

Information for the ENVIRONMENTAL, GEOTECHNICAL, GEOTHERMAL & EXPLORATION industries





The telescoping mast, with a maximum height of 23 ft. 10 in., allows the field team to trip 20-ft. sections of tooling.



Drill mast outriggers provide a stable platform for rotary applications and the ability to hold and break inner rods above casing.



Oscillation +/- 10 degrees from center allows the field team to easily align the rig over the hole in tight and uneven conditions

# **Excel in the Geotech Market** 3230DT: Rotary Strong. Direct Push Solid.

A mid-sized tracked drill rig combining advanced direct push functionality with traditional geotechnical auger rig and high-speed rotary drilling capabilities.

- Direct Push
- Hollow Stem Augering
  - Mud Rotary
  - Air Rotary
- Down Hole Hammer
- Standard Penetration Tests
  - Rock Coring

We want you to remember two things about the new 3230DT machine: **Power** and **Speed**. We'll mention many other features and things you should know about it, but we want you to remember **Power** and **Speed**.



The 99 hp Kubota diesel engine mounted on the 30-series track base provides the power needed to successfully complete geotechnical rotary work while reducing upfront and operating costs. The 3230DT enables you to complete both geotechnical and exploration projects using multiple power applications, such as SPT measurements using driven casing, augers, or wet or air rotary. It's also capable of

running all wireline sizes for high-speed coring, down hole hammering, and taking CPT measurements.

And let's not forget about the Geoprobe® CB6 Combo Head, designed with a parallel shaft gearbox with 26 inches of sideshift. It features our patented hydraulic head clamp to safely and quickly pull rods while maintaining an open ID. For direct push work, you have two hammer options to choose from, either the GH70 or the GH60. For rotary work, there's either a two-speed or four-speed option head with 6,000 ft-lbf of torque and a top speed of 800 rpm. Rounding out the head is the new DH105 automatic drop hammer with powered swing and slug options up to 340 lbm. The DH105 makes taking blow counts simple.

Lots of **power** there. So let's talk **speed**.



The 3230DT drill mast may be one of the more unique aspects of this rig. The 3230DT is equipped with a telescoping winch mast with auto spool which allows for operating and locating the mast in confined or utility-sensitive locations. You also save time using multiple winches and the telescoping mast to trip 20-ft. sections of tooling at a time. The 3230DT

owner will also realize quicker project completion, easier work for the operator, and higher utilization rates. And we haven't mentioned the control panel that easily moves to a position that's most comfortable and efficient for the operator.

There you have it. That's the 3230DT in a nutshell. There's plenty of **power** packed into the 3230DT and lots of features and options to **speed** up and streamline your time at the jobsite. But there's much more to tell. Call us for the new 3230DT brochure and find out why the 3230DT may be your machine of choice when it comes time to replace your rotary rig.

The moveable control panel makes it easy on the rig operator by providing a mixture of manual and electric-over-hydraulic controls. Electric controls allow for automation of several functions while the manual controls are used for basic positioning functions to reduce costs.

Geoprobe Systems® • Fall 2014



The CB6 Combo Head features a centerline sideshift function which allows you to move the head side-to-side so you can work the inside diameter of the rod without moving the machine.

#### **CB6, 4-Speed Combo Head**

The patented CB6 Combo Head, designed and built by Geoprobe®, is the heart of the 3230DT and the key to the rig's versatility. Each feature of the five-function combo head opens up additional applications and services you can offer your customers. Geoprobe® machine engineers designed the rig so it can be configured with a 4- or 2-speed combo head and with or without a hammer.

#### **3230DT Features**

- Geoprobe® CB6, 4-Speed Combo Head Side-Shifting with Patented Rod Grip Feature.
  - Drill Mast Outriggers

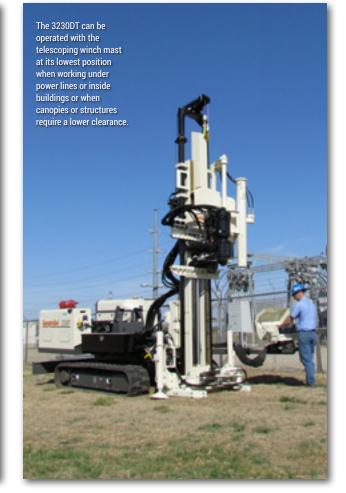
Keeps the mast steady during rotary work.

- Dual Winch with Telescoping Mast

  Mast deployment to height you require.
- Mid-Sized Platform with Added Power

99 hp diesel engine for geotechnical rotary work.





## 3230DT Combo Rig: Versatile and Convenient to Use

Todd DaBell Geoprobe® Sales, Midwest Region 317-691-5697 dabellt@geoprobe.com

I've worked with designing, building, testing and operating drilling equipment for 20-plus years, so I've got some experience

with putting holes in the ground. Based on that, I strongly suggest you look at the 3230DT if combo rigs are your drill of choice. This is the cleanest, simplest-to-use and well-built combo drill rig I've ever worked with.

Most combo drills do okay in some of their other functions, but the 3230DT excels in all its forms. I'm most impressed with how easy and conveniently it can be changed between tasks. Innovative features in the 3230DT allow it to transition from driving casing via direct push to wet rotary drilling in less than five minutes. Quick and efficient!

And because I'm a hands-on guy, I've tested the 3230DT in all its configurations for ease of set up and effectiveness of use, and I've found them all to be convenient, fast and simple. You may not use all of the functions on every project. But if you need to auger to bedrock and then do a confirmation core, it's all there with no fuss, no extra drill, driller, or support equipment required. Just set up and go to work!

The 3230DT Combination Rig is designed to help expand your service offering without adding specialty drills to your fleet. This drill was designed and equipped in direct response to your feedback as to the services you want to offer your clients.

This machine will definitely be an asset to help you do your job better, expand your markets, and offer a broader array of services. Call us and we'll set up a field demonstration for you. Add yourself to the growing list of Geoprobe® customers signing on for this new rig.

Call 1-800-436-7762 for our free 3230DT brochure!





## HELPING Sonic Customers BE Successful

#### Geoprobe® Sonic Rigs

**Geoprobe® sonic customers are successful!** They are successfully completing projects on a daily basis, and ultimately, if a customer is successful, growth happens. And that's why, at the Geoprobe® 2014 Open House in April, we introduced our **First Full-sized Sonic Rig, the 8150LS**. This new rig was designed and built in direct response from large, multi-national companies to continuously sample and set casing in excess of 300 ft. in a wide range of formations. The 8150LS (long stroke) joins two other sonic models in the Geoprobe® stable: the 8140LS and the 8140LC (low clearance). In addition to specialized sonic tooling, Geoprobe® offers **Comprehensive Sonic Training** in the operation, maintenance, and use of Geoprobe® sonic products, and **Sonic Service Support**, the best service in the drilling industry. We are also focused on **Continuous Sonic Product Development** which means we're committed to the future of our sonic customers.

