

# ENVIRONMENTAL INVESTIGATIONS

## CAPABILITY STATEMENT

CTI CONSULTANTS PTY LTD

ABN 56 003 824 815

JULY 2007

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## INTRODUCTION

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CTI Consultants Pty Ltd has been active in conducting environmental investigations, including contaminated site assessments, underwater sediment sampling and ambient air quality studies since 1993.

Specific expertise includes pollution where the source of the contaminants is related to paint production, use or maintenance, involving priority pollutants such as heavy metals (esp. lead, chromium., arsenic and zinc), Polynuclear Aromatic Hydrocarbons, aliphatic (petroleum) and aromatic hydrocarbons, and phenols.

CTI is now recognised as Australia's leading consultancy in lead paint management, having been active in this field since 1992.

The directors of CTI Consultants hold qualifications relevant to environmental investigations and lead paint management, and have extensive experience in these subjects.

**Fred Salome** is a qualified chemist with more than 20 years experience in the heavy-duty coatings industry, and has completed training as a Competent Person/Supervisor for de-leading work under a US OSHA and US EPA accredited training program run by the SSPC. He has been actively involved in environmental issues since 1993, and in lead paint management since 1991 and has published a number of articles on the subject.

**Carol Bodle** holds an Honours degree in Medical Science, a Masters degree in Applied Science (Occupational Health and Safety), and a Graduate Diploma of Occupational Hygiene from Deakin University. Her Masters thesis topic was "Exposure Monitoring in the Abrasive Blast Cleaning and Protective Coating Industry: 2 Case Studies".

Carol has been a director of CTI since 1995, and is actively involved in carrying out contaminated site studies, assessments for lead hazards (residential and industrial settings) as well as risk assessments and safety training for workers exposed to hazardous substances.

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## EQUIPMENT

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CTI possesses a range of specialised equipment for use in detecting and monitoring lead, including:-

- **Portable XRF Lead Analyser**

Niton XL309 portable XRF for field use, with multi-function programs for detecting and quantifying lead in a range of matrices including paint, dust and soil.

- **High Volume Air Samplers**

Ecotech 2000 high volume air samplers for measuring the concentration of Total Suspended Particulate (TSP) lead, dust and other contaminants in ambient air (to AS 2724.3).

- **Occupational Exposure (Personal Air Samplers)**

Dupont Model P2500 personal air pumps, intrinsically safe, with full calibration, filter handling and sampling head support equipment.

- **Digital Cameras**

High resolution digital cameras for accurate recording of survey locations and paint conditions during surveys – no ambiguity about sampling locations. Photos presented on CD, by email or on colour-laser print-outs.

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## CAPABILITIES

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CTI personnel are qualified and experienced in carrying out a wide range of environmental investigations and related services, including:-

- **Contaminated Site Surveys**

Prepare site investigation work plans and perform site investigations for priority pollutants in soil or underwater sediment, in accordance with relevant NSW EPA Guidelines. Prepare Remediation Action Plans and conduct Site Validation Studies where relevant.

- **Underwater Sediment Surveys**

Perform underwater sediment sampling, perform sample handling and arrange analysis, in relation to proposals for ocean dumping of dredging spoil, or to delineate movement of pollution from land-based sources into marine sediment.

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- **Surveys for Lead**

On-site surveys for the detection and quantification of lead in paint as well as surveys for lead in elements of the environment including soil, dust, water and air.

- **Environmental Monitoring**

Conduct surveys for lead in soil & sediment, surveys for lead in water and perform ambient air monitoring programs. Assessment of lead contaminated wastes.

- **Occupational Risk Assessments**

Exposure monitoring for lead and other health risks; medical surveillance programs; risk assessments and design and implementation of control programs; lead awareness training and safety inductions; PPE and respiratory protection programs.

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## EXPERIENCE

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### **Contaminated Site Investigations (General)**

Conduct site sampling programs, arrange analysis, reporting of results and interpretation, for contaminated sites or sediment; prepare Remedial Action Plans and Perform Validation studies where requested.

- Investigation, remediation and validation of former paint manufacturing site at Blacktown (1994-1996, Evic Pty Ltd),
- Investigate extent of reported soil contamination, Cockatoo Island (1994-1996, Allen Allen & Hemsley),
- Contaminated site study, vacant land (1995, Ashfield Council),
- Sediment sampling for proposed dredging associated with marina developments at Exile Bay and Long Bay, Sydney Harbour (1996-1998, in association with Pollution Research Pty Ltd).
- Contaminated site assessment and remediation, redevelopment of contaminated residential block (1999-2000, Leichhardt, NSW),
- Sediment sampling for contaminated underwater sediment; and sampling of wharf timbers for arsenic; Berry's Bay, Sydney Harbour (1997 – 2000, in association with Pollution Research Pty Ltd).
- Contaminated Site Investigations, Remediation and validation, NSW Department of Housing, Macquarie Fields (2001 - 2003).

