

# COVE ENGINEERING PTY LTD

## CORPORATE PROFILE



## SERVICING THE NATIONAL BULK MATERIALS HANDLING INDUSTRY



**Commercial in Confidence**

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**Cove Engineering Pty Ltd**

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## 1 Cove Mission and Value Commitment

Provide clients with professional engineering solutions derived from a knowledge base encompassing industry best practice techniques, ensuring that the client receives an installation and provision of services that meets their expectations and performs to their satisfaction.

## 2 Our Company

Cove Engineering (Cove) and our employees are familiar with Occupational Health, Safety, and Environment parameters including duty of care and relevant legislative and industry guidelines.

Cove possesses a blend of skills and experience gained in the management and implementation of bulk materials handling based projects, with specialisation in the design and optimisation of transfer chutes and conveyor systems.

We develop tailored services for our customers that address their primary aim of transporting bulk materials at the least possible cost, while at the same time meeting the objectives of reliability, safety and responsible environmental management.

Our staff works closely with both the customer and progressive suppliers to deliver unique, practical and innovative solutions that often exceed expectations.

We understand that a conveyor is not a unique process in itself but a complex system that integrates with other complex processes with their own safety and environmental requirements.

Unlike other similar organisations that are driven by product or manufacturing supply we deliver on outcomes. We endeavour to align ourselves with customer expectations at all times.

The Cove design, manufacture, and project management processes incorporate documented procedural systems encompassing comprehensive risk management techniques, ensuring risk minimisation philosophies and operability issues are considered throughout all project phases.

In addition to our quality manufacturing process and precision specified tolerances Cove's engineering design and inspection/audit services are always AS1755 – 2000 compliant.

Award winning products such as the Cove Engineering Smartframe™ are proof of the effectiveness of our business strategies. This product compliments the RCB Conveyor Structure, and our Easy Flow™ Soft Load Transfer Chutes in the innovative design arena.

## 3 Our Team

Cove carries out operational activities from three locations;

- An Engineering Design division at Campbelltown NSW (Australia & overseas)
- A Field Services division also at Campbelltown NSW (Illawarra and NSW coal fields)
- An Engineering & Field Services division at Mackay, QLD (Coal, Ports & Sugar)
- An Engineering & Field Services division at Perth, WA (Iron Ore, Precious Metals & Ports)

|                                |                 |
|--------------------------------|-----------------|
| Chief Executive Officer        | – Michael Lay   |
| General Manager Engineering    | – Peter Jones   |
| Illawarra Branch Manager (NSW) | – Duane Vorster |
| General Manager QLD            | – Robert Cary   |
| QLD Sales Manager              | – Craig Hodgson |
| General Manager WA             | – Matt Callanan |

## Portfolio – Products, Services, and Engineering Design

- Conveyor Systems;
  - Terminal Conveyor Design.
  - RCB – Reduced Component Belt structure.
  - Smartframe™ - OH&S friendly idler change-out frame.
  - Long Life Oil Filled conveyor pulley designs.
- Transfer Chutes;
  - Easy Flow™ engineered ‘hood & spoon’ transfer system.
  - Dewatering transfer/tripper arrangements.
  - Clean Air Transfer – dust minimisation transfer designs.
- Services;
  - Project management of conveyor system installation.
  - Conveyor Condition Monitoring & Inspection Services.
  - Australian Standards Compliance Audits.
  - Splicing Supervision and quality control services.

Our Portfolio is discussed in greater detail in the subsequent sections. A table detailing projects to date is included at the end of this document.

## 4 Conveyor Systems

### 4.1 Terminal Conveyor Design

- Conveyor design checks for system reviews or upgrades.
- Drive heads and structure.
- Gravity tower and loop take-up arrangements.
- Winch design and supply.
- Tail and boot end structure.
- Guarding design and manufacture.

### 4.2 RCB – Reduced Component Belt structure

- Simplicity in design – 30% less components per installed metre.
- Increased idler pitch equates to less rolling stock to maintain.
- Increased belt life from optimised idler contact.
- Reduced ongoing operating costs over belt life cycle.
- Lighter stringer construction – load supported by idler frame.
- RCB is AS1755 – 2000 compliant.

### 4.3 Smartframe™ - OH&S friendly idler replacement

- OH&S friendly – reduced manual handling.
- OH&S friendly – eliminate awkward postures.
- Time saving – quick idler replacement.

- Practical – suits new or existing conveyors.
- No belt lifting or jacking equipment necessary.
- Personnel can work safely from a designated walkway.
- Smartframe™ is AS1755 – 2000 compliant.