#### **Geoprobe® Sonic Tooling**

The Geoprobe® sonic product line offers the widest array of bits and sampling systems available; from conventional telescoping soil coring to dual tube sampling and face flush bits for rock coring. Our tooling engineers are constantly improving and refining our sonic offerings.

- In Stock and Ready for Distribution
- Exclusive Dual Tube Systems ... SDT45 and SDT60
- For Use With ALL Sonic Machines
- For Traditional Sonic Drilling Methods 3.5 in., 4.5 in., 6.0 in., 8.0 in., 10.0 in. Sonic Casing Sizes in 5 ft. & 10 ft. lengths
- Aircraft Grade Alloy Steel

"Successful 8140LS sonic rig lift."

Peter Byer • President SAEDACCO • Fort Mill, SC









This project involved the installation of five 4.0 in. dual phase recovery wells set adjacent to a sea wall which required the use of a 300-ton crane to lift and position the 8140LS sonic rig. A network of aboveground gas pipelines had to be cleared which dictated the need for the crane lift.



#### **Geoprobe® Sonic Coring Bits**

Sonic coring bits are used in sampling applications with specific features to help penetrate and sample most all formations. The most common use for sonic coring bits would be in 'core and case' applications such as those described in the field projects on these pages. Geoprobe® sonic coring bits feature different carbide button configurations, water channels for flushing cuttings, and provisions for the use of core catchers to help retain sampled material in the sampler. Much like other drilling technologies, penetration rates and sample recovery can hinge on proper coring bit selection. We design and manufacture many sizes and syles of sonic bits, including casing bits, coring bits, dual tube bits (exclusive to Geoprobe Systems®), and special purpose bits. Our team of engineers and drillers are constantly working to improve and refine bits for sonic applications. This includes increasing bit life, improving sample recovery rates, and increasing penetration rates.

Sonic Coring Bits

We stock sonic coring bits for 4.5-,
6.0-, and 7.625-in. sample barrels

(top down)
215779 – 4.5 in. Sonic Full Face Bit
210566 – SDT45 Sonic Bit
210569 – 4.5 in. Sonic Casing Bit
211409 – 6.0 in. Sonic Sampler Bit
212514 – 4.5 in. Sonic Under Cut Bit
213481 – 4.5 in. Sonic Bit w/ID Carbides
215162 – SDT60 Sonic Bit
216273 – 6.0 in. Sonic Sampler Bit w/ID Carbides

#### **Sonic Core Catchers**

Our Core Catchers are 100 percent stainless steel and feature a directional finger pattern making them ideal for use in rotating drill strings.

209675 – 4.5 in. Sonic Core Catcher (top) 216554 – SDT45 Sonic Core Catcher (middle) 211107 – 6.0 in. Sonic Core Catcher (lower) Greg Schroth, Driller with Cascade Drilling, LP, in West Sacramento, CA, is pleased with the performance of their Geoprobe® 8140LS sonic rig. "Our clients look at the size of our 8140LS and they don't think the rig can do the job," Greg told us. "But I'll put it up against some of our other big rigs. It goes in buildings, under power lines ... where other rigs can't. We've got a good little niche going with this machine."

The most recent project Greg reported on was drilling in gold country in Sonora, CA. Their client wanted a 35 ft. hole, but Greg said they hit solid granite at 15 ft. "We had encountered water at 8 ft. but our client wanted to see if there was another water source in the area," he said. "We took 4.5 in. granite cores in 6 in. and 12 in. runs, all the way down to 42 ft."

Greg was Cascade's driller at the Sonora site along with Thomas Hatch, Driller-in-Training, and Brandon Hill, Driller's Helper.

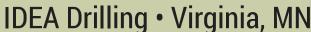
The 8140LS also spent time in the San Jose area. Cascade was working with the U.S. Department of Water Resources and the U.S. Geological Survey as a part of building up all the dams and levees in California. "Our rig just drills right through sand, silt and big chunks of rip rap. This rig really stays busy," Greg added.



8140LS Sonic owned by Cascade Drilling, LP,

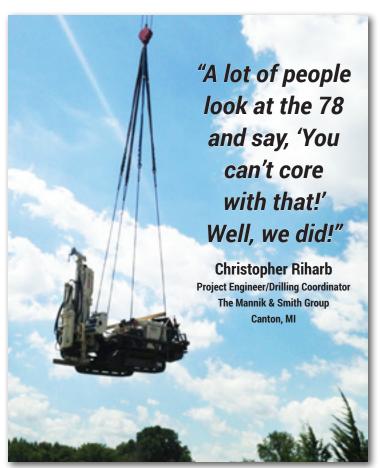


The 8140LS Sonic at a California dam site near San Jose.





In the Spring 2015 *Probing Times* ... Geotechnical testing, using 8140LS Sonic equipped with auto drop hammer, is underway for a possible highway relocation in Minnesota across the Rouchleau Mine pit.



Because of the steep banks of the Maumee River, a 7822DT is lowered onto a barge for the start of a new river crossing geotechnical investigation in Ohio.

The Mannik & Smith Group Inc.'s (MSG) drilling division provided geotechnical investigation and engineering services for roadway, embankment, bridge abutment, and pier design in support of determining a new river crossing over the Maumee River in Napoleon, OH

Working with the Henry County Engineer, Henry County
Transportation Improvement District, and in accordance with Ohio
Department of Transportation specs, MSG collected soil borings from
both land and from the riverbed for new bridge abutment and pier
foundations. Because of the steep banks on both sides of the river,
MSG lowered all equipment, including their 7822DT, onto a barge with
a crane, and performed 20-ft. deep rock cores at each of the seven
proposed foundation locations.

This was the first time MSG performed such complex drilling operations, and not only were they on schedule, they also finished under

budget.

"The 78 performed exceptionally well," said Christopher Riharb,
Project Engineer and Drilling
Coordinator for MSG. "It's the little rig that could! In addition to 10-ft. cores for the abutments, we took 20-ft. cores for bridge piers."

MSG cored with the 7822DT prior to this job (mainly shallow 5-ft. confirmation cores on land) but this was the first large-scale, challenging job they attempted. "And we were successful!" Christopher reported. "Not only was the 78's coring



Rob Schippert, MSG Lead Driller, advancing 4.25 in. hollow stem augers for a riverbed boring

capability a big one on this, but so was its compact size. By using the 7822DT, we saved a ton on a smaller crane and barge rental versus going with a full-size ATV rig to do the work. Overall, we're extremely happy with what we can do with our 78 and how it performs," he said.



