



CSG DEMINING CONSULTANTS
LANDMINE, UXO and PROJECT RISK MANAGEMENT CONSULTANTS

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CURRICULUM VITAE

CARL CHIRGWIN, MBA, BEc, MIExpE



- * More than 25 years' experience as a UXO Consultant; as a designer, manager and auditor of landmine/UXO projects and a developer of 'National Capacity' and local UXO organisations around the world.
- * Successfully completed 150+ landmine/UXO projects Australia, Iraq, Iran, Afghanistan, Oman, Pakistan, Lebanon, Papua New Guinea, Pacific region, Solomon Islands, Tuvalu, Mozambique, Sri Lanka, Lao PDR, Cambodia, Vietnam, Thailand, Taiwan, Bosnia and Peru.
- * Successfully delivered more than 90 projects on current or former Australian Defence Estate sites at locations in Victoria, New South Wales, ACT, Queensland, Northern Territory, Western Australia and South Australia.
- * 21+ years' as an officer of Royal Australian Engineers, Australian Army.

KEY SKILLS

- * Holder of a Master of Business Administration, a Bachelor of Economics, a Diploma of Personnel and Resource Management and a Graduate Certificate in Applied Engineering Practice.
- * Skilled and experienced in the design of UXO projects, the development of Tender documentation, the technical and financial evaluation of tenders, the development of Contracts for UXO projects and the establishment, quality management and auditing of UXO projects.
- * Extensive experience in the successful planning, implementation, management, monitoring, auditing and evaluation of UXO projects in Australia, Iraq, Iran, Afghanistan, Oman, Pakistan, Lebanon, Papua New Guinea, Pacific region, Solomon Islands, Tuvalu, Mozambique, Sri Lanka, Lao PDR, Cambodia, Vietnam, Thailand, Taiwan, Bosnia and Peru.

ACHIEVEMENTS

- * Managing Director & Principal Consultant of CSG Demining Consultants, a specialist UXO Consulting and Project Management company, that has successfully operated internationally for more than 19 years. A foundation-member of the Defence Unexploded Ordnance Panel (DUXOP) on the Panel's creation in June 2001, and now a member of the Defence Environment & Heritage Panel (DEHP) as it incorporated the former DUXOP; CSG is the only UXO Consultant, and one of only two UXO companies, to achieve the feat of retaining continuous accreditation to the DUXOP/DEHP.
- * Designed, implemented and provided external oversight and Quality Management of more than 150 separate landmine/UXO Clearance projects around the world for a variety of oil/gas, infrastructure development, resources, environmental, consulting, humanitarian, governmental and other organisations throughout Australia, the Pacific, Asia, Europe, South America, Africa and the Middle East.
- * Developed the National Mine Action Standards for Afghanistan on behalf of the Geneva International Centre for Humanitarian Demining (GICHD).
- * Planned and guided the establishment of a 1200-person UXO Clearance organisation in Lao PDR.
- * Completed a Study of Explosive Remnant of War (ERW) contamination in the Pacific Region on behalf of GICHD.
- * Developed the Draft of the Australian Defence UXO Management Manual.
- * Developed and applied to 'live' UXO projects a Predictive, Quantitative UXO Risk Assessment Probability Model for use in South East Asia.

ACADEMIC QUALIFICATIONS

Master of Business Administration	Melbourne University	1998
Bachelor of Economics	University of New England	1994
Diploma of Personnel and Resource Management	University of Canberra	1996
Graduate Certificate of Applied Engineering Practice	University of Canberra	1998

PROFESSIONAL QUALIFICATIONS

Demolition Supervisor, Mine Warfare Instructor, Destruction of Malfunctioned Explosive Ordnance Operator, Army Working Diver, Diving Supervising Officer, Underwater Demolitions Supervisor	Australian Army	1979 - 2000
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PROFESSIONAL BODIES

Member of Institute of Explosives Engineers	UK and Australia	2009 Onwards
Member of the UXO component of Defence Environment & Heritage Panel (DEHP)	Australia	2001 Onwards

PROFESSIONAL EXPERIENCE

January 1999 to Present

Director/Principal Consultant – CSG Demining Consultants

June 2018 to Present

UXO Consultant - Chevron Australia and Golder - Chevron Gorgon 2 Offshore Project, WA

- * Conduct an UXO Threat Analysis and Risk Assessment of the risk posed by explosive charges remaining from enemy combat action, Allied training operations and the sea-dumping of munitions in the area of the Gorgon 2 off-shore oil/gas project.
- * Design a UXO Project to deal with the assessed UXO/EO risk.
- * Provide ongoing technical advice to Chevron and Golder.

