

CURRICULUM VITAE FOR KENNETH D. BYERS, P. ENG., CFEI, CVFI

EDUCATION

Degree - Bachelor of Science (B.Sc.)
Queens University - Kingston, Ontario
Graduated - 1980 in Mechanical Engineering

PROFESSIONAL REGISTRATION

- Professional Engineers Ontario (PEO)

CERTIFICATION

- Certified Fire & Explosions Investigator, CFEI
- Certified Vehicle Fire Investigator, CVFI

TECHNICAL AFFILIATIONS

- Society of Automotive Engineers (SAE)
- International Association of Arson Investigators (IAAI)
- American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
- Refrigeration Service Engineer's Society (RSES)
- American Society for Metals (ASM)
- Society of Tribologists and Lubrication Engineers (STLE)
- International Association of Auto Theft Investigators (IAATI)
- Canadian Association of Fire Investigators (CAFI)
- Canadian Society of Forensic Science (CSFS)
- National Association of Fire Investigators (NAFI)

PROFESSIONAL EXPERIENCE

July 1, 1991 to Present

Partner, **Origin and Cause Incorporated**, 1336 Sandhill Drive, Ancaster, Ontario

Vehicle fire investigations, failure analysis and engineering investigations in the mechanical field for the insurance community, legal profession and manufacturers including expert witness in court. Have carried out more than 1,400 engineering investigations.

February 17, 1993 to June 30, 1997

Part time firefighter with the **Ancaster Fire Department**

PROFESSIONAL EXPERIENCE Continued

1986 to June 1991

Mechanical Engineering Associate at **Forensic Engineering Incorporated**, Burlington, Ontario
Engineering investigations, vehicle fire investigations and failure analysis in the mechanical field for the insurance community and legal profession including expert witness in court.

1979 to 1986

John Deere Welland Works, Welland, Ontario
Materials Engineer (1982-1986), responsible for failure analysis, paint quality control, selection of steels, heat treatments, plastics and paints.
Plant Engineering (1979-1982), responsible for machine and facilities safety, industrial hygiene, waste disposal, environmental control and projects relating to design, layout and plant modifications.

WORK EXPERIENCE

1967 to 1975 - **IBM Canada Limited**, Toronto

Field Service Representative, responsible for maintaining and repairing various electromechanical and electronic office products.

1966 to 1969

- Part time work as an auto mechanic's assistant.

ENGINEERING EXPERIENCE

HVAC

- Heat loss and heat gain energy calculations
- Investigation of boiler fires, oil-fired furnace fires, gas-fired furnace fires/explosions and furnace blowback conditions
- Investigation of control system malfunctions
- Evaluation of gas valve malfunctions
- Precise monitoring of furnace operating conditions
- Investigation of heat pump failures and refrigeration/air conditioning failures
- Evaluation of noise levels in large scale HVAC systems
- Monitoring and rectification of industrial bake oven temperature variation
- Investigation of sooty house incidents

ENGINEERING EXPERIENCE Continued

AUTOMOTIVE

- Investigation of more than 750 vehicle fires, including motorhome fires, transport truck fires, highway and transit bus fires, off-road heavy equipment fires, and forestry equipment fires (i.e. skidders, feller bunchers and delimiters) Vehicle manufacturer clients include Freightliner, Orion Bus, New Flyer Bus, Greyhound Bus, Toyota, Honda, Ford, Volvo, BMW and Mercedes.
- Investigation of farm equipment fires, mechanical failures and personal injury incidents involving farm equipment
- Investigation of Sudden Vehicle Acceleration incidents
- Inspection and evaluation of engine failures
- Evaluation of transport loading method
- Investigation of crane tip-overs and accidents
- Investigation of component failures and malfunctions
- Investigation of dump truck/dump trailer hoist failures and tipovers
- Investigation of fatalities from dump truck hoist drops
- Investigation of brake system failures
- Investigation of fatalities resulting from vehicle fires

INDUSTRIAL

- Investigations involving milling machine damage, complex assembly line equipment damage, oil heater explosions and ice damage to high pressure water jet cutting equipment
- Investigation of hoists and bridge crane failures
- Evaluation of machine design
- Investigation of personal injury incidents on wood working equipment and other industrial machinery
- Investigation of fatalities at industrial sites
- Evaluation of heat treated components
- Inspection and evaluation of welded components
- Evaluation of quality control of heat treat process
- Monitoring of heat treat furnace function
- Research into effect of micro alloys on heat treating
- Service of electromechanical equipment

FURTHER TRAINING AND EXPERIENCE

- IBM Electronics III certificate
- Principles of Industrial Noise Control course
- Principles of Industrial Hygiene course
- Provincial Gas Fitters 2 course
- Provincial Oil Burner's Course
- Refrigeration and Air Conditioning course
- Automotive Carburation and Tune-up course
- SAE Brakes, Design and Safety course
- Vehicle Fire Investigation courses (7)
- Fire Investigation courses and seminars (12)

FURTHER TRAINING AND EXPERIENCE Continued

- Instructed at several IAAI Ontario Chapter seminars on vehicle fire investigations (5)
- Instructed at IAAI seminar on Fire Debris Sample Taking
- Co-author of article Vehicle Test Burns published in Fire & Arson Investigator March 1998 (official publication of IAAI)
- Instructed to Insurance Company representatives on Investigation of Vehicle Fires
- Instructed to Insurance Claims adjusters on Investigation of Vehicle Fires
- Instructed at CAFI seminars on Vehicle Fire Investigations (2)
- Instructed to the Niagara Region Arson Task Force on vehicle fires
- Instructed on vehicle fire investigations at Windsor Fire Department training course (2)
- Instructed on vehicle fire investigations at Seneca College Fire Investigation course
- Instructed to Freightliner District Service Managers on Truck Fire Investigations
- Instructed to Mercedes Field Service Managers on Vehicle Fire Investigation
- CSFS workshop on GC/MS
- Construction Cranes, Hoists and Rigging course
- HVAC equipment manufacturers seminars
- ASHRAE HVAC seminars and meetings
- RSES seminar and meetings
- ASM self study Principles of Metallurgy course
- ASM meetings
- STLE lubrication and wear seminars and meetings
- Current review of literature, papers and publications of technical associations, Societies and authorities
- Regular review with Forensic Chemist on fire debris analysis using GC/MS and GC/MS/MS