



Versatile Applications of Hydraulic Dredges

Dredging Supply Company, Inc.

Presented By:
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For
WEDA Brazil Chapter Meeting 2007

Dredging Supply Company, Inc.

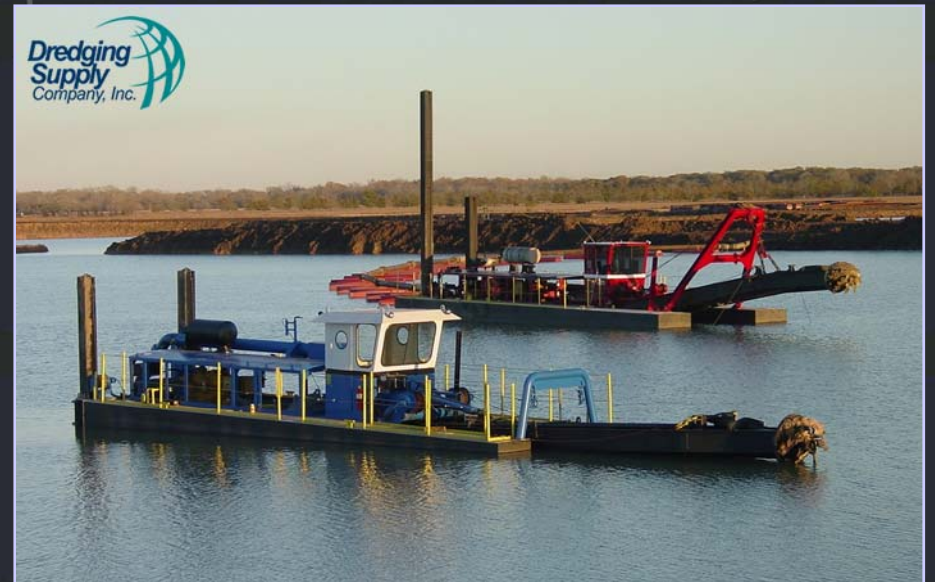
- Manufacturing, Engineering, and Domestic Sales Offices located near New Orleans
- Manufacturer of Mining, Navigational, & Environmental Hydraulic Dredges
- Recipient of US Dept of Commerce Export Achievement Award
- Recognized World Leading Dredge Manufacturer



What is a Dredge?

As defined by www.wikipedia.org

- Dredging is miscellaneous excavation-type work or operation usually carried out underwater, in shallow sea or fresh water area.
- A dredge is a device for scraping or sucking the seabed, used for dredging.
- A dredger is a ship or boat equipped with a dredge.
- In American usage any floating vessel equipped with dredging equipment is called a dredge.



What is a Hydraulic Dredge?

As defined by www.wikipedia.org



- Uses a pump to move slurry
- A slurry pipeline is used in mining and quarrying to transport aggregate materials between the mine or quarry to site or equipment to where further processing or immediate use of the materials will occur. This is done by embedding the materials in a fluid, usually water, though mud or oil based slurries are used where appropriate. At the end of the pipeline, the material is separated from the slurry, and the material is thus available. When water is used and subsequently removed it may contain environmentally hazardous materials and create an environmental problem. Typical materials that are transferred using slurry pipelines include coal, copper, iron, and phosphate concentrates, limestone, lead, zinc, nickel, bauxite and oil sands.

Dredges come in many Types, Shapes, and Sizes



Dredges are Defined by:

- Excavator Type
- Mobility System
- Pump Location
- Market



Defined by Excavator Type

- None
- Water Jets
- Rotary Cutter
- Horizontal Auger
- Bucket Wheel Excavator
- Chain Ladder



