



**KOMITE NASIONAL KESELAMATAN TRANSPORTASI
REPUBLIC OF INDONESIA**

PRELIMINARY

KNKT.22.06.06.04

Aircraft Accident Investigation Report

PT Derazona Air Service

Bell 412; PK-DAR

About 24 Nm East of Mozes Kilangin Airport, Timika

Republic of Indonesia

8 June 2022

2022

This Preliminary Report was published by the Komite Nasional Keselamatan Transportasi (KNKT), Transportation Building, 3rd Floor, Jalan Medan Merdeka Timur No. 5 Jakarta 10110, Indonesia.

The report is based upon the initial investigation carried out by the KNKT in accordance with Annex 13 to the Convention on International Civil Aviation Organization, the Indonesian Aviation Act (UU No. 1/2009) and Government Regulation (PP No. 62/2013).

The preliminary report consists of factual information collected until the preliminary report published. This report will not include analysis and conclusion.

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Jakarta, 27 July 2022
**KOMITE NASIONAL
KESELAMATAN TRANSPORTASI
CHAIRMAN**



SOERJANTO TJAHJONO

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ABBREVIATIONS AND DEFINITIONS

AOC	:	Air Operator Certificate
ATPL/H	:	Airline Transport Pilot License/Helicopter
ARO	:	Airport Reservation Office
ATS	:	Air Traffic Control Services
BMKG	:	<i>Badan Meteorologi, Klimatologi dan Geofisika</i> (the Agency of Meteorology, Climatology and Geophysics of Indonesia)
CPL/H	:	Commercial Pilot License/Helicopter
CVR	:	Cockpit Voice Recorder
HLO	:	Helicopter Landing Officer
In Hg	:	Inch of Hydrargyrum (Mercury)
KNKT	:	Komite Nasional Keselamatan Transportasi
km	:	kilometers
LT	:	Local Time
mb	:	millibars
Nm	:	Nautical Mile
TIBA	:	Traffic Information by Aircraft
TT/TD	:	Atmospheric Temperature/Dew Point Temperature
QFE	:	QFE is an aeronautical code indicating atmospheric pressure at the current ground level.
QNH	:	QNH is an aeronautical code indicating the atmospheric pressure adjusted to mean sea level.
UTC	:	Universal Time Coordinated

SYNOPSIS

A Bell 412 aircraft, registration PK-DAR, was being operated by PT Derazona Air Service on a non-schedule from Mozes Kilangin Airport, Timika, Papua, Indonesia (WAYY) to Jila Airstrip, Papua, Indonesia (WAYJ).

According to the filed flight plan, the helicopter would conduct the flight of Timika – Bupati Area helipad – Jila – Bupati Area helipad – Timika.

On 8 June 2022 at 2213 UTC (0713 LT), the helicopter departed from Timika to Bupati Area. Onboard in this flight were two pilots and one Helicopter Landing Officer (HLO). Several minute later the helicopter landed on the Bupati Area helipad. The distance from Timika to Bupati Area helipad was about 5 Nm. After landed at Bupati Area helipad, the helicopter picked up three passengers consists of one medical doctor and two nurses.

At 0800 LT, the helicopter departed to Jila. The flight from Bupati Area helipad to Jila was estimated about 40 minutes.

The intention to Jila was picked up a mother who experienced lotus births (lotus birth is the practice of birthing the baby and placenta, and leaving the cord intact between mother and the baby). In that case the mother also had the problem of placenta previa (complete or partial covering of the cervix with the placenta). The plan was that the mother of twin baby girls will be expedited from Jila to the Timika hospital for further treatment.

As the flight plan, the helicopter flew back from Jila to Bupati Area helipad.

On the flight back from Jila to Bupati Area helipad, the helicopter encountered weather.

The helicopter crashed and found about 24 Nm on radial 088 from Timika with the coordinate of 4° 30' 09" S 137° 16' 34.7" E.

The pilots experienced serious injury. The passengers were survived and one of the infant passengers was fatally injured.

