

AKKERMAN NEWS

Newsletter About Akkerman Underground Construction Solutions

Volume I, 2019

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CELEBRATING OUR JOURNEY

Akktoberfest Recap

We consider ourselves fortunate to have cause to celebrate three significant company milestones within the last eight months.

First, in September, we hosted over 100 customers and industry professionals at our manufacturing facilities in Brownsdale. The three-day event series featured educational sessions, equipment training, demonstrations and factory tours in celebration of our 45th anniversary.



The equipment demonstrations included several guided boring systems, the newest GBM Guidance System with data logging capabilities, our SLS 50/100 sliplining system, a peripheral drive SL86P microtunnel boring machine, microtunneling control containers, Akkerman Bentonite Injection System, AZ100 Total Guidance System, and complete Tunnel Boring System with a TBM 540.

The GBM, MTBM and TBM Hands-On Equipment Training sessions were led by Akkerman's field technicians around the various equipment displays.

The Trenchless Technical Seminar covered the ASCE's guided boring best practices by Jeff Boschert, P.E. with NCPI, effective site investigation by Robert Martin, P.E., Jacobs, guided auger boring and pipe ramming with Jim Weist, Michael Byrne Manufacturing and Rick Melvin of TT Technologies, Inc., guided boring with clay pipe by David Gill, Logan Clay Pipe, sliplining with Gabriel Castelblanco, HOBAS, ASCE microtunneling guidelines by Dr. Glenn Boyce, Ph.D., McMillen Jacobs Associates, lubrication by Yovani Zelaya, LAN Inc. and Weston Alberts, Akkerman, and the AZ100 TGS guidance system by Troy Stokes and Brad Wheeler, Akkerman.

During the anniversary celebration, attendees enjoyed tours, demonstrations, and a contractor's roundtable with German and local Minnesota fare and beverages, and a private concert by Martin Zellar and the Hardways.

In his remarks, Maynard Akkerman, CEO and President reflected on how it's been his privilege to be a part of this industry and see it flourish over the years. He detailed, "My father started D.H. Akkerman Construction Company in the 1950s, and later designed the first Akkerman 360 Tunnel Boring Machine in 1963 to fulfill his own need to install pipe on a project crossing. Our contractor beginnings are one of the key points that distinguish us from our competition; we've been there,



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CONTINUED FROM COVER

and even today we continue to garner contractor feedback to inform our equipment designs. I'm so proud of how far we've come, and all the amazing innovation offered in our products."

He concluded, "Our success is thanks to our highly-skilled team and their dedication to producing the best pipe jacking and tunneling equipment, as well as the continued faith and loyalty of our valued customers."

Visit akkerman.com/akktoberfest.php for a full photo gallery and links to the Trenchless Technical Seminar presentations.

Akkerman Becomes Certified to ISO 9001:2015

Next, after several years of employee dedication and guidance from a manufacturer's consulting group, we are proud to report that we are officially certified to ISO 9001:2015!



Akkerman Inc. attained the International Organization for Standardization ISO 9001:2015 for its quality management system at its sole manufacturing facility in Brownsdale, MN.

Following an independent audit conducted by SAI Global, the certificate was issued on January 18, 2019.

The scope of the certification applies to the design, manufacture, sales, and services of on line and on grade tunneling and pipe jacking products for the underground sewer, water, gas, and electrical utilities industries.

Akkerman embarked on the implementation of its quality management system in 2015 with consulting assistance from Enterprise Minnesota who was integral to the system's integration.

Justin Akkerman, operations manager, remarks, "Minnesota Occupational Safety and Health recognized Akkerman through the Minnesota Safety and Health Achievement Recognition Program for our safety program in 2010. Having our management system certified to ISO 9001:2015 was a natural progression for us to strengthen the business."

Akkerman furthers, "Not only does our comprehensive quality management system benefit our employees through

procedure efficiencies and repeatability, but our customers can also feel confident in knowing that the equipment that we manufacture is subject to the highest standards and continuous improvement at every step in the manufacturing process. Our ISO 9001:2015 Quality Management System ensures that from design conception to final product testing, our equipment is produced with quality and value at the forefront."

Maynard Inducted To The Class of 2019 NASTT Hall of Fame

And last but certainly not least, we were able to share in congratulations along with our industry colleagues as Maynard Akkerman was inducted into the NASTT's Hall of Fame at the No-Dig Show 2019 in Chicago, IL on March 19.



Throughout his career, Maynard has cultivated many relationships in the tunneling industry and has been an active promoter of trenchless methodologies. His career exemplifies his dedication to advocacy of the principals of the NASTT's mission.