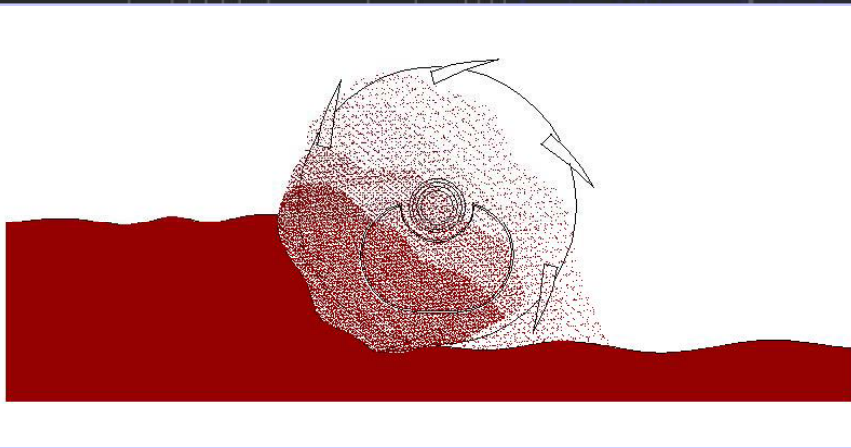
No Excavator



Water Jets



Rotary Cutter



Horizontal Auger



Bucket Wheel Excavator



Chain Ladder





Defined by Mobility System

- Single cable
- Bottom/paddle wheel
- Swing winches
- No swing winches
- Twin Spud
- Three spud
- Four Spud
- Spud advancement
 - Kicking
 - Carriage
 - Wheeled/tracked
- Tracks/wheels
- Three wires
- Five wires

