Berminghammer

Volume One Issue Two

POST

A WORLD LEADER IN FOUNDATION TECHNOLOGY

IN THIS ISSUE

Peru Mine Project Completed Ahead of Schedule

Berminghammer has supplied equipment to an international building consortium for the construction of a major new port in Peru. These two drills helped finish the project 2 1/2 months ahead of schedule.

As well as supplying equipment, Berminghammer provided technical support for the drilling in conditions which were varied and difficult, with good and poor quality rock. That extra assistance is why the clients chose Berminghammer.

Seventy-seven piles ranging from 20 to 50 meters in length with the majority of the piles being over 40 meters and weighing 25 tons will support the loading facility.

The piles are initially positioned in the movable template and then driven to rock with either a B-4505 direct drive impact hammer or a FV4200 vibratory hammer. After seating the 36" diameter pile the BHD-30/30 reverse circulation drill is used to drill a socket into which the pile may be driven.

Upon completion of the 36" pile the 30/30 drill is used in conjunction with a down the hole hammer to drill a 9m long rock socket.

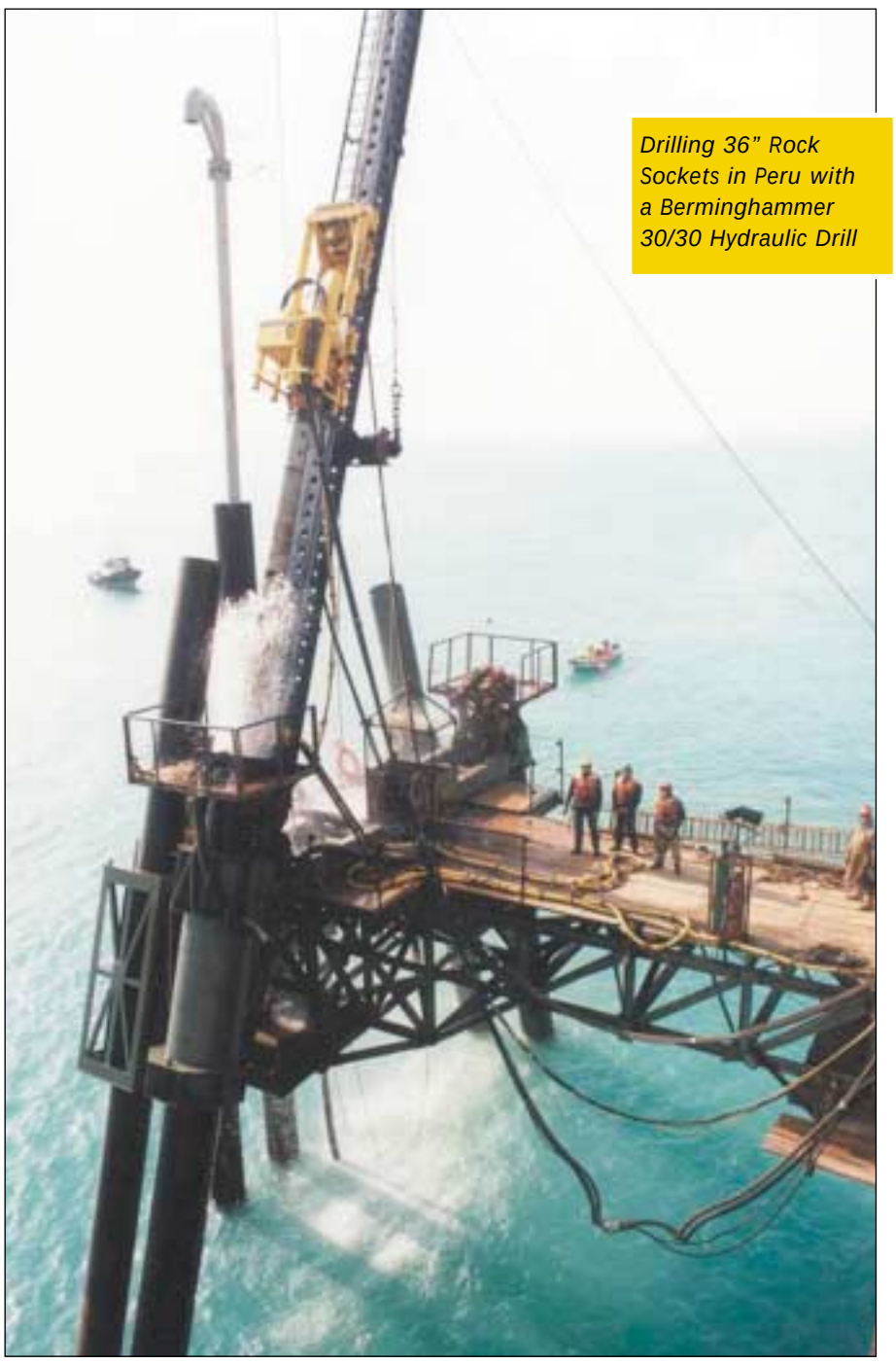
When asked about the decision to go with Berminghammer as the equipment supplier for the Antamina project, the superintendent of Off Shore Buildings, Edilio Dagnino, said, "We chose Berminghammer because they are not like other companies who decide to leave after finding rocks of different characteristics. We have used Berminghammer equipment in the past for this type of project and have been impressed with the quality of their equipment. The technicians sent to Peru have a vast knowledge of the mechanical make up of the equipment as well as its practical application."

