7.07	38	53	49.61	47.6852972222	-38.8971138889	
14	46	38	3.08	38	44	11.62	46.6341888889	-38.7365611111	100.03
	46	38	3.08	38	38	39.99	46.6341888889	-38.6444416667	
	46	44	47.69	38	38	39.99	46.7465805556	-38.6444416667	
	46	44	47.69	38	44	11.62	46.7465805556	-38.7365611111	
15	46	44	47.69	38	45	56.84	46.7465805556	-38.7657888889	99.98
	46	44	47.69	38	40	25.07	46.7465805556	-38.6736305556	
	46	51	32.31	38	40	25.07	46.8589750000	-38.6736305556	
	46	51	32.31	38	45	56.84	46.8589750000	-38.7657888889	
16	46	51	32.31	38	44	6.43	46.8589750000	-38.7351194444	99.98
	46	51	32.31	38	38	34.81	46.8589750000	-38.6430027778	
	46	58	16.92	38	38	34.81	46.9713666667	-38.6430027778	
	46	58	16.92	38	44	6.43	46.9713666667	-38.7351194444	
17	46	58	16.92	38	43	34	46.9713666667	-38.7261111111	99.99
	46	58	16.92	38	38	2.41	46.9713666667	-38.6340027778	
	47	5	1.53	38	38	2.41	47.0837583333	-38.6340027778	
	47	5	1.53	38	43	34	47.0837583333	-38.7261111111	
18	47	5	1.53	38	44	6.53	47.0837583333	-38.7351472222	100.00
	47	5	1.53	38	38	31.93	47.0837583333	-38.6422027778	
	47	11	42.54	38	38	31.93	47.1951500000	-38.6422027778	
	47	11	42.54	38	44	6.53	47.1951500000	-38.7351472222	
19	47	11	42.54	38	43	9.45	47.1951500000	-38.7192916667	100.01
	47	11	42.54	38	37	34.92	47.1951500000	-38.6263666667	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
	47	18	23.55	38	37	34.92	47.3065416667	-38.6263666667	
	47	18	23.55	38	43	9.45	47.3065416667	-38.7192916667	
20	47	18	23.55	38	40	59.71	47.3065416667	-38.6832527778	100.02
	47	18	23.55	38	35	25.35	47.3065416667	-38.5903750000	
	47	25	4.56	38	35	25.35	47.4179333333	-38.5903750000	
	47	25	4.56	38	40	59.71	47.4179333333	-38.6832527778	
21	47	25	4.56	38	40	59.71	47.4179333333	-38.6832527778	100.03
	47	25	4.56	38	35	25.35	47.4179333333	-38.5903750000	
	47	31	45.57	38	35	25.35	47.5293250000	-38.5903750000	
	47	31	45.57	38	40	59.71	47.5293250000	-38.6832527778	
22	47	31	45.57	38	40	18.21	47.5293250000	-38.6717250000	100.04
	47	31	45.57	38	34	43.9	47.5293250000	-38.5788611111	
	47	38	26.58	38	34	43.9	47.6407166667	-38.5788611111	
	47	38	26.58	38	40	18.21	47.6407166667	-38.6717250000	
23	47	38	26.58	38	34	49.21	47.6407166667	-38.5803361111	100.05
	47	38	26.58	38	29	19.76	47.6407166667	-38.4888222222	
	47	45	13	38	29	19.76	47.7536111111	-38.4888222222	
	47	45	13	38	34	49.21	47.7536111111	-38.5803361111	
24	47	45	13	38	29	35.27	47.7536111111	-38.4931305556	100.06
	47	45	13	38	24	6.21	47.7536111111	-38.4017250000	
	47	51	59.41	38	24	6.21	47.8665027778	-38.4017250000	
	47	51	59.41	38	29	35.27	47.8665027778	-38.4931305556	
25	47	51	59.41	38	24	17.43	47.8665027778	-38.4048416667	100.08
	47	51	59.41	38	18	48.76	47.8665027778	-38.3135444444	
	47	58	45.82	38	18	48.76	47.9793944444	-38.3135444444	
	47	58	45.82	38	24	17.43	47.9793944444	-38.4048416667	
26	48	16	35.77	38	25	54.68	48.2766027778	-38.4318555556	100.05
	48	16	35.77	38	20	26.26	48.2766027778	-38.3406277778	
