UNOLS Wire Pool Database

Presented by Rick Trask

Woods Hole Oceanographic Institution

Database Development:
A Collaborative Effort

- Rick Trask, Wire Pool Manager
- Ruthanne Molyneaux, Administrative Support
- Julie Allen, WHOI Database Programmer
- Helen Gordon, WHOI Database Programmer

What is the Wire Pool Database?

- Web-based database
- A compilation of all the records for distributed and inventoried wire rope and cable into a single relational database
- UNOLS Wire Pool records were foundation
- Capability of providing a history of all UNOLS wires and wire usage
- Database is also capable of including any wire used on a vessel

Who will use the Wire Pool Database?

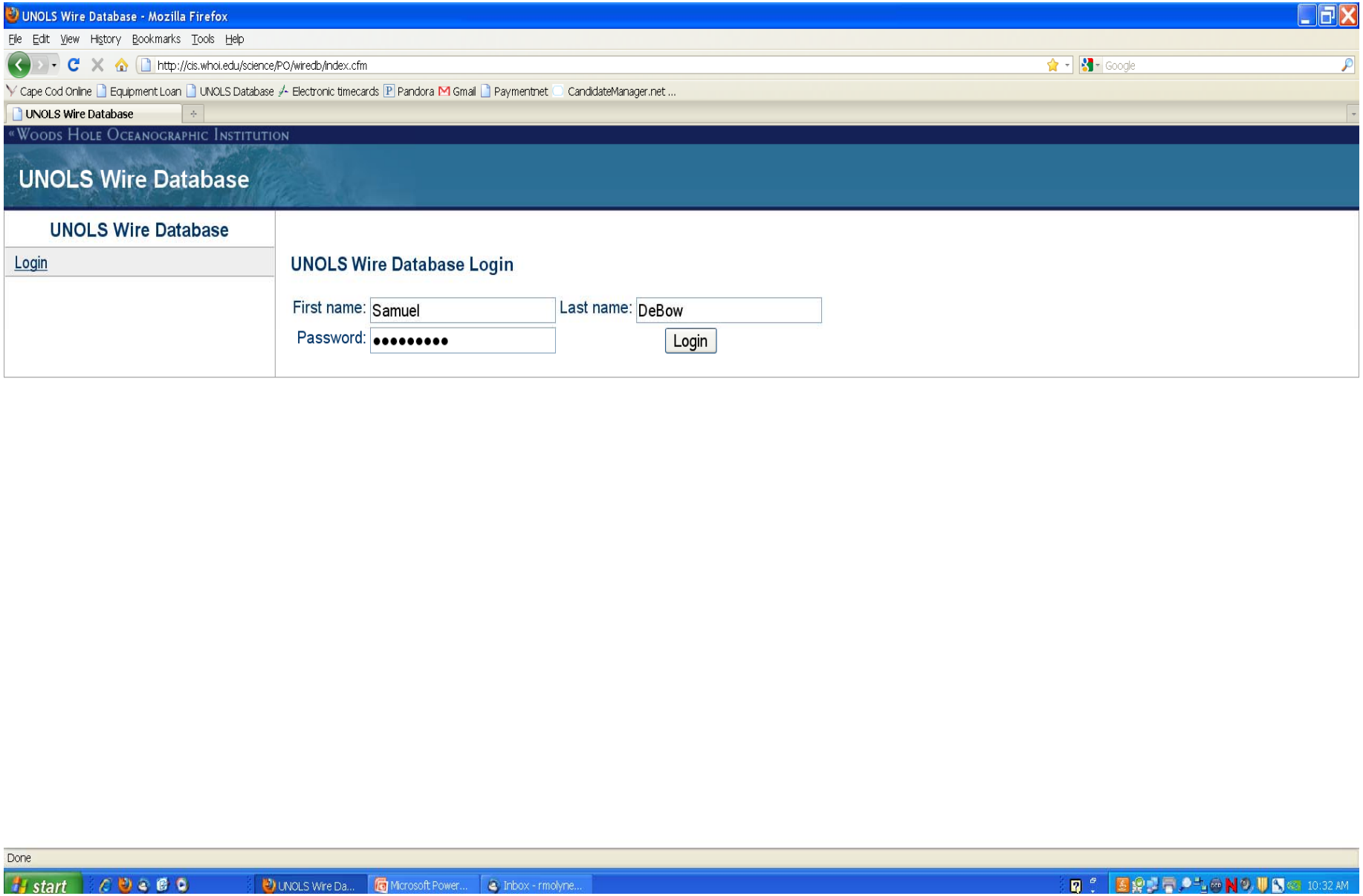
- Marine Superintendents – primary responsibility for UNOLS distributed wires
- Vessel Contacts if authorized by Marine Superintendents
- NSF Program Manager (Matt Hawkins)
- Wire Pool Manager (Rick Trask)

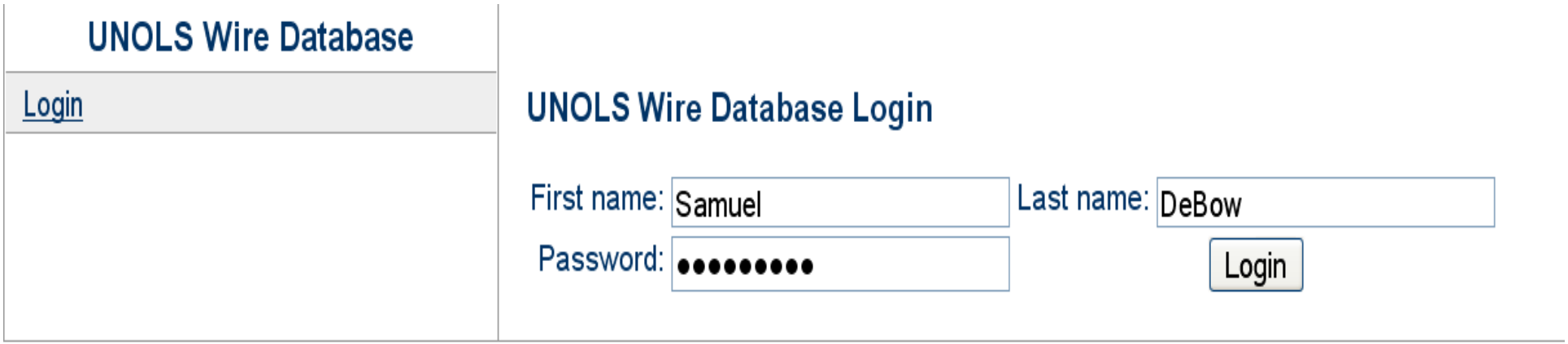
How can the UNOLS Wire Database Help You?

- Organizes the wire information in one location
  - For each vessel, it provides a list of the wires distributed to that vessel
  - Status of the cable: In use, in storage, available to others
  - Current length of cable