Single Cable



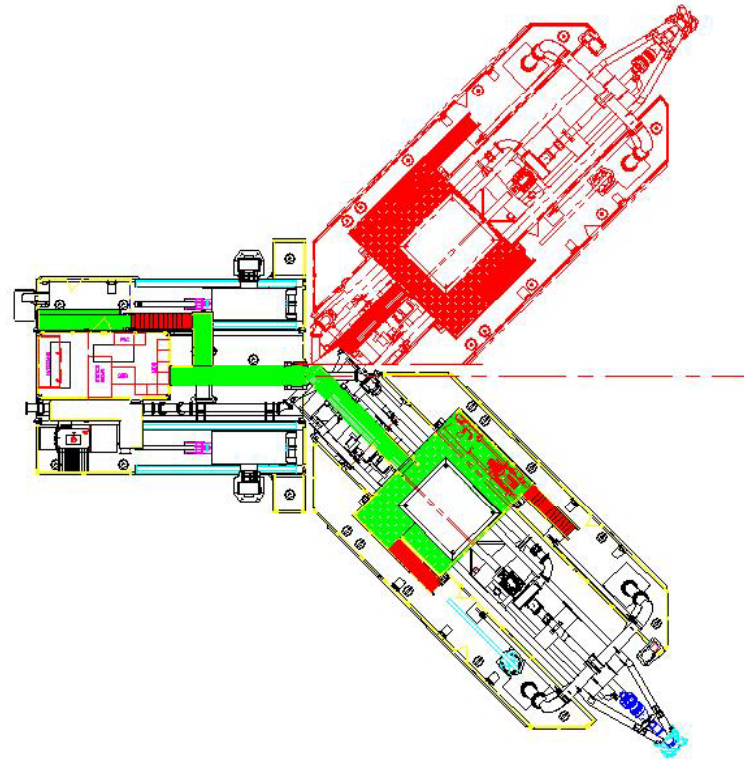
Bottom/Paddle Wheel



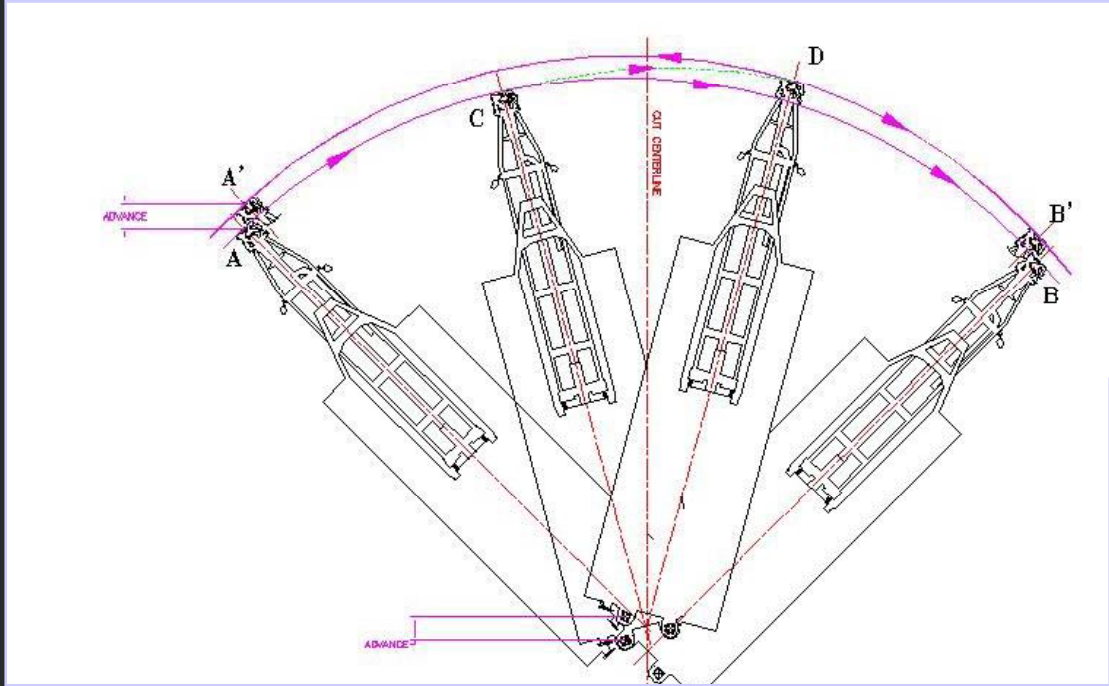
