

NSF OBS AB Deployment Configuration Record

System S/N: S01 **Date:** 15jan2014 **Cruise:** ENAM Passive (EN-537)

Q330 **Tag:** 2017 **IP:** 118 **Ver:** 1.146
MAC: F2:3F:0D:B1:8F:C3 **S/N:** 0100000DB18FC351
RTC Batt Last Changed Date: 2014-02-06

Baler **ID:** 01027 **IP:** 119 **Ver:** 2.28 **Model:** 14G
MAC: 00:04:FB:00:02:EA **S/N:**

AC board **S/N:** B51 **PIC Ver:** 2.03 **Board Rev:** B APRIL 2007

GPS antenna **S/N:** 29110049 **Hydrahead cables:** H1-NA H2-NA

Timebase **S/N:** 2190 **Address:** TB90 **Board Rev:** SISMTB 4.1E

Lander board **S/N:** B10 **Board Rev:** B DEC 2003 **Lander cable:** L1-NA

Acquisition Ball **AB Label:** NA **AB S/N:** 7209

Keep Alive Battery **S/N:** KAB-14-021

OBS frame configuration record

System S/N: S01 **Frame S/N:** FN16 **Date:** 5apr2014 **Cruise:** EN-537

DPG **S/N:** 6018 **Ver:** 6.3 **Cable:** 84

Ball S/Ns **AB:** 7209 **BB1:** 7235 **BB2:** 7266 **Buoyancy:** 57561

Jbox **S/N:** 16

Sensor cable **S/N:** S1-34

Recall transducer #1 **S/N:** 31692

Recall transducer #2 **S/N:**

Novatech radio **S/N:** U03-092 **Freq:** 160.785

Novatech flasher **S/N:** Y05-004

Edgetech #1 **S/N:** 33077 **TX Freq:** 11

RX Freq: 11.5

Edgetech #2 **S/N:** **TX Freq:**

RX Freq:

Sensor Ball Configuration Record

Sensor Ball Designation: A047 **Date:** 5apr2014

Equatorial Ring **S/N:** NA

Seismometer - CMG-3T

S/N: T3G35

Controller (GU): 10

Board revision level: OBS-4

GU components

Persistor S/N: 3869

Current persistor address: gu01

Current persistor start date:

Firmware version: 5.2

PicoDOS version: 4.2

Compass: 10

Tilt sensor: N7636

Compact Flash: 10

Vacuum board

S/N: 4010

Current vacuum board address: vc01

Board revision level: WHOI ATG 5/2007

Vacuum firmware version: VA1.3 SENSOR

Ring revision level (bearing preload): REV1

Date of last battery change: 11feb2014

OBS acquisition ball seal check, OBS S/N 501

Ball S/N	7209		Keep alive voltage	6.95	<input checked="" type="checkbox"/>	Operator/date	12 MAR 2014	Boyle	407
vacuum SD values before sealing	temperature	volts	volts	pressure	Boyle				
date sealed	0230	1493	0011	1342	4533	12 MAR 2014			
vacuum SD values	0238	1495	0018	1041	3507				
date	13 MAR 2014								
vacuum SD values	0230	1543	0001	1040	3513				
date	14 MAR 2014								
vacuum SD values	0222	1577	0000	1039	3579				
date	15 MAR 2014								
vacuum SD values	0230	1582	0000	1040	3513				
date	20 MAR 2014								
vacuum SD values	0216	1498	0000	1042	3536				
date	29 MAR 2014								
vacuum SD values	0078	1426	0000	1032	3675				deck
date	6 APR 2014								
vacuum SD values	2072	1432	0	1045	3564				
date									
vacuum SD values									
date									
vacuum SD values									
date									