	48	23	22.64	38	20	26.26	48.3896222222	-38.3406277778	
	48	23	22.64	38	25	54.68	48.3896222222	-38.4318555556	
27	48	21	0	38	20	26.26	48.3500000000	-38.3406277778	100.04
	48	21	0	38	14	58.25	48.3500000000	-38.2495138889	
	48	27	46.87	38	14	58.25	48.4630194444	-38.2495138889	
	48	27	46.87	38	20	26.26	48.4630194444	-38.3406277778	
28	48	25	27.95	38	14	58.25	48.4244305556	-38.2495138889	100.04
	48	25	27.95	38	9	30.64	48.4244305556	-38.1585111111	
	48	32	14.82	38	9	30.64	48.5374500000	-38.1585111111	
	48	32	14.82	38	14	58.25	48.5374500000	-38.2495138889	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
29	48	32	14.82	38	14	58.25	48.5374500000	-38.2495138889	100.02
	48	32	14.82	38	9	30.64	48.5374500000	-38.1585111111	
	48	39	1.69	38	9	30.64	48.6504694444	-38.1585111111	
	48	39	1.69	38	14	58.25	48.6504694444	-38.2495138889	
30	48	32	14.82	38	9	30.64	48.5374500000	-38.1585111111	100.03
	48	32	14.82	38	4	3.43	48.5374500000	-38.0676194444	
	48	39	1.69	38	4	3.43	48.6504694444	-38.0676194444	
	48	39	1.69	38	9	30.64	48.6504694444	-38.1585111111	
31	48	28	31.53	38	4	3.43	48.4754250000	-38.0676194444	100.03
	48	28	31.53	37	58	36.62	48.4754250000	-37.9768388889	
	48	35	18.4	37	58	36.62	48.5884444444	-37.9768388889	
	48	35	18.4	38	4	3.43	48.5884444444	-38.0676194444	
32	48	21	44.67	38	4	3.43	48.3624083333	-38.0676194444	100.04
	48	21	44.67	37	58	36.62	48.3624083333	-37.9768388889	
	48	28	31.53	37	58	36.62	48.4754250000	-37.9768388889	
	48	28	31.53	38	4	3.43	48.4754250000	-38.0676194444	
33	48	14	57.8	38	7	15.8	48.2493888889	-38.1210555556	100.05
	48	14	57.8	38	1	48.76	48.2493888889	-38.0302111111	
	48	21	44.67	38	1	48.76	48.3624083333	-38.0302111111	
	48	21	44.67	38	7	15.8	48.3624083333	-38.1210555556	
34	48	14	32.08	38	12	43.25	48.2422444444	-38.2120138889	100.06
	48	14	32.08	38	7	15.8	48.2422444444	-38.1210555556	
	48	21	18.95	38	7	15.8	48.3552638889	-38.1210555556	
	48	21	18.95	38	12	43.25	48.3552638889	-38.2120138889	
35	48	45	3.46	38	8	59.27	48.7509611111	-38.1497972222	100.00
	48	45	3.46	38	3	29.22	48.7509611111	-38.0581166667	
	48	51	46.77	38	3	29.22	48.8629916667	-38.0581166667	
	48	51	46.77	38	8	59.27	48.8629916667	-38.1497972222	
36	48	51	46.77	38	8	32.66	48.8629916667	-38.1424055556	100.00
	48	51	46.77	38	3	2.64	48.8629916667	-38.0507333333	
	48	58	30.09	38	3	2.64	48.9750250000	-38.0507333333	
	48	58	30.09	38	8	32.66	48.9750250000	-38.1424055556	
37	48	58	30.09	38	8	32.66	48.9750250000	-38.1424055556	99.99
	48	58	30.09	38	3	2.64	48.9750250000	-38.0507333333	
	49	5	13.41	38	3	2.64	49.0870583333	-38.0507333333	
	49	5	13.41	38	8	32.66	49.0870583333	-38.1424055556	
38	49	1	21.6	38	3	2.64	49.0226666667	-38.0507333333	99.99
	49	1	21.6	37	57	33.03	49.0226666667	-37.9591750000	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
	49	8	4.92	37	57	33.03	49.1347000000	-37.9591750000	
	49	8	4.92	38	3	2.64	49.1347000000	-38.0507333333	
39	49	8	4.92	38	0	4.89	49.1347000000	-38.0013583333	99.98
