



Engineering, Product Liability, Fire/Explosion Investigations, Motor Vehicle Crash Reconstruction

Robert Walson Ph.D Metallurgical Engineer

Since 1983 Dr. Robert Walson, Ph. D. has lived in Central Indiana serving industry, insurance companies, legal firms, and government agencies as a consultant in failure analysis and forensic investigations. His primary consulting has been in the mechanical or structural failures of automobiles, trucks, agricultural equipment, glass consumer products, laboratory fire analysis, medical device failures, firearms failures, and engine malfunction analysis.

Dr. Walson is currently employed as Adjunct Professors (part time) both at Butler University in the Chemistry Department and with Purdue University in the Mechanical Engineering Department at IUPUI in Indianapolis. He helps undergraduate students effectively learn general chemistry including organic chemistry, the application of the Scanning Electron Microscopy (SEM/EDS) to forensic analyses (especially paints and fire debris), the mechanical analysis of material strengths of components in designs, and testing of materials in the laboratory.

Dr. Walson has experience in agricultural equipment design and materials, industrial equipment design and materials, and consumer product design and materials at the Corporate Staff of the John Deere Company. He also has experience in the design and materials of engines at the Research and Quality Departments of Cummins Engine Company. He has taught at black Hawk Community College (Moline, Illinois), Purdue University (Columbus Indiana, West Lafayette Indiana, and Indianapolis), Butler University (Indianapolis), and the University of Bridgeport (Connecticut). He is currently a member of the American Society for Testing and Materials (ASTM), the Society of Automotive Engineers (SAE), the American Society for Materials (ASM), and the American Welding Society (AWS).

CURRICULUM VITAE

NAME: **ROBERT P. WALSON, PH.D.**
Failure Analyst

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HIGHER
EDUCATION: DOCTOR OF PHILOSOPHY; Ph.D., Metallurgical Engineering, 1974,
University of Illinois, Urbana

MASTER OF SCIENCE; M.S., Physics, 1967,
University of Illinois, Urbana

BACHELOR OF SCIENCE; B.S., Engineering Physics, 1965, University of
California, Berkeley

PROFESSIONAL
EXPERIENCE:

1983 **WALSON & CO. INC., Indianapolis, Indiana**
PRESIDENT: Able to effectively complete
projects related to failure analyses of machines, hydraulic hoses, ladders,
hammers, autos, trucks, gears, and farm machinery of varying designs on
time within budget. Expert witness for over sixteen years plus state and
federal court qualified in Indiana and other states.

2000 **PURDUE UNIVERSTIY (IUPUI), Indianapolis,**
to **Indiana**
2001 ASSOCIATE FACULTY, Department of Mechanical
Engineering: Teaching undergraduate students
"Mechanics of Materials" and "Statics".

1990 **BUTLER UNIVERSITY, Indianapolis, Indiana**
to ADJUNCT PROFESSOR, Department of Chemistry:
NOW able to effectively teach the use of the Scanning Electron Microscope (SEM)
to faculty and students plus teach courses in experimental chemistry labs.
Maintain the SEM and EDS surface X-ray analysis equipment for the
Chemistry Department and for forensic studies.