Berminghammer supplied a drilling expert for several days to ensure the project's success. Necessary spare parts have been supplied to the contractor to ensure that the project continues. Once the project reached a crucial point where it was possible to operate a second crew, Sandwell-SSK ordered a second set of equipment. In just a few short weeks Berminghammer had assembled and shipped the additional equipment from its Canadian facilities in Hamilton, Ontario.

The order of a second set of equipment is a testament to the contractor's satisfaction with the quality and performance of initial equipment supplied for this project.

In addition to equipment, Berminghammer has also given over one month of technical assistance in getting the project underway at no additional charge.

The Antamina Project in Peru is a good example of the dedication and high level of support available with the purchase of every piece of Berminghammer equipment.



Drilling 36" Rock Sockets in Peru with a Berminghammer 30/30 Hydraulic Drill

PRESIDENT'S MESSAGE

I am very pleased to welcome you to a new issue of the Berminghammer Post. Response to our inaugural publication was extremely positive and I thank you for your comments. I'm happy to say this has been our best year ever with record sales. Throughout 2000, Berminghammer continued to enjoy significant growth with major contracts coming in from around the world for our leading edge foundation equipment and accessories. I hope this year is filled with much continued success for all of our customers, dealers and suppliers.

P. Bermingham, President

Berminghammer B-6505 Drives 72” Pile in Chesapeake Bay

For this US Coast Guard project, the prime contractor Marine Technology selected Sunbelt Rentals who were able to supply a high efficiency impact hammer. Berminghammer recommended a B-6505 smokeless hammer and modular offshore 37-1/2” lead system. Berminghammer provided a drivability study to estimate the time required to drive the 72” pile to a tip elevation of 100 feet.

After the equipment was approved for the project, the contractor and Berminghammer were put on a tight schedule to have the piles installed.

Both Berminghammer and Sunbelt provided technicians for the start up of this project to ensure that everything went smoothly. The B-6505 ran very consistently throughout the driving of the two piles. The hammer achieved a 10 ft stroke, (38 blows per minute) directly after starting the hammer in soft soils (7 blows per foot). The hammer continued to operate at a 10 foot plus stroke thought the driving. It took 49 minutes for the first pile and 40 minutes for the second to reach the required tip elevation of 100 feet. The final driving resistance was 85 blows per foot.

In summary, the Berminghammer B-6505 outperformed everyone’s expectation on this project completing quickly, efficiently and cleanly.

The hammer ran without visible exhaust in all driving conditions (note that there is no smoke in the photos during the operation of this hammer).

B-6505 Preparing to drive a 72” diameter Pile 100 ft into Chesapeake Bay

The B-6505 after driving the 72” Pile to 100 ft penetration

Driving the Pile with a Berminghammer B-6505 Smokeless Hammer

STATNAMIC REPORT

STATNAMIC USED ON EXPANSION PROJECT AT NEWARK AIRPORT

In March of last year, Applied Foundation Testing of Florida, was contracted by CASE Foundation of Chicago to perform Statnamic load testing on the new parking structure in Lot E at the Newark Airport. The Port Authority of New York and New Jersey specified Statnamic for testing the 2.0m (6.5 feet) diameter drilled shafts. Two shafts were tested to 22.2MN (2490 tons) and 22.5 MN (2520 tons). The shafts performed well with only 7.9mm (0.31 inches) and 9.7mm (0.38 inches) of total displacement at peak load. The lengths of the piles were 27.4m (90 feet) and 29.0m (95 feet).

Construction techniques and post-construction site conditions for the two shafts varied considerably and embedded strain instruments were able to verify that one pile was almost completely end-bearing, while the other shaft performed almost completely as a friction pile. Although this was not how the piles were intended to perform, the Port Authority designers were satisfied with the performance of the piles. The embedded strain instrumentation also verified friction values significantly larger than expected in the 1.5m (5 foot) rock-sockets.

AFT performed a second testing contract at the Newark Airport for Linde Griffith Construction Co., of Newark. The second contract involved 12 pile load tests on concrete-filled pipe piles. Static load testing was also performed on this site with excellent correlation with the Statnamic results. All 12 Statnamic tests were performed in only 2 days – March 9 and 10.

