DEPLOYMENT RECORD

Project Name: Effingham Inlet Start Date: April 30/08 End Date: Sep. 2008
Mooring Name: EF04-C Station Name: EF04

Geog. Desc.: Effingham Inlet. Tide: +2m Franklin River
Latitude: 49° 03.810' Longitude: 125° 09.072'
Water Depth: 87m datum Ice Thickness: /
Magnetic decl: / Time Zone: / Anchor Type: 2 wheels 1440 lbs
Date: Apr. 30, 2008 Time Anchor Dropped: 1127 PDT Date:
Remarks:

RECOVERY RECORD

Date: Sep. 19 2008 Time Anchor Released: 1803 PDT
Remarks: -without incident

INSTRUMENTS (Start at TOP)

Type	Serial #	Depth	Time in	Time Out	Notes
wh300	2275	80m	1827 UTC		No internal pack + external pack both ADCP cases.
SBE37	5303	37m	1823 UTC		5303 - pumped
SBE37	5305	67m	1824 UTC		pumped
SBE37	5307	84.5m	1827 UTC		pumped

Rng

Release	Serial	R Code	Arm Code	~~Freq~~	On/Off	B0	B1	Aux Codes
AR861	730	1655	16B0	16B0				

Pinger 1	Type	Serial	Pinger 2	Type	Serial	Battery Volt	
OML	1/4 x 27	506	Helle	1/4x27	8822	16.3	18.6