### **Environmental Monitoring of Industrial Lead Paint Management**

Survey background levels of lead in the environment; design and/or implementation of environmental monitoring programs for lead paint removal works, for a range of clients, including the Roads and Traffic Authority of NSW, NSW State Rail and Tasmanian Dept. of Transport. Specific projects include:

- Ryde Bridge, Background Environmental Monitoring and Review of contractor QA and Compliance (NSW RTA, 1993- 1995)
- Tempe Bridge, Environmental Monitoring (SRA, 1994)
- Macrossan Railway Bridge; Environmental Monitoring (Qld 1993 to 1996)
- Two Wells Railway Bridge and Hutt River Bridge, Environmental Monitoring (SA, 1994-1997)
- Environmental monitoring or auditing, lead paint removal, Tasmanian Road Bridges (1994/95, 1996/97, 1997/98, 1998/99, 99/2000 and 2000/2001)
- Stevens Weir (Deniliquin) & Yarrawonga Weir, Environmental Monitoring (1997)
- Sydney Harbour Bridge, North Approaches (design of air monitoring program, 1995)
- Prince Alfred Bridge over Murrumbidgee River, Gundagai (design of monitoring program, 1998)
- Alexandra Railway Bridge, Rockhampton, Qld, – provision of environmental monitoring services (1998).
- Charley's Creek Railway Bridge, Chinchilla, Qld – provision of environmental monitoring services (1999)
- Antigua Railway Bridge, Maryborough, Qld, – provision of environmental monitoring services and on-site training of lead paint operators; 1999.
- ESSO/BHP Longford Gas Plant reconstruction, Risk assessment and review of OH&S systems and practices, (1999).
- Queensland Main Roads; Review of environmental and OH&S specifications, Border Bridge and Captain Cook bridge/Riverside Expressway (1998/99).
- Border Bridge, Goondiwindi – provision of environmental monitoring services (1999)
- Merri River Bridge, Warnambool – provision of environmental monitoring services (1999)
- Albert River Bridge, South Gippsland – provision of environmental monitoring services (1999)
- AWT Engineering (Sydney Water), specifications for lead paint removal, heritage Fence at Centennial park, Pipe Bridges at Duck, Subiaco & Vineyard Creeks, Aqueducts at Wolli Creek, Cooks River & Khartoum Road, Aqueducts at Mosman and Lane Cove

- Princess Bridge, Melbourne – Coating assessment and development of lead paint management specification, Maunsell Partners, 2000
- Pipe Bridges at Subiaco Creek & Vineyard Creek, Provision of environmental monitoring services (Transfield Coatings, 2000)
- Burdekin River Bridge (Home Hill, Queensland); Preparation of Environmental Management Plan, Provision of Environmental monitoring and Review of Worker Protection Procedures including on-site inductions and training (2000-2001).
- Aqueducts and Pipe Bridges at Cooks River and Wolli Creek; Provision of environmental monitoring services (Lothway TBS, 2001).
- Centennial Park Heritage Fence; Provision of environmental monitoring services (Lothway TBS, 2001).
- Specialist Consultant on lead paint management on commercial buildings (Axiom Funds Management, Arup Facade Engineering, and others).
- Lead assessments on numerous commercial and residential buildings and child care centres (1993 – 2007),
- Assist Department of Housing Tasmania to develop contractor training and assessment procedures, 1999/2000.
- Lead assessments and development of re-painting specifications, including St Francis Xavier Cathedral, Wollongong (1999), Sydney University Pharmacy Building (1998), Sydney University Camden Campus (1999), St. Aubins stud, Scone (2000), 5 Cumberland Street, The Rocks (for Bridge-Climb, 1998).
- NSW Housing – Investigation and remediation of lead hazards in public housing, Macquarie Fields (2001).
- Assessment for lead paint and recommendations for lead paint management, Wolston Park Hospital redevelopment, Brisbane (Project Services, 2001).
- Assessment for lead in paint and soil, HMAS Creswell, Defence Housing (2003/04).
- Assessment for lead in paint and soil, South Head Signal Station, NSW Maritime (2006).

#### **Lead Paint Management Policy Development**

Provide advice and training, and assist in policy development for lead paint management. Develop and review specifications for lead paint projects. Prepare EMP's and REF's.