- 1991
to
1992
- SAE SEMINAR TEACHING, Detroit, Michigan**
Society of Automotive Engineers Seminar:
"Advanced Materials: Potential for Innovative
Design".
- SUMMER
1987
- UNIVERSITY OF BRIDGEPORT, Bridgeport, Connecticut**
VISITING PROFESSOR, Department of Mechanical
Engineering: Able to effectively communicate
Engineering Mechanics and Engineering Materials to
undergraduate students.
- 1985
to
1986
- ADIABATICS INC., Columbus, Indiana**
PROGRAM MANAGER, Advanced Natural Gas Fueled
Engine: Able to complete design and analyses of
this engine parts on time and within budget. Also
successfully operated ceramic valve seat inserts
in a full size industrial engine for 300 hours.
- 1984
to
1985
- PURDUE/INDIANA UNIVERSITY at West Lafayette,
Indianapolis, and Columbus, Indiana**
ASSISTANT PROFESSOR, Mechanical Engineering Technology:
Materials and Processes, Strength of Materials, Power Systems, Machine
Elements, and Machine Design. Help students to learn fundamental ideas,
concepts, and theories of engineering and science.
- 1978
to
1983
- CUMMINS ENGINE COMPANY, INC., Columbus, Indiana**
MANAGER, Central Reliability Failure Analysis Lab:
Able to successfully complete diverse projects covering several engineering
requirements. This included overseeing the Central Reliability Failure Analysis
Lab to investigate the failure of engine parts and materials, components, and engine
systems returned from all factory locations and customers worldwide. This included
the use of the Scanning Electron Microscope (SEM), and Energy Dispersive
Spectroscopy (EDS) for surface X-ray analyses.

1974
to
1975

BLACK HAWK COMMUNITY COLLEGE, Moline, Illinois
ADJUNCT INSTRUCTOR, Mechanical Technology:
Able to motivate and creatively teach
metallurgy and engineering stress analyses to
evening students who were continuing their higher education
at night.

1973
to
1978

DEERE & CO. INC., Moline, Illinois
RESEARCH ENGINEER, Technical Center:
Able to complete the development of: 1) failure analyses of worldwide
products and components for agriculture, industrial equipment, and
accessories, 2) high temperature cast irons alloyed with aluminum; 3)
lightweight aluminum combine structure; 4) lightweight composite
leaf spring for snowmobile; 5) composite drive shaft design; and
technical consultant to other divisions and factories worldwide.

TECHNICAL
PUBLICATIONS:

Joseph D. Eckelbarger/Robert A. Pribush/Morgan
S. Hansill/Jeremy M. Getz/Robert P. Walson,
"A Pigment Analysis of Paints by the Toas
Society of Artists," National ACS Meeting,
Anaheim, CA, March 20-25, 1999, Poster Session.

Joseph D. Eckelbarger/Robert A. Pribush/Jenny
Brand/Robert P. Walson, "A Pigment Study of Post-
Depression Recovery Program Murals," 114th Meeting
of the Indiana Academy of Sciences, Park Tutor
School, Indianapolis, IN, October 31, 1998

Jenny Brand/Robert A. Pribush/Robert P. Walson,
"Chemical Analyses of African Paint Pigments,"
National ACS Meeting, New Orleans, 1996, Poster
Session #107

R. Kamo, R. Walson, et al., "High Tech Valve Train
Materials Testing," 6th CIMTEC Meeting, Milan, Italy, 1986

R. Walson, et al., Bearings Lubricated
with Graphite, 1984

R.P. Walson, et al., Ceramic Turbocharger Development, 1984

R.P. Walson, et al., Aluminum Piston Alloy Examination, 1978

R.P. Walson, Cast Engine Exhaust, 1977

R.P. Walson, et al., Mechanical Mechanisms in Niobium Metal, 1974

R.P. Walson, et al., Chemical Etching of Niobium Metal, 1974

R.P. Walson, et al., Deforming Germanium Semiconductor Material, 1971

R.P. Walson, et al., Manufacturing Technique for Cutting Semiconductors Used in Computers, 1971

PATENTS: Cutting of Germanium Semiconductor Materials used in Computers, R. Walson et al., 1970

TECHNICAL SOCIETIES: American Society for Materials International(ASM)
American Society for Testing and Materials(ASTM)
Society of Automotive Engineers(SAE)

CONFIDENTIAL
INTERNAL
COMPANY
REPORTS
INCLUDING:

Confidential reports of aerosol can explosions, failures of: machines, hydraulic hoses, ladders, hammers, gears, autos, trucks, helicopters gears, farm machinery, tools, containers, fire arms structural failures, and chemical spills. This includes the basis for court qualified trial testimony in state and federal courts of several states.