ABI Gruppe NEWS

Newsletter for customers and employees | February 2014 Issue

ABI Group at the CONEXPO 2014

CONEXPO is the second most important trade show for the ABI group besides the bauma. Under the motto: „If it's new, it's here" the trade show for construction equipment takes place in Las Vegas from March 04 to 08, 2014.

About 130,000 attendees of the construction sector are expected to come, and they can not only visit the stands but also numerous accompanying expert events. The exhibition area of nearly 223,000 square meters in 2011 was enlarged again. A new spot is the Platinum Lot with an exhibition area of about 36,000 square meters. This is where the ABI distribution and service partner, the company Hammer & Steel, can be found on stand 8854. Hammer & Steel shows a ABI MOBILRAM TM 17 and a DELMAG drill rig RH 24 with a short leader mast from the ABI and DELMAG product portfolio. ■

ABI MOBILRAM TM 17 in Operation

Photo: ABI MOBILRAM-System TM 17 with MRZV 28VV Vibrator

In September the building contractor Sächsische Bau GmbH rented the new TM 17 with variable vibrator MRZV 28VV as a reinforcement for pile driving work.

Near Gelnhausen the railway line from Frankfurt to Göttingen crosses the little Kinzig river. The tracks are lead over a flood bridge from 1925. The authorization for the railway bridge expired in 2013.

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In the first construction stage the bridge was replaced by two auxiliary bridge strings consisting of three auxiliary bridges each. Thus the prerequisites for the later construction of a new bridge in the second construction stage were created. The construction measures of the first construction stage began in September 2013 and had to follow a strict schedule. For the construction of the steel sheet pile walls the Deutsche Bahn AG completely closed the tracks for four hours from Friday to Saturday night. Following this complete closures the railway traffic continued on one track only.

The company Sächsische Bau GmbH was awarded the contract for the execution of the first construction stage and realized the special civil engineering work with its TM 14/17 V, among others. Due to the difficult soil conditions and the tight schedule the recently presented telescopic leader mast TM 17 with variable vibrator MRZV 28VV was rent in addition. The sheeting was realized using double Z-profiles AZ 17-700 with a length of 14 meters, nearly 2000 sq. m of steel sheet pile wall were used up. Despite the hard to pile ground the first construction stage could be terminated in due time in December. ■

Photo: Vibrator MRZV 28VV

ABI Continues to Grow

ABI professes its commitment to the Niedernberg site by making another investment. In November 2013 a new warehouse was put into service on the premises „Am Knückel".

„Service is one of our strengths," says Christian Heichel, chief executive of the ABI GmbH. This includes the supply of spare parts as well. The storage area had to be enlarged to be able to ensure a high availability of spare parts. The earthmoving work for the new storage areas began in March 2013.

The new hall with an area of nearly 1900 sq. m was founded on a bottom plate after having executed soil improvement measures. In addition, a new free storage area of 5500 sq m as storage for large parts as well as 1000 sq. m as parking space for new and rental park machines were built. The working conditions for the storehouse employees were also improved with a covered unloading zone. The new warehouse can be reached via the county road MIL 38.

In ABI's opinion a fast supply of spare parts is only possible with a certain stockpiling. If parts are on stock they can be shipped over night within Europe by express shipment to the customer's destination. ABI is also in after sales well prepared for the future by the investment in new storage areas. ■

Photo: new warehouse at „Am Knückel"

ABI MOBILRAM-Systems Install Earthquake Drains

The contractor Ellington Cross has chosen Hammer & Steel Inc., ABI's sales and service partner in the U.S., as a supplier of piling equipment for the Charleston County, South Carolina (SC) School Districts project.

Ellington Cross is a geotechnical contractor specializing in the design and construction of ground improvement systems, specifically liquefaction mitigation systems.

Currently Ellington Cross has three ABI MOBILRAM-Systems installing earth quake drains in Mount Pleasant (SC) for new construction of a junior high and elementary school. The three rigs consist of two TM 13/16 SL and the all new TM 17.