## Geotechnical Investigation for New Bridge Pier Foundations



MSG used a 7822DT to complete 26 soil borings totaling 353 linear feet, including a total of 150 linear feet or rock coring using an N-sized core barrel. The type of rock cored was mainly dark brown to black shale, slightly-to-moderately-weathered, thinly laminated, weak to moderately strong.



A 7822DT, owned and operated by Mannik Smith Group, heads down the Maumee River for the start of a geotechnical investigation to help determine a new river crossing for US24/US6 arterial corridors for residents and local businesses, including the world's largest Campbell's Soup plant. The new bridge will provide a vital direct link between two industrial/office park areas of Napoleon/Henry County in Ohio.

## Living the American Dream

They made the decision over dinner one evening. "I think we should start our own business," Dusty Schroeder said to his wife, Kim, with their three small children at the table. "I know we can do this." And they did!

Less than three years after making that decision, Dusty and Kim took delivery of their second Geoprobe® rig for their company, Midwestern Drilling, LLC, in Holloway, MN. Lee Shaw, Geoprobe® Customer Service, drove the shiny new black truck on to the Holloway property late in July with a brand new 7800 mounted on the back. "There's been a lot of planning, a lot of long hours, and a lot of hard work getting to this point," Dusty said after the delivery, "but we knew we wanted more for our kids and their futures." The new 7800, in addition to the 6610DT they started out with, will allow the company to take on more work and help them achieve their dream. "We've been turning away jobs with just one rig because we couldn't meet our clients' busy schedules for drilling," he added. "The geotechnical drop hammer on the 7800 will also allow us to broaden our client base. We're excited to have both rigs ready for both environmental and geotechnical field work now!"

To help get Midwestern Drilling off to a flying start, Lee spent the day of delivery with the Field Team to make sure they became familiar with the new rig's features and the greater capabilities it presents for the company. "It's really important for everyone involved to have a clear understanding of what the machine is capable of," Lee said. "They don't know what they don't know. And one of my jobs is to explain to them and show them what all this awesome rig can do and how they can use it to make money."

The Geoprobe® engineering group never stands still, so improvements and changes to rigs and tooling are happening everyday. "Tools are more than just probe rods and drive caps these days," Lee explained. "That makes it even more important that the rig operator understands the process of how the systems work and how to best utilize the accessories. The end result is to help them increase production and reduce the workload on the field team."

Although the day of training took the Midwestern Drilling team away from a paying job, they believed their investment in time was well worth it. Dusty said they were more than willing to invest the day in training. "We work with over 40 consultants, and we know their reputations are at stake whenever we are drilling for them. We need to know how to best use our equipment, and how to get the best results from it."

"A day or two of training can put a company miles ahead of others," Lee added, "and it will help increase efficiency and production from the first job and beyond."

This is one of the things Lee enjoys most about his job. "Getting to spend the day with our customers, especially a young family like this, is awesome. They seem to be organized for efficiency and production in the field, and they're backed by knowledge and professionalism," Lee said. "They're living the American dream. It doesn't get much better than this!"

(upper right) Lead by Lee Shaw (orange shirt), Geoprobe® Customer Service, the Midwestern Drilling Field Team is introduced to new tooling and how to get the best possible results

(right) The Schroeder Family: Kim and Dusty with Devon, Korah and Dain. (center) Dusty Schroeder, Owner of Midwestern Drilling. (far right)The Midwestern Drilling Field Team: Dusty, Tucker Belgum and Eric Hoffman. (lower center)The next generation: Devon. 11: Korah. 6: and Dain. 9.











Mike Hynes, Master Water Well Driller at John D. Hynes & Associates in Salisbury, MD, reports their 7822DT continues to do things and go places with continued success they didn't believe was possible when they first purchased the rig,

They drilled 70-ft. borings using mud rotary to replace piles and bulkheads at an Annapolis, MD, waterfront property (right). The only access to the waterfront was by barge. "It was quite a process," Mike said. "We loaded the rig with a crane onto the barge. A tugboat piloted the barge over to waterfront, then off-loaded the 7822DT with a crane onto crane mats on the deck of the waterfront property to drill the borings."

"We saved a lot of time and money by using our 7822DT on the transmission line project (above) by not using a full-sized drill rig," Mike added.



At another location (left), the 7822DT was used to access the backyard of a building by crawling under the second floor deck. They used the blade of the rig to cut a ramp for more clearance and unbolted the hoist at the top of the mast to make it short enough to fit under the deck.

"I also want to mention," Mike said, "that when we have a problem with our equipment, which is not very often, the Geoprobe® Service Team is as good as it qets!"



## 7822DT: "Right" Sized Package, Power and Capabilities



As part of the closure of a former underground storage tank at the Big Sandy Wastewater Treatment Facility, Geo Logic used a 7822DT to set a 2.0-in. monitoring well through 4.25 in. hollow stem augers.

Geo Logic, Inc., Clarksville, IN, was retained by Professional Service Industries (PSI) to install a 2.0-in. PVC monitoring well near a former underground storage tank (UST) site at the Wastewater Treatment Plant in Big Sandy, TN.

Sandstone bedrock outcrops are fairly shallow in Big Sandy, so the 4.25 in. augers were a "perfect pairing for the 7822DT to get in to the tight location," according to Dennis Samsel, Owner of Geo Logic. Limiting access to the site was a steep incline sloping in to the side of the treatment facility where the well was to be installed. "We were able to pull to within a few inches of the side of the building to start augering," Dennis said.

Soils were continuously sampled from ground surface to bedrock refusal using DT22 (dual tube) tooling prior to spinning the hollow stem augers to depth and building the well through the augers. "The auger pull hook on the 7822DT," Dennis said, "makes it easy to measure your sand pack as you retrieve the augers and ensure that the well doesn't get sand locked."

According to Dennis, the 7822DT is the "perfect sized platform for Geo Logic and our customers because it provides the 'right' size with most of the capabilities we need in a package that larger, or conventional truck-mounted rigs simply can't access. The 7822DT's size allows us to use our existing truck and trailer options to haul the rig without the complexities and expense of the CDL trucks required by the larger rigs," Dennis continued. "And for our geographical range, we have adequate power and capabilities, including larger diameter dual tube for prepacks and SPTs, that our customers are asking for."



The 7822DT was a snug fit between the retention pond's slope and the wastewater treatment plant's building. There was no feasible way to get a truck-mounted rig, or any larger rig, to this location. The rig had to be oriented this way because the hoses would have hit the roof line if the rig had been turned around.

The turn was too tight to leave the auger rack attached to the rig, but it allowed us to use the rig to carry the augers as close as possible to the well location. Between the valve and the building, there wasn't room to change your mind, but the 7822DT (sans auger rack) was able to negotiate the corner and maneuver into position. According to Dennis Samsel, Geo Logic Owner, the setup and tramming to the location took longer than drilling the well.





