SHIPLOADERS PORTFOLIO



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Pacific Coast Terminals Shiploader, British Columbia, Canada









The Company

MGA Engineering is a global leader in designing structural and mechanical systems 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.

MGA is well versed in the intricacies of bulk material shiploader design. Leveraging state-of-the-art design and computing tools, we ensure compliance with North American and European standards. From initial project conception through detailed design, including equipment, mechanical systems, and supporting structures such as storage buildings and silos, our team meticulously addresses all design requirements, meeting the industry's standards and expectations.

A Global Footprint

MGA's headquarters is situated in Calgary, Canada, overseeing corporate, project management, financial, and design functions. Additionally, a significant design office is located in Cairo, Egypt, serving as the operational hub for projects in Europe and Asia. MGA also maintains several smaller satellite offices across Canada and the United States (British Columbia, Quebec, Florida, and New Jersey), as well as internationally, in Mexico, Brazil, and Ecuador. Our extensive footprint of past projects and ongoing global presence underscores our commitment to delivering exceptional engineering solutions worldwide.





The Importance of Shiploaders

Shiploaders play a critical role in the continuous loading of bulk materials like iron ore, coal, or grain worldwide, serving as indispensable assets in the global shipping industry and facilitating intercontinental trade.

Efficiency, durability, and reliability are the hallmark features of shiploaders, and our designs are crafted with these principles in mind. Furthermore, MGA has spearheaded numerous research projects aimed at enhancing shiploaders' resilience to seismic events. By ensuring their robustness, we safeguard crucial trading routes and maintain the uninterrupted flow of materials even in the aftermath of seismic activity.

Shiploader Project Showcase







Fraser Grain Terminal Shiploader

- Q LOCATION B.C., Canada
- CI-13 TIMELINE
- 6 FWS
- E
 - CLIENT
- 2018 2020
- Grain CAPACITY 2,000 tph

Shiploader Type Fixed (x3)

MATERIAL

Scope of Work Structural and **Mechanical Engineer** of Record



Material Sulpher & Potash

Shiploader Type Radial quadrant

CAPACITY 5,000 tph

Pacific Coast Terminals Shiploader

- Location B.C., Canada Q r1-17 TIMELINE 2016 & 1997 10
 - CLIENT
- CLIENT Krupp Canada

- Scope of Work
- Engineer for the sulpher conveying system
- Design audit
- Engineer for the boom replacement



Hamilton Lake Terminal Shiploader

6	Location
0	Ontario

TIMELINE En 2016

CLIENT É. FWS



MATERIAL Grain

CAPACITY 1,500 tph

SHIPLOADER TYPE Fixed

Scope of Work • Structural Engineer of Record



Westshore Terminals Shiploader



MATERIAL and thermal coal

CAPACITY



Sandvik

8,000 tph Shiploader Type **Rail Mounted**



Canpotex Portland Shiploader

- LOCATION
- Q Oregon, USA

Timeline 2013 - 2014

- CLIENT
- ₫. Sandvik

- CAPACITY 6,500 - 8,600 tph

MATERIAL

Potash

Shiploader Type Rail mounted

Scope of Work • Structural Engineer of Record



Impala Burnside Terminal Shiploader

- LOCATION Q Louisiana, USA Timeline 2011 - 2013 EO
 - CLIENT
- Sandvik
- MATERIAL Bituminous and Sub-Bituminous Coal

CAPACITY

6,600 to 8,300 tph

Shiploader Type Rail mounted

Scope of Work Structural Engineer of Record

Port of Sept-Ile Pointe-Noire Quai No. 35

0	Location
2	Quebec, (

TIMELINE 2012 - 2014

CLIENT Sandik

MATERIAL Iron Ore Canada

> CAPACITY 8,000 tph

Shiploader Type Rail mounted

Scope of Work Structural Engineer of Record for 2 Shiploaders + trippers



Vale Long Harbour Offloading Mobile Hoppers

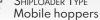
2	Location Newfoundland, CAN
	Timeline 2011-2012

MATERIAL SCOPE OF WORK Bulk nickel concentrates • Design audit

- and bulk limestone
 - Fabrication supervision Site rehabilitation

CLIENT CLIENT Sandvik

CAPACITY 2,200 tph Shiploader Type





Petrozuate Shiploader



TIMELINE 2001

CLIENT ₫. Krupp Canada

MATERIAL Petroleum Coke CAPACITY

1,000 - 5,000 tph Shiploader Type Rail mounted

Scope of Work • Fire damage investigation and troubleshooting



Ilo Ship-Unloader

2	LOCATION
R	llo, Peru

Timeline 2001

Krupp Canada CLIENT

T SHIP UNLOADER TYPE Rail mounted

Scope of Work

- Structural evaluation of seismic damage
- Structural design criteria - seismic provisions



Aimcor Shiploader

0	Location
Q	Texas City, USA

TIMELINE 2001 - 2003

CLIENT **.** Oxbow/Aimcor

MATERIAL

Petroleum Coke CAPACITY 2,500 tph

Shiploader Type Radial guadrant Scope of Work

• Repair and rehabilitation • Redesign, detailing and fabrication, erection and commissioning supervision

NORTH OFFICE ADDRESS

Hovensa Shiploader

LOCATION 2 St. Croix, U.S.V.I

CLIENT CLIENT Krupp Canada

[<u>|-|</u>] Timeline 1998 - 2001 MATERIAL

Petroleum coke

Shiploader Type Radial quadrant Scope of Work

- Design
- Fabrication supervision
- Erection supervision





Citgo Aruba Oil Refinery Shiploader

- Q LOCATION
- San Nicolas, Aruba
- Timeline 1997 - 2000
- CLIENT **.**
 - ThyssenKrupp Robins
- MATERIAL Crude oil
- T Shiploader Type Fixed
- Scope of Work • Design
 - Fabrication supervision
 - Erection supervision



Collahuasi Shiploader

- Location Iquique, Chile 2
- Timeline 1996 - 1999
- CLIENT Krupp Canada CLIENT
- Copper concentrates

MATERIAL

- CAPACITY 1,500 tph
- Shiploader Type Radial quadrant
- Scope of Work • Design audit

 - Fabrication supervision
 - Site rehabilitation



LAXT Shiploader



Timeline 1997

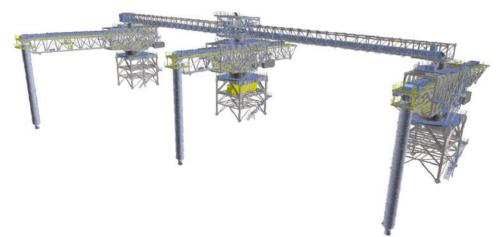
CLIENT Krupp Canada MATERIAL

CAPACITY 9,000 tph

Shiploader Type Rail mounted

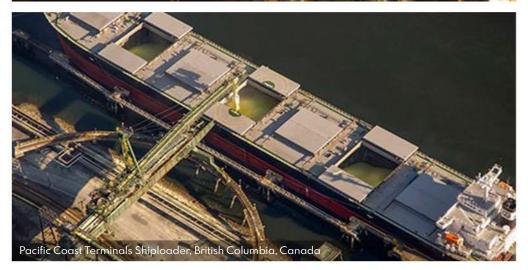
Scope of Work Coal & petroleum coke · Design audit

• Troubleshooting the hoisting system









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