

UGA/Columbia Instrument List

Forward

This document contains images, dimensions, and weights of UGA/Columbia's scientific instruments that will be recovered from the GC600 block in Jan/Feb 2018 using the Oceaneering vessel Connor Vessel. Both in-air and in-water weights will be given, errors in weight estimations are unlikely to be greater than 10lbs.

To simplify the instrument descriptions, only instrument units will be described, as each unit can have more than 2 independent instruments attached together making one unit. Instruments will be presented in order of weight; the least heavy being presented first. There are 7 units total.

If there are any questions regarding these items please contact James Kelly at: jbkelly@uga.edu; office: 706-542-1605; cell: 405-564-3765.

Unit Name and Number

Unit #	Unit Name
1	Deep water camera
2	Deep water camera
3	600kHz ADCP on bottom mount frame
4	300kHz ADCP on tripod
5	Transmit Mooring
6	Receiver Mooring

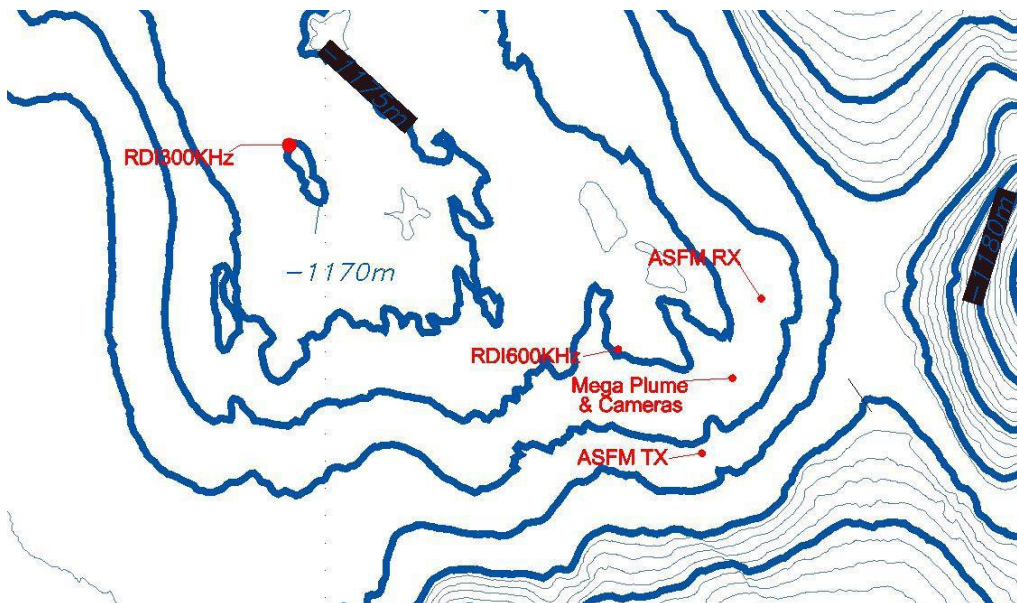


Figure 1. A map with the location of each instrument.

Units 1 and 2

Units 1 and 2 are deep water cameras, they are identical. The in-air (in-water) weight is ~25 (10) lbs. The height of the camera base is ~2ft, the width and length are ~1ft x 1.5ft. There are ropes attached to the top of each of the camera bases for easy grab.



Figure 2. Unit 1 - Deep water camera.

