

**Report of the Informal Working Group on Test Mining and Pilot Mining
on the intersessional period March - June 2026**

15 June 2026

Co-Facilitators: Belgium, China, Germany

I. Background

Following the first part of the thirty-first session of the Council in March 2026, the Co-Facilitators have prepared a working document with the draft regulations relevant for Test Mining and/or Pilot Mining setting out proposed/potential amendments to the text based on the discussions held on 12 March 2026 and written submissions by delegations received thereafter.

The Informal Working Group on Test Mining and Pilot Mining held an intersessional online meeting on 2 June 2026 with about 48 participants, including State delegations, industry/contractors, scientific institutions and NGOs.

During the meeting, the IWG discussed proposed/potential text amendments as well as some guiding questions prepared by the Co-Facilitators.

On the basis of the outcome of these discussions and written submissions received thereafter, the Co-Facilitators have prepared partially revised draft regulations relevant for Test Mining and Pilot Mining as set out in Annex I to this report.

This summary report is intended to reflect the discussions held and to identify the main outstanding issues. It does not represent the national position of the Co-Facilitators.

The Co-Facilitators wish to express sincere gratitude to all participants for their contributions.

II. Main discussion topics and views expressed

(1) Definitions of Test Mining and Pilot Mining (Schedule)

Several members pointed out that the distinction between Test Mining (TM) and Pilot Mining (PM) still needs further clarification and that the various draft definitions set out in the Schedule need further revision.

One group of states offered the following understanding: TM should take place during the exploration phase and should primarily aim to generate the technical and environmental data necessary to inform the evaluation of an application for approval of a Plan of Work for exploitation; PM, in turn, could be envisaged as an evaluation phase conducted after the approval of a Plan of Work but before the commencement of commercial production, with the objective of confirming that the integrated mining

system performs as anticipated and that environmental impacts remain within the parameters previously assessed.

One delegation considered that the aim of these activities should not be part of the definitions but moved to standards; it also noted inconsistencies in the terms used (e.g., “techniques” vs. “water discharge”).

Another delegation found the definitions incomplete without clear spatial and temporal scales.

One delegation emphasized that scale is critical – full scale would not be feasible at this stage, and 20% or 10% scale should be considered.

An observer suggested that Test Mining should be defined as component qualification (as in the oil and gas industry for 50 years) and Pilot Mining as the start-up phase of commercial operations.

Some members expressed concern that the current proposal for two full-scale tests might be technically demanding, logistically complex, costly and therefore impracticable and asked for further justification. One delegation suggested that a more flexible and proportionate approach would allow contractors to demonstrate system readiness and environmental performance through a combination of validated testing methods, without requiring multiple full-scale deployments before allowing Commercial Production to start.

An observer noted that the concept of “Pilot Mining” does not exist in any other industry and could discourage commercial engagement.

In addition, one delegation proposed that the wording of the definitions should be applicable to all three resource types (polymetallic nodules, cobalt-rich crusts and seafloor massive sulphides), rather than being limited to nodules.

An observer argued that Pilot Mining has no unique purpose because at any stage of production, if equipment is inadequate or environmental impacts exceed limits, operations would be stopped; the requirements are not specific to Pilot Mining.

One delegation supported this view, stressing the need to carefully define what makes Pilot Mining useful.

Another delegation also supported it, stating that paragraph 4(1) (validation of commercial and technical appropriateness) is the contractor’s responsibility, not the LTC’s; the LTC should focus on environmental impacts.

Another observer, however, considered Pilot Mining as the ramp-up phase to commercial mining – the first time the full system is tested, including verification of technical systems and monitoring – which serves a clear purpose.

One observer is advocating for an outcome-focused approach to Test Mining and Pilot Mining requirements. In its view it is not important whether a system is “fully integrated”, but that the environmental effects are understood, predictable, and manageable. This principle should in its view be reflected not only in the operative

provisions of regulation 48ter but equally in the definitions of “Test Mining” and “Pilot Mining” in the Schedule.

With a view to move forward and further clarify the concepts of TM and PM, some members suggested that the Informal Working Group (IWG) could initiate the development and distribution of a diagram on this matter to facilitate better understanding.

