Mooring Deployment Record

Project Name:	SoG AMP		
Project Area:	Strait of Georgia		
Mooring Name:	SOGN-J	Station Name	SoGN
Latitude:	49° 50.185	Longitude:	124° 54.247
Depth:	332	Tide:	
Mag. Declination:		Time Zone:	UTC
Date:	05/04/ 2011	Time:	2257
Remarks:			

Recovery

Date:	August 6 ,2011	Time:	1630 UTC
Remarks:	~~Had trouble~~ Had trouble with release. It didnt respond but it did release when we were on top of mooring. LP		

Instruments

Type	Serial #	Depth	Time In:	Time Out	Notes
ARGOS	7066				
VHF	ChC				
Baker	718568	50	2246		
SBE19+	6026	52			
RCM11	564	53			
SBE16+	4197	150	1548		
WHB00	3694	285	1552		
RBR	17084	325	1554		
SBE37	3501				

Releases

Release	Serial #	Range:	Release	Freq	Other
AR861	888	1690	1655		1649 Day

Pingers

Pinger	Serial #	Voltage	Freq
Helle	7495	18.5	27
Helle	6397	19.8	27

Flotation

Type	Serial #	Size	Colour	Type	Serial #	Size	Colour
SB30	3007						
SB 30	3002						
SS 28	208						
SS 28	M232						

Missing Records.

Baker 718568
RCM11 564 ✓ got it

WH600 3694 ✓ got it.

RBR 17084

```
status = not logging
sample interval = 4500 seconds, number of measurements per sample = 4
samples = 0, free = 492965
mode = moored, run pump during sample, delay before sampling = 35.0
seconds
transmit real-time = no
battery type = ALKALINE, battery cutoff =  7.5 volts
pressure sensor = strain gauge, range = 1450.0
SBE 38 = no, Gas Tension Device = no
Ext Volt 0 = yes, Ext Volt 1 = no, Ext Volt 2 = no, Ext Volt 3 = no
echo commands = yes
output format = raw HEX
S>startdatetime=04052010160000
?cmd S>startdatetime=04052011160000
?cmd S>startddmmyy=050410
S>starthhmmss=160000
start time = 05 Apr 2010  16:00:00
send startlater command to start delayed logging
S>startddmmyy=050411
S>starthhmmaa=160000
?cmd S>startddmmyy=050411
S>starthhmmss=160000
start time = 05 Apr 2011  16:00:00
send startlater command to start delayed logging
S>ds
SeacatPlus V 1.3a  SERIAL NO. 4197    04 Apr 2011  21:06:07
vbatt = 13.9, vlith =  8.5, ioper =  62.4 ma, ipump =  76.0 ma,
iext01 =   4.6 ma,
status = not logging
sample interval = 4500 seconds, number of measurements per sample = 4
samples = 0, free = 492965
mode = moored, run pump during sample, delay before sampling = 35.0
seconds
transmit real-time = no
battery type = ALKALINE, battery cutoff =  7.5 volts
pressure sensor = strain gauge, range = 1450.0
SBE 38 = no, Gas Tension Device = no
Ext Volt 0 = yes, Ext Volt 1 = no, Ext Volt 2 = no, Ext Volt 3 = no
echo commands = yes
output format = raw HEX
S>startlater
start time = 05 Apr 2011 16:00:00
```

SBE 16
4197.

```
    PTCB0 = 2.666475e+01
    PTCB1 = -2.050000e-03
    PTCB2 = 0.000000e+00
    PTEMPA0 = -6.670220e+01
    PTEMPA1 = 5.363451e+01
    PTEMPA2 = -5.776800e-01
    POFFSET = 0.000000e+00
volt 0: offset = -4.745263e-02, slope = 1.249418e+00
volt 1: offset = -4.899263e-02, slope = 1.247227e+00
volt 2: offset = -4.796842e-02, slope = 1.247985e+00
volt 3: offset = -4.819158e-02, slope = 1.248118e+00
volt 4: offset = -4.776421e-02, slope = 1.247662e+00
volt 5: offset = -4.903579e-02, slope = 1.246927e+00
    EXTFREQSF = 9.999945e-01
S>initlogging
this command will change the scan length and/or initialize logging
repeat the command to verify
iniii
tlogging
S>ds
SBE 19plus V 2.2c  SERIAL NO. 6026    04 Apr 2011 19:41:29
vbatt = 13.9, vlith =  8.3, ioper =  62.4 ma, ipump =  63.4 ma,
iext01 =  41.5 ma, iext2345 =   0.4 ma
status = not logging
sample interval = 1800 seconds, number of measurements per sample = 4
samples = 0, free = 3133244
mode = moored, run pump during sample, delay before sampling = 5.0
seconds
transmit real-time = no
battery type = alkaline, battery cutoff =  7.5 volts
pressure sensor = strain gauge, range = 508.0
SBE 38 = no, OPTODE = no, Gas Tension Device = no
Ext Volt 0 = yes, Ext Volt 1 = yes
Ext Volt 2 = yes, Ext Volt 3 = no
Ext Volt 4 = no, Ext Volt 5 = no
echo characters = yes
output format = raw HEX
S>startdatetime=04052011160000
S>ds
SBE 19plus V 2.2c  SERIAL NO. 6026    04 Apr 2011 19:42:23
vbatt = 13.9, vlith =  8.3, ioper =  62.6 ma, ipump =  63.9 ma,
iext01 =  41.7 ma, iext2345 =   0.3 ma
status = not logging
sample interval = 1800 seconds, number of measurements per sample = 4
samples = 0, free = 3133244
mode = moored, run pump during sample, delay before sampling = 5.0
seconds
transmit real-time = no
battery type = alkaline, battery cutoff =  7.5 volts
pressure sensor = strain gauge, range = 508.0
SBE 38 = no, OPTODE = no, Gas Tension Device = no
Ext Volt 0 = yes, Ext Volt 1 = yes
Ext Volt 2 = yes, Ext Volt 3 = no
Ext Volt 4 = no, Ext Volt 5 = no
echo characters = yes
output format = raw HEX
S>startlater
start logging at = 05 Apr 2011 16:00:00, sample interval = 1800 seconds
```