- Roads & Traffic Authority of NSW (since 1993, including development of Lead Paint Guidelines)
- National Transmission Agency, 1998-1999; development of lead paint management protocols and specifications.
- Australian Water Technology; lead paint assessments and management specifications on a range of individual sites, and development of corporate approach to lead paint management (1997 -2001).
- NSW National Parks & Wildlife Service
- ACT Department of Works and Services (CAMMS)
- Main Roads Queensland/RTCS Northern
- Queensland Rail – provide environmental monitoring to contractors involved in railway bridge refurbishments
- NSW Rail Infrastructure Corporation – Lead paint assessment and recommendations, Victoria Railway bridge at Penrith.
- Develop and implement Hazardous Paint Protocols for wide range of private contractors engaged in industrial lead paint management.

#### **Lead Surveys (Domestic & Public Buildings)**

Carry out surveys for lead in paint, soil and dust for private residents. Conduct surveys of public buildings for lead in paint, soil and dust. Specific larger projects include:-

- Ambient air monitoring at child care centres (Strathfield and Blacktown).
- Lead survey for Sydney Airport Noise Insulation Project.

#### **Occupational Health and Safety**

**Monitoring** for occupational exposure on lead paint management projects, including:-

- Tasmanian Lead Paint Removal from Bridges (1994 to present)
- Sydney Harbour Bridge Maintenance Painting (1997/98)
- Macrossan Railway Bridge refurbishment (1993-95)
- Monitoring lead exposures from demolition activities, Woolloomooloo Finger Wharf development (1998)
- Research on correlation between occupational exposures and lead content of abrasives (1996)
- Monitoring for occupational exposure for lead when blast-cleaning with zinc slag abrasive (for RTA Technology) 1996.
- Monitoring for occupational exposure to silica when blast-cleaning with sand abrasive; 1998.
- Monitoring for occupational exposure to Methyl Isothiocyanate (MITC) associated with sewer root growth inhibition; Sydney Water, 1999.
- Monitoring for occupational exposure to Styrene associated with in-situ lining of underground fuel tanks, Shell Oil/Eptec Pty Ltd, 2000.
- Monitoring and survey for occupational exposure to Zinc Chromate associated with ship maintenance procedures, RAN, 2001.

**OH&S Training** in lead awareness and site specific safety and hygiene procedures for workers carrying out lead paint management tasks, including:-

- Macrossan River bridge and sundry bridges in SA, (for Southern Steeplejacks Pty Ltd).
- West Ryde Railway bridge over Victoria Road, Sydney (for Transfield Construction).
- Tasmanian Road Bridges (for Lothway TBS, 1995 and TPC Painting Contractors, 1997/98).
- Conduct OH&S audit of Old Ryde Bridge Refurbishment contractor (for RTA NSW).
- Lead survey and advice on environmental and OH&S aspects of demolition of oil storage tanks, BP Oil, Waverton.
- Workshop seminars (full day) in environmental and OH&S monitoring of lead paint removal projects, for ACA (Adelaide, Melbourne, Launceston, Perth and Brisbane)
- Lead Paint Management Training Program, in conjunction with Macquarie University, 3-day program, 1996-1998.
- "Responsible Person for Lead Paint Management Training Course", endorsed by BCCA Australia Ltd as meeting the training requirements for PCCP Class 5 accreditation (150 people trained to present)
- "Responsible Person for Cavity Dust Removal Training Course", endorsed by Australian Dust Removalist Association (ADRA), 2000.
- Safety inductions for lead work, various contractors involved in demolition work (lead dust hazards) and lead paint removal.

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## INDUSTRY INVOLVEMENT

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CTI Consultants has participated directly in the following industry activities.

- 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 SRA 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 Sub-Committee CH/3/11, Lead Paint Management, 1996-98.
- 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, including launch of AS 4361.2, June 1998.

- Workshop Leader, one-day workshops on "Environmental and OH&S Monitoring for Lead Paint Removal", Australasian Corrosion Association, Adelaide Launceston, Melbourne, Brisbane and Perth, 1994/95.
- 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 Svcs, Aug 1995.
- Contribution and ongoing review, Environment Aust brochure "Lead-alert – Six Step Guide to painting Your Home".

**Fred Salome** also holds (or has held) the following positions within the industry

- President, Australasian Corrosion Association (2007);
- NSW Branch of the ACA; President (2001-2003) Secretary, (1997 – 2001)
- Coatings Technical Group of the ACA, Secretary (1996/97); Chairman, (1998/9)
- ACA representative on the board of Abrasive Blast Cleaning & Coating Association Australia Ltd (1998 to 2006)
- President and Public Officer, The LEAD Group Inc. (1996 to 2003)

## CTI Consultants Pty Ltd

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