

Rover MARS Deployment Data Summary								
Date	Description	Optode Data?		Chamber Height Above Sediment (cm)		Volume (Liters)		Notes
		Port	Stbd	Port	Stbd	Port	Stbd	
9-Jul-09	Long Run-Through	Yes	Yes	15.01	16.01	10.63	11.33	
10-Jul-09	Long Run-Through	Yes	Yes	15.81	15.60	11.19	11.04	
11-Jul-09	Long Run-Through	Yes	Yes	9.23	15.61	6.54	11.05	This data is in the same folder as 10-Jul-09
13-Jul-09	Overnight	Yes	Yes	14.98	14.58	10.61	10.32	Sea pen in PORT chamber
16-Jul-09		Yes	No	14.16		10.03		
19-Jul-09		Yes	Yes	10.51	n/a	7.45		Looks like STBD chamber didn't insert
20-Jul-09		Yes	Yes	15.77	14.28	11.17	10.11	
22-Jul-09		Yes	Yes	16.52	15.87	11.70	11.24	
23-Jul-09		Yes	No	14.78		10.47		Sea pen in PORT chamber
24-Jul-09		Yes	No	15.50		10.97		
25-Jul-09		Yes	No	16.49		11.67		Sea lily (?) in PORT chamber
26-Jul-09		Yes	No	15.72		11.13		Sea lily (?) in PORT chamber
27-Jul-09		Yes	No	15.66		11.09		
28-Jul-09		Yes	Yes	16.09	16.62	11.39	11.77	
29-Jul-09		Yes	No	16.06		11.37		
30-Jul-09		Yes	Yes	14.81	15.74	10.49	11.14	Sea pen in PORT chamber
31-Jul-09		Yes	Yes	13.39	13.73	9.48	9.72	
2-Aug-09		Yes	Yes	15.59	15.95	11.04	11.29	
5-Aug-09		Yes	Yes	15.34	16.00	10.86	11.33	Sea lily (?) in PORT chamber
6-Aug-09		No	No					
6-Aug-09		Yes	Yes	15.05	15.97	10.66	11.31	Sea pen in PORT chamber; STBD chamber entered sediment at an angle
7-Aug-09		Yes	Yes	15.54	15.70	11.00	11.12	Sea pen in PORT chamber
8-Aug-09		Yes	Yes	15.51	16.46	10.98	11.65	Sea pens in both chambers

Chamber Dimensions

Height **Diameter** **Height of M** Benthic Rover Respirometer Chamber Volume

20 cm 30 cm 7 cm

Height above metal rim

4.365 2.978235968

5.526 16.5

11.63

1. Chamber volume
 - a. Inside diameter of chambers: .303m (11.93")
 - b. Distance from top plate to bottom of acrylic: .121m (4.75")
 - i. Each mm of exposed knife adds: 72 cc
 - c. $8.7 \times 10^{-3} \text{ M}^3$, 8700.9 cc or 530 cubic inches
 - d. Add volume below valves
 - i. Front valve: 48cc, or 2.65 in^3
 - ii. Side valves (2): 25.2 cc, 1.54 in^3
 - e. Add volume around stirrer: ~ 5cc, $.3 \text{ in}^3$
 - f. $8700.9 + 48 + 25.2 + 25.2 + 5 = 8804.2 \text{ cc}$
2. Minus the volume of components inside the chamber
 - a. Optode: 57.1 cc, or 3.48 in^3
 - b. Stir rods: 28.6 cc or 1.74 in^3
 - c.
3. Total volume 8718 cc
 - a. Don't forget to add added/reduced volume based on level of sediment.