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Cover photograph credited to Paul Beesley - Shipphotos.com

EXECUTIVE SUMMARY

The tug, "MATTERHORN" was secured alongside another vessel at a marine facility at Mount Carmel, St. Mary's Bay, Newfoundland. On or about10th August 2014 the vessel sank, coming to rest on her port side with the bow inapproximately 5m of water and the stern in approximately 14m.

Pollution response in the form of rigid boom and sorbent material was initially provided by the vessel's owner but after a period of time it was apparent that the owner had ceased maintaining the boom etc.

As a result the Coastguard Emergency Response team took over pollution control.

1 <u>GENERAL PARTICULARS</u>

- 1.1 The "MATTERHORN" was tug built in 1957 at Saint John Dry Dock Company Ltd, Saint John, N.B. originally named the "ST. CHARLES". It was purchased in 1994 by Secunda Marine Services and renamed the "CHEBUCTO SEA".
- 1.2 In 2009 the vessel was sold and renamed the "MATTERHORN". Management of the vessel was placed with Artic Offshore International.
- 1.3 She had the following principle particulars:

IMO No. – 8973722 GRT – 535 Deadweight – 338 Length Overall – 47.34m Breadth Moulded– 10.10m Depth – 5.53m Draft (summer) – 5.00m

- 1.4 A copy of the ship's particulars is attached as "Appendix A".
- 1.5 Referencing the General Arrangement drawing it appears that the vessel was fitted with a total of 13 fuel oil tanks of varying sizes.
- 1.6 A copy of the General Arrangement drawing is attached as "Appendix B".

2 BACKGROUND

- 2.1 In 1999 as the "CHEBUCTO SEA" under the ownership of Secunda Marine Services the vessel suffered a broken tailshaft and was laid up for a number years until a legal battle over the insurance was resolved in 2005. In 2006 the vessel was repaired but after repairs the vessel's controllable pitch propeller was still not operational and the vessel was put up for sale.
- 2.2 In 2009 the vessel was sold and towed to Marystown, Nfld. It was renamed the "MATTERHORN" and placed under the management of Artic Offshore International Inc. It is understood the vessel remained at Marystown laid up until it was towed to Mount Carmel, St. Mary's Bay, Nfld. in 2011.

It is understood that at some time on or about Aug. 10th 2014 the vessel sankwhilst berthed alongside another vessel.

- 2.4 Deleted
- 2.5 Following the sinking oil was noted to be forming a sheen around the vessel's location.
- 2.6 The owner did respond to the initial pollution with some solid floatation boom and sorbent material. The Canadian Coastguard (CCG) was monitoring his response as per Part 8 of the Canada Shipping Act.
- 2.7 It is understood that as time went on it became harder to contact the owner and have him maintain the boom arrangement. A "Direction Order" was given to him which he ignored. At that point, following legal advice, it was decided that the Canadian Coast Guard had the authority to proceed with measures to deal with the pollution.

- 2.8 At the instigation of the CCG a dive assessment was carried out on the vessel on Aug. 5th, 2015. The vessel was found to be sitting in approximately 14m of water at the stern and approximately 5m at the bow resting on its port side with the bow into the shore.
- 2.9 The picture in *figure 1* shows the location of the tug and other assets in the vicinity. Of particular interest is the overturned barge adjacent to the tug. At the time of the initial sinking the stbd side of the tug'sbow was above the water at low tide but this barge has repeatedly impacted the tug and gradually forced the tug approximately 3m back into deeper water.
- During the dive survey some damage was noted in way of the stbd bow andappears consistent with impact damage from the barge striking the vessel repeatedly.
- Only the outside of the vessel was inspected during the dive assessment The 2.11 divers were able to confirm that all vents were either closed when located or closed then by the divers. The dive assessment did not identify a particular source of the sheening other than a 205ltr drum strapped to the deck. Divers were able to remove the drum.
- From information available it is understood that when the vessel was towed from 2.12 Marystown, Newfoundland in 2011 the vessel had on board approximately 15,000ltrs of marine diesel oil and that, after arrival at Mount Carmel, 12,000ltrs of the fuel were pumped out as payment for the towage. This left a balance of approximately 3,000ltrs believed to have remained on board.

London Offshore Consultants Document MV "MATTERHORN"

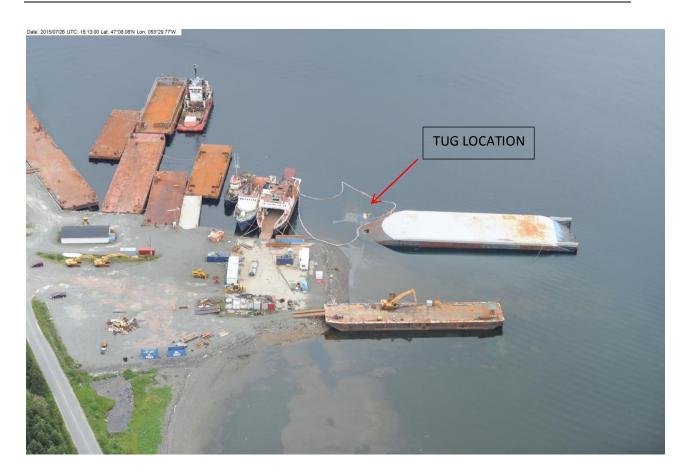


Figure 1 – Overview of the sinking location – Photo courtesy of CCG

2.13 It is understood that the vessel that the tug was secured to prior to the sinking has since been moved to another location. It is also understood that the vessel adjacent to the sinking location is in the process of being demolished and therefore it may not be possible to move this vessel.