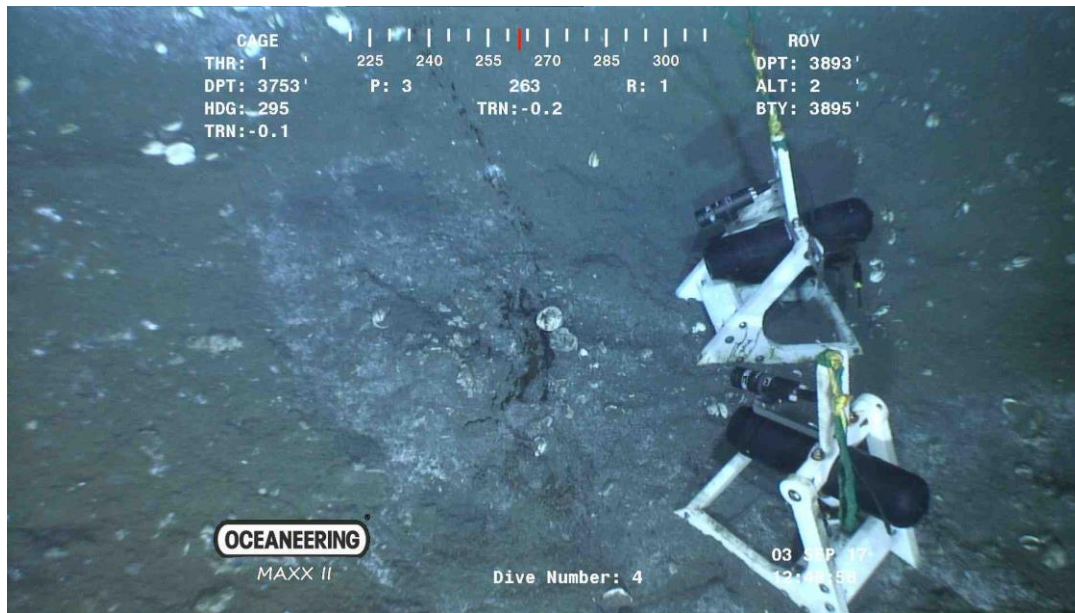


Figure 3. A view of the cameras, Units 1 and 2.

Unit 3

This unit is a combination of a 600kHz ADCP (acoustic current meter) and microcat. It sits in a frame on the seafloor. The in-air (in-water) weight is ~118 (67) lbs. To simplify dimensions, the instrument can be approximated to 2x2x2ft (it's actually a few inches less than that).



Figure 4. Unit 3 fully assembled. There is a lifting rope on each side of the frame, with a loop built in for grabbing with the ROV hand. The lifting ropes are still installed.

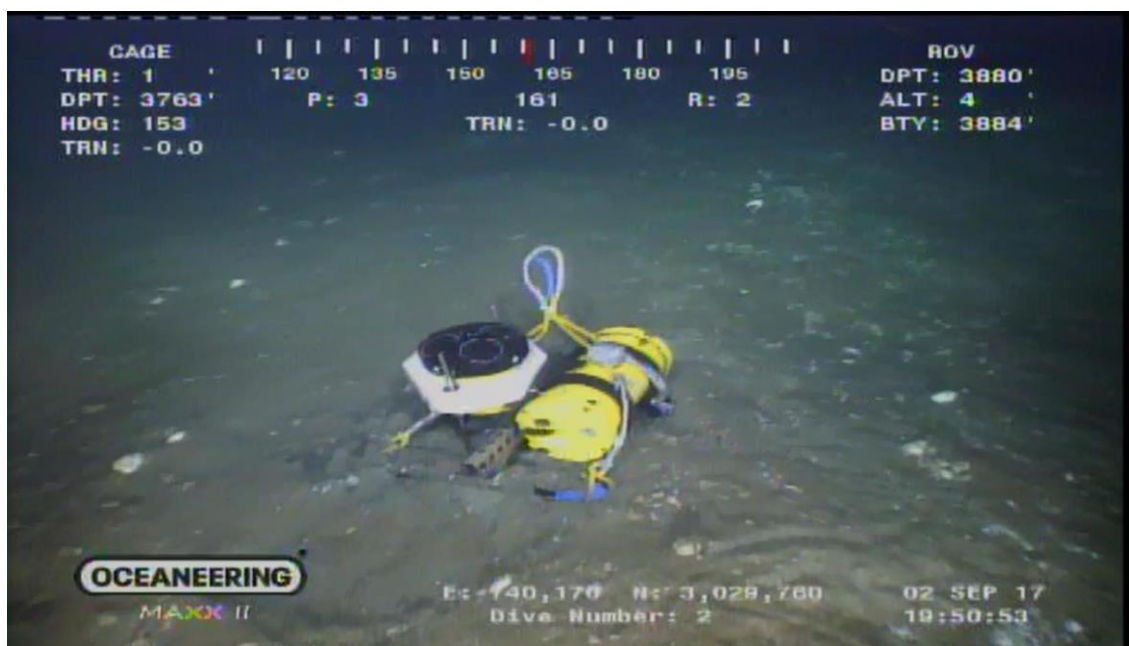


Figure 5. Unit 3 sitting on the sea floor. The pick-up rope is likely still floating.

Unit 4

This unit is a combination of a 300kHz ADCP and a microcat. It sits in a gimbal in a tripod that sits on the seafloor. The in-air (in-water) weight is ~131 (83) lbs. The unit is ~32in tall, the tripod base is a triangle with sides of lengths of 5ft. The lifting point on top allows the unit to be balanced when hanging.