(2) Exemptions (DR 48ter, paragraph 1)

While divergent views continue to be expressed with regards to the question whether exemptions should be allowed from the requirement to conduct Test Mining (TM) and/or Pilot Mining (PM), there seems to be a slight tendency towards allowing exemptions under specific/strict conditions, once technological equipment, technologies and capabilities have been proven.

One delegation sought clarification on the rationale for paragraph 1 on exemptions, whereas another delegation stated that this paragraph can't be included without having established a clear obligation in the regulations to perform Test Mining and that such obligation would need to be set out in the exploration regulations.

The Co-Facilitators offer the following understanding:

The rationale for this paragraph is that TM during exploration can only be exempted if this is allowed by the exploitation regulations and under the process set out in the exploitation regulations. This might include the case where an applicant can successfully demonstrate e.g., the use of mature or demonstrated technologies and the capacity to carry out activities, and the ISA determines that this is satisfactory. As such, it is important to make clear that TM during exploration is needed to support the application for a PoW for exploitation, unless the ISA specifically exempts this. TM during exploration is procedurally regulated by the exploration regime. However, what is necessary to move from exploration to exploitation is regulated by the exploitation regulations. This makes clear that conducting TM, like other requirements during exploration, such as submission of data and preparation of an EIA, is essential (unless exempted). It is not about regulating exploration, but rather, the shift from exploration to exploitation.

On possible exemptions from the requirement to conduct Test Mining and/or Pilot Mining, some supported an exemption clause where successful testing of the relevant mining equipment has been performed in similar conditions.

Others noted that exemptions could be allowed once technology matures and that the regulations should allow for that.

One group of states expressed a degree of caution. The industry remains largely emerging, and scientific knowledge regarding deep-sea ecosystems and the potential impacts of mining technologies remains limited. In this context, the group believes that it would be preferable for the Authority to maintain clear and uniform

requirements applicable to all applicants, in order to ensure the availability of reliable empirical data to inform future decision-making.

One delegation pointed out that testing also serves to prove the specific contractor's technical capability, a practice already applied in their national waters.

Some delegations are open to the idea of exemptions from TM if certain parameters can be met. Their view is that if data is available already (e.g., from previous testing and/or other Commercial Production) which can be shown to meet the objectives and requirements of testing of mining systems in the exploitation regulations and the Standards (including stakeholder consultation, EIA, and consideration of cumulative effects), then duplication of that testing may not be required.

One delegation, while recognizing the need for testing, referred to the need to ensure practicability of the testing requirements and the impracticability of two sets of "full-scale testing".

One delegation is not convinced that exemptions to TM are desirable (paragraph 1) or that it should be possible for a Contractor to be exempted from both TM and PM.

One observer emphasized the importance of both TM and PM being conducted, and reports being developed, with no exemptions, pointing out that the ecosystems in the deep sea are unique to their specific location which means each mining site needs its own TM/PM and related environmental assessments.

(3) Validation monitoring system

One observer supported having a validation monitoring system, to be implemented during the Pilot Mining phase and continued through Commercial Production, favoring the alternative text of paragraph 6 over the original.

One delegation noted that the concept was originally intended for use after Commercial Production starts; if most delegations prefer it during Pilot Mining, then clarity is needed on whether after Commercial Production only routine EMMP monitoring applies. If used, the term "Validation Monitoring (System)" would need to be clearly defined and included in the Schedule.

One delegation stated that validation monitoring must be sufficiently adaptable to have a reasonable expectation of revealing unexpected impacts, and should provide a basis for determining thresholds and limits (e.g., for halting operations or requiring additional mitigations) for the Environmental Management and Monitoring Plan (EMMP).

One delegation found the concept unclear and lacking definition – whether it is a full EMP or a prototype, and whether it follows a phased approach (before, during, after trials).

Another delegation pointed out that it remains unclear what the difference between PM and a validation monitoring system would be.

(4) Independent monitoring and independent review

Several delegations and observers have previously requested to include in the regulations a provision for “independent (real-time) monitoring” and/or “independent (scientific) review” of Pilot Mining reports.