SBE 19+

```
ds
SBE 19plus V 2.2c  SERIAL NO. 6026    04 Apr 2011 19:28:58
vbatt = 13.9, vlith =  8.3, ioper =  62.5 ma, ipump =  57.4 ma,
iext01 =  39.4 ma, iext2345 =  0.5 ma
status = not logging
sample interval = 1800 seconds, number of measurements per sample = 4
samples = 7423, free = 3125821
mode = moored, run pump during sample, delay before sampling = 5.0
seconds
transmit real-time = no
battery type = alkaline, battery cutoff =  7.5 volts
pressure sensor = strain gauge, range = 508.0
SBE 38 = no, OPTODE = no, Gas Tension Device = no
Ext Volt 0 = yes, Ext Volt 1 = yes
Ext Volt 2 = yes, Ext Volt 3 = no
Ext Volt 4 = no, Ext Volt 5 = no
echo characters = yes
output format = raw HEX
S>time out
SBE 19plus
S>ts
0671340B57E608295B5245042205C70008152CD90D
S>outputformat=3
S>ts
 17.3230,  0.01044,   -0.049, 0.0819, 0.1124, 0.0005, 04 Apr 2011
19:31:53
S>ts
 17.1745,  0.01037,   -0.049, 0.0810, 0.1128, 0.0005, 04 Apr 2011
19:32:03
S>ts
 17.2531,  0.01031,   -0.050, 4.9378, 4.9384, 0.0005, 04 Apr 2011
19:32:23
S>ts
 17.1403,  0.01020,   -0.050, 4.9383, 4.9393, 0.0005, 04 Apr 2011
19:32:34
S>ts
 17.0760,  0.01007,   -0.051, 0.0819, 0.1141, 0.0003, 04 Apr 2011
19:32:44
S>ts
 17.0282,  0.00991,   -0.048, 0.0825, 0.1153, 0.0005, 04 Apr 2011
19:32:53
S>time out
SBE 19plus
S>
```

RCM 11 Deployment Sheet

Instrument Serial #: 564 # of Channels: 6 Recording Interval: 30
Project: SOAN-J DSU ID: 12364

Pressure Sensor:
Type: 3815C
Range: ~~7000 kPa~~ 20 000 kPA
Serial #: 125

Conductivity Cell:
Type: 3819
Range: 24-38 mS
Serial #: NIL

Burst Mode ✓

Temperature Sensor:
Type: 3621
Range: ~~Arctic~~ Low
Serial #: 2214

Data file
564 - Soan - J

Doppler Current Sensor:
Type: SR10
Serial #: 724

MAX DEPTH: 736m (7000kPa pressure sensor)

Channel #	Reading1	Reading 2	Last Cal
1. Reference	757		
2. Temperature	0		
3. Conductivity	0		
4. Extemp/pressure	934		
5. Direction	0		
6. Speed	5		
Date: April 5 204 Time:	1830 UTC		

5991 Records x 30 mins

Channel #	Reading1	Reading 2	Last Cal
1. Reference	757 ✓		
2. ~~Temperature~~	39		
3. ~~Conductivity~~	312		
4. ~~Extemp/pressure~~	1023		
5. ~~Direction~~	0		
6. ~~Speed~~	5		
Date: August 6, 2011 Time:	2130 UTC		