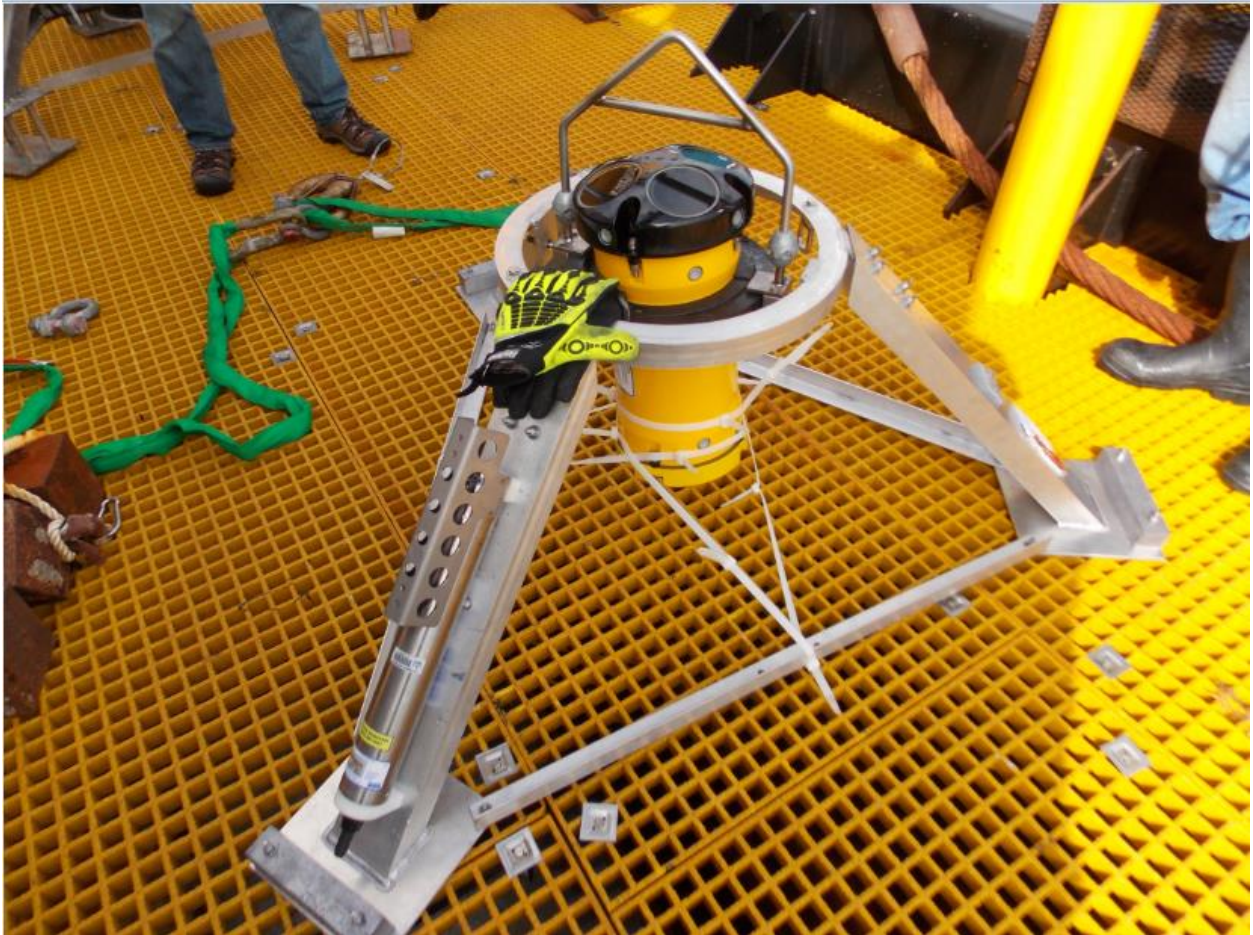


Figure 6. Unit 4 fully assembled ready for deployment.

