

DEPLOYMENT RECORD

Project Name: Effingham Inlet Start Date: Sept 23/09 End Date: May 2010
 Mooring Name: EF04-F Station Name: EF04

Geog. Desc.: Effingham Inlet Main Basin Tide: Effingham Bay + 2 m.
 Latitude: 49° 03.897' Longitude: 125° 09.091'
 Water Depth: 93 m datum Ice Thickness:
 Magnetic decl: Time Zone: PDT Anchor Type: 2 concrete barrels 2340 lbs (air)
 Date: Sep 23, 2009 Time Anchor Dropped: 1109 PDT Date:
 Remarks:

RECOVERY RECORD

Date: May 3, 2010 Time Anchor Released: 0837 PDT
 Remarks:

INSTRUMENTS (Start at TOP)

Type	Serial #	Depth	Time in	Time Out	Notes
uCat	2501	18m			no pump
uCat	5308	58m			Pump
norkk	2661				RS-422 / Alkaline
300kHz	8943	87-88m			Alum hsg w/ fresh e
uCat	5309				Pump
norkk	2650				RS-422 / Alkaline
Sontek	0215				

Argonaut

Release	Serial	R Code	Arm Code	Freq	On/Off	B0	B1	Aux Codes
HR861	734	1655	16B4					
Finger 1	Type	Serial	Finger 2	Type	Serial	Battery Volt		
27x1/4	Helle	9765	27x1/4	Helle	8763	12.8	21.0	

FLOTATION

V100 Volts

Type	Serial #	Size	Colour
SS30	3014	30"	Yellow
8 Vinyl float + frame			Orange

Type	Serial #	Size	Colour

Data Entry by:

PlanADCP (Advanced) : [Dpl1]

BackToSC Settings View Help

CAUTION: Not enough battery packs for the deployment

Basic Advanced Expert

Environmental Setup: Transducer Depth: 100 m Salinity: 32 ppt Magnetic Variation: 0 ° Temperature: 5 °C	Profiling Setup: Pings Per Ensemble: 90 Number of Depth Cells: 27 Depth Cell Size: 4 m Mode: 1	Deployment Consequences First Cell Range: 6.11 m Last Cell Range: 110.11 m Max Range: 145.14 m Standard Deviation: 0.78 cm/s Ensemble Size: 694 bytes Storage Required: 15.25 MB Power Usage: 971.29 Wh Battery Pack Usage: 2.2
--	---	--

Deployment Timing Setup:

Duration: 240 days

Ensemble Interval: 00:15:00.00

Ping Int(☒ Auto): 00:00:10.00

☐ Ping Immediately After Deployment

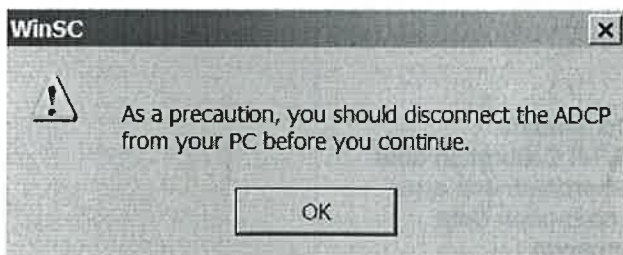
First Ping Date and Time:

23-Sep-2009 18:00:00

Notes

8943 - EF04-F
 Fresh external pack with used internal
 start Sept 23, 2009 @ 1800UTC
 CR1

Workhorse Sentinel: 300 kHz/ Long Range/ 2 Battery Packs/ Memory: 1000 MB



>>>>>> Function starting 09/23/09 17:03:24 >>>>>>

[BREAK Wakeup A]
 WorkHorse Broadband ADCP Version 16.28
 RD Instruments (c) 1996-2005
 All Rights Reserved.
 >TS090923170328
 >CZ

Powering Down

>>>>>> Function starting 09/23/09 17:03:35 >>>>>>

NB:

Sontek log
 missing but the
 instrument failed
 anyway.

