

NATIONAL MARINE FACILITIES DIVISION

SENSORS AND MOORINGS GROUP

PAP MOORINGS  
TURNAROUND 2008

D334P  
28<sup>th</sup> September - 11<sup>th</sup> October 2008

MOORINGS CRUISE REPORT



**National Oceanography  
Centre, Southampton**

UNIVERSITY OF SOUTHAMPTON AND  
NATURAL ENVIRONMENT RESEARCH COUNCIL

## PAP3 recovery

The PAP3 sediment trap mooring was recovered on 2<sup>nd</sup> October 2008. The diagram of the mooring recovered is shown below. The original position and depth of the mooring was:

Latitude: 48°58.56'N  
Longitude: 16°27.74'W  
Depth: 4800m

Initial contact was made with the mooring at 06:04 z. The acoustic release indicated that the mooring (acoustic release) was present and vertical. The release command was sent to the instrument and positive confirmation was received. On subsequent ranging to confirm rise rate a horizontal position was indicated and no rise rate was detected. The mooring appeared to remain on seabed for over 2 hours after release, which caused a certain amount of head scratching. At 09:51 a range was made of 3711m, 1000m above the seabed, after which further decreases in range were measured. The mooring was visually identified on the surface by the Bridge at 09:24z

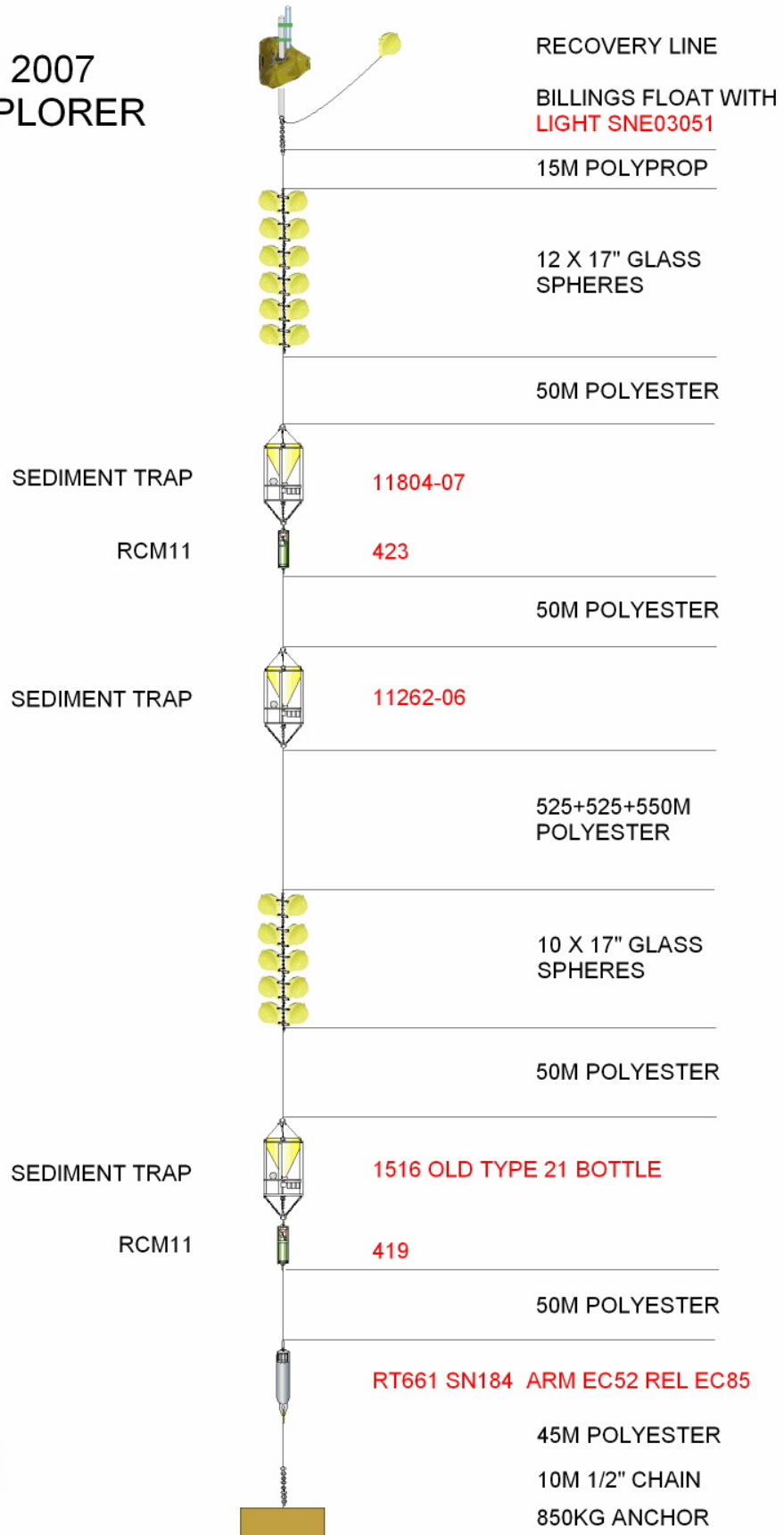
During recovery the mooring line parted twice resulting in the repositioning of the ship in testing sea conditions to recover the lower buoyancy package, sediment trap, current meter and release. Unfortunately the lowest rope section of the mooring was already parted on recovery to deck and the acoustic release lost. All 3 sediment traps with full data sets and samples and 2 current meters were recovered. Mooring operations were completed at 11:47z

A table showing the detected rise of the mooring is shown below.