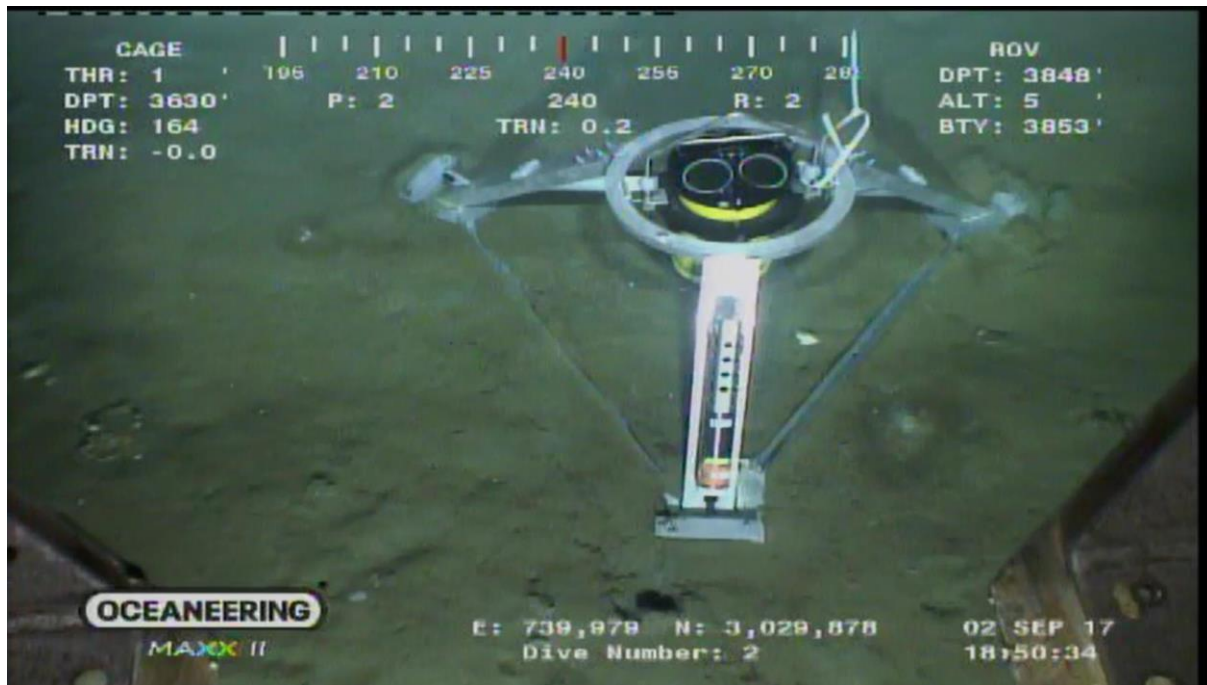


Figure 7. Unit 4 on the sea floor.

Unit 5 and 6

Units 5 and 6 are the transmit and receive moorings, they are nearly identical, with the exception of 5 microcats on the transmit mooring that are not present on the receiver mooring (see the mooring drawing attached below). Because the in-air weight was never of interest during design it was not calculated. The total in-water weight of the transmit (receiver) mooring is 118 (95) lbs. Please note: The original total mooring length was designed to be ~43m (141ft). Upon a change of plans during the deployment, we reduced the length of the moorings to ~33 meters above bottom (mab). The mooring buoy has a buoyancy of 270lbs. The anchor is ~232 lbs in-air and ~208 in-water. I will first show an image of the mooring anchor, it is a square and constructed of H-beams with width of 2 ft (Figure 8 and 9).

I have also included the mooring diagram at the end of this document.



Figure 8. The mooring anchor and acoustic release.