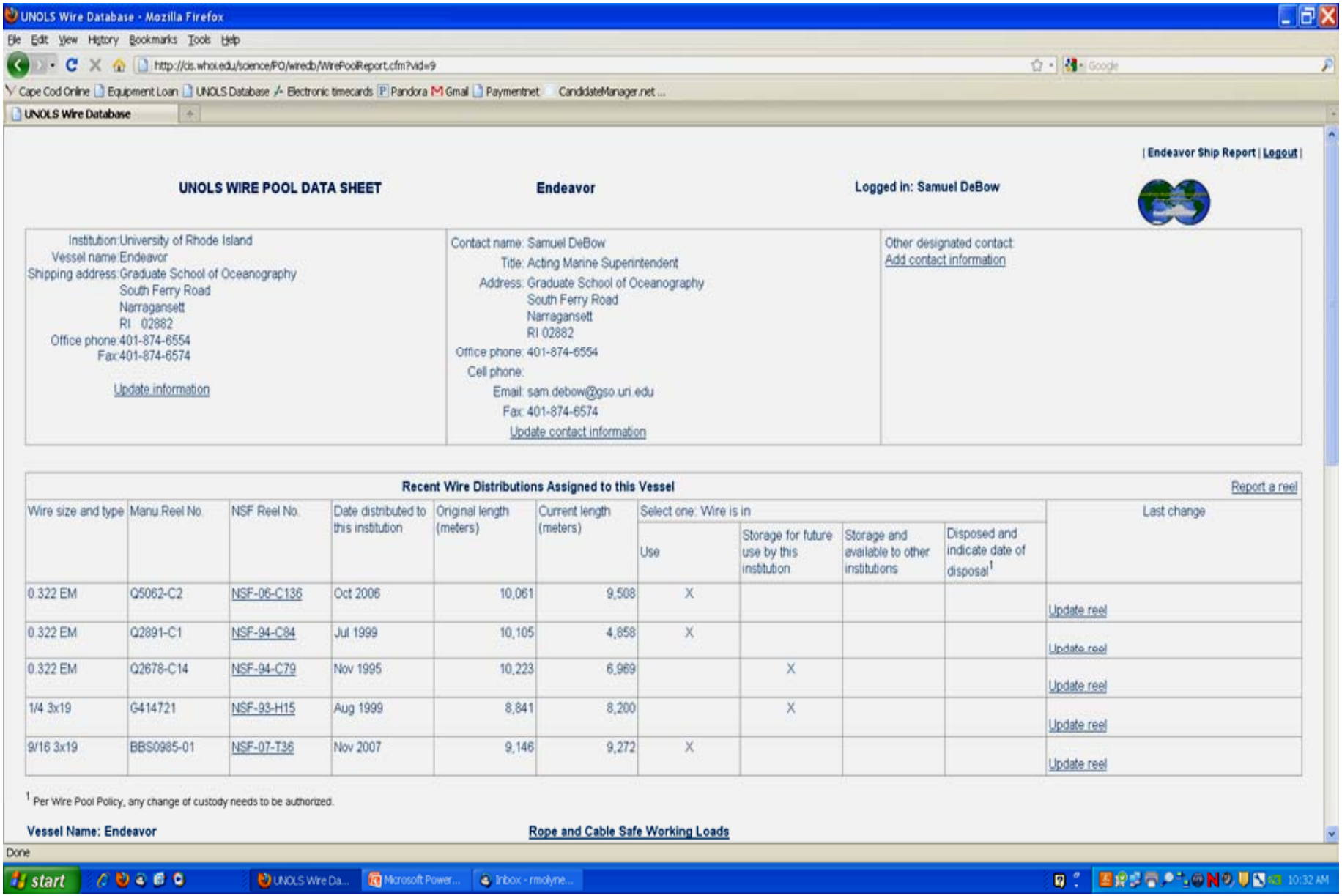
- Organizes the Safe Working Load information for each reel
  - Break test information and results logged in chronological order
  - Reminders when break tests are due
  - Lists winch system on which wire is used
  - Displays the acceptable Assigned Breaking Load
  - Logs sheave diameter, grooving code, tension monitoring frequency, desired factor of safety
  - Calculates D/d ratio and safe working loads based on specified factors of safety

Introducing……




UNOLS Wire Database
Login
UNOLS Wire Database Login
First name:
Samuel
Last name:
DeBow
Password:
Login

You're In!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| Endeavor Ship Report | Logout |
UNOLS WIRE POOL DATA SHEET
Endeavor
Logged in: Samuel DeBow
Institution:University of Rhode Island
Vessel name:Endeavor
Shipping address:Graduate School of Oceanography
South Ferry Road
Narragansett
RI 02882
Office phone:401-874-6554
Fax:401-874-6574
Update information
Contact name: Samuel DeBow
Title: Acting Marine Superintendent
Address: Graduate School of Oceanography
South Ferry Road
Narragansett
RI 02882
Office phone: 401-874-6554
Cell phone:
Email: sam.debow@gso.uri.edu
Fax: 401-874-6574
Update contact information
Other designated contact:
Add contact information
Recent Wire Distributions Assigned to this Vessel
Report a reel
Wire size and type
Manu.Reel No.
NSF Reel No.
Date distributed to this institution
Original length (meters)
Current length (meters)
Select one: Wire is in
Use
Storage for future use by this institution
Storage and available to other institutions
Disposed and indicate date of disposal[1]
Last change
0.322 EM Q5062-C2 NSF-06-C136 Oct 2006 10,061 9,508 X Update reel
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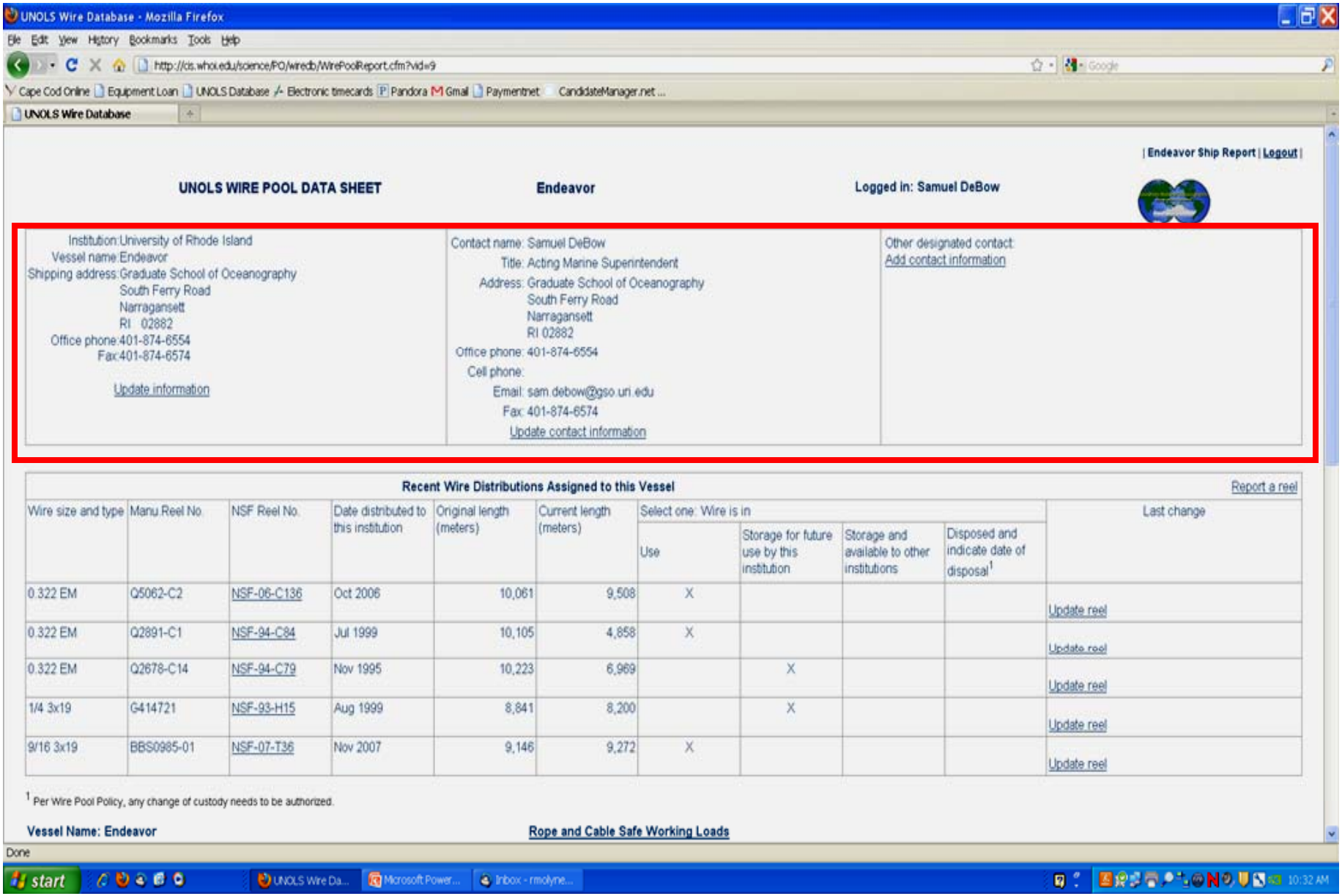
9/16 3x19 BBS0985-01 NSF-07-T36 Nov 2007 9,146 9,272 X Update reel
[1] Per Wire Pool Policy, any change of custody needs to be authorized.
Vessel Name: Endeavor
Rope and Cable Safe Working Loads
Done
start
UNOLS Wire Da...
Microsoft Power...
Inbox - rmolyne...
10:32 AM

Contact information



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http://cis.whoi.edu/science/PO/wiredb/WirePoolReport.cfm?vid=9

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UNOLS Wire Database

| Endeavor Ship Report | Logout |

UNOLS WIRE POOL DATA SHEET **Endeavor** **Logged in: Samuel DeBow**

Institution: University of Rhode Island
Vessel name: Endeavor
Shipping address: Graduate School of Oceanography
South Ferry Road
Narragansett
RI 02882
Office phone: 401-874-6554
Fax: 401-874-6574

Update information

Contact name: Samuel DeBow
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Address: Graduate School of Oceanography
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Narragansett
RI 02882
Office phone: 401-874-6554
Cell phone:
Email: sam.debow@gso.uri.edu
Fax: 401-874-6574
Update contact information

