Republic of the Philippines
DEPARTMENT OF TRANSPORTATION
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES
MIA Road, Pasay City 1300

AIRCRAFT ACCIDENT INVESTIGATION AND INQUIRY BOARD

FINAL REPORT

RP-C1234
PIPER AIRCRAFT INC., PA-32-300

OPERATOR: FLITELINE AIRWAYS PHILIPPINES INC.

TYPE OF OPERATION: NON-SCHEDULED COMMERCIAL

DATE OF OCCURRENCE: NOVEMBER 30, 2023

PLACE OF OCCURRENCE: WITHIN THE VICINITY OF BARANGAY CASALA, SAN MARIANO, ISABELA, PHILIPPINES.

TABLE OF CONTENTS

(Piper Aircraft Inc., PA-32-300, RP-C1234 Final Accident Report)

FOREWORD

This report was produced by the Aircraft Accident Investigation and Inquiry Board (AAIIB), Civil Aviation Authority of the Philippines, MIA Road, Pasay City, Philippines.

The report is based upon the investigation carried out by the AAIIB in accordance with Annex 13 to the Convention on International Civil Aviation, Republic Act 9497 Section 42 and Philippine Civil Aviation Regulation Part 13.

Readers are advised that the AAIIB investigates for the sole purpose of enhancing aviation safety. Consequently, AAIIB reports are confined to matters of safety significance and may be misleading if used for any other purpose. It should be noted that the information in AAIIB reports and recommendations is provided to promote aviation safety and in no case is it intended to imply blame or liability.

Furthermore, No part of AAIIB report or reports relating to any accident or investigation shall be admitted as evidence or used in any suit or action for damages arising out of any matter mentioned in such report or reports.

Republic of the Philippines
DEPARTMENT OF TRANSPORTATION
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES
MIA Road, Pasay City 1300
www.caap.gov.ph

FINAL REPORT

TITLE: Accident involving a Piper Aircraft Inc., PA-32-300 type of aircraft with Registry Number RP-C1234 owned and operated by Fliteline Airways Philippines Inc. that experienced controlled flight into-terrain within the vicinity of Barangay Casala, San Mariano, Isabela, Philippines, on November 30, 2023 at about 1040H (local).

Notification of Occurrence to National Authority

The notification of accident to AAIIB CAAP was relayed by the Operator of the aircraft at 1500H (local) on November 30, 2023.

Identification of the Investigation Authority

The Aircraft Accident Investigation and Inquiry Board (AAIIB), the mandated accident investigation organization within the Civil Aviation Authority of the Philippines (CAAP) as the state of Occurrence/Registry/ Operator conducted the investigation.

Organization of the Investigation

In accordance with provisions of Philippine Civil Aviation Regulation (PCAR) Part 13, an Investigator-In-Charge and Deputy Investigator-In Charge were appointed.

Authority Releasing the Report

The Final investigation report was released by Aircraft Accident Investigation and Inquiry Board (AAIIB) and published on the CAAP website on **31 May 2024**.

Synopsis:

On November 30, 2023 at about 1040H (local), a Piper Aircraft Inc., PA-32-300 type of aircraft with Registry Number RP-C1234 operated by Fliteline Airways Philippines Inc. that experienced controlled flight into-terrain within the vicinity of Barangay Casala, San Mariano, Isabela, Philippines. The pilot and one (1) passenger onboard were fatally injured, the aircraft was destroyed as a result of the accident. Visual Meteorological Condition (VMC) prevailed at the time of the accident. The cause of the occurrence was attributed to the pilot's decision to continue the flight from visual meteorological conditions into instrument meteorological conditions resulted in a reduced ability to visually navigate the flight, which led to controlled flight into terrain.

LIST OF ACRONYMS AND ABBREVIATIONS

AAIIB	:	Aircraft Accident Investigation and Inquiry Board
AD	:	Aerodrome
AMO	:	Approved Maintenance Organization
AMSL	:	Above Mean Sea Level
ARG	:	Airforce Rescue Group
ATC	:	Air Traffic Controller
ATPL	:	Airline Transport Pilot License
CAAP	:	Civil Aviation Authority of the Philippines
CAB	:	Civil Aeronautics Board
DOST	:	Department of Science and Technology
ELT	:	Emergency Locator Transmitter
FT	:	Feet
GPS	:	Global Positioning System
M	:	Meter(s)
OFSAM	:	Office of the Flight Surgeon and Aviation Medicine
PA	:	Philippine Army
PAF	:	Philippine Air Force
PARCC	:	Philippine Aeronautical Rescue Coordinating Center
RDRMC	:	Regional Disaster Risk Management Council
RPLN	:	ICAO code for Palanan Community Airport
RPUY	:	ICAO code for Cauayan Principal Airport
RWY	:	Runway
SAR	:	Search And Rescue
TBO	:	Time Before Overhaul
TOG	:	Tactical Operation Group
UTC	:	Universal Time Coordinated
VFR	:	Visual Flight Rules
VMC	:	Visual Meteorological Condition
WX	:	Weather

1.0 FACTUAL INFORMATION

Aircraft Registration No.	:	RP- C1234
Aircraft Type/Model	:	Piper Aircraft Inc., PA-32-300
Operator	:	Fliteline Airways Philippines Inc.
Address of Operator	:	Unit M Building 4, Salem Complex Domestic Road, Pasay City, Philippines
Place of Occurrence	:	Within the Vicinity of Barangay Casala, San Mariano, Isabela, Philippines
Date/Time of Occurrence	:	November 30, 2023 at about 1040H/0240 UTC
Type of Operation	:	Non-Scheduled Commercial
Phase of Flight	:	Cruise
Type of Occurrence	:	Aircraft collision – high terrain

1.1 History of Flight

On or about 1040H local time, November 30, 2023, a Piper Aircraft Inc. PA-32-300 type of aircraft with registry number RP-C1234 on a chartered flight was declared missing by the Cauayan principal airport duty air traffic controller (ATC) after the pilot failed to report to his destination airport for more than his estimated time of arrival. The said aircraft, operated by Fliteline Airways Philippines Inc., took off from Cauayan Principal Airport (RPUY) bound for Palanan Community Airport (RPLN) with a pilot and passenger on board. Visual meteorological conditions prevailed, and a VFR flight plan had been filed in RPUY and was to be terminated at RPLN.

