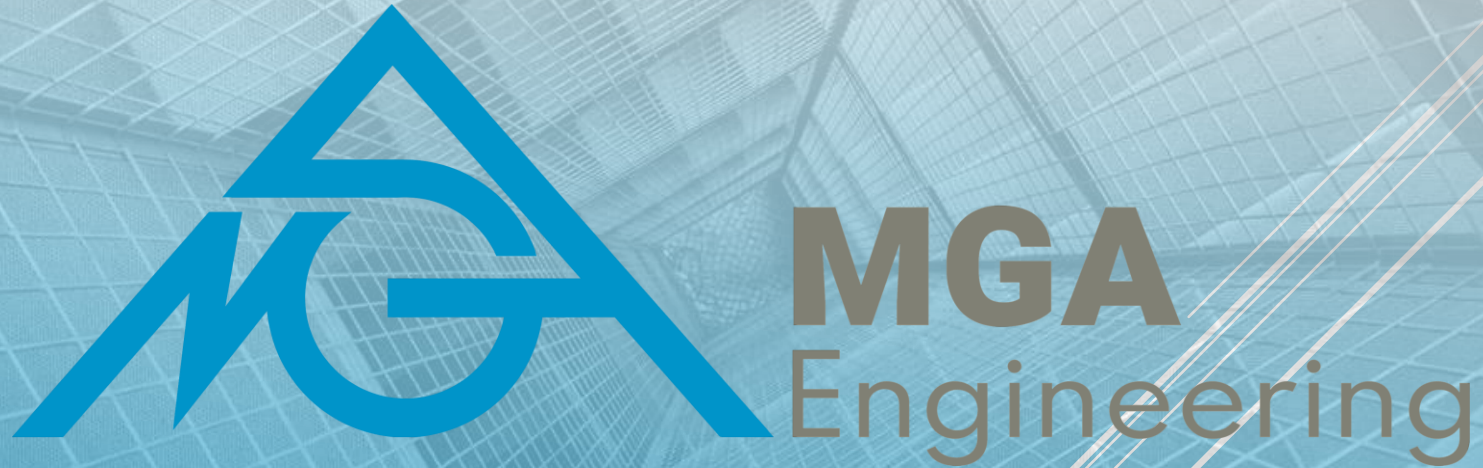


SHIPLOADER PORTFOLIO PRESENTATION



MGA Engineering Inc.

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ABOUT MGA

MGA Engineering Inc. is a master designer of structural and mechanical systems, utilized across the globe in the marine, mining, energy, infrastructure, and building sectors. Founded in 1996, the firm is headquartered in Calgary, Canada, and operates regional offices in Canada, USA, and Egypt. Throughout the decades, 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.

Over the decades, MGA has worked with all major Original Equipment Manufacturers (OEM), including Takraf, Thyssen Krupp, PHB, FAM, MWS, FL Schmidt, Shinhan, and Sandvik.



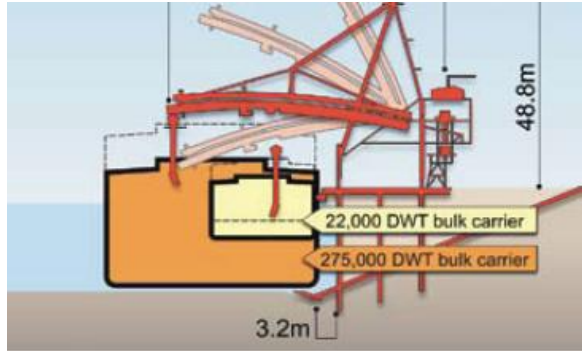
- ▶ Design Audit
- ▶ Fabrication supervision
- ▶ Site rehabilitation



COLLAHAUSI SHIPLOADER, KRUPP CANADA 1996-1999

LAXT, KRUPP CANADA 1997

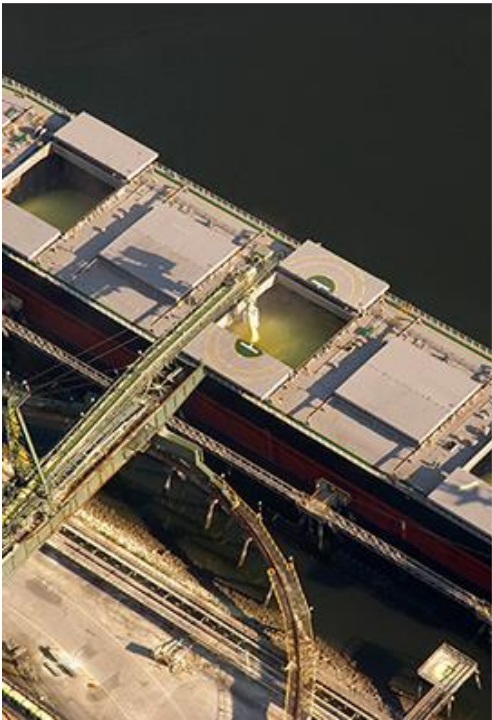
- ▶ Trouble shooting for the hoisting system
- ▶ Design audit