October 2017 to Present

UXO Consultant - Chevron Australia and Golder-Thevenard Island, WA

- * Conduct an UXO Threat Analysis and Risk Assessment of the risk posed by explosive charges remaining from earlier seismic surveys.
- * Conduct a Comparative Analysis of the options available to deal with the threat posed by remnant explosive charges and make recommendations as to the option that most efficiently and effectively meets the needs of Chevron and the Government of Western Australia.
- * Provide ongoing technical advice to Chevron and assist in discussions with the Government of Western Australia.

October 2017 to Present

UXO Consultant – GHD - Victorian Government North East Link Project, Victoria

- * Conduct an UXO Threat Analysis and Risk Assessment of the road alignment, as it passes through Defence's Simpson Barracks Watsonia, in support of the construction of the new North East Link roadway.
- * Provide ongoing UXO consulting advice to GHD and its consultants and contractors involved in the North East Link project.

October 2017 to Present

UXO Consultant – ZOIC Environmental Consulting-‘New Breeze’ Residential Development of Former Ingleburn Defence Site, Ingleburn

- * Provide UXO Consulting support, including technical review and assessment of UXO Contractor plans and outputs and ongoing technical advice, to ZOIC Environmental as it acts as Site Auditor for the New Breeze residential development project at the former Defence Site Ingleburn NSW.

September 2017 to Present

UXO Consultant – Savan Resources Ltd, Savannakhet, Lao PDR

- * Provide UXO Consulting support to Savan Resources, including technical review and assessment of potential UXO impact on its clients' exploration and mining plans.

November 2016 to Present

UXO Consultant – Laing O'Rourke-Defence Project J0109-Larrakeyah

Barracks Redevelopment, Darwin

- * Conduct an UXO Threat Analysis and Risk Assessment of the confines and environs of Larrakeyah Barracks, Darwin in support of the redevelopment of the barracks area.
- * Provide ongoing UXO consulting advice to Laing O'Rourke and its consultants and contractors.

September 2016 to Present

UXO Consultant – Laing O'Rourke-Defence Project N2238-Facilities Support to Naval Operations in the North, HMAS Coonawarra, Darwin

- * Conduct an UXO Threat Analysis and Risk Assessment of the confines and environs of HMAS Coonawarra, Darwin in support of the redevelopment and expansion of the naval facilities.
- * Provide ongoing UXO consulting advice to Laing O'Rourke and its consultants and contractors.

April 2005 to Present

UXO Consultant- HLA Enviroservices/AECOM-Reclaim of Former St Marys Ammunition Factory for Residential Housing Project-ST Marys NSW

- * Audit the performance and outcomes achieved by UXO Clearance contractors conducting UXO Clearance of components of the former St Marys facility to be released for residential housing.
- * Provide ongoing UXO consulting advice to HLA Enviroservices/AECOM and its consultants and contractors.

July to August 2017

UXO Consultant – GHD New Zealand - Extension of Nausori Airport Project, Fiji.

- * Conduct an UXO Threat Analysis and Risk Assessment of the project area in support of the expansion of the airport runways, roads and facilities.
- * Provide ongoing UXO consulting advice to GHD New Zealand and its consultants/contractors.

July 2017

UXO Consultant – Cardno - Redevelopment of Former Defence Site, Albert Park, Victoria

- * Conduct an UXO Threat Analysis and Risk Assessment of the Former Defence Site, Albert Park to allow the construction of a Primary school.
- * Provide ongoing UXO consulting advice to Cardno and its consultants and contractors.

November 2016 to March 2017

UXO Subject Matter Expert-Defence Project to Develop a 'Defence UXO Management Manual'

- * Design, develop and draft a Defence UXO Management Manual for use throughout Defence and by other Commonwealth bodies and other authorised parties.