	49	8	4.92	37	54	32.53	49.1347000000	-37.9090361111	
	49	14	44.63	37	54	32.53	49.2457305556	-37.9090361111	
	49	14	44.63	38	0	4.89	49.2457305556	-38.0013583333	
40	49	14	44.63	37	57	34.09	49.2457305556	-37.9594694444	99.97
	49	14	44.63	37	52	1.91	49.2457305556	-37.8671972222	
	49	21	24.35	37	52	1.91	49.3567638889	-37.8671972222	
	49	21	24.35	37	57	34.09	49.3567638889	-37.9594694444	
41	49	21	24.35	37	57	24.56	49.3567638889	-37.9568222222	99.96
	49	21	24.35	37	51	55.36	49.3567638889	-37.8653777778	
	49	28	7.66	37	51	55.36	49.4687944444	-37.8653777778	
	49	28	7.66	37	57	24.56	49.4687944444	-37.9568222222	
42	48	41	17.24	38	1	13.05	48.6881222222	-38.0202916667	100.01
	48	41	17.24	37	55	40.36	48.6881222222	-37.9278777778	
	48	47	56.65	37	55	40.36	48.7990694444	-37.9278777778	
	48	47	56.65	38	1	13.05	48.7990694444	-38.0202916667	
43	48	47	56.65	38	2	1.89	48.7990694444	-38.0338583333	100.00
	48	47	56.65	37	56	29.13	48.7990694444	-37.9414250000	
	48	54	36.06	37	56	29.13	48.9100166667	-37.9414250000	
	48	54	36.06	38	2	1.89	48.9100166667	-38.0338583333	
44	48	47	56.65	37	56	29.13	48.7990694444	-37.9414250000	100.00
	48	47	56.65	37	50	56.78	48.7990694444	-37.8491055556	
	48	54	36.06	37	50	56.78	48.9100166667	-37.8491055556	
	48	54	36.06	37	56	29.13	48.9100166667	-37.9414250000	
45	48	54	36.06	37	54	54.51	48.9100166667	-37.9151416667	99.99
	48	54	36.06	37	49	22.28	48.9100166667	-37.8228555556	
	49	1	15.47	37	49	22.28	49.0209638889	-37.8228555556	
	49	1	15.47	37	54	54.51	49.0209638889	-37.9151416667	
46	49	1	15.47	37	52	26.04	49.0209638889	-37.8739000000	99.99
	49	1	15.47	37	46	53.99	49.0209638889	-37.7816638889	
	49	7	54.88	37	46	53.99	49.1319111111	-37.7816638889	
	49	7	54.88	37	52	26.04	49.1319111111	-37.8739000000	
47	49	7	54.88	37	51	14.71	49.1319111111	-37.8540861111	99.98
	49	7	54.88	37	45	42.75	49.1319111111	-37.7618750000	
	49	14	34.29	37	45	42.75	49.2428583333	-37.7618750000	
	49	14	34.29	37	51	14.71	49.2428583333	-37.8540861111	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
48	49	14	34.29	37	49	44.67	49.2428583333	-37.8290750000	99.97
	49	14	34.29	37	44	6.73	49.2428583333	-37.7352027778	
	49	21	6.5	37	44	6.73	49.3518055556	-37.7352027778	
	49	21	6.5	37	49	44.67	49.3518055556	-37.8290750000	
49	49	21	6.5	37	46	41.45	49.3518055556	-37.7781805556	99.96
	49	21	6.5	37	41	8.33	49.3518055556	-37.6856472222	
	49	27	44.11	37	41	8.33	49.4622527778	-37.6856472222	
	49	27	44.11	37	46	41.45	49.4622527778	-37.7781805556	
50	49	27	44.11	37	43	18.34	49.4622527778	-37.7217611111	99.96
	49	27	44.11	37	37	48.45	49.4622527778	-37.6301250000	
	49	34	25.33	37	37	48.45	49.5737027778	-37.6301250000	
	49	34	25.33	37	43	18.34	49.5737027778	-37.7217611111	
51	49	30	26.62	37	55	26.78	49.5073944444	-37.9241055556	99.96
	49	30	26.62	37	49	54.93	49.5073944444	-37.8319250000	
	49	37	6.54	37	49	54.93	49.6184833333	-37.8319250000	
	49	37	6.54	37	55	26.78	49.6184833333	-37.9241055556	
