
Craig Watt

Principal Consultant, Environment



Education: 1996–1999: Master of Philosophy (Environmental Eng.), Griffith University, Brisbane, Australia.
1990–1994: Bachelor of Engineering (Environmental), Griffith University, Brisbane, Australia.

**Registrations/
Professional
Memberships** Affiliate Member IMEA

Specialisation:

Senior Management roles, Social and Environmental Impact Assessment, Feasibility Studies, Closure Planning, Independent Engineer, Due Diligence and Competent Persons Reporting.

Expertise:

Principal Environmental Engineer with over 20 years' of global experience working on many projects related to mining, infrastructure, waste management, water and wastewater, contaminated land and hazardous materials.

Experience includes roles as the Project Director and Project Manager for Social and Environmental Impact Assessments (SEIAs) to Equator Principles (EPs) and International Finance Corporation (IFC) Performance Standards (PS) for mining and river dredging projects as well as independent Health, Safety, Environmental and Community (HSEC) assessments of mining assets, including refineries and port facilities, for evaluation and valuation for stock exchange listing and financing purposes.

Conducted 3 years of research into the management of the biodegradable fraction of community waste streams using large out-door windrow composting technology and the production of composting material suitable for mine site rehabilitation projects in Australia on behalf of Griffith University, Callide Coalfields and the Queensland State Government.

Employment Record:

Mar 2012	Present	Managing Director, Environ-mining Ltd
Mar 2012	Present	Associate Principal Environmental Consultant, SRK Consulting (Kazakhstan, US and Turkey)
Oct 2010	Mar 2012	Member, Board of Directors, SRK Kazakhstan
Apr 2008	Mar 2012	Principal Environmental Engineer, SRK Ltd, Cardiff, UK
Jan 2006	April 2008	Senior Environmental Engineer, SRK Ltd, Cardiff, UK.
Oct 2005	Dec 2005	Principal Engineer, Jacobs Babbie, Cardiff, UK
Oct 2004	June 2005	Senior Environmental Engineer, Department of Commerce, Environmental Assessment Team, NSW State Government, Sydney, Australia.
Dec 2003	Sept 2004	Environmental Planner, Statutory Planning Section, Environmental Planning and Transport, Gold Coast City Council, Gold Coast, Australia.
Mar 2003	Nov 2003	Senior Environmental Engineer, Department of Public Works, Project Service, Environmental Engineering Unit, Queensland State Government, Brisbane, Australia.
Feb 2001	Jan 2003	Senior Environmental Engineer, Water & Environment, City Design, Brisbane City Council, Brisbane, Australia

May 1999	Jan 2001	Senior Environmental Engineer, Egis Consulting Australia Pty Ltd, Brisbane & Sydney, Australia.
May 1998	Mar 1999	Traffic Management Analyst, City Clickers Transportation Data Collection and Presentation Specialists, London, UK.
April 1997	Mar 1998	Environmental Engineer, WA Fairhurst International Partnership, Beirut, Lebanon.
Nov 1994	Feb 1997	Environmental Engineer, Waste Management Research Unit Griffith University, Brisbane, Australia.

Head of SRK Consulting Geo-environmental Department (Cardiff) between 2008 – 2009 and Environmental Team Leader 2009 – 2011.

Languages: English, Portuguese (Beginner)

Mining Experience:

