

**ASTEC**  
BULK HANDLING SOLUTIONS



## GLOBAL SUCCESS: OUR CASE STUDIES

**Customization and Customer Service Delivering  
Success for Astec Bulk Handling Solutions**

**A Truck Unloader , Barge Loading Case Study**

# Astec Bulk Handling Solutions

Astec Bulk Handling Solutions continues to excel in providing customized bulk material handling solutions to its wide customer base. The company offers the Ship and Barge loading/unloading industry the most innovative and customized mobile bulk handling systems on the world market today. Astec Bulk Handling Solutions (ABHS) draws upon existing experience, proven engineering designs and manufacturing footprints from Astec companies around the world to deliver what our customers are asking for: A single source for customized bulk handling solutions. Here is another case study from one of our Global customers:

## The Key Facts:

<b>Country / Region:</b>	Columbia
<b>Product:</b>	Mobile Truck Unloader
<b>Application:</b>	Barge Loading direct from trucks
<b>Material Type:</b>	Grain

***“Nobody could match our customer-driven designs, competitive pricing and lead time, something of which we are extremely proud.”***

In Colombia, the Sociedad Portuaria Regional de Barranquilla (SPRB), which operates the Port of Barranquilla, has acquired a new barge loader from ABHS.

Originally the port brought in imported grain by Handymax vessels, with consignments initially unloaded directly into hoppers and then stored in warehouses on the quayside. For onward transport, the grain was again loaded onto trucks, and then loaded on ‘Impala’ barges for transport up the Magdalena River to end users further inland.

The mobile barge loader sold to SPRB forms an integral part of this logistics chain, since it is used to move the grain efficiently from ‘truck-to-barge’, thereby minimizing double handling, contamination and dust emissions often inherent when differing types of grains are being handled.

Astec Industries companies are already world leaders in the supply of mobile bulk material handling equipment for use in ports and terminals. In addition – and unlike many rivals – we are able to customize every aspect of the equipment to meet the specific needs of the application. As with every contract, in order to get things just right, we had continuous engineering consultations with our customer’s engineering and technical teams over a period of time to ensure all aspects of the project was fit for purpose.



### **A Unique Solution - Eliminating Double-Handling**

No ABHS competitor could meet the flexibility and mobility inherent in the truck-to-barge design provided to SPRB. "It's a unique solution," reports the ABHS Technical Sales Representative. "Nobody could match our customer-driven designs, competitive pricing and lead time, something of which we are extremely proud."

Unlike in many other contracts, the ABHS equipment in Colombia is not replacing an incumbent handling system; the deployment of the Truck Unloader to Barranquilla was done specifically to enable the port to commence an entirely new barge loading operation.

However, the port company did not look at barge loaders in isolation; it also considered a possible mobile harbour crane (MHC) operation. There were several reasons why, ultimately this Truck Unloader solution was preferred.

First and foremost, there was a lower capital investment required, which is always a key point in any sale. But it was not simply the financial aspect that persuaded the client to buy the Truck Unloader as the barge loading solution. The use of an MHC increases double handling of material, since trucks conveying consignments would have to offload them on the quayside, leading to both potential contamination of the material and increased dust emissions. In contrast, the Truck Unloader barge loader ensures direct loading from truck-to-barge, thereby eliminating double-handling bottlenecks, and improving operational efficiencies.

Astec Bulk Handling Solutions can offer a faster lead time from order date to installation. Also no dedicated, trained operator is required to use an ABHS Truck Unloader barge-loader since it is a very simple and easy to use piece of equipment. Contrast this to a mobile harbour crane, which needs a highly experienced operator, thereby generating additional labor costs.

All of these factors mean an overall reduction in the cost-per-ton handled.

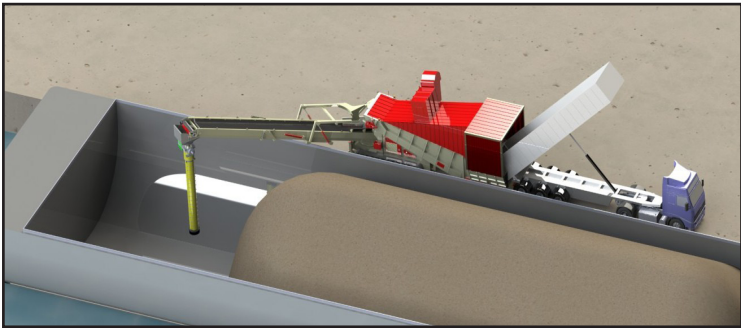
The Truck Unloader design was customized to meet the specific needs of the application. The tipping point, for example, has been custom designed for the customer's trucks to ensure that no spillage occurs during loading and that there is continuous feeding, resulting in a regular truck cycle time.