[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 = 030 ----- Number of depth cells (1-128)
WP = 00250 ----- Pings per Ensemble (0-16384)
WS = 0400 ----- Depth Cell Size (cm)
WV = 175 ----- Mode 1 Ambiguity Vel (cm/s radial)

TE = 00:30:00.00 ----- Time per Ensemble (hrs:min:sec.sec/100)
TF = **/**/**, **.*.*** --- Time of First Ping (yr/mon/day,hour:min:sec)
TP = 00:07.20 ----- Time per Ping (min:sec.sec/100)
TS = 09/09/23,17:03:38 --- Time Set (yr/mon/day,hour:min:sec)

EA = +00000 ----- Heading Alignment (1/100 deg)
EB = +00000 ----- Heading Bias (1/100 deg)
ED = 01000 ----- Transducer Depth (0 - 65535 dm)
ES = 32 ----- Salinity (0-40 pp thousand)
EX = 11111 ----- Coord Transform (Xform: Type,Tilts,3 Bm,Map)
EZ = 111111 ----- 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
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

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

>TS?

TS = 09/09/23,17:03:41 --- 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 = -2.123236E+01

Temp Sens Offset: -0.19 degrees C

CPU Firmware: 16.28 [0]

Boot Code Ver: Required: 1.13 Actual: 1.13

DEMOM #1 Ver: ad48, Type: 1f

DEMOM #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

[illegible]

[illegible]

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

>CZ

Powering Down

>>>>> Function starting 09/23/09 17:04:47 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
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>AZ

Pressure Offset Updated in NVRAM.

>CZ

Powering Down

>>>>> Function starting 09/23/09 17:04:58 >>>>>

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

Recorder erased.

>CZ

Powering Down

>>>>> Function starting 09/23/09 17:05:34 >>>>>

[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
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>CR1

[Parameters set to FACTORY defaults]

>CF11101

>EA0

>EB0

>ED1000

>ES32

>EX11111

>EZ1111111

>WA50

>WB1

>WD111100000

>WF176

>WN27

>WP90

>WS400

>WV175

>TE00:15:00.00

>TP00:10.00

>TF09/09/23 18:00:00

>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 8943_

>cs

2661-EF04-F.dep:1 - Aquadopp - Deep Water

File Communication Deployment View Configuration On-line Help



Current

	East	North	Up
Velocity (m/s)	-0.186	-0.186	-0.186
Amplitude (counts)	20	20	20
Speed (m/s)	0.255		
Direction (deg)	226.9		

Status

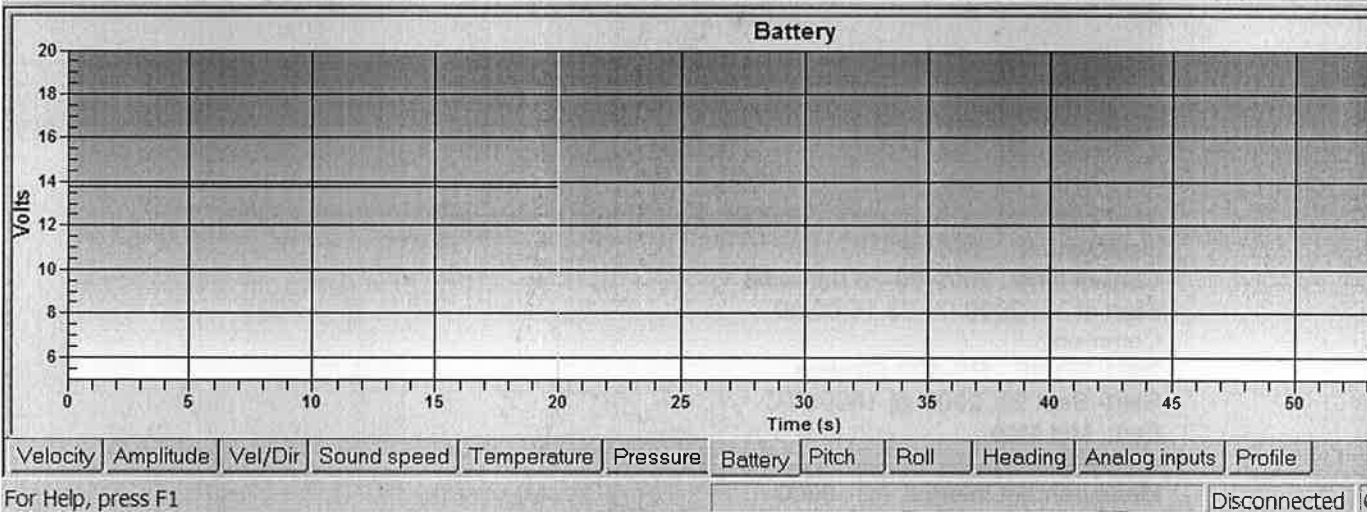
Time	09/09/23 03:45:47
Status	00111100
Error	00000000
Disk file (kB)	0

