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16700/MC01013409 October 7, 2002

From: Commanding Officer, Marine Safety Office Detroit

- To: Investigating Officer, Marine Safety Office Detroit
- Subj: REPORT OF THE CAPSIZING AND SINKING OF THE M/V J. W. WESTCOTT II IN THE DETROIT RIVER ON OCTOBER 23, 2001 WITH THE LOSS OF TWO LIVES
- 1. I concur with the findings, conclusions and recommendations of the subject investigation.
- 2. This letter shall be included as an addendum to all copies of the Investigation Report.
- 3. This report will be made available on the MSO Detroit web site.
- 4. This investigation is closed.

U.S. Department of Transportation United States Coast Guard Commanding Officer U. S. Coast Guard Marine Safety Office 110 Mt. Elliott Detroit, MI 48207 Staff Symbol: IO Phone: 313-568-9488 FAX: 313-568-9581

16700/MC01013409

From: Investigating Officer, Marine Safety Office Detroit, Michigan To: Commanding Officer, Marine Safety Office Detroit, Michigan

Subj: REPORT OF THE CAPSIZING AND SINKING OF THE M/V J. W. WESTCOTT II, O.N. 258859; ON 23 OCTOBER 2001 IN THE DETROIT RIVER, DETROIT MICHIGAN, WITH LOSS OF TWO LIVES

<u>Summary</u>: At approximately 0650 on October 23, 2001, the uninspected vessel J.W. WESTCOTT II capsized and sank in the Detroit River, just inside U. S. waters, while making an approach to conduct a pilot exchange with the tank ship SIDSEL KNUTSEN. On board the J. W. WESTCOTT II were the captain, one deckhand and two passengers (pilots). One of the pilots was scheduled to relieve the pilot on the SIDSEL KNUTSEN, which was upbound in the Detroit River. The other pilot was to be dropped off at the KAPITONAS ANDZEJAUSKAS, which was anchored in the Ojibway Anchorage in the Detroit River in Windsor, Ontario, Canada. The Captain and deckhand of the J. W. WESTCOTT II drowned, however, the two pilots on board escaped without serious injury.

Vessel Data:

Vessel #1:		
Name:	J. W. WESTCOTT II	and the second second
Official Number:	258859	
Service:	Pilot boat and mail boat	
Lifesaving equipment	: 14 adult size type V lifejackets	Contraction of the second second
Gross Tonnage:	14	- A N VESTORT 1
Length:	44.3'	
Beam:	13.3'	
Draft:	4.5'	
Propulsion:	671 Detroit diesel, single sc	rew
Horsepower:	200	
Year Built:	1949	
Place Built:	Paasche Marine, Erie, Penn	sylvania
Home Port:	Detroit, Michigan	
Owner/Operator:	J. W. Westcott Company, F	oot of 24 th Street, Detroit, Michigan 48222
Master:	Catherine M. Nasiatka	-
	Master, 50 GT, Great Lakes	and Inland Waters, License #827771 ¹
Crew:	David Lewis	
	Unlicensed	

¹ Enclosure 1, Copy of Coast Guard License #827771 issued to Catherine Marie Nasiatka

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Vessel #2:	
Name:	SIDSEL KNUTSEN
Official Number:	L9019779
Service:	Tank ship
Gross Tonnage:	15806
Length:	533.2'
Beam:	75.5'
Draft:	31.8'
Propulsion:	Diesel electric
Horsepower:	10,700
Year Built:	1993
Place Built:	Seville, Spain
Home Port:	Haugensund, Norway
Owner:	Knutsen O.A.S. Shipping, North 5501, P.O. Box 158, Haugensund,
	Norway
Operator:	Neste OY Shipping, Keilaranta 8, SF-02150 Espoo, Finland
Master:	Jan Holthe
Pilot:	Robert B. Hull, Canadian Great Lakes Pilotage Authority

Record of Deceased:

Name:	Catherine Marie Nasiatka
Age:	48
Status on Vessel:	Master
Cause of Death:	Drowning

Name:	David Lewis
Age:	50
Status on Vessel:	Crewmember
Cause of Death:	Drowning

Record of Survivors:

Name:	David Thomas Roessllein
Status on Vessel:	Passenger

Name:Allain GindrozStatus on Vessel:Passenger

J. W. WESTCOTT II Description and Service:

The J. W. WESTCOTT II operates exclusively on the Detroit River delivering mail, general cargo, and pilots to passing commercial vessels. The vessel was built in 1949 for the J. W. Westcott Company specifically for the purpose described above, and has been engaged in the same operation and in the same waters since its construction. The J. W. Westcott Company was founded in 1874 and is presently located at the Foot of 24th Street, downriver from the Ambassador Bridge, in Detroit, Michigan. The J. W. WESTCOTT II is considered a local historic landmark and provides services to nearly every deep draft foreign and domestic vessel that operates in the Great Lakes.

The J. W WESTCOTT II was built by the Paasche Marine Company of Erie Pennsylvania in 1949. The company has since gone out of business. No original drawings or diagrams of the vessel exist.

The J. W. WESTCOTT II is an uninspected vessel. 46 CFR, Subchapter T – Small Passenger Vessels, requires vessels to be certificated if carrying more than six passengers for hire. The J. W. WESTCOTT II does not carry more than six passengers for hire, and as such, is not required to be inspected under 46 CFR, Subchapter T. 46 CFR Subchapter I – Cargo and Miscellaneous Vessels, requires Coast Guard inspection for vessels over 15 gross tons which carry freight for hire. The J. W. WESTCOTT II Certificate of Documentation² lists 14 gross tons, and as such, the vessel is not required to be inspected under 46 CFR, Subchapter I. The provisions of 46 CFR, Subchapter C – Uninspected Vessels, apply to the J. W. WESTCOTT II. These are the same Coast Guard requirements that apply to typical recreational vessels and uninspected towing vessels. There are no specific Coast Guard regulations for vessels operating as pilot boats.

The minimum Coast Guard license required for operators of the J. W. WESTCOTT II is Operator, Uninspected Passenger Vessel. The J. W. Westcott Company requires the captains they employ to hold, at a minimum, a Coast Guard license as a Master, 50 Gross Tons, Great Lakes and Inland Waters.

A typical service call for the J. W. WESTCOTT II involves the vessel coming alongside a ship as much as 1,000 feet in length at "river speed"³. Once alongside, the crew of the J. W. WESTCOTT II delivers mail, newspapers or small parcels using a bucket and line. The J. W. WESTCOTT II also serves as a pilot boat. Vessels requiring the service of the J. W. Westcott Company usually contact the Company's dispatcher on VHF Channel 11 or 12, and then switch to VHF channel 10 to arrange for service and agree on a meeting time. The pilot station is located approximately 1,200 yards downstream of the Ambassador Bridge, is denoted on NOAA Chart 14848⁴, and is the usual location for the J. W. WESTCOTT II to service ships, whether for a pilot exchange or mail delivery.

A two-person crew, working in a twelve-hour shift, typically operates the J. W. WESTCOTT II. During a shift, the crew may service as many as eight or more ships. Other duties of the

² Enclosure 2, Certificate of Documentation for J. W. Westcott II, Official Number 258859

³ "River speed" in the Detroit River is 12 statute miles per hour (10.4 knots), as codified in 33 CFR 162.138(a)(ii).

⁴ Enclosure 3 is a copy of a portion of Chart 14848, with notations showing the relationship between the pilot station, the J. W Westcott Company berth in Detroit and the accident site.

crew while not engaged in operating the vessel, include vessel maintenance, fueling, and log keeping. Some crewmembers also perform shifts as dispatchers. As dispatchers, they take radio calls from ships, coordinate ground transportation for pilots, and operate the post office and bookstore.

The operation of the J. W. WESTCOTT II more closely resembles that of a towing vessel as opposed to that of a passenger vessel. It is not typical for passenger vessels to come alongside moving freight ships. Tow vessels routinely come alongside moving freight ships to assist in maneuvering.

Weather Data:

Winds: south-southwest, 10-15 kts; Air temperature: 61 degrees F; Water temperature: 53 degrees F; Cloudy; Visibility: 7 nautical miles; Seas: 1-2 ft, Current: 1.4 knots (approximate).

Summary of Search Efforts:

Search units involved: USCG Station Belle Isle (CG41479, CG41306, and CG214363), USCG Air Station Detroit (CG6553 and CG6506), CCGC SORA's Mk V RHI, Army Corps of Engineers (ACOE) M/V PAJ, Detroit Fireboat CURTIS RANDOLPH, LaSalle Fire and Rescue Boat, Windsor Police Department vessel GUARDIAN, M/V SIDSEL KNUTSEN, M/V STORMONT. The SIDSEL KNUTSEN came about in the Detroit River and commenced search immediately after the incident. The SIDSEL KNUTSEN shone her spotlight in the river and detected the two pilots, Mr. Gindroz and Mr. Roesselein. The tug STORMONT, whose usual operation is towing a Hazardous Material barge from Detroit, Michigan to Windsor, Ontario, detached from the barge and commenced searching for survivors immediately upon hearing of the incident. The SIDSEL KNUTSEN spotted the two survivors in the water, the Master directed the STORMONT to the proper location, where the STORMONT recovered the survivors then took them to Windsor, Ontario for treatment at a local hospital.

Coast Guard Group Detroit, the SAR Mission Coordinator, released the SIDSEL KNUTSEN from the scene. The vessel was directed to continue its transit to the Sun Oil dock in Sarnia, Ontario, Canada.

All vessels and air assets continued to search for the two missing crewmembers throughout the day. Commander, Ninth Coast Guard District granted permission to suspend the search at 1700 local time. On October 29, 2001, the body of Catherine Nasiatka was recovered when the J. W. WESTCOTT II was salvaged from the waters of the Detroit River. Her body was taken to the Windsor Regional Hospital for autopsy and identification. Hunters discovered the body of David Lewis on November 27, 2001 near Amherstburg, Ontario, Canada. His body was also taken to the Windsor Regional Hospital.

Summary of Investigation:

Investigators from U.S. Coast Guard Marine Safety Office (MSO) Detroit traveled to Windsor, Ontario to interview the two survivors, Tom Roessllein and Alain Gindroz. The interviews were conducted at the Windsor Police Department in Windsor, Ontario. A second investigation team from MSO Detroit boarded the SIDSEL KNUTSEN as she transited the St. Clair River to Sarnia, Ontario, Canada. Interviews were conducted with the Captain of the SIDSEL KNUTSEN, Jan Holthe, 3rd Mate Wilfredo Colitoy Goc-Ong, Ordinary Seaman (OS) Evelix G. Le Asis and, the marine pilot, Robert B. Hull of the Canadian Pilotage Authority. Personnel from Coast Guard Station St. Clair Shores conducted field sobriety tests on all bridge personnel. The results were negative for all personnel.⁵ The Captain of the Port Detroit established a safety zone around the site of the sunken vessel to protect the wreck site and to ensure the safety of divers and surface search vessels.

Divers from the Detroit Police Department located the vessel in position 42° 17.5' North, 083° 5.5' West, which is approximately 75 yards inside Canadian waters. Foul weather prevented any salvage attempt until October 28, 2001. The J. W. WESTCOTT II was recovered on October 29, 2001, after a two-day salvage operation. The body of Catherine Nasiatka was discovered in the forward most portion of the engine room. Her body was recovered and taken to the Windsor, Ontario Coroner's Office for identification and autopsy. The body of David Lewis was not found at the time the vessel was recovered. His body was discovered on November 27, 2001, near Amherstburg, Ontario, Canada, approximately 2.5 miles downstream of the wreck site, and taken to the Amherstburg Coroner's Office for autopsy.

Both Knutsen O.A.S. and the J. W. Westcott Company submitted Coast Guard Form 2692, Report of Marine Accident, Injury or Death, to Marine Safety Office Detroit.⁶

Findings of Fact

- 1. On October 23, 2001, the SIDSEL KNUTSEN was upbound in the Detroit River loaded with 35,000 gallons of gasoline. At approximately 0650, she was on a course of 023° True, upriver of Fighting Island. Her speed was between 8.9 and 9.2 knots. The current in the Detroit River in the vicinity of the casualty is approximately 1.4 knots⁷.
- The marine pilot onboard the SIDSEL KNUTSEN was Robert Hull of the Canadian Pilotage Authority. Captain Hull boarded the SIDSEL KNUTSEN at the Welland Canal Lock #7 at 2315 on October 21, 2001. Captain Hull has been a Great Lakes pilot since May 4, 1994. He has sailed Great Lakes and Oceans routes since June of 1973.
- 3. The Captain of the SIDSEL KNUTSEN was Jan Holthe. Captain Holthe has served as Captain of the SIDSEL KNUTSEN since 1995. He has nine years experience sailing on the Great Lakes, including the Detroit River.
- 4. At 0515 Captain Hull attempted to contact the J. W. Westcott dispatcher to arrange a time to transfer the pilots at the pilot station. The dispatcher on duty was Charles Weiss. Captain Hull tried on VHF channels 10 and 12, but did not receive a response. At 0545 he was successful in contacting Mr. Weiss via VHF channel 11. In a brief conversation, Mr. Weiss and Captain Hull agreed on a 0715 pilot transfer. No specific reference was made to the location of the pilot exchange. Mr. Weiss did not tell Captain Hull that the J. W. WESTCOTT II intended to transfer a second pilot at the Ojibway Anchorage.

⁵ Enclosure 4, CG Form 2692B, "Report of Required Chemical Drug and Alcohol Testing Following a Serious Marine Incident."

⁶ CG Form 2692 from Knutsen Shipping is included as Enclosure 5. CG Form 2692 from the J. W. Westcott Company is included as Enclosure 6.

⁷ United States Coast Pilot 6, 31st Edition, page 199. U.S. Department of Commerce, National Oceanographic and Atmospheric Administration, National Ocean Service, Washington DC, 2001

- 5. At 0620 Mr. Weiss called the SIDSEL KNUTSEN to inform Captain Hull that his relief had arrived at the J. W. Westcott Company office.
- 6. The J. W. WESTCOTT II left its berth at the Foot of 24th Street in Detroit at approximately 0630. The Captain was Catherine M. Nasiatka. The deckhand was David Lewis. Also on board the vessel were two Great Lakes pilots from the Canadian Pilotage Authority, Thomas Roessllein and Alain Gindroz. The purpose of the trip was to take Mr. Roessllein to the SIDSEL KNUTSEN to relieve Captain Hull, and to take Mr. Gindroz to the M/V KAPITAN KARISHENKO, which was anchored in the Ojibway Anchorage, so that he could pilot the ship out of the Detroit River.
- 7. Captain Nasiatka held a Coast Guard license as Master, 50 Gross Tons-Great Lakes and Inland Waters (license number 827771), issued on June 29, 2000 by the Officer In Charge, Marine Inspection, Toledo, Ohio.
- 8. The J. W. WESTCOTT II has sliding cargo doors on each side of the pilothouse. The cargo doors slide fore and aft on suspended rails. The average gap between the port cargo door and the doorframe was ³/₄ inches. Both survivors stated that both of the cargo doors were closed at the time of the incident. Both cargo doors rolled back and forth freely numerous times during salvage operations.
- 9. During the transit, until the time of the casualty, the position of each person on board the J. W. WESTCOTT II was as follows: Mr. Gindroz was standing on the port side of the pilothouse, at the aft end of the sliding cargo door. Mr. Roessllein was standing approximately amidships, aft of Mr. Gindroz. Mr. Lewis was standing near the starboard side cargo door. Captain Nasiatka was at the helm.
- 10. Mr. Gindroz was wearing a water-activated flotation collar, provided to him by the Canadian Pilotage Authority. Mr. Roessllein was wearing a foul-weather coat with flotation. Neither Captain Nasiatka nor Mr. Lewis were wearing flotation devices.
- 11. In a written statement to the Canadian Great Lakes Pilotage Authority, Captain Hull stated that on the morning of October 23, 2001, he was on the bridge of the SIDSEL KNUTSEN with the Captain, the officer of the watch and the able bodied seaman. Shortly before 0700, he left the bridge to go one deck below to gather his personal belongings in preparation of disembarking the vessel upon relief. He was not aware of the location of the J.W. WESTCOTT II at that time because there had not been any communication between the two vessels and he was not expecting the J. W. WESTCOTT II until several minutes later.⁸
- 12. When the SIDSEL KNUTSEN was approximately abeam of Zug Island, Captain Holthe stated that he observed the J. W. WESTCOTT II coming downriver in a meeting situation with the SIDSEL KNUTSEN from an angle of approximately 15 degrees off his port bow. He stated that the J. W. WESTCOTT II passed down the port side of the SIDSEL KNUTSEN, out of sight. He acknowledged that the pilot was not on the bridge at that

⁸ Enclosure 7, Copy of Captain Hull's voluntary statement written on October 24, 2001 at the request of the Canadian Great Lakes Pilotage Authority.

time. Upon seeing the J. W. WESTCOTT II, Captain Holthe stated that he was reminded that the pilot ladder was not ready. He directed the 3rd Mate, Wilfredo Colitoy Goc-Ong, and Ordinary Seaman Evelix B. Le Asis to make sure the pilot ladder was ready for the pilot transfer. Captain Holthe stated that although he saw the J. W. WESTCOTT II, he knew it was early for the pilot transfer and so he did not expect the J. W. WESTCOTT II to come alongside.