Time (z)	Range	Time (z)	Range	Time (z)	Range
08:51	3711	09:03	2748	09:14	1887
08:52	3650	09:04	2687	09:18	1599
08:53	3581	09:05	2606	09:19	1517
08:54	3511	09:06	2528	09:20	1433
08:56	3350	09:07	2439	09:21	1362
08:57		09:08	2354	09:22	1307
08:58	30:84	09:09	2260	09:24	1186
09:00	3029	09:10	2179	09:25	1125
09:01	2944	09:11	2102	09:26	1070
09:02	2852	09:13	1957	09:31	898

The polyester rope between the RCM11 (s/n: 419) current meter and the acoustic release parted 10" below the connection to the lower end of the current meter. Other than the Novatech light beacon which was not working on recovery, all other recovered equipment was in good order and still operational where required.

PAP3 AS  
 DEPLOYED 2007  
 CELTIC EXPLORER



**NMFD**

## The downloaded data for the sediment traps is as follows:

McLane Research Laboratories, USA  
ParFlux 21-Cup Sediment Trap  
Version: pst-21\_1.c S/N: ML11804-07

Software version: pst-21\_1.c  
Compiled: Sep 26 2002 11:10:14  
Electronics S/N: ML11804-07

Data recording start time = 06/23/2007 12:07:59  
Data recording stop time = 09/21/2008 12:00:26

### HEADER

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xxxxvi a  
pap 3000m  
2007/8

### SCHEDULE

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Event 01 of 22 @ 07/01/2007 12:00:00  
Event 02 of 22 @ 07/15/2007 12:00:00  
Event 03 of 22 @ 07/29/2007 12:00:00  
Event 04 of 22 @ 08/12/2007 12:00:00  
Event 05 of 22 @ 08/26/2007 12:00:00  
Event 06 of 22 @ 09/09/2007 12:00:00  
Event 07 of 22 @ 09/30/2007 12:00:00  
Event 08 of 22 @ 11/04/2007 12:00:00  
Event 09 of 22 @ 01/13/2008 12:00:00  
Event 10 of 22 @ 03/23/2008 12:00:00  
Event 11 of 22 @ 04/06/2008 12:00:00  
Event 12 of 22 @ 04/20/2008 12:00:00  
Event 13 of 22 @ 05/04/2008 12:00:00  
Event 14 of 22 @ 05/18/2008 12:00:00  
Event 15 of 22 @ 06/01/2008 12:00:00  
Event 16 of 22 @ 06/15/2008 12:00:00  
Event 17 of 22 @ 06/29/2008 12:00:00  
Event 18 of 22 @ 07/13/2008 12:00:00  
Event 19 of 22 @ 07/27/2008 12:00:00  
Event 20 of 22 @ 08/10/2008 12:00:00  
Event 21 of 22 @ 08/24/2008 12:00:00  
Event 22 of 22 @ 09/21/2008 12:00:00

### DEPLOYMENT DATA

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#### Event 01

Scheduled start time: 07/01/2007 12:00:00  
Event start time: 07/01/2007 12:00:00  
Event stop time: 07/01/2007 12:00:25

	Aligned	Battery	Temperature
Start:	Y	19.7	3 øC
Stop:	Y	19.2	3 øC

#### Event 02

Scheduled start time: 07/15/2007 12:00:00  
Event start time: 07/15/2007 12:00:00  
Event stop time: 07/15/2007 12:00:25

	Aligned	Battery	Temperature
Start:	Y	19.5	3 øC
Stop:	Y	19.0	3 øC

Event 03

Scheduled start time: 07/29/2007 12:00:00  
Event start time: 07/29/2007 12:00:00  
Event stop time: 07/29/2007 12:00:25

	Aligned	Battery	Temperature
Start:	Y	19.3	3 øC
Stop:	Y	18.8	3 øC

Event 04

Scheduled start time: 08/12/2007 12:00:00  
Event start time: 08/12/2007 12:00:00  
Event stop time: 08/12/2007 12:00:25

	Aligned	Battery	Temperature
Start:	Y	19.2	3 øC
Stop:	Y	18.6	3 øC

Event 05

Scheduled start time: 08/26/2007 12:00:00  
Event start time: 08/26/2007 12:00:00  
Event stop time: 08/26/2007 12:00:25

	Aligned	Battery	Temperature
Start:	Y	19.1	3 øC
Stop:	Y	18.5	3 øC

Event 06

Scheduled start time: 09/09/2007 12:00:00  
Event start time: 09/09/2007 12:00:00  
Event stop time: 09/09/2007 12:00:25

	Aligned	Battery	Temperature
Start:	Y	19.0	3 øC
Stop:	Y	18.4	3 øC

Event 07

Scheduled start time: 09/30/2007 12:00:00  
Event start time: 09/30/2007 12:00:00  
Event stop time: 09/30/2007 12:00:25

	Aligned	Battery	Temperature
Start:	Y	18.8	3 øC
Stop:	Y	18.2	3 øC

Event 08

Scheduled start time: 11/04/2007 12:00:00  
Event start time: 11/04/2007 12:00:00  
Event stop time: 11/04/2007 12:00:25