Rounds, Bruce Walton, and Robert Meyer.

Alex Wesaw and Amner Ramos work with a Vironex 8040DT for MiHpt data collection (to 107 ft.) at a Department of Defense facility in southern California.

Vironex is in full swing implementing a large chlorinated solvent site cleanup in the San Francisco Bay area. Under contract to a major engineering and construction firm, Vironex is performing environmental fracturing utilizing Zero Valent Iron (ZVI) and ELS (a bioremediation substrate) provided by PeroxyChem, and bioaugmentation. Team Vironex is being led by Project Manager, Jeff Baker, and Lead Remediation Technician, Raymond Hayes, on this high profile site.

Due to target injection intervals as deep as 95 feet and certain lithological zones with blow counts around 50, Vironex chose to use its fleet of Geoprobe® 8040DTs to achieve the target depths. Since this was a very large project, Vironex optimized overall fracturing performance by manifolding to multiple 8040DT locations.

"Going into the project it was thought that some locations would actually result in 8040DT refusal and there would be a substantial additional cost of preaugering locations to get past the refusal zone," said Alan Livadas, Vironex Owner. "The 8040DT overcame these hurdles providing considerable cost savings to the client."

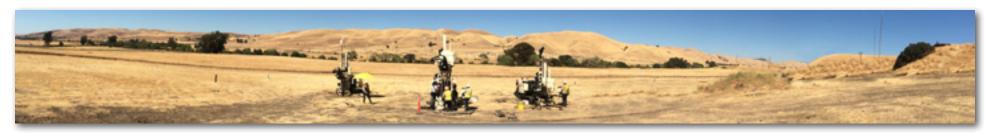
Vironex uses the 8040DT technology to reach contaminants at depths previously thought unachievable by

direct push technology. Not only does this include pushing injection tools and soil and groundwater sampling tools, but also installating prepacked monitoring and injection wells, and high resolution site characterization (HRSC)



A Vironex Field Team, Mike Haske and Robert Lopez, use a Geoprobe® 8040DT and 6610DT at an industrial facility in Los Angeles, CA, for direct push injection of calcium polysulfide for hexavalent chromium (Cr(VI)) treatment. The 6610DT (foreground) was injecting in the shallow treatment intervals (50 ft.) while the 8040DT was injecting into the deep treatment intervals (80 ft.).

tools like the MiHpt to support Vironex's nationally recognized Search and Destroy® methodology for results-oriented site remediation.



## Field Team Improvises Tooling For Sediment Sampling

At the turn of the century, a coal gasification plant was located in Fort Wayne, IN, near the confluence of three major rivers: the St. Joseph River, the St. Mary's River, and the Maumee River. As a result, Stearns Drilling in Dutton, MI, recently completed a three-week project as part of an investigation of a coal tar problem on the site.

One of the old gas plant buildings is currently home to two restaurants ...The Gas House Restaurant (best burgers in town ... according to the Stearns Field Team!) and a Japanese Steak House. Stearns Drilling mobilzed their 7822DT to collect soil cores from both the riverbank and the St. Mary's riverbed.

- Week 1: MC5 Sampling, 4.25 in. Hollow Stem Augers, Monitoring Well Installation
- $\bullet \ \text{Week 2: Lowered 7822DT on barge for traditional MC borings from riverbed to confining layer} \\$
- Week 3: Targost detection with Dakota Technologies and additional sediment sampling

Because a device for sediment sampling failed to work on the gravelly river bottom, "we improvised and came up with our own sampler!" Tom Ulrich, Stearns Driller said. "We used a dual tube liner from our DT22 tooling supplies with 1.25-in. light-weight center rods for a 'fieldmade' hand sampler. The built-in core catcher worked great to keep the gravelly materials in the liner while we pulled it to the surface," he explained.

"Not only did our rig and tooling work great, so did the crew from Fruchey who lifted our 7822DT on to the barge. They were real pros, and we'd recommend them to anyone needing lift services in the area." Tom added.



The 'Gas House' Site is located directly across the St. Mary's River from Historic Fort Wayne, a replica of the fortification built by Major John Whistler and his men in 1815,1816



According to Tom Ulrich, Driller for Steams Drilling, the articulating derrick of the 7822DT was very helpful when positioning the rig for sampling on the steep river banks. The pavillion shown in the background provides outdoor seating for the Gas House Bestaurant.



#### Geoprobe® DT22 Liners

PVC liners with integrated Core Catchers • 50 liners per box

60 in. – 213924 48 in. – 213922 1 m. – 213920 36 in. – 213919



**NEW!** Slim Prepacks

Designed for use with your 7822DT and 3.75 in. Tooling

With an outside diameter (OD) of only 2.8 inches, the new Slim Prepacks, designed for use with the new 3.75 in. tooling, would make Richard Simmons blush! The 2.0 in. Slim Prepack uses a standard 2.0-in. Schedule 40 slotted PVC screen and a 2.8 in. diameter stainless steel mesh screen to retain the sand pack. The prepacks arrive at your shop with factory-packed 20/40 sand, ready for use right out of the package.

The new smaller OD and lighter-weight prepacks come in 5-ft. lengths.

The new Slim Prepacks (used with 3.75 in. rods) are available alongside our premium 2.0 in. prepacks (used with 4.5 in. rods).

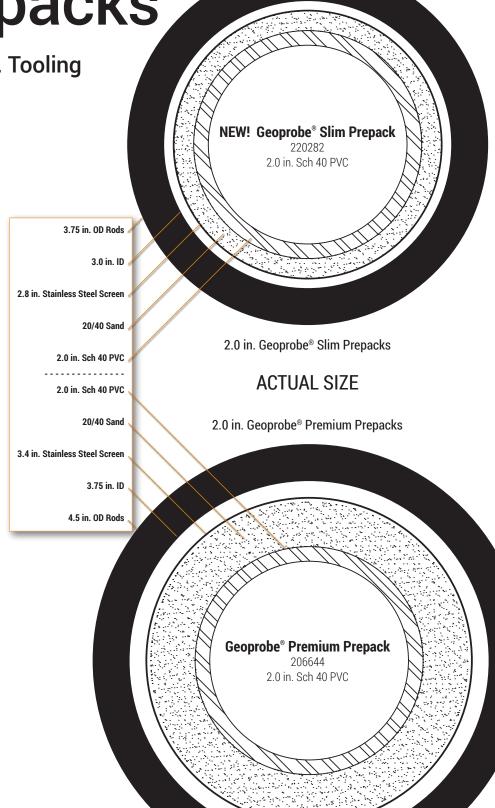
If you favor the 3.75 in. tooling system size, then you'll also like the cost savings for this new Slim Prepack. According to Tony Bowell, Geoprobe® Customer Service, the initial cost for the new screens is 30 percent less. "But when you purchase in multiple quantities," Tony said, "you legitimately save 60 percent or more on the shipping costs as well!" (for U.S. customers.)

