

Für Mensch & Umwelt

**Umwelt**   
**Bundesamt**

**Webinar on Test Mining – 14 June 2022 – hosted by Germany**

# **Contents/elements of test mining**

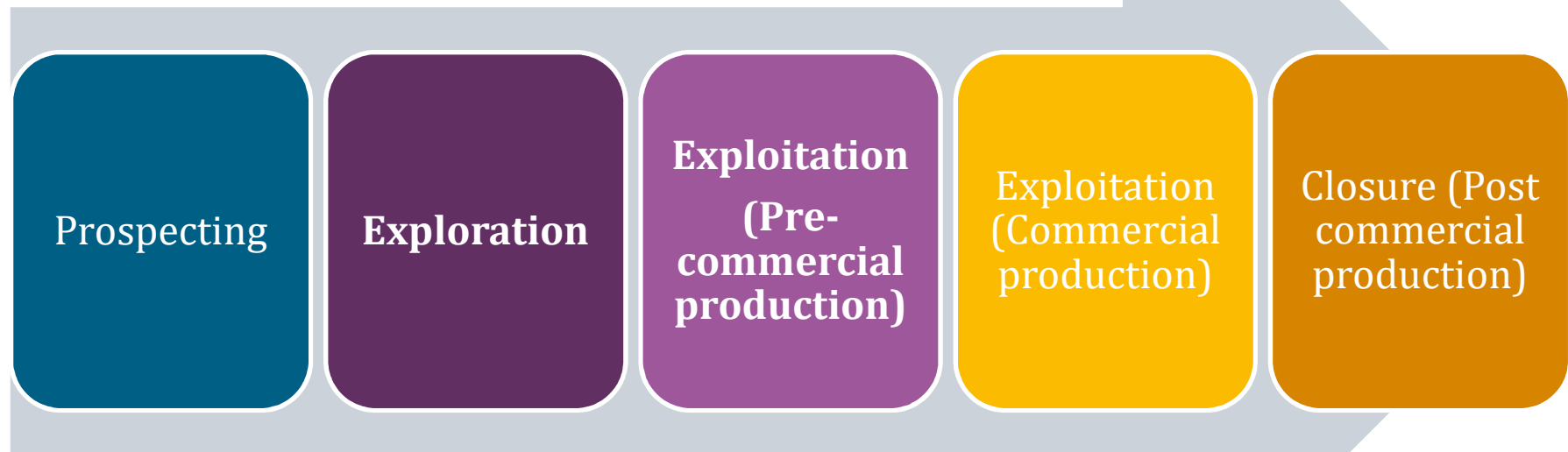
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## Recap: Stages of mining



Relevance of Test Mining: Exploration and Exploitation (Pre-commercial production) phases

## Test mining: Current practice at the ISA

- Test mining is allowed during exploration but ...
  - Optional/voluntary (up to the individual contractor)
  - Main purpose is for technical or feasibility reasons, but also on environmental impacts
  - Submission of a complete EIA is required 12 months prior to planned test mining activity
    - However, there are some ambiguities with the process, including ISA decision-making
    - Scope (contents) of testing is left to the contractor / not regulated by the ISA
  - Test mining is not currently anticipated during the exploitation phase, i.e. before a plan of work for exploitation has been approved
  - Current practice can be improved...

## Contents of Test Mining I – Role of modelling

- Need for adequate baseline data
- Limitation on the use of numerical models to predict actual environmental harm
- Small scale disturbance test will not be able to accurately predict actual harm
- Sufficiently large scale testing required to provide reliable data that will feed into models
- Numerical Models need to be validated by physical, chemical and biological field data from test mining
- Ideal option: test mining during exploration + models

## Contents of Test Mining II – Elements of test mining

- Key questions on the scope of test mining:
  - Testing of individual components or entire/complete mining system tested?
  - What should be the duration of testing?
  - How should the scope and content of reporting of the testing process and environmental impacts be regulated?
  - Once testing has conducted, how should the outcome feed into ISA decision-making?
- Ideally, a systems test should be required already at the exploration phase
- If a complete systems test is conducted during the exploration phase, contractors that proceed into the exploitation phase can be exempted from testing at the latter phase
- Testing should be large-scale and of a sufficient duration
- Reporting should be made through a Test Mining Study, which the ISA should rely on when deciding on an application for the approval of an exploitation plan of work, or to provide consent to proceed with commercial production, as the case may be.

## Questions to discuss

- Question for discussion:
  - If only individual components were tested in the exploration phase, should a test of the complete system (collector, riser, mining platform) be mandatory before mining begins?
  - Would an intermediate phase between exploration and exploitation be useful, during which all contractors seeking to proceed from exploration to exploitation would be expected to conduct large-scale testing and feasibility studies? (As suggested in ISA Technical Study 11 (2013).
  - Is there a risk that test mining is used to do real mining ?
  - How to better define the interplay between in field testing and modeling ?

**Thank you!**

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(with support from Pradeep Singh)