- 13. According to Captain Roessllein and Captain Gindroz, little conversation took place amongst the people on board the J. W. WESTCOTT II. According to Sam Buchanan, the senior operator for the J. W. Westcott Company, it was common for people to remain relatively quiet while onboard the J. W. WESTCOTT II because the noise of the engine made conversation difficult. Mr. Roessllein had a brief exchange with Mr. Lewis regarding Mr. Roessllein's bicycle, which he had brought on board with him. According to both Captain Roessllein and Captain Gindroz, there was only one other relevant exchange of words, which took place between Mr. Lewis and Captain Nasiatka after the J. W. WESTCOTT II was alongside the SIDSEL KNUTSEN. Mr. Lewis asked, "Are you stuck?" To which Captain Nasiatka replied, "Yes, I'm stuck."
- 14. The SIDSEL KNUTSEN'S Ordinary Seaman, Mr. Goc-Ong, observed the J. W. WESTCOTT II approach close to the stern of the SIDSEL KNUTSEN. He stated that the J. W. WESTCOTT II approached from a position further behind the vessel than he had seen in similar pilot transfers on the Detroit River in the past. He said that shortly after the J. W. WESTCOTT II came alongside the SIDSEL KNUTSEN, she listed to port, and then capsized. He immediately reported the accident to the bridge. At about the same time, Captain Hull returned to the bridge. He was immediately informed of the accident. Using visual references, Captain Holthe fixed the position of the incident at 42° 17.5' North, 083° 05.75' West. Captain Holthe plotted the position himself on the pilothouse chart⁹. He placed an "X" and the letters "MOB" indicating Man Overboard, in the spot where he determined the incident to have taken place. The position placed the incident approximately 50 yards inside U. S. waters.
- 15. Both Captain Roessllein and Captain Gindroz said that water began to ship over the bow of the J. W. WESTCOTT II almost immediately after she was alongside the SIDSEL KNUTSEN. Water came over the bow and began entering the pilothouse through the gap in the bottom of the port cargo door. The bottom of the port cargo door is 6 inches above the deck of the J. W. WESTCOTT II. Captain Gindroz stated that the bow dipped below the water for about 15 seconds shortly after coming alongside. Both survivors stated that the water filled the pilothouse at a rapid rate. Although neither man could accurately determine the exact time it took for the water to rise into the pilothouse, both men stated that water was at chest level in less than two minutes. During this time, the J. W. WESTCOTT II began listing heavily to port.
- 16. Captain Gindroz stated that he opened the port side sliding cargo door and exited the J. W. WESTCOTT II through that cargo door. He stated that his initial attempts to open the cargo door were unsuccessful. After several more attempts, during which time the vessel

⁹ Enclosure 8, copy of pilothouse chart taken from the SIDSEL KNUTSEN on October 23, 2001. The fixes indicated on this chart were not taken on October 23, 2001. These markings were from a previous transit of the Detroit River.

continued to take on water and continued its port list, the cargo door slid open and Captain Gindroz exited the vessel. His water-activated floatation device deployed and he immediately floated to the surface. Captain Roessllein stated that he was pinned against the overhead of the pilothouse as a result of the buoyancy of his float coat. He was able to overcome the force of the buoyancy and exit through the port cargo door by taking a last breath of air, and swimming down through the open cargo door. Once free of the vessel, he immediately floated to the surface.

- 17. Captain Gindroz and Captain Roessllein stated that when they reached the surface, the J. W. WESTCOTT II was perpendicular in the water, stern up, with the keel of the vessel facing upriver. They stated that the propeller was out of the water and turning. They both heard the engine running and described the sound as "screaming." Neither man could recall the position of the rudder. They noted that the vessel came to an abrupt stop, and concluded that its bow had struck the bottom of the river. The water depth in that location is approximately 34 feet. The river current then forced the stern of the J. W. WESTCOTT II to fall slowly downriver, towards the vessels deck, until it was completely submerged.
- 18. The J.W. WESTCOTT II was found completely capsized with its stern rail resting on the river bottom. Its bow was raised at an approximately 45-degree angle. The bow was facing downstream, at an approximate heading of 220° True.
- 19. Captain Gindroz and Captain Roessllein were rescued by the tug STORMONT.
- 20. The J. W. WESTCOTT II was recovered in Canadian waters in the Detroit River in position 42° 17.14' North, 083° 05.92' West, approximately 75 yards from the international boundary between the United States and Canada.
- 21. The forward deck hatch cover of the J. W. WESTCOTT II was found missing upon recovery of the vessel.¹⁰ During salvage on October 28, 2001, the vessel was turned right side up on the river bottom. As a result of doing so, a large burst of air erupted on the surface and continued bubbling for over 30 seconds. There was no trace of oil or any other contaminant in the air bubbles. The forward deck hatch cover opens into the forward compartment. The only compartment that was not contaminated with oil or diesel fuel when the vessel was recovered was the forward compartment. The loss of the hatch cover does not appear to have contributing to the casualty, because the forward compartment was not flooded. The hatch cover was likely lost after the vessel capsized, and air was trapped inside the compartment, which was released when the vessel was righted during salvage.
- 22. The J. W. WESTCOTT II was equipped with a cable and chain steering system. The helm was found in the "left-full" position, as was the rudder.

 $^{^{10}}$ Enclosure 9 – Photos of the forward deck hatch opening of the J. W. WESTCOTT II after salvage on October 29, 2001.

- 23. The throttle was found in the "full" position and the transmission control was found partially between the neutral position and astern position.¹¹
- 24. The pilot light switch was in the "on" position; the running light switch was in the "on" position. The port deck light switch was in the "off" position; the starboard deck light switch was in the "on" position.¹¹
- 25. The hull of the J. W. WESTCOTT II is painted black. There were five black truck tires fastened to the rail of the J. W. WESCOTT II on each side of the vessel. Three of the tires are mounted near the bow, and are adjacent to one another. The first of these tires is mounted approximately 12 feet aft of the bow. One tire is mounted at approximately amidships; the fifth tire is mounted approximately 8 feet from the stern.¹²
- 26. Several black markings were found on the port side of the SIDSEL KNUTSEN. One of the black marks measures approximately 3 feet high and 26 feet long and was approximately 4 feet above the water line. Just aft of this mark are two black marks, which represent the shape of truck tires. Other smaller and darker black marks were found aft of the tire marks, under the turn of the bilge. One bare metal spot measuring approximately 4"x5" was found under the turn of the bilge.¹³
- 27. Welded on the main deck of the J. W. WESTCOTT II, located at approximately amidships and outboard on both the port and starboard sides, are two-inch pipes, approximately 14 inches high, which serve as air vents for the engine room. The port side vent pipe had a one-inch out hole rusted out of it near where the pipe is welded to the deck.¹⁴
- 28. There were a total of 14 adult sized, Type V, Coast Guard approved lifejackets found on the J. W. WESTCOTT II. Two life jackets were recovered during salvage operations and 12 were found on board after salvage. The vessel typically carried a life ring on a bracket on the outside forward bulkhead, just under the pilothouse forward window. The life ring was not recovered.
- 29. Most of the structural damage to the J. W. WESTCOTT II occurred as a result of salvage operations. The damage included the following items: two broken windows, damage to the port side window frames, the port sliding cargo door was off its track and bent, one towing bit was completely ripped out of the deck, the port, aft gusset had a 16 inch tear near one of the freeing ports.
- 30. Captain Hull stated that the speed of the SIDSEL KNUTSEN was between 8.8 and 9.2 knots, as determined by the bridge GPS receiver. Information taken from the propeller

¹¹ Enclosure 10 – Photos of J. W. WESTCOTT II pilothouse controls taken on October 29, 2001.

¹² Enclosure 11 - Photos of J. W. WESTCOTT II in drydock after salvage, dated November 8, 2001. Photos illustrate the fender tires mounted on each side of the vessel.

¹³ Enclosure 12 - Series of ten photos dated October 26, 2001, showing the black tire marks and paint markings on the side of the SIDSEL KNUTSEN created by the J. W. WESTCOTT II.

¹⁴ Enclosure 13, Photos of port side engine room air vent pipe showing 1 inch hole at the base of the pipe, dated November 8, 2001.

pitch order recorder¹⁵ indicate that the propeller Pitch Value was 62. The Pilot Card¹⁶ indicated that at with the Pitch Value at 60, the approximate speed of the vessel is 9 knots. The speed limit on the Detroit River is 12 statute miles per hour, or 10.4 knots, often referred to as "river speed."

31. By interpreting the course recorder on the SIDSEL KNUTSEN, it is evident that she was steadied up on a course of 023° True. At approximately 0652, she made a radical course change, accounting for the ship turning around after the casualty.¹⁷ This places the time of the incident approximately between 0640 and 0652 on October 23, 2001.

<u>Analysis</u>

- Part I. Vessel Stability
 - <u>Stability Characteristics</u>. The Coast Guard Marine Safety Center (MSC) evaluated the stability characteristics of the J. W. WESTCOTT II. Their analysis is included in its entirety as an enclosure to this report¹⁸. The MSC report only considered the J. W. WESTCOTT II in a static condition and does not take into account the dynamic forces on the J. W. WESTCOTT II while the vessel was alongside the SIDSEL KNUTSEN. The MSC report used the General Hydrostatic software program to compute three different flooding scenarios. The chart on page 3 of Enclosure 17 tabulates the results of the flooding scenarios. The MSC concluded that the J. W. WESTCOTT II, under static conditions, had sufficient stability prior to the casualty. The row on page 3 of Enclosure 17 entitled *Initial* indicated the stability characteristics of the vessel in a static condition. The static metacentric height of the J. W. WESTCOTT II was 7.04 feet. In a static condition, the vessel has 2.09 feet of freeboard. The distance from the waterline to the bottom of the cargo doors is 2.95 feet.
 - a. <u>Water on Deck</u>. The *Plus Water on Deck* calculation assumes 6 inches of water on the foredeck and the port side deck only, taking the port list into account. With 6 inches of water on the foredeck and port deck, the metacentric height is reduced to 3 feet, freeboard reduced to 3 inches and the height to the cargo door reduced to less than 11/2 feet. In this condition, the vessel will take on a list of almost 14 degrees. At this point, the vessel still has sufficient stability. The only factor used to determine the list is the water on deck. It does not take into consideration the dynamic forces caused by the interaction between the two vessels.
 - b. <u>Water in Pilothouse</u>. Survivors stated that the water in the pilothouse reached chest level. MSC assumed a water depth of three feet in the pilothouse under this flooding scenario. When three feet of water in the pilothouse is added to the water on deck, the vessel's freeboard is reduced to -0.93 feet, meaning, the freeboard is under water. The bottom of the cargo door would be about 3 inches from the water. In this

¹⁵ Enclosure 14, Copy of propeller pitch order reading output from SIDSEL KNUTSEN October 23, 2001. Time is in Greenwich Mean Time.

¹⁶ Enclosure 15, Copy of Pilot Card for SIDSEL KNUTSEN used by Captain Hull on October 23, 2001.

¹⁷ Enclosure 16, Copy of Course Recorder output from SIDSEL KNUTSEN October 23, 2001.

¹⁸ Enclosure 17, Coast Guard Marine Safety Center stability analysis of J. W. WESTCOTT II, dated March 12, 2002.

scenario, the J. W. WESTCOTT II would not maintain adequate stability to remain afloat.

- c. <u>Water in Engine Room</u>. The one-inch hole at the base of the port engine room air vent pipe also allowed ingress of water. About 350 gallons of water would enter through the vent pipe hole. Adding this water to the flooding calculations reduces GM by less than 1 foot, reduces freeboard from −0.93 feet to −1.10 feet and increases the heel angle to over 16 degrees. The ingress of water through the port engine room air vent pipe hole, in itself, did not significantly reduce the stability of the vessel.
- 2. <u>Flooding Rates</u>. MSC estimated the rate at which water entered the J. W.WESTCOTT II. The tabulations are entered in Tables 1 through 7 in enclosure 3 to the MSC report. The following is a summary of the relevant portions of the "Flooding Rate Approximations."
 - a. <u>Table 1, Space Volume</u>. The relevant column in Table 1 is the Volume in gallons of each of the compartments of the J. W.WESTCOTT II.
 - b. <u>Table 2, Downflooding Source</u>. Table 2 lists the ingress sources and the size of each source. The *Closed Cargo Door* column is a measure of the gap in the bottom of the port cargo door. The *Open Cargo Door* assumes the door in a half open position (23 inches). The *Hole in Port-Side Bilge Vent* is the one-inch square hole that investigators found at the base of the port side engine room air vent.
 - c. <u>Table 3, Open Cargo Door Flow Rates by Water Velocity</u>. This table assumes the ingress rate of water through the cargo door if the cargo door were half open. At a speed of 8 knots, water would enter the pilothouse at a rate of 13.5 feet per second. At that rate, it would take 6.48 seconds to accumulate 3 feet of water in the pilothouse.
 - d. <u>Table 4, Closed Cargo Door Flow Rates by Water Velocity</u>. This table lists the flooding rates assuming the cargo door is closed. In the closed position, the total gap area at the base of the door is .024 square feet. At 8 knots, it would take 1 minute, 40 seconds to accumulate 3 feet of water in the pilothouse.
 - e. <u>Table 5, Closed Cargo Door Flow Rates by Hydrostatic Head</u>. This table lists the volume and time to accumulate 3 feet of water in the pilothouse based only on the head pressure of water. With water depth of just under 5 inches, it would take 4.4 minutes to accumulate 3 feet of water in the pilothouse. This measure is cumulative to the flow rate velocity.
 - f. <u>Table 6, Bilge Vent Hole Flow Rates by Hydrostatic Head</u>. At .4 feet (4.8 inches) of head pressure, 608 gallons of water would enter the engine room in 3.21 minutes. 608 gallons represents over 22% of the available volume of the engine room.
 - g. <u>Table 7, Cumulative Flooding Rate, Closed Cargo Door</u>. Using conservative estimates of 2 knots of water velocity and .02 feet of hydrostatic head, it would take 3.21 minutes to accumulate 3 feet of water in the pilothouse, a total volume

of over 748 gallons. Three feet of water in the pilothouse is sufficient to cause a loss of stability of the J. W. WESTCOTT II.

Part II. Dynamic Hydraulic Forces

1. <u>Effects of Suction</u>. The nature of the work in which the J. W. WESTCOTT II is engaged routinely places several dynamic forces on the vessel. The precise degree of these forces is dependent upon several variables too diverse and complex for this analysis and not necessary for the purposes of this investigation. Because of the relatively small size of the J. W. WESTCOTT II in length, draft and horsepower compared to the deep draft vessels she services, the hydraulic forces have a relatively greater effect on the J. W. WESTCOTT II than on the deep draft vessels. The operators of the J. W. WESTCOTT II are all aware of the dynamic forces and the effects they have on the vessel under normal operating conditions. According to Jim Hogan, Sam Buchanan and Don Carnes, when the J. W. WESTCOTT II comes alongside a moving ship, she is drawn down in the water near the bow – reducing freeboard - and develops a list away from the freight ship. In the case of the SIDSEL KNUTSEN on October 23, 2001, the J. W. WESTCOTT II listed to port.

- a. <u>Reduction of freeboard</u>. Refer to Enclosure 18¹⁹. Note the difference in freeboard between pictures 4 and 6. Note how in pictures 4 and 5 the bow of the J. W. WESTCOTT II settles down into the water when she comes alongside a moving freight ship. In picture 6, the J. W. WESTCOTT II is sailing in open water with no reduction in freeboard. This illustrates the reduction in freeboard that contributed to the amount of water that came over the bow of the J. W. WESTCOTT II on October 23, 2001. Water over the bow reduced freeboard further by adding weight to the vessel. The reduction in freeboard of the J. W. WESTCOTT II raised the center of gravity and decreased the vessel's GM (see MSC report for calculations).
- b. <u>List</u>. When coming alongside a moving freight ship under normal conditions, the J. W. WESTCOTT II lists away from the freight ship. This phenomenon is illustrated by Enclosure 19, an undated photo of the J. W. WESTCOTT II alongside a moving freight ship. On October 23, 2001, the J. W. WESTCOTT II listed to port because she had the SIDSEL KNUTSEN on her starboard side.

