



The hold of the polymetallic nodule collection vessel Hidde Gem after collection test, Clarion-Clipperton Zone, Q3 2023.



Stakeholder event - Protecting deep seabed hydrothermal vent fields through area-based management tools

10 May 2023 – Utrecht – W. Duijnste MSc (Allseas)

Layout

- Allseas aim to collect polymetallic nodules;
- Pilot collecting test – The goals
- Pilot collecting test – The test
- Pilot collecting test – The results
- Outlook – What's next



Allseas aim to collecting polymetallic nodules

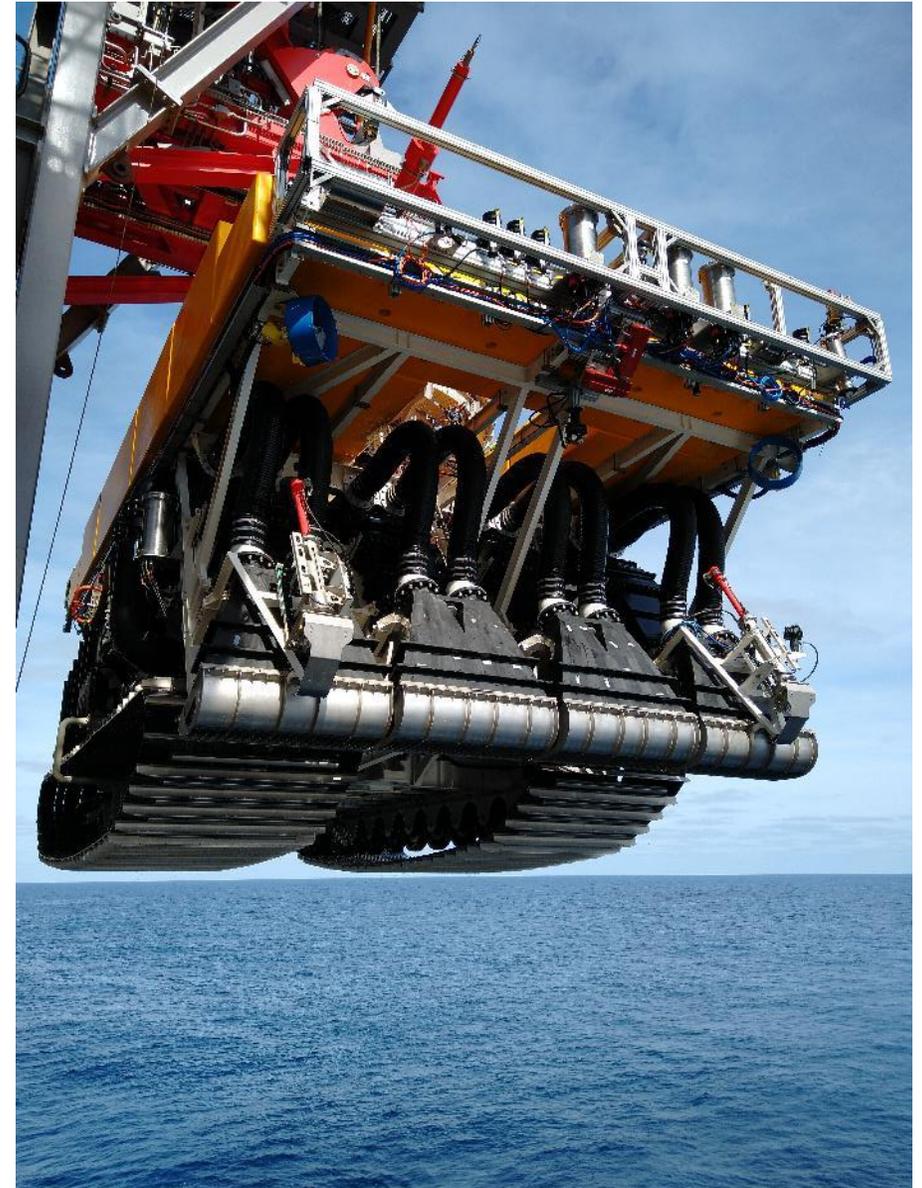
- By optimising our systems and operations, Allseas aims to responsibly collect polymetallic nodules while minimising our impact on the environment.
- To do this effectively, we require scientific expertise.
- Therefore, Allseas would like to connect with (Dutch) scientists and stakeholders and explore the possibilities for involvement in our development.