52	49	37	6.54	37	55	44.88	49.6184833333	-37.9291333333	99.95
	49	37	6.54	37	50	13.01	49.6184833333	-37.8369472222	
	49	43	46.46	37	50	13.01	49.7295722222	-37.8369472222	
	49	43	46.46	37	55	44.88	49.7295722222	-37.9291333333	
53	49	37	6.54	37	50	13.01	49.6184833333	-37.8369472222	99.95
	49	37	6.54	37	44	41.55	49.6184833333	-37.7448750000	
	49	43	46.46	37	44	41.55	49.7295722222	-37.7448750000	
	49	43	46.46	37	50	13.01	49.7295722222	-37.8369472222	
54	49	43	46.46	37	51	25.28	49.7295722222	-37.8570222222	99.94
	49	43	46.46	37	45	53.73	49.7295722222	-37.7649250000	
	49	50	26.37	37	45	53.73	49.8406583333	-37.7649250000	
	49	50	26.37	37	51	25.28	49.8406583333	-37.8570222222	
55	49	43	46.46	37	56	57.24	49.7295722222	-37.9492333333	99.94
	49	43	46.46	37	51	25.28	49.7295722222	-37.8570222222	
	49	50	26.37	37	51	25.28	49.8406583333	-37.8570222222	
	49	50	26.37	37	56	57.24	49.8406583333	-37.9492333333	
56	49	50	26.37	37	53	11.86	49.8406583333	-37.8866277778	99.94
	49	50	26.37	37	47	37.17	49.8406583333	-37.7936583333	
	49	57	2.69	37	47	37.17	49.9507472222	-37.7936583333	
	49	57	2.69	37	53	11.86	49.9507472222	-37.8866277778	
57	49	57	2.69	37	50	50.33	49.9507472222	-37.8473138889	99.93
	49	57	2.69	37	45	15.81	49.9507472222	-37.7543916667	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
	50	3	39.01	37	45	15.81	50.0608361111	-37.7543916667	
	50	3	39.01	37	50	50.33	50.0608361111	-37.8473138889	
58	50	14	9.96	37	45	49.01	50.2361000000	-37.7636138889	99.92
	50	14	9.96	37	40	21.46	50.2361000000	-37.6726277778	
	50	20	54.26	37	40	21.46	50.3484055556	-37.6726277778	
	50	20	54.26	37	45	49.01	50.3484055556	-37.7636138889	
59	50	14	9.96	37	40	21.46	50.2361000000	-37.6726277778	99.93
	50	14	9.96	37	34	54.29	50.2361000000	-37.5817472222	
	50	20	54.26	37	34	54.29	50.3484055556	-37.5817472222	
	50	20	54.26	37	40	21.46	50.3484055556	-37.6726277778	
60	50	20	54.26	37	36	58.54	50.3484055556	-37.6162611111	99.92
	50	20	54.26	37	31	31.63	50.3484055556	-37.5254527778	
	50	27	38.56	37	31	31.63	50.4607111111	-37.5254527778	
	50	27	38.56	37	36	58.54	50.4607111111	-37.6162611111	
61	50	20	54.26	37	42	25.85	50.3484055556	-37.7071805556	99.92
	50	20	54.26	37	36	58.54	50.3484055556	-37.6162611111	
	50	27	38.56	37	36	58.54	50.4607111111	-37.6162611111	
	50	27	38.56	37	42	25.85	50.4607111111	-37.7071805556	
62	50	20	54.26	37	47	53.56	50.3484055556	-37.7982111111	99.92
	50	20	54.26	37	42	25.85	50.3484055556	-37.7071805556	
	50	27	38.56	37	42	25.85	50.4607111111	-37.7071805556	
	50	27	38.56	37	47	53.56	50.4607111111	-37.7982111111	
63	50	27	38.56	37	47	53.56	50.4607111111	-37.7982111111	99.92
	50	27	38.56	37	42	25.85	50.4607111111	-37.7071805556	
	50	34	22.86	37	42	25.85	50.5730166667	-37.7071805556	
	50	34	22.86	37	47	53.56	50.5730166667	-37.7982111111	
64	50	27	38.56	37	42	25.85	50.4607111111	-37.7071805556	99.92
	50	27	38.56	37	36	58.54	50.4607111111	-37.6162611111	
	50	34	22.86	37	36	58.54	50.5730166667	-37.6162611111	