Upon notification, the Philippine Aeronautical Rescue Coordinating Center (PARCC) activated the Regional Search and Rescue Operation (SAR) on the same day. The Regional Disaster Risk Management Council (RDRMC) Region II likewise activated two (2) SAR teams from the West (San Mariano Group) and East Sector (Palanan Group) composed of combined members of the Philippine Army (PA) and the Philippine National Police (PNP) who were deployed in the mountainous area of Sierra Madre. Tactical Air Group 2 (TOG) PAF was the incident management team center. At about 0700H the following day, the operator conducted SAR operations within the 10 nautical miles of the final reported area of

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

the aircraft on Flightrada24; however, it was discontinued due to dense cloud concentration in the area.

At about 0800H on December 5, 2023, a Sokol helicopter from the 505th Air Rescue Group, PAF, and a civilian R44 helicopter, while on aerial reconnaissance, sited the location of the downed aircraft at an elevation of about 3,800 feet AGL at Casala, San Mariano, Isabela. The crash site has a coordinate of 16.87170104N and 122.25588149E, with the aircraft's final heading being north. It was located on dense vegetation and trees covering the mountain wall area with an undetermined terrain slope. From an aerial perspective, the crash site has traces of aircraft debris distributed within the aircraft wreckage. Further, based on the ground SAR personnel, the presence of high terrain and intense rains in the area hampers the retrieval operation.

On December 6, 2023, the SAR team from the 505th ARG was able to reach the crash site after being hoisted down from the helicopter. The pilot was found to be fatally injured and was brought to the Incident Command Center at Tactical Operations Group 2, PAF, on December 8, 2023. The lone passenger was also found to be fatally injured in a ravine several meters from the crash site the following day. The body was also brought to the Incident Command Center at Tactical Operations Group 2, PAF, the same day.

Figure 1 – The aircraft at its final resting point at about 3,800ft ASL.

1.2 Injuries to Person (s)

Injuries	Crew	Passengers	Others	TOTAL
Fatal	1	1	0	2
Serious	0	0	0	0
Minor	0	0	0	0
None	0	0	0	0

1.3 Damage to Aircraft

The aircraft was destroyed upon impact with terrain.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

1.4 Other Damages

There were no reported other damages in relation with the occurrence.

1.5 Personnel Information

1.5.1 Pilot (P)

Gender	:	Male
Date of Birth	:	March 4, 1976
Nationality	:	Pilipino
License	:	106378 – ATPL
Valid up to	:	August 31, 2024 (ATPL)
Type rating	:	Airplane: Multi Engine Land - LR40, LR35A, LR45-75, PA-32-301
Medical Certificate Valid up to	:	Class 1 valid until January 26, 2024
Total time of Aircraft	:	10+24
Grand Total time	:	9,450+24 Hours

1.6 Aircraft Information

The PA-32-300 "Cherokee Six" is a single-engine, fixed glanding gear, light aircraft that was introduced by Piper aircraft in 1965 (Figure 2). It has a longer and wider cabin that the other Cherokee models, and can carry up to six people or a large amount of cargo. It has a six-cylinder Lycoming engine with 260-hp, and a cruise speed of 137kts/158Mph. It is simple and rugged aircraft that has been used for various purposes, such as private transport, air taxi, bush support, and medevac. RP-C1234 was used as a Non-scheduled flight based on Cauayan Principal Airport (RPUY) to Palanan Community Airport (RPLN). Documents shows that the aircraft is limited to VFR operations only.

Figure 2 – The PA-32-300 "Cherokee Six" aircraft.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

1.6.1 Aircraft Data

The aircraft completed its maintenance inspection for the renewal of Certificate of Airworthiness on December 7, 2022.

Registration Mark	:	RP-C1234
Manufacturer	:	Piper Aircraft Inc.
Country of Manufacturer	:	United States of America
Type/Model	:	Piper Aircraft/PA-32-300
Operator	:	Fliteline Airways Philippines Inc.
Serial No./Line No.	:	32-40588
Year of Manufacture	:	1969
Certificate of Airworthiness	:	Valid until January 5, 2024
Certificate of Registration	:	Valid until July 1, 2024
Category	:	Normal
Number of Flight Crew	:	1
Number of Passenger Seats	:	5
Airframe total time	:	9.886+30 Hours

1.6.2 Engine Data

The Avco Lycoming 540 is a family of air-cooled six-cylinder, horizontally opposed fixed-wing aircraft and helicopter engines of 541.5 cubic inches (8,847cc) displacement, manufactured by Lycoming Engines. The engine is a six-cylinder version of the four-cylinder Lycoming O-360. The engine was overhauled and installed on August 9, 2019.

Manufacturer	:	Avco Lycoming
Type	:	Piston
Model	:	IO-540-K1G5
Engine SN#	:	L-18489-48A
Engine total time	:	346+12 Hours

1.6.3 Propeller Data

Hartzell Propellers was founded in 1917 by Robert N. Hartzell. It produces composite and aluminum propellers for certified, homebuilt and ultralight aircraft. Hartzell HC-C2YK-1BF - 84 inches diameter 2-bladed propeller, diameter reduction allowable to 82.3 inches, 2,000 hours with about 5 years TBO, current design and lower noise.

