

# FREDERIK SALOME B.SC. (HONS.),

## CURRICULUM VITAE

CTI CONSULTANTS PTY LTD

ABN 56 003 824 815

APRIL 2018

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### QUALIFICATIONS & TRAINING:

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B.Sc. (Hon), Sydney University, 1973 (Major - Organic Chemistry)

Supervisor/Competent Person - Deleading of Industrial Structures, SSPC (US), 1995

Corrosion Technology Certificate – Australasian Corrosion Association, 2001

Certified NACE Coatings Inspector No. 8662, NACE International (US), 2002

NACE Marine Coating Inspection; 2007

NACE Protective Coating Specialist (No. 16137), November 2007

ICRI Concrete Slab Moisture Testing Technician – Grade 1, October 2011

Instructor, NACE Coatings Inspection Program (since 2004); Lead instructor since 2010

NSW Workcover General Induction for Construction Work No.CGI00796607SEQ1

Rail Industry Safety Induction (RISI), Railcorp, ID No. 0010066145 (Expiry 17/09/2015)

Boat Driver's Licence;  
Sydney Water Contractor Confined Space Training  
Electrical Safety Rules and Substation Entry  
Rail Industry Safety Induction  
Work Safely at heights

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### EMPLOYMENT:

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#### **CTI CONSULTANTS PTY LTD**

Director and Principal Consultant  
(October 1989 to Present).

#### **VESSEY CHEMICALS PTY. LTD**

Technical Manager, 1987 - 1989

National Sales (Mining Industry), 1985 - 1987

Chief Chemist/Production Mgr, 1982 - 1985

#### **BERGER JENSON & NICHOLSON LIMITED**

Special Projects; 1982

Development Chemist, Marine and Heavy Duty Coatings Laboratory (British Paints); 1979 to 1982

Section Leader, Central Research Laboratories; 1977 to 1979

Chemist - Resin Production and Development (Berger Paints); 1975 to 1977

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### EXPERIENCE:

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#### **PROTECTIVE COATINGS TECHNOLOGY**

Coating condition surveys on existing buildings or structures – infrastructure, industrial, marine and commercial.

Coating failure diagnosis and expert witness services – rectification specifications and supervision.

Coating recommendations and specifications for a wide range of government and private industry clients, both for maintenance and for new construction.

Coating Inspection on numerous new construction and maintenance projects, including marine structures and vessels.

Product testing and evaluation across a wide range of standard and non-routine tests for decorative, protective and specialised coatings.

Assessment and development of protective coating strategies for concrete.

Lead paint investigations, hazard identification, environmental monitoring and management or removal techniques.

#### **COATING PRODUCTION MANAGEMENT**

Manage laboratory, factory and warehousing for production of heavy-duty coatings for Vessey Chemicals. Supervision of 25 staff.

Responsibility for handling and storage of raw materials including hazardous solvents, pigments and peroxides.

#### **COATING PRODUCT DEVELOPMENT**

Extensive experience in the development and implementation of synthetic polymer technology and heavy duty coatings.

Formulation, development and assessment of epoxy floor coatings and compounds.

Conducting full-scale production trials and monitoring regular resin production, together with involvement in plant modifications and process design.

### **Concrete Assessment and Protection**

#### **Coastal Bridges And Structures - Condition Surveys -**

Site surveys and concrete testing to determine the condition of concrete bridges and structures in coastal environments for the Roads and Traffic Authority, Sydney Ports Authority, Hunter Port Authority, Newcastle City Council, Wyong Shire Council, Wollongong City Council, Eurobodalla Council, Bega Valley Shire Council and Shoalhaven Council, Coleambally Irrigation, Vanuatu Dept. Public Works, Laos Dept. of Transport and a wide range of Consulting Engineers.

**Concrete Repair** - Investigation, specification and supervision for repair of commercial and industrial buildings, bridges, floors, pavements and other structures. Development and evaluation of repair products and systems. Assessment and repair of magnasite-induced corrosion and corrosion of balconies on coastal buildings.