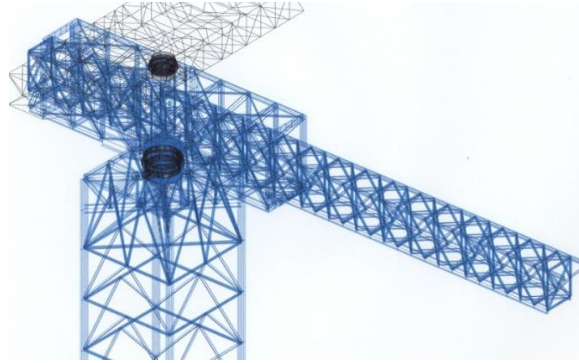
- ▶ EOR for the Potash conveying system
- ▶ Design audit for the quadrant Shiploader/ EOR for the boom replacement

PACIFIC COAST TERMINALS 1996 & 2016



COASTAL ARUBA-KRUPP ROBINS 1997- 2000

- Design, fabrication and erection supervision



HOVENSA SHIPLOADER, KRUPP CANADA 1998-2001

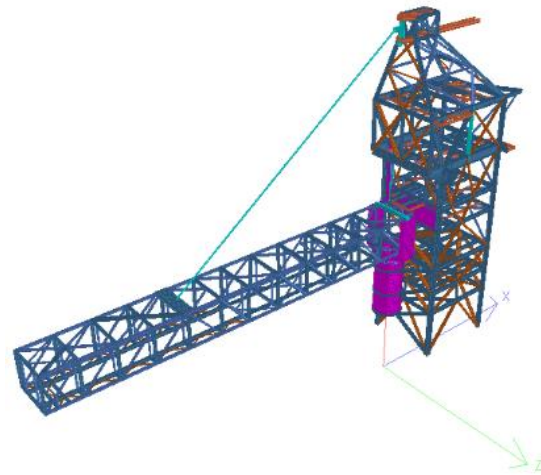
- Design, Fabrication,
and site erection
supervision





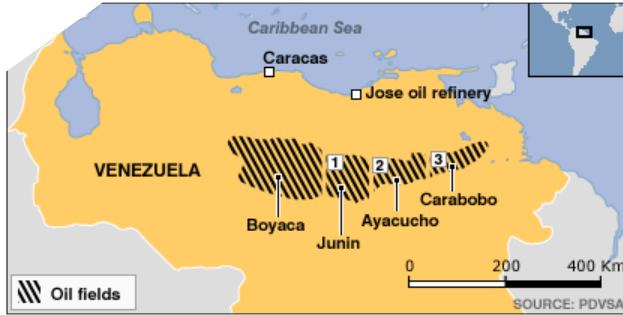
- ▶ Structural evaluation of seismic damage
- ▶ Structural design criteria-Seismic provisions

ILO SHIP-UNLOADERS 2001



- ▶ Repair and rehabilitation
- ▶ 2500 t/h pet coke radial shiploader for the Texas City materials handling terminal-Texas.

AIMCOR SHIPLOADER 2001-2003



PETROZUATE SHIPLOADER- VENEZUELA 2002

- Fire damage investigation and troubleshooting





- EOR for two concentrate mobile hoppers, nickel (Sandvik)

VALE LONG HARBOUR PROCESSING PLANT

SANDVIK SHIPLOADERS 2004-2017

EOR for several shiploaders in
Canada and USA

- ▶ Port Of Sept Iles
- ▶ Cliffs
- ▶ Oregon (Canpotex)
- ▶ Louisiana-Burnside
- ▶ Westshore Terminals
- ▶ Prince Rupert Potash
Terminal-Canpotex

An aerial photograph of a port terminal, overlaid with a semi-transparent blue filter. Several callout boxes with white text and small square markers point to specific areas of the terminal. The markers are located at: 'New shiploader' (top right), '3 bucketwheel reclaimers' (center), 'Re-purpose existing office space' (left), and 'New office and shop complex' (bottom left).