Helideck of the Hidde Gem at NORI-D license area, Clarion-Clipperton Zone, Q3 2023.

Pilot collecting test – The goals

- Assess environmental impact both short and long term;
- Input for International Seabed Authority (ISA) Mining Code;
- Proof of concept of prototype collecting equipment;
- Reliable collecting system:
 - Operate 24/7;
 - Minimise mechanical downtime.
- Nodule collecting efficiency.



Allseas' polymetallic nodule collector, North Sea, Q1 2023.

Pilot collecting test – The test



Collector collecting on the seabed, Clarion-Clipperton Zone, Q3 2023.



Dewatering of nodules on board of the Hidden Gem, Clarion-Clipperton Zone, Q3 2023.



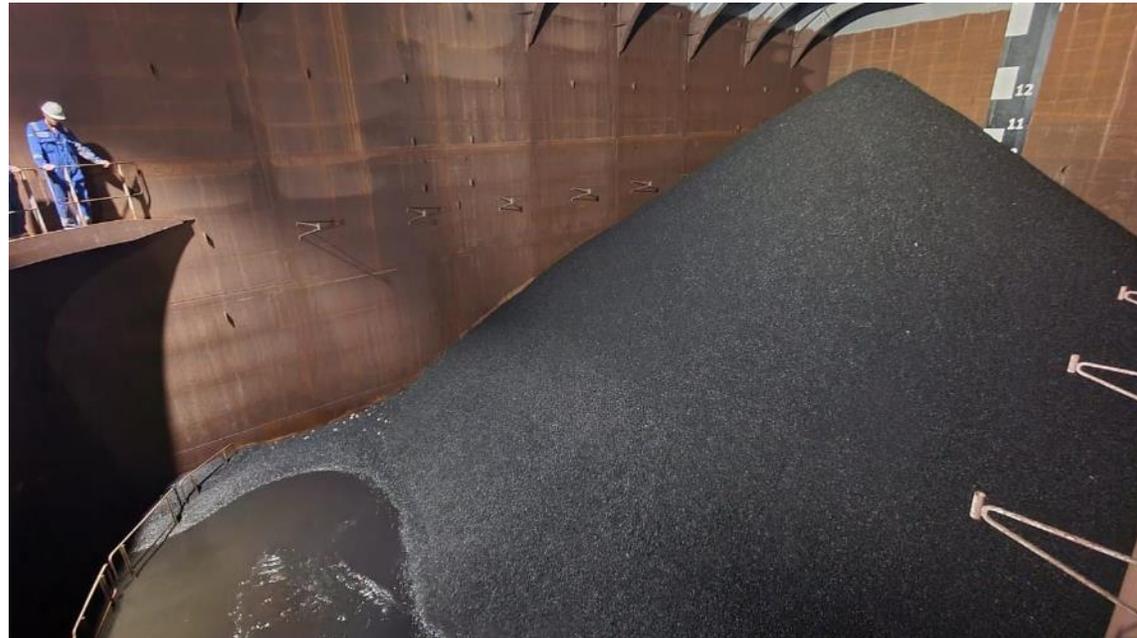
Taking water samples, Clarion-Clipperton Zone, Q3 2023.



Analysing of water samples, Clarion-Clipperton Zone, Q3 2023.