Other designated contact:
Add contact information

Recent Wire Distributions Assigned to this Vessel Report a reel

Wire size and type	Manu.Reel No.	NSF Reel No.	Date distributed to this institution	Original length (meters)	Current length (meters)	Select one: Wire is in				Last change
						Use	Storage for future use by this institution	Storage and available to other institutions	Disposed and indicate date of disposal[1]	
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9/16 3x19	BBS0985-01	NSF-07-T36	Nov 2007	9,146	9,272	X				Update reel

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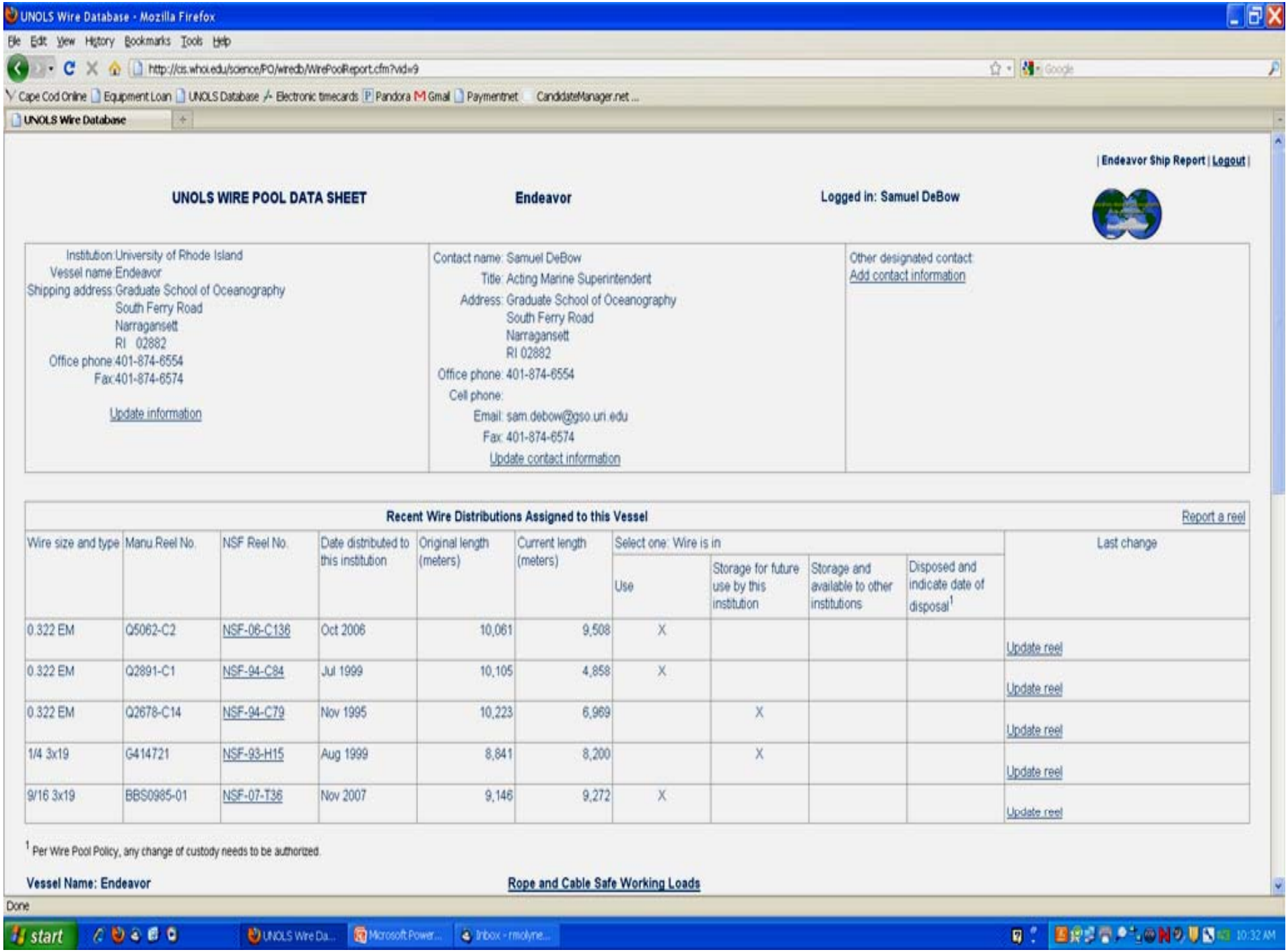
Vessel Name: Endeavor **Rope and Cable Safe Working Loads**

Done

start | UNOLS Wire Da... | Microsoft Power... | Inbox - rmolyne... | 10:32 AM

UNOLS WIRE POOL DATA SHEET	Endeavor	Logged in: Samuel DeBow
Institution: University of Rhode Island Vessel name: Endeavor Shipping address: Graduate School of Oceanography South Ferry Road Narragansett RI 02882 Office phone: 401-874-6554 Fax: 401-874-6574 Update information	Contact name: Samuel DeBow Title: Acting Marine Superintendent Address: Graduate School of Oceanography South Ferry Road Narragansett RI 02882 Office phone: 401-874-6554 Cell phone: Email: sam.debow@gso.uri.edu Fax: 401-874-6574 Update contact information	Other designated contact: Add contact information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NSF Reel No.
Date distributed to this institution
Original length (meters)
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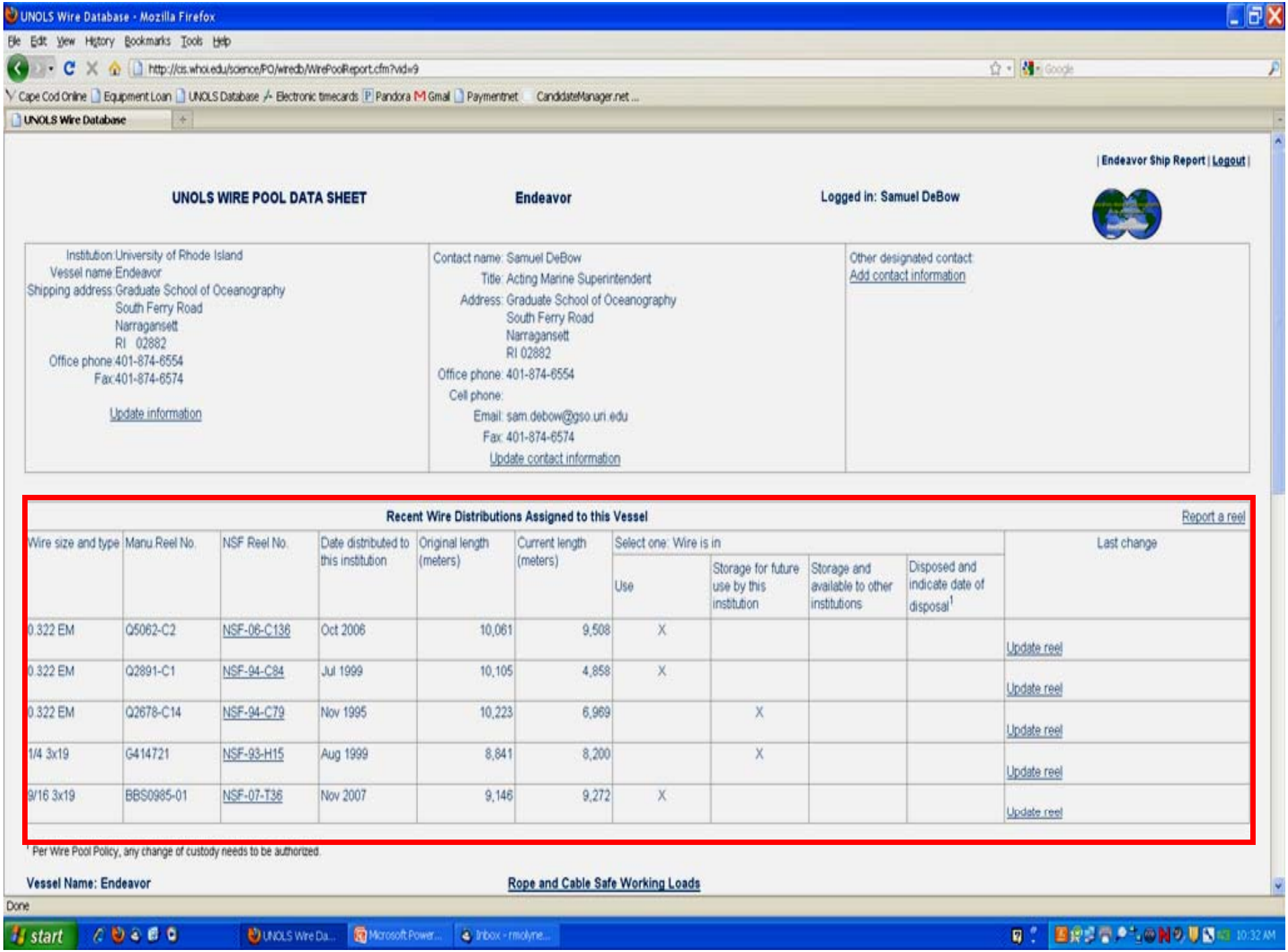
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Other designated contact:
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UNOLS Wire Da...
Microsoft Power...
Inbox - rmolyne...
10:32 AM

Wire Distributions

Each row represents a wire distributed to this vessel.