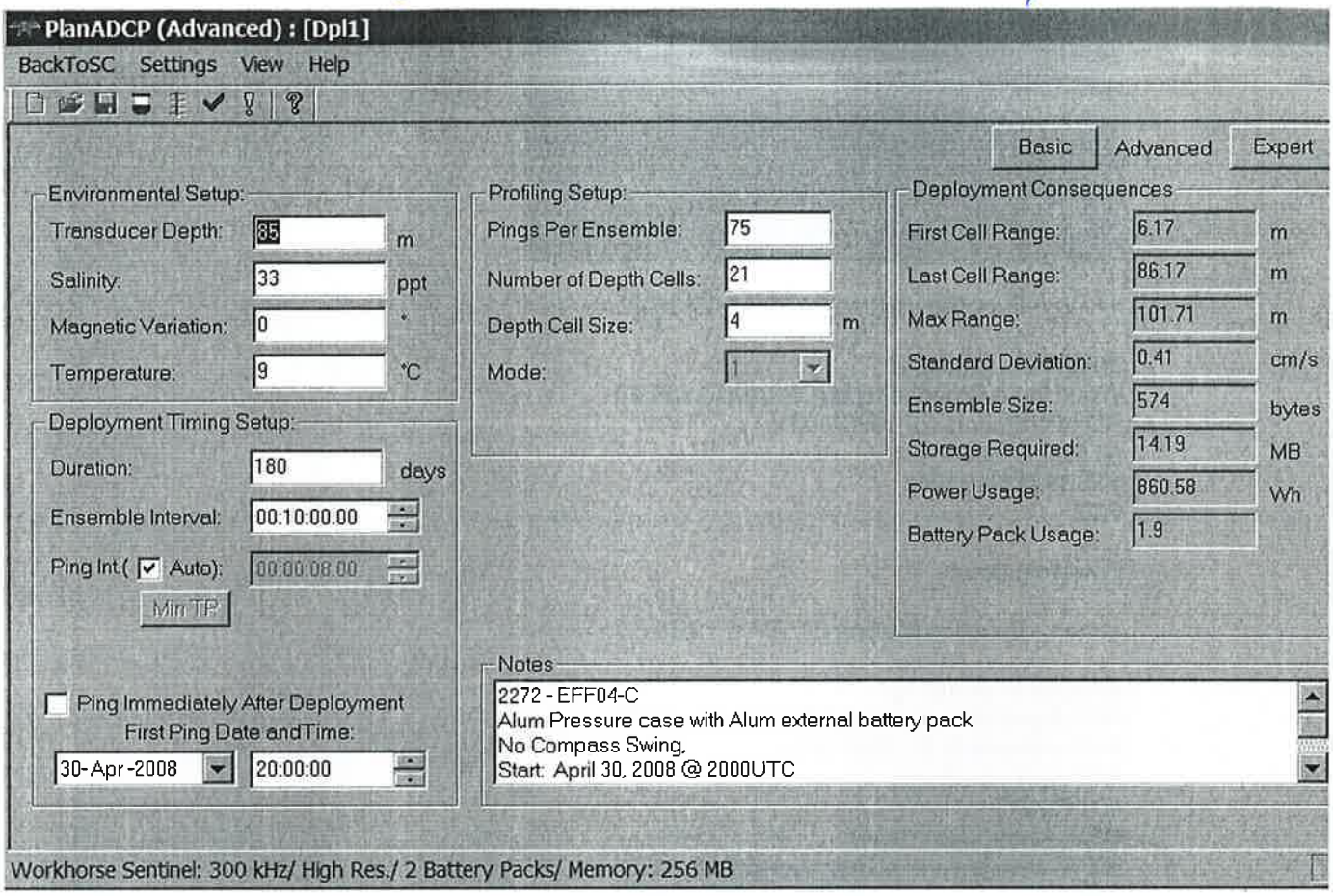
FLOTATION

Type	Serial #	Size	Colour
SS30	3014	30"	Yellow
8 Vinyl ADCP	Frame		Orange

Type	Serial #	Size	Colour

Data Entry by:

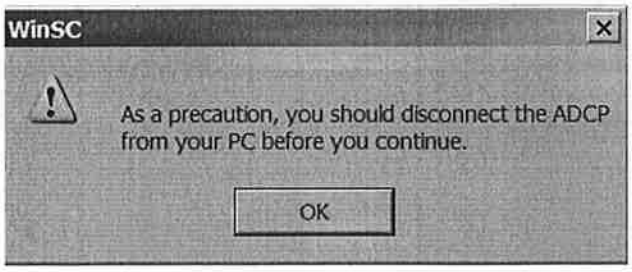
Note: this ADCP needs servicing @ RDI. I think the beam is failing judging by this last deployment. see 2275/Eff04-C/.000 file. GP



NOTE: My note in the "NOTES" section says 2272-eff04-C when it should be 2275*********.

Note: I removed the memory cards from this machine.

CR1
CF11101
EA0
EB0
ED850
ES33
EX11111
EZ1111111
WA50
WB0
WD111100000
WF176
WN21
WP75
WS400
WV175
TE00:10:00.00
TP00:08.00
TF08/04/30 20:00:00
CK
CS



>>>>>> Function starting 04/29/08 19:39:42 >>>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.20
RD Instruments (c) 1996-2001
All Rights Reserved.
>TS080429193944
>CZ

Powering Down

>>>>>> Function starting 04/29/08 19:39:53 >>>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.20
RD Instruments (c) 1996-2001
All Rights Reserved.
>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 = 00038 ---------- Pings per Ensemble (0-16384)
WS = 0400 ---------- Depth Cell Size (cm)
WV = 175 ---------- Mode 1 Ambiguity Vel (cm/s radial)

TE = 00:10:00.00 --------- Time per Ensemble (hrs:min:sec.sec/100)
TF = **/**/**,**:**:** --- Time of First Ping (yr/mon/day,hour:min:sec)
TP = 00:15.78 ---------- Time per Ping (min:sec.sec/100)
TS = 08/04/29,19:39:54 --- 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)

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

>TS?
TS = 08/04/29,19:40:00 --- Time Set (yr/mon/day,hour:min:sec)
>PS0
  Instrument S/N:  2275
      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,c2,c1,offset) -0.00,0.00,0.16,-22.05