2. <u>Relationship of Speed to Suction</u>. As previously stated, it is not possible to accurately measure the degree of suction near the hull of the SIDSEL KNUTSEN when the J. W. WESTCOTT II was alongside. However, Sam Buchanan and Don Carnes, experienced operators of the J. W. WESTCOTT II, stated that while alongside deep draft vessels, the effects of suction on the J. W. WESTCOTT II increase as the speed of the vessels increases.

a. <u>Speed.</u> Refer again to enclosure 18. While it is impossible to determine the speed of the vessels from these photographs, the relatively small bow wake from the deep draft vessel in photos 2 and 3 indicate that the vessel is traveling at a relatively slow speed, as compared to "river speed" (12 miles per hour). At higher speeds, the effects of suction on the J. W. WESTCOTT

¹⁹ Enclosure 18, Series of 6 photos (date unknown) of J. W. WESTCOTT II conducting mail delivery to M/V JOHN G. MUNSON. Downloaded from <u>www.boatnerds.com</u>, on March 13, 2001.

II would be greater, resulting in even more reduction in freeboard and list than are evident in these photographs.

Part III. Human Factors

1. <u>Training and Experience</u>. The J. W. Westcott Company conducts training for all their new Captains. Although the Company does not have a formal, written training program, training consists of operating the J. W. WESTCOTT II under the guidance of a qualified, experienced operator. The Company schedules new Captains to work with as many of the qualified operators as possible. The qualified Captains consult with each other to determine if a new Captain should be allowed to operate independently. There is no prescribed time frame for, or minimum number of round trips required to earn qualification.

- a. <u>Captain Nasiatka</u>. Captain Nasiatka began her employment with the J. W. Westcott Company on May 3, 2001. Captain Nasiatka served as a deckhand during her period of training, which lasted approximately four months. While in training, she operated the J. W. WESTCOTT II under the direction of a qualified Captain. Training was conducted under several different conditions and with different types of vessels, including barges, deep draft foreign ships, and Great Lakes vessels. Also, training was done under varying conditions, including darkness, inclement weather, high winds, and meeting vessels traveling both upbound and downbound. In all, Captain Nasiatka conducted 186 training runs before being permitted to operate the J. W. WESTCOTT II independently. Although he was not certain of the specific date, according to Sam Buchanan, the qualified operators of the J. W. Westcott Company consulted with one another in early September of 2001, and unanimously determined that Captain Nasiatka was qualified to operate the J. W. WESTCOTT II independently. Captain Nasiatka made her first trip as Captain of the J. W. WESTCOTT II on September 11, 2001. Between that time and October 23, 2001, she made 116 trips as the Captain of the J. W. WESTCOTT II. In addition, Captain Nasiatka was in the process of upgrading her license to Master, 100 Gross Tons, Great Lakes and Inland Waters. In the course of doing that, she gained a total of 95 days experience as a pilothouse observer for the Diamond Jack River Tours Company of Grosse Ile, Michigan in the waters of Lake St. Clair, the St. Clair River, the Detroit River and Lake Erie. Her experience aboard Diamond Jack vessels included hands-on instruction and direct observation of qualified operators of three vessels ranging in size from 82 to 94 gross tons.²⁰
- <u>David Lewis.</u> David Lewis was a part time employee of the J. W. Westcott Company during the 2000 season. He began working full time at the start of the 2001 season. Although he had no formal maritime related training, he was considered a reliable and knowledgeable employee.

²⁰ Enclosure 20, Letter from Steve Carrothers, Operations Manager, Diamond Jack River Tours, dated October 9, 2001.

2. <u>Maneuvering Tactics</u>. According to Sam Buchanan, the Senior Operator at J. W. Westcott Company, all operators, including Captain Nasiatka, are trained on how to handle the J. W. WESTCOTT II if they are stuck alongside a ship. He trains operators to first put the wheel amidships with the engine in neutral so that the J. W. WESTCOTT II might fall astern of the deep draft ship. If that doesn't work, operators are trained to put the engine in hard astern in an attempt to pop off the stern of the deep draft ship.

- a. <u>Control Positions</u>. The wheel was found in the "hard port" position. The throttle was in the "full" position. The transmission was in between the astern and neutral positions. If this is the position that Captain Nasiatka had put the controls, she did not act according to the way she had been taught.
- b. <u>Effects of Salvage.</u> Several large objects, including a couch, a bookshelf, and one of the engine room hatch covers, were not secured and thus were able to move about the pilothouse freely during its capsizing and sinking. Further, salvage operations required that the vessel be turned right-side-up and lifted vertically, bow down, causing objects in the pilot house to move about freely. Although there were no objects lying across the pilot house controls when the vessel was salvaged, it is possible that during salvage operations, any of these objects may have struck the controls and moved them from the position Captain Nasiatka had put them. When the J. W. WESTCOTT II was in extremis, it is likely that Captain Nasiatka attempted several maneuvers to save the vessel. For this reason, the position of the controls when the vessel was recovered is not a reliable indicator of the actions of the Captain in the seconds leading up to, or during the casualty. It is not possible to determine what specific maneuvering actions Captain Nasiatka took leading up to the casualty.
- c. <u>Maneuvering.</u> As stated previously in this report, the operation of the J. W. WESTCOTT II most closely resembles that of a tow vessel. As such, it is reasonable to refer to tow vessel maneuvering techniques as the standard for proper operation. The proper approach for a tow vessel to take to come alongside a moving freight ship is to come alongside forward or near amidships, match the speed of the freight ship, and slowly ease towards the ship and aft. Enclosure 20²¹ describes the process for a tow vessel to come alongside a moving freight ship. The J. W. WESTCOTT II had serviced the SIDSEL KNUTSEN as recently as September 15, 2001²². The photos in Enclosure 18 also illustrate a proper approach to a moving freight ship. These photos were not taken as part of the Coast Guard investigation but are useful in understanding the maneuver. Note in photo 2, the J. W. WESTCOTT II is starting its turn well ahead of the freight ship. In photo 3, the J. W. WESTCOTT II is coming alongside near the bow of the ship. She settles back, coming alongside the freight ship at approximately amidships in photo 4.

²¹ Enclosure 21, *Shiphandling with Tugs*, pages 90-92, George H. Reid, Cornell Maritime Press, 1986

²² Enclosure 22, Photo dated September 15, 2001 of J. W. WESTCOTT II servicing the SIDSEL KNUTSEN in the Detroit River.

- d. October 23, 2001. The Ordinary Seaman on the SIDSEL KNUTSEN, Mr. Goc-Ong, stated that when making its approach on October 23, 2001, the J. W. WESTCOTT II came alongside the SIDSEL KNUTSEN from a position near the stern. He said it was further aft than what he had seen in the past. He was not sure why the J. W. WESTCOTT II came alongside further aft than normal.
- 3. <u>Communication</u>. There was never any communications between the J. W. WESTCOTT II and the SIDSEL KNUTSEN on the morning of October 23, 2001, neither verbally, by light or sound signal or by any other means.
 - a. <u>0545</u>: Captain Hull and Mr. Weiss, the J. W. Westcott Company Dispatcher, spoke via marine radio and agreed to a 0715 transfer.
 - b. <u>0650</u>: The J. W. WESTCOTT II arrived at the SIDSEL KNUTSEN, which was approximately 2,900 yards downriver from the usual pilot station where the SIDSEL KNUTSEN was expecting them.
 - c. <u>Pilot Exchange Location</u>: Neither the crew of the J. W. WESTCOTT II nor Mr. Weiss notified the SIDSEL KNUTSEN of the plan to exchange pilots in a location other than the designated pilot station, or at a time other than the previously agreed upon time.
 - d. <u>Alongside Communications</u>: The J. W. WESTCOTT II did not communicate to the SIDSEL KNUTSEN their intentions to come alongside.
- 4. Actions of the Pilot
 - a. Captain Hull, the marine pilot, was stationed on the bridge of the SIDSEL KNUTSEN during the transit of Fighting Island Channel in the Detroit River. Upon completing the transit of Fighting Island Channel, where Federal project depth is 28 feet and the width of the channel is 600 feet, the SIDSEL KNUTSEN entered the relatively open waters of the Detroit River, where the depth is between 31 and 45 feet and the channel is nearly 2,000 feet wide. After clearing Fighting Island Channel, Captain Hull left the bridge to place his luggage outside of his stateroom for Ordinary Seaman Wilfredo Goc-Ong to carry to the pilot station. Captain Hull departed the bridge only after he was assured the ship's Captain was on the bridge. According to Captain Daniel Trottier, Great Lakes Pilotage Authority, Pilotage regulations do not specifically provide for instances when the pilot may leave the bridge of a ship while underway in the Great Lakes. However, Captain Trottier explained that it is an acceptable practice and considered "normal" for a pilot to momentarily leave the bridge when the ship's Captain is on the bridge. This permits pilots to tend to personal needs, such as using the rest room. The incident between the J. W. WESTCOTT II and the SIDSEL KNUTSEN took place during the moments Captain Hull was off the bridge.

Conclusions

- 1. The apparent cause of this casualty is the failure on the part of the operator of the J. W. WESTCOTT II to adequately assess the hydrodynamic effects that the SIDSEL KNUTSEN would have on the J. W. WESTCOTT II.
- 2. The contributing causes of this casualty are as follows:
 - a. <u>Vessel Maneuvering</u>. The J. W. WESTCOTT II came alongside the SIDSEL KNUTSEN too far aft, at or near the location of the greatest hydrodynamic forces. Based on statements made by Sam Buchanan, the J. W. Westcott employee who trained her, Captain Nasiatka should have been aware that the dynamic forces were greatest near the stern of a deep draft ship. It is not possible to say why the J. W. WESTCOTT II approached the SIDSEL KNUTSEN from a point further astern than usual. It is possible that a proper approach may have reduced the risk of this casualty occurring.
 - i. It is possible that Captain Nasiatka misjudged the speed of the SIDSEL KNUTSEN and began her turn too late to meet the ship farther forward. If this assumption is correct, by the time she finished her turn, the J. W. WESTCOTT II would have been too far aft to meet the SIDSEL KNUTSEN in a safe spot.
 - ii. By hailing the SIDSEL KNUTSEN, the J. W. WESTCOTT II would have had an opportunity to inform the SIDSEL KNUTSEN of their intended approach and to discuss a safe speed at which to conduct the transfer of pilots.
 - b. Speed. The SIDSEL KNUTSEN was traveling between 8.8 and 9.2 knots, as determined by their onboard GPS receiver. They were heading into a current of approximately 1.4 knots, making the speed over water between 10.2 and 10.6 knots. While it is not possible to determine the precise effect a lower speed would have had, it is a valid assumption that a lower speed would have resulted in less water coming over the bow of the J. W. WESTCOTT II, less water on deck, and less water entering the pilot house and engine room. Less water on board would have reduced the degree to which the J. W. WESTCOTT II lost stability. Jim Hogan and Sam Buchanan of the J. W. Westcott Company both acknowledged that there is an informal agreement amongst vessel operators in the Detroit River that the J. W. WESTCOTT II will service ships at river speed, which they acknowledged is the regulatory speed of 10.4 knots. The SIDSEL KNUTSEN was traveling at or below river speed when the J. W. WESTCOTT II came alongside. However, as in any maneuvering situation, all variables should be considered, including weather, current, load and wake conditions, vessel size (length, draft, power) and handling characteristics, and not the regulatory speed limit alone.
 - c. <u>Communications</u>. From the time the SIDSEL KNUTSEN entered the Detroit River, until the J. W. WESTCOTT II capsized, no member of either vessel communicated with one another via any means. Communications between the

two vessels would have alerted the SIDSEL KNUTSEN that the J.W. WESTCOTT II was attempting to come alongside, and would have afforded each the opportunity to discuss an earlier transfer time than previously agreed upon and a safe speed at which to conduct the transfer. The fact that the J. W. WESTCOTT II met the SIDSEL KNUTSEN in a location over 2,900 yards before the SIDSEL KNUTSEN expected them explains why the pilot of the SIDSEL KNUTSEN was not prepared for the transfer. Communication between the two vessels would have given both operators the opportunity to discuss the transfer operation and to agree upon a safe speed at which to conduct the transfer. The Senior Operator, Sam Buchanan, and Don Carnes, another J. W. WESTCOTT II Captain, both acknowledged that is not uncommon for vessels to have no communications when the J. W. WESTCOTT II comes alongside. Three common reasons for this surfaced.

- i. The engine noise of the J. W. WESTCOTT II makes hearing radio traffic difficult.
 - 1. The engine is located directly beneath the operator. The engine room door is a ¹/₄ deck plate with ³/₄ inch sound insulation.
- ii. Because deep draft ships typically request service from the J. W. Westcott Company, there is an apparent assumption on the part of the Company that the deep draft ships are expecting the J. W. WESTCOTT II.
- iii. It has become a fairly standard practice to conduct transfer operations without routinely hailing the deep draft ship. Since this investigation began, the Company has instituted a policy whereby they hail deep draft ships when they make their initial approach, then once alongside, and then again when they depart.
- d. <u>Watertight Integrity</u>. The amount of water on deck alone would have reduced stability, however, it would not likely be enough to cause the vessel to capsize. Freeing ports around the deck edge were measured and determined to be within Coast Guard stability standards, although these standards do not apply to the J. W. WESTCOTT II. The amount of water that entered the vessel through the one-inch hole at the base of the engine room air vent pipe would not be sufficient for the vessel to lose stability. However, if the cargo door were watertight the ingress of water into the vessel would have been significantly less, and the vessel would have likely maintained stability. There is no requirement for the J. W. WESTCOTT II to have watertight or weathertight doors.
- 3. Neither the Pilot nor the Captain of the SIDSEL KNUTSEN was negligent with respect to the speed of the vessel.
- 4. There is no evidence that drugs or alcohol contributed to the casualty.
- 5. There is no evidence that operator or crew fatigue contributed to the casualty.
- 6. There is no evidence that structural or mechanical failure contributed to the casualty.

- 7. Weather and sea state did not appear to be a factor in the casualty.
- 8. There is no evidence of actionable misconduct, negligence, incompetence, or willful violation of law or regulation on the part of any licensed or certified person.
- 9. There is no evidence that any personnel of the United States Coast Guard, or any other agency of any other government, or any other person contributed to this casualty.

Recommendations

- 1. It is recommended that pilot vessel operators and deep draft vessel operators in the Detroit River and Lower Lake Huron develop standard protocols for transferring pilots and other cargoes between pilot boats and passing ships. Protocols should include, at a minimum, standards for communications, safe speeds, and location of transfer.
- 2. It is recommended that the J. W. Westcott Company conduct a review of its training procedures to determine if their current training standards are sufficient to maintain a satisfactory level of safety amongst its operators and crew. Results of this review should be forwarded to the Captain of the Port Detroit for comment.
- 3. It is recommended that MSO Detroit make this report available to the general public, to the extent practicable.
- 4. It is recommended that this investigation be closed.

Sincerely,

D. J. O'MARA

Investigating Officer

- Enclosures: (1) Copy of Coast Guard License #827771 issued to Catherine Marie Nasiatka.
 - (2) Certificate of Documentation for J. W. Westcott II, Official Number 258859.
 - (3) Copy of a portion of Chart 14848, showing casualty site in Detroit River.
 - (4) CG Form 2692B, Report of Required Chemical Drug and Alcohol Testing Following a Serious Marine Incident.
 - (5) CG Form 2692 from Knutsen Shipping Company.
 - (6) CG Form 2692 from J. W. Westcott Company.
 - (7) Statement of Captain Robert B. Hull.
 - (8) Copy of pilothouse chart taken from SIDSEL KNUTSEN on October 23, 2001.
 - (9) Photos of the hatch opening and foredeck of the J. W. WESTCOTT II taken on October 29, 2001.
 - (10) Photos of J. W. WESTCOTT II pilothouse controls taken on October 29, 2001.
 - (11) Photos of J. W. WESTCOTT II in dry-dock taken November 8, 2001.

- (12) Photos of black marks on the side of the SIDSEL KNUTSEN taken on October 26, 2001.
- (13) Photos of port side engine room vent pipe showing one-inch hole at the base of the pipe taken on November 8, 2001.
- (14) Copy of pitch order recorder readings from SIDSEL KNUTSEN on October 23, 2001 with IO annotations.
- (15) Copy of Pilot Card from Captain Hull for voyage on SIDSEL KNUTSEN.
- (16) Copy of course recorder readings from SIDSEL KNUTSEN on October 23, 2001 with IO annotations.
- (17) Coast Guard Marine Safety Center stability analysis of J. W. WESTCOTT II dated March 12, 2002.
- (18) Series of photos (date unknown) of the J. W. WESTCOTT II making delivery to M/V JOHN G. MUNSON, downloaded from <u>www.boatnerd.com</u>
- (19) Undated photo of J. W. WESTCOTT II alongside a moving freight ship.
- (20) Letter from Steve Carrothers, Operations Manager, Diamond Jack River Tours.
- (21) Excerpts from Shiphandling with Tugs.
- (22) Photo of the J. W. WESTCOTT II servicing the SIDSEL KNUTSEN taken on September 15, 2001.