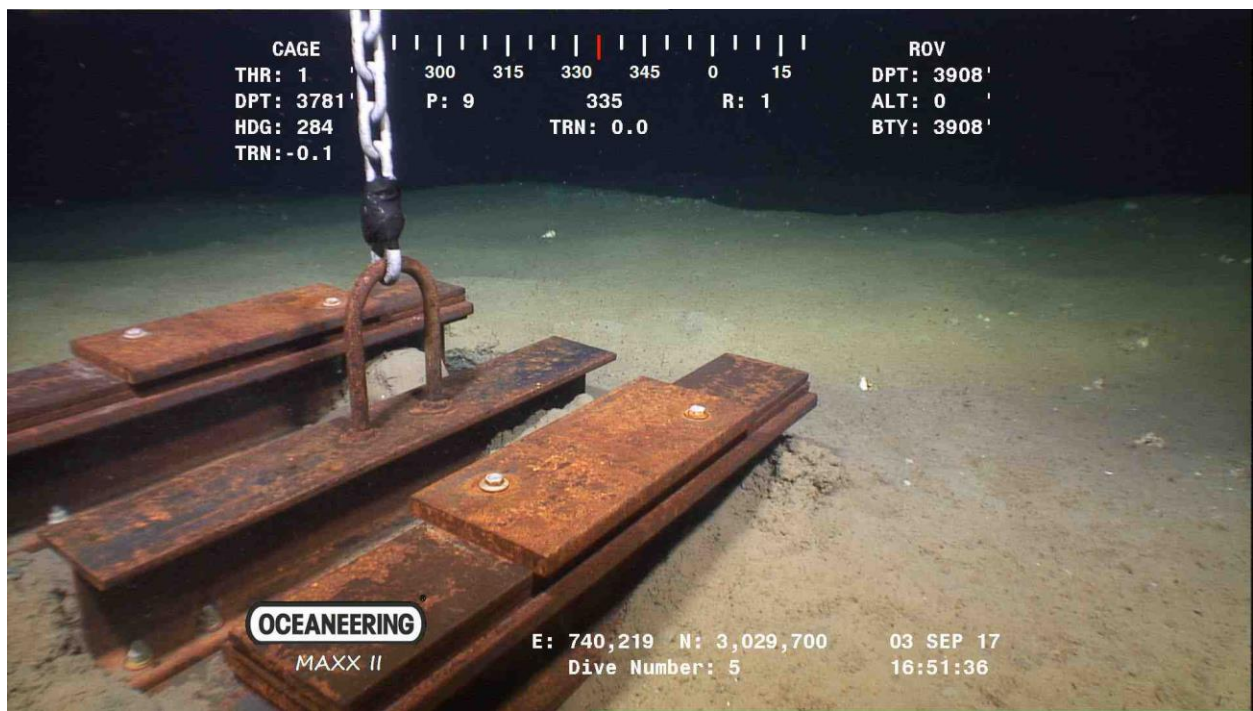


Figure 9. The mooring anchor on the sea floor.



Figure 10. The buoy for Unit 5 and 6. There is a circular lifting bail on top of the buoy, which should serve as our lifting point. In this image there is a light beacon that is not be present on this deployment.



Figure 41. This is the receiver portion of the ASF (acoustic sensor), it is shown to highlight the importance of being delicate as we deploy the mooring line and fragile instrument components. This instrument and frame is 6.43 ft long.

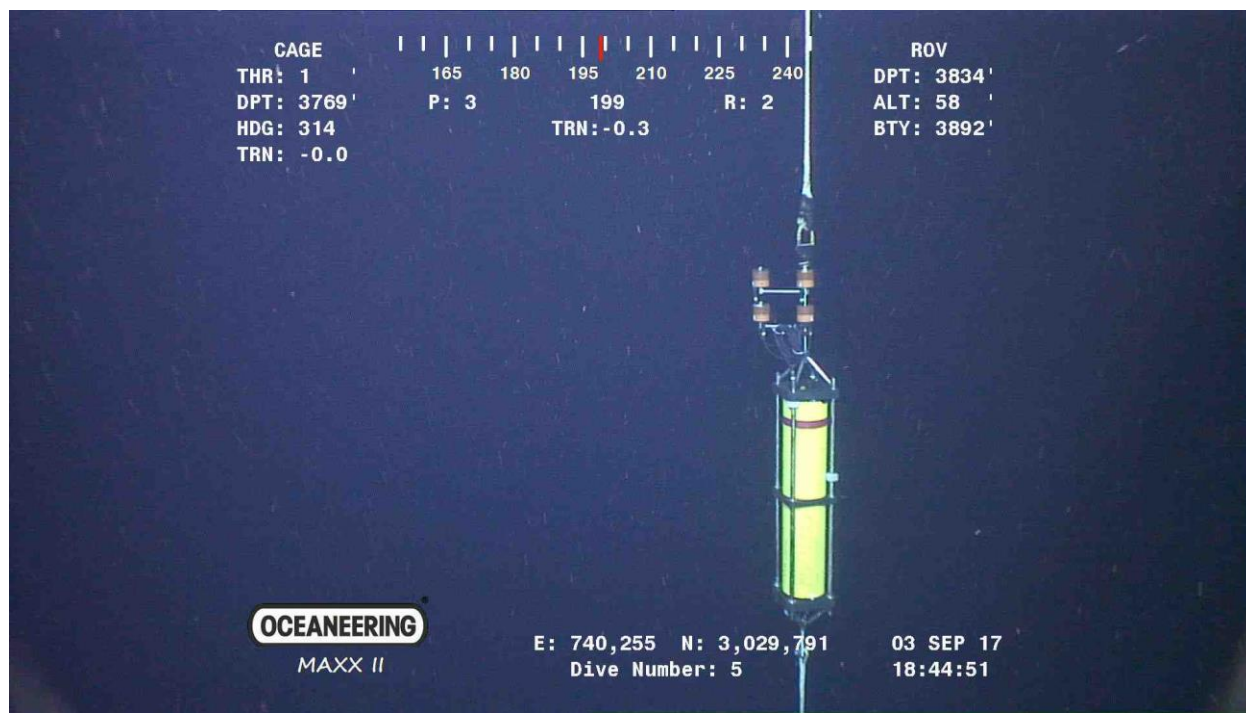


Figure 5. Unit 5 and 6 - The main instrument (ASFM) of the mooring in water.

