



MICHAEL WHEATLAND

BE (Chem Eng), BSc, CEng, MIChemE, RPEQ

CV and Portfolio of work



Strategic and systematic thinking
Embraces bold new ideas



Builds close knit teams

Able to travel or relocate

Community group leadership

Michael WHEATLAND

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Site Manager, Calix Limited Maddingley Operation
BE (Chem Eng), BSc, CEng, MChemE, RPEQ

Experience

2015 - Now **Site Manager**

Calix Limited Maddingley Operations

ZERO LTI OR MTC INJURIES | ISO-9001 QUALITY | LINE MANAGEMENT OF SKILLED AND UNSKILLED WORKERS | RECRUITMENT | TEAM PROFESSIONAL DEVELOPMENT

2012 - 2015 **Production and Quality Manager**

Calix Limited Maddingley Operations

ISO-9001 QUALITY SYSTEM | CUSTOMER AND DELIVERY MANAGEMENT | LOGISTICS AND EXPORT | NEW CLEAN TECH CFC REACTOR | CO2 CAPTURE | PRODUCT DEVELOPMENT

2010 - 2012 **Shift Process Coordinator**

Rio Tinto Alcan Gove Alumina Refinery

MULTI-TEAM 60+ PEOPLE SHIFT SUPERVISION | BREAKDOWN MAINTENANCE SUPERVISION SUSTAINABLE SAFETY | PROCESS CONTROL IMPROVEMENTS | CRISIS MANAGEMENT

2008 - 2010 **Process Engineer**

Rio Tinto Alcan Gove Alumina Refinery

BAUXITE DIGESTION | ENERGY EFFICIENCY AND RECOVERY | FILTRATION CALCINATION | SHIPPING QUALITY MANAGEMENT | KPI & LOSS ANALYSIS

2002 - 2007 **Undergraduate Experience**

BHP BILLITON MT KEITH NICKEL FLOTATION PLANT OPERATIONS
ALCOA ALUMINIUM PT HENRY SMELTER ANODE PROJECT ENGINEER

Education

Bachelor of Chemical Engineering

The University of Melbourne 2007

EXCELLENCE IN MINERALS, THERMODYNAMICS, RHEOLOGY AND SYSTEM MODELLING

Bachelor of Science (Chemistry)

The University of Melbourne 2007

MULTIPLE MAJORS IN ORGANIC, PHYSICAL AND INORGANIC CHEMISTRY

Victorian Certificate of Education

Upwey High School

TER SCORE 92.7, SCHOOL COMMITTEE STUDENT REPRESENTATIVE

Qualifications

Chartered Chemical Engineer (MChemE)

Institution of Chemical Engineers Australia

Chartered Chemical Engineer (CEng)

Engineering Council UK

Professional Engineer of Queensland (RPEQ)

Board of Professional Engineers of Queensland

Business Skills

- STRONG SELF STARTER AND INDEPENDENT DECISION MAKER
- FOCUS ON BUILDING RESPONSIBILITY & PROFESSIONAL DEVELOPMENT
- EXPOSURE TO EXECUTIVE BUSINESS STRATEGY DEVELOPMENT
- IDENTIFICATION AND MANAGEMENT OF MAJOR SITE RISKS
- TIGHT KNIT AGILE TEAM BUILDING THROUGH MUTUAL RESPECT
- PRODUCTION AND P&L RECONCILIATION, REPORTS AND ANALYSIS
- ADAPTABLE COMMUNICATION STYLE
- EMOTIONAL INTELLIGENCE CONTINUOUS IMPROVEMENT, MENTORING
- ACTIVE SAFETY ENGAGEMENT ACROSS ALL TEAMS
- FRUGAL PRODUCT / PROJECT DEVELOPMENT SKILLS
- UTILISATION OF A BLEND OF SIX SIGMA / LEAN / AGILE METHODS
- HONEST PERFORMANCE MANAGEMENT AND KPI DEVELOPMENT
- PERSONAL AND TEAM PERFORMANCE ASSESSMENT AND COACHING
- DOMESTIC AND INTERNATIONAL LOGISTICS
- ISO-9001 CERTIFIED QUALITY IMPROVEMENT AND CONTROL