Manufacturer	:	Hartzell Propeller
Type	:	Variable Pitch
Model	:	HC-C2YK-1BF
Propeller SN#	:	CH36132B
Date last Installed	:	August 9, 2019
Propeller total time	:	1,134+06 Hours

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

1.7 Meteorological Information

Visual Meteorological Conditions (VMC) prevailed at the time of the occurrence. The pilot managed to acquire weather (WX) information through the duty Air Traffic Controller on the departure airport, which indicates "0200Z, wind NW direction @ 6 knots, visibility 8 km, sky condition broken at 1,500 feet, overcast at 4,800 feet with recent rains & haze on all quadrant".

RPUY Facility log operation remarked: RPUY MET instruments unserviceable.

1.8 Aids to Navigation

The flight departed under Visual Flight Rules (VFR), until 15.2 nautical miles away from RPUY then transition to RPLN maintaining VMC using aircraft onboard GPS Garmin 400.

1.9 Communications

The aircraft is equipped with a standard radio transceiver. Communications were carried out between the pilot and the duty air traffic controller.

1.10 Aerodrome Information

Palanan Community Airport (RPLN) is operated by the Civil Aviation Authority of the Philippines (CAAP), and is listed as an approved aerodrome facility data in Philippine Aeronautical Information Publication as of May 2022.

1.10.1 General Information

Aerodrome Name	:	Palanan Community Airport – RPLN
ARP coordinates and site at AD	:	170348N 1222556E
Aerodrome Operator address AFS	:	Civil Aviation Authority of the Philippines Palanan Airport, Palanan, 3334 Isabela
Types of traffic permitted (IFR/VFR)	:	VFR
AD category for fire fighting	:	CAT IV. One (1) fire truck - SIDES VMA28.
Apron surface and strength	:	Surface: Macadam. Strength: Nil.
Taxiway width, surface and strength	:	Width: Nil. Surface: Nil. Strength: Nil.
Aerodrome Obstacles		02/20 Hill with Trees APRX 500M FM THR RWY20 Trees. Exercise caution during landing and take-off.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

ATS Communication Facilities	:	Palanan Control Tower
Frequency/Operation	:	121.90 Mhz (Unicom) / 0000 - 0900
Airspace classification	:	Class B
Runway Direction	:	02/20
Runway Length	:	1,000 Meters
Runway Width	:	30 Meters
Surface	:	17010KG/0.5MPa Concrete

1.11 Flight Recorders

The aircraft is not equipped with any flight recorders and existing Philippine Civil Aviation Regulation does not require such for that type of aircraft.

1.12 Wreckage and Impact Information

The evidence of the aircraft's initial impact point was on the west side of the mountain at 16.87170104N 122.25588149E, with the aircraft's final heading being north (Figure 3). The main wreckage is composed of the nose/crew section, cockpit instrument panel, engine, propeller, and left wing, with thermal damage on its tip-tank. Also found was the empennage with its vertical and horizontal stabilizers.

The initial impact was at an approximate elevation of 3,800 feet MSL on a very steep side of a mountain slope. The aircraft's right wing initially came into contact with a tree, severing it from the fuselage while in a turning climb maneuver to the left. The direction of impact also shows that the left wing also collided with a tree and got separated from the fuselage moments before its full stop. Moreover, both aircraft vertical stabilizers came into contact with two (2) trees, arresting the passenger/tail section and splitting the fuselage nose/crew section between the wings. The propeller indicates rotational movement upon impact. The aircraft was perched on thick vegetation covering the mountainside (Figure 4).

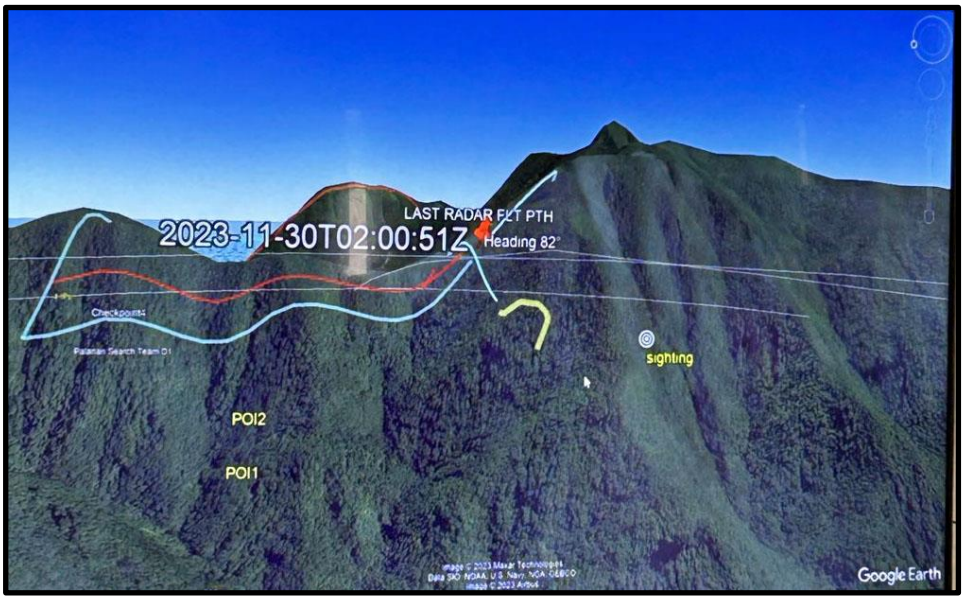

Figure 3 – The aircraft initial impact point sighting.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

Figure 4 – The main wreckage.