#### **4.4 Long Life Conveyor Pulley**

- Oil filled chamber for long life and minimal maintenance.
- Extends bearing life by up to four (4) times.
- Special mechanical sealing configuration to eliminate ingress of contaminants.
- Retrofit design suits most dead shaft pulleys.
- Excellent for locations where access for inspection and service is difficult.

## **5 Transfer Chutes**

### **5.1 Easy Flow™ Soft Load Transfer**

- 3D computer modelling process translates into accurate results in service.
- Central loading onto receiving conveyor.
- Material flows in compact cross-section minimising impact and turbulence.
- Elimination of spillage and requirements for skirts.
- Increased belt life from matching of velocity profile.
- Elimination of tracking problems at loading point.
- Precision manufacturing tolerances and specifications.

### **5.2 Dewatering transfer**

- Identical benefits and features as the Easy Flow™ transfer.
- Computer modelling of the fluid trajectory allows high efficiency design.
- Provision for fine tuning to suit changing conditions.
- Screen arrangements and configurations designed to suit the application.
- Water tundish diversion option caters for waste water pump maintenance.

### **5.3 Passive Clean Air Transfer**

- Identical benefits and features as the Easy Flow™ transfer.
- Reduced emissions into environment.
- Eliminates need for costly extraction and bag house systems.
- Airborne particulates managed within the transfer enclosure.
- Reduced risk of dust explosion due to low particulate concentrations.

## 6 Services

### 6.1 Conveyor Condition Monitoring & Inspections

- System inspection identifying problems before they cause unplanned stoppages.
- Focus on conveyor belt and splice condition.
- Reporting documentation thoroughly details each splice, event numbers, and a colour coded priority key assists in programming of corrective actions.
- A belt map and summary section is provided for urgent action items.
- Ancillary equipment such as idlers, pulleys and lagging, scrapers, sprays, skirting, and guarding is also inspected.

### 6.2 System Compliance Audits

- Comprehensive audit by our trained and experienced personnel.
- Fully referenced against each clause within the relevant Australian Standard.
- Audit service provided for:
  - AS1755 – 2000 Conveyors – Safety requirements
  - AS4024.1 – 2006 Safety of Machinery
  - AS1657 – 1992 Fixed platforms, walkways, stairways and ladders – Design, construction and installation
  - AS1319 – 1994 Safety signs for the occupational environment
  - Structural Inspection services.
  - Mechanical Inspection services.
- Client pre-audit meeting facilitates a clear understanding of all facets of the auditing process as well as the respective sites risk evaluation systems, process, and management strategies.
- Reports are colour coded with a simple to understand ready reference legend and photos for all non-compliances.
- Reports are prioritised from High Risk to Low Risk non-compliances.
- NSCA approved Risk Matrix or Site specific Risk Matrix used for evaluating non-compliances.

### 6.3 Idler Management and Inspection Services

- Review and optimisation of Site idler management practices.
- Thermographic idler bearing inspection services.
- Idler shell thickness testing services.
- Idler management software.
- Review of idler failure data for system improvements.

### 6.4 Splicing Supervision

- Supervision of splicing contractors on surface and underground conveyors, for solid woven, ply stepped, ply high integrity and steel cord splices.
- Auditing of splicing contractors processes, operating procedures, equipment, and systems to ensure compliance to manufacturers' specifications.

## 6.5 Splice X-Rays

- Splices x-rayed using state of the art digital imaging equipment.
- Conducted under control and supervision of our licensed Industrial Radiographer.
- Comprehensive analysis and reporting identifying all discontinuities present in each respective joint.

## 6.6 Project Management

- Installation of above and underground conveyor systems.
- Conveyor pulley replacement.
- Transfer repair and installation.
- Conveyor survey, alignment, and rectification works.
- Container crane repair services.

## 7 Confidentiality

Valued Client must keep secret and confidential and must not disclose to any third party without the prior written consent of Cove any drawings, plans, sketches, specifications, notes or other information provided to it pursuant to this proposal or any contract to supply arising from it and Valued Client must take or cause to be taken reasonable precautions as may be necessary to maintain secrecy and confidentiality and prevent disclosure, including obtaining confidentiality agreements from its employees, agents and Sub-Contractors.

A separate signed copyright and confidentiality agreement may be prepared to for signing by Valued Client to amplify these rights.

The obligations contained in the preceding two paragraphs shall survive completion of any contract for supply arising from this proposal.

