

## RÉSUMÉ

DAVID S. RUPERT

### BUSINESS ADDRESS:

R. J. Waldron and Company (1987) Limited  
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Richmond, British Columbia  
Canada, V7C 4R9  
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### RESIDENTIAL ADDRESS:

13270 Amble Greene Court  
Surrey, British Columbia  
Canada, V4A 6H1  
Telephone: 604-535-1676

### PERSONAL INFORMATION:

Born: March 31, 1948  
Toronto, Ontario, Canada

Citizenship: Canadian

### EDUCATION:

1970      Graduated with Honors from Algonquin College of Applied Arts and Technology, Mechanical Engineering Technology diploma program in Ottawa, Ontario.

The three year Mechanical Engineering Technology diploma program at Algonquin College provided a basic theoretical background in the standard engineering subjects, including: physics, chemistry, mathematics, applied mechanics, electronics, material science, thermodynamics, fluid mechanics, strength of materials, theory of machines, computer science, hydraulics, pneumatics, etc. It also provided theory and practical experience in a variety of other areas, such as: drafting, welding, electricity, machine shop practices,

metrology, manufacturing processes, quality control and industrial management.

1967 Graduated from Ontario Secondary School.

### **CONTINUING EDUCATION:**

<u>Data</u>	<u>Course</u>		
1982	Sonar and Positioning Systems	Klein Associates	3 days
1982	Private Pilot Ground School	Algonquin College	45 hours
1981	Stress Corrosion	ASM	3 days
1981	Helicopter Accident Investigation	USC	2 weeks
1979	Fracture Mechanics	Lehigh U	4 days
1978	Fractography	ASM	5 days
1978	Scanning Electron Microscopy and X-Ray Micro Analysis	Lehigh U	5 days
1977	Crash Survival Investigators Course	ASU	2 weeks
1977	X-Ray Analysis Course	Tracor Northern	5 days
1977	Sony T.V. Production Course	Sony	4 days
1977	Failure Analysis	ASNT	3 days
1976	Witness Interview Course	Dept. of Transport	2 days
1975	Failure Analysis Workshop	University of M-C	3 days
1975	Report Writing and Oral Communications	Public Service Commission	4 days
1974	Failure Analysis	ASM	3 days
1974	Optical Comparator Course	Jones & Lamson	3 days
1973	Aluminum and Its Alloys	MEI	5 days
1972	Heat Treatment of Steels	MEI	5 days
1972	Nikon School of Photography	Nikon	2 days
1972	Basic Aircraft Accident Investigation	NTSB	4 weeks
1972	Non-Destructive Testing II	Algonquin College	30 hours
1971	Non-Destructive Testing I	Algonquin College	30 hours
1971	Metallographic Interpretation	MEI	5 days

### **PROFESSIONAL QUALIFICATIONS & AFFILIATIONS:**

- Diploma in Mechanical Engineering Technology
- Certified Applied Science Technologist (AScT) as a member of the Applied Science Technologists and Technicians of British Columbia
- Member - International Society of Air Safety Investigators
- Member – ASM International

## **EMPLOYMENT HISTORY:**

1984 - **R.J. WALDRON & CO. LTD. & R.J.WALDRON & CO.(1987) LTD.**  
Present Aviation Safety Consultants  
Unit 110 - 5920 No. 2 Road  
Richmond, BC V7C 4R9

1971 - **CANADIAN DEPARTMENT OF TRANSPORT**  
1984 Aviation Safety Bureau  
Engineering Division  
Ottawa, Ontario K1A 0N8

Job Titles while with the Aviation Safety Bureau included the following:

### 1978 - 1984

- Instrumental Analysis Specialist
- Failure Analysis Specialist
- Physical Failure Analyst
- Accredited Accident Investigator with the Bureau serving as Team Member or Group Chairman on several major accidents.

### 1977 - 1978

- Technical Investigator

### 1973 - 1977

- Failure Analysis Technologist

### 1971 - 1973

- Metallurgical Technician

## **WORK EXPERIENCE:**

During the period 1971 to 1984, while employed by the Department of Transport, a number of courses and on-the-job training were received that covered a wide range of subjects, all of which had practical application in failure analysis, aircraft accident investigation and aviation safety in general.

The positions held while with the Department, required one to have knowledge of and be able to use a variety of scientific equipment in the areas of: photography, video, survey, sonar, metallurgy, manufacturing processes, mechanical testing, electron microscopy, metrology, material analysis, non-destructive testing and failure analysis. Knowledge was also acquired in the areas of: reciprocating and turbine engine failure analysis, light bulb analysis, instrument analysis, human factors, aviation medicine, witness interviewing, vehicle design, human engineering, crashworthiness, flight data and cockpit voice recorder analysis and aircraft maintenance procedures.

Duties with the Department included: gathering and recording factual data; performing laboratory tests, examinations and analyses; conducting on-site accident and incident investigations; analyzing information; liaison with operators, manufacturers, other government departments and foreign governments; preparing inter-governmental and public reports; preparing safety proposals and recommendations; writing articles for safety publications; training and supervising other departmental employees; and writing standards and procedures for the Accident Investigation Manual.

As a member of the headquarters Major Accident Readiness Team during the entire term of employment with the Department, considerable on-site investigation experience was gained by participating in numerous major aircraft accident investigations. The accidents involved corporate, commercial and state owned aircraft which ranged in size from Beech 18's to Boeing 707's. Engineering Division personnel were also frequently called upon to assist Regional Accident Investigators in the investigation of accidents involving both fixed wing aircraft and helicopters. The assistance provided ranged from failure and break-up analyses to sonar searches, site surveys and wreckage recovery.

The Engineering Division also provided laboratory services to other divisions within the Department of Transport such as the Road Safety and Marine Divisions. Experience was therefore gained in the analysis of road and marine vehicle failures.

Since joining R.J. Waldron and Company, involvement in the investigation of aircraft accidents, incidents, component failures and system failures has continued. During the course of these investigations it has been necessary to conduct the following; on-site documentation and analysis; wreckage dispersion analysis; sequence of in flight break-up; reconstruction of aircraft; reciprocating and turbine engine failure analysis; component failure analysis; design reviews; aircraft record reviews. Non-aviation related failures are also analyzed by R.J. Waldron & Company.

Included in the equipment R.J. Waldron and Company has to support its investigation capability is a scanning electron microscope, energy dispersive X-ray spectrometer and a complete metallurgical laboratory. Detailed laboratory and metallurgical examinations and tests are performed which include the following; failure analysis; material analysis, hardness tests, microhardness traverses and metallographic studies; non-destructive testing; composite and non-metallic material failure analysis; light bulb analysis; instrument examination; fuel control system analysis; aircraft system analysis (i.e hydraulics, pneumatics, electrical, etc.)

Since 1971, there has been direct involvement in over six hundred aircraft accident and incident investigations and failure analyses, and indirect involvement in several hundred other aviation investigations in the form of performing laboratory tests and examinations or by acting in an advisory capacity to other investigators. Over fifty non-aviation related failures have also been conducted.

**EXPERT TESTIMONY:**

D.S. Rupert has been accepted as an expert in aircraft accident investigation and/or failure analysis in courts in the following jurisdictions:

- Supreme Court of British Columbia
- Superior Court of California
- U.S. District Court in California
- U.S. District Court in Oregon
- U.S. District Court in Washington
- U.S. District Court in Montana
- U.S. District Court in Louisiana
- U.S. District Court in Colorado
- Circuit Court of Oregon
- Pennsylvania County Court

05 June 2018