The investigation is ongoing. The KNKT did not receive any safety action from the operator.

1 FACTUAL INFORMATION

1.1 History of the Flight

A Bell 412 helicopter, registration PK-DAR, was being operated by PT Derazona Air Service¹ on a non-schedule flight from Jila Airstrip, Papua, Indonesia (WAYJ)² to Mozes Kilangin Airport, Timika, Papua, Indonesia (WAYY)³.

According to the filed flight plan, the helicopter was scheduled to conduct the flight from Timika – Bupati Area⁴ helipad – Jila – Bupati Area helipad – Timika.

On 8 June 2022 at 2213 UTC⁵ (0713 LT), the helicopter departed from Timika to Bupati Area. Onboard in this flight were two pilots and one Helicopter Landing Officer (HLO). Several minutes later the helicopter landed on the Bupati Area helipad. The distance from Timika to Bupati Area helipad was about 5 Nm. After landed at Bupati Area helipad, three passengers consisted of one medical doctor and two nurses on board the helicopter.

At 0800 LT, the helicopter departed Bupati Area helipad to Jila. The flight from Bupati Area helipad to Jila was about 40 minutes.

At Jila, the helicopter picked up two adults and three infant passengers. As the schedule, the helicopter flew back from Jila to Bupati Area helipad.

On the flight from Jila to Bupati Area helipad, the helicopter encountered weather.

The helicopter crashed and found about 24 Nm on radial 088 from Timika at coordinate of 4° 30' 09" S; 137° 16' 34.7" E.

1.2 Injuries to Persons

Injuries	Flight crew	Passengers	Total in Aircraft	Others
Fatal	-	1	1	-
Serious	2	-	2	-
Minor	-	-	-	-
None	-	8	8	-
TOTAL	2	9	11	-

The pilots and all passengers are Indonesian.

1 PT Derazona Air Service will be named as Derazona for the purpose of this report.

2 The Jila Airstrip, Papua, Indonesia (WAYJ) will be named as Jila for the purpose of this report.

3 The Mozes Kilangin Airport, Timika, Papua (WAYY), Indonesia will be named as Timika for the purpose of this report.

4 The Bupati Area is a helipad in the local district office about 5 Nm from Timika.

5 The 24-hours clock in Universal Time Coordinated (UTC) is used in this report to describe the local time as specific events occurred. The Local Time in Timika is UTC + 9 hours.

1.3 Damage to Aircraft

The helicopter was substantially damaged.

1.4 Other Damage

There was no other damage to property and/or the environment.

1.5 Personnel Information

1.5.1 Pilot in Command

Gender	:	Male
Age	:	62
Nationality	:	Indonesian
Marital status	:	Married
Date of joining company	:	2005
License	:	ATPL/H
Date of issue	:	13 January 1999
Aircraft type rating	:	Bell 412
Instrument rating validity	:	28 January 2020
Medical certificate	:	First Class
Last of medical	:	20 December 2021
Validity	:	20 June 2022
Medical limitation	:	Holder shall wear corrective lenses for near and distant vision
Last line check	:	23 March 2021
Last proficiency check	:	25 February 2022

Flying experience

Total hours	:	8,193 hours
Total on type	:	1,350 hours
Last 90 days	:	9.2 hours
Last 30 days	:	6.9 hours
Last 7 days	:	2.1 hours
Last 24 hours	:	-
This flight	:	1.8 hours

1.5.2 Second in Command

Gender	: Male
Age	: 47
Nationality	: Indonesian
Marital status	: Married
Date of joining company	: 2012
License	: CPL/H
Date of issue	: 5 July 2002
Aircraft type rating	: Bell 412
Instrument rating validity	: 20 February 2020
Medical certificate	: First Class
Last of medical	: 11 January 2022
Validity	: 16 July 2022
Medical limitation	: Holder shall wear corrective lenses for near and distant vision
Last line check	: 6 October 2021
Last proficiency check	: 25 February 2022
Flying experience	
Total hours	: 4,443 hours
Total on type	: 1,100 hours
Last 90 days	: 16 hours
Last 30 days	: 6.7 hours
Last 7 days	: 2.1 hours
Last 24 hours	: -
This flight	: 1.8 hours