30 MN Statnamic test

Static Load Test Statnamic in background

4 MN Statnamic Device using a Hydraulic Catch Mechanism

NEW 16 MN CATCH USED IN FLORIDA

Applied Foundation Testing and Berminghammer recorded another Statnamic first in October. AFT proudly took ownership and performed the first testing with the new 16MN Mechanical Catching Mechanism. AFT provided the catalyst for Berminghammer to design this new equipment.

Testing of the new equipment was completed in Berminghammer's yard in Hamilton in September. The equipment then went directly to St. George's, Florida, where AFT used it to test six 54 in (1.372 m) diameter centrifugally cast concrete cylinder piles. The St. George's Bridge will span almost 5 miles across the pristine Apalachicola bay. The new Mechanical Catching Mechanism eased concerns about the environmentally sensitive oyster beds where 10% of the worlds oyster supply comes from. The contractor Boh Brothers Construction, Inc of New Orleans, Louisiana headed the design build team. Sverdrup Civil partnered as the bridge designer. Boh Brothers, a repeat Statnamic user, ingeniously constructed a falsework frame that was solely supported by the test pile. This arrangement coupled with a 300 ton ringer crane and a very experienced crew allowed the entire assembled 16 MN Statnamic device to be lifted in a single 130 ton pick. In this fashion, the new 16MN equipment was moved from pile to pile in a matter of hours. At one point, 2 piles were tested in the same day. Load testing to 1800 tons (16MN) at this speed, in an over-water situation, brings load testing to a level of efficiency never thought possible.

This project marks the Florida Department of Transportation's first use of Statnamic on driven centrifugally cast concrete cylinder piles and was no doubt a perfect application for these high capacity piles. Near perfect comparisons with static load tests on this project suggest that Statnamic might soon be used as a replacement for static testing on driven piles as is for drilled shaft foundations.

Congratulations to Applied Foundation Testing on a job well done!

New 16 MN mechanical catch testing over water

STATNAMIC COMES TO SOUTH AMERICA

Berminghammer welcomes Geotecnica Cientec of Buenos Aires, Argentina as the latest addition to the Statnamic family of testing companies. GC is the proud new owner of an 8MN Statnamic device. GC has worked hard for several years in promoting Statnamic testing in South America and their hard work has recently paid off.

In November of this year, GC performed Statnamic tests on three separate projects in Argentina. The first test was performed in the city of Santa Fe, about 500 km from Buenos Aires, for the contractor CCI Civil Constructors. The pile was a 1.5 m diameter bored pile, and it was tested to 7.0 MN (770 tons) using GC's new 8MN device.

Local geotechnical consultants and the Santa Fe municipality warmly welcomed this first Statnamic test. GC is excited by the positive feedback and is looking forward to future tests in the area.

The Santa Fe test program was followed shortly by a 3.0 MN test within the capital city of Buenos Aires, and a 4.0 MN test a short distance outside the capital. The 4.0 MN test also served as an organized demonstration for a select group of structural and geotechnical engineers from in and around Buenos Aires. As always, the Statnamic test provided an exciting and informative day for the engineers.

With these recent Statnamic tests, Geotecnica Cientec continue their tradition as an industry leader in pile testing technology in South America. Their efforts also bring Statnamic technology to its sixth continent! Congratulations Geotecnica Cientec!

First Statnamic test in Argentina

8 MN Statnamic piston mounted on test pile

GC Demo Day

Sunbelt Pile Driving

Berminghammer would like to welcome Sunbelt Rentals into the specialty market of pile driving and foundation construction equipment. Sunbelt Pile Driving is a division of the Sunbelt Rentals organization with approximately 150 Locations across the United States. Through the acquisition of Hercules Machinery in Sterling, VA, Sunbelt has acquired over 35 years of experience in rentals to the foundation construction industry. As a preferred manufacturer, Berminghammer will add our 30+ years of expertise in mechanical and geo-technical engineering and our 100+ years construction know-how to support Sunbelt's qualified sales representatives.

Before a company such as Sunbelt purchases new equipment for its rental fleet, they explore all of their options in order to obtain the best possible service and equipment for their rental fleet. By purchasing equipment from Berminghammer, Sunbelt knows that they will receive reliable equipment and the service required to back it up. Knowing that the manufacturer will stand behind its equipment and is able to provide the necessary technical support required is half of the battle in the rental business. After all, the rental business is all about repeat business. Clients who are satisfied with their choice of equipment and suppliers will keep coming back.