Recent Wire Distributions Assigned to this Vessel — Report a reel

Wire size and type	Manu.Reel No.	NSF Reel No.	Date distributed to this institution	Original length (meters)	Current length (meters)	Select one: Wire is in				Last change
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9/16 3x19	BBS0985-01	NSF-07-T36	Nov 2007	9,146	9,272	X				Update reel

Wire Size and
Manufacturer's Reel No.
NSF Reel Number
Date wire distributed
Original Length

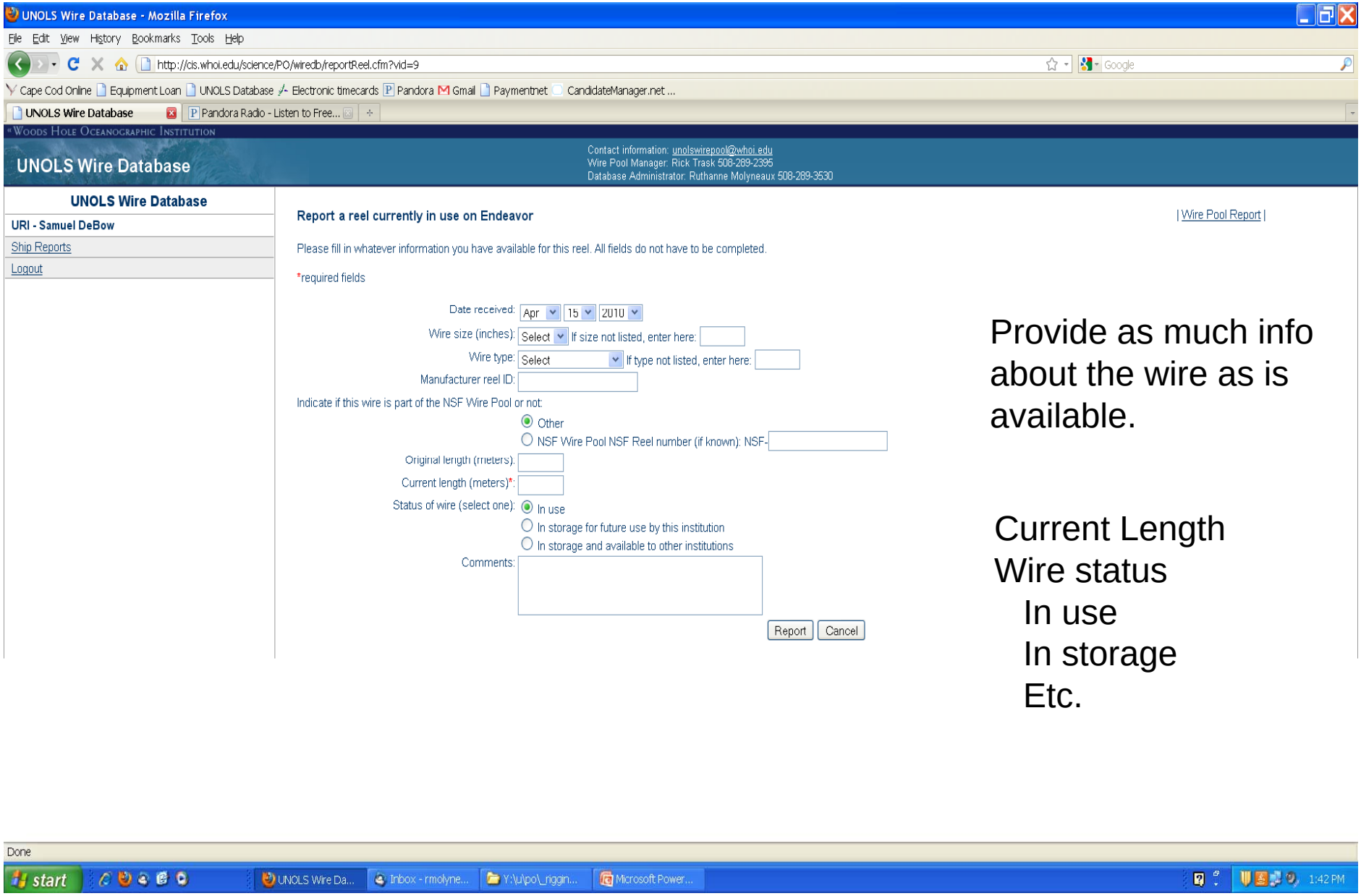
Current Length
Wire Status
- In use
- Stored for future use by this inst.
- Stored but available for others
- Disposed

Update Reel Information
Report a previously unknown reel

Reporting a Reel

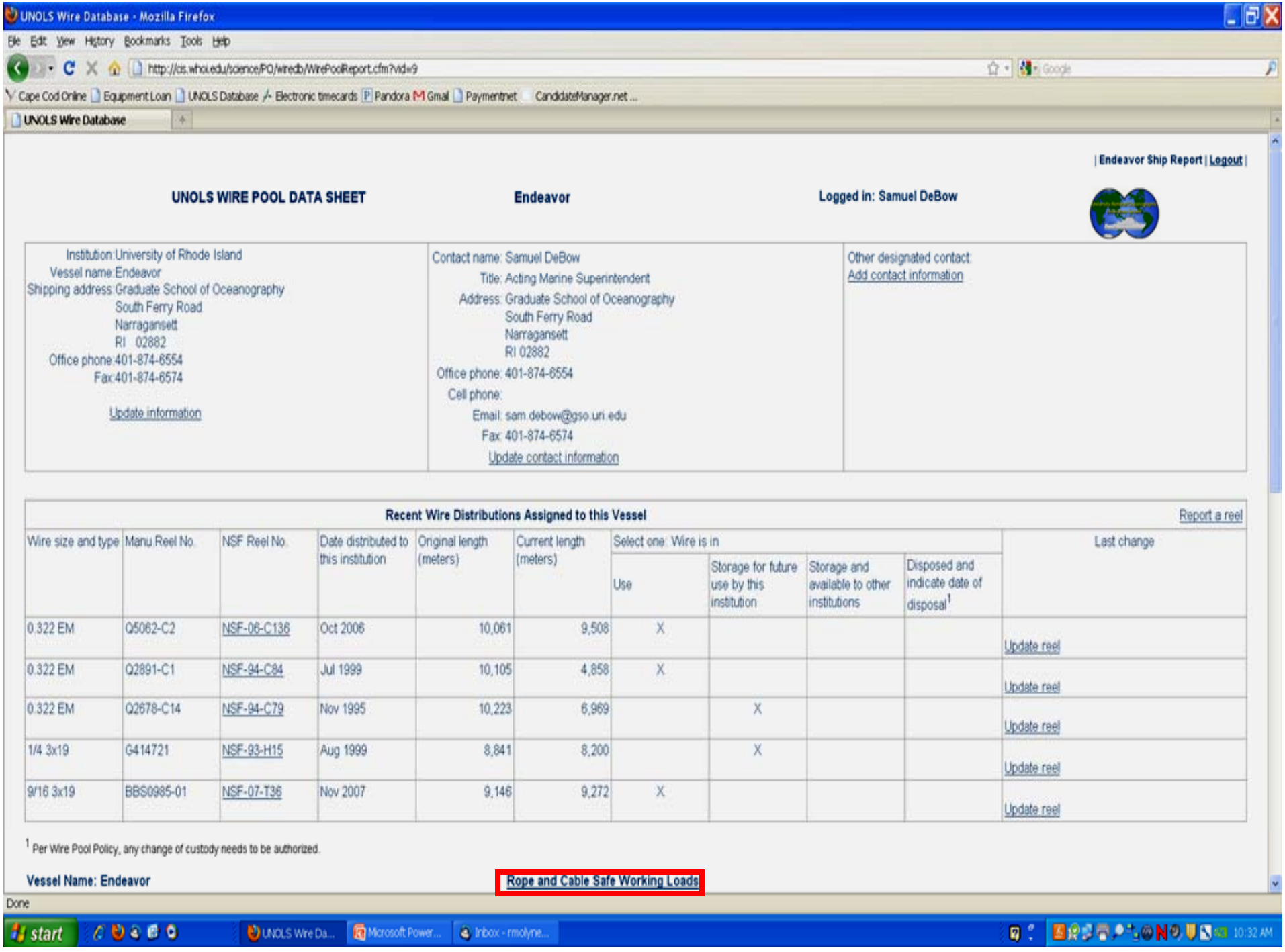
- Report a reel of wire that does not appear in the vessels list of distributed wire.