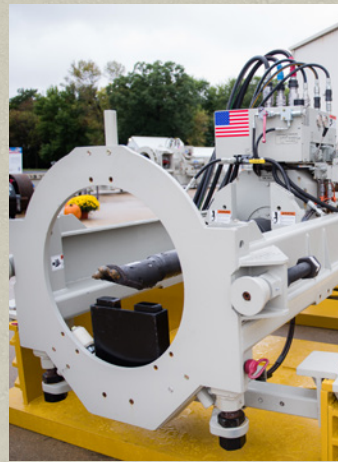
During his speech, Maynard stated, "In 1975, my father entered our company into its first tradeshow, Con-Expo, which was ironically held here in Chicago. This was the beginning of many tradeshow to come. While these tradeshow that we attended were beneficial, they lacked the educational component that was needed. Most people did not know what trenchless was, and we were often viewed as a curiosity rather than a tried and true technology."

Maynard was an original member of the NASTT, joining just a few months after its incorporation in 1991. He detailed, "After working alongside my father in the manufacturing business as well as on construction sites, I saw firsthand the need for uniform material specifications and best engineering practices." He furthered, "When the ISTT was formed, then subsequently the NASTT, Akkerman embraced membership and saw that we finally had the guidance that we that we needed as an industry."

Maynard served two terms on the NASTT Board of Directors from 1995 to 1998.

He complimented the NASTT for its, “educational sessions, networking opportunities and support of students in their efforts to becoming educated on the ins and out of trenchless technology, making the NASTT the shining star of our industry.”

During his career, Maynard has contributed and been recognized in many other additional capacities. He was a contributing member to the microtunneling standards committee for the ASCE’s first microtunneling standard in 2001, named the 2003 Underground Construction MVP by the Gulf Coast Trenchless Association, and 2008 Person of the Year by Trenchless Technology Magazine. Maynard was nominated to The Moles in May of 2009. In 2015, he was on the Blue-Ribbon Review Committee for the ASCE’s Pilot Tube and Other Guided Boring Methods standard.



See YouTube Video “Akkerman Celebrating 45 Years”

See YouTube Video “Akkerman Bentonite Injection System (ABIS) Overview”

The achievements of an organization are the results of the combined efforts of every individual.

PROJECT HIGHLIGHTS



Lockbourne Intermodal Subtrunk

From February 2018 - January 2019, Michels Tunneling used an Akkerman SL82P face-access MTBM system to install 10,218-lf. of 78-in. Hobas jacking pipe for sanitary sewer upgrades in Lockbourne, OH. Eight straight microtunnel reaches, ranging in length from 550-1,880-lf. were installed upon the project's completion. The longest microtunnel, 1,880-lf. is noted as the most extensive installation of Hobas® jacking pipe in North America to date. The contractor was able to propose a value engineered solution to reduce the number of manholes, thus providing project savings for the owner.

CONTRACTOR:

Michels Tunneling

LOCATION: Lockbourne, OH

OWNER: City of Columbus

ENGINEERS:

Scott Chabot, P.E., Giffels Webster, Inc.

COMPLETION: January 2019

GROUND CONDITIONS:

Varying Soft to Hard Stiff Clay

PIPE: 78-in. ID Hobas®

TOTAL LENGTH/LONGEST RUN:

10,218-lf./1,880-lf.

AKKERMAN EQUIPMENT:

SL82P MTBM System and AZ100 Total Guidance System for Navigation

William Street Basin

CONTRACTOR: Nella Drilling

LOCATION: Montreal, QB

OWNER: Montreal Public Works

COMPLETION: July 2018

GROUND CONDITIONS:

Varying Soft to Hard Stiff Clay

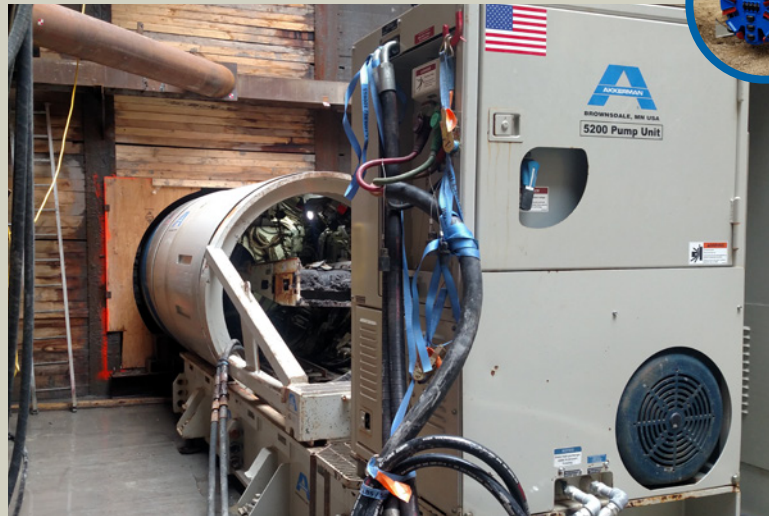
PIPE: 79-in. ID Hobas®

TOTAL LENGTH/LONGEST RUN:

510-lf./443-lf.