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SN 7530-01-GF3-2380

INSTRUCTIONS FOR COMPLETION OF FORM CG-2692B

REPORT OF REQUIRED CHEMICAL DRUG AND ALCOHOL TESTING FOLLOWING A SERIOUS MARINE INCIDENT

NOTE: When this form is being submitted along with a REPORT OF MARINE ACCIDENT, INJURY OR DEATH (Form CG-2692), Blocks 3-10 and Blocks 12-14 on Form CG-2692B need not be completed.

WHEN TO USE THIS FORM

 This form satisfies the requirements in the Code of Federal Regulations for written reports of chemical drug and alcohol testing of individuals directly involved in serious marine incidents. Public vessels and recreational vessels are excepted from these reporting requirements.

SERIOUS MARINE INCIDENTS

The term "serious marine incident" includes the following events involving a vessel in commercial service:

A. Any marine casualty or accident that occurs upon the navigable waters of the U.S., its territories of possessions, or that involves a U.S. vessel anywhere, and that results in any of the following:

1. One or more deaths:

 Any injury to a crewmember, passenger, or other person which requires professional medical treatment beyond first aid;

 Damage to property, as defined in 46 CFR 4.05-1(f), in excess of \$100,000;

 Actual or constructive total loss of any vessel subject to inspection under 46 U.S.C. 3301; or

 Actual or constructive total loss of any self-propelled vessel, not subject to inspection under 46 U.S.C. 3301, of 100 gross tons or more.

B. A discharge of oil of 10,000 gallons or more into the navigable waters of the United States, as defined in 33 U.S.C. 1321, whether or not resulting from a marine casualty.

C. A discharge of a reportable quantity of a hazardous substance into the navigable waters of the United States, whether or not resulting from a marine casualty.

D. A release of a reportable quantity of a hazardous substance into the environment of the United States, whether or not resulting from a marine casualty.

INDIVIDUAL DIRECTLY INVOLVED IN A SERIOUS MARINE INCIDENT

 Term "Individual directly involved in a serious marine incident" is an individual whose order, action or failure to act is determined to be, or cannot be ruled out as, a causative factor in the events leading to or causing a serious marine incident.

22. REMARKS (Continued)

COMPLETION OF THIS FORM

4. This form should be filled out as completely and accurately as possible. Please type or print clearly. Fill in all blanks that apply to the kind of incident that has occurred. If a question is not applicable, the abbreviation "NA" should be entered in that space. If an answer is unknown and cannot be obtained, the abbreviation "UNK" should be entered in that space. If "NONE" is the correct response, then enter it in that space.

5. When this form has been completed, deliver or mail it as soon as practicable to the Coast Guard Marine Safety or Marine inspection Office nearest to the location of the incident or, if at sea, nearest to the port of first arrival.

6. Upon receipt of a report of chemical test results, the marine employer shall submit a copy of the test results for each person listed in block 15(a) of this form to the Coast Guard Office in Charge, Marine Inspection whom the CG-2692B was submitted. (Ref. 46 CFR 4.06-60(d)).

Amplifying information for completing the form:

A. Block 11—"TYPE OF SERIOUS MARINE INCIDENT" Check each appropriate box. If box a, b, c, d, or e is checked, append this form to the required form CG-2692, "REPORT OF MARINE ACCIDENT, INJURY OR DEATH", and submit both forms as indicated in 5, above.

B. Block 16c—"ALCOHOL TEST BREATH SPECIMEN PROVIDED?" When breath test results are available alcohol concentration shall be expressed numerically in percent by weight (i.e., .04, .10 etc...).

C. Block 22—"REMARKS" Describe the duties of each individual listed in 15a, at the time of incident (i.e., master, pilot, chief engineer...). If an individual refuses to provide the required specimens, or if specimens are not obtained for any reason, describe the circumstances completely.

NOTICE: The information collected on this form is routinely available for public inspection. It is needed by the Coast Guard to carry out its responsibility to investigate marine casualties, to identify hazardous conditions or situations and to conduct statistical analysis. The information is used to determine whether new or revised safety initiatives are necessary for the protection of life or property in the marine environment.

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Horizon Instructions to subject: 1. Remove glasses, if wom 2. Are you wearing contact 3. Keep your head still. 4. Focus on this, and 5. Do you understand?	Ital Gaze Nystagmus	1. Position stimu 2. Begin with sul 3. Check for equ 4. Check for Lac 5. Check for Dis 6. Check for Ons 7. Record results	at Procedure Jus 12" - 15" from subjects left eye. al tracking and equal p k of Smooth Pursuit. Unct Nystagmus at Ma set of Nystagmus Prio	ed's nose. upil size. eximum Deviation. or to 45 Degrees.
Left Right	Left Right	t.	Left Right	Refused Test
Ashore Test Batt	ery Have subj off vsl for	15 mins. Time	Ashore: Tin	ne started:
heel-to-toe stance, like 2. Place your arms down to 3. Remain in this position 4. Do you understand? (DEMONSTRATE step perpendicular to the li 5. When told, take nine he 6. Turn around keeping your 7. Return back down the li 8. While walking, watch your 9. Keep your arms at your 10. Count your steps out lo 11. Don't stop walking until 12. Do you understand? 13. Begin the test.	this: (DEMONSTRATE) o your sides. and do not start walking until to s 5 - 7 as you describe each ne.) wel-to-toe steps up the line like our front foot on the line using ine with nine heel-to-toe steps, our feet at all times. sides. oud. I you have completed the test.	old. one, walking this: small steps like th , like this:	Cannot keep ba Starts too soon Dur Stops walking Stops off line Steps off line Uses arms to b Improper Tum comments blo Steps actually Cannot comple Refused Test	ing Test toe (>1/2" gap) alance (> 6" fm side) (Describe in ck below) aken te safely (8 clues)
1. Stand with your feet tog 2. Keep your arms at your	jether. On	e Leg Stand	Observe for 30	seconds
 Remain in this position Do you understand? Raise one leg, either le with your foot pointed o Keep both legs straight 	and do not raise your leg until g, approx. 6 inches off the grou ut, like this: (DEMONSTRATE	told. und,	Swaying Uses arms to b Hopping	alance (> 6" fm side)
 Keep your eyes on the While holding that positione-thousand-two,and Do you understand? 	elevated foot. ion, count out loud like this: or d so on, and do not stop until to	ne-thousand-one oid.	Cannot comple	ete safeiy (4 clues)
10. Begin the test.				
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Other Norm Other Norm Afloa Other Recite A-B-C's Other Recite the alphabet, without singing. Do you understand? Begin the test. Completed property and sufficiently Latter missed Letters repeated Hesitation Refused test Count from 25 to 1 Count backwards from 25 to 1 Do you understand? Begin the test. Completed property and sufficiently Numbers missed	al The insulting coordinate of the test of the test of your function of the test of your function of the test of your fingers with the test of your function. Start with your index finger, like this. Demonstrate • While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate • Speed up as you go and do not stop until told. • Do you understand? • Begin the test. (observe 4 sets) • You can stop. Completed property and sufficiently Miscounted Stiding of fingers Did not speed up	tontal Gaze Nystagmus from ref Paim Pat • Do not start until told. • Place your hands together paim to paim like this. Demon- strate • When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate • Speed up as you go and do not stop until told. • Do you understand? • Begin the test. (observe 5 sets) • You can stop. Completed property and sufficiently Did not speed up Unable to complete Silding of hand Improper count Hesitation	 rerse side. Finger to nose Have subject seated. Place your hands down to your sides, extend your index fingers out. On my command, touch the tip of your nose with the tip of your nose with the tip of your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your eyes closed during the test. Do you understand? Right, left, right, left, left, left, right. Open your eyes. Completed property and sufficiently Missed nose Searching pattern
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Other Norm Other Norm Other Other Afloa Recite A-B-C's Recite the alphabet, without singing. Do you understand? Begin the test. Completed property and sufficiently Letter missed Letter missed Hesitation Refused test Count from 25 to 1 Count backwards from 25 to 1 Do you understand? Begin the test. Count backwards from 25 to 1 Do you understand? Begin the test. Completed property and sufficiently Numbers missed Numbers missed Hesitation Refused test Completed property and sufficiently Numbers missed Refused test Completed property and sufficiently Numbers missed Numbers repeated Hesitation Refused test Comments: Comments:	al The line line line line line line line lin	<pre>contal Gaze Nystagmus from ref Paint Pat Do not start until told. Place your hands together paint to paint like this. Demon- strate When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test. (observe 5 sets) You can stop. Completed property and sufficiently Did not speed up Unable to complete Sliding of hand Hesitation Refused Test </pre>	 rersa side. Finger to nose Have subject seated. Place your hands down to your sides, extend your index fingers out. On my command, touch the tip of your nose with the tip of your nose with the tip of your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your eyes closed during the test. Do you understand? Right, left, right, left, left, left, right. Open your eyes. Completed property and sufficiently Missed nose Searching pattern Opened eyes Not using proper finger Hesitation Refused test

Ashore Test Battery (have subject off vessel for at least 15 min.)

		Construction of Southeast, Carlottered Construction
instructions Stage	Instruction Stage:	Instruction Stage:
 Place subject in a heel toe position on the line, hands down to side. 	Stand with your heels together arms down at sides.	Remove Eyeglasses Follow this with your eyes, do not move your
 Remain in this position during instructions. 	Do you understand?	• Do you understand?
Do not start until told. Welking Stare	• When told to begin, stand on	Begin test by positioning object (12-15) inches away from nose
When told to begin, take nine heel-to-toe steps up the line, turn around pivoting on one foot using small steps.	 Keep your foot six inches off the ground. Count out loud for 30 seconds 	(Check for each clue twice) • Check pursuit (high speed pass).
Return back down the line with nine heel-to-toe steps.	(one-one thousand, two-one thousand,). Demonstrate	Check max. deviation (hold for 2- 3 Secs).
Demonstrate by walking perpen- dicular to the line.	Throughout the test keep arms at your sides keep.	 Check angle of onset (low speed pass).
Demonstrate the turn.	- Watch the raised foot.	Bepeat last 3 steps
Demonstrate walking back perpen- dicular to the line.	Do you understand? Begin the test using any leg.	Total the clues Wearing contact lenses? No Yes
While walking count steps out ioud. Watch your feet at all times. Keep your arms at your side. Con't stop until you have com- pleted the test.	Seconds Clue 0 to 10 11 to 20 21 to 30 Sways 20 21 to 30 Raised Arms 20 21 Hops 20 21 Foot Down 20 21 Raised Arms 20 21	Left Fight Lack of smooth pursue Distinct nystagmus at max. Deviation Nystagmus onset before 45 degrees
Begin the test	Chomical Tast	Refused test
Cannot keep balance Starts too soon First Second nine steps nine steps Stops walking Misses heel-toe Steps off line Steps off line Raises arms Actual Steps taken Improper turn (Describe) Cannot do test (Explain) Relused test	To administer test follow the Instructions on the back of the ALCO SENSOR III meter AL Refused test Init Init Commenta:	st calibration date: <u>220CTO</u> mp of unit <u>24°</u> C CO SENSOR III Results. <u>000</u> BAC tials of Boarding Officers

Official use for U.S. Coast Guard

bjects name AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Cbserv r & Condition) Sect lons or statements, when first Actions Eyes ing Bloodshot Watery	Color eyes. Age	Weight 2
Iothes Describe: (Type, Color dicate any other unusual action Describe: (Type, Color dicate any other unusual action dicate any other unusual action di	Cbserv r & Condition) Serd ions or statements, when first Actions Eyes ing Bloodshot Watery	BRANK 183 rations	10-5 Kappan
Iothes Describe: (Type, Color dicate any other unusual act Odor of Alcoholic Unusual A Beverage Hiccupp Faint Beiching Moderate Vomiting Strong Fighting None Crying Speech Laughin	Observ r & Condition) Sect. Ions or statements, when first Actions Eyes Ing Bloodshot Watery	observed: antimates	ی این ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا
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dicate any other unusual act dicate	Actions Eyes	observed: gricmatics ?	ిని సహాజం చూరింగి • - సంచిదాలు
dicate any other unusual act Odor of Alcoholic Unusual A Beverage Hiccupp Faint Beiching Moderate Vomiting Strong Fighting None Crying Speech Laughin	Actions Eyes	observed: antonails 1	
Odor of Alcoholic Unusual A Severage Hiccupp Faint Belching Moderate Vomiting Strong Fighting None Crying Speech Laughin	Actions Eyes	Pre Test G	19 231 Mi-
Odor of Alcoholic Unusual A Severage Hiccupp Faint Beiching Moderate Vomiting Strong Fighting None Crying Speech Laughin	Actions Eyes	Pre Test C	
Beverage Hiccupp Faint Belching Moderate Vomiting Strong Fighting None Crying ipeech Laughin	ing 🗌 Sloodshot	No Vae	uestions
Faint Beiching Moderate Vomiting Strong Fighting None Crying Speech Laughin	Watery	110 100 1011	14 . L
Moderate Vomiting Strong Fighting None Crying Speech Laughin		Do you have any physi	cal defects?
Strong Fighting None Crying Speech Laughin	T ~ Normal	Do you have any physi	cal disabilities?
None Crying	C Other:	Do you have any defec	ts in your feet, legs, ankles, or
Speech Laughin	Attituda	"hips?	
		Do you wear eyegiass	es, contact lens or have any
Mumbled None		defects with your eyes	7
		Are you sick or injured	7
	Sieepy	Are you under the care	a of a doctor or dentist?
Color of I	Face Profanity	Are you taking any me	dication or drugs?
Pale	Combative	How far did you go in	school? (last year completed)
Accent Flushed	i indifferent Ca	amments: "	
Other Normal	insuiting		
Cther	Cooperative		1 . The second second +
Aflast	Test Battery include Horiz	rontal Gaze Nystacmus from rev	verse side.
Reside A R C's	Finger Count	Palm Pat	Finger to nose
Heche A-B-C S	· Extend out your hand	- Do not start until tok.	. Have subject seated.
singing.	· Co and start until told	- Place your hands together	- Place your hands down to your
Do you understand?	Count and during former with	paim to paim like this. Demon-	sides, extend your index
	the tip of your thumb. Start with	strate	fingers out.
Begin the test.	your index finger, like this.	 When I tell you to begin turn 	- On my command, touch the tip
Completed property and	Demonstrate	the top hand over and count 1,	of your nose with the bp of
sumciently	· While doing this count 1, 2, 3.	2, 1, 2 ske ins. Demonstrate	to your side. Demonstrate
Letter missed	4, count back 4, 3, 2, 1,	Speed up as you go and do out stop until Inid	• On you understand?
Letters repeated	Demonsulate	- On your understand?	. Till your head hank simhtly and
Hesitation	· Speed up as you go and do not		ciose your eyes. Keep your
Refused test	. Do you understand?	· Degui ule test. (Coserve 5 sets)	eyes closed during the test.
Count from 25 to 1	· Benin the test. (chearve 4 sets)		Do you understand?
Count backwards from 25 to 1	· You can stop	sufficiently	+ Right, left, right, left, left, left,
Do you understand?	Completed property and	Did not speed up	right.
Begin the test.	sufficiently	Unable to complete	Open your eyes.
Completed property and	betnuccelM	Siding of band	Completed property and
sufficiently	Sliding of fingers		sunxperity
Numbers missed	Did not speed up		Missed nose
	Improper finger touch		Searching pattern
Numbers repeated		Hetused Test	Cpened eyes
Numbers repeated	and understand under an arte		
Numbers repeated Hesitation Refused test	Returned text		Not using proper finger
Numbers repeated Hesitation Refused test	Refused test		Not using proper finger

Ashore Test Battery (have subject off vessel for at least 15 min.

and the second s

structions Stage	Instruction Stage:	Instruction Stage:
Place subject in a heel toe position on the line, hands down to sitie	Stand with your heels togethe arms down at sides.	• Remove Eyegiasses • Follow this with
Remain in this position during Instructions	Do not start until toid. Do you understand?	head.
Do not start until told	Balancing and counting stage	Begin test by positioning chiect
alking Stage	• When told to begin, stand on	 (12-15) Inches away from nose slightly above eye level.
 When told to begin, take nine heel-to-toe steps up the line, turn around pivoting on one foot using small steps. 	Keep your foot six inches off t ground. Count out loud for 30 seconds	the Test first eye (Check for each clue twice) • Check pursuit (high speed pass)
Return back down the line with nine heel-to-toe steps.	(ane-one thousand, two-one thousand,). Demonstrate	 Check max. deviation (hold for 2 3 Secs).
emonstrate by walking perpen-	Throughout the test keep arm at your sides keep.	 Check angle of onset (low speed pass).
amonative the turn	- Watch the raised foot.	Test second eye
emonstrate walking back perpen-	Do you understand?	Repeat last 3 steps Total the chase
dicular to the line.	Begin the test using any leg.	Wearing contact lenses? No Ve
While walking count steps out ioud.	Seconds Clue 0 to 10 11 to 20 21 to	Lat Right
• Watch your feet at all times.	Sways	Lack of smooth pursue
Keep your arms at your side.	Hoos	Distinct nystagmus at
 Don't stop until you have com- pleted the test. 	Foot Down	Mystagmus onset
Do you understand?	Refused test	before 45 degrees
Begin the test	Chemical Test	
] Cannot keep balance		ALCO Senal # @ @
] Starts too soon	To administer test follow the Instructions on the back of the	Last calibration date: 22 OCT 01
nine steps nine steps	ALCO SENSOR III meter	Temp of unit <u>23 °C</u>
Stops walking	Refused test	Initials of Boarding Officers
Steps off line		Initials of Witness
Actual Steps	Commenta:	
Improper turn (Describe)	and the second s	and the second sec
Cannot do test (Explain)		
Relized test.		