	50	34	22.86	37	42	25.85	50.5730166667	-37.7071805556	
65	50	27	38.56	37	36	58.54	50.4607111111	-37.6162611111	99.92
	50	27	38.56	37	31	31.63	50.4607111111	-37.5254527778	
	50	34	22.86	37	31	31.63	50.5730166667	-37.5254527778	
	50	34	22.86	37	36	58.54	50.5730166667	-37.6162611111	
66	50	34	22.86	37	37	11.68	50.5730166667	-37.6199111111	99.92
	50	34	22.86	37	31	38.83	50.5730166667	-37.5274527778	
	50	40	59.96	37	31	38.83	50.6833222222	-37.5274527778	
	50	40	59.96	37	37	11.68	50.6833222222	-37.6199111111	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
67	50	50	5.61	37	41	48.53	50.8348916667	-37.6968138889	99.91
	50	50	5.61	37	36	16.38	50.8348916667	-37.6045500000	
	50	56	43.95	37	36	16.38	50.9455416667	-37.6045500000	
	50	56	43.95	37	41	48.53	50.9455416667	-37.6968138889	
68	50	56	43.95	37	41	36.01	50.9455416667	-37.6933361111	99.92
	50	56	43.95	37	36	3.87	50.9455416667	-37.6010750000	
	51	3	22.3	37	36	3.87	51.0561944444	-37.6010750000	
	51	3	22.3	37	41	36.01	51.0561944444	-37.6933361111	
69	50	55	9.39	37	36	3.87	50.9192750000	-37.6010750000	99.92
	50	55	9.39	37	30	32.14	50.9192750000	-37.5089277778	
	51	1	47.74	37	30	32.14	51.0299277778	-37.5089277778	
	51	1	47.74	37	36	3.87	51.0299277778	-37.6010750000	
70	51	1	47.74	37	36	3.87	51.0299277778	-37.6010750000	99.92
	51	1	47.74	37	30	32.14	51.0299277778	-37.5089277778	
	51	8	26.09	37	30	32.14	51.1405805556	-37.5089277778	
	51	8	26.09	37	36	3.87	51.1405805556	-37.6010750000	
71	51	8	26.09	37	34	42.26	51.1405805556	-37.5784055556	99.91
	51	8	26.09	37	29	10.63	51.1405805556	-37.4862861111	
	51	15	4.43	37	29	10.63	51.2512305556	-37.4862861111	
	51	15	4.43	37	34	42.26	51.2512305556	-37.5784055556	
72	51	15	4.43	37	35	15	51.2512305556	-37.5875000000	99.92
	51	15	4.43	37	29	43.32	51.2512305556	-37.4953666667	
	51	21	42.78	37	29	43.32	51.3618833333	-37.4953666667	
	51	21	42.78	37	35	15	51.3618833333	-37.5875000000	
73	51	18	25.14	37	29	43.32	51.3069833333	-37.4953666667	99.92
	51	18	25.14	37	24	12.05	51.3069833333	-37.4033472222	
	51	25	3.49	37	24	12.05	51.4176361111	-37.4033472222	
	51	25	3.49	37	29	43.32	51.4176361111	-37.4953666667	
74	51	25	3.49	37	29	50.7	51.4176361111	-37.4974166667	99.92
	51	25	3.49	37	24	22.39	51.4176361111	-37.4062194444	
	51	31	45.44	37	24	22.39	51.5292888889	-37.4062194444	
	51	31	45.44	37	29	50.7	51.5292888889	-37.4974166667	
75	51	31	45.44	37	30	13.96	51.5292888889	-37.5038777778	99.92
	51	31	45.44	37	24	45.62	51.5292888889	-37.4126722222	
	51	38	27.38	37	24	45.62	51.6409388889	-37.4126722222	
	51	38	27.38	37	30	13.96	51.6409388889	-37.5038777778	
76	51	38	27.38	37	29	56.31	51.6409388889	-37.4989750000	99.93
	51	38	27.38	37	24	27.98	51.6409388889	-37.4077722222	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
	51	45	9.32	37	24	27.98	51.7525888889	-37.4077722222	
	51	45	9.32	37	29	56.31	51.7525888889	-37.4989750000	
77	51	45	9.32	37	30	0.97	51.7525888889	-37.5002694444	99.93