3 POSSIBLE POLLUTANTS

- 3.1 Based on the information available it is possible that the vessel had approximately 3,000ltrs of marine diesel oil on board at the time of sinking. However it is also possible that some or all of this 3,000ltrs was pumped out when the 12,000ltrs was pumped out as "payment" for the tow or had been consumed between the time of towage in 2011 and the time of the sinking.
- 3.2 If it is assumed that the 3,000ltrs of marine diesel oil was on board it is not possible to accurately predict in which of the fuel tanks this quantity may have been located. It is possible that it was in a single tank but equally possible that it was in several tanks. The extracts from the General Arrangement in *figures 2 and 3* below indicate the location of the fuel tanks within the hull.

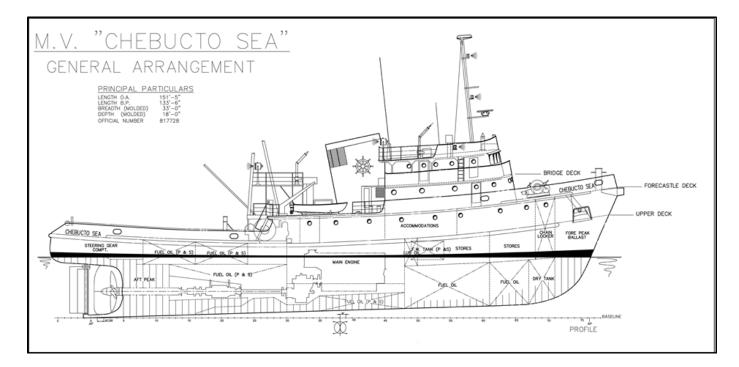


Figure 2 – Vessel Profile

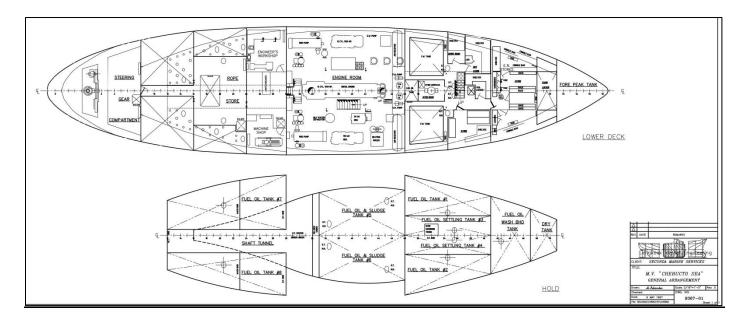


Figure 3 – Plan View of Lower Deck

- 3.3 Referencing the General Arrangement the tanks are arranged as follows:-
 - 3.3.1 Forward double bottom cross tank located between frames 61 and 67.
 - 3.3.2 #1 and #2 double bottom tanks located outboard port and stbd between frames 48 61.
 - 3.3.3 #3 and #4 double bottom tanks (port and stbd fuel settling tanks) located inboard, either side of the centre line, between frames 48 and 61.
 - 3.3.4 #5 and #6 double bottom tanks located between frames 35 and 48.
 - 3.3.5 #7 and #8 deep tanks located between frames 12 and 30.
 - 3.3.6 There are 2 small wing tanks that are located port and stbd between frames 24 and 16, approximately centred on the waterline.
 - 3.3.7 There are a further 2 larger wing tanks between frames 8 and 16, also approximately centred on the waterline. These tanks extend almost to the centre line and are separated by the access alleyway to the steering gear compartment.

- 3.4 In addition to the diesel oil there would have been lubricating oil in the main engine and generator sumps as well as hydraulic oil for controllable pitch propeller, winches etc. Exact quantities are unknown but we would expect the total to be several hundred litres. It is likely that there would have been spare lubricating and hydraulic oil on board the vessel stored in drums, (one such drum was removed from the deck during the dive assessment), but there is also a lubricating oil storage tank located at the forward end of the engine room on the centre line between frames 48 and 50.
- 3.5 Within the various stores there may well be quantities of grease, paint and solvents, however given the extended period that the vessel has been out of service it is unlikely there would be any significant quantities of these items.
- 3.6 Whilst not of immediate concern, it is highly likely that a vessel of this age would contain asbestos in pipe and deck and bulkhead lagging. Should the vessel be raised then this could become an issue in any potential vessel disposal.

