



A WORLD LEADER IN FOUNDATION TECHNOLOGY

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Berminghammer releases new B-6505 Impact Hammer

BELOW: The Berminghammer B-6505 prototype in operation.

LEFT: B-6505 impact block and direct drive housing.

Throughout their 31-year history, Berminghammer Foundation Equipment's diesel pile hammers have been a key part of their product line. Many years of experience in field testing and manufacturing diesel pile hammers have led to succeeding generations, each with their own innovations and improvements. Now, research and field testing of their Mark V series hammers has led to the development of the B-6505, a hammer with an excess of 200,000 ft-lbs of rated energy. Like all the hammers in the Mark V line, the B-6505 uses Berminghammer's patented direct drive system to deliver the most energy possible to the pile.



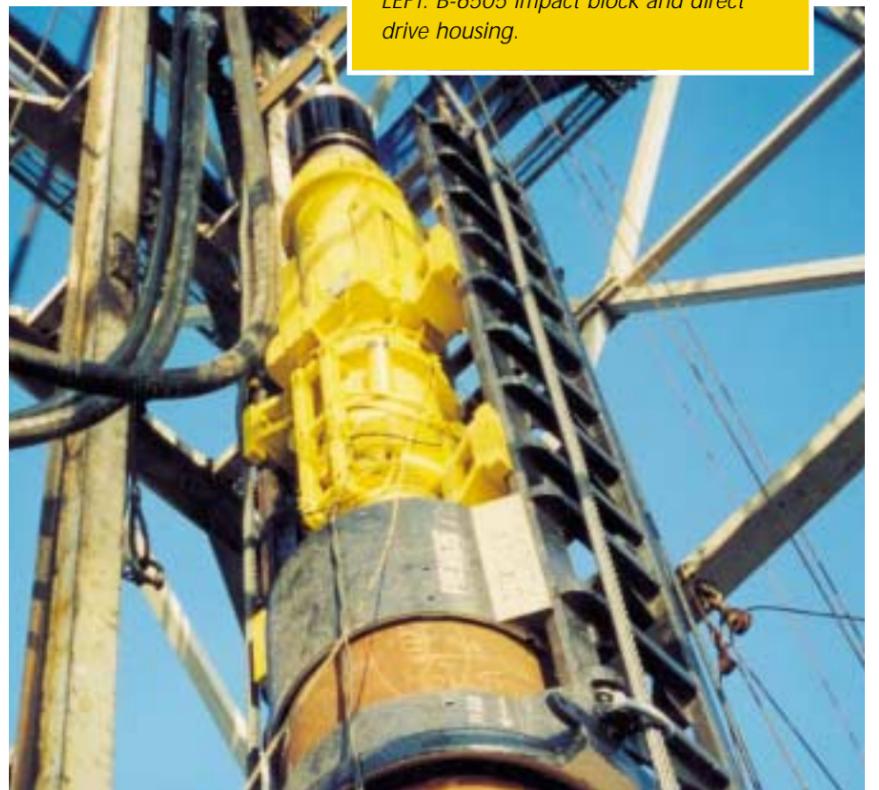
Berminghammer has combined international job site experience with superior engineering to design a hammer capable of high stroke (11.5 foot rated) while maintaining clean combustion during driving. The B-6505's prototype, the Berminghammer G4, has shown the world that a large diesel powered hammer can be built that not only starts remarkably easily but continues to run well, even in soft driving conditions.

The B-6505 marks the latest major addition to Berminghammer's Mark V Series of hammers. Depending on market demands, Berminghammer may also develop the B-6505C, allowing the use of a heavier ram at reduced stroke to drive concrete piles with reduced impact stresses. Berminghammer's engineering team is

continually applying its years of experience to improve and refine the diesel pile hammer. This includes the reduction of hammer noise, to further clean up combustion, and to simplify operation and maintenance of the hammers.

Berminghammer's dedication to quality and performance has taken the release of this hammer into the year 2000 despite the overwhelming demand for this product. This hammer has been a high priority with the research and development team for more than a year. Like all of the products

Berminghammer manufactures, the B-6505 must be of the highest quality and performance before it may be released. By resisting the urge to prematurely rush the development and release the



hammer early, focussing instead on quality and thorough testing, Berminghammer

has once again developed a hammer that it can be proud to put its name on.

