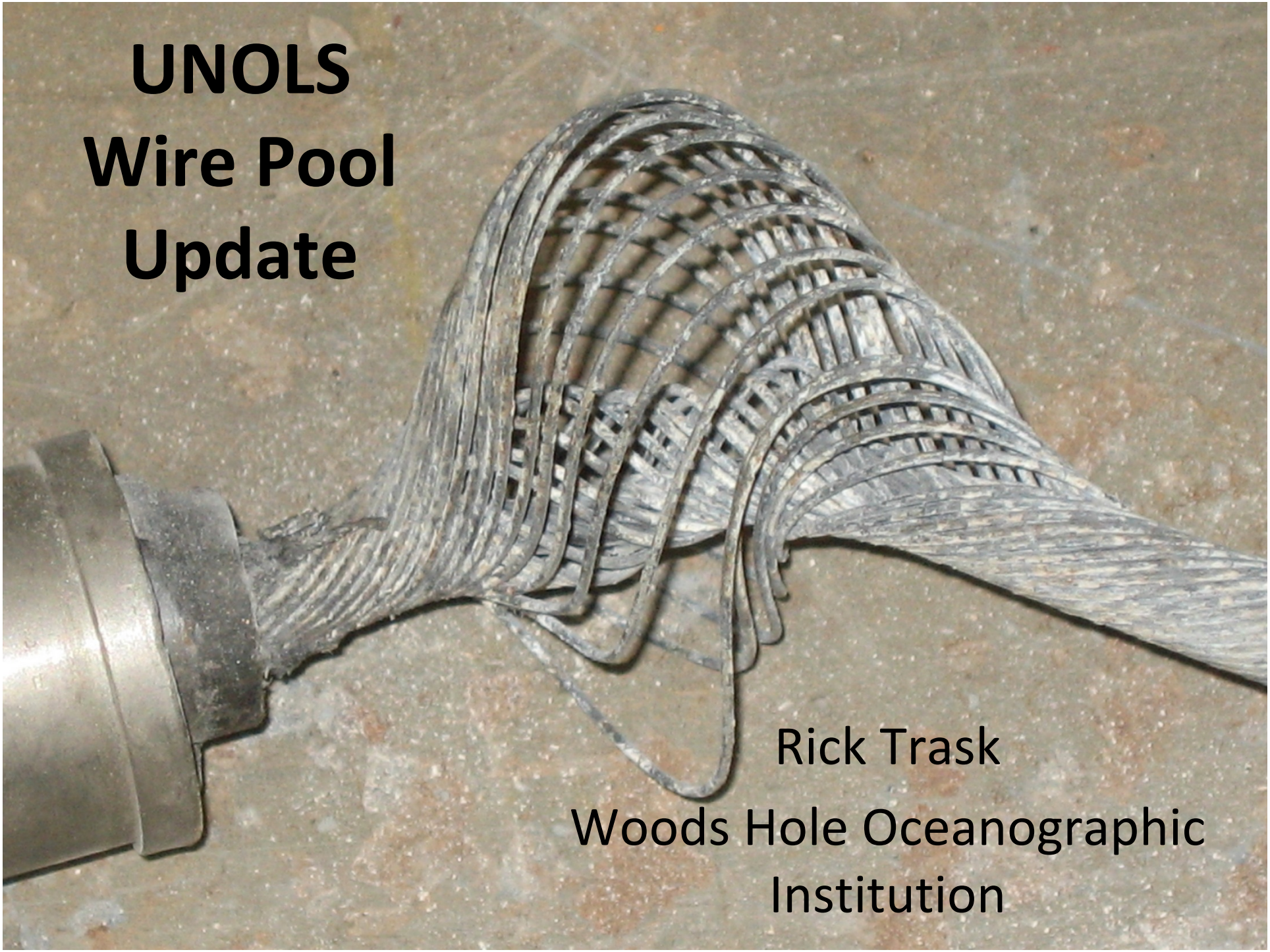

UNOLS
Wire Pool
Update
Rick Trask
Woods Hole Oceanographic
Institution

Today's Topics

- Wire Pool Activities
- System Upgrades
- Newly Implemented Procedures
- Upcoming Changes