Technical Skills

SPECIFIC MINERAL PROCESSING KNOWLEDGE

- MAGNESIUM OXIDE AND HYDROXIDE PRODUCTION
- MAGNESITE AND BAUXITE MINING
- BAYER ALUMINA CHEMICAL PURIFICATION PROCESS
- HALL-HEROULT ELECTROLITIC ALUMINIUM SMELTING

PROCESS EXPERTISE

- PRODUCTION TRACKING, RECONCILIATION AND REPORTING
- QUALITY ASSURANCE, CONTROL AND MANAGEMENT
- OPPORTUNITY ANALYSIS USING MASS AND ENERGY BALANCES
- PRACTICAL ENERGY EFFICIENCY IMPROVEMENT INITIATIVES
- WATER AND CONSUMABLE UTILISATION INITIATIVES
- HEAT EXCHANGE, EVAPORATION, COOLING SYSTEMS
- LIQUID, SLURRY AND POWDER TRANSPORT, MIXING, HANDLING

OTHER SKILLS

- HIGH PROFICIENCY ON ALL OFFICE SOFTWARE, COMPUTER SYSTEMS
- COMMISSIONING, PUNCH LISTING AND OPTIMISATION
- PROCESS FLOW, CONTROL AND INSTRUMENTATION DESIGN
- HAZOP, SQRA HAZARD RISK ASSESSMENTS
- CONTROL SYSTEM DESIGN INCLUDING DCS AND PLC SYSTEMS

Achievements

- SUPERVISING LARGE TEAM THEN MOVING TO STARTUP COMPANY
- GROUND UP BUILD AND CERTIFICATION OF ISO-9001 QUALITY AT CALIX
- COMMISSIONING OF LARGE MANUFACTURING PLANTS
- DESIGN AND BUILD NEW CLEAN CALCINER TECHNOLOGY
- BREAKTHROUGH IDEAS FOR EFFICIENCY IMPROVEMENTS IMPLEMENTED
- PRACTICAL CRISIS MANAGEMENT / EMERGENCY SHUTDOWN
- CHARTERED ENGINEER REGISTERED ACROSS AUSTRALIA, UK AND EU

Calix Limited Maddingley Operations

Site Manager

Due to an expansion of Calix Limited into Europe in response to the EU government support of the LEILAC (Low Emissions Intensity Lime and Cement) project the Operations Manager was promoted and moved to Europe to head the project.

I was rewarded with the opportunity to take on the responsibilities of Site Manager including safety at the site, community engagement, coordination of relationship with council and neighbours and contract negotiations with utility companies.

Developed Skills

- Utilising leadership skills and managing individual tasks to achieve business goals
- Coordination of a small teams of very competent people
- Frugal capital investment for safety and operational improvement projects
- Negotiation of large gas and electricity contracts
- Coordination of local council lease and land transfer process for site
- Building knowledge networks to bring in technical expertise for better outcomes

Responsibility and Opportunity

- Australian Organic Certification of products
- ISO-9001 Quality Management and Accreditation
- Contributor to Company Executive Management Team Strategy Development
- Production Cost reconciliation (Preparing the operations profit and loss data)



Achievements

- Created a new company wide 'Innovating Safety' initiative rewarding staff for implementing new creative ideas to improve safety across the company and their own workplaces.
- Contributed to company revenue improvements from zero to \$5 million over 3 years.
- Company in strong position to accelerate growth of developed products within Australia and internationally.
- Building an Environmental Management System from scratch ready for triple certification
- Coordinating with neighbouring properties to better utilise equipment and local resources.