June to July 2016

UXO Consultant – Reeves International-Funafuti International Airport Expansion, Tuvalu

- * Conduct an UXO Threat Analysis and Risk Assessment of the site of the new air terminal at the Funafuti Airport, Tuvalu.
- * Conduct an UXO Survey and Clearance at the air terminal site.

September 2016 to Present

UXO Consultant – GHD Australia- Explosive Ordnance Waste Hazard Reduction Operations at Various RAAF Air Weapons Ranges- Delamare (NT), Evans Head (NSW) and Salt Ash (NSW) Air Weapons Ranges and Bradshaw Field Training Area (NT).

- * CSG's role as UXO Consultant is to review the assessed scope of UXO works to be conducted at each site, the technology and methodology proposed by the UXO Contractor, review and report upon the UXO Contractor's Work Plans, Quality Management systems, SOPs and all supporting documentation, review and report upon the UXO Contractor's Post-Activity Report and UXO Clearance Certificates, audit the technical performance of the UXO Contractor and provide ongoing technical advice to GHD.

July 2016 to Present

UXO Consultant – LendLease-HMAS Cerberus, Vic

- * Act as the Lead-Consultant in regard to all in-ground imaging.
- * Conduct, analyse and interpret Geophysical Imaging across key components of the project site in order to map the 'near-surface' and to detect underground services, utilities, metallic and non-metallic contamination and areas of disturbed ground.

April 2015 to November 2016

UXO Consultant – Jones Lang LaSalle (JLL) – Puckapunyal, Vic

- * Conduct UXO Threat Analysis and Risk Assessments for projects to:
 - Construct a buried pipeline from Puckapunyal to Graytown.
 - Conduct various Range, bridge and road maintenance civil works.
- * Design, oversee and audit the subsequent UXO Search and Clearance projects.

May 2014 to Present

UXO Consultant – Rio Tinto Alcan – Gove, Northern Territory

- * Conduct an ERW Threat Analysis and Risk Assessment of the Gove mine site.
- * Develop and present a suitable ERW Awareness Induction program for use at the site.
- * Develop an ERW Management Plan for the site.

November 2009 to Present

UXO Consultant to PEET Pty Ltd/Satterley, Former Defence Site, Somerton, Vic

- * Conduct a Threat Analysis and Risk Assessment of the potential UXO threat within the site.
- * Develop a UXO Management Plan that met the needs of the planned development of the area as a public housing development.
- * Design a suitable UXO investigation and remediation project for the area and all other Tender documentation necessary to select a UXO contractor to conduct the required UXO project.
- * Evaluate the received tenders and provide recommendations to PEET as to the UXO contractor that is most suitable and offered the maximum value-for-money.
- * Manage, monitor and audit the performance of the UXO contractor.

November 2014 to July 2015

UXO Consultant – LendLease – HMAS Albatross and Jervis Bay, NSW

- * Conduct an UXO/EOW Threat Analysis and Risk Assessment of the planned infrastructure sites at HMAS Albatross and Jervis Bay Airfields for the Defence HATS07 project.
- * Conduct a digital geophysical UXO survey and analysis of the two sites.
- * Conduct physical investigation of detected anomalies and deal with any UXO found.

January 2012 to July 2015

UXO Consultant – PanAust Mining – Lao PDR

- * Conduct a Quality Management and Operational Effectiveness Review of the UXO Clearance operation at the PanAust Exploration Prospect, Phonsavan, Lao PDR.

September 2006 to June 2015

UXO Consultant to Lane Xang Minerals Limited - Lao PDR

- * Conduct a technical and general review of the UXO remediation conducted in support of development of the Sepon Gold and Copper Deposit mine since 1993.
- * Develop suitable UXO remediation management systems, processes and databases for implementation and ongoing maintenance by LXML.
- * Monitor, manage and evaluate the performance of the UXO contractor.
- * Design and develop all Integrated Management System Standard Operating Procedures (SOP) and supporting documents for use throughout both LXML.

December 2014

UXO Consultant – Jacobs – Enoggera, Qld

- * Conduct a UXO Threat Analysis and Risk Assessment of the site of a planned major culvert system at Enoggera Barracks.
- * Conduct a Validation Survey of the proposed culvert site and 'UXO Safeguard' soil sampling.

