

Virtual Meeting of the Intersessional Working Group on Test Mining, co-organized by Germany, Belgium and China

18 June 2025

1. Background

During the first part of the 30th Session of the ISA Council, the delegations of Germany, Belgium and China submitted a joint proposal on Test Mining and Pilot Mining, Draft Regulation 48 ter (Alt.2).

The Intersessional Working Group on Test Mining (previously co-hosted by Germany and Belgium and led by Harald Ginzky) already conducted a series of working group meetings over the past three years and organized an in-person workshop in December 2024 to discuss the topic of test mining.

The most recent draft of the exploitation regulations contains as a result of this work draft regulation 48 ter (“Test mining”). In addition, China had submitted draft regulation 48 ter Alt (“Pilot Mining”), as an alternative. At the sidelines of Part I of the 30th session, the delegations of Germany, Belgium and China have produced a joint proposal¹, by merging the aspects of test mining and pilot mining and returning to a two-phased approach, as originally proposed by Germany in 2019. This proposal was presented to an informal meeting during week 2 of the Council in March, where initial feedback was collected and an intersessional webinar was announced.

As announced during this informal meeting and in Council, China was invited to become the third co-host of the intersessional working group, preparing the second part of the 30th Session of the ISA Council, to which they kindly agreed. The co-hosting countries of this working group, Germany, Belgium and China, invited all state parties, observers and contractors to attend a virtual meeting, which took place on 18 June 2025.

The main objective of the meeting was to give participants the opportunity to provide general feedback and clarify any open questions. A dedicated time was reserved for observers and contractors. Due to time constraints of the meeting, the discussions were kept at a high level and no in-depth discussion of wording of the proposal took place.

In addition, all participating parties had been invited to provide written feedback to the joint proposal prior to the meeting. The feedback received is included in the appendix of this report.

More than 70 participants from various countries, representing state parties, industry, science and NGOs attended the intersessional working group meeting, thereby showing how important this topic is to the regulatory framework. This report summarizes the discussions, which were all conducted in a respectful and collaborative way, and highlights the open questions as main outcome of the meeting.

¹ https://www.isa.org.jm/wp-content/uploads/2025/03/Joint-proposal-by-Germany-Belgium-and-China_final.pdf

2. Agenda of the virtual meeting.

9:00 – 9.10	Welcome and Introduction by the Co-hosts
9.10 – 9.15	Presentation of the Joint Proposal
9.15 – 10.30	Feedback from State Parties
10.30 – 10.55	Feedback from ISA Observers and Contractors
10.55 – 11.00	Concluding remarks

3. Introduction

In welcoming all participants, the German co-host pointed out that a lot of progress in regulating Test Mining (TM) and Pilot Mining (PM) as part of the exploitation regulations had been made already. This includes the recent workshop in Bremen, Germany, where various legal and technical aspects, including scope, temporal and spatial scale, benefit sharing and a standard with technical requirements were discussed (see intersessional report² submitted to the ISA Council in March 2025).

During the first part of the 30th Session of the ISA Council in March 2025, further progress was made when a merged text proposal was agreed and submitted to the ISA Secretariat by Germany, Belgium and China. In succession of the informal meeting, the recent intersessional working group meeting was intended to present the joint proposal in more detail, seeking general feedback and identifying open questions.

The Belgian co-hosts stressed the importance of TM/PM in his opening statement as the resulting data are important for informed decision-making. He acknowledged that TM/PM also causes harm and should be regulated in a stringent but proportionate manner. Therefore, while clearly an important topic, TM/PM should not form an artificial threshold for DSM, and it should be objective-driven.

The Chinese co-host pointed out their aspiration to strike a balance between environmental protection and resource extraction with this proposal. The outcome of this working group meeting should help to further improve the proposal and provide a better basis for discussion at the second part of the Council Session in July.

The issue remains essential for the exploitation regulations and a prerequisite for activities, as underlined by the German co-host. Only TM/PM can enable an applicant to prove or demonstrate that they can meet all environmental and other requirements under the Mining Code. This cannot be accomplished solely from modelling data and requires field data, for the LTC to check the fulfilment of regulations and standards.