Social and Environmental Impact Assessment

- **Sept 2017 – present**, Prepared an Environmental and Social Scanning report and baseline sampling programme for an international ESIA process for the Syrymbet Gold Project in Kazakhstan (**Tin One Mining Company**).
- **August 2017 – present**, Prepared an initial Environmental and Social Scanning report which was followed by an ESIA Scoping study for an international ESIA process for the Karyernoye-Pribalkhaskoye to obtain project financing from Lenders which are signatories of the Equator Principles (**Altynalmas LLP**).
- **July 2017 – August 2017**, Prepared an Environmental and Social Scanning report and baseline sampling programme for an international ESIA process for the Yubilenoye Gold Project in Kazakhstan (**AltynEx LLP**).
- **Dec 2013 – April 2014**, Compiled a Social and Environmental Impact Statement (SEIS) to IFC PS for the Yenipazar project in Turkey from available information in the Turkish EIA and project feasibility study (**Aldridge Minerals**).
- **Dec 2011 – Mar 2012**, Project Manager for environmental and social scoping study for the proposed Telimele bauxite development in Guinea, in accordance with IFC PS (**Eurasian Resources**).
- **Jan 2010 – Mar 2012**, Project Director for environmental and social scoping and baseline study phases, in accordance with IFC PS, for the Kiaka gold project in Burkina Faso. Project involved interaction and co-operation with IFC staff (**Volta Resources**).
- **May 2009 – May 2010**, Project Manager for baseline study phase of the Tonkalili iron ore development, Sierra Leone, in accordance with IFC PS (**African Minerals**).
- **Jan 2009 – Jan 2011**, Project Manager for baseline study phase of the Zanaga iron ore development, Republic of Congo (ROC), in accordance with IFC PS (**Jumelles/Xstrata**).
- **Jan 2009 – May 2009**, Conducted a 'Gap Analysis' study and developed a SEIA Plan of Study (PoS) for the Vostok Copper Project in Kazakhstan (**Multiplex Resources**).
- **March 2008 – Nov 2012**, Project Manager of a SEIA for the Bozshokol copper project in Kazakhstan. The project included scoping (phase 1), baselines study (phase 2), impact assessment (phase 3) and management planning (phase 4) and stakeholder engagement process in accordance with IFC PS. The project team consisted of 40 international and local specialists (**Kazakhmys**).
- **July 2007 – Oct 2008**, Project Manager for a SEIA of a proposed dredging project of the Corantijn River in the Republic of Suriname (RoS) as part of the Bakhuis Bauxite development. The project included scoping (phase 1), physical, biophysical and social baselines study (phase 2), impact assessment (phase 3) and management planning (phase 4) and stakeholder engagement process in accordance with IFC PS. The project team consisted of 20 international and local specialists (**BHPBilliton and Maritime Authority of Suriname**).
- **Jan 2007 – May 2007**, environmental and social scoping study for one of the world's largest tantalum deposits (Ghurrayyah) in the northwest Saudi Arabia (**Tertiary Minerals**).

- **Sept 2006 – March 2007**, Project Manager for SEIA of the Bulghah open pit gold mine in Saudi Arabia. The project involved the review of existing data and production of documentation in accordance with national and IFC PS (**Ma'aden Mining Company**).
- **May 2006 – March 2008**, Project Manager for a SEIA of the proposed dredging of the Suriname River in the Republic of Suriname (RoS) as part of the Governments drive to improve transportation of goods and services into and out of the country, including bauxite from Alcoa's Paranam Refinery. The project included scoping (phase 1), physical, biophysical and social baselines study (phase 2), impact assessment (phase 3) and management planning (phase 4) and stakeholder engagement process in accordance with IFC PS. The project team consisted of 35 international and local specialists (**Maritime Authority of Suriname**).
- **Jan 2006 – March 2008**, Project Manager for a SEIA for the proposed Voskhod underground Chromite mine in Kazakhstan including co-ordination of specialist inputs and capacity building of local consultants. The project included scoping (phase 1), physical, biophysical and social baselines study (phase 2), impact assessment (phase 3) and management planning (phase 4) and stakeholder engagement process in accordance with IFC PS. The project team consisted of 25 international and local specialists and secured financing from a consortium of institutional lenders (**Oriel Resources**).

Mine Scoping and Feasibility Studies:

- **Jan 2011 – March 2011**, environmental and social input to mine scoping study of the 10,000M ounce Marmato gold deposit in Colombia (**Medoro Resources**).
- **March 2010 – Nov 2012**, Project Manager of the HSEC prefeasibility and feasibility study contributions for the Bozshokol open pit copper project in Kazakhstan (**Kazakhmys**).
- **July 2008 – Nov 2008**, environmental and social contribution for a mining scoping study for the Tonkalili iron ore development in Sierra Leone, including the mine, refinery and port facilities (**African Minerals**).
- **Feb 2008 – July 2008**, environmental and social contribution for a mining scoping study for the proposed Kokoya gold development in Liberia (**AmLib**).
- **Dec 2007 – Feb 2008**, environmental and social contribution for a mining scoping study for the polymetallic Skaergaard deposit in eastern Greenland (**Platina Resources**).
- **Jan 2007 – July 2007**, environmental and social input to mining scoping study of two potential gold deposits in Serbia.

Mine Closure Planning

- **August 2017 – present**, Project Manager of the Integrated Mine Closure (ICP) Planning study for six (6) bauxite mine sites in the Marowijne District of the Republic of Suriname (South America). Including co-ordination of specialist from South Africa, France and local consultants.
- **May 2010 – July 2015**, Project Manager to develop an Integrated Mine Closure (ICP) Planning Framework process and conduct Pilot study for Nine (9) bauxite mine sites in the Republic of Suriname (South America). Including co-ordination of specialist from SRK offices in South Africa and USA as well as capacity building of local consultants (Suralco/Alcoa).
- **Jan 2011 – Jan 2012**, Project Manager for the preparation of an Asset Retirement Obligation (ARO) at the Kryiy Rih mine in Ukraine (**Arcelor Mittal Kryiy Rih**).
- **May 2010 – August 2015**, Project Manager for an ICP study of legacy and current bauxite mining areas in the Republic of Suriname (RoS). The project involved the development of an ICP framework process, ICP assessment tools including land use planning, water quality objectives and revegetation index, stakeholder engagement process and the development of detailed closure plans and cost estimations. The project required negotiations with the Government and co-ordination of specialist from SRK offices in United Kingdom, South Africa and USA as well as capacity building of local consultants (**Suralco/Alcoa**).
- **Nov 2010 – Jan 2011**, Preparation of conceptual closure plan and cost estimate for prefeasibility study of the Zanaga open pit iron ore development mine in the Republic of Congo (**Jumelles/Xstrata**).
- **July 2010 – August 2010**, Preparation of conceptual closure plan for the Thar coal deposit as part of a feasibility study to facilitate costing by a third party, Pakistan (**Engro**).