OBS battery ball seal check, OBS S/N 501

Ball S/N	Operator/date	volts	volts	volts	pressure	temperature	Boyle
7235	BB1						
		1563	1562	1555	1485	216	5040
		1573	1572	1565	1068	222	3617
		1559	1559	1551	1081	0208	3679
		1529	1527	1522	1083	230	3658
		1571	1571	1563	1082	208	3682
		1564	1563	1555	1080	188	3701
		1534	1533	1527	1082	0216	3672
		1461	1459	1453	1072	0082	3812
		1613	1612	1605	1083	216	3676

vacuum SD values before sealing

March 10 2014

vacuum SD values

11 MAR

vacuum SD values

12 March

vacuum SD values

13 March

vacuum SD values

14 March

vacuum SD values

20 MAR 2014

vacuum SD values

29 MAR 2014

vacuum SD values

6 APR 2014

vacuum SD values

OBS battery ball seal check, OBS S/N 501 682

Ball S/N	volts		volts	pressure	temperature	Boyle
	vacuum SD values before sealing	date sealed	vacuum SD values	date	vacuum SD values	date
7266	1565	1573	1573	1485	0230	5016
	1548	1558	1558	1034	0208	3519
	1573	1582	1580	1036	0182	3557
	1545	1553	1552	1036	0176	3565
	1548	1557	1555	1037	0188	3553
	1521	1527	1528	1038	202	3540
	1524	1533	1532	1037	0194	3546
	1451	1460	1459	1026	0082	3648
	1604	1613	1611	1040	208	3539

in frame
check

OBS sensor package seal check, OBS S/N

S01 / A047

	Operator/date	pressure	temperature	Boyle
vacuum SD values before sealing	25 MAR 2014	1479	0200	5047
date sealed				
vacuum SD values	1370	0332	0196	3410
date	28 MAR			
vacuum SD values	15.99	3.32	16.8	3433
date	re-sealed			
vacuum SD values	1592	0332	0182	3245
date	30 MAR 2014	0945		
vacuum SD values	1599	0332	0146	3278
date	30 MAR 2014	0943		
vacuum SD values				
date				
vacuum SD values				
date				
vacuum SD values				
date				
vacuum SD values				
date				
vacuum SD values				
date				

NSF Broadband OBS deployment record

OBS S/N S01 Cruise Site ID C04

Check BB2 release system (Only for Dual Release Systems)

TX _____ RX _____ ENABLE _____
 DISABLE _____ BURN _____ OPTION _____

- connect Edgetech test box in line with transducer for BB2
- connect DVM to burnwire and ground plate
- record whether using final burnwire or not _____
- send enable command, confirm reply, # pings _____ (>8), rate _____ (1 sec)
- send a few ranges and confirm response _____
- using test fixture, capture ping, record file name _____
- record V_{peak} _____ kV, V_{rms} _____ kV, Freq _____ kHz
- zoom on burst, confirm output signal is clean _____
- disconnect Edgetech test box and reconnect transducer to Battery ball _____
- send burn 1 command, confirm reply, # pings _____ (>8), rate _____ (1 sec)
- record burn voltage (21V) _____
- confirm once per minute ping _____
- stop burn using assert I/O acoustic command
- confirm burn shutdown, # pings _____ (>8), rate _____ (1 sec)
- record burn voltage (0V) _____, resistance (<1.5Ω) _____
- send disable command, confirm reply, # pings _____ (>8), rate _____ (1 sec)
- send a few ranges and confirm no response _____
- disconnect DVM _____

Check BB1 release system

TX 11 RX 11.5 ENABLE 316445
 DISABLE 316466 BURN 333477 OPTION 316517

- connect Edgetech test box in line with transducer for BB1
- connect DVM to burnwire and ground plate
- record using final burnwire or not Yes
- send enable command, confirm reply, # pings 7 (<8), rate 1 (1 sec) *only took command if divers were near each other*
- send a few ranges and confirm response ✓
- using test fixture, capture ping, record file name S01-BART33077-DCR31692
- record V_{peak} 4.41 kV, V_{rms} 1.311 kV, Freq 11.49 kHz
- zoom on burst, confirm output signal is clean ✓
- disconnect Edgetech test box and reconnect transducer to Battery ball ✓
- send burn 1 command, confirm reply, # pings 7 (<8), rate 1 (1 sec)
- record burn voltage (21V) 21.4
- confirm once per minute ping ✓
- stop burn using assert I/O acoustic command
- confirm burn shutdown, # pings 7 (<8), rate 1 (1 sec)
- record burn voltage (0V) 0, resistance (<1.5Ω) .2
- if ready to deploy, leave BB1 Edgetech enabled, if later deployment, disable Edgetech
 record disabled or not Enabled
- disconnect DVM ✓