Most of the significant components of the aircraft were located within the main wreckage area, which was about one hundred (100) feet in diameter. A pictographic examination of the propellers exhibited substantial damage. (Figure 5).

Figure 5 – The propeller.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

The engine (Figure 6) and its nomenclatures were intact and found within the nose section of the aircraft.

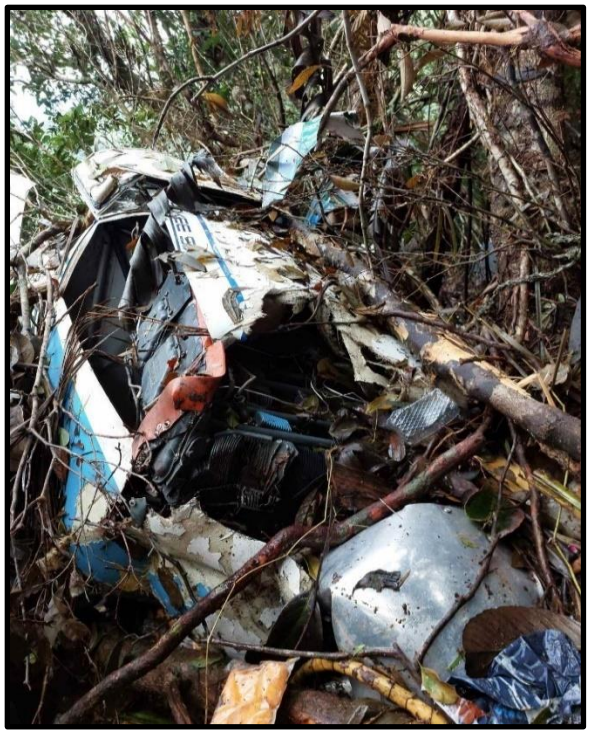

Figure 6 – The engine.

The left wing (Figure 7) was just below the left side of the passenger part of the cabin, caught on the tree roots of the ridge. Its wing tip tank was detached, driven forward by the momentum of the impact, and caught fire (Figure 8).

Figure 7 – The left wing.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

Figure 8 – The left-wing tip tank.

The empennage with its vertical and horizontal stabilizers caught on the trees (Figure 9).

Figure 9 – The empennage.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

1.13 Medical and Pathological Information

The pilot possesses a medical certificate and underwent the medical examination at the Office of the Flight Surgeon and Aero Medical (OFSAM-CAAP) on July 26, 2023.

Based on the death certificate issued on December 11, 2023, by the Office of Civil Registral General, Casala, San Mariano, Isabela. The pilot's cause of death was multiple physical injuries underlying an aviation accident. The pilot has been cremated, as decided by the family.

1.14 Fire

Post-crash fire was limited to most part of the Left-wing tip tank after the ground impact.

1.15 Search and Survival Aspects

The accident was not survivable, as the aircraft was destroyed upon impact with the terrain. The nature of the surrounding terrain and weather hampered the rescue operation. Search and rescue ground personnel were not able to access the main wreckage area, and the use of helicopters was the only option to reach the site and recover the occupants of the aircraft.

The ELT was not recovered during retrieval operations on December 9, 2023. There was no distress signal received by any Emergency Locator Transmitter (ELT) monitoring center worldwide. Pictures of the wreckage show no indication of the ELT antennae (Figure 10). This was probably detached due to the high magnitude of the force impact. The separation of the antennae from the ELT unit explained why no distress signal was transmitted.

Figure 10 – Missing ELT antennae.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

1.16 Organizational and Management Information

Fliteline Airways Phils., Inc. is part of the Fliteline Group of Companies. This company provides air charter services to businesses and groups. They also support special air missions to any point of the Philippines as approved by the Civil Aeronautics Board (CAB). It has a number of single and multi-engine aircrafts used for the business. The Company's base of aircraft operations is located at Plaridel Community Airport, Lumang Bayan, Bulacan, Philippines.

The flight operations of RP-C1234 to and from Cauayan were being managed by "Fliteline Airways Phils., Inc". However, the booking and ticket issuance up to the actual facilitation of its flight operations was said to be handled by Cyclone Air.

The maintenance function of RP-C1234 is being undertaken by Fliteline Aviation Services Repair Station with a current Approved Maintenance Organization (AMO) Certificate number 66-07 located also at Plaridel Community Airport, Philippines.

2.0 ANALYSIS

2.1 Pilot

2.1.1 Trainings and Qualifications

A review was made of the available pilot's records and was able to establish the following:

1. The pilot is a holder of a valid CAAP- ATPL issued license and medical certificate.
2. He has a rating to operate Airplane: Multi Engine Land - LR40, LR35A, LR45-75, and PA-32-301 type of aircraft.
3. His PA-32-300 additional rating was obtained last November 6, 2023, after successfully passing his proficiency flight test conducted by a CAAP-designated check pilot.
4. A copy of the pilot records on RP-C1234 within the month of November 2023:

Date	Flight Time	Flight
November 22, 2023 (Morning)	1+06 Hours	1
November 22, 2023 (Afternoon)	1.12 Hours	1
November 23, 2023 (Morning)	2+24 Hours	2
November 23, 2023 (Afternoon)	1+12 Hours	1
November 27, 2023 (Morning)	2+18 Hours	2
November 27, 2023 (Afternoon)	1+54 Hours	2
November 28, 2023 (Morning)	3+06 Hours	3

Table 1 – Pilot Record

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

2.2 Aircraft Status

According to the statement given by the operator's maintenance personnel assigned to RP-C1234, the required pre-flight inspection was performed on the aircraft prior to its first flight on November 30, 2023. As observed by other ground personnel, the pilot also performed the routine three hundred sixty (360) degree inspection of the aircraft.

