Aviation Investigation Final Report

Location:	Beaver Island, Michigan	**Accident Number:**	CHI01LA266
Date & Time:	August 5, 2001, 13:15 Local	**Registration:**	N4545T
Aircraft:	Grumman AA-5B	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane traveled off the departure end of the runway and into a sand/gravel pit on landing. The landing was being made on runway 35 (3,500 feet by 140 feet, dry grass). A typed statement provided by the pilot with his NTSB form 6120.1/2 stated that because of trees at the end of the runway, the pilot made a higher than normal approach and sustained engine power until the trees were cleared. He reported the airplane touched down 500 feet beyond approach end of the runway. The pilot reported that during the landing roll he applied additional braking when he realized that the runway had a down slope. He reported, "While I am sure there was a moment that I could have aborted the landing, it passed due to my confidence that directional control and braking was sufficient to achieve this landing." The airplane continued off the departure end of the runway into a sand/gravel pit, which is 8 to 10 feet below the runway elevation. The right wing contacted a sand pile and the airplane rotated 20 degrees to the right prior to coming to rest. There are 60-foot tall trees located 10 feet from the approach end of runway 35. Runway 35 has a 1,350 foot displaced threshold.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot misjudged the approach and landing, and his failure to abort the landing. Factors associated with the accident were the trees at the approach end of the runway and the sand/gravel pit that the airplane traveled into.

Findings

Occurrence #1: OVERRUN
Phase of Operation: LANDING - ROLL

Findings
1. (F) OBJECT - TREE(S)
2. (C) PLANNED APPROACH - MISJUDGED - PILOT IN COMMAND
3. (C) ABORTED LANDING - NOT PERFORMED - PILOT IN COMMAND

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - ROLL

Findings
4. (F) TERRAIN CONDITION - LOOSE GRAVEL/SANDY

Factual Information

On August 5, 2001, at 1315 eastern daylight time, a Grumman AA-5B, N4545T, collided with the terrain after over running the end of runway 35 (3,500 feet by 140 feet, dry grass) while landing at the Welke Airport, Beaver Island, Michigan. The private pilot and passenger were not injured. The airplane was substantially damaged. The 14 CFR Part 91 personal flight was operating in visual meteorological conditions and a VFR flight plan was filed. The flight originated from Harbor Springs, Michigan at 1230.

The pilot included a typed statement with the NTSB form 6120.1/2 that he submitted. The statement reported that the pilot reported that he checked the weather prior to the flight and the winds in the general area of Beaver Island were from 270 degrees at 3 to 7 knots. He reported that they initially intended to land on runway 27 at the Beaver Island Airport. However, once arriving in the area, he decided to land at the Welke Airport, which was closer to the main town on the island. The pilot reported he flew over the Welke Airport and confirmed that the windsock was indicating that the wind was perpendicular to runway 35.

The pilot reported, "On the turn to final it was observed that a stand of trees existed to the south of the field that required a higher than normal angle of approach to the runway." The pilot reported he used a slight crab to the left and "the power setting was sustained until the aircraft was clear of the treeline." He reported he closed the throttle after clearing the trees and the airplane touched down "500 feet beyond the south-most (entry) end of the runway." The pilot reported he maintained an airspeed that was 5 knots higher than normal due to the crosswind.

The pilot reported that during the landing roll he applied additional braking when he realized that the runway had a down slope. The pilot reported, "While I am sure there was a moment that I could have aborted the landing, it passed due to my confidence that directional control and braking was sufficient to achieve this landing." The airplane continued off the departure end of the runway into a sand/gravel pit, which is 8 to 10 feet below the runway elevation. The right wing contacted a sand pile and the airplane rotated 20 degrees to the right prior to coming to rest.

According to the 2001 Michigan Airport Directory and AirNav.com, there are 60-foot tall trees located 10 feet from the approach end of runway 35. Runway 35 has a 1,350 foot displaced threshold.

Winds reported at the Charlevoix Airport (26 miles southeast of the Welke Airport) at 1315, were from 240 degrees at 6 knots.

Pilot Information

Certificate:	Private	**Age:**	48,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	April 25, 2001
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	462 hours (Total, all aircraft), 90 hours (Total, this make and model), 390 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Grumman	**Registration:**	N4545T
Model/Series:	AA-5B	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	AA5B1268
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	November 20, 2000 Annual	**Certified Max Gross Wt.:**	2400 lbs
Time Since Last Inspection:	80 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2813 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-360
Registered Owner:	William P. Sheridan	**Rated Power:**	180 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	CVX,670 ft msl	**Distance from Accident Site:**	26 Nautical Miles
Observation Time:	14:15 Local	**Direction from Accident Site:**	150°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	240°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.12 inches Hg	**Temperature/Dew Point:**	33°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Harbor Springs, MI (D87)	**Type of Flight Plan Filed:**	VFR
Destination:	Beaver Island, MI (6Y8)	**Type of Clearance:**	None
Departure Time:	12:30 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	Welke 6Y8	**Runway Surface Type:**	Grass/turf
Airport Elevation:	664 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	35	**IFR Approach:**	None
Runway Length/Width:	3500 ft / 140 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	45.649394,-85.549751(est)

Administrative Information

Investigator In Charge (IIC):	Sullivan, Pamela
Additional Participating Persons:	Frank S Schaefer; FAA - Grand Rapids FSDO; Grand Rapids, MI
Original Publish Date:	June 3, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=52976