At press time, the first two B-6505 diesel hammers with 8,000 kg (17,637 lbs) rams were in production and are scheduled to be added to the rental fleet shortly. Additional units are scheduled for production later in the year. The B-6505 will come standard equipped with hydraulic trip to minimize boom shake when tripping the hammer, though a traditional cable trip will be an available option. The standard B-6505 will be configured for use in standard 37.5" Box leads, with a Direct-Drive Housing for 30" diameter pipe piles. As with all Berminghammer Mark V diesel pile hammers, the B-6505 can be built to suit any project requirements. Some of the configurations available with the B-6505 are the option of mounting to various sizes and style of leads as well as many different drive configurations, including a standard drive and a wide assortment of followers. ▼

PRESIDENT'S MESSAGE



I am very pleased to announce the launch of the Berminghammer Post. During the past 30 years we have focussed on building and supplying reliable and rugged foundation equipment that will outlast and outperform our competition. We have also recognized

that success in the construction industry is dependent on more than just equipment. Information and innovative procedures are also key to the construction industry. The Berminghammer Post marks our attempt to share our knowledge and our customers' experiences from around the world. We welcome your input and suggestions for inclusion in our upcoming issues.

P. Bermingham
P. Bermingham, President

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First Ever Vertical Travel Lead System Delivered to Liebherr, Germany

GERMANY - Berminghammer Foundation Equipment has demonstrated its leading edge innovation capability by delivering the first vertical travel lead system to Germany. The completed project is a major accomplishment for the Berminghammer organization.

Standards in the German construction equipment industry are so high, that it is very unusual for a German company or even a European company to look to North America for leading edge construction equipment. This

sale acknowledges that the Berminghammer product is highly respected around the world. Berminghammer Foundation Equipment delivered to Liebherr-Werk Nenzing a combination swinging and vertical travel lead system. This lead system, designated as the "II 25L", was installed on a Liebherr HS 883 HD 125 ton crane. The crane and leads were subsequently sold to Strief Baulogistik,

a Hamburg, Germany based contractor. "We were very proud to be selected for this project, but more important, I was proud of the way our Berminghammer team supported the customer during all phases of this project," stated Berminghammer President Patrick Bermingham.

The swinging lead system is of a classical

European design, complete with a fixed truss, which suspends six pendants supporting the lead in a "bridge" fashion. The swinging lead also has the feature of a hydraulic winch mounted to the lead head, allowing the hammer to be lofted independently of the crawler. The vertical travel lead system, when installed on the crawler, transforms the machine into a piling rig. Both lead systems are built to the very demanding specification of EN 996.

The II 25L swinging lead system was initially used for approximately 6 months in the last half of the 1999 at the Hamburger-Hafen container terminal project. Strief Baulogistik had estimated that the swinging lead system would be able to install 2 piles per day, however, due to the efficiency of the II 25L swinging leads the contractor was able to consistently install up to 5 piles per day.

The innovative design of the II 25L lead system enables it to be attached to the crane with minimal modifications, thus enabling the crawler to have all the flexibility of a duty cycle crane while having the distinction of being a self contained piling rig. No longer is it necessary to designate an expensive crawler to be either a piling rig or duty cycle

crane as the contractor can have both with the Berminghammer II 25L lead system!

Berminghammer sees itself as a partner with engineers and contractors around the world. The award-winning Berminghammer

engineering team is available to work towards a solution. The tougher the problem the better the Berminghammer team likes the challenge. This advance technical assistance is available from tsmith@berminghammer.com. 



A Berminghammer completed project in Germany means a North American company has been acknowledged as the best in the world!

STATNAMIC REPORT

Statnamic Testing for the Taipei Financial Center

In 1999 Diagnostic Engineering Consultants Ltd. (DECL) of Taipei undertook one of the most ambitious foundation load testing programs in Taiwan. The project was the high-profile Taipei Financial Center, planned as a 110-storey, 508m (1666ft) building the tallest in the world. Although the height of the building was later reduced, the foundations were designed and constructed based on the 110-storey proposal.



20MN Statnamic test preparations for the Taipei Financial Centre.

