

DEPLOYMENT RECORD

Project Name: Effingham Inlet Start Date: Sept 16/07 End Date: Mid May /08
 Mooring Name: EF04-B Station Name: EF04

Geog. Desc.: Inner Basin Sill Tide: +1.5m Alberni
 Latitude: 49° 03.811' Longitude: 125° 09.083'
 Water Depth: 88.5m datum Ice Thickness:
 Magnetic decl: Time Zone: PDT Anchor Type: 1 wheel + chain 795 lbs.
 Date: Sep 16, 2007 Time Anchor Dropped: 0854 PDT Date:
 Remarks: - mooring angled side ways on descent before sinking out of sight.

RECOVERY RECORD

Date: Apr. 30, 2008 Time Anchor Released: 0900 PDT
 Remarks: - without incident. - H₂S present.
- black calcareous deposit.

INSTRUMENTS (Start at TOP)

Type	Serial #	Depth	Time in	Time Out	Notes
WH300	B943	82.5m		1610 UTC	Plastic external case
SBE37	5304				pump
SBE37	5305	38m	0845	PDT	Pump
SBE37	5304	68m	0846	PDT	Pump
SBE37	3501	86m	?		No Pump

Release	Serial	R Code	Arm Code	Freq	On/Off	B0	B1	Aux Codes
AR191	18U	B538	B537					
Pinger 1	Type	Serial	Pinger 2	Type	Serial	Battery Volt		
Helle	1/4x27	6571	Helle	1/4x27	7492	19.6	21.1	

FLOTATION

Type	Serial #	Size	Colour
SS30	3014	30"	yellow
6 Vinyl ADCP Frame			orange

Type	Serial #	Size	Colour

Data Entry by:

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

Project: Effingham

Serial Number: 8943

Cruise: 2007-62

Platform: Tully

Station: EFO4-B

Deployment Date: Sep. 16, 2007

Position: 49° 03.811' 125° 09.083'

Depth on Sounder: 90 - 1.5m tide = 88.5 m datum

Recovery Date: _____

Parameters

Ensemble Interval	10 min.
Bin Size	4 m.
Number of Pings	40
Number of Bins	21
Observations	
Ambiguity Velocity	
Water Profiling Mode	1
Time	
Start Time	
Power	692.02 Wh.

PlanADCP (Advanced) : [EF04B]

BackToSC Settings View Help

CAUTION: Not enough battery packs for the deployment.

Basic Advanced Expert

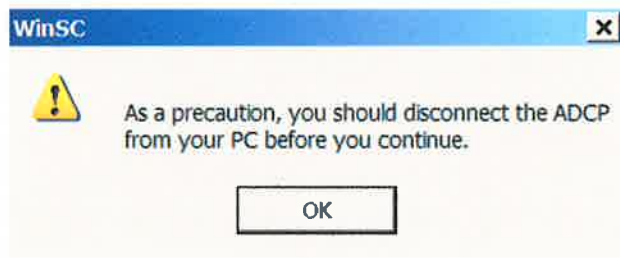
Environmental Setup: Transducer Depth: 85 m Salinity: 33 ppt Magnetic Variation: 0 ° Temperature: 9 °C	Profiling Setup: Pings Per Ensemble: 40 Number of Depth Cells: 21 Depth Cell Size: 4 m Mode: 1	Deployment Consequences First Cell Range: 6.17 m Last Cell Range: 86.17 m Max Range: 101.71 m Standard Deviation: 0.56 cm/s Ensemble Size: 574 bytes Storage Required: 21.28 MB Power Usage: 692.02 Wh Battery Pack Usage: 1.5
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Deployment Timing Setup:
 Duration: 270 days
 Ensemble Interval: 00:10:00.00
 Ping Int(☒ Auto): 00:00:15.00
 Min TF:
☒ Ping Immediately After Deployment

Notes
 8943 - EFF04-B
 Alum Pressure case with plastic external pack
 No Compass Swing, Viny floats
 Sept 16, 2007-Mid May 2008

Workhorse Sentinel: 300 kHz/ High Res./ 1 Battery Pack/ Memory: 256 MB

NUM



>>>>> Function starting 09/15/07 20:37:07 >>>>>

b

[BREAK Wakeup A]

WorkHorse Broadband ADCP Version 16.28

RD Instruments (c) 1996-2005

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>TS070915203710

>CZ

Powering Down

>>>>> Function starting 09/15/07 20:37:16 >>>>>

[BREAK Wakeup A]

WorkHorse Broadband ADCP Version 16.28

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>AZ

Pressure Offset Updated in NVRAM.

