

Mooring Deployment Record

Project Name: <u>Discovery Passage</u>	
Project Area:	
Mooring Name: <u>DP2-B</u>	Station Name: <u>DP2</u>
Latitude: <u>49.59.480</u>	Longitude: <u>125° 10' 263</u>
Depth: <u>96 m</u> <u>95m datum</u>	Tide: <u>Campbell River +1m</u>
Mag. Declination:	Time Zone: <u>UTC</u>
Date: <u>May 15, 2011</u>	Time: <u>1641</u>
Remarks:	

Recovery

Date: <u>June 10, 2012</u>	Time: <u>0800'ish</u>
Remarks: <u>nice weather, heavy furling.</u> <u>* ADCP 8865 pressurized -> flooded</u>	

Instruments

Type	Serial #	Depth	Time In:	Time Out	Notes
* LR75	8865	10mab ±	86m		4x6051 ☺ up and
MCat	8390				Pumped (New Instrument)

Releases

Release	Serial #	Range:	Release	Freq	Other
AR 861	733	16B3	1655	12kHz	1649

Pingers

Argos 4995 Diag on recovery = 5.1.3.7.

Pinger	Serial #	Voltage	Freq
RJE	7052	6.3 volts	27 kHz

Flotation

Type	Serial #	Size	Colour	Type	Serial #	Size	Colour
Flotech	n/a	45"	orange				
1545							
	105 marks						

RDI 75/150/300/600 kHz Long Ranger/Workhorse

Project: Discovery Passage
Serial Number: 8865
Cruise ID: 2011-47
Platform: TULLY
Station: DP2 moving DP2-B₁
Deployment Date: May 15, 2011
Recovery Date: May 2012
Position: _____
Depth: 96 m.

Parameters:

Ensemble Interval: 30 min
Bin Size: 8 m
Number of Pings: 25
Number of Bins: 12
Ambiguity Velocity: 0.82 cm/s
Water profiling Mode: WBO
Time: UTC
Start Time: 2000 UTC May 15, 2011
Power: 1800 watts
Battery Type: 4x 6091 in blu cases

June 10, 2012. Unit is under pressure. We are letting some off through pressure Release port before attempting to open it up.

Instrument was corroded @ battery side but looked good @ head. Oil from compass looks like it has a leak. No corrosion @ head side.

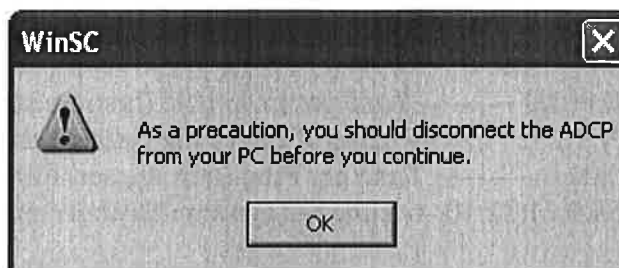
all boards look good when I disassembled the unit. Oil is leaking from the compass on first board "High Power amp" likely because unit was under pressure. Workhorse.

8865-75kHz
DP2-C

CAUTION: Not enough battery packs for the deployment.

Basic		Expert
Environmental Setup:		
Transducer Depth:	100 m	
Salinity:	31 ppt	
Magnetic Variation:	0 °	
Temperature:	7 °C	
Profiling Setup:		
Pings Per Ensemble:	25	
Number of Depth Cells:	12	
Depth Cell Size:	8 m	
Deployment Consequences:		
First Cell Range:	15.81 m	
Last Cell Range:	103.81 m	
Max Range:	466.86 m	
Standard Deviation:	0.82 cm/s	
Ensemble Size:	388 bytes	
Storage Required:	6.80 MB	
Power Usage:	1812.99 Wh	
Battery Pack Usage:	4.0	
Deployment Timing Setup:		
Duration:	365 days	
Ensemble Interval:	00:30:00.00	
Ping Int. ☒ Auto:	00:01:12.00	
☐ Ping Immediately After Deployment		
First Ping Date and Time:		
15-May-2011	04:00:00 PM	
Notes		
8865 - 75kHz-4x6051 in blu cage DP2-B Start May 15, 2011 @ 1600UTC		

```
>EAO
>EBO
>ED1000
>ES31
>EX11111
>EZ1111111
>WBO
>WD111100000
>WF704
>WN12
>WP25
>WS800
>WV170
>TE00:30:00.00
>TP01:12.00
>TF11/05/15 16:00:00
>CK
[Parameters saved as USER defaults]
>The command CS is not allowed in this command file. It has been ignored.
>The following commands are generated by this program:
>CF?
CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)
>CF11101
>RN DP2_B
>cs
```



>>>>> Function starting 05/09/11 21:31:55 >>>>>

#

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 50.40
Teledyne RD Instruments (c) 1996-2010
All Rights Reserved.
>TS110509213158
>CZ

Powering Down

>>>>>> Function starting 05/09/11 21:32:07 >>>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 50.40
Teledyne RD Instruments (c) 1996-2010
All Rights Reserved.
>DEPLOY?