Production and Quality Manager

Inspired by the innovative, disruptive idea to create highly reactive, nano-active materials from such a simple technology, I made the move to a small start up company who had grown from a back yard idea for a revolutionary calciner technology that would cut CO2 emissions across the building products sector.

Having experience in Calciner commissioning and operation, I was given the responsibility of identifying and implementing changes that would reign in cost on the construction phase, as well as building confidence in the commercial scale plant being built.

The design and rollout of the safe operating procedures, risk assessments and quality management systems were designed from the ground up, culminating in the ISO-9001 certification by the external auditors, British Standards Institute (BSI).

Management of Scale up of plant and personnel resources including the definition, justification recruitment and training of new operators required to meet growing market demand.



Developed Skills

- Recruitment, Interviewing and training
- Customer Interaction and satisfaction
- New product development
- Customer order and logistics system building and coordination
- International Export
- Design and rollout of Quality Management systems
- Warehousing and stock control

- Management of Labor Hire workforce for seasonal work.
- Full time and Casual staff management and rostering
- Continuous development of procedures and systems

Responsibility and Opportunity

- Definition, justification, recruitment and training of new operators into operating plant.
- Review of the Calix Calciner design during construction phase due to large budget reduction.
- Ground up design of control system including HAZOP and Instrumentation.
- Ground up design of Safe Operating Procedures and Production tracking systems.

Achievements

- Designed and implemented an ISO-9001 certified quality management system for product and logistics quality assurance and control.
- Identification and reduction of pre-existing over spend in project.
- Survival of small company despite competing directly with one of the largest chemical companies in Australia.
- Development of extremely high surface area products through optimisation of the new large scale Calciner design
- Building a competitive logistics and international export system for small company.



Shift Process Coordinator

As the Shift Process Coordinator I was responsible for whole refinery process control and breakdown maintenance prioritisation. This position is seen as the sole point of accountability for all process related issues impacting production, energy efficiency, product quality, environmental impact and personal safety on each shift.

Directly supervising the central control room and co-ordinating six operating teams including power station, materials handling, calcinations and three liquor circuit teams, as well as prioritisation of reactive maintenance. This role requires rapid and accurate process analytics, specific knowledge of the refinery capability and availability and clear and concise communication and management techniques.

My direct involvement with the development and implementation of a visual management system, implementation of control room process tactics meetings, and standardisation of control across shifts contributed towards the refinery achieving record high production figures and record low energy intensity in 2011.



Developed Skills

- Identification, management and mitigation of production, quality and safety risks using lean six sigma 'Gemba' real interaction principles in day to day operations.
- Developed understanding of maintenance requirements for a large scale plant.
- Direct supervision of refinery operations teams requiring communication and listening skills to resolve process troubleshooting and encourage professional growth of 'reports'.
- Daily reporting and presentation of refinery process status to management team that required complete and concise process understanding and presentation skills.

- Refinery wide process analysis and rapid identification of production, energy efficiency, environmental and safety impacts as well as related risk assessments.
- Practical crisis management experience during an uncontrolled refinery wide shutdown after a boiler failure resulting in a loss of electrical power.

Responsibility and Opportunity

- Strategic influencing in refinery operations management team meeting for production and energy efficiency improvements.
- Pivotal in development and implementation of visual process management and control room process tactics leading to control consistency across shifts.
- Bridging the gap of understanding and implementation of process changes with both the process engineering department and operations teams.



Achievements

- Record high production rate in 2011. 34% improvement from 2007
- Record low energy intensity in 2011. 15% improvement from 2010.
- Successful crisis management as the sole point of accountability. Coordinating a full refinery shut down and restart during an uncontrolled power failure with no equipment damage, environmental impact or personal safety incidents.
- Ensuring efficient utilisation and highest impact prioritisation of reactive maintenance team and communicating the progress of rectification during major disruptions.
- Complex production circuit and heat transfer troubleshooting on per shift basis including the communication and implementation of control tactics across operations and maintenance teams.