NSF Broadband OBS deployment record

OBS S/N S01 Cruise Site ID C04

Start deployment checkout

Record date/time 2014-04-05 05:35

- check continuity of each zinc to arm (<2 ohm) ✓
- check continuity of final burnwires if test burnwires were used —
- shore power on, connect shore cable
- record shore connection type (box, cable, S/N) WB108 & 75' Subcan Shore Cable
- record obsterm log file name S01-COM8-2014-04-06
- Q330 cold start Y/N N
- record IQ330 (##acxxsd ^C) 122 (190mA with GPS on) ^aa

Check sensors

- secure sensor on deck under deployment arm
- connect sensor cable, observe 3T startup with Quickview ✓
- record sensor ball vacuum (##vcxxsd ^C) and compare to previous values ✓ ^ac
- volts 15.30 volts 3.32 press 9.49 temp 21.2 Boyle 3225
- record Vsens from AC board (##acxxsd ^C) 5.02 (05.00V) ^aa
- record DPG current (Irecov) 5.00 (06.00mA)
- record seismometer current (Iseis) 160 (0200mA)
- capture p1, p2, p3, p4, p5 (##guxxp1^C, ##guxxp2^C etc) ✓ ^ak1, ^ak2...
- issue 3T lock (##guxxgl,1 ^C) ✓ ^all

Record masses ch1 -34 ch2 -35 ch3 +45
(+-35, +-45)

Record avg vel ch1 -3.6M ch2 -3.5M ch3 +3.6M
(+- 3.5e06)

Record rms vel ch1 33 ch2 32 ch3 38
(<50)

- Confirm that DPG signal (ch4) looks good ✓

Record DPG ch4 avg 5k and window 75k

- wait for 3T lock to finish
- check deployment settings (##GUxxds ^C) ^ag
- set level interval to 168 hours if necessary (##guxxli,168 ^C) ✓ ^ai
- set GU first interval to present time plus 3 days (##guxxfi,yyyy/mm/dd hh:mm:ss ^C)
- 2014/04/05 06:00:00
- issue save command to GU (##guxxsv ^C) ✓
- issue reset to GU (##guxxre ^C) ✓

NSF Broadband OBS deployment record

OBS S/N SØ1 Cruise Site ID cØ4

Clock set and check:

- confirm Q330 is running from internal GPS clock (Status | GPS status) ✓
- confirm Q330 has GPS **100%** ✓
- stop strings (##acxxss,0) ✓ ^as0
- set clock (##acxxst rep), record date/time 00105 37 55 ^a8^r
- swap Ethernet cable for clock check cable at wallbox ✓
- set instrument Ethernet to clock check mode (##acxxee,0) ✓ ^ae0
- start event capture in Arbiter if necessary ("b3") ✓
- do external clock check versus Arbiter (^G in obsterm, or ##acxxsh^C) ✓
- record Seascan time 001:05:38:34
- record Arbiter date+time 04/06/2014 05:38:34.0000243
- resume normal Ethernet operation (##acxxee,1) ✓ ^ae1
- swap clock check cable for Ethernet cable at wallbox ✓
- start strings (##acxxss,1) ✓ ^as1
- re-register with Willard, restart Quickview ✓
- change Q330 to external Seascan (Configuration | GPS) ✓
- record offset -22
- confirm Q330 PLL changes to track / 90% ✓

Final settings and checks

- confirm Baler is power cycled (interfaces | Ethernet | advanced) ✓
- save Q330 state (Commands | System and GPS Control | Save to EEPROM) ✓
- turn shore power off ✓, confirm Willard stops ✓

AC board

- reset BU (##acxxbu,0 ^C) ✓ ^au0
- record IQ330 (##acxxsd ^C) 94 (0065 mA) ^aa
- check that rp = 0 ✓
- check vacuum still OK ✓