The foundation of this massive building was comprised of 546 large-diameter bored piles installed by the Reverse Circulation Drilling Method. Pile lengths varied from 62m (203ft) to 80m (262ft), with diameters of 1500mm (59in) and 2000mm (79in). The shafts typically penetrated the rock layer from 15-20m (49-66ft).

DECL performed six Statnamic load tests with peak test loads ranging from 20.1MN to 21.4MN. Four of the Statnamic tests were performed at the site ground elevation and two Statnamic tests were performed at the final cut-off elevation of 20m (-66ft). All of the Statnamic tests were performed with DECL's new 20MN Statnamic

device, supplied to DECL in 1998

by Berminghammer. Due to physical restrictions, the Statnamic method was the only method possible for load testing at the 20m (-66ft) cut-off elevation.

DECL also performed three static compression load tests (35.3MN, 29.4MN, and 23.9MN) at the site ground elevation, as well as two static tension tests (20.0MN and 20.6MN) also performed at the site ground elevation.

Both the static and Statnamic load tests were performed on fully instrumented piles, with some piles having as many as 30 embedded strain gauges. With this information DECL were able to determine the load distribution within each test shaft. The correlations between the Statnamic and static load tests were excellent.

The success of the Statnamic load testing at the Taipei Financial Center has further encouraged the use of Statnamic load testing in Taiwan, with several other test programs planned in 2000. Congratulations to DECL on a very successful testing program.  

Static load test.



First Two Piles Driven and Socketed in Antamina Mine Project in Peru



M.D. Moody & Sons of Miami, Florida in conjunction with Gallmax of Chile have recently shipped a Berminghammer B-4505 Impact Hammer, 4200 Vibratory Hammer and a complete reverse circulation drilling system to Sandwell SSK in Peru. This equipment will be used to install 36" diameter steel pipe piles and drill rock sockets and pin piles on the shore of Peru approximately 300 km north of Lima. The jetty and ship loading structure is being constructed to convey copper and molybdenum ore from the processor building to the deep-water berth. The processed ore will be pumped from the Antamina Mine located 200 km inland to the shore as slurry in a small diameter pipeline. The ore will then be separated

from the slurry and loaded onto ships at the port of Huarmey. Berminghammer has been involved in this project since early 1999 and has been working with the contractors to develop drilling procedures for the rugged coastline as well as supporting the equipment.

The scope of work includes: driving temporary piles with Oslo Points Installing permanent 36" pipe piles; drilling 34" rock sockets into hard sloping rock with a Berminghammer BHD 30/30 reverse circulation drilling equipment; driving 36" piles into the sockets with a Berminghammer B-4505 impact hammer; drilling 9 m rock socket with a down the hole hammer and 30/30 drill.

This Project will be featured in our next issue of the Berminghammer Post. 

Water used as Reaction Mass for Port of Lake Charles

For the first time on a contract test, water has been used to provide the reaction mass for a Statnamic test. In May of 1999, Applied Foundation Testing Inc. (AFT) of Florida successfully performed Statnamic load tests on two piles at the Port of Lake Charles in Louisiana, USA.

The piles were 600mm (24in) square concrete piles driven in water depths of 7-12m (21-36ft). The piling contractor, Boh Brothers Construction Company, Inc. of New Orleans, Louisiana assisted AFT in performing Statnamic tests on two piles. The job was performed in two working days. The peak test load on the piles was 4.1 MN. CBK Soils Engineering, Inc. was the Geotechnical Engineer of Record.

The success of this first test program led to a second contract for AFT, also for the Port of Lake Charles and CBK Soils Engineering. This time the contractor was Johnson Brothers of Louisiana. On



4 MN Statnamic device in operation at Lake Charles.

this second site three test piles were 600mm (24in) square concrete piles and an additional three piles were 750mm (30in) square concrete piles, driven in similar conditions to the first site. The peak test load for the three larger piles was 5.4 MN.

The concept of using water as reaction mass was originally explored by Berminghammer in the summer of 1998, using a 600 kN Statnamic device to test a steel pipe pile in Hamilton Harbour in Lake Ontario, Canada. The success of this test program allowed Berminghammer to proceed with the design of the larger water reaction mass assembly used by Applied Foundation Testing. Larger tests are planned using water as reaction mass, with equipment designs already reaching 16 N.  