## 8 Cove Engineering - Recent Engineering Projects (2010 – Current)

| Date | Client                               | Job Description                                    |
|------|--------------------------------------|--|
| 2013 | Anglo – Moranbah North (Qld)         | Drift Conveyor – Skirting & Braces                 |
| 2013 | Anglo – Moranbah North (Qld)         | Fabricate – Fines Tray                             |
| 2013 | BMA - Goonyella Riverside CPP1 (QLD) | RC3M Conveyor Pulley Design Check                  |
| 2013 | BMA – Gregory Crinum (Qld)           | DWC Engineering Study                              |
| 2013 | BMA – Peak Downs (Qld)               | Guarding Design – Snake Pit                        |
| 2013 | BMA – Peak Downs (Qld)               | Guarding & Platform Design – Malco Feeders         |
| 2013 | BMA – Saraji (Qld)                   | Design – TAMS, Footpath and Bus Park Awnings       |
| 2013 | Peabody – North Goonyella CHPP (Qld) | Conveyor Condition Inspections & Thickness Testing |
| 2013 | Sucrogen – Proserpine Mill           | Design – Boilers 1 & 3                             |
| 2013 | Vale – Carborough Downs (Qld)        | Monorail Magnet Re-design                          |
| 2013 | Xstrata – Newlands Mine CHPP (Qld)   | AS1657 Compliance Audits                           |
| 2013 | Xstrata – Newlands Underground (Qld) | ECVS2 Hood & Spoon Refurbishment                   |
| 2013 | Xstrata – Newlands Underground (Qld) | ECVS4 Hood Refurbishment                           |
| 2012 | Anglo – Grasstree (Qld)              | Ramp Boot End Modifications                        |
| 2012 | Anglo – Grasstree (Qld)              | GCV006 Dewatering Transfer                         |

| Date | Client                            | Job Description  |
|------|-----------------------------------|--|
| 2012 | Anglo – Grasstree (Qld)           | Conveyor Engineering & Design Review                       |
| 2012 | Anglo – Grasstree (Qld)           | GCV002 Drift Conveyor Engineering Design Study             |
| 2012 | Anglo – Grasstree (Qld)           | GCV002 Drift Conveyor Splice Failure Analysis              |
| 2012 | Anglo – Grasstree (Qld)           | Monthly Belt Management & Condition Monitoring             |
| 2012 | Anglo – Grasstree (Qld)           | Idler Management & Tracking - Weekly/Monthly               |
| 2012 | Anglo – Moranbah North (Qld)      | UC002 Dewatering Tripper 21CT                              |
| 2012 | Anglo – Moranbah North (Qld)      | UC003 Dewatering Tripper 37CT                              |
| 2012 | Anglo – Moranbah North (Qld)      | UC002 Dewatering chute Jib 4CT                             |
| 2012 | Anglo – Moranbah North (Qld)      | UC003 Jib Transfer   |
| 2012 | Anglo – Moranbah North (Qld)      | 001 Drift Dewater Chute Design / Supply                    |
| 2012 | Anglo – Moranbah North (Qld)      | Drift Dewater Chute 4 C/T (Inc. project management)        |
| 2012 | Anglo – Moranbah North (Qld)      | Monthly belt management & condition monitoring             |
| 2012 | Anglo – Moranbah North (Qld)      | Study and solution to UC001 spillage issues                |
| 2012 | Anglo – Moranbah North CHPP (Qld) | CV002 full length Conveyor skirting design and fabrication |
| 2012 | BHP – Appin (NSW)                 | ACCI1 Coal Clearance - SW1 & UG Elevator Conveyor Upgrade  |
| 2012 | BHP – Appin (NSW)                 | AS1755:2000 Compliance Audit                               |
| 2012 | BHP – Appin (NSW)                 | Ballast & Sump Design                                      |
| 2012 | BHP – Appin (NSW)                 | Mainslope Syntron Delivery Chute Spares                    |
| 2012 | BHP – Appin (NSW)                 | SW1 to UGE Hood Spare                                      |
| 2012 | BHP – Dendrobium (NSW)            | NW Mains Tripper Return Bend Pulley Relocation             |
| 2012 | BHP – Dendrobium (NSW)            | Chute Redesign Engineering Study                           |
| 2012 | BHP – Dendrobium (NSW)            | KVT Sizer Chute Detailed Design                            |
| 2012 | BHP – Dendrobium (NSW)            | Maingate 8 Conveyor Inspection                             |
| 2012 | BHP – Dendrobium (NSW)            | Maingate Jib – Engineering Study                           |
| 2012 | BHP – Dendrobium (NSW)            | South Mains Throttling Plate                               |
| 2012 | BHP – Dendrobium (NSW)            | Tracking Analysis Nebo + KVT + WM + NWM                    |
| 2012 | BHP – Gemco (NT)                  | Conveyor C23 Braking System                                |
| 2012 | BHP – Mt Arthur (NSW)             | Design & Supply LCV101 Guarding                            |
| 2012 | BHP – Mt Arthur (NSW)             | Design & Supply 4 off & Main Deflector                     |
| 2012 | BHP – Mt Arthur (NSW)             | Mainslope Syntron Delivery Chute Spares                    |
| 2012 | BHP – Mt Arthur (NSW)             | PCV105 to LCV102 Transfer Design & Supply                  |
| 2012 | BHP – Mt Arthur (NSW)             | PCV110 CCAT Skirting Extensions                            |
| 2012 | BHP – Mt Arthur (NSW)             | RCH208 - Design & Supply Hood for Three Leg Chute          |
| 2012 | BHP – Mt Arthur (NSW)             | RCH214 - Design & Supply Hood for Two Leg Chute            |
| 2012 | BHP – Mt Arthur (NSW)             | RCH226 - Spoon In Fill Design & Supply                     |
| 2012 | BHP – Mt Arthur (NSW)             | RCV205 - Design for jump pulley                            |
| 2012 | BHP – Mt Arthur (NSW)             | RCV207 – Hood Redesign & Supply                            |
| 2012 | BHP – Mt Arthur (NSW)             | RX1 – Chute Design & Supply                                |
| 2012 | BHP – Mt Arthur (NSW)             | Spoon Spare MFG  |
| 2012 | BHP – Mt Arthur (NSW)             | Wear Plate & Rubber Skirt Spares                           |