Transport weight is also an important consideration. "Our customers are already moving machines, tooling, water, and other supplies to job sites," Tony added. "If they're installing multiple wells, the fact that the screens weigh about 60 percent less is a big deal, also."

Call the Geoprobe® Customer Service Team for info on our prepacks!

#### Geoprobe® Slim Prepacks

- 30% Lower Cost
- 60% Less Weight
- 60% Lower Shipping Costs
- Factory-Packed Sand
- Smaller Outside Diameter
- Use with 3.75 in. Tooling
- Specially Designed for use with 7822DT









## 6712DT



Geoprobe® manufactures rigs of all sizes for all types of work all over the world. The 6712DT has met the needs of customers who focus on size but still need the power of the Geoprobe® 60 Series Hammer.

- Modular Machine Design Disassembles into Three Sections
  - Approximate Base Weight ... 6,000 lb (2,724 kg)
    - · Heavy-Duty Track Drive System
    - · GH63 Hammer with Bi-directional Rotation
  - · Optional GA2500 Two-speed Auger System
    - · Optional Mast and Winch System
    - · Optional Automatic Drop Hammer

Scott Bergeron, PE, Owner **Enviro Depot Baton Rouge, LA** 

"The 6712DT is THE basic probe machine. It drives most common rod packages (2.25 in.), perfect for basic soil and groundwater investigations. It's a back-to-the-basics machine, nearly pure hydraulic machine. Not so many add-ons that it's become heavy, burdensome. Our 6712DT is not a specialty device; it's our 'does most everything you want it to do on a regular investigation day.' It does the 'meat'n potatoes' jobs. It's cost effective to purchase and operate. It's the contemporary of the 6620DT, yet we can do the 'transformers thing' and deploy it in a very special environment by breaking it apart."



With just under 12-ft. overhead clearance, Enviro-Dynamics in Hebron, IN, will use a 6712DT to install a monitoring well to 25 feet inside a dry cleaners facility.



PM Environmental in Lansing, MI, equipped their 6712DT to meet their needs for site investigations and Phase II Environmental Site Assessments. "We're excited to have it," said Kelly Lennon, Regional Field Team Lead and Senior Field Scientist



Larry Opper, PG, with Regional Probing Services in Wake Forest, NC, uses their 6712DT to collect MC5 soil samples. Larry said, "The 6712DT is a great performer and has been



Discovery Drilling in Anchorage, AK, air drop their 6712DT in three sections for a job in the emote areas of Alaska (no roads!). Assembly of the tracks, power unit and drill mast sections takes about 15 minutes. then the rig is ready

A 6712DT is used to install 2.0 in. soil vapor extraction (SVE) wells in a residential area by Enviro-Dynamics in Hebron, IN



The 6712DT helps Environmental Probing Investigations in Cream Ridge, NJ. remedy limited access locations with a small footprint.

#### Model 6712DT Specifications

Model of 12D1 Specific	Lativiis
Stroke	1676 mm
Weight (w/o Auger Head, Mast & W	inch)5,900 lb2681.8kg
Weight (w/ Auger Head, Mast & Wi	nch)6,480 lb2945.5 kg
Width	
Length (folded)	2921 mm
Height (folded)	2108 mm
Height (unfolded)	
Foot Travel	
Extension	
Down Force	36,800 lb164 kN
Retraction Force	
Hydraulic Pressure (system)	2,500/3,400 psi 172/234 bar
Hydraulic Flow Rate (system)	24 gpm90 Lpm
Hammer System	GH63
Percussion Rate	32 Hz
Torque (hammer motor)	560 ft.lb759 N•M
Rotation Rate (hammer motor)	240 rpm (bi-directional)
Fuel Capacity (diesel)	53 L
Engine (diesel)	Kubota, 4-cylinder turbo
Engine Power	
Rear Blade Travel	737 mm
Travel Speed	0-2.5 mph 0-4 kph
Surface Load @ 5,900 lb	4.3lb/in2 0.3 kg/cm2
Surface Load @ 6,480 lb	4.7lb/in2 0.33 kg/cm2
Winch Rating	1,136 kg
Winch Speed	0-110 fpm0-33.5 m/min
Augerhead Specifications	
Torque (high torque/low speed)	2,500 ft.lb 3389 N•m
Torque (low torque/high speed)	1,250 ft.lb 1694 N•m

Torque (high torque/low speed)	.500 ft.lb 3389 N•m	
Torque (low torque/high speed)	250 ft.lb 1694 N•m	
Hex adapter	. 1-5/8 in 41 mm	
Rotation speed (low speed/high torque)0-70 rpm		
Rotation speed (high speed/low torque)0-150 rpm		



### Increase Efficiency with Geoprobe® 2.25 in. Tooling

Dependable. Versatile. Efficient. These are qualities you look for when selecting the best driller for the job, but also when selecting the best tooling system for your field team to use. Direct Image® operators can benefit from the versatility and increased strength of the 2.25 in. probe rod. The 2.25 in. rods give Direct Image® operators an option of a stronger tool string when running in tough soil conditions requiring larger machines to advance their tools. Another positive of the 2.25 in. rod is the increased inner diameter makes it easier to pull the larger MiHpt and Heated Trunklines through the rod sections resulting in less wear and tear on the trunkline.

#### Dependable.

Robust threads and thick sidewalls make 2.25 in. probe rods tough enough to handle machines up to the Model 7822DT equipped with our powerful GH60 Series Percussion Hammers.

#### Versatile.

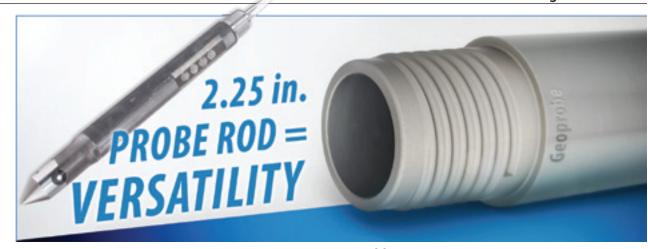
Geoprobe® 2.25 in. tools provide the primary driven casing for more direct push applications than any other tooling system available today.

#### Efficient.

The versatility of the Geoprobe® 2.25 in. rod system contributes to higher operating efficiency because less time is spent switching out rod strings and less tools are needed on the truck to perform the job than with other rod systems. Less time and less tools mean more return on investment for contractors and clients alike.



2.25 in. probe rods have a larger inner diameter allowing operators to run systems that require dual lines such as the pictured MiHpt with DI Grout Adapter. The blue line is a standard MiHpt trunkline; the white line is a separate grout line.