August – October 2014

UXO Consultant – Jacobs – Puckapunyal, Victoria

- * Review the current assessment of UXO Hazard within the PMA as it relates to range maintenance and improvement works.
- * Develop a system for the management of UXO Risk to contractors operating within the PMA.
- * Develop a Technical Brief and Scope of Work (SOW) for use by contractors when engaging sub-contractors for UXO works within the PMA.
- * Develop a UXO Tender Evaluation Template for use by Jacobs when evaluating the UXO component of civil works tenders.

January to March 2014

Demining Management Consultant-Gazprom-NEFT-Kurdistan, Iraq

- * Design, implement and manage for Gazprom-NEFT a suitable internal Demining Management System (DMS) in order to co-ordinate its demining requirements and to effectively manage the demining performance of its contractors.

June 2013 to January 2014

Health, Safety and Environment (HSE) Consultant-Gazprom-NEFT-Kurdistan, Iraq

- * Design, implement and manage for Gazprom-NEFT an efficient internal HSE system for its own operations and a HSE management system in order to effectively manage the HSE performance of its contractors.

January 2013 to August 2013

Health, Safety and Environment (HSE) Consultant-INPEX International-Darwin Harbour

- * On behalf of INPEX, review the validity of earlier UXO works in the harbour, their internal UXO Risk Management plans and identify the minimum separation distance for divers from dredging in case UXO are encountered and detonated (*Jan/Feb 2013*)
- * On behalf of INPEX, identify the minimum separation distance for divers from underwater pile driving in order to conform with Australian 'Management of Noise' regulations (*Jul 2013*)

September 2012 to August 2013

UXO Quality Management Consultant – New Zealand Ministry of Foreign Affairs and Trade-UXO Remediation of Munda Airport, New Georgia Island, Solomon Islands

- * On behalf of the NZ MFAT and Solomon Islands Government Ministry of Infrastructure Development, plan, oversee and manage the Quality of UXO Clearance necessary to the construction of an expanded Munda Airport, Solomon Islands.

June 2011 to June 2012

UXO Consultant – Sinclair Knight Merz – Defence Ranges at Puckapunyal/Graytown, Bindoon, Townsville High Range, HMAS Cerberus, Holsworthy, Singleton-Australia

- * Provided all aspects of UXO Consulting, including project design, management and auditing, to projects in seven different locations in Australia for SKM as the Project Manager for the Australian Defence National Training Area and Ranges Improvement Project.
- * Conducted all UXO Clearance Verification and Certification and Land-Acceptance on behalf of SKM/Defence.

February 2012 to July 2012

UXO Consultant – DNO International – Northern Iraq

- * Conduct a Threat Analysis and Risk Assessment of the potential mine/UXO threat within a planned seismic survey site near Duhok, Kurdistan.

October 2009 – July 2012

UXO/Landmine Consultant to Sinopec Petroleum Corporation-Middle East

- * Conduct a Threat Analysis and Risk Assessment of the potential landmine/UXO threat within the planned oilfield (52+ wells, initial refining, roads and other infrastructure).
- * Develop a UXO Management Plan that met the needs of the planned development of the area.
- * Design and implement all required project documentation.
- * Design and develop a suitable Database/GIS system.
- * Manage, monitor and audit the performance of the Landmine/UXO contractor and the Demining Quality Assurance Contractor.

February to March 2012

UXO Consultant – Sinclair Knight Merz – Police Facilities, Gizo Solomon Islands

- * UXO Consultant to SKM for the construction of the Gizo Correctional Centre and Police Housing Facility, Gizo Island, Solomon Islands.
- * Conducted physical Field Validation Survey of sites, Gizo, Solomon Islands.

February 2011 to Jan 2012

Mine/UXO Consultant to Masan Resources – Nui Phao Mine, Vietnam

- * Conduct a Threat Analysis and Risk Assessment of the potential UXO threat within a planned mining site at Nui Phao, Vietnam.
- * Design, tender for and oversee establishment and implementation of the Mine/UXO Clearance contract for BOMICEN (local Demining authority).

February 2011

Mine/UXO Consultant to Chevron Australia

- * Conduct a Threat Analysis and Risk Assessment of the potential UXO threat within a planned offshore/onshore facility for the Wheatstone off-shore oil/gas project in north-western Australia.

