

<i>Document reviewed</i>		
Title of the draft being reviewed:	Draft Guidelines for the establishment of baseline environmental data	
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<i>General Comments</i>		
<p>1. Certain terminologies and definitions are not consistent with previous ISA Guidelines. For example, the “macrofauna” in previous ISA guidelines refers to “animals retained on a mesh size of 250 μm”, but in the document ISBA/25/LTC/6/Rev.1, macrofaunal are those “retained on a 250- or 300-μm mesh”. In this draft guideline, “macrofauna” refers to those “retained on a mesh size of 250-300 μm” (see Appendix I). The inconsistency of the definition of macrofauna could cause confusion in comparing historical data and data from different contractors. We suggest that the definition should follow what was adopted in the guidelines before 2020, i.e. “animals retained on a mesh size of 250 μm”.</p>		
<p>2. Subdivision of sediment layers is not consistent in this draft guideline. Line1754-1755: For sediment fauna, all processing should be performed in a wet laboratory. Sediment should be divided into 0-3cm, 3-5cm and 5-10cm depths Line 2043-Line2044: food-web structure analysis should be sampled at 0-1, for meiofauna and 0-1, 1-5 and 5-10cm for macrofauna.</p>		
<i>Specific Comments</i>		
Page	Line	Comment
7	179-184	Baseline data tend to change greatly in the surface layer (0-200m), thus 3 or 4 layers of samples would not be enough to describe vertical changes. On the other hand, based on previous investigation, the baseline data in the bottom 500m varied little and thus would not require too many sampling layers. Therefore, we suggest to add more sampling layers in the surface (0m, 25m, 50m, 75m, 100m, 125m, 150m and 200m, for example), and the thermocline and DCM layer should also be considered to obtain a better profile. The bottom layers could be reduced to 10m, 25m, 50m, 100m,

		200m and 500m from the bottom. During the mining process, extra bottom layers should be added to closely monitor the environmental changes.
7	186	In certain area, the upper 2 cm of bottom sediments are thin and usually semifluid, which makes it hard to be subdivided by 0.5cm. We suggest it be subdivided by 1cm.
35	1383	Box corer sampling should be added.
36	1384- 1386	Specific methodologies of IDOP adopted by this guideline should be stated clearly or added as an appendix in the guideline in case of confusions.
37	1455- 1463	<p>(1) It is suggested to categorize the parameters to 5 classes:</p> <p>a. sediment occurrence: bedding thickness and attitude (orientation or angle), bedding contacts (e.g. gradational, sharp and scoured), sedimentary structures (e.g. laminated bedding, graded bedding, cross bedding, fractures or micro-faults, fluid scape structures and bioturbation), sediment colour</p> <p>b. composition of sediments: texture (sand, silt, clay), mineral composition, fossil composition, element content, sediment type</p> <p>c. early diagenesis: diagenesis and lithification or cementation degree (presence of silicic or calcareous cements)</p> <p>d. physical and mechanical properties: specific gravity, bulk density, sediment porosity, fluid saturation, shear strength and grain size</p> <p>e. oxidation-reduction status: sediment depth of change from oxic to suboxic conditions.</p> <p>(2) “e.g. use a Munsell Soil Colour Chart for classification” could be deleted. Equipment to test sediment colors could better describe this parameter to avoid bias from human observation.</p> <p>(3) oxidation-reduction status of sediments: It is suggested to add a reference standard for the judgement of oxic and suboxic conditions.</p>
38	1474- 1478	There are many standards and guidelines in the given website. Those adopted by this document should be specified or attached as an appendix.

42	1649-1650	A sieve of 250µm should be used to retain macrofauna. This is in accordance with most literatures and the previous ISA guidelines, and will ensure that the future data is comparable to previous baseline data obtained by the contractors.
48	1913-1915	TV grab usually has poor sealing performance. It is suggested these samples not used for microbial fauna analysis.
51	2049-2053	Meiofauna for stable isotope analysis should be sieved over a 32µm sieve instead of 63µm, which is in accordance with the definition of meiofauna. Similarly, the definition of macrofauna should be 250µm instead of 300µm.
<i>Additional rows can be added to this table by selecting “Table” followed by “insert” and “rows below”</i>		

Appendix I. Comparison of definitions of macrofauna on in ISA guidelines.

Regulation or Guideline	Definition of macrofauna	Subdivision requirement of sediments
Recommendations for the guidance of the contractors for the assessment of the possible environmental impacts arising from exploration for polymetallic nodules in the Area (ISBA/7/LTC/1/Rev.1**)	>250µm	0-1cm、 1-5cm、 5-10cm
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)	>250µm	0-1cm、 1-5cm、 5-10cm
Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising	>250µm	0-1cm、 1-5cm、 5-10cm

from exploration for marine minerals in the Area (ISBA/19/LTC/8)		
Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area (ISBA/25/LTC/6/Rev.1 and ISBA/25/LTC/6/Rev.1/Corr.1)	macrofauna (300 µm sieve mesh size ¹) foot note: 250 µm or 300 µm	0-1cm、 1-5cm、 5-10cm
This draft guideline	retained on a mesh size of 250-300 µm	For diversity and abundance (Line1755) : 0-3cm、 3-5cm、 5-10cm; For ecosystem functioning (Line 2044): 0-1cm、 1-5cm、 5-10cm