- **March 2010 – Sept 2010**, Preparation of conceptual closure plan for prefeasibility study and detailed closure plan and costing for feasibility study using SRCE Cost Model version 1.3 for the Bozshokol open pit copper mine in Kazakhstan (**Kazakhmys**).
- **Jan 2010 – May 2010**, Preparation of closure methodology and costing for physical abandonment of the Guinea Alumina Project in Guinea (**Guinea Alumina Corporation**).

Due Diligence, Component Persons Reporting, Independent Engineer:

- **Nov 2011 – Mar 2012**, HSEC Due Diligence (DD) for Rosia Poinei open pit copper mine in Romania (**Heron Resources**).
- **June 2011 – Oct 2011**, HSEC Component Persons Report (CPR) for the Chiatura manganese mine and processing plant and the Zestafoni smelter operations for listing on the New York Stock Exchange (NYSE) (**Georgian Manganese**).
- **December 2010 – Dec 2011**, HSEC Independent Engineers (IE) review of environmental and social aspects of gold mining assets greenfield (Skouries) and brownfield (Olympias) and silver-lead-zinc asset (Startoni) in Greece for project financing in accordance with IFC PS and EPs (**European Goldfields**).
- **Nov 2009 – Jan 2010**, HSEC IE review of the operating Estonia oil shale mine in Estonia for project financing in accordance with IFC PS and EPs (**EESTI ENERCIAS**).
- **July 2009 – Dec 2011**, HSEC IE review of the Certj gold mining project in Romania for project financing in accordance with IFC PS and EPs (**European Goldfields**).
- **Feb 2009 – April 2009**, HSEC IE review of a the Ffos-y-fran operating coal mine in Wales for project financing in accordance with IFC PS and EPs (**Miller Argent**).
- **Mar 2008 – Sept 2008**, HSEC DD audit for the Kinserve copper mine in The Democratic Republic of Congo (DRC) in accordance with IFC PS and EPs (**Anvil Mining**).
- **Nov 2008 – Feb 2009**, HSEC DD audit for the Dubovskaya coal deposit in Kazakhstan in accordance with IFC Performance Standards and Equator Principles (**BaKaf Engineering and Bank of Montreal**).
- **Nov 2008 – Dec 2008**, High level environmental and social review of mining assets in Sweden (Zinkgruvan), Portugal (Neves-Corvo), Spain (Aluablanca) and Ireland (Galmoy) as part of a fatal flaw analysis for asset acquisition (**Hudbay Minerals**).
- **April 2008 – Dec 2008**, HSEC CPR of an iron ore mining operation in India (Formento).
- **July 2007 – Dec 2007**, HSEC IE review of the proposed Inata gold mine in Burkina Faso for project financing in accordance with IFC PS and EPs (**Macquarie Bank, Energy Capital and Goldbelt Resources**).
- **Sept 2007 – Jan 2009**, Team leader (20 specialist from SRK and ERM) of HSEC aspects of an IE review of the Guinea Alumina Project (GAP) involving a 3.0 Mtpa alumina refinery, bauxite mining areas, railway and the Kamsar port facility. Involved critical habitat assessment and interaction with IFC specialists (**Guinea Alumina Corporation**).
- **June 2006 – March 2011**, Initial Public Offering (IPO) environmental, social and closure contributions for listing on the London Stock Exchange (LSE) followed by annual DD review over a six year period for pot ash mining operations in Russia (**Uralkalia LLP**).

Other Key Projects:

- **Oct 2004 – June 2005**, 25-year Metropolitan Water Plan (\$AUD4M), Sydney, Australia. Preparation of Environmental Assessment reports for the government's groundwater drilling and testing program within Sydney catchment areas. Many areas contained ecological threatened communities, sensitive environments and World Heritage Areas. This project was undertaken on behalf of the NSW Premiers Office.
- **June 2002 – Dec 2005**, Green Bridge Impact Assessment Study, Brisbane, Australia. Assessment of stormwater quality impacts for the construction and operational phases of proposed Green Bridge crossing (Brisbane River) and Busway corridor between Buranda Bus Station and the University of Queensland. Preparation of technical sections on stormwater quality, quantity and coordination of flood risk assessment for Impact Assessment Report.