Official use for U.S. Coast Guard

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jects name lagatil n	AND 1655 180 1675	Brander Stranger 5'6	150mm and and and
EVELZX	B. DE A Observ	ations 7 - Atta	
othes Describe: (Type, Co	ior & Candition)	a .a .a	د میں بعد ا کیا ڈیس ڈ
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	·1···		. strate rises
ticate any other unusual a	ctions or statements, when first	observed: gricensis	- azrat-
dor of Alcoholic Unusua	Actions Eyes	Pre Test C	uestions and much
everage . 🗌 Hiccu	oping ~ 🗌 Bloodshot	No Yes	18 19
Faint Beichi	ing 🗆 Watery	Do you have any phys	ical defects?
Moderate Vomit	ing 🗌 Normal	Do you have any phys	ical disabilities?
Strong Fight	ng Other:	Do you have any defe	cts in your feet, legs, ankles, or
None Cryin	Attitude	hips?	and and the set have and
peech Laugh	ning . 🗌 Hilarious	Do you wear eyegiass	es, contact iens or have any
Mumbled None	Takative		12
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Confused Color o	f Face Profanity		edication or drugs?
Stuttered Pale	Combative	How far did you go in	school? (last year completed)
Accent Flush	ed Indifferent		
Other Nom	al Tite Insulting		a and the second
	Cooperative	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	t it interview 44.244 •
Recite the alphabet, without	- Extend out your hand	- Do not start until told.	Have subject seated.
singing.	- Do not start until told.	- Place your hands together	- Blace were hands down to vour
	- Do not start and stress		· Face you mands comin to your
Do you understand?	· Count each of your fingers with	paim to paim like this. Demon-	sides, extend your index
Do you understand? Begin the test.	Count each of your fingers with the tip of your thumb. Start with	pain to pain like this, Demon- strate	sides, extend your index fingers out.
Do you understand? Begin the test.	Count each of your fingers with the tip of your thumb. Start with your index finger, ike this. Demonstrate	pain to pain like this. Demon- strate • When I tell you to begin turn the too hand over and count 1,	 Place your hains cown to your sides, actend your index fingers out. On my command, touch the tip of your nose with the tip of
Do you understand? Begin the test. Completed property and sufficiently	Count each of your fingers with the tip of your thumb. Start with your index finger, like this. Demonstrate While doing this count 1, 2, 3.	paim to paim like this, Demon- strate When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this, Demonstrate	 sides, extend your index fingers out. On my command, louch the tip of your nose with the tip of your index finger and return it
Do you understand? Begin the test. Completed property and sufficiently Letter missed	Count each of your fingers with the tip of your thumb. Start with your index finger, ike this. Demonstrate While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1,	paim to paim like this. Demon- strate • When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate • Speed up as you go and do	 Place your haits commits your index fingers out. On my command, louch the tip of your nose with the tip of your index finger and return it to your side. Demonstrate
Do you understand? Begin the test. Completed property and sufficiently Letter missed Letters repeated	Count each of your fingers with the tip of your thumb. Start with your index finger, ike this. Demonstrate While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate	paim to paim like this, Demon- strate • When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate • Speed up as you go and do not stop until toid.	 Place your haits down to your sides, axtend your index fingers out. On my command, touch the tip of your nose with the tip of your nose with the tip of your index finger and return it to your side. Demonstrate Do you understand?
Do you understand? Begin the test. Completed property and sufficiently Letter missed Letters repeated Hesitation	Count each of your fingers with the tip of your thumb. Start with your index finger, ike this. Demonstrate While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate Speed up as you go and do not stop umit bad	paim to paim like this. Demon- strate • When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate • Speed up as you go and do not stop until told. • Do you understand?	 Place your haits commits your index fingers out. On my command, louch the tip of your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your
Do you understand? Begin the test. Completed property and sufficiently Letter missed Letters repeated Hesitation Refused test	Count each of your fingers with the tip of your thumb. Start with your index finger, ike this. Demonstrate While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate Speed up as you go and do not stop until told. Do you updenteed?	pain to pain like this. Demon- strate • When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate • Speed up as you go and do not stop until told. • Do you understand? • Begin the test. (observe 5 sets)	 Place your haits contributed sides, extend your index fingers out. On my command, touch the tip of your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your eyes closed during the test.
Do you understand? Begin the test. Completed property and sufficiently Letter missed Letters repeated Hesitation Refused test Count from 25 to 1	Court each of your fingers with the tip of your thumb. Start with your index finger, ike this. Demonstrate While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate Speed up as you go and do not stop until told. Do you understand? Berin the test (observe 4 sets)	pain to pain like this. Demon- strate • When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate • Speed up as you go and do not stop until told. • Do you understand? • Begin the test. (observe 5 sets) • You can stop.	 Place your haits commonly four index fingers out. On my command, touch the tip of your index finger and return it to your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your eyes closed during the test. Do you understand?
Do you understand? Begin the test. Completed property and sufficiently Letter missed Letter missed Letters repeated Hesitation Refused test Count from 25 to 1 Count backwards from 25 to	Count each of your fingers with the tip of your thumb. Start with your index finger, ike this. Demonstrate While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test. (observe 4 sets) You can stop.	 paim to paim like this. Demonstrate When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test. (observe 5 sets) You can stop. Completed property and sufficiently 	 Place your haits or index fingers out. On my command, louch the tip of your nose with the tip of your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your eyes closed during the test. Do you understand? Right, left, right, left, left, left,
Do you understand? Begin the test. Completed property and sufficiently Letter missed Letters repeated Hesitation Refused test Count from 25 to 1 Count backwards from 25 to Do you understand?	Count each of your fingers with the tip of your thumb. Start with your index finger, ike this. Demonstrate While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test. (observe 4 sets) You can stop. Completed property and	 pain to pain like this. Demonstrate When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test. (observe 5 sets) You can stop. Completed property and sufficiently Did not speed up 	 Place your haits commits your index fingers out. On my command, touch the tip of your index finger and return it to your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your eyes closed during the test. Do you understand? Right, left, right, left, left, left, right.
Do you understand? Begin the test. Completed property and sufficiently Letter missed Letters repeated Hesitation Refused test Count from 25 to 1 Count backwards from 25 to Do you understand? Begin the test.	 Court each of your fingers with the tip of your thumb. Start with your index finger, like this. Demonstrate While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test. (observe 4 sets) You can stop. Completed property and sufficiently 	 pain to pain like this. Demonstrate When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test. (observe 5 sets) You can stop. Completed property and sufficiently Did not speed up Unable to complete 	 Place your haits ochin to your sides, axtend your index fingers out. On my command, louch the tip of your index finger and return it to your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your eyes closed during the test. Do you understand? Right, left, right, left, left, left, right. Open your eyes.
Do you understand? Begin the test. Completed property and sufficiently Letter missed Letter missed Letters repeated Hesitation Refused test Count from 25 to 1 Count backwards from 25 to Do you understand? Begin the test. Completed property and	 Court each of your fingers with the tip of your thumb. Start with your index finger, ike this. Demonstrate While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test. (observe 4 sets) You can stop. Completed property and sufficiently Miscounted 	paim to paim like this. Demon- strate • When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate • Speed up as you go and do not stop until told. • Do you understand? • Begin the test. (observe 5 sets) • You can stop.	 Place your haits own to your index fingers out. On my command, louch the tip of your index finger and return it to your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your eyes closed during the test. Do you understand? Right, left, right, left, left, left, right. Open your eyes. Completed property and sufficiently
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Ashore Test Battery

and the second

Walk and Turn	One Leg Stand	Horizontal Gaze Nystagmus
nstructions Stage	Instruction Stage:	Instruction Stage:
 Place subject in a heel toe position on the line, hands down to side. 	Stand with your heels together arms down at sides.	Remove Eyeglasses Follow this with your eves, do not move your
Remain in this position during instructions.	Do not start until told. Do you understand?	head.
Do not start until told.	Balancing and counting stage	Begin test by positioning object (12-15) inches away from nose
Walking Stage	one leg.	slightly above eye level.
 When told to begin, take nine heel-to-toe steps up the line, turn around pivoting on one foot using small steps. 	Keep your foot six inches off the ground. Count out loud for 30 seconds	e Test first eye (Check for each due twice) - Check pursuit (high speed pass).
Return back down the line with nine heel-to-toe steps.	(one-one thousand, two-one thousand,). Demonstrate	Check max. deviation (hold for 2- 3 Secs).
Demonstrate by walking perpen-	 Throughout the test keep arms at your sides keep. 	Check angle of onset (low speed pass).
	· Watch the raised foot.	Test second eye
	• Do you understand?	Repeat last 3 steps
Demonstrate walking back perpen- dicular to the line.	Begin the test using any leg.	Total the clues Wearing contact lenses? No Yes
 Watch your feet at all times. Watch your feet at all times. Keep your arms at your side. Don't stop until you have completed the test. Do you understand? 	Seconds Clue 0 to 10 11 to 20 21 to 3 Sways Raised Arms Hops Foot Down Refused test	Leit Right Lack of smooth pursue Distinct nystagmus at max. Deviation Nystagmus onset before 45 degrees
Begin the test	Chamieral Tast	Refused test
Cannot keep balance Starts too soon First Second nine steps nine steps Stops walking Misses heel-toe Steps off line Raises arms Actual Steps taken Misserber turn (Describe)	To administer test follow the instructions on the back of the ALCO SENSOR III meter Refused test Commenta:	Last calibration date: 22 cc.7 @ 1 Temp of unit 20 °C ALCO SENSOR III Results. 000 BAC Initials of Boarding Officers Alch Initials of Witness M
Cannot do test (Explain) Refused test		

Official use for U.S. Coast Guard

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	Hitanous	defects with your eyes	7
		Are you sick or injured	7
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Other			
Afloa	t Test Battery Include Horiz	contal Gaze Nystagmus from rev	verse side.
Recite A-B-C's	Finger Count	Palm Pat	Finger to nose
Recite the alphabet, without	Extend out your hand	- Do not start until told.	- Have subject seated.
singing.	- Do not start until told.	Place your hands together	Place your hands down to your
Do you understand?	· Count each of your fingers with	strate	fingers out.
	the up of your thumb. Start with		
Begin the test.	unur index firmer lice this	 When I tell you to begin turn 	· On my command, touch the tip
Begin the test.	your index finger, ike this. Demonstrate	 When I tell you to begin turn the top hand over and count 1, 	On my command, touch the tip of your nose with the tip of
Begin the test. Completed property and sufficiently	your index finger, ike this. Demonstrate • While doing this count 1, 2, 3,	When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate	 On my command, touch the tip of your nose with the tip of your index finger and return it to your side.
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Begin the test. Completed property and sufficiently Letter missed Letters repeated Hesitation	your index finger, ike this. Demonstrate • While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1. Demonstrate • Speed up as you go and do not stop until told.	 When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test (observe 5 sets) 	 On my command, touch the tip of your nose with the tip of your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your
Begin the test. Completed property and sufficiently Letter missed Letters repeated Hesitation Refused test	your index finger, ike this. Demonstrate • While doing this count 1, 2, 3, 4, count back 4, 3, 2, 1, Demonstrate • Speed up as you go and do not stop until told. • Do you understand?	 When I tell you to begin turn the top hand over and count 1, 2, 1, 2 like this. Demonstrate Speed up as you go and do not stop until told. Do you understand? Begin the test. (observe 5 sets) You can stop. 	 On my command, touch the tip of your nose with the tip of your index finger and return it to your side. Demonstrate Do you understand? Tilt your head back slightly and close your eyes. Keep your eyes closed during the test.
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Ashore Test Battery

Walk and Turn	One Leg Stand	Horizontal Gaze Nystagmus
 Place subject in a heel toe position on the line, hands down to side. Remain in this position during instructions. Do not start until told. Walking Stage When told to begin, take nine heel-to-toe steps up the line, turn around pivoting on one foot using small steps. Return back down the line with nine heel-to-toe steps. Demonstrate by walking perpendicular to the line. Demonstrate the turn. Demonstrate walking back perpendicular to the line. While walking count staps out loud. Watch your feet at all times. Keep your arms at your side. Don't stop until you have completed the test. 	Instruction Stage: • Stand with your heels together arms down at sides. • Do not start until told. • Do you understand? Balancing and counting stage • When told to begin, stand on one leg. • Keep your foot six inches off the ground. • Count out loud for 30 seconds (ane-one thousand, two-one thousand,). Demonstrate • Throughout the test keep arms at your sides keep. • Watch the raised foot. • Do you understand? • Begin the test using any leg. Seconds Clue 0 to 10 11 to 20 21 to 3 Sways Raised Arms	Instruction Stage: • Remove Eyeglasses • Follow thiswith your eyes, do not move your head. • Do you understand? • Begin test by positioning object (12-15) Inches away from nose slightly above eye level. Test first eye (Check for each clue twice) • Check pursuit (high speed pass, • Check max. deviation (hold for a 3 Secs). • Check angle of onset (low speed pass). Test second eye • Repeat last 3 steps • Total the clues Wearing contact lenses? No Ye Laft Right Lack of smooth pursue Distinct nystagmus at Nystagmus onset
Begin the test Cannot keep balance Starts too soon First Second nine steps nine steps Stops walking Misses heel-toe Steps off line Raises arms Actual Steps taken	Chemical Test • To administer test follow the Instructions on the back of the ALCO SENSOR III meter Refused test Commenta:	Refused test ALCO Serial # <u>336462</u> Last calibration date: <u>220076/</u> Temp of unit ALCO SENSOR III Results.009 BAC Initials of Boarding Officers <u>ALELA</u> Initials of Witness <u>UN</u>
Cannot do test (Explain) Beluard test		