**Repair Recommendations And Specifications** Prepare repair specifications and contract documentation for a range of clients including NSW Public Works Opera House Upgrade, Newcastle Council (City Administration Centre, Car-Parks, Surf Pavilions and bridges), NSW Housing, VicRoads, Melbourne City Council, Delta Electricity, Pitt and Sherry (for Transport Tasmania) and many private organisations.

#### **Investigation Into Cracking In Concrete Railway**

**Sleepers** - Investigate failure and evaluate mitigating treatment for concrete railway sleepers; Westrail.

**Silanes And Durability Of Concrete** - Investigation into the role of silanes in the long term durability of concrete. This involved carrying out survey of published literature and available products, and formulating a laboratory test procedure for screening water-repelling treatments, for the Roads and Traffic Authority of NSW.

**Specifications** and a field guide for use of personnel RTA on silane impregnation have also been prepared.

#### **Waterproof Membrane; Sydney Harbour Tunnel -**

Product development of waterproof coatings and specialised concrete testing for the immersed tube units, selection of paints and coatings for interior surfaces.

**Assessment of Masonry Facades, Sydney Harbour Bridge**, for NSW RTA, 2004-05.

**Presentations** at Concrete Repair and Water-Proofing Seminars (BRC, CIA, ACA, BCCA) & Austroads Bridge Conferences.

### **Water and Waste-Water Infrastructure**

Specific projects involving corrosion surveys and condition assessments of infrastructure in the water and waste water industry include the following.

Concrete Mix Design Advice, Deep Ocean Outfalls, 1990 (Sydney Water Board)

Corrosion Rate Investigation for Concrete and Steel, four site in NSOOS, 1997 – 1999 (Sydney Water Board).

Monitoring Sewer Cleaning for Exposure to Root Inhibition Chemicals (MITC), Concord Area, 2000, AWT.

Corrosion/Erosion Rate Study, SWSOOS Extension, 2001 (AWT).

Concrete Condition Assessments, SWSOOS, Mascot area, 2001 (AWT).

Assessment of Repair Gunites, Arncliffe Chamber, 2002 (Sydney Water Board)

Assessment of Biological Corrosion of Sewer Linings, SWSOOS, 2003 – 2007 (Sydney Water Board).

Surge tank investigation, West Ryde Pumping Station, 2007 (CHDE Water).

Concrete Assessment, Sequential Batch Reactors, Winmallee STP, 2006 – 2010 (Sydney Water and Abergeldie Young).

Coating Inspection, Illawarra Wastewater Strategy Project, 2005 (Veolia Water Systems).

Epoxy Sewer Linings - Long Term performance Investigation, 2010 (Sydney Water Corporation).

Assessment of Polyurea Lining, Kingscliffe WTP, 2010, (Fulton Hogan).

Numerous projects involving Corrosion of and Protective Coatings for water treatment plants, water storage and pipeline projects, and sewage treatment facilities, in NSW, Victoria, Tasmania and Queensland.

### **CORROSION TECHNOLOGY**

**Corrosion of Bridges and Tunnels** - Site surveys and inspection of steel bridges in coastal environments for the Roads and Traffic Authority, Vanuatu Dept. Public Works.

Advice on stainless steel side wall anchors and dowel, Burnley Tunnel (Pells Sullivan Meynink), Stainless steel in Energy Australia cross-city tunnel (PSM).

Corrosion and steel survey, Iron Cove Bridge (NSW RTA). Corrosion of cast-iron bridge piers above and below water (NSW RTA).

Corrosion of corrugated steel culverts (NSW RTA). Corrosion and hydrogen formation in sealed bridge counterweights (NSW RTA).

Corrosion surveys and ground water studies in below-grade structures and buildings (various).

**Corrosion of Buildings** - Survey of steel framed historic building, (YMCA Pitt St, Sydney, for National Project Consultants). Corrosion investigation of anodised aluminium façade panels, Burke Place, Melbourne (Remedial Engineering).

Survey and repair recommendations, below water plant room, Woolloomooloo Finger Wharf, Sydney Wharf and King Street Wharf Site 1(Brookfield Multiplex).

