


## I. ANNEX

# ISA Contract for Exploration – Public Information Template

	Type of resource: Polymetallic 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

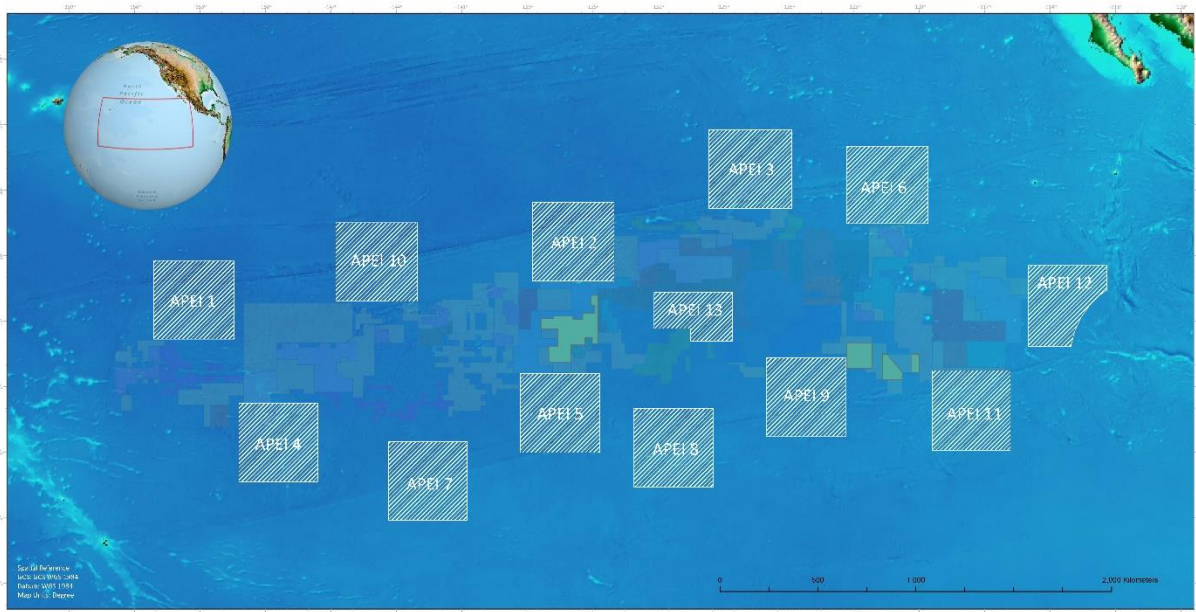
Annex III of the Regulations.

<b>Type of resource</b>	Polymetallic 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)	Marawa Research and Exploration Ltd (Kiribati)	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 (IOJ; Bulgaria, Cuba, Czechia, Poland, Russian Federation and Slovakia)	Ocean Mineral Singapore PTE Ltd. (OMS; Singapore)	
Yuzhmorgeologiya (Russian Federation)	Deep Ocean Resources Development Co. Ltd. (DORD; Japan)	Government of the Republic of Korea	UK Seabed Resources Ltd. (UKSRL; UK)	