Official use for U.S. Coast Guard

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I.S. COAST GUARD G-2692 (Rev. 4-97)			INJURY	OR DEAT	Ή		UNIT CASE	NUMBER	
		St	ECTION I. GENE	RAL INFORMA	TION				
Name of Vessel or Facility			2 Official No.	3. Na	ionality	4 Call Sign		5. USCG Certificate Inspection issued at	e of
4/V SIDSEL KNUT	(SEN		9019779	No	rwegian	LASM4			
Type (Towing, Freight, Fis	sh, Drill, etc.)	7. Length	8. Gross Tons	9. Ye	ar Built	10. Propuls	ion (Steam	n, diesel, gas, turbine	eJ
Freighter - tar	ker	1222 11	13,000	19	7.5	Diese	e 1.	-)	11
1. Hull Material (Steel, Wo Steel	od) 12. Draft (Pr. FWD 7.1 m	AFT.	DNV, BV, etc.)	sed, By Whom: (A	is, illoyds,	14. Date (0	/ 0.1	Approx	(Local) xima
6. Location (See Instruction	1 No. 10A)	,	3.544 4			17. Estimat	ed Loss of D	amage TO:	a. 0
Partoit River -	- OII Lug ISI	and				-	TU	Wastoott	T .T
Knutsen OAS Shi Smedasundet 40, N-5504 Haugesur	ipping A/S PO Boks 201	7				CARGO	Crev	v members	11
9. Name of Master or Person	n in Charge	USCG Licer	15.0	20. Name of	Pilot	1	ISCG Licen	se State Licen	15.8
						1			
an Holthe		YES	X NO	Rohart	Hu11		THE	H YE	23
a. Street Address (City, S	tate, Zip Code)	19b. Telepho	one Number	20a. Street A	ddress (City, State	e, Zip Code)	206	Telephone Number	r
/o Knutsen OAS	Shipping				Contraction of Accel				
1. Casualty Elements (Che	ck as many as needed ar	d explain in Blo	ck 44.)						
DEATH - HOW MAN MISSING - HOW MA INJURED - HOW MA INJURED - HOW MA HAZARDOUS MATE (Identify Substance an OIL SPILL - ESTIMAT CARGO CONTAINER (Identify other vessel (Identify other vessel GROUNDING COLLISION (identify other vessel GROUNDING Callm	Y? 2 NY? 2 NY? 2 RIAL RELEASED OR IN ad amount in Block 44.) TE AMOUNT: RLOST/DAMAGED or object in Block 44.) WAKE DAMAGED B. WEATHER B. WEATHER CLEAR RAIN SNOW FOG OTHER (Spi		CAPSIZING (with a COUNDERING OR I HEAVY WEATHER FIRE EXPLOSION COMMERCIAL DIVICE DAMAGE DAMAGE TO AIDS STEERING FAILUR MACHINERY OR E ELECTRICAL FAILUR STRUCTURAL FAILUR IME DAYLIGHT TWILIGHT NIGHT	or without sinking) SINKING DAMAGE ING CASUALTY TO NAVIGATION E QUIPMENT FAILUF JRE URE D. VISIBIUTY GOOD X FAIR POOR	E O F. AJ G. W H. O	ALLED OF (Describe ii LIFESAVII) INADEQUA BLOW OU ALCOHOL (Describe ii DRUG INVI X OTHER (X All dam J.W. We ISTANCE (mi ISTANCE (mi IST	INVOLVEM NOLVEMENT Specify) 105500000 100000000000000000000000000	ATE IENT FAILED OR be in Block 44.) im exporation/product IENT (Describe in Block III III B ^o knots	250n) k 44.) 1b0a
3. Navigation Information		-		24. La	istő	DIRECTION		24a. Time a	and
	OR FIXED	AI Ci	ND OURSE UPbou	nots P nd W B	here Sund Sarnis	Ontario	10 Cana	1:30 1	p.m.
5. NI / A 25a.			255.	25c.	and the G	25d. (Desc	ribe in Bloc	k 44.)	- Charles
FOR NU TOWING	MBER Emply Lo	aded Total	TOTAL H.P. OF	MAXIMUM SIZE OF TOW	Length Width		ING AHEA	D IN	
ONLY	SSELS		TOWING	WITH TOW-		- HOR	E THAN ON	E TOW-BOAT ON	TOW
T	JWED C	ECTION IL P	ARGE INFORM	ATION		MUR	L TING UN	LICENSOAT UNI	101
i. Name N / A	28	a. Official Numb	er	26b. Type	26c. Length	26d. Gross	Tons In	spection Issued at:	6.01
6f. Year Built 26g		PL Draft FWD	AFT	26i. Operating Co	mpany				
	DOUBLE		20k. Describe Da	mage to Barge					
6j. Damage Amount									
6j. Damage Amount BARGE									
6j. Damage Amount BARGE CARGO									

		36	ECTION III. F	PERSONNEL A	CCIDENT INFORM	ATION			
7. Person Involved		27a. Name (Last.)	First, Middle Nar	me)				27c. Status	
MALE or FE	MALE							Crew	
DEAD INJ	JRED	27b. Address (City	r, State, Zip Cod	la)				Passeng	yer -
MISSING	1		_	1				Other	
28. Birth Date	29. Tel	ephone No.		30. Job Positio	n			31. (Check here i	f off duty)
10.	at from Disc	1 40 EV is bloom 44	danas Talankan	- 10-1					
2. Employer - 11 dillere	nt from Bloc	к та., вн іл мәте, Ад	aress, reiepnon	e NO.J					
.3. Person's Time				VEAR/S	MONTH(S)	34. Industry Crew Surry	y of Employe	r (Towing, Fishing,	Shipping
A. IN THIS IND	USTRY -			(Line (C	,	Crow Gupp	y, connege o		
B. WITH THIS (COMPANY	1.				35. Was th	e Injured Per	son incapacitated 72	2 Hours of
C IN PRESEN		POSITION -				More?	100425222		
D ON PRESEN	TVESSE	L/FACILITY -				36 Date of	Death		
E HOURS ON	DUTYWE	EN ACCIDENT O							
37. Activity of Person at 1	Time of Acci	dent	COURNED -			_			
38. Specific Location of A	ccident on V	essel/Facility							
39. Type of Accident /Fa	II. Caucht be	stween. etc.)			40. Resulting Injury	Cut Bruise, Fractu	re. Burn. etc.	7	
and the strength of the	, e regra de	and start			and a second schember 1				
41. Part of Body Injured					42. Equipment Involve	d in Accident			
43. Specific Object, Part (of the Equipr	ment in block 42., or Si	ubstance (Chev	nical, Solvent, etc.) that directly produced t	he Injury.			
			SECTION	IV. DESCRIPT	ION OF CASUALTY				
4. Describe how acciden sheets if necessary). While procee constant spe Instead of c pilot boat c eventually c.	ding in ed and oming a ame alo apsized	amage information on n the Detro: course, the alongside at ongside at n d without wa	SECTION alcohol/drug inv it River e vessel midship the stern arning.	IV. DESCRIPT volvement and rec at the s J.W. Wes in the ap n of the	TON OF CASUALTY ommendations for correct pecified locate tcott II appr proximate loc vessel where	tive safety measure ation at a coached to cation of she pitch	es. (See in in appro exchai the pi ied and	structions and attach opriate an nge pilots lot ladder rolled an	d , the
44. Describe how acciden sheets if necessary). While procee constant spe Instead of c pilot boat c eventually c	toccured.d ding in ed and oming a ame alo apsize	amage information on n the Detro: course, the alongside at ongside at t d without wa	SECTION nalcohol/drug inv it River e vessel midship : the stern arning.	IV. DESCRIPT volvement and rec at the s J.W. Wes in the app n of the	TON OF CASUALTY ommendations for correct pecified loca tcott II appr proximate loc vessel where	tve salety measure ation at a coached to cation of she pitch	es. (See in exchar the pi ed and	structions and attach opriate an nge pilots lot ladder rolled an	d , the
44. Describe how acciden sheets if necessary). While procee constant spe Instead of c pilot boat c eventually c	toccured d ding in ed and oming a ame ala apsize	amage, information on n the Detro: course, the alongside at ongside at t d without wa	SECTION nalcohol/drug inv it River e vessel midship : the stern arning.	IV. DESCRIPT volvement and rec at the s J.W. Wes in the app n of the	TON OF CASUALTY ommendations for correct pecified loca tcott II appr proximate loc vessel where	tve salety measure ation at a coached to cation of she pitch	es (See in exchar the pi the and	structions and attach opriate an nge pilots lot ladder rolled an	d , the
44. Describe how acciden sheets if necessary). While procee constant spe Instead of c pilot boat c eventually c 5. Witness (Name, Add Third Office)	toccured.d ding in ed and oming a ame ald apsize ress.Teleph r, Will	amage, information on n the Detro: course, the alongside at ongside at t d without wa d without wa one No.) fred Goc-Ong	SECTION nalcohol/drug im it River e vessel midship : the stern arning.	IV. DESCRIPT volvement and rec at the s J.W. Wes in the app n of the n of the	TON OF CASUALTY ommendations for correct pecified loca tcott II appr proximate loc vessel where S Shipping A/	tve salety measure ation at a coached to cation of she pitch	es (See in exchar the pi the and	structions and attach opriate an nge pilots lot ladder rolled an	d , the
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4. Describe how accident sheets if necessary). While procee constant spe Instead of c pilot boat c eventually c 5. Witness (Name, Add Third Office) 6. Witness (Name, Add O/S Evelix B.	t occured, d ed and oming a ame ald apsized ress, Teleph ress, Teleph , LeAsj	amage, information on n the Detro course, the alongside at ongside at t d without wa without wa one No.) fred Goc-Ong one No.) Ls; c/o Knut	SECTION nalcohol/drug im it River e vessel midship : the stern arning. g; c/o Kr tsen OAS RSON MAKIN	IV. DESCRIPT volvement and rec at the s J.W. Wes in the app n of the n of the n of the shipping NG THIS REPC	TON OF CASUALTY ommendations for correct pecified loca tcott II appr proximate loc vessel where S Shipping A/ A/S	tve salety measure ation at a coached to cation of she pitch	es. (See im e xchar the pi the d and	structions and attach opriate an nge pilots lot ladder rolled an	d , the d
44. Describe how accident sheets if necessary). While procee constant spe Instead of c pilot boat c eventually c 5. Witness (Name, Add Third Office) 6. Witness (Name, Add O/S Evelix B. 7. Name (PRINT) (Last	t occured, d ding in ed and oming a ame ald apsized ress, Teleph ress, Teleph , LeAsi First, Midd	amage, information on n the Detro: course, the alongside at ongside at is d without wa without wa one No.) Ered Goc-Ong one No.) Es; c/o Knut SECTION V. PER (e)	SECTION nalcohol/drug im it River e vessel midship : the stern arning. g; c/o Kr tsen OAS RSON MAKIN 47b. Ad	IV. DESCRIPT volvement and rec at the s J.W. Wes in the app n of the n of the n of the <u>shipping</u> NG THIS REPC Voress (City: State	TON OF CASUALTY ommendations for correct pecified loca tcott II appr proximate loc vessel where S Shipping A/ A/S ORT	tve salety measure ation at a coached to cation of she pitch	es. (See in e xchai the pi the d and 47c. Title Atto	opriate an age pilots lot ladder rolled an	d , the
4. Describe how accident sheets if necessary). While procee constant spe Instead of c pilot boat c eventually c 5. Witness (Name, Add Third Office) 6. Witness (Name, Add O/S Evelix B. 7. Name (PRINT) (Last Moore, Willia	toccured, d ding in ed and oming a ame ald apsized apsized ress. Teleph ress. Teleph	amage, information on n the Detro: course, the alongside at ongside at n d without wa without wa fred Goc-Ong one No.) fred Goc-Ong one No.) fred Goc-Ong SECTION V. PEN e)	SECTION nalcohol/drug im it River e vessel midship : the stern arning. g; c/o Kr tsen OAS RSON MAKIN 47b.Ad 500	IV. DESCRIPT volvement and rec at the s J.W. Wes in the app n of the of the shipping National Shipping NG THIS REPC Woodward	TON OF CASUALTY ommendations for correct pecified loca tcott II appr proximate loc vessel where S Shipping A/ A/S RT A/s, Suite	tve salety measure ation at a coached to cation of she pitch	es. (See in e xchar the pi ed and 47c. Title Atto 47d. Telep	opriate an age pilots lot ladder rolled an	d , the
44. Describe how accident sheets if necessary). While procee constant specific instead of c pilot boat c eventually c 5. Witness (Name, Add Third Office) 6. Witness (Name, Add O/S Evelix B. 7. Name (PRINT) (Last Moore, Willia 47a. Signature	toccured d ding in ed and oming a ame ald apsized ress. Teleph ress. Teleph . LeAsi First. Middi am A.	amage, information on n the Detro: course, the alongside at ongside at in d without wa without wa fred Goc-Ong one No.) Ered Goc-Ong one No.) Es; c/o Knut SECTION V. PER (e) A MAM	SECTION nalcohol/drug im it River e vessel midship : the stern arning. g; c/o Kr tsen OAS RSON MAKIN 47b.Ad 500	IV. DESCRIPT volvement and rec at the s J.W. Wes in the app n of the n of the <u>shipping</u> NG THIS REPC Volvess (City, State Woodward coit, MI	TON OF CASUALTY ommendations for correct pecified loca tcott II appr proximate loc vessel where S Shipping A/ A/S ORT Ave., Suite 48226	tve salety measure ation at a coached to cation of she pitch	es. (See in appro exchar the pi the pi ed and 47c. Title Atto 47d. Telep	opriate an age pilots lot ladder rolled an orney hore No.	d , the d
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U. S. COAST GUARE CG-2692 (Rev. 6-87)			REP	ORT OF	MARI	NE A	ACC	IDE	NT,	TES	T ELEC	TRONIC VERSIC
				SECTION I.	GENERAL	INFOR	MATI	ON		MC	01013	409
1. Name of Vessel or Fa J.W	cility . Westcot	t II		2. Official 2.58	No. 3 859	3.1	Vational US	lity A	4. Ca W	ll Sign F 2123	5. US	CG Certificate of Inspectio
6. Type (Towing, Freigh Mailboat & Cr	t, Fish, Drill, ew Supply	etc.) Y	7. Length 45'	8. Gross To 1	ons [4	9. 1	rear Bu 194	iit 19	10. Pro	pulsion (Steam, di Die:	esel, gas, turbine) sel
11. Hull Material (Steel, Wo Steel	nod) 12. D FW	raft (ft	in.) AFT. A'6"	13. If Vesse DNV, BV	I Classed, B V, etc.)	y Whom	: (ABS,	LLOYD	S. 14. Dat	le (Of acc	urrence)	15. Time (Local)
16. Location (See instruct	on No. IOA)	<u> </u>	40						17. Est	imated L	oss or Da	6:50 am
8. Name, Address & Tel J.W. Westcott (12-24th Street	ephone No. c Company	of Operat	d Roug ling Co.	e River off	Zug Islai	nd, De	etroit	MI	VE	SSEL \$		40,000
Detroit, MI 482	22 313-	496-0:	555						от	HER S		-
9. Name of Master or Pe Catherine N	rson in Charg Jasiatka	je	USCG Lie VES	NO	20.	Name	of Pilot	Nas	iatka		icense YES	State License YES
9a. Street Address (City,	State, Zip Co	de)	19b. Tele	phone Number	20a	. Street	Addres	s (City,	State, Zip (Code)	20b. Tel	ephane Number
NO. OF PERSONS (DEATH- HOW MAN MISSING- HOW MA INJURED- HOW MA HAZARDOUS MATE INVOLVED (Identify Substance an OIL SPILL-ESTIMAT CARGO CONTAINES COLLISON (Identify o Block 44.) GROUNDING Conditions (wave height, river stage, etc.)	N BOARD _ Y? NY? RIAL RELEA d amount in b E AMOUNT: B LOST/DAM ther vessel or WAKE DA B. WEATH B. WEATH CLE CLE CLE CLE CLE CLE CLE CLE	4 1 SED OR SED OR AGED r object in MAGE IER IER IER IER IER IER		FLOODING: SV CAPSIZING (with OUNDERING O HEAVY WEATH IRE CXPLOSION COMMERCIAL CE DAMAGE DAMAGE TO AL TEERING FAILU ACHINERY OR LECTRICAL FA TRUCTURAL F FIME DAYLIGHT TWILIGHT NIGHT	VAMPING W h or without DR SINKING IER DAMAG DIVING CAS IDS TO NAV URE R EQUIPMEN ILURE D. VIX D. VIX	VITHOU sinking) E SUALTY VIGATIC NT FAIL SIBILIT GOOD FAIR POOR	T SINKI DN URE	E. G.	FIREFIC FAILED (Describ ILIFESA INADEO BLOW O ALCOH (Describ DRUG II (Describ DRUG II (Describ DISTANCE (of visibility AIR TEMPS (F) WIND SPE DISCENTION	SHTING (OR INAL be in Bloc VING EQ DUATE (D DUT (Petr OL INVO DUT (Petr OL INVO LVE in Bloc (Specify) E(miles) v) ERATUR	OR EMER DEQUAT * 44.) UIPMEN Describe I roleum ex LVEMEN * 44.) MENT * 44.) MENT * 44.) E50 E50	RGENCY EQUIPMEN E T FAILED OR n Block 44.) ploration/production) T tilles E F
Approx. 1.5 ft		IER (Spe /ercast	cify)					н.	CURRENT	SPEED (1.5 m	nph NE>SW
MOORED, DOCKED	OR FIXED	R DRIFT	ING	SPEED	UNK NE	24. Las Po Wh Bo	it nt iere und	Tom	Detroi eet inbou	t ind tan	iker	24a. Time and Date of Departure 10-23-2001
FOR NUMBE TOWING OF ONLY VESSEI TOWE	Empty S	Loaded	Totai	25b. TOTAL H.P. OF TOWING UNITS	25c. MAXIM SIZE OF WITH TO BOAT(S	UM TOW DW- S)	Length	Width	25d.(Desc PUSH TOWI TOWI	ING ANE NG ASTE NG ALOI E THAN (Iock 44.) EAD ERN NGSIDE ONE TO	Approx 6:30
Name		SECTI 26a. O	ON II, B	ARGE INFOR	MATION 26b. Type	1	26c. Ler	ngth	26d. Gros	s Tons	26e. US of Insp	SCG Certificate ection issued at:
Year Built 26g.	IGLE SKIN	26h. Dr FV	vo	AFT	26i. Opera	iting Co	mpany					
Damage Amount BARG	E \$ 0 \$ R \$		=	26k. Describe (Damage to 8	arge						

