



Royal Netherlands Institute for Sea Research

Piston corer trials on board R.V. James Cook June 2009

24 November
2009

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Piston corer trials R.V. James Cook



R.V. James Cook in Vigo



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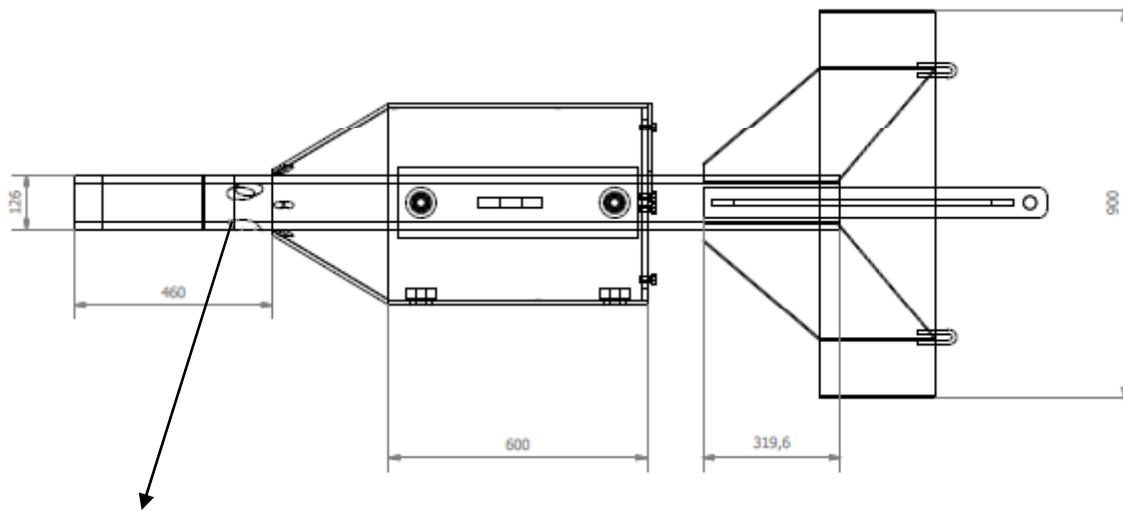
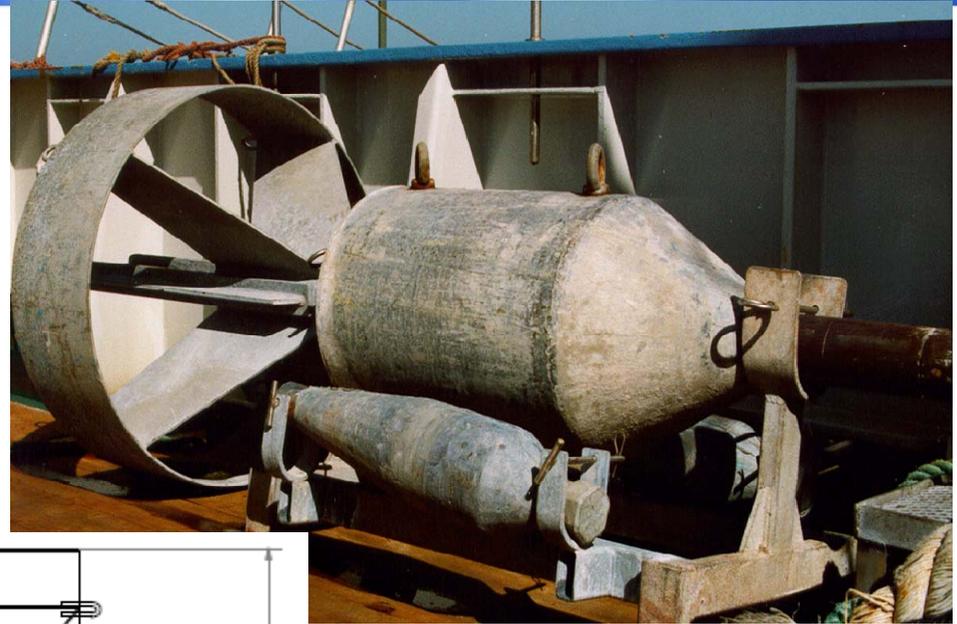
- History diameter core barrel at NIOZ
- 1976 Outside diameter core barrel: 76 mm
- Channel corer inner diameter 58 mm
- 1993 Outside diameter core barrel: 106 mm
- Channel corer inner diameter 75 mm
- 1995 Outside diameter core barrel: 127 mm
- Channel corer inner diameter still 75 mm
- 2009 Channel corer inner diameter 86 mm + extra holes





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- 2008: NIOZ built a new piston corer system
- Possibility to make some changes to the main weight and core catchers



Holes for extra water outlet





- First core catcher used by NIOZ
- Cooperation with the technical college
- Goal: to design a new type of core catcher





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- The simple core catcher
- Advantage, easy to produce, cheap, can be used in combination with “normal” core catcher, catcher is already open by penetration sediment
- Disadvantage, single use, lost after each sample





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- Complex core catcher
- Advantage, catcher is already open by penetration sediment
- Disadvantage, difficult to prepare before sampling





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- In total we have taken 11 piston cores, 10 with a length of 12 meter and 1 with a length of 18 meter.
- We used the following main weights:
 - The SOC weight with a water outlet of 86 mm
 - The NIOZ main weight with a 86 mm water outlet + extra holes.
 - The NIOZ main weight with a restrictor in the water outlet.
- We used different core catchers as well:
 - The normal core catcher with the spring fingers
 - The special core catcher with the open spring fingers that had to be closed after sampling
 - The simple open core catcher
- At NIOZ we believe that the extra holes in the water outlet have a positive influence on the quality of the samples. The cores taken with the NIOZ corer with the extra water outlet were of the best quality and gave the longest cores.



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In our opinion the idea of a trial cruise with different people from different countries would be worth repeating in the future. And I want say thank you to the SOC group for letting us join them.

Thank you