	Aligned	Battery	Temperature
Start:	Y	18.6	3 øC
Stop:	Y	18.0	3 øC

Event 09

Scheduled start time: 01/13/2008 12:00:00  
Event start time: 01/13/2008 12:00:00  
Event stop time: 01/13/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	18.2	3 øC
Stop:	Y	17.5	3 øC

Event 10

Scheduled start time: 03/23/2008 12:00:00  
Event start time: 03/23/2008 12:00:00  
Event stop time: 03/23/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.8	3 °C
Stop:	Y	17.2	3 °C

Event 11

Scheduled start time: 04/06/2008 12:00:00  
Event start time: 04/06/2008 12:00:00  
Event stop time: 04/06/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.8	3 °C
Stop:	Y	17.1	3 °C

Event 12

Scheduled start time: 04/20/2008 12:00:00  
Event start time: 04/20/2008 12:00:00  
Event stop time: 04/20/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.7	3 °C
Stop:	Y	17.0	3 °C

Event 13

Scheduled start time: 05/04/2008 12:00:00  
Event start time: 05/04/2008 12:00:00  
Event stop time: 05/04/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.6	3 °C
Stop:	Y	17.0	3 °C

Event 14

Scheduled start time: 05/18/2008 12:00:00  
Event start time: 05/18/2008 12:00:00  
Event stop time: 05/18/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.5	3 °C
Stop:	Y	16.9	3 °C

Event 15

Scheduled start time: 06/01/2008 12:00:00  
Event start time: 06/01/2008 12:00:00  
Event stop time: 06/01/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.5	3 °C
Stop:	Y	16.8	3 °C

Event 16

Scheduled start time: 06/15/2008 12:00:00  
Event start time: 06/15/2008 12:00:00  
Event stop time: 06/15/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.4	3 °C

Stop: Y 16.7 3 øC

Event 17

Scheduled start time: 06/29/2008 12:00:00  
Event start time: 06/29/2008 12:00:00  
Event stop time: 06/29/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.3	3 øC
Stop:	Y	16.6	3 øC

Event 18

Scheduled start time: 07/13/2008 12:00:00  
Event start time: 07/13/2008 12:00:00  
Event stop time: 07/13/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.2	3 øC
Stop:	Y	16.6	3 øC

Event 19

Scheduled start time: 07/27/2008 12:00:00  
Event start time: 07/27/2008 12:00:00  
Event stop time: 07/27/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.2	3 øC
Stop:	Y	16.5	3 øC

Event 20

Scheduled start time: 08/10/2008 12:00:00  
Event start time: 08/10/2008 12:00:00  
Event stop time: 08/10/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.1	3 øC
Stop:	Y	16.4	3 øC

Event 21

Scheduled start time: 08/24/2008 12:00:00  
Event start time: 08/24/2008 12:00:00  
Event stop time: 08/24/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	17.0	3 øC
Stop:	Y	16.3	3 øC

Event 22

Scheduled start time: 09/21/2008 12:00:00  
Event start time: 09/21/2008 12:00:00  
Event stop time: 09/21/2008 12:00:25

	Aligned	Battery	Temperature
Start:	Y	16.9	3 øC
Stop:	Y	16.1	3 øC

Normal shutdown.

End of instrument data file.

Version: pst-21c4.c S/N: ML11262-06

Software version: pst-21c4.c  
Compiled: Jan 15 2003 18:20:44  
Electronics S/N: ML11262-06

Data recording start time = 06/23/2007 12:23:25  
Data recording stop time = 09/21/2008 12:00:34

#### HEADER

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xxxxvi b  
pap 3000m  
2007/8

#### SCHEDULE

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Event 01 of 22 @ 07/01/2007 12:00:00  
Event 02 of 22 @ 07/15/2007 12:00:00  
Event 03 of 22 @ 07/29/2007 12:00:00  
Event 04 of 22 @ 08/12/2007 12:00:00  
Event 05 of 22 @ 08/26/2007 12:00:00  
Event 06 of 22 @ 09/09/2007 12:00:00  
Event 07 of 22 @ 09/30/2007 12:00:00  
Event 08 of 22 @ 11/04/2007 12:00:00  
Event 09 of 22 @ 01/13/2008 12:00:00  
Event 10 of 22 @ 03/23/2008 12:00:00  
Event 11 of 22 @ 04/06/2008 12:00:00  
Event 12 of 22 @ 04/20/2008 12:00:00  
Event 13 of 22 @ 05/04/2008 12:00:00  
Event 14 of 22 @ 05/18/2008 12:00:00  
Event 15 of 22 @ 06/01/2008 12:00:00  
Event 16 of 22 @ 06/15/2008 12:00:00  
Event 17 of 22 @ 06/29/2008 12:00:00  
Event 18 of 22 @ 07/13/2008 12:00:00  
Event 19 of 22 @ 07/27/2008 12:00:00  
Event 20 of 22 @ 08/10/2008 12:00:00  
Event 21 of 22 @ 08/24/2008 12:00:00  
Event 22 of 22 @ 09/21/2008 12:00:00

#### DEPLOYMENT DATA

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##### Event 01

Scheduled start time: 07/01/2007 12:00:00  
Event start time: 07/01/2007 12:00:00  
Event stop time: 07/01/2007 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	19.4	30C	00	00
Stop:	Y	19.1	30C	00	00

##### Event 02

Scheduled start time: 07/15/2007 12:00:00  
Event start time: 07/15/2007 12:00:00  
Event stop time: 07/15/2007 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	19.1	30C	00	00
Stop:	Y	18.6	30C	00	00