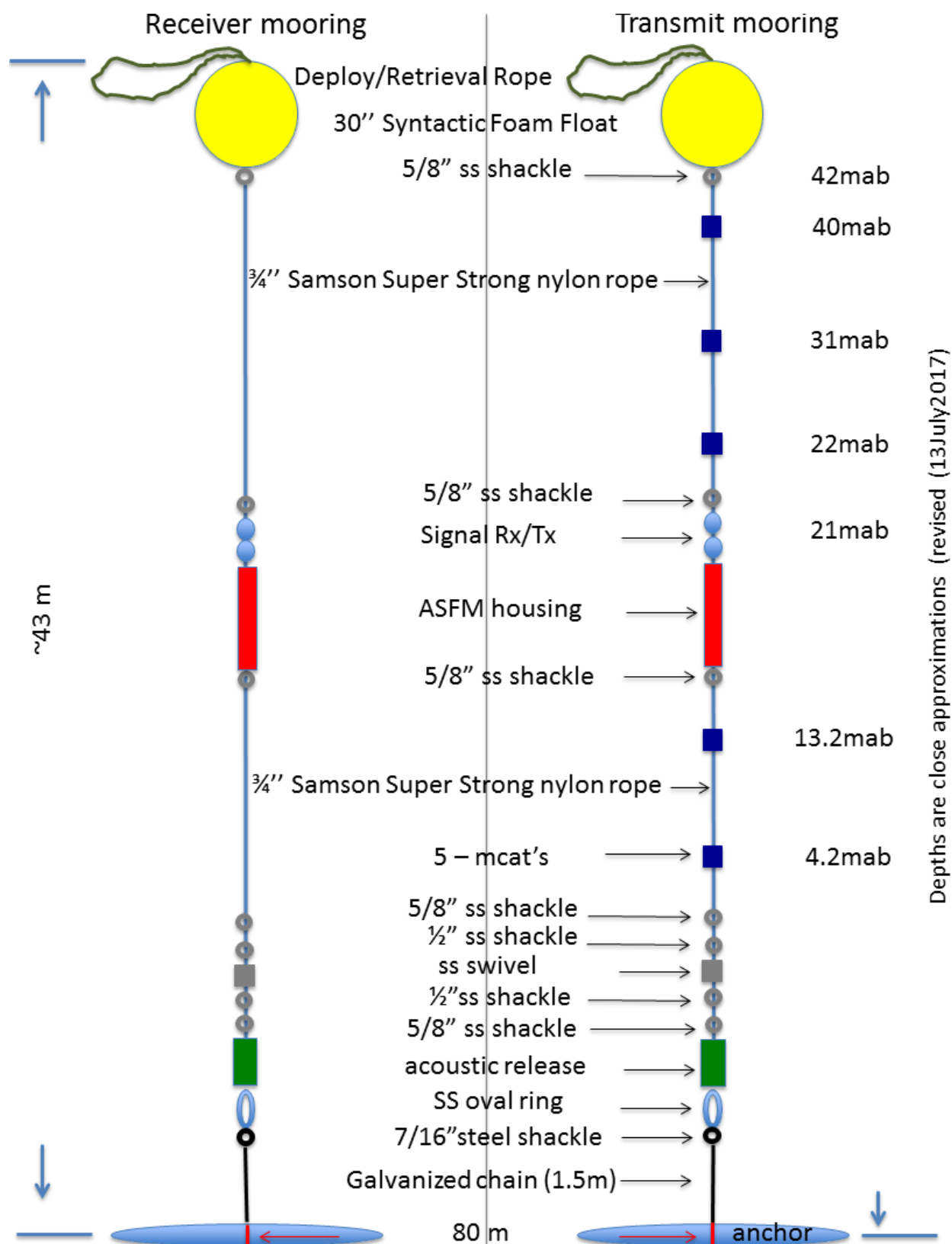


Figure 63. A diagram of Units 5 and 6.