AKKERMAN EQUIPMENT:

TBM 720 with Closed Face Cutter Head, Tunnel Boring System and 5200 Pump Unit



In July of 2018, Nella Drilling of St. Henri, QB used an Akkerman TBM 720 equipped with a closed-face cutter head and 5200 Pump Unit to complete 443-lf. and 67-lf. installations of 79-in. ID Hobas® on the William Street Basin project in Montreal, QB. Originally slated for open-cut, Montreal Public Works Department of Beautification and Water Usage elected for a trenchless installation due to 46-ft. installation depths and the presence of a pedestrian tunnel for École de Technologie Supérieure University within the alignment's zone of influence.

Penn American Linear Stormwater Storage

CONTRACTOR: Minger Construction, Inc.

LOCATION: Bloomington, MN

OWNER: City of Bloomington

ENGINEERS: Bolton & Menk

COMPLETION: Spring 2019

GROUND CONDITIONS:
Silty sand

PIPE: 69-in. ID Hobas®

TOTAL LENGTH/LONGEST RUN:
620-lf.

AKKERMAN EQUIPMENT:
TBM 600 with Tunnel Boring System
and 5200 Pump Unit



Pictured are : Keith Sherman (Foreman), Taylon Wiese (Foreman), Justin Parrott, Casey Schultz, Nick Johnson, Jason Mans, Jesse Robb, Joe Chase, Brian Crooks, Jacob Esanbach, and Mike Julien.



In the summer of 2018, Minger Construction, Inc. of Jordan, MN embarked on the Penn American Linear Stormwater Storage Project in Bloomington, MN. Minger crews installed a 620-lf.

stormwater tunnel for flow conveyance to underground storage holding facilities. Using an Akkerman TBM 600, they jacked 69-in. ID Hobas® pipe at a pace of 45-lf. per shift to complete the alignment in just seven days. The tunnel connects to 2,500-lf. of buried 144-in. CMP to contain stormwater and reduce flooding in the metropolitan region.



Northwest Boring Co. Inc. (NWB) of Woodinville, WA was subcontracted by Shoreline Construction for an emergency replacement of City of Mill Creek's failed 30-in. CMP stormwater pipeline that had been causing flooding in a suburban neighborhood, located 30 minutes north of Seattle, WA. The alignment was positioned within a narrow easement between two homes. The ground conditions were glacial till with rock which also presented challenges. NWB utilized their GBM 4800 Series Jacking Frame with a HTCA attachment for guided auger boring from a

minimum sized jacking shaft for limited disruption to the residential area. Crews used a Rock Drill Adapter with TriHawk® drill bit for pilot tube installations and a GRS-50 Guide Rod Swivel with 36-in. cutter head to increase the bore paths and match the 36-in. casing diameter. They direct jacked 110-lf. and 140-lf. 36-in. steel casing in opposite directions from the same shaft. The alignments were completed with 27-in. Vylon carrier pipe inside the casing.

Mill Creek Emergency Stormwater Repair

CONTRACTOR: Northwest Boring Co. Inc.

LOCATION: Mill Creek, WA

OWNER: City of Mill Creek

COMPLETION: May 2018

GROUND CONDITIONS: Glacial till with rocks

PIPE: 36-in. OD casing, 27-in. Vylon carrier

TOTAL LENGTH/LONGEST RUN: 250-lf./140-lf.

AKKERMAN EQUIPMENT:
GBM 4800 Series, HTCA, GRS-50 36-in., Rock Drill Adapter with TriHawk® drill bit



PROJECT HIGHLIGHTS CONTINUED



700 South Sewer

At the end of October 2018, BTrenchless, Inc. successfully completed a 700-lf. microtunnel using their SL60C MTBM with an increase kit to install 72-in. OD Permalok® steel casing for Salt Lake City Public Utilities. Project ground conditions were soft, sticky clays with fines and sandy material just below the ground water. The 700 South Sewer project alleviates sanitary sewer flows going to the International Center and frees up capacity for the ongoing Salt Lake City International Airport expansion. BTrenchless also installed 558-lf. of 72-in. OD Permalok® in three runs using their Akkerman GBM system for guided pipe ramming on the same project.