Wire Pool Activities

- 44 wires and cables purchased during the grant period
- 40 distributions to the UNOLS community
- Over 70 break tests conducted over the last year on new wire samples and samples submitted by research vessels
- Approximately 90% of the samples received required application of terminations
- Database has been online for 1 year
- Favorable response from the UNOLS community with virtually all institutions having accessed the database

System Upgrades

New Tensile Machine Control System
For Conducting UNOLS Wire Break Tests

- Supplied by Admet, Inc., Norwood, MA
- Computer control of test procedures
- Unique test profiles are programmable and repeatable
- Loading rates are user-defined
- Linear encoder added for elongation

Combines with the existing capability to:

- proof load to 150,000 lbs.
- break test tension members to 112,000 lbs.
- proof load over boarding equipment such as blocks, hardware, slings, etc.

Newly Implemented Procedure

Conducting Break Tests with One End Free to Rotate

Rochester Corp. has 2 Nominal Breaking Loads (NBL) for .322” EM, .680” Coax and .681” Power Optic

- when both ends are fixed
- when one end is free to rotate

For .322” EM, NBL is

- 11,600 lbs. for both fixed ends
- 10,000 lbs. with one end free to rotate

Principally used in the field with one end free to rotate
Therefore, break tests of .322 samples have one end fixed and other end connected to a ball-bearing swivel.

.680 COAX and .681 power optic will be done in a similar manner with an appropriately sized swivel.

Video demonstrates break test using swivel

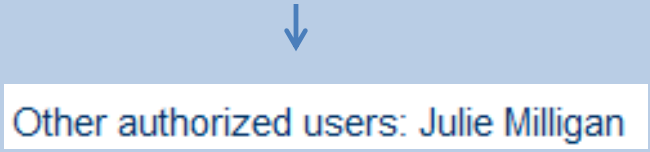
Upcoming Changes to the UNOLS Wire Pool Database

- Ship Report Improvements
- Break Test Related Improvements
- Easy View of Reel History

First section of the Ship Report

Institution:Woods Hole Oceanographic Institution Vessel name:Atlantis Shipping address:266 Woods Hole Road W.H.O.I. Woods Hole MA 02543 Office phone:508-289-2416 Fax:508-457-2178 Update information	Contact name: Albert Suchy Title: Manager of Marine Operations Address: MS #27 Woods Hole MA 02543 Office phone: 508-289-2624 Cell phone: 508-962-6844 Email: asuchy@whoi.edu Fax: 508-540-8675 Update contact information	Secondary contact: Christopher Griner Title: Engineering Asst III Address: MS #17 WHOI Woods Hole MA 02543 Office phone: 508-289-3587 Cell phone: Email: cgriner@whoi.edu Fax: | Update contact information | Change contact | Other authorized users: Julie Milligan

Improved Access:
More than 2 persons from one institution can have access to the database. Requires primary contact approval.



Second section of the Ship Report

Recent Wire Distributions Assigned to this Vessel | Add NSF reel | Add OTH reel |

Wire size and type	Manu.Reel No.	NSF Reel No.	Date distributed to this institution	Original length (m)	Current length (m)	Est usable length (m)	Wire Status				Reel Notes This column displays only the most recent note. To see older notes, click on the NSF Reel No. and select from the event history.
							In use or onboard vessel	In storage ashore for future use by this institution	In storage ashore and available to other institutions	Disposed. Indicate date disposed in Reel Notes[1]	
0.322 EM	Q6684-C1	NSF-09-C147	Jun 2010	10,061	9,857	9,000	X				
0.322 EM	Q4512-C2	NSF-04-C125	Nov 2005	10,061	7,280			X			
0.322 EM	Q4392-C2	NSF-03-C123	Jan 2004	10,061	0			X			
0.681 PowerOptic	Q3336	OTH-008-A	Jan 2005	4,443	4,443			X			
0.681 PowerOptic	Q3336	OTH-008-B	Jan 2005	4,000	4,000			X			
1/4 3x19	BB00998-04	NSF-20-H25	Sep 2007	9,146	9,163	9,100	X				
9/16 3x19	BBS1148-04	NSF-07-T39	Sep 2010	9,146	9,311		X				

Current length (m)	Est usable length (m)	Wire Status				Reel Notes This column displays only the most recent note. To see older notes, click on the NSF Reel No. and select from the event history.
		In use or onboard vessel	In storage ashore for future use by this institution	In storage ashore and available to other institutions	Disposed. Indicate date disposed in Reel Notes[1]	

Lengths expressed only in meters

Est. usable length useful for wires available for others

Modified wire status headings

Comments can be added

Reminder: Wire cannot be disposed of without prior approval

Third section of the Ship Report

At present, only wire in use or onboard vessel is required to be tested. When a wire is brought out of storage and placed onboard, it is immediately subject to testing requirements.