- **Jun 2002 – Dec 2002**, “Park of 21st Century” QCL Riverside Parkland Development, Brisbane, Australia. Preparation of Stormwater (Quality/Quantity) Management Plan, Sediment & Erosion Control Plan and Environmental Management Plan for Development Approval. Coordination of vegetation survey and Vegetation Management Plan for Development Approval. All documentation prepared in accordance with Water Sensitive Urban Design (WSUD) principles and Industry “Best Practice” management objectives.
- **April 2002 - Dec 2002**, Environmental Management Guidelines “Typical Road Bridge Crossings”, Brisbane, Australia. Development of Generic User Friendly Environmental Management Guidelines for use by construction managers and field staff from the Urban Management, Strategic Infrastructure Management Division and Bridges and Structure Section of Brisbane City Council.
- **June 2001 – Jan 2002**, Hazardous Materials Audit of Brisbane City Town Hall, Brisbane Australia. Development of project brief and management of sub-consultant undertaking hazardous building materials audit. Preparation of Environmental Management Plan (EMP) for refurbishment and performance of environmental compliance audit during works.
- **Jan 2000 – Dec 2000**, Queensland Landfill Remediation Assessment Program (LRAP) - 11 former landfill sites, Gold Coast, Australia. Conducted desktop studies, landfill field sampling, assessment and analysis of gas, leachate, groundwater, surface water and capping material. Preparation of landfill remediation reports for each landfill.
- **May 1999 – Dec 1999**, Asbestos Identification Program, Australian Department of Defence, Sydney, Australia. Inspection of 1400 buildings from the Liverpool Military Area. Implementation of strategies for the identification, recording, maintenance and removal of asbestos building products for the Department of Defence’s National Asbestos removal program (2010). Responsible for project co-ordination, preparation of asbestos building material registers and final reporting.
- **April 1997 – Mar 1998**, Namme Landfill Development Beirut, Lebanon. Design, construction and environmental management of 8M m3 facility for the City of Beirut. Preparation of Environmental Impact Assessment (EIA) Report and design of Basel liner, leachate collection system, landfill gas collection system, stormwater collection system and final closure plan. Supervision of landfill construction and waste disposal operations.
- **June 1996 – Dec 1997**, Australian Code of Practice for the Management of Clinical and Related Wastes, Brisbane, Australia. Preparation of Code of Practice, attendance at Industry Group meetings and group facilitator for national workshops. The Code of Practice was adopted by Medical Waste Industry Group and sections of the Code are included in Queensland Waste (2000) Regulation and the Australia Dangerous Goods Code (ADGC) for Clinical and Related Waste Transport.

Publications:

Conference Papers

Stewart, W. I. & C. A. Watt. A rigorous, systematic and integrated methodology to assess viable land use options for mine closure: a case study from Suriname. Mine Closure 2013, Cornwall, United Kingdom.

Watt, C. A. International Environmental and Social Impact Assessment (ESIA) for Project Financing. MINEX Conference, Astana 4 – 7 April 2011, Kazakhstan.

Watt, C. A. Environmental and Social Approaches to Going Global. MINEX Conference, Moscow 4 – 6 October 2010, Russia.

Technical Papers

Watt, C., & Dr. D Moy. 'Municipal Solid Waste Management-Domestic Organic Waste Collection in Banana Shire', Practical Solutions to Real Problems, New Zealand, November 1996.

Watt, C., & Dr. D Moy. "Organic Waste Segregation and Collection for Optimal Landfill Usage', Landfill 96, Waste Management Research Unit and Queensland Department of Environment, Brisbane, Australia, October 1996.

Moy, Dr D., & C. Watt. 'Biomedical Waste-From Generator to Landfill', 3rd National Hazardous and Solid Waste Convention, Sydney, Australia, 26-30 May 1996.

Watt, C., & Dr. D Moy. 'Composting-A Regional Waste Management Option', Australia Institute of Environmental Health 21st Bi-annual Conference, Biloela, Australia, July 1995.

Thesis

Watt, C. 1994. Coastal Erosion Study at Cowan Cowan (Moreton Island, Qld) – Queensland Department of Environment, Undergraduate Thesis, Griffith University.

Watt, C. 1998. Organic Waste Management for Local Government Based on a Market Driven Composting Program. Post Graduate Thesis, Queensland Environmental Protection Agency, Callide Coalfields Pty Ltd, Banana Shire Council and Griffith University.

Contact Details

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