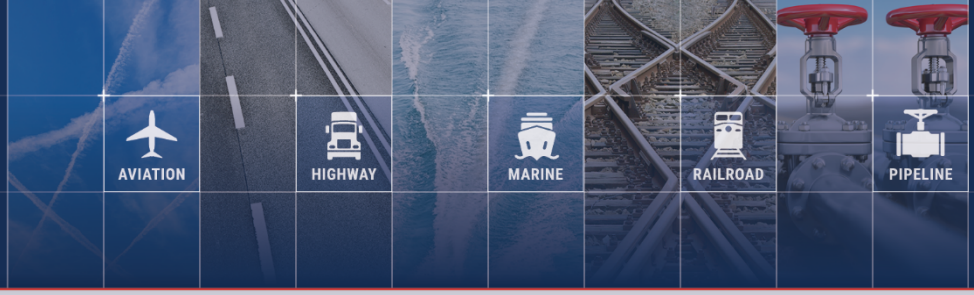

Aviation Investigation Final Report

Location:	Port Angeles, Washington	**Accident Number:**	WPR21LA097
Date & Time:	January 26, 2021, 16:40 Local	**Registration:**	N9114A
Aircraft:	Cessna 170A	**Aircraft Damage:**	Substantial
Defining Event:	Fuel exhaustion	**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot had departed on a long cross-country flight and stopped to refuel at which point he filled up both wing tanks and the pilot had modified the airplane with a tank in the fuselage. During the flight, the pilot sent text messages to a family member expressing concerns about having enough fuel to complete the flight. The pilot texted that the headwinds were stronger than he expected, he was encountering turbulence, and he was having to maneuver around clouds. Radar data showed that the airplane was over a 10 nautical mile wide body of water when the pilot made a mayday call stating that he was going into the water. The airplane ditched in the sea and was never recovered.

The search and rescue efforts did not locate the airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The total loss of engine power due to fuel exhaustion, which resulted from the pilot's inadequate in-flight fuel planning.

Findings

Personnel issues	Fuel planning - Pilot
Aircraft	Fuel - Fluid level

Factual Information

History of Flight

Enroute-cruise	Fuel exhaustion (Defining event)

On January 26, 2021 about 1640 Pacific standard time, a Cessna 170A airplane, N9114A, sustained substantial damage when it was involved in an accident near Port Angeles, Washington. The pilot, the sole occupant, was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot initially departed from Kodiak, Alaska the day before the accident with a final destination of Lake Havasu City, Arizona. The day of the accident, the pilot refueled the airplane and departed from Ketchikan, Alaska, about 1000. During the flight, the pilot was in contact with his mother sending numerous text messages. Around 1525 the pilot sent a text stating that there was a severe headwind and expressed concern about having enough fuel to complete the flight.

About 15 minutes later, the pilot stated that his GPS indicated he had been airborne for 5.7 hours and had another 1.1 hours of flight time until reaching his destination (equating to a landing time of 1647). He estimated that with a fuel burn between 6 to 10 gallons per hour that the airplane could make it to Port Angeles, but that the headwinds were slowing the airspeed and it was taking him longer than expected to navigate around numerous clouds. Around 1615, the pilot stated that his estimated time of arrival kept changing on his GPS because of the fluctuating wind, turbulence, and maneuvering to avoid clouds.

A review of the radar data revealed that the airplane was on a southerly track, reaching the edge of the northern land mass at 1634. The radar data continued south for about 5.4 nautical miles (nm) at an altitude of about 1,200 ft. At 1638:06 the data deviated from the southerly direction and were consistent with the airplane reversing course and heading north-northeast. The data from the turn to the last data point indicated a decreasing airspeed and a gradual decent from 1,200 to 400 ft (see figure 1).