##### Event 03

Scheduled start time: 07/29/2007 12:00:00  
Event start time: 07/29/2007 12:00:00



Event stop time: 07/29/2007 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	18.8	30C	00	00
Stop:	Y	18.5	40C	00	00

Event 04

Scheduled start time: 08/12/2007 12:00:00  
Event start time: 08/12/2007 12:00:00  
Event stop time: 08/12/2007 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	18.7	30C	00	00
Stop:	Y	18.3	30C	00	00

Event 05

Scheduled start time: 08/26/2007 12:00:00  
Event start time: 08/26/2007 12:00:00  
Event stop time: 08/26/2007 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	18.7	30C	00	00
Stop:	Y	18.0	30C	00	00

Event 06

Scheduled start time: 09/09/2007 12:00:00  
Event start time: 09/09/2007 12:00:00  
Event stop time: 09/09/2007 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	18.4	30C	00	00
Stop:	Y	17.9	30C	00	00

Event 07

Scheduled start time: 09/30/2007 12:00:00  
Event start time: 09/30/2007 12:00:00  
Event stop time: 09/30/2007 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	18.5	30C	00	00
Stop:	Y	17.8	30C	00	00

Event 08

Scheduled start time: 11/04/2007 12:00:00  
Event start time: 11/04/2007 12:00:00  
Event stop time: 11/04/2007 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	18.1	30C	00	00
Stop:	Y	17.4	30C	00	00

Event 09

Scheduled start time: 01/13/2008 12:00:00  
Event start time: 01/13/2008 12:00:00  
Event stop time: 01/13/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	17.5	30C	00	00
Stop:	Y	16.8	30C	00	00

Event 10

Scheduled start time: 03/23/2008 12:00:00

Event start time: 03/23/2008 12:00:00  
Event stop time: 03/23/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	17.0	30C	00	00
Stop:	Y	16.3	30C	00	00

Event 11

Scheduled start time: 04/06/2008 12:00:00  
Event start time: 04/06/2008 12:00:00  
Event stop time: 04/06/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	16.9	30C	00	00
Stop:	Y	16.4	30C	00	00

Event 12

Scheduled start time: 04/20/2008 12:00:00  
Event start time: 04/20/2008 12:00:00  
Event stop time: 04/20/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	16.7	30C	00	00
Stop:	Y	16.2	30C	00	00

Event 13

Scheduled start time: 05/04/2008 12:00:00  
Event start time: 05/04/2008 12:00:00  
Event stop time: 05/04/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	16.8	30C	00	00
Stop:	Y	16.1	30C	00	00

Event 14

Scheduled start time: 05/18/2008 12:00:00  
Event start time: 05/18/2008 12:00:00  
Event stop time: 05/18/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	16.5	30C	00	00
Stop:	Y	16.0	30C	00	00

Event 15

Scheduled start time: 06/01/2008 12:00:00  
Event start time: 06/01/2008 12:00:00  
Event stop time: 06/01/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	16.6	30C	00	00
Stop:	Y	16.0	30C	00	00

Event 16

Scheduled start time: 06/15/2008 12:00:00  
Event start time: 06/15/2008 12:00:00  
Event stop time: 06/15/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	16.2	30C	00	00
Stop:	Y	15.8	30C	00	00

Event 17

Scheduled start time: 06/29/2008 12:00:00  
Event start time: 06/29/2008 12:00:00  
Event stop time: 06/29/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	16.3	30C	00	00
Stop:	Y	15.6	30C	00	00

Event 18

Scheduled start time: 07/13/2008 12:00:00  
Event start time: 07/13/2008 12:00:00  
Event stop time: 07/13/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	16.2	30C	00	00
Stop:	Y	15.3	30C	00	00

Event 19

Scheduled start time: 07/27/2008 12:00:00  
Event start time: 07/27/2008 12:00:00  
Event stop time: 07/27/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	16.0	30C	00	00
Stop:	Y	15.3	30C	00	00

Event 20

Scheduled start time: 08/10/2008 12:00:00  
Event start time: 08/10/2008 12:00:00  
Event stop time: 08/10/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	15.8	30C	00	00
Stop:	Y	15.1	30C	00	00

Event 21

Scheduled start time: 08/24/2008 12:00:00  
Event start time: 08/24/2008 12:00:00  
Event stop time: 08/24/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	15.6	30C	00	00
Stop:	Y	15.0	30C	00	00

Event 22

Scheduled start time: 09/21/2008 12:00:00  
Event start time: 09/21/2008 12:00:00  
Event stop time: 09/21/2008 12:00:29

	Aligned	Battery	Temperature	Tilt	Heading
Start:	Y	13.8	30C	00	00
Stop:	Y	12.7	30C	00	00

Normal shutdown.

End of instrument data file.