Water reaction mass preparations at Lake Charles using a 14 MN Statnamic device.

Kodiak Harbors Phase I Kodiak, Alaska

The City of Kodiak in Alaska has contracted Sandstrom & Sons, Inc. to expand their harbor facilities. This expansion is an estimated US \$10,000,000 project. The main focus of the Kodiak Harbors Phase I Project, which got underway in October, 1999 is to drive 12 3/4" x 1/2" walls, and 24" x 1/2" wall steel pipe piles and secure them by rock socketing. The pipe pile



Berminghammer drill bit being lowered into operation

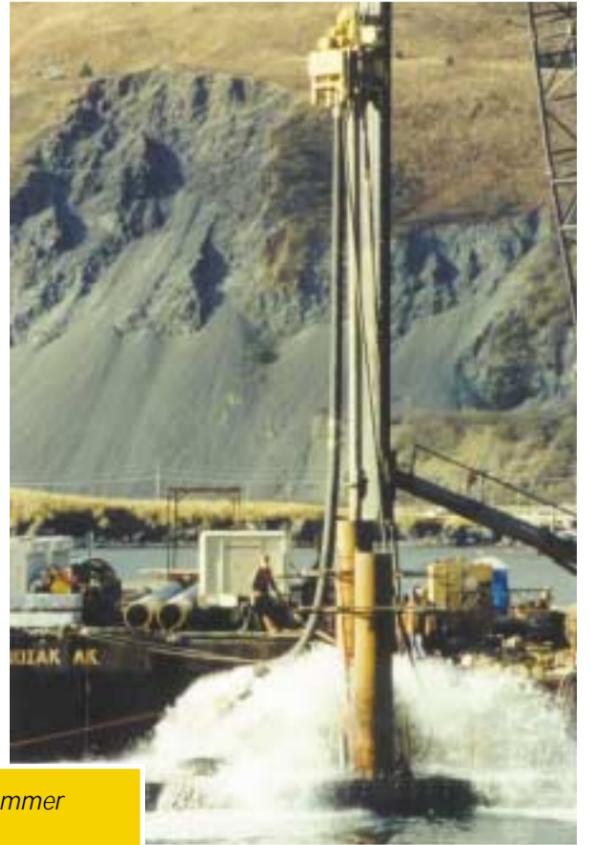
lengths range from 90 to 100 feet.

Sandstrom and Sons Inc. elected to go with a Berminghammer system consisting of a Berminghammer 30/30 drill, running on a set of C-15 hanging leads with a HHH21.5 hydraulic kicker supplied to them by Foundation Equipment & Supply. A down the

hole hammer was not suitable for this job due to the extreme weather

encountered in Alaska and the varying rock conditions.

Now seven months into the project, the contractor is achieving productions anywhere from 1-1/2 hours to 5 hours per hole. The large variation in drilling times is due to the difficult drilling of highly fractured rock being encountered on this project. ▽



RIGHT: The Berminghammer 30/30 hydraulic drill

DISTRIBUTORS MEETING



Back Row: left to right: Craig Thaggard (M.D. Moody Domestic), Jim Arkin (Bay Machinery), Juan DeLeon (M.D. Moody International), Kurt Rudiger (Liebherr Crawler Cranes), Mark Colby (Foundation Equipment & Supply), Arvind Saraf (Ashok Enterprises) Wes Bergeron (Conmaco), Ron Jeffree (Vice-President, Berminghammer), Patrick Bermingham (President, Berminghammer), Troy Smith (Technical Sales, Berminghammer), John Sheerin (American Equipment & Fabrication)

Front Row left to right: Terri Godwin (J & G Sales), Walter Drone (Transportation Products), Kay Hauser (Foundation Equipment & Supply), Butch Allen (Conmaco), Andy Schroeder (Sales Manager, Berminghammer)

Berminghammer would like to take this opportunity to thank all those who attended the 2000 edition of the Berminghammer distributors meeting held close to Canadian headquarters at the Hamilton Yacht Club February 17 2000. The meeting was a great success despite a large snowstorm that plagued the return home for many of our guests.

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