Dependable ... Robust ... Efficient ... Versatile

All are qualities that make the Geoprobe® 2.25 in. tool system THE working rod for a wide range of direct push applications!

### **High Resolution Site Characterization**

There are 2.25 in. options for all Direct Image® tooling systems: MIP, HPT, MiHpt, and EC. Many components can be shared between the standard 1.75 in. and the 2.25 in. probes such as trunklines, water seals, and water seal spacers. The 2.25 in. rod is a must when running systems that require dual lines such as the Direct Image® Grout Adapter and soon-to-be released Heated MiHpt system. These systems simply won't fit through the inner diameter of smaller rods.

MIP .. Membrane Interface Probe. A logging tool with patented technology to detect and log volatile organic compounds in soil and unconsolidated sediments.

**HPT .. Hydraulic Profiling Tool.** A logging tool that allows the user to create fast, continuous, real-time profiles of soil hydraulic properties.

**MiHpt** .. **Membrane Interface Hydraulic Profiling Tool.** Combines the strengths of MIP and HPT into a single probe.

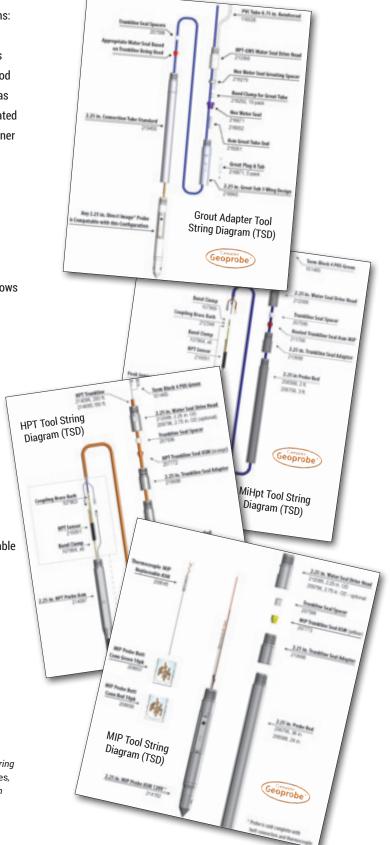
**EC** .. **Electrical Conductivity**. A logging tool used to determine subsurface lithology through soil conductivity measurements.

These and other Direct Image® tool string diagrams are available at geoprobe.com.



Direct Image® is a Registered Trademark of Kejr Inc., Salina, KS

This is the third of four articles highlighting the uses and benefits of Geoprobe® 2.25-in. tooling systems. Groundwater Sampling and Monitoring Systems were highlighted in the Spring 2014 issue of The Probing Times, and Soil Sampling Systems were highlighted in the Fall 2013 issue. Both issues are available at geoprobe.com.





## Proud to be a Geoprobe® Man!

At the drop of a hat (a Geoprobe® cap, of course!) he can easily zip through stats of the Dallas Cowboys quarterbacks since Don Meredith was at the helm. Or he can describe maneuvering through caves and tunnels as he reaches new levels in 'World of Warcraft' on the computer. And he can also tell you the weight of every probe rod currently stocked in the Geoprobe® Distribution Center.

Randy Hayes has served Geoprobe® customers behind-the-scenes since March of 1989. For the past 25+ years he's been the man with the tape gun, the guy on the forklift, the person doing his best to get customers the right parts to succeed. Randy has pretty much seen 'Genuine Geoprobe®' unfold before his eyes.

We thought you'd like to hear the Geoprobe® story from him.

My career with Geoprobe® began on March 19, 1989. We could store all of our accessory tool parts in a small room in the Quonset

where the entire company was housed. That didn't last long as more machines were produced and new models were introduced which meant more tooling was needed. With the advent of Large Bore and Macro-Core® liners for soil sampling, the need for storage space popped up once again. Off-campus buildings helped us to increase warehouse capacity until we moved into our current location at the company's south campus in 2004. An addition to the Distribution Center in 2006 doubled our space and has provided a much larger and more efficient work area.

At first, we had one size of probe rod: the 1.0 inch x 3 foot rod, and we shipped those in empty carpet tubes

which we obtained from a local carpet center. We cut the carpet tubes to the length of the probe rod, put ends on them and shipped them out. It worked well for a few years, but in 1993 we developed our triangle boxes, which we still use today. They were more stable during shipment and easier to stack. In



Written by Randy Hayes, Distribution Team and Geoprobe® Man



Team Geoprobe® in front of the Quonset, where the company started in Salina, KS.

From our earliest days we have probed deep within ourselves to find the ways and means to maintain the highest quality of customer service in the industry. I'm proud to be a Geoprobe® man."

Randy Hayes • Distribution Team Geoprobe Systems®

comparison, we now ship 400 lb. of 10 in. x 10 ft. casing on custom pallets, and are loading 40 ft. cargo containers bound for various countries around the world. It's a big change.

Initially, we shipped out just a few packages a week which we delivered to the UPS center using Mel's (Mel Kejr, Geoprobe® President) white Ford pickup. Our shipping output quickly grew and we qualified for daily UPS pick-up service. Today, multiple trucks from various carriers stop everyday for our outbound packages destined for U.S. and international deliveries.

We've gone from carbon-copy books to document and ship orders to utilizing computer scanning technology. We thought we were flying high when we first implemented four-digit codes to populate addresses and we no longer had to manually enter addresses! We have now expanded from one shipping station to our current four stations which enables us to expedite multiple shipments simultaneously.

The people here are what makes this place so great! When Mel and Tom (Tom Christy, Geoprobe®

Vice President) started hiring, they wanted a nucleus of hard-working people. That's a reflection of Mel and Tom in the past as well as today.

There have been lots of changes over the years, but we're still a small place with big dreams. Dreams have helped us build the best equipment, give the best service, and make the best tools to get the job finished. We go the extra mile in problem solving. I'd like customers to know that they can 'Get-er done with Geoprobe®!'

Our Distribution Team is the final link between our customers and our company. Our job reflects on the commitment to excellence that Geoprobe® has. From our earliest days we have probed deep within ourselves to find the ways and means to maintain the highest quality of customer service in the industry. I'm proud to be a Geoprobe® man!"



Randy Hayes, the early years, but always with a Geoprobe® cap!

Grouting Made Easy with Direct Image® Sub

Grout your Direct Image® borehole from bottom up using a single tool string.

The new Direct Image® (DI) 2.25-in. Grout Sub will attach to any 2.25-in. DI tool string, and allows you to easily grout your borehole from bottom up.

Being able to grout your DI logged borehole immediately after logging ensures that the actual borehole gets completely sealed and avoids grout bridging. When mapping through high-level contamination or penetrating confining units, contaminants will not move down the borehole spreading the plume. Use of the DI grout sub does not take much extra time and can save your project money by eliminating the need to re-drill and grout boreholes which may even require additional rigs to complete. Geoprobe® has successfully post-log grouted numerous boreholes with both bentonite and neat cement grouts, even in areas of pressurized natural gas zones over 100-ft. deep which would have blown out the hole if they needed to be redrilled to grout.