1.6 Aircraft Information

1.6.1 General

Registration Mark	: PK-DAR
Manufacturer	: PT Dirgantara Indonesia
Country of Manufacturer	: Indonesia
Type/Model	: Bell 412 SP
Serial Number	: 34024
Year of Manufacture	: 2003

Certificate of Airworthiness

Issued : 26 June 2021
Validity : 25 June 2022
Category : Transport
Limitations : None

Certificate of Registration

Number : 2013
Issued : 7 February 2022
Validity : 6 February 2025
Time Since New : 3,834 hours
Cycles Since New : 7,476 cycles
Last Major Check : 1,000 hours
Last Minor Check : 100 hours

Based on the Maintenance Log, there was no report of helicopter abnormality.

1.6.2 Engines

Manufacturer : Pratt & Whiney
Type/Model : PT6T-3B
Serial Number-1 engine : CPPS-61597
▪ Time Since New : 11898.8 hours
▪ Cycles Since New : 8630 cycles
Serial Number-2 engine : CPPS-62918
▪ Time Since New : 3861.3 hours
▪ Cycles Since New : 5430 cycles

1.6.3 Main Rotors

Manufacturer : Bell Helicopter Textron
Type/Model : N/A
Serial Number-1 blade : A-1594
▪ Time Since New : 5,624.4 hours
▪ Cycles Since New : 10,844 cycles
Serial Number-2 blade : A-1588
▪ Time Since New : 6,038.4 hours
▪ Cycles Since New : 11,632 cycles
Serial Number-3 blade : A-830

- Time Since New : 13,068.4 hours
 - Cycles Since New : 29,223 cycles
- Serial Number-4 blade : A-826
- Time Since New : 8,978.9 hours
 - Cycles Since New : 3,154 cycles

1.7 Meteorological Information

Weather report for Timika as reported by the *Badan Meterologi, Klimatologi, dan Geofisika* (BMKG – the agency of meteorology, climatology and geophysics of Indonesia) on On 8 June 2022 from 0659 LT until 0959 LT was as follows:

Time (LT)	0800
Wind (°/knots)	340/02
Visibility (km)	10
Weather	NIL
Cloud	SCT 1,500 feet
TT/TD ⁶ (°C)	25/23
QNH ⁷ (mb/in Hg)	1013/29.93
QFE ⁸ (mb/in Hg)	1008/29.78
Remarks	NOSIG

1.8 Aids to Navigation

In conducting the flight from Timika or Bupati Area helipad to Jila, Derazona utilized flight guidance with the routes of Mozes Kilangin – Celah Jila 1,000 feet – Persimpangan Jila 2,500 feet – Jila 4,600 feet. The way point is as follow.

Point	Coordinate
Mozes Kilangin	40° 31' 54" S; 136° 53' 18" E
Celah Jila 1,000 feet	40° 25' 44.82" S; 137° 43' 15.63" E
Persimpangan Jila 2,500 feet	40° 17' 33.70" S; 137° 40' 15.93" E
Jila 4,600 feet	40° 14' 46.30" S; 137° 35' 55.3" E

6 TT is atmospheric temperature and TD is dew point temperature (the atmospheric temperature which water droplets begin to condense and dew can form).
7 QNH is an aeronautical code indicating the atmospheric pressure adjusted to mean sea level.
8 QFE is an aeronautical code indicating atmospheric pressure at the current ground level.

The merged way point from Timika to Jila on the google earth image is as follow.



Figure 1: Timika – Jila flight guidance

1.9 Communications

Jila Airstrip did not have air traffic services. The departure or arrival aircraft was not provided with air traffic services. The route from Jila to Timika was class G airspace and no air traffic services were provided.