BaseMap Source: 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		
	Review of Relevant Public and International Data	<ul style="list-style-type: none"> <li>• Review Publicly Available Exploration Data</li> <li>• Analyse International Patents</li> <li>• Examine Public Environmental Data</li> <li>• Evaluate Previous and Modern Economic Studies</li> </ul>		
	Database Development	<ul style="list-style-type: none"> <li>• Create Database Architecture</li> <li>• Implement Data Capture Tools</li> <li>• Streamline Data Delivery Reporting</li> </ul>		
	Conducting Multibeam Bathymetric and Backscatter Survey	<ul style="list-style-type: none"> <li>• Design survey grids for four contract blocks</li> <li>• Carry out large-scale reconnaissance surveys</li> <li>• Obtain and analyse bathymetric coverage</li> <li>• Collect and evaluate backscatter data</li> <li>• Block selection</li> </ul>		
	Nodule and Sediment Analysis	<ul style="list-style-type: none"> <li>• Physical Analysis</li> <li>• Mechanical Analysis</li> <li>• Mineralogical Analysis</li> <li>• Chemical Analysis</li> </ul>		
	Geological Resource Assessment	<ul style="list-style-type: none"> <li>• Nodule Type Determination</li> <li>• Nodule Size and Abundance Assessment</li> </ul>		
	Geotechnical Properties Evaluation	<ul style="list-style-type: none"> <li>• Geotechnical Properties Evaluation</li> <li>• Geological and Environmental Geochemical Assay</li> </ul>		
	Biological Baseline Studies	<ul style="list-style-type: none"> <li>• Megafauna Studies</li> <li>• Infauna Studies</li> <li>• eDNA Sampling</li> <li>• Morphological Studies</li> <li>• Genetic Taxonomic Studies</li> </ul>		
	Water Column Physicochemical Sampling	<ul style="list-style-type: none"> <li>• Deploy CTD sensors for measurements</li> <li>• Collect water column profile data</li> <li>• Analyse water samples for physicochemical properties</li> <li>• Lower ADCP</li> </ul>		
	Surface Biological Observation Programme Implementation	<ul style="list-style-type: none"> <li>• Implement offshore observation system (PelagOS)</li> <li>• Collect and record wildlife observations</li> <li>• Collect data on weather and litter</li> </ul>		
	Near-Bottom Imaging Survey	<ul style="list-style-type: none"> <li>• High-Resolution Image Collection</li> <li>• Data Analysis for Nodule Assessment</li> <li>• Benthic Megafauna Analysis</li> <li>• Geophysical Data Acquisition</li> <li>• SSS or SAS</li> </ul>		

	Environmental Baseline Study	<ul style="list-style-type: none"> <li>• Habitat Mapping</li> <li>• Studies of Pelagic Communities</li> <li>• Detailed Sampling of Benthic Fauna</li> <li>• Identification of Potential Mining Sites (AOIs)</li> <li>• PRZs Identification</li> <li>• Oceanographic Mooring Deployment</li> <li>• Recovery and Redeployment of Oceanographic Moorings</li> <li>• Plume/Deposition and Noise Modelling</li> <li>• Ecosystem Models</li> <li>• EIA Compilation</li> </ul>
	Engineering Review	<ul style="list-style-type: none"> <li>• Technology Assessment</li> <li>• Technical Solution Review</li> </ul>

## II. Results achieved during reported year 2023: year 3

Annual objectives and activities			
Year	No.	Agreed Objectives	Objective: Completed, Modified, Postponed or Replaced
Year 1	1	Review of Relevant Public and International Data	Completed.
Year 1	2	Nodule and Sediment Analysis	Completed.
Year 2	3	Conducting Multibeam Bathymetric and Backscatter Survey	<ul style="list-style-type: none"> <li>• Design survey grids for four contract blocks – Completed</li> <li>• Carry out large-scale reconnaissance surveys – Completed</li> <li>• Obtain and analyse bathymetric coverage – Completed</li> <li>• Collect and evaluate backscatter data – Completed</li> </ul>
Year 2	4	Geotechnical Properties Evaluation	Completed
Year 3	5	Biological Baseline Studies	<ul style="list-style-type: none"> <li>• Megafauna Studies – Completed</li> <li>• eDNA Sampling – Completed</li> </ul>
Year 3	6	Water Column Physicochemical Sampling	<ul style="list-style-type: none"> <li>• Deploy CTD sensors for measurements – Completed</li> <li>• Collect water column profile data – Completed</li> </ul>
Year 3	7	Engineering Review	Completed

## 5. Training Programme

Schedule 3 of Annex III of the Regulations.

### I. Training Programme

Type of training	At-sea survey traineeship
<b>Institutions</b>	Allseas Group S.A.
<b>Duration</b>	3-weeks at-sea cruise
<b>Scope</b>	Practical and theoretical training in offline multibeam data processing and video eventing, with a brief introduction to online hydrographic survey operations.
<b>Fields</b>	Survey
<b>Qualification required</b>	Fluent in English, bachelor's degree.
<b>Financing</b>	Blue Minerals Jamaica Ltd.

### II. Trainings conducted up to reported year 2023

The training will take place at the end of 2024 or the beginning of 2025, depending on the vessel schedule.

### III. Completed Trainings per Year

Nothing to report.



## **6. Standard clauses**

Annex IV of the Regulations.