Page 1 of 4

ENCLOSURE (6)

27. Penson involved	273. Name (Last, First, Midd	Nasiatka, (Catherine		27c. Status
	27b. Address (City, State, Z)	Coviel	TTAL NT 4500		OTHER (Specify)
28. Birth Data 21. Tr	aleahane No.	30. Jab Position	Captain/Pil	ot	31. (Check here if off duty)
32. Employer -(If different frem	Block 10., Bit in Name, Address,	Telephone No.)			
		VELDICI	HONTHS	1 14 Industry of Emp	Inver Coming Elabled Stiesis
33. Person's Time A IN THIS INDUST!	RY -	5	aca mus	Crew Supply, D	rilling, eic.)
B. WITH THIS COMP	PANY-		7	Mailbo	at - Crew Supply
C. IN PRESENT JOB	OR POSITION-			_ 35. Was the injured	Person Incapacitated 72 Hour
E. HOURS ON DUTY	SSEL/FACILITY - WHEN ACCIDENT OCCURRE		one	36. Date of Death	10-23-2001
The second se	-d & -d dam				
37. Activity of Person at Time	Pile	oting vessel fo	r pilot exchange	1	
38. Specific Location of Accide	ent on VeeseVFscility	Vessel capsiz	ed and sunk		
19. Type of Accident (Fell, Cou	ight between, etc.)	1	0. Resulting injury (C	ut, Bruise, Fracture, Bu	m, ste.) d drowned
Swampe	a, capaized, and sunk		2. Equipment Involve	ed in Accident	
Death	- presumed drowning			DNA	
13. Specific Object, Part of the	Equipment in Block 42., or Su	batance (Chemical,	Solvent, atc.) that dir	nectly produced the inju	ry.
			4		
4. Describe how accident occ and attach additional sheets	SECTI ured, damage, information on a # nacessary). See At	DN IV. DESCRIF icohol/drug involver tached	A TION OF CASUAL	TY lations for contscilve ad	lety maasuma. (See includio
14. Describe how accident occ and attach additional sheets	SECTI ured, damege, information on s # necessary). See At	DN IV. DESCRIF ioohol/drug involver tached	A TION OF CASUAL nent and recommend	TY lations for contective ad	lety measures. (See instructio
14. Describe how accident occ and attach additional sheets 5. Witness (Name, Address, Tel 6. Witness (Name Address, Tel	SECTION Wred, damege, Information on a # necessary). See At See At Alain Gine ephone No.)	droz	A TION OF CASUAL ment and recommend	TY lations for contective ad	fety measures. (See instruction
4. Describe how accident occ and attach additional sheets 5. Wilness (Neme, Address, Tel 6. Wilness (Neme Address, Tel	SECTION Y, PERSON MAKE	droz	A TION OF CASUAL nert and recommend	TY ations for contective ad	fety measures. (See Instruction
14. Describe how accident occ and attach additional sheets 5. Witness (Neme, Address, Tel 6. Witness (Neme Address, Tel 7. Name (PRINT) (Last, First)	SECTION V. PERSON MAKE Medde)	droz	A TION OF CASUAL ment and recommend recommend	TY asilons for contective ad allons for contective ad allons allo	Gen T Mgr.
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ENCLOSURE (6)

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E. HOURS ON DUT	WHEN ACCIDENT OC	CURRED -	one	38. Dat	is of Death N	lissing/Presumed Des
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8. Specific Location of Acci	dent on Vessel/Facility	Veccel	consisted and ti	mk		
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1. Part of Body Injured Missin	g - presumed drow	med	42. Equipmen	Linvolved in Accid	DNA	
3. Specific Object, Part of th	e Equipment in Block 42.	, or Substance (Ch	bernical, Solvent, etc. DNA) that directly prod	uced the injur	у.
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The vessel J.W. Westcott II departed its dock with 2 crewmembers, CATHERINE NASIATKA (captain/pilot) and DAVID LEWIS (deckhand) and 2 passengers, ALAIN GINDROZ and TOM ROSSELEIN. By prior arrangement, GINDROZ was to be exchanged for a local pilot (ROBERT HULL) aboard the upriver-bound tanker M/V Sidsel Knutsen, while ROSSELEIN was to be transported to another vessel anchored at the Ojibway Anchorage.

Upon information and belief, as the Westcott approached the Knutsen to commence the pilot exchange, the Knutsen failed to slow sufficiently and otherwise maneuver so as to permit the exchange to take place. As a consequence, the Knutsen struck the Westcott and the Westcott was pulled into suction near the port stern of the Knutsen. The Westcott then listed severely to port, capsized and sunk immediately. GINDROZ and ROSSELEIN escaped and were rescued. Capt. NASIATKA was found deceased inside the vessel when it was raised on October 29, 2001. LEWIS is still missing. GINDROZ and ROSSELEIN were examined at a hospital in Windsor, Ontario and released. Damage surveys on the Westcott are pending. There is no evidence of any drug or alcohol involvement by the Westcott crew.

GREAT LAKES PILOTAGE AUTHORITY LTD.

ADMINISTRATION DE PILOTAGE DES GRANDS LACS LTÉE

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PILOT'S HARRATIVE

This should begin with a subservent of the nature of the casuality as suspected casuality i.e., collision, grounding, touching chomes bank, attriking quoy etc. and should include where applicable - weather canditions, visibility, whether reming, nowing etc. wind force and direction, state of tide, current if any, what nevigational equipment was in use or was imported whistle signals given and/or haded, course and speed of own ship and estimated course and speed of ony sther vessels invalved. A shotch should be included where it will assist in describing the circumstances.

NARRATION DU PILOTE

Cette norretion duit commencer par une déclaration au sujet de le neture du sinistre au du présumé sinistre, c'ast-d-dire, calilaian, échouement, collision avec le berge du cherost, avec le quai, erc. est doit commendre (cu il y a licu) las conditiones météorologieues, le visibilité, le pluie, le neige, etc., (s'il an met), le vélocité et la direction du vent. l'était de le marée, le courent, s'il en est, l'équipement de nevigation utilité au huitlisé, les signaux de sirème dande ou antigation utilité au huitlisé, les signaux de sirème dande ou seriendur, le route et le viteuse de son propre nevice et la viteuse estimées de tout eutre navire en course, inclure, au besoin, un dessite pour alder à décrire les circonstances.

The "Sidsel Knutsen" was upbound on the Detroit River. I had communicated our ETA to the J.W. Westott pilot station where we were to change pilots at 07:15 hours. Our upbound river speed had been consistently between 8.8 and 9.2 knots, as verified by the vessel's DGPS. We were on a course of 023* abeam of Zug Island shortly before 07:00 hours. Winds were south-westerly and strong. Visibility was unrestricted.

I was accompanied on the bridge by the master, the officer of the watch and an AB. I gave the control of the vessel to the master to allow me to go to the designated pilots' cabin one deck below to place my baggage outside the door for the crew members in preparation for disembarking. Upon returning to the bridge less than 2 minutes later, I heard the officer of the watch on the master's walkie-talkie stating that a pilot boat had flipped over in the water. The engines were on stop. From the port wing, I could see a boat upside down aft of the port side of our vessel at a position approximately below the power lines which cross the river. We had received no information that the pilot change would take place earlier than planned.

We immediately reported the incident to the USCG and Sarnia Traffic, requesting a "PAN" message to muster any available vessel. We turned abeam of Sterling Fuel Dock to return to the site and, using search lights, were able to locate reflective material in the water. The tug "Stormont" was directed to the reflective material and picked up two survivors.

Oct24, 2001

NOTE: Confidential and for the information only of the authority.

REMARQUE: Confidentel el pour l'information de l'Administration seulement

1. 5-05-87

ENCLOSURE (7)





Foredeck of M/V J. W. WESTCOTT II after the vessel was recovered from the bottom of the Detroit River on October 29, 2001. Note the missing hatch cover.



Close up of hatch on foredeck of M/V/J. W. WESTCOTT II on October 29, 2001. The hatch measures 14" in diameter. The dogs were rusted and painted in place and were not dogged down tightly.



Pilothouse console of M/V J. W. WESTCOTT II after salvage. Photo taken on October 29, 2001.



Throttle (left) and transmission (right) controls of M/V J.W. WESTCOTT II. Throttle is in "full" position. The transmission control is in between neutral and astern. Photo taken on October 29, 2001.



Deck light control switches on M/V/ J.W. WESTCOTT II. Port deck light switch is "off." Starboard deck light switch is "on." There are the normal switch positions when conducting a starboard side transfer. Photo taken on October 29, 2001.



Light switch console on M/V J.W. WESTCOTT II. All switch positions are considered normal for transferring pilot at night. Photo taken on October 29, 2001.



M/V J. W. WESTCOTT II in drydock following salvage. Note tires attached to the rail. Photo taken on November 8, 2001.



Starboard side forward of J. W. WESTCOTT II. There are two tires shown in this view. The third tire was removed and lost during salvage. There are two more tires on the starboard side, identical to the port side. Photo taken on November 8, 2001.



M/V SIDSEL KNUTSEN downbound in the Detroit River on October 26, 2001.



M/V SIDSEL KNUTSEN moored at Morton Terminal in Windsor, Ontario on October 26, 2001.



Port side SIDSEL KNUTSEN. Note the black smudge just above waterline where the turn of the bilge begins. Also note the proximity of the mark to stern. This photo was taken on October 23, 2001 at approximately 1100, 4 hours after the accident.



View looking forward of the black smudge marks on port side of the M/V SIDSEL KNUTSEN. These marks were created when the fender tires on the starboard side of the J. W. WESTCOTT II rubbed hard against the hull of the SIDSEL KNUTSEN. Note the semi-circular marks aft of the black tire mark. These marks appear higher than in the previous photo because this photo was taken on October 26, 2001, after the SIDSEL KNUTSEN had offloaded some of its cargo.



Another view of the black tire marks on the port side of the SIDSEL KNUTSEN. This mark measures 26 feet in length. Photo taken on October 23, 2001.



Black tire marks on SIDSEL KNUTSEN. The rust marks indicate the curvature of the hull at the turn of the bilge. Note the two semi-circular tire marks aft of the large tire mark. Photo taken on October 23, 2001.



The same tire on the J. W. WESTCOTT II created these two semi-circular marks as the vessel slid along the hull of the SIDSEL KNUTSEN. Note the upward sweeping marks extending from the forward semi-circle and connecting to the aft semi-circle. Photo taken on October 26, 2001.



The forward most semi-circular tire mark measure 23 inches in diameter. This mark is located just under the turn of the bilge. Photo taken on October 26, 2001.



View under the turn of the bilge of the SIDSEL KNUTSEN. A 10.5" x 2" black paint mark, several smaller black paint marks, and a 4" x 5" bar metal spot are visible. The M/V J. W. WESTCOTT II created these marks as it capsized on October 23, 2001. The starboard rail or side of the WESTCOTT likely caused the black marks. Photo taken on October 26, 2001.



This view is taken from slightly aft of the previous photo. Note the proximity of the marks created by the J. W. WESTCOTT II to the propeller of the SIDSEL KNUTSEN. Photo taken on October 26, 2001.



View of the port engine room vent pipe of the J. W. WESTCOTT II. This view is from inside the pilothouse, through the port side cargo door. Photo taken on November 8, 2001.



View of the port engine room vent pipe taken from port deck aft of cargo door. The vent pipe was 2" in diameter, 14.5 inches high, and situated on the outboard side of the engine room. Photo taken on November 8, 2001.



Close up view of the one inch hole found at the base of the port engine room vent pipe on the J. W. WESTCOTT II. The hole leads directly into the engine room. Photo taken on November 8, 2001.

	PITCH ORDER 3	
- 0 - 0 + 1 - 7 - 0 - 0 +	PITCH ORDER 4	
18:04:27	PITCH ACTUAL VALUE	33
10100101	PITCH ORDER 5	
10:00:07	PITCH ORDER 6	
18:05:07	PITCH ACTUAL VALUE	46
18:05:31	PITCH ACTUAL VALUE	56
18:05:43	PITCH ORDER 7	
Pitch Order: The position	PITCH ORDER B	Pitch Actual Value Actual
of the propeller pitch	PITCH ACTUAL VALUE	pitch of the propeller. The
control on the bridge. The	Pilot Card indicates	Pitch Value is a measure of
Pitch Order Recorder will	when pitch value is 60	the ship's speed. The Pitch
record a new reading only	speed is 9.0 knots UE	Order Recorder will record a
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-	PITCH HUTCHL VHEUE	
00:00:00	MAIN ENGINE REM	122
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5:09:11	MAIN ENGINE REM	115 Sneed sumsing to a t
05:09:47	MAIN ENGINE RPM	120 from 0800 to 10,52,22
05:09:49	MAIN ENGINE RPM	115
05:10:23	PITCH ORDER 7	SIDSEL KNUTSEN in
00:14:53	PITCH ACTUAL VALUE	78 upbound in the Detroit
VD:16:35	PITCH ACTUAL VALUE	65 River
08:00:00	MAIN ENGINE RPM	116
08:00:00	PITCH ORDER 7	
10:52:23	PITCH ACTUAL VALUE	62
10:52:25	PITCH UKDER 6	
10:52:27	PITCH OCTUDE HOLDE	Pitch Order and Pitch Value
10:52:29	PITCH ACTUAL VALUE	49 (speed) reduced from 7 to 0
10:52:33	PITCH ACTUAL VALUE	between 10:52:23 and
10:52:57	PITCH ORDER - 0	10:53:57.
10:52:59	PITCH ACTUAL VALUE	6
10:53:23	PITCH ORDER 1	J. W. WESTCOTT II capsize
10:53:39	PITCH ORDER - 0	
10:54:31	PITCH ORDER - 2	
10:54:33	PITCH ORDER - 5	
10:54:33	PITCH ACTUAL VALUE -	- g - i
.0:54:35	PITCH ORDER - 10	- Series
10:54:35	PITCH ACTUAL VALUE -	20
10104139	MAIN ENGINE RPM	111
10:54:39	PITCH ACTUAL VALUE -	39 Demotio Pilut Out
10.54.55	PITCH ACTUAL VALUE -	54 changes from 10:54:35 to
10.50.00	MAIN ENGINE RPM	116 11:00:05
10:50:43	PITCH ACTUAL VALUE -	64
10:00:20	PITCH ORDER - O	SIDSEL KNUTSEN is
10.59.77	PITCH ACTUAL VALUE -	54 maneuvering after J. W.
10.59.77	PITCH ACTUAL VALUE -	34 WESTCOTT II capsized.
	PITCH ACTUAL VALUE -	18
:00:05	DITCH ACTUAL VALUE	0
	BITCH OCTUOL LICE 4	
:00:11	RITCH ACTUAL VALUE	18
11:00:15	MAIN ENGINE ROM	ENCLOSURE (19
11:00:15	PITCH ACTUAL VALUE	47
1:00:35	MOIN ENGINE DOM	47



ENCLOSURE (15)



U.S. Department of Transportation United States Coast Guard

Commanding Officer United States Coast Guard Marine Safety Center http://www.uscg.mil/hq/msc 400 7th Street, S.W. Washington, DC 20590-0001 Staff Symbol: MSC-1 Phone: (202) 366-6481 FAX: (202) 366-3877

16710/P008079 Serial: H1-0200397 March 12, 2002

From: Commanding Officer, Coast Guard Marine Safety Center To: Commanding Officer, Coast Guard Marine Safety Office Detroit

Subj: J. W. WESTCOTT II 45' x 14.5' x 4.4' Uninspected Pilot Boat Casualty Analysis

Ref: (a) Phoncon of October 30, 2001 between LCDR Wiest and LCDR Hall of MSO Detroit

As requested in reference (a), we evaluated the stability characteristics of the J. W. WESTCOTT II, which capsized in the Detroit River on October 23, 2001 while conducting a pilot transfer with the tank ship SIDSEL KNUTSEN. We also examined the flooding rates of the port cargo door in both the opened and closed positions and the flooding rate of the hole in the port bilge vent.

CONCLUSIONS

1. The J. W. WESTCOTT II had positive GM and sufficient freeboard prior to executing the transfer operation.

Subsequent water on the main deck and progressive flooding into the pilothouse and engine room reduced the vessel's GM and freeboard placing the vessel in a critical condition.

3. The cargo door's lack of a weather tight seal and the hole in the bilge vent contributed to the capsizing of the vessel.

METHOD OF ANALYSIS

1. On November 8th and 9th, 2001 hull offsets were measured by LT Rosello, LT Ray, and LT O'Mara at Nicholson's Dock in Ecorse, Michigan. Using these offsets a computer model of the J.W. WESTCOTT II was generated with the software program General Hydrostatics (GHS). On December 10, 2001 the salvaged vessel was hoisted by a crane and determined to weigh 30,900 lbs (13.79 LT). The lightship weight determined by our computer model varied only 1.3 % from the measured weight of the vessel. This comparison indicates that the computer-generated model satisfactorily approximated the actual vessel.