	51	45	9.32	37	24	32.64	51.7525888889	-37.4090666667	
	51	51	51.27	37	24	32.64	51.8642416667	-37.4090666667	
	51	51	51.27	37	30	0.97	51.8642416667	-37.5002694444	
78	51	53	13.36	37	23	10.01	51.8870444444	-37.3861138889	99.93
	51	53	13.36	37	17	40.97	51.8870444444	-37.2947138889	
	51	59	53.84	37	17	40.97	51.9982888889	-37.2947138889	
	51	59	53.84	37	23	10.01	51.9982888889	-37.3861138889	
79	51	59	53.84	37	22	58.15	51.9982888889	-37.3828194444	99.94
	51	59	53.84	37	17	29.12	51.9982888889	-37.2914222222	
	52	6	34.31	37	17	29.12	52.1095305556	-37.2914222222	
	52	6	34.31	37	22	58.15	52.1095305556	-37.3828194444	
80	52	6	34.31	37	24	15.35	52.1095305556	-37.4042638889	99.94
	52	6	34.31	37	18	46.23	52.1095305556	-37.3128416667	
	52	13	14.79	37	18	46.23	52.2207750000	-37.3128416667	
	52	13	14.79	37	24	15.35	52.2207750000	-37.4042638889	
81	52	6	34.31	37	18	46.23	52.1095305556	-37.3128416667	99.94
	52	6	34.31	37	13	17.5	52.1095305556	-37.2215277778	
	52	13	14.79	37	13	17.5	52.2207750000	-37.2215277778	
	52	13	14.79	37	18	46.23	52.2207750000	-37.3128416667	
82	52	13	14.79	37	22	25.51	52.2207750000	-37.3737527778	99.95
	52	13	14.79	37	16	56.52	52.2207750000	-37.2823666667	
	52	19	55.27	37	16	56.52	52.3320194444	-37.2823666667	
	52	19	55.27	37	22	25.51	52.3320194444	-37.3737527778	
83	52	55	32.68	35	57	9.51	52.9257444444	-35.9526416667	99.99
	52	55	32.68	35	51	46.71	52.9257444444	-35.8629750000	
	53	2	13.51	35	51	46.71	53.0370861111	-35.8629750000	
	53	2	13.51	35	57	9.51	53.0370861111	-35.9526416667	
84	52	57	55.53	36	2	32.67	52.9654250000	-36.0424083333	100.00
	52	57	55.53	35	57	9.51	52.9654250000	-35.9526416667	
	53	4	36.36	35	57	9.51	53.0767666667	-35.9526416667	
	53	4	36.36	36	2	32.67	53.0767666667	-36.0424083333	
85	53	4	36.36	36	5	32.58	53.0767666667	-36.0923833333	100.00
	53	4	36.36	36	0	9.22	53.0767666667	-36.0025611111	
	53	11	17.18	36	0	9.22	53.1881055556	-36.0025611111	
	53	11	17.18	36	5	32.58	53.1881055556	-36.0923833333	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
86	53	11	17.18	36	8	16.35	53.1881055556	-36.1378750000	100.02
	53	11	17.18	36	2	52.8	53.1881055556	-36.0480000000	
	53	17	58.01	36	2	52.8	53.2994472222	-36.0480000000	
	53	17	58.01	36	8	16.35	53.2994472222	-36.1378750000	
87	53	13	56.16	36	2	52.8	53.2322666667	-36.0480000000	100.02
	53	13	56.16	35	57	29.62	53.2322666667	-35.9582277778	
	53	20	36.98	35	57	29.62	53.3436055556	-35.9582277778	
	53	20	36.98	36	2	52.8	53.3436055556	-36.0480000000	
88	54	11	51.19	34	59	52.27	54.1975527778	-34.9978527778	100.07
	54	11	51.19	34	54	30.22	54.1975527778	-34.9083944444	
	54	18	28.3	34	54	30.22	54.3078611111	-34.9083944444	
	54	18	28.3	34	59	52.27	54.3078611111	-34.9978527778	
89	54	11	51.19	34	54	30.22	54.1975527778	-34.9083944444	100.07
	54	11	51.19	34	49	8.52	54.1975527778	-34.8190333333	
	54	18	28.3	34	49	8.52	54.3078611111	-34.8190333333	
	54	18	28.3	34	54	30.22	54.3078611111	-34.9083944444	
90	54	18	28.3	34	53	15.49	54.3078611111	-34.8876361111	100.06