Earthquake drains are high flow capacity synthetic vertical drains installed with a vibrating mandrel (vibropro-

Photos: Two MOBILRAM-Systems TM 13/16 SL installing earthquake drains (above)

In detail - the probe and pre-fabricated drains behind (left)

New generation telescopic leader mast TM 17 with MRZV 28 VV vibrator and mandrel (bottom)

be) into loose soils and sands. The vibratory installation densifies the soils ("pre-earthquakes" the site) while the drain provides a path for the rapid dissipation of earthquake generated pore pressures. This combination of drainage and densification is the most conservative approach to liquefaction mitigation.

Current production with one rig operating with 10,5 – 13,7 m (35 - 45 ft) lengths per 8 hours day is roughly 180 - 200 drains per day. ■

Even Less Exhaust Gases on Mobile Machines

From 1/1/2014 the next stage of the emission standard EU Stage IV for Europe and Tier 4 final for the USA for engines with 130 to 560 kW (175-750 HP) came into force.

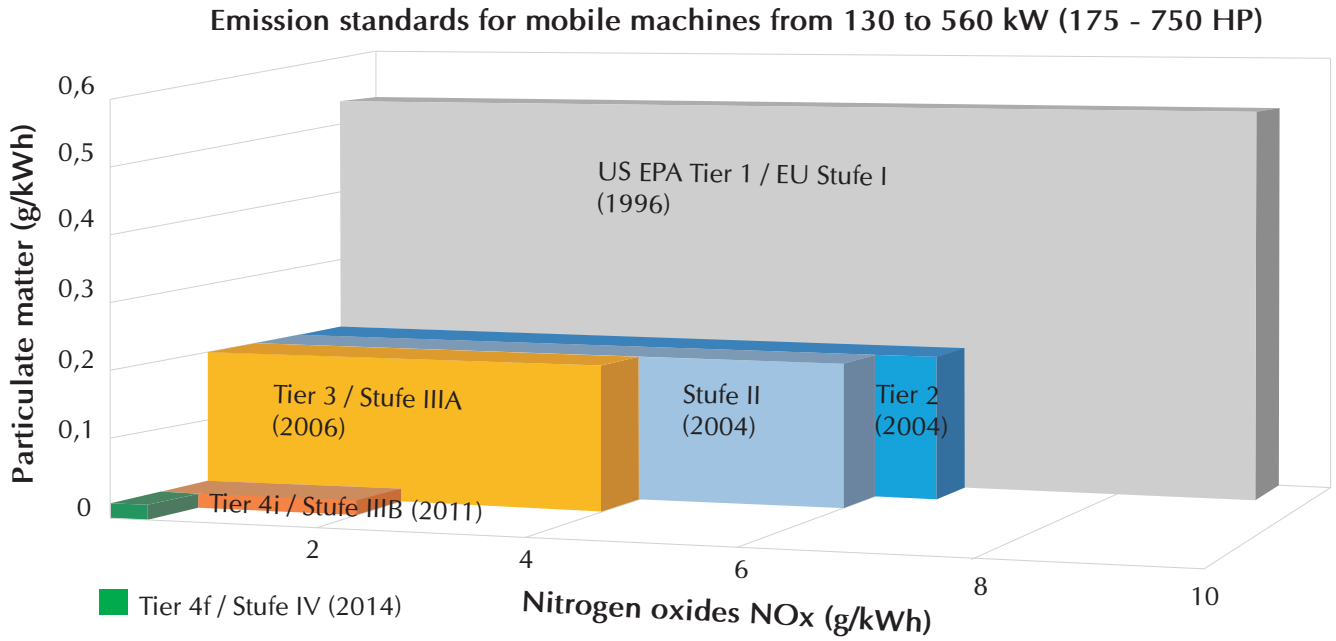
Only three years after the introduction of EU Stage IIIB in Europe and Tier 4 interim in the USA the exhaust emission regulations are tightened again. The manufacturers of engines and machines are demanded to bring effective systems to the market. Since the introduction of the emissions legislation in 1999 the limits were reduced by app. 96%.

The new limits are so low that it is not sufficient to optimize individual segments of the existing systems. Completely new, comprehensive concepts have to be developed in some cases. This goes hand in hand with increasing costs and space required for the additional installed components.