4. Introduction to the joint proposal

The joint proposal is not a single regulation, but a package. The main textual proposal is DR 48 ter. Alt 2 but there are numerous other provisions with links to other steps in Mining Code, including definitions (in the Schedule) and annexes.

² <https://www.isa.org.jm/session-30-council-part-1-march-2025/>

Test Mining is defined in the Schedule as in situ use and testing of a fully integrated and functional mining system, including collection systems and water discharge systems. TM has to be conducted before the submission of a Plan of Work for Exploitation (DR 48 ter. Alt.2, para 1).

Pilot Mining is defined as an in situ operating of the integrated system of all equipment and all related process steps, including collector, raiser and release techniques, for exploitation activities in a Contract Area under appropriate technical, spatial and temporal conditions which provides evidence concerning, inter alia, environmental impact, commercial capacity, duration of operations to validate feasibility of future Commercial Production. It must be conducted before starting any Commercial Production under an Exploitation Contract (DR 48 ter.Alt.2, para 2), at least 12 months prior to this Commercial Production (DR 25, para1).

Test Mining (Regulation 48 ter. Alt.2.) is proposed to be mandatory (para 1), as there is a clause saying “unless otherwise provided” and nowhere does it provide an exception. Its purpose is to support the information provided in the present application for the approval of a Plan of Work for Exploitation (Regulation 13, para 9, subpara e), i)). The approval process is still an open issue, i.e., whether a Standard or more regulations on TM should be developed. Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area were already published on the ISA website (<https://www.isa.org.jm/mining-code-recommendations/>).

The proposal stipulates, in DR 48 ter.Alt.2, that Pilot Mining is mandatory. Its Purpose (as laid out in para 4) is to validate that the proposed mining equipment is commercially and technically appropriate, in particular with regard to the Protection of the environment, and that it operates as described in the Environmental Impact Statement/Plan of Work. A contractor requires approval by the LTC and Council prior to commencing PM activities, followed by an in-depth assessment and recommendations by LTC and approval by Council after PM is finalized (paras 9-10). A material change is regulated in para 8 and, according to para 11, Regulations 12 to 16 are applicable mutatis mutandis. An important aspect of PM is the validation monitoring system (para 6), which is intended to monitor whether the requirements of the Plan of Work are complied with. The issue of gains from PM, whilst regulated in para 7, remains to be further developed.

The main achievement of the joint proposal is the merging of the two-step approach into the regulations. This affects not only DR 48ter but also other regulations.

5. Discussions and Feedback

The following section list the topics that emerged from the comments from state parties, industry, science and NGOs as the main open issues with regard to DR 48 ter Alt.2. As there was no discussion of aspects, the list collates these comments into a few main aspects/questions, as perceived by the co-hosts of the working group:

(1) Scope of TM phase:

- Is a fully integrated system necessary already for the first stage/TM (and in addition to the second stage/PM) or are individual component tests sufficient? The national positions on this aspect differ, but the joint proposal mentions a fully integrated TM.

(2) Can exemptions be granted from conducting a fully integrated TM, if similar testing has already been conducted by other contractors or the same contractor in comparable

circumstances? In the original text of DR 48ter, there was a provision relating to exemptions.

- Provisions for exemptions were considered by state parties in case an applicant can demonstrate that they have done TM before with their equipment or the (similar) equipment has been proven elsewhere. This would reduce or avoid the additional impact caused by TM on the deep-sea environment. It can be argued that TM should be objective-driven and thus only mandatory if the applicant cannot demonstrate through other means. As this is not possible at the moment due to lack of experiences with full-scale mining, it may be the case in the future. It was suggested that, to not duplicate efforts by conducting repetitive test mining, the definition of TM could be modified to allow for exemptions. The burden of proof with regard to qualifying equipment and environmental aspects should be on the applicant.
- The environmental and legal risks of the requirement to have a mandatory TM should be elaborated.
- The objectives of TM and PM that need to be proven by the contractors should be clearly defined and stated.
- The two-staged approach was already part of an earlier version of DR 48 (as proposed by Germany in 2019). Stipulating this approach as TM and PM in the joint proposal is therefore no novelty to Council discussions on this matter.
- A parallel was drawn to other existing offshore technology, where the purpose of initial testing usually is to show the technical readiness level (TRL) of newly developed equipment and to qualify the environmental or performance requirements. Following this paradigm, TM should be a component of environmental qualification which is ramped up in the process, whereas PM would be the first phase for a commercial license.
- Empirical information gained from an in-situ experiment at a Belgian exploration site in the CCZ showed that the environmental heterogeneity is an important factor. The results show that an extrapolation of environmental effects can't be extrapolated between different sites. Without TM and PM at each site, the results would not be robust. Moreover, IRZs and PRZs must be considered in TM and PM (as discussed in previous workshops).