February 2010 to June 2011

UXO Consultant to Lumina Copper SAC - Peru

- * Conduct a Threat Analysis and Risk Assessment of the potential UXO threat within the planned refinery and Wharf facility.
- * Develop a UXO Management Plan that met the needs of the planned development of the area as a refinery and wharf facility.
- * Design a suitable UXO investigation and remediation project for the area and all other Lumina documentation necessary to select a UXO contractor to conduct the required UXO project.
- * Evaluate the received tenders and provide recommendations to Lumina as to the UXO contractor that is most suitable and offered the maximum value-for-money.
- * Manage, monitor and audit the performance of the UXO contractor.

April 2009 – April 2010

Landmine/UXO (Demining) Consultant to TOTAL Exploration and Production, Vietnam

- * Conduct a Landmine/UXO Risk Assessment for a seismic survey in Mekong Delta, Vietnam.
- * Identify and design the UXO works required to support a planned seismic acquisition project in the Mekong Delta, Vietnam.
- * Managing the performance of the selected Mine/UXO contractor.

August 2008 – January 2009

UXO Consultant to AES AgriVerde, Vietnam

- * Conduct mine/UXO Risk Assessments for 10 proposed AES Waste Treatment facilities.
- * Develop the Scope of Works and Contract for the required UXO works.
- * Provide ongoing Contract and Quality Management of the UXO contractor.

August 2008 – February 2009

Landmine/UXO Consultant to BGP International, Vietnam

- * Identify and design the UXO works required to support the BGP seismic acquisition project in the Mekong Delta, Vietnam.
- * Provide ongoing Contract and Quality Management of the UXO contractor.

April 2008 – February 2009

Landmine/UXO Consultant to Salamander Energy Group Limited, Vietnam

- * Conduct a UXO Risk Assessment for a seismic survey in the Mekong Delta, Vietnam.
- * Provide ongoing Contract and Quality Management of the UXO contractor.

April 2008 – February 2009

Demining Consultant to Geneva International Centre for Humanitarian Demining-Pacific region

- * Conduct a Study to identify the scope and scale of Explosive Remnants of War (ERW) contamination in the Pacific region and make recommendations as to means to effectively and efficiently deal with the contamination.

February - April 2008

Demining Consultant to Salamander Energy Group Limited, Lao PDR

- * Conduct a UXO Risk Assessment for a planned seismic survey in southern Lao PDR.
- * Provide ongoing technical advice and assistance.

August 2006 to August 2008

Demining Consultant to Innovative Technical Solutions Incorporated - Afghanistan

- * Conduct a Threat Analysis and Risk Assessment for construction project in the Kabul Airport precinct and elsewhere within and around Kabul.
- * Develop the Scope of Works and other tender documentation sufficient to allow for the effective and efficient evaluation of tenders for the necessary demining.
- * Monitor the contractual performance of the selected demining contractor.
- * Provide independent Quality Assurance/Quality Control of the demining.

October/November 2005

Demining Consultant to Engineering Consultants Ltd - Sri Lanka

- * Conduct comprehensive Threat Assessment and Risk Analysis for a 360km road project in the north and east of Sri Lanka.
- * Design the necessary demining project.
- * Develop the Request For Tender for the demining.
- * Develop all necessary demining recording, reporting and management systems.

June 2005 to December 2005

Demining Consultant to BHP Billiton/Western Mining Corporation, Mozambique

- * Conduct 'Mine/UXO Risk Assessment' of a proposed 280km powerline corridor to the project to identify the scope and scale of the mine/UXO contamination.
- * Develop a detailed methodology for mine/UXO remediation of the project site.
- * Develop all necessary recording, reporting and Quality Assurance systems.

May 2005 to Present

UXO Consultant to Department of Defence – NSW, ACT, WA, Qld and Victoria

- * Provide the full range of UXO Consulting services for more than 55 separate projects requiring the remediation of Defence sites throughout eastern Australia.

April 2005 to December 2005

Mine/UXO Clearance Consultant/Contractor to Veritas Seismic Survey-Oilfield Survey Project, Oman

- * Conducted detailed reconnaissance to identify the scope/scale of mine/UXO contamination.
- * Developed a detailed methodology for mine/UXO remediation of the project site.
- * Deployed an 8-man project team to provide all mine/UXO clearance for the project.