At ABI we install two engine systems in the carriers: Caterpillar and Scania. In order to achieve the preset limits Caterpillar complements the existing exhaust aftertreatment system consisting of diesel particulate filter and exhaust gas recirculation with an additional SCR catalyst. The nitrogen oxides are minimized by a chemical reaction with injected urea. In Europe the system is known by the name AdBlue and in Northern America as DEF.

The company Scania completes its SCR catalyst by an exhaust gas recirculation and a maintenance-free diesel oxidizing catalyst (DOC) that does not require any regeneration. The diesel oxidizing catalyst increases the effectiveness of the SCR catalyst by converting a part of the nitrogen monoxides (NO) to nitrogen dioxides (NO_2).

Due to the introduction of the new technology the machines comply with the current requirements relative to environmental compatibility, however, both systems have higher demands on fuel and engine oil. ■



DELMAG Drill Rigs RH 24 and RH 12 in a Short Mast Version

Following the presentation of the new drill rig RH 24 at the bauma 2013, the distribution partner Hammer & Steel will present the modified RH 24 with short leader mast at the CONEXPO construction equipment trade show.

This machine was especially developed for construction sites with restricted headroom as e.g. under bridges, in halls, under electric cables, etc. Besides the RH 24 ABI also offers a smaller model with short leader mast: the drill rig RH 12.

The compact short version of the RH 12 provides a torque of 120 kNm, a max. height of barely 11 m is achieved at minimum reach, instead of the nearly 18 m of the standard version. At maximum reach the height of the machine is reduced by a further 50 cm. A Kelly bar K298/3-12 will be used that can reach a drilling depth of app. 12 m. When converting to a short version a part of the leader mast and parts of the sheave head are modified. In addition, shorter ropes are required for the crowd.

Photo: DELMAG drill rig RH 24 short mast

The short version of the RH 24 is a special machine, that reaches a max. working height of 7600 mm at maximum reach on special customer request. Extensive modifications were necessary due to this specification. The rotary head will be delivered without hollow shaft with stop pipe and without center disc with cardan. The Kelly bar that will be provided by the customer, is directly screwed to the rotary head by means of the outer Kelly bar. All parts are constructed such that a later conversion to the standard RH 24 is possible with calculable expenditure. The machine can be used in the short as well as in the standard version.

Due to the conversion option a broader range of application can be covered with only one machine. The demands on foundation and special civil engineering works are increasing, at the same time the restricted space on the construction sites presents a considerable problem for the construction companies. With the DELMAG drill rigs with short leader mast it is possible to develop construction sites where the head clearance is the decisive criterion, without having to renounce to performance, as the performance of the rotary head of the standard version is available. ■

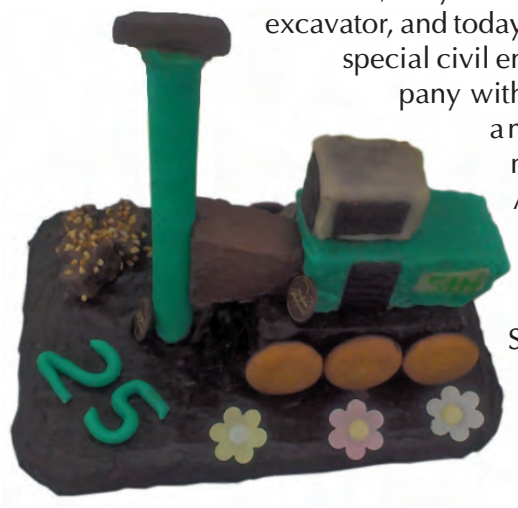
Photo: RH 24 short mast leaving the paintshop

Technical Data		RH 12 - short	RH 24 - short
Working height at max. reach	mm	10450	7600
Working height at min. reach	mm	10950	10300
Inclinations forward / backward	degree	5 / 14	4 / 14
Inclinations left /right	degree	3 / 9,5	9 / 9
Free diameter in front of the crowd pulleys	mm	1450	1960
Rotary head - torque	kNm	125	245
Weight incl. rotary head	t	45 (incl. Kelly bar)	69
Transport dimensions		with 650 mm track shoes	with 700 mm track shoes
Length	mm	11030	13400
Height	mm	3400	3600
Width	mm	2550	3000

S+H Company Anniversary

A longstanding customer of ABI, the company S+H, celebrated its 25th anniversary in 2013.