**Corrosion Rate Study** - Study of long term corrosion rates of concrete and steel in sewers for Australian Water Technology (Sydney Water).

**Corrosion of Ground Anchors** - Inspection and corrosion survey of sheet pile wall and ground anchors in sea-walls, mines and road tunnels.

**Cathodic Protection** - Corrosion survey, design and commission of cathodic protection systems, Port Botany Bulk Liquids Terminal, sheet pile wall, Sydney Ports, and Scratchley's Wharf, Hunter River at Newcastle (Waterway Constructions), Goodwood Wharf (TLB). Design briefs and design reviews of CP for concrete structures.

**Corrosion Of Water Pipes** - Investigation and survey for corrosion of chilled water pipe and associated equipment, condition assessment of water mains and penstocks.

**Non-Ferrous Corrosion** - Investigations of corrosion of aluminium heat exchangers in radio transmitters (Comsys). Investigation into durability of anodised aluminium in hospital environment, Townsville Hospital (John Holland Constructions). Investigate failure of PVC hoses. Advice on use of dissimilar metals for expressway cladding, Transfield Constructions.

**Sundry Corrosion Investigations** - Investigate corrosion of filing cabinets. Inspection of galvanised water tank. Corrosion Failure of Liquid Waste Road Tankers. Assessment of durability of rock bolts. Investigations of dissimilar metal corrosion.

### **HAZARDOUS PAINT MANAGEMENT**

Assessments of numerous domestic dwellings for lead in paint and dust, for private individuals, Councils and Govt. Departments, and devising sampling protocols for such surveys.

Assessments of public schools for lead in paint and dust, for the NSW Department of Public Works and the Sydney Aircraft Noise Insulation Project.

Attendance at a Industrial Lead Paint Removal Tutorial and Conference, conducted by the US SSPC, in Cincinnati, March 1993 and Chicago 1995. Qualified as a *Supervisor/Competent Person for Deleading of Industrial Structures*.

Participation in Value Management Study into RTA strategy for managing lead paint removal from bridges (1993), and assisting the RTA on environmental monitoring on such projects. Participation in VM Study for Grafton Bridge (jointly organised by RTA and NSW State Rail Authority, 1996).

Participation of the Lead-in-Paint Working Group of the NSW Govt. Interdepartmental Lead Taskforce (representing the LEAD Group), 1993/94.

Member of Standards Australia Committee CH/3/11, *Lead Paint Management*, 1996/98.  
Chairman of CH/3/11, December 2004 to 2017.  
Contract administration of lead paint removal from road bridges for the Tasmanian Department of Transport, to design, implement and review the environmental monitoring program (1995, 1996-7, 1997-8 and 1998-9).

Participation in Panel Discussion on Lead Paint Removal at the NSW BCCA Industry Forum, September 1994.  
Presentation at BCCA National Conference, Gold Coast, August 1997.

Presentation at various seminars and conferences on the subject of lead paint removal from structures.

Workshop Leader, one-day workshops on Environmental and OH&S Monitoring for Lead Paint Removal, Australasian Corrosion Association, Adelaide December 1994, Launceston, Melbourne, Brisbane and Perth, 1995.

Attendance at Commonwealth EPA Meeting of Experts to discuss advice to community on lead in paint (1995).

Presentation of training workshop Managing Lead Paint in Old Buildings to ACT Asset Management Services, August 1995.

Contributor - Environment Australia Booklet Lead Alert – 6 Step Guide to Painting your Home.

Co-presenter, Lead Paint Management training course, developed jointly with the Macquarie University Graduate School of the Environment. (April and October, 1996 to October 1998).

Presenter, Responsible Person for Hazardous Paint Management course, endorsed by the Australian Paint Approval Scheme for PCCP Class 5 and Class 6 accreditation (1999 ongoing).

Consultancy to NSW Roads and maritime Services (formerly Roads and Traffic Authority) regarding management of lead-paint bridges, with special emphasis on environmental monitoring and development of specifications (ongoing).