Temp Sens Offset:  -0.41 degrees C

    CPU Firmware:  16.20 [0]
   Boot Code Ver:  Required:  1.13   Actual:  1.13
    DEMOD #1 Ver:  ad48, Type:  1f
    DEMOD #2 Ver:  ad48, Type:  1f
    PWRTIMG Ver:  85d3, Type:  4

Board Serial Number Data:
  59  00 00 02 C9 30 61  09 DSP727-2001-04F
  9D  00 00 03 01 98 83  09 REC727-1000-04A
  BB  00 00 03 01 6C 43  09 CPU727-2000-00H
  27  00 00 03 01 9A FB  09 PIO727-3000-04C
>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
  Receive Loop-Back.....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 ...

Heading   Pitch    Roll   Up/Down    Attitude Temp   Ambient Temp   PRESSURE
171.66ø  -0.82ø  -0.58ø     Up          20.66øC         19.59øC        6.1 kPa
>RS
RS = 019,088 ---------- 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...
  39  42  41  43

Rub Beam 1 = PASS
Rub Beam 2 = PASS
Rub Beam 3 = PASS
```

Rub Beam 4 = PASS

>CZ

Powering Down

>>>>>> Function starting 04/29/08 19:41:06 >>>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.20
RD Instruments (c) 1996-2001
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>AZ
Pressure Offset Updated in NVRAM.

>CZ

Powering Down

>>>>>> Function starting 04/29/08 19:41:15 >>>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.20
RD Instruments (c) 1996-2001
All Rights Reserved.
>RE ErAsE erasing...
Recorder erased.

>CZ

Powering Down

>>>>>> Function starting 04/29/08 19:41:57 >>>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.20
RD Instruments (c) 1996-2001
All Rights Reserved.
>RR
Recorder Directory:
Volume serial number for device #0 is 2e46-1ee1

  No files found.

  Bytes used on device #0 = 0
Volume serial number for device #1 is 065b-10ef

  No files found.

  Bytes used on device #1 = 0
Total capacity   = 111697920 bytes
Total bytes used =   0 bytes in 0 files
Total bytes free = 111697920 bytes

>
[BREAK Wakeup A]

WorkHorse Broadband ADCP Version 16.20
RD Instruments (c) 1996-2001
All Rights Reserved.
>CR1
[Parameters set to FACTORY defaults]
>CF11101
>EA0
>EB0
>ED850
>ES33
>EX11111
>EZ1111111
>WA50
>WB0
>WD111100000
>WF176
>WN21
>WP75
>WS400
>WV175
>TE00:10:00.00
>TP00:08.00
>TF08/04/30 20:00:00
>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 EF04C
>cs

Mooring: EF04-C

UCats x 3
5303 (PUMPED)
5305 (PUMPED)
5307 (pumped)

Battery Calculations:

Sampling Time:
3.33s+(2.27*(NAVG-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 (**NAVG=4**). How long can it be deployed?

Sampling time = 3.33 seconds + 2.27 seconds * (**NAVG** - 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
S>OUTPUTSAL=Y
S>OUTPUTSV=Y
S>FORMAT=1
S>NAVG=4
S>PUMPINSTALLED=Y
S>SAMPLENUM=0
S>INTERVAL=600
S>STORETIME=Y
S>TXREALTIME=N
S>STARTDDMMYY=300408
S>STARTHHMMSS=200000
start time = 30 Apr 2008 20:00:00

```
□SBE 37-SM
S>ds
SBE37-SM V 2.6b  SERIAL NO. 5303    01 Jan 1980  00:04:37
logging not started
sample interval = 600 seconds
samplenumber = 32509, free = 158141
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 19.01 deg C
S>ddmmyy=290408
S>hhmmss=203245
S>ds
SBE37-SM V 2.6b  SERIAL NO. 5303    29 Apr 2008  20:32:45
logging not started
sample interval = 600 seconds
samplenumber = 32509, free = 158141
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 18.99 deg C
S>qs
□□SBE 37-SM
S>ds
SBE37-SM V 2.6b  SERIAL NO. 5303    29 Apr 2008  20:32:54
logging not started
sample interval = 600 seconds
samplenumber = 32509, free = 158141
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 18.99 deg C
S>outputsal=y
S>outputsv=y
S>navg=4
S>format=1
S>pumpinstalled=y
S>samplenum=0
S>interval=600
S>storetime-y
?cmd S>storetime=y
S>txrealtime=y
```

