

**Professional Profile:**

Lachlan has held a broad range of roles including Chief Engineer, Project Engineer, Area Manager, Process Engineer and various operational plant roles.

He has a wide range of experience including engineering design and study management, plant construction, commissioning and operations design and supervision of fundamental research and process development. Lachlan has comprehensive experience in project engineering and management, expertise in extractive metallurgy operations, project design and a strong foundation of metallurgical process knowledge. Lachlan's experience in management and execution of feasibility, prefeasibility and concept studies across a broad range of commodities.

Lachlan's communication skills and international project experience make me ideally suited to work within, and manage, complex multi-discipline projects.

**Proficiencies**

- Engineering project management
- Test work planning, management and implementation
- Pilot plant and scale up design
- Technology development
- Process modelling (JKSim, Metsim, SysCAD)
- Multidisciplinary team management
- Leadership of multinational and multi-lingual teams
- Flotation and Milling Operations
- Metallurgical Accounting
- Leaching CIL, CIP, HCIL
- BIOX
- Gravity concentration technologies

**Career Summary:**

**March 19 - Present**

**Commissioning Metallurgist – Trident Southern Explorations**

Contracted to undertake commissioning, completion engineering, construction management and provide project support and ramp up planning for Andacollo gold plant in Neuquen, Argentina.

**Responsibilities**

- Project Management.
- Completion engineering.
- Commissioning/ramp-up planning and management.
- Plant capacity upgrade planning, design and construction management.
- Project coordination and strategic planning.

**Dec 16 – March 19 Chief Engineer  
Environmental Clean Technologies**

**Responsibilities**

- Project Scoping, Initiation and implementation planning.
- Project scope development.
- Budget development.
- Pilot Plant project planning, design engineering management and project delivery in India.
- Pilot Plant engineering management oversight in India and Australia.
- Driving engineering projects to meet agreed technical outcomes, budgets and schedules
- Management of allocated staff and contractor resources
- Ensuring the delivery of projects under my responsibility within agreed outcomes, schedule and budgets.
- Planning and tracking projects and managing project development risks.

- Co-ordination and management of internal and third-party resources, including recruitment and induction of staff.
- Supporting the development of company and organisational objectives.

**June 16 – Dec 16      Project Manager  
Environmental Clean Technologies**

**Responsibilities**

- Developing, driving and completing test plant upgrade and assessment program.
- Leading the Pilot Plant design program.
- Constructing and implementing operations & evaluation program.
- Planning, implementing and managing the research program.

Responsible for the development of the Matmor Technology including pilot plant, research, project planning, process development, contractor and engineer oversight and planning of the research and development program.

**April 14 – June 16      Metallurgical Consultant.  
WorleyParsons Minerals, Metals & Chemicals Select Group, Australia**

**Projects**

- **MMG Kinsevere Primary Copper Scoping Study;**  
Scoping study identifying options for the processing of primary copper ore at Kinsevere.
- **Process design and project engineering and coordination for Coogee Titanium's TiRO Demonstration Plant;** Lead process and design engineer for the scale-up of a novel titanium refining technology.
- **BHP Billiton Olympic Dam Surface Debottlenecking Investigation Stage Study report;** ±50% study considering options for increasing mill throughput at the Olympic Dam mine.
- **Bid preparation, business development and service marketing;**
- **Rum Jungle Resources, Barrow Creek Pre-feasibility study;** ±50% accuracy of three options for the development of the Barrow Creek phosphate deposit.

**Sept 13 – April 14      Area Manager, WorleyParsons, Jakarta**

- **Indonesian Growth Project VALE;**  
Process Area Manager responsible for the delivery of FEED level engineering for the process plant. Coordinating a team of 60 engineers in 5 countries. I was part of the management team brought onto the project as part of a rescue package. The project was ballooning in budget and schedule and the client was threatening to walk. I was part of the team which brought the project back under control and delivered it, exceeding client expectations for the FEL 3 study of the Bahadopi Capital Project.