| Date | Client                                   | Job Description  |
|------|--|--|
| 2012 | BHP – West Cliff (NSW)                   | Conveyor Splicing Supervision                                |
| 2012 | BHP – West Cliff (NSW)                   | Cv1-11 West Cliff Transfer - Detailed Design                 |
| 2012 | BHP – West Cliff (NSW)                   | CV1-29 Gravity Tower Design                                  |
| 2012 | BHP – West Cliff (NSW)                   | Winder Gearbox Inspection & Cover Design/Supply              |
| 2012 | BMA - Blackwater TCP (QLD)               | C3A & C3B Transfer Engineering Study                         |
| 2012 | BMA - Goonyella Riverside CPP1 & 2 (QLD) | Conveyor Procedures  |
| 2012 | BMA - Goonyella Riverside CPP1 (QLD)     | QA Splicing Supervision                                      |
| 2012 | BMA - Goonyella Riverside CPP2 (QLD)     | QA Splicing Supervision                                      |
| 2012 | BMA – Goonyella Riverside (Qld)          | RC6 Splice Supervision                                       |
| 2012 | BMA – Gregory Crinum (Qld)               | Cross Drive Conveyor to MG22 Conveyor Transfer               |
| 2012 | BMA – Gregory Crinum (Qld)               | Material Flow Analysis                                       |
| 2012 | BMA – Gregory Crinum (Qld)               | Belt Reeler & Maingate Conveyor Study                        |
| 2012 | BMA – Gregory Crinum (Qld)               | Conveyor Fundamentals Training package                       |
| 2012 | BMA – Peak Downs (Qld)                   | 3D & 9D Belt Splice Station Design                           |
| 2012 | BMA – Peak Downs (Qld)                   | 8D Guarding upgrade – Design, Supply and Install             |
| 2012 | BMA – Saraji (Qld)                       | Dragline 18 Handrail Audit                                   |
| 2012 | BMA – Saraji (Qld)                       | Tams Gateway Cover Design                                    |
| 2012 | BMA – Saraji (Qld)                       | Welding Pod – Design   |
| 2012 | Centennial Coal – Charbon (NSW)          | AS 1755:2000 Compliance Audit                                |
| 2012 | Dalrymple Bay Coal Terminal (Qld)        | L15 Conveyor Splice X-ray                                    |
| 2012 | Newcrest – Telfor Gold (Qld)             | Smartframe™ design & supply                                  |
| 2012 | Newmont – Boddington (WA)                | Smartframe™ design & supply                                  |
| 2012 | Patrick Terminals (National)             | ZPMC 2nd Hoist Gearbox Rebuild                               |
| 2012 | Patrick Terminals (NSW)                  | Hoist Gearbox rebuild  |
| 2012 | Patrick Terminals (NSW)                  | ZPMC Hoist CB09 New Shaft                                    |
| 2012 | Patrick Terminals (QLD)                  | ZPMC Hoist Gearbox Output Shaft Rebuild                      |
| 2012 | Peabody – North Goonyella CHPP (Qld)     | Conveyor Condition & Thickness Testing inspections           |
| 2012 | Peabody – North Goonyella (Qld)          | DWC Spares   |
| 2012 | Peabody – North Goonyella (Qld)          | DWC Support Structure fabrication and install                |
| 2012 | Peabody – North Goonyella (Qld)          | Monthly Conveyor Condition Monitoring                        |
| 2012 | Port Kembla Coal Terminal –PKCT (NSW)    | Inbound Conveyor & Stacker Chute Analysis                    |
| 2012 | Port Kembla Coal Terminal –PKCT (NSW)    | NC2 Smartframe™  |
| 2012 | Port Kembla Coal Terminal –PKCT (NSW)    | Project Management Contracting                               |
| 2012 | Port Kembla Coal Terminal –PKCT (NSW)    | Rotary Plough Feeder & Blade Retract Modification and Design |
| 2012 | Port Waratah Coal Services – PWCS        | Ship loader Spout Design Optimization & Cleaning Study       |
| 2012 | Quinlink (China)                         | C-H4 to C-6A C-6B Transfer Design & Supply                   |
| 2012 | Rio Tinto – Blair Athol (Qld)            | AS1755 Audits  |
| 2012 | Rio Tinto – Clermont (Qld)               | AS1755, AS4024, AS1657 & AS1319 Audits                       |
| 2012 | Rio Tinto – Hail Creek (Qld)             | Idler defect tags - Supply                                   |
| 2012 | Rio Tinto – Kestrel (Qld)                | AS1755 Audits  |