October 2004 to May 2009

Landmine/UXO Consultant to Australian Agency for International Development

- * Act as 'Demining Technical Expert' to the Technical Advisory Panels for the selection of UXO remediation projects and contractors in Cambodia and Laos.
- * Evaluate and make recommendations for improvements in the design of various proposals for UXO remediation projects in Vietnam, Cambodia and Laos.
- * Appointed as the technical expert to the Technical Assessment Panel for Mine Action.
- * Ongoing conduct of in-country project evaluations in a range of countries.

February 2004 to December 2005

Demining Consultant to AusAID - Vietnam

- * Conducted both Mid-term and Final Evaluations for the AusAID-funded UXO Clearance and Community Development Project, Hue Province, Vietnam

December 2003 to February 2009

Demining Consultant to Geneva International Centre for Humanitarian Demining

- * Developed the UN Standard for Contracting in Mine Action on behalf of GICHD.
- * Developed National Mine Action Standards for Afghanistan.
- * Conducted Study into Explosive Remnant of War contamination in the Pacific region.

November 2003

Demining Consultant to European Commission - Belgium

- * Provide expert technical advice to the European Commission for the evaluation of proposals for funding received under the 5th Framework.

August 2003 to November 2005

Demining Consultant to World Bank- funded Road Rehabilitation Projects - Afghanistan

- * Landmine and UXO Risk Assessment for three road reconstruction projects totaling approximately 360km in length.
- * Development and evaluation of tenders for demining contractor and QA contractor
- * Established all necessary reporting, monitoring and management systems.
- * Ongoing management of the demining and demining Quality Assurance.

March 2003 to July 2004

Demining Consultant to Limpopo National Park – Mozambique

- * Engaged to provide demining consultancy services to the establishment of the Limpopo National Park in Mozambique as an extension of Kruger National Park, South Africa. Responsible to:
- * Conduct a landmine and UXO Risk Assessment.

- * Develop appropriate Demining and Quality Assurance Statements of Work and associated Requests For Tender and Contracts.
- * Develop and implement all necessary demining management systems.

October 2002 to May 2004

Demining Consultant to SMEC International -Sri Lanka

- * Engaged to provide technical advice and assistance to a range of road projects in Sri Lanka including the upgrade of the A9 Highway.

October 2002 to December 2003

UXO/Landmine Consultant to Terras Persia Seismic Company-Iran

- * Engaged to provide UXO consultancy to a seismic survey project of 2400 linear km in the Iran/Iraq border area of western Iran.

February to April 2002

Quality Assurance Consultant/Trainer – AusAID Mine Action Assistance Project – Lebanon

- * Conducted an AusAID-funded project to train selected Lebanese and Syrian Armed Forces officers in general Quality and Project Management and in the Quality Assurance of Mine Action activities.

March 2000 to January 2003

Mine Action Adviser – United Nations – Sri Lanka

- * Engaged by the UN to investigate the current and likely future landmine and UXO situation in Sri Lanka, recommend options to meet current and future demining needs and design practical projects, systems and organisations to implement the options.

Demining Consultant – CARE Cambodia – Cambodia

- * Conducted evaluation of CARE Integrated Demining and Development Programme (IDDP) I and IDDP II projects.

Demining Contractor to AusAID/World Vision Australia – Cambodia

- * Conducted demining of Sunrise Orphanage, Cambodia

Demining Consultant to AUSTCARE – Lao PDR

- * Conducted evaluation and design of UXO-support programme, Lao PDR

Demining Consultant to Handicap International/UXO Lao – Lao PDR

- * Conducted evaluation of HI support to UXO Lao

UXO Consultant to World Vision Australia/UXO Lao – Lao PDR

- * Conducted evaluation and design of UXO-support programme, Lao PDR

Mine Action Consultant to AusAID –Lebanon

- * Conducted evaluation and design of demining-support programme to National Demining Office.

April/May 2001

Demining Manager and Consultant-McConnell Dowell Constructors – BP/Petro Vietnam- Nam Com Son LNG Project – southern Vietnam

- * Managed, supervised, monitored and evaluated the demining (conducted by the Vietnamese military) for the construction of an LNG plant feeding from the South China Sea in southern Vietnam.