Pilot collecting test – The results

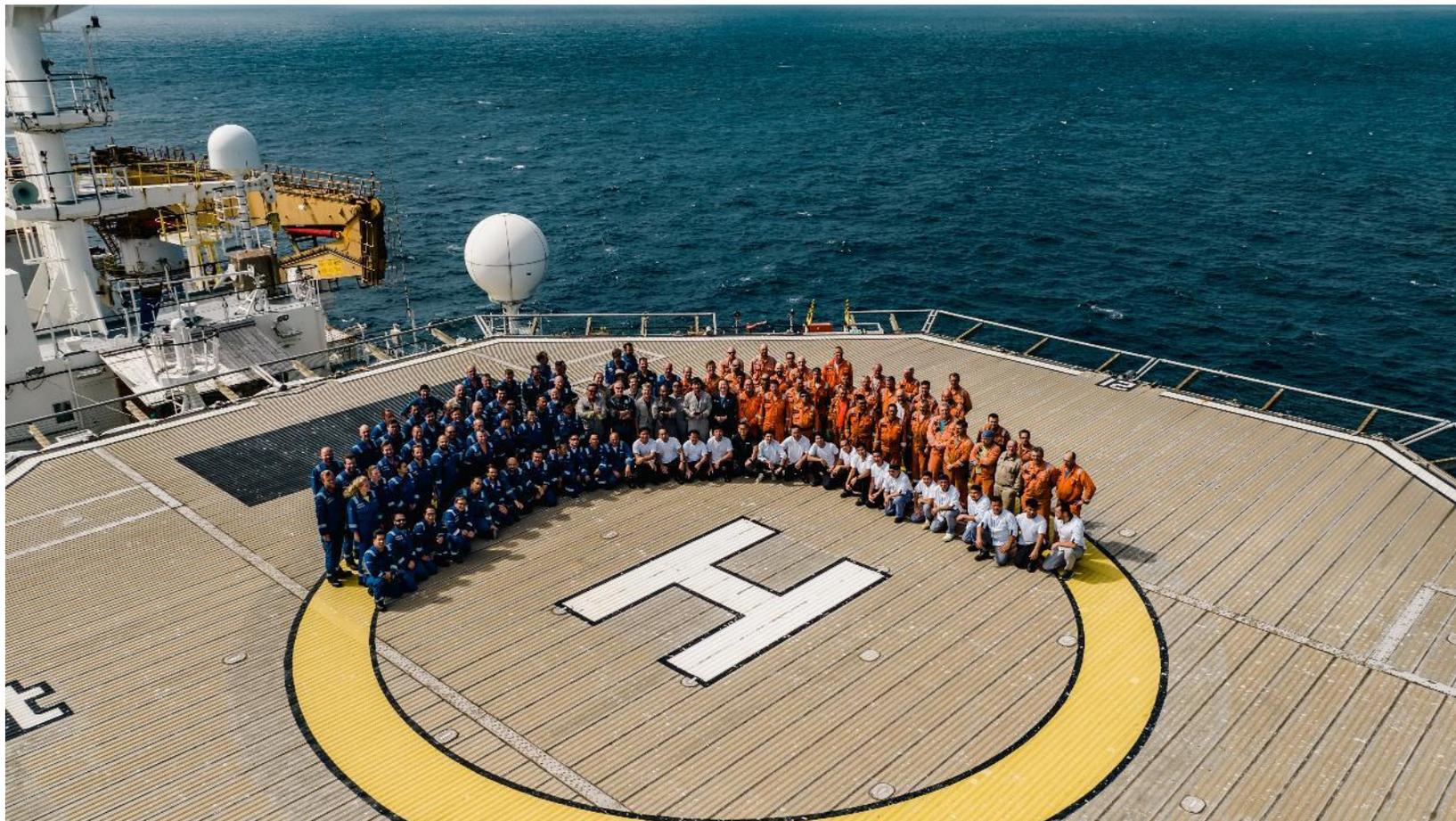
- All samples for environmental impact assessment are collected;
- All commissioning tests successfully executed;
- The collector has driven 83.4 km on the seabed;
- In total, 3,020 t of nodules were collected.



After the collection test, the hold with 3,020 t of polymetallic nodules, Clarion-Clipperton Zone, Q3 2023.

Outlook – What's next

- Small-scale commercial production in the NORI contract area (1 MTPA).
- Investigating the opportunities to develop our own license area.



Group picture of the Hidden Gem crew on top of the helideck, Clarion-Clipperton Zone, Q3 2023.