



COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF TRANSPORT

AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

Reference No.

SI/762/1066

Publication of this report is authorised by the Secretary under the provisions of Air Navigation Regulations 283 (1)

1. LOCATION OF OCCURRENCE

Cudgewa, 9 Km north-west of Wee Waa, New South Wales	Height a.m.s.l. 600 feet	Date 22.11.76	Time (Local) 2155 hours	Zone ESuT
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2. THE AIRCRAFT

Make and Model Piper PA25-235	Registration VH-TND	Certificate of Airworthiness Valid from 12.2.74
Certificate of Registration issued to Nicholson's Air Service Pty Ltd, P.O. Box 91, Wee Waa, New South Wales	Operator Nicholson's Air Service Pty Ltd, P.O. Box 91, Wee Waa, New South Wales	Degree of damage to aircraft Destroyed Other property damaged Nil
Defects discovered Nil		

3. THE FLIGHT

Last or intended departure point Cudgewa	Time of departure 2115 hours	Next point of intended landing Cudgewa	Purpose of flight Agricultural Spraying	Class of operation Aerial Work
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4. THE CREW

Name	Status	Age	Class of licence	Hours on type	Total hours	Degree of injury
Robert James Neville COWAN	Pilot	30	Commercial	2300	5400	Serious

5. OTHER PERSONS (All passengers and persons injured on ground)

Name	Status	Degree of injury	Name	Status	Degree of injury

6. RELEVANT EVENTS

The pilot was not engaged in flying duties on 20.11.76. Commencing late in the evening of 21.11.76 he flew some 3½ hours on spraying operations which extended into the very early morning of 22.11.76. He next reported for flying duty at the Wee Waa base of the operator at approx. 1800 hours on 22.11.76. During his pre-flight inspection of the aircraft the pilot determined that the fuel tank was not filled to maximum capacity the contents being some 250 to 400 mm from the top of the tank.

The aircraft departed Wee Waa for Cudgewa to carry out night cotton spraying operations using Chlorcam/DDT ULV, a flammable insecticide. The flight time from Wee Waa is normally about 4 minutes but it is likely that, on this occasion, the pilot made a slight en-route diversion to examine an area which was to be sprayed. After landing at Cudgewa the aircraft was not refuelled. The hopper was loaded with 333 litres of insecticide at 2000 hours. Shortly afterwards, the aircraft took off and, after spraying a field of 79 hectares, it returned to Cudgewa and landed. 424 litres of insecticide was loaded into the hopper at 2110 hours. The aircraft was not refuelled and it was apparently the intention of the pilot to spray another field of 79 hectares, return to Cudgewa for refuelling, and then to spray a field of 22 hectares with the remaining insecticide. Spraying of the 79 hectare field commenced and progressed until, at the commencement of the final east/west run inside the southern boundary of the field, there was a sudden and apparent total loss of engine power. The aircraft assumed a steep nose-up attitude, commenced turning to the right and there was a momentary surge of engine power. The nose of the aircraft then dropped and it descended steeply. It struck the ground in a steep nosedown, right wing-down attitude and an intense fire broke out immediately.

Examination of the wreckage revealed no evidence of any pre-existing defect or malfunction which may have contributed to the accident. The pilot has said that his memory of the events of the evening is not clear and he is unable to recall the circumstances of the accident.

The operating time of the aircraft from take-off Wee Waa until the time of the accident has been determined as not less than 1 hour 45 minutes. The fuel consumption rate appropriate to spraying operations would result in a fuel endurance, based on a fuel tank filled to capacity, of the order of two hours.

7. OPINION AS TO CAUSE

The probable cause of the accident was that the pilot continued the operation without ensuring that adequate fuel was carried.

Approved for
publication(G.V. Hughes)
Delegate of the Secretary

Date 27.10.78