Vessel Name: Atlantis **Rope and Cable Safe Working Loads**

List winches using UNOLS cables and indicate which UNOLS cables are or will be used on each winch, including all UNOLS cables listed above unless wire is reported as disposed. For more information on safe working load compliance, see Appendix A: Rope/Cable Safe Working Load Standards in UNOLS Research Vessel Safety Standards.
Information listed below is from UNOLS records or last report from institution. Make changes as appropriate.
Note: grey background denotes information that is pending approval.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
System Description	NSF Reel No.	Rope/Cable	NBL (lbs)	TBL (lbs)	Test Date	ABL (lbs)	Minimum Sheave DIA (in)	Grooving Code	D/d	Monitoring Freq.	FS	SWL (lbs)	Comments
Markey DESH 5	NSF-09-C147	0.322 EM	10000.0	12940 [Report or request new break test] Break test pending	9/23/2010	10000	12.00 Edit SWL info ⇒ Information provided is not consistent with Appendix A	B	37	3.0 Hz	2.00	5000	Presently installed in aft Markey DESH 5. Wire installed as NEW on 8 September 2010. Lubed with StranCore wire lube.

If input is not consistent with Appendix A requirements, data appears in red with warning. There is a link to Appendix A.

8	9	10	11	12	13
Minimum Sheave DIA (in)	Grooving Code	D/d	Monitoring Freq.	FS	SWL (lbs)
17.00 Edit SWL info ⇒ Information provided is not consistent with Appendix A	B	53	60.0 Hz	2.00	5000

Changes to Break Test Request Form

Sample Length Guidelines

1/4" 3x19 and .322" EM Cable

- If testing a wire sample with one user-terminated end, a 20m sample is required.
- If a wire sample has two user-terminated ends, the sample provided should be 7m long. NOTE that an additional un-terminated sample 18 inches in length is also required if the sample is terminated on both ends.
- If the sample is to be terminated by the wire pool, a 7m sample is needed.

1/2" and 9/16" 3x19, .680" Coax and .681" Power Optic

- All samples of large wire rope and cables should be 7m long, whether with user-terminated ends or requiring termination by the wire pool. NOTE that an additional un-terminated sample 18 inches in length is also required if the sample is terminated on both ends.

- Reduced the lengths of samples for larger diameter wires to 7 meters.
- If sample is terminated on both ends, need additional length of 18 inches for e-kink testing.

Added to Break Test Request Form to comply with Appendix A

Note: Section A.3.9 of the *UNOLS Research Vessel Safety Standards, Appendix A, UNOLS Rope and Cable Safe Working Load Standards* requires the following:

The Vessel Operator shall also provide a copy of the wire history or wire log information with the sample and, as a minimum, this should include the following:

- *UNOLS wire identifier*
- *Winch and system manufacturer*
- *Number and/or duration of deployments since last test*
- *Maximum tension of each deployment*
- *Maximum payout of each deployment*
- *Description of wire train: the number of sheaves between winch and water. Sheave material and values of "D" and "w" for each sheave*

Please indicate if required documentation is:

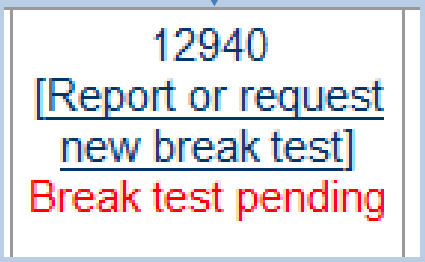
- ◎ Sent in a waterproof package with wire sample
- ◎ E-mailed to unolswirepool@whoi.edu