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McLane Research Laboratories, USA  
MK7G-21 ITC Sediment Trap  
Operation Program V2.07

TRAP V2.07  
xxxxvi c 100mab pap 2007/8  
S/N 1516 06/23/07 12:35:52

#01 07/01/07 12:00:23 21.4 Vb 8.4 Vr 1.4 C Rotor aligned  
07/01/07 12:00:48 20.9 Vb 8.4 Vr 1.0 C Rotor aligned

#02 07/15/07 12:00:08 21.4 Vb 8.1 Vr 1.0 C Rotor aligned  
07/15/07 12:00:33 20.7 Vb 8.3 Vr 1.0 C Rotor aligned

#03 07/29/07 12:00:24 21.4 Vb 8.4 Vr 1.0 C Rotor aligned  
07/29/07 12:00:49 20.7 Vb 8.3 Vr 1.0 C Rotor aligned

#04 08/12/07 12:00:09 21.1 Vb 8.4 Vr 1.0 C Rotor aligned  
08/12/07 12:00:34 20.7 Vb 8.1 Vr 1.4 C Rotor aligned

#05 08/26/07 12:00:25 20.9 Vb 8.3 Vr 1.0 C Rotor aligned  
08/26/07 12:00:50 20.4 Vb 8.2 Vr 1.0 C Rotor aligned

#06 09/09/07 12:00:10 21.1 Vb 8.2 Vr 1.0 C Rotor aligned  
09/09/07 12:00:35 20.2 Vb 8.3 Vr 1.0 C Rotor aligned

#07 09/30/07 12:00:05 20.9 Vb 8.3 Vr 1.0 C Rotor aligned  
09/30/07 12:00:30 20.0 Vb 8.3 Vr 1.4 C Rotor aligned

#08 11/04/07 12:00:20 20.4 Vb 8.3 Vr 1.4 C Rotor aligned  
11/04/07 12:00:45 20.2 Vb 8.3 Vr 1.0 C Rotor aligned

#09 01/13/08 12:00:23 20.4 Vb 8.2 Vr 1.0 C Rotor aligned  
01/13/08 12:00:48 19.5 Vb 8.1 Vr 1.4 C Rotor aligned

#10 03/23/08 12:00:27 20.7 Vb 8.3 Vr 1.9 C Rotor aligned  
03/23/08 12:00:52 19.7 Vb 8.3 Vr 1.0 C Rotor aligned

#11 04/06/08 12:00:13 20.4 Vb 8.3 Vr 1.4 C Rotor aligned  
04/06/08 12:00:38 19.7 Vb 8.3 Vr 1.4 C Rotor aligned

#12 04/20/08 12:00:29 20.4 Vb 8.4 Vr 1.0 C Rotor aligned  
04/20/08 12:00:54 19.5 Vb 8.3 Vr 1.0 C Rotor aligned

#13 05/04/08 12:00:14 20.4 Vb 8.2 Vr 1.0 C Rotor aligned  
05/04/08 12:00:39 19.7 Vb 8.2 Vr 1.0 C Rotor aligned

#14 05/18/08 12:00:30 20.2 Vb 8.2 Vr 1.0 C Rotor aligned  
05/18/08 12:00:55 19.5 Vb 8.3 Vr 1.0 C Rotor aligned

#15 06/01/08 12:00:15 20.4 Vb 8.2 Vr 1.0 C Rotor aligned  
06/01/08 12:00:40 19.7 Vb 8.2 Vr 1.4 C Rotor aligned

#16 06/15/08 12:00:31 20.4 Vb 8.3 Vr 1.4 C Rotor aligned  
06/15/08 12:00:56 19.2 Vb 8.3 Vr 1.0 C Rotor aligned

#17 06/29/08 12:00:16 20.0 Vb 8.3 Vr 1.0 C Rotor aligned  
06/29/08 12:00:41 19.5 Vb 8.2 Vr 1.4 C Rotor aligned

#18 07/13/08 12:00:32 20.0 Vb 8.2 Vr 1.4 C Rotor aligned  
07/13/08 12:00:57 19.2 Vb 8.3 Vr 1.4 C Rotor aligned

#19 07/27/08 12:00:17 20.2 Vb 8.1 Vr 1.9 C Rotor aligned  
07/27/08 12:00:42 19.2 Vb 8.2 Vr 1.0 C Rotor aligned

#20 08/10/08 12:00:02 20.4 Vb 8.3 Vr 1.0 C Rotor aligned  
08/10/08 12:00:27 19.2 Vb 8.3 Vr 1.0 C Rotor aligned

#21 08/24/08 12:00:18 20.2 Vb 8.2 Vr 1.0 C Rotor aligned  
08/24/08 12:00:43 19.2 Vb 8.3 Vr 1.4 C Rotor aligned

#22 09/21/08 12:00:23 19.7 Vb 8.3 Vr 1.0 C Rotor aligned  
09/21/08 12:00:48 19.5 Vb 8.3 Vr 1.0 C Rotor aligned

No more data

## PAP1 DOMS recovery

In October 2007 the surface toroidal buoy, the sensor frame and the 1000m of wire from the top of the PAP1 DOMS mooring was recovered aboard the RV Pelagia, after it had broken free. The parting of the mooring was observed and tracked using the buoys telemetry and GPS system. The fate of the mooring from the 100kg weight downwards remained unknown until this recovery cruise.

