


## I. ANNEX

# ISA Contract for Exploration – Public Information Template

	Type of resource: Manganese Nodules
	Name of Contractor: Blue Minerals Jamaica Limited
	Contract Start: 4 April 2021
Sponsoring State: Jamaica	Contract End: 3 April 2036
	Location: Clarion-Clipperton Zone

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## Introduction

The information contained in this ISA Contract for Exploration – Public Information Template is made available to the public in response to the request by the Council of the ISA to make contracts publicly available, subject to restrictions on confidential information, industrial secrets and proprietary data.

The content of the present template is in accordance with the Regulations on Prospecting and Exploration for [Polymetallic Nodules in the Area] [ISBA/19/C/17] (the “Regulations”).

## 1. Contract Information

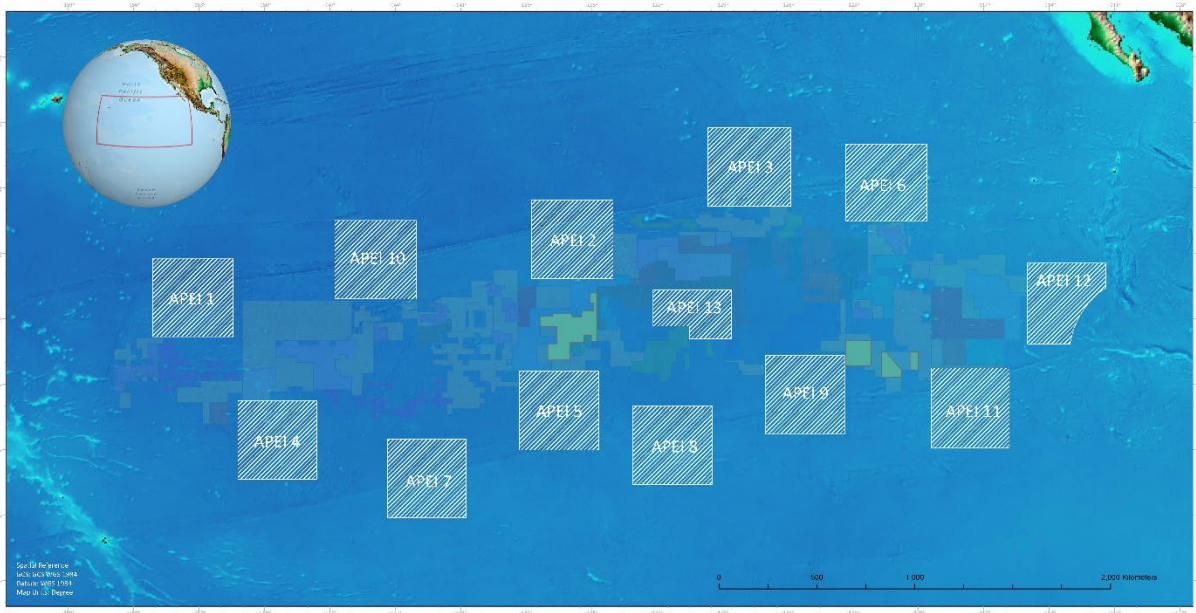
Annex III of the Regulations.

<b>Type of resource</b>	Manganese Nodules
<b>Name of Contractor</b>	Blue Minerals Jamaica Limited
<b>Contract Start</b>	4 April 2021
<b>Contract End</b>	3 April 2036
<b>Location</b>	Clarion-Clipperton Zone
<b>Contract Area (km<sup>2</sup>)</b>	74,916

## 2. Coordinates and Illustrative Chart of the Exploration Area

Schedule 1 of Annex III of the Regulations.