Vessel Name: Atlantis **Rope and Cable Safe Working Loads**

List winches using UNOLS cables and indicate which UNOLS cables are or will be used on each winch, including all UNOLS cables listed above unless wire is reported as disposed. For more information on safe working load compliance, see Appendix A: Rope/Cable Safe Working Load Standards in UNOLS Research Vessel Safety Standards.
Information listed below is from UNOLS records or last report from institution. Make changes as appropriate.
Note: grey background denotes information that is pending approval.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
System Description	NSF Reel No.	Rope/Cable	NBL (lbs)	TBL (lbs)	Test Date	ABL (lbs)	Minimum Sheave DIA (in)	Grooving Code	D/d	Monitoring Freq.	FS	SWL (lbs)	Comments
Markey DESH 5	NSF-09-C147	0.322 EM	10000.0	12940 [Report or request new break test] Break test pending	9/23/2010	10000	12.00 Edit SWL info ⇒ Information provided is not consistent with Appendix A	B	37	3.0 Hz	2.00	5000	Presently installed in aft Markey DESH 5. Wire installed as NEW on 8 September 2010. Lubed with StranCore wire lube.

Click on reel number to drill into the history of the reel (this is not new)



When a break test request is submitted, it shows as pending on the Ship Report until the break test results are entered.

Reel View

Reel information **NSF-09-C147**

Manufacturer Reel ID:	Q6684-C1	Wire size:	0.322
		Wire type:	EM
Original delivery pool:	East Coast Location	Purchase order num:	K112558
Date received in pool:	Jan-21-2009	Manufacturer:	Rochester Corp.
Drum type:	Steel	Order ID:	
Original length:	33,000 ft	Grant num:	OCE-0555000
Original (shipping) weight:	5,708 lbs	Nominal break load:	10000
Comments:			

Current location: **Woods Hole Oceanographic Institution**

Date distributed:	Jun-8-2010	Vessel:	Atlantis
Current length (m):	9,857	Distribution status:	In use or onboard vessel
Estimated usable length (m):	9,000		
Pool wire comment:			

Event history

Event code	Notes	Event date	Wire length (m)	Est usable length (m)	Status	TBL (lbs)	FS	Location
Break test requested		Apr-7-2011						WHOI
Change in wire status		Oct-25-2010			InUse			WHOI
Break test		Sep-23-2010				12940		WHOI
Safe workload		Sep-9-2010					2.00	WHOI
Change in wire status		Sep-9-2010			InUse			WHOI
Break test requested		Sep-9-2010						WHOI
Distributed to institution		Jun-8-2010						WHOI
Break test		Jan-29-2009				12800		ECL
Received in pool		Jan-21-2009	10,058					ECL

Click onto this underlined event to open up the break test request

View event: Break test request for NSF-09-C147

| **View event** | View this reel |

Break test requested

Institution name:	Woods Hole Oceanographic Institution	**Date requested:**	Apr-7-2011
Vessel name:	Atlantis	**Wire length (m):**	9857.00
Requested by:	Christopher Griner	**Wire condition:**	Good
Phone:	508-289-3587	**Distribution status:**	InUse
Email:	cgriner@whoi.edu	**Manufacturer's NBL:**	10000
Wire size and type:	0.322 EM	**Marker length (m):**	
NSF Reel No.:	NSF-09-C147	**Length of sample provided:**	7
Manufacturer's Reel No.:	Q6684-C1		
Termination type:	None		
Sample location (i.e., working end, core end at winch drum, etc.):	Core end at winch drum		
Request notes:			

This break test request is pending

Previous break tests: Sep-23-2010
Jan-29-2009

This break test request is pending

Previous break tests: Sep-23-2010
Jan-29-2009

Once the break test is completed…

Break test request and results are viewable in one screen

Break test on NSF-09-C147 | **View break test** | Edit break test | View this reel |

Break test request

Institution name:	Woods Hole Oceanographic Institution	**Date requested:**	Apr 7, 2011
Vessel name:	Atlantis	**Wire length (m):**	9857.00
Requested by:	Christopher Griner	**Wire condition:**	Good
Phone:	508-289-3587	**Distribution status:**	InUse
Email:	cgriner@whoi.edu	**Manufacturer's NBL:**	10000.0
Wire size and type:	0.322 EM	**Marker length (m):**	
NSF Reel No.:	NSF-09-C147	**Length of sample provided:**	7
Manufacturer's Reel No.:	Q6684-C1		
Termination type:	None		
Sample location (i.e., working end, core end at winch drum, etc.):	Core end at winch drum		
Request notes:			
UNOLS required documents sent:	Not sent		