Review and up-dating of lead-paint management specifications for Australian Water Technology, reservoir roofs, pipe bridges and aqueducts (1998 ongoing).

Lead survey and advice of environmental and OH&S aspects of demolition of oil storage tanks, BP Oil, Waverton.

Policy development and presentation of training workshops; lead paint management, National Transmission Agency (now Broadcast Australia).

Review and up-dating of lead-paint management specifications for Queensland Department of Main Roads and Roadtek Northern.

Co-author (with C. Bodle) of *Assessing the Risk of Zinc Chromate in Paints*, presented at the 2008 ACA Conference in Auckland, NZ.

### **HAZARDOUS PAINT PROJECTS**

Determination of background environmental lead levels at Ryde Bridge for the NSW Roads and Traffic Authority (now RMS). This project included design of the background sampling program and carrying out all required monitoring (water, air, soil sediments and surface dust) covering a total period of twelve weeks.

Environmental lead monitoring (soil, ambient air, work-space air and river water) and co-ordinating occupational health training and monitoring for numerous industrial lead paint removal projects, for a wide range of government departments and painting contractors; 1993 to present.

Continuing consultancy to Roads and Traffic Authority of NSW (now RMS) for environmental aspects of removal of lead paint from bridges, including surveys for lead in paint, environmental monitoring programs, OH&S monitoring, waste management and design of training courses.

Isotopic fingerprinting to determine sources of lead contamination in the environment, and lead bioavailability studies. This ongoing project involves extensive liaison with the CSIRO and NSW RTA (now RMS).

Monitoring lead in paint, lead in soil, lead in dust and air quality for TSP dust and lead, proposed or functioning child-care centres, public buildings and private residences (numerous locations).

### **CONTAMINATED LAND/SEDIMENT**

Investigation into heavy metal pollution at Cockatoo Island Dockyard, involving review of historical records and industrial processes with emphasis on the role of anti-fouling paints and other coatings as sources of contamination, and conducting sampling of soils and sediment with subsequent sample preparation and arranging analysis and quality assurance.

Contamination study at a vacated industrial site, Blacktown, including organic, inorganic and heavy metal contaminants; project management and supervision of site remediation.

Contamination study and health risk assessment at a vacated site in Ashfield intended for a child-care centre, including determination of levels of organic, inorganic and heavy metal contaminants.

Sediment sampling and co-ordination of analysis of samples, including determination of levels of organic, organo-chlorine and heavy metal contaminants (in association with Pollution Research Pty Ltd).

Proposed marina development at Exile Bay in Sydney Harbour, 1995 and 1997.

Dredging of Long Bay, Middle Harbour 1996.  
Sediment survey, Berry's Bay, Sydney Harbour 1997 and 1999.

Soil Contamination and remediation study, HMAS Creswell (Defence Housing Authority, 2004-05).

Soil Contamination and remediation study, South Head Signal Station (NSW Maritime, 2006).

### **INDUSTRY INVOLVEMENT:**

- Australasian Corrosion Association Federal President(2007)
- Australasian Corrosion Association, Membership Director, 2008 to 2013
- Australasian Corrosion Association, Finance Director, 2013 and 2014
- Australasian Corrosion Association, Life Membership awarded Nov. 2010
- Australasian Corrosion Association, Victor Nightingall Award, Nov. 2017
- ACA NSW Branch, Secretary 1997-2001, and 2008 to 2010; President 2001 2004
- Chairman of ACA Protective Coatings Technical Group, 1998/99. Secretary of ACA Protective Coatings Technical Group, 1996 and 1997
- Director of Blast Cleaning and Coatings Association Australia Limited (as ACA representative); 2000-2005
- Member of NSW BCCA Committee, 1997/98 and 2001. Chairman of NSW BCCA Education Sub-committee, 1998
- Member, Standards Australia Committee CH-003, *Paints and related materials*
- Member, Standards Australia Committee MT-014, *Corrosion of Metals*
- Member, Standards Australia sub-committee CH/3/10, *Site testing of protective coatings (2003-2017)*.
- Standards Australia sub-committee CH/3/11, *Lead paint management* - Member since 1996, Chairman 2005 to 2017
- Standards Australia sub-committee CH/3/5, *Site testing of Protective Coatings* - Chairman 2008 to 2017
- Member, Standards Australia sub-committee MT/14/2, *Corrosion Protection of Steelwork (2003-2017)*.
- Member, Standards Australia sub-committee CH/9/5, *Surface Preparation (2003-2017)*.
- Member of Surface Coatings Association of Australia
- Member of NACE International
- Member of US Society for Protective Coatings (SSPC)
- Member of International Concrete Repair Institute (ICRI)
- Lead Instructor for Coating Inspection Training Programs, NACE and ACA Approved