After the helicopter flew out range of the Timika air traffic control area, the helicopter pilot broadcast the flight status via Traffic Information by Aircraft (TIBA) on frequency 122.9 MHz.

1.10 Aerodrome Information

Airport Name	: Mozes Kilangin Airport – Timika
Airport Identification	: WAYY
Airport Operator	: Directorate General of Civil Aviation Indonesia
Coordinate	: 04°31'54" S; 136°53'18" E
Elevation	: 104 feet
Runway Direction	: 12 - 30
Runway Length	: 2,390 meters
Runway Width	: 45 meters
Surface	: Asphalt

1.11 Flight Recorders

The aircraft was not fitted with a flight data recorder as it was not required by current Indonesian aviation regulations.

The helicopter was fitted with a Cockpit Voice Recorder (CVR) manufactured by L3 Harris Model FA2100, Part Number FA2100-1020-00 and Serial Number 000511295.

The CVR was recovered during the evacuation by Indonesian Search and Rescue (*Badan SAR Nasional* – BASARNAS) on 8 June 2022 and handed over to KNKT.

The CVR data was successfully downloaded in KNKT facility. The detail CVR excerpt will be included in the Final Report.

1.12 Wreckage and Impact Information

The accident site was in the high density of rain forest. The helicopter condition was shown in the figure below.



Figure 2: The condition of the helicopter.