| Date | Client                                | Job Description  |
|------|---------------------------------------|--|
| 2012 | Rio Tinto – Kestrel CHPP (Qld)        | AS1755 Audits & Lanyard testing                        |
| 2012 | Rio Tinto – Kestrel (Qld)             | Dewatering Chute spares                                |
| 2012 | Rio Tinto – Kestrel (Qld)             | Idler Management                                       |
| 2012 | Sucrogen – Proserpine Mill            | Bagasse System audit                                   |
| 2012 | Vale – Carborough Downs (Qld)         | Thermography / Idler Management (weekly)               |
| 2012 | Vale – Carborough Downs CHPP (Qld)    | TC01 – TC04 Structural inspections                     |
| 2012 | Vale – Carborough Downs CHPP (Qld)    | AS1755 Audits  |
| 2012 | Veyance – Cement Australia (Qld)      | Bucket Elevator X-ray                                  |
| 2012 | Xstrata – Newlands Underground (Qld)  | Stockpile weightometer drafting & relocation           |
| 2012 | Xstrata – Newlands Underground (Qld)  | AS1755 Presentation                                    |
| 2012 | Xstrata – Newlands Underground (Qld)  | ECVS 1, 2 & 4 Structural Audits                        |
| 2012 | Xstrata – Newlands Underground (Qld)  | AS1755, AS4024, AS1657 & AS1319 Audits                 |
| 2012 | Xstrata – Newlands Underground (Qld)  | ECVS33-ECVS34 transfer chute                           |
| 2012 | Xstrata – Oaky No.1 (Qld)             | AS1755 Presentation                                    |
| 2012 | Xstrata – Tahmoor Colliery            | 900 Belt Upgrade                                       |
| 2012 | Yancoal- Moolarben (NSW)              | AS1755:2000 & AS4024.1 Compliance Audit                |
| 2011 | Anglo – Moranbah North Coal (QLD)     | Idler Management Project                               |
| 2011 | Anglo – Moranbah North Coal (QLD)     | Skirting design & fabrication                          |
| 2011 | Anglo – Moranbah North Coal (QLD)     | Smartframe™ – CV008, CV101, CV201, CV701               |
| 2011 | Anglo – Moranbah North Coal (QLD)     | Tripper DWC design & fabrication                       |
| 2011 | ASMS Bucyrus                          | Dragline Drive Gear Breakdown                          |
| 2011 | Austar Coal Mine                      | Chute/Hood upgrade                                     |
| 2011 | Bechtel (QLD)                         | Broadmeadow Mine Dewatering Chutes                     |
| 2011 | BHP- Appin East (NSW)                 | Mainslope Hood & Spoon Repair                          |
| 2011 | BHP - Appin Mine (NSW)                | Main Slope Conveyor Barrier Brackets                   |
| 2011 | BHP – Dendrobium (NSW)                | AS1755 Guarding Audit                                  |
| 2011 | BHP – Dendrobium (NSW)                | Conveyor carryback Testing                             |
| 2011 | BHP – Gemco (NT)                      | Conveyor C23 Braking System                            |
| 2011 | BHP – Gemco (NT)                      | Conveyor Maintenance & Conveyor Tracking Analysis      |
| 2011 | BHP - West Cliff (NSW)                | 522 Conveyor Splicing Supervision                      |
| 2011 | BHP Mitsui – South Walker Creek (QLD) | CV402 transfer design & fabrication                    |
| 2011 | BHP- Mt Arthur (NSW)                  | Chute design as per CPG scope document                 |
| 2011 | BHP- West Cliff (NSW)                 | Audit HBF to AS 1755 incorporating AS 4024             |
| 2011 | BHP- West Cliff (NSW)                 | Audit of the horizontal belt filter conveyor to AS1755 |
| 2011 | BHP- West Cliff (NSW)                 | Conveyor Coarse transfer                               |
| 2011 | BHP- West Cliff (NSW)                 | Flotation building safety system audit                 |
| 2011 | BHP- West Cliff (NSW)                 | Magnet Chute inspection                                |
| 2011 | BHP- West Cliff (NSW)                 | Magnet Chute Re-design                                 |
| 2011 | BHP- West Cliff (NSW)                 | Rubber skirt 3m x 200m x12 mm main slope conveyor      |

