



# EQUIPMENT PORTFOLIO



**MGA**  
Engineering  
[mgaeng.com](http://mgaeng.com)



Pacific Coast Terminals Shiploader, British Columbia, Canada



Minera Antucoya Conveyor, Chile



Impala Burnside Terminal Wharf Conveyor, Louisiana, USA





## The Company

MGA Engineering is a master designer of structural and mechanical systems deployed across the globe in the infrastructure, building (commercial and industrial), mining, energy, and marine industries. Founded in 1996, MGA now staffs 65 highly experienced engineers, providing an exceptional level of technical expertise and innovative engineering solutions to commercial and industrial clients.

Over the years, MGA has lent its expertise to owners, operators and fabricators of large-scale bulk materials handling equipment such as conveyors, ship loaders, stackers/reclaimers, crushers storage tanks, vessels and transfer stations. This includes all major Original Equipment Manufacturers (OEM), including Takraf, ThyssenKrupp, PHB, FAM, MWS, FLSmidth, Shinhan and Sandvik.

## A Global Footprint

MGA's head office is located in Calgary, Canada, and entails corporate, finance, project management and design functions. A large design office resides in Cairo, Egypt, and also serves as the base of operation for projects in Europe and Asia. MGA also operates several smaller satellite offices across Canada, the United States of America, and internationally (British Columbia, Quebec, Florida, New Jersey, Mexico, Brazil and Ecuador). Our footprint of past projects and active presence worldwide can be seen on a global scale.





## Bulk Material Handling

MGA's core expertise is anchored at BHM installations typically found in the mining, marine ports and oilsands industries. MGA 's expertise is available in CAPEX and OPEX:

- **CAPEX: New equipment**  
(needs analysis, planning, design, design-build, erect, commission)
- **OPEX-A: Equipment in operation**  
(repairs, troubleshooting, modifications, alterations, senescence)
- **OPEX-B: Inspection, Testing & Certification**  
(maximization of economic life of operating assets)

## The Applications

### Bulk Transfer

- Single-boom spreaders
- Mobile stacking bridges
- Transport crawlers
- Stacker and reclaimers (single & combined)
- Bucket wheel reclaimer (boom & bridge)
- Scraper, drum, and portal reclaimers
- Portal and bridge-type scraper reclaimers
- Ship loaders & unloaders
- Grab type ship unloader
- Circular storage with stacker/bridge reclaimers

### Bulk Treatment

- Crushing plants
- Breakers and high-pressure grinding rolls
- Roll crushers and double roll crushers
- Belt linear screens
- Hard rock sizers
- Slurries plant and tailings
- Primary separation cells and floatation cells
- Granulators
- Vacuum belt filters for dewatering

### Excavators

- Bucket chain excavators
- Bucket wheel excavators

### Transport

- Apron feeders
- Belt conveyors
- Belt feeders
- Mobile conveyor bridges
- Mobile transfer conveyors
- Tube conveyor
- In-plant conveyor systems
- Pipe conveyor systems
- Steel conveyors

### Facilities & Buildings

- Wagon / truck loading
- Wagon unloader / tripper
- Rapid train load-out station
- Storage pits
- Tanks and reservoirs
- Pressure vessels and bullets
- Process piping
- Pipe racks
- Steel structures





## CAPEX Expertise

CAPEX engagements encompass:

- Concepts: Feasibility studies, equipment and layout options
- Definition: Selection, constraints, scoping (budgets & timelines)
- Conception: Design, layouts, execution planning
- Procurement: Purchases, contracts, leases, logistics
- Realization: Fabrication, transportation, construction, erection, commissioning, certification, start-up
- Operations: Field support, troubleshooting, modifications

## OPEX-A Expertise

OPEX-A engagements keep the assets operating profitably:

- Assessments of structural and mechanical integrity
- Failure analysis and prevention
- Fracture and fatigue assessments, detection, and mitigation
- Design of alterations, modifications, upgrades and repairs
- Design assessments of performance enhancements, capacity increases, reliability improvements and automation opportunities



## OPEX-B Expertise

OPEX-B engagements extend the economic life of assets:

- In-situ inspections of equipment under static and operating conditions for detection of structural, mechanical and operational problems, concerns or issues.
- Corrosion, erosion and structural degradation detection, and progress monitoring
- Testing, troubleshooting, and identification of remedial options & opportunities for improvements and/or degradation mitigation
- Certification of operational & structural compliance to Codes, Standards, and Permit requirements
- Risk mitigation: risks of failure, to productivity, to health, safety and the environment, to reliability, to budgets, and to shareholders' returns on investment.
- Design options for extending the economic life of operating or idle equipment.



## Ridley Terminal Stacker-Reclaimer Upgrade

	LOCATION B.C., Canada		EQUIPMENT TYPE Stacker/Reclaimer	SCOPE OF WORK • Structural and Mechanical Engineer of Record
	TIMELINE 2018		CAPACITY 8000 tph	
	CLIENT FWS		MATERIAL Coal	








## Proyecto Antucoya Conveyor

	LOCATION Chile		EQUIPMENT TYPE Conveyor	SCOPE OF WORK • Structural and Mechanical Engineer of Record for two conveyors
	TIMELINE 2012-2014		MATERIAL Copper	
	CLIENT Takraf-Tenova			



## Standard General-Acheson Rail Unloading

	LOCATION Alberta, Canada		EQUIPMENT TYPE Rail unloading	SCOPE OF WORK • Full design development, design of temporary shoring used to evacuate 8.0m below the ground level
	TIMELINE 2008-2009		MATERIAL Aggregate	
	CLIENT ZJ Solutions			




## Canpotex Portland Shiploader


	LOCATION Oregon, USA		EQUIPMENT TYPE Shiploader	SCOPE OF WORK • Structural Engineer of Record
	TIMELINE 2013 - 2014		CAPACITY 6000 tph	
	CLIENT Sandvik		MATERIAL Potash	





## Horizon Primary Separation Cells

 LOCATION  
Alberta, Canada


 EQUIPMENT TYPE  
Vessel

SCOPE OF WORK:  
• Structural design  
• Piping test analysis  
and design

 TIMELINE  
2011 - 2015





MATERIAL  
Synthetic crude oil

 CLIENT  
ThyssenKrupp



## Kearl Lake Slurry Preparation Plant

 LOCATION  
Alberta, Canada

 EQUIPMENT TYPE  
Plant

SCOPE OF WORK  
• Detailed structural and  
architectural design  
• Design of mechanical  
equipment (pump boxes,  
chutes etc.)  
• Pipe stress analysis

 TIMELINE  
2008-2011





MATERIAL  
Oil Sand

 CLIENT  
ThyssenKrupp




## Surge Bin Feed Conveyor

 LOCATION  
Alberta, Canada

 EQUIPMENT TYPE  
Conveyor

SCOPE OF WORK  
• Structural design


 TIMELINE  
2005

 CLIENT  
ThyssenKrupp




## Westshore Terminals

 LOCATION  
B.C., Canada

 EQUIPMENT TYPE  
Shiploader

SCOPE OF WORK  
• Structural Engineer of  
Record

 TIMELINE  
2013 - 2018

 CAPACITY  
7100 tph

 CLIENT  
Sandvik

 MATERIAL  
Coal





Rotary Breaker



Rod Mill Hopper and Screw Feeder



Hopper



13  
Overflow Dump Pond



Chute





Hovensa Shiploader, St. Croix, US Virgin Islands



Horizon Primary Separation Cells, Alberta, Canada



Minera Antucoya Conveyor, Chile

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