BB1

- check Ready is 0 (##vaxxsd ^C) ✓ ^av
- check vacuum still OK ✓

BB2

- check connected (##vbxxsd ^C) ✓ ^a2
- check vacuum still OK ✓

Edgetech

- enable BB1 Edgetech if previously disabled ✓

Close and print capture file to PDF ✓

Complete frame configuration record ✓

NSF Broadband OBS deployment record

OBS S/N S01 Cruise Site ID C04

Final frame check

- disconnect shore cable, install dummy ✓
- check cables battery to Jbox (2) ✓
 - power to AB ✓
 - AB penetrators to Jbox (2) ✓
 - DPG into jbox ✓
 - Sensor into jbox, torqued ✓
 - Sensor into ball, torqued ✓
 - DPG ✓
 - Xdcr (1 or 2) ✓
 - burnwire and ground (1 or 2) ✓
- turn on Novatech radio, confirm operation ✓
freq 160.785
- turn on Novatech flasher, confirm operation ✓
- confirm sensor mounted to tripod ✓
- confirm sensor package rigged in release ✓
- confirm galvanic release installed ✓
- confirm that sensor cable and strength member will not catch anything ✓
- confirm 3 zincs on sensor package ✓
- confirm 2 zincs on sensor arm ✓
- confirm zincs on sensor tripod ✓
- confirm transponder enabled ✓
- **double check burnwire rigging** ✓
- **remove safety pin** ✓

OK to deploy ✓

NH JG

13th OBS
4/6/14
2:00 am EST

ENAM Passive Deployment Cruise; R/V Endeavor EM537, April 01–April 16, 2014

Station: C04 WHOI OBS No. (Sxx): S 01
Station Lat: 34° 52.220' N Station Long: 74 39.088 W Station Depth (m) 3039
Confirm Ship is Heading to Correct Station: Give Bridge Way-Points for Survey:

EdgeTech Deck Box Model (8011A or 8011M): EdgeTech Deck Box S/N: 42805
EdgeTech/M-Cal COM Port: 5 GPS Position COM Port: 4 GPS Heading COM Port: 4
Int. Freq. (kHz) 11 Reply Freq. (kHz) 115 Enable Cmnd: 316445 Disable Cmnd: 316466
Edgetech Deck-Box S/N: Deck-Box Sound Vel. (m/s): 1500 TAT (ms): 13
Date (UTC; mm/dd/yyyy) and Time (UTC) On Station: 96 4/6/14 6:01:43

Launch Latitude: 34° 52.228' N Launch Long: 74° 39.048' W
Launch Date (UTC; mm/dd/yyyy): 96 4/6/14 Launch Time (UTC): 06:02:40
Water Depth (m) at Launch Location (from Knudsen 12 kHz): 3039
Using Endeavor's Navigation computer turn off both 4 kHz and 12 kHz echo-sounding:
Launch M-Cal and Log Ranges and Ship's Position while OBS is Falling

Time (UTC) OBS Hits Sea Floor: 7:25:07
Ship Latitude: 34° 52.319' N Ship Long: 74° 38.915' W
Slant range in uncorrected meters when OBS Hits Sea Floor: 3140
Two-way travel time (ms) when OBS Hits Sea Floor: 4187
Estimated Drop Rate (m/min.):

Time (UTC) Start Acoustic Survey: 07:34:32
Comments: tracking; slowed to 4 m/min for ~3 min, then 2, then 1, never stood still though.