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## PUBLICATIONS:

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**Tank Linings** Protective Coatings For Corrosion Control, University of NSW School of Applied Sciences, 24/08/85

**Protection of Concrete Floors** (Bayliss, Dr. S. & Salome, F.) Heavy Duty Coatings For Steel, UNSW School of Applied Sciences, 04/09/87

**Liquid Applied Ultra High Build Coating For In-Situ Pipeline Refurbishment** Australasian Corrosion Association 1988 Conference.

**Coatings for Corrosion Control and Fire Protection**, Building Sealants And Coatings Seminar, Melbourne Seminar Services, October 1988.

**Water Borne Epoxy Coatings** (Salome, F & Jewson, G) Australasian Corrosion Association Conference Corrosion 28, Perth, Nov. 1988.

**Ultra-High Build Elastomeric Urethane Membrane Coating**, Corrosion Control Via Heavy Duty Coatings, UNSW School of Applied Sciences, 28/09/89

**Protective Coatings and Anti-Foulings For Small Craft** Control Of Corrosion In Small Craft, ACA Tasmanian Branch, 10/10/89

**Liquid-Applied Waterproof Membrane For Concrete** Coatings Toward 2000 And Beyond, ACA Victorian Branch, 22/11/89

**Investigation and Refurbishment of Re-Bar Corrosion in Concrete** Status Of Heavy Duty Coatings, UNSW School of Applied Sciences, 27/09/90

**Protective Coatings for Concrete:** Concrete Repair Seminar And Exhibition, Building Research Centre, UNSW. 18/04/91 & 05/09/91.

**Solventless Industrial Coatings** Heavy Duty Coatings For Corrosion Control, UNSW School of Applied Sciences, 03/10/91

**Silane Impregnation for Protection of Concrete** Australasian Corrosion Association Conference Corrosion 32, Hobart, November 1992.

**Evaluation of a Spot Test for Detection of Lead** Surface Coatings Australia, **30**, No. 9, p16-17, September 1993.

**An Evaluation of Water Repellents for Concrete** Presented at AustRoads 1994 Bridges Conference, Melbourne Feb. 16-18, 1994.

**Environmental and Occupational Health and Safety Aspects of Lead Paint Removal** Presented at Corrosion Prevention Centre of Australia Seminar, Coatings Towards 2000 and Beyond, Melbourne, March 16, 1994.

**Practical Considerations in the Removal of Lead Based Paint** (Chadwick, P. J. & Salome, F) Australasian Corrosion Association Conference Corrosion & Prevention 94, Adelaide, Nov. 1994.

**Managing Lead Paint Removal** Industrial Coatings and Corrosion Prevention, UNSW School of Materials Science and Engineering, 28/11/95.

**Australian Standards For Lead Paint Management** Presented at Corrosion Prevention Centre of Australia Seminar, Coatings Towards 2000 and Beyond, Melbourne, April 18, 1996.

**Lead Paint Management**, B. Gulson and F. Salome; 1996 Training manual for lead paint management course at Macquarie University Centre for Open Education.

**Field Evaluation of the Mitigating Effect of Silane Treatment on AAR in Concrete Railway Sleepers** 10<sup>th</sup> International Conference on Alkali-Aggregate Reaction in Concrete, Melbourne, August 21, 1996.

**Occupational Exposures and Hazardous Wastes from Abrasive Blast Cleaning**, Howard Morris and Fred Salome; 13<sup>th</sup> International Corrosion Conference Towards Corrosion Prevention, Melbourne, November 1996.