In addition to the pile hammers, pile driving leads, drills and various accessories supplied to Sunbelt by Berminghammer, Sunbelt also offers a wide range of air hammers, pile cutters and vibratory hammers for foundation contractors. Sunbelt Rentals prides itself on being the premier provider of rental solutions for the equipment needs of the industrial, construction and municipal markets, plus the weekend do-it-yourselfer. With locations across the U.S., they are dedicated to the finest service and equipment in the rental industry. Berminghammer is proud to be supplying Sunbelt Pile Driving with the equipment and support to reach our mutual goals to be the best in the industry.

Sunbelt's dedicated mobile service personnel at work

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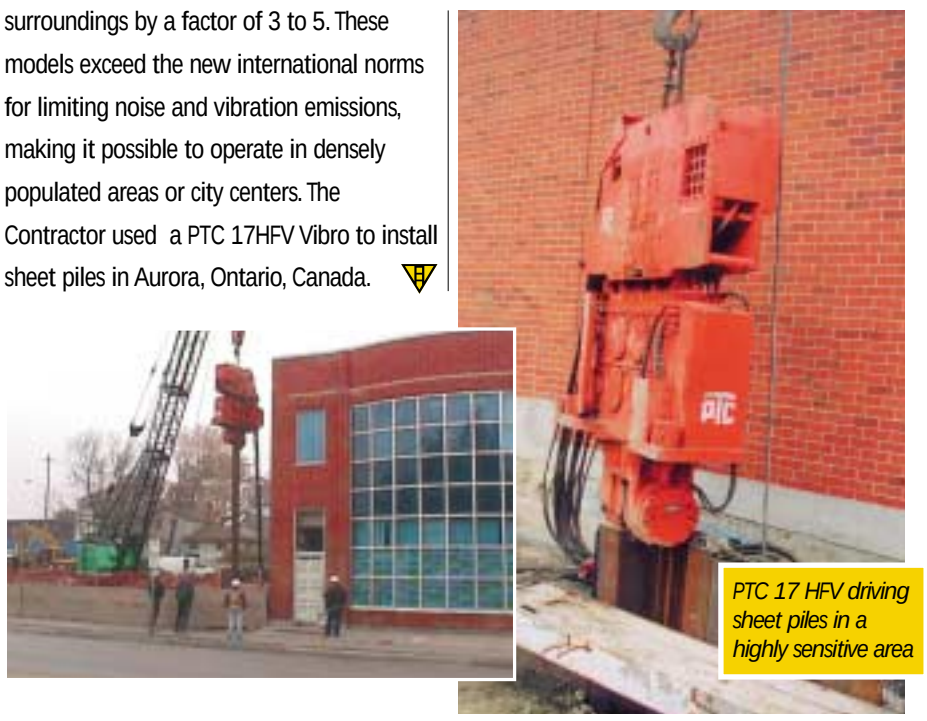
HF and HFV-Series Vibratory Hammers

When faced with a difficult project of excavating and removing contaminated soil from a former service station property in a populated area with existing structures, Petro Canada contacted Bermingham Construction to install a barrier between the existing buildings and the area to be excavated. With the use of the PTC 17 HFV Vibratory Hammer the sheet piles were installed approximately 6" to 24" from an existing foundation using an amplitude of between 0.8 and 1.9 mm/sec. This created a vibration of only 0.8 to 1.2 mm/sec at the foundation itself. The Contractor was able to cut the construction time in half reducing the cost for its client Petro-Canada. Traditionally, this type of project would require the installation of a caisson wall. By utilizing this new technology, the customer obtained a stable usable wall in less then half the time it would take using conventional methods. The existing building is highly sensitive to small vibrations. This project was completed without damage to the existing structures. The HF range demonstrates its leading position in the area of High Frequency vibrodrivers with 6 different machine sizes and the HFV range consisting of 8 models with eccentric moments between 10 and 54 mkg. The patented HFV system distinguishes itself through its ability to start up and stop without any vibration. This avoids crossing resonance frequencies, reducing the level of vibrations transmitted to the crane or surroundings by a factor of 3 to 5. These models exceed the new international norms for limiting noise and vibration emissions, making it possible to operate in densely populated areas or city centers. The Contractor used a PTC 17HFV Vibro to install sheet piles in Aurora, Ontario, Canada.



PTC 17 HFV driving sheet piles in a highly sensitive area

Berminghammer Equipment available at:

John Sheerin
American Equipment & Fabricating Co.
E. Providence, Rhode Island
Tel: (401) 438-2626

Jim Arkin
Bay Machinery Corporation
Richmond, California
Tel: (510) 236-9000

Wes Bergeron
Conmaco
Kansas City, Kansas
Tel: (913) 371-3930

Kay Hauser
Foundation Equipment & Supply, Inc.
Ridgefield, Washington
Tel: (360) 887-4090

Jim Godwin
J & G Sales
Houston, Texas
Tel: (979) 357-4455
(800) 842-7622

Kurt Rudiger
Liebherr Crawler Crane Co.
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Tel: (713) 672-1601

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