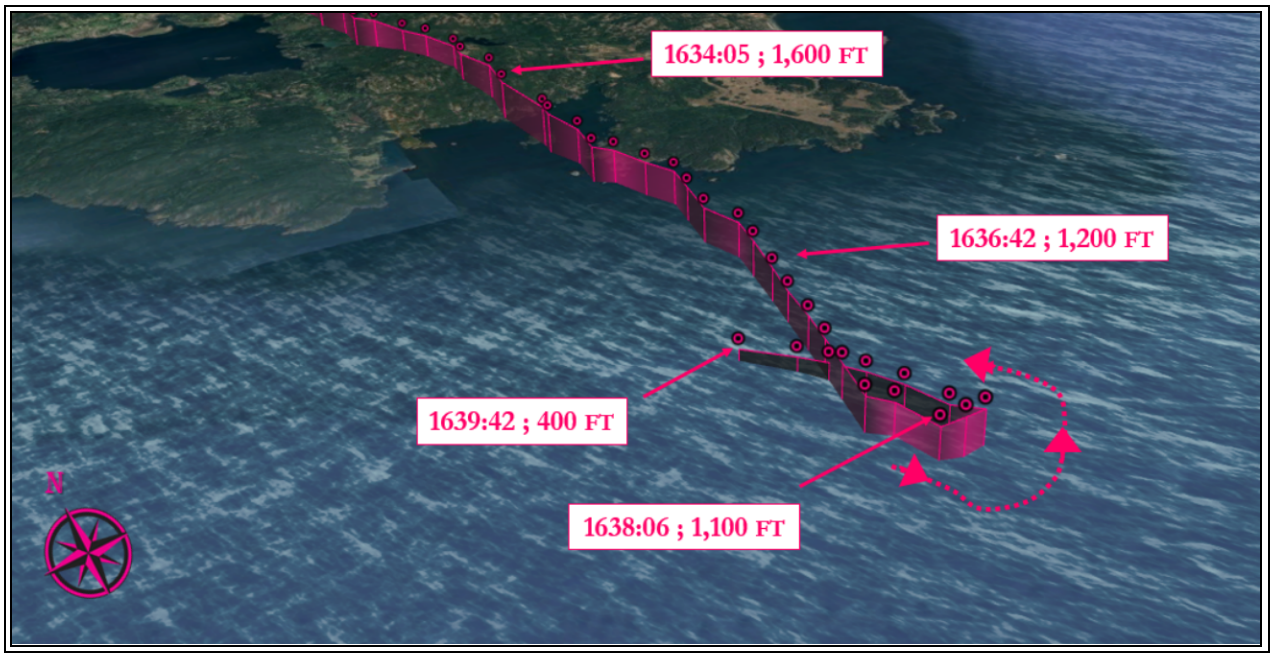

Figure 1: Last Radar Returns

The radar data the furthest south were about 6 nm from land to the south and 4 nm from land to the north. The last radar return was 2.9 nm from the closet land (see figure 2). The pilot sent a picture to his mother about 1637 that showed a marine vessel towing a barge in the water below his location. The pilot broadcast a mayday call over the Port Angeles UNICOM frequency at 1638:47. He stated that he was out in the middle of the water and was ditching by a boat that was towing a barge.