On 6/14/2013, 25 years of company history were to be celebrated in Neustadt-Fernthal. The company was founded in February 1988, and the letters „S+H“ stand for „Sahl“ and „Humberg“ - the founders of the enterprise. At the time, they started off with one excavator, and today S+H is a strong special civil engineering company with 18 employees and a modern machine pool. Among others it also comprises an ABI fixed leader mast SM 12/16 and a DELMAG drill rig RH 12.



Photos: The S+H team and company premises in Neustadt-Fernthal (above) and the leader mast cake (left)

The two machines modeled for a special feeding at the anniversary party - the leader mast cake.

ABI wishes the company S+H many more successful business years and is looking forward to continuing the cooperation. ■

Like Phoenix from the Ashes

Six DELMAG pile driving rigs MY 15 were reassembled and put into service in Iraq.

From November 2002 to February 2003 eight DELMAG pile-driving units in total were delivered to Iraq, six pile driving rigs MY 15 and two MY 10. Shortly afterwards, in March 2003, the Iraq war broke out and the machines disappeared without a trace. In 2008 the first two smaller MY 10 machines turned up again. They were in a quite good condition, had only little operating hours and could be put into operation with little effort. Barely another five years later the company Al.Faisal Group from Bagdad contacted ABI and sent pictures of the other six machines. They were standing on the premises of the company Al-Fedaa and had never been in service before.

However, the war left its traces. Only some parts of the upper carriages existed and the attachments were missing. At the time, the machines were designed as fixed leader masts for the operation of four attachments: diesel hammer, hydraulic, electric and pneumatic impact hammer. With the help of the photos and the first evaluation of the damages a quotation for the reconditioning was submitted. After numerous negotiations Al.Faisal Group and ABI agreed on the scope of delivery and that the machines would be reassembled on site. Among other things, the shipment included six new upper carriages

Photo: On site reassembly, leader mast and kinematics being connected with the new upper carriage

CAT 336, traction motors for under carriages, motors for winches, six new diesel pile hammers D16 and various accessories. While the comprehensive shipment was on its way, the Iraqi mechanics and equipment operators were trained at ABI in Niedernberg.

It was planned that an ABI employee would be in charge of the reconstruction on site. Iraqi mechanics took care of the preparation and construction. Leader mast and kinematics were removed as per instruction, components were cleaned and reconditioned. After the shipment arrived in Bagdad, an ABI employee flew to Iraq for two weeks

in October to coordinate and take care of the reassembly of the machines. „The conditions were quite spartan, I had a room on the company premises that served as my office, rest room and bedroom at the same time. Sometimes it was a bit weird when you were woken by the bomb explosions but the hospitality of the people was great“, said Norbert Wagner after he returned.

In the first phase the chassis were prepared and the new traction motors installed, then the superstructures were placed on. The kinematics components as well as the leader masts of the original machines could be reused. Finally, the winch motors and the tubing of the machines were installed. The reassembly went on so fast that the second stay in November was even shortened.

After the machines were completely rebuilt and ready for operation

Photo: The finished machines in position for handing-over at the premises of the company Al-Fedaa

the training was continued on the own machines. Numerous test runs with the diesel hammers followed, and the machines were spruced up for the festive handing-over with some members of the government.

The machines are the property of the Iraqi Ministry for Water and Resources and will be used in the reconstruction of Iraq. ■

Soil Improvement in Sochi

The company Universal-Spetstechnica, Ltd (UST), the ABI distribution partner in Russia, exhibited a telescopic leader mast TM 18/22 B at the construction equipment trade show CTT in Moscow 2013.

The machine was sold to the company Geopier Moscow and could prove itself as a reinforcement during the construction works in Sochi.