(3) What is the exact difference between TM and PM, and what are the temporal and spatial scales and technical requirements? This leads to the overall question of additional specifications and respective requirements. There were discussions at the Bremen workshop in 2024 on a proposed Standard for TM (see report from the Bremen workshop³ in the footnote in DR 48 ter. Alt.2).

- It was suggested that spatial and temporal scale requirements for TM and PM must be clearly defined.
- Differences in scales between TM and PM were proposed, with smaller scales for TM.
- It was suggested that standards are required for both TM and PM, to regulate the conduct of activities. The intention would not be to regulate the exploration phase,

³ <https://www.isa.org.jm/session-30-council-part-1-march-2025/>

but to provide regulations only for those who want to move to exploitation and eventually commercial production.

- Technical aspects of required activities during TM should be specified and defined.

(4) Delineation of TM and PM – How will TM be regulated? Fully under exploitation regulations? How are the EIA requirements for TM regulated?

- The existing exploration regulations are more suitable for component testing.
- The exploration regime does not address the go- or no-go decision for TM. The joint proposal tries to stipulate what may be undertaken in exploration, but there is a lack of control of what can be seen as more intense activities during exploration.
- Regulating TM under the exploration regulation is not intended. TM remains non-mandatory during exploration, but would be a mandatory pre-requisite for those contractors wanting to move to exploitation. However, careful wording is required as DR 48ter Alt.2 would regulate a process taking place as mandatory part of exploration.
- An explanation on environmental and legal risks of TM may be required.
- Can TM requirements be set in the exploitation regulations? There are precedents in the Draft Mining Code already, as it regulates a number of activities that need to be performed before an application is submitted, e.g. EIAs which need to be prepared during the exploration phase.
- Is there any consideration for a two-phase contractual approach: pre-exploitation and exploitation (commercial production)?
- Regarding intent to move to exploitation: what about technology providers who might want to do full scale testing to demonstrate their equipment?

(5) How to regulate monitoring, and how does it relate to validation monitoring?

- The question arose if and how validation monitoring relates to environmental monitoring? Is it more testing, and/or just more frequent monitoring? A clear specification of the monitoring purpose and requirements would be needed.
- Does the validation monitoring, as specified in DR48 ter. Alt 2, paragraph 6 apply just for PM or exploitation in general?

(6) Council approval

- The question was raised what is the recourse if Council is not satisfied and the contractor cannot progress to commercial production. In response, it was pointed out though that such a project would be declined. This point, however, may need further elaboration. Commercial production is defined in DR 27, so there are provisions that would apply.
- It remains unclear with whom the responsibility resides to decide when commercial production can be commenced.

6. Minor aspects:

- There is overlap with DR 59 with regard to a change to a PoW; a clarification is needed as to when provision Dr 48 ter Alt.2 or DR 59 applies.

- Germany has just published a report on TM/PM which can be downloaded from the website of the German Environment Agency:
Test mining in the Area: Legal, regulatory, environmental governance and scientific perspectives, authored by Pradeep Singh and Sabine Christiansen.
<https://www.umweltbundesamt.de/en/publikationen/test-mining-in-the-area-legal-regulatory>

7. Concluding Remarks

The co-hosts invited further written feedback until 20 June 2025. Along with the report of the intersessional working meeting from the co-convenors, the ISA Secretariat will be asked to upload any written comments received by that date. At the Council, the IPW has scheduled a discussion on TM/PM foreseen for 18 July in the morning.