```
S>txrealtime=n
S>startddmmyy=300408
S>starthhmmss=200000
start time = 30 Apr 2008  20:00:00
S>ds
SBE37-SM V 2.6b  SERIAL NO. 5303    29 Apr 2008  20:34:18
logging not started
sample interval = 600 seconds
samplenumber = 0, free = 190650
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 19.00 deg C
S>startlater
start time = 30 Apr 2008  20:00:00
```

```
DDMMYY=300408
S>HHMMSS=100850
S>DDMMYY=300408
S>HHMMSS=180910
S>DS
SBE37-SM V 2.6b  SERIAL NO. 5305    30 Apr 2008  18:09:12
not logging: received stop command
sample interval = 600 seconds
samplenumber = 32690, free = 157960
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 14.34 deg C
S>QS
□□SBE 37-SM
S>DS
SBE37-SM V 2.6b  SERIAL NO. 5305    30 Apr 2008  18:09:21
not logging: received stop command
sample interval = 600 seconds
samplenumber = 32690, free = 157960
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 14.37 deg C
S>OUTPUTSAL=Y
S>OUTPUTSV=Y
S>NAVG=4
S>FORMAT=1
S>PUMPINSTALLED=Y
S>SAMPLENUM=0
S>INTERVAL=600
S>STORETIME=Y
S>TXREALTIME=N
S>STARTDDMMYY=300408
S>STARTHHMMSS=200000
start time = 30 Apr 2008  20:00:00
S>DS
SBE37-SM V 2.6b  SERIAL NO. 5305    30 Apr 2008  18:10:13
not logging: received stop command
sample interval = 600 seconds
samplenumber = 0, free = 190650
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
```

```
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 14.47 deg C
S>STARTLATER
start time = 30 Apr 2008  20:00:00
```

```
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M
□òMJM
MJ
KMJMKM
MKMJMJÍJ
JMJM*ÍJMJM*MJOzO□□O□O□□SBE 37-SM
S>
S>DS
SBE37-SM V 2.6b  SERIAL NO. 5307    01 Jan 1980  00:08:35
logging not started
sample interval = 600 seconds
samplenumber = 32498, free = 158152
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 17.70 deg C
S>DDMMYY=290408
S>HHMMSS=182720
S>DS
SBE37-SM V 2.6b  SERIAL NO. 5307    29 Apr 2008  18:27:21
logging not started
sample interval = 600 seconds
samplenumber = 32498, free = 158152
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 17.66 deg C
S>QS
□□SBE 37-SM
S>DS
SBE37-SM V 2.6b  SERIAL NO. 5307    29 Apr 2008  18:27:32
logging not started
sample interval = 600 seconds
samplenumber = 32498, free = 158152
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 17.64 deg C
S>OUTPUTSAL=Y
S>OUTPUTSV=Y
S>FORMAT=1
```

```
S>NAVG=4
S>PUMPINSTALLED=Y
S>SAMPLENUM=0
S>INTERVAL=600
S>STORETIME=Y
S>TXREALTIME=N
S>STARTDDMMYY=300408
S>STARTHHMMSS=200000
start time = 30 Apr 2008  20:00:00
S>DS
SBE37-SM V 2.6b  SERIAL NO. 5307    29 Apr 2008  18:28:30
logging not started
sample interval = 600 seconds
samplenumber = 0, free = 190650
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 17.67 deg C
S>STARTLATER
start time = 30 Apr 2008  20:00:00
□
```