Reporting a Reel



Provide as much info about the wire as is available.

Current Length
Wire status
- In use
- In storage
- Etc.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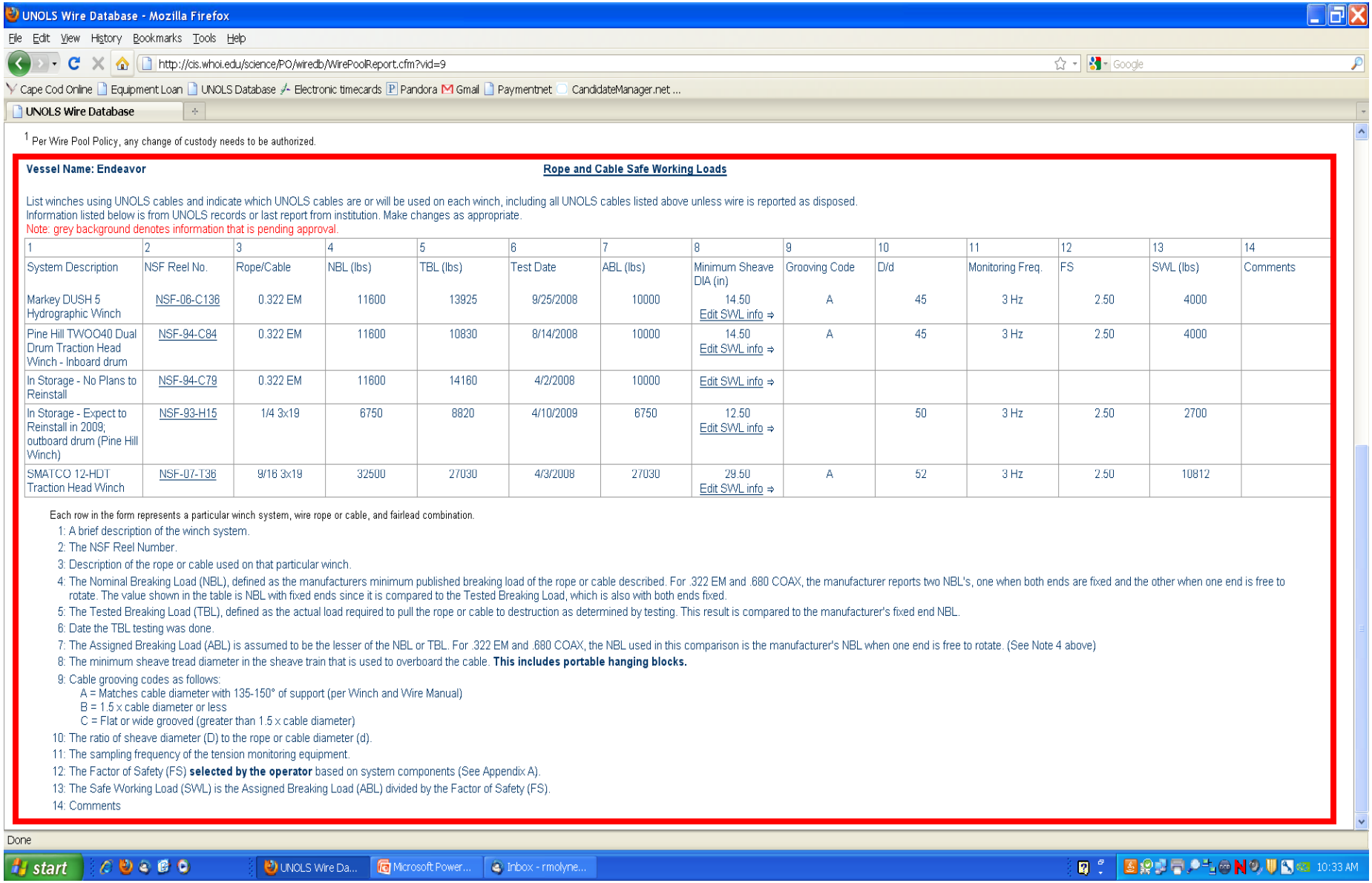
Microsoft Power...
Inbox - rmolyne...
10:32 AM

There's more……



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UNOLS Wire Database

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Vessel Name: Endeavor

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.
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 DUSH 5 Hydrographic Winch	NSF-08-C136	0.322 EM	11600	13925	9/25/2008	10000	14.50 Edit SWL info ⇒	A	45	3 Hz	2.50	4000	
Pine Hill TWOO40 Dual Drum Traction Head Winch - Inboard drum	NSF-94-C84	0.322 EM	11600	10830	8/14/2008	10000	14.50 Edit SWL info ⇒	A	45	3 Hz	2.50	4000	
In Storage - No Plans to Reinstall	NSF-94-C79	0.322 EM	11600	14160	4/2/2008	10000	Edit SWL info ⇒						
In Storage - Expect to Reinstall in 2009; outboard drum (Pine Hill Winch)	NSF-93-H15	1/4 3x19	6750	8820	4/10/2009	6750	12.50 Edit SWL info ⇒		50	3 Hz	2.50	2700	
SMATCO 12-HDT Traction Head Winch	NSF-07-T36	9/16 3x19	32500	27030	4/3/2008	27030	29.50 Edit SWL info ⇒	A	52	3 Hz	2.50	10812	

Each row in the form represents a particular winch system, wire rope or cable, and fairlead combination.

1: A brief description of the winch system.
2: The NSF Reel Number.
3: Description of the rope or cable used on that particular winch.
4: The Nominal Breaking Load (NBL), defined as the manufacturers minimum published breaking load of the rope or cable described. For .322 EM and .680 COAX, the manufacturer reports two NBL's, one when both ends are fixed and the other when one end is free to rotate. The value shown in the table is NBL with fixed ends since it is compared to the Tested Breaking Load, which is also with both ends fixed.
5: The Tested Breaking Load (TBL), defined as the actual load required to pull the rope or cable to destruction as determined by testing. This result is compared to the manufacturer's fixed end NBL.
6: Date the TBL testing was done.
7: The Assigned Breaking Load (ABL) is assumed to be the lesser of the NBL or TBL. For .322 EM and .680 COAX, the NBL used in this comparison is the manufacturer's NBL when one end is free to rotate. (See Note 4 above)
8: The minimum sheave tread diameter in the sheave train that is used to overboard the cable. **This includes portable hanging blocks.**
9: Cable grooving codes as follows:
A = Matches cable diameter with 135-150° of support (per Winch and Wire Manual)
B = 1.5 x cable diameter or less
C = Flat or wide grooved (greater than 1.5 x cable diameter)
10: The ratio of sheave diameter (D) to the rope or cable diameter (d).
11: The sampling frequency of the tension monitoring equipment.
12: The Factor of Safety (FS) **selected by the operator** based on system components (See Appendix A).
13: The Safe Working Load (SWL) is the Assigned Breaking Load (ABL) divided by the Factor of Safety (FS).
14: Comments

Done

start | UNOLS Wire Da... | Microsoft Power... | Inbox - rmolyne... | 10:33 AM

Vessel Name: Endeavor

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.
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SMATCO 12-HDT Traction Head Winch	NSF-07-T36	9/16 3x19	32500	27030	4/3/2008	27030	29.50 Edit SWL info ⇒	A	52	3 Hz	2.50	10812	

Winch System on which the wire resides

NSF Reel Number

Rope or Cable Type

Nominal Break Load (NBL)

Tested Break Load (TBL)

Test Date

Assigned Break Load (ABL)

Minimum Sheave Dia.
Grooving Code

D/d Ratio

Monitoring Frequency
Factor of Safety

Comments

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11: The sampling frequency of the tension monitoring equipment.
12: The Factor of Safety (FS) **selected by the operator** based on system components (See Appendix A).
13: The Safe Working Load (SWL) is the Assigned Breaking Load (ABL) divided by the Factor of Safety (FS).
14: Comments

Database is tailored to be consistent with Appendix A of the UNOLS Rope and Cable Safe Working Load Standard

- Applies Factors of Safety (FS) to Assigned Break Loads (ABL)
- Pulls in elements of the standard and helps you to navigate through the guidelines

Safe Working Load (SWL)Calculation

FS is selected by the Vessel Operator

Calculated by dividing the ABL by the FS

Example:
ABL = 10,000 lbs.
FS = 5.0
SWL = 10,000 lbs./5.0 = 2,000 lbs.