After reviewing the maintenance records of the Aircraft Flight and Maintenance Logbook, which were in the possession of the assigned maintenance personnel of RP-C1234, there was no record of any defect or discrepancy noted on the aircraft. It was released for its first flight of the day, which departed Cauayan airport at around 0910H and made a full-stop landing at Palanan, Isabela.

2.3 Flight Route and Weather

Pilots departing from Cauayan, Isabela, to Palanan, Isabela, typically depend on their pre-flight weather briefings primarily based on the data provided by "Windy" (a device software application) and weather observations shared by their designated company weather "Spotter" in Palanan, Isabela. On the day of the occurrence, the pilot also managed to acquire weather (WX) information through the duty Air Traffic Controller (ATC) on the departure airport, which indicates visibility of 8 km, sky condition broken at 1,500 feet, overcast at 4,800 feet, recent rains, and haze in all quadrants. An interview with the duty ATC revealed that the pilot filed a VFR flight plan at Cauayan using standard departure on RWY 30.

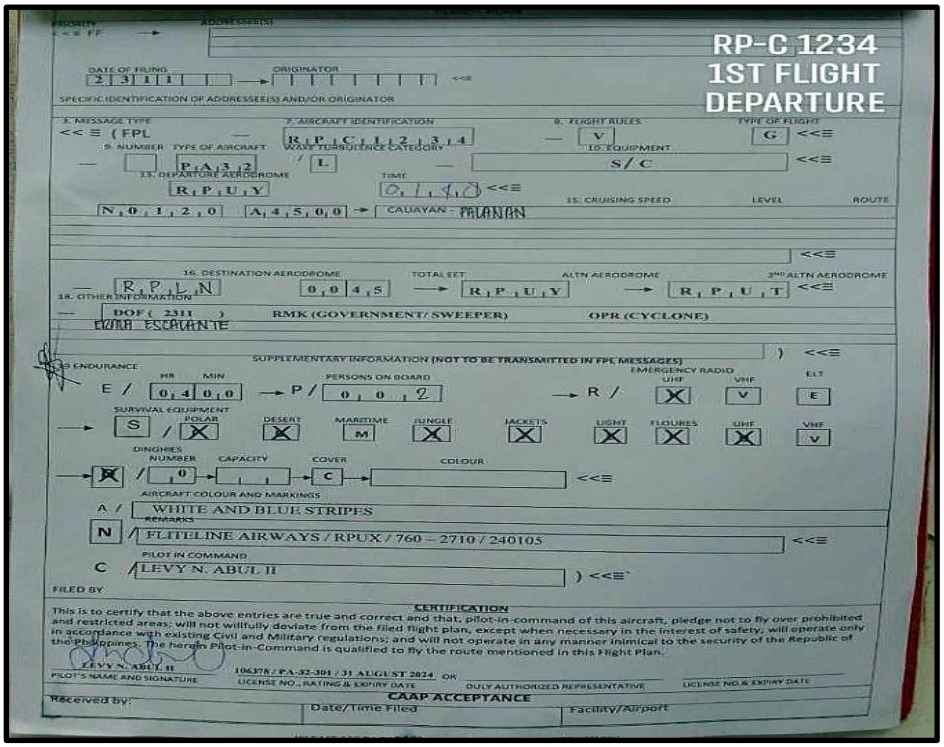

Figure 11 – The Flight Plan.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

Based on Cauayan ATC, the pilot was cleared VFR via RWY 30 for East departure. The outbound pilot will report 15.2 NM out (San Mariano area) onto the desired VFR altitude (Figure 12). Upon reaching 15.2 NM, the pilot then will advise Cauayan ATC the switching to Unicom frequency (121.90Mhz) for traffic information monitoring while maintaining VFR flight.

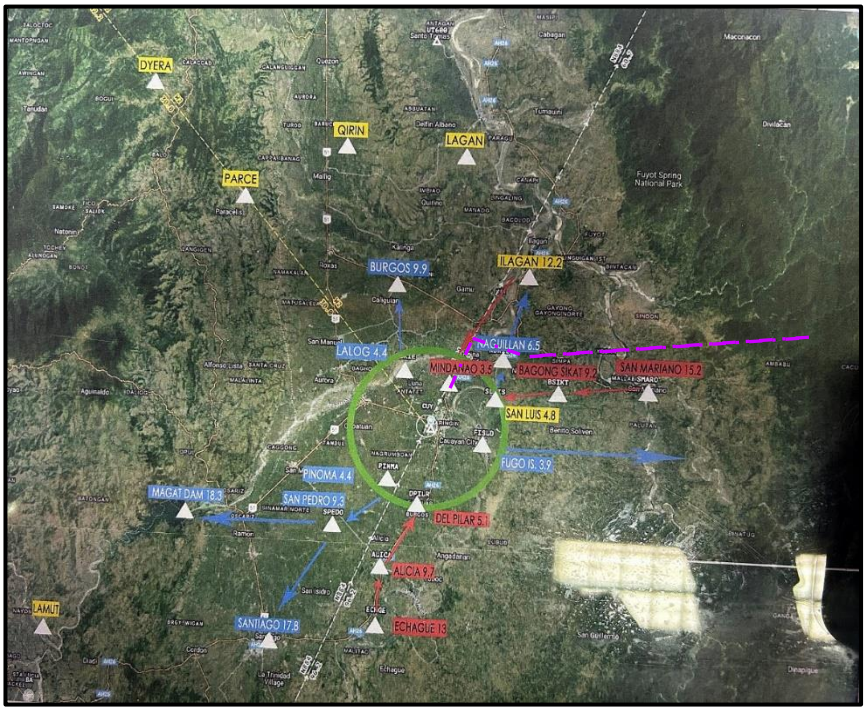

Figure 12 - RPUY VFR outbound East departure.