Deployment Commands:

CF = 11111 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)
CK ----- Keep Parameters as USER Defaults
CR # ----- Retrieve Parameters (0 = USER, 1 = FACTORY)
CS ----- Start Deployment

EA = +00000 ----- Heading Alignment (1/100 deg)
EB = +00000 ----- Heading Bias (1/100 deg)
ED = 00000 ----- Transducer Depth (0 - 65535 dm)
ES = 35 ----- Salinity (0-40 pp thousand)
EX = 11111 ----- Coord Transform (Xform: Type,Tilts,3 Bm,Map)
EZ = 1111101 ----- Sensor Source (C,D,H,P,R,S,T)

RE ----- Recorder ErAsE
RN ----- Set Deployment Name

TE = 01:00:00.00 ----- Time per Ensemble (hrs:min:sec.sec/100)
TF = **/**/**, **: **: ** --- Time of First Ping (yr/mon/day,hour:min:sec)
TP = 01:20.00 ----- Time per Ping (min:sec.sec/100)
TS = 11/05/09,21:32:10 --- Time Set (yr/mon/day,hour:min:sec)

WD = 111 100 000 ----- Data Out (Vel,Cor,Amp; PG,St,P0; P1,P2,P3)
WF = 0704 ----- Blank After Transmit (cm)

Press any key to continue

WP = 00045 ----- Pings per Ensemble (0-16384)
WS = 1600 ----- Depth Cell Size (cm)
WV = 175 ----- Mode 1 Ambiguity Vel (cm/s radial)

>SYSTEM?

System Control, Data Recovery and Testing Commands:

AC ----- Output Active Fluxgate & Tilt Calibration data
AF ----- Field calibrate to remove hard/soft iron error
AR ----- Restore factory fluxgate calibration data

AX ----- Examine compass performance

AZ ----- Zero pressure reading

CB = 811 ----- Serial Port Control (Baud; Par; Stop)

CP # ----- Polled Mode (0 = NORMAL, 1 = POLLED)

CZ ----- Power Down Instrument

FC ----- Clear Fault Log

FD ----- Display Fault Log

OL ----- Display Features List

PA ----- Pre-Deployment Tests

PC1 ----- Beam Continuity

PC2 ----- Sensor Data

PS0 ----- System Configuration

PS3 ----- Transformation Matrices

RR ----- Recorder Directory

Press any key to continue

RY ----- Upload Recorder Files to Host

>TS?

TS 11/05/09,21:32:22 --- Time Set (yr/mon/day,hour:min:sec)

>PS0

Instrument S/N: 8865

Frequency: 76800 HZ

Configuration: 4 BEAM, JANUS

Match Layer: 10

Beam Angle: 20 DEGREES

Beam Pattern: CONVEX

Orientation: DOWN

Sensor(s): HEADING TILT 1 TILT 2 DEPTH TEMPERATURE PRESSURE

Pressure Sens Coefficients:

c3 = -2.680989E-15

c2 = -7.961946E-08

c1 = +5.736878E-01

Offset = +7.296290E+01

Temp Sens Offset: -0.13 degrees C

CPU Firmware: 50.40 [0]

Boot Code Ver: Required: 1.16 Actual: 1.16

DEM0D #1 Ver: ad48, Type: 1f

DEM0D #2 Ver: ad48, Type: 1f

PWRTIMG Ver: 85d3, Type: 4

Board Serial Number Data:

2D 00 00 00 93 AF 48 09 CPU727-2000-00J

BF 00 00 00 82 BE 52 09 HPA727-3009-00A
64 00 00 00 93 A2 66 09 REC727-1004-06A
7A 00 00 00 7E 99 AE 09 TUN727-1005-06A
72 00 00 00 86 83 05 09 HPI727-3007-00A
B7 00 00 00 86 9D 47 09 DSP727-2001-06G
>PA

PRE-DEPLOYMENT TESTS

CPU TESTS:

RTC.....PASS
RAM.....PASS
ROM.....PASS

RECORDER TESTS:

PC Card #0.....DETECTED
Card Detect.....PASS
Communication.....PASS
DOS Structure.....PASS
Sector Test (short).....PASS
PC Card #1.....DETECTED
Card Detect.....PASS
Communication.....PASS
DOS Structure.....PASS
Sector Test (short).....PASS

DSP TESTS:

Timing RAM.....PASS
Demod RAM.....PASS
Demod REG.....PASS
FIFOs.....PASS

SYSTEM TESTS:

XILINX Interrupts... IRQ3 IRQ3 IRQ3 ...PASS
Wide Bandwidth.....PASS
Narrow Bandwidth.....PASS
RSSI Filter.....PASS
Transmit.....PASS

SENSOR TESTS:

H/W Operation.....PASS

>PC2

Press any key to quit sensor display ...