Block	Turning Point	Format 1 (DD format)		Format 2 (DMS)					
		Latitude (N)	Longitude (W)	Latitude (N)			Longitude (W)		
				deg.	min.	sec.	deg.	min.	sec.
A	1	13.1800	-135.0700	13	10	48.00	135	4	12.00
	2	13.1800	-134.7500	13	10	48.00	134	45	0.00
	3	10.9800	-134.7500	10	58	48.00	134	45	0.00
	4	10.9800	-135.0000	10	58	48.00	135	0	0.00
	5	11.2500	-135.0000	11	15	0.00	135	0	0.00
	6	11.2500	-135.3333	11	15	0.00	135	19	59.88
	7	10.9167	-135.3333	10	55	0.12	135	19	59.88
	8	10.9167	-136.0000	10	55	0.12	136	0	0.00
	9	10.1470	-136.0000	10	8	49.20	136	0	0.00
	10	10.1470	-137.0000	10	8	49.20	137	0	0.00
	11	10.8333	-137.0000	10	49	59.88	137	0	0.00
	12	10.8333	-136.5800	10	49	59.88	136	34	48.00
	13	11.6500	-136.5800	11	39	0.00	136	34	48.00
	14	11.6500	-137.3460	11	39	0.00	137	20	45.60
	15	12.1250	-137.3460	12	7	30.00	137	20	45.60
	16	12.1250	-136.7700	12	7	30.00	136	46	12.00
	17	12.2300	-136.7700	12	13	48.00	136	46	12.00
	18	12.2300	-135.8900	12	13	48.00	135	53	24.00
	19	12.1000	-135.8900	12	5	60.00	135	53	24.00
	20	12.1000	-135.4400	12	5	60.00	135	26	24.00
	21	12.3700	-135.4400	12	22	12.00	135	26	24.00
	22	12.3700	-134.8900	12	22	12.00	134	53	24.00
	23	12.7300	-134.8900	12	43	48.00	134	53	24.00
	24	12.7300	-135.0700	12	43	48.00	135	4	12.00
	25	13.1800	-135.0700	13	10	48.00	135	4	12.00
B	1	11.000	-123.3330	11	0	0.00	123	19	58.80
	2	11.0000	-122.1670	11	0	0.00	122	10	1.20
	3	9.8333	-122.1670	9	49	59.88	122	10	1.20
	4	9.8333	-123.3330	9	49	59.88	123	19	58.80
	5	11.0000	-123.3330	11	0	0.00	123	19	58.80
C	1	10.5000	-121.7000	10	30	0.00	121	42	0.00
	2	10.5000	-121.5000	10	30	0.00	121	30	0.00
	3	9.6667	-120.7910	9	40	0.12	120	47	27.60
	4	9.3330	-120.7910	9	19	58.80	120	47	27.60
	5	9.3330	-121.7000	9	19	58.80	121	42	0.00
	6	10.500	-121.7000	10	30	0.00	121	42	0.00
D	1	10.500	-120.3500	10	30	0.00	120	20	60.00
	2	10.500	-120.0000	10	30	0.00	120	0	0.00
	3	9.6667	-120.0000	9	40	0.12	120	0	0.00
	4	9.6667	-120.3500	9	40	0.12	120	20	60.00
	5	10.50000	-120.3500	10	30	0.00	120	20	60.00



**Clarion-Clipperton Fracture Zone Exploration and Reserved Areas for Polymetallic Nodules**

Tonga Offshore Mining Limited (TOML; Tonga)	Cook Islands Investment Corporation (CIIC; Cook Islands)	Global Sea Mineral Resources NV (GSR; Belgium)	Marsiva Research and Exploration Ltd (Kribati)	Reserved Areas
Federal Institute for Geosciences and Natural Resources of the Federal Republic of Germany (BGR; Germany)	China Minmetals Corporation (CMC; China)	Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER; France)	Nauru Ocean Resources Inc. (NORI; Nauru)	Areas of Particular Environmental Interest (APEIs)
Blue Minerals Jamaica Ltd (BMJ; Jamaica)	China Ocean Mineral Resources Research and Development Association (COMRA; China)	Interoceanmetal Joint Organization (IOM; Bulgaria, Cuba, Czechia, Poland, Russian Federation and Slovakia)	Ocean Mineral Singapore PTE Ltd. (OMS; Singapore)	
Yuzhmongologiya (Russian Federation)	Deep Ocean Resources Development Co. Ltd. (DORD; Japan)	Government of the Republic of Korea	UK Seabed Resources Ltd. (UKSRL; UK)	

Base map Sources: GEBCO, NOAA



### 3. Plan of Work

Summary of Plan of Work for Exploration including the Programme of Activities for the first and/or the current 5-year period (Regulation 18).

