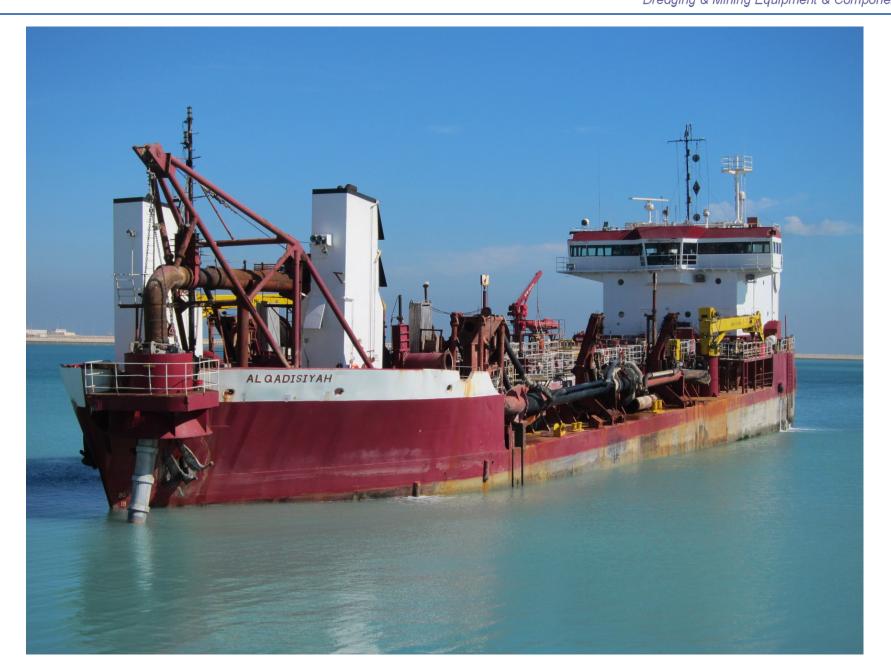


Converting and Upgrading of Existing dredge equipment

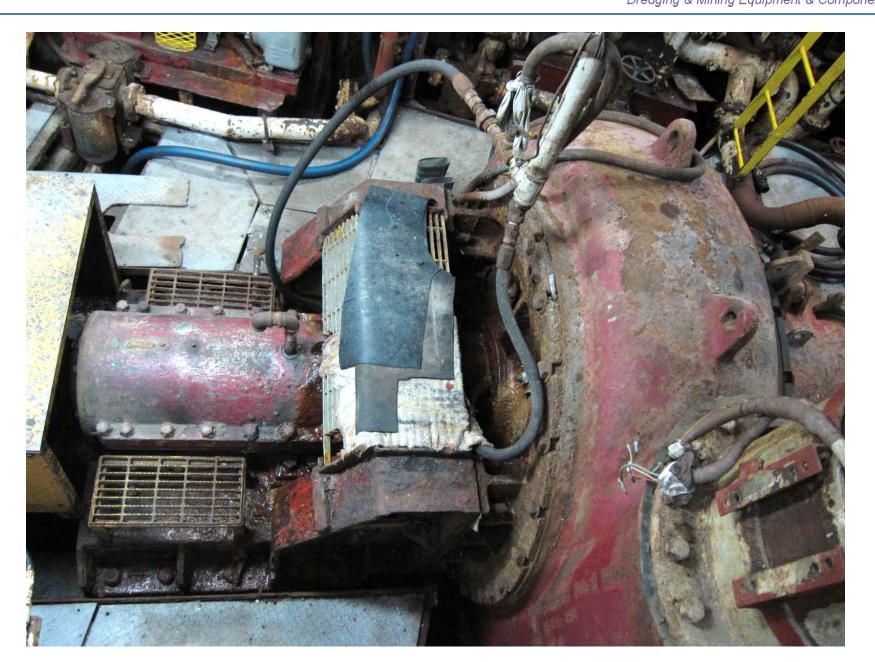
Upgrade Dredge Pumps





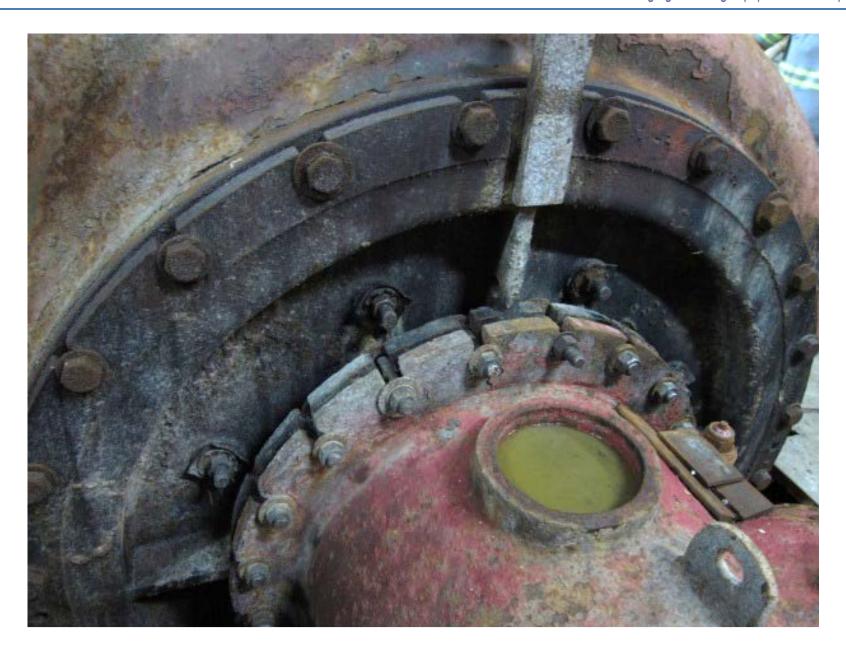
Upgrade Dredge Pumps

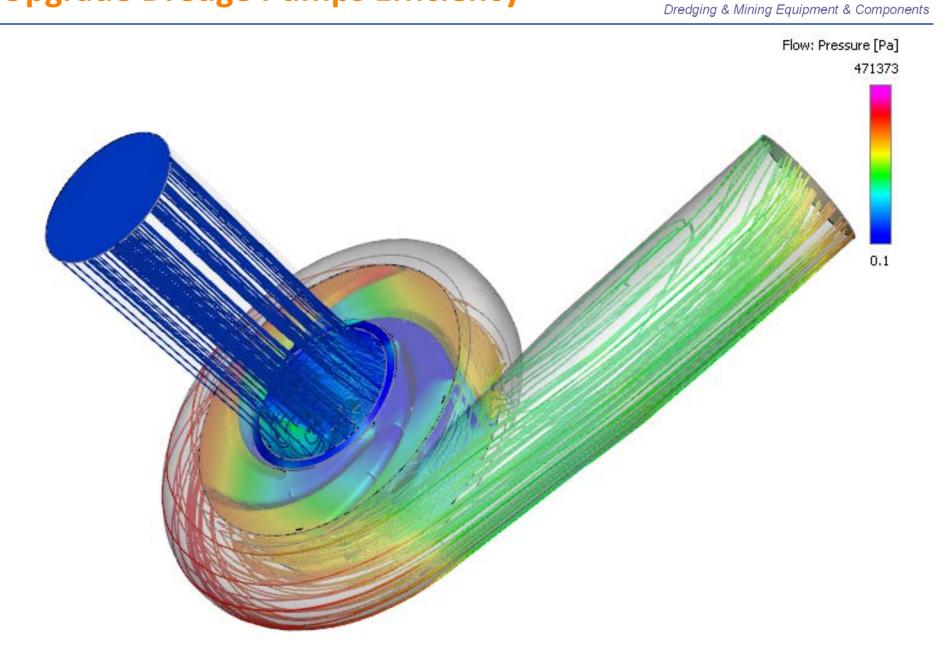




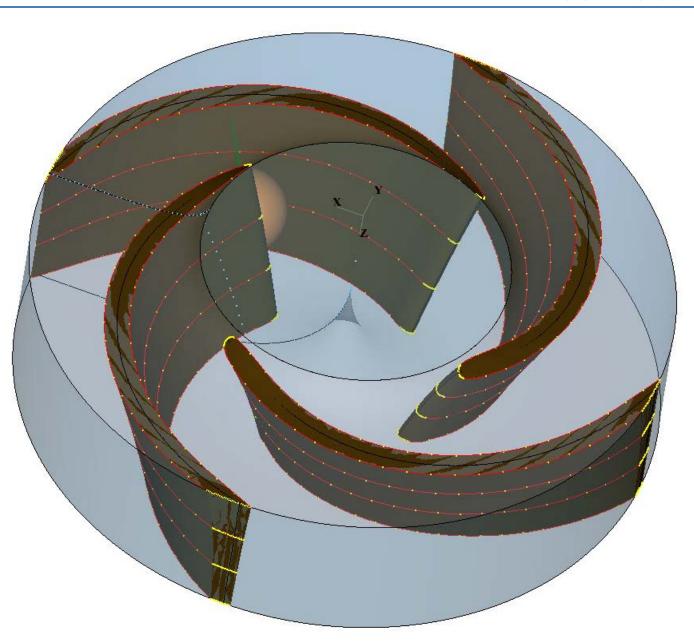
Upgrade Dredge Pumps













Old pump efficiency 76% Power 1,200 KW

NEW Pump efficiency 84%
 Power 1,086 KW

• Difference 114 KW

Fuel consumption
 24KG / Hour

(210g/kW-hr)

On Yearly Basis
 130.5 Ton / Year

(340 days - 16 hour/day)

Investment0

• Return (\$2/gallon) \$82,750 / Year

















Double Walled Pipes





Bow Couplings

DREDGE YARD Dredging & Mining Equipment & Components



Summary



- Improvements on existing dredge pump significantly improved:
 - Fuel consumption
 - Suction and discharge performance
 - Less wear
 - Impact on Environment
- Investment
 - No additional costs
 - Pump replacement as spare parts



THANK YOU