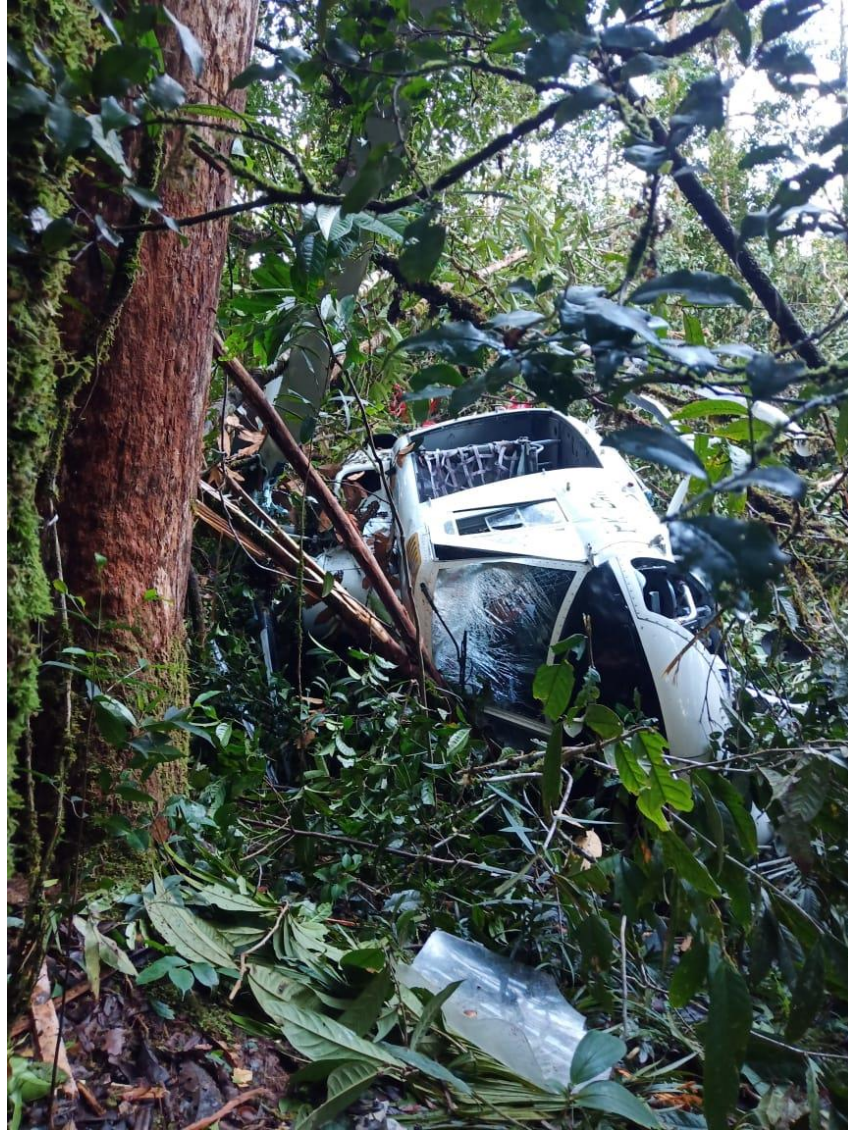


Figure 3: The front view of the helicopter

1.13 Medical and Pathological Information

The medical information will be included in the Final Report.

1.14 Fire

There was no evidence of in-flight or post-impact fire.

1.15 Survival Aspects

The medical doctor on board in the helicopter stated that one of the passengers was a mother experienced lotus births⁹ of twin baby girls which in that case the mother also had the problem of placenta previa¹⁰. The plan was that the mother of twin baby girls would be transferred to a hospital for further treatment.

⁹ Lotus birth is the practice of birthing the baby and placenta, and leaving the cord intact between mother and the baby.

¹⁰ Placenta previa is a complete or partial covering of the cervix with the placenta.

About 1130 LT, the Timika Airport Reservation Office (ARO) officer, informed to the Timika air traffic control on duty about the fuel endurance of the helicopter.

About 1150 LT, considering the fuel endurance of the helicopter, the Timika ARO officer informed the ARO officer in Sentani, Jayapura, Papua, Indonesia to declare DETRESFA¹¹.

About 1200 LT, the HLO, using the satellite hand held communication, called one of the Timika air traffic control officers (which was out of duty) reporting that the helicopter was crashed at a location in coordinate of 4° 30' 09" S; 137° 16' 34.7" E. The HLO also reported that the people on board were survived including the mother and twin baby girls. One infant was reported missing.

About 1500 LT, the search to the helicopter was conducted using three helicopters. The helicopter was found about 24 Nm on radial 088 from Timika on the coordinate as reported by the HLO.

At 1725 LT, using three helicopters, all the survived persons were evacuated to the Timika hospital and one infant passenger that was reported missing had not been found.

On 9 June 2022 at 1000 LT, the search was conducted to the missing infant at the crashed site. After about 4 hours search, the missing infant was found fatally injured located about 50 meters from the helicopter.

About 1500 LT the infant was evacuated to the Timika hospital.

1.16 Tests and Research

Any test and research information will be included in the Final Report.

1.17 Organizational and Management Information

Aircraft Owner	: PT Derazona Air Service
Aircraft Operator	: PT Derazona Air Service, Indonesia
Address	: Halim Perdanakusuma Airport – East Jakarta 13610, Indonesia.
Operator Certificate	: AOC 135-010 valid until 19 January 2023

The operator operates two Airbus helicopter AS350B3e, two Airbus helicopter AS332 and two Bell 412 SP (including the accident helicopter).

The aircraft operator utilizes the Spidertrack for flight following which could be used for the tracking purposes. The flight following data merged to the google earth image is as follow:

¹¹ DETRESFA: Distress Phase when there is reasonable certainty that the aircraft and its occupants are threatened by grave and imminent danger.