System

Serial no	
Probe no	
Firmware	
Recorder (MB)	

Sensors

Temp. (deg C)	22.10	Pitch (deg)	
Pressure (dBar)	0.000	Roll (deg)	
Battery (V)	13.8	Heading (deg)	
Sound Speed (m/s)	1523.8	Ain1, Ain2	



Deployment Planning

Standard

Setup

Measurement interval (s): 3600

Average interval (s): 120

Measurement load (%): 4 ☒ Auto

Blanking dist. (m): 0.37

Compass upd. rate (s): 1 ☐ File wrapping

Speed of sound

☒ Measured

Salinity (ppt): 32

☐ Fixed (m/s): 1525

Coordinate system

☒ ENU ☐ XYZ ☐ Beam

Diagnostics

☒ Enable

Interval (min): 1440

Number of samples: 20

Deployment planning

Assumed duration (days): 240

Battery utilization (% of 50 Wh): 74

Memory required (MB): 0.4

Vertical vel. prec. (cm/s): 1

Horizontal vel. prec. (cm/s): 0.7

External inputs

Input 1: NONE

Input 2: NONE

☐ Output power

Start Update OK Cancel Apply Help

=====

Deployment : 2661-F
 Current time : 2009-09-23 03:49:08
 Start at : 2009-09-23 16:00:00
 Comment:
 2661-EF04F - RS-422-Alkaline
 Start- Sept 23, 2009 @ 1600UTC
 End: Mid Map

=====

Measurement interval (s) : 3600
 Average interval (s) : 120
 Blanking distance (m) : 0.37
 Measurement load (%) : 4
 Power level : HIGH
 Diagnostics interval(min) : 1440
 Diagnostics samples : 20
 Compass upd. rate (s) : 1
 Coordinate System : ENU
 Speed of sound (m/s) : MEASURED
 Salinity (ppt) : 32
 Analog input 1 : NONE
 Analog input 2 : NONE
 Analog input power out : DISABLED
 File wrapping : OFF
 Serial output/TellTale : OFF

=====

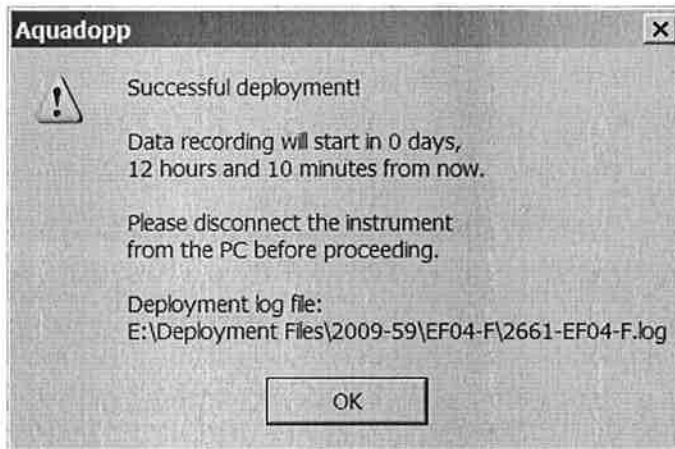
Assumed duration (days) : 240.0

Battery utilization (%) : 74.0
Battery level (V) : 14.1
Recorder size (MB) : 9
Recorder free space (MB) : 8.973
Memory required (MB) : 0.4
Vertical vel. prec (cm/s) : 1.0
Horizon. vel. prec (cm/s) : 0.7