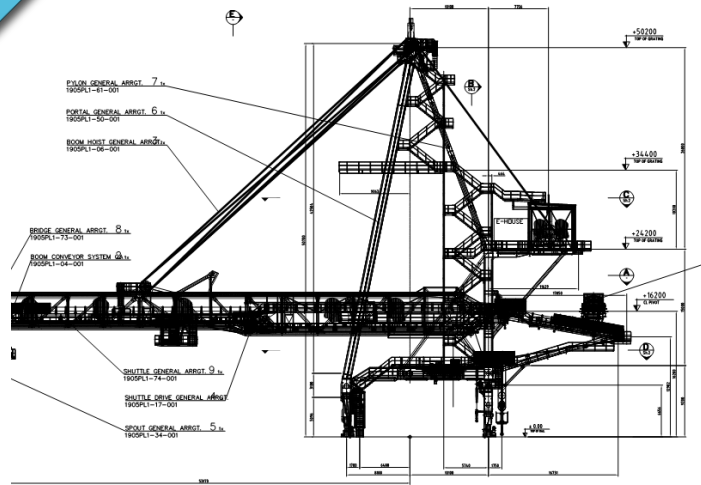
New shiploader

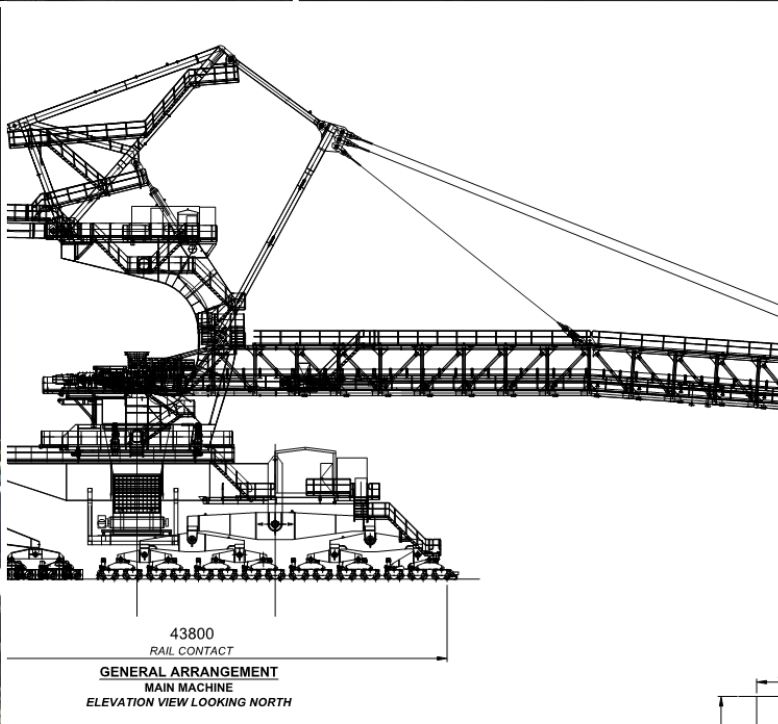
- ▶ Bituminous coking coal and thermal coal with varying fines and moisture content
- ▶ Ship Loader
- ▶ 3 Bucketwheel stacker/reclaimers

WESTSHORE TERMINALS DELTA-BC-CANADA (2013-2018)

WESTSHORE SHIPLOADER

Shiploader: 8000 tph
 Belt width: 2440mm
 Belt speed: 4.8m/s





- ▶ Capacity: 7100 tph
- ▶ Belt: 2130mm
- ▶ Belt speed: 4.84 m/

WESTSHORE BUCKET-WHEEL STACKER/RECLAIMERS



PORT OF SEPT-ILES

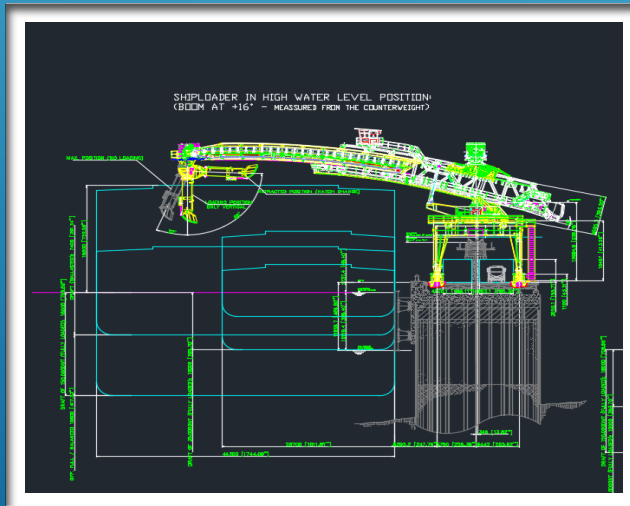


- ▶ 2 Shiploaders + trippers
- ▶ 2 Harbour conveyors (195 & 360m)
- ▶ Iron Ore
- ▶ 8,000 TPH (Design)
- ▶ 2012/2014

PORT OF SEPT-ILES
POINT-NOIRE QUAI
NO. 35

BURNSIDE TERMINAL DEVELOPMENT DARROW, LOUISIANA (2011-2013)

- ▶ Bituminous and Sub-Bituminous Coal, multi – grade, heterogeneous properties.
- ▶ Design Capacity 6600 to 8300 tonnes per hour
- ▶ Shiploader conveyor: 872'
- ▶ Travelling Shiploader w/tripper



BURNSIDE- LOUISIANA

About This Project

Canpotex is currently working toward the completion of a feasibility analysis. This analysis covers environmental assessment, First Nations consultation and detailed design engineering activities. The company hopes to have regulatory approvals before the end of 2012.

The Canpotex Potash Export Terminal will include the following components:

- A marine wharf, access trestle, causeway and all weather ship loading facility capable of receiving vessels of up to 180,000 dead weight tonne (DWT)
- A 180,000 tonne potash storage building with associated conveyor and dust collection systems
- An automated railcar unloading and conveyor system
- A settlement pond for storm water and wash down water
- Administration, personnel, maintenance, and storage buildings
- Site services including water supply, natural gas and sewage.



► Special Shiploader Study (All weather Shiploader)

CANPOTEX-PRINCE RUPERT/BC

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