The remains on the PAP1 DOMS surface telemetered mooring was recovered on 2<sup>nd</sup> October 2008. The diagram of the mooring recovered is shown below. The original position and depth of the mooring was:

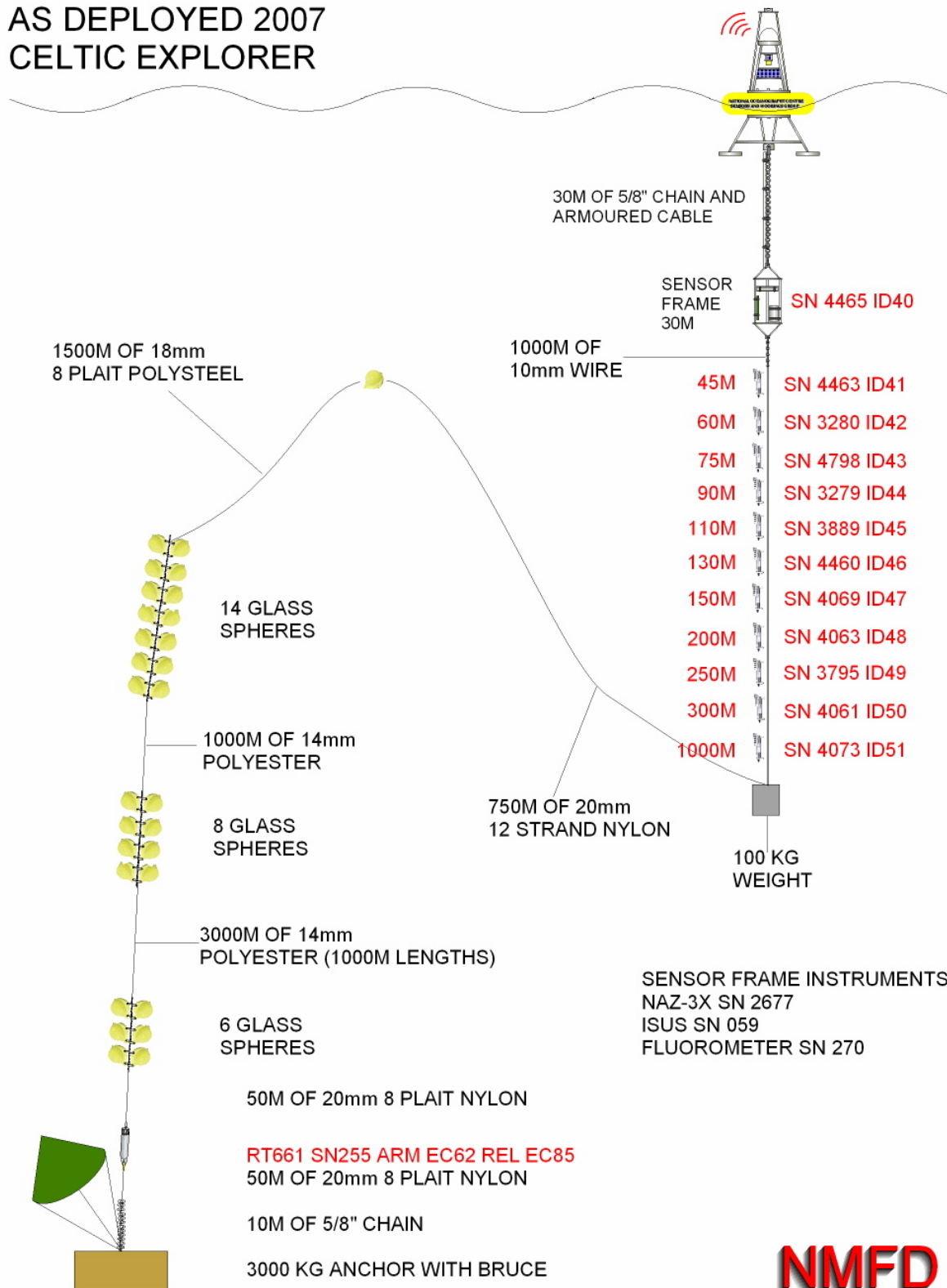
Latitude: 49°00.98'N  
Longitude: 16°24.12'W  
Depth: 4800m

Initial contact was made with the mooring at 13:00 z. The acoustic release indicated that the mooring (acoustic release) was present and vertical. At 13:08z the release command was sent to the instrument and positive confirmation was received. On subsequent ranging decreases in range were measured. The mooring was visually identified on the surface by the Bridge at 14:45z.

The large amounts of line between buoyancy packages and near 1500m of free floating line presented a further challenge to ship manouvers that were executed with great credit. Initially the free floating line above the 14 glass sphere buoyancy package was recovered on the forecastle deck windlass (Dolly End) starting at 15:30z. This was then cut and fed around to the afterdeck which allowed the buoyancy packages and the lines between them to be recovered from the afterdeck. All of the expected mooring was recovered except for the single top 17" sphere, 750m of nylon rope and a 100kg weight. Mooring operations were completed by 18:10z.

The upper 1500m rope section of the mooring had been cut and had long line fishing gear (hooks and line) entangled within it. The rope had been stopped off several times and there was antifouling paint along lengths of the rope; this suggests that recovery of entangled fishing gear had been attempted. With the mooring recovered and this new evidence, it therefore seems that fishing activity and intervention was the most probable cause for the parting of the surface expression from the mooring in the later part of 2007.

# PAP1 DOMS AS DEPLOYED 2007 CELTIC EXPLORER



**NMFD**

## PAP3 deployment

The PAP3 sediment trap mooring was redeployed on the 3<sup>rd</sup> October 2008, with an almost identical design, but the mooring hardware, ropes, buoyancy and instruments were all replaced, except for the top Billings float. A diagram of the mooring is shown below. The mooring operations (commencement of streaming) began at 08:05z, and finished with the anchor deployment at 09:36z.

