FV DESTINATION POST SINKING STABILITY INVESTIGATIVE ANALYSIS

Vessel and Casualty Background Information.

- 1. The vessel was built in 1981 in Brazoria, Texas as the COMPASS ROSE, as a 81 x 26 foot 198 GT crabbing vessel. The vessel held plans indicating the vessel can operate with a max of 95 pots at 3 tiers, with each pot measuring 6.5 x 6.5 ft and weighting 700 lbs. In 1985, the current owner purchased the vessel and renamed the vessel the DESTINATION.
- 2. In 1993, the DESTINATION completed a major modification at Alls Shipbuilding in Seattle, Washington. The entire section aft of the engine room bulkhead was replaced. The vessel was sponsoned, increasing its length to 98 feet and its beam to 32 feet. The resulting GT was reduced to 196 GRT. Neither the shippard or the owner produced or maintained construction or arrangement plans.
- 3. After its modification, the vessel's owner hired Mr. Etsell, P.E. to conduct a stability test and produce a Stability Information Book. The stability testing included an inclining experiment, freeboard and draft readings, and a lightweight survey. Based upon the data collected, the DESTINATION's lightweight displacement and centers of gravity were calculated and documented in enclosure (1). Those results were used to develop the Stability Information Book provided in enclosure (1).
- 4. The Stability Information Book provided a loading table indicating the maximum number of crab pots carried under a variety of conditions. Under loading condition No. 3, with No. 1 and 2 holds tanked, the vessel could carry a maximum of 249 pots at 5 tiers during non-icing conditions, and 224 pots at 5 tiers during icing conditions. Neither the Stability Information Book nor the Table indicated the assumed average dimensions or weight of the pots. However, though calculations, one can determine each pot weighted 700 lbs. According to testimony at the hearing, Mr. Etsell indicated he obtained the pot weight information from the vessel's master, but did not verify thru direct observation or weighing.
- 5. In the winter of 2013, the vessel sustained hull damage while operating in ice conditions in the Bering Sea. Apart from completing repairs to the hull with heavier gage steel plate, the vessel owner installed a bulbous bow. The vessel owner hired Mr. Olafsson, P.E. to both design and conduct a stability assessment for the bulbous bow installation. Mr. Olafsson documented his assessment in enclosure (2).
- 6. On Thursday, February 9, 2017 at approximately 2315, The U.S. flagged commercial fishing vessel DESTINATION (O.N. 632374) departed the Trident Seafood pier in Dutch Harbor, Alaska in route to offload bait at the Trident Seafood pier in St. Paul, Alaska. The FV DESTINATION was then expected to depart to their fishing ground to fish the 2017 opilio crab season, also known as snow crab. The National Weather Service (NWS) issued a forecast for St. George and St. Paul Islands on Thursday, February 9, 2017 warning of heavy freezing spray through Friday, February 10, 2017.

- 7. During the early morning hours of Saturday, February 11, 2017 at approximately 0500, the FV DESTINATION was transiting on a NW course in the close proximity to the Western leeward side of St. George Island. At approximately 0610 after transiting past Dainoi Point at the Northwest tip of St. George Island and leaving the protection of the Islands terrain, the DESTINATION made a hard starboard turn into the wind and sea. Shortly after the starboard turn the vessel lost propulsion and the vessel's heading shifted to 270 degrees before eventually sinking. At approximately 0614, the DESTINATION's Automated Identification System (AIS) stopped transmitting.
- 8. At 0615, the Command Center for the Coast Guard's District 17 located in Juneau, Alaska received a 406 MHz Electronic Position Indicating Radio Beacon (EPIRB) distress alert transmitting in the vicinity of St. George Island. After watch standers confirmed the EPIRB was registered to the FV DESTINATION and their attempts to hail the vessel failed, they launched Search and Rescue (SAR) operations utilizing multiple rotary wing and fixed wing aircraft and Good Samaritan vessels. By mid-day, Coast Guard aircrews located a debris field in the general area of the EPIRB distress alert, and the Good Samaritan vessel FV SILVER SPRAY recovered the transmitting EPIRB, a life ring and crab buoys belonging to the FV DESTINATION. After three days, Coast Guard SAR operations did not find survivors or the vessel's liferaft, and therefore ceased active SAR operations.
- 9. On July 8, 2017, National Oceanic and Atmospheric Administration (NOAA) research vessel FAIRWEATHER used side-scan sonar to locate the FV DESTINATION in approximately 78 meters (256 feet) of water, four nautical miles due north of Dainoi Point, St. George Island.
- 10. On July 25, 2017, the Coast Guard's Regional Dive Locker West working on the Coast Guard Cutter HEALY deployed a Remotely Operated Vehicle (ROV) over the site to collect imagery of the wreck. Due to strong sub-surface currents, the ROV was unable to collect substantive imagery. However, the HEALY was able to retrieve a crab pot from the ocean floor located near the wreck. The pot weighted 880 lbs with three shots of wet line, 840 lbs when dry.
- 11. The DESTINATION's master was known to have consistently loaded the vessel with 200 crab pots and Holds No. 1 and 2 tanked upon departure of port en-route to crab fishing grounds. It was also common for him to instruct the crew to keep the No. 3 hold access hatch cover open. This was presumably to maintain the ability to verify the presence of water entering the hold and to allow unobstructed access to the propulsion shaft stuffing box access cover, located on the tank bottom of the hold.
- 12. On Scene Weather and Sea State. The closest weather observations sites indicated the following data at the time of the casualty: Winds from the NE, at 23 kts (26.4 mph), gust of 34 kts (39 mph), light snow, air temp of -8 $^{\circ}$ C (17.6 $^{\circ}$ F), Water temp of -0.6 $^{\circ}$ C (31 $^{\circ}$ F) and waves from the NE at 3.7-4.3 m (12-14 ft).