>CZ

Powering Down

>>>>> Function starting 09/15/07 20:37:25 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
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>RE ErAsE erasing...
Recorder erased.

>CZ

Powering Down

>>>>> Function starting 09/15/07 20:37:37 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
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>DEPLOY?
Deployment Commands:
RE ----- Recorder ErAsE
RN ----- Set Deployment Name

WD = 111 100 000 ----- Data Out (Vel,Cor,Amp; PG,St,P0; P1,P2,P3)

WF = 0176 ----- Blank After Transmit (cm)
WN = 022 ----- Number of depth cells (1-128)
WP = 00070 ----- Pings per Ensemble (0-16384)
WS = 0400 ----- Depth Cell Size (cm)
WV = 175 ----- Mode 1 Ambiguity Vel (cm/s radial)

TE = 00:15:00.00 ----- Time per Ensemble (hrs:min:sec.sec/100)
TF = **/**/**, **: **: ** --- Time of First Ping (yr/mon/day, hour:min:sec)
TP = 00:12.85 ----- Time per Ping (min:sec.sec/100)
TS = 07/09/15,20:37:40 --- Time Set (yr/mon/day, hour:min:sec)

EA = +00000 ----- Heading Alignment (1/100 deg)
EB = +00000 ----- Heading Bias (1/100 deg)
ED = 00850 ----- Transducer Depth (0 - 65535 dm)
ES = 33 ----- Salinity (0-40 pp thousand)
EX = 11111 ----- Coord Transform (Xform: Type,Tilts,3 Bm,Map)
EZ = 1111111 ----- Sensor Source (C,D,H,P,R,S,T)

Press any key to continue

CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)
CK ----- Keep Parameters as USER Defaults
CR # ----- Retrieve Parameters (0 = USER, 1 = FACTORY)
CS ----- Start Deployment

>SYSTEM?

System Control, Data Recovery and Testing Commands:
AC ----- Output Active Fluxgate & Tilt Calibration
data

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AF ----- Field calibrate to remove hard/soft iron
error
AR ----- Restore factory fluxgate calibration data
AX ----- Examine compass performance
AZ ----- Zero pressure reading

CB = 411 ----- 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

RF ----- Recorder Space used/free (bytes)
RY ----- Upload Recorder Files to Host

>TS?
TS = 07/09/15,20:37:45 --- Time Set (yr/mon/day,hour:min:sec)
>PS0
Instrument S/N: 8943
Frequency: 307200 HZ
Configuration: 4 BEAM, JANUS
Match Layer: 10
Beam Angle: 20 DEGREES
Beam Pattern: CONVEX
Orientation: UP
Sensor(s): HEADING TILT 1 TILT 2 DEPTH TEMPERATURE PRESSURE
Pressure Sens Coefficients:
c3 = +1.952969E-85
c2 = +5.688914E-08
c1 = +1.251074E-01
Offset = -2.495556E+01

Temp Sens Offset: -0.19 degrees C

CPU Firmware: 16.28 [0]
Boot Code Ver: Required: 1.13 Actual: 1.13
DEM0D #1 Ver: ad48, Type: 1f
DEM0D #2 Ver: ad48, Type: 1f
PWRTIMG Ver: 85d3, Type: 4

