

## RAPID DEPLOYMENT BARGE (RDB)

The problem...marine contractors specializing in the construction of bulkheads, docks, boat lifts, etc. and dredging in inland lakes and waterways face a common problem in mobilizing equipment to each work site. Traditionally the main equipment used in performing this work is a sectional spud barge with a deck mounted crane. Jobs are usually of short, 1 to 3 week, duration with a major portion of the time, effort and cost being movement and set up of a crane barge at the work site usually requiring the following steps:

1. Off load the deck crane from the sectional barge and transport overland via low-boy trailer.
2. Disassemble the sectional barge into individual pontoon sections and load on trailers for overland transport
3. Re-assemble and launch the sectional barge and re-mount the deck crane.

The solution ...design and construct an integrated barge/crane unit that can be transported overland as a single unit without requiring disassembly with the following features:

1. Lightweight, compartmentalized main hull (i.e. multi-internal trusses tensioned with external shell plate)
2. Center-fold side pontoons allowing single unit transport
3. Stern mounted, quick disconnect, load balancing 3-axle wheel assembly
4. Fifth wheel bridge for standard semi-trailer hook up which can double as a kicker spud mount.
5. A power down spud system with capacity to elevate entire unit.
6. Below deck mounted auxiliary machinery (e.g. hydraulic power unit, generator/welder, jet pump, etc.) permanently installed in the main hull
7. High capacity, integrated hydraulic crane mounted with a low center of gravity and having 360 degrees of rotation. Crane to accommodate a full range of attachments.(e.g. dredging buckets, grapples, rakes, shears, demolition hammers, plate compactors, pile hammers, and submersible dredge pumps.
8. Shallow draft capability for near shore work.
9. Capability of unassisted launching and retrieving itself from unimproved, lakeside locations using multiple pneumatic rollers in conjunction with its elevating spud system and push/pull thrust capability of the integrated hydraulic crane.

Such a highly mobile, rapidly deployable crane barge was designed and constructed in South Haven, Michigan, and launched on its first project in the early summer of 1998. It now has a proven track record of productivity and cost effectiveness on more than 10 diverse marine construction projects. It's innovative and unique design has advanced construction and maintenance capabilities by providing full integration of transportability (both overland and on surface waters) with custom tooling adaptations that provide maximum flexibility in the conduct of a wide range of multi-faceted marine construction applications.

Mobilization and Transportation savings utilizing RDB: 75% of labor 85% of Cost  
(Supporting Cost Analysis available upon request)

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**RAPID DEPLOYMENT CRANE BARGE**



**DRIVING PILE**



**DREDGING**



**OVERLAND TRANSPORT**