Assigned Breaking Load (ABL)

ABL is the Lesser of:

- Nominal Breaking Load (NBL) which is the manufacturer's minimum breaking strength

or

- Tested Breaking Load (TBL)

Assigned Breaking Load

Exceptions to the Rule

For .322” EM and .680” Coax:

Manufacturer has (2) Nominal Breaking Loads:

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

When ABL is determined for these cables, it is the lesser of:

- Nominal Breaking Load for free end or
- Tested Breaking Load

.322” EM Cable
Example of ABL Calculation

- NBL for fixed ends is 11,600 lbs.
- NBL with one end free to rotate is 10,000 lbs.
- TBL is 12,150 lbs.

ABL is the lesser of the three: 10,000 lbs.

Editing
Rope and Cable
Safe Working Load
Information

Vessel Name: Endeavor

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.
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 DUSH 5 Hydrographic Winch	NSF-06-C136	0.322 EM	11600	13925	9/25/2008	10000	14.50 Edit SWL info ⇒	A	45	3 Hz	2.50	4000	
Pine Hill TWO040 Dual Drum Traction Head Winch - Inboard drum	NSF-94-C84	0.322 EM	11600	10830	8/14/2008	10000	14.50 Edit SWL info ⇒	A	45	3 Hz	2.50	4000	
In Storage - No Plans to Reinstall	NSF-94-C79	0.322 EM	11600	14160	4/2/2008	10000	Edit SWL info ⇒						
In Storage - Expect to Reinstall in 2009; outboard drum (Pine Hill Winch)	NSF-93-H15	1/4 3x19	6750	8820	4/10/2009	6750	12.50 Edit SWL info ⇒		50	3 Hz	2.50	2700	
SMATCO 12-HDT Traction Head Winch	NSF-07-T36	9/16 3x19	32500	27030	4/3/2008	27030	29.50 Edit SWL info ⇒	A	52	3 Hz	2.50	10812	

Winch System on which the wire resides

NSF Reel Number

Rope or Cable Type

Nominal Break Load (NBL)

Tested Break Load (TBL)

Test Date

Assigned Break Load (ABL)

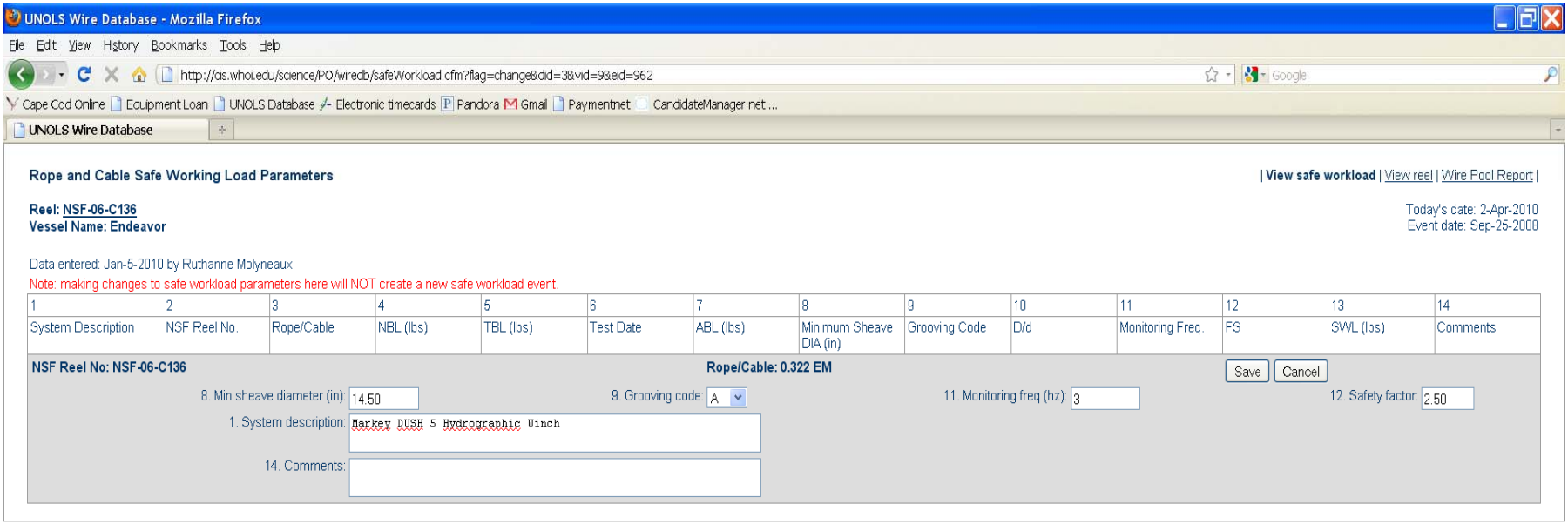
Minimum Sheave Dia.
Grooving Code

D/d Ratio

Monitoring Frequency
Factor of Safety

Comments

Entering Safe Working Load Info



Minimum Sheave Diameter
Grooving code
Monitoring Frequency
Factor of safety
Comments

If a Break Test is Overdue

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.
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Note: grey background denotes information that is pending approval.

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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 DUSH-5	NSF-03-C121	0.322 EM	11600	9780 [New break test] OVERDUE	4/3/2008	9780	12.53 Edit SWL info ⇒	A	39	1 Hz	2.00	4890 Not current	
	NSF-02-T27-A-B	1/2 3x19	25700	Break test required [Enter break test]			Add SWL info ⇒						
Markey DUSH-9	NSF-90-T12	1/2 3x19	25700	30510	8/17/2009	25700	29.00 Edit SWL info ⇒	C	58	1 Hz	2.00	12850	
Markey COM-7	OTH-004	1/4 3x19	6750	7050	8/14/2009	6750	9.40 Edit SWL info ⇒	A	38	1 Hz	5.00	1350	

Each row in the form represents a particular winch system, wire rope or cable, and fairlead combination.

1: A brief description of the winch system.

2: The NSF Reel Number.

3: Description of the rope or cable used on that particular winch.

4: The Nominal Breaking Load (NBL), defined as the manufacturers minimum published breaking load of the rope or cable described. For .322 EM and .680 COAX, the manufacturer reports two NBL's, one when both ends are fixed and the other when one end is free to rotate. The value shown in the table is NBL with fixed ends since it is compared to the Tested Breaking Load, which is also with both ends fixed.

5: The Tested Breaking Load (TBL), defined as the actual load required to pull the rope or cable to destruction as determined by testing. This result is compared to the manufacturer's fixed end NBL.

6: Date the TBL testing was done.

7: The Assigned Breaking Load (ABL) is assumed to be the lesser of the NBL or TBL. For .322 EM and .680 COAX, the NBL used in this comparison is the manufacturer's NBL when one end is free to rotate. (See Note 4 above)

8: The minimum sheave tread diameter in the sheave train that is used to overboard the cable. **This includes portable hanging blocks.**

9: Cable grooving codes as follows:
- A = Matches cable diameter with 135-150° of support (per Winch and Wire Manual)
- B = 1.5 x cable diameter or less
- C = Flat or wide grooved (greater than 1.5 x cable diameter)

10: The ratio of sheave diameter (D) to the rope or cable diameter (d).

11: The sampling frequency of the tension monitoring equipment.

12: The Factor of Safety (FS) **selected by the operator** based on system components (See Appendix A).

13: The Safe Working Load (SWL) is the Assigned Breaking Load (ABL) divided by the Factor of Safety (FS).