Geopier Moscow used two MOBILRAM-Systems TM 18/22 B for soil improvement measures over a period of six months. Both machines installed stone columns for a shopping center and a market place in the Olympic village. Due to the difficult geology the daily output varied between 40 and 100 columns per day. ■

Photos: Large construction site in Sochi with two ABI machines installing stone columns

ABI MOBILRAM TM 16/20 B using DTH Hammer

ABI Equipment Limited were chosen as the preferred piling equipment supplier by BAM Ritchies to construct a 120 meter retaining wall and bridge abutment as part of the Heads of Valley A465 road widening project in South Wales.

BAM Ritchies were appointed by Carillion plc to drill and install 73 No 864 mm diameter piles to form a 120 m long retaining wall and bridge abutment as part of the Heads of the Valley A465 road widening project. The piles were drilled up to 18 m deep through made ground and into the underlying bedrock. The rock comprised coal measures including extremely hard quartzitic sandstone and grit stone with a uniaxial compressive strength in excess of 200 MPa. The piling contract was carried out during the months from July to September 2013.

Project Manager, Kenneth Henderson, comments "with the very hard and abrasive rock it would not have been possible to drill these piles using traditional rotary piling techniques. We therefore decided to drill the 14 m deep rock sockets using a Numa 240 „Down The Hole Hammer" complete with 864 mm button bit".

ABI supplied a MOBILRAM-System TM16/20 B piling rig with a special DTH hammer installation kit and monitoring equipment. This set-up permitted the rig operator to have precise control of the drilling parameters required for DTH drilling. In particular, it is important to have close monitoring and control of both the weight on bit and the rotational speed of the DTH hammer. Without this, bit wear can be excessive and the drilling process is not efficient. The 20 m stroke on the piling rig enabled the piles to be drilled in a single pass without the requirement to add or remove drill rods as drilling progressed.

Due to the proximity of the existing A465 road a Calyx basket system was used to collect drill cuttings within the hole rather than ejecting then from the top of the hole. This allowed for the control of the spoil and ensured the safety of road users and the piling operatives undertaking the works.

The DTH hammer was set-up with five large air compressors delivering 80 m^3/min (2,800 cfm) at 10.2 bar (150 psi). This ensured good DTH hammer performance and hole cleaning. ■

Photos: TM 16/20 B on the job site in South Wales (above)
Usage of Calyx basket system to ensure the safety (left)

DELMAG Drill Rigs Conquer Hard Rock

ABI Equipment Limited was chosen to supply specialist piling equipment by contractor Keller Foundations Limited for the piling work on the Carscreugh Wind Farm project in Dumfries and Galloway of the Gamesa Company.

The piling works were carried out from September to November 2013 using two DELMAG RH 28 drill rigs. The contract required the construction of nine wind turbine bases in a remote location, each consisting of 16 No 880 mm diameter piles drilled to bedrock with depths varying from 6 - 15 m.

The ground conditions where a major challenge for this project with heavy boulder clay and the presence of large, very hard granite boulders, combined with a high water table. Drilling through this variable material required frequent tooling changes and considerable variation in casing depths.

"We selected the DELMAG RH 28 drill rigs from ABI Equipment because the rigs offered us the right combination of size, weight, crowd force, torque and rigidity", says Andrew Davison, Keller Foundation's General Manager of Piling. "Soil conditions on site had been particularly challenging for our CFA equipment and we knew we would need to bring in heavy duty machines to deal with the more difficult areas. ABI were able to provide us with two first class DELMAG RH 28 drill rigs that simply turned-up and did everything that was asked of them".

Davison goes on to say that "even when dealing with the exceptionally hard boulders the DELMAG rigs remained very stable in operation, enabling us to drill accurately and efficiently from start to finish. Overall, we were impressed with the performance of the equipment and very satisfied with the service and support provided by ABI Equipment".

ABI Equipment Ltd continues to invest in its fleet of UK drill rigs and is currently able to offer two DELMAG RH 28's and one DELMAG RH 34, with additional rigs available from ABI Group in Niedernberg, Germany as required. ■

Photos: DELMAG drill rig RH 28 with different drilling tools (left)
Drilling under hard conditions with RH 28 (bottom)

TM 13/16 SL at Diaphragm Wall Job Site

The special civil engineering company Soiltech uses its new ABI MOBILRAM-System TM 13/16 SL with variable vibrator MRZV 17VV on sewer construction works in Brussels.