Some members indicated that deploying an independent monitoring system would be unnecessary, too expensive, duplicative and impractical, with only a few members inquiring about possible approaches.

One delegation welcomed the idea of “independent scientific review” of PM reports.

Some members were open to consider the idea to have an “independent scientific review”. At the same time, clarification was requested on who will determine “independent experts” to review PM reports and who will pay for such a review.

Another view was expressed that independent scientific review might be possible but only on non-confidential parts of the report.

One delegation was of the view that independent scientific review is not reasonable since LTC is the authorized organ for the review. “Independent scientific review will alter ISA’s existing review system under UNCLOS and affect the mandate of LTC. Meanwhile, the word “independent” is ambiguous and it is hard to define what is “independent scientific review”.

(5) Approval procedures of Pilot Mining report

Several delegations consider that a clear decision point is needed that ensures that the Council has sufficient power to halt progression to Commercial Production if the outcomes of testing are considered unsatisfactory.

On the procedure after completion of Pilot Mining, some members stated that a complicated and lengthy review and approval procedure should be avoided.

Some members supported a “tick-the-box” approach, i.e., the decision should be limited to checking whether the criteria are met, without reopening a full discussion by the Council or LTC. One delegation agreed, noting that the contractor would have already made significant investments and that the timeline should be short.

Another delegation also agreed, adding that if no affirmative decision is taken, it means the contractor cannot fulfil its obligations, and a mechanism for retry might be needed.

Several delegations pointed to the need to further elaborate the procedure for cases where no affirmative decision is taken on the PM report. While one delegation suggests to allow the contractors to repeat PM activities, a few observers seek clarification on any time limitations.

One contractor suggests to vest the affirmative and negative decisions on the commencement of Commercial Production in the Commission, with the Council's role limited to notification.

(6) Pilot Mining in the application process

There continue to be divergent views whether Pilot Mining should be undertaken before the approval of an exploitation contract or after the approval of an exploitation contract but before the start of Commercial Production or whether it should be the first phase of Commercial Production.

(7) Various issues raised by a Contractor

One observer raised several institutional and operational concerns. It recommended that approval functions for Pilot Mining should rest solely with the LTC, not the Council, and that fixed review timelines (60 days) replace "without undue delay". It called for a clear definition of "gains" (only net positive value should be within scope) and for outcome-based definitions of Test Mining and Pilot Mining focused on environmental performance rather than technical configuration. With regards to draft regulation 25, it proposed that Pilot Mining be conducted during the 12-month feasibility review period (completed by month 9) to avoid idle asset time.

(8) Working methodology of the IWG

One delegation suggested that the IWG should step back and first reach an agreed understanding of the testing process before continuing detailed drafting. It strongly supported the proposal to produce a flowchart visualizing the entire process from initial testing to Commercial Production. It proposed a phased approach: agree on the broad testing process, then on the purpose and objectives of testing at different stages, then on the EIA regime, and finally on the monitoring regime. Drafting should only resume once a consensus has been achieved on the overall process.

One observer also made an urgent call for a renewed working methodology of the IWG, and suggests a dedicated two-day in-person working session to resolve outstanding issues.

III. Further work of the Informal Working Group

The Co-Facilitators note that there continue to be divergent views by members of the IWG with regards to both fundamental as well as specific issues regarding Test Mining and Pilot Mining.

These issues include, among others, the respective definitions of and the distinction between Test Mining and Pilot Mining, the scale of any tests required, whether and/or

under what conditions exemptions should be allowed, whether Pilot Mining should be conducted prior to the approval of an exploitation contract or afterwards, the process for approval of Pilot Mining reports and commencement of Commercial Production, including the respective roles of the Commission and Council, and adequate monitoring of Pilot Mining activities.

The Co-Facilitators appreciate the suggestions made to reconsider the working methodology of the IWG and acknowledge the need to carefully determine an effective way forward to solve outstanding issues.

Subsequent to the submission of this report and prior to the 2nd Part of the 31st Session of the Council in July 2026, the Co-Facilitators will present a proposal on further work of the IWG to the Council.