Break test on NSF-09-C147

Break test location:	UNOLS Wire Pool	Test operator:	Barbara Callahan
Log test number:	04132011	Work order number:	11069
		Manufacturer's marker tape number (if any):	
Test date:	Apr-13-2011		
Manufacturer's nominal breaking load (lbs):	10000.0	Termination 1:	Poured-socket Termination
Tested breaking load (lbs):	10640	Termination 2:	Poured-socket Termination
Assigned breaking load (lbs):	10000	Test entered by:	Ruthanne Molyneaux
Break test notes:	Mid-span break		
UNOLS required documents:	have not been received		

No break test images available

View Break Test Report

E-mail notifications of break test results

Please be advised that break test results have been reported for your vessel in the UNOLS Database. You may connect to the database here. If you have any questions regarding the break test, please contact Rick Trask (rtrask@whoi.edu 508-289-2395) or Ruthanne Molyneaux (rmolyneaux@whoi.edu 508-289-3530.)

From e-mail, you will be able to sign in and go directly to break test results

E-mail brings you here (after signing in):

Break test on NSF-09-C147 | **View break test** | Edit break test | View this reel |

Break test request

Institution name: Woods Hole Oceanographic Institution
Vessel name: Atlantis
Requested by: Christopher Griner
Phone: 508-289-3587
Email: cgriner@whoi.edu
Wire size and type: 0.322 EM
NSF Reel No.: NSF-09-C147
Manufacturer's Reel No.: Q6684-C1
Termination type: None
Sample location (i.e., working end, core end at winch drum, etc.): Core end at winch drum
Request notes:
UNOLS required documents sent: Not sent

Date requested: Apr 7, 2011
Wire length (m): 9857.00
Wire condition: Good
Distribution status: InUse
Manufacturer's NBL: 10000.0
Marker length (m):
Length of sample provided: 7

Break test on NSF-09-C147

Break test location: UNOLS Wire Pool
Log test number: 04132011
Test date: Apr-13-2011
Manufacturer's nominal breaking load (lbs): 10000.0
Tested breaking load (lbs): 10640
Assigned breaking load (lbs): 10000
Break test notes: Mid-span break
UNOLS required documents: have not been received

Test operator: Barbara Callahan
Work order number: 11069
Manufacturer's marker tape number (if any):
Termination 1: Poured-socket Termination
Termination 2: Poured-socket Termination
Test entered by: Ruthanne Molyneaux