Shift Process Engineer

Rio Tinto Established a collaborative team of high performing Process Engineers on shift who were tasked to utilise root cause and statistical loss analysis to guide attention and effort to the most valuable opportunities across the site at any point in time. Over a period of 6 months the team developed a comprehensive opportunity loss analysis reporting system which was utilised across site management including executive, technical and operational areas as the primary measure of performance and method to identify opportunity.

One key initiative that the Shift Process Engineering team directly implemented involved the optimisation of the bauxite solubility control system, being the primary production and energy driver within the refinery is also the responsibility of the shift process engineer. Daily monitoring, control system refinement and control loop tuning allowing production improvement of 2.4% without an increase in energy usage.

Developed Skills

- Development and utilisation of opportunity loss systems to provide technical insight into missed production opportunities.
- Training and experience in Root Cause investigations into systemic production loss.
- High level investigation and reporting for ongoing systemic production losses and inefficiencies impacting production and energy efficiency.
- Debottlenecking and capability testing techniques for continuous improvement of process equipment, technologies and control methods.



Responsibility and Opportunity

- Broad scope of work based solely on the highest production and energy efficiency opportunities.
- Direct action to resolve systemic losses resulting from control methodologies and work methods
- High level audience for presentation of improvement opportunities through the Executive Management Team.

Achievements

- Development of risk mitigation systems and tools to address systemic production losses.
- Improvement in alumina solubility utilisation by 2.4% using more advanced predictive control systems and training for human input into these systems.
- Monthly distribution of an easy to understand report across the refinery highlighting most valuable process improvements for production and energy efficiency.
- Identification of unexpected systemic losses leading to multiple reviews of preventative maintenance and inspection schedules.

Calcination Area Engineer

The area process engineer for Calcination includes process responsibility for product filtration, materials handling and calcining of gibbsite into alumina. Production of milk of lime as a filtration aid and the quality control and export management of gibbsite and alumina products.

Utilising knowledge of OSIsoft PI Process Book, ABB HMI and Microsoft Office to focus on continuous improvement. Implementation and modification of standard task instructions, process guidelines and shift performance monitoring tools helped build a culture based on encouragement and accountability.

As the first role of responsibility after graduating from university I was fortunate to be involved across the transition stage between refinery expansion and stabilisation. The commissioning of a fluid bed calciner and post expansion debottlenecking were process experience highlights. While management of product quality and shipping management provided invaluable insight into the economics and business side of process engineering.



Developed Skills

- Operational team key performance indicator development and appraisals.
- Technical understanding of quality control in relation to crystallisation, particle size and strength, impurity and contamination control within the bayer circuit.
- Industrial customer relations experience with regard to product quality and quantity expectations, limitations and reporting.
- Emotional intelligence training and practical application with teams

Responsibility and Opportunity

- Customer engagement in product quality control, demonstrating the high standard of product produced and control measures in place to ensure consistent results.
- Commissioning and debottlenecking of the product circuit of the refinery increasing the production capability 20% and simultaneously improving energy efficiency.
- Professional development through training directly by operations superintendent and process engineering superintendent.



Achievements

- Creation, monitoring and controlling Key Performance Indicators for operations shift teams and process production targets.
- Achievement of 98% internal product quality aims and 100% customer contractual quality requirements.
- Collaborative development and implementation of improvement strategy to improve product washing and reduce water consumption.
- Successful commissioning of a high energy efficiency fluid bed calciner as a part of the Gove expansion project leading to the decommissioning of rotary kilns and an 8% energy efficiency improvement of the calcinations process.
- Minor capital project to debottleneck lime kiln and milk of lime plant as a refinery expansion project enabler.
- Monthly distribution of an “easy to understand” report across the refinery highlighting most valuable process improvements for production and energy efficiency.



Project Engineer

As a project engineer I worked on a number of short term, big impact, improvement projects for energy efficiency, product quality and development of a new product for export.