	54	18	28.3	34	47	53.87	54.3078611111	-34.7982972222	
	54	25	5.42	34	47	53.87	54.4181722222	-34.7982972222	
	54	25	5.42	34	53	15.49	54.4181722222	-34.8876361111	
91	54	18	28.3	34	58	37.46	54.3078611111	-34.9770722222	100.06
	54	18	28.3	34	53	15.49	54.3078611111	-34.8876361111	
	54	25	5.42	34	53	15.49	54.4181722222	-34.8876361111	
	54	25	5.42	34	58	37.46	54.4181722222	-34.9770722222	
92	54	25	5.42	34	58	44.82	54.4181722222	-34.9791166667	100.05
	54	25	5.42	34	53	22.84	54.4181722222	-34.8896777778	
	54	31	42.53	34	53	22.84	54.5284805556	-34.8896777778	
	54	31	42.53	34	58	44.82	54.5284805556	-34.9791166667	
93	54	25	5.42	34	53	22.84	54.4181722222	-34.8896777778	100.05
	54	25	5.42	34	48	1.21	54.4181722222	-34.8003361111	
	54	31	42.53	34	48	1.21	54.5284805556	-34.8003361111	
	54	31	42.53	34	53	22.84	54.5284805556	-34.8896777778	
94	54	31	42.53	34	53	48.24	54.5284805556	-34.8967333333	100.04
	54	31	42.53	34	48	26.58	54.5284805556	-34.8073833333	
	54	38	19.65	34	48	26.58	54.6387916667	-34.8073833333	
	54	38	19.65	34	53	48.24	54.6387916667	-34.8967333333	
95	55	6	36.73	34	29	58.22	55.1102027778	-34.4995055556	99.99
	55	6	36.73	34	24	43.29	55.1102027778	-34.4120250000	

Block number	Longitude E			Latitude S			Longitude	Latitude	Area size sq km[a]
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds	Decimal	Decimal	
	55	13	20.43	34	24	43.29	55.2223416667	-34.4120250000	
	55	13	20.43	34	29	58.22	55.2223416667	-34.4995055556	
96	55	13	20.43	34	29	58.22	55.2223416667	-34.4995055556	99.98
	55	13	20.43	34	24	43.29	55.2223416667	-34.4120250000	
	55	20	4.13	34	24	43.29	55.3344805556	-34.4120250000	
	55	20	4.13	34	29	58.22	55.3344805556	-34.4995055556	
97	55	20	4.13	34	30	23.47	55.3344805556	-34.5065194444	99.97
	55	20	4.13	34	25	2.79	55.3344805556	-34.4174416667	
	55	26	40.62	34	25	2.79	55.4446166667	-34.4174416667	
	55	26	40.62	34	30	23.47	55.4446166667	-34.5065194444	
98	55	26	40.62	34	25	28.39	55.4446166667	-34.4245527778	99.96
	55	26	40.62	34	20	8.03	55.4446166667	-34.3355638889	
	55	33	17.12	34	20	8.03	55.5547555556	-34.3355638889	
	55	33	17.12	34	25	28.39	55.5547555556	-34.4245527778	
99	55	31	5.74	34	20	8.03	55.5182611111	-34.3355638889	99.96
	55	31	5.74	34	14	48	55.5182611111	-34.2466666667	
	55	37	42.24	34	14	48	55.6284000000	-34.2466666667	
	55	37	42.24	34	20	8.03	55.6284000000	-34.3355638889	
100	55	37	42.24	34	20	37.31	55.6284000000	-34.3436972222	99.95
	55	37	42.24	34	15	22.95	55.6284000000	-34.2563750000	
	55	44	25.93	34	15	22.95	55.7405361111	-34.2563750000	
	55	44	25.93	34	20	37.31	55.7405361111	-34.3436972222	

[a] The geographic coordinates provided by COMRA were converted to Universal Transverse Mercator (UTM) coordinates (the recommended International Seabed Authority (ISA) standard) in order to compute the area sizes. As a result, there are minor variations in block sizes.

Indicative chart showing the general location of the area under application