Swing Winches



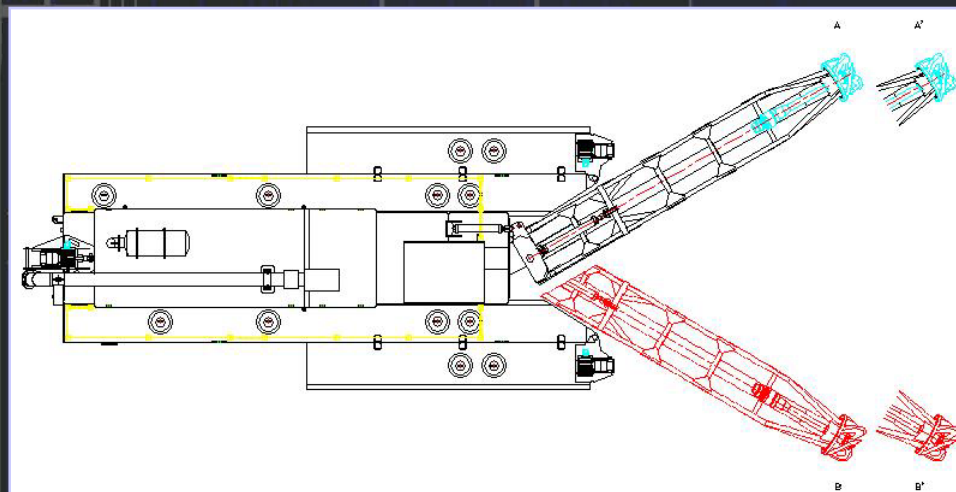
NO Swing Winches



Twin Spud



Three Spud