The machine was delivered directly to the trade fair for building machines Matexpo 2013 in Kortrijk (Belgium). There on the demonstration ground the TM 13/16 SL was presented to the expert audience.

Following the trade fair the first service on a construction site began. A six meters deep excavation had to be built for a sewer pipe with a diameter of 1200 mm. In the first place, the construction site was put out to tender with a steel sheet pile wall, but the difficult soil conditions involved a high risk that the steel sheet piles used might get stuck in the ground and might not be recovered. Possible alternatives were considered. The company Soiltech, a specialist for sheeting and soil mixing, suggested to build a diaphragm wall.

However, the soil conditions were also less than optimal for building a diaphragm wall. For the first six meters the beam had to be vibrated through a loam layer. Following was an app. five meters thick, heavy water-bearing sand layer, and at last a clay layer had to be overcome to reach the final depth of 13 meters. Soiltech used a template to be able to better control the run of the diaphragm wall. The total length of the diaphragm wall was 470 meters. A good organization on the construction site and a powerful vibrator MRZV 17VV allowed for an output of 20 to 25 running meters of diaphragm wall per day. ■

Photos: TM 13/16 SL at the MATEXPO 2013 trade fair (above)

The telescopic leader mast with vibrator MRZV 17VV installing diaphragm wall (bottom and left)

Do you have some nice job site photos or interesting job site stories with ABI, DELMAG or INTEROC machines in operation?

Please contact us at: marketing@abi-gmbh.de

We are looking forward to your contributions.

RH 18 in the Vogtland

The company Hoch- und Tiefbau Reichenbach GmbH invested in a new DELMAG drill rig. In the medium term it is intended to replace the RH 12 which had seen better days.

The medium-sized company from Reichenbach in the Vogtland attaches much importance to a well supplied vehicle pool. With the bigger RH 18 the company can open up further fields of application.

After its delivery in early November the RH 18 was brought to the construction site at the B169 bypass Göltzschtal. The name Göltzschtal is particularly well-known for the world's largest brick bridge. The bypass is supposed to reduce the traffic load in the region between Falkenstein and Rodewisch and provides a faster access to the motorway at the same time.

In the fourth construction stage between Treuen and Rodewisch the Hoch- und Tiefbau Reichenbach GmbH installed two noise protection walls. A total of 80 piles with a diameter of 750 mm and lengths between 4 and 8 meters were sunk. After having completed the first construction site the drill rig was transported to its next sphere of action. Machines of this size have a decisive advantage on transport. Like its predecessor the RH 18 can be transported with the rotary head and the Kelly bar installed so that the set-up times can be reduced to a minimum.

The region around the peaceful Göltzschtal was strongly affected by the June flood, so was the Göltzschtal street S295 near Netzschkau, that had to be closed due to washout. A secant drilled pile wall is to stabilize the street and protect it against further washout.

The secant drilled pile wall with a length of about 160 m consists of 213 piles with a diameter of 880 mm. The length varies between 5 and 9 meters. The piles are integrated into a rocky ground where the RH 18 that is equipped with a double-edged rock auger, shows its strength and drills easily through the rocky ground. The overlapping is 100 mm and the secondary piles are reinforced with reinforcing cages. In order to align the piles exactly a drilling template was concreted in advance. After completion of the foundation the upper visible part of the retaining wall will be erected. The entire construction measure, including the renewal of the street, is planned to be completed in September 2014 and will cost 2.2 million Euros in total. ■

Photos: Building secant pile wall as protection against washout in Göltzschtal (above)

RH 18 near Treuen installing piles for noise protection wall (left)

Farewell to Ingrid Heichel

The ABI mourns for Ingrid Heichel, its senior executive and founder of the company.

She was torn out of life suddenly and unexpectedly on October 13, 2013 at the age of 75.

Mrs. Heichel took actively part in the company life till the end, and made every effort to support the interests of the company ABI with a sense of duty and discipline. Using her energy and motivation, she was able to influence the affairs of the company in an inspiring and wise way. Everyone who knew her will remember her as a unique, generous and loving person.

The Heichel family expresses her thanks for the numerous condolences and the sincere sympathy of employees, business partners and friends of the house.

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