I took on the responsibility of project leader on the testing, and implementation of a scale inhibitor within the caustic liquor circuit of the Bayer process. This involved coordination of the 6 person project team during the construction, control design and commissioning, process implementation, evaluation and final implementation steps. This project directly contributed towards a 15% improvement in energy efficiency across the alumina refinery over the period of 6 months.

Negotiations with a new customer for an intermediate product resulted in the commissioning of a new product hydro-cyclone separation circuit bringing the intermediate product up to the specifications of the customer without impacting on the product quality control of existing export products. This success resulted in a new ongoing customer just as the global financial crisis was at a peak.

Developed Skills



- Detailed analytics of shell and tube heat exchanger efficiency
- Process economic modelling and capital justification presentation and report writing.
- Customer relation and engagement in development of intermediate product quality and quantity criteria for export within the constraints on existing plant.
- Control system development and experience leading control change risk reviews.
- Design documentation creation and statutory record keeping requirements.
- Training and qualification as a Lean Six Sigma white belt and utilisation of skills in project development and implementation.

Responsibility and Opportunity

- Expansion of product export scope utilising intermediate products as a specialty product.
- Process specific evaluation and implementation of new Bayer circuit scale inhibitor resulting in production and energy efficiency gains.

Achievements

- Direction and management of a major heat exchanger scale reduction project resulting in improvements of 10% to regenerative heat utilisation and significant improvements in overall process energy efficiency.
- Reduction in sulphuric acid consumption of 20% and extension of manual descale maintenance of shell and tube heat exchangers by implementing affective scale inhibitor across the three train process.
- Design and build delivery plant for the scale inhibitor implementation. Training operations to ensure ongoing reliability and maintenance of the plant.
- Intermediate product developed through quality assurance negotiations with customer at the peak of the global financial crisis.

Undergraduate Experience

Primarily my process engineering and management skill set has been developed while working at the Rio Tinto Alcan alumina refinery and then taking the step to production manager with Calix at Bacchus Marsh site. The grounding for these skills is based on theoretical process engineering and chemistry through The University of Melbourne and early minerals processing experience as an operator with BHP Billiton and project engineer with Alcoa.

Having experience as an operator, process engineer, shift co-ordinator, production, quality and site manager has allowed me to broaden my knowledge of how the team within an industrial process and operation works. These different view points has allowed the understanding of organisational workings and reality of different jobs from the ground floor to the Executive Management Teams.



BHP Billiton Nickel West, Mt Keith Operation

Operating experience within Nickel froth floatation plant.

In practice knowledge of equipment safety isolation systems and risks.

Practical understanding developed of instrumentation, hydrocyclone, settler, pump, and crusher operation and maintenance.

Hands on experience with sulphide floatation including frothers, surface activation and depression agents and pH control of floatation efficiency.

Maintenance requirement identification skills for roller conveyors, pump cavitation, snoring and underperformance and settler performance.



Alcoa World Aluminium, Pt Henry Smelter

Technical analysis and troubleshooting of ongoing safety concern related to high resistance across carbon anode cast stub.

Developed and trialled modifications for a unique anode connection solution which was quantified in significant energy saving.

Contribution to continuous improvement program to improve the efficiency of the carbon anode bake furnace through testing and recommending draft sealing modification.

Developed skills in concise and considered technical report writing when proposing a solution to an identified problem.



The University of Melbourne

President of the Melbourne University Chemical Engineering Student Society

Employed as a laboratory technician for Chemical Engineering department developing dissolution and adsorption experiments.

Contact & Referees

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Linked in



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Referees

Referees removed for publishing on internet

Interests

- GARDENING
- 4WD, CAMPING
- COMMUNITY GROUPS
- PUBLIC POLICY CONTRIBUTIONS
- THINK TANK PUBLICATIONS
- PROFESSIONAL FORUMS