- Vessel-based mapping of seafloor bathymetry in the four blocks.
- Mapping and interpretation of acoustic backscatter from the vessel multibeam.
- Polymetallic nodule and sediment sampling within the box core sampler and analytical.
- Acquire seafloor photo imagery surveys, using a georeferenced towed camera.
- Identify and prioritize potential test mining sites and establish environmental baselines studies at chosen test site(s).
- Collect environmental baseline data in the areas.
- Conduct AUV-based, high-resolution, near-bottom acoustic surveys of the seabed.
- Conduct bulk sampling of polymetallic nodules.
- Carry out engineering design for mining technology and ore processing methods.
- Estimate resources and define reserves.
- Conduct an EIA scoping study.

## 4. Programme of Activities and Exploration Expenditure

Section 4.1 of Annex IV of the Regulations and Schedule 2 of Annex III of the Regulations.

### I. Agreed 5-year Programme of Activities

5-year Programme of Activities	First	Second	Third	Extension
General Objectives	Objective		Description	
	General introduction		<ul style="list-style-type: none"> <li>• Review of publicly available exploration data;</li> <li>• Review international patents;</li> <li>• Review publicly available environmental data of the Clarion-Clipperton Fracture Zone;</li> <li>• Review previous economic studies related to seafloor polymetallic nodule mining;</li> <li>• Carry out desktop engineering studies;</li> <li>• Commence planning of cruise #1;</li> <li>• Develop a detailed environmental work plan for the exploration programme;</li> <li>• Develop the terms of reference for an EIA scoping study;</li> <li>• Develop a stakeholder engagement and communication and training plan for the exploration programme;</li> <li>• Develop a database to capture and standardize exploration, geological and environmental data, providing an auditable record of activities, samples assay data, measurements, imagery, etc. and provide at-sea data capture tools, and streamline data delivery reporting to the Authority's database.</li> </ul>	
	Exploration cruise #1		<ul style="list-style-type: none"> <li>• Multibeam bathymetric and backscatter survey;</li> <li>• Bottom sampling campaign;</li> <li>• Water column physicochemical sampling;</li> <li>• Surface biological observation programme;</li> <li>• Data management and reporting.</li> </ul>	

	Analysis of cruise #1 data	<ul style="list-style-type: none"> <li>• Conduct analyses of geophysical and geotechnical sediment data;</li> <li>• Conduct analyses on or archive environmental samples and facilitate database storage and delivery of data and report(s) to te Authority;</li> <li>• Integrate findings into an EIA scoping study draft;</li> <li>• Establish geological resource models for the surveyed areas;</li> <li>• Identify potential mine site based on local geology, abundance and metal grades of nodules;</li> <li>• Review advanced exploration equipment and methodologies to be used in cruise #2 based also on outcome from cruise #1;</li> <li>• Plan cruise #2.</li> </ul>
	Offshore exploration cruise #2	<ul style="list-style-type: none"> <li>• Near-bottom image survey;</li> <li>• Environmental baseline study;</li> <li>• Engineering.</li> </ul>
	Analysis of cruise #2 data and preparations for year 4 campaign, cruise #3	<ul style="list-style-type: none"> <li>• Conduct analyses of geophysical and geotechnical sediment data;</li> <li>• Conduct analyses on or archive environmental samples and facilitate database storage and delivery of data and report(s) to te Authority;</li> <li>• Finalize the EIA scoping study;</li> <li>• Establish geological resource models for the surveyed areas;</li> <li>• Identify potential mine sites;</li> <li>• Refine the exploration programme based on outcome form cruise #1 and #2;</li> <li>• Review new exploration equipment and methodologies to be used in cruise #3 based on outcomes from cruise #1 and #2;</li> <li>• Plan cruise #3.</li> </ul>
	Exploration cruise #3	<ul style="list-style-type: none"> <li>• High-resolution geophysical campaign;</li> <li>• Bulk nodule sampling;</li> <li>• Environmental baseline study;</li> <li>• Engineering.</li> </ul>