| Date | Client   | Job Description   |
|------|--|---|
| 2011 | BlueScope Steel - Port Kembla (NSW)            | Bridge Reclaimer Transfer Chutes                              |
| 2011 | BlueScope Steel (NSW)                          | Secondary Stacker Tripper Car transfer Chute Upgrade          |
| 2011 | BMA - Blackwater Mine (QLD)                    | C3A & C3B Transfer Study                                      |
| 2011 | BMA - Goonyella Riverside CHPP's (QLD)         | Conveyor procedures   |
| 2011 | BMA - Goonyella Riverside CHPP's (QLD)         | QA Splicing Supervision                                       |
| 2011 | BMA - Gregory Crinum (QLD)                     | AS1755 Compliance Audits                                      |
| 2011 | BMA - Gregory Crinum (QLD)                     | Belt Reeler & Maingate Conveyor Study and recommendations     |
| 2011 | BMA – Peak Downs CHPP (QLD)                    | 3D Head End guard design, fabrication & install               |
| 2011 | BMA – Peak Downs CHPP (QLD)                    | AS1755 & AS1657 audits  |
| 2011 | BMA – Peak Downs CHPP (QLD)                    | AS1755& AS1657 Audit  |
| 2011 | BMA – Peak Downs CHPP (QLD)                    | Belt Splice Station – Design, Fabricate & Install             |
| 2011 | BMA – Peak Downs CHPP (QLD)                    | Breaker feeder guard design                                   |
| 2011 | BMA – Peak Downs CHPP (QLD)                    | ROM Shaker guard installs                                     |
| 2011 | BMA – Saraji Mine CHPP (QLD)                   | 3S, 6S & CV102 Guarding Upgrade – design, fabricate & install |
| 2011 | BMA – Saraji Mine CHPP (QLD)                   | 8S & CV101 Guarding Upgrade – design, fabricate & install     |
| 2011 | Centennial Coal – Newstan (NSW)                | Bin feeder and stack out Conveyors Transfer Chute             |
| 2011 | Centennial Coal- Angus Place (NSW)             | Hood refurbishment, spoon liners and part supply              |
| 2011 | Centennial Coal- Clarence (NSW)                | AS 1755:2000 Compliance Audit                                 |
| 2011 | Centennial Coal- Springvale (NSW)              | AS 1755:2000 Compliance Audit                                 |
| 2011 | Liddell Power Station (NSW)                    | Conveyor 15 upgrade   |
| 2011 | Liddell Power Station (NSW)                    | Conveyor brake system re-design                               |
| 2011 | Liddell Power Station (NSW)                    | Transfer(s) chute upgrade                                     |
| 2011 | Lyndarr Construction (QLD)                     | Engineering Design – Middlemount Racecourse                   |
| 2011 | Minpro (QLD)                                   | Boddington Mine – 2200mm Smart Frame trials                   |
| 2011 | National Starch (NSW)                          | Replacement fabricated brake drum                             |
| 2011 | Newcrest 'Lihir Gold Mine' (New Ireland Proj.) | Design review of Conveyor transfer                            |
| 2011 | Newmont Mining – Boddington Mine (WA)          | Smart frame™ - 2200mm   |
| 2011 | NGC (QLD)                                      | Skyline Tripper fines   |
| 2011 | NRG Gladstone Power Station (QLD)              | Smart frame™ trials   |
| 2011 | Omya Australia                                 | Unloading Tension Check                                       |
| 2011 | Patrick Brisbane (NSW)                         | Hoist Gearbox rebuild   |
| 2011 | Patrick Port Botany (QLD)                      | Samsung boom hoist drum repair                                |
| 2011 | Peabody – North Goonyella Coal (QLD)           | Drift to Skyline Transfer design and fabrication              |
| 2011 | Queensland Alumina Ltd (QLD)                   | 2 x Transfer Station upgrades                                 |
| 2011 | Sucrogen – Plane Creek Mill (QLD)              | CV2 – CV3 Transfer study and design                           |
| 2011 | Ulan West (NSW)                                | Engineering Management System                                 |
| 2011 | Vale - Carborough Downs CHPP (QLD)             | AS1755 & AS4024 Compliance Audits                             |
| 2011 | Vale - Carborough Downs U/G (QLD)              | AS1755, AS1657 & AS1319 Compliance Audits                     |
| 2011 | Veyance Belting (QLD)                          | Cement Australia (Gladstone) - Belt X-rays                    |

