



PROJECT REPORT

HWY 53, Virginia, Minnesota

Bermingham Personnel: Louis Fritz



Two years ago Bermingham was contacted by Veit & Company, Inc. to assist with a test pile program for the re-routing of Minnesota's Highway 53. The existing road was located over a valuable iron ore deposit that was scheduled to be mined. The re-location consisted of constructing a new bridge over the existing Rouchleau mine pit and the project required a unique foundation system consisting of Down-the-Hole-Hammer Piles. Veit is a multi-disciplined Civil Construction group with a very experienced drilling division.

"Louis Fritz and the Bermingham Team proved to be an invaluable partner in engineering the equipment and drill string to aid Veit in the successful completion of this difficult drilling project. We look forward to working with them again in the near future." - Eric Pederson

Six months later, the highway reconstruction contract was awarded to a large construction firm who awarded the piling contract to Veit's Foundation Division. The permanent piles were 30 inches in diameter and were drilled up to 176 feet into rock. Adding to the challenge of such deep drilling in the iron ore, the work needed to be done over the harsh northern Minnesota winter and there were significant daily Liquidated Damages if the construction schedule was not met.

Bermingham and Veit's engineers worked together to optimize the drilling setup. Bermingham's Sales Engineer Louis Fritz proposed their 275 ton crawler crane that was just finishing a project in Alberta that was rigged up to easily handle the 186 foot long L-27 Vertical Travel Lead System. The lead system aided greatly in maintaining the strict location and vertical tolerances.

A casing advancement system equipped with a down-the-hole hammer was utilized on Bermingham's BHD-80 Reverse Circulation Drill, and Bermingham's new 20-in RC Drill String. Bermingham also designed new Quick Disconnects with high tensile load capacity to carry the long and heavy drilling system.

Veit got up to speed quickly and the drilling went very well – at one location the first 80 feet of piling was drilled in under 2 hours! The drilling was slower at depth as rock hardness increased, but production rates in general were better than expected. Bermingham would like to thank Veit for the opportunity to work together on this project.