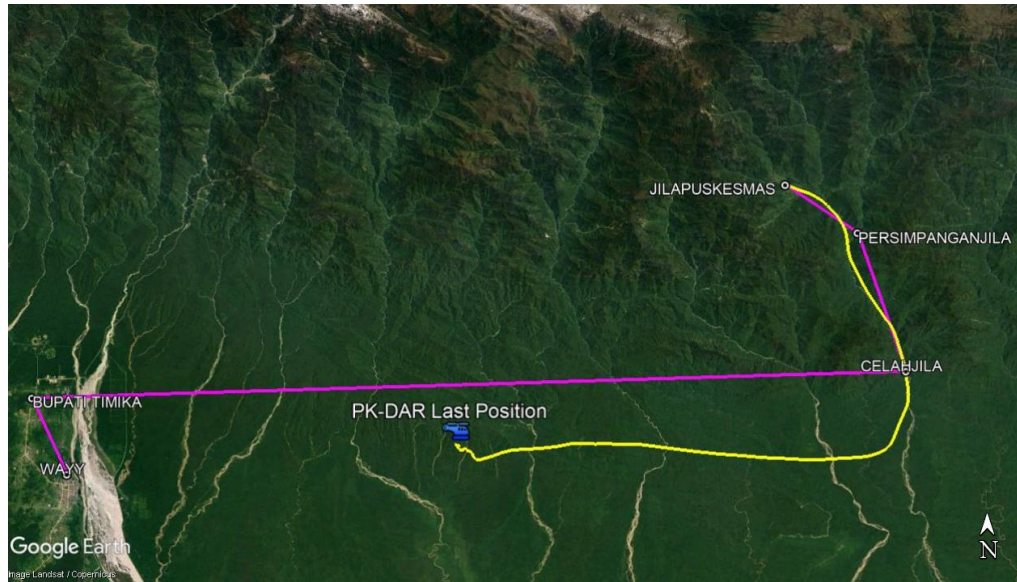


Figure 4: The helicopter flight following

1.18 Additional Information

The investigation is continuing and KNKT plans to complete the investigation within 12 months since the day of the occurrence. Should any further relevant safety issues emerge during the course of the investigation, KNKT will immediately bring the issues to the attention of the relevant parties and publish as required.

1.19 Useful or Effective Investigation Techniques

The investigation was conducted in accordance with the KNKT approved policies and procedures, and in accordance with the standards and recommended practices of Annex 13 to the Chicago Convention.

2 FINDINGS

Findings are statements of all significant conditions, events or circumstances in the accident sequence. The findings are significant steps in the accident sequence, but they are not always causal, or indicate deficiencies. Some findings point out the conditions that pre-existed the accident sequence, but they are usually essential to the understanding of the occurrence, usually in chronological order.

According to factual information during the investigation, the KNKT identified initial findings as follows:

1. The helicopter had valid Certificate of Registration and Certificate of Airworthiness.
2. The pilots held the valid licenses and medical certificates.
3. The Maintenance Log did not record any helicopter abnormality prior to the accident.
4. The flight from Timika up to Jila was uneventful.
5. The helicopter operation area was not covered by the air traffic services. After the helicopter flew out range of the Timika air traffic control area, the helicopter pilot broadcast the flight status via Traffic Information by Aircraft (TIBA) on frequency 122.9 MHz..
6. On the flight from Jila to Bupati Area helipad, the helicopter encountered weather.
7. Considering the helicopter fuel endurance, about 1150 LT, the Timika ARO officer informed the ARO officer in Sentani, Jayapura, Papua, Indonesia to declare DETRESFA.
8. About 1200 LT, the HLO, using the satellite hand held communication called one of the Timika air traffic control officers reporting that the helicopter was crashed including the location of the accident. The HLO also reported that all of the people on board were survived including except one infant that was missing.
9. About 1500 LT, the helicopter was found about 24 Nm on radial 088 from Timika.
10. At 1725 LT, all the survived persons were evacuated to Timika and one infant was still missing.
11. On 9 June 2022 at 1000 LT, the missing infant was found fatally injured about 50 meters from the helicopter.

3 SAFETY ACTION

At the time of issuing this Preliminary Report, the KNKT had not been informed of any safety actions resulting from this occurrence.

4 SAFETY RECOMMENDATIONS

The Komite Nasional Keselamatan Transportasi is not issuing safety recommendation in this preliminary report. Should any further relevant safety issues emerge during the course of the investigation, KNKT will immediately bring the issues to the attention of the relevant parties and publish as required.

5 APPENDICES

Not applicable

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