| Date | Client                               | Job Description   |
|------|--------------------------------------|---|
| 2011 | Western Conveyor Services (NSW)      | CHPP Compliance Audit                                       |
| 2011 | Xstrata – Newlands Underground (QLD) | AS1755, AS1657, AS4024 & AS1319 Audits                      |
| 2011 | Xstrata – Newlands Underground (QLD) | AS1755, AS4024, AS1657 & AS1319 - Compliance audits         |
| 2011 | Xstrata – Newlands Underground (QLD) | Ramp conveyor re-grade                                      |
| 2011 | Xstrata – Newlands Underground (QLD) | Structural audits – ECVS 1, 2 & 4                           |
| 2011 | Xstrata – Newlands Underground (QLD) | Transfer spares fabrication                                 |
| 2011 | Xstrata - Oaky Creek No. 1 (QLD)     | AS1755 & AS1657 Guarding Audit                              |
| 2011 | Xstrata – Tahmoor (NSW)              | Tripper design and supply                                   |
| 2011 | Xstrata - Ulan (NSW)                 | AS 1755 Auditing  |
| 2010 | Anglo – Callide Mine (QLD)           | Fabricate 3007 Replacement Chute                            |
| 2010 | Anglo – Grasstree Mine (QLD)         | AS1755 Guarding Audit                                       |
| 2010 | Anglo – Grasstree Mine (QLD)         | Belt Management   |
| 2010 | Anglo – Grasstree Mine (QLD)         | Belt Thickness Testing                                      |
| 2010 | Anglo – Grasstree Mine (QLD)         | Structural Audit Report & Recommendations                   |
| 2010 | Anglo – Moranbah North Coal (QLD)    | AS1755 Audits   |
| 2010 | Anglo – Moranbah North Coal (QLD)    | IMATS   |
| 2010 | BHP – Dendrobium (NSW)               | Manufacturing and installation of conveyor guarding signage |
| 2010 | BHP Appin (NSW)                      | Main Slope hood   |
| 2010 | BHP Appin (NSW)                      | Repair of Mainslope hood                                    |
| 2010 | BHP Appin (NSW)                      | Trolley design for handling of Conveyor pulleys             |
| 2010 | BHP- Mt Arthur (NSW)                 | Transfer Chute Improvements                                 |
| 2010 | BHP West Cliff (NSW)                 | Temporary chute Rotary breaker                              |
| 2010 | BHP-Dendrobium (NSW)                 | AS1755 Audits   |
| 2010 | Blue Scope Steel (NSW)               | Smart frame™  |
| 2010 | BMA - Goonyella CHPP (QLD)           | Conveyor Belt Management                                    |
| 2010 | BMA – Goonyella Riverside (QLD)      | Belt Change Out Procedures                                  |
| 2010 | BMA – Norwich Park Mine (QLD)        | 1NP Transfer Modeling                                       |
| 2010 | BMA – Peak Downs (QLD)               | Guarding Upgrade – 3D, 4D, 5D, 8D& ROM design & fabricate   |
| 2010 | BMA – Peak Downs (QLD)               | Guarding Upgrade – Design & Supply                          |
| 2010 | BMA – Saraji Mine (QLD)              | Drafting and Project Management                             |
| 2010 | BMA – Saraji Mine (QLD)              | Draglines - Drafting & Project Management                   |
| 2010 | BMA – Saraji Mine (QLD)              | EDD Drill Rigs Audit  |
| 2010 | BMA – Saraji Mine (QLD)              | Guarding & Access Upgrades for Mining Equipment             |
| 2010 | BMA – Saraji Mine (QLD)              | Project Management and Drafting Resources                   |
| 2010 | BMA – Saraji Mine (QLD)              | Project Management and Drafting Resources                   |
| 2010 | BMA – Saraji Mine CPP (QLD)          | Guarding Upgrade – Concept stage                            |
| 2010 | Caledon – Cook Colliery (QLD)        | Drift tail end works  |
| 2010 | Caledon – Cook Colliery (QLD)        | Drift to CV1 Transfer                                       |
| 2010 | Caledon Coal – Cook Colliery (QLD)   | AS1755 Audits   |