No break test images available

View Break Test Report

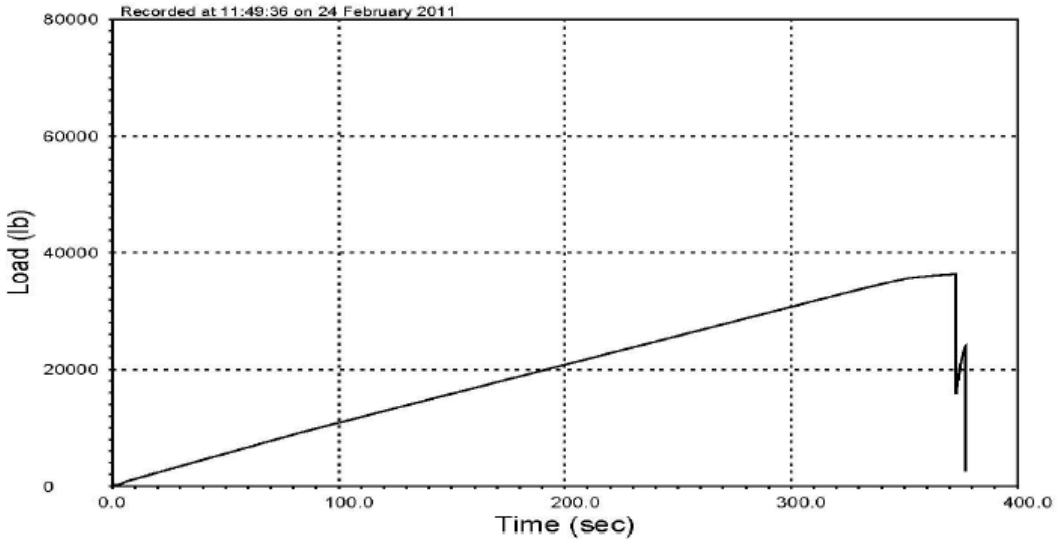
New Test Certificate

Certificate of Testing

Woods Hole Oceanographic Institution

Mooring Fabrication and Field Support

Woods Hole, MA 02543
Contact: Rick Trask
508 289-2395 rtrask@whoi.edu



Specimen Identifier:	NSF-07-T39
Work Order No.:	11014
Project Name:	Atlantis Wire Break Test
Material Type/Size:	9/16 3 x 19 Wire
Length of Sample:	7m
Termination No. 1:	Button w/Spelter socket
Termination No. 2:	Button w/Spelter socket
Operator:	Barbara Callahan
Geometry:	None

Analysis Results

Extension at Maximum Load	
Extension at Maximum Load	8.1 in
Load At Break	
Load	23900 lb
Maximum Load	
Load	36330 lb

Break Test Results - Broke Mid Span

Date of Test: 2/24/2011

Termination Terminology

Using the *Handbook of Oceanographic Winch, Wire and Cable Technology*

Adopt standard terminology for wire terminations:

- Poured-socket
- Swaged fittings
- Compressed sleeves
- Mechanical terminations
- Helical terminations

Termination Types

Poured Socket ⇧

⇧ Swage

Nicopress ⇦

Helical ⇨

Mechanical ⇦

Poured-socket terminations and swaged fittings are principal terminations applied to break test samples that arrive unterminated

Samples that arrive terminated will be broken with whatever termination has been used.

Database to include a glossary of termination terminology which will have photographs of the standard types.

View of Reel History

(You get here by clicking on the underlined reel number on the Ship Report)

Reel information **NSF-09-C147** | Edit reel |

Manufacturer Reel ID:	Q6684-C1	Wire size:	0.322
		Wire type:	EM
Original delivery pool:	East Coast Location	Purchase order num:	K112558
Date received in pool:	Jan-21-2009	Manufacturer:	Rochester Corp.
Drum type:	Steel	Order ID:	
Original length:	33,000 ft	Grant num:	OCE-0555000
Original (shipping) weight:	5,708 lbs	Nominal break load:	10000
Comments:			

Current location: **Woods Hole Oceanographic Institution** | **View** | Edit info (no new event) |

Date distributed:	Jun-8-2010	Vessel:	Atlantis
Current length (m):	9,857	Distribution status:	In storage ashore and available to other institutions
Estimated usable length (m):	7,500		
Pool wire comment:			

Event history Add a new event: Select

Event code	Notes	Event date	Wire length (m)	Est usable length (m)	Status	TBL (lbs)	FS	Location	
Change in wire status	*	Apr-20-2011			Avail			WHOI	Delete
Update the estimated usable length	*	Apr-20-2011		7,500				WHOI	Delete
Break test		Apr-7-2011				10640		WHOI	Delete
Change in wire status		Oct-25-2010			InUse			WHOI	Delete
Break test		Sep-23-2010				12940		WHOI	Delete
Safe workload	*	Sep-9-2010					2.00	WHOI	Delete
Change in wire status		Sep-9-2010			InUse			WHOI	Delete
Break test requested		Sep-9-2010						WHOI	Delete
Distributed to institution		Jun-8-2010						WHOI	Delete
Break test		Jan-29-2009				12800		ECL	Delete
Received in pool		Jan-21-2009	10,058					ECL	

Event history

Add a new event: Select

Event code	Notes	Event date	Wire length (m)	Est usable length (m)	Status	TBL (lbs)	FS	Location	
Change in wire status	*	Apr-20-2011			Avail			WHOI	Delete
Update the estimated usable length	*	Apr-20-2011		7,500				WHOI	Delete
Break test		Apr-7-2011				10640		WHOI	Delete
Change in wire status		Oct-25-2010			InUse			WHOI	Delete
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Break test		Jan-29-2009				12800		ECL	Delete
Received in pool		Jan-21-2009	10,058					ECL	

Asterisk lets you know that there are notes associated with the event, which you can see by clicking on the underlined event.

Allows you to view changes at a glance. For more details, you can drill into the event.

Changes to Database

- Plan to roll out Summer 2011
- With more access, what other events would be helpful to log in the database?