It is worth noting that the involved operator uses the “Flight Radar 24” (device software application) to monitor and track their aircraft flying to their destination. However, weather information at Palanan is being provided by the company "spotter." The spotter monitors the environment at Palanan Aerodrome and relays the weather observed through a cellular phone to the assisting company personnel and pilot until the aircraft departs. The weather information provided to pilots flying the route was based on the observable sky condition, which is limited to spotter firsthand observations of his surroundings, such as cloud formation in the mountain and wind conditions.

Interviews were conducted with other pilots who routinely operate the Cauayan to Palanan route. This includes the five (5) pilots who flew the route prior to the accident flight on November 30, 2023. These interviews revealed that it was common knowledge among pilots that weather conditions within the Sierra Madre Mountains area can swiftly and unpredictably shift from good to worse. They mentioned that the weather conditions were characterized by thick clouds and heavy rain over the Sierra Madre, resulting in a very turbulent flight while crossing over the mountain. Furthermore, the pilot who conducted the initial search and rescue operation sortie just after receiving the report of the missing aircraft disclosed that they were unable to proceed towards the Sierra Madre range at that time due to clouds and heavy rains over the area. As a result, their search was postponed until the weather improved.
Navigating over the Sierra Madre mountains presents pilots with a number of challenges, mainly due to the presence of elevated terrain and the potential for sudden and erratic localized weather conditions. As for the flight route from Cauayan to Palanan, it requires traversing the

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

Sierra Madre range via waypoints known as South Gap 1, South Gap 2, and South Gap 3. Experienced pilots who have been flying the route for a longer period of time created these waypoints, which they then shared with other pilots serving the area. These waypoints are usually plotted on their personal portable GPS devices in addition to the GPS installed in the aircraft (Figure 13). South Gap 3 was the most frequently used route by pilots traveling to Palanan.

With the aircraft limited to VFR operation, the pilot must operate the aircraft with visual to the ground and visually avoid obstructions and other aircraft. Visual flight rules (VFR) are a set of regulations under which a pilot operates an aircraft in weather conditions that are generally clear enough to allow the pilot to see where the aircraft is going. Under VFR, if flying at an altitude below 10,000 ft, pilots shall maintain 5,000 ft of visibility, 1,000 ft above the highest terrain, and below clouds, respectively. This is to be able to see outside the cockpit, control the aircraft's altitude, and avoid obstacles as well as other aircraft. Given the details about the prevailing weather at the time of the accident and the terrain features along this route, it is evident that these factors played a substantial role in the occurrence of this accident.

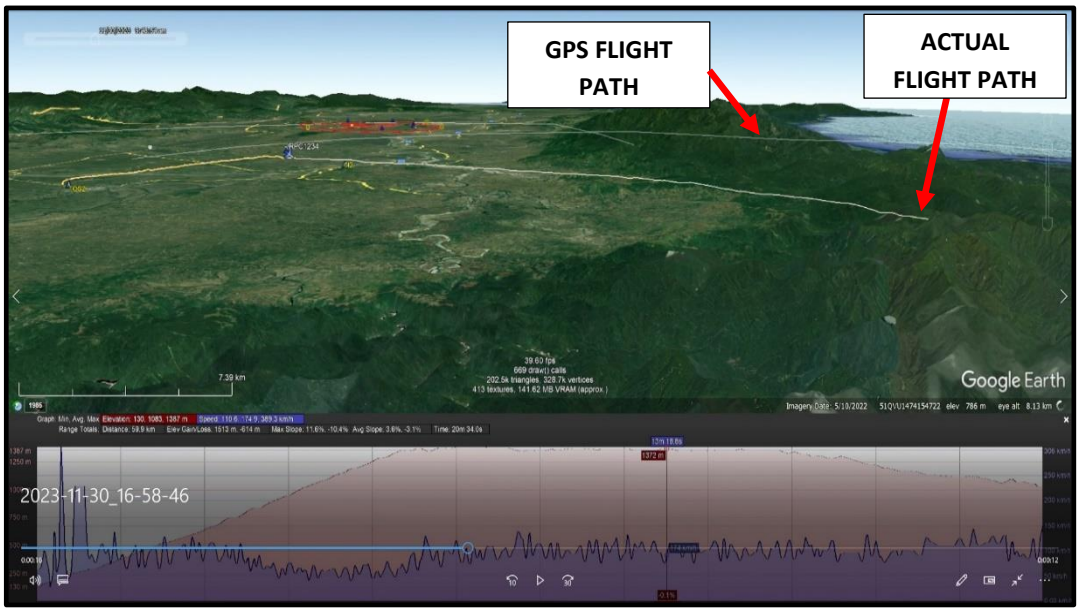

Figure 13 - The flight paths.

Using Operator Flight Radar 24, a flight simulation of the recorded flight of RP-C 1234 was made. It revealed that the aircraft, after being airborne, instead of continuing its climb using the established route towards Palanan. It started to descend before the vicinity of San Mariano, Isabela. Moreover, the descent continues towards the right, and there was a deviation from the normal GPS track en route to Palanan. It could possibly be considered that the pilot wanted to evade the cloud formation built up in the mountain range. The aircraft then likely transitioned from visual meteorological conditions to instrument meteorological conditions as it approached the mountain valley before impacting trees.

The degraded awareness of the surrounding terrain made it difficult for the pilot to recognize potential hazards and take corrective action in a timely manner. Shown below is the navigational flight route plotted by the application for a more familiar representation (Figure 14).