| Date | Client                               | Job Description                                     |
|------|--------------------------------------|---|
| 2010 | Caledon Coal – Cook Colliery (QLD)   | Drift to CV1 Transfer Spoon                         |
| 2010 | Carborough Downs (QLD)               | SWI's & STI's                                       |
| 2010 | Centennial Coal- Angus Place (NSW)   | Conveyor drive area return frames                   |
| 2010 | Centennial Coal- Angus Place (NSW)   | Conveyor transfer Upgrade                           |
| 2010 | Centennial Coal- Angus Place (NSW)   | Flat return frame                                   |
| 2010 | Centennial Coal- Angus Place (NSW)   | Intermediate Chute Liners                           |
| 2010 | Centennial Coal- Angus Place (NSW)   | Refurbishment of Spoon                              |
| 2010 | Centennial Coal- Newstan (NSW)       | Bin feeder and stack-out Conveyors Transfer Chute   |
| 2010 | Centennial Coal- Newstan (NSW)       | Conveyor to conveyor transfer                       |
| 2010 | Convatech (QLD)                      | Peak Downs 4D-6D & 5D-6D - Transfer Modeling        |
| 2010 | Gladstone Power Station (QLD)        | Conveyor Fundamentals Training                      |
| 2010 | Kotzur Grain (NSW)                   | Tripper - AS1755 Audit & Design Check               |
| 2010 | Narrabri Coal Operation (NSW)        | Conveyor condition inspection                       |
| 2010 | Oaky Creek CHPP                      | AS1657, AS1319 & AS4024.1 Audits                    |
| 2010 | One Steel- Rooty Hill (NSW)          | Conveyor alignment                                  |
| 2010 | Patrick Terminals (NSW)              | Hoist gearbox rebuild                               |
| 2010 | Patrick's (NSW)                      | Crane Hoist Gearbox                                 |
| 2010 | Peabody - North Goonyella Coal (QLD) | Arc Chute Replacement                               |
| 2010 | Prodeco (Columbia)                   | Transfer Chute Engineering Studies                  |
| 2010 | Queensland Nickel Industries (QLD)   | Coal System Upgrade                                 |
| 2010 | Queensland Nickel Industries (QLD)   | Main Feeder Conveyor- Counter Weight design         |
| 2010 | Rio Tinto – Kestrel Mine             | Dewatering Transfer - Modeling & Fabrication        |
| 2010 | Rio Tinto – Kestrel Mine CHPP (QLD)  | AS1755 Guarding Audit                               |
| 2010 | Sucrogen – Pioneer Mill (QLD)        | AS1755& AS4024.1 Audits                             |
| 2010 | Sucrogen – Plane Creek Mill (QLD)    | AS1755 Audits                                       |
| 2010 | Ulan Coal (NSW)                      | AS1755 Guarding Audit                               |
| 2010 | Vale – Carborough Downs (QLD)        | AS1755 Audits                                       |
| 2010 | Vale – Carborough Downs (QLD)        | Monthly thermography inspections                    |
| 2010 | Vale – Carborough Downs (QLD)        | SWI's & STI's                                       |
| 2010 | Vale-Carborough Downs (QLD)          | AS1755& AS4024.1 Audit                              |
| 2010 | Whitehaven Coal-Narrabri (NSW)       | Underground conveyors install documents             |
| 2010 | Xstrata – Newlands CHPP (QLD)        | Belt Condition Inspections/Belt Thickness Testing   |
| 2010 | Xstrata – Newlands Underground (QLD) | Ramp to Stacker Transfer 3 D Modeling & Fabrication |
| 2010 | Xstrata – Newlands Underground (QLD) | Transfer Chute replacement spares                   |
| 2010 | Xstrata-Oaky Creek #1 (QLD)          | AS1657 Audits                                       |
| 2010 | Xstrata-Oaky Creek CHPP (QLD)        | AS1657/AS4024/AS1319 Audits                         |
| 2010 | Xstrata-Oaky Creek CHPP (QLD)        | AS1755-2000 CHPP Guarding Upgrade                   |
| 2010 | Yancoal- Moolarben (NSW)             | AS 1755:2000 Compliance Audit                       |