

Thern

Case History



Marine



Needing a Sturdy Control System for a Massive Dredge, Supreme Turned to Them



One of Supreme's dredge units in use for Coram Materials on a lake in Miller Place, NY.

A mining operation selected a dredging barge to dredge a lake for sand and gravel. The problem: the dredge was not equipped with its own drive or anchor system. They needed a reliable system to maneuver and hold the rig in place on the water. Who did they turn to, to provide the flexible, yet sturdy system they require? Thern, Inc., that's who.

Bryson Hoobler is the Engineering Manager with Supreme Mfg., located in Stoneboro, PA. When a customer came to him with an application that combined mining with a marine environment, previous experience led him to Thern, Inc. in search of an answer.

The customer was Coram Materials, a sand and gravel supplier located in Miller Place, New York, a small town on Long Island. Their latest project was a lake dredge operation. "The customer said, 'I have a deposit I'd like to mine'", recalled Hoobler. "They required the ability to dredge 1000 tons [of sand] per hour."

Supreme would supply the dredge, a twin, 13-yard bucket dredge complete with a crusher and screens. The entire platform measured 65 feet wide, sitting on 133 foot long pontoons. In all, the entire rig measured out to a total length of 165 feet and weighed in at just over 600 tons! Being a barge, the platform lacked its own drive system and Supreme required a powerful, steady anchor and positioning system. For this they turned to Thern.

The winch selected for the operation would be required to deal with environmental conditions such as wind causing the rig to drift on the water. Wind was the primary concern. Momentum of the platform once moving is strong, requiring the winch system to be capable of holding steady with precise control. After reviewing the application submittal, Thern recommended their 4HS16M Helical/ Spur Gear power winch for the job. Satisfied with the recommendation and capabilities offered by the unit, Supreme selected Thern's winch for the anchoring system, ordering four units and locating one on each corner of the platform.





Winches are mounted at each corner of the barge. Lines are run to snatch blocks overhead and connect to anchors on shore.

The 4HS16M winch carries a first layer load rating of 13,000 lbs and is equipped with a severe duty brake motor, capable of meeting the specified physical demands of the application. The winches also carry a full drum capacity of 880 feet, providing plenty of room for the dredge to maneuver over the lake bed.

“The winch cables are run through snatch blocks located on overhead truss beams above the winches and connect to anchoring devices located on shore,” Hoobler explained. “The anchors can be concrete blocks buried in the ground, bulldozer tracks or even rebar located on shore.”

With the anchor connections in place, the dredge operator is afforded full control. “We have very sim-

ple controls for the winches”, Hoobler explained. “All we are using is an across-line reversing starter. We have it set up so that the winches can be operated either by push buttons right beside them, or remotely from switches in the operating cab.” The winches can precisely maneuver the rig wherever the operator requires it to be on the water while supplying constant tension to continuously hold it securely in position.

The Coram dredge project resulted in yet another success story. Upon installation on the dredge, the winches were more than up to the task and the customer was pleased with the results.

“The winches [have] performed as we expected them to”, said Hoobler. “The most important factor of their operation is the holding power of the brakes, and they have never been overpowered by the wind. As for the pulling power, we like the blend of speed and economy of this winch.”

Supreme’s dredge had a unique requirement that demanded stability and power in a small, versatile package. Thern’s line of winches proved equal to the task once again, delivering on both performance and budget. Its no question where Supreme will look the next time high quality performance is a must - Thern is at the top of the list.

APPLICATION DETAILS

Lifting or pulling:	Pulling
Line pull required:	5 Tons
Line speed required:	10 FPM
Travel distance of load:	500 feet
Power source:	460/3/60
Environment:	Outdoor
Frequency of operation:	Intermittent