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

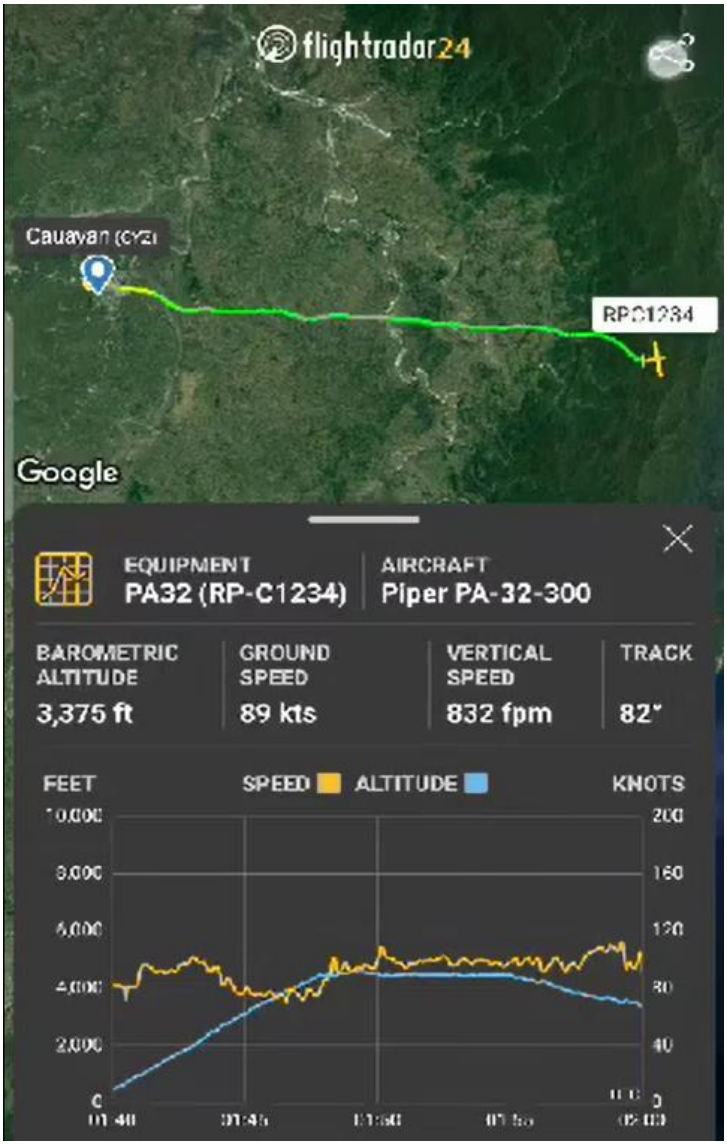

Figure 14 - Navigational flight route plotted on Google Earth.

The weather captured by DOST-PAGASA RADAR satellite station revealed that during the time of the occurrence at about 1040H, there was a large area of cloud concentration with rain over the vicinity of San Mariano, Isabela, approximately 15 NM from Cauayan, Isabela, and Sierra Madre Mountain. (Figure 15).

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

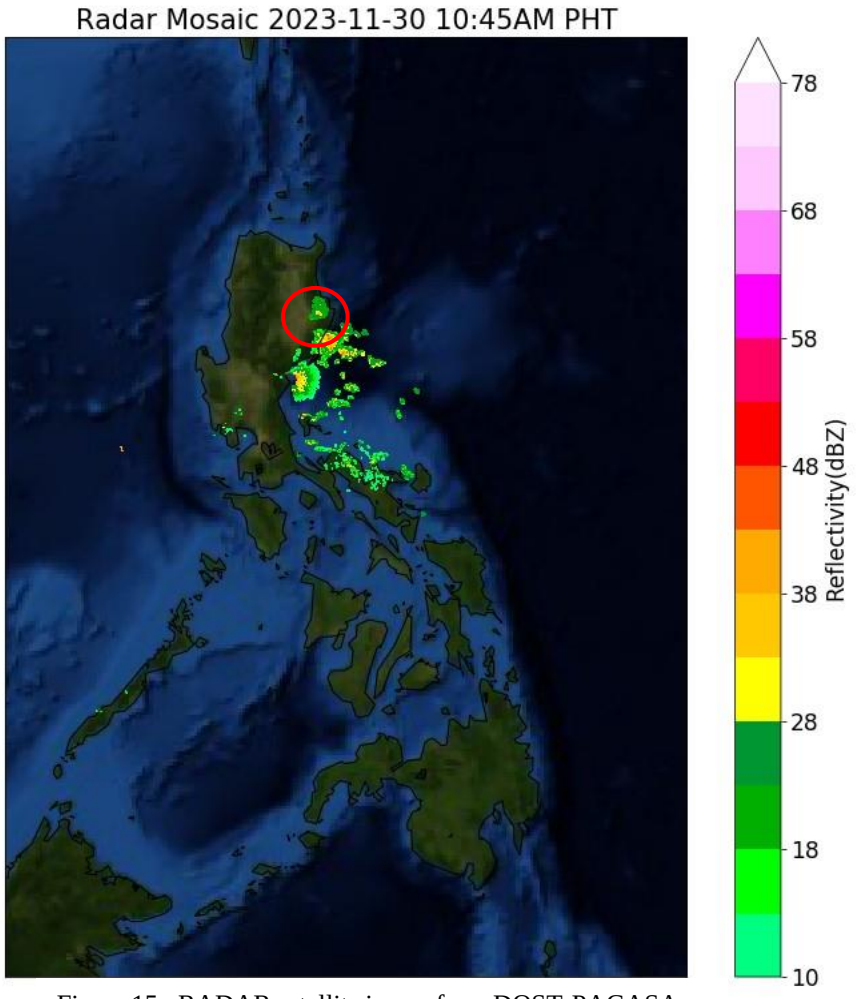

Figure 15 - RADAR satellite image from DOST-PAGASA.