Four Spud



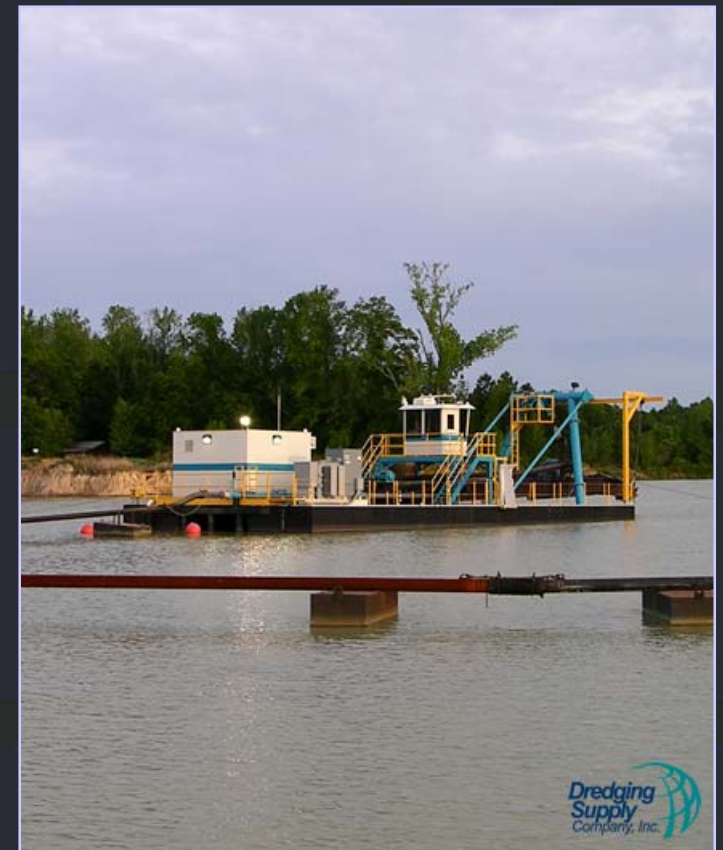
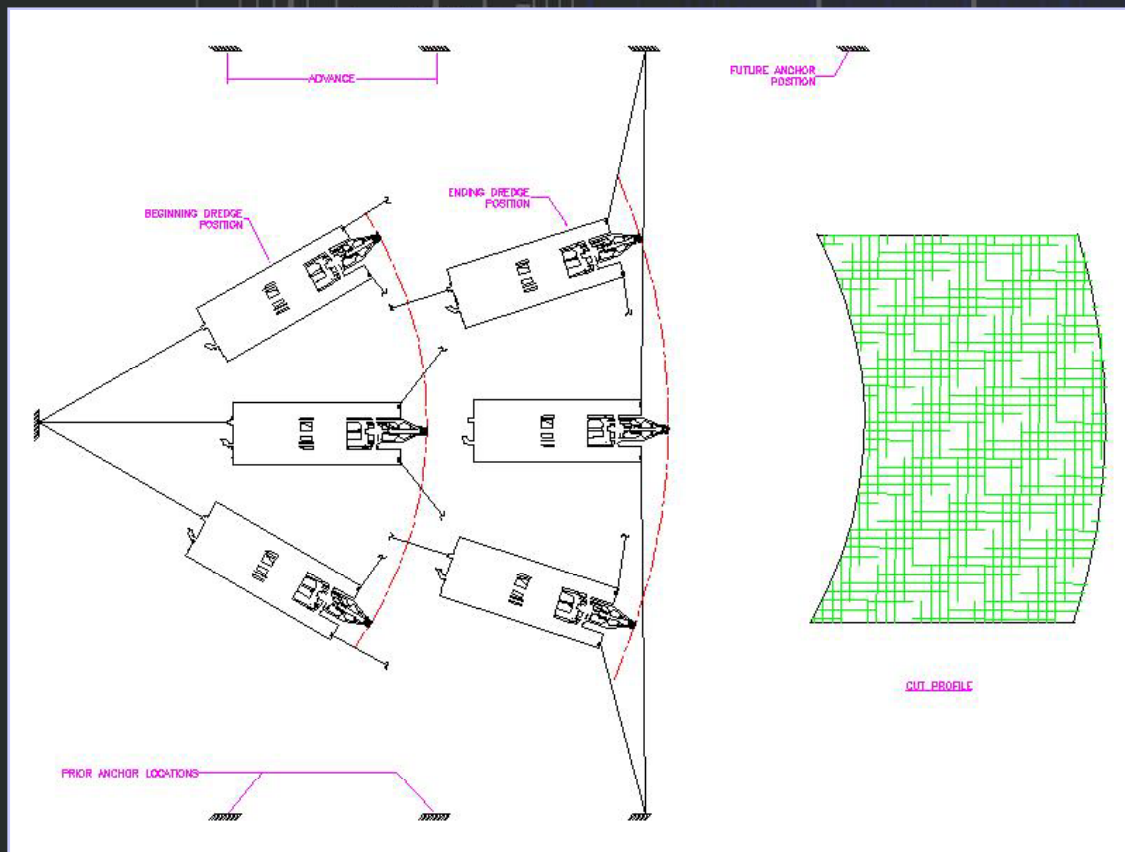
Spud Articulation