2. The following four stability scenarios were evaluated cumulatively: The initial condition, six inches of water on the fore and port deck, three feet of water in the pilothouse, and 10% flooding of the engine room. Six inches of water on deck was used in the second scenario because of the height of the coaming on the cargo door. Enclosure (1) contains the tabulated results of the vessels stability in the three progressive flooding conditions.

3. Flooding rate calculations for the cargo door and bilge vent hole were based upon water velocity, hydrostatic head and approximate areas of the openings. The non-tight area at the bottom of the closed cargo door was 0.24 square feet. Although the cargo door sides were also

ENCLOSURE (17)

16710/P008079 Serial: H1-0200397 March 12, 2002

Subj: J.W. WESTCOTT II; Casualty Analysis

non-watertight, flooding through the sides was not included in the calculations. The calculations do not account for progressive flooding between the pilothouse, engine room, and aft compartment of the vessel. The area for the open cargo door was approximated to be 3.67 square feet. This assumes an opening approximately 2 feet high with the cargo door half open. Enclosure (2) contains the approximate flooding rate data.

4. A three-dimensional animation, enclosure (3), of the initial transfer scenario was developed using 3D Studio Max software. This animation provided a visual representation of the significant size difference of the vessels. It should not be used to speculate on the rollover behavior of the vessel.

FINDINGS

1. The J. W. WESTCOTT II is an un-inspected vessel under Coast Guard regulations and was not subject to regulatory stability standards. However, in the initial condition, the J. W. WESTCOTT II had positive stability and met the intact stability criteria of 46 CFR Subchapter S for vessels operating on protected routes. In this condition, the vessel had a GM of 7.04 feet, a freeboard of approximately 2 feet, no heel, and slight aft trim.

2. Six inches of accumulated water on the fore and port decks reduced the GM to 3.0 feet. The vessel still maintained a freeboard of approximately 2.9 inches with positive righting arms.

3. The lack of weather tight integrity around the cargo door allowed progressive flooding into the pilothouse. Three feet of water in the pilothouse submerged the deck edge by approximately a foot. In addition, the hole in the bilge vent allowed flooding directly into the engine room.

4. The scope of this analysis was insufficient to determine the dynamic forces acting on the J. W. WESTCOTT II due to the interaction of the two vessels in close proximity.

5. Volumetric analysis based on the combined minimum effects of water velocity and hydrostatic head resulted in flooding a time of approximately 3 minutes to attain 3 feet of water in the pilothouse. This rate was based upon the cargo door being closed. If the cargo door was open the pilothouse would have flooded in less than 1 minute. See Table 7 of Enclosure (2).

If you have any questions or need additional assistance in this matter, please feel free to contact the project officer, Lieutenant Brad Rosello, at the above number.

A. L. PEEK

Encl: (1) Summary of GHS Output Stability Characteristics of the J.W. WESTCOTT II

(2) Flooding Rate Approximations

(3) Animation of J. W. WESTCOTT II pilot transfer with SIDSEL KNUTSEN

2016

ENCLOSURE (17)

		Stabilit	v Summary		
Conditions of Flooding	GMt (FS cor.) (Feet)	Least Freeboard (Feet)	Equilibrium Heel Angle (Degrees)	Freeboard Height to Cargo Door (Feet)	Water on Board (Gallons)
Initial	7.04 ft	2.09 ft	0.0°	2.95 ft	0 cml
Plus Water on Deck	3.00 ft	0.24 ft	13.88°	1.45 ft	1306 col
Plus Water in Pilot House	1.83 ft	-0.93 ft	15.71°	0.28 ft	4664 gal
Plus Water in Engine Room	1.71 ft	-1.10 ft	16.26°	0.12 ft	4999 gal

J.W. WESCOTT II Stability Characteristics

Enclosure (1)

ENCLOSURE (17)

J.W. WESTCOTT II Flooding Rate Approximations

Table 1

and the second sec	Space V	olume by GHS H	ull Model	
GHS Compartment	Weight (Long Tons)	Weight (Pounds)	Density (Pounds per Cubic Foot – lbs/ft ³)	Volume (Gallons)
Fwd Collision Blkhd	1.30 lton	2912.00 lbs	62.40 lbs/ft3	349 00 gal
Fwd Void	11.41 Iton	25558.40 lbs	62.40 lbs/ft3	3063.04 gal
Aft Compartment	17.91 Iton	40118.40 lbs	62.40 lbs/ft ³	4800 40 gal
Fuel Tank Port	0.72 lton	1612.8 lbs	62.40 lbs/ft3	193 34 gal
Fuel Tank Stbd	0.72 Iton	1612.8 lbs	62.40 lbs/ft3	103.34 gal
Engine Room	10.15 Iton	22736.00 lbs	62.40 lbs/ft3	2725 59 gal
Pilot House	21.13 lton	47331.20 lbs	62.40 lbs/ft3	5674 07 gal

Table 2

	Downflood	ling Source Cross Se	ectional Areas	
Source	Width (Inches)	Length (Inches)	Cross Sectional Area (Square Inches – in ²)	Cross Sectional Area (Square Feet - θ^2)
Closed Cargo Door	0.75 in	46 in	34.5 in ⁴	0.24.02
Open Cargo Door	23 in	23 in	520 in ²	2 67 04
Hole in Port-Side			529 m	3.0/ ft*
Bilge Vent	1 in	1 in	1 in ²	0.007 ft ²

Table 3

	Open (Cargo Door Flow	Rates by Wate	r Velocity	
Cross Sectional Area (Square Feet - ft ²)	Water Velocity (Knots)	Water Velocity (Feet per Second)	Water Volumetric Flow Rate (Gallon per Minute – gal/min)	Time to Fill Pilot House with Water (Minutes)	Time to Accumulate 3 Feet of Water in Pilot House (Seconds)
3.67 ft*	10.00 kts	16.88 ft/sec	27804.26	0.09 min	5.18 sec
3.67 ft ²	9.00 kts	15.19 ft/sec	25023.84	0.10 min	5.76 sec
3.67 ft ²	8.00 kts	13.50 ft/sec	22243.41	0.11 min	6.48 sec
$3.67 {\rm ft}^2$	7.00 kts	11.81 ft/sec	19462.98	0.12 min	7.40 sec
3.67 ft ²	6.00 kts	10.13 ft/sec	16682 56	0.12 min	7.40 Sec
3.67 ft ²	5.00 kts	8.44 ft/sec	13902.13	0.17 min	0.04 Sec
3.67 ft ²	4.00 kts	6.75 ft/sec	11121 70	0.22 min	10.37 sec
3.67 ft ²	3.00 kts	5.06 ft/sec	8341.29	0.22 min	12.96 sec
3.67 ft ²	2.00 kts	3 38 0/000	0341.28	0.29 min	17.28 sec
	2.00 1.13	5.56 IUSEC	5500.85	0.43 min	25.92 sec

Enclosure (2)

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J.W. WESTCOTT II Flooding Rate Approximations

Table 4

Cross Sectional	Water Velocity	NV	water verocity	
Area (Square Feet - ft ²)	(Knots)	Water Velocity (Feet per Second)	Water Volumetric Flow Rate (Gallons per Minute – gal /min)	Time to Accumulate 3 Feet of Water in Pilot House (Minutes)
0.024 ft*	10.00 kts	16.88 ft/sec	1813.32 gal/min	1.32 min
0.024 ft*	9.00 kts	15.19 ft/sec	1631.99 gal/min	1.47 min
0.024 ft ²	8.00 kts	13.50 ft/sec	1450.66 gal/min	1.47 mm
0.024 ft^2	7.00 kts	11.81 ft/sec	1269 32 gal/min	1.00 min
0.024 ft ²	6.00 kts	10.13 ft/sec	1097.00 ml/min	1.89 min
0.024 ft^2	5 00 kts	8 44 6/000	1087.99 gal/min	2.21 min
0.024 ft ²	4 00 kts	6.44 IUsec	906.66 gal/min	2.65 min
0.024.02	4.00 KIS	0.75 ft/sec	725.33 gal/min	3.31 min
0.024 11	3.00 kts	5.06 ft/sec	544.00 gal/min	4.42 min
0.024 ft	2.00 kts	3.38 ft/sec	362.66 gal/min	6.62 min

Table 5

Closed (Cargo Door Flow Rates by Hydro:	static Head	
Water (Hydrostatic Head) Height (Feet)	Water Volumetric Flow Rate (Gallons per Minute)	Time to Accumulate 3 Feet of Water in Pilot House (Minutes)	
2.00 ft	1219.30 gal/min	1.97 min	
1.80 ft	1156.73 gal/min	2.08 min	
1.60 ft	1090.57 gal/min	2.20 min	
1.40 ft	1020.14 gal/min	2.35 min	
1.20 ft	944.46 gal/min	2.54 min	
1.00 ft	862.17 gal/min	2.79 min	
0.80 ft	771.15 gal/min	3.11 min	
0.60 ft	667.84 gal/min	3.60 min	
0.40 ft	545.29 gal/min	4.41 min	
0.20 ft	385.58 gal/min	6.23 min	

Enclosure (2)

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ENCLOSURE (17)

Table 6

Water	Diq	ge vent Hole	Flow Rates by	Hydrostatic I	lead	
(Hydrostatic Head) Height (Feet)	Sectional Area (A) (Square Feet - ft ²)	Water Velocity (V) (Feet per Second – ft/sec)	Water Volumetric Flow Rate (Q=(A)(V)) Cubic Feet per Second - ft ³ /sec)	Water Volumetric Flow Rate (Q=(A)(V) (Gallons per Minute – gal/min)	Percentage of Engine Room Full after 3.21 Minutes of Flooding (Percent - %)	Volume of Water in Engine Room after 3.21 Minutes of Flooding (Gallons)
2.00	0.083	11.35	0.95	424.10	49.95	1361 37
1.80	0.083	10.77	0.90	402.34	47.38	1201.51
1.60	0.083	10.15	0.85	379.33	44.67	1217.51
1.40	0.083	9.50	0.79	354.83	41.07	1217.05
1.20	0.083	8.79	0.73	328 51	38.60	1054.51
1.00	0.083	8.02	0.67	299.89	35.09	1054.51
0.80	0.083	7.18	0.60	268.23	31.50	902.03
0.60	0.083	6.22	0.52	232.20	27.26	801.01
0.40	0.083	5.08	0.42	190.66	27.30	/45.65
0.20	0.083	3.59	0.42	109.00	22.34	608.82
0.08	0.083	2.22	0.50	134.11	15.79	430.50
0.00	0.005	4.34	0.19	86.55	10.19	277.83

J.W. WESTCOTT II Flooding Rate Approximations

Table 7

Cumula	tive Flooding Rate - Closed Ca	argo Door	
Conditions	Water Volumetric Flow Rate	Time to Accumulate 3 Feet	
Water Velocity = 2 Knots and 0.2 Feet of Hydrostatic Head	748.24 gallons/minute	3.21 minutes	

Enclosure (2)

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ENCLOSURE (17)



A mid-river mail delivery to the John G. Munson.



The delivery is often followed by a salute, click here to listen to a salute.

Return to main index

Return to Mail boat page

Photos downloaded from www.boatnerd.com Dates of photos are unkown.





Undated photo of the J. W. WESTCOTT II alongside a moving deep draft vessel during a typical service call. Note that the J. W. WESTCOTT II has developed a list away from the deep draft vessel.

This photo was electronically scanned on October 26, 2001 from a photograph that is displayed at the J. W. Westcott Company in Detroit, Michigan.



October 9, 2001

US Coast Guard Regional Examination Center

To Whom It May Concern:

This is to certify that Ms. Catherine M. Nasiatka, Social Security Number served as a pilot house observer aboard the following vessels owned by this company:

Vessel Name	Official Number	Gross Tonnage	Days Served
Diamond Belle	276809	93	54
Diamond Queen	271811	94	28
Diamond Jack	269388	82	13

These vessels operated upon the waters of St. Clair River, Lake St. Clair, Detroit River and Lake Erie. Ms. Nasiatka worked 8-12 hours per day as a condition of employment with our company.

Since Ms. Nasiatkas employment with our company, we have found her to be a reliable and conscientious employee we highly recommend for the upgrade in license.

If you have any questions please feel free to contact me at 313-843-9376.

Sincerely, ant

Captain Steve Carrothers Operations Manager Diamond Jacks River Tours

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ENCLOSURE (20)

BASIC TUG HANDLING FOR SHIPWORK

who is a newcomer to the field of shipwork. I am sure it will also be of ing tugs There are several reasons for this. First of all, it will give the pilot or shiphandler an insight into the actual mechanics of a tug's Although I write this chapter primarily for the benefit of the tug handler interest to the pilot or shiphandler who has not had experience operatoperation, and a better understanding of what the tug's captain must know in order to assist the ship to best advantage. This kind of knowledge can be especially helpful in situations where the tug's handler is a little inexperienced at shipwork.

THE FUNDAMENTALS OF SHIPWORK

Shipwork, like barge work, is the final test of the tug handler's ability. It is more challenging than most other handling activities since often both vessels (ship and tug) are underway. When this is the case, it is an exercise in relative motion (for the tug, of course). But that is not all. The tug's captain must also continue to control the tug in spite of the effect of the other vessel's wake and propeller wash.

The speed. If you are careless or try to accelerate the maneuver, the tug might land alongside the ship hard enough to do some damage. This is concepted that will have an increasing effect on the tug the closer it gets to the When a tug approaches a moving ship to make up, it should shape a **m** course parallel to the vessel for a bit and adjust its speed to that of the putting the tug alongside an inbound ship moving at a good rate of Coming Alongside. If you are just breaking in as a mate on a harbor tug, you will probably discover that the most difficult part of shipwork is

BASIC TUG HANDLING FOR SHIPWORK

the tug comes against the ship the helm should be put over towards the for the effect of the vessel's wash (Fig. 9-1). If the tug is going to go alongside the quarter of a ship, the suction caused by the vessel's passage will have a tendency to pull the tug into the vessel. Usually pacing the vessel with the tug's helm turned slightly away from it will utilize this suction to pull the tug alongside the ship easily. As soon as vessel. The tug should then ease gently in and compensate as necessary vessel with the engines kept running ahead until the lines are fast.



vessel as the helm is put over. Sometimes the suction near the stern of ships or a bit aft of that. The bow is then gently swung in toward the Ideally, the tug should land alongside the ship about its own midthe ship is very strong, and will pull the tug in quickly. If this is the case,

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the tug's captain can land the tug farther forward where there will be less suction, and can then let the tug slide back into position. Many ship captains will grumble about this "messing up the paint job," but it is preferable to a dent.

It is generally less hazardous to come alongside a ship forward, but it still requires care. The tug is most often pushed away from the ship by the bow wave, especially if the vessel's entrance is hollow. The problem here usually stems from overcontrolling when coming alongside. Pacing the ship for a bit will, in most cases, give an indication of what to expect, and will probably solve this problem. When a tug is approaching a ship to go alongside, and its speed is too fast, it can stop its engine in order to slow down if necessary. It should not back down, however, as it can easily lose steerage and might take a dive toward the ship. If the tug crosses a ship's wake while overtaking the vessel, its propeller might cavitate, especially if it is backing its engine. A failure to anticipate this could lead to an accident. Towline Work. Working on a towline is probably the most dangerous employment that the tug will engage in. This is particularly the case if the master or pilot is excitable and relies too heavily on the use of the ship'sengine. In this instance it can easily overpower the tug, causing it to become girt or to trip. Either circumstance can lead to a capsize (Fig. 9-2). The most hazardous part of towline work occurs when a tug is required to take a towline from the bow of a vessel that is underway. The tug must pass close aboard the bow so that the vessel's head line can be lowered to the tug's deck. If the tug's quarter lands against the ship's side, the tug may not be able to steer away from the ship, and the tug might get caught crossways ahead of the vessel and capsize. This type of accident is called *stemming* (Fig. 9-3). In this situation, about the only thing the tug can do is come full astern with the helm midship and try to back out of danger. Tractor tugs (which are designed for towline work) have an advantage over conventional tugs in this respect since their steering will remain unaffected (Fig. 9-3).

When a tug is performing a towline job (except when working ahead of the ship), the tug's captain will normally be at the after control station where he can keep an eye on the tug's deck force, the lead of the towline, and the ship's wheel wash. The ship's wheel wash will often give a clue as to the amount of power the ship's engine is using, and the tug can be

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The J. W. WESTCOTT II servicing the SIDSEL KNUTSEN in the Detroit River on September 15, 2001.