**May 12 – Sept 13      Metallurgical Consultant.  
Minerals, Metals & Chemicals Select Group, Australia**

**Projects**

- **Seafloor Mining in the Kermadec Arc;**  
Concept study and high-level concept estimate prepared for the New Zealand Department of Petroleum and Minerals, New Zealand.
- **Unity Mining Mill Expansion;**  
Development and design package to support a ±25% estimate for a proposed mill upgrade, Tasmania.
- **Cannington Expansion;**

Selection phase study for Cannington Mine Expansion, Queensland.

- **MMG Century Zinc;**

Options study for recovery of zinc from tailings.

- **Ernest Henry Modelling;**  
Modelling of a magnetite recovery circuit at the Ernest Henry Mine, Queensland.
- **BHP Billiton: IPS Part A Olympic Dam Expansion Options Study.**

**Nov 09 – May 12      Process Engineer & Project Engineer, Jacobs, Melbourne**

- **Olympic Dam infrastructure** – ODP1 DPS: Project Engineer to deliver a definition phase study ( $\pm 10\%$ ) for mining infrastructure at Olympic Dam, South Australia.
- **Olympic Dam infrastructure** – ODP 1 SPS: Project Engineer to deliver a selection phase study ( $\pm 25\%$ ) for mining infrastructure at Olympic Dam, South Australia.
- **Minerals Concentrator and Refinery Design** – Merlin Mo-Re Project: detailed design project for Ivanhoe Australia Limited, Queensland.

**Dec 08 – Feb 09 Commissioning Metallurgist, A1 Minerals, Laverton, Western Australia**

- **Commissioning Metallurgist for Gold Plant** – Brightstar Gold: Commissioning of 30,000 ounce CIP gold plant including designing and implementation of Plant Procedures for start-up and operations of the gold plant and metallurgical laboratory, Western Australia.

**March 07 – Dec 08 Student Metallurgist, Northgate Minerals, Fosterville Victoria**

- **Testwork** – Conduction of testwork campaigns as directed by senior metallurgists.
- **Plant investigation and data analysis** – Constant improvement of plant performance requires regular test work campaigns and analysis of resultant data. Examples of testwork include Cyanide dosage improvements in the CIL circuit, pH test work in BIOX resulting in improved Limestone consumption, Flash flotation surveys investigating the possibilities of carbon preflotation, carbon suppression and exploring the possibility of Flash only float circuit operation.
- **Commissioning** – Commissioning of new unit operations, including assisting with the commissioning of heated carbon in leach circuit, Mozley hydro-cyclones and tailings re-pulp circuit.
- **Operations** – General plant operations and plant metallurgy. Met accounting, operation of BIOX, Flotation, CIL, Milling, Thickening, Neutralisation and tailings retreat. Optimisation of plant milling campaigns.
- **Pilot Plant** – Commissioning and Operation of pilot plant for Heated Leach circuit.

**2008 – 2013 Metallurgical Consultant, Alchemides Pty Ltd, Adelaide Australia**

- Study – Flotation technology review for NMC Lasale concentrator Oman;
- Study – Literature search and review of pyrite flotation for Ok Tedi Mining Ltd;
- Study – Literature search and review of selective flocculation of Iron for Herron resources.

**Education:**

- Bachelor of Applied Science: Extractive Metallurgy, University of Ballarat, 2007 – 2009

**Short Courses**

- JKTech Energy Efficient Comminution short course.
- Level 4 certificate in leadership, TAFE Western Australia.

**Publications:**

Patent WO2018094453- Low temperature direct reduction of metal oxides via the in situ production of reducing gas.

Does it make cent\$ to use flotation columns for phosphate beneficiation,  
Economics of column flotation for phosphate beneficiation  
MetPlant September 2015

Comminution energy efficiency and project economics in magnetite circuit design  
AusIMM Bulletin Magazine, October 2012

**Registrations/Affiliations:**

Member of the AusIMM

**Licences**

Australian drivers Licence  
Forklift  
Non-slewing mobile crane