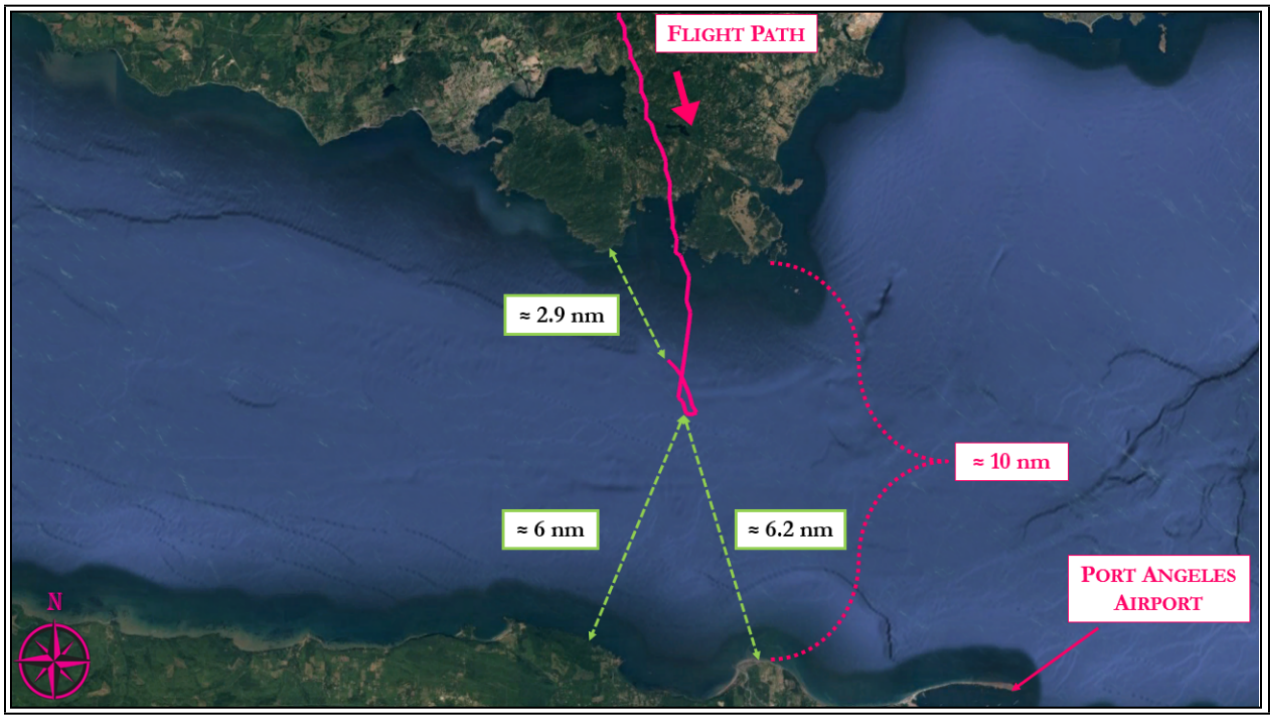

Figure 2: Radar Track in Reference to Land.

Pilot Information

Certificate:	Commercial	**Age:**	38,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	Unknown
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	None None	**Last FAA Medical Exam:**	June 19, 2020
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 650 hours (Total, all aircraft), 120 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N9114A
Model/Series:	170A	**Aircraft Category:**	Airplane
Year of Manufacture:	1949	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	18873
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	CONT MOTOR
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-300
Registered Owner:	HAYES SEAN M	**Rated Power:**	145 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

The fuel system was comprised of two wing fuel tanks and the pilot had modified the airplane with a tank in the fuselage. The main left and right tanks each held 20 gallons and the fuselage tank held between 10-15 gallons. The airplane was not recovered and is presumably on the sea floor.

According to the Flight Owner's Manual, with the engine operating at 2,100 rpm, at 6,000 ft mean sea level, the total fuel burn for the time the airplane was inflight, would be between 28.83 gallons and 37.15 gallons based on the leaning procedure used by the pilot.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KCLM,288 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	16:53 Local	**Direction from Accident Site:**	143°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	13 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	100°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.38 inches Hg	**Temperature/Dew Point:**	4°C / -4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Ketchikan , AK (KTN)	**Type of Flight Plan Filed:**	None
Destination:	Port Angeles, WA (CLM)	**Type of Clearance:**	None
Departure Time:	10:00 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	48.285591,-123.6824(est)

Additional Information

A National Transportation Safety Board investigator reviewed the radio and telephone audio recorded by the US Coast Guard (USCG) Sector Puget Sound (SPS) Command Center. SPS was initially notified of the accident at 1635. The caller relayed that the aircraft was near a tug and barge. Internal calls between SPS watchstanders discuss what tugs are in the area and that Canadian Coast Guard Ship (CCGS) Sir Wilfred Laurier was near Race Rocks. At 1642, SPS issued an Urgent Marine Information Broadcast (UMIB) that was rebroadcast many times over 20 hours requesting assistance for an “airplane that has crashed north of Port Angeles in the Straits of Juan de Fuca.”

Several vessels in the area report not seeing anything in the area. Although phone calls were not time stamped, SPS talked to every tug and barge underway in the Straits including the east bound Seapan King. None of these vessels reported seeing the airplane.

At 1720 the first USCG helicopter launched from Air Station Port Angeles and ten minutes later the SPS directed them to search a trackline from Pillar Point to Whidbey Island. At 1738, the Coast Guard relayed a latitude/longitude position from the Air Force and Federal Aviation Administration. Over the next 22 hours, this datum corrected as needed for drift, was used to generate multiple search patterns for surface and air search and rescue units.

At 2006, the USCG helicopter pilot and a Canadian fixed-wing airplane pilot discussed that a GPS position put the Cessna by Race Rocks, one of several tugs was seen in that area, and that the fixed-wing airplane pilot should search by Race Rocks. Search patterns continued through the night with additional morning searches the following day. At 0937, the Coast Guard relayed a new a position derived from radar. At 1558, the following day, the active search was suspended.

Administrative Information

Investigator In Charge (IIC):	Keliher, Zoe
Additional Participating Persons:	Ove Larson; Federal Aviation Administration; Seattle, WA Henry Soderlund; Textron Aviation (Cessna); Wichita, KS
Original Publish Date:	April 5, 2023
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=102572