Board Serial Number Data:
15 00 00 00 93 A0 32 09 DSP727-2001-04G
B4 00 00 00 82 B8 DE 09 REC727-1000-04E
A7 00 00 00 93 B8 75 09 PIO727-3000-00C
6F 00 00 00 93 B0 07 09 CPU727-2000-00J

```

>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.....***FAIL***

>PC2

Press any key to quit sensor display ...

All Sensors are Internal Only.

Heading	Pitch	Roll	Up/Down	Attitude Temp	Ambient Temp
PRESSURE					
50.90ø	-26.21ø	25.13ø	Up	20.32øC	20.60øC
1.2 kPa					
51.08ø	-26.21ø	25.13ø	Up	20.33øC	20.60øC -
1.1 kPa					
51.26ø	-26.21ø	25.13ø	Up	20.33øC	20.62øC -
2.5 kPa					
51.42ø	-26.21ø	25.13ø	Up	20.38øC	20.60øC
0.1 kPa					
51.48ø	-26.21ø	25.13ø	Up	20.33øC	20.61øC
2.7 kPa					
51.45ø	-26.21ø	25.13ø	Up	20.32øC	20.61øC
1.2 kPa					

>RS

RS = 000,1036 ----- REC SPACE USED (MB), FREE (MB)

>PC1

1

beam's face.

the ADCP to automatically select the next beam.

Collecting Statistical Data...

[illegible]

42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46
42 40 43 46

Rub Beam 1 = PASS
Rub Beam 2 = PASS
Rub Beam 3 = PASS
Rub Beam 4 = PASS

>CZ

Powering Down

>>>>> Function starting 09/15/07 20:38:53 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
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>RR
Recorder Directory:
Volume serial number for device #0 is a4ae-2016

No files found.

Bytes used on device #0 = 0
Volume serial number for device #1 is c497-71b7

No files found.

Bytes used on device #1 = 0
Total capacity = 1086271488 bytes
Total bytes used = 0 bytes in 0 files
Total bytes free = 1086271488 bytes

>
[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
RD Instruments (c) 1996-2005
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>CR1
[Parameters set to FACTORY defaults]

>CF11101
>EA0
>EB0
>ED850
>ES33
>EX11111
>EZ1111111
>WA50
>WB0
>WD111100000
>WF176
>WN21
>WP40
>WS400
>WV175
>TE00:10:00.00
>TP00:15.00
>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 EF04B
>cs

Mooring: EFF-04-B

UCats X 2

Serial

5304

5305

+ one non pumped 3501 on other setupsheet! LP

Battery Calculations:

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:

DDMMYY=160907

HHMMSS=16000 //(UTC)

OUTPUTSAL=Y

OUTPUTSV=Y

FORMAT=1

NAV G=4

PUMPINSTALLED=Y

SAMPLENUM=0

INTERVAL=600

STORETIME=Y

TXREALTIME=N

STARTDDMMYY=160907

STARTHHMMSS=160000

STARTLATER

Mooring: EFFo4-B
UCats X 1
Serial
3501

Battery Calculations:

Sampling Time:

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

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

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=4**). How long can it be deployed?

$$\text{Sampling time} = 3.33 \text{ seconds} + 2.27 \text{ seconds} * (\text{NAV} - 1) = 10.14 \text{ seconds}$$

$$\text{Sampling current consumption} = 0.020 \text{ amps} * 10.14 \text{ seconds} = 0.2 \text{ amp-seconds/sample}$$

$$\text{In 1 hour, sampling current consumption} = 6 * 0.2 \text{ amp-seconds/sample} = 1.2 \text{ amp-seconds/hour}$$

$$\text{Quiescent current 10 microamps} = 0.01 \text{ mA}$$

$$\text{In 1 hour, quiescent current consumption} = 0.01 \text{ mA} * 3600 \text{ seconds/hour} = 0.036 \text{ amp-seconds/hour}$$

$$\text{Total current consumption / hour} = 1.2 + 0.036 = 1.0236 \text{ amp-seconds/hour}$$

$$\text{Capacity} = (5 \text{ amp-hours} * 3600 \text{ seconds/hr}) / (1.0236 \text{ amp-seconds/hour}) = 14563 \text{ hours} = 606 \text{ days} = 1.66 \text{ years}$$

$$\text{Number of samples} = 14563 \text{ hours} * 6 \text{ samples/hour} = 87378 \text{ samples}$$

Command Summary:

DDMMYY=140907

HHMMSS=???????//(UTC)

OUTPUTSAL=Y

OUTPUTSV=Y

FORMAT=1

NAV=4

PUMPINSTALLED=N

SAMPLENUM=0

INTERVAL=600

STORETIME=Y

TXREALTIME=N

STARTDDMMYY=160907

STARHHMMSS=160000

STARTLATER