TIME IN WATER: ____ DATE: ____
BAT VOLTAGE: ____ ON DEPLOYMENT
CRUISE ID: ____ DEPLOYED
TECHNICIAN: ____

TIME OUT WATER: 1800 UTC DATE: August 6, 2011
BAT VOLTAGE: 9.221 ON RECOVERY
CRUISE ID: 2011-60 RECOVERED
TECHNICIAN: LP

NOTES:
Where is the deployment sheet ??? LP

```
 18.9868, 0.03721,   -0.647,   0.2036, 1479.433, 05 Apr 2011, 21:14:19
S>outputsal=y
S>ouputsv=y
?cmd S>format□
□
□
□
□
□
outputsv=y
S>format=1
S>navg=4
S>pumpinstalled=n
S>samplenum=0
S>interval=1200
S>startddmmyy=050411
S>starthhmmss=220000
start time = 05 Apr 2011  22:00:00
S>ds
SBE37-SM V 2.6b  SERIAL NO. 3501    05 Apr 2011  21:15:28
not logging: received stop command
sample interval = 1200 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 not installed
temperature = 19.21 deg C
S>startlater
start time = 05 Apr 2011  22:00:00
□
```

SBE37

Mooring: SOGN-J

uCat - 3501-

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

Command Summary:
DDMMYY=050411
HHMMSS=200000 //(UTC)
OUTPUTSAL=Y
OUTPUTSV=Y
FORMAT=1
NAVG=4
PUMPINSTALLED=Y
SAMPLENUM=0
INTERVAL=1200 (NOTE: 10 min sampling with a pump lasts about 220 days so use 15 mins)
STORETIME=Y

TXREALTIME=N
STARTDDMMYY=050411
STARTHHMMSS=22ds
ds0000
STARTLATER

```
[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.21
RD Instruments (c) 1996-2002
All Rights Reserved.
>rr?

Recorder Directory:
Volume serial number for device #1 is fcc8-d5d4

  3694_000 000         7646895 08-06-11   5:09:24p r  a [    2]

  Bytes used on device #1 = 7646895
Total capacity   =  253227008 bytes
Total bytes used =    7646895 bytes in 1 files
Total bytes free =  245579776 bytes

>ps0
  Instrument S/N:  3694
       Frequency:  614400 HZ
   Configuration:  4 BEAM, JANUS
     Match Layer:  10
      Beam Angle:  20 DEGREES
    Beam Pattern:  CONVEX
     Orientation:  UP
       Sensor(s):  HEADING  TILT 1  TILT 2  TEMPERATURE
Temp Sens Offset:  -0.28 degrees C

    CPU Firmware:  16.21 [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:   5

Board Serial Number Data:
   C0  00 00 02 FB B2 24  09 CPU727-2000-00H
   77  00 00 02 FB 7B 6A  09 DSP727-2001-03G
   A4  00 00 02 FB 8C 65  09 PIO727-3000-03C
   F4  00 00 02 FB 8E 9D  09 REC727-1000-03E
>sytem?  ERR 010:  UNRECOGNIZED COMMAND
>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
```

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

>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 = 0088 ---------------- Blank After Transmit (cm)
WN = 025 ----------------- Number of depth cells (1-128)
WP = 00200 --------------- Pings per Ensemble (0-16384)
WS = 0200 ---------------- Depth Cell Size (cm)
WV = 170 ----------------- 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 = 00:04.50 ------------ Time per Ping (min:sec.sec/100)
TS = 11/08/06,17:09:53 --- Time Set (yr/mon/day,hour:min:sec)

EA = +00000 -------------- Heading Alignment (1/100 deg)
EB = +00000 -------------- Heading Bias (1/100 deg)
ED = 02850 --------------- Transducer Depth (0 - 65535 dm)
ES = 32 ------------------ 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

>
```

```
[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.21
RD Instruments (c) 1996-2002
All Rights Reserved.
>rr?

Recorder Directory:
Volume serial number for device #1 is fcc8-d5d4

  3694_000 000         7646895 08-06-11   5:09:24p r  a [    2]

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  Instrument S/N:  3694
       Frequency:  614400 HZ
   Configuration:  4 BEAM, JANUS
     Match Layer:  10
      Beam Angle:  20 DEGREES
    Beam Pattern:  CONVEX
     Orientation:  UP
       Sensor(s):  HEADING  TILT 1  TILT 2  TEMPERATURE
Temp Sens Offset:  -0.28 degrees C

    CPU Firmware:  16.21 [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:   5

Board Serial Number Data:
   C0  00 00 02 FB B2 24  09 CPU727-2000-00H
   77  00 00 02 FB 7B 6A  09 DSP727-2001-03G
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System Control, Data Recovery and Testing Commands:
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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

>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 = 0088 ---------------- Blank After Transmit (cm)
WN = 025 ----------------- Number of depth cells (1-128)
WP = 00200 --------------- Pings per Ensemble (0-16384)
WS = 0200 ---------------- Depth Cell Size (cm)
WV = 170 ----------------- 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 = 00:04.50 ------------ Time per Ping (min:sec.sec/100)
TS = 11/08/06,17:09:53 --- Time Set (yr/mon/day,hour:min:sec)

EA = +00000 -------------- Heading Alignment (1/100 deg)
EB = +00000 -------------- Heading Bias (1/100 deg)
ED = 02850 --------------- Transducer Depth (0 - 65535 dm)
ES = 32 ------------------ 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

>
```