	Analysis of cruise #3 data	<ul style="list-style-type: none"> <li>• Conduct analyses of geophysical and geotechnical sediment data;</li> <li>• Conduct analyses on or archive environmental samples and facilitate database storage and delivery of data and report(s) to te Authority;</li> <li>• Trigger a test mining EIA;</li> <li>• Establish geological and ecological models for the surveyed areas;</li> <li>• Identify test mine site(s) based on abundance and metal grades of nodules;</li> <li>• Refine the exploration programme based on outcome form cruise #3.</li> </ul>
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**II. Results achieved during reported year [#]: [year]**

Annual objectives and activities			
Year	No.	Agreed Objectives	Objective: Completed, Modified, Postponed or Replaced
2021	1	Review historical exploration data	Reviewed the ISA provided historical data for block A, B, C and D.
2021	2	Review previous economic studies	Technology development by Allseas the strategic partner of Blue Minerals Jamaica. Prototype collector and riser build and installed, these will be tested in 2022 during the planned pilot mining activity in the NORI-D license block operated by The Metals Company.
2021	3	Commence planning for cruise #1.	MV Fortress, an offshore supply vessel operated by Allseas, is nominated to perform two 30-day boxcore campaigns in 2022.



## 5. Training Programme

Schedule 3 of Annex III of the Regulations.

### I. Training Programme

Type of training	Programme Management / Planning Traineeship	Logistics and traineeship	Engineering traineeship
<b>Institutions</b>	Allseas group S.A.	Allseas group S.A.	Allseas group S.A.
<b>Duration</b>	5-10 weeks	5-10 weeks	5-10 weeks
<b>Scope</b>	Participation in survey campaign preparation and execution.	Join operational team to assist in the final preparations and execution of the mob/demob of a survey campaign.	Join the engineering team to design engineer equipment and establish procedures for exploration and prototype mining operations.
<b>Fields</b>	Management/Planning	Planning/Logistics	Engineering
<b>Qualification required</b>	Fluent in English, bachelor's degree, proven interest on professional development in the marine sector.	Fluent in English, bachelor's degree, proven interest on professional development in the marine sector.	Fluent in English, bachelor's degree in mechanical engineering or equivalent, proven interest on professional development in the marine sector.
<b>Financing</b>	Blue Minerals Jamaica Limited	Blue Minerals Jamaica Limited	Blue Minerals Jamaica Limited

Type of training	Fabrication traineeship	Nautical traineeship	Scientific sampling traineeship
<b>Institutions</b>	Allseas group S.A.	Allseas group S.A.	Allseas group S.A.
<b>Duration</b>	5-10 weeks	5-10 weeks	5-10 weeks
<b>Scope</b>	Join as site engineer to assist construction manager on fabrication scope for deep-sea mining survey campaign.	Traineeship for seafarer with nautical background for dynamic positioning in deep water survey operations.	Training for collection and conservation of marine/biological samples.
<b>Fields</b>	Engineering	Marine transportations	Marine biotechnology
<b>Qualification required</b>	Fluent in English, bachelor's degree in mechanical	Fluent in English, bachelor's degree in	Fluent in English, bachelor's degree in

	engineering or equivalent, proven interest on professional development in the marine sector.	marine transportation or equivalent.	marine biotechnology or equivalent.
<b>Financing</b>	Blue Minerals Jamaica Limited	Blue Minerals Jamaica Limited	Blue Minerals Jamaica Limited

<b>Type of training</b>	<b>Hydrographic survey traineeship</b>	<b>QHSE traineeship</b>
<b>Institutions</b>	Allseas group S.A.	Allseas group S.A.
<b>Duration</b>	5-10 weeks	5-10 weeks
<b>Scope</b>	Training focused on the operation and use of the various survey equipment to perform vessel positioning, bathymetry survey communication.	Training for the preparation of HAZIDS, HAZOPS, work permits, safety assessments, and emergency response procedures. Training can be split into onshore and offshore parts.
<b>Fields</b>	Marine biotechnology	Marine transportations
<b>Qualification required</b>	Fluent in English, bachelor's degree in marine biotechnology or equivalent.	Fluent in English, bachelor's degree in marine transportation or equivalent.
<b>Financing</b>	Blue Minerals Jamaica Limited	Blue Minerals Jamaica Limited

**II. Trainings conducted up to reported year [#]: [year]**

Nothing to report.

**III. Completed Trainings per Year**

Nothing to report.

## **6. Standard clauses**

Annex IV of the Regulations.