The Grout Sub utilizes a separate grout line eliminating much of the mess and cleanup usually associated with grouting. Its three-winged design creates pathways for the grout to flow down

and around the probe on retraction so you can be assured grout flows to the bottom of the hole

Prior to advancing the tool string, the grout line is charged with water. A rubber plug is pressed into the grout port and held in place with a stainless steel tab. Once the probe reaches the target depth, it's retracted approximately one foot and water is pumped to dislodge the grout plug (by using a pressure gauge on the grout line it's easy to determine when this happens). Grout can then be pumped downhole.

At the current time, post-log grouting can only be performed with the 2.25-in. tool strings.





Al Allen, with Crawford Drilling Services in Gardner, MA, advances an MiHpt probe using a Geoprobe® 7822DT during a field demonstration for the Massachusetts Licensed Site Professional Association (LSPA) outside of Boston, MA. Under the tent, Dan Pipp, Geoprobe® MIP Specialist, describes details of the LL-MiHpt Logging System and its operation to the seminar attendees.

Wes McCall, Geoprobe® Environmental Geologist, and Gary Robbins, a Professor with the University of Connecticut, provided seminars this year for those interested in futhering their knowledge of environmental subsurface sampling and monitoring.

Seminars were held in the Mid-Atlantic area for the Massachusetts Licensed Site Professional Association (LSPA), the Environmental Professionals Organization of Connecticut (EPOC), and the Connecticut Department of Energy and Environmental Protection (DEEP). The LSPA and EPOC approved the seminars for 8 hours of continuing education credit.

A field demonstration of the Low Level MiHpt system and a Direct Push Groundwater Sampling Methods Seminar was held for the LSPA at Hanscom Air Force Base outside of Boston, MA, and for the EPOC in Simsbury, CT.

Also participating in the LSPA seminar was Victor Rotonda, Master Driller and Mid-Atlantic Geoprobe® Representative, and Dan Pipp, Geoprobe® Chemist and MIP Specialist from Kansas.

Two half-day seminars were also presented for the Connecticut DEEP in Simsbury. These shorter seminars provided the DEEP personnel with a brief introduction to DP groundwater sampling tools and methods, including slug testing. Wes and Vic also ran an HPT log for both sessions of the DEEP seminar.

Also on Wes's schedule was a field seminar and HPT logging system demonstration for members of the Montana Department of Environmental Quality (DEQ) staff and local consultants. Wes joined Ken Manchester and Casey Briggs with Pioneer Technical Services in Butte, MT, and Jeff Kuhn with MT DEQ for the seminar in Helena.

"There were a lot of people instrumental in making these seminars possible at the different sites," Wes said. "These events are very much a team effort."

If your professional association, company or state agency is interested in hosting a Geoprobe® seminar about direct push logging technology or sampling methods in your area, contact Wes McCall at Geoprobe Systems® (785-404-1147 or mccallw@geoprobe.com).



Members of CT DEEP observe as Professor Gary Robbins (white hardhat in background) and Gary Ulatowski, UCONN probe operator, install a prepacked screen for development and sampling at the Simsbury, CT, field site.



Butte, MT, advance an HPT probe into the subsurface at the former Caird Steel Works site in Helena, MT, as members of the MT DEQ observe the logging process. Three HPT logs were completed across the site, all showing high EC and high HPT pressure over most of the intervals logged, suggesting low permeability in the areas.

"Thank you all for the truly herculean effort that you put into making these courses possible, and more than that, making them an overwhelming success! I hope these two courses can be viewed as successes by LSPA and that we can continue providing these practical, 'hands-on' experiences for our members."

Matthew Hackman, PE • CH2M HILL Inc.
LSPA President • Warwick, RI

#### MACHINE REFURBISH. MACHINE MAINTENANCE. TECHNICAL SUPPORT.

The Doctor Is In

I was a couple weeks into my brand new job here at Geoprobe Systems®. I watched as my new co-worker, Bryan Lorenson, stepped away from his desk and out into the shop, wearing his worn camo cap while talking into his phone headset. "Okay, start the machine and let me listen to it," he said. After a brief pause, Bryan explained to the customer what he thought the problem was. There was another pause, then he asked, "That fixed it? Okay, great. I'll talk to you later."

I stood in awe, realizing that Bryan had fixed the rig by listening to the sound of it running -- over the phone from several hundred miles away! Was this guy for real? Or was I being set up?

Since then, I've heard countless customers tell me how much help Bryan has been to them. But it's not just him. I hear the same comments about the rest of the service team as well (including Darren Stanley, Todd Ewing, and Brian Rogers). I see firsthand the significant impact Bryan has made, maybe because of the length of time he's been doing this.

Over the years ... 26 to be exact ... Bryan has worked on every type of machine that Geoprobe Systems® has ever made. From the first van-mounted probes in the late 90's, Bryan has serviced them all. He's fixed units mounted in cargo vans and on

'mules'. His service resume includes everything from grout machines to wireless remote systems, from track machines to trucks, from 5400's to the newest 3230DT and 8150LS sonic rigs.

Bryan knew Mel Kejr (President of Geoprobe Systems®) before joining

the company and had worked with Mel on projects long before the Geoprobe® brand was even a thought. As the company began to grow, Bryan started as a part-timer. After spending one Valentine's Day evening working with Mel instead of spending time with his wife, "she told me I needed to just go work

with them fulltime. So I did!" he smiled. "She still gives me a hard time about it."

Service Specialist

(from the dusty files)

People noticed how quickly Bryan could diagnose a problem, and he soon earned the nickname, "Probe Droctor".

I asked him about the strangest call he'd ever taken. He said the conversation started with, "How do I get my machine out of the ocean? The barge it was sitting on sank!" Believe or not, the machine was recovered and still runs today!



Geoprobe® Service Specialists Bryan Lorenson (right), aka, Probe Doctor, and Roman Burrows.

"We treat our customers like family."

Bryan Lorenson Geoprobe® Service Specialist

#### Service -- Geoprobe® Style

Each of us on the Service Team adds a different 'flavor' to the group, but deep down, we know that Geoprobe® Style service is unique, and it's built on a legacy that was carefully planned as the company was formed and grew.

#### **QUALITY SERVICE**

Geoprobe® Style Service comes with experience, and with experience comes quality. The goal of Bryan and the Service Team is to work together to provide the best support available anywhere. Where else can you conference call with a field operator, a design engineer and one of us on the Service Team, all at the same time, to solve a problem?