CONTRACTOR:
BTrenchless, Inc.

LOCATION: Salt Lake City, UT

OWNER: Salt Lake City Public Utilities

ENGINEERS:
Scott Chabot, P.E., Giffels
Webster, Inc.

COMPLETION: October 2018

GROUND CONDITIONS:
Soft sticky clay with fines and sand

PIPE: 72-in. OD Permalok®

TOTAL LENGTH/LONGEST RUN: 700-lf.

AKKERMAN EQUIPMENT:
SL60C MTBM System

Holmes Road Sanitary Sewer - Kirby Drive to Knight Road

CONTRACTOR: BRH-Garver
Construction, L.P.

LOCATION: Houston, TX

OWNER: City of Houston Public Works

COMPLETION: Summer 2019

GROUND CONDITIONS:
Varying Soft to Hard Stiff Clay

PIPE: 48-in. ID Hobas®

TOTAL LENGTH/LONGEST RUN:
4,372-lf./1,300-lf.

AKKERMAN EQUIPMENT:
MTBM SL44C System

BRH-Garver Construction, L.P. of Houston, TX was awarded the contract for the Holmes Road Sanitary Sewer – Kirby Drive to Knight Road project for the City of Houston Department of Public Works and Engineering. The project scope includes microtunnel construction of 4,372-lf. of 48-in. ID Hobas® sanitary sewer line along Holmes Road in eight total runs, the longest at 1,300-lf., replacement of a manhole with a 20-ft. junction box, and connections to existing utilities. BRH-Garver used an Akkerman SL44C to complete the alignments. Construction began in the fall of 2018 with anticipated completion in the summer of 2019.



INTRODUCING THE SLS 50/100 SLIPLINING SYSTEM

In the fall of 2018, we introduced our enhanced SLS 50/100 Sliplining System. Used for the rehabilitation of 30-102-inches OD live sewers, the sliplining system aids to prolong the lifespan of failing infrastructure and eliminate the need for bypass pumping.

The modular sliplining frame can accommodate up to 20-foot pipe joints for installation in either direction and features a retention winch and pipe clamp to assist with positioning and counterbalance flow force during installation.

Using a wireless remote controller with LCD screen, the operator controls the main drive, bidirectional travel, brakes, speed control, frame elevators, pipe clamp, winch, E-Stop, and lighting. Two-speed dual or quad motors and chain driven planetary gearboxes generate thrust force to advance pipe into position assisted by speed sensors for synchronized travel. Sliplining operations are powered by a 200 HP Electric or Diesel Power Pack with three variable displacement pumps.

Live remote access of system data, data logs, graphs, and documentation are available through a coordinated web application.

Akkerman Sliplining Systems include a modular jacking frame and power pack, and are sold in dual (SLS 50, 65-ton) or quad motors (SLS 100, 130 ton) packages.

Pipe specific sliplining mandrels, provers and pipe shield/savers are sold separately.

Learn more at akkerman.com/sliplining_overview.php.



THE RAT IS OUT OF THE BAG

Anyone who knows anything about the trenchless industry has heard of the infamous Morty, a.k.a. Mortimer the Sewer Rat. Morty's spent the last year with our friends at BTrenchless and between now and No-Dig 2020 he'll be sharing his time at Akkerman assisting with manufacturing and BTrenchless's construction crews.

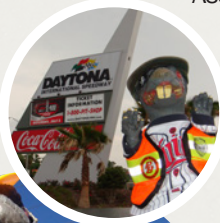
To say that Morty's a seasoned trenchless aficionado would be an understatement. This year marks his 12th NASTT member tour. During this time he's traveled all over the US and abroad.

Morty hails from Reno, NV and first surfaced during the 2007 Third Annual Western Society for Trenchless Technology No-Dig Annual Conference.

His story began when Glenn Boyce and the folks at McMillen Jacobs Associates won him in a game of exhibitor Jeopardy, and so he spent 2007 in Seattle, WA. McMillen Jacobs Associates brought him to Grapevine, TX for No-Dig 2008, and entered a bid to host Morty for a year at the NASTT Educational Fund Auction. He went home with Pacific Boring in Caruthers, CA, toured some of their project sites and the NASTT tradition of hosting Morty for yearlong terms was born.

To date, Morty has garnered over \$60,000 for the NASTT Educational Fund Auction's mission. Not only have funds been raised to assist with the education of next generation of trenchless folks, but those following his travels have also been able to learn a thing or two about their colleagues' trenchless projects.