APPENDIX A VESSEL PARTICULARS

SHIP DETAIL

Ship Name	MATTERHORN	Shiptype	Tug	
LR/IMO No.	8973722	Gross	535	#
Call Sign	CFD7759	Deadweight	338	and the second sec
MMSI No.		Year of Build	1957	
Flag	Canada	Status	Total Loss	
Operator	Arctic Offshore International	Shipbuilder	Saint John Dry Dock Co	

REGISTRATION, P&I, AND COMMUNICATIONS

Port of Registry	St John's, NL	Flag	Canada
Official Number	817728	Sat Com ID	
Sat Com Ans Back		Fishing Number	

P&I Club History

 Date
 P&I Club

 2007-04-01
 Shipowners' Protection Ltd

 2006-02-20
 Unknown

OWNERSHIP

Group Owner	Unknown	Location			
Shipmanager	Arctic Offshore International	Location	Canada		
Operator	Arctic Offshore International	Location	Canada		
DOC Company	Unknown	Location		IMO Company No (DOC)	
Registered Owner	Matterhorn Ltd	Location	Canada	IMO Registered Owner No	4159562
Technical Manager	Arctic Offshore International	Location	Canada		
Bareboat Owner		Location			

* Please kindly be advised that the Location referred to above, is the companies address location; for full details of the company(s) please follow the hyperlinks through the company name.

COMMERCIAL HISTORY

Date	Name	Flag	Group Owner	Operator	Manager	Registered Owner	DOC	Price
2010-02			Unknown					
2009-06	MATTERHORN	Canada		Arctic Offshore International	Arctic Offshore International	Matterhorn Ltd		
2009-04			McDermott International Inc					
2007-08				J Ray McDermott Canada Ltd	J Ray McDermott Canada Ltd	J Ray McDermott Canada Ltd		
1997-11							Unknown	
1994-11	Chebucto Sea		Secunda Marine Services Ltd	Secunda Marine Services Ltd	Secunda Marine Services Ltd	Secunda Marine Services Ltd		
1957-06	St. Charles (ATA-533)	Canada	1	1		1		

Originally St. Charles (ATA-533)

CLASS

SURVEYS

CONSTRUCTION OVERVIEW

Shiptype	Tug	Built	1957	GT	535	Deadweight	338
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SHIP BUILDER

1957-06 Saint John Dry Dock Co Ltd - Saint John NB Yard/hull No.: 1033

STATUS

Date	Status
2014-08-10	Total Loss
1957-06-07	In Service/Commission
1955-06-07	On Order/Not Commenced

CONSTRUCTION DETAIL

Statcode5:B32A2ST; Hull Material:Steel; Hull Connections:Welded; Decks:1 dk

SERVICE CONSTRAINTS

Trading, Commercial; Deep Sea

ALTERATIONS & CONVERSIONS

DIMENSIONS

Length Overall	47.340	Length (BP)	0.000
Length (Reg)	42.900	Bulbous Bow	No
Breadth Extreme	10.360	Breadth Moulded	10.100
Draught	5.000	Depth	0.000
Height	0.000		
Displacement	0	T/CM	0.0

TONNAGES

Tonnage Type	One tonnage, unspecified	Tonnage System	New System (International 1969)
Effective Date	1994-11	Effective Date	1994-11
Gross Tonnage (GT)	535	Net Tonnage (NT)	160
Deadweight (DWT)	338	Compensated Gross Tonnage (CGT)	0
Formula Deadweight	0	Light Displacement Tonnage (LDT)	0

ARRANGEMENT

SISTER SHIPS

SUPPLEMENTARY FEATU	RES				
Fire-fighting					
CARGO OVERVIEW					
Grain	0	Bale	0	TEU	0
COMPARTMENTS					
TANKS					
HATCHES					
CAPACITIES					
Crew 10					
SPECIALIST					
CARGO HANDLING GEAR	2				
RO-RO (LANES, RAMPS &	& DOORS)				
TOWAGE					
Bollard Pull 34.00t					
MISCELLANEOUS					

MACHINERY OVERVIEW

2 oil engines geared to screw shaft driving 1 CP propeller Total Power: Mcr 1,766kW (2,402hp) Max. Speed: 14.50kts

PRIME MOVER DETAIL

Design: Unknown, Engine Builder: Unknown 2 x Unknown, Stroke Cycle Unassigned, Unknown Cyl Arrangement , Mcr: 883 kW (1,201 hp)

AUXILIARY ENGINES

BOILERS

AUXILIARY GENERATORS

Aux Generator: 2 x 200kW

BUNKERS

THRUSTERS

INSPECTIONS & DETENTIONS

Data as reported by Port State Control Authorities

INSPECTED CERTIFICATES

Data as reported by Port State Control Authorities in last 12 Months

SAFETY MANAGEMENT CERTIFICATES

THREE YEAR EVENT SUMMARY

Significant Event	Last 12 months	Between 1 and 2 years ago	2-3 years ago
Casualties	0	1	0
Class status changes	0	0	0
Detentions	0	0	0
DOC certificates	0	0	0
Flag changes	0	0	0
Group Owner changes	0	0	0
Inspections	0	0	0
Name changes	0	0	0

CASUALTIES

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Chebucto Sea Photo Date: Copyright: Ken Watson



Photo 1 of 3

or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has a contract with

APPENDIX B GENERAL ARRANGEMENT