#### **SERVANT-HEARTED SERVICE**

Geoprobe® Style Service is servant-hearted. We've shared stories about bringing in dinner so work could continue on a project after the doors closed in the evening. If there's a need, the team comes in early or on weekends and stays late to help get someone out of a bind and back on the job.

#### **INDIVIDUAL SERVICE**

Geoprobe® Style Service is individual. Someone once asked Bryan, how do you make everyone feel like they are the most important thing you have going? "It's because they are the most important thing I have going on," he said. "We treat our

customers like family." No matter what we're working on, we know what's important.

#### PERSONAL SERVICE

Geoprobe® Style Service is personal. People don't always call us to fix their rig. Sometimes they just want to talk about what's going on. This is perhaps the best lesson I learned from Bryan. We aren't just helping our customers; we're helping our friends.

Eight years later, I'm starting to realize how much the Geoprobe® Service Team means to people. And when I take a call from my friend who is confused, hot and frustrated because he's having machine problems, I know what's behind my question when I simply ask, "Okay, can you start the machine and let me listen to it?..."

## Customer Comments...

"Calling Geoprobe® Service is just one of the ways we work as a team. It's so nice to be able to pick up the phone when we're in a 'situation' in the field, call your service guys, and talk with them to improve that 'situation' so we can get our job completed. Please promise me Geoprobe® will never change what you all do to make your Service Team so accessible and helpful to us little guys in the field. Your service guys are amazingly helpful. Don't ever let that change."

Joe Neri • Owner/President
Allstar Drilling • Laurence Harbor, NJ

#### American Environmental & Construction Services





(above, I to r) Tom Matson, Mario Carreno, Stephen Pfeifer and Burton Dixon, with American Environmental and Construction Services in Alpharetta, GA during their visit to Kansas. (above right) American Environmental and Construction Services on a jobsite with reconditioned 6600 rig.

"We were able to get some good training on several different tool systems while we were in Kansas. We also picked up some new tooling. I thought the service guys were great working on our rig, and I really enjoyed the camaraderie and the time spent in Kansas."

Tom Maston • Sr. Field Technician

American Env & Constr Svcs • Alpharetta, GA

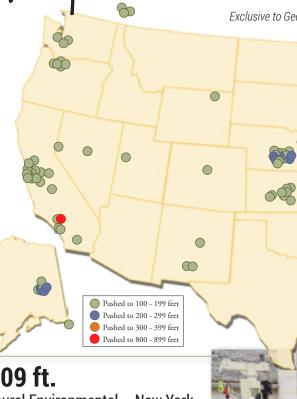
"The difference in performance of our 6600 rig after reconditioning is great! It's much smoother and works with a lot less effort. We're still getting used to the new tooling, but the efficiency is already paying off. I've been watching videos on your website for instruction."

Burton Dixon, PG • Sr. Geologist/Project Manager American Env & Constr Svcs • Alpharetta, GA

Join the "elite cadre of probists" who belong to ...

Geoprobe 100' Club

Exclusive to Geoprobe® machine owners who push 100 feet or beyond!



#### 109 ft.

#### Laurel Environmental – New York

FIFI D NOTES

Field Team: (I to r) Charlie Lynch, Steve Bitetto and

Tom Johansen Field Site: St. James, NY

Depth/Date: 109 feet / May 2014

Geoprobe® Owner: Laurel Environmental Assoc •

Huntington Station, NY

Field Data: Model 6712DT. Groundwater sampling

The Probing Times is the official newsletter of Geoprobe Systems®. Suggestions for future newsletter articles or submission of 100 Club information are encouraged. Call Gayle Lacey at 1-800-436-7762 or email laceyg@geoprobe.com.
An online version of the newsletter is available at

geoprobe.com Geoprobe Systems® 1835 Wall Street • Salina KS 67401 1-800-436-7762 • 785-825-1842

Geoprobe®, Geoprobe Systems®, Macro-Core® and







Team Geoprobe® is always interested in what's keeping you and your Geoprobe® rig busy. So if you'd like to share a few photos and some field work information we'll be glad to add them to our stack of possible stories for our newsletter. There's lots of side benefits attached to it: national recognition for your work, contractors can contact you for similar services, plus it's pretty cool to see your name in print!

From You

Field photos of our customers being successful are a hit with us ... they make us smile! Give us a call at 1-800-436-7762.

#### 110 ft.

#### Alleuvial Earth - New Jersey

FIELD NOTES

Field Team: John Brass Field Site: Georgetown, DE

Depth/Date: 100 feet / May 12, 2014 Geoprobe® Owner: Environmental

Probing

Investigations • Cream Ridge, NJ Field Data: Model 6600. Working with ZEBRA Environmental pushing HPT-GW to 100 ft. Also installed some piezometers as deep as 95 ft. using 2.25 in. tooling.



#### 101 ft.

#### **Numac Drilling Services -**Australia

FIELD NOTES

Field Team: (I to r) David Heicher and

Ben Reid

Field Site: Melbourne, Victoria **Depth/Date**: 101 feet (31 m) /

Jun 23, 2014

Geoprobe® Owner: Numac Drilling Services • Altona, North Victoria

Field Data: Model 7822DT. Completed a boring to 31 m (101 ft) using the MIP to assess naturally occurring methane in Coode Island silts. It's the deepest Numac has ever gone with the MIP. Possibly the deepest MIP has been advanced in Australia.

#### 274 ft.

#### Geologic Exploration – North Carolina

FIELD NOTES

Field Team: (I to r) Paul McVey, Johnny Burr and

Rufus Jones

Field Site: Weldon, NC

Depth/Date: 274 feet / April 2014

Geoprobe® Owner: Geologic Exploration • Statesville, NC Field Data: Model 8040DT



## **Used Geoprobe**® **Equipment Available**

Visit our used equipment site for some great deals on previously-owned Geoprobe® machines and equipment. Or call us to add one or more of your under-utilized machines to the listing. No fees and no listing charges. Selling your used Geoprobe® rig is a great first step in buying a new one! Call Doug Koehler at 1-800-436-7762 for details, or email him at: koehlerd@geoprobe.com.

- Geoprobe® 7822D1
- Geoprobe® 7720DT
- Geoprobe® 6620DT

#### We Can Help!!!!

geoprobe.com/buy-used-equipment

# 

Sonic Power



Geoprobe Systems® will host a Sonic Drilling Expo on October 8, 2014 at Black Bear Lake near Clarksburg, NJ. Come meet and speak with industry professionals who build and use sonic equipment. You'll see both full-size and mid-size Geoprobe® Sonic Rigs and Sonic Tooling.

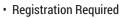
#### A learning experience for all sonic interests!

- · Technical Classroom Seminars
- On-Site Sonic Equipment Demonstrations





Geoprobe





Geoprobe-Strong —

geoprobe.com/articles/geoprobe-sonic-drilling-expo

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