**Occupational Exposures Associated with Abrasive Blast Cleaning**, BCCA National Conference, Brisbane, August 18 1997.

**Coatings for Concrete - An Overview**, Presented at Corrosion Prevention Centre of Australia Seminar, Coatings for Concrete, Melbourne, August 21, 1997.

**Recent Australian Experience in Lead Paint Management**, Heavy Duty Coatings for Corrosion Protection, UNSW School of Materials Science and Engineering, October 1997.

**Coatings for Concrete**, Workshop Seminar, Australasian Corrosion Association Conference Corrosion & Prevention 97, Brisbane, Nov. 1997.

**Specifications for Concrete Impregnation** Howard Morris and Fred Salome; Presented at AustRoads 1997 Bridges Conference, Sydney, December 3–5, 1997.

**Occupational Exposure to Heavy Metals from Bridge Maintenance Painting** Howard Morris and Fred Salome; Presented at AustRoads 1997 Bridges Conference, Sydney, Dec, 3-5, 1997.

**Synthetic Flooring Systems for Hotel Bars, Kitchens and Back-of-House**, The Hotel Engineer, Winter 98.

**Coatings for Concrete**, BCCA National Conference, Albury, August 24 1998.

**Corrosion Potentials and Chloride Profiles for Reinforced Concrete Structures**, Australasian Corrosion Association Conference Corrosion & Prevention 98, Hobart, November 1998.

**Recent Case Histories of Lead Paint Removal in Australia**, BCCA National Conference, Barossa Valley, September 9, 1999.

**Corrosion Rates of Concrete and Steel in Sewers**, Salome, F. & Horlyck, L.; Australasian Corrosion Association, Corrosion & Prevention 99, Sydney, November 1999.

**Queens Wharf Tower Refurbishment**, Salome, F. & Aguiar, O.; Australasian Corrosion Association, Corrosion & Prevention 99, Sydney, Nov 1999.

**Protective Coatings for the Marine Environment**, Maritime Structures Conference, Sydney, 2000.

**Paint-Related OH&S Risk Assessments**, Presented at ACA NSW/SCAA Joint Technical Meeting, September 2002

**Climatic Conditions for Successful Application Of Zinc Rich Coatings**, Australasian Corrosion Association, Corrosion & Prevention 02, Adelaide, November 2002.

**OH&S in the Protective Coatings Industry**, Presented at Australasian Corrosion Association Seminar "New Standards for Protective Coatings", Melbourne, February 2003

**Application and Inspection of Coatings for Concrete**, Presented at Australasian Corrosion Association Seminar "New Standards for Protective Coatings", Melbourne, February 2003

**Repainting Sydney's Olympic Statues**, NSW ACA Technical Seminar, May 2004, and SCA National Conference, Perth September 2004.

**Refurbishment of Paringa Road Bridge**, Australasian Corrosion Association, Corrosion & Prevention 08, Wellington NZ, November 2008.

**Assessing the Risk of Zinc Chromate in Paint**, Australasian Corrosion Association, Corrosion & Prevention 08, Wellington NZ, November 2008.

**Review of IMO Regulations for Ballast Tank Coatings and Inspection**, Presented at ACA NSW Technical Meeting, July 2009.

**Marine Coating Inspection**, Presented at Australasian Corrosion Association 2010 Seminar Series "Protective Coatings", Wollongong, Sydney, Newcastle, Brisbane, Gladstone and Melbourne, May/June 2010.

**Determining Finish Coat Thickness – Why and How**, Presented at ACA NSW Technical Meeting, September 2011.

**Testing Steel Surfaces for Residual Salt Contamination** Presented at ACA NSW Technical Meeting, September 2013.

**Monitoring Steel Bridge Renovation Using Lead Isotopic Tracing** - Salome, F., Gulson, B., Chiaradia, M., Davis, J., Morris, M. (2017). *Chemosphere* 174:260-267.

## CTI Consultants Pty Ltd

For more information, contact:

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