14: Comments

Done

Break Tests

Through the database you can:

Request a test to be done by the wire pool

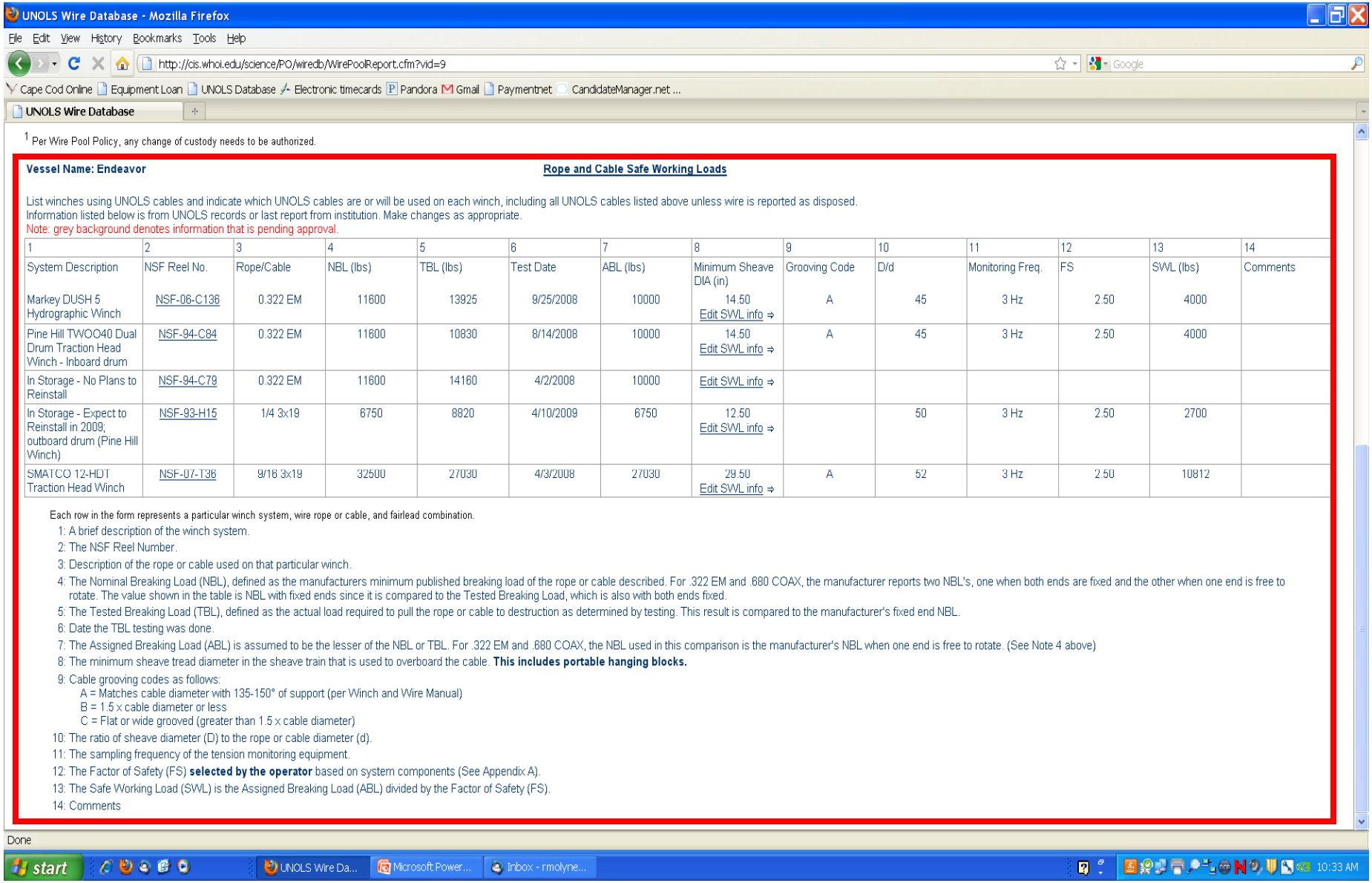
Results are entered by the wire pool including a copy of the test certificate

or

Report break test results done by another testing lab

Email the test certificate

Results are posted after all documentation is received



[1] Per Wire Pool Policy, any change of custody needs to be authorized.

Vessel Name: Endeavor

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.
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.

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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 DUSH 5 Hydrographic Winch	NSF-08-C136	0.322 EM	11600	13925	9/25/2008	10000	14.50 Edit SWL info ⇒	A	45	3 Hz	2.50	4000	
Pine Hill TWOO40 Dual Drum Traction Head Winch - Inboard drum	NSF-94-C84	0.322 EM	11600	10830	8/14/2008	10000	14.50 Edit SWL info ⇒	A	45	3 Hz	2.50	4000	
In Storage - No Plans to Reinstall	NSF-94-C79	0.322 EM	11600	14160	4/2/2008	10000	Edit SWL info ⇒						
In Storage - Expect to Reinstall in 2009; outboard drum (Pine Hill Winch)	NSF-93-H15	1/4 3x19	6750	8820	4/10/2009	6750	12.50 Edit SWL info ⇒		50	3 Hz	2.50	2700	
SMATCO 12-HDT Traction Head Winch	NSF-07-T36	9/16 3x19	32500	27030	4/3/2008	27030	29.50 Edit SWL info ⇒	A	52	3 Hz	2.50	10812	

Each row in the form represents a particular winch system, wire rope or cable, and fairlead combination.