All Sensors are Internal Only.

Heading	Pitch	Roll	Up/Down	Attitude Temp	Ambient Temp	PRESSURE
336.73ø	-0.68ø	0.31ø	Down	21.00øC	20.01øC	-2.0 kPa

>RS

RS = 000,303 ----- REC SPACE USED (MB), FREE (MB)

>PC1

BEAM CONTINUITY TEST

When prompted to do so, vigorously rub the selected beam's face.

If a beam does not PASS the test, send any character to the ADCP to automatically select the next beam.

Collecting Statistical Data...

30 31 27 27

Rub Beam 1 = PASS

Rub Beam 2 = PASS

Rub Beam 3 = PASS

Rub Beam 4 = PASS

>CZ

Powering Down

>>>>> Function starting 05/09/11 21:35:32 >>>>>

[BREAK Wakeup A]

WorkHorse Broadband ADCP Version 50.40

Teledyne RD Instruments (c) 1996-2010

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>CR1

[Parameters set to FACTORY defaults]

>CQ255

>CF11101

>EA0

>EB0

>ED1000

>ES31

>EX11111

>EZ1111111

>WB0

>WD111100000

>WF704

>WN12

>WP25

>WS800

>WV170

>TE00:30:00.00

>TP01:12.00

>TF11/05/15 16:00:00

>CK

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>CF11101

>RN DP2_B

>cs

MicroCat SBE 37 Deployment Sheet

INSTRUMENT

Serial Number: 8390

Sensors (C,T,P):

Firmware Version:

Depth Rating: 2000 m

PARAMETERS

SampleNum: Ø

Storetime: Y

Interval: 30 mins

Syncmode: N

Navg/Ncycles: 4

Txrealtime: N

Reference pressure*: X

OutputSV: Y

Time Zone: UTC

OutputSal: Y

Start: 1800

*only needed if there is no pressure sensor for the salinity calculation

DEPLOYMENT

Station: DP2-B

Cruise Number: 2011-47

Latitude:

Water Depth:

Longitude:

Instrument Depth:

Time and Date in Water:

Comments:

new instrument - check what
min - cond freq is for salt water. I set to 1000
to ensure it went on 4 pin Interface.

Completed by:

Date:

uCat-dep.xls SFM

Mooring: DP2-B

uCat - 8390-pumped (new instrument)

Battery Calculations:

Note: 10 min sampling with a pump lasts about 220 days.

Sampling Time:

$$3.33s + (2.27 * (NAV G - 1))$$

$$3.33s + (2.27 * (4 - 1)) = 10.14s$$

Example 1: A standard MicroCAT (no external power option) with pressure sensor is set up to sample autonomously every 10 minutes (6 samples/hour), taking 4 measurement per sample (**NAV G=4**). How long can it be deployed?

Sampling time = 3.33 seconds + 2.27 seconds * (**NAV G** - 1) = 10.14 seconds

Sampling current consumption = 0.020 amps * 10.14 seconds = 0.2 amp-seconds/sample

In 1 hour, sampling current consumption = 6 * 0.2 amp-seconds/sample = 1.2 amp-seconds/hour

Pump current consumption = 0.13 amp-seconds/pulse

In 1 hour, pump current consumption = 6 * 0.13 amp-seconds/pulse = 0.78 amp-seconds/hour

Quiescent current 10 microamps = 0.01 mA

In 1 hour, quiescent current consumption = 0.01 mA * 3600 seconds/hour = 0.036 amp-seconds/hour

Total current consumption / hour = 1.2 + 0.78 + 0.036 = 2.02 amp-seconds/hour

Capacity = (5 amp-hours * 3600 seconds/hr) / (2.02 amp-seconds/hour) = 8910 hours = 371 days = 1.02 years

Number of samples = 8910 hours * 6 samples/hour = 53460 samples

Command Summary:

Datetime=05152011010800 (UTC)

OUTPUTSAL=Y

OUTPUTSV=Y

OUTPUTFORMAT=1

SAMPLENUM=0

SAMPLEINTERVAL=3600 (NOTE: 10 min sampling with a pump lasts about 220 days so use 30 mins)

SETPUMPINSTALLED=Y

TXREALTIME=N

MINCONDFREQ=1000

STARTDATETIME=05152011200000 (UTC)

STARTLATER