Instrument ID : AQD 2661
Head ID : 2KL 2295
Firmware version : 1.21

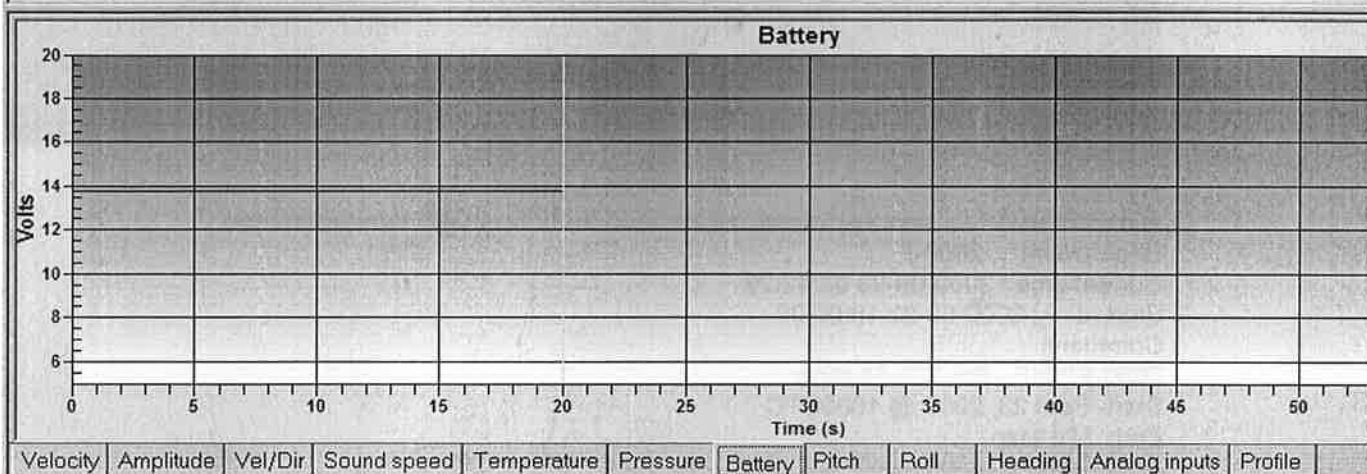
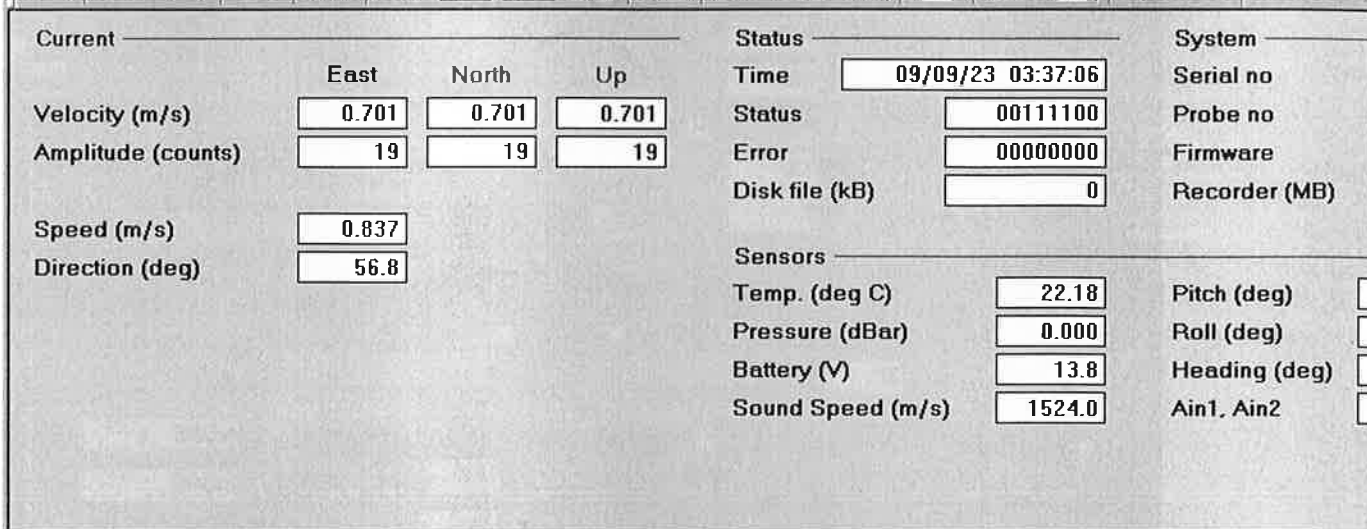
Aquadopp Version 1.30
Copyright (C) Nortek AS