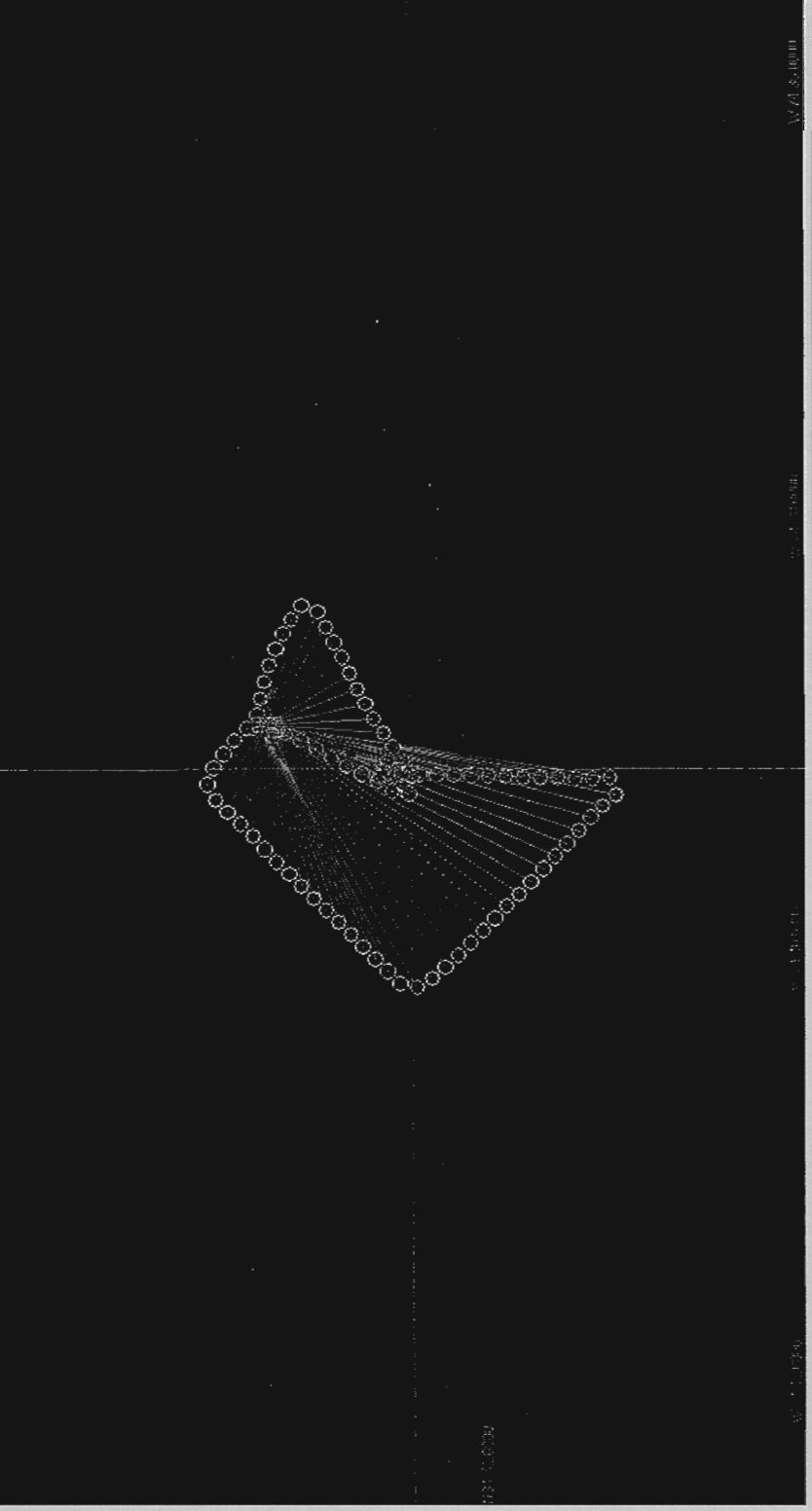
Confirm Disable: (count & record # of pings, **repeat if necessary!**):
Time (UTC): 8:47:43 Confirm No More Ranges
Turn off EdgeTech Deck box (flip switch): Confirm Next Station with Bridge:
Using Endeavor's Navigation computer turn on both the 4 kHz and 12 kHz echo-sounders:

From M-Cal Survey:
Lat: 34° 52.7860 N Long: 74° 38.7876
Depth: 3023.3 (m) RMS: 1.6 (m)

Location: Lat: Lon2: Lon1: Depth: m Radius: m

Left Mouse: Right Mouse: Create: Refresh Grid

CRIC 3542.WS 1.000 min 1.000 sec 3000 m



Mooring Cal Tools

Transmit Control

Transmit

Use Auto Transmit with Station Separation of 120 meters.

Current Solution

Use #	Time	Elapsed	Range	Resid.	Status	Depth	RMS
81	08:40:51	4.1960	3143.5	1.9	Used		
82	08:41:47	4.1930	3111.2	1.3	Used		
83	08:42:39	4.1170	3064.2	1.4	Used		
84	08:43:34	4.0870	3061.6	1.3	Used		
85	08:44:30	4.0620	3042.8	0.4	Used		
86	08:45:20	4.0440	3029.3	0.1	Used		

Stations

Max Allowable RMS Error (m)

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200

Seed Zed 3140 Last Fix SeedX, Y 340 Fix Type 1503.0 Avg. Speed of Sound (m/sec)

C:\Program Files\MB5\MCal\SEANAV_Deploy\S01_CD4_survey\MCal Calibration File

Done With Mooring Cal