2.4 Site Investigation

From a geographic point of view, discussion of the possibilities of examining the structural integrity of the airframe and engine in the sense of recovering the aircraft was discussed. It is deemed to contribute to the assessment of the aircraft accident investigation. As per the verbal recommendation of the Chairman, Regional Disaster Risk Management Council (RDRMC) Region II, the wreckage of RP-C1234 in consideration of a retrieval activity is not viable. Due to the high risk and inaccessibility of the terrain, no volunteer ground personnel were able to reach the accident site, and ubiquitous dense vegetation with no trail is deemed perilous. Through coordination with the SAR team that was hoisted down from the helicopter at the crash site, several photos of the aircraft were taken. Analysis of it revealed that the disintegration of the aircraft upon impact can be conclusively attributed to its initial collision with large hardwood trees at the crash site. The presence of broken tree trunks and twigs scattered around the wreckage area provides substantial evidence supporting this cause. This collision between the aircraft and the hardwood trees generated extremely high impact forces,

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

causing the fragmentation and breakup of the aircraft structure. The combination of the aircraft's velocity and the robustness of the trees likely resulted in the latter. Analysis of the wreckage pattern and the distribution of debris from aircraft components clearly indicates that the aircraft encountered these sturdy trees and high terrain during its descent.

3.0 CONCLUSION

3.1 Findings

a. The aircraft has valid certificates of airworthiness and registration.
b. The aircraft was properly released for flight without any discrepancies noted in its logbook.
c. The pilot was qualified to operate the PA-32-300 type of aircraft.
d. The pilot has a valid airman's license issued by the CAAP.
e. The flight was under VFR.
f. The aircraft departed using RPUY RWY 30.
g. All aircraft occupants were fatally injured.

3.2 Probable Cause

3.2.1 Primary Cause Factor.

a. The pilot's decision to continue the flight from visual meteorological conditions into instrument meteorological conditions resulted in a reduced ability to visually navigate, which led to controlled flight into terrain.

3.2.2 Contributory Cause Factor.

a. The lack of situational awareness.

4.0 SAFETY RECOMMENDATION

4.1 The safety deficiencies detailed in this report have been fully addressed as a result of the safety measures implemented by the Operator. Consequently, no further safety recommendations are being proposed.

5.0 SAFETY ACTIONS

5.1 Following the occurrence, Fliteline Airways Phils. Inc. initiated the following safety corrective actions (Appendix A):

a. Revision of Company Operations Manual Part-A regarding the VFR route from Cauayan Principal Airport (RPUY) to Palanan Community Airport (RPLN) and vice versa, including position reporting, altitude monitoring, approach/takeoff practices, and emergency procedures.

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

b. Fliteline Airways Phils. Inc. conducted a presentation to all company pilots prior to their flight, emphasizing the hazards of its nature and being vigilant on their flight.

-----END----

MIA Road corner Ninoy Aquino Avenue, Pasay City, Metro Manila, Philippines, 1300
Tel: (+632) 8246-2234, 8246-2235 / www.caap.gov.ph

7.3.8.3 RPUY – CAUAYAN AIRPORT, ISABELA

RPUY – VFR STANDARD ROUTE FOR RPUY TO RPLN

1. For departure clearance and departure procedures, tune in to Cauayan Airport Tower Frequency 122.70. Expect to proceed via South San Mariano.
2. After handover from Cauayan Airport ATC, switch to frequency 121.90 Unicom for Palanan Traffic Advisory and announce your position and current altitude. Plan to climb to 5500 ft. MSL and proceed to South Gap 1.
3. Report your position and altitude 5 miles before reaching South Gap 1, then report your position and altitude to Palanan Traffic Advisory. Expect to establish communication with the Palanan Airport FSS radio operator for Airport Information.
4. Plan to proceed to South Gap 2, descend to 5000 ft. MSL, and report position and altitude to Palanan Traffic Advisory
5. Plan to proceed South Gap 3 and descend to 3500 ft. MSL, and report position and altitude to Palanan Traffic Advisory.
6. a) For Runway 02 landing, intercept the final approach for Runway 02 at Palanan. Line up with the runway centerline and descend on the glide path. Report 3 miles final approach.

   b.) For Runway 20 landing, expect to join overhead Palanan Airport and descend to 1500 ft. Report position and altitude. Join the late right downwind for Runway 20. Descend on the glide path and join the final approach for Runway 20 at Palanan. Report position and altitude over Palanan Traffic Advisory.

7.3.8.4 RPLN – PALANAN AIRPORT, ISABELA

RPUY – VFR STANDARD ROUTE FOR RPLN TO RPUY

1. a.) For departure from runway 02 at Palanan, report your position and intentions over Palanan Traffic Advisory on frequency 121.90 before entering the active runway.
   after airborne maintain the runway heading, proceed over Culasi, and climb to 1500 ft MSL, whichever comes last. Expect to proceed to South Gap 3 while climbing to 4500 ft.
   b.) For departure runway 20 Palanan Report Position and intention over Palanan Traffic Advisory 121.90 before entering active runway.
   After airborne maintain runway heading expect to make a straight out departure to South Gap 3 climbing to 4500 ft. MSL.
2. Over South Gap 3, report your position and altitude. Expect to proceed to the next waypoint, South Gap 2, and maintain 4500 ft.
3. Over South Gap 2, report your position and altitude, and expect to proceed to the next waypoint, South Gap 1, maintaining 4500 ft.
4. Over South Gap 1, please report your position and altitude, and then switch to Cauayan Tower Frequency 122.70 to report your position, altitude, and intention for landing.

   Follow Cauayan Tower instruction for arrival and landing.