1: A brief description of the winch system.
2: The NSF Reel Number.
3: Description of the rope or cable used on that particular winch.
4: The Nominal Breaking Load (NBL), defined as the manufacturers minimum published breaking load of the rope or cable described. For .322 EM and .680 COAX, the manufacturer reports two NBL's, one when both ends are fixed and the other when one end is free to rotate. The value shown in the table is NBL with fixed ends since it is compared to the Tested Breaking Load, which is also with both ends fixed.
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6: Date the TBL testing was done.
7: The Assigned Breaking Load (ABL) is assumed to be the lesser of the NBL or TBL. For .322 EM and .680 COAX, the NBL used in this comparison is the manufacturer's NBL when one end is free to rotate. (See Note 4 above)
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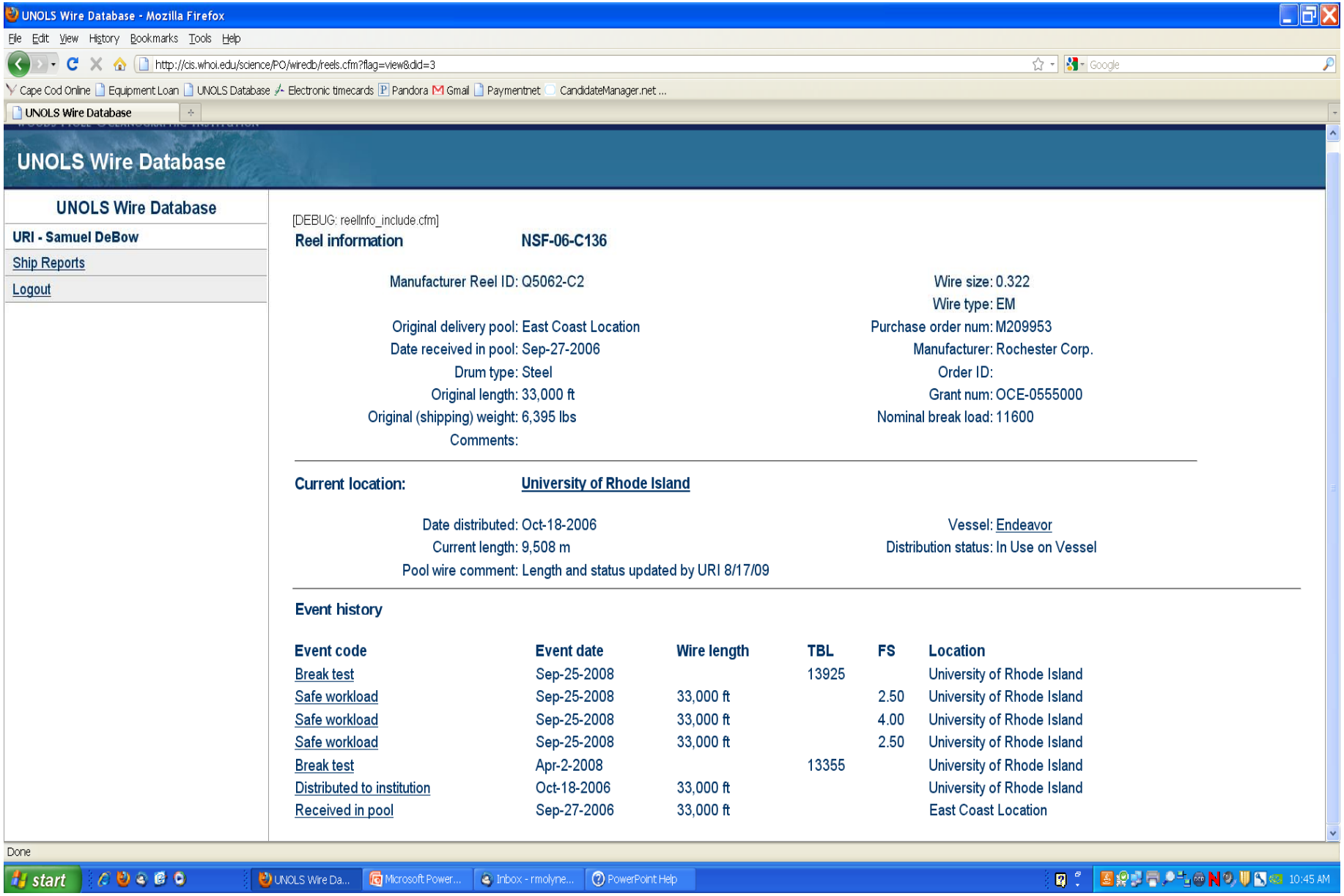
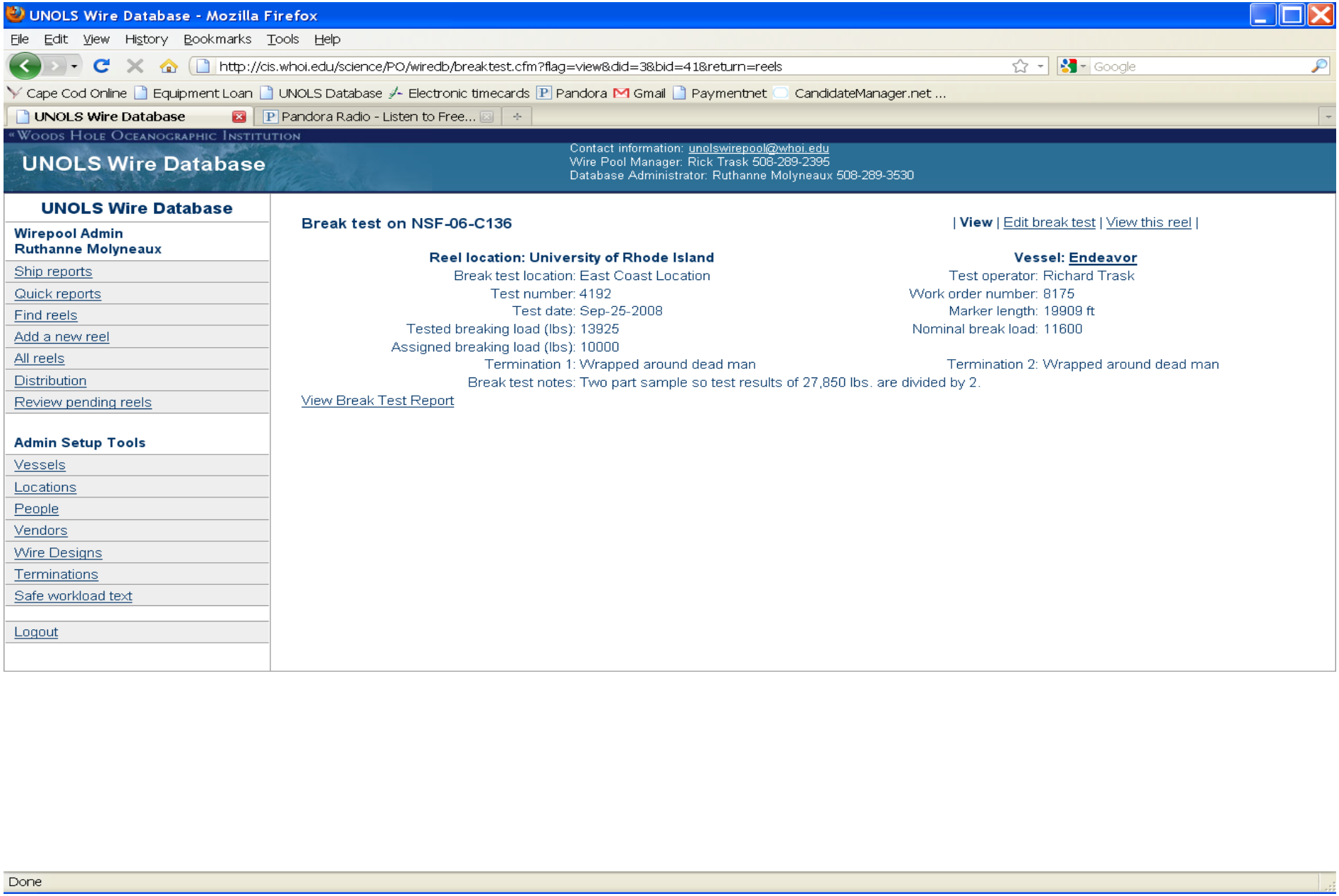
12: The Factor of Safety (FS) **selected by the operator** based on system components (See Appendix A).
13: The Safe Working Load (SWL) is the Assigned Breaking Load (ABL) divided by the Factor of Safety (FS).
14: Comments

History of a Reel



Break Test


UNOLS Wire Database - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://cis.whoi.edu/science/PO/wiredb/breaktest.cfm?flag=view&did=3&bid=41&return=reels
Cape Cod Online Equipment Loan UNOLS Database Electronic timecards Pandora Gmail Paymentnet CandidateManager.net ...
UNOLS Wire Database
Pandora Radio - Listen to Free...
Woods Hole Oceanographic Institution
UNOLS Wire Database
Contact information: unolswirepool@whoi.edu
Wire Pool Manager: Rick Trask 508-289-2395
Database Administrator: Ruthanne Molyneaux 508-289-3530
UNOLS Wire Database
Wirepool Admin
Ruthanne Molyneaux
Ship reports
Quick reports
Find reels
Add a new reel
All reels
Distribution
Review pending reels
Admin Setup Tools
Vessels
Locations
People
Vendors
Wire Designs
Terminations
Safe workload text
Logout
Break test on NSF-06-C136
| View | Edit break test | View this reel |
Reel location: University of Rhode Island
Vessel: Endeavor
Break test location: East Coast Location
Test operator: Richard Trask
Test number: 4192
Work order number: 8175
Test date: Sep-25-2008
Marker length: 19909 ft
Tested breaking load (lbs): 13925
Nominal break load: 11600
Assigned breaking load (lbs): 10000
Termination 1: Wrapped around dead man
Termination 2: Wrapped around dead man
Break test notes: Two part sample so test results of 27,850 lbs. are divided by 2.
View Break Test Report
Done

Break Test Results

Certificate of Testing

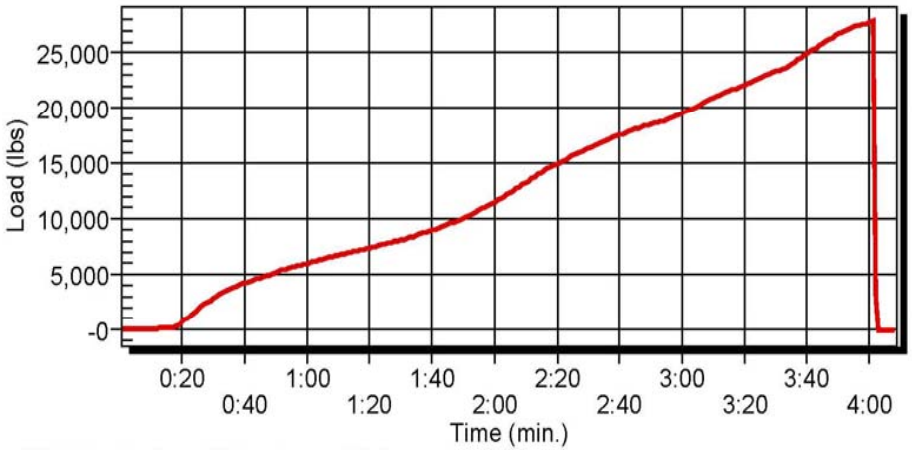
Woods Hole Oceanographic Institution
Mooring Operations, Engineering and Field Support
Rigging Shop
Woods Hole, MA 02543
Tel: (508) 289-2395, Fax: (508) 457-2130

Project Name: UNOLS R/V Wire Break Tests

Test Number: 4192
Test Date: 09/25/08
Description: Wire Rope
Test Method: BREAK

Work Order No.: 8175
Serial No.:
Size: .322 EM
Length: 40 m

Peak Load: 27,850 lbs.



.322 EM cable from R/V Endeavor, 24 September 2008
Wire provided without terminations
Wire wrapped around dean man, reeved around a 14" sheave
and back to the dead man.
Minimum Breaking Strength with Fixed Ends for new wire is 11,600 lb
Final break will need to be divided by 2 due to the two part configuration
Cable from Winch 2. Provided by W. Fanning
Length marker is 19908.ft
Peak tension was 27,850 divided by 2 = 13,925 lbs

Test Results
☐ Acceptable
☐ Not Acceptable

Conducted by:

Rick Trask

Sign up for Brief Training Session

We will be available today and tomorrow to provide a one-on-one demonstration for your particular institution.

See Rick Trask or
Ruthanne Molyneaux
to sign up for your session.