### **Energy efficiency**

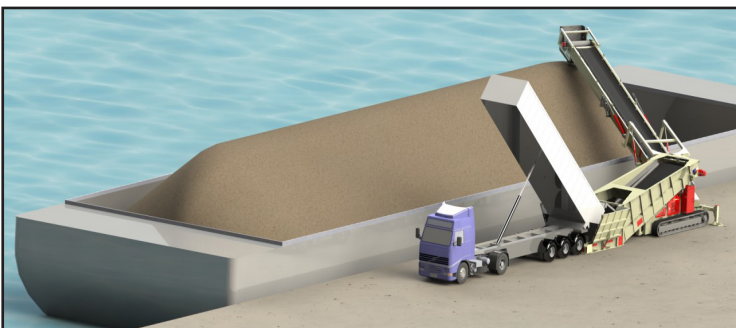
The SPRB unit incorporates a dual power electric supply, which means operating costs can be kept low. Under normal circumstances, the barge loader is driven around the site and operated via the integrated CAT 96.4KW diesel hydraulic engine. However, to minimize fuel consumption, an integrated electric system allows the conveyor belts to be driven electrically from an onshore power supply.

ABHS engineers have also made sure the unit has been optimized to handle grain in the most efficient manner possible. So, chevron belts have been fitted to ensure the free-flowing of material. In respect of environmental protection, the unit offers integrated dust enclosure around the tipping area, as well as dust covers on the incline conveyor and a fully enclosed discharge chute to direct the material into the barge.

Understandably, the harsh marine environment of Barranquilla Port was of concern to the customer. However, we have applied a marine environment paint finish with integrated zinc primer to the finish of the barge-loader, thereby ensuring maximum protection.



ABHS Truck Unloader - 3D image illustrating truck discharging into mobile barge loader using dust control measures



ABHS Truck Unloader - 3D image illustrating TU working in a parallel position to the barge

## **Enhanced mobility**

Barranquilla is very much a multi-purpose port, handling both dry bulk and containers, so the mobility of the barge loader was critical, since the operator has to be able to move the unit off-site when needed and easily transport it from site to site as Ro-Ro cargo load, if required. Rather than fit conventional wheels to the barge-loader, the customer opted for tracks, which incorporate rubber pads. This has been done to ensure that no damage is inflicted on the asphalt or concrete surface of the quayside on which it operates, but allows easy movement of the equipment.

The use of the all-function radio remote control also allows the operator maximum flexibility when moving and operating the unit, especially when trimming out the barge. For example, the unit can be positioned at many different angles, depending on the size of the barge and discharge point of the trucks/wheel loaders.

Based on the use of 25-ton trucks, this specific Truck Unloader barge loader has a loading capacity of 300-400 TPH when handling grains at 50 PCF.

Finally, in respect of ABHS aftersales support, the Truck Unloader barge loader is being supported and maintained by a local representative on this project. The equipment will be continually supported locally in terms of maintenance, operation and parts provision to ensure the effective long term success of the project.

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## **Innovative Custom Engineering**

Astec Bulk Handling Solutions works closely with customers from the earliest stages of the sales process to ensure that the client's needs are met. Our technical sales team will attend and assess the site to ensure that the client receives a solution that fully integrates into their infrastructure, and will work with the client to ensure the equipment complies with all applicable local laws and standards, whilst still providing the optimum solution in terms of flexibility, efficiency and production.

ABHS achieve this by treating each project as a unique one, engineering our equipment around the specific application with customized designs where necessary, and designing the ultimate solution for the job. We are driven by satisfying the customer's project requirements, using our extensive operational and technical experience and knowledge in this industry.

# Other Bargeloading and Unloading Products

Astec Bulk Handling Solutions design and install mobile bulk material handling products for the Ports and Inland Terminals industry to handle grain, fertilizer, biomass, iron ore, coal etc. These solutions can be customized to suit each individual application.

These products include truck unloaders, barge loaders and unloaders, radial telescopic barge loaders, hopper feeders and stacking conveyors.

## ABHS Promise to You

As part of Astec Industries, Astec Bulk Handling Solutions (ABHS) share their commitment to “grow and prosper by designing, manufacturing and selling the most innovative, productive and reliable equipment for the industries we serve, coupled with unparalleled customer service.”

We have a portfolio of global reference sites and customize each project to your exacting needs. We see the benefits in getting involved from the earliest stages of a project and customers can benefit from our application and industry experience.

**To discuss your project, please contact a sales representative on 541-735-0748 or email [sales@astecbulk.com](mailto:sales@astecbulk.com).**



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## ABHS Aftersales

Astec Bulk Handling Solutions is part of the Astec Industries family of companies. Astec Industries, a NASDAQ listed US Corporation based in Chattanooga, Tennessee, has a turnover of \$1 billion. Being part of the Astec Industries family of Companies insure that ABHS delivers around the clock service, around the world.

Astec Bulk Handling Solutions will continue to strive for new ways and better solutions. We look forward to serving our customers of today and tomorrow with innovative products and excellent service. We are committed to you and your business.



Proud to be Made by an  
American Company