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File Communication Deployment View Configuration On-line Help

File Communication Deployment View Configuration On-line Help



Deployment Planning

Standard

Setup

Measurement interval (s): 3600

Average interval (s): 120

Measurement load (%): 4 ☒ Auto

Blanking dist (m): 0.37

Compass upd. rate (s): 1 ☐ File wrapping

Speed of sound

☒ Measured

Salinity (ppt): 32

☐ Fixed (m/s): 1525

Coordinate system

☒ ENU ☐ XYZ ☐ Beam

Diagnostics

☒ Enable

Interval (min): 1440

Number of samples: 20

Deployment planning

Assumed duration (days): 240

Battery utilization (% of 50 Wh): 74

Memory required (MB): 0.4

Vertical vel. prec. (cm/s): 1

Horizont vel. prec. (cm/s): 0.7

External inputs

Input 1: NONE

Input 2: NONE

☐ Output power

Start Update OK Cancel Apply Help

=====

Deployment : 2650-F
 Current time : 2009-09-23 03:42:29
 Start at : 2009-09-23 16:00:00
 Comment:
 2650-EF04F - RS-232-Alkaline
 Start- Sept 23, 2009 @ 1600UTC
 End: Mid Map

Measurement interval (s) : 3600
 Average interval (s) : 120
 Blanking distance (m) : 0.37
 Measurement load (%) : 4
 Power level : HIGH
 Diagnostics interval(min) : 1440
 Diagnostics samples : 20
 Compass upd. rate (s) : 1
 Coordinate System : ENU
 Speed of sound (m/s) : MEASURED
 Salinity (ppt) : 32
 Analog input 1 : NONE
 Analog input 2 : NONE
 Analog input power out : DISABLED
 File wrapping : OFF
 Serial output/TellTale : OFF

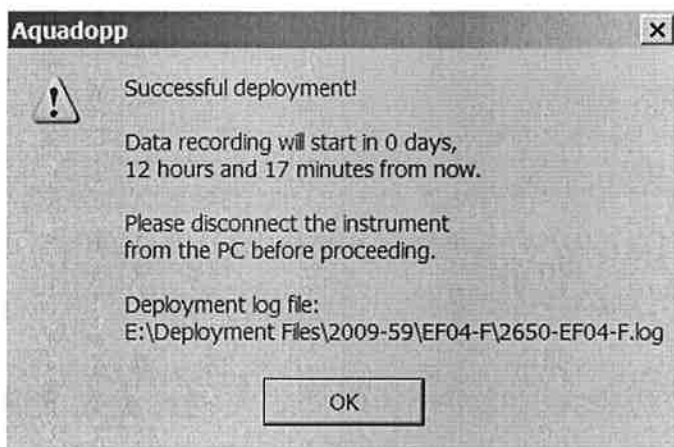
Assumed duration (days) : 240.0

Battery utilization (%) : 74.0
Battery level (V) : 14.0
Recorder size (MB) : 9
Recorder free space (MB) : 8.973
Memory required (MB) : 0.4
Vertical vel. prec (cm/s) : 1.0
Horizon. vel. prec (cm/s) : 0.7

Instrument ID : AQD 2650
Head ID : 2KL 2298
Firmware version : 1.21

Aquadopp Version 1.30
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EF04-F

Mooring: ~~E01-WW~~

UCats X 3

Serial

3501- No Pump

5308 - Pump (attached to Nortek 2661)

5309 - Pump (attached to Nortek 2650)

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:

DDMMYY=230909

HHMMSS=160000 //(UTC)

OUTPUTSAL=Y

OUTPUTSV=Y

FORMAT=1

NAV G=4

PUMPINSTALLED=N

SAMPLENUM=0

INTERVAL=900 (NOTE: 10 min sampling with a pump lasts about 220 days so use 15 mins)

REFPRESS= x (x = pressure at which the instrument is at...only used if there is no pressure sensor installed)

STORETIME=Y

TXREALTIME=N

STARTDDMMYY=230909

STARTHHMMSS=160000

STARTLATER