The anchor drop position was:

Latitude: 48°58.55'N  
Longitude: 16°27.82'W  
Water depth: 4809m

The setup of the Aanderra RCM11 current meters is described below:

RCM 11 (s/n 643; dsu 15724) - top, below trap (LIV-A)  
RCM 11 (s/n 642; dsu 15723) - bottom, below trap (LIV-C)

Both instruments were switched on @ 09:30z 29/09/08 with a 30 min sampling interval, recording 8 channels (ch7 = tilt, ch8 = signal strength) with the readings being averaged over the entire interval. The Doppler head was set to 600 pings per recording interval (i.e. 30 minutes).

The setup and deployment files for the sediment traps are detailed below:

McLane Research Laboratories, USA  
ParFlux 21-Cup Sediment Trap  
Version: PST-21\_3.c S/N: ML12168-01

### Schedule Verification

Event 1 of 22 = 10/05/2008 12:00:00  
Event 2 of 22 = 10/26/2008 12:00:00  
Event 3 of 22 = 11/16/2008 12:00:00  
Event 4 of 22 = 12/07/2008 12:00:00  
Event 5 of 22 = 12/28/2008 12:00:00  
Event 6 of 22 = 01/18/2009 12:00:00  
Event 7 of 22 = 02/08/2009 12:00:00  
Event 8 of 22 = 03/01/2009 12:00:00  
Event 9 of 22 = 03/15/2009 12:00:00  
Event 10 of 22 = 03/29/2009 12:00:00  
Event 11 of 22 = 04/12/2009 12:00:00  
Event 12 of 22 = 04/26/2009 12:00:00  
Event 13 of 22 = 05/10/2009 12:00:00  
Event 14 of 22 = 05/24/2009 12:00:00

Event 15 of 22 = 06/07/2009 12:00:00  
Event 16 of 22 = 06/21/2009 12:00:00  
Press any key to continue.

Event 17 of 22 = 06/28/2009 12:00:00  
Event 18 of 22 = 07/05/2009 12:00:00  
Event 19 of 22 = 07/12/2009 12:00:00  
Event 20 of 22 = 07/19/2009 12:00:00  
Event 21 of 22 = 07/26/2009 12:00:00  
Event 22 of 22 = 08/02/2009 12:00:00

Current Header reads:

PAP3 2008/2009  
LIVA  
TOP TRAP

System status:

09/29/2008 15:26:51 21.1 Vb 20 øC aligned

>>> Remove communication cable and <<<  
>>> attach dummy plug. <<<  
>>> Sediment trap is ready to deploy. <<<

<09/29/2008 15:27:22> Waiting for Event 01 of 22 @ 10/05/2008 12:00:00

09/29/2008 15:27:24 Sleeping . . .

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McLane Research Laboratories, USA  
ParFlux 21-Cup Sediment Trap  
Version: pst-21\_0.c S/N: ML11262-03

Schedule Verification

Event 1 of 22 = 03/08/109 12:00:00  
Event 2 of 22 = 03/15/109 12:00:00  
Event 3 of 22 = 03/22/109 12:00:00  
Event 4 of 22 = 03/29/109 12:00:00  
Event 5 of 22 = 04/05/109 12:00:00  
Event 6 of 22 = 04/12/109 12:00:00  
Event 7 of 22 = 04/19/109 12:00:00  
Event 8 of 22 = 04/26/109 12:00:00  
Event 9 of 22 = 05/03/109 12:00:00  
Event 10 of 22 = 05/10/109 12:00:00



Event 11 of 22 = 05/17/109 12:00:00  
Event 12 of 22 = 05/24/109 12:00:00  
Event 13 of 22 = 05/31/109 12:00:00  
Event 14 of 22 = 06/07/109 12:00:00  
Event 15 of 22 = 06/14/109 12:00:00  
Event 16 of 22 = 06/21/109 12:00:00  
Press any key to continue.

Event 17 of 22 = 06/28/109 12:00:00  
Event 18 of 22 = 07/05/109 12:00:00  
Event 19 of 22 = 07/12/109 12:00:00  
Event 20 of 22 = 07/19/109 12:00:00  
Event 21 of 22 = 07/26/109 12:00:00  
Event 22 of 22 = 08/02/109 12:00:00

Current Header reads:

PAP3 2008/2009  
LIVB  
MID TRAP

System status:

09/29/108 15:46:15 21.2 Vb 20 øC aligned

>>> Remove communication cable and <<<  
>>> attach dummy plug. <<<  
>>> Sediment trap is ready to deploy. <<<

<09/29/108 15:46:26> Waiting for Event 01 of 22 @ 03/08/109 12:00:00

<09/29/108 15:46:27> Sleeping . . .

---

McLane Research Laboratories, USA  
ParFlux 21-Cup Sediment Trap  
Version: pst-21\_0.c S/N: ML11262-02

Schedule Verification

Event 1 of 22 = 10/05/108 12:00:00  
Event 2 of 22 = 10/26/108 12:00:00  
Event 3 of 22 = 11/16/108 12:00:00  
Event 4 of 22 = 12/07/108 12:00:00  
Event 5 of 22 = 12/28/108 12:00:00  
Event 6 of 22 = 01/18/109 12:00:00

Event 7 of 22 = 02/08/109 12:00:00  
Event 8 of 22 = 03/01/109 12:00:00  
Event 9 of 22 = 03/15/109 12:00:00  
Event 10 of 22 = 03/29/109 12:00:00  
Event 11 of 22 = 04/12/109 12:00:00  
Event 12 of 22 = 04/26/109 12:00:00  
Event 13 of 22 = 05/10/109 12:00:00  
Event 14 of 22 = 05/24/109 12:00:00  
Event 15 of 22 = 06/07/109 12:00:00  
Event 16 of 22 = 06/21/109 12:00:00  
Press any key to continue.