Follow Morty's continued adventures @TrenchlessMorty on Twitter or any of Akkerman, BTC or BTrenchless's social media outlets.



Visit us at these
2019 Tradeshows &
Conferences:

May 6-8, 2019

CATT 2019 Trenchless
Technology Road Show
Booth #110
Richmond/Vancouver, BC
Sheraton Vancouver Airport Hotel

Presenter

June 16-19, 2019

RETC 2019
Booth #604
Chicago, IL
Hyatt Regency Chicago Riverside
Exhibit Hall

October 1-3, 2019

ICUEE 2019
Booth #K105
Louisville, KY
Kentucky Exposition Center

October 28-30, 2019

No-Dig North
Booth #200
Calgary, AB
Telus Convention Centre

Presenter

October 31, 2019

2020 Akkerman Calendar Photo
Submission Deadline

Morty Hosts

**2007 Glenn Boyce, McMillen
Jacobs Associates**

2008 Pacific Boring, Inc.

2009 Akkerman

**2010-11 Michels Corporation
and Midwest Mole**

**2012 McLaughlin Boring
Systems and Vermeer
Corporation**

2013 Akkerman

**2014 Northeast Remsco
Construction, Inc.**

2015 Akkerman

**2016 Iowa Trenchless and
Midwest Mole, Inc.**

**2017 Iowa Trenchless and
Michael Byrne Mfg.**

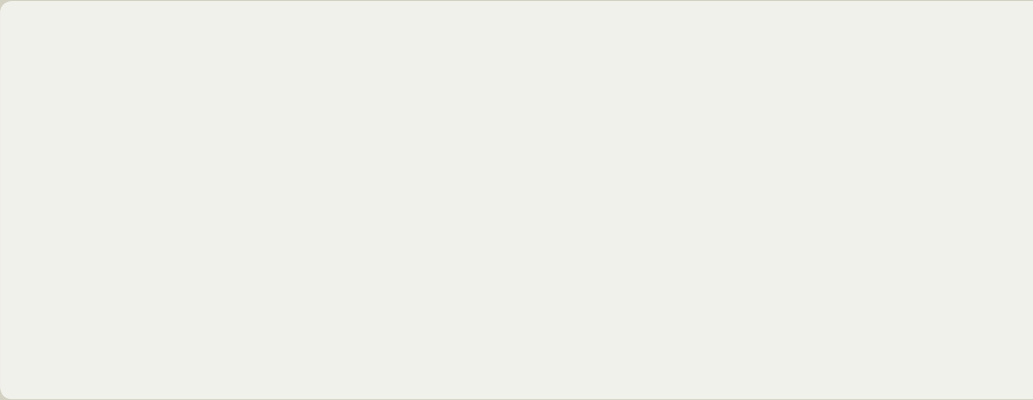
2018 BTrenchless

2019 Akkerman and BTrenchless



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Method of Operation Guides

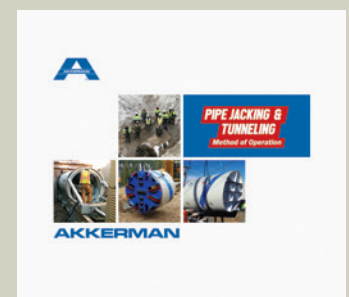
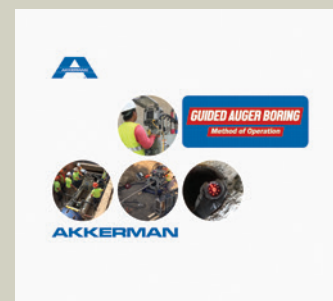
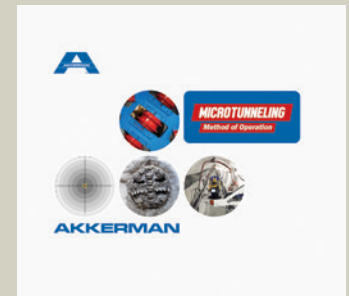
Our all-new Microtunneling Method Statement document is the perfect tool to explain microtunneling installation methods and procedures. This handy guide has been updated to include larger diameter, peripheral drive MTBMs as well as our original center drive systems, the AZ100 Tunnel Guidance System for extended length straight and curved alignments, and an automated bentonite injection system overview.

The Microtunneling Method Statement is available for download from the microtunneling documentation page on our website.

Check out the other two method of operation guides in the series >>

[Guided Auger Boring Method of Operation](#)

[Pipe jacking & Tunneling Method of Operation](#)



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