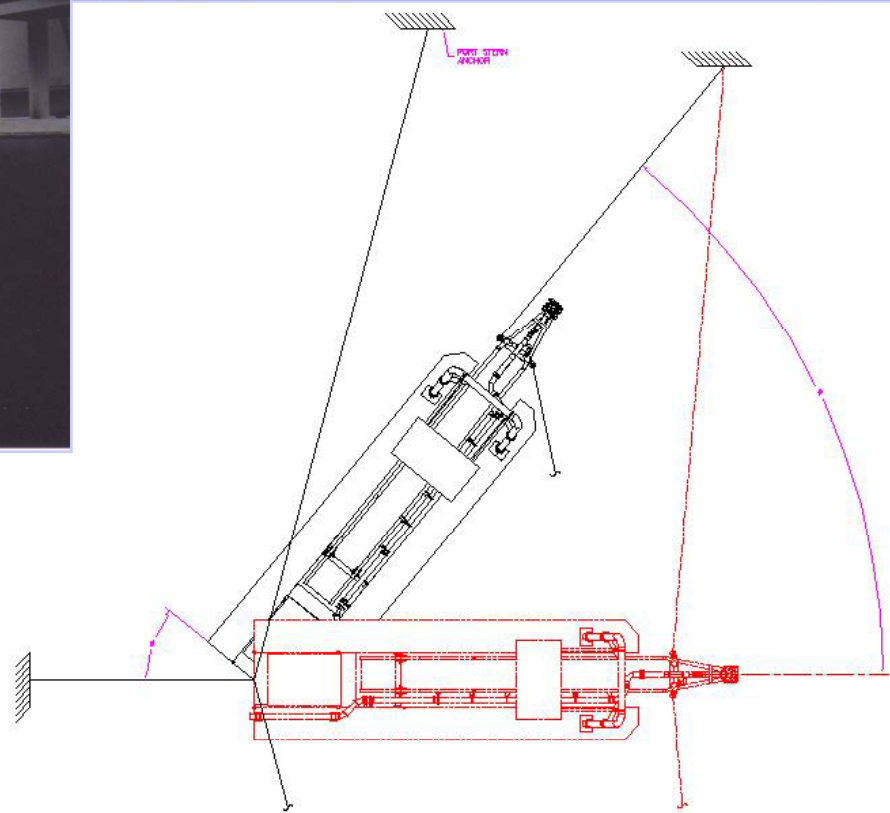
Wheels/Tracks



Three Wires



Five Wires



Defined by Pump Location

- Above Deck
- At Water Line
- Below Surface



Above Deck



At Water Line



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Below Surface



Defined by Market

- Environmental
- Navigational/Contracting
- Mining



Environmental



Navigational/Contracting



Mining



Trends by Market

→ Environmental

→ Smaller Pipeline Size

→ Low flow rates/high % solids

→ Ideal for presses and Geo-tubes

→ Ideal for thin layer deposition

→ High Positional Accuracy

→ GPS

→ Depth sensors

→ Tilt Sensors

→ Swing Sensors

→ Production Monitoring

→ Flow meter

→ Densitometer



Trends by Market

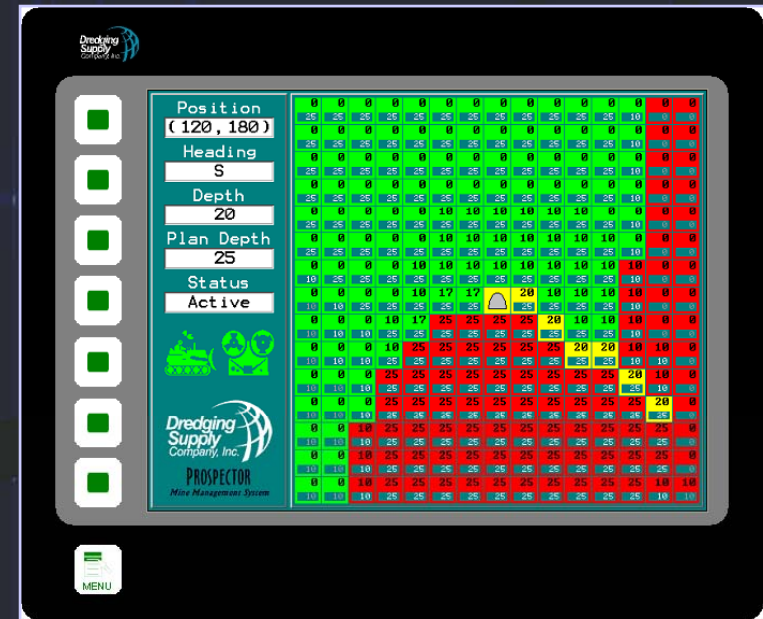
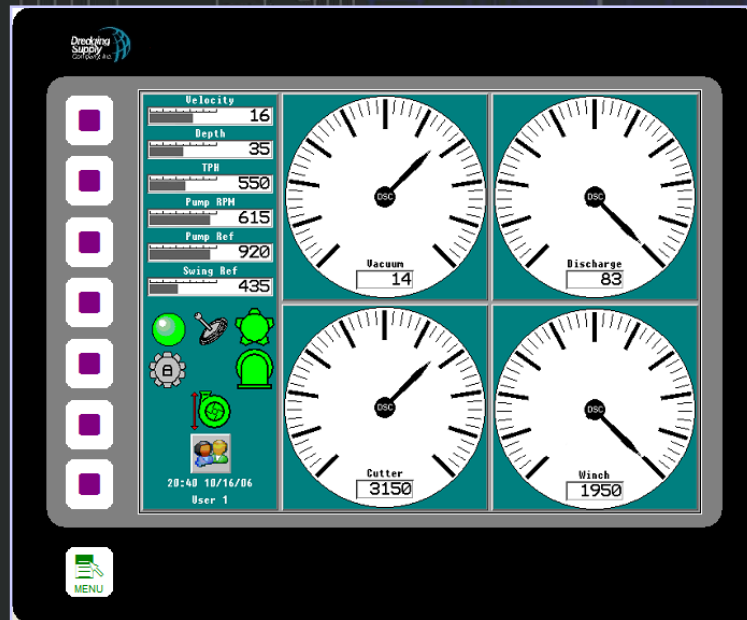
- Navigational/Contracting
 - Use of Navigation Aids
 - GPS
 - Real time telemetry
 - Bottom profiling
 - Spud carriages
 - Mobility
 - Energy efficient drives
 - Use of plastic pipe

WINOPS



Trends by Market

- Mining
 - Deeper depths
 - Increase solids percentage
 - Submerged pump
 - Integrated Automation/GPS





Thank You!
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