Event 17 of 22 = 06/28/109 12:00:00  
Event 18 of 22 = 07/05/109 12:00:00  
Event 19 of 22 = 07/12/109 12:00:00  
Event 20 of 22 = 07/19/109 12:00:00  
Event 21 of 22 = 07/26/109 12:00:00  
Event 22 of 22 = 08/02/109 12:00:00

Current Header reads:

PAP3 2008/2009  
LIVC  
BOT TRAP

System status:

09/29/108 16:02:49 21.4 Vb 20 øC aligned

>>> Remove communication cable and <<<  
>>> attach dummy plug. <<<  
>>> Sediment trap is ready to deploy. <<<

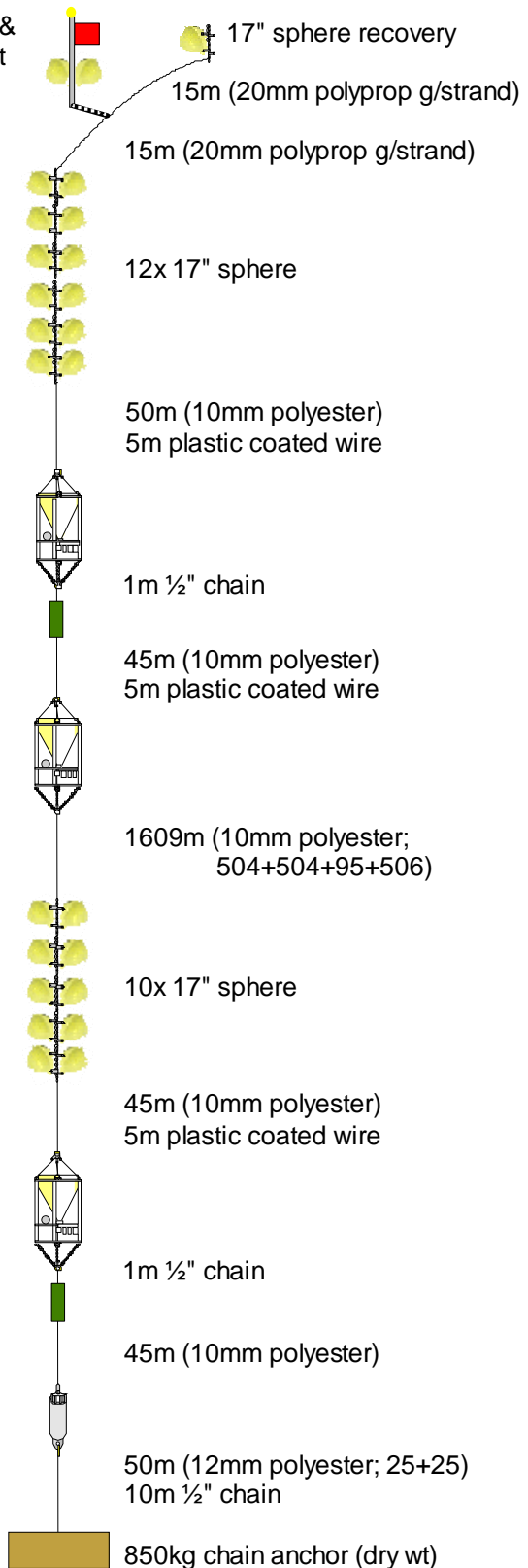
<09/29/108 16:03:03> Waiting for Event 01 of 22 @ 10/05/108 12:00:00

<09/29/108 16:03:04> Sleeping . . .

PAP3 deployment  
 3 October 2008  
 Latitude: 48°58.55'N  
 Longitude: 16°27.82'W  
 Water depth: 4809m

Sediment traps have  
 5m wire above top  
 bridle to allow stop  
 off for vertical  
 streamed deployment

Billings Float &  
 Novatech light  
 (s/n A1554)



17" sphere recovery

15m (20mm polyprop g/strand)

15m (20mm polyprop g/strand)

12x 17" sphere

50m (10mm polyester)  
 5m plastic coated wire

Parflux 21  
 (s/n ML12168-01)

1m 1/2" chain

RCM11  
 (s/n 643, DSU15724)

45m (10mm polyester)  
 5m plastic coated wire

Parflux 21  
 (s/n ML11262-03)

1609m (10mm polyester;  
 504+504+95+506)

10x 17" sphere

45m (10mm polyester)  
 5m plastic coated wire

Parflux 21  
 (s/n ML11262-02)

1m 1/2" chain

RCM11  
 (s/n 642, DSU15723)

45m (10mm polyester)

AR861 B2S s/n 829  
 (Arm:1666, Rel:1655, Diag:1649)

50m (12mm polyester; 25+25)  
 10m 1/2" chain

850kg chain anchor (dry wt)

A table showing the detected decent of the mooring to rest on the seabed is shown below.

Time (z)	Range	Time (z)	Range
09:36	Deployed surface		
09:41	692	10:05	3144
09:42	823	10:10	3594
09:43	953	10:15	4037
09:44	1077	10:18	4311
09:47	1417	10:23	4760
09:50	1733	10:29	4787
09